

**ATTACHMENT 2
BYLAW 17267
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FILE: LDA14-0146
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RIVERVIEW**

DESCRIPTION:	AMENDMENT TO THE RIVERVIEW AREA STRUCTURE PLAN AMENDMENT TO THE NORTH SASKATCHEWAN RIVER VALLEY AREA REDEVELOPMENT PLAN ADOPTION OF RIVERVIEW NEIGHBOURHOOD 1 NEIGHBOURHOOD STRUCTURE PLAN ADOPTION OF RIVERVIEW NEIGHBOURHOOD 3 NEIGHBOURHOOD STRUCTURE PLAN
LOCATION:	South of Anthony Henday Drive and the Wedgewood Creek Ravine, east of Winterburn Road (215 Street SW), north of 41 Avenue SW (Township Road 512A) and west of the North Saskatchewan River Valley
APPLICANT:	Stantec Consulting Ltd. 10160 – 112 Street Edmonton, AB T5K 2L6
OWNER:	Qualico Group Companies, Walton Development and Management L.P., Melcor Developments Ltd, Saraswati Prasad Singh, multiple land owners.
ACCEPTANCE OF APPLICATION:	February 28, 2013
EXISTING DEVELOPMENT:	Existing country residential and undeveloped land

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**SUSTAINABLE
DEVELOPMENT'S**

RECOMMENDATION:

That Bylaw 17267 to amend The Riverview Area Structure Plan be APPROVED.

That Bylaw 17268 to amend the North Saskatchewan River Valley Area Redevelopment Plan be APPROVED.

That Bylaw 17269 to adopt Riverview Neighbourhood 1 Neighbourhood Structure Plan be APPROVED.

That Bylaw 17270 to adopt Riverview Neighbourhood 3 Neighbourhood Structure Plan be APPROVED.

DISCUSSION

1. The Application

This application consists of four components: an amendment to the Riverview Area, Structure Plan (ASP), the adoption of two Neighbourhood Structure Plan (NSP) identified as # 1 and #3 in the approved ASP, and the amendment to the North Saskatchewan River Valley Area Redevelopment Plan (NSRV ARP).

The first component, Bylaw 17267, proposes to amend the Riverview ASP which was approved in July 2013. The Riverview ASP is located south of Anthony Henday Drive and the Wedgewood Creek Ravine, east of Winterburn Road (215 Street SW), north of 41 Avenue SW (Township Road 512A) and west of the North Saskatchewan River Valley in the southwest area of Edmonton. The proposed amendment will focus on Neighbourhoods 1 and 3 as identified in the ASP and includes several updates as summarized:

- Updates the maps and figures in the ASP to reflect the NSP's land uses;
- Decreases the business employment area;
- Increases the residential area;
- Increases the town centre commercial/ mixed use area;
- Reconfigures the town centre commercial area;
- Revises a portion of Arterial Roadway to a Collector standard;
- Revises the parks and open space network; and
- Updates the land use and population statistics.

The proposed ASP will increase the amount of residential uses as a result of current market demands, adding a mixed use commercial area and increased densities near the transit centres in keeping with Transit Oriented Development Guidelines. The proposed residential densities will increase for NSP 1 from 30.1 to 32.7 du/nrha and NSP 3 from 31.8 to 34.5 du/nrha and meet the Capital Region Boards densities targets of 30-40 du/nrha for redeveloping new areas.

The following residential increases are as follows;

- Single/semi-detached housing increase from 542 ha to 540 ha;
- Row housing increased from 33 ha to 35 ha;
- Low-rise/medium density housing from 31 ha to 33 ha; and
- Additional Medium density of 2.8 ha and High density to 0.49 ha.

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The Town Centre Commercial area has decreased from 26 ha to 21 ha as direct result of refinement of neighbourhood planning and the reconfiguration will provide a looping collector road to allow for greater road frontage design for commercial uses.

A portion of the Arterial roadway located in the future NSP 2 will be downgraded to a Collector roadway standard.

The proposed amendment will revise the park and open space network uses thereby increasing the Municipal Reserve dedication from 116 ha to 120 ha and the Environmental Reserve from 30 to 52 ha. The ASP will include two new natural areas and demark the Public Upland Setback for Wedgewood Creek Ravine.

The Business Employment area has been reduced as a direct result of the Traffic Impact Analysis. The Traffic Impact Analysis identified traffic volumes generated by the business employment area and the inability of the 23 Avenue intersections to accommodate the expected volumes. As such, the Business Employment area has been reduced in size from 63 ha to 40 ha and these lands will be re-classified to low density residential uses.

As the amendment revises the land use and population statistics, the revisions will reflect the standards within the 2010 Terms of Reference for the Preparation and Amendment of Residential Area Structure Plans, and is being undertaken to ensure consistency between all neighbourhood plan statistical calculation methods for residential density and population projections.

The second component, Bylaw 17269, is a proposal for the adoption of Neighbourhood Structure Plan identified as #1 in the approved Riverview ASP and encompasses approximately 280 hectares.

Neighbourhood Structure Plan 1 is planned to be residential, commercial and business employment neighbourhood and will establish a framework for future land use planning.

The proposed plan will provide for two employment hubs through the town centre and the business employment land uses. The town centre mixed use areas will provide housing options as well employment and commercial opportunities for the neighbourhood and surrounding areas.

The applicant's vision is to establish a walkable and sustainable neighbourhood designed as a complete community with active employment and an extensive commercial centre.

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The NSP is bounded to the north by the Wedgewood Creek Ravine which will be protected and retained by way of Environmental Reserve. The NSP proposes to establish:

- The location of various land uses;
- The density of residential development;
- The connectivity to passive and active recreation uses;
- The required road and utility infrastructure to support development;
- The opportunities for low impact development; and
- The development phasing within the neighbourhood.

The third component, Bylaw 17270, is a proposal for the adoption of Neighbourhood Structure Plan identified as #3 in the approved Riverview ASP and encompasses approximately 315 hectares.

Neighbourhood Structure Plan 3 is planned to be a primarily residential neighbourhood with a mixed use area, a district park site and a transit centre and will establish a framework for future land use planning. The mixed use area and district park site are supported by the transit centre and provide housing choices as well as recreation and employment opportunities.

The NSP is bounded to the west by the North Saskatchewan River which will be protected and retained by way of Environmental Reserve. The NSP proposes to establish:

- The location of various land uses;
- The density of residential development;
- The connectivity to passive and active recreation uses;
- The required road and utility infrastructure to support development;
- The opportunities for low impact development; and
- The development phasing within the neighbourhood.

NSP 1 & 3 has identified a Riverview Station Area which falls within a 400m of the Transit Centre in NSP 3. Transit Oriented Development (TOD) principles will be applied to the Station area to guide the design and development of a pedestrian-friendly environment with consideration given to multi-modal transportation by vehicles, pedestrians and cyclists. Furthermore, the TOD principles will guide the development of higher residential densities, commercial and employment land within the 400m radius of the Transit Centre. A Pedestrian Zone has been applied identifying an area where the

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streets and public spaces will be designed to encourage active transportation and higher quality pedestrian movement (as shown on Figures 13 Active Mode Transportation).

The Neighbourhood Structure Plans have been prepared in accordance with City's servicing standards, City of Edmonton and Capital Region Board plans and policies, as well as relevant provincial and federal statutes. Furthermore, in accordance with City of Edmonton Terms of Reference in Growth Areas, all required technical documents have been submitted and have been reviewed by various departments.

More details of the proposed NSP will be articulated in subsequent sections of this report.

The fourth component, Bylaw 17268, of the application is the proposed amendment to the North Saskatchewan River Valley Area Redevelopment Plan (NSRV ARP) to adjust the boundary of the Plan to reflect the portions of the NSPs which have been detailed and established on site in accordance with City Policy C542, whereby the geographic Top-of-the-Bank line and development setbacks from the River Valley/Ravine Crest have been established.

2. Site and Surrounding Area

Lands located within the Riverview ASP area consist of agricultural and rural residential uses as well as the Altalink Power Corridor. The Edgemont Neighbourhood is located immediately to the north of the Riverview ASP area and is in the early stages of development. West of Winterburn Road (215 Street SW) and south of 41 Avenue SW is Parkland County in which there is a mix of agricultural and country residential uses, and the Petroleum Golf and Country Club. Anthony Henday Drive and the 23 Avenue SW interchange borders the ASP area to the northeast.

The North Saskatchewan River Valley and the Wedgewood Creek Ravine borders the ASP to the east and north-west, respectively. Lands contained within these valleys and ravine systems are excluded from the ASP boundary area as they are within the NSRVARP.

NSP 1 is located in the northern portion of the ASP and adjacent to the Edgemont Neighbourhood and Anthony Henday Drive to the north-east. The Edgemont Neighbourhood is in the early stages of development and zoned (AG) Agricultural Zone, (A) Metropolitan Zone, (AP) Public Parks Zone, (RSL) Residential Small Lot Zone and (RR) Rural Residential. Located west of proposed NSP 1 is the Enoch Cree Nation. The south boundary of the NSP is bounded by 23 Avenue NW. The undeveloped, proposed Riverview NSP 3 is located to the south and west.

NSP 3 is located in the north-east portion of the ASP adjacent to the North Saskatchewan River Valley, including Big Island. Across from the North Saskatchewan River Valley, to the east, is the Windermere ASP. Located to the north is the undeveloped, proposed Riverview NSP 1 which is currently zoned (AG) Agricultural Zone. To the south, the land is undeveloped and zoned (AG) Agricultural Zone, a portion of which will be included in the future Riverview Neighbourhood 4.

ANALYSIS

1. a) Compliance with Approved Plans and Policies

The main purpose of the Capital Region Land Use Plan is to manage the sustainable growth in order to protect the region's environment and resources, minimize the regional development footprint, strengthen communities within the region, increase choice of transportation and encourage economic growth. The proposed NSPs intend to achieve these objectives through an integrated and strategic approach to planning by coordinating planning and development decisions in the region and identifying a regional development pattern to complement existing infrastructure, services and land uses. The Riverview NSPs are located in Priority Growth Area Cw, which has a minimum density target of 30 units per net residential hectare (upnrh). NSP 1 & NSP 3 achieve this target by proposing a density of 33 upnrh and 34.5 upnrh, respectively.

b) Municipal Development Plan: The Way We Grow

The proposal to adopt Riverview Neighbourhoods 1 and 3 NSPs and related ASP amendment is supported by policies contained in Edmonton's Municipal Development Plan, *The Way We Grow*. The Plan designates the NSPs as "Developing and Planned and Future Neighbourhoods" and is deemed suitable for urban development.

The proposed neighbourhood plans conform to several policy objectives contained in *The Way We Grow*, in particular those detailed in sections:

3.3.1.1: Promote medium and higher density residential and employment growth around LRT station and transit centres;

3.6.1.6: Support contiguous development and infrastructure in order to accommodate growth in an orderly and economical fashion;

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- 4.3.1.1: Ensure that all neighbourhoods and districts are served by recreational and social facilities such as libraries and recreation centres to serve their residents;*
- 4.4.1.1: Provide a broad and varied housing choice, incorporating housing for various demographic and income groups in all neighbourhoods;*
- 6.2.1.4: Plan for retail centres that meet the daily needs of residents in Neighbourhood Structure Plans;*
- 7.4.1.1: Link parks and open spaces with natural systems through development and design to strengthen the connectivity of Edmonton's ecological network, where feasible;*
- 7.1.1: Protect, preserve and enhance a system of conserved natural areas within a functioning and interconnected ecological network;*
- 7.5.1: Mitigate impacts on Edmonton's water resources by ensuring that new development in Edmonton embody an exemplary standard of ecological design; and*
- 10.1.1: Increase access to local food through regional, city-wide and neighbourhood-level approaches to sustainable urban food systems and build resilience into the food and urban agriculture system to withstand both gradual and sudden changes in the food supply.*

c) Integrated Infrastructure Management Planning (IIMP) Strategy

Integrated Infrastructure Management Planning (IIMP) for Riverview Neighbourhood 1 is a high-level analysis that provides Council with information about the infrastructure required for development of the neighbourhood. The broad-based analysis performed at this stage of the area development provides a general indication of future cost implications and revenue potential and can help inform high-level decision making.

The IIMP review was completed for a neighbourhood development build-out of 16 years, starting in 2017. Based on the information available at this time, the review generally shows that Riverview Neighbourhood 1 will require a developer infrastructure investment of over \$166 million as well as a capital investment by the City of approximately \$53

million. Capital and operating expenditures may be required as early as 2017 to support the anticipated development of the neighbourhood.

Integrated Infrastructure Management Planning (IIMP) for Riverview Neighbourhood 3 is a high-level analysis that provides Council with information about the infrastructure required for development of the neighbourhood. The broad-based analysis performed at this stage of the area development provides a general indication of future cost implications and revenue potential and can help inform high-level decision making.

The IIMP review was completed for a neighbourhood development build-out of 20 years, starting in 2017. Based on the information available at this time, the review generally shows that Riverview Neighbourhood 3 will require a developer infrastructure investment of over \$180 million as well as a capital investment by the City of approximately \$77 million. Capital and operating expenditures may be required as early as 2017 to support the anticipated development of the neighbourhood.

d) Arterial Road for Development Bylaw

The Arterial Roads for Development Bylaw is required in association with this application. The Bylaw establishes how developers will share the costs of designing and constructing new arterial roadways.

An amendment to the Arterial Roads for Development Bylaw will be brought before City Council prior to or concurrent with Third Reading of this application.

e) Designing New Neighbourhoods, *Guidelines for Edmonton's Future Residential Communities*

The Designing New Neighbourhood Guidelines were approved in May 2013 with the intent of establishing a common vision in the preparation of new NSPs. The vision is comprised of 12 desired outcomes, each of which is accompanied by a set of principles that recognize the context and uniqueness of the neighbourhood.

NSP 1 proposes to meet the 12 desired outcomes in the following ways:

Outcome 1: Neighbourhoods are connected

The proposed NSP intends to create a well-connected neighbourhood by providing linkages through a network of streets, paths, and transit routes to various destinations, including the town centre, the mixed use areas, the business employment area, and surrounding neighbourhoods. In order to create safe pedestrian movement across 23 Avenue and 199 Street, a Pedestrian Zone has been overlaid whereby the streets and

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public spaces will be designed to encourage active transportation and a higher quality pedestrian environment (see figure 13.0 - Active Mode Transportation). Further to this, the proposed NSP contains implementation policies ensuring appropriate design elements are implemented as directed by the City of Edmonton Complete Street Guidelines and Transit Oriented Development Guidelines.

Outcome 2: Neighbourhoods are unique and inviting

The proposed NSP is uniquely distinct as it is adjacent to Wedgewood Creek and provides a Town Centre and a Business Employment area. Wedgewood Creek provides unique pedestrian connections by way of the top-of bank trail linking to natural corridors, encouraging recreational use. The proposed Town Centre will provide opportunity for the community to gather while fostering a sense of place through urban form and massing. The business employment area provides unique employment opportunities for the community and contributes to the sustainability of the neighbourhood by creating a more complete community.

Outcome 3: Neighbourhoods are inclusive

The NSP is predominantly designated for residential development and proposes a variety of housing types to accommodate a diverse consumer market, demographic groups and provides opportunities for affordable housing. The design of neighbourhood infrastructure and parks is intended to accommodate people of all ages and abilities. Multi-modal streets, pedestrian connections and a designated pedestrian zone are a prime consideration of the transportation network, allowing residents to have access to neighbourhood destinations, amenities and services.

Outcome 4: Neighbourhoods provide residents with convenient access to full range of transportation options.

A transportation network has been designed to efficiently move internal and external traffic flows throughout the neighbourhood and surrounding neighbourhoods. NSP 1 proposes to accommodate multiple modes of travel including automobiles, buses, pedestrians and bicycles. Using the Complete Streets and Transit Oriented Development Guidelines as a guide will ensure the active modes of transportation are inclusive of bicycle paths, top-of-bank trails and greenways that will function in a safe and pedestrian friendly manner.

Outcome 5: Neighbourhoods support viable uses, services and facilities

The community Town Centre, Mixed Use and Business Employment areas will serve the commercial needs of the neighbourhood, surrounding communities and the travelling public. These areas will contribute to the sustainability of the neighbourhood.

Outcome 6: Neighbourhoods are cost effective

The NSP proposes a logical extension of infrastructure and services from existing neighbourhoods. The development staging and extension of service will be contiguous, efficient, and economical which will meet the municipal standards.

Outcome 7: Neighbourhoods conserve and enhance ecosystems and biodiversity

The Wedgewood Creek is an important ecological system in Edmonton and will be preserved and allow public access through the implementation of the City of Edmonton's Top-of-the-Bank Policy No. C531. The NSP proposes to retain two natural areas. The NSP encourages the use native species and provides opportunities for habitats that encourage urban ecological diversity that overtime will integrate with the surrounding landscapes.

Outcome 8: Neighbourhoods amenities and facilities support the social and recreational needs of residents

The proposed NSP provides a variety of park sites and open spaces in accordance with the Urban Parks Management Plan. The diversity in open space ensures convenience and availability for all user groups, residents and visitors. The Town Centre is designed to be walkable and encourages formal and informal interaction, allowing for gathering places and neighbourhood focal points. The proposed NSP allows opportunities for edible landscaping elements through landscape design of parks and open spaces implemented through NSP policy as guided by *Fresh: Edmonton's Food and Urban Agricultural Strategy*.

Outcome 9: Neighbourhoods embrace all seasons

The NSP proposes to consider all weather conditions when designing streetscapes, parks, open spaces and boulevards in order for residences to enjoy the outdoor environment year-round. The Winter City Strategy will be implemented to ensure proper design elements for all-season enjoyment.

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Outcome 10: Neighbourhoods are safe and secure

The NSP proposes a well-designed streetscape in accordance with the City Design and Construction Standards and Complete Streets Guidelines to ensure emergency response vehicles can access the neighbourhood quickly and circulate efficiently in a safe manner. The top-of-bank walkway and an urban development setback will provide access for slope repair, firefighting, emergency response, public safety and drainage control. Furthermore, the NSP proposes to develop parks in accordance with the Urban Parks Management Plan and CEPTED principles to ensure safety, security and to mitigate risk.

Outcome 11: Neighbourhoods are flexible and adaptable

The proposed NSP provides opportunity to respond to changes in demographics and market conditions with the intention that the development can grow and intensify over the long term as the market evolves and the neighbourhood matures.

Outcome 12: Resources are used efficiently and responsibly in neighbourhoods

The proposed NSP contains policies that encourage new sustainable community design practices and infrastructure design which will reduce resources, water and waste consumption. It also contains policies to minimize energy use and energy requirements in buildings and infrastructure by means of efficient site planning, green building design, and the use of LEED standards, when possible.

NSP 3 proposes to meet the 12 desired outcomes in the following ways:

Outcome 1: Neighbourhoods are connected

The proposed NSP intends to create a residential neighbourhood which is well connected by way of sidewalks, trails and street networks to neighbourhood amenities and destinations including the North Saskatchewan River and District Park (see figure 13.0 Active Mode Transportation). Destinations and streetscapes will be designed to encourage community interaction and gathering places using design elements implemented through policy as directed by the City of Edmonton Complete Street Guidelines and Transit Oriented Development Guidelines.

Outcome 2: Neighbourhoods are unique and inviting

The proposed NSP is uniquely distinct as its adjacent to the North Saskatchewan Rive Valley, provides a District Park which overlooks the North Saskatchewan River Valley and a Transit Centre. The District Park will provide and encourage both active and passive recreation uses with opportunities for community gardens and edible landscaping as guided by *Fresh: Edmonton's Food and Urban Agricultural Strategy*. The transit centre, designed to support various modes of transportation, will provide convenient bus transit options for the public.

Outcome 3: Neighbourhoods are inclusive

NSP 3 is predominantly designated for residential development with the provision to provide more intensive residential development in close proximity to the transit centre. The proposed NSP will provide for a variety of housing types to accommodate a diverse consumer market and demographic groups thereby providing opportunities for affordable housing. The design of neighbourhood infrastructure and parks is intended to accommodate people of all ages and abilities. Multi-modal streets, continuous pedestrian connections and a designated pedestrian zone are a prime consideration of the transportation network. The well designed streets will allow residents to have access to neighbourhood destination, amenities, and services.

Outcome 4: Neighbourhoods provide residents with convenient access to full range of transportation options.

The transit centre use incorporates Transit-Oriented Development principles integrating the street network with multi-modal transportation vehicles, pedestrians and cyclists. Active modes of transportation are illustrated in Figure 13: Active Modes transportation Network which proposes to create safe pedestrian access both internal and external to the neighbourhood.

Outcome 5: Neighbourhoods support viable uses, services and facilities

The community transit centre and mixed use areas are planned to incorporate Transit-Oriented Development principles within a 400 m radius of the station. This station area will serve the general commercial needs of the neighbourhood, surrounding communities, and the travelling public and will contribute to the sustainability of the neighbourhood. NSP 3 proposes two neighbourhood commercial sites which will meet the general day to day needs of the local residents.

Outcome 6: Neighbourhoods are cost effective

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The NSP considers the costs of installing and maintaining infrastructure over the life cycle of a neighbourhood; for example by providing stormwater management facilities that are efficient, use sustainable infrastructure solutions and are staged appropriately.

Outcome 7: Neighbourhoods conserve and enhance ecosystems and biodiversity

The North Saskatchewan River Valley and Big Island are located along the eastern bank of NSP 3 and are both unique natural features which form a vital part of the greater ecological network and will be protected under the Municipal Government Act and NSRV ARP (Bylaw 7188). The NSP provides parks, greenways, and wildlife connections to maintain and enhance connectivity. Furthermore, the NSP proposes planting of native or adapted plant species along the upland areas abutting the top-of-bank which will add to the habitat value of the ecological network.

Outcome 8: Neighbourhood amenities and facilities support the social and recreational needs of residents

NSP 3 provides a variety of park sites and open spaces including an urban village park, a district park, and top-of-bank trail along the entire length of the North Saskatchewan River Valley. In accordance with the Urban Parks Management Plan, a diversity of open space is provided to ensure convenience and availability for all user groups, residents and visitors. The Town Centre is designed to be walkable and encourages formal and informal interaction, allowing for gathering places and neighbourhood focal points. The commercial, transit centre and mixed use areas provide opportunities for temporary farmers' markets, food vendors and quasi-public space for local food establishments.

Outcome 9: Neighbourhoods embrace all seasons

The NSP proposes to design and develop the public realm, parks, and open spaces to accommodate year-round weather conditions, as guided by the Winter City Strategy ensuring opportunity for the residents to enjoy and experience these amenities year-round. Design consideration of building orientation and variation in facade treatment that reduce the amount of sun shadowing on open spaces and to prevent wind tunnelling will be implemented.

Outcome 10: Neighbourhoods are safe and secure

Top-of-the-bank walkway and roadway are provided along the North Saskatchewan River Valley. The Urban Development line established a setback area which ensures

access in the event of necessary slope repair, firefighting, emergency response, public safety and drainage control. The NSP proposes to develop parks in accordance with the Urban Parks Management Plan and CEPTED principles to ensure safety, security and to mitigate risk. Furthermore, a well-designed streetscape using the City Design and Construction Standards and Complete Streets Guidelines will ensure emergency response vehicles can access the neighbourhood quickly and circulate efficiently in a safe manner.

Outcome 11: Neighbourhoods are flexible and adaptable

The proposed NSP contains policies that provide opportunities to respond to changes in demographics and market conditions as well as policies related to taking advantage of advances in technology aimed at improving resource and energy efficiency in community and infrastructure design.

Outcome 12: Resources are used efficiently and responsibly in neighbourhoods

The NSP contains policies that encourage new sustainable community design practices and infrastructure design such as Complete Streets design, urban agriculture and low impact development to manage stormwater runoff and improve water quality. It also contains policies within the implementation sections to minimize energy use and energy requirements in buildings and infrastructure.

The administration supports the proposed measures and will require further review of detailed design at the zoning and subdivision stages of development for final approval of these practices.

f) The North Saskatchewan River Valley Area Redevelopment Plan (NSRVARP)

The NSRV ARP was adopted by Council in February 1985. The intent of the Plan is to preserve and protect the North Saskatchewan River Valley and Ravine System as part of Edmonton's valuable open space heritage and to establish the principles for future implementation plans for Parks.

Land within the NSRV ARP is not within the plan boundary of either proposed NSP 1 or 3. However, the top-of-the-bank boundary was further detailed and established on site (walked) during the NSP process. Where the boundaries did not align with the approved NSRV ARP, the boundary line was adjusted to ensure alignment with both NSP 1 (Bylaw 17269) and NSP 3 (Bylaw 17270). The boundary was then further verified by geotechnical investigation.

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Any areas that were not subject to detailed boundary adjustments due to non-participant land owners will require further on site and technical investigation at zoning and subdivision stages. Future amendments to the NSRV ARP may be undertaken at that time.

Environmental Site Assessment:

An Environmental Overview was submitted in support of the application. The review did not reveal any areas of environmental concern and the area has been deemed suitable for proposed residential development. Phase 1 Environment Site Assessments will be required prior to the rezoning stage of development, as indicated in the proposed NSP.

g) Historic Sites

A Historical Resources Impact Assessment was submitted to the Alberta Culture and Tourism for participating lands for both NSPs and have been granted clearance subject to Section 31 of the Resources Act. Non-participating landowners will be required to apply for the Historical Resources Impact Assessment for their respective lands prior to rezoning.

h) Top-of-the-Bank Public Roadway Policy

The NSRV ARP will be protected through the implementation of Policy C542-Development Setbacks from River Valley/Ravine Crest. A minimum 10 metre Public Upland Setback will be provided along the entire length of the North Saskatchewan River and Wedgewood Creek.

The Top-of-the-Bank Policy will ensure that urban development is reasonably setback from slopes so that stability is not compromised. The setback will also maximize access to residents and visitors, and will preserve the River Valley and Ravine System as a significant visual and natural amenity feature contributing to the ecological functionality of the City's natural areas system. The Top- of-the- Bank walkway and portions of roadway have been provided along the ravine corridors along the Urban Development Line, in accordance with Policy C542.

Further geotechnical investigation will be required at the rezoning and subdivision stages of development.

2. Land Use Analysis

Land Use Analysis for NSP 1

Residential Land Uses

Riverview Neighbourhood 1 NSP designates approximately 97 ha or 43% of gross Developable Area (GDA) for residential uses, of which 85% are proposed as Low Density Residential uses in the form of single and semi-detached housing; 5 % Row Housing uses; 7% as Low-rise and Medium Density housing and 3% Mixed Use (Town Centre Mixed use- residential component).

Commercial Land Uses

A Commercial Needs Assessment was completed in support of the proposed Riverview Neighbourhood 1 NSP.

The proposed NSP allocates approximately 18 ha or 8 % of the GDA as commercial uses, including the non-residential component of the mixed uses site commercial services. Approximately 66% of the population is within a 600 m accessibility radius to commercial services. The plan encourages ease of access to such services through implementation policies within the NSP.

A business employment area measuring approximately 40 ha or 18% of the GDA is proposed and will offer significant employment opportunities for the NSP and surrounding residents. This area is intended for general business, retail, convenience commercial, restaurants, hotels, and highway commercial uses. The business employment area is appropriately located in the northeast portion of the plan, adjacent to Anthony Henday Drive and 23 Avenue NW providing convenient access and visibility. Furthermore, due to the proximity to 23 Avenue NW, the opportunity for emergency service facilities may be appropriate within the business employment Area.

In the south-central portion of the NSP is a Town Centre Community Commercial and Town Centre Mixed-Use Residential area. These areas comprise approximately 15 ha or 7% of the GDA and 3 ha or 1% of the GDA, respectively. This area will form a comprehensive pedestrian friendly commercial node intended to meet the commercial needs for the residents both within the NSP and surrounding areas. The Town Centre area may include smaller open spaces to gather the community for events and passive recreation. The Town Centre Mixed-Use Residential area offers higher density residential uses integrated with compatible commercial uses allowing

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flexibility to develop and intensify as the market evolves and the neighbourhood matures.

Parks, School, Public Open Space and Natural Areas

A Community Knowledge Campus Needs Assessment (CKCNA) and Parkland Impact Assessment (PIA) were completed for NSP 1. Consultation with the Edmonton Public School Board and Edmonton Catholic School Board determined that no school sites are required in Neighbourhood 1.

School/Park Sites

Municipal Reserve in the proposed NSP 1 area accounts for approximately 7.83 ha or 3.5 %. There is an existing Urban Park Village, several pocket parks and natural area parks.

Ravine System

Although not part of the ASP or NSP boundaries, the ecological network of the Wedgewood Creek system is well connected to parks and natural areas, shared use paths along the top-of-bank walkway, and by roadways and bicycle networks.

Stormwater management facilities (SWMF) account for approximately 17.84 ha or 7.9% of the GDA. Each facility will contain a shared use path. SWMFs provide additional space for recreation in addition to their technical utility use.

Land Use Analysis for NSP 3

Residential Land Uses

The proposed Riverview Neighbourhood 3 NSP designates approximately 138 ha or 47% of gross Developable Area (GDA) for residential uses, of which 81% are proposed as Low Density Residential in the form of single and semi-detached housing; 8 % Row Housing uses; 11% as Low-rise and Medium Density housing and 0.4% Mixed Use (Town Centre Mixed Use – Residential).

Commercial Land Uses

A Commercial Needs Assessment was completed in support of the proposed Riverview Neighbourhood 3 NSP.

The proposed NSP allocates approximately 3.5 ha or 1 % of the GDA as commercial uses including the non-residential component of the Mixed Use site. Approximately

43% of the population is within a 600 m accessibility radius to commercial services. The plan encourages ease of access to such services through implementation policies within the NSP.

Parks, School, Public Open Space and Natural Areas

A Community Knowledge Campus Needs Assessment (CKCNA) and Parkland Impact Assessment (PIA) were completed for NSP 3. Consultation with the Edmonton Public School Board and Edmonton Catholic School Board, determined that each board required a high school and K-9 school, totalling four schools within NSP 3. It was agreed that the K-9 schools from both boards could co-locate on one school park site in Neighbourhood 3, which will also be sized to accommodate a community league facility. Both of the Public and Catholic High Schools can co-locate on the District Activity Park site in Neighbourhood 3, which will also be size to accommodate a recreation centre.

School/Park Sites

Municipal Reserve in the proposed NSP 3 area accounts for approximately 51 ha or 19.7% of the GDA, of which 5% are K-9 school/park sites. A District Park, encompassing approximately 34 ha or 14% of the GDA is situated along the west bank of the North Saskatchewan River Valley. A small portion of non-credit Municipal Reserve will be provided along the edge of the ravine system.

The District Park proposed for the NSP and will host two (public and separate) high schools serving the student population of Riverview ASP area. Furthermore, the District Park will incorporate a community recreation centre and a wide range of recreational programming for both active and passive uses. One Urban Village Park and several Pocket Parks are expected for NSP 3, totalling 4.6 ha or 1.8% of the GDA, and will proving the opportunity for both active and passive recreation uses for the residents of the NSP.

Ravine System

Although not part of the ASP and NSP boundaries, the proposed ecological network is connected to the North Saskatchewan River and Ravine system through parks and natural areas connections, shared use paths and roadways located along the top-of-bank walkway, and by roadways and bicycle networks.

Several Stormwater management facilities (SWMF) are located intermittently within the NSP and account for approximately 14 ha or 5.5% of the GDA. Each facility will be designed with a shared use path and CPTED principles providing additional space for passive recreation.

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3. Transportation and Utilities

A Transportation Impact Assessment (TIA) was completed in support of the Neighbourhood 1 and 3 Neighbourhood Structure Plans and associated amendments to the Riverview Area Structure Plan (ASP). The TIA indicates that full build-out of the neighbourhoods can generally be accommodated on the planned roadway network within the City's Level of Service Guidelines.

Given the constraints of the Riverview area, it is anticipated that significant amounts of traffic will access the neighbourhoods via the Cameron Heights/Anthony Henday Drive interchange and 23 Avenue NW. Even with six traffic lanes, it is anticipated that 23 Avenue NW between Riverview Way and Anthony Henday Drive will operate at capacity during peak hours. It is also anticipated that residents will find alternate modes of travel to single user vehicles (transit, carpooling, cycling, etc.) or will adjust their travel times to spread the peak hour in response to the congestion.

Based on the TIA analysis, it is estimated that approximately two thirds of the lands within Riverview Neighbourhoods 1, 2 and 3 can be developed before the existing Cameron Heights/Anthony Henday Drive interchange reaches capacity. As the Riverview area develops, the operations of the existing interchange will need to be monitored to determine when the planning and construction of upgrades will be required.

Roadways within Riverview Neighbourhood 1 and 3 will be designed using the principles outlined in the Complete Streets Guidelines. The neighbourhood will accommodate multiple modes of transportation, including active transportation, public transit and automobile travel. The neighbourhoods will include an extensive network of sidewalks, walkways, shared-use paths, top-of-bank walkways, and greenways to accommodate active modes. The network will provide residents with convenient access to neighbourhood destinations and transit service throughout the plan area.

A transit centre will be located in the southeast corner of the 23 Avenue NW/199 Street NW intersection in Riverview Neighbourhood 3. Primary express connections to the Lewis Farms and Heritage Valley transit centres will provide residents with access to future LRT service. The transit centre and town centre areas are envisioned as pedestrian zones. Roads within pedestrian zones will be designed to improve the safety and convenience of pedestrian and active modes to encourage active transportation within Riverview and reduce vehicle trips.

Transportation Services also advises the following:

- A functional planning study will be required to determine the ultimate configuration of the Cameron Heights/Anthony Henday Drive interchange. Upgrades to the existing interchange will be required to accommodate full build-out of Neighbourhoods 1, 2, and 3, as well as the entirety of the Riverview ASP area. The functional planning study shall be initiated once 50% of development within Riverview Neighbourhoods 1, 2, and 3 has occurred, or prior to the beginning of any development within Riverview Neighbourhoods 4 or 5;
- A concept planning study for the ultimate configuration of 23 Avenue NW from the Anthony Henday Drive to 215 Street (Winterburn Road) is currently being undertaken by the City's Facility and Capital Planning Section based on the traffic analysis submitted in support of this application;
- A concept planning study for the ultimate configuration of Riverview Way from 23 Avenue NW to 199 Street NW is currently being undertaken by area developers based on the traffic analysis submitted in support of this application;
- A concept planning study for the ultimate configuration of 199 Street from 23 Avenue NW to Riverview Way is currently being undertaken by area developers based on the traffic analysis submitted in support of this application;
- 23 Avenue NW is designated as a highway penetrator, and will be designated as a future 24-hour truck route. As such, right of way for a future 6 lane arterial cross-section shall be protected along the entire length of the corridor. Access to 23 Avenue NW will be restricted to key intersections as identified in the TIA.
- Anthony Henday Drive is designated as a 24-hour truck route and dangerous goods route;
- Transit routing is shown on Enclosures IV and V for Neighbourhood 1 and Neighbourhood 3, respectively. Developer funded transit service is available for this neighbourhood; and
- Front driveways on the collector roadways should not conflict with future bus stop locations. The number of front driveways along future collector bus routes should not exceed 30% of the collector.

EPCOR Water supports these applications and requires that an updated Water Network Analysis is completed and approved prior to the rezoning stage of development. EPCOR Water advises that:

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- there are no existing water mains adjacent to the proposed new neighbourhood;
- the 600mm water transmission main along 199 Street NW terminates at 35 Avenue NW. Plans for the future watermain on 215 Street NW have not been submitted at this time. Extensive offsite water main construction will be required if development of adjacent municipal facilities has not occurred before development of the area;
- transmission main projects will be constructed to support contiguous development when hydraulically required, provided the EPCOR has sufficient lead time to secure funding for the project; and
- the developer will be responsible for providing front-end financing for non-contiguous transmission mains as well as for those projects where EPCOR has not been given sufficient lead time.

The Drainage Branch of Infrastructure Services has expressed no concerns regarding the proposed application and requires that an updated Neighbourhood Design Report is completed and approved prior to the rezoning and subdivision stages of development.

All comments from other Civic Department and utility agency have been addressed.

4. Parks, Schools, Public Open Space and Natural Areas

The Parks Planning, Edmonton Public School Board and Edmonton Catholic School Board have expressed no concerns over the proposal as all outstanding requirements have been addressed.

School and park site planning and development will occur in accordance with the Urban Parks Management Plan (UPMP) and guidelines for developing school site followed by the school boards. The preparation of Parkland Impact Assessments (PIA) and Community Knowledge Campus Needs Assessments (CKCNA) were undertaken in support of the NSPs and are currently being finalized.

A Parkland Impact Assessment (PIA) is a tool to assist planning for parkland in new areas and for evaluating proposed plans. The PIA utilizes the standards and parkland classification system established by Edmonton's Urban Parks Management Plan (UPMP). This assessment and evaluation tool recognizes that each neighbourhood is a unique area while at the same time ensuring that planning occurs within the context of parkland planning policies and guidelines and city wide, area structure plan and specialty recreational and open space needs.

The CKCNA is an examination of future school needs and any potential projected partnership opportunities which provides a framework for the distribution of school and community knowledge campus sites within a new plan area.

These assessments must be finalized prior to any rezoning or subdivision approvals.

Preparation of a Phase II Ecologic Network Report (ENR) was undertaken in support of the NSPs and is currently being finalized. This report will require approval and support by the Administration prior to any rezoning and subdivision approvals. This report provided recommendations for key natural and environmental areas to be conserved and integrated within the NSPs to ensure a strong ecological network is maintained. Further studies may be required at the zoning and subdivision stages to ensure integration and viability of natural areas, the North Saskatchewan River Valley and Wedgewood Creek and how these sites will be sustained in an urban context, particularly with regard maintaining hydrological flows.

5. Environmental Review

An Environmental Overview for the participating landowners in the preparation of the NSP was submitted, reviewed and approved.

Phase I Environmental Site Assessments (ESAs) will be required at the rezoning stage in order to deem the land suitable for the intended uses being sought at that time. All properties within the NSP area will require a Phase I ESA to be completed and approved by Sustainable Development prior to rezoning approval.

6. Adjacent Municipalities

Parkland County and Enoch Cree Nation were notified of the NSP process and expressed no concern regarding the application.

7. Surrounding Property Owner's Concerns

Sustainable Development sent an advance notification and an open house invitation to surrounding property owners as well as the Cameron Heights, Greater Windermere and Wedgewood Ravine Community Leagues. The West Edmonton Communities Council Area, Parkland County Council, Leduc County Council and Enoch Cree Nation also received the notice and invitation on December 17, 2014.

As a result of the notification, 4 individuals requested more information, which Sustainable Development provided. No additional requests were received.

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An Open House was held on January 28, 2015 at the West Edmonton Christian Assembly to discuss the proposed new neighbourhood plans and amendment to the Riverview ASP, and provide property owners the opportunity to ask questions to City and applicant representatives. The meeting was attended by approximately 46 people.

Major concerns/questions at the public meeting related to:

- The development of lands across from River Heights Drive country residential lands;
- Impacts of urban development on county residential lots in terms of primarily traffic and safety, property taxes increases, and privacy;
- The alignment of 23 Avenue; and
- The expected time frame Plan approval.

Administration and the Applicant responded to these concerns and questions. Further to this a meeting was held on February 11, 2015 with several individuals residing on River Heights Drive to discuss their concerns. To ensure appropriate transition, single detached housing will be planned immediately north of River Heights Drive with a minimum width of 24 m, a site area of a minimum of 0.12 ha and a front setback of 8 m and regulated under a Direct Control Provision.

JUSTIFICATION

Sustainable Development recommends that Bylaw 17267 to amend the Riverview Area Structure Plan, Bylaw 17269 to adopt the Riverview Neighbourhood 1 Neighbourhood Structure Plan, Bylaw 17270 to adopt the Riverview Neighbourhood 3 Neighbourhood Structure Plan and Bylaw 17268 to amend the North Saskatchewan River Valley Area Redevelopment Plan be APPROVED, on the basis that proposed NSPs conforms with City of Edmonton policies and

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guidelines, meets the technical requirements of the affected Civic Departments and utility agencies, facilitates compatible development, and will result in provision of land and services required for the future growth in the southwest portion of the City.

ATTACHMENTS

- 2a Approved Land Use and Population Statistics Riverview Area Structure Plan - Bylaw 16407
- 2b Proposed Land Use and Population Statistics Riverview Area Structure Plan Bylaw 17267
- 2c Proposed Land Use and Population Statistics Riverview Neighbourhood 1 Neighbourhood Structure Plan 1 – Bylaw 17269
- 2d Proposed Land Use and Population Statistics Riverview Neighbourhood 3 Neighbourhood Structure Plan 3 – Bylaw 17270
- 2e Approved Riverview Area Structure Plan – Bylaw 16407
- 2f Proposed Riverview Area Structure Plan – Bylaw 17267
- 2g Proposed Riverview Neighbourhood 1 Neighbourhood Structure Plan – Bylaw 17269
- 2h Proposed Riverview Neighbourhood 3 Neighbourhood Structure Plan – Bylaw 17270
- 2i Integrated Infrastructure Management Plan Neighbourhood 1
- 2j Integrated Infrastructure Management Plan Neighbourhood 3

Approved by: Tim Ford
Written by: Vivian Gamache
Sustainable Development
July 6, 2015

TABLE 1
RIVERVIEW AREA STRUCTURE PLAN
APPROVED LAND USE AND POPULATION STATISTICS
BYLAW 16407

	Area (ha)	% GA	Nbhd 1	Nbhd 2	Nbhd 3	Nbhd 4	Nbhd 5
GROSS AREA	1,427.64	100.0%	279.67	317.81	311.28	187.66	331.22
Environmental Reserve / Natural Area (ER) *	30.16	2.1%	-	30.16	-	-	-
Pipeline / Utility Right-of-Way	4.08	0.3%	-	1.70	2.38	-	-
Altalink Power Corridor	23.08	1.6%	23.08	-	-	-	-
Public Utility - Communications Facility	8.02	0.6%	-	8.02	-	-	-
Arterial Road Right-of-Way	62.05	4.3%	15.08	21.64	16.02	5.24	4.07
Transit Centre	2.00	0.1%	-	-	2.00	-	-
Existing Country Residential	114.12	8.0%	15.56	-	13.58	66.40	18.58
Existing Urban Village Park	5.66	0.4%	5.66	-	-	-	-
Existing Natural Area (NW 384)	20.36	1.4%	-	-	-	-	20.36
GROSS DEVELOPABLE AREA	1,158.11	81.1%	220.29	256.29	277.30	116.02	288.21
Town Centre Commercial	25.97	4.7%	19.68	6.29	-	-	-
Mixed Uses / Main Street Commercial	2.83	0.5%	-	2.83	-	-	-
Community Commercial	14.55	2.7%	-	10.52	-	4.03	-
Neighbourhood Commercial	4.00	0.7%	-	-	2.00	1.00	1.00
Business Employment	62.98	5.4%	62.98	-	-	-	-
Parkland, Recreation, School (Municipal Reserve)	115.81	10.0%	1.20	25.48	52.94	8.66	27.53
<i>District Activity Park</i>	34.86	3.0%	-	-	34.86	-	-
<i>School/Park</i>	39.44	3.4%	-	16.48	13.48	-	9.48
<i>Urban Village Park/Pocket Park/Greenway</i>	17.53	1.5%	1.20	1.73	4.60	3.90	6.10
<i>Natural Area</i>	23.98	2.1%	-	7.27	-	4.76	11.95
Transportation - circulation	231.62	20.0%	44.06	51.26	55.46	23.20	57.64
Stormwater Management Facility	89.16	7.7%	16.96	19.73	21.35	8.93	22.19
Total Non-Residential Area	546.92	47.2%	144.88	116.11	131.75	45.82	108.36
Net Residential Area	611.19	52.8%	75.41	140.18	145.55	70.20	179.85
RESIDENTIAL LAND USE AREA, DWELLING UNIT & POPULATION COUNT							
Land Use		ASP	Nbhd 1	Nbhd 2	Nbhd 3	Nbhd 4	Nbhd 5
Single/Semi-detached	Area (ha)	543.19	67.41	124.18	127.55	60.20	163.85
25 du/nrha	Units	13,580	1,685	3,105	3,189	1,505	4,096
2.8 p/du	Population	38,023	4,719	8,693	8,929	4,214	11,469
Row Housing	Area (ha)	33.00	3.00	8.00	10.00	6.00	6.00
45 du/nrha	Units	1,485	135	360	450	270	270
2.8 p/du	Population	4,158	378	1,008	1,260	756	756
Low-rise/Medium Density Housing	Area (ha)	31.00	5.00	7.00	6.00	4.00	9.00
90 du/nrha	Units	2,790	450	630	540	360	810
1.8 p/du	Population	5,022	810	1,134	972	648	1,458
Medium to High Density Housing	Area (ha)	4.00	0.00	1.00	2.00	0.00	1.00
225 du/nrha	Units	900	0	225	450	0	225
1.5 p/du	Population	1,350	0	338	675	0	338
Total Residential	Area (ha)	611.19	75.41	140.18	145.55	70.20	179.85
	Units	18,755	2,270	4,320	4,629	2,135	5,401
	Population	48,553	5,907	11,172	11,836	5,618	14,021

SUSTAINABILITY MEASURES

Population Per Net Hectare (p/nha)	79.44	78.33	79.70	81.32	80.03	77.96
Dwelling Units Per Net Residential Hectare (du/nrha)	30.69	30.11	30.81	31.80	30.41	30.03
Population (%) within 500m of Parkland	84%					
Population (%) within 400m of Transit Service	98%					
Population (%) within 600m of Commercial Service	39%					
Presence/Loss of Natural Areas						
Protected as Environmental Reserve	42.9					
Conserved as Municipal Reserve (ha)	25.1					
Protected through other means (ha)	20.4					
Lost to Development (ha)	10.6					

STUDENT GENERATION COUNT

Public School Board						
Elementary School	2,316	440.6	512.6	554.6	232.0	576.4
Junior High	1,158	220.3	256.3	277.3	116.0	288.2
Senior High	1,158	220.3	256.3	277.3	116.0	288.2
Separate School Board						
Elementary School	1,158	220.3	256.3	277.3	116.0	288.2
Junior High	579	110.1	128.1	138.7	58.0	144.1
Senior High	579	110.1	128.1	138.7	58.0	144.1
Total Student Population	6,949	1,321.7	1,537.7	1,663.8	696.1	1,729.3

* This area includes NW 354 and NW355 (with a setback buffer around them) that may be claimed by the Crown. The boundary of each natural area will be adjusted through subsequent studies, bed and shore survey, and subdivision.

TABLE 2
RIVERVIEW AREA STRUCTURE PLAN
PROPOSED LAND USE AND POPULATION STATISTICS
BYLAW 17267

	Area (ha)	% GA	Nbhd 1	Nbhd 2	Nbhd 3	Nbhd 4	Nbhd 5
GROSS AREA	1,435.39	100.0%	283.85	317.81	314.85	187.66	331.22
Environmental Reserve / Natural Area (ER) *	52.82	3.7%	5.60	30.16	17.06	-	-
Public Upland	1.18	0.1%	-	-	1.18	-	-
Pipeline / Utility Right-of-Way	5.06	0.4%	-	1.70	3.36	-	-
Altalink Power Corridor	23.63	1.6%	23.63	-	-	-	-
Arterial Road Right-of-Way	63.56	4.4%	16.59	21.64	16.02	5.24	4.07
Existing Country Residential	115.41	8.0%	13.52	-	16.91	66.40	18.58
Existing Natural Area (NW 384)	20.36	1.4%	-	-	-	-	20.36
GROSS DEVELOPABLE AREA	1,147.08	80.40%	224.51	264.31	260.33	116.01	281.92
Town Centre Commercial	21.30	1.86%	15.01	6.29	-	-	-
Mixed Uses / (Main Street) Commercial **	6.12	0.53%	2.80	2.83	0.49	-	-
Community Commercial	14.55	1.27%	-	10.52	-	4.03	-
Neighbourhood Commercial	4.99	0.44%	-	-	2.99	1.00	1.00
Business Employment	39.57	3.45%	39.57	-	-	-	-
Parkland, Recreation, School (Municipal Reserve)	114.59	9.99%	7.83	25.48	51.38	8.66	21.24
<i>District Activity Park</i>	33.80	2.95%	-	-	33.80	-	-
<i>School/Park</i>	38.96	3.40%	-	16.48	13.00	-	9.48
<i>Urban Village Park/Pocket Park/Greenway</i>	23.10	2.01%	6.79	1.73	4.58	3.90	6.10
<i>Natural Area (MR)</i>	18.73	1.63%	1.04	7.27	-	4.76	5.66
Transportation - circulation	229.06	19.97%	44.90	51.26	52.06	23.20	57.64
Transit Centre	1.45	0.13%	-	-	1.45	-	-
Stormwater Management Facility	82.99	7.23%	17.84	19.73	14.30	8.93	22.19
Public Utility - Communications Facility	8.02	0.70%	-	8.02	-	-	-
Natural Area Protection (Through Other Means)	6.29	0.55%	-	1.00	-	1.29	4.00
Total Non-Residential Area	522.64	45.56%	127.95	124.13	122.67	45.82	102.07
Net Residential Area	624.44	54.44%	96.56	140.18	137.66	70.19	179.85

RESIDENTIAL LAND USE AREA, DWELLING UNIT & POPULATION COUNT

Land Use		ASP	Nbhd 1	Nbhd 2	Nbhd 3	Nbhd 4	Nbhd 5
Single/Semi-detached	Area (ha)	539.52	81.68	122.58	111.23	60.20	163.85
25 du/nrha	Units	13,488	2,042	3,064	2,781	1,505	4,096
2.8 p/du	Population	37,767	5,717	8,580	7,786	4,214	11,469
Row Housing	Area (ha)	35.44	4.93	8.00	10.51	6.00	6.00
45 du/nrha	Units	1,595	222	360	473	270	270
2.8 p/du	Population	4,465	621	1,008	1,324	756	756
Low-rise/Medium Density Housing	Area (ha)	42.58	7.15	7.00	15.43	4.00	9.00
90 du/nrha	Units	3,832	644	630	1,389	360	810
1.8 p/du	Population	6,898	1,158	1,134	2,500	648	1,458
Town Centre Mixed Uses / Medium Density Residential	Area (ha)	2.80	2.80	0.00	0.00	0.00	0.00
90 du/nrha	Units	252	252	0	0	0	0
1.8 p/du	Population	454	454	0	0	0	0
Medium to High Density Housing	Area (ha)	2.00	0.00	1.00	0.00	0.00	1.00
225 du/nrha	Units	450	0	225	0	0	225

<i>1.5 p/du</i>	Population	675	0	338	0	0	338
Town Centre Mixed Uses / High Density Residential	Area (ha)	0.49	0.00	0.00	0.49	0.00	0.00
<i>225 du/nrha</i>	Units	109	0	0	109	0	0
<i>1.5 p/du</i>	Population	164	0	0	164	0	0
Total Residential	Area (ha)	622.83	96.56	138.58	137.65	70.20	179.85
	Units	19,726	3,159	4,279	4,751	2,135	5,401
	Population	50,422	7,951	11,060	11,773	5,618	14,021

SUSTAINABILITY MEASURES

Population Per Net Hectare (ppnha)	80.96	82.34	79.81	85.53	80.03	77.96
Dwelling Units Per Net Residential Hectare (upnrha)	31.7	32.7	30.9	34.5	30.4	30.0
Population (%) within 500m of Parkland		94%		93%		
Population (%) within 400m of Transit Service		100%		100%		
Population (%) within 600m of Commercial Service		66%		43%		
Presence/Loss of Natural Areas						
Protected as Environmental Reserve	52.8	5.60	30.16	17.06	-	-
Conserved as Municipal Reserve (ha)	25.0	1.04	7.27	-	4.76	11.95
Protected through other means (ha)	20.4	-	-	-	-	20.36
Lost to Development (ha)	9.6	7.80	-	15.40	-	-

STUDENT GENERATION COUNT

Public School Board

Elementary School	2,307	449.0	528.6	520.6	232.0	576.4
Junior High	1,153	224.5	264.3	260.3	116.0	288.2
Senior High	1,153	224.5	264.3	260.3	116.0	288.2

Separate School Board

Elementary School	1,153	224.5	264.3	260.3	116.0	288.2
Junior High	577	112.3	132.2	130.2	58.0	144.1
Senior High	577	112.3	132.2	130.2	58.0	144.1

Total Student Population

	6,920	1,347.1	1,585.9	1,561.9	696.1	1,729.3
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* This area includes NW 354 and NW355 (with a setback buffer around them) that may be claimed by the Crown. The boundary of each natural area will be adjusted through subsequent studies, bed and shore survey, and subdivision.

**Mixed Use areas are divided amongst Residential Uses (50%) and Non-Residential Uses (50%) (e.g. Total area is 5.6 ha; area of residential is 2.8 ha and non-residential is 2.8 ha)

TABLE 3
RIVERVIEW NEIGHBOURHOOD 1 NEIGHBOURHOOD STRUCTURE PLAN
PROPOSED LAND USE AND POPULATION STATISTICS
BYLAW 17269

	Area (ha)	% of GA	% of GDA			
Gross Area	283.85	100%				
Environmental Reserve						
Public Upland Area	4.46	1.6%				
Natural Area (ER)	1.14	0.4%				
Altalink Power Corridor	23.63	8.3%				
Existing Rural Residential	13.52	4.8%				
Arterial Road Right-of-Way	16.59	5.8%				
Gross Developable Area	224.51		100%			
Business Employment	39.57		17.6%			
Commercial						
Town Centre Commercial	15.01		6.7%			
Town Centre Mixed Use – Residential*	2.80		1.2%			
Parkland, Recreation, School (Municipal Reserve)						
Urban Village Park	5.66		2.5%	} 3.5%		
Pocket Parks	1.00		0.4%			
Greenway	0.13		0.1%			
Natural Area (MR)	1.04		0.5%			
Transportation						
Circulation	44.90		20.0%			
Infrastructure & Servicing						
Stormwater Management	17.84		7.9%			
Total Non-Residential Area	127.95		57.0%			
Net Residential Area (NRA)	96.56		43.0%			
RESIDENTIAL LAND USE, DWELLING UNIT COUNT AND POPULATION						
Land Use	Area (ha)	Units/ha	Units	% of NRA	People/Unit	Population
Single/Semi-Detached	81.68	25	2,042	84.6	2.80	5,717
Row Housing	4.93	45	222	5.1	2.80	621
Low-rise / Medium Density Housing	7.15	90	644	7.4	1.80	1,158
Town Centre Mixed Use - Residential*	2.8	90	252	2.9	1.80	454
Total	96.56		3,159	100		7,951
SUSTAINABILITY MEASURES						
Population Per Net Residential Hectare (ppnha)						82.3
Dwelling Units Per Net Residential Hectare (upnrha)						33
[Single/Semi-detached] / [Row Housing; Low-rise/Medium Density; Medium to High Rise] Unit Ratio						64.6% /35.4%
Population (%) within 500m of Parkland						94%
Population (%) within 400m of Transit Service						100%
Population (%) within 600m of Commercial Service						66%
Presence/Loss of Natural Areas		Land		Water		
Protected as Environmental Reserve		0.0		1.1		
Conserved as Naturalized Municipal Reserve (ha)		1.0		0.0		
Protected though other means (ha)		0.0		0.0		
Lost to Development (ha)		7.8		0.0		

STUDENT GENERATION STATISTICS

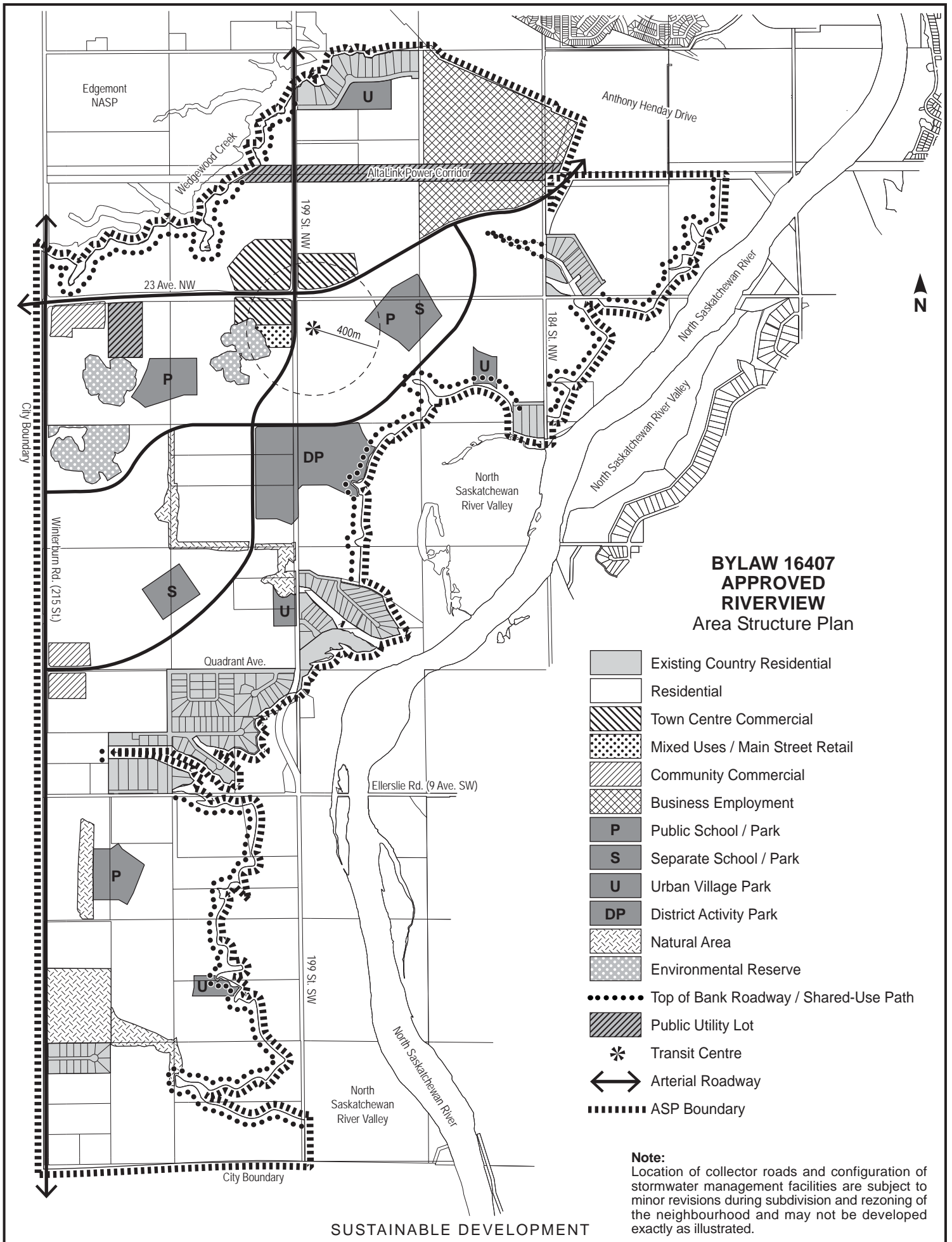
Level	Public	Separate	
Elementary	449	225	
Junior High School	225	112	Ldf;dgfs
Senior High School	225	112	
Total	898	449	

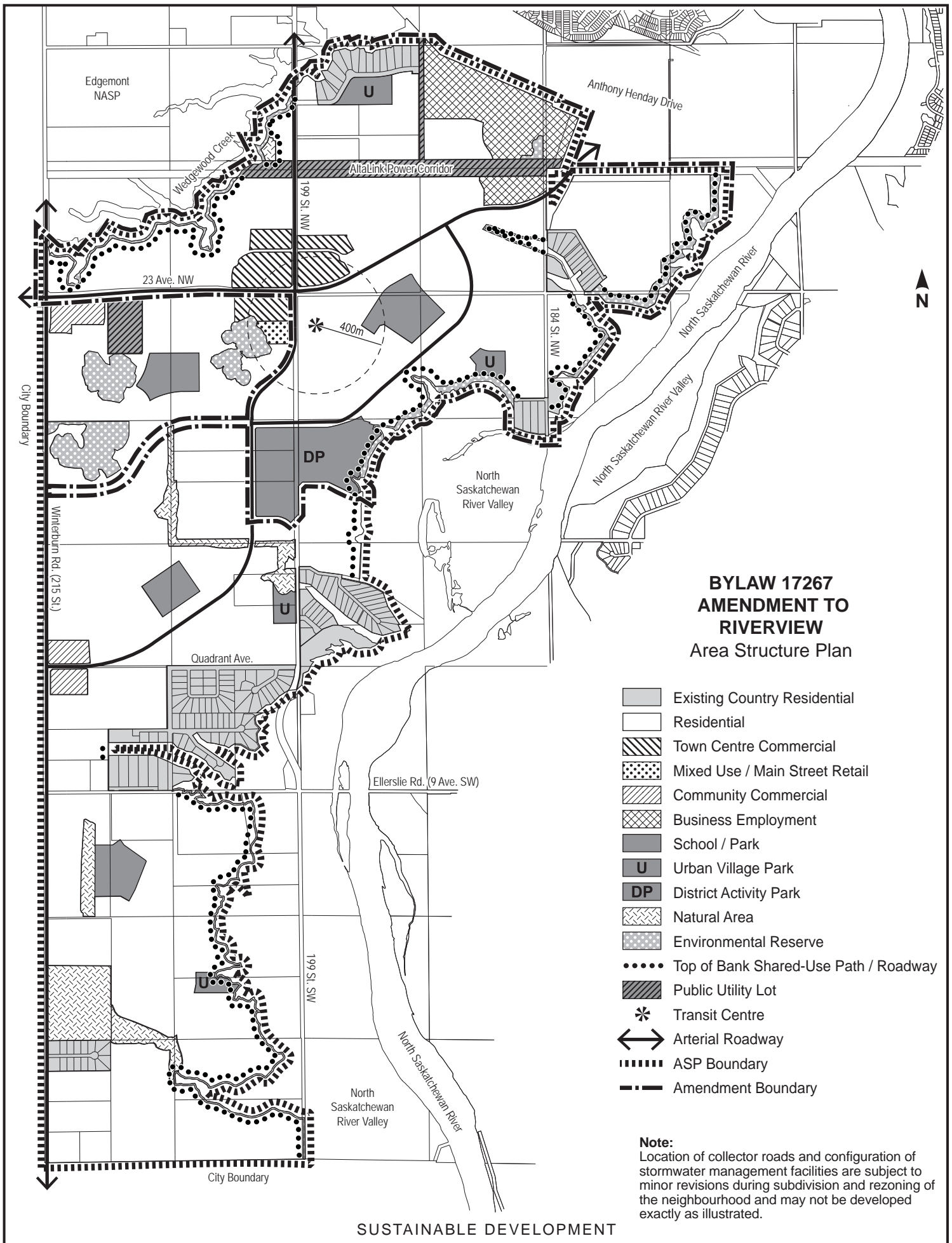
Notes:

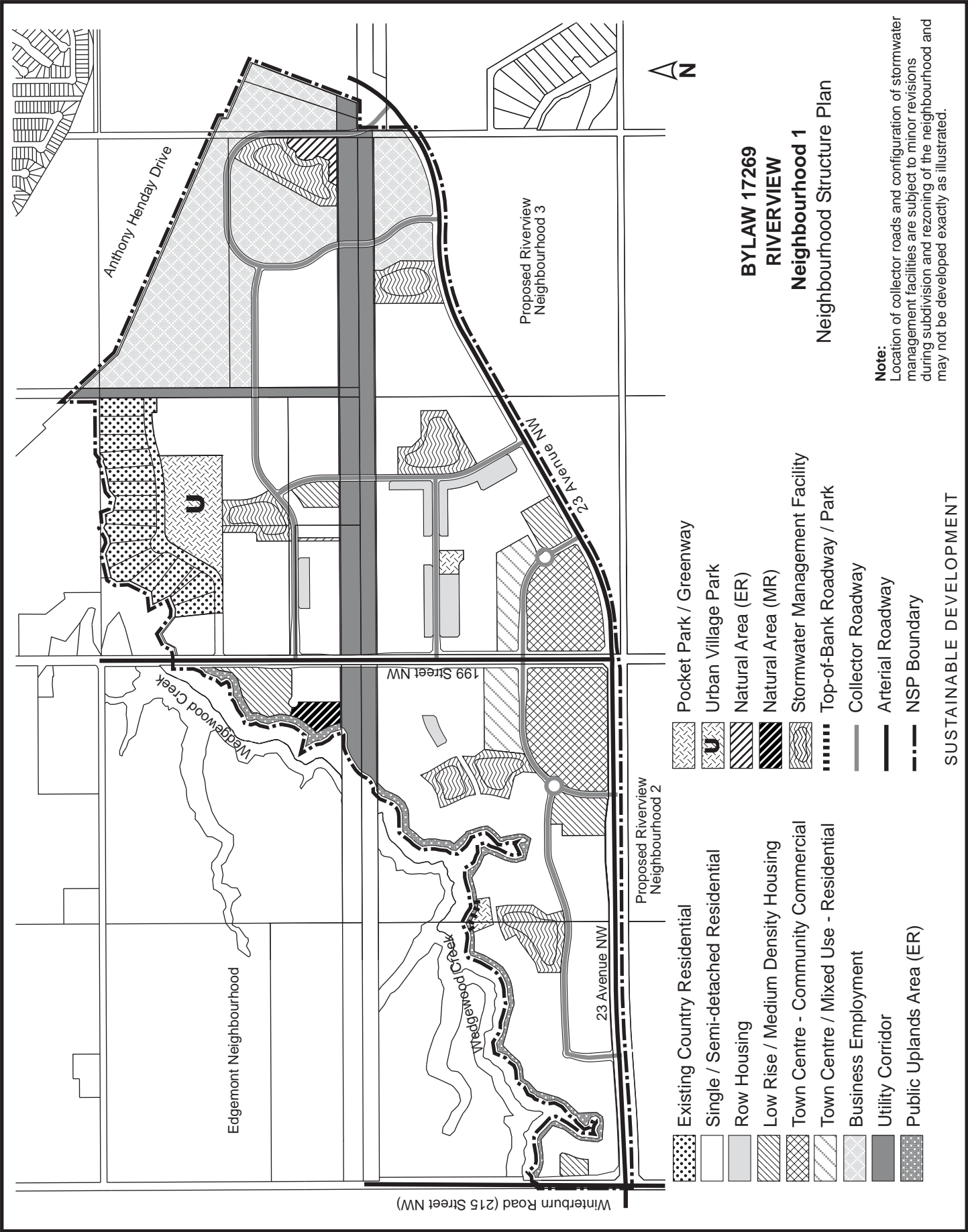
*Town Centre Mixed Use – Residential is divided amongst Residential Uses (50%) and Non-residential Uses (50%) (i.e. Total area is 5.60 ha; area of residential is 2.8 ha and non-residential is 2.8 ha).

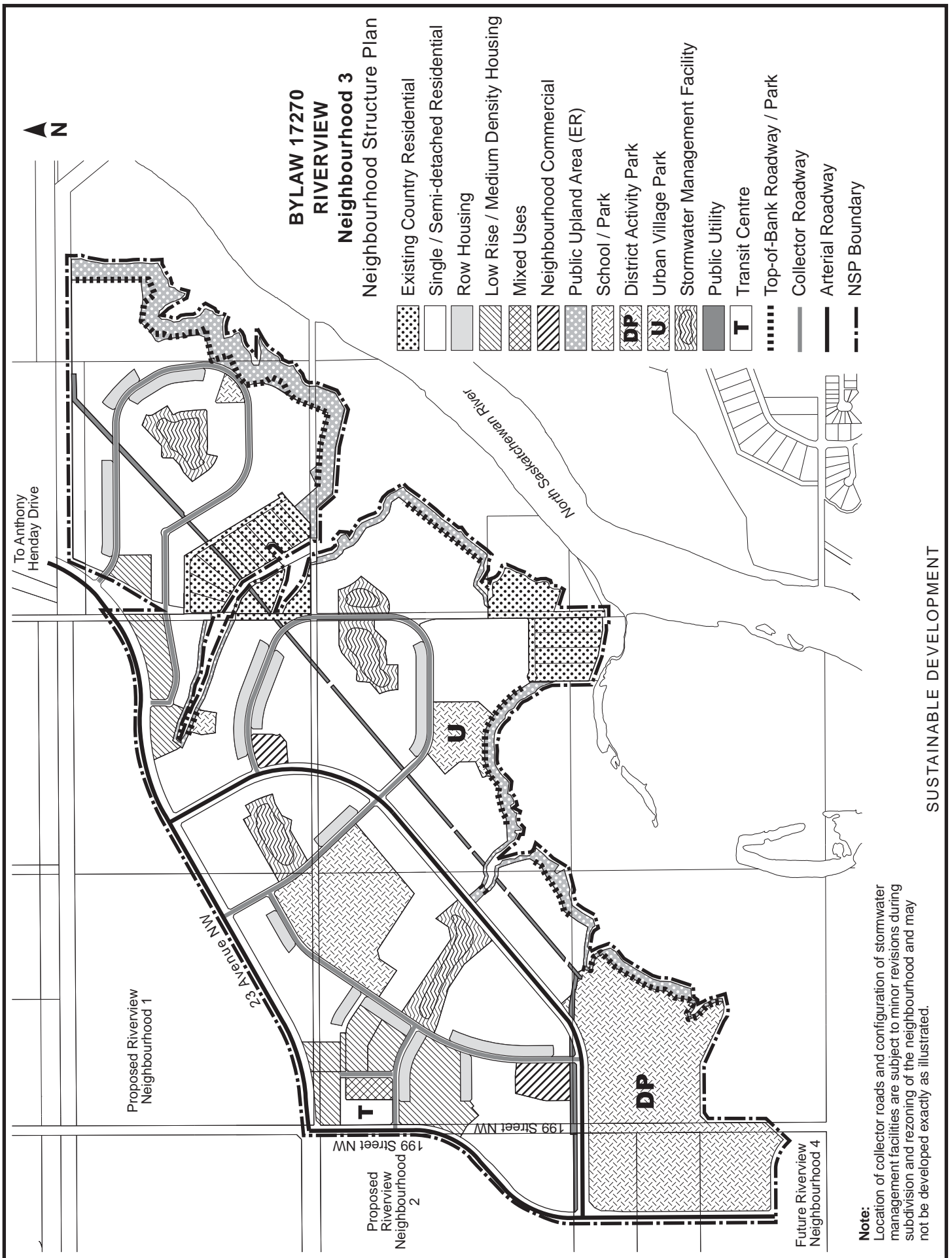
TABLE 4
RIVERVIEW NEIGHBOURHOOD 3 NEIGHBOURHOOD STRUCTURE PLAN
PROPOSED LAND USE AND POPULATION STATISTICS
BYLAW 17270

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









Integrated Infrastructure Management Planning

Riverview Neighbourhood 1 NSP

1.1 Executive Summary

Integrated Infrastructure Management Planning (IIMP) for Riverview Neighbourhood 1 is a high-level analysis that provides Council with information about the infrastructure required for development of the neighbourhood. The broad-based analysis performed at this stage of the area development provides a general indication of future cost implications and revenue potential and can help inform high-level decision making.

The IIMP review was completed for a neighbourhood development build-out of 16 years, starting in 2017. Based on the information available at this time, the review generally shows that Riverview Neighbourhood 1 will require a developer infrastructure investment of over \$166 million as well as a capital investment by the City of approximately \$53 million. Capital and operating expenditures may be required as early as 2017 to support the anticipated development of the neighbourhood.

1.2 Purpose

Integrated Infrastructure Management Planning (IIMP) is a process for the gathering, synthesis, presentation and use of data related to the provision of infrastructure to the three remaining Urban Growth Areas. This document is based on information provided by the applicant in April and May 2015. The actual Plan before Council may have slightly different statistics. The impact of the different statistics on the information provided in this report is minimal. This report will provide Council with information about the infrastructure required for the development, how it relates to existing infrastructure, timing, implications on the 2015-2018 as well as future Capital Budgets, and implications to the city's operations.

1.3 IIMP Background

The tax revenue generated by new residential neighbourhoods is not meant to pay for the municipal programs and services associated with those neighbourhoods. Property taxation is a tax on wealth as represented by the assessment of residential and non-residential properties under regulations set by the Province.

Residential neighbourhoods exist to provide for housing and community amenities. Other areas of the city, such as industrial areas and commercial nodes, exist to provide employment and wealth generation. The amount of revenue the City needs from property taxation is determined for the City as a whole and takes into consideration the balance between residential and non-residential assessment. A residential neighbourhood is not a microcosm of the entire City and property taxes are not calculated on a neighbourhood basis.

It is difficult to capture all of the indirect costs and benefits that are attributable in whole or in part to new residential neighbourhoods. For example, the City collects dividends from EPCOR, earnings from its investments, and a substantial amount of non-residential tax revenue from dense commercial nodes including West Edmonton Mall, the Downtown core, and South Edmonton Common. These sources all help fund services provided to all neighbourhoods, but are difficult to include in a neighbourhood or area specific analysis. Additionally, secondary benefits accrue from the expenditures of those individuals deriving income directly or indirectly from the development industry. Economic impacts can be estimated by calculating expenditure multipliers. An expenditure multiplier estimates the final value of an incremental dollar spent once the direct and follow-on effects are included. By way of illustration, Alberta's

economic multiplier for construction is 1.6¹. This means that a dollar of construction activity generates a gross gain of \$1.60 of economic activity for Alberta once direct and follow-on impacts are included. For the Riverview Neighbourhood 1, this equates to approximately \$350 million dollars over the construction time of the development, based on a \$220 million investment in public infrastructure (See Tables 3 and 4). Private investment in housing and commercial areas is over and above this.

The challenges facing the City are to balance development costs with the strategic benefits of sustainable growth, to achieve an appropriate balance of residential to commercial/industrial development. Although the City of Edmonton has achieved some success in diversifying its revenue base, property tax remains the largest component of City revenue. The long term sustainability of cities in Canada will depend on a combination of smart, resource efficient growth mixed with a progressive form of revenue generation that provides for the services being enjoyed by citizens in the long term, without providing undue burden to any particular stakeholder.

1.4 NSP Background

The Riverview ASP is bordered by Wedgewood Creek and Anthony Henday Drive to the north, the North Saskatchewan River to the east, and the City's boundary to the south and west. The ASP has a total gross developable area of 1,435 ha and an expected population of 50,422 people.

An IIMP for the Riverview ASP was completed in 2013. At the time, it was identified that a developer investment in infrastructure of approximately \$1.38 billion as well as an additional investment of approximately \$290 million by the City was required to support full development.

The ASP area includes a total of 5 neighbourhoods. Neighbourhood 1 and 3 are the first two neighbourhoods to develop in Riverview. With a gross developable area of 225 ha and a population of 7,951 people, Neighbourhood 1 makes up approximately 20% of the ASP's gross developable area and 16% of the ASP's population. Table 1 includes general ASP and NSP area and population statistics.

Table 1 – Riverview ASP and NSP Statistics

	ASP	N1	N2	N3	N4	N5
Population	50,422	7,951	11,060	11,773	5,618	14,020
% of ASP Population	100%	16%	22%	23%	11%	28%
Gross Area (ha)	1,435	284	318	315	188	331
% of ASP Gross Area	100%	20%	22%	22%	13%	23%
Gross Developable Area (in ha)	1,153	225	264	260	116	288
% of Gross Developable Area	100%	19%	23%	23%	10%	25%
Proposed Residential Units	19,726	3,159	4,279	4,751	2,135	5,401
% of Residential Units	100%	16%	22%	24%	11%	27%

Riverview currently includes existing residential uses, farm land, a park and a natural area. The existing residential that are being retained in Neighbourhood 1 are not included in the Neighbourhood 1 land use statistics and are not part of the IIMP analysis.

The proposed Neighbourhood 1 NSP includes a business employment area adjacent to Anthony Henday, a commercial node with a mixed use component, single and multi-family residential development, as well as an urban village park site.

¹ (Alberta Economic Multipliers 2006, Open Model Direct and Indirect Multipliers, pg 14. Edmonton, 2010)

Funding Assumptions

The Anthony Henday and Cameron Heights/184 Street interchange will require upgrades in the longer term with development of the Riverview area. It is estimated that the cost of the required upgrades are in the order of \$25 million, of which \$10 million is included in the Riverview area ARA. For analysis purposes only, it is assumed that remaining \$15 million will be city funded. The city funded interchange costs are apportioned to the five neighbourhoods in the ASP based on the gross developable area.

The proposed fire stations, District Park with river valley access, recreation centre, and library within the Riverview ASP area will have an area-wide (or larger) benefit. As a result, the capital and operating costs for these facilities were apportioned to all neighbourhoods within the ASP on a per capita basis.

The widening of arterial roadways from 4 to 6 lanes also has an area-wide (or larger) benefit. The costs associated with the widening are apportioned to the ASP's five neighbourhoods based on gross developable area.

Additional assumptions are listed following Tables 3 and 4 as well as at the end of the report.

1.5 Methodology

Integrated Infrastructure Management Planning is conducted by working closely with city departments, utilities, and development proponents. Development projections were determined utilizing demographic data from both development proponents and the City of Edmonton's Sustainable Development Department. In this case, both the proponent and the City project a very similar timeline for development. Infrastructure requirements are analyzed with the City's Development Infrastructure Impact Model (DIIM) using data supplied by proponents and information from city departments and utilities to provide a financial forecast based on the demographic projection. Work and analysis performed to date is designed to promote both the effective use of infrastructure and alignment with existing and master plans.

1.6 Scenario Analysis

The following provides infrastructure information related to the Riverview Neighbourhood 1 NSP. This section provides data resulting from the analysis of the development build-out scenario. The next section, Building Perspective, provides context to the data.

The IIMP analysis models a 16 year neighbourhood build-out horizon. Construction of the neighbourhood is anticipated to begin in 2017 and be completed by 2032. This build-out time line was provided by the proponent and matches the City's build-out forecasts for the neighbourhood.

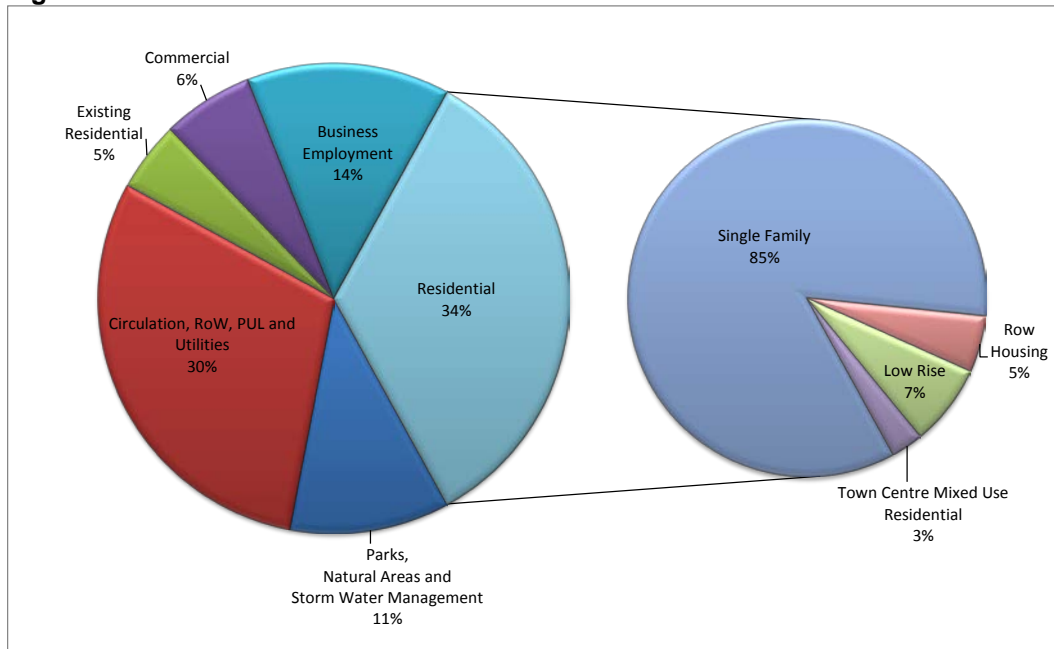
1.6.1 General Area Information

The proponent supplies information with the NSP that is used for Integrated Infrastructure Management Planning. This includes information on land use, population projections and residential units. This information forms the basis for the calculations and justifications for required infrastructure in the proposed communities. Complimenting this base data, current service standards in combination with long term planning and consideration for the capacity of existing facilities nearby contribute to the infrastructure projections.

1.6.2 Gross Area Breakdown

The basic breakdown of the proposed Riverview Neighbourhood 1 NSP is shown in Figure 1. Out of a total area of 284 ha, 34% (97 ha) is allocated for the development of residential units, 30% (85 ha) is allocated to existing and future roads, pipeline and utility rights-of-way, 14% (40 ha) is allocated to the development of business employment areas, 11% (31 ha) is allocated to parks, natural areas and storm water management facilities, 6% (18ha) is allocated to commercial developments, and the remaining 5% (14 ha) is made up of the existing residential areas.

Figure 1 - Area Breakdown



There are four different residential land use types planned for this neighbourhood, including: single and semi-detached housing (85%), row housing (5%), low-rise to medium-rise apartments (7%), and town centre mixed-use / medium density residential (3%).

Table 2 includes the area, density, number of units and population for the different types of residential uses.

Table 2 – Residential Land Uses

	Area (ha)	Units per hectare	Number of Units	% of Net Residential Area	People per Unit	Population
Single/Semi-detached housing	82	25	2042	85%	2.8	5,718
Row Housing	5	45	222	5%	2.8	621
Low Rise/Medium Density Housing	7	90	644	7%	1.8	1,158
Town Centre Mixed Use/Medium Density Residential	3	90	252	3%	1.8	454
TOTAL	97		3159	100%		7,951

1.6.3 General Infrastructure Breakdown

The amount of infrastructure required to be built by both the developer and the City of Edmonton is a function of many things, including the design of the community, the service standards provided, the amount and density of population served, and the presence of existing infrastructure. Tables 3 and 4 detail the amount of infrastructure required for the proposed community, its approximate cost in 2015 dollars, and the party responsible for its construction based on current standard practice. It should be noted that developers may choose to pay additional development costs.

Table 3 – Developer Funded Riverview Neighbourhood 1 Infrastructure

Infrastructure Type	Quantity	Riverview N1 Cost (2015 \$)
Local Road (lane km)	27	\$ 20,466,000
Collector Road (lane km)	12	\$ 13,176,000
Arterial Road (lane km)	13	\$ 19,067,000
Interchange Contribution		\$ 1,947,000
Shared Use path (km)	11	\$ 2,128,000
Local Storm Pipes (km)	14	\$ 13,411,000
Collector Storm Pipes (km)	6	\$ 9,427,000
Arterial Storm Pipes (km)	5	\$ 8,352,000
Local Sanitary Pipes (km)	12	\$ 6,228,000
Collector Sanitary Pipes (km)	3	\$ 2,227,000
Arterial Sanitary Pipes (km)	0.2	\$ 158,000
Service Connections (#)	2382	\$ 10,905,000
Stormwater Management Facilities (#)	6	\$ 26,883,000
Outfalls	1	\$ 1,500,000
Other Storm Sewer Related Costs		\$ 16,086,000
Other Sanitary Sewer Related Costs		\$ 14,428,000
TOTAL		166,389,000

Table 4 – City Funded Riverview Neighbourhood 1 Infrastructure

Infrastructure Type	Quantity	Riverview ASP Cost (2015 \$)	Riverview N1 Cost (2015 \$)
Recreation Centre	1	\$ 125,000,000	\$ 15,286,000
Library	1	\$ 15,500,000	\$ 2,444,000
Police			\$ 325,000
Fire Station	2	\$ 26,000,000	\$ 3,280,000
District Park and River Valley Access	1	\$ 22,264,000	\$ 3,511,000
Parks (ha)	8		\$ 80,000
Arterial Road (lane km)	2		\$ 10,947,000
Interchange Contribution		\$ 15,000,000	\$ 2,920,000
Buses	18		\$ 8,280,000
Transit Centre	1	\$ 6,500,000	\$ 1,025,000
Waste Collection			\$ 5,143,000
TOTAL			53,241,000

Qualifications for Tables 3 and 4

The information in Tables 3 and 4 is derived from consultations with the proponent's consultants and the areas responsible for the asset's provision and maintenance. The following additional information is provided to help qualify the quantities and costs in the tables:

Infrastructure with Area-Wide Benefit

For infrastructure that will serve the entire Riverview ASP area, only the proportional share of the cost attributable to Riverview Neighbourhood 1 is included in Tables 3 and 4. The costs of the infrastructure with area-wide benefit were apportioned using Gross Developable Area for transportation facilities and population for all other categories (fire stations, recreation centre, library, and waste collection).

Community Facilities

It is anticipated that a Recreation Centre will be constructed on the District Park site in Riverview Neighbourhood 3. The centre is anticipated to be constructed when the Riverview ASP population reaches approximately 50% (25,000 people). The actual timing of the construction of the facility is contingent on funding availability and District Park site land assembly. The Recreation Centre proposed in Riverview is also anticipated to serve the Edgemont community. Costs in Table 4 include Neighbourhood 1's proportional share of the Recreation Centre.

Edmonton Public Library (EPL)

EPL identified the requirement for a facility in the area. The future library is planned to be integrated into the recreation facility within the District Park. Timing of the facility is therefore relational to the recreation facility.

Costs in Table 4 include Neighbourhood 1's proportional share of the overall library capital cost.

Drainage Services

The costs for storm and sanitary pipes, storm water management facilities, service connections, and other storm and sanitary related costs were provided by the proponent.

Edmonton Police Service (EPS)

The Riverview Area does not require a police station. It is anticipated that the existing South West Station will serve the area. Police costs in Table 4 include the capital costs related to the purchase of new police vehicles to service the neighbourhood.

Fire Services

Two fire stations will be constructed in the Riverview area. The stations will primarily serve Riverview but will also serve surrounding areas. Costs in Table 4 include Neighbourhood 1's proportional share of the Recreation Centre.

Parks

The NSP identifies 7.83 ha of parks and natural areas in Neighbourhood 1. Parks capital costs include the grade, level, and seeding of parkland, the provision of trees per park design standards, as well as the preservation of natural areas. Table 4 assumes that all park development costs will be borne by the City. It should be noted that in the past, some developers have contributed to park development costs in some neighbourhoods.

Transportation (Roadways)

Costs for local roads, collector roads, arterial roads, and shared use paths were supplied by the proponent.

For the analysis, it is assumed that the construction cost of the initial 4-lanes of an arterial is the responsibility of the neighbourhood it falls within or that the cost is split between adjacent neighbourhoods if the arterial is located along a neighbourhood boundary. It is further assumed that the cost of an arterial 6-lane widening benefits the area as a whole and the widening cost is therefore apportioned to all the neighbourhoods in the ASP based on the gross developable area.

Capacity improvements will be required to the existing Anthony Hendy and Cameron Heights/184 Street interchange to accommodate full development of the Riverview area. The Arterial Road Assessment Bylaw schedule for the Riverview area is proposed to include a \$10 million developer contribution towards the construction of interchange improvements. A functional planning study will need to be undertaken in the future to determine the scope of the capacity improvements required. At this time, the anticipated cost of the required interchange improvements is anticipated to be in the order of \$25 million. Taking into account the developers' contribution, it is expected that the City and/or the Province and/or other sources would be required to contribute a total of approximately \$15 million. For the purposes of this analysis only, it is assumed that the City would contribute this amount.

Transportation (Transit)

A transit centre will be located in Riverview Neighbourhood 3. Until the Riverview Transit Centre is constructed, routes serving this area will use the Lewis Farms Transit centre.

Costs in Table 4 include Neighbourhood 1's proportional share of the Riverview area's transit centre.

Waste Management

The cost of additional infrastructure for Waste Management Collection Services, including the purchase of vehicles and the expansion of processing facilities, is included in Table 4. Waste Services has identified that an Eco-Station is not needed in Riverview as the existing Ambleside Eco-Station is anticipated to accommodate Riverview's ASP population.

This cost included in Table 4 are Neighbourhood 1's proportional share of the anticipated Waste Management capital costs.

1.6.4 Demographic Based Cost and Revenue Projections

Forecasting financial impacts into the future is a speculative exercise. The following analysis projects costs and revenues for the proposed development out for 50 years. These projections are based on assumptions, which in a large part consist of what is known of the development at the present time, the current costs for the provision of service and infrastructure, and the length of time required to build both the overall development, as well as the individual components (commercial centres, high density residential projects, etc.) that make it up. The use of the results of this analysis should take this, and the context of the City as a whole, into consideration. The major assumptions used on the analysis are detailed in the end of this report.

The analysis completed considers one build-out development scenario. Both the proponent provided population build-out scenario and the City forecasted population scenario were similar and included a build-out of the neighbourhood in an approximate 16 year time-frame.

As any projection is just that, a projection based on defendable assumptions, it is important to consider that the eventual build-out of the neighbourhood may well be different than that shown in this analysis. The scenario solely examines one potential neighbourhood build-out according to the proposed Neighbourhood Structure Plan and does not consider alternative land use concepts, different development guidelines or patterns, or different densities.

1.6.4.1 Scenario Demographics

Under the proposed development scenario, the total population of the proposed development of 7,951 people would be achieved in approximately 12 years as shown in Figure 2. It is anticipated to take another 4 additional years for the commercial and business employment area to be completed.

Figure 2 –Population Build-Out

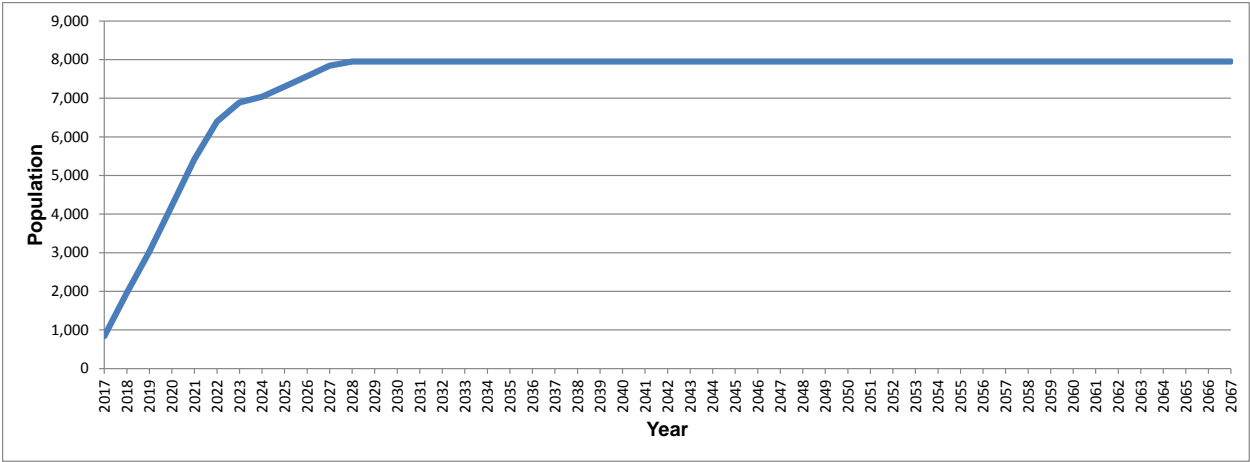
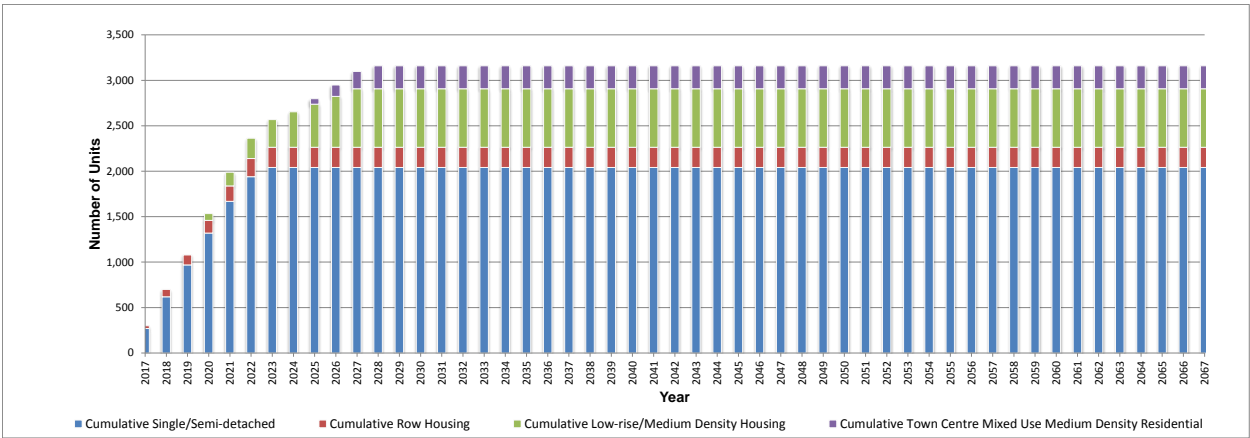


Figure 3 depicts how the projected population growth in Figure 2 translates into housing units of different types. It is cumulative and shows the relative distribution over time.

Figure 3– Residential Unit Build-Out



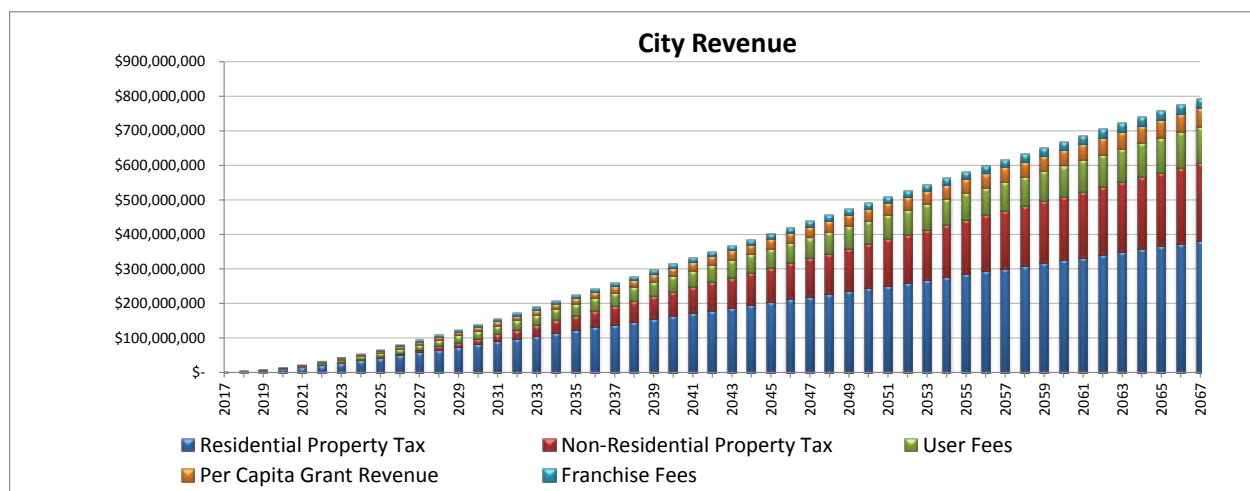
1.6.4.2 Revenue Expectations

City revenues come from a variety of sources. In this analysis, those revenues resulting from the proposed community directly were considered. Indirect revenues, such as EPCOR dividends are not

included in this analysis. Figure 4 depicts the expected revenues over 50 years and identifies revenues as one of five sources:

1. **Franchise Fees:** The City receives revenue from Atco Gas and EPCOR Electric customers for the use of public road allowances for their distribution networks.
2. **Per Capita Grant Revenue:** The City of Edmonton relies on provincial and federal grants for a portion of its capital program. Without them, the City is not sustainable given its limited revenue generation options and increasing obligations and service expectations. Although it is difficult to model Grant funding as it varies by program, a general observation is that it increases proportionately with population. A per capita revenue allocation was developed based on existing grants and applied in to the model.
3. **User Fees:** Individual City Departments and business units may charge fees for the service they provide. Examples include transit fees, recreation centre fees, and parking meters.
4. **Non-Residential Property Tax:** Commercially and Industrial zoned areas like office buildings, strip malls, convenience stores, and grocery stores help form complete communities and provide employment and critical services. They also contribute to the City's tax base, and therefore projected revenues from these areas are included.
5. **Residential Property Tax:** All residential units pay municipal tax based on the current year's mill rate and the assessed value of the property. As residential units are created in the model based on population growth, the taxes paid by these units are accounted for.

Figure 4 –Cumulative Revenues



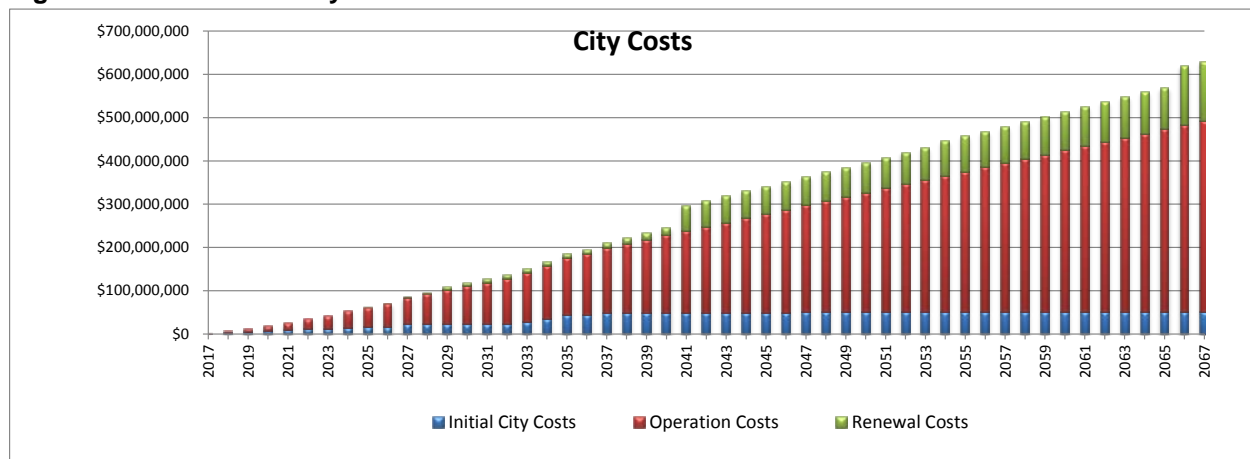
1.6.4.3 City Expenditure Expectations

City expenditures are attributable to the provision of a mix of services in the community, building new infrastructure required to provide that service, and maintaining and renewing infrastructure in the community that provides the service the community needs, and enjoys. Figure 5 depicts city costs over a 50 year time span. The expenditure is attributed to three categories:

1. **Initial City Costs:** This represents infrastructure built and funded by the City, and includes police and fire stations, libraries, community facilities, parks, and major transportation facilities. Initial City Costs are funded via the City's capital budget.

2. **Renewal Costs:** Renewal costs represent the reinvestment required to keep the community's infrastructure to an accepted physical standard. These costs are derived from the infrastructure built by both the developer and the City, and include rehabilitative actions throughout the life of the assets, as well as replacement costs at the end of the expected life of the asset. The costs shown calculate the renewal costs at the expected time of expenditure (i.e. not amortized throughout the life of the asset), and therefore some replacement costs for long lived infrastructure such as sewers are not represented in the scope of the analysis. Renewal Costs are funded via the City's capital budget.
3. **Operating Costs:** Operating costs represent the set of on-going activities and expenses that allow the use of an asset for its intended function. These costs include those required for the use of the asset (e.g. electricity, fuel) and those costs required for the provision of the service provided (e.g. labour). Operating Costs are funded via the City's operating budget.

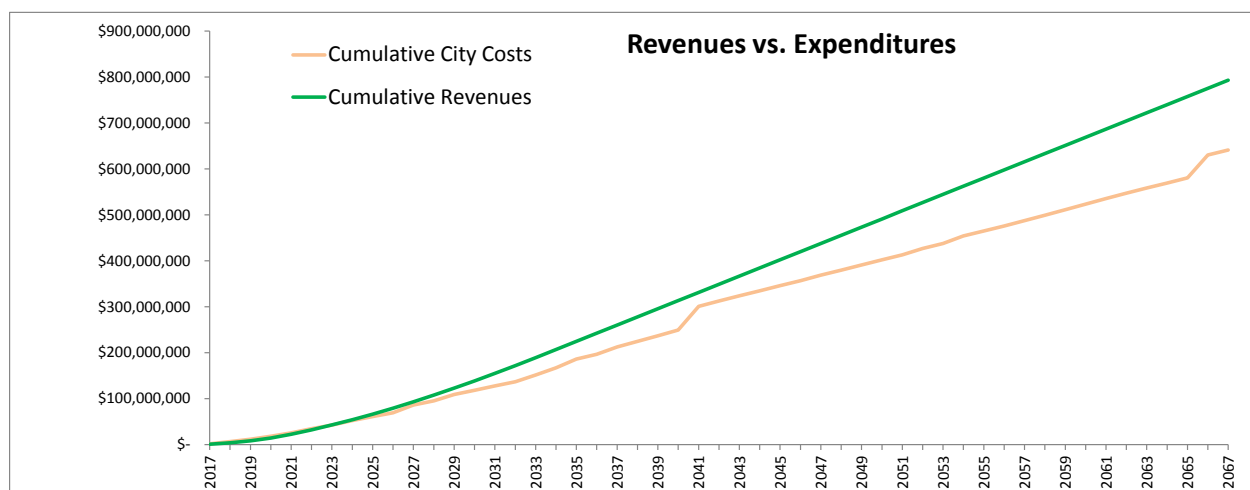
Figure 5 – Cumulative City Costs



1.6.4.4 Summary of Revenues and Expenditures

Figure 6 shows the difference in direct expenditures and revenues to the city for the proposed Riverview Neighbourhood 1 NSP over a projected 50 year period, highlighting the total net fiscal costs and revenues expected from the proposed community.

Figure 6 –Revenues and Expenditures



1.7 Building Perspective

1.7.1 Infrastructure Planning

Riverview Neighbourhood 1 will require approximately \$53 million in capital investment by the City. Major infrastructure like arterial road widening needs to be carefully planned and timed to meet the needs of the development.

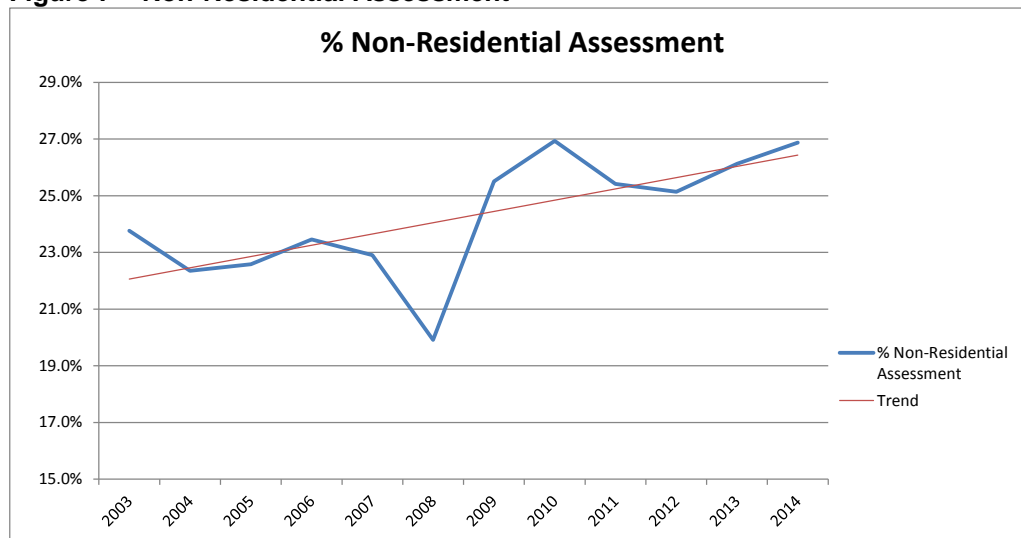
It is anticipated that the information presented in this report will change as planning and development in the neighbourhood progresses and more is known.

1.7.2 Sustainability through Balanced Growth

The overall balance of residential and non-residential land in the City of Edmonton is important in a number of ways. Residential areas provide places for people to live and build community. Non-residential areas provide employment, services, and amenities among other things. Both contribute to and are an essential part of the fabric of the City. Maintaining a healthy balance between them is important.

It is therefore important to consider how proposed development, in any form, contributes to the overall balanced growth of the City of Edmonton. Figure 7 indicates the percentage of non-residential assessment out of the total assessment value of all property in the City since 2003. It shows that non-residential assessment makes up approximately 25% of the total assessment base of the City.

Figure 7 – Non-Residential Assessment



The proposed Riverview Neighbourhood 1 NSP is projected to have 21% of its assessment as non-residential, which is higher than typical for a predominantly residential area. This is as a result of the proposed business employment and commercial land uses in the neighbourhood. Other neighbourhoods in the ASP are anticipated to have a lower percentage of non-residential assessment.

As the City grows its residential areas, it must also grow its non-residential areas to maintain balanced growth. Conversely, the City must grow its residential areas to balance growth in non-residential areas. In other words, for the City as a whole to maintain the current ratio, there needs to be approximately \$5 billion of non-residential assessment for every \$20 billion in residential assessment growth. Not considered here are what the overall ratio should be, and the effects of changing it.

1.7.3 Committed Infrastructure

Table 6 shows the existing city wide commitment and financial obligations to already existing neighbourhoods in approved Area Structure Plans by sector. The Capital Cost indicated in Table 4 is for funding new infrastructure and does not include renewal or operations.

Sectors	Capital Construction Costs (\$ million)	
	Current Funded	Future Funded
North	\$308.40	\$420.50
South*	\$196.30	\$1,510.90
West	\$32.40	\$556.20
Total	\$537.10	\$2,487.60

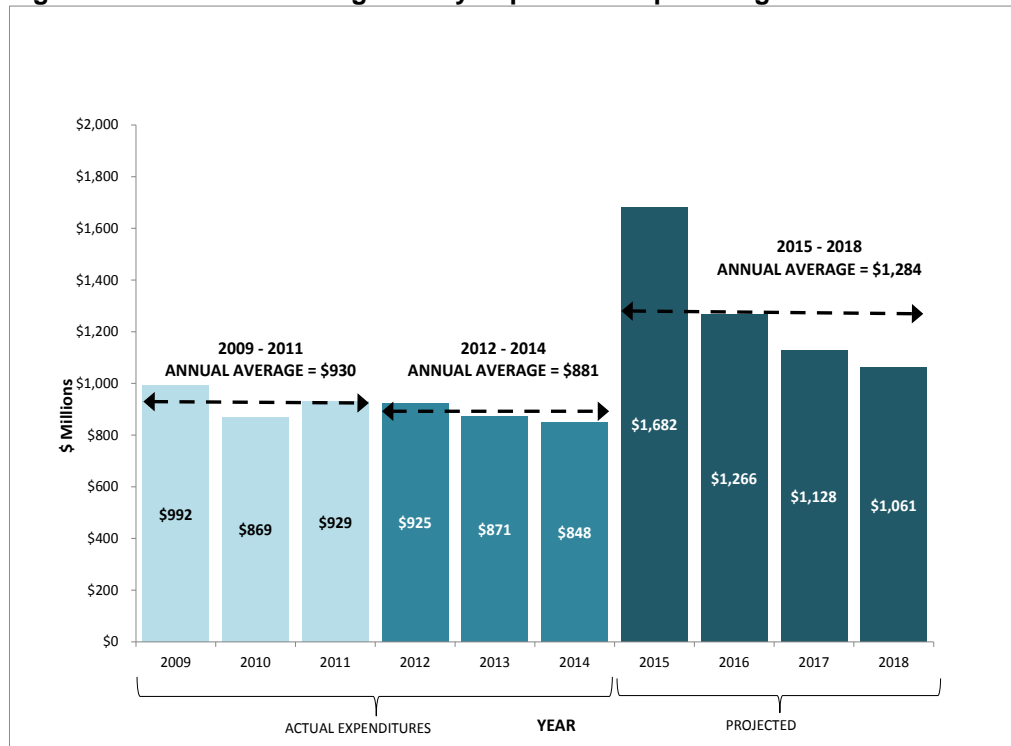
Population Demographics		
NSP Projected	2015 Population	% Complete
238,898	86,239	36.10%
318,031	91,437	28.75%
169,582	32,377	19.09%
726,511	210,053	28.91%

The infrastructure represented in the current funded column is either currently under construction, or will be in the not too distant future. The future funded column represents the balance of infrastructure required to complete the neighbourhoods analyzed.

During the capital budgeting process, City departments evaluate infrastructure needs in new areas and make recommendations for funding to Council.

12

Figure 8 – 2009-2018 Average Yearly Expenditures per Budget Period



1.8 Impacts of the Riverview Neighbourhood 1 NSP on Future Budgets

As Riverview Neighbourhood 1 develops, a number of infrastructure projects will require City and other funding to be constructed as well as city funding to operate and maintain the infrastructure.

1.8.1 Capital Budget Requirements

The 2015-2018 Capital Budget does not include any capital funding for projects related to the development of Riverview Neighbourhood 1. If development occurs as currently anticipated, the development of the neighbourhood may require capital dollars within the 2015-2018 time period for the purchase of new buses and police vehicles to service the area as well as for the development of park space. Unless additional funding can be acquired, any capital expenditures potentially required in the neighbourhood in this time period would need to be deferred until the next budget cycle (2019-2022).

With development of Riverview Neighbourhood 1 as well as other neighbourhoods in the ASP area as currently anticipated, funding for capital projects is anticipated to be required as follows for the next three budget cycles:

Potential 2019-2022 Capital Budget Funding Requirements:

- Buses
- Police vehicles
- One Fire Station
- Park development

With development of the neighbourhood, additional buses will be required to provide transit service and additional police vehicles will be required to provide service for the residents of the neighbourhood. Funding will be required to develop park spaces and rehabilitate a natural area in the neighbourhood. Additionally, capital funding will also be required to build a Fire Station in this area. In the current Fire Rescue Master Plan, the need for a fire station in Riverview is identified to be required in the next ten years (currently unfunded).

Potential 2023 – 2026 Capital Budget Requirements:

- Buses
- Police vehicles
- Park development

On-going capital expenditures are required in this period for new buses, police vehicles and park spaces.

Potential 2027-2030 Capital Budget Requirements:

- Buses
- Parks development
- Arterial Road widening

Along with the purchase of additional buses and the funding of more park development, funds will start to be required for arterial road widening and bus refurbishment in this period.

Budgets beyond 2030

Future budgets beyond 2030 will require funding for capital improvements to benefit Neighbourhood 1 as well as the other neighbourhoods in the ASP including a recreation centre and library (in approximately 2035), a transit centre (in approximately 2035), arterial roadway widening (in approximately 2037), interchange improvements (approximately 2037), and a second fire station (in approximately 2040). Funding will also be required beyond 2030 for life cycle investment in Neighbourhood 1 including bus and police vehicle replacement as well as roadway resurfacing and reconstruction.

1.8.2 Operating Budgets

In addition to the requirements of Capital Budget funding, there will also be operating impacts on capital. These include:

- Transit bus operations and maintenance (as early as 2017)
- Roadway and traffic operations and maintenance, as well as snow clearing (as early as 2019)
- Parks maintenance and operations (as early as 2017)
- Police operations (as early as 2017)
- Recreation centre operations and building maintenance (as early as 2035)
- Library operations and maintenance (as early as 2035)

1.9 Assumptions

The analysis presented in this report involves the combination of modelling using the Development Infrastructure Impact Model, coupled with area and sector specific analysis performed by the business units responsible for both the infrastructure and the provision of service. The gathering and analysis was performed by the Infrastructure and Funding Strategies Section with assistance from Stantec and following City Departments:

- Sustainable Development
- Transportation
- Community Services
- Edmonton Public Library
- Edmonton Police Services
- Financial Services and Utilities

1.9.1 Area Specific Assumptions

With respect to the area being analyzed, the following was assumed:

1. Average market values for Ward 5 were used to determine the residential assessment values for Riverview Neighbourhood 1.
2. For the commercial and business employment areas, assessment averages were calculated using 2015 city wide commercial and industrial data.
3. Other assumptions are identified in the qualifications following Tables 3 and 4 in the report.

1.9.2 Assumptions for the Development Infrastructure Impact Model

As with any analytical procedure, the results of a model are dependent on the accuracy of the input data, and the strength of its underlying assumptions. In order to achieve a consistent corporate approach, certain assumptions were made to ensure that all neighbourhood development-related infrastructures are compared on the same basis. The following describes some of the assumptions used in the Development Infrastructure Impact Model:

- The Consultant supplied the timing for the neighbourhood's residential, commercial and business employment development.
- An assumption was made with respect to when all of the required infrastructure within a neighbourhood would be completed and in service. For modelling purposes, it was assumed that when the Riverview ASP reaches 100% of its ultimate population, all City and developer built infrastructure would be in place.
- Operation and Maintenance as well as Service Delivery Costs were provided by City Departments or were calculated based on the City of Edmonton 2015 Operating Budget specific to each Asset as follows:
 - Linear assets (roads and drainage) - \$ per kilometre
 - Parks - \$ per hectare
 - All Others - \$ per capita
- Major rehabilitation and renewal costs are asset specific and are based on typical lifecycle costs and timetables.
- Tax rates and average assessments for both residential and commercial uses are based on the 2015 tax year.
- Riverview Neighbourhood 1 proposes a business employment area. The business employment designation is anticipated to have commercial and industrial uses. For the purpose of this analysis, it is assumed that the area will have a 50-50% share of industrial and commercial uses. Hence, these industrial uses are considered, along with commercial areas, as "non-residential assessment" for the purposes of the perspective analysis.

Prepared by: Infrastructure and Funding Strategies
June 10, 2015

Integrated Infrastructure Management Planning

Riverview Neighbourhood 3 NSP

1.1 Executive Summary

Integrated Infrastructure Management Planning (IIMP) for Riverview Neighbourhood 3 is a high-level analysis that provides Council with information about the infrastructure required for development of the neighbourhood. The broad-based analysis performed at this stage of the area development provides a general indication of future cost implications and revenue potential and can help inform high-level decision making.

The IIMP review was completed for a neighbourhood development build-out of 20 years, starting in 2017. Based on the information available at this time, the review generally shows that Riverview Neighbourhood 3 will require a developer infrastructure investment of over \$180 million as well as a capital investment by the City of approximately \$77 million. Capital and operating expenditures may be required as early as 2017 to support the anticipated development of the neighbourhood.

1.2 Purpose

Integrated Infrastructure Management Planning (IIMP) is a process for the gathering, synthesis, presentation and use of data related to the provision of infrastructure to the three remaining Urban Growth Areas. This document is based on information provided by the applicant in April and May 2015. The actual Plan before Council may have slightly different statistics. The impact of small differences in the statistics on the information provided in this report is minimal. This report will provide Council with information about the infrastructure required for the development, how it relates to existing infrastructure, timing, implications on the 2015-2018 as well as future Capital Budgets, and implications to the city's operations.

1.3 IIMP Background

The tax revenue generated by new residential neighbourhoods is not meant to pay for the municipal programs and services associated with those neighbourhoods. Property taxation is a tax on wealth as represented by the assessment of residential and non-residential properties under regulations set by the Province.

Residential neighbourhoods exist to provide for housing and community amenities. Other areas of the city, such as industrial areas and commercial nodes, exist to provide employment and wealth generation. The amount of revenue the City needs from property taxation is determined for the City as a whole and takes into consideration the balance between residential and non-residential assessment. A residential neighbourhood is not a microcosm of the entire City and property taxes are not calculated on a neighbourhood basis.

It is difficult to capture all of the indirect costs and benefits that are attributable in whole or in part to new residential neighbourhoods. For example, the City collects dividends from EPCOR, earnings from its investments, and a substantial amount of non-residential tax revenue from dense commercial nodes including West Edmonton Mall, the Downtown core, and South Edmonton Common. These sources all help fund services provided to all neighbourhoods, but are difficult to include in a neighbourhood or area specific analysis. Additionally, secondary benefits accrue from the expenditures of those individuals deriving income directly or indirectly from the development industry. Economic impacts can be estimated by calculating expenditure multipliers. An expenditure multiplier estimates the final value of an incremental dollar spent once the direct and follow-on effects are included. By way of illustration, Alberta's

economic multiplier for construction is 1.6¹. This means that a dollar of construction activity generates a gross gain of \$1.60 of economic activity for Alberta once direct and follow-on impacts are included. For the Riverview Neighbourhood 3, this equates to approximately \$412 million dollars over the construction time of the development, based on a \$258 million investment in public infrastructure (See Tables 3 and 4). Private investment in housing and commercial areas is over and above this.

The challenges facing the City are to balance development costs with the strategic benefits of sustainable growth, to achieve an appropriate balance of residential to commercial/industrial development. Although the City of Edmonton has achieved some success in diversifying its revenue base, property tax remains the largest component of City revenue. The long term sustainability of cities in Canada will depend on a combination of smart, resource efficient growth mixed with a progressive form of revenue generation that provides for the services being enjoyed by citizens in the long term, without providing undue burden to any particular stakeholder.

1.4 NSP Background

The Riverview Area Structure Plan (ASP) is bordered by Wedgewood Creek and Anthony Henday Drive to the north, the North Saskatchewan River to the east, and the City's boundary to the south and west. The ASP has a total gross developable area of 1,435 ha and an expected population of 50,422 people.

An IIMP for the Riverview ASP was completed in 2013. At the time, it was identified that a developer investment in infrastructure of approximately \$1.38 billion as well as an additional investment of approximately \$290 million by the City was required to support full development.

The ASP area includes a total of 5 neighbourhoods. Neighbourhood 1 and 3 are the first two neighbourhoods to develop in Riverview. With a gross developable area of 315 ha and a population of 11,773 people, Neighbourhood 3 makes up approximately 23% of the ASP's gross developable area and population. Table 1 includes general ASP and Neighbourhood Structure Plan (NSP) area and population statistics.

Table 1 – Riverview ASP and NSP Statistics

	ASP	N1	N2	N3	N4	N5
Population	50,422	7,951	11,060	11,773	5,618	14,020
% of ASP Population	100%	16%	22%	23%	11%	28%
Gross Area (ha)	1,435	284	318	315	188	331
% of ASP Gross Area	100%	20%	22%	22%	13%	23%
Gross Developable Area (in ha)	1,153	225	264	260	116	288
% of Gross Developable Area	100%	19%	23%	23%	10%	25%
Proposed Residential Units	19,726	3,159	4,279	4,751	2,135	5,401
% of Residential Units	100%	16%	22%	24%	11%	27%

Riverview currently includes existing residential uses, farm land and a natural area. The existing residential areas that are being retained in Neighbourhood 3 are not included in the neighbourhood's land use statistics and are not part of the IIMP analysis.

The proposed Neighbourhood 3 NSP includes planned single and multi-family residential development, a transit centre, a mixed use site, commercial development, as well as many park uses, including the District Park site, which is to have a recreation centre and library as well as a provision of river valley access.

¹ (Alberta Economic Multipliers 2006, Open Model Direct and Indirect Multipliers, pg 14. Edmonton, 2010)

Funding Assumptions

The Anthony Henday and Cameron Heights/184 Street interchange will require upgrades in the longer term with development of the Riverview area. It is estimated that the cost of the required upgrades are in the order of \$25 million, of which \$10 million is included in the Riverview area ARA. For analysis purposes only, it is assumed that remaining \$15 million will be city funded. The city funded interchange costs are apportioned to the five neighbourhoods in the ASP based on the gross developable area.

The proposed fire stations, District Park with river valley access, recreation centre, and library within the Riverview ASP area will have an area-wide (or larger) benefit. As a result, the capital and operating costs for these facilities were apportioned to all neighbourhoods within the ASP on a per capita basis.

The widening of arterial roadways from 4 to 6 lanes also has an area-wide (or larger) benefit and as such the costs associated with the widening are apportioned to the ASP's five neighbourhoods based on gross developable area.

Additional assumptions are listed following Tables 3 and 4 as well as at the end of the report.

1.5 Methodology

Integrated Infrastructure Management Planning is conducted by working closely with city departments, utilities, and development proponents. Development projections were determined utilizing demographic data from both development proponents and the City of Edmonton's Sustainable Development Department. In this case, both the proponent and the City project a very similar timeline for development. Infrastructure requirements are analyzed with the City's Development Infrastructure Impact Model (DIIM) using data supplied by proponents and information from city departments and utilities to provide a financial forecast based on the demographic projection. Work and analysis performed to date is designed to promote both the effective use of infrastructure and alignment with existing and master plans.

1.6 Scenario Analysis

The following provides infrastructure information related to the Riverview Neighbourhood 3 NSP. This section provides data resulting from the analysis of the development build-out scenario. The next section, Building Perspective, provides context to the data.

The IIMP analysis models a 20 year neighbourhood build-out horizon. Construction of the neighbourhood is anticipated to begin in 2017 and be completed by 2036. This build-out time line was provided by the proponent and matches the City's build-out forecasts for the neighbourhood.

1.6.1 General Area Information

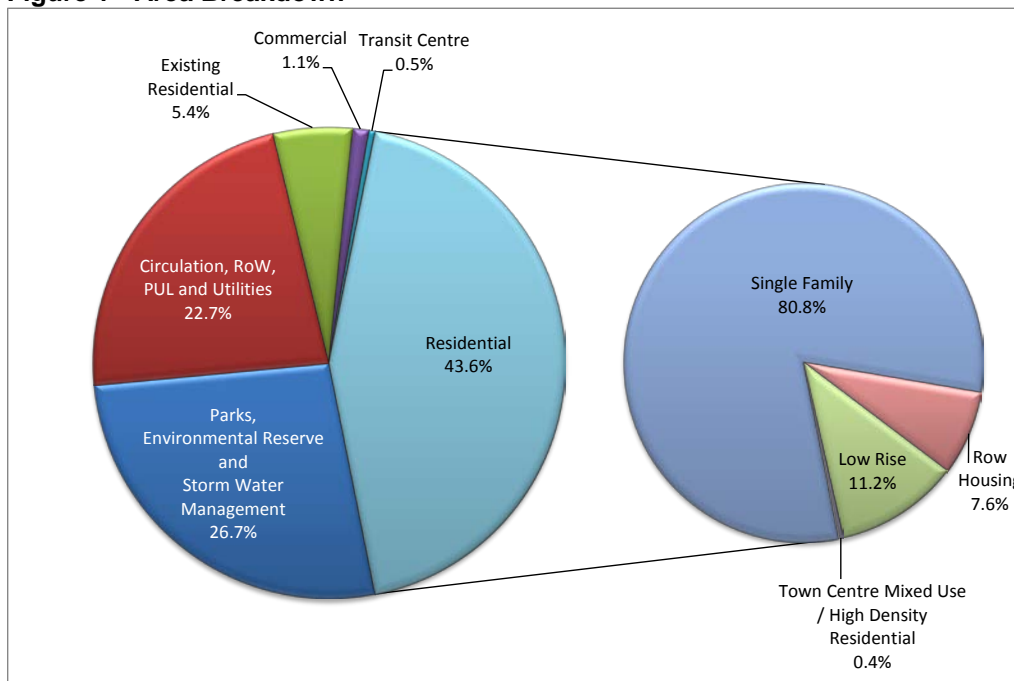
The proponent supplies information with the NSP that is used for Integrated Infrastructure Management Planning. This includes information on land use, population projections and residential units. This information forms the basis for the calculations and justifications for required infrastructure in the proposed communities. Complementing this base data, current service standards in combination with long term planning and consideration for the capacity of existing facilities nearby contribute to the infrastructure projections.

1.6.2 Gross Area Breakdown

The basic breakdown of the proposed Riverview Neighbourhood 3 NSP is shown in Figure 1. Out of a total area of 315 ha, approximately 44% (138 ha) is allocated for the development of residential units, 27% (84 ha) is allocated to parks, environmental reserve, and storm water management facilities, 23% (71 ha) is allocated to existing and future roads, pipeline and utility rights-of-way, 5% (17 ha) is made up

of the existing residential areas, 1% (3 ha) is allocated to commercial developments, and the remaining less than 1% (1 ha) is allocated to the planned transit centre.

Figure 1 - Area Breakdown



There are four different residential land use types planned for this neighbourhood, including: single and semi-detached housing (81%), row housing (8%), low-rise to medium-rise apartments (11%), and town centre mixed-use / high density residential (0.4%).

Table 2 includes the area, density, number of units and population for the different types of residential uses.

Table 2 – Residential Land Uses

	Area (ha)	Units per hectare	Number of Units	% of Net Residential Area	People per Unit	Population
Single/Semi-Detached Housing	111.2	25	2781	80.8%	2.8	7,786
Row Housing	10.5	45	473	7.6%	2.8	1,324
Low Rise/Medium Density Housing	15.4	90	1389	11.2%	1.8	2,500
Town Centre Mixed Use/High Density Residential	0.5	225	109	0.4%	1.5	164
TOTAL	138		4751	100.0%		11,773

1.6.3 General Infrastructure Breakdown

The amount of infrastructure required to be built by both the developer and the City of Edmonton is a function of many things, including the design of the community, the service standards provided, the amount and density of population served, and the presence of existing infrastructure. Tables 3 and 4 detail the amount of infrastructure required for the proposed community, its approximate cost in 2015 dollars, and the party responsible for its construction based on current standard practice. It should be noted that developers may choose to pay additional development costs.

Table 3 – Developer Funded Riverview Neighbourhood 3 Infrastructure

Infrastructure Type	Quantity	Riverview N3 Cost (2015 \$)
Local Road (lane km)	36	\$ 26,697,000
Collector Road (lane km)	13	\$ 13,849,000
Arterial Road (lane km)	16	\$ 23,444,000
Shared Use path (km)	18	\$ 3,634,000
Interchange Contribution		\$ 2,257,000
Wildlife Crossing (#)	1	\$ 1,000,000
Local Storm Pipes (km)	18	\$ 13,171,000
Collector Storm Pipes (km)	6	\$ 7,460,000
Arterial Storm Pipes (km)	3	\$ 3,852,000
Local Sanitary Pipes (km)	16	\$ 8,252,000
Collector Sanitary Pipes (km)	5	\$ 3,254,000
Service Connections (#)	3,333	\$ 15,200,000
Stormwater Management Facilities (#)	4	\$ 18,807,000
Outfalls (#)	1	\$ 15,000,000
Other Storm Sewer Related Costs		\$ 11,116,000
Other Sanitary Sewer Related Costs		\$ 13,447,000
TOTAL		\$ 180,440,000

Table 4 – City Funded Riverview Neighbourhood 3 Infrastructure

Infrastructure Type	Quantity	Riverview ASP Cost (2015 \$)	Riverview N3 Cost (2015 \$)
Recreation Centre	1	\$ 125,000,000	\$ 29,186,000
Library	1	\$ 15,500,000	\$ 3,619,000
Police			\$ 520,000
Fire Station	2	\$ 26,000,000	\$ 4,857,000
District Park and River Valley Access	1	\$ 22,264,000	\$ 5,199,000
Parks (ha)	18		\$ 4,471,000
Arterial Road (lane km)	2		\$ 4,846,000
Interchange Contribution		\$ 15,000,000	\$ 3,386,000
Buses	26		\$ 11,960,000
Transit Centre	1	\$ 6,500,000	\$ 1,518,000
Waste Collection			\$ 7,642,000
TOTAL			\$ 77,204,000

Qualifications for Tables 3 and 4

The information in Tables 3 and 4 is derived from consultations with the proponent's consultants and the areas responsible for the asset's provision and maintenance. The following additional information is provided to help qualify the quantities and costs in the tables:

Infrastructure with Area-Wide Benefit

For infrastructure that will serve the entire Riverview ASP or larger area, only the proportional share of the cost attributable to Riverview Neighbourhood 3 is included in Tables 3 and 4. The costs of the infrastructure with area-wide benefit were apportioned using Gross Developable Area for transportation facilities and population for all other categories (fire stations, recreation centre, library, and waste collection).

Community Facilities

It is anticipated that a Recreation Centre will be constructed on the District Park site in Riverview Neighbourhood 3. The centre is anticipated to be constructed when the Riverview ASP population reaches approximately 50% (25,000 people). The actual timing of the construction of the facility is contingent on funding availability and District Park site land assembly. The Recreation Centre proposed in Riverview is also anticipated to serve the Edgemont community. Costs in Table 4 include Neighbourhood 3's proportional share of the Recreation Centre.

Edmonton Public Library (EPL)

EPL identified the requirement for a facility in the area. The future library is planned to be integrated into the recreation facility within the District Park. Timing of the facility is therefore relational to the recreation facility.

Costs in Table 4 include Neighbourhood 3's proportional share of the overall library capital cost.

Drainage Services

The costs for storm and sanitary pipes, storm water management facilities, service connections, and other storm and sanitary related costs were provided by the proponent.

Edmonton Police Service (EPS)

The Riverview Area does not require a police station. It is anticipated that the existing South West Station will serve the area.

Police costs in Table 4 include the capital costs related to the purchase of new police vehicles to service the neighbourhood.

Fire Services

Two fire stations will be constructed in the Riverview area. The stations will primarily serve Riverview but will also serve surrounding areas. Costs in Table 4 include Neighbourhood 3's proportional share of the Recreation Centre.

Parks

The NSP identifies 17.6 ha of parks in Neighbourhood 3 in addition to the 33.8 ha District Park site. Parks capital costs include the grade, level, and seeding of parkland, as well as the provision of trees per park design standards. Table 4 assumes that all park development costs will be borne by the City. It should be noted that in the past, some developers have contributed to park development costs in some neighbourhoods.

As Neighbourhood 3 is one of the first neighbourhoods to be developed, the land for the Riverview District Park will require early acquisition of the park space. The site is anticipated to incur a bridge financing cost of approximately \$14 - \$18 million, depending on acquisition timing and market values. The bridge financing would be reimbursed during the development of the Riverview Area Structure Plan as revenues are generated from Money In Place of Reserves and the subdivision process. This cost associated with the bridge financing is not included in the IIMP analysis.

Transportation (Roadways)

Costs for local roads, collector roads, arterial roads, and shared use paths were supplied by the proponent.

For the analysis, it is assumed that the construction cost of the initial 4-lanes of an arterial is the responsibility of the neighbourhood it falls within or that the cost is split between adjacent neighbourhoods if the arterial is located along a neighbourhood boundary. It is further assumed that the cost of an arterial 6-lane widening benefits the area as a whole and the widening cost is therefore apportioned to all the neighbourhoods in the ASP based on the gross developable area.

Capacity improvements will be required to the existing Anthony Hendy and Cameron Heights/184 Street interchange to accommodate full development of the Riverview area. The Arterial Road Assessment Bylaw schedule for the Riverview area is proposed to include a \$10 million developer contribution towards the construction of interchange improvements. A functional planning study will need to be undertaken in the future to determine the scope of the capacity improvements required. At this time, the anticipated cost of the required interchange improvements is anticipated to be in the order of \$25 million. Taking into account the developers' contribution, it is expected that the City and/or the Province and/or other sources would be required to contribute a total of approximately \$15 million. For the purposes of this analysis only, it is assumed that the City would contribute this amount.

Transportation (Transit)

A transit centre to serve the Riverview ASP will be located in Riverview Neighbourhood 3. Until the Riverview Transit Centre is constructed, routes serving this area will use the Lewis Farms Transit centre. Costs in Table 4 include Neighbourhood 3's proportional share of the Riverview area's transit centre.

Waste Management

The cost of additional infrastructure for Waste Management Collection Services, including the purchase of vehicles and the expansion of processing facilities, is included in Table 4. Waste Services has identified that an Eco-Station is not needed in Riverview as the existing Ambleside Eco-Station is anticipated to accommodate Riverview's ASP population.

This cost includes in Table 4 are Neighbourhood 3's proportional share of the anticipated Waste Management capital costs.

1.6.4 Demographic Based Cost and Revenue Projections

Forecasting financial impacts into the future is a speculative exercise. The following analysis projects costs and revenues for the proposed development out for 50 years. These projections are based on assumptions, which in a large part consist of what is known of the development at the present time, the current costs for the provision of service and infrastructure, and the length of time required to build both the overall development, as well as the individual components (commercial centres, high density residential projects, etc.) that make it up. The use of the results of this analysis should take this, and the

context of the City as a whole, into consideration. The major assumptions used on the analysis are detailed in the end of this report.

The analysis completed considers one build-out development scenario with a 20 year neighbourhood build-out time-frame.

As any projection is just that, a projection based on defensible assumptions, it is important to consider that the eventual build-out of the neighbourhood may well be different than that shown in this analysis. The scenario solely examines the potential neighbourhood build-out according to the proposed Neighbourhood Structure Plan and does not consider alternative land use concepts, different development guidelines or patterns, or different densities.

1.6.4.1 Scenario Demographics

Under the proposed development scenario, the total population of the proposed development of 11,773 people would be achieved in approximately 20 years as shown in Figure 2.

Figure 2 –Population Build-Out

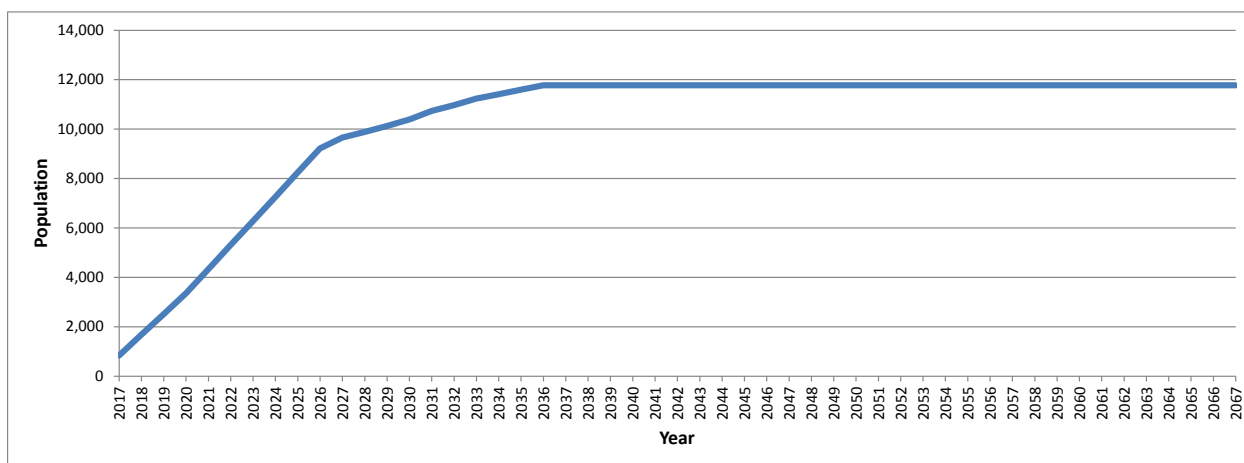
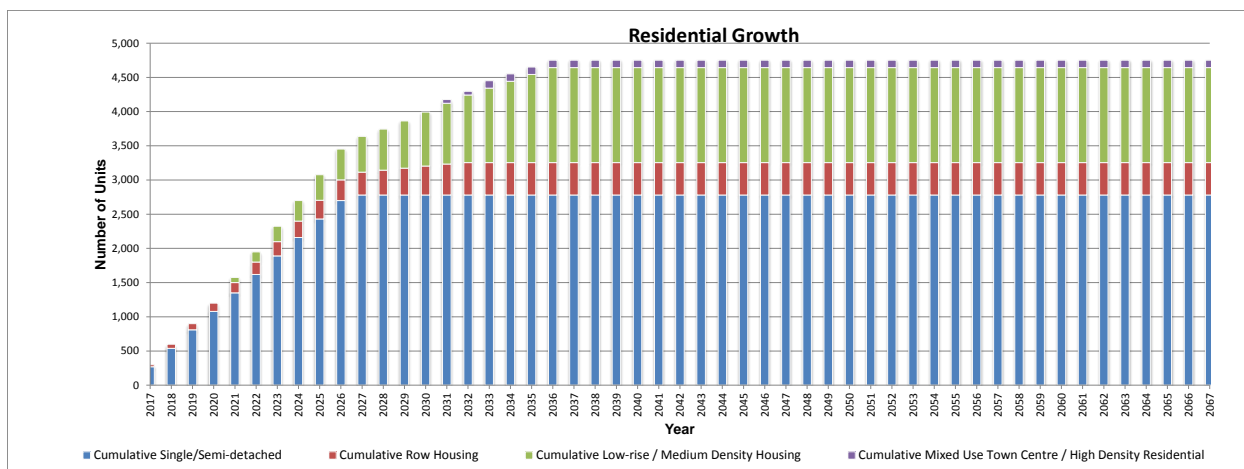


Figure 3 depicts how the projected population growth in Figure 2 translates into housing units of different types. It is cumulative and shows the relative distribution over time.

Figure 3– Residential Unit Build-Out

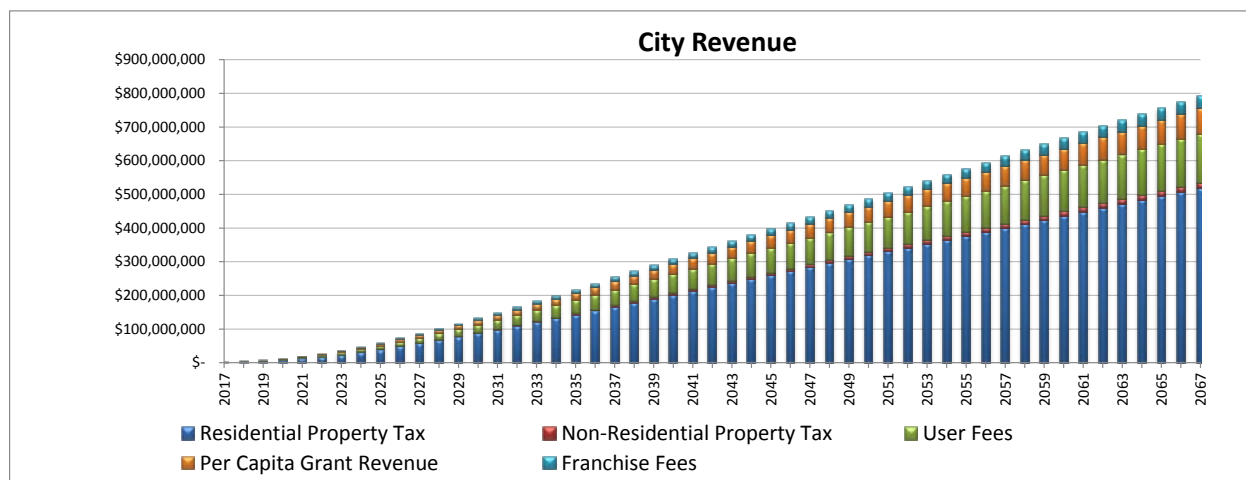


1.6.4.2 Revenue Expectations

City revenues come from a variety of sources. In this analysis, those revenues resulting from the proposed community directly were considered. Indirect revenues, such as EPCOR dividends are not included in this analysis. Figure 4 depicts the expected revenues over 50 years and identifies revenues as one of five sources:

1. **Franchise Fees:** The City receives revenue from Atco Gas and EPCOR Electric customers for the use of public road allowances for their distribution networks.
2. **Per Capita Grant Revenue:** The City of Edmonton relies on provincial and federal grants for a portion of its capital program. Without them, the City is not sustainable given its limited revenue generation options and increasing obligations and service expectations. Although it is difficult to model Grant funding as it varies by program, a general observation is that it increases proportionately with population. A per capita revenue allocation was developed based on existing grants and applied in to the model.
3. **User Fees:** Individual City Departments and business units may charge fees for the service they provide. Examples include transit fees, recreation centre fees, and parking meters.
4. **Non-Residential Property Tax:** Commercially and Industrial zoned areas like office buildings, strip malls, convenience stores, and grocery stores help form complete communities and provide employment and critical services. They also contribute to the City's tax base, and therefore projected revenues from these areas are included.
5. **Residential Property Tax:** All residential units pay municipal tax based on the current year's mill rate and the assessed value of the property. As residential units are created in the model based on population growth, the taxes paid by these units are accounted for.

Figure 4 –Cumulative Revenues

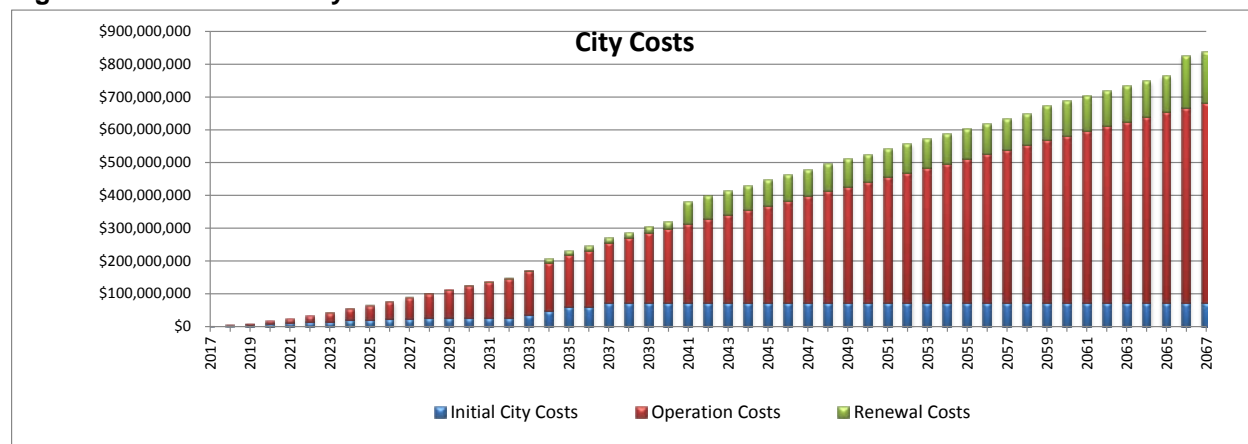


1.6.4.3 City Expenditure Expectations

City expenditures are attributable to the provision of a mix of services in the community, building new infrastructure required to provide that service, and maintaining and renewing infrastructure in the community that provides the service the community needs, and enjoys. Figure 5 depicts city costs over a 50 year time span. The expenditure is attributed to three categories:

1. **Initial City Costs:** This represents infrastructure built and funded by the City, and includes police and fire stations, libraries, community facilities, parks, and major transportation facilities. Initial City Costs are funded via the City's capital budget.
2. **Renewal Costs:** Renewal costs represent the reinvestment required to keep the community's infrastructure to an accepted physical standard. These costs are derived from the infrastructure built by both the developer and the City, and include rehabilitative actions throughout the life of the assets, as well as replacement costs at the end of the expected life of the asset. The costs shown calculate the renewal costs at the expected time of expenditure (i.e. not amortized throughout the life of the asset), and therefore some replacement costs for long lived infrastructure such as sewers are not represented in the scope of the analysis. Renewal Costs are funded via the City's capital budget.
3. **Operating Costs:** Operating costs represent the set of on-going activities and expenses that allow the use of an asset for its intended function. These costs include those required for the use of the asset (e.g. electricity, fuel) and those costs required for the provision of the service provided (e.g. labour). Operating Costs are funded via the City's operating budget.

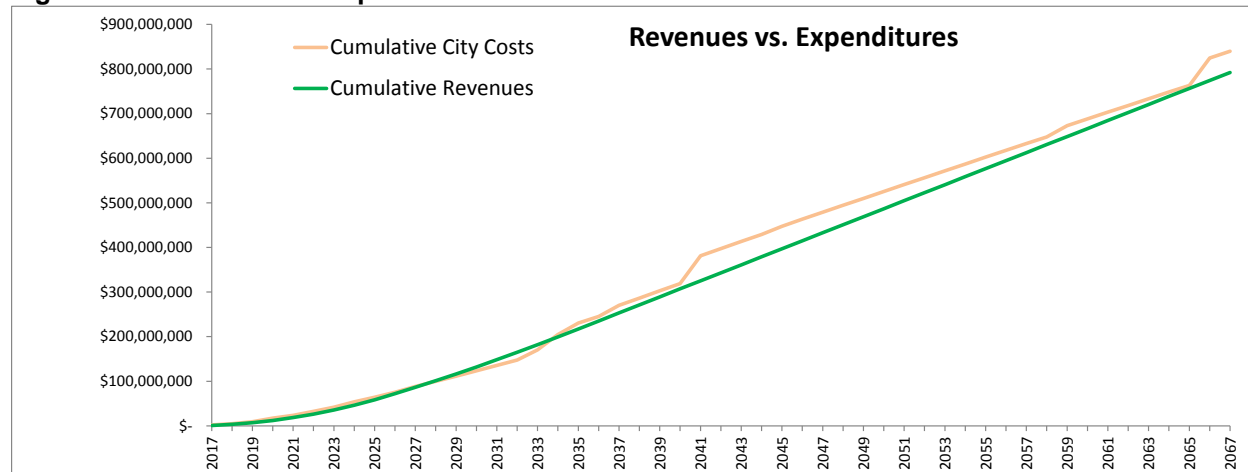
Figure 5 – Cumulative City Costs



1.6.4.4 Summary of Revenues and Expenditures

Figure 6 shows the difference in direct expenditures and revenues to the city for the proposed Riverview Neighbourhood 3 over a projected 50 year period, highlighting the total net fiscal costs and revenues expected from the proposed community.

Figure 6 –Revenues and Expenditures



1.7 Building Perspective

1.7.1 Infrastructure Planning

Riverview Neighbourhood 3 will require approximately \$77 million in capital investment by the City. Major infrastructure needs to be carefully planned and timed to meet the needs of the development.

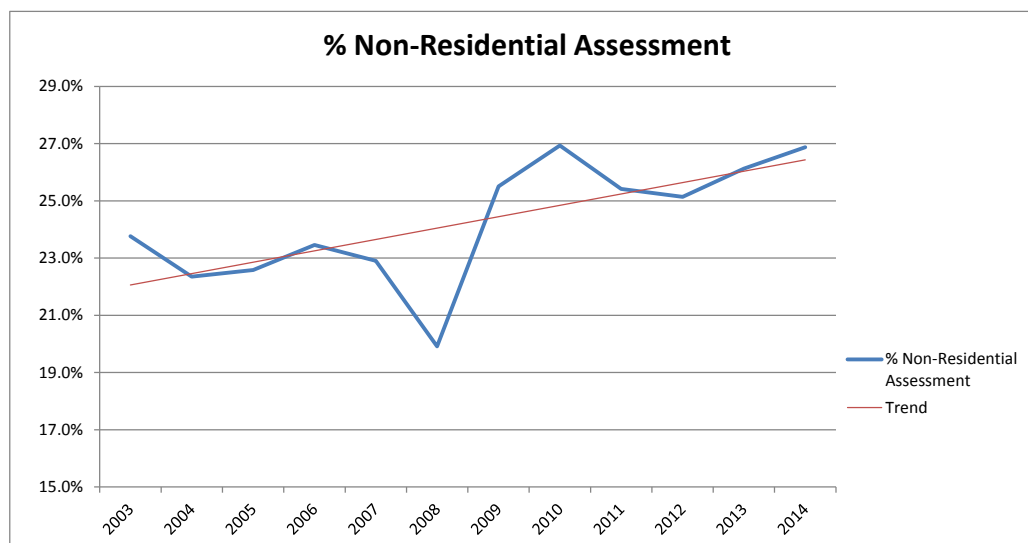
It is anticipated that the information presented in this report will change as planning and development in the neighbourhood progresses and more is known.

1.7.2 Sustainability through Balanced Growth

The overall balance of residential and non-residential land in the City of Edmonton is important in a number of ways. Residential areas provide places for people to live and build community. Non-residential areas provide employment, services, and amenities among other things. Both contribute to and are an essential part of the fabric of the City. Maintaining a healthy balance between them is important.

It is therefore important to consider how proposed development, in any form, contributes to the overall balanced growth of the City of Edmonton. Figure 7 indicates the percentage of non-residential assessment out of the total assessment value of all property in the City since 2003. It shows that non-residential assessment makes up approximately 25% of the total assessment base of the City.

Figure 7 – Non-Residential Assessment



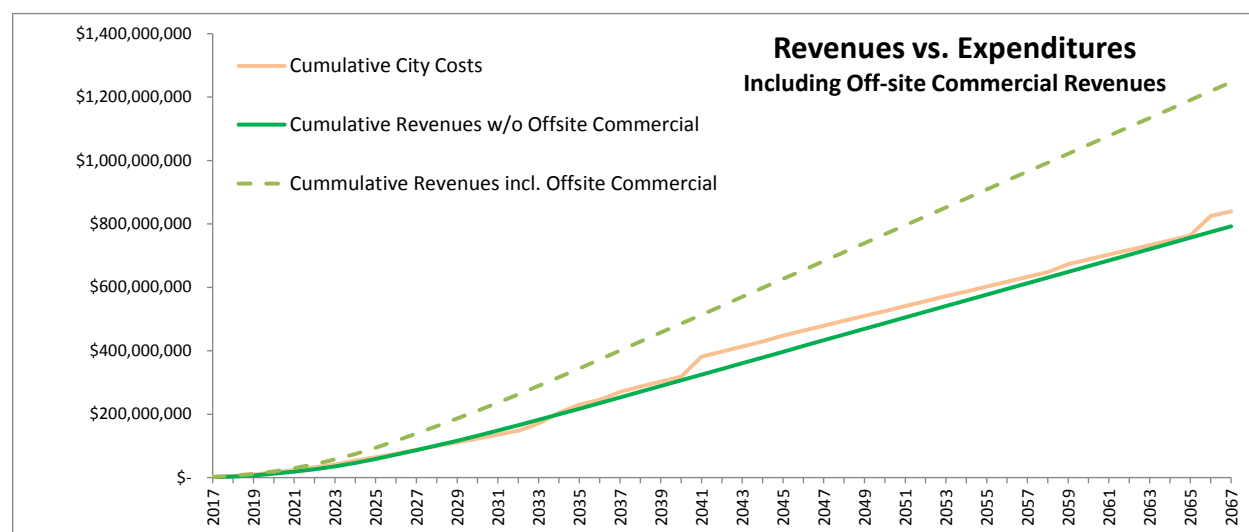
The proposed Riverview Neighbourhood 3 NSP is projected to have 1.4% of its assessment as non-residential as there is a very limited amount of proposed commercial development (3 ha) in the neighbourhood and no other business employment development.

As the City grows its residential areas, it must also grow its non-residential areas to maintain balanced growth. Conversely, the City must grow its residential areas to balance growth in non-residential areas. In other words, for the City as a whole to maintain the current ratio, there needs to be approximately \$5 billion of non-residential assessment for every \$20 billion in residential assessment growth. Not considered here are what the overall ratio should be, and the effects of changing it.

Consider Figure 8 which illustrates the importance of balanced growth and the benefit of maintaining the current non-residential assessment. The premise in this figure is that if the City maintains its current balance of 25% non-residential assessment, by developing commercial and industrial areas throughout the City, this additional revenue helps to offset the fiscal imbalance indicated by looking at Riverview Neighbourhood 3 by itself.

Growth in the City's assessment base has a significant impact on tax revenues. In the last ten years, the accumulated tax revenue from growth is approximately \$1.2 billion.

**Figure 8 – Riverview Neighbourhood 3 Revenues and Expenditures
(Including off-site commercial revenues)**



1.7.3 Committed Infrastructure

With both an aging and growing city, balancing investment choices between renewal and growth is a significant challenge. As infrastructure ages, more maintenance and rehabilitation is required to ensure that infrastructure is performing well and continuing to meet the needs of citizens. At the same time, demands arise for new infrastructure to support growth. The split between renewal and growth in the 2015-2018 Capital Budget is 55% per cent for growth and 45% per cent for renewal.

Table 6 shows the existing city wide commitment and financial obligations to already existing neighbourhoods in approved Area Structure Plans by sector. The Capital Cost indicated in Table 4 is for funding new infrastructure and does not include renewal or operations.

Table 6 - Approved Neighbourhoods and Area Structure Plans

Sectors	Capital Construction Costs (\$ million)		Population Demographics			
	Current	Funded	Future Funded	NSP Projected	2015 Population	% Complete
North		\$308.40	\$420.50	238,898	86,239	36.10%
South*		\$196.30	\$1,510.90	318,031	91,437	28.75%
West		\$32.40	\$556.20	169,582	32,377	19.09%
Total		\$537.10	\$2,487.60	726,511	210,053	28.91%

Note (): Please note that the South sector includes the SE Urban Growth Area (Decoteau) however this ASP has not received 3rd reading from City Council (expected to be approved in 2015).*

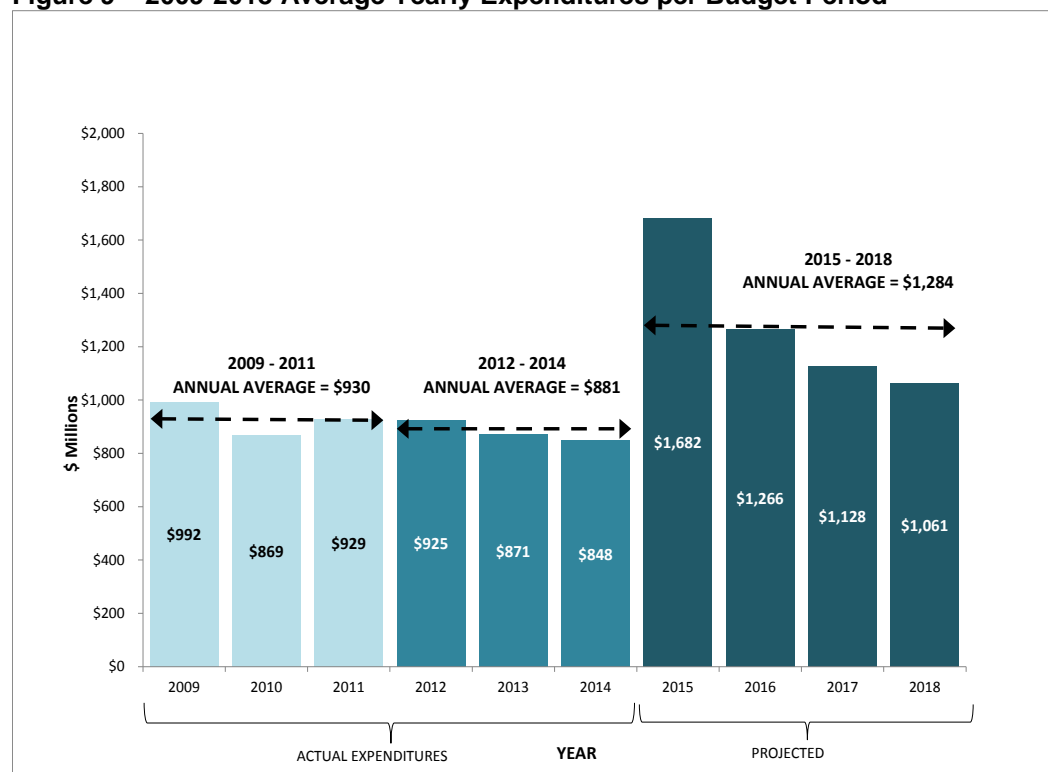
The infrastructure represented in the current funded column is either currently under construction, or will be in the not too distant future. The future funded column represents the balance of infrastructure required to complete the neighbourhoods analyzed.

In some cases, the neighbourhoods may take between 20 and 30 years to complete. This should be considered when putting these costs into context. Long term planning for the infrastructure requirements in new growth areas involves understanding how the area will build out and how quickly it will build out, giving planners an idea of what is required now versus what will be required in the future.

During the capital budgeting process, City departments evaluate infrastructure needs in new areas and make recommendations for funding to Council.

The figures in Table 6 are significant, but the City commitment to its capital expenditure is even more significant. Funding for both growth and renewal infrastructure comes in different forms. Figure 9 shows historical and projected funding levels/breakdowns from 2009 to 2018. Administration makes funding and budget recommendations on a City-wide basis. Prioritization considers all capital requirements throughout the City, and incorporates the strategy and objectives of The Way Ahead.

Figure 9 – 2009-2018 Average Yearly Expenditures per Budget Period



1.8 Impacts of the Riverview Neighbourhood 3 on Future Budgets

As Riverview Neighbourhood 3 develops, a number of infrastructure projects will require City and other funding to be constructed as well as city funding to operate and maintain the infrastructure.

1.8.1 Capital Budget Requirements

The 2015-2018 Capital Budget does not include any capital funding for projects related to the development of Riverview Neighbourhood 3. If development occurs as currently anticipated, the development of the neighbourhood may require capital dollars within the 2015-2018 time period for the purchase of new buses and police vehicles to service the area. Unless additional funding can be

acquired, any capital expenditures potentially required in the neighbourhood in this time period would need to be deferred until the next budget cycle (2019-2022).

With development of Riverview Neighbourhood 3 as well as other neighbourhoods in the ASP area as currently anticipated, funding for capital projects is anticipated to be required as follows for the next three budget cycles:

Potential 2019-2022 Capital Budget Funding Requirements:

- Buses
- Police vehicles
- One Fire Station
- Park development

With development of the neighbourhood, new buses will be required to provide transit service and new police vehicles will be required to provide service to the residents of the neighbourhood. Funding will also be required to develop park spaces in the neighbourhood.

Additionally, capital funding will be required to build a Fire Station in this area. In the current Fire Rescue Master Plan, the need for a fire station in Riverview is identified to be required in the next ten years (currently unfunded).

Potential 2023 – 2026 Capital Budget Requirements:

- Buses
- Police vehicles
- Park development (including the District Park Site)

On-going capital expenditures are required in this period for new buses, police vehicles and park spaces, including the District Park site.

Potential 2027-2030 Capital Budget Requirements:

- Buses
- Parks development
- Arterial Road widening

Along with the purchase of additional buses and the funding of more park development, funds will start to be required for arterial road widening and bus refurbishment in this period.

Budgets beyond 2030

Future budgets beyond 2030 will require funding for capital improvements to benefit Neighbourhood 3 as well as the other neighbourhoods in the ASP including a recreation centre and library (in approximately 2035), a transit centre (in approximately 2035), arterial roadway widening (in approximately 2037), interchange improvements (approximately 2037), and a second fire station (in approximately 2040). Funding will also be required beyond 2030 for life cycle investment in Neighbourhood 3 including bus and police vehicle replacement as well as roadway resurfacing and reconstruction.

1.8.2 Operating Budgets

In addition to the requirements of Capital Budget funding, there will also be operating impacts on capital. These include:

- Transit bus operations and maintenance (as early as 2017)

- Roadway and traffic operations and maintenance, as well as snow clearing (as early as 2019)
- Parks maintenance and operations (as early as 2017)
- Police operations (as early as 2017)
- Recreation centre operations and building maintenance (as early as 2035)
- Library operations and maintenance (as early as 2035)

1.9 Assumptions

The analysis presented in this report involves the combination of modelling using the Development Infrastructure Impact Model, coupled with area and sector specific analysis performed by the business units responsible for both the infrastructure and the provision of service. The gathering and analysis was performed by the Infrastructure and Funding Strategies Section with assistance from Stantec and following City Departments:

- Sustainable Development
- Transportation
- Community Services
- Edmonton Public Library
- Edmonton Police Services
- Financial Services and Utilities

1.9.1 Area Specific Assumptions

With respect to the area being analyzed, the following was assumed:

1. Average market values for Ward 5 were used to determine the residential assessment values for Riverview Neighbourhood 3.
2. For the commercial areas, assessment averages were calculated using 2015 city wide commercial data.
3. Other assumptions are identified in the qualifications following Tables 3 and 4 in the report.

1.9.2 Assumptions for the Development Infrastructure Impact Model

As with any analytical procedure, the results of a model are dependent on the accuracy of the input data, and the strength of its underlying assumptions. In order to achieve a consistent corporate approach, certain assumptions were made to ensure that all neighbourhood development-related infrastructures are compared on the same basis. The following describes some of the assumptions used in the Development Infrastructure Impact Model:

- The Consultant supplied the timing for the neighbourhood's residential and commercial development.
- An assumption was made with respect to when all of the required infrastructure within a neighbourhood would be completed and in service. For modelling purposes, it was assumed that when the Riverview ASP reaches 100% of its ultimate population, all City and developer built infrastructure would be in place.

- Operation and Maintenance as well as Service Delivery Costs were provided by City Departments or were calculated based on the City of Edmonton 2015 Operating Budget specific to each Asset as follows:
 - Linear assets (roads and drainage) - \$ per kilometre
 - Parks - \$ per hectare
 - All Others - \$ per capita
- Major rehabilitation and renewal costs are asset specific and are based on typical lifecycle costs and timetables.
- Tax rates and average assessments for both residential and commercial uses are based on the 2015 tax year.

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