Bylaw 17270

A Bylaw to amend Bylaw 16407,
the Riverview Area Structure Plan by adopting
the Riverview Neighbourhood 3 Neighbourhood Structure Plan

WHEREAS pursuant to the authority granted to it by the Municipal Government Act, on July 2, 2013, the Municipal Council of the City of Edmonton passed Bylaw 16407, being the Riverview Area Structure Plan; and

WHEREAS Council considers it desirable to amend Bylaw 16407, being Riverview Area Structure Plan by adding new neighbourhoods; and

NOW THEREFORE after due compliance with the relevant provisions of the Municipal Government Act RSA 2000, ch. M-26, as amended, the Municipal Council of the City of Edmonton duly assembled enacts as follows:

1. Bylaw 16407, the Riverview Area Structure Plan, is amended by adding as Appendix "B" the Riverview Neighbourhood 3 Neighbourhood Structure Plan being:

a) the map entitled "Bylaw 17270 – Riverview Neighbourhood 3 Neighbourhood Structure Plan" attached as Schedule "A";

b) the land use and population statistics entitled "Riverview Neighbourhood 3 Neighbourhood Structure Plan - Land Use and Population Statistics - Bylaw 17270" attached as Schedule "B", and

c) the report entitled “Riverview Neighbourhood 3 Neighbourhood Structure Plan” attached as Schedule “C”.

READ a first time this day of , A. D. 2015;
READ a second time this day of , A. D. 2015;
READ a third time this day of , A. D. 2015;
SIGNED and PASSED this day of , A. D. 2015.

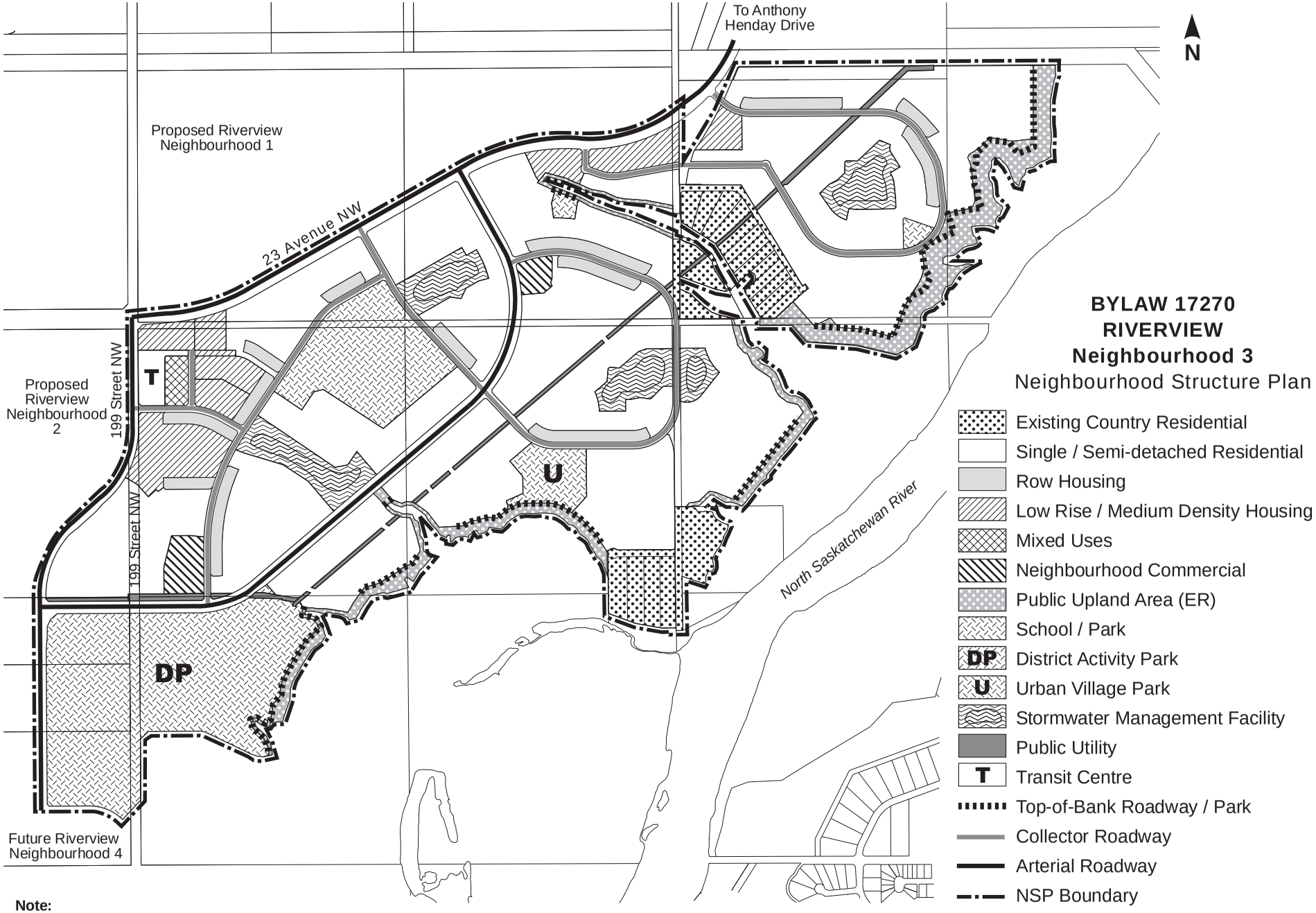
THE CITY OF EDMONTON

_____

MAYOR

_____

CITY CLERK



Note:
Location of collector roads and configuration of stormwater management facilities are subject to minor revisions during subdivision and rezoning of the neighbourhood and may not be developed exactly as illustrated.

SUSTAINABLE DEVELOPMENT

SCHEDULE "A"

SCHEDULE "B"

RIVERVIEW NEIGHBOURHOOD 3 NEIGHBOURHOOD STRUCTURE PLAN
LAND USE AND POPULATION STATISTICS
BYLAW 17270

	Area (ha)	% of GA	% of GDA	
Gross Area	**314.85**	**100%**		
Environmental Reserve				
Public Upland Area	17.06	5.4%		
Pipeline & Utility Right-of-Way	3.36	1.1%		
Arterial Road Right-of-Way	16.02	5.1%		
Existing Country Residential	16.91	5.4%		
Top of Bank Non-credit Municipal Reserve	1.18	0.4%		
Gross Developable Area	**260.32**		**100%**	
Commercial				
Neighbourhood Commercial	2.99		1.1%	
Mixed Uses*	0.49		0.2%	
Parkland, Recreation, School (Municipal Reserve)				
District Park	33.80		13.0%	19.7%
School/Park	13.00		5.0%	
Urban Village Park	3.54		1.4%	
Pocket Park	1.04		0.4%	
Transportation				
Circulation	52.06		20.0%	
Transit Centre	1.45		0.6%	
Infrastructure & Servicing				
Stormwater Management	14.30		5.5%	
Total Non-Residential Area	**122.67**		**47.1%**	
Net Residential Area (NRA)	**137.65**		**52.9%**	

RESIDENTIAL LAND USE, DWELLING UNIT COUNT AND POPULATION

Land Use	Area (ha)	Units/ha	Units	% of NRA	People/Unit	Population
Single/Semi-Detached	111.23	25	2,781	80.8	2.80	7,787
Row Housing	10.51	45	473	7.6	2.80	1,324
Low-rise / Medium Density Housing	15.43	90	1,389	11.2	1.80	2,500
Mixed Uses*	0.49	225	109	0.4	1.50	164
Total	**137.65**		**4,752**	**100.0**		**11,775**

SUSTAINABILITY MEASURES

Population Per Net Residential Hectare (ppnha)		85.5
Dwelling Units Per Net Residential Hectare (upnrha)		34.5
[Single/Semi-detached] / [Row Housing; Low-rise/Medium Density; Medium to High Rise] Unit Ratio	58.5%	/39.2%
Population (%) within 500m of Parkland		93%
Population (%) within 400m of Transit Service		100%
Population (%) within 600m of Commercial Service		43%

Presence/Loss of Natural Areas	Land	Water
Protected as Environmental Reserve	17.1	0.0
Conserved as Naturalized Municipal Reserve (ha)	0.0	0.0
Protected though other means (ha)	1.18	0.0
Lost to Development (ha)	15.4	0.0

STUDENT GENERATION STATISTICS

Level	Public	Separate
Elementary	521	260
Junior High School	260	130
Senior High School	260	130
Total	**1,041**	**521**

Note:
*Mixed Uses designation is divided amongst Residential Uses (50%) and Non-residential Uses (50%) (i.e. Total area is 0.98 ha; area of residential is 0.49 ha and non-residential is 0.49 ha).

SCHEDULE "C"

Riverview

Neighbourhood 3
Neighbourhood Structure Plan

Prepared for:
Walton Development and Management LP
Qualico Developments
Private Landowner

July 6, 2015

Stantec

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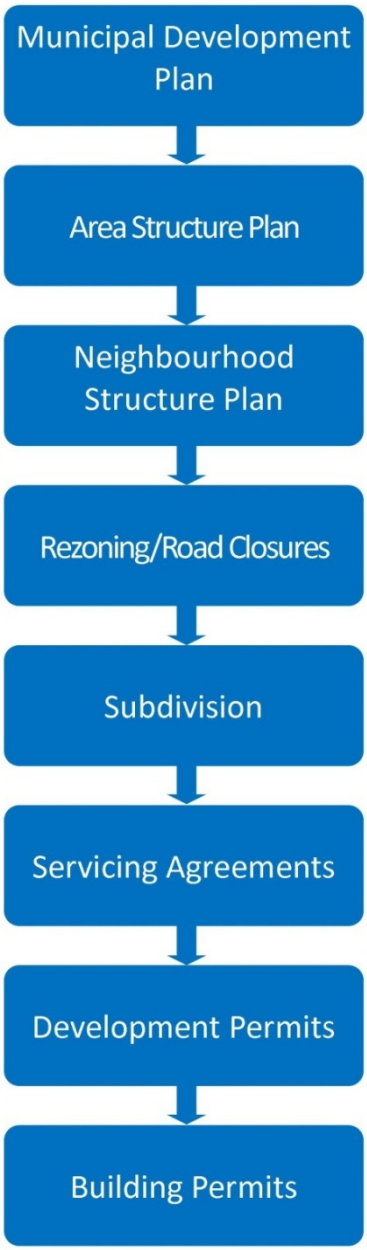
1 INTRODUCTION

1.1 PLANNING FRAMEWORK AND PLAN AREA

The *Municipal Government Act* (MGA) allows municipalities to establish a Municipal Development Plan (MDP) and to plan a framework for neighbourhoods through an Area Structure Plan (ASP). The City of Edmonton's MDP, The Way We Grow, designates Riverview as an Urban Growth Area, which is planned to accommodate much of the city's residential growth.



The Riverview ASP was approved by Edmonton's City Council in July 2013, through the adoption of Bylaw 16407. Riverview 3 is identified in the Riverview ASP as Neighbourhood 3. The Riverview 3 Neighbourhood Structure Plan (NSP) has been prepared in response to current and anticipated market demands in the Edmonton area as well as the aspirations of the landowners in the plan area. The preparation of this NSP has been guided by existing City of Edmonton statutory plans and policy documents.

The purpose of this Neighbourhood Structure Plan (NSP) is to establish a framework for future land use planning, and the provision of municipal infrastructure, services and amenities in conformance with established planning policies, objectives and requirements of the City of Edmonton and based on the characteristics and opportunities contained within the site.

This Neighbourhood Structure Plan describes:

- The general pattern of development and subdivision;
- The location, configuration and size of various land uses, including residential, commercial, parks and open spaces, and public utility land uses;
- The anticipated density of residential development;
- The pattern and alignment of the arterial and collector roadway and pedestrian walkway systems; and,
- Detailed servicing schemes.

The Riverview 3 NSP is the third of five neighbourhoods described in the Riverview ASP and encompasses approximately 315 hectares (ha) of land located in southwest Edmonton (see Figure 1: Location Plan and Figure 2: Plan Boundaries) and is defined by the following general boundaries:

North:	(Realigned) 23 Avenue and Anthony Henday Drive
East:	North Saskatchewan River Valley
South:	North Saskatchewan River Valley
West:	(Realigned) 199 Street

In relation to planned and developing neighbourhoods, Riverview 3 represents a logical extension of infrastructure and services. Development in Riverview 3 is expected to commence in 2016 and should develop over the next 15 to 20 years.

1.2 AUTHORIZATION

As per policy 3.2.1.11 of The Way We Grow, Edmonton's Municipal Development Plan (MDP), all NSPs within the Edmonton's Urban Growth Areas require Council authorization and compliance with the Growth Coordination Strategy, Integrated Infrastructure Management Plan, and City-Wide Food and Agriculture Strategy. A report was prepared for City Council consideration and on August 28, 2013, Edmonton City Council provided authorization for work to commence on the Riverview 3 NSP.

The Riverview 3 NSP was adopted by Edmonton City Council on (Insert Date) as Bylaw (insert #) in accordance with Section 633 of the *Municipal Government Act* (MGA). The Riverview 3 NSP complies with all higher documents including the Riverview ASP.

1.3 STAKEHOLDER CONSULTATION

The consultation process proceeded in accordance with Edmonton's public involvement process and guidelines (Policy C513). All affected landowners and community leagues in the area have been notified in accordance with the City of Edmonton's policies and application requirements for new neighbourhood plans. The following is a summary of consultation activities that took place.

1.3.1 PRE-APPLICATION CONSULTATION

A technical advisory session was held on October 9, 2013. This session involved relevant review agencies and civic departments. The purpose of this session was to present neighbourhood information, identify technical constraints, discuss application process, and to receive general comments from the review agencies.

On October 28, 2013, a visioning session was held with key civic departments and the participating land owners. The purpose of this session was to present a preliminary neighbourhood concept and the integration of *Designing New Neighbourhoods: Guidelines for Edmonton's Future Residential Communities*. The commentary in this session focused on the:

- Vision, land use integration and development of the town centre;
- Integration of multi-modal transportation and transit;
- Establishment of quality public open spaces; and
- Protection of the Wedgewood Creek, North Saskatchewan River and ravine system.

These sessions guided the development of the principles and vision for the Riverview 3 NSP development.

A Riverview landowner open house was held on February 25, 2014, which invited all affected landowners and stakeholders within Riverview 3 to attend. This event provided the opportunity for landowners and residents within the neighbourhood to receive information regarding development staging, timing and processes as well as provide feedback on the preliminary land use concept.

1.3.2 ADVANCED NOTIFICATION

Consistent with Policy C513, the City of Edmonton's Public Involvement Policy, advance notification was sent to Parkland County and all neighbourhood landowners and residents on December 17, 2014, advising them of the application's submission and encouraging them to contact either Sustainable Development or the applicant (Stantec Consulting Ltd.) for further questions or to communicate any possible concerns.

1.3.3 Public Meeting

A public meeting hosted by Sustainable Development was held to review the draft Plan on January 28, 2015. Mailed notification letters were sent to landowners in and surrounding the NSP area advising of this meeting. The purpose of the meeting was to provide an update on the proposed Plan and the planning process followed to date, and to hear from attendees regarding their questions, comments and concerns. All written comments and feedback received at the public meeting have been summarized in Sustainable Development's report to City Council.

1.3.4 Public Hearing

In accordance with the MGA, landowners have been notified of the Public Hearing and were been given the opportunity to provide written comments or register to speak in front of City Council. A public hearing was held in order to hear representations made by parties affected by the proposed bylaw and to receive approval by Council.

1.4 Interpretation

All maps, map symbols, boundaries, and images, contained within the Riverview 3 NSP shall be considered conceptual and interpreted as approximate unless otherwise specified in the plan, or coincide with clearly recognizable physical features or fixed (i.e. legal) boundaries.

A statement(s) containing "shall" and "will" is mandatory and must be implemented. Where a policy proves impractical or impossible, an applicant may apply to amend the Plan. A statement(s) containing "should" is an advisory statement and indicates the preferred objective, policy and/or implementation strategy. If the "should" statement is not followed because it is impractical or impossible, the intent of the policy may be met through other agreed-upon means, without formal plan amendment.

1.5 Amendment

Policies, text and mapping information contained within the Riverview 3 NSP may be amended from time to time in order to remain current and up-to-date in response to broader or more specific issues affecting the plan area.

Any change to policy, text or mapping information contained within the Riverview 3 NSP shall be in accordance with the *Municipal Government Act,* the *Riverview Area Structure Plan (Bylaw 16407),* and the terms of reference for the preparation and amendment of residential NSPs.

2 NEIGHBOURHOOD CONCEPT

2.1 GENERAL PLAN CONTEXT

Riverview 3 is third of five neighbourhoods in the Riverview ASP, and covers approximately 315 hectares (ha). Currently, Riverview 3 consists of undeveloped agricultural land and existing country residential development (see Figure 2: NSP Boundaries).

The Riverview 3 NSP has been prepared in response to current and anticipated commercial and residential market demands in the Edmonton region, a review of best practices in land use planning, as well as the aspirations of the various landowners in the plan area.

This NSP area is designated as Urban Growth Area within the Municipal Development Plan, *The Way We Grow,* to accommodate a portion of the anticipated growth within the city of Edmonton. This neighbourhood also plans to provide significant employment and commercial land uses catering to its residents and adjacent communities.

The NSP is designed in accordance with City of Edmonton servicing standards, creating a well-defined planning unit that represents a logical extension of infrastructure and services. Development staging and extension of infrastructure within Riverview 3 will be contiguous, efficient, and economical while having regard for potential environmental and ecological impacts.

2.1.1 TECHNICAL REVIEW

In support of this NSP, technical reports have been submitted to the City of Edmonton for lands owned by the Plan proponents. During the preparation of this Plan, the applicant did not have access to non-participating lands for survey or study. Should the non-participating lands become available for development in the future, a technical review will be needed to determine the development capability of the lands and must be prepared at the rezoning stage.

Technical studies, including but not limited to, Environmental Site Assessment, Risk Assessment, Geotechnical Investigation, Historic Resource Clearance, as well as associated updates and revisions to the Transportation Impact Assessment, Hydraulic Network Analysis and Neighbourhood Design Report may be required prior to rezoning of non-participating lands. An amendment to the Riverview 3 NSP and Riverview ASP may also be necessary to maintain accuracy and a comprehensive approach to neighbourhood planning.

2.1.2 LAND OWNERSHIP

The NSP was prepared on behalf of two private corporations and one landowner, who have ownership of the majority of lands within the Plan area at the time of plan preparation. The remaining parcels are held by non-participating landowners and although not directly participating in the NSP process, have been consulted through the plan preparation process.

2.1.3 EXISTING LAND USES

Riverview 3 has historically been used for agricultural purposes. Two country residential subdivisions have been developed, totalling approximately 17 ha in area, and located along the North Saskatchewan River ravine (River Heights Drive and 17 Avenue SW). The balance of the plan area is composed of larger tracts of land used for the cultivation of crops. A number of farmsteads remain within the neighbourhood consisting of various accessory buildings and storage facilities.

2.1.4 Topography

The topography of the land within the Riverview 3 neighbourhood can be described as flat to rolling, though gently sloping from south to north and west to east towards Anthony Henday Drive and the North Saskatchewan River. Elevations through the Plan area vary between 680 m and 691 m (See Figure 3: Site Contours).

2.1.5 Soil and Groundwater Conditions

As part of the Plan preparation, a geotechnical investigation was conducted for the participating lands contained within the Plan area. The Geotechnical Report (Hoggan Engineering & Testing (1980) Ltd, 2014) has been submitted to the City of Edmonton under separate cover and has been reviewed by the City of Edmonton's Geotechnical Engineer.

Soils within the Riverview 3 generally consist of 50-750 mm of topsoil, underlain by a native deposit of lacustrine clay material then bedrock. The depth of bedrock varies throughout the plan ranging from 14m to 40m and classified as either clayshale or sandstone. The groundwater table within the neighbourhood is variable, with low to high table levels. The soil and groundwater conditions at this site are acceptable for residential development.

2.1.6 Natural Areas and Ecological Resources

The Riverview 3 NSP is located along the western bank of the North Saskatchewan River Valley (NSRV). The NSRV falls under the North Saskatchewan River Valley Area Redevelopment Plan (Bylaw 7188) which provides the tools to protect the river valley and any natural areas, such as Big Island, which fall within its boundaries. Although outside the boundaries of the Riverview 3 NSP, the NSRV is an integral part of the greater ecological network of the area.

The NSRV is identified as a national environmentally sensitive area and an important natural feature providing a unique combination of vegetation and landform features, which acts as a critical habitat for a diverse range of wildlife species and key wildlife corridor between other significant natural areas in the region.

Big Island is a provincially designated Environmentally Sensitive Area, created by an oxbow within the NSRV, located just east of the NSP boundary. Big Island is approximately 139 ha in size and serves as a unique natural feature, providing critical habitat for ungulate, songbird, and waterfowl species. The area is also considered a very old non-regenerating forest.

The City of Edmonton's Inventory of Environmentally Sensitive and Significant Natural Areas (Geowest 1993) identifies no environmentally sensitive or significant natural areas within the boundaries of the Riverview 3 NSP.

A Phase II Ecological Network Report (Stantec Consulting Ltd, 2015) has been submitted under separate cover and identifies the neighbourhood's various natural features throughout the neighbourhood. Through field surveys and analysis of historical aerial photographs, no significant Natural Areas were identified and designated to be retained within the Plan area. Specific descriptions and areas of any existing natural features can be found in the Phase II Ecological Network Report submitted to the City of Edmonton under separate cover.

2.1.7 Slope Stability – North Saskatchewan River

In accordance with City Policy C542 Development Setbacks from River Valley/Ravine Crests, a slope stability report (January, 2014) has been submitted under separate cover. The report investigated the west bank of the North Saskatchewan River, contained within lands legally described as NE and SW 31-51-25-W4m and NW 30-51-25-W4M.

The slope stability report recommends a development setback, known as the Urban Development Line (UDL), which allows for a factor of safety of 1.3 from the ravine crest, otherwise known as the top-of-bank (TOB) line. The UDL setback has been established so that for the 150 year design period, any future slope movement will not affect the development on the upland surface and would reduce the human impact on slope stability. Geotechnical Slope Stability studies are required for all non-

participating landowners along the TOB when the applicable lands are rezoned in the future. Within this neighbourhood, the UDL recommended setback from the crest varies from 40-60 m near steep slopes and 10-20 m adjacent to minor slopes. Land below the UDL line will be considered "unstable" for development and dedicated to the City of Edmonton as Environmental Reserve, in accordance with the Municipal Government Act. Figure 5: Development Concept and Appendix II - Land Use Statistics identifies the public upland area to be dedicated as Environmental Reserve.

In addition to the UDL setback, City Policy C542 recommends that the predominant form of development abutting slopes that are considered higher risk should be designated for roadway and parks. As an additional safety measure, TOB roadway and park ensures that if any slope movement should occur in the future, that immediate public and emergency access may be provided.

2.1.8 Environmental Overview

An Environmental Overview of the Riverview area has been submitted under separate cover. The purpose of this overview is to provide a high-level assessment based on a desktop review and focus on areas that may impact development such as areas of potential soil contamination. The City of Edmonton requires that individual landowners provide Environmental Site Assessments (ESA) prior to the rezoning stage. The Phase I ESA is meant to evaluate the types and location of surface and/or subsurface impacts that may be present. Where deemed to be required, Phase II or Phase III ESAs will evaluate areas where contamination may be present.

2.1.9 Historical Resources

The preservation, conservation and integration of cultural, historical and/or archaeological resources within the Riverview area is important in retaining local history and character that may also be of regional or provincial significance. A Statement of Justification for Historical Resources Act requirements of lands under the ownership of the plan proponents has been completed.

As part of the NSP preparation, one historic site has been identified by Alberta Culture and Community Spirit (ACCS) within the Riverview 3 neighbourhood. Located in SW 32-51-25 W4, a historic structure currently rests, originally constructed in the 1920's and occupied by former alderman Robert John Manson. It was replaced as a residence by an adjacent house in the 1960s.

Non-participating landowners will be required to apply for Historical Act clearance for their respective parcels prior to rezoning. At the direction of Alberta Culture and Community Spirit (ACCS), additional review through a Historical Resources Impact Assessment (HRIA) may also be required prior to development.

2.1.10 Pipelines and Wells Sites

A review of the Alberta Energy Regulator (AER) pipeline and oil well information indicates that there are multiple pipelines and wellheads located in Neighbourhood 3, respectively listed in Appendix 2 Well Site Information and illustrated in Figure 4: Site Constraints. All active and abandoned wellheads will be required to be surveyed prior to rezoning or subdivision to ensure the exact location, and to determine required development setbacks.

Development adjacent to pipeline rights-of-way will provide adequate setbacks to residential development to be determined at the subdivision and development permitting stages, in accordance with all applicable municipal, provincial, and federal policies and guidelines. Utility rights-of-way provide an opportunity to incorporate shared used paths that pass through the neighbourhood, providing not only essential services but also establish a framework for a pedestrian network internal to the neighbourhood and further connecting adjacent communities.

3 NEIGHBOURHOOD VISION

Riverview 3 is an appealing, well designed and vibrant community located along the North Saskatchewan River (Edmonton's "Ribbon of Green") and defined by its district park, transit oriented development and its diversity of residential opportunities and community amenities. Riverview 3 celebrates its unique landscape by boasting its District Park which overlooks the beautiful North Saskatchewan River, providing public access and pleasant views to the River Valley and Big Island.

3.1 NEIGHBOURHOOD CONCEPT

Riverview NSP 3 is planned to provide a high quality environment for residents and visitors to the Riverview area. The neighbourhood is predominantly residential in character, providing a mix of low and medium density residential opportunities. The neighbourhood presents an opportunity for a mix of uses and housing choices for a wide range of households and income levels within close proximity of transit, supporting a liveable community where alternative transportation options are a preferred choice.

The neighbourhood landscape is defined by the North Saskatchewan River to the east. The neighbourhood's District Park and Urban Village Park are located along the TOB and provide not only aesthetic and recreational benefits, but also an interesting place to provide community amenities, such as community gardens or edible landscaping.

Riverview 3 has also been designed to include a (joint Public and Separate) school site located central to the neighbourhood and linked to the collector and pedestrian network for convenient access and strong neighbourhood presence. The District Park will also be home to two (public and separate) high schools serving the student population of the Riverview ASP area.

The overall goals of the Riverview 3 NSP are to establish a community that:

- Creates a unique neighbourhood identity using appropriate urban design principles that also address year-round weather conditions;
- Maintains a high regard for the North Saskatchewan River, Big Island and its natural features;
- Offers a variety of residential uses for a range of economic levels and household types;
- Protects the existing character of country residential estate communities through appropriate urban design (i.e. transitional land use, site planning and design);
- Supports retail and employment uses for the neighbourhood and surrounding communities;
- Provides neighbourhood amenities and opportunities for active and passive recreational activities;
- Emphasizes access to public open spaces that are safe and encourage community interaction;
- Achieves a balanced transportation network that provides connectivity to neighbourhood amenities and integrates an efficient transit system; and,
- Ensures a compact urban form that provides efficient and orderly infrastructure.

The neighbourhood vision statement and overall goals form the basis for the following plan objectives and policies, which have been derived from the Riverview ASP and further refined to guide the development of Riverview 3.

4 PUBLIC REALM

CONTEXT AND APPROACH

Good urban design is the basis of creating a vibrant and inviting neighbourhood. Parks, streets, and even stormwater management facilities, all form the public realm which is to be designed to create a pleasant community. Designing attractive streetscapes by using compatible uses, design and zoning designations provide a comfortable physical environment and creates a consistent mass and scale. Orientation of buildings towards public spaces (e.g. streets, parks) also plays an important role in creating interesting and varied streetscapes and increases a sense of awareness of neighbourhood activities and safety.

4.1 STREETSCAPES AND BUILT FORM

OVERVIEW AND RATIONAL

A neighbourhood's built form is important in establishing its character. It can have an impact on perceived safety and is a strong determinant of community health. Urban design also has the ability to impact pedestrian movement patterns and even human behaviour within the public realm – streets, sidewalks, parks, and other open spaces. A comfortable, human-scale and compact urban form that provides a mix of uses and housing types, connected by pedestrian and bicycle friendly streets, will encourage residents to walk and bicycle to neighbourhood amenities instead of using their vehicles, fostering a strong sense of place and promoting active transportation. Accordingly, Riverview 3 is intended to consist of pedestrian-friendly streets and open spaces to connect key destinations, such as the North Saskatchewan River, Transit Centre and District Park.

Source: Stantec

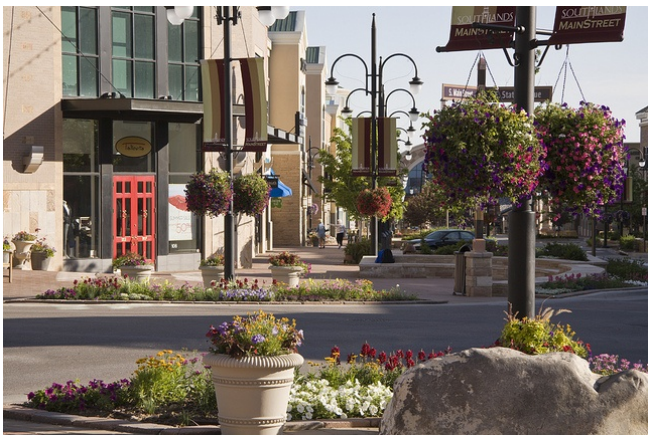
While developing a compact urban community is important, maintaining privacy and mitigating the impact of traffic noise is equally essential. Good urban design techniques will utilize appropriate transition techniques between higher and lower intensity land uses by using techniques such as building orientation, setbacks/stepbacks, screening, landscaping, and so on to minimize any perceived conflicts making the Riverview 3 neighbourhood a comfortable place to live and to visit.

Environmental and community characteristics are also reflected in the urban form to maintain a unique identity and character, and to foster a sense of place and attachment. Designs should emphasize views into the river valley, which is an important and character-defining feature of this neighbourhood. Interaction with the river valley and other open spaces will be provided to encourage activity and interaction in public spaces, such as exercising, photography, or wildlife viewing.

Objective 1: Design streetscapes which are functional, pedestrian friendly, safe and form an integral and attractive component of the public realm.

Designing attractive residential streetscapes by using alternative built forms and appropriate setbacks provide a comfortable physical environment and human-scale development. Orientation of buildings towards public road rights-of-way also plays an important part of creating interesting and varied streetscapes, while increasing a sense of resident awareness of neighbourhood activities and safety.

1. Design of streetscapes should consider all-season design, public art and furniture.
2. All streets will form part of the pedestrian network, to link key destinations such as residential areas, transit facilities, open spaces, and retail areas.
3. Encourage appropriate transitions between higher intensity (apartment housing and commercial) uses and low density residential.
4. Neighbourhood destinations including the transit centre, park spaces, community gardens, etc. shall be designed to encourage community interactions and gathering places.



Source: Southlands – Aurora, CO

Implementation: Specific type and location of land uses as well as building design will be reviewed at the rezoning, subdivision and development permit application stages, in accordance with the Zoning Bylaw. The design of alternative roadway cross-sections guided by the Complete Streets principles and the location of sidewalks and shared use paths shall be reviewed at the subdivision stage of development by Sustainable Development and Transportation Services. Where appropriate, demonstration of linkages between key neighbourhood destinations or amenities may require a shadow plan at the subdivision stage to ensure pedestrian connectivity. The design of the public realm shall be reviewed and developed in conjunction with the responsible civic departments to ensure the incorporation of appropriate design elements using the City of Edmonton's Transit Oriented Design Guidelines, Complete Streets Guidelines and Winter City Strategy.

Objective 2: Design streets and built form within 400m of the transit centre to create a transit supportive public realm.

The transit centre will provide a convenient bus transit option for the surrounding Riverview neighbourhoods. Development within 400m of this transit centre will be designed to support various modes of transport, including pedestrians, bicycles, transit, and vehicles.

Special design consideration will be given to 199 Street and 23 Avenue pedestrian crossings as these two arterial roadways are major barriers between neighbourhoods. In order to provide safe pedestrian connections across 23 Avenue and 199 Street, priority pedestrian crossings at key intersections will be provided to encourage safe pedestrian movement across these high-traffic arterial roadways. Further, to create an active Pedestrian Zone, the streets and public gathering areas should be designed to provide convenient and safe corridors both between and through the station area. Figure 13: Active Mode Transportation Network illustrates the location of the Pedestrian Zone, where the streets and public spaces will be designed to encourage active transportation and a higher quality pedestrian environment.

Where possible, emphasis will be placed on the design of ground floor of buildings to provide an engaging interface with the streets and open spaces. Good site and building design contribute to a more interesting and comfortable streetscape that attracts pedestrian activity.

1. Streets and land uses within 400m of the Transit Centre shall be designed to provide a safe, convenient and attractive pedestrian connection to the Transit Centre.
2. Streets within the Pedestrian Zone should provide a greater mix of roadway cross-sections that accommodate all modes of transport on city streets, providing access to transit facilities.
3. Attention shall be paid to ensure buildings are oriented towards the street and designed to a human scale, where possible.
4. Techniques to promote pedestrian-friendly streetscapes such as building orientation, transparency, scale, etc. shall be explored with the Pedestrian Zone.

Implementation: Figure 13: Active Mode Transportation Network illustrates pedestrian connections and pedestrian zone. Streets and land uses will conform to the City of Edmonton Transit Oriented Development Guidelines for areas within 400 m of the transit centre (i.e. station area). The City of Edmonton's Complete Streets Guidelines should be used in the identification or cross sections for roadways within the station area. Opportunities to improve pedestrian connectivity through the station area and across arterial roadways will be explored at rezoning and subdivision stages and monitored as development continues in the Riverview area. Site planning and building design shall be reviewed at the development and building permit stages, in accordance with the Zoning Bylaw.

Objective 3: Encourage innovative architectural design and building orientation that provides local place-making opportunities.

Source: Stantec

Orientation of buildings towards public areas (e.g. streets, parks and amenity areas) play an important role in creating interesting and varied streetscapes, while increasing a sense of resident awareness of neighbourhood activities and safety. Large building sites also have the opportunity to create interesting and creative use of space.

1. Larger buildings and public spaces should be designed to be high quality and appropriately located to ensure safety, visual interest, and be integrated with the community.
2. Higher density residential, civic and commercial sites shall be designed considering building orientation and variations in façade treatment with regard to massing and human scale architecture.
3. Use of innovative building materials and interesting colours are encouraged to create an interesting built form.

Implementation: Site planning and building design shall be reviewed at the development and building permit stages, in accordance with the Zoning Bylaw. The design and location of buildings shall be reviewed and developed in conjunction with the responsible civic departments to ensure the incorporation of appropriate design elements using the City of Edmonton's Transit Oriented Design Guidelines, Complete Streets Guidelines and the Winter City Strategy.

Objective 4: Utilize parks and notable locations to create neighbourhood destinations that achieve a sense of place.

Source: Stantec

Parks and SWMFs are to be designed to provide vistas and sightlines from the abutting roadways, heightening residents' awareness and utilization of passive recreation areas. This promotes open spaces as walking destinations and enhances their surveillance to prevent crime. Parks and SWMFs will be designed to connect into the active transportation network for pedestrians and cyclists and to provide recreational activities.

1. TOB roadways and parks shall be utilized to maximize views and access to the North Saskatchewan River, in accordance with City Policy C542.
2. Roadway design and landscaping shall consider opportunities for maximizing views of, and access to parks and SWMFs.
3. Public spaces, such as parks and SWMFs, shall be designed to encourage passive and active recreational opportunities.
4. Parks and SWMFs shall be designed using Crime Prevention Through Environmental Design (CPTED) principles.
5. Stormwater management facilities and parks that are sited and designed to be neighbourhood destinations, so as to reinforce the natural theme for the community.
6. A minimum of 50% of the Stormwater Management Facilities' perimeter shall be designed with a shared use path.

Implementation: Figure 5: Development Concept illustrates the location of parks and SWMFs. At the subdivision stage, parks and SWMFs will be designed with frontage onto public streets and in safe proximity to residential uses. The Subdivision Authority, in consultation with the reviewing civic departments, shall have regard for the provision of adequate street frontage abutting open spaces to maintain passive and active surveillance and enhance view opportunities.

4.2 Historical Resources

Overview and Rational

A neighbourhood's historical characteristics must be conserved to maintain its unique relationship to its past and to generate a sense of belonging.

A pre-WWII historic structure has been identified as once being the home of former alderman Robert John Manson, located adjacent to the North Saskatchewan River TOB. Due to its close proximity to the ravine's crest, the land area will be dedicated to the City of Edmonton through Environmental Reserve, as part of the Public Upland Setback. Further investigation of its structural integrity and historic merit will be required by Sustainable Development prior to development of the adjacent lands.

Objective 5: Ensure that historical, archaeological, and paleontological resources are identified, conserved, and incorporated where applicable.

Identification and protection of historical resources is important for preserving and understanding Alberta's history of the land and culture of the people who called it home. Where feasible, development within the Riverview 3 will have regard for the preservation of historical, archaeological and paleontological resources.

1. Statement of Justification and/or Historical Resource Impact Assessments shall be submitted and approved by Alberta Culture and Community Spirit prior to development.
2. All historical, archaeological, and palaeontological discoveries made during construction shall be reported.

Implementation: Pursuant to Section 31 of the *Historical Resources Act*, development proponents, builders and/or their representatives are required to report the discovery of any archaeological, historic period or paleontological resources, which may be encountered during construction. Lands which have not received *Historical Resources Act* clearance will be required to submit and receive sign-off from Alberta Culture and Tourism prior to rezoning.

4.3 All Weather Design

Overview & Rationale

Neighbourhoods designed to accommodate year-round weather conditions will provide opportunities for residents to enjoy and experience all the amenities their neighbourhood has to offer, in all seasons.

Winter is the dominant season in Edmonton, and utilizing winter design initiatives will help to make outdoor public spaces enjoyable throughout the winter months. The City embraces our winters and, through the Winter City Strategy, encourages us to celebrate the winter months. Through a variety of methods such as effective sun capture and wind control measures, as well as landscaping in parks and other outdoor spaces we can enliven these spaces in all seasons.

Objective 6: Ensure infrastructure and design elements address year-round weather conditions.

Design of streets and buildings should accommodate winter climates, providing a comfortable physical environment for people to enjoy the outdoors throughout all four seasons. Orientation of roadways and function of boulevards will aid in identifying the appropriate cross sections to be used. To ensure comfortable pedestrian movement and safety, sidewalks should be separated from carriageways by treed boulevards to allow for snow storage and buildings should be oriented to capture sunlight and reduce wind tunnelling. The neighbourhood shall be designed to accommodate infrastructure programming requirements in the public realm including snow clearing and landscaping maintenance.

Source: Stantec

1. Boulevards should be designed to accommodate snow removal and year-round service vehicles.
2. Alternative development standards shall meet infrastructure programming needs for all seasons.
3. Encourage the integration of vibrant colours and warm materials in residential, institutional and commercial buildings.
4. Commercial sites and higher density residential areas shall be designed with consideration given to building orientation and variations in façade treatment that reduce the amount of sun shadowing on open spaces in the winter and to prevent wind tunneling.
5. Street orientation and design will take into account opportunities to capture sunlight and reduce wind funnelling.

Implementation: Developers are encouraged to include winter design considerations and elements within architectural controls. Developers shall work with civic departments to plan for appropriate snow storage and removal. Transportation Services and Sustainable Development shall review proposed tentative plans of subdivision. Where required, alternate development standards will be prepared and submitted to Transportation Services for review and approval prior to subdivision. The design of public realm shall be reviewed and developed in conjunction with the responsible civic departments will ensure the incorporation of appropriate design elements using the City of Edmonton's Complete Streets Guidelines and Winter City Strategy.

Objective 7: Consider the winter season in the landscaping of schools, public parks, open spaces, plazas and boulevards.

Public spaces and buildings within Riverview 3 will be designed for residents to enjoy engaging public activities during the colder months of the year. Design and development of parks, open spaces, plazas, and boulevards will consider the winter season, including use and placement of street furniture, low maintenance landscaping and also the use of light and colour.

1. Design public buildings, parks and open spaces that protect users from the wind and maximize access to sunlight.
2. The design of public open spaces shall consider incorporating design elements that respond to all seasons, through such measures as the creative use of light, and colour.
3. Appropriate plant species should be included in the detailed landscape design of public parks, plazas, and open spaces such that they provide wind shelter, enable solar penetration, or year-long appeal.

Source: Stantec

Implementation: Winter design consideration and elements in public buildings, parks and public spaces is encouraged by the City of Edmonton. Design of public land will be reviewed and developed in conjunction with the responsible civic departments to ensure the incorporation of appropriate design elements using the City of Edmonton's Winter City Strategy.

4.4 Landscaping

Overview & Rationale

Neighbourhood landscaping will enhance the character of Riverview 3 and reinforce the neighbourhood's connection to nature. Utilizing native plant species generally requires less maintenance and irrigation than many non-native, ornamental species, which minimizes costs associated with development and maintenance. Indigenous landscaping within open spaces provides opportunities to enhance wildlife habitat and strengthens the ecological network.

Objective 8: Promote the use of natural landscaping using native tree and plant species.

This Plan encourages the use of native species, where practical, to enhance the streetscapes and open spaces consistent with the existing landscape to create a sense of place, as well as additional habitat for native birds, small animals and insects. Indigenous landscaping is a more ecologically-sensitive approach to landscaping because native plants are accustomed to the local climate, soil and hydrology of a certain area. Using native plant materials promotes a healthier natural ecosystem that over time will integrate with the surrounding landscape.

1. Landscaping of parks, open spaces, and stormwater management facilities shall incorporate native and non-invasive plant species that are low maintenance and considered non-invasive.
2. Open spaces shall include native plant species intended to provide additional habitat value of ecological network.

Implementation: Specific species for landscaping on public properties shall be determined between the developer and relevant City departments at the time of review of landscaping plans as part of the engineering drawing review.

Source: Stantec

Objective 9: Promote the use of edible landscaping in suitable locations.

As the City-Wide Food and Agriculture Strategy evolves, communities and wildlife may benefit from edible landscaping techniques used in open spaces. Landscaping of parks and open spaces are encouraged to provide opportunities for edible landscaping elements, in areas such as pocket parks.

1. Landscaping of parks and open spaces will provide opportunities for edible landscaping elements, where appropriate.

Implementation: Specific species used on landscape plans shall be determined between the developer and relevant civic departments as part of the engineering drawing review and will consider appropriate edible plants. The developer, in conjunction with responsible civic departments, will ensure the incorporation of Fresh: Edmonton's Food and Urban Agricultural Strategy. Figure 6: Urban Agriculture and Food illustrates potential locations where edible landscaping may be planted for the benefit of the community.

5 LAND USE

CONTEXT AND APPROACH

Riverview 3 has been planned as a well-rounded community offering a variety of commercial, office and institutional to support a range of dwelling types and densities, offering a choice of accommodation for a variety of income groups and household types. Within the Riverview NSP, various park spaces have been envisioned to compliment the North Saskatchewan River valley, providing active and passive recreation opportunities, creating a community to really live work and play.

The Riverview station area falls within approximately 400m of the Transit Centre, and is planned to be complimented by transit supportive development, such as major trip generating residential and a mix of employment/retail uses, making the area a more viable transportation option. The station area will be designed to be pedestrian-oriented and will function as the social and economic heart of the Riverview community.

The District Park is located in the south portion of the neighbourhood, with access to two arterial roadways, ensuring sufficient and convenient access by pedestrians, cyclists, transit users and automobiles. The site is intended to provide institutional and recreational opportunities including, sports fields, senior high school(s) and community recreation centres (e.g. arena, pool, fitness centre complex). The District Park is also situated along the west bank of the North Saskatchewan River and provides a convenient staging location to allowing pedestrian access to Big Island within the river valley below.

The following subsections will further discuss these land uses within Riverview 3. Figure 5: Development Concept generally illustrates the location and configuration of land uses within Riverview 3.

5.1 RESIDENTIAL

OVERVIEW AND RATIONALE

Residential uses in Riverview 3 are comprised of Single/Semi-detached Housing, (Stacked) Row Housing, and Low-rise/Medium Density Housing. These housing types are intended to cater to a diverse consumer market of different economic levels and age groups, contributing to a sustainable residential urban form. For neighbourhood land use, density, and population statistics see **Appendix 3** Land Use and Population Statistics.

Two existing Country Residential nodes are located along the bank of the North Saskatchewan River valley ravine, on River Heights Drive and 17 Avenue. These nodes of residential development are identified in the Plan and are expected to remain as Country Residential for the foreseeable future. Future residential development planned to interface adjacent to country residential estates will be sensitive to the nature and lifestyle of the existing use by permitting for single detached residential, which is complimentary and designed with larger lot sizes, enhanced landscaping and buffering (where needed), so as to reduce any perceived conflicts. This type of residential development will comprise of single-detached housing and will be designed to respect the local character and ambiance or local country residential estate living.

The Single/Semi-detached designation will allow for single-detached, semi-detached and limited amount of rowhousing. This designation offers a balance of housing choices within the community and will take advantage of local amenities offered by commercial and employment uses, stormwater management facilities, shared use trails, and the North Saskatchewan River.

The Row Housing and Low-rise/Medium Density Housing designations allow for higher density residential uses such as row housing, stacked row housing and apartment housing. Such higher density residential developments are best situated along transit routes, within walking distance of the transit centre and other community destinations to create a more compact, walkable and liveable neighbourhood that reduces vehicular dependence.

Standard zones within the Zoning Bylaw will be applied to facilitate residential development consistent with contemporary trends and market innovations. Innovative or intensive housing styles, such as reverse-housing, shallow lot or zero lot line housing, etc., add variety to the streetscape and make neighbourhoods more interesting places to live. The use of site specific Direct Control Provisions (DC1 or DC2) or Special Area Zones may be utilized to achieve these alternative housing forms within this neighbourhood.

Objective 10: Maintain high regard for the integration of existing Country Residential, ensuring compatibility between adjacent land uses.

Development immediately adjacent to existing Country Residential development will incorporate appropriate transition to future low density residential development. Acceptable land uses will be designed to respect the local character and ambiance of local country residential estate living.

A variety of techniques can be used to provide the appropriate transitioning between country residential uses and new development, including increased building setbacks, increased landscaped buffers, the use of building orientation and other design elements. Such techniques can serve to moderate the scale and use differences.

Source: Stantec

1. Commercial or medium density residential uses shall not be permitted adjacent to Country Residential land uses.
2. Residential uses fronting or backing onto existing country residential shall provide an interface that is similar in nature to provide adequate transitioning, such as increased setbacks, landscaping and larger lot sizes.
3. Access to existing Country Residential will be maintained. Should a road closure be required, temporary or new access shall be constructed to the existing or improved standard.

Implementation: The Zoning Bylaw provides for the utilization of conventional zones or direct control provisions that may be applied at the rezoning stage. Lot sizing shall be in accordance with the Zoning Bylaw and reviewed by the Subdivision Officer at the subdivision stage.

Single detached housing planned immediately north of River Heights Drive and fronting onto an existing Country Residential area will have a minimum lot width of 24 m, a site area of a minimum of 0.12 ha, and a front setback of a minimum of 8 m. For this area, a Direct Control (DC) Provision will be proposed to achieve the above noted lot configurations, to respect the local character and ambiance of the local Country Residential lots.

Further subdivision of the residential lots fronting onto River Heights Drive will not be permitted. In order for this development to be feasible, a local improvement bylaw or cost sharing agreement may be pursued to equitably cost-share the necessary improvements (surface and underground) between the new and existing lots.

Special consideration will be given to site treatments that afford visual transitioning to, and enhancement of existing Country Residential areas. In consultation with Sustainable Development and Transportation Services, a rural road cross section may be utilized, or varied to provide sidewalks, landscaped boulevard, landscaping, and/or screening.

Objective 11: **Plan for a variety of residential housing types in different built forms for a range of household types and income levels**

Source: Stantec

Providing a variety of housing types promotes the creation of a well-balanced and complete community, one which can accommodate a range of income groups and household structures throughout their lifecycles. This plan seeks to provide a choice of housing forms within the neighbourhood, and makes more efficient use of land.

1. A mixture of housing types shall be provided including single / semi-detached, secondary suites, row housing, stacked row housing and apartment housing, allowing a range of housing choice.
2. The NSP shall encourage intensive and/or innovative housing forms through the use of alternative and land-efficient development regulations (e.g. reduced minimum site area and depth, reduced lot width, reduced yard requirements, higher site coverage, etc.).

Implementation: The Zoning Bylaw provides for a range of densities and housing forms that will be applied at the rezoning stage through one of the applicable zones. In some cases, Direct Control Provisions (DC1 or DC2) or Special Area Zoning (Section 900) may be utilized for innovative, intensive, affordable, or mixed-use development of individual sites or areas within the neighbourhood.

Objective 12: Establish an overall residential density that is compact and efficiently utilizes municipal infrastructure.

The Riverview 3 NSP is located in the Capital Region Growth Plan's Priority Growth Area "Cw" which sets a minimum density target of 30 units per net residential hectare. The Riverview 3 NSP exceeds this target and plans for residential density that is able to support public transit, use infrastructure more effectively and provide a user base for community facilities.

1. The Riverview 3 NSP shall meet or exceed the approved density target of 30 units per net residential hectare, as set out by the Capital Region Board.

Implementation: Please refer to Figure 5: Development Concept and **Appendix 3 Land Use and Population Statistics** which will guide intensified urban development.

Objective 13: Establish affordable housing in Riverview 3.

The Riverview 3 NSP provides the potential to provide a more intensive form of residential housing by maximizing land and servicing efficiencies; creating a diversity of housing using a variety of lot sizes and housing forms; and reducing auto dependency by improving pedestrian circulation and access to bus transit. The NSP encourages the exploration of innovation in affordable housing whether it is driven by the developer or the City. The City of Edmonton's Affordable Housing Policies and Guidelines will be applied prior to rezoning.

1. Promote housing affordability through the provision of more intensive forms of residential development.
2. Allow for a wide variety of housing types, with a wide range of price points, to create a more inclusive neighbourhood.
3. Opportunities such as secondary suites, garage suites, or garden suites should be encouraged among builders.

Implementation: Developments shall comply with the City of Edmonton's Affordable Housing Policies and Guidelines. Secondary suites can further provide an important potential source of affordable housing for singles and other small households as well as create an additional source of income for the owners of the principal dwelling. Secondary suites, garage suites, or garden suites shall be implemented through the applicable Sections of the Zoning Bylaw.

5.2 Riverview Station Area

Overview and Rationale

The Riverview bus transit centre is located in the northwest portion of the neighbourhood at the intersection of 199 Street and 23 Avenue, loosely establishing the Riverview station area - this area generally corresponds with a distance of 400 m from the transit centre. The station area is planned to incorporate Transit-Oriented Development (TOD) principles and consists of land uses and intensities that best support the viability of the transit facility. TOD principles suggest a mix of residential, commercial, and employment land uses within 400m of a bus transit facility, which is integrated with the street network with

Source: Stantec

consideration for multi-modal transportation by vehicles, pedestrians and cyclists In Riverview 3, the transit centre is also complimented with a Mixed Use site, suitable for higher density residential and complimentary office/commercial uses.

Objective 14: Promote transit-oriented development

Land use and development within 400m of the transit centre are guided by the City of Edmonton's TOD Guidelines. Overall, the station area in Riverview 3 will accommodate higher intensity residential uses and provide opportunity for mixed use development. Land uses within of the transit facility accommodate the highest amount of density in the form of Mixed Uses and Low Rise/Medium Density Housing. Land uses that fall generally between 200 m and 400 m are comparatively lower intensity and include a mix of Low Rise/Medium Density Housing and Row Housing.

1. Create a compact and integrated urban form that maximizes the utilization of land.
2. Locate highest intensity land uses within 200 m of the transit centre and progressively lower intensity uses between 200 m and 400 m intervals.
3. Allow for vertical integration of uses within single buildings or horizontal mixing of uses in multiple buildings within walking distanced of each other.
4. The transit centre shall adopt high quality urban design features (i.e. interface along the periphery, landscape design, plaza/open space, pedestrian connections, etc.) that integrate well with the adjacent land uses and complements the character of the station area in scale, quality of materials, finishes, landscaping and the pedestrian environment.
5. Locate buildings such that they are generally aligned with the streets, major pedestrian connections, and any plaza/open space to create a pedestrian friendly character.
6. Ensure appropriate transitioning between the transit centre and the surrounding residential development through a series of well-connected and designed streets, walkways, shared-use trails, and open spaces.

Source: The Lake at Thousand Oaks, California

Implementation: The Zoning Bylaw provides for a range of densities and housing forms that will be applied at the rezoning stage through one of the applicable zones. Opportunities may arise for the use of Direct Control Provisions (DC1 or DC2) or Special Area Zoning (Section 900) for innovative, intensive, affordable, or mixed-use development of individual sites or areas. The Development Officer should have regard for building placement, pedestrian accessibility and activity areas in assessing development applications under the applicable zones. The developer, in conjunction with responsible civic departments, will develop the TOD area as per guidance provided in the City of Edmonton's TOD Guidelines and Complete Streets Guidelines.

Objective 15: Create a transit oriented mixed use development in proximity to the bus transit centre

This Plan proposes a Mixed Uses site to accommodate a combination of transit-supportive medium to high density residential uses that are vertically and/or horizontally mixed with office, civic, or retail uses and integrated with the adjacent transit centre, as a comprehensively planned site. The strategic location of the transit centre and Mixed Uses site directly supports Transit and Pedestrian Oriented Development opportunities.

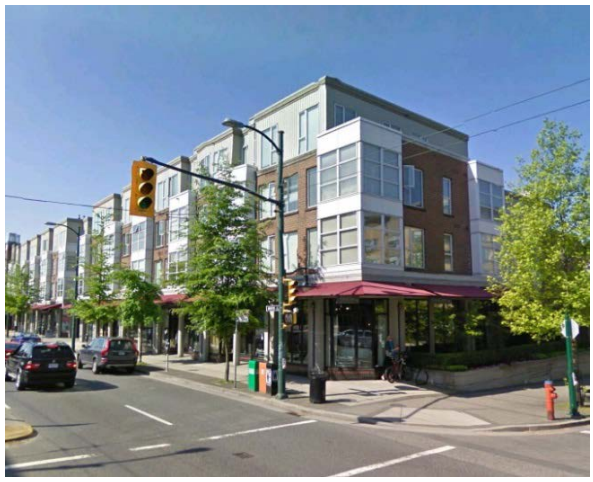
Source: Stantec

1. High quality architectural guidelines, and design elements including colours, finishes, materials and lighting, shall be established for the site.
2. Larger buildings shall use design techniques and materials to reduce the massing perception.
3. The streetscape and interface with the transit centre shall be pedestrian-friendly, universally accessible, comfortable and aesthetically pleasing.
4. Land uses may be vertically integrated within a single building or horizontally integrated within multiple buildings on a site, to provide a compatible mix of uses and intensity.
5. Building siting will have high regard for maximizing sunlight and reducing sun shadowing on open space and residential uses.
6. Landscaping shall be used to enhance building entries, screen areas of surface parking and enhance the overall character of these sites.
7. Street furnishings, pedestrian corridors and site landscaping shall be utilized to connect transit facilities, promote wayfinding and community activity and interaction, as well as ensure visual interest.

Implementation: The Zoning Bylaw provides for a number of mixed use zones that may be applied at the rezoning stage. In consultation with Sustainable Development, opportunities may arise for the use of Direct Control Provisions (DC1 or DC2) or Special Area Zoning (Section 900) for more innovative, intensive, or affordable development. The Development Officer should have regard for building placement, pedestrian accessibility, etc. in conjunction with the responsible civic departments to ensure the incorporation of appropriate design elements using the City of Edmonton's Transit Oriented Design Guidelines, Complete Streets Guidelines and the Winter City Strategy, in assessing development applications under the applicable zone.

Source: Stantec

Objective 16: Establish a well-designed and high-quality urban environment within 400m of the Transit Centre.



Source: Stantec

The NSP incorporates a higher intensity development within 400m of the Transit Centre, which is to be carefully designed and constructed to create an aesthetic and high-quality urban environment. The transit center will be designed to exhibit high urban design standards in conjunction with the surrounding land uses to enhance the character, image and livability of the area. Larger buildings shall be designed to maximize sun exposure, reduce perceived massing, and be appropriately transitioned from buildings and streets. The Station Area incorporates a Pedestrian Zone, an area identified for streets and public space to be designed for safe, convenient and comfortable transportation of all users and age groups.

1. Larger buildings shall use unique architectural features with varied materials to reduce the massing perception.
2. Design pedestrian friendly streetscapes characterized by active building frontages, human-scale built form, wide sidewalks and pedestrian-oriented landscaping.
3. Building design and site planning will have high regard for maximizing sunlight and reducing sun shadowing.
4. Building facades that front onto open spaces should be designed to create active building frontages and include architectural elements such as terraces and porticos that contribute to the pedestrian experience and animate the street.
5. Building entrances should be oriented toward the pedestrian realm, such as the transit centre and public open areas.
6. Buildings adjacent to the open spaces will be oriented and designed to frame and enhance the area while providing opportunity for passive surveillance.
7. Private open spaces and plazas should be oriented to take advantage of view corridors and sunlight.
8. Landscaping shall be used to enhance building entries, screen areas of surface parking and enhance the overall character of these sites.
9. High percentage of ground floor should be transparent, using windows and glazing adjacent to streets and open space
10. Design multi-use streets that support various modes of transport such as pedestrians, bicycles, buses, cars, and service vehicles.
11. Design streets within the station area to reduce vehicle speed in order to encourage the creation of a walkable, urban environment within the station area.

12. Design features including, but not limited to public art, public seating areas and street furniture, and ornamental planting beds will be incorporated into private open spaces.
13. An integrated landscaping theme should be used to highlight major circulation patterns, pedestrian linkages, and the overall development.
14. Street furnishings, pedestrian corridors and site landscaping shall be utilized to connect transit facilities, promote activity and interaction as well as ensure visual interest.
15. The City of Edmonton's Transit Oriented Guidelines shall be implemented to ensure a compact and vibrant station area.

Implementation: The development officer shall have regard for the appropriate application of landscaping, and façade treatments available under the Zoning bylaw at the development permit stage. Design of streets will be subject to the review and approval of Transportation Services and Sustainable Development. The design elements of the station area will be guided by the Zoning bylaw, Transit Oriented Development Guidelines and Complete Streets Guidelines.

The development officer shall have regard for the appropriate application of landscaping available under the Zoning bylaw at the development permit stage. The developer in conjunction with responsible civic departments will ensure the incorporation of appropriate design elements using the City of Edmonton's Fresh; Edmonton's Food and Urban Agricultural Strategy, Winter City Strategy, and Transit Oriented Development Guidelines and Complete Streets Guidelines.

Objective 17: Manage off-street parking to complement the urban character of the station area.

The station area will be designed to minimize the visual presence of automobile circulation as well as service functions as much as possible, such as locating parking and service access away from primary building frontages and transit facilities. This will also be achieved by minimizing vehicular access (curb cuts) on primary building frontages to reinforce a clear hierarchy and organization of circulation within the station area and minimizing conflicts between vehicles and pedestrians.

1. Large parking areas shall be 'broken up' into smaller, dispersed parking areas by means of on-site private roadways, landscaped islands, amenity spaces, and/or pedestrian walkways.
2. Where access is provided on a street, curb cuts and accesses should be shared or common between projects.
3. Parking requirements will be guided by the City of Edmonton's Transit Oriented Development Guidelines and the design elements will incorporate the City of Edmonton's Complete Streets Guidelines.
4. Where appropriate, parking shall be provided behind the principal building or screened from the street to enhance the street-wall and pedestrian environment in the station area.

Implementation: The Development Officer shall ensure that large parking areas are 'broken up' by means of on-site private roads, landscaped islands, amenity spaces, and/or pedestrian walkways when assessing and conditioning development permit applications. Design of parking facilities will be subject to the review and approval of Transportation Services and Sustainable Development at the development permit stage, and in accordance with Transit Oriented Design Guidelines.

5.3 INSTITUTIONAL/CIVIC SERVICES

Source: City of Edmonton

OVERVIEW AND RATIONALE

Whether provided by the City of Edmonton or by other agencies and organizations, urban service uses aid in the development of a "complete community." By identifying and anticipating future community needs, land may be set aside for fire rescue, emergency medical services, health providers, religious assemblies or other uses.

Objective 18: To accommodate future development of institutional and civic service land uses

Institutional/Civic Service land uses are permitted within the station area, Parks, and commercial areas and are intended to support social sustainability, providing space for worship, learning, and community safety. The NSP supports the future development of institutional and civic services in the Riverview area, including religious assemblies, fire halls, and/or police stations

1. The NSP shall allow for development of institutional, civic, and urban service uses based on assessed requirements.

Implementation: The location of emergency services shall be determined through consultation with Edmonton Fire Rescue Services.

6 ECOLOGY, PARKS AND AMENITIES

CONTEXT AND APPROACH

The majority of lands within the Riverview 3 neighbourhood have been historically cultivated for agriculture with the exception of existing Country Residential uses and the TOB along the North Saskatchewan River. The following objectives support the goals of preserving the ravine area and integrating new open spaces that provide additional habitat into the neighbourhood. The preservation and integration of the North Saskatchewan River ravine will help facilitate the movement of wildlife in addition to aesthetic and recreational benefits for the residents of Riverview 3.

Phase I (Ecoventure, 2013) and Phase II (Stantec Consulting Ltd., 2015) Ecological Network Reports (ENR) have been submitted to the City of Edmonton that identify natural features within the Plan area, provides an assessment of the existing regional ecological network and provides recommendations on how to conserve or protect any remaining integral natural areas. An ENR has been completed for the plan proponents' land, and a desktop review has been completed for the entire neighbourhood. An ENR was undertaken for the plan proponents', and a desktop review has been completed for the entire neighbourhood. The report will require approval prior to any rezoning and subdivision approvals.

6.1 ECOLOGICAL AREAS

OVERVIEW AND RATIONALE

The North Saskatchewan River Valley (NSRV) and ravine system is an important ecological system in Edmonton. The NSP ensures that the NSRV and ravine system is preserved and protected through the establishment of an Urban Development Line (UDL) demarcating the boundary between urban development and non-developable area (Environmental Reserve). Public access to the River Valley and Ravine System shall be provided via a combination of Top of Bank (TOB) Park and roadway.

In addition, a TOB shared use path will be established along the entire length of the NSRV TOB for circulation and amenity purposes. An exception to this would be previously developed areas that have been subdivided for residential development. In this scenario, a linkage will connect back into the neighbourhood's pedestrian network (e.g. streets and greenways).

Objective 19: Protect the North Saskatchewan River and Ravine System

The North Saskatchewan River and its ravine is an important and diverse ecological system adjacent to the NSP boundary. It is protected and preserved as per the MGA, North Saskatchewan River Valley ARP, and the policies and guidelines of the Way We Grow and the Way We Green. The North Saskatchewan River provides the basis for plant and animal populations to be integrated within the neighbourhood. The NSRV adds diversity and vitality to the neighbourhood and helps create a sense of place, allowing residents to explore and enjoy nature close to home.

1. Lands adjacent to the North Saskatchewan River and its ravine shall be protected from urban development and dedicated as Environmental Reserve in accordance with the Municipal Government Act.
2. All development that impacts the NSRV (e.g. outfalls, transportation crossings, pedestrian access routes, etc.) shall undergo environmental review as per the North Saskatchewan River Valley Area Redevelopment Plan (Bylaw 7188).

Implementation: Environmental Reserve (ER) will be dedicated to the City of Edmonton at the time of subdivision, in accordance with the MGA. A geotechnical slope stability report, detailing the required setbacks and other recommendations to ensure bank stability for urban development, has been submitted and reviewed by Transportation Services in compliance with the City of Edmonton's Policy C542. Both the District Park and Urban Village Park are located abutting the top-of-bank in the east boundary of the plan area (**Figure 5: Development Concept)** and provide points of entry or staging areas for residents and visitors to access the river valley and its trails directly from the neighbourhood. Provisions for parking in parks or along top of bank roadway will be determined at time of development by Transportation Services, Sustainable Development, and Urban Planning and Environment.

Objective 20: Strengthen Edmonton's Ecological Network.

Linkages in the plan area help retain ecological connectivity of plants and small wildlife species. The ravine in the northern portion of the plan plays a significant role in the region's ecological network and provides an important ecological resource for the neighbourhood. Parks, greenways and SWMF's provide for connectivity to the larger North Saskatchewan River valley and ravine and add to the diversity and vitality of the neighbourhood.

1. Integrate and connect green open spaces (e.g. parks, greenways, and naturalized SWMFs) to create new habitat and promote ecological connectivity.
2. Design open space areas with consideration for the movement needs of wildlife.
3. Native plant species should be used in upland areas abutting the top of bank and public spaces to increase the habitat value of the ecological network.
4. Street lighting abutting the North Saskatchewan River Valley top-of-bank shall be designed to reduce light pollution in proximity to the ravine.

Implementation: Figure 5: Development Concept illustrates the location of parks, greenway and SWMFs. Where required, potential wildlife crossings illustrated in Figure 12: Transportation Network will be located and designed using the Wildlife Passage Engineering Design Guidelines and shall be reviewed by Transportation Services in conjunction with the Ecology Unit (Sustainable Development). Tree plantings and landscaping will be determined at the design stage, in consultation with Sustainable Development, to enhance wildlife habitat as well as to mitigate avian conflicts with arterial roadways, where practical.

6.2 Green Development

Overview and Rationale

In support of the City of Edmonton's Green Building Plan and *The Way We Green* policy documents, the Riverview 3 NSP provides consideration to green initiatives and innovations. This Plan encourages implementing innovative and sustainable ideas such as green building design and environmentally conscious landscaping techniques into neighbourhood development.

Engineering and design standards establish a baseline for construction that provides safe and reliable municipal infrastructure. However, recent trends and rapidly improving technology provide ample opportunities for alternative standards to reduce construction and maintenance costs. This plan encourages the exploration of alternative development standards (e.g. reduced roadway widths, smaller lot design, and servicing techniques that differ from City standards) as a way of stepping toward increased sustainability.

Low Impact Development (LID) is an approach that uses simple ecological principles to reflect natural ecosystem processes with respect to managing stormwater in a developed area. This Plan encourages implementing innovative and sustainable ideas such as green building design and environmentally conscious landscaping techniques, including the use of native species to the extent feasible. The following LID techniques are recommended for this NSP, in accordance with the City of Edmonton Low Impact Development Best Management Practices Design Guide Edition 1.0 (2011).

Absorbent Landscaping

Absorbent landscaping could be incorporated into the development of all the SWMFs and parks, by increasing the depth of topsoil within the NSP in order to help temporarily store stormwater and allow stored water to permeate over time. This is particularly helpful for small, frequent events. This can be accomplished by increasing the depth of topsoil to 200 - 300 mm. The addition of the increased organic layer will increase the water holding capacity of the soil surrounding the various SWMFs and parks, increasing absorption and break down of pollutants.

Bioswales and Bioretention Areas

Bioswales and bioretention areas are small stormwater treatment areas located within a shallow depression using vegetation and additional topsoil. These areas provide water quality treatments, reduce runoff and aid in infiltration. Bioswales and bioretention areas could be incorporated in the form of parking lot islands, islands within cul-de-sacs, traffic circles, bump outs and rain gardens, where feasible.

Source: Stantec

Naturalized Stormwater Management Facilities

Naturalized stormwater management facilities incorporate local topsoil or live soils, where available, and native vegetation to maintain water balance and remove pollutants from stormwater by increasing the duration that the water remains within vegetated areas. These systems also provide wildlife habitat. In addition, there may be opportunities to integrate naturalized storm ponds with natural wetlands to ensure the long term sustainability of the natural areas in the NSP. Early planning and innovative designs will help to ensure natural wetlands are conserved and integrated into the neighbourhood.

Stormwater Reuse

Stormwater reuse is a method of conserving rain water and aids in decreasing the amount of contaminants entering the groundwater system. This is an inexpensive method that can be incorporated by all of the businesses and residential developments within the neighbourhood. Storm water collection can be accomplished by the use of rain barrels, rain gardens or used to irrigate public areas within The NSP. This LID technique could be coupled with resident education regarding the benefits of reusing storm water.

Objective 21: Consider sustainable, alternative or low impact development standards in the planning and design of the neighbourhood.

Best practices will be used in the development of the Riverview 3 NSP. Technological advances and innovation in the construction industry will continually improve and the demand for more efficient and affordable construction practices and products are changing the way neighbourhoods are built. Stormwater management systems can simultaneously satisfy regulatory requirements and protect the environment by reducing runoff and improving water quality, in addition to reducing infrastructure costs – all of which minimize the impact of development.

Source: Stantec

1. Where feasible and appropriate, incorporate alternative development standards and sustainability measures, such as LID Principles.
2. Landscaping of parks and open spaces should incorporate increased top soil depths and landscaped with native plant species, where appropriate.
3. SWMFs shall include naturalized shoreline plantings and other native vegetative species intended to provide habitat opportunities for wildlife and promote natural water treatment.
4. Where possible, utilize bioswales or bioretention areas to increase groundwater infiltration and improve water quality prior to discharging into the ravine system.
5. Consider utilizing pervious surfaces where appropriate, such as trails and parking areas in public and private development.
6. In addition to LID best practices, consider alternative development standards such as energy efficient lighting, green building standards/technologies and alternative road construction standards to reduce energy consumption of buildings and neighbourhood development as a whole.

Implementation: Figure 14: Low Impact Development Opportunities illustrates areas identified to potentially utilize LID principles. Detailed design of parks, naturalized stormwater management facilities, bioswales or bioretention areas will be reviewed by City Administration. Plant, shrub, and tree species for landscaping on public properties shall be determined between the developers and City Administration at the time of review of landscaping plans and as part of the engineering drawing review. Sufficient technical detail will be provided on any proposed LID at zoning and subdivision to the satisfaction of Drainage Services. Details of alternative design standards proposed will be reviewed as part of the engineering drawing stages and will require approval from City Administration.

6.3 Parks and Open Space

Overview and Rationale

Top of Bank/Natural Area

The North Saskatchewan River serves as a significant feature for the neighbourhood and provides opportunities for passive recreation and educational opportunities. A shared use path will be constructed along the full extent of the top-of-bank to allow for uninterrupted access to the NSRV and ravines. Where access is not available (backing onto existing Country Residential Development), this shared use path will be connected into the pedestrian network by walkways, sidewalks and other shared use paths that connect with parks, open spaces and utility corridors, to ensure a safe and conveniently accessible network throughout Riverview 3 and surrounding neighbourhoods.

Parks and the NSRV within the neighbourhood will be linked to other open spaces (i.e. stormwater management facilities, greenways and utility corridors) to allow for pedestrian and wildlife connectivity. An integrated open space network is proposed for the Riverview 3 NSP, as shown in Figure 6: Ecological Network and Parks. The area attributed to Park and Open Space is shown in Appendix 3 Land Use and Population Statistics.

Source: Stantec

District Park

Located within the southern area of the NSP and along the west bank of the NSRV, the District Park is intended to incorporate a wide range of recreation programming, offering both active and passive outdoor recreation uses, including: sports fields and access to the NSRV trail system. In addition to outdoor recreation, the park is intended to accommodate both Public and Separate high schools and a recreation centre, which would provide both indoor and outdoor recreation uses, such as skating rinks, swimming pools, gymnasiums, etc. as well as associated parking for this use.

School/Park Site

A dual Public and Separate (K-9) school site is planned in the central park area, located to provide maximum frontage onto collector roadways facilitating convenient access to park/school facilities. These school sites will remain as open space until such time that the majority of the neighbourhood has been developed and the student population warrants the school to be built.

Urban Village Park

The Urban Village Park in Neighbourhood 3 has been located to provide active and passive recreational opportunities for the neighbourhood residents adjacent to the NSRV top-of-bank. Active recreation options may include a space for a community

league building or active recreation space such as ice rinks, sports fields or landscaped green spaces. This park space may also be utilized as a staging area, allowing visitors to the area to park and access the NSRV shared use path network.

Pocket Parks

Pocket parks are used to serve residential sub-areas within the neighbourhood to provide local level opportunities for active and/or passive recreation. Pocket parks are generally placed to meet the needs of the surrounding residents and are connected to the pedestrian network (including sidewalks) to ensure that they are accessible and intermixed with the surrounding residential uses in the Plan area.

TOB Public Upland Area

A continuous top of bank roadway has been established along most of the eastern boundary of the NSP, creating an integral linear park system located along the edge of the ravine, taking advantage of the views into the North Saskatchewan River. Due to the uneven edge of the ravine system, the alignment of roadway has created a number of undevelopable remnants of land between the ravine and the roadway. Because the land is above the Urban Development Line, these remnants are considered public upland area and will be removed from the gross developable area.

Stormwater Management Facilities

Stormwater management facilities (SWMFs) are considered neighbourhood amenities and part of the open space network. These facilities add to the neighbourhood's attractiveness, character and image as pedestrian-friendly community. All SWMFs are linked within the neighbourhood trail network and complement the open space system by providing additional areas for passive recreation.

A Parkland Impact Assessment (PIA) and Community Knowledge Campus Needs Assessment (CKCNA) were completed and submitted under separate cover, in support of this NSP, these assessments have not been finalized, and however they will require support from Administration prior to any rezoning and subdivision approvals.

This neighbourhood has a higher percentage of Municipal Reserve allocated within its NSP boundary than the typical neighbourhood, in order to accommodate the assembly of the District Park site. Although overall, approximately 10% of all gross developable area has been designated as Municipal Reserve within the Riverview ASP as a whole.

Objective 22: Accommodate City of Edmonton requirements for park sites within the neighbourhood.

The Urban Parks Management Plan (UPMP) provides strategic direction for the acquisition, design, development and management of Edmonton's parkland. This NSP uses the UPMP to guide the allocation of school/park sites and land assembly guidelines.

1. The UPMP shall be utilized as the guiding document for the distribution of parkland.
2. As part of the subdivision approval process, Municipal Reserve shall be dedicated as land, cash in lieu of land, or a combination thereof, in accordance with the *Municipal Government Act*.
3. Servicing shall be provided to park sites, where required, to accommodate any and all facilities which may be developed on site.

Implementation: The district park, urban village park, pocket park, and open space network is conceptually illustrated in Figure 5: Development Concept and Figure 6: Ecological Network and Parks. The Subdivision Authority, in consultation with Parks

Planning shall determine the Municipal Reserve owing for the Riverview 3 NSP, and the areas dedicated as MR shall be confirmed by legal survey at time of subdivision. The neighbourhood servicing scheme shall ensure that the type and amount of servicing provided within roadways to service park facilities and adhere to UPMP guidelines.

Objective 23: Ensure the location of park and school sites facilitate visibility and fulfill CPTED principles.

Source: University Village – Seattle, WA

Neighbourhood park sites should be located adjacent to a collector roadway which encourages "eyes on the park" for both safety and aesthetic purposes. Ideally, parks should provide full frontage on at least two public roadways that are fully open to the streetscape and also provide for on-street parking. Parks within Riverview 3 will be well connected through a network of shared use paths, walkways and sidewalks and clearly defined using signage and landscaping.

1. Parks and school sites shall have adequate frontage along arterial and/or collector roadways to accommodate flexible building design, parking access, drop-off/pick-up areas as well as to ensure sightlines, natural surveillance, adequate lighting and connectivity to pedestrian routes.
2. The District Park space shall be used efficiently to ensure adequate recreation programming.
3. Development adjacent to the North Saskatchewan River shall be designed to provide vistas and pedestrian access to create neighbourhood destinations.
4. Lighting and design of open spaces shall take into consideration basic CPTED principles included in the *Design Guide for a Safer City and Urban Parks Management Plan*.

Implementation: The NSP shall follow the guidelines for the hierarchy and distribution of park spaces as prescribed in the Urban Parks Management Plan (UPMP). The Subdivision Authority shall have regard for the subdivision design to ensure adequate public roadway frontage on all parks illustrated in Figure 5: Development Concept. At the detailed design stage, the Development Officer shall have regard for CPTED principles and good urban design practices. Opportunities for shared parking, recreation and community facilities between schools boards on the School and District Parks should be explored. Adequate pedestrian and cyclist access to park and school sites will be provided through walkways and shared use paths to the satisfaction of Transportation Services and Sustainable Development.

6.4 Agriculture and Food

Overview and Rationale

The Riverview 3 NSP supports the intent of Fresh, Edmonton's City-Wide Food and Agricultural Strategy. It does this by proposing a number of land uses, policies and approaches to support local food production in the area, to grow the local food market, as well as to promote sustainable food practices.

Incorporation of urban agriculture in the form of community gardens and edible landscaping will create an interest and uniqueness to the open spaces in Riverview 3, and will increase access to local food. Figure 6: Urban Agriculture and Food identifies potential locations that communities gardens and edible landscaping may be explored.

Source: Stantec

Objective 24: Support the development of local food infrastructure.

Community gardening is considered both a recreational and community building activity. Community gardens may be incorporated into the programming of community parks in balance with other park programming needs. Community gardens could also be integrated into any public or private open spaces.

Community gardens are features that are found in many neighbourhoods throughout the city where people can connect and experience connections through food and the growing, preparing and celebrating of food. Community gardens are generally divided into individual plots which are made available to the public or members of the community, often for a nominal fee or for no cost. These spaces serve multiple purposes – from social gathering spaces, to vegetable gardens, to ornamental flower gardens – and are often popular in locations with higher density housing where private open space is limited. Public open spaces may be dedicated to community gardens throughout the Riverview 3 neighbourhood. Organizations such as community leagues, non-profit societies, residents associations or faith groups are often willing to administer community gardens, likely with minimal support from Community Services.

1. Provide opportunities for community garden plots within public and private lands.
2. Allow for the utilization of harvested rainwater for irrigation of community gardens.
3. Where required, provide electrical outlets and storage facilities to accommodate the convenient use of community gardens.

Implementation: Figure 6: Urban Agriculture and Food identifies potential locations that communities gardens and edible landscaping may be explored. Implementation of community gardens may be explored at the detailed landscape design stage in consultation with Sustainable Development and Community Services.

Objective 25: Support the development of pocket markets, mobile markets, and/or mobile food vendors.

Open areas such as urban plazas or parking lots within commercial developments, such as the station area, provide opportunities for temporary markets (i.e. farmers' markets or mobile food vendors) providing residents with entertaining special events and local food options.

1. Open spaces and quasi-public spaces shall be encouraged and accommodating for local food establishments.

Implementation: Programming and event coordination will be planned at the permitting level through Sustainable Development. Consideration shall be provided to ensure accessibility and suitable parking management.

Source: Stantec

Objective 26: Support the use of edible plant species in landscaping of open spaces.

Source: Stantec

In addition to private gardens, public spaces can provide attractive and productive land. Public lands such as parks and open spaces, or even utility rights of way, can be planted with a broad variety of edible species. These might include fruit trees, berries such as saskatoon berries, high-bush cranberries, raspberries, nuts, or other plants like rhubarb. Expanding the variety of plants in public spaces beyond ornamental species is a fairly easy way to increase the range of potential uses, and to provide a source of local food.

1. Landscaping of public parks, open spaces and private spaces should consider edible fruit and vegetable plants where appropriate.

Implementation: Figure 6: Urban Agriculture and Food identifies potential locations that edible landscaping may be utilized in public open spaces. Selection and location of plant species will take place at the detailed design stage and incorporated where feasible.

7 INFRASTRUCTURE AND SERVICING

CONTEXT AND APPROACH

Expansion of the City's infrastructure will be necessary to accommodate Riverview 3 development. The Riverview 3 NSP will be a fully serviced neighbourhood designed and constructed in accordance with City servicing standards. Development staging and extension of infrastructure will be contiguous, efficient, and economical while having regard for potential environmental and ecological impacts. Opportunities for research and innovation should be supported in order to discover efficient, low cost or low environmental impact servicing options.

Further details on the sanitary and stormwater collection services have been supplied in the NDR, under separate cover. Details on the water distribution system have been provided in a Hydraulic Network Analysis (HNA), also submitted under separate cover to EPCOR Water Services.

7.1 SANITARY AND STORMWATER SERVICING

OVERVIEW AND RATIONALE

Permanent sanitary servicing for the Riverview areas will be serviced using a network of onsite gravity mains and a lift station draining to the future South Edmonton Sanitary Sewer (SESS) trunk SW7. SESS will ultimately carry the neighborhood sanitary flows to the Gold Bar Wastewater Treatment Plant. The construction of SW7 is not planned until 2030; however, a commitment by major developers to develop the Riverview area sooner may result in advancement of this timeline

Since the ultimate sanitary servicing will not be in place at the time of development, an interim sanitary servicing alternative is required to allow development to advance within Riverview prior to construction of SW7. The Riverview NDR proposes to utilize the excess capacity in the Edgemont pump station and forcemain system. As a component of the overall infrastructure for the Riverview neighbourhoods privately owned and operated lift station(s) and forcemain combination may be proposed to carry the sanitary flows from Riverview to Edgemont.

Stormwater management for the Riverview basin will consist of a series of interconnected management facilities with controlled discharge that will provide storage for peak events as well as treatment of stormwater prior to release into existing watercourses. In addition, for residential lot s that are backing onto the NSRV and ravines, roof leaders will be connecting directly to the storm service. The Riverview 3 area will discharge to the North Saskatchewan River via an outfall located north of Big Island. The general direction of stormwater drainage to each of these watercourses is illustrated in Figure 9: Stormwater Servicing.

High regard will be given to the quality and rate of discharge into the North Saskatchewan River as the E.L. Smith Water Treatment Plant's intake is located down river near the Cameron Heights neighbourhood. The monitoring program will be developed in consultation with EPCOR Water as neighbourhood plans that will require outfalls to the river are undertaken.

LID principles related to stormwater management will be implemented wherever feasible to increase infiltration of stormwater, improve cleansing, and help manage runoff rates. Figure 14: Low Impact Development Opportunities illustrates areas identified to potentially utilize LID principles. For more information on LID principles, please refer to 6.2 Green

Development. Stormwater management facilities will also be designed as easily accessible community destinations within Riverview, including shared use paths and landscaping to enhance the overall quality of the public open space.

Further details regarding the sanitary and stormwater drainage scheme for Riverview 3 are provided in the associated NDR (MMM Group, 2014), submitted under separate cover.

Objective 27: Ensure that the sanitary and stormwater drainage systems within the Riverview 3 are provided at an urban standard and in an efficient, contiguous and staged manner using Low Impact Development principles or other emerging sustainable infrastructure solutions.

The City's storm and sanitary systems will be extended into Riverview to safely manage stormwater runoff and disposal of sanitary waste. Riverview's sanitary network will ultimately deliver waste to the Gold Bar Wastewater Treatment Plant for treatment. A Geotechnical Report, prepared by Hoggan Engineering (2014), has been submitted under separate cover as part of the NSP preparation. Further geotechnical information shall be required at the detailed engineering review. The Slope Stability Report, submitted by Hoggan Engineering (2014), also recommends a setback from the top-of-bank line for all SWMF locations.

Source: Stantec

Managing stormwater runoff through culverts, pipes and stormwater management facilities prevent flooding and destruction of property while also providing primary treatment of water prior to discharging into the North Saskatchewan River. Advancements in engineering practices and technology continuously create new and innovative ways to reduce runoff, improve water quality, and lower maintenance costs. These innovative advancements, including LID principles will continually be reviewed and utilized during neighbourhood development.

1. Sanitary and stormwater servicing shall be provided in accordance with the associated NDR.
2. LID principles related to stormwater management facilities shall be implemented wherever feasible.

Implementation: Approval of engineering drawings and servicing agreements shall be required for installation of sanitary and stormwater servicing. LID techniques such as bioswales and stormwater management facilities shall be integrated, where feasible, through consultation with relevant civic departments. Sufficient technical detail will be provided on any proposed LID at zoning and subdivision to the satisfaction of Drainage Services.

7.2 Water Distribution

Overview and Rationale

Water services for the neighbourhood will be extended from the Riverview 1 neighbourhood via water mains located within 199 Street and 23 Avenue road rights-of-way. Servicing within the neighbourhood will be designed to provide peak hour flows and

fire flows for low and medium density residential uses as well as commercial uses. Water looping will be provided in accordance with the requirements of EPCOR Water and in accordance with a Hydraulic Network Analysis.

Objective 28: Ensure that the water distribution system within the neighbourhood is provided at a full urban standard and in an efficient, contiguous and staged manner.

The servicing design will ensure that the water distribution system is provided at a full urban standard and in an efficient, contiguous and staged manner. Water servicing will be designed to provide peak hour flows and adequate fire flows for residential, commercial and school/park uses.

1. Water servicing to the neighbourhood shall be provided in accordance with the approved Water Network Analysis.
2. Water looping will be provided in accordance with the requirements of EPCOR Water Services Inc.

Implementation: A Hydraulic Network Analysis has been submitted under separate cover to EPCOR Water Services. Approval of engineering drawings and servicing agreements shall be required for installation of water servicing. The conceptual water system is shown in Figure 10: Water Servicing.

Source: Urecon

7.3 STAGING

OVERVIEW AND RATIONALE

The anticipated sequence of development is conceptually shown in **Figure 11: Staging**. Initial development is expected to advance from north to south from 23 Avenue and westward from 184 Street, proceeding through the Plan area with the station area and District Park areas seeing slower staged growth.

In general, development will proceed in a manner that is contiguous, logical and economical with respect to municipal servicing. Development of individual phases may vary from the actual zoning and subdivision applications, depending on contemporary market demands and the aspirations of the respective landowners. Should sufficient demand warrant or engineering design be made more efficient, portions of separate phases may be developed concurrently with Riverview 1 or Riverview 2 neighbourhoods.

Objective 29: Ensure that the Riverview 3 neighbourhood is serviced to a full urban standard, in an efficient, contiguous and staged manner.

In general, development will proceed in a manner that is contiguous, logical and economical with respect to municipal servicing. Initial services to the Riverview 3 neighbourhood will be expanded from Edgemont and Riverview 1 neighbourhoods. Development of individual phases may vary from the actual zoning and subdivision applications depending on contemporary

market demands and aspirations of the respective landowners. Should sufficient demand warrant or engineering design be made more efficient, portions of separate phases may be developed concurrently.

1. Provide infrastructure on a phased basis to accommodate the logical extension of services.
2. Sanitary and stormwater servicing shall be provided in accordance with the associated Neighbourhood Design Report (NDR).
3. Water servicing shall be provided in accordance with the associated Hydraulic Network Analysis (HNA).
4. Shallow utilities shall be extended into the plan area as required.

Implementation: Approval of engineering drawings and servicing agreements shall be required for the installation of water, sanitary and stormwater servicing. Installation of shallow utilities shall be executed through servicing agreements.

Objective 30: Ensure the closure of existing road rights-of-way are planned in a logical and economical process and integrated into development.

From time to time, an existing road right-of-way is closed and physically incorporated into the development of the neighbourhood. Typically, at the time of rezoning, a road closure application is submitted to the city in accordance with the city's land development application process and the interested landowner enters into a purchase agreement with the City of Edmonton. Where existing road rights-of-way are applied for road closure within a future park, the developer adjacent to the road closure area will be responsible for preparing the road closure application, but the City of Edmonton will maintain ownership of the road closure area within the park.

Source: Stantec

1. Submission of a Road Closure application shall be prepared and submitted at the earliest possible stage of development, where a suitable alternative roadway connection can be provided to ensure public access to all parcels of land.
2. Prior to the submission of a road closure application, a preliminary meeting with city administration including Parks Planning, Transportation Services, Corporate Properties and Planning will be required.
3. Costs associated with physical removal of any existing roadway shall be the responsibility of the developer/applicant.

Implementation: Application for permanent road closure will be in compliance with the City of Edmonton's land development application process. Prior to development application submission, a preliminary meeting may address any variances to the application process required and the division of any costs associated of the application and physical removal of roadway.

7.4 Environment and Energy Infrastructure

Overview and Rationale

In the north and east areas of the neighbourhood, existing oil and gas facilities may currently be in operation. It is anticipated that these sites will continue their operations over the long term. Nonetheless, should the land become available for

development, this NSP accommodates the potential redevelopment of these sites through the appropriate provisions requiring remediation, access and servicing.

Objective 31: Ensure that the environmental status of lands is suitable for development.

To ensure lands within the Riverview 3 NSP are suitable for development, the City requires a Phase I Environmental Site Assessments (ESA) be submitted, reviewed and endorsed prior to the rezoning stage of development.

1. Environmental conditions of the site shall be confirmed through submission of ESA reports and/or updates prior to rezoning or subdivision.

Implementation: The City of Edmonton requires that individual landowners provide ESAs or disclosure statements prior to the rezoning stage.

The Phase I ESA evaluates the types and location of surface and/or subsurface impacts that may be present on the subject site and adjacent areas. All Phase I, II, & III ESA reports and updates shall receive sign-off by civic departments prior to rezoning or subdivision stages. Phase I ESA reports older than one year from the date of the report shall be updated, and any Phase I ESA report older than five years from the date of the report shall be redone.

Where necessary, a Phase II or Phase III ESA may be required where contaminated material is found and needs to be removed and disposed in an environmentally sensitive manner and in accordance with Federal, Provincial and Municipal regulations. A Phase III ESA shall dictate the reclamation plan for the site remediation.

Objective 32: Minimize oil and gas facility's potential hazards and disruption of residential areas through careful neighbourhood design and adhering to all relevant requirements of the Alberta Energy Regulator (AER) and the City of Edmonton

Policies relating to existing and abandoned oil and gas facilities will ensure conscientious development around oil and gas well sites at all stages of the plan implementation and construction process while minimizing potential disturbances to future residents. Urban development in the vicinity of all oil and gas well sites will be planned in accordance with the City's Policy and procedures . Development of lands involving abandoned wells shall comply with City of Edmonton and AER guidelines for development around oil and gas facilities.

Source: Stantec

1. Rezoning, subdivision, or development will not be permitted around a non-abandoned oil/gas well head, in accordance with applicable provincial and/or municipal policies and guidelines.
2. Where development occurs in proximity to operating oil and gas facilities, subdivision design will accommodate the continued transport and maintenance needs of the oil and gas company while minimizing the impact on adjacent development. This will include the provision for temporary emergency access, while oil and gas wells are still operating within the neighbourhood.
3. Ensure public safety around oil and gas facilities (including high-pressure pipelines, operating oil/gas wells, etc.), through the use of appropriate risk mitigation measures including, but not limited to, the use of Direct Control

Provision at the time of rezoning, fencing of non-abandoned well sites to limit public access at the time of subdivision, etc.

4. Parcels abutting or containing a well site(s) shall be designed to comply with the relevant requirements of the AER regulations and the City of Edmonton policies and guidelines.
5. Development adjacent to pipeline rights-of-way shall provide adequate setbacks to residential development and will be determined at the subdivision and development permitting stages, in accordance with all applicable municipal, provincial, and federal policies and guidelines.

Implementation: An assessment of risk and nuisance will be conducted on operating or suspended oil and gas wells, as directed by existing or future City policy for the integration of oil facilities prior to any rezoning of the parcel where the facility is located. Special care will be taken to mitigate the risk of those developments near oil and gas facilities. Figure 4: Site illustrates the approximate locations of existing facilities. Exact locations shall be confirmed and surveyed prior to rezoning and subdivision approval of the titled parcel. Subdivision planning must adhere to all relevant AER regulations and City of Edmonton Policy C515.

Objective 33: Ensure the ongoing operation and integrity of oil and gas pipeline utility corridors.

Development abutting the pipeline utility corridors shall be implemented according to the Zoning Bylaw with respect to setbacks from development to ensure the safe and ongoing operations of these facilities. Construction of a shared use path along corridors will require approval from the pipeline operators.

1. Integrate the existing oil and gas pipelines corridors into the NSP to make use of potential pedestrian corridors while having regard for the safe, ongoing operation of these facilities.

Implementation: Figure 4: Site illustrates the location of the oil and gas pipeline corridors. Exact location of pedestrian linkages will be determined at the subdivision stage in consultation with the utility operators. The provision of shared-use paths within utility corridors will be explored by the developer, City of Edmonton Transportation Services and the utility companies, at the rezoning and subdivision stage. If permission for a shared-use path and walkway is granted by the utility companies, a 3 m shared-use path will be built by the developer at their expense with adjacent development.

8 TRANSPORTATION

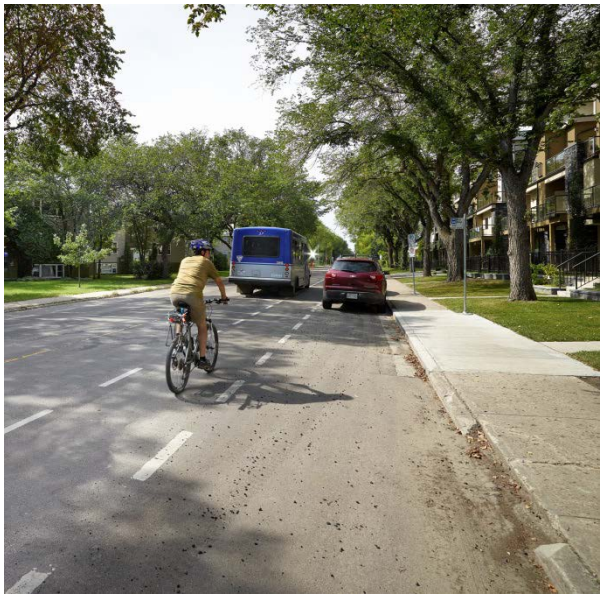
CONTEXT AND APPROACH

The transportation network has been designed to meet both the internal and external traffic generated through the neighbourhood in accordance with City of Edmonton's guidelines and standards. A hierarchy of arterial, collector and local roadways are intended to facilitate the efficient movement of vehicular traffic (see Figure 12: Transportation Network).

Arterial roadways facilitate the movement of intra-municipal traffic and generally maintain limited direct access to adjacent land uses. Within the plan area 23 Avenue and 199 Street are designated as arterial roadways, which will provide the neighbourhood with access to the surrounding neighbourhoods and Anthony Henday Drive. An arterial roadway is planned to run internal to the Riverview 3 neighbourhood, connecting 199 Street and 23 Avenue, providing an alternative route to Cameron Heights interchange as well as alleviating high traffic volumes travelling through the 199 Street/23 Avenue intersection.

The collector roadway network has been designed to prevent shortcutting; allow efficient transit services; and provide convenient access for residents, employees and visitors travelling within the neighbourhood.

Neighbourhood connectivity contributes to the development of a compact, integrated community with a balanced transportation network. The transportation system has been designed to balance efficiency, safety and comfort for all types of users and modes. Riverview 3 will accommodate all modes of travel, including automobiles, buses, walking and bicycling.



Source: Stantec

Neighbourhoods that have a high degree of connectivity encourage residents use more active modes of travel, reducing the number of trips made by vehicles and promoting recreational and commuter transportation. An efficient and continuous active modes network connecting key nodes (e.g. parks and open spaces, employment and commercial uses) will promote safe pedestrian access within and external to the neighbourhood.

An active modes network is illustrated in Figure 13: Active Mode Transportation Network, which will utilize the roadway network and will be integrated with shared-use paths and walkways connecting key destinations and adjacent residential areas. Pedestrian crossings will be clearly marked using appropriate signage and markings in order to minimize potential conflicts between vehicles, cyclists, and pedestrians in the neighbourhood.

A Transportation Impact Assessment (TIA) has been submitted under separate cover for review and approval by Transportation Services.

8.1 ROADWAY NETWORK

OVERVIEW AND RATIONALE

Access from Anthony Henday Drive is provided via the Cameron Heights interchange. The ultimate realignment of 23 Avenue NW between Anthony Henday Drive and 199 Street is designated as a highway connector within the Transportation Master Plan: The Way We Move. It is anticipated that 23 Avenue will be constructed to a four- and six-lane divided arterial roadway standard. Future planning and construction of 23 Avenue may contemplate a widening up to 6 lanes with the ultimate development of the Riverview ASP neighbourhoods. 199 Street will also be realigned further south of 23 Avenue and constructed to a 4 lane urban arterial.

An additional arterial roadway has been designed to connect 199 Street to 23 Avenue providing an essential alternative route. At the T-intersection of arterial roadway and 23 Avenue NW (as identified on Figure 12: Transportation Network), the northbound to westbound left-turn movement will be permitted onto 23 Avenue NW on an interim basis. Such left-turn movement shall be removed when 23 Avenue NW is upgraded from a 2-lane to a 4-lane roadway, or when alternate access is provided which accommodates the northbound to westbound left turn movement, or when merited by deficient levels of service along 23 Avenue NW, whichever comes first, at the discretion of Transportation Services.

Within the station area, special attention will need to be given to the function and design of 23 Avenue and 199 Street, as this area will also need to facilitate way-finding and priority pedestrian crossings across 199 Street and 23 Avenue (see Figure 13: Active Mode Transportation Network).

The collector network has been designed to provide efficient and convenient transit service through the neighbourhood, including destinations at the district park, school/park site and the station area. The collector network has also been designed to prevent shortcutting through residential communities and to ensure that sufficient distance is available to allow for right and left turn-bay development along arterial roadways.

Local roadways provide access to adjacent land uses and maintain a limited role in the overall movement of traffic within Riverview 3.

Objective 34: Implement the City of Edmonton road hierarchy system of an integrated arterial, collector and local roadway network.

The transportation network has been designed to meet both the internal and external traffic flow requirements generated by the neighbourhood in accordance with City of Edmonton guidelines and standards. A hierarchy of roads are intended to facilitate the efficient movement of vehicular traffic.

As the City's urban form continues to transform, opportunities for redesigning the public realm becomes essential to maintain a balance between the built form and the way people move. The *Complete Streets Guidelines* provide a framework of principles to accommodate multiple modes of transportation in an efficient and safe manner. Opportunities within the Riverview 3 neighbourhood to integrate viable and cost effective transportation solutions will be encouraged in the early design of the neighbourhood and reviewed at the subdivision and development stages.

1. Lands within the Riverview 3 NSP, with the exception of parkland, shall be subject to an Arterial Road Assessment (ARA) to cost share the roadway facilities needed to service the area.

2. A well-integrated system of arterial, collector and local roadways shall be established for vehicular and pedestrian circulation within the NSP boundaries and the adjacent neighbourhoods.
3. Opportunities for roadways to be developed with innovative and/or alternative standards guided by complete streets principles shall be explored.
4. At the T-intersection of arterial roadway and 23 Avenue NW, the northbound to westbound left-turn movement will be permitted onto 23 Avenue NW on an interim basis. Such left-turn movement shall be removed when 23 Avenue NW is upgraded from a 2-lane to a 4-lane roadway, or when alternate access is provided which accommodates the northbound to westbound left turn movement, or when merited by deficient levels of service along 23 Avenue NW, whichever comes first, at the discretion of Transportation Services.
5. Wildlife crossings shall be provided where transportation thoroughfares create barriers to key wildlife corridors within the Neighbourhood.

Implementation: Figure 12: Transportation Network illustrates the transportation network and potential wildlife crossing locations within Riverview3. The Arterial Roads for Development Bylaw 14380 shall be amended to include the Riverview catchment basin. Road right-of-way and arterial road widening shall be dedicated to the City of Edmonton in accordance with the MGA at the subdivision stage of development. Roadway design shall be in accordance with City of Edmonton design regulations. Roadway designs that do not comply with City of Edmonton design regulations will be submitted for review and consideration by Transportation Services and Sustainable Development.

Objective 35: Design collector roadways to enhance safety, minimize internal roadway congestion and move vehicular traffic efficiently through the neighbourhood.

Front drive access will be restricted along collector roadways with high traffic volumes in order to promote a safe and pedestrian friendly streetscape and to reduce vehicular conflicts. Traffic calming such as roundabouts, pedestrian islands, raised intersections, or curb extensions at significant roadway locations (e.g. collector-to-collector or local-to-collector intersections) may be beneficial as they reduce vehicular speeds and enhance pedestrian safety, where necessary, such as around neighbourhood schools.

1. The number of residential lots fronting onto and having direct access to a collector road will be minimized to at or below 30%, where practical and shall not interfere with transit manoeuvering or transit facilities.
2. Traffic calming should be employed to reduce automobile speeds, increase pedestrian safety and improve the streetscape where required.

Implementation: The Subdivision Authority, in consultation with Transportation Services shall have regard for the number of lots having direct access onto a collector roadway. The provision of front drive access within the overall plan area will be consistent with applicable City of Edmonton policies and will be determined prior to rezoning and subdivision approval.

Traffic calming measures such as roundabouts, raised intersections or curb extensions may be incorporated along roadways. Details will be confirmed with Transportation Services prior to development.

8.2 Transit and Land Use Integration

Overview and Rationale

Planning communities to incorporate and embrace transit infrastructure helps encourage transit use, develops a more compact city, and minimizes Edmonton's ecological footprint. The transportation network within Riverview 3 has been designed to complement the neighbourhoods residential, commercial and employment land uses, reducing the need for automobile travel.

Streets within Riverview will be designed to accommodate pedestrians and cyclists as well as automobiles. In addition, shared use paths and walkways will be provided to supplement, not replace, shared roadway facilities. As development of the neighbourhood progresses, developers will work with Civic departments to encourage alternative modes of travel, such as incentive programs to increase transit ridership, development of express bus transit routes, transportation demand management programs, and provision of appropriate infrastructure within the roadway network to prioritize active modes of transportation.

Objective 36: Create a compact and safe station area node that encourages multiple transportation options and enhances the quality of life.

The area within a 400 m radius of the transit centre provides a Pedestrian Zone that is designed with a higher degree of connectivity and access. Streets within the station area will play a very important role in creating a pedestrian-friendly public realm.

Marcus Partners

1. 23 Avenue and 199 Street are designated as high-traffic arterial roadways and will require careful design and landscape considerations to soften the presence of the automobile.
2. Provide an extension of the public street/sidewalk system rather than an alternative to it.
3. Encourage alternative transportation options in the Pedestrian Zone by linking sidewalks, shared use paths and cycling facilities to the transit centre.
4. Design pedestrian-oriented, universally accessible, comfortable, and aesthetically pleasing streetscapes which are characterized by human scale built form with active building frontages and aesthetic landscaping.
5. Provide a clear pedestrian walking zone on both sides of the street to serve the projected pedestrian needs.
6. Street furnishings and amenities should occupy consistent, well defined zones parallel to the pedestrian walking zone.

Implementation: Figure 13: Active Mode Transportation Network illustrates the approximate area of the Pedestrian Zone and key active mode connections. In cooperation with Transportation Services and Sustainable Development, opportunities for the integration of transit facilities and site design will be reviewed prior to rezoning and subdivision. Walkability in the station area shall be promoted through the use of walkways and streets that include wider sidewalks, high quality street lighting, and boulevard trees and plantings. Roadway designs or other traffic calming measures that do not comply with current City of

Edmonton design regulations will be submitted, reviewed, and approved by Transportation Services and Sustainable Development prior to subdivision, utilizing the City of Edmonton's Transit Oriented Design Guidelines and Complete Streets Guidelines.

The use of site specific Direct Control Provisions (DC1 or DC2) or Special Area Zones may be utilized to achieve the development goals of this Plan. The Development Officer shall have regard for the appropriate application of setbacks, landscaping, buffers and façade treatments available under the Zoning Bylaw at the Development Permit stage.

Objective 37: Maximize access to transit for the greatest number of residents and in accordance with City of Edmonton Transit System Guidelines and demands.

Public transit service should be extended into the Riverview 3 NSP area in accordance with the City of Edmonton Transit System Guidelines and demands. The neighbourhood has been designed to ensure that all residents are within 400 metres walking distance (approximately a 5 minute walk) of transit service. Future transit routes should be established on the basis of the proportion of trips which are expected to be generated from within the neighbourhood and adjacent areas. Transit service should be accommodated via collector roadways which will be developed to a suitable standard providing readily accessible service to all areas of the neighbourhood.

Source: Stantec

1. All residential land uses should be within 400 metres walking distance of a transit route.
2. Transit services should be initiated at the early stages of development of the neighbourhood.
3. Pedestrian linkages shall be provided to transit facilities located within Riverview 3.

Implementation: Edmonton Transit System shall determine the routing for public transit along the arterial and collector roadways which have been identified as future transit routes. In an effort to provide transit services earlier in the development of the neighbourhood, participating landowners may cooperatively fund transit for the first two years of service. Following this two year period, Edmonton Transit shall consider providing transit service, subject to City Council budget approvals and other factors, including sufficient ridership levels. Shared use paths along utility corridors in addition to sidewalk and walkway connections along collector and local roadways shall provide access to the transit facilities.

Objective 38: Mitigate the impact of automobile traffic associated with commercial and higher density residential areas on adjacent single/semi-detached residential areas.

Commercial and higher density residential uses are generally located along the periphery of the neighbourhood and along arterial and collector roadways, to reduce the impact of traffic on local roadways.

To aid in reducing the total number of vehicles used within the community, reductions for private off-street parking may be accepted in conjunction with development applications for residential and commercial uses, particularly within 400m of the transit centre. Where it can be demonstrated that commercial or higher density residential development encourages transit

use over vehicle use or where there are overlapping requirements, such as mixed use development, parking reductions should be explored. Reducing the amount of area of land required for parking is not only cost efficient and more aesthetically appealing, but also passively encourages the use of public transit where it is feasible to do so.

1. Commercial and Low-rise/Medium Density Residential and Mixed Uses developments shall be located adjacent to arterial or collector roadways, or within 400 m of the transit centre.
2. Uses within 400m of the transit centre are should be encouraged to explore the reduction of onsite parking, where practical to do so.
3. Where opportunities exist, shared parking facilities will be used to reduce the area required for parking.

Implementation: Figure 5: Development Concept and Figure 12: Transportation Network conceptually illustrates commercial and other high intensity land uses and surrounding arterial and collector street pattern. Access to these sites will be confirmed at the rezoning and subdivision stages.

Vehicular parking will generally be provided on-site in conjunction with Commercial and Medium Density Residential development applications. Transportation Services and Sustainable Development will review applications proposing a reduction in the number of parking stalls required by the Zoning Bylaw. Applications for reduced parking may be required to demonstrate its feasibility through a Parking Impact Study.

Objective 39: Provide noise attenuation for residential uses abutting transportation corridors.

Where residential development will be constructed adjacent to arterial roadways, the City of Edmonton requires the proposed development to address nuisance noise. If required by Transportation Services, noise level evaluations will be carried out by the developer prior to the design phase of the project. Based on the results of the study, noise attenuation facilities may be required (i.e. berm, fence, or combination thereof) to be incorporated into the design of subdivisions bordering arterial roads.

1. Appropriate noise attenuation facilities, where required, shall be provided for residential uses adjacent to the arterial roadway aligned internal to the neighbourhood, 199 Street, and 23 Avenue.

Implementation: Transportation Services shall determine if a noise attenuation assessment is required for residential development at the subdivision approval stage, in accordance with the City of Edmonton Urban Traffic Noise Policy C506.

8.3 Active Modes Network

Overview and Rationale

The Riverview 3 NSP supports the creation of a walkable, complete community. This includes provision of alternative transportation modes that support a range of users (and abilities) to access neighbourhood destinations, such as shopping and community amenities such as schools, libraries, recreation centres, community leagues, or playgrounds within the neighbourhood.

Source: Stantec

Connectivity is characterized by a logical network for movement that comprehensively links destinations within as well as outside of the neighbourhood, provides accesses and is integrated with the

environment. Neighbourhoods designed with connectivity in mind support the residents' ability to walk to destinations, reducing the number of vehicle trips, promoting active transportation, supporting social interaction, and reducing energy consumption and greenhouse gas emissions.

An efficient and continuous pedestrian network connecting key destinations will assist pedestrian circulation through the neighbourhood. All surrounding and internal arterial roadways will be developed with a shared use trail on at least one side, providing a continuous and direct active mode connection between neighbourhoods in the Riverview ASP. In addition, all local and collector roadways will be developed with sidewalks on at least one side of the road providing a sufficient level of pedestrian access within the neighbourhood.

In addition to the roadway network, a shared-use path is to be constructed within the public utility corridors, SWMFs, and along the edge of the NSRV, and connecting to the Anthony Henday Drive pedestrian bridge. These shared use paths allow for continuous, uninterrupted pedestrian linkages through the neighbourhood.

Within the station area, a Pedestrian Zone has been identified, illustrated in Figure 13: Active Mode Transportation Network. The Pedestrian Zone will require special attention to the design of streets and active mode connections, making pedestrian travel as safe and convenient as possible. The City of Edmonton's Complete Streets Guidelines and Transit Oriented Guidelines will be utilized to achieve the design and functionality of the Pedestrian Zone. Enhanced design consideration will also need to be given to the Pedestrian Zone's collector-arterial intersections, located at 23 Avenue and 199 Street. These key intersections will also need to facilitate way-finding and priority pedestrian crossings across 199 Street and 23 Avenue.

Objective 40: Provide strong, direct and convenient active modes connections to neighbourhood amenities and to surrounding communities.

Walkways, roads and shared use paths provide a pedestrian circulation system that is safe and convenient. As outlined in Figure 13: Active Mode Transportation Network, pedestrian linkages will be designed to provide convenient connections to destinations, such as the District Park and the Transit Centre. Where off-street connections are not feasible or available, sidewalks along local and collector roadways will facilitate obvious pedestrian connectivity.

Source: Stantec

Pedestrian connections between neighbourhoods will be assisted by crossing improvements in specific locations at arterial and collector roadways. Mid-block crossings are planned where pedestrian connections are necessary to link key destinations and where crossing arterial roadways are safe to do so. Priority crossings are also located at controlled intersections within the station area and will be designed to facilitate pedestrian movement across 23 Avenue and 199 Street, within the Pedestrian Zone. This means that minimum pedestrian crossing times across 23 Avenue and 199 Street should be provided during all time periods (no pedestrian actuation). A two stage pedestrian crossing has also been identified at the collector-arterial intersection near the Cameron Heights interchange. This means that there will be a longer pedestrian delay period to allow adequate time for pedestrian to cross 23 Avenue.

1. Create convenient pedestrian access to amenity areas such as parks, schools, open spaces and the station area.

2. A network of hard-surfaced sidewalks, walkways, and shared use paths shall be provided to promote walkability, cycling and access to community amenities, parks and open space, North Saskatchewan River valley and ravine.
3. Shared use paths shall be provided through the SWMFs, parks, pipeline utility corridors, adjacent to arterial roadways, and adjacent to the North Saskatchewan River ravine.
4. Pedestrian timing strategies at controlled intersections shall be provided in key locations to mitigate safe pedestrian crossing within the Pedestrian Zone (crossing 23 Avenue and 199 Street).
5. Mid-block crossings shall be designed to facilitate pedestrian movements across arterial roadway where safe pedestrian linkage is required.
6. All collector roadways shall be developed with sidewalks on both sides of the street, providing a sufficient level of pedestrian access.
7. All local roadways shall be developed with sidewalks on at least one side of the street.

Source: Stantec

8. Minor walkways shall be provided to promote walkability and access to transit facilities and neighbourhood amenities.
9. The Complete Streets Guidelines and Transit Oriented Design Guidelines will guide the design of streets, intersections and crossings within the Pedestrian Zone.

Implementation: Figure 12: Transportation Network and Figure 13: Active Mode Transportation Network conceptually illustrates the arterial/collector street network and pedestrian connections with in the neighbourhood, respectively. Local roadway configuration and pedestrian crossing facilities will be reviewed at the subdivision stage in consultation with the Sustainable Development and Transportation Services. The Subdivision Authority, in consultation with Transportation Services, will have regard for the location and dedication of road rights-of-way to promote walkability and appropriate access to neighbourhood amenities and transit facilities.

Figure 13: Active Mode Transportation Network shall guide the future application of walkways, sidewalks, greenways and shared use paths. The provision of shared use paths within utility corridors will be explored by the developer, City of Edmonton Transportation Services and the utility companies, at the rezoning and subdivision stage. If permission for a shared use path and walkway is granted by the utility companies, a 3 m shared use path will be built by the developer at their expense with adjacent subdivisions.

APPENDIX 1 PIPELINE INFORMATION

AER License #	Licensee	Substance	Status	MOP (kPa)	H_2S (mol/kmol)	OD (mm)
1118 - 4	Imperial Oil Resources Limited	Crude Oil	Abandoned	0	0	88.9
6020 - 2	Penn West Petroleum Ltd.	Salt Water	Discontinued	0	0	88.9
14977 - 3	Encana Corporation	Oil Well Effluent	Abandoned	0	25	88.9
17227 - 1	Penn West Petroleum Ltd.	Oil Well Effluent	Operating	1,400	25	88.9
17227 - 2	Penn West Petroleum Ltd.	Oil Well Effluent	Operating	1,400	25	88.9
17633 - 2	Penn West Petroleum Ltd.	Oil Well Effluent	Operating	1,400	25	88.9
25553 - 1	Penn West Petroleum Ltd.	Oil Well Effluent	Operating	1,400	25	88.9
25553 - 2	Penn West Petroleum Ltd.	Oil Well Effluent	Operating	1,400	25	88.9
35962 - 2	Penn West Petroleum Ltd.	Natural Gas	Operating	3,100	9.9	88.9
35962 - 4	Penn West Petroleum Ltd.	Natural Gas	Discontinued	0	9.9	88.9
36615 - 1	Penn West Petroleum Ltd.	Oil Well Effluent	Operating	1,380	25	88.9
36615 - 2	Penn West Petroleum Ltd.	Oil Well Effluent	Operating	1,380	25	88.9
36961 - 1	Penn West Petroleum Ltd.	Salt Water	Operating	10,340	0	88.9
36962 - 1	Penn West Petroleum Ltd.	Natural Gas	Discontinued	0	9.9	114

Appendix 2 Well Site Information

Well Id	00 / 16-32-051-25 w4 / 0	00 / 06-33-051-25 w4 / 0	00 / 10-33-051-25 w4 / 0	00 / 11-33-051-25 w4 / 0	00 / 12-33-051-25 w4 / 0	00 / 13-33-051-25 w4 / 0	W0 / 13-33-051-25 w4 / 0	W2 / 13-33-051-25 w4 / 0	00 / 14-33-051-25 w4 / 0
Licence #	82864	146471	146470	84329	85267	63496	J0004467L	0003867H	83960
Licence Date	16-May-80	23-Nov-90	23-Nov-90	21-Jul-80	27-Aug-80	19-Apr-77	2-Apr-52	28-Nov-51	7-Jul-80
Location	16-32-051-25 w4	13-33-051-25 w4	13-33-051-25 w4	13-33-051-25 w4	13-33-051-25 w4	13-33-051-25 w4	13-33-051-25 w4	13-33-051-25 w4	03-04-052-25 w4
Licensee	Conocophillips Canada Resources Corp.	Penn West Petroleum Ltd.	Penn West Petroleum Ltd.	Penn West Petroleum Ltd.	Penn West Petroleum Ltd.	Penn West Petroleum Ltd.	Imperial Oil Resources Limited	Conocophillips Canada Resources Corp.	Penn West Petroleum Ltd.
Spud Date	14-Jun-80	4-Feb-91	19-Feb-91	25-Jul-80	30-Aug-80	11-May-77	2-Apr-52	28-Nov-51	8-Jul-80
Final Drill Date	21-Jun-80	16-Feb-91	6-Mar-91	6-Aug-80	10-Sep-80	17-May-77	2-Apr-52	28-Nov-51	19-Jul-80
Status/ Substance	Abd	Cr-oil pump	Abd	Cr-oil pump	Drl&c	Cr-oil pump	Abd	Abd	Cr-oil flow
Abandoned Date	22-Jul-95	n/a	10-Mar-91	n/	n/a	n/a	n/a	29-Nov-51	n/a
Total Depth (m)	1301	1512.5	1611	1385	1345	1271	213	186	1364
Abandoned Status	Reccertified	n/a	Recexempt	n/a	n/a	n/a	Recexempt	Recexempt	n/a

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Well Id	00 / 15-33-051-25 w4 / 0	00 / 02-04-052-25 w4 / 0	00 / 03-04-052-25 w4 / 0	02 / 03-04-052-25 w4 / 2	00 / 04-04-052-25 w4 / 0	00 / 05-04-052-25 w4 / 0	00 / 06-04-052-25 w4 / 0	00 / 01-05-052-25 w4 / 0	00 / 02-05-052-25 w4 / 0
Licence #	71616	75094	3609	82810	75203	3490	3078	4473	5092
Licence Date	25-Aug-78	30-Mar-79	13-Oct-51	14-May-80	10-Apr-79	18-Sep-51	21-Jun-51	4-Apr-52	1-Aug-52
Location	03-04-052-25 w4	03-04-052-25 w4	03-04-052-25 w4	03-04-052-25 w4	03-04-052-25 w4	05-04-052-25 w4	06-04-052-25 w4	01-05-052-25 w4	02-05-052-25 w4
Licensee	Penn West Petroleum Ltd.	Penn West Petroleum Ltd.	Penn West Petroleum Ltd.	Penn West Petroleum Ltd.	Penn West Petroleum Ltd.	N/A	Penn West Petroleum Ltd.	Wardean Drilling Co. Limited	Wardean Drilling Co. Limited
Spud Date	7-Oct-78	30-Mar-79	15-Oct-51	17-Jun-80	14-Apr-79	18-Sep-51	13-Jul-51	30-Apr-52	5-Aug-52
Final Drill Date	23-Oct-78	8-Apr-79	8-Nov-51	29-Jun-80	26-Apr-79	7-Oct-51	9-Aug-51	17-May-52	20-Aug-52
Status/ Substance	Cr-oil pump	Cr-oil pump	Water disp	Gas susp	Cr-oil pump	Cr-oil abd	Cr-oil pump	Cr-oil abd	Cr-oil abd
Abandoned Date	n/a	n/a	n/a	n/a	n/a	31-Oct-61	n/a	5-Dec-55	8-Mar-56
Total Depth (m)	1388	1425	1277.4	1769	1425	1261.9	1266.1	1280.2	1269.8
Abandoned Status	n/a	n/a	n/a	n/a	n/a	Recexempt	n/a	Recexempt	Recexempt

Stantec

APPENDIX 3 LAND USE AND POPULATION STATISTICS

Riverview 3 Neighbourhood Structure Plan
Land Use and Population Statistics

	Area (ha)	% of GA	% of GDA	
Gross Area	314.85	100%		
Environmental Reserve				
Public Upland Setback (ER)	17.06	5.4%		
Pipeline & Utility Right-of-Way	3.36	1.1%		
Arterial Road Right-of-Way	16.02	5.1%		
Existing Country Residential	16.91	5.4%		
Top of Bank Non-credit Municipal Reserve	1.18	0.4%		
Gross Developable Area	**260.32**		**100%**	
Commercial				
Neighbourhood Commercial	2.99		1.1%	
Mixed Use	0.49		0.2%	
Parkland, Recreation, School (Municipal Reserve)				
District Park	33.80		13.0%	19.7%
School / Park	13.00		5.0%	
Urban Village Park	3.54		1.4%	
Pocket Park	1.04		0.4%	
Transportation				
Circulation	52.06		20.0%	
Transit Centre	1.45		0.6%	
Infrastructure & Servicing				
Stormwater Management	14.30		5.5%	
Total Non-Residential Area	**122.67**		**47.1%**	
Net Residential Area (NRA)	**137.65**		**52.9%**	

RESIDENTIAL LAND USE, DWELLING UNIT COUNT AND POPULATION

Land Use	Area (ha)	Units/ha	Units	% of NRA	People/Unit	Population
Single/Semi-Detached	111.23	25	2,781	80.8%	2.80	7,787
Row Housing	10.51	45	473	7.6%	2.80	1,324
Low-rise/Medium Density Housing	15.43	90	1,389	11.2%	1.80	2,500
Town Centre Mixed Use / Residential	0.49	225	109	0.4%	1.5	164
Total	**137.65**		**4,752**	**100%**		**11,775**

SUSTAINABILITY MEASURES

Population Per Net Hectare (p/nha)			85.5
Dwelling Units Per Net Residential Hectare (du/nrha)			34.5
[Single/Semi-detached] / [Row Housing; Low-rise/Medium Density; Medium to High Rise] Unit Ratio			58.5% / 39.2%
Population (%) within 500m of Parkland			93%
Population (%) within 400m of Transit Service			100%
Population (%) within 600m of Commercial Service			43%
Presence/Loss of Natural Areas	Land	Water	
Protected as Environmental Reserve	17.06	0.0	
Conserved as Naturalized Municipal Reserve (ha)	0.0	0.0	
Protected through other means (ha)	1.18	0.0	
Lost to Development (ha)	15.4	0.0	

STUDENT GENERATION STATISTICS

Level	Public	Separate
Elementary	521	260
Junior High School	260	130
Senior High School	260	130
Total	**1,041**	**521**

*Town Centre Mixed Use area is divided amongst Residential Uses (50%) and Non-Residential Uses (50%) (i.e. Total area is 0.97 ha; area ot residential is 0.49 ha and non-residential is 0.49 ha)

APPENDIX 4 FIGURES

Figure 1: Location Plan

Figure 2: Plan Boundaries

Figure 3: Site Contours

Figure 4: Site Constraints

Figure 5: Development Concept

Figure 6: Ecological Network and Parks

Figure 7: Urban Agriculture and Food

Figure 8: Sanitary Servicing

Figure 9: Stormwater Servicing

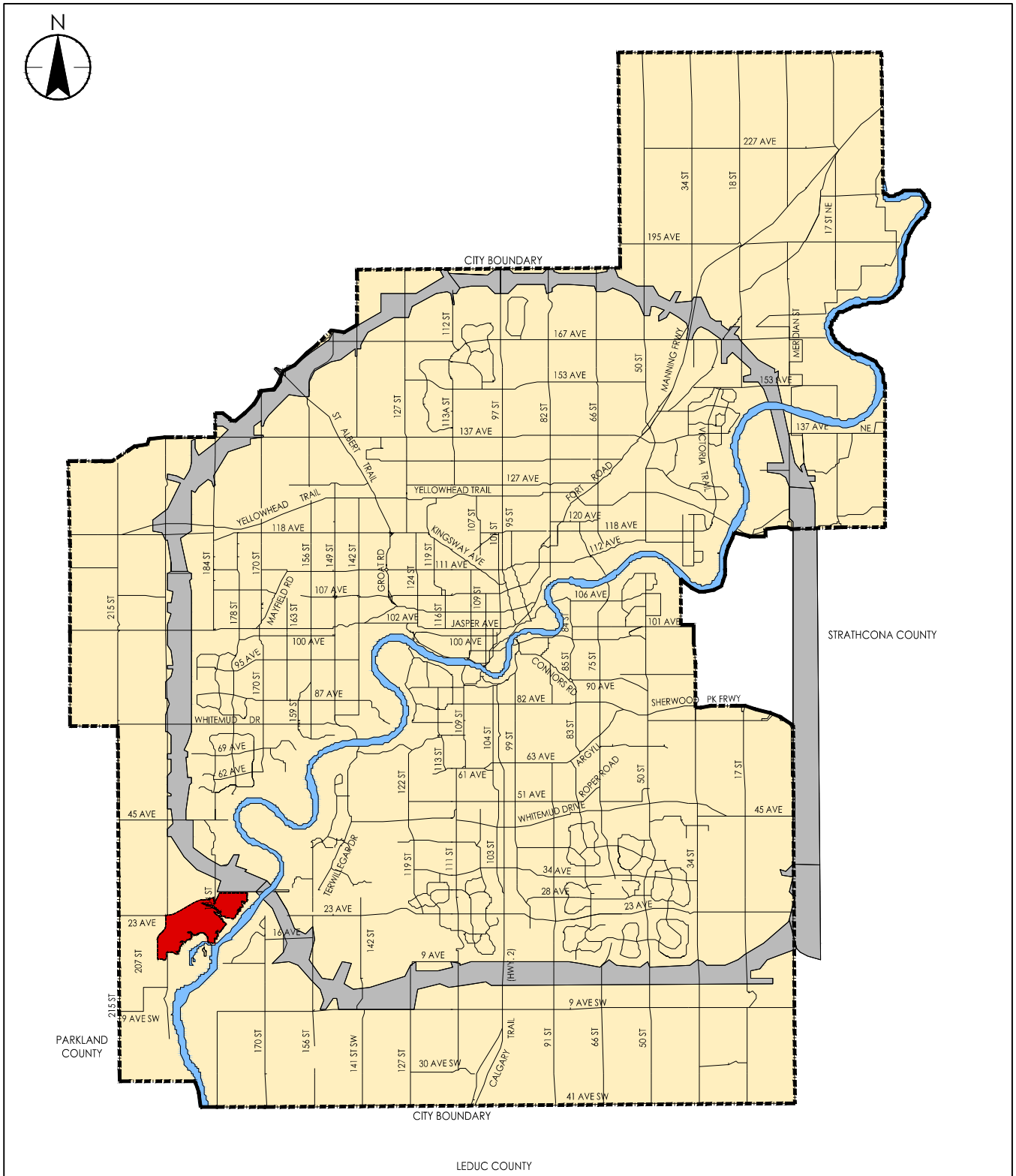
Figure 10: Water Servicing

Figure 11: Staging

Figure 12: Transportation Network

Figure 13: Active Mode Transportation Network

Figure 14: Low Impact Development Opportunities



NTS
ORIGINAL SHEET - ANSI A

April 16, 2015
1161 102460 KC

Legend

Riverview Neighbourhood 3 NSP

Client/Project

Riverview Neighbourhood 3
Neighbourhood Structure Plan

Figure No.
1.0

Title
Location Plan

Stantec
10160-112 Street
Edmonton, AB T5K 2L6
Tel. 780.917.7000
www.stantec.com

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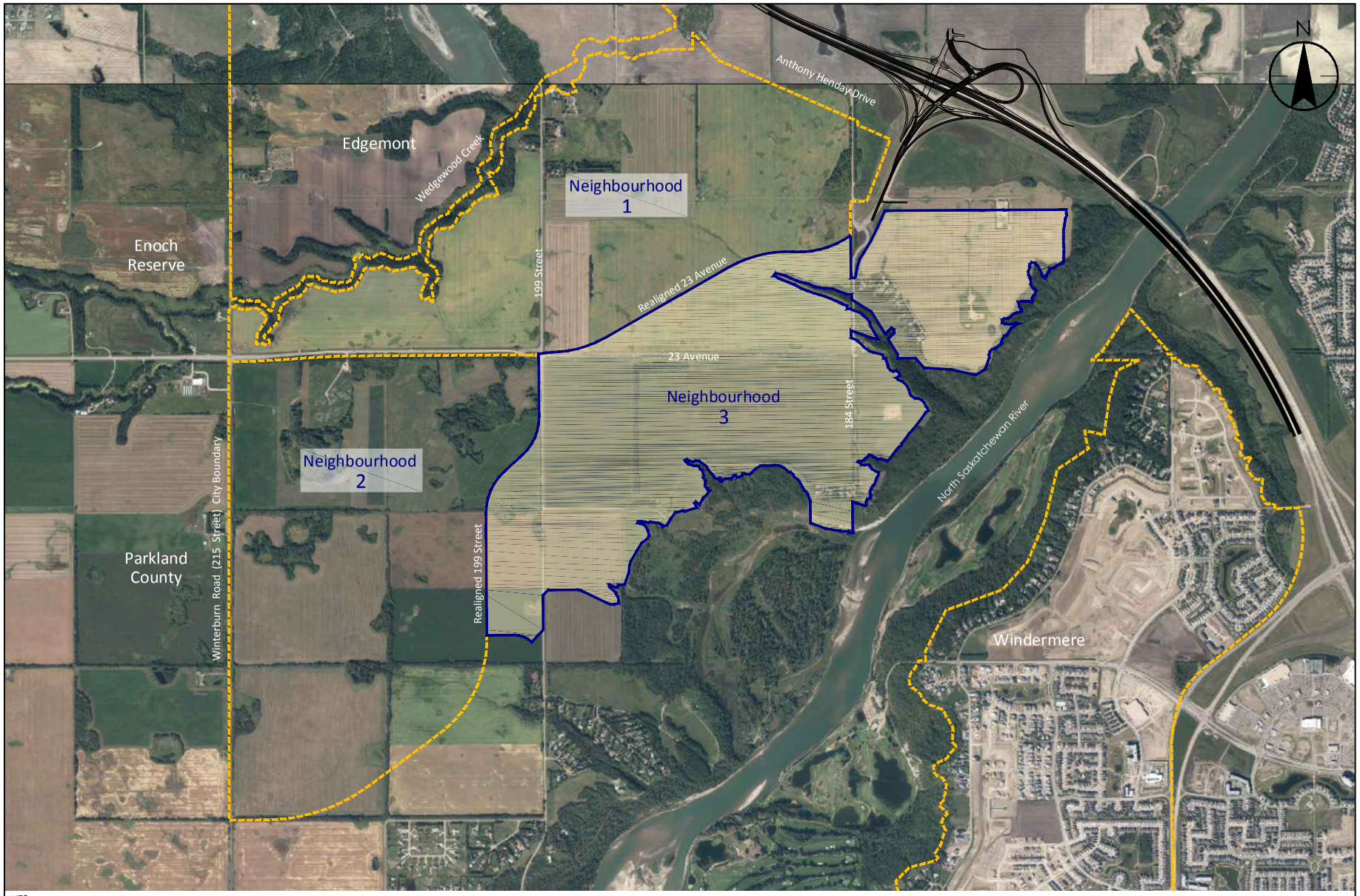

NTS
ORIGINAL SHEET - ANSI A

April 16, 2015
1161 102460 KC

Legend
- Riverview Neighbourhood 3 NSP Boundary
- Adjacent Neighbourhood Boundary

Client/Project
Riverview Neighbourhood 3
Neighbourhood Structure Plan

Figure No.
2.0

Title
NSP Boundaries

Stantec
10160-112 Street
Edmonton, AB T5K 2L6
Tel. 780.917.7000
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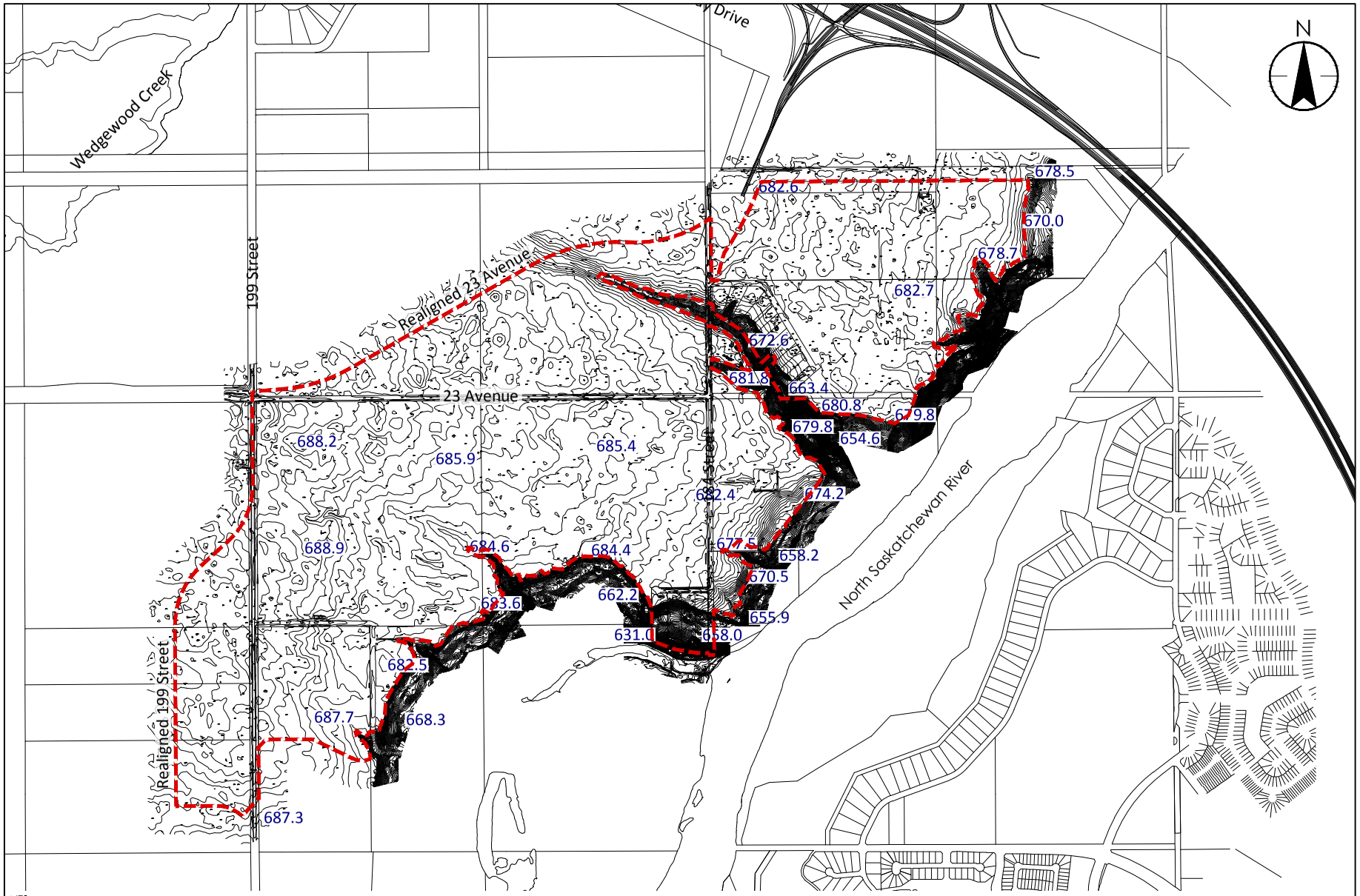

NTS
ORIGINAL SHEET - ANSI A

April 16, 2015
1161 102460 KC

Legend
Elevation in Metres
NSP Boundary

Client/Project
Riverview Neighbourhood 3
Neighbourhood Structure Plan

Figure No.
3.0

Title
Site Contours

Stantec
10160-112 Street
Edmonton, AB T5K 2L6
Tel. 780.917.7000
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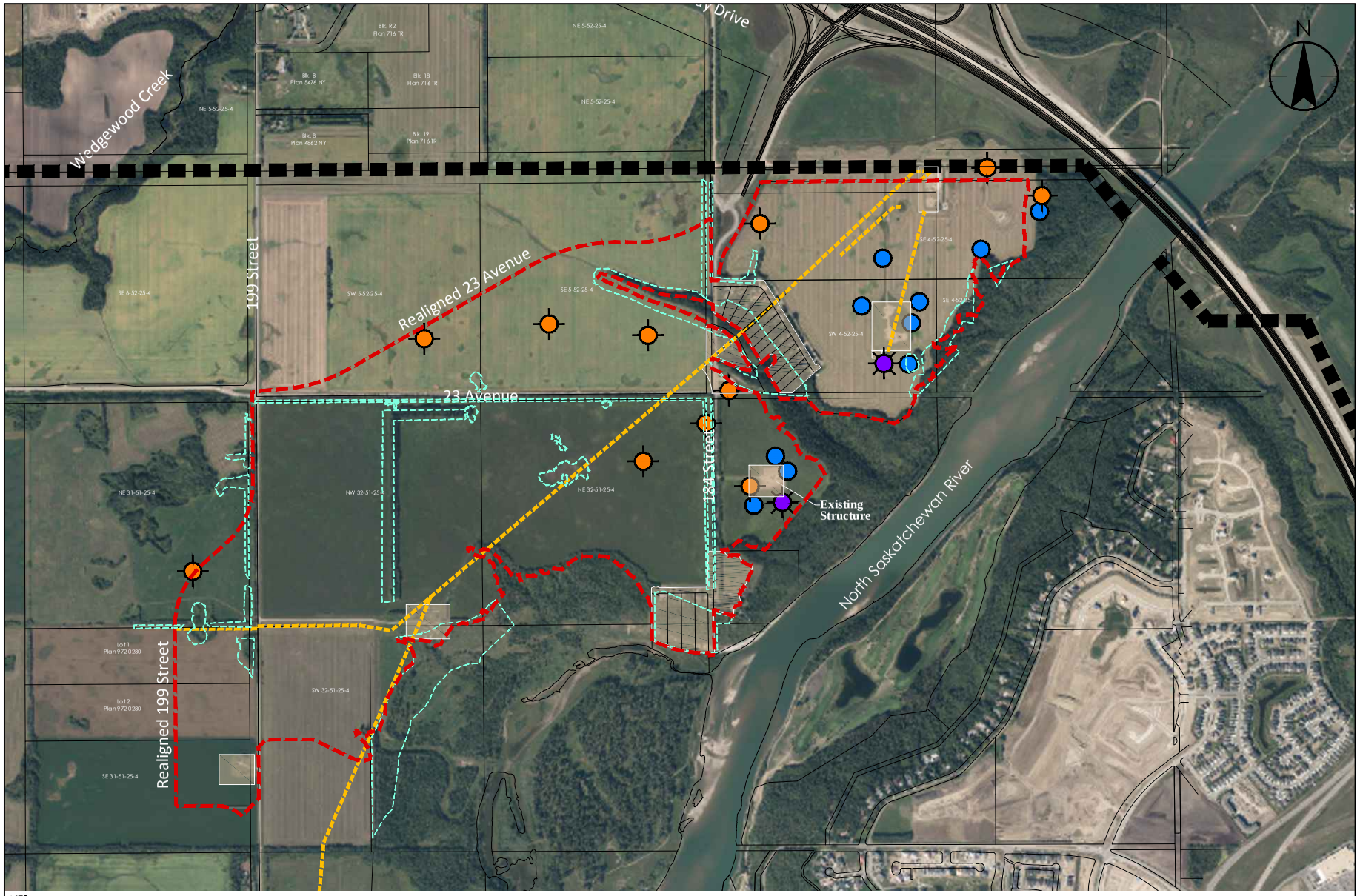

NTS
ORIGINAL SHEET - ANSI A

April 16, 2015
1161 102460 KC

Legend

- Existing Structure/Building
- Flowing Oil Wellhead
- Abandoned Wellhead
- Flowing Gas Wellhead
- Gas Pipeline R/W
- Altalink Powerline R/W
- Natural Area
- NSP Boundary

Stantec
10160-112 Street
Edmonton, AB T5K 2L6
Tel. 780.917.7000
www.stantec.com

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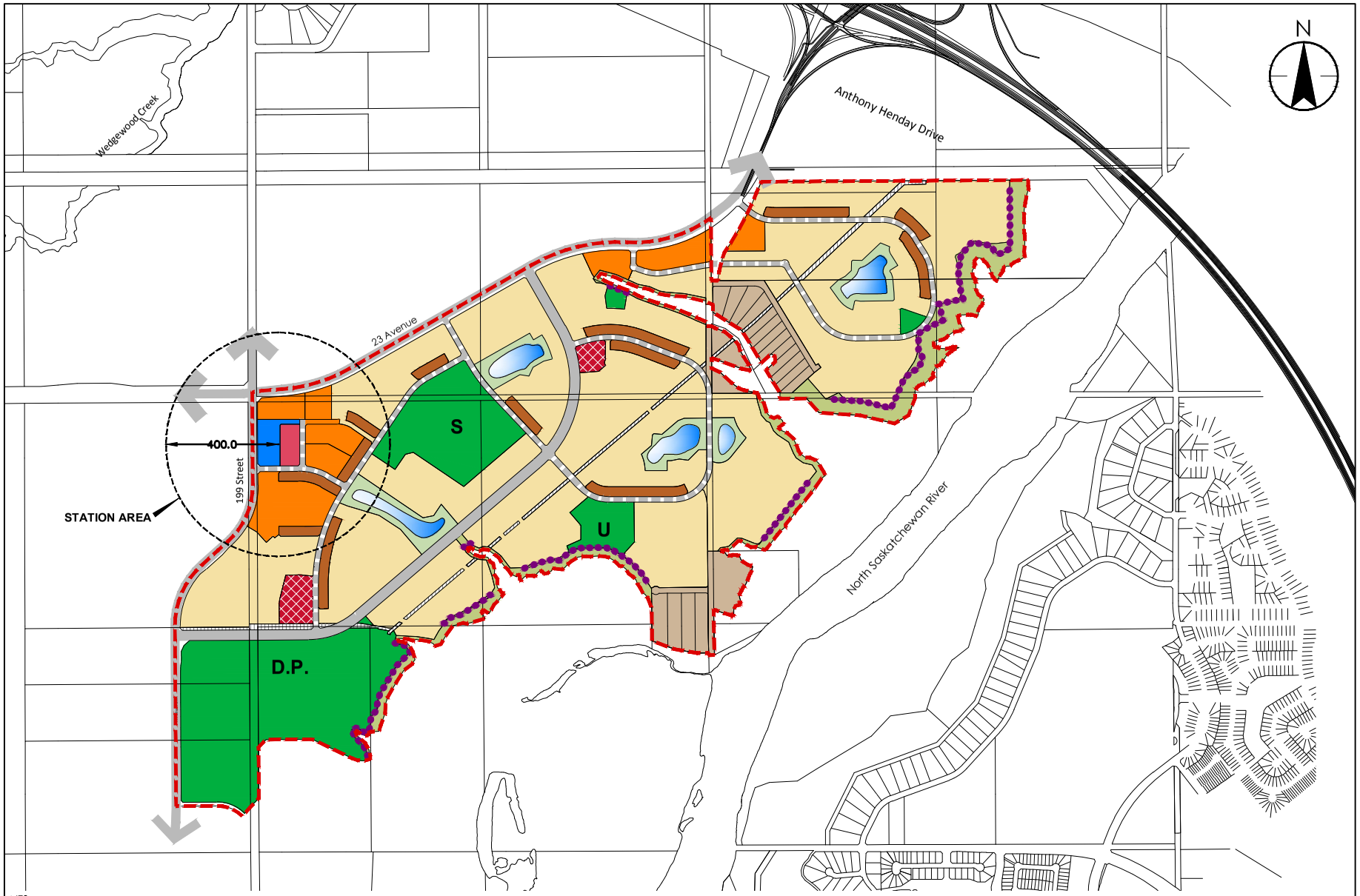
Client/Project
Riverview Neighbourhood 3
Neighbourhood Structure Plan

Figure No.
4.0

Title
Site Constraints



NTS
ORIGINAL SHEET - ANSI A

April 16, 2015
1161 102460 KC

Legend

- Existing Country Residential
- Single/ Semi-Detached Residential
- Row Housing
- Low Rise / Medium Density Housing
- Mixed Uses
- Neighbourhood Commercial
- Public Upland Area (ER)
- D.P. District Park
- U Urban Village Park
- S School/Park
- Park
- Stormwater Management Facility
- Public Utility
- Transit Centre
- Top-of-Bank Roadway / Park
- Collector Roadway
- Arterial Roadway
- NSP Boundary

Client/Project
Riverview Neighbourhood 3
Neighbourhood Structure Plan

Figure No.
5.0

Title
Development Concept

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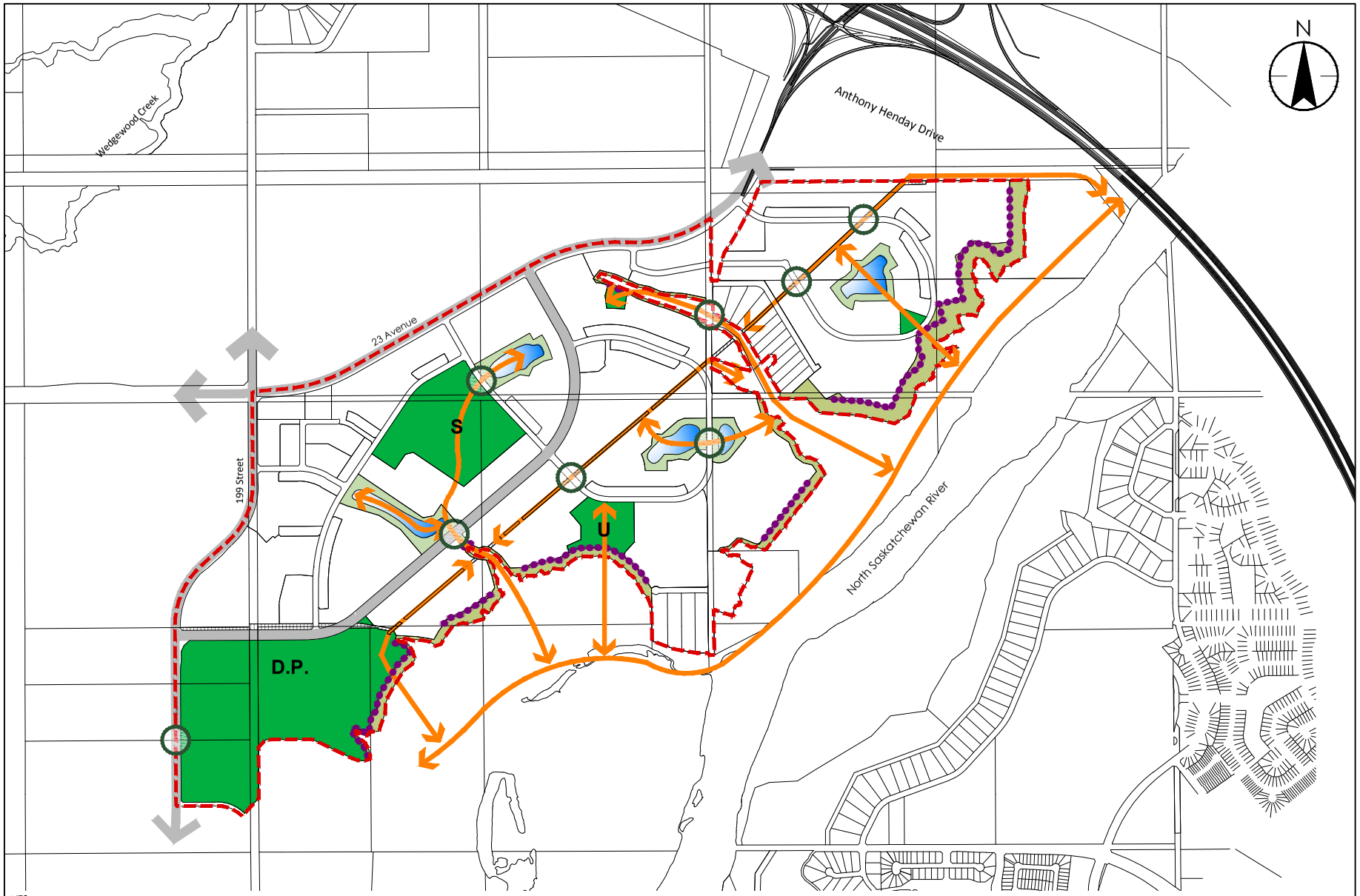

NTS
ORIGINAL SHEET - ANSI A

April 16, 2015
1161 102460 KC

Legend

- Public Utility
- District Park
- Urban Village Park
- School/Park
- Park
- Stormwater Management Facility
- Potential Wildlife Passage
- Public Upland Area (ER)
- Ecological Link
- Top-of-Bank Roadway / Park
- Arterial Roadway
- NSP Boundary

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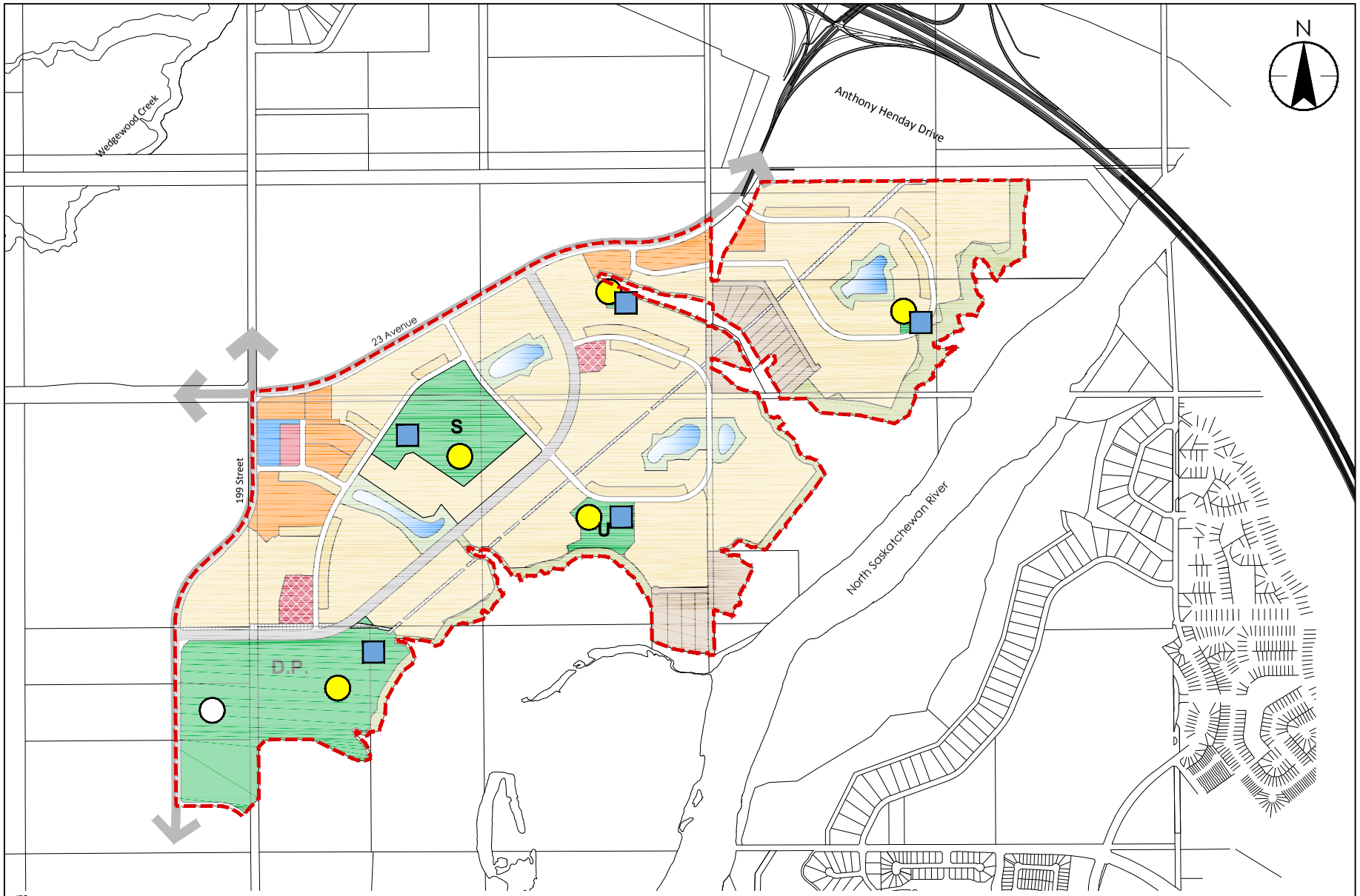
Client/Project
Riverview Neighbourhood 3
Neighbourhhood Structure Plan

Figure No.
6.0

Title
Ecological Network & Parks



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April 16, 2015
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Legend
- Potential Community Garden
- Potential Farmers Market
- Potential Edible Landscaping
- NSP Boundary

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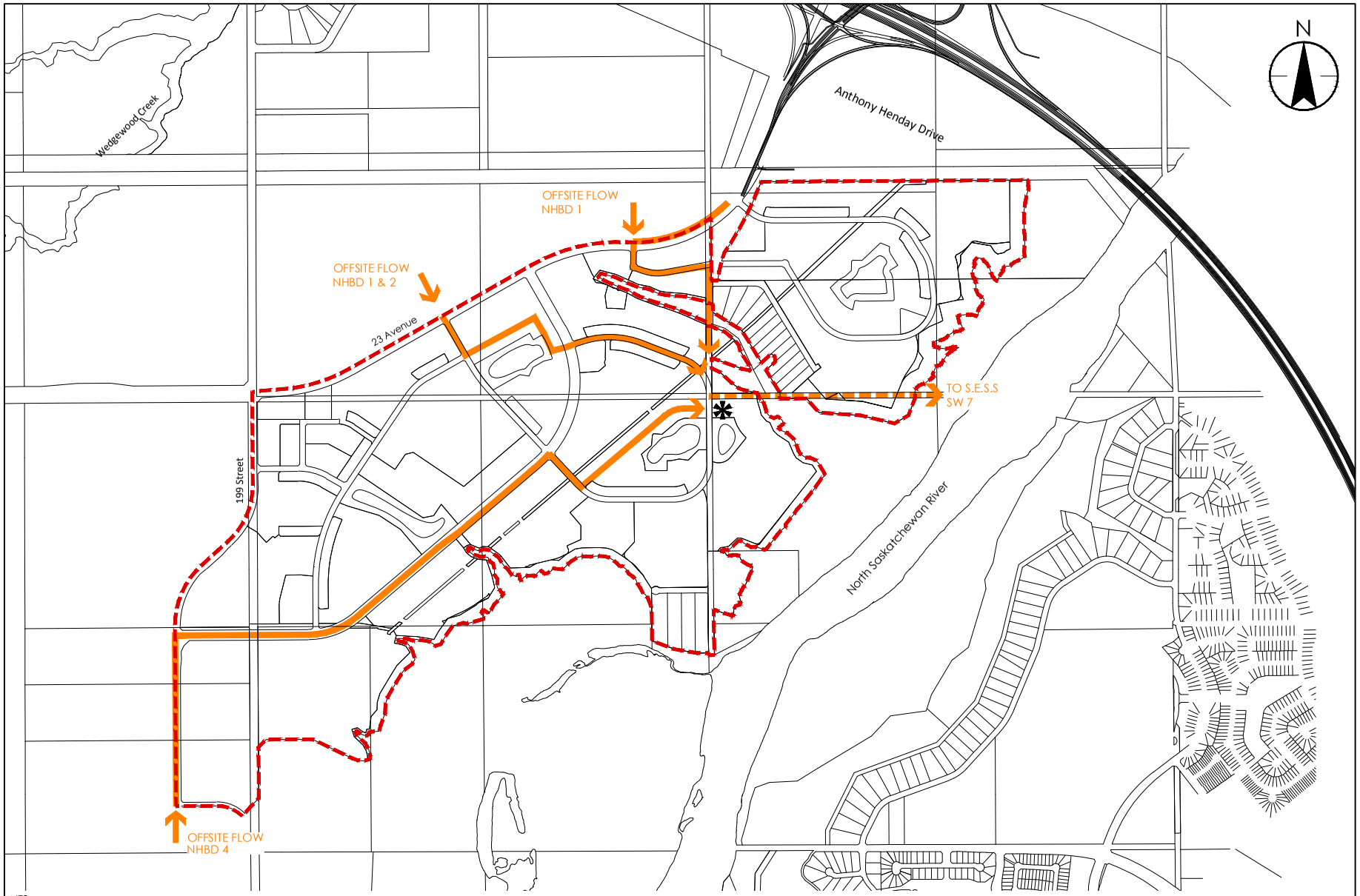
Client/Project
Riverview Neighbourhood 3
Neighbourhood Structure Plan

Figure No.
7.0

Title
Urban Agriculture & Food



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April 16, 2015
1161 102460 KC

Legend
- Sanitary Trunk
- Sanitary Forcemain
- Lift Station
- NSP Boundary

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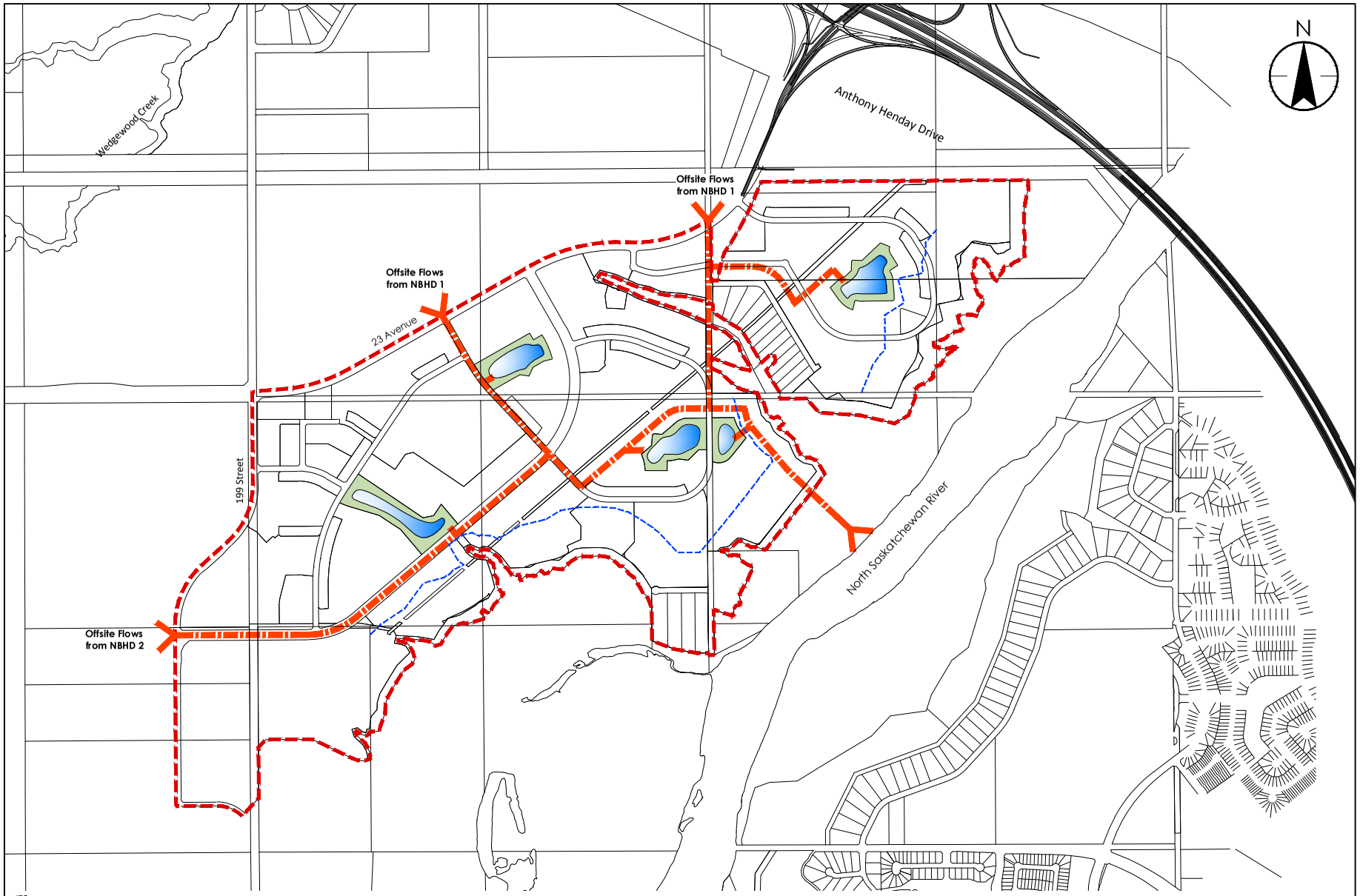
Client/Project
Riverview Neighbourhood 3
Neighbourhood Structure Plan

Figure No.
8.0

Title
Sanitary Servicing



NTS
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April 16, 2015
1161 102460 KC

Legend
- Stormwater Management Facility
- Storm Trunk & Interconnecting Pipe
- Outfall
- NSP Boundary
- Top of Bank SWMF Setback

Client/Project
Riverview Neighbourhood 3
Neighbourhood Structure Plan

Figure No.
9.0

Title
Stormwater Servicing

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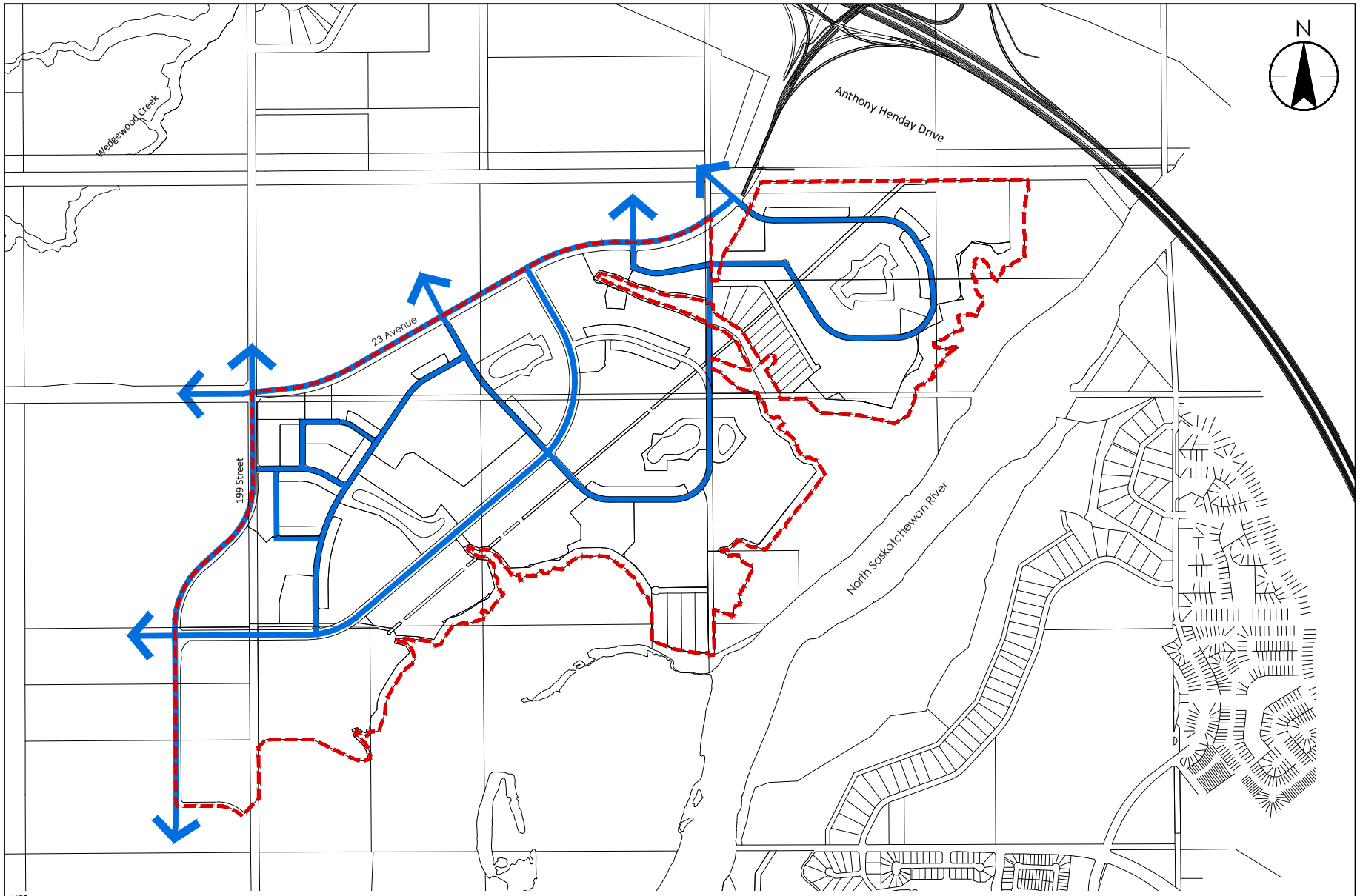

NTS
ORIGINAL SHEET - ANSI A

April 16, 2015
1161 102460 KC

Legend
Water Main
NSP Boundary

Client/Project
Riverview Neighbourhood 3
Neighbourhood Structure Plan

Figure No.
10.0

Title
Water Servicing

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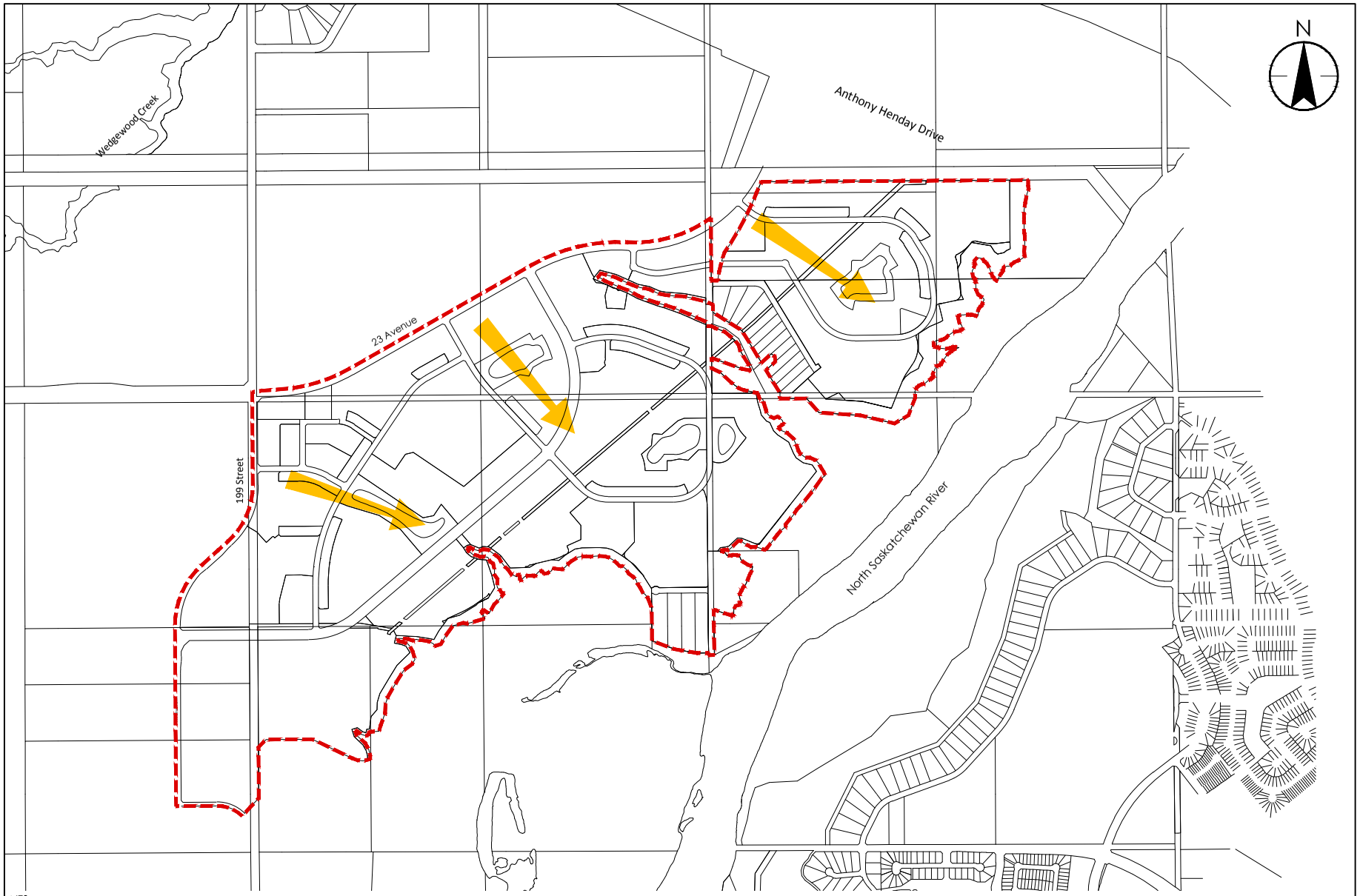

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ORIGINAL SHEET - ANSI A

April 16, 2015
1161 102460 KC

Legend
General Direction of Development
NSP Boundary

Client/Project
Riverview Neighbourhood 3
Neighbourhood Structure Plan

Figure No.
11.0

Title
Staging

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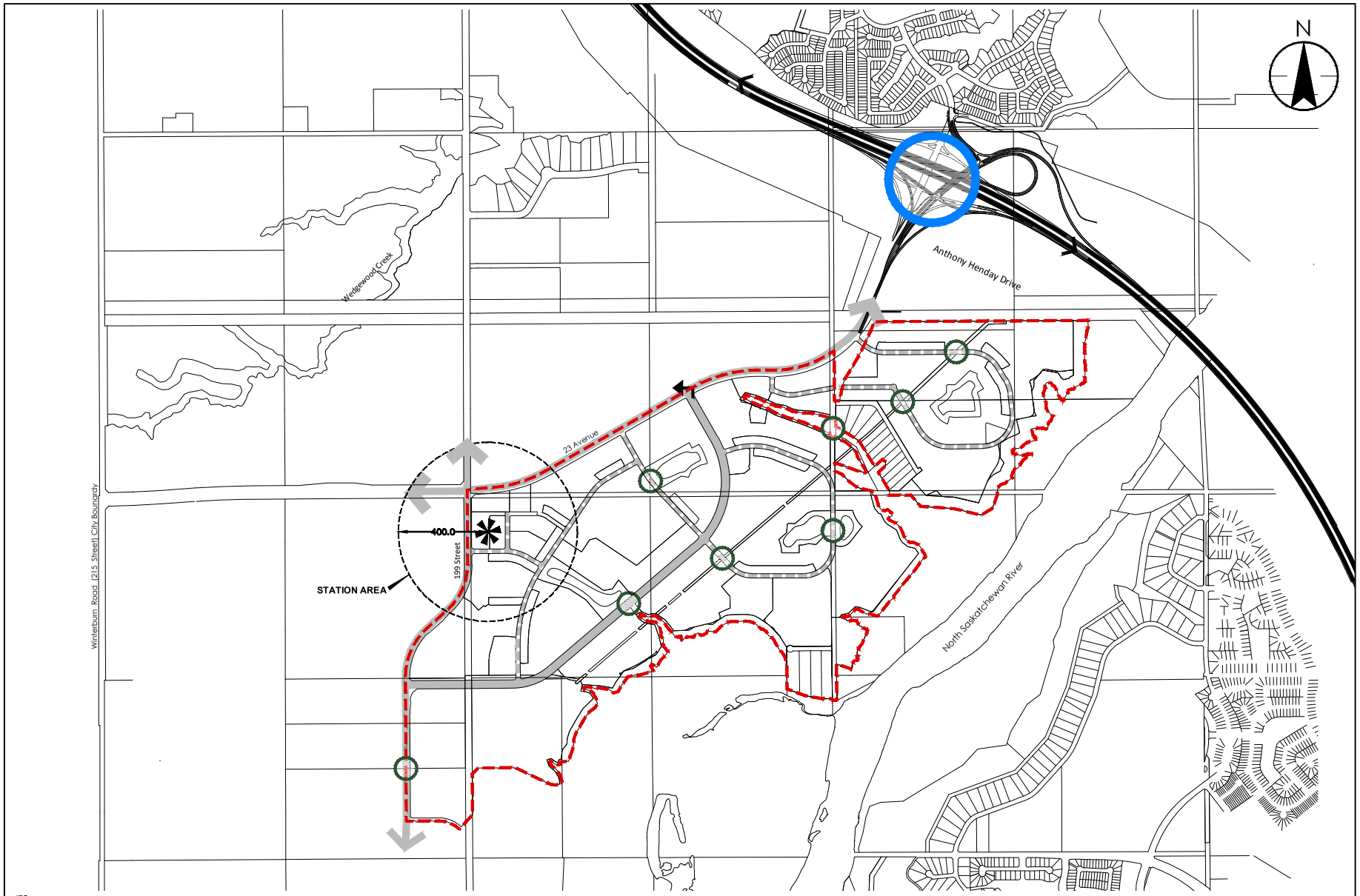

NTS
ORIGINAL SHEET - ANSI A

April 16, 2015
1161 102460 KC

Legend

- Freeway (Anthony Henday Drive)
- Arterial Roadway
- Collector Roadway
- Service Interchange
- Transit Centre
- Interim Left-turn Movement
- Potential Wildlife Passage*
- NSP Boundary

*See ENRII for Passage Details

Client/Project
Riverview Neighbourhood 3
Neighbourhood Structure Plan

Figure No.
12.0

Title
Transportation

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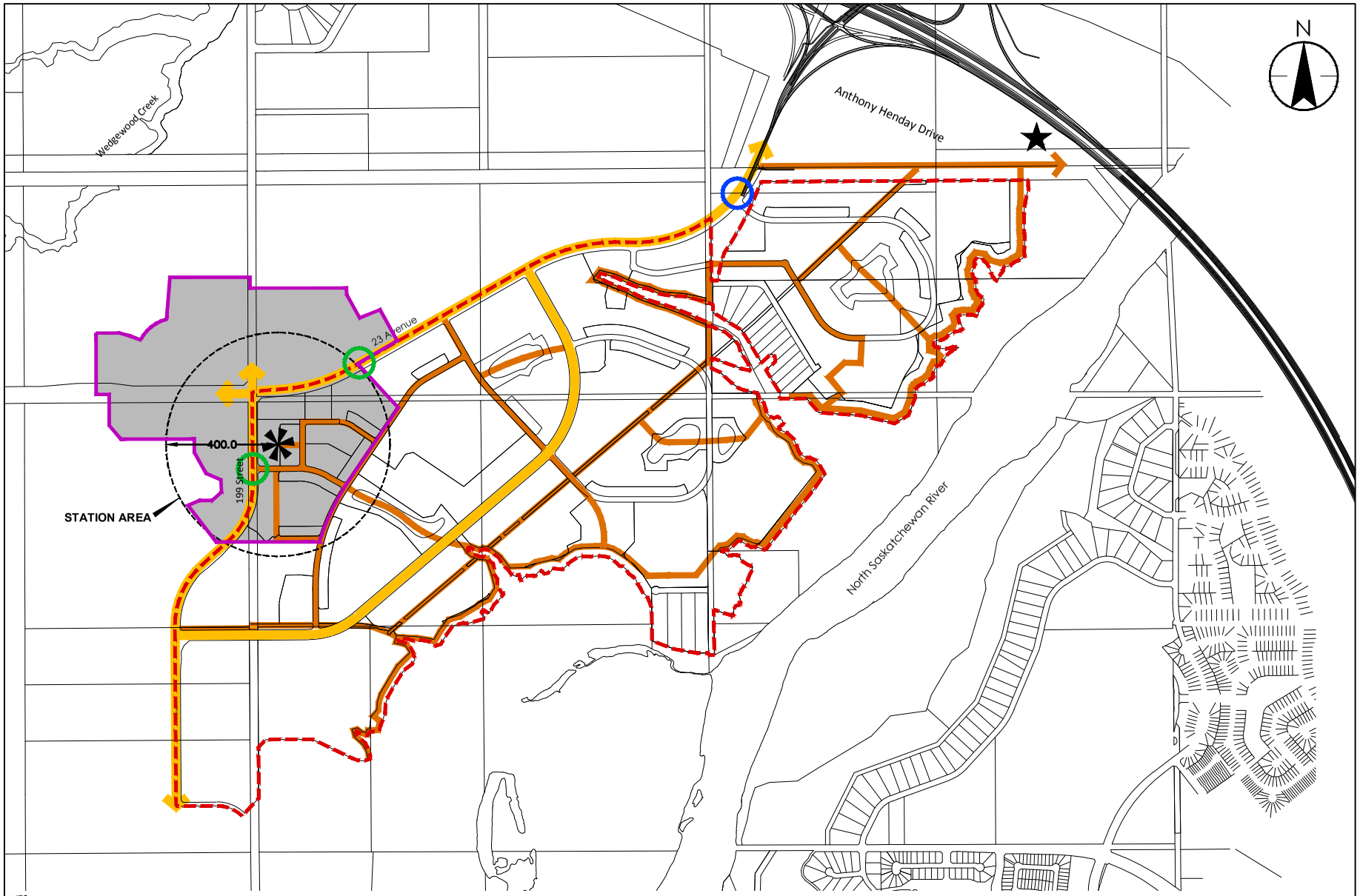

NTS
ORIGINAL SHEET - ANSI A

April 16, 2015
1161 102460 KC

Legend
- Arterial Roadways
- Active Modes Connection
- Pedestrian Zone
- Transit Centre
- Priority Pedestrian Crossing
- Two-Stage Pedestrian Crossing
- Shared Use Path Connection to Anthony Henday Pedestrian Bridge
- NSP Boundary

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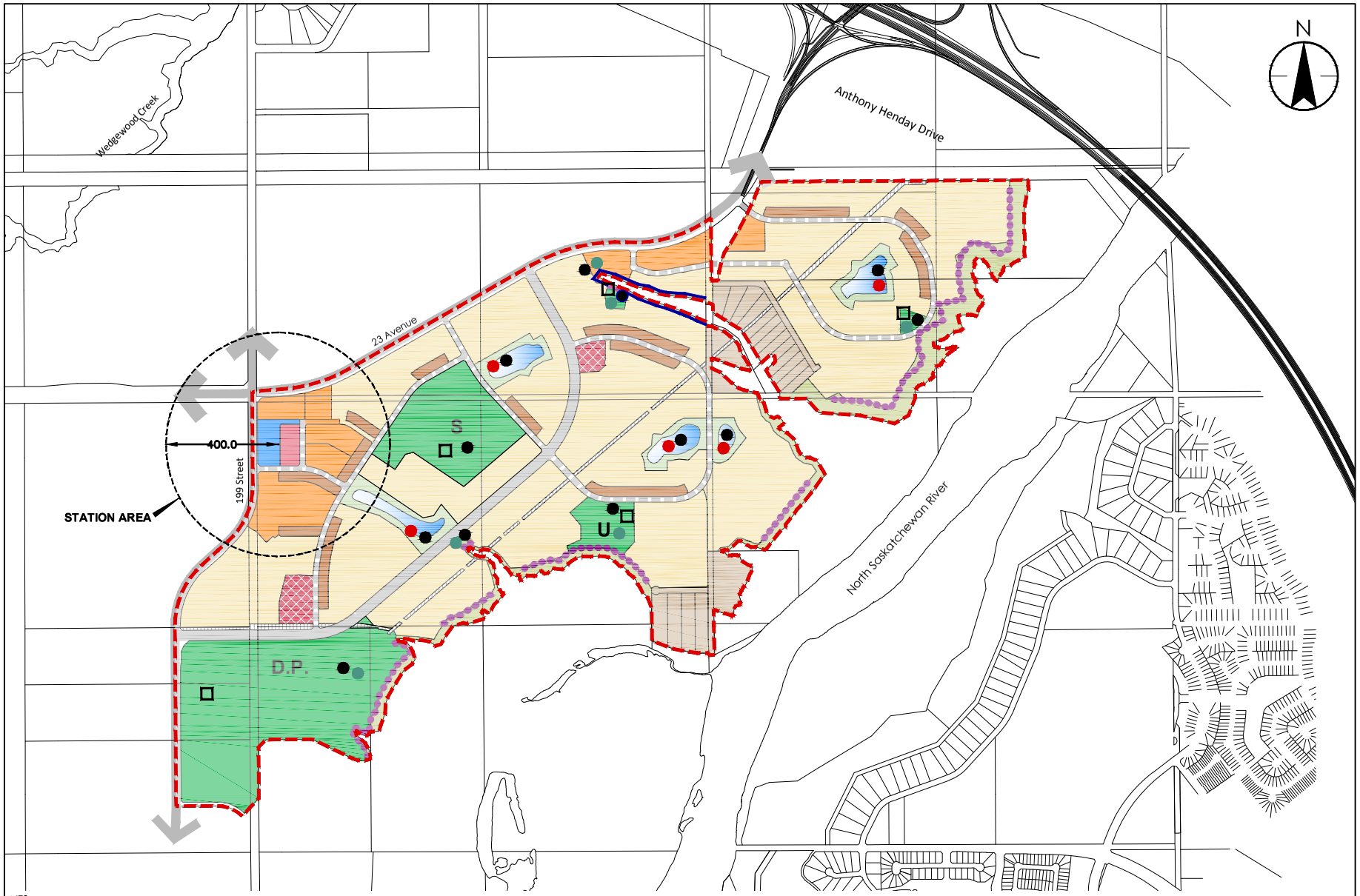
Client/Project
Riverview Neighbourhood 3
Neighbourhood Structure Plan

Figure No.
13.0

Title
Active Mode Transportation



NTS
ORIGINAL SHEET - ANSI A

April 16, 2015
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Legend
- Absorbent Landscaping
- Bioswale
- Naturalized Storm Water Management Facility
- Bioretention Area
- Back of Lot Drainage & Increased Top Soil Depth
- NSP Boundary

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Client/Project
Riverview Neighbourhood 3
Neighbourhood Structure Plan

Figure No.
14.0

Title
Low Impact Development Opportunities