CITY OF FORT SASKATCHEWAN
AGENDA

Regular Council Meeting
Tuesday, April 14, 2015 – 6:00 P.M.
Council Chambers – City Hall

6:00 P.M. 1. **Call to Order** — Mayor Katchur

2. **Approval of Minutes of March 24, 2015 Regular Council Meeting** — (attachment)

3. **Delegations**

Those individuals in attendance at the meeting will be provided with an opportunity to address Council regarding an item on the agenda, with the exception of those items for which a Public Hearing is required or has been held. Each individual will be allowed a maximum of five (5) minutes.

4. **Unfinished Business**

5. **Public Hearing #1**

Open Public Hearing #1 — Mayor Katchur

Bylaw C8-15 – Amend Land Use Bylaw C10-13 – Introduction of the RHR - High Rise Residential District — Craig Thomas (verbal)

Close Public Hearing #1 — Mayor Katchur

6. **Business Arising from Public Hearing #1**

6.1 Bylaw C8-15 – Amend Land Use Bylaw C10-13 – Introduction of the RHR - High Rise Residential District – 2nd & 3rd reading — Craig Thomas (attachment)

7. **Public Hearing #2**

Open Public Hearing #2

Bylaw C10-15 - Amend Land Use Bylaw C10-13 – Redistrict a Portion of Lot B, Block 25, Plan 042 6931 from PR - Parks and Recreation District to R3 - Small Lot Residential District and from R3 - Small Lot Residential District to PR - Parks and Recreation District – Forest Ridge Stage 11 — Matthew Siddons (verbal)

Close Public Hearing #2

8. **Business Arising from Public Hearing #2**

8.1	Bylaw C10-15 - Amend Land Use Bylaw C10-13 – Redistrict a Portion of Lot B, Block 25, Plan 042 6931 from PR - Parks and Recreation District to R3 - Small Lot Residential District and from R3 - Small Lot Residential District to PR - Parks and Recreation District – Forest Ridge Stage 11 – 2nd & 3rd reading	Matthew Siddons (attachment)

9. **New Business**

9.1	Reconsideration of Alternating Flashing Lights on School Buses	Josie Krokis / Mark Liguori, Superintendent, EIPS (attachment)
9.2	Dow Centennial Centre Heating / Cooling System Upgrades	Grant Schaffer (attachment)

10. **Bylaws**

10.1	Bylaw C14-15 – to Close Road Plan 822 1665 and to Consolidate into Lot 1, Block 37, Plan 102 6236 – 1st reading	Matthew Siddons (attachment)

11. **Mayor and Councillors Boards/Committees Update**

12. **Administrative Inquiries**

13. **Notice of Motion**

14. **Adjournment**

CITY OF FORT SASKATCHEWAN
MINUTES
REGULAR COUNCIL
Tuesday, March 24, 2015 - 6:00 PM
Council Chambers – City Hall

Present:
Members of Council:
Mayor Gale Katchur
Councillor Birgit Blizzard
Councillor Sheldon Bossert
Councillor Frank Garritsen
Councillor Stew Hennig
Councillor Arjun Randhawa
Councillor Ed Sperling

Administration:
Kelly Kloss, City Manager
Troy Fleming, General Manager, Infrastructure & Community Services
Brenda Rauckman, General Manager, Corporate & Protective Services
Brenda Molter, Director, Legislative Services
Wendy Kinsella, Director, Communications and Marketing
Susan Morrissey, Director, Finance
Josie Krokis, Director, Protective Services
Claire Negrin, Long Range Planner
Matthew Siddons, Current Planner
Reade Beaudoin, Digital Media Coordinator
Dorothy MacMillan, Recording Secretary

1. Call to Order

Mayor Katchur called the regular Council Meeting of March 24, 2015 to order at 6:00 p.m.

2. Approval of Minutes

2.1 Approval of Minutes of March 10, 2015 Regular Council Meeting

R59-15 MOVED BY Councillor Garritsen that the minutes of the March 10, 2015 regular Council Meeting be adopted as presented.

In Favour: Gale Katchur, Frank Garritsen, Stew Hennig, Arjun Randhawa, Birgit Blizzard, Sheldon Bossert, Ed Sperling

CARRIED UNANIMOUSLY

3. Delegations

None.

4. Unfinished Business

4.1 Bylaw C7-15 - To Incur Indebtedness by the Issuance of Debentures to the Alberta Capital Finance Authority for the Purpose of Sewer Service Reline Construction - 2nd & 3rd reading

Presented by: Susan Morrissey, Director, Finance

Bylaw C7-15 received first reading at the February 10, 2015 regular meeting of Council. In accordance with the *Municipal Government Act*, Administration placed advertisements in The Fort Record on February 19 and February 26, 2015 advertising the borrowing bylaw. The advertisements included information pertaining to the ability to petition for a vote of the electors to determine whether the proposed bylaw should be passed. The deadline for petition submission was March 13, 2015. A petition was not received by the City Manager.

R60-15 MOVED BY Councillor Blizzard that Council give second reading to Bylaw C7-15 to incur indebtedness by the issuance of Debentures to the Alberta Capital Finance Authority for the purpose of sewer service reline construction, in an amount not to exceed $1,200,000.

In Favour: Gale Katchur, Frank Garritsen, Stew Hennig, Arjun Randhawa, Birgit Blizzard, Sheldon Bossert, Ed Sperling

CARRIED UNANIMOUSLY

R61-15 MOVED BY Councillor Blizzard that Council give third reading to Bylaw C7-15 to incur indebtedness by the issuance of Debentures to the Alberta Capital Finance Authority for the purpose of sewer service reline construction, in an amount not to exceed $1,200,000.

In Favour: Gale Katchur, Frank Garritsen, Stew Hennig, Arjun Randhawa, Birgit Blizzard, Sheldon Bossert, Ed Sperling

CARRIED UNANIMOUSLY

5. Public Hearing

5.1 Bylaw C24-14 - Amend Land Use Bylaw C10-13 - Redistricting a Portion of NE 1/4 Section of 20-54-22-W4 from UR - Urban Reserve District to R3 - Small Lot Residential District, R4 - Lane Lot, Residential District, R5, - Semi-Detached and Duplex Residential District, and PR - Parks and Recreation District - Sienna Stage 6

Presented by: Claire Negrin, Long Range Planner
Applicant/Owner: Qualico Communities

Mayor Katchur opened the Public Hearing at 6:06 p.m.

A Public Hearing was held to hear any submissions for or against Bylaw C24-14. Bylaw C24-14 received first reading at the October 14, 2014 regular Council Meeting.

Mayor Katchur asked if anyone wished to speak in favour or against Bylaw C24-14.

Ms. Reanna Feniak of Qualico Communities was in attendance to speak in favour of Bylaw C24-14.

Mayor Katchur thanked Ms. Feniak for her presentation.

Mayor Katchur asked if anyone else wished to speak in favour or against Bylaw C24-14.

There were no further submissions

Mayor Katchur closed the Public Hearing at 6:17 p.m.

6. Business Arising from Public Hearing

6.1 Bylaw C24-14 - Amend Land Use Bylaw C10-13 - Redistricting a Portion of NE 1/4 Section of 20-54-22-W4 from UR - Urban Reserve District to R3 - Small Lot Residential District, R4 - Lane Lot Residential District, R5 - Semi-Detached and Duplex Residential District, and PR - Parks and Recreation District - Sienna Stage 6 - 2nd & 3rd reading
Presented by: Claire Negrin, Long Range Planner
Applicant/Owner: Qualico Communities

R62-15 MOVED BY Councillor Hennig that Council give second reading to Bylaw C24-14 to amend Land Use Bylaw C10-13 by redistricting part of NE ¼ Sec. 20-54-22-W4 from Urban Reserve District (UR) to Small Lot Residential District (R3), Lane Lot Residential District (R4), Semi-Detached and Duplex Residential District (R5), and Parks and Recreation District (PR) for Sienna Stage 6.

In Favour: Gale Katchur, Frank Garritsen, Stew Hennig, Birgit Blizzard, Sheldon Bossert, Ed Sperling

Against: Arjun Randhawa

CARRIED

R63-15 MOVED BY Councillor Hennig that Council give third reading to Bylaw C24-14 to amend Land Use Bylaw C10-13 by redistricting part of NE ¼ Sec. 20-54-22-W4 from Urban Reserve District (UR) to Small Lot Residential District (R3), Lane Lot Residential District (R4), Semi-Detached and Duplex Residential District (R5), and Parks and Recreation District (PR) for Sienna Stage 6.

In Favour: Gale Katchur, Frank Garritsen, Stew Hennig, Birgit Blizzard, Sheldon Bossert, Ed Sperling

Against: Arjun Randhawa

CARRIED

7. Bylaws

7.1 Bylaw C10-15 - Amend Land Use Bylaw C10-13 - Redistrict a portion of Lot B, Block 25, Plan 042 6931 from PR - Parks and Recreation District to R3 - Small Lot Residential District and from R3 - Small Lot Residential District to PR - Parks and Recreation District - Forest Ridge Stage 11 - 1st reading

Presented by: Matthew Siddons, Current Planner
Applicant/Owner: Qualico Communities

R64-15 MOVED BY Councillor Blizzard that Council give first reading to Bylaw C10-15 to amend Land Use Bylaw C10-13 by redistricting a Portion of Lot B, Block 25, Plan 042 6931 from PR - Parks and Recreation District to R3 - Small Lot Residential District, and from R3 - Small Lot Residential District to PR - Parks and Recreation District for Forest Ridge Stage 11.

In Favour: Gale Katchur, Frank Garritsen, Stew Hennig, Arjun Randhawa, Birgit Blizzard, Sheldon Bossert, Ed Sperling

CARRIED UNANIMOUSLY

7.2 Bylaw C11-15 - Amending Fees & Charges Bylaw C26-14 - Kennel Fees - 3 readings

Presented by: Josie Krokis, Director, Protective Services

R65-15 MOVED BY Councillor Garritsen that Council give first reading to Bylaw C11-15, which amends Fees & Charges Bylaw C26-14, providing for the inclusion of kennel fees. (Based on daily rate of $37.15.)

In Favour: Frank Garritsen, Birgit Blizzard

Against: Gale Katchur, Stew Hennig, Arjun Randhawa, Sheldon Bossert, Ed Sperling

DEFEATED

R66-15 MOVED BY Councillor Sperling that Council give first reading to Bylaw C11-15, which amends Fees & Charges Bylaw C26-14, providing for the inclusion of kennel fees. (Based on daily rate of $20.00).

In Favour: Gale Katchur, Stew Hennig, Arjun Randhawa, Birgit Blizzard, Sheldon Bossert, Ed Sperling

Against: Frank Garritsen

CARRIED

R67-15 MOVED BY Councillor Sperling that Council give second reading to Bylaw C11-15, which amends Fees & Charges Bylaw C26-14, providing for the inclusion of kennel fees.

In Favour: Gale Katchur, Stew Hennig, Arjun Randhawa, Birgit Blizzard, Sheldon Bossert, Ed Sperling

Against: Frank Garritsen

CARRIED

R68-15 MOVED BY Councillor Sperling that Council provide unanimous consent to proceed with third and final reading to Bylaw C11-15, which amends Fees & Charges Bylaw C26-14, providing for the inclusion of kennel fees.

In Favour: Gale Katchur, Frank Garritsen, Stew Hennig, Arjun Randhawa, Birgit Blizzard, Sheldon Bossert, Ed Sperling

CARRIED UNANIMOUSLY

R69-15 MOVED BY Councillor Sperling that Council give third reading to Bylaw C11-15, which amends Fees & Charges Bylaw C26-14, providing for the inclusion of kennel fees.

In Favour: Gale Katchur, Stew Hennig, Arjun Randhawa, Birgit Blizzard, Sheldon Bossert, Ed Sperling

Against: Frank Garritsen

CARRIED

8. Mayor and Councillors Boards/Committees

Members of Council provided updates on current and upcoming activities for Boards/Committees.

9. Administrative Inquiries

Members of Council were given the opportunity to ask questions and provide concerns and comments to Administration.

10. Notice of Motion

None.

11. Adjournment

R70-15 MOVED BY Councillor Hennig that the regular Council Meeting of March 24, 2015 adjourn at 7:05 p.m.

In Favour: Gale Katchur, Frank Garritsen, Stew Hennig, Arjun Randhawa, Birgit Blizzard, Sheldon Bossert, Ed Sperling

CARRIED UNANIMOUSLY

_____
Mayor

_____
Director, Legislative Services

CITY OF FORT SASKATCHEWAN

Bylaw C8-15 to Amend Land Use Bylaw C10-13 to Add RHR – High Rise Residential District

Motion:

1. That Council give second reading to Bylaw C8-15 to amend Land Use Bylaw C10-13 by adding the RHR – High Rise Residential District, which allows residential buildings with a maximum height of 20 storeys.

2. That Council give third reading to Bylaw C8-15 to amend Land Use Bylaw C10-13 by adding the RHR – High Rise Residential District, which allows residential buildings with a maximum height of 20 storeys.

Purpose:

The purpose of Bylaw C8-15 is to amend the Land Use Bylaw C10-13 by adding a new Land Use District designed to allow for residential buildings up to 20 storeys in height and provide regulations that effectively deal with potential impacts on nearby properties.

Background:

On August 26, 2014, Administration presented Council with Bylaw C19-14 - 2014 Land Use Bylaw Refresh, which proposed minor amendments to address development trends, and provide clarification within the regulations. At that meeting, Administration was directed to bring back information to Council on increasing the height capacity for future high density residential developments in Fort Saskatchewan. On March 10, 2015, Administration brought forward information with the introduction of Bylaw C8-15 at which time Council gave first reading.

The Land Use Bylaw currently allows a range of height maximums depending on the nature of intent of each district. The C5 - Fort Mall Redevelopment District allows buildings to be as high as 15 storeys. This district is specific to the downtown mall site and cannot be applied elsewhere in the City. The RMH - High Density Multiple Residential District allows buildings to be as high as 12 storeys in height. This is considered as a conventional Land Use District, and as such is not specific to a single location. A chart is provided as Appendix “C” showing the maximum allowable height in each district.

The RHR - High Rise Residential District is proposed as a new residential district within Land Use Bylaw. The addition of the district will create a greater hierarchy of residential districts whereby each district regulates built form to correspond with the district’s specific purpose. The new district is designed to regulate the building’s form to effectively deal with potential impacts on nearby properties. Adding the new district provides the opportunity for land to be redistricted, allowing buildings as high as 20 storeys, without having to amend the existing RMH District and sites to which the RMH District applies.

Subsequent to the information report presented at the March 10, 2015 regular Council meeting, the proposed amendment to the Land Use Bylaw was posted on the City of Fort Saskatchewan Planning and Development Services website. Prior to first reading, Administration conducted an online survey, and displayed presentation material in public locations such as the Dow Centennial

Centre (main lobby), Shell Theatre, Harbour Pool, Jubilee Recreation Centre, and City Hall. The displays and online survey provided the opportunity for the public to give feedback on tall buildings within the City of Fort Saskatchewan. The results of the feedback is summarized in Appendix E.

To assess the potential impacts that tall buildings may have on municipal infrastructure and nearby development, Administration obtained the services of ISL Engineering. An Infrastructure Analysis has been prepared by ISL Engineering, and is available as Appendix "D".

The Infrastructure Analysis focused on three potential locations within the City for high rise development. These three locations include the old hospital site, a site adjacent to Highway 21, and the residential mixed use node, as identified in the Southfort Area Structure Plan. Administration chose to focus on these locations based on size, proximity to transportation and services, and compatibility with nearby land use districts. While the three locations have been identified as potentially suitable for high rise development, the application of the RHR District is not limited nor guaranteed for these sites. The appropriate location would be analyzed and determined through the redistricting process.

To ensure potential impacts associated with tall buildings are minimized, the RHR District ensures reasonable separation between tower locations, and more sensitive land uses. In particular, where the RHR District abuts a district that allows for low density residential, a site would have to be large enough to accommodate a setback proportionate to the height of the high rise. The RHR District also includes regulations to address issues, such as overlooking into sensitive land uses, shadowing, floor area ratios, amenity area, siting of high rise buildings within the site, density, parking, transportation, and so forth.

Should Council approve the proposed RHR District, the new district would allow apartment buildings to be at least 12 storeys in height to a maximum of 20 storeys in height, subject to development regulations. As a new district within the Land Use Bylaw, a landowner would have the ability to make application to redistrict land to RHR - High Rise Residential District. The redistricting application would be vetted by Administration, subject to three readings by Council, and scheduling of a Public Hearing.

Plans/Standards/Legislation:

Appendix B outlines the related municipal plans for this proposed Land Use Bylaw amendment.

As per the *Municipal Government Act*, advertisements were published in a local newspaper for two consecutive weeks. As the District is not being applied to a specific site, there is no requirement to notify adjacent landowners. At the time this report was completed, no submissions regarding the proposed bylaw were received.

Financial Implications:

The City of Fort Saskatchewan would be responsible for regular maintenance of roads and public lands associated with development within lands redistricted to the new zone. Such maintenance would be considered to be usual municipal operations (waste pickup, fire, policing, snow removal, utilities, roads and the related hardware, future infrastructure, etc.). An analysis conducted by

ISL Engineering concluded there would be no evident constraints to existing transportation and/or municipal infrastructure.

Internal Impacts:

The functions associated with the adoption of this Bylaw can be completed within existing staff capacities. Should Council direct Administration to conduct further analysis, it may be necessary to obtain the services of a consultant.

Alternatives:

1. That Council give second and third reading to Bylaw C8-15 to amend Land Use Bylaw C10-13 by adding the RHR – High Rise Residential District, which allows residential buildings with a maximum height of 20 storeys.

2. That Council not proceed with second and third reading to Bylaw C8-15, to establish a land use district with a maximum building height of 20 storeys, and advise how they wish to proceed.

Attachments:

1. Bylaw C8-15
2. Appendix A – Draft RHR Residential High Rise District
3. Appendix B – Relevant Policies
4. Appendix C – Maximum Heights in Relevant Land Use Districts
5. Appendix D – Residential Height Analysis, ISL Engineering
6. Appendix E – Summary Report of Community Feedback

File No.: Bylaw C8-15

Prepared by:	Craig Thomas Senior Development Planner	Date:	March 25, 2015
Approved by:	Troy Fleming General Manager, Infrastructure & Community Services	Date:	April 7, 2015
Reviewed by:	Brenda Rauckman Acting City Manager	Date:	April 7, 2015
Submitted to:	City Council	Date:	April 14, 2015

CITY OF FORT SASKATCHEWAN

A BYLAW OF THE CITY OF FORT SASKATCHEWAN IN THE PROVINCE OF ALBERTA TO AMEND BYLAW C10-13, LAND USE BYLAW

BYLAW C8-15

WHEREAS the *Municipal Government Act,* R.S.A.,2000, c.M-26 as amended or repealed and replaced from time to time, provides that a municipality has the power to amend the Land Use Bylaw;

NOW THEREFORE, the Council of the City of Fort Saskatchewan, in the Province of Alberta, duly assembled, enacts as follows:

1. This Bylaw is cited as the Amendment to Land Use Bylaw C10-13, as amended, repealed, and/or replaced from time to time.

2. That Schedule "A" of Bylaw C10-13 be amended as follows:

   a) by adding the following High Rise Residential District:

"5.25 RHR - High Rise Residential District

5.25.1 Purpose

This District is intended to provide for apartment buildings between 12 and 20 storeys and urban design direction to effectively integrate high rise developments with the surrounding planned or existing built form. Preferred sites will be located within close proximity (400.0m or 1312.3ft) to commercial amenities and transit nodes. This zoning is not intended for lands included within the Downtown Area Redevelopment Plan (Bylaw C14-08).

5.25.2 RHR Permitted and Discretionary Uses

Permitted Uses:
- Accessory development
- Apartment dwelling
- Fascia sign
- Home office
- Identification sign
- Projecting sign
- Show suite in an apartment dwelling

Discretionary Uses:
- Assisted living facility
- Business supportive service
- Community garden
- Day care facility
- Eating and drinking establishment (limited)
- Health services
- Professional, financial and office services
- Personal services
- Retail store (convenience)
- Retail store (general)
- Show home
- Temporary sales centre

5.25.3 Site Subdivision Regulations

		Interior or Corner Site
Site Area	Minimum	1,360.0m^2 (14,638.9ft^2)

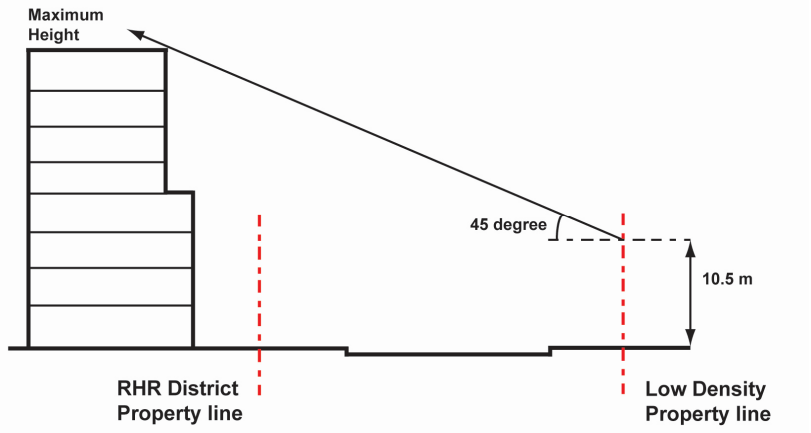
5.25.4 Site Development Regulations

		Interior or Corner Site
Setbacks	Minimum	7.0m (23.0ft)
Unit Density	Maximum	370 dwelling units per net developable hectare
Height	Minimum Maximum	12 storeys or 40.0m (131.2ft) 20 storeys or 67.0m (219.0ft), and as per Section 5.13.4(a) of this Bylaw.
Common Amenity Area	Minimum	4.5m^2 (48.4ft^2) per dwelling unit.
Private Amenity Area	Minimum	3.0m² (33.3ft²) per dwelling unit to be provided by balconies. Balconies may project a maximum of 1.0m (3.3ft) into the minimum setback.

5.25.5 Urban Form, Building Massing and Architectural Character

(a) The maximum building height shall be limited by the application of a 45° Angular Plane where the RHR District abuts a District that allows low density residential. The 45° Angular Plane, as shown in Figure 5.1, shall be taken from a height of 10.5m (34.4ft) above the nearest property line of the parcel that allows low density residential and subsequent storeys must fit within this angular plane.

Figure 5.1: 45 Degree Angular Plane for Determining Height Maximums



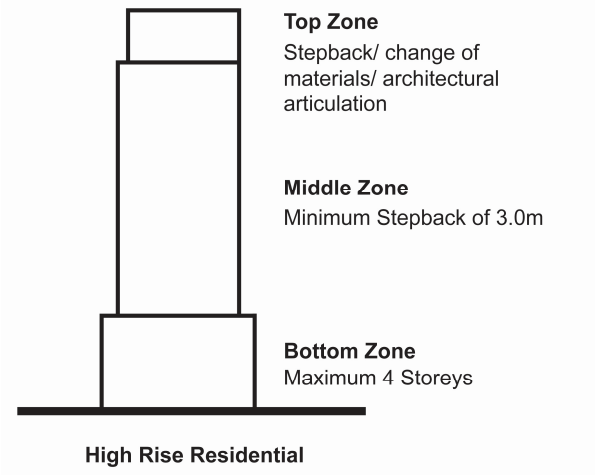
(b) Buildings shall provide three distinct vertical zones as per the Figure 5.2, and meet the following step back requirements:

i. The base zone shall be a minimum of two storeys and a maximum four storeys and shall be integrated with townhouses, apartments or commercial retail units;

ii. The middle zone shall provide a minimum step-back of 3.0m (9.8ft). To avoid adverse massing effects, the middle zone shall be no wider than 25 metres on any side;

iii. The top zone shall include the top three stories. The top zone shall provide either an additional stepback or a change in material/colour or special architectural treatment to the satisfaction of the Development Authority.

Figure 5.2: Vertical Zones



(c) A minimum separation distance of 25.0m (82.0ft) shall be provided between towers. The 25.0m separation distance shall be measured from the middle zone of each tower located on the property and on any adjacent or abutting properties.

(d) Architectural treatment of all sides of the building shall create visual interest through the use of architectural features, materials, windows and articulation.

(e) Buildings shall be finished with glass curtain wall, cement based envelope materials, such as brick veneer, stone veneer, or other manufactured stone veneer, and/or pre-finished metal, and/or painted metal, wood, brick or stone.

(f) Exterior lighting shall be designed and finished in a manner consistent with the design and finishing of the development, be provided to ensure a well-lit environment and to highlight the development, to the satisfaction of the Development Authority.

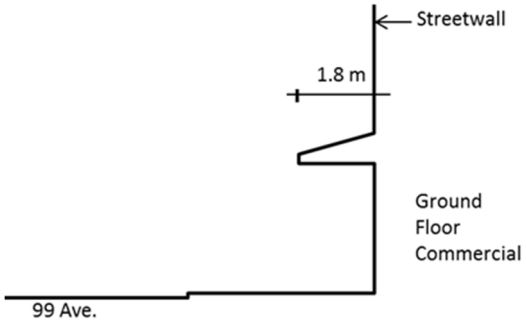
(g) All mechanical equipment shall be visually and acoustically screened from both the public realm and/or adjacent developments or be concealed by incorporating it within the roof envelope or by screening it in a way that is consistent with the character and finishing of the development.

5.25.6 Building Articulation

(a) The building shall incorporate articulated façades, rooflines, and architectural treatments that establish the building as a distinctive landmark for the surrounding areas.

i. The base zone shall incorporate continuous weather protection in the form of a 1.8m (5.9ft) wide canopy or any other architectural element wherever commercial frontages exist to create a comfortable environment for pedestrians, as per Figure 5.3.

Figure 5.3: Canopies and Weather Protection



(b) The middle and top zone shall be designed to reduce both on and off the site impacts to maintain view corridors, maximize solar penetration, and reduce adverse microclimatic effects related to wind, precipitation and shadowing. Prior to the acceptance of a development permit application, the following studies shall be provided to support this objective:

i. A Wind Impact Study prepared by a qualified professional. The Study shall be based on a computer model simulation analysis; and

ii. A Sun Shadow Impact Study prepared by a qualified professional.

5.25.7 Entrances and Street Character

(a) All ground level residential units with street frontage shall have individual entrances that front onto the street, adjacent sidewalk, or private outdoor amenity space. Entry transitions, such as steps, fences, gates or hedges, shall be provided to create an appropriate relationship with, and definition of, the public realm and the private space of dwelling units.

(b) The building shall clearly differentiate residential entrances from commercial entrances through distinct architectural treatment, whereas:

i. Entrances for commercial and office uses shall be located at intervals of 6.0m to 10.0m (19.7ft to 32.8ft) along building façades fronting public roadway, as per Figure 5.4; and

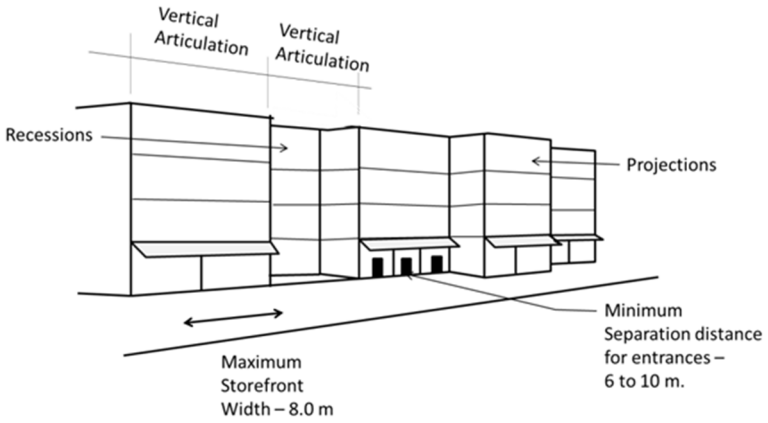
ii. To ensure the pedestrian amenity areas are maintained, entrances that are adjacent to the public realm shall be recessed at least 1.0 m from the face of

the building.

(c) Individual retail store frontages at ground floor shall not exceed 8.0m (26.3ft) in width, as per Figure 5.4.

(d) To avoid monotony in architecture, all buildings shall be required to provide a vertical articulation in the streetwall fronting public roads using a variety of colours, materials, projections as well as recessions in the building façade, as per Figure 5.4;

Figure 5.4: Vertical Articulation Specifications



(e) Common Amenity Areas shall accommodate design features or street related activities, such as architectural elements, landscaping, public art or sidewalk cafes.

5.25.8 Development Regulations for Commercial Uses

(a) Commercial uses, if developed, shall be limited to the first two storeys of the high rise development.

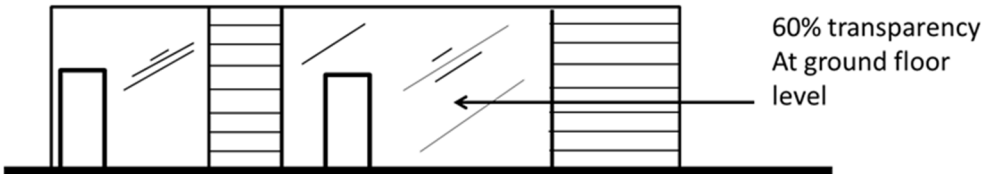
(b) Non-residential listed uses shall:

i. Not be permitted as a freestanding use in a stand-alone building; and

ii. Shall have separate access at grade from residential uses.

(c) The ground floor of each commercial development shall be required to provide a minimum of 60% transparency measured along the front facade. Tempered or tinted glass that prohibits visibility shall be considered as opaque surface, as per Figure 5.5.

Figure 5.5: Transparency in Ground Level Commercial Developments



5.25.9 Parking, Circulation, Accesses, Loading and Waste Collection

(a) Notwithstanding Part 11, if a development is located within 200m (656.1ft) of a public transit stop the Development Authority may reduce the required parking by 5%.

(b) Notwithstanding Part 11, if a development has a car share program the Development Authority may reduce the required parking by 5%, or 4 parking spaces for each car share vehicle in the residential tower, whichever is greater.

(c) Notwithstanding Part 11, bicycle parking for residents shall be located inside the building in a common area. Bicycle parking for visitors or commercial patrons shall be located adjacent to building entrances.

(d) Resident parking shall be provided in an above or an underground parkade. Visitor parking may be provided at grade, and shall be located at the rear of buildings and not within a required setback. If an aboveground parkade is located fronting a public roadway, then the following design considerations shall be utilized:

    i. The ground floor shall include retail uses with multiple entrances;

    ii. Entrance to the parking facility shall be designed with architectural features to maintain the integrity of retail frontage; and

    iii. The façade of the upper storeys of the parking facility shall be designed to reflect residential or commercial building character.

(e) Vehicular access shall be from the flanking roadway or abutting lane. In the event there is no flanking roadway or abutting lane, the vehicular access shall be designed in a manner that has minimal impact on abutting public roadways.

(f) Driveway ramps shall be at grade at the property line and must not exceed a slope of 6% for a distance of 4.5m (14.7ft) inside the property line.

(g) Loading, storage and garbage and recycling collection areas shall be located to the rear or sides of the principal building. These areas shall:

    i. Have a minimum setback of 7.0m (23.0ft) from a public roadway and residential dwellings; and

    ii. Be incorporated into the overall design theme of the building and screened from public roadways using landscaping or architectural features.

5.25.10 Technical Studies and Assessments

(a) In addition to Section 3.4.2 of this Bylaw, the Development Authority shall also request that the applicant complete and submit any or all of the following:

    i. Geotechnical Assessment;

    ii. Servicing Analysis; and

iii. Traffic Impact Assessment.

5.25.11 Off-site Improvements

(a) The Development Authority may condition the permit requiring that the applicant enter into an agreement with the City to do the following improvements necessary to serve the development and address off-site requirements.

i. Relocation of all underground and above ground utilities and maintaining required clearances as specified by the utility companies;

ii. The construction of on-street fire hydrants;

iii. Removal of all existing accesses as necessary to the site, with the restoration of the right-of-way;

iv. Provide sidewalk connections from the site to adjacent developments to create a continuous pedestrian environment;

v. The improvements to adjacent intersections to facilitate traffic movements into the area, if deemed required by a Traffic Impact Assessment; and

vi. Upgrading of adjacent right-of-ways directly abutting the site to appropriate standards; or

vii. Any improvements determined to be necessary as identified in Section 3.10.2.

5.25.12 Additional Development Regulations for RHR

(a) All development and uses within this Land Use District are subject to the applicable provisions of Part 4 - General Regulations for all Land Use Districts, Sections 5.1 to 5.13 of Part 5 - Residential Land Use Districts, Part 11 - Parking and Loading, and Part 12 – Signs.

(b) In addition to Part 4 – Section 4.8 and Part 5 – Section 5.10 of this Bylaw, landscaping and site design shall:

i. Provide a minimum of one deciduous tree every 10.0m (32.8ft) along the street frontage;

ii. Provide two minimum 3.0m (9.8ft) wide walkways through the site (from the front property line to the building and from the visitor parking area to the building) to the satisfaction of the Development Authority.

3. If any portion of this Bylaw is declared invalid by a court of competent jurisdiction, the invalid portion must be severed and the remainder of the Bylaw is deemed valid.

4. This Bylaw becomes effective upon third and final reading.

READ a first time this 10th day of March 2015.

READ a second time this day of 2015.

READ a third time and passed this day of 2015.

_____
MAYOR

_____
DIRECTOR, LEGISLATIVE SERVICES

Date Signed: _____

5.25 RHR - High Rise Residential District

5.25.1 Purpose

This District is intended to provide for apartment buildings between 12 and 20 storeys and urban design direction to effectively integrate high rise developments with the surrounding planned or existing built form. Preferred sites will be located within close proximity (400.0m or 1312.3ft) to commercial amenities and transit nodes. This zoning is not intended for lands included within the Downtown Area Redevelopment Plan (Bylaw C14-08) or those subject to an Area Structure Plan.

5.25.2 RHR Permitted and Discretionary Uses

Permitted Uses:

- Accessory development
- Apartment dwelling
- Fascia sign
- Home office
- Identification sign
- Projecting sign
- Show suite in an apartment dwelling

Discretionary Uses:

- Assisted living facility
- Business supportive service
- Community Garden
- Day care facility
- Eating and drinking establishment (limited)
- Health Services
- Professional, Financial and Office
- Personal Services
- Retail store (convenience)
- Retail store (general)
- Show home
- Temporary sales centre

5.25.3 Site Subdivision Regulations

		Interior or Corner Site
Site Area	Minimum	1,360.0m^2 (14,638.9ft^2)

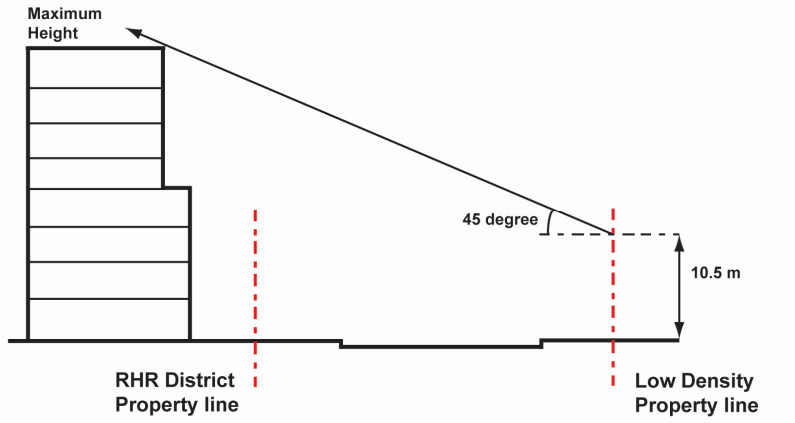
5.25.4 Site Development Regulations

		Interior or Corner Site
Setbacks	Minimum	7.0m (23.0ft)
Unit Density	Maximum	370 dwelling units per net developable hectare
Height	Minimum Maximum	12 storeys or 40.0m (131.2ft) 20 storeys or 67.0m (219.0ft), and as per Section 5.13.4(a) of this Bylaw.
Common Amenity Area	Minimum	4.5m^2 (48.4ft^2) per dwelling unit.
Private Amenity Area	Minimum	3.0m^2 (33.3ft^2) per Dwelling shall be provided for balconies. Balconies may project a maximum of 1.0m (3.3ft) into the minimum setback.

5.25.5 Urban Form, Building Massing and Architectural Character

(a) The maximum building height shall be limited by the application of a 45° Angular Plane where the RHR District abuts a District that allows low density residential. The 45° Angular Plane, as shown in Figure 5.1, shall be taken from a height of 10.5m (34.4ft) above the nearest property line of the parcel that allows low density residential and subsequent storeys must fit within this angular plane.

Figure 5.1: 45 Degree Angular Plane for Determining Height Maximums



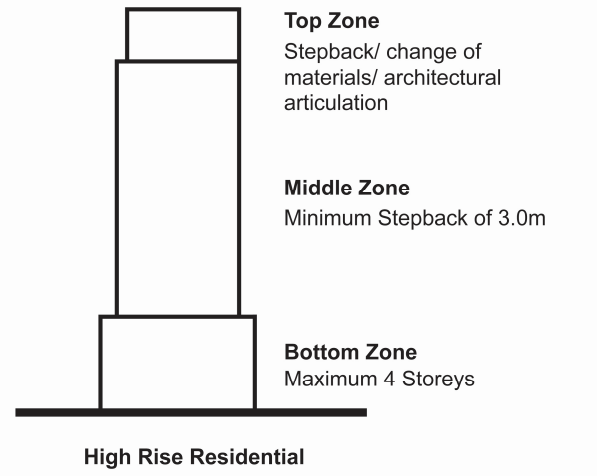
(b) Buildings shall provide three distinct vertical zones as per the Figure 5.2, and meet the following step back requirements:

i. The base zone shall be a minimum of two storeys and a maximum four storeys and shall be integrated with townhouses, apartments or commercial retail units;

ii. The middle zone shall provide a minimum step-back of 3.0m (9.8ft). To avoid adverse massing effects, the middle zone shall be no wider than 25 metres on any side;

iii. The top zone shall include the top three stories. The top zone shall provide either an additional stepback or a change in material/colour or special architectural treatment to the satisfaction of the Development Authority; and

Figure 5.2: Vertical Zones



(c) A minimum separation distance of 25.0m (82.0ft) shall be provided between towers. The 25.0m separation distance shall be measured from the middle zone of each tower located on the property and on any adjacent or abutting properties.

(d) Architectural treatment of all sides of the building shall create visual interest through the use of architectural features, materials, windows and articulation.

(e) Buildings shall be finished with glass curtain wall, cement based envelope materials, such as brick veneer, stone veneer, or other manufactured stone veneer, and/or pre-finished metal, and/or painted metal, wood, brick or stone.

(f) Exterior lighting shall be designed and finished in a manner consistent with the design and finishing of the development, be provided to ensure a well-lit environment and to highlight the development, to the satisfaction of the Development Authority.

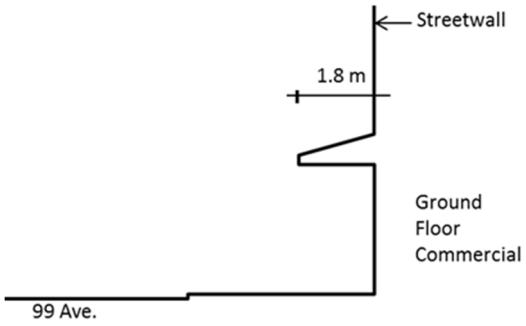
(g) All mechanical equipment shall be visually and acoustically screened from both the public realm and/or adjacent developments or be concealed by incorporating it within the roof envelope or by screening it in a way that is consistent with the character and finishing of the development.

5.25.6 Building Articulation

(a) The building shall incorporate articulated façades, rooflines, and architectural treatments that establish the building as a distinctive landmark for the surrounding areas.

i. The base zone shall incorporate continuous weather protection in the form of a 1.8m (5.9ft) wide canopy or any other architectural element wherever commercial frontages exist to create a comfortable environment for pedestrians, as per Figure 5.3.

Figure 5.3: Canopies and Weather Protection



Weather Protection

(b) The middle and top zone shall be designed to reduce both on and off the site impacts to maintain view corridors, maximize solar penetration, and reduce adverse microclimatic effects related to wind, precipitation and shadowing. Prior to the acceptance of a development permit application, the following studies shall be provided to support this objective:

i. A Wind Impact Study prepared by a qualified professional. The Study shall be based on a computer model simulation analysis; and

ii. A Sun Shadow Impact Study prepared by a qualified professional.

5.25.7 Entrances and Street Character

(a) All ground level residential units with street frontage shall have individual entrances that front onto the street, adjacent sidewalk, or private outdoor amenity space. Entry transitions, such as steps, fences, gates or hedges, shall be provided to create an appropriate relationship with, and definition of, the public realm and the private space of dwelling units.

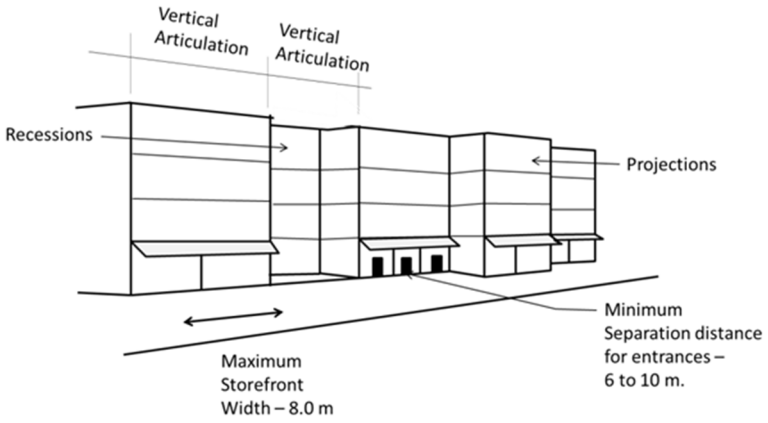
(b) The building shall clearly differentiate residential entrances from commercial entrances through distinct architectural treatment, whereas:

i. Entrances for commercial and office uses shall be located at intervals of 6.0m to 10.0m (19.7ft to 32.8ft) along building façades fronting public roadway, as per Figure 5.4; and
ii. To ensure the pedestrian amenity areas are maintained, entrances that are adjacent to the public realm shall be recessed at least 1.0 m from the face of the building.

(c) Individual retail store frontages at ground floor shall not exceed 8.0m (26.3ft) in width, as per Figure 5.4.

(d) To avoid monotony in architecture, all buildings shall be required to provide a vertical articulation in the streetwall fronting public roads using a variety of colours, materials, projections as well as recessions in the building façade, as per Figure 5.4;

Figure 5.4: Vertical Articulation Specifications



(e) Common Amenity Area shall accommodate design features or street related activities, such as architectural elements, landscaping, public art or sidewalk cafes.

5.25.8 Development Regulations for Commercial Uses

(a) Commercial uses, if developed, shall be limited to the first two storeys of the high rise development.

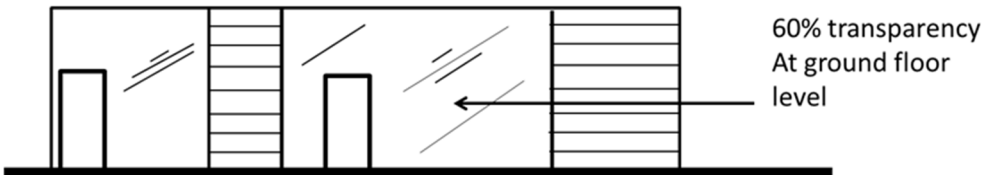
(b) Non-residential listed uses shall:

i. Not be permitted as a freestanding use in a stand-alone building; and

ii. Shall have separate access at grade from residential uses.

(c) The ground floor of each commercial development shall be required to provide a minimum of 60% transparency measured along the front facade. Tempered or tinted glass that prohibits visibility shall be considered as opaque surface, as per Figure 5.5.

Figure 5.5: Transparency in Ground Level Commercial Developments



5.25.9 Parking, Circulation, Accesses, Loading and Waste Collection

(a) Notwithstanding Part 11, if a development is located within 200m (656.1ft) of a public transit stop the Development Authority may reduce the required parking by 5%.

(b) Notwithstanding Part 11, if a development has a car share program the Development Authority may reduce the required parking by 5%, or 4 parking spaces for each car share vehicle in the residential tower, whichever is greater.

(c) Notwithstanding Part 11, bicycle parking for residents shall be located inside the building in a common area. Bicycle parking for visitors or commercial patrons shall be located adjacent to building entrances.

(d) Resident parking shall be provided in an above or an underground parkade. Visitor parking may be provided at grade, and shall be located at the rear of buildings and not within a required setback. If an aboveground parkade is located fronting a public roadway, then the following design considerations shall be utilized:

i. The ground floor shall include retail uses with multiple entrances;

ii. Entrance to the parking facility shall be designed with architectural features to maintain the integrity of retail frontage; and

iii. The façade of the upper storeys of the parking facility shall be designed to reflect residential or commercial building character.

(e) Vehicular access shall be from the flanking roadway or abutting lane. In the event there is no flanking roadway or abutting lane, the vehicular access shall be designed in a manner that has minimal impact on abutting public roadways.

(f) Driveway ramps shall be at grade at the property line and must not exceed a slope of 6% for a distance of 4.5m (14.7ft) inside the property line.

(g) Loading, storage and garbage and recycling collection areas shall be located to the rear or sides of the principal building. These areas shall:

i. Have a minimum setback of 7.0m (23.0ft) from a public roadway and residential dwellings; and

ii. Be incorporated into the overall design theme of the building and screened from public roadways using landscaping or architectural features

5.25.10 Technical Studies and Assessments

(a) In addition to Section 3.4.2 of this Bylaw, the Development Authority shall also request that the applicant complete and submit any or all of the following:

i. Geotechnical Assessment;

ii. Servicing Analysis; and

iii. Traffic Impact Assessment.

5.25.11 Off-site Improvements

(a) The Development Authority may condition the permit requiring that the applicant enter into an agreement with the City to do the following improvements necessary to serve the development and address off-site requirements.

i. Relocation of all underground and above ground utilities and maintaining required clearances as specified by the utility companies;

ii. The construction of on-street fire hydrants;

iii. Removal of all existing accesses as necessary to the site, with the restoration of the right-of-way;

iv. Provide sidewalk connections from the site to adjacent developments to create a continuous pedestrian environment;

v. The improvements to adjacent intersections to facilitate traffic movements into the area, if deemed required by a Traffic Impact Assessment; and

vi. Upgrading of adjacent right-of-ways directly abutting the site to appropriate standards; or

vii. Any improvements determined to be necessary as identified in Section 3.10.2.

5.25.12 Additional Development Regulations for RHR

(a) All development and uses within this Land Use District are subject to the applicable provisions of Part 4 - General Regulations for all Land Use Districts, Sections 5.1 to 5.13 of Part 5 - Residential Land Use Districts, Part 11 - Parking and Loading, and Part 12 – Signs.

(b) In addition to Part 4 - Section 4.8 and Part 5 – Section 5.10 of this Bylaw, landscaping and site design shall:

i. Provide a minimum of one deciduous tree every 10.0 m (32.8ft) along the street frontage;
ii. Provide two minimum 3.0 m (9.8ft) wide walkways through the site (from the front property line to the building and from the visitor parking area to the building) to the satisfaction of the Development Authority.

Related Policy to Bylaw C8-15
RHR High Rise Residential District

Municipal Development Plan – Bylaw C16-10

6.0 Developing Community Area	
6.2.1	Reinforce the development of complete neighbourhood units by encouraging a range of dwelling unit types and densities, along with supporting services, in each residential neighbourhood within the City.
6.2.5	Consider proposals for sensitive residential infill redevelopment projects that contribute to the livability of existing neighbourhoods.
6.5.6	Support amendments to the Southfort Area Structure Plan (ASP) to facilitate the development of higher density residential and commercial uses in the location generally identified as a Residential Mixed Use Centre in the MDP Future Land Use Plan (Map 2).
7.0 Community Design	
7.1.1	Encourage the development of the Downtown and Mixed Use Centres as primarily walkable precincts, with special attention given to the public realm and facilities for pedestrians.
7.1.5	Encourage a variety of land uses in the Downtown, Mixed Use Centres, and the General Urban Area, to promote integrated, complete neighbourhoods where residents can carry out most of their day-to-day activities.
9.0 Housing	
9.1.1	Encourage a range of housing types within all areas of Fort Saskatchewan, with close access to neighbourhood services and amenities.
9.1.2	Increase the overall density of housing in existing urban areas to reduce the requirement for additional infrastructure servicing and to meet the density targets established in the Capital Region Plan.
9.1.3	Increase the overall planned densities in the Southfort and Westpark ASP areas to bring these plans into conformance with the density targets for Fort Saskatchewan in the Capital Region Growth Plan.
9.1.4	Support sensitive infill and redevelopment in the Downtown, Residential Mixed Use Centres, General Urban Area, and Core Residential land use districts.
12.0 Sense of Community	
12.1.1	Promote land use patterns and mobility connections that foster community interactions.
13.0 Responsive Local Community	
13.2.1	Continue to encourage redevelopment of the mall and old hospital sites.

Community Sustainability Plan – R173-14

UR – Urban Resources	
UR1	Rezone city to allow mixed use development, higher densities and a higher percentage of land (approximately 10-15% more) being dedicated to green spaces.
UR4	Develop the City around neighbourhood nodes so people can walk to their nearest node for daily needs and amenities.
UR6	Emphasize the pedestrian experience in all urban design ensuring people have places to socialize and connect.
UR19	Restrict maximum lot size and minimum density to promote higher density.
CC – Compassionate Community and Sense of Community	
CC5	Adopt land use policies to allow for a greater range of housing options including mixed use and high density developments
CC25	Create a sense of community where people make an effort to know their neighbours.

Residential

District	Maximum Allowable Height	Notes
R1 – Large Lot Residential	2 ½ Storeys not to exceed 10 m	
R2 – Medium Lot Residential	2 ½ Storeys not to exceed 10 m	
R3 – Small Lot Residential	2 ½ Storeys not to exceed 10 m	
R4 – Lane Lot Residential	2 ½ Storeys not to exceed 10 m	
R5 – Semi-Detached/Duplex Residential	2 ½ Storeys not to exceed 10 m	
RE – Residential Estate Lot	3 Storeys not to exceed 14 m	
RC – Comprehensively Planned Residential	3 Storeys not to exceed 11 m	
RML – Low Density Multiple Residential District	3 Storeys not to exceed 11 m	A maximum differential of one storey shall be allowed between adjacent sites
RMM – Medium Density Multiple Residential District	4 Storeys not to exceed 18.2 m	Buildings over three storeys shall provide appropriate transitions in height, scale, and massing to adjacent sites.
RMH – High Density Multiple Residential District	12 Storeys, not to exceed 40 m	Buildings over three storeys shall provide appropriate transitions in height, scale, and massing to adjacent sites.

Commercial

District	Maximum Allowable Height	Notes
C1 – Neighbourhood Retail and Service District	7.0 metres	
C2 – Vehicle Orientated Retail and Service District	14 metres	
C3 – Commercial Shopping Centre District	14 metres	
C4 – Central Business District	14 metres	
C5 – Fort Mall Redevelopment District	Up to 15 Storeys	

Industrial

District	Maximum Allowable Height	Notes
IL – Light Industrial	15 metres	
IM – Medium Industrial	18 metres	

Direct Control

District	Maximum Allowable Height	Notes
DC(C)-01 Westpark North Site	14 metres	

ISL Engineering and Land Services

Inspiring sustainable thinking

Suite 100, 7909 – 51 Avenue Edmonton, AB T6E 5L9 T: 780.438.9000 F: 780.438.3700

November 18, 2014

Our Reference: 14243

The City of Fort Saskatchewan
10005 102 Street
Fort Saskatchewan, Alberta T8L 2C5

Attention: Janel Smith
Director, Planning and Development

Dear Madam:

Reference: Residential Building Heights Analysis

1.0 Introduction

In accordance with our October 1, 2014 proposal and further discussion during our October 9 meeting, ISL Engineering and Land Services (ISL) has completed a high level analysis of municipal and transportation engineering constraints, the preparation of a draft residential high rise district, and a graphic to illustrate building heights currently permitted in the City.

The purpose of this letter report is to provide you with the results of our high level municipal and transportation engineering analyses and highlight how those results have informed the draft RHR – Residential High Rise District. The draft District is provided in Appendix A.

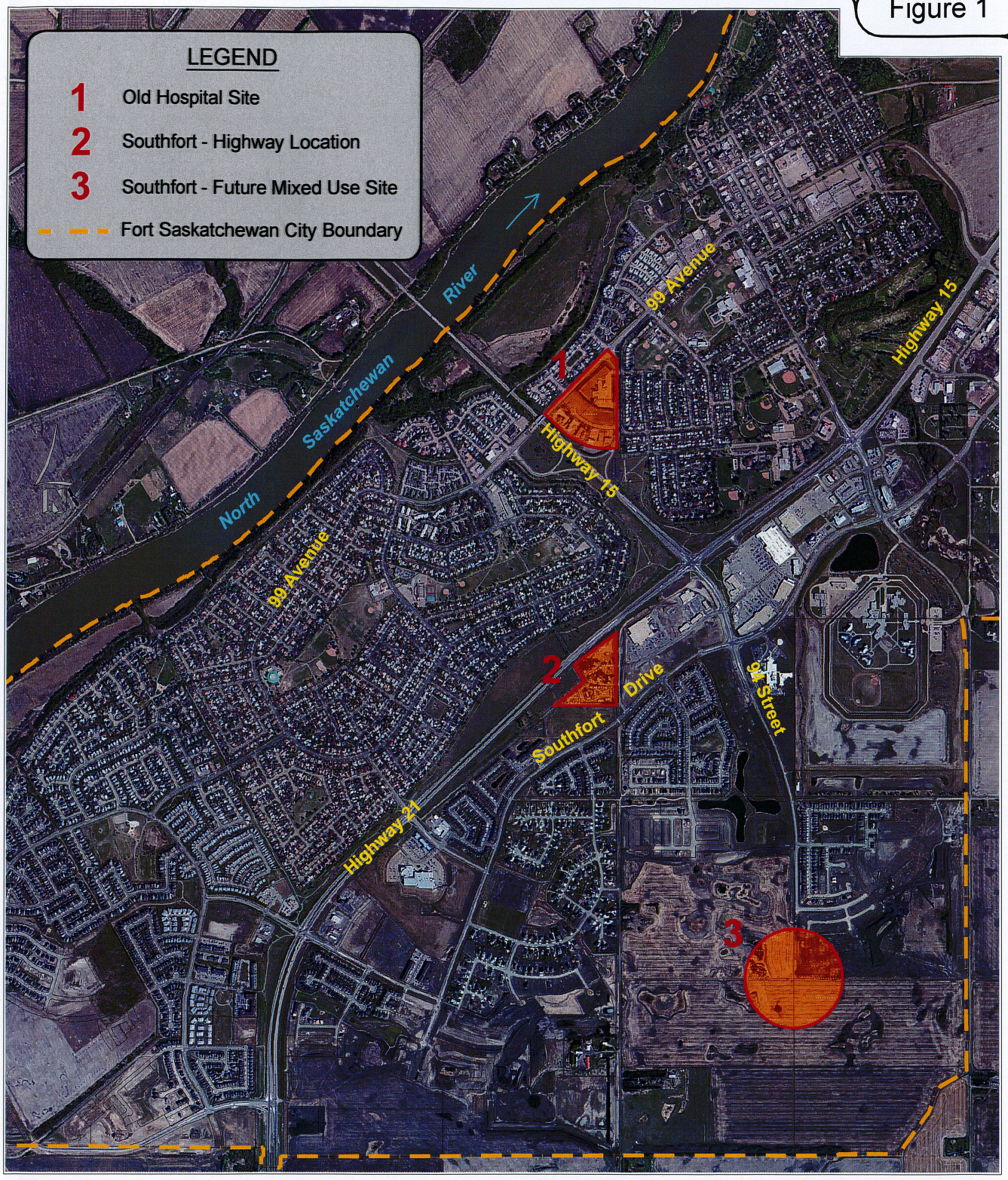
1.1 Locations

At the October 9 meeting, it was agreed that three locations would be examined for the purposes of conducting the high level engineering analysis to investigate whether existing or planned infrastructure can accommodate a high rise tower. These three locations are the old hospital site, a vacant site south of Highway 21 in Southfort, and a site in a planned mixed use node also in Southfort (see Figure 1).

2.0 Municipal Engineering Analysis

Using City documents, ISL conducted a high level analysis of municipal (storm, water, wastewater) and transportation infrastructure to determine if the existing systems could accommodate the development of a high rise residential tower at the three locations. Based on this analysis, there are no immediate or evident constraints to develop a 12-20 storey residential high rise in the three locations. Detailed analyses are required to support any proposed development to confirm the finding described below.

Figure 1



LOCATION MAP

Fort Saskatchewan Building Heights Analysis

City of Fort Saskatchewan

Scale - 1:25,000

0 0.5 1.0 1.5 2.0 km

ISL Engineering and Land Services

November 2014

j:\14200\14243_fort saskatchewan building heights\02_cadd\20_drafting\201_dwg\14243_figure_01_location.dwg

2.1 Impacts on Stormwater Drainage System

As increasing building heights do not have a direct impact on the percentage of a site that is impervious, and thus the peak and total runoff from a site, the impacts on the City's stormwater drainage system were not assessed. While redevelopment can result in an increase of imperviousness, it can be offset onsite using a combination of Low Impact Development techniques such as green roofs, landscaped rain gardens, etc. It is also feasible to utilize underground stormwater storage facilities to offset any increases in runoff.

2.2 Impacts on Water Distribution System

Increasing building heights can result in increased potable water demand associated with the increased population density. Depending on the specific development provisions (e.g. uses, height, site area, density), higher fire flow demands may be required as compared to other permitted uses. ISL compared the tentative redevelopment site locations with the existing and proposed water distribution network from the 2008 Water Distribution Study to provide a high level assessment of the impacts of allowing higher buildings at these sites. The results are as follows:

- The old hospital site is located adjacent to a 300mm and a 450mm water main and is in close proximity to the main reservoir and pump station. Thus the site appears to have an adequate water distribution network to support the redevelopment of the site to accommodate a 20-storey residential tower.
- The proposed site immediately southwest of Highway 21 and 92 Street is located just north of a 300mm water main along Southfort Drive. This site also appears to have an adequate water distribution network to support the redevelopment of the site to accommodate a 20-storey residential tower. The water distribution system will be further strengthened in the future as development progresses to the south.
- The proposed greenfield development in the southeast part of Southfort is proposed to have a 300mm water main grid based on the 2008 study. As long as this area is developed with a strong water distribution system (as supported by future hydraulic analysis), there are no concerns about the proposed increased building heights.

For each of the above cases, a site specific hydraulic analysis should be carried out at the time of plan amendment (if required to accommodate the development), and if no plan amendment is required, at redistricting; this is reflected in the draft RHR District regulations.

2.3 Impacts on Wastewater Collection System

Increased building heights can result in higher wastewater flows, which can become problematic where the existing wastewater sewers are at capacity. ISL compared the tentative redevelopment site locations with the existing and proposed wastewater collection system from the 2009 Sanitary Sewer Model Input Data Verification to provide a high level assessment of the impacts of allowing higher buildings at these sites. The results are as follows:

- The old hospital site is located adjacent to a 300mm sanitary sewer which connects into larger diameter trunk(s) to the north. Without conducting a hydraulic analysis, it is not possible to determine if this trunk has adequate capacity. However, the presence of the 300mm sewer does offer greater potential for accommodating infill than would a smaller size.

- The proposed site immediately southwest of Highway 21 and 92 Street is located a few hundred metres west of an existing 675mm sanitary trunk along Southfort Drive. This trunk should be able to provide the needed conveyance capacity for the increased building heights, subject to a detailed analysis at the time of development.
- The proposes greenfield development in the southeast part of Southfort will presumably be serviced by the 675mm trunk described above. The increased flows associated with the increased building heights can be expected to be very small as compared to the overall wastewater flows in the area and the available capacity in this trunk, and thus the increased building heights should not be a factor for the wastewater servicing.

For each of the above cases, a site specific hydraulic analysis should be carried out at the time of plan amendment (if required to accommodate the development), and if no plan amendment is required, at redistricting; this is reflected in the draft RHR District regulations.

3.0 Transportation Engineering Analysis

ISL performed a high level review of transportation impacts to identify constraints, if any, at the identified locations for a high rise residential development, and appropriate district regulations for consideration. Specific site impacts would be identified when a proposed development is submitted and the details of the development are confirmed (e.g. number of units, site access).

ISL reviewed the 2009 Roadway and Right of Way Review Report, which outlines existing capacity constraints can be mitigated in the short and long term through improvements.

The 2009 Right of Way Review Report assumed the following population growth in the tentative site redevelopment locations:

1. Old Hospital – no population or employment growth assumed (traffic zone 205)
2. Southwest of Highway 21 and 92 Street – 1618 population increase and 120 employment increase (traffic zone 505)
3. Greenfield development in southwest Southfort - 6335 population increase and 585 employment increase (traffic zones 507, 508, and 517)

If the identified improvements are implemented little or no additional mitigating measures would be required for the highway and greenfield locations in Southfort. As the 2009 Right of Way Review Report did not anticipate any population growth for the old hospital site, it is likely its redevelopment with a high rise residential building would require additional mitigating measures to address traffic capacity constraints. A Traffic Impact Assessment would be necessary to identify such measures. We also reviewed the "Old Health Centre Site Redevelopment Brief", and found the transportation guidelines appropriate and applicable to the potential high rise residential development.

Although the additional mitigating measures for a residential tower cannot be determined without knowing the specific location, site access and number and type of units, we recommend that the draft district regulations consider the following issues to minimize the overall transportation impact while supporting the higher density development:

1. Allow mixed use – ground floor commercial or office will reduce vehicle trips generated by the site as residents may not need to leave the site to fulfill their needs.

2. Encourage alternative modes of transportation:
   a. Create walkable neighbourhoods that provide mixed land use and grocery stores within 400m (preferably 200m)
   b. Require direct sidewalk connectivity from building doors to City sidewalks
   c. Require sidewalks offsite to connect to other uses
   d. Require bicycle parking inside the building main floor for residents
   e. Require bicycle parking near the building doors for visitors – if the building is built near the property line allow the bike parking on the City right of way.

3. Require unbundled parking, where the residential unit and the parking stall are separate purchases. This creates a strong financial incentive to reduce the number of cars owned and attracts persons who can manage their needs with less cars. Unbundling can reduce required parking by 10% to 20%.

   Operationally, unbundling is difficult to achieve through Land Use Bylaw district regulations, as it is a matter of tenancy, not use. As a result, we suggest that the City explore how lower parking requirements may be achieved through its processes associated with reviewing and approving applications for condominiums and the within the regulations of the Condominium Act.

4. Encourage connectivity to public transit. If a location is within 200m walking distance of a public transit stop, require a 5% reduction in required parking.

5. Encourage a car share. If the building has a car share reduce required parking by 5% to 10% or by 4 to 8 parking spaces for each car share vehicle in the residential tower.

6. Prescribe parking maximums, not minimums.

4.0 Draft District

The draft RHR - Residential High Rise District is attached to this letter report as Appendix A. The text below highlights key features of the draft district and identifies how its provisions address the findings of the municipal and transportation analyses.

4.1 Development Regulations and Urban Design

The proposed District contains regulations intended to create buildings that present an attractive aesthetic through the use of building materials, site design, and reducing building mass. Below highlights some of the regulations that enable this to be achieved.

1. Although the building height and density is set at a maximum of 20 storeys and 370 units per hectare respectively, height and density will be determined by a combination of factors including:
   - the results of the angular plane calculations,
   - a Wind Impact Study;
   - Sun/Shadow Study;
   - Hydraulic analysis; and
   - Transportation Impact Assessment.

2. To ensure a compatible relationship with similar residential districts, such as the RMM District and RMH District, a building setback of 7.0m (23.0ft) is required. The District also allows for zero front and side building setbacks on sites where pedestrian oriented streets are developed.

3. A maximum podium height of four storeys, landscaping in addition to requirements of the existing Land Use Bylaw, incorporation of continuous weather protection in the form of a 2.0m wide canopy for commercial frontages, and underground parking is required to facilitate a comfortable pedestrian environment;

4. To ensure building articulation and visual interest architectural treatment of all sides of the high rise development is required, and a minimum stepback of 3.0m is required for that portion of a building four storeys, and through façade articulation for those that are greater than 20.0m.

4.2 Municipal Engineering

In order to address potential impacts on stormwater drainage system, the water distribution system, and the waste water collection system the following regulations are included in the draft District:

- The development shall provide green roofs, landscaped rain gardens, or utilize underground stormwater storage facilities to offset runoff; and
- Prior to the approval or issuance of any Area Structure Plan (ASP) or ASP amendment, Land Use Bylaw amendment, or development permit, the owner shall provide a hydraulic analysis to demonstrate sufficient fire flows to the development and that the existing wastewater collection system can accommodate the anticipated wastewater flows.
- If off-site improvements are necessary to accommodate development the owner shall enter into a Development Agreement with the City that shall include an engineering drawing review and approval process. Improvements to be addressed in the Agreement include but are not limited to the relocation and repair of infrastructure, construction of on-street fire hydrants, construction of sidewalk connections to create a continuous pedestrian environment and improvements to adjacent intersections to facilitate traffic movements into the area.

4.3 Transportation Engineering

In order to address potential impacts on the transportation system the following regulations are included in the draft District:

- Prior to the issuance of any development permit for the Old Hospital Site the owner shall be required to provide a Traffic Impact Assessment (TIA) to assess anticipated traffic and mitigate any transportation system impacts.
- The development shall include a minimum of two 3.0m (9.8) wide walkways from the front property line to the building and from the visitor parking area to the building and may require off-site sidewalk connections to ensure connectivity from building doors to City sidewalks and other land uses;
- Residient bicycle parking shall be located inside the main floor of the building.
- If a development is located within 200m (656.1ft) of a public transit stop the Development Officer shall reduce the required parking by 5%.
- If a development has a car share program the Development Officer shall reduce required parking by 10% or 8 parking spaces for each car share vehicle in the high rise development.

5.0 Graphic Illustration

The illustration of the RHR - Residential High Rise District is provided in Appendix B. The purpose of the graphic is to provide to City Council a visual representation of high rise development in the context of existing development height limits in the City. The illustration represents the development of a 20-storey tower along a typical cross section of 99 Avenue (Old Hospital Site).

6.0 Closing

We look forward to discussing the results of our work with you. We will be contacting you to schedule a time to meet and discuss the results of our work and draft district with you. If you have any questions, please feel free to contact me.

Sincerely,

Shauna Kuiper

Shauna Kuiper, M.Pl.
Senior Planner

Encl.

Appendix A

Draft RHR – Residential High Rise District

5.24 RHR – Residential High Rise District

5.24.1 RHR Purpose

This District is intended to provide for high rise housing and urban design direction for the successful integration of high density developments between 12 and 20 storeys, on large sites located outside the downtown and adjacent to arterial or collector roadways, preferably within 400.0m (1312.3ft) of a Residential Mixed Use Centre, or where identified by a statutory plan.

5.24.2 RHR Permitted and Discretionary Uses

RHR Permitted Uses:

- Accessory development
- Apartment dwelling
- Fascia sign
- Home office
- Identification sign
- Park
- Projecting sign
- Show suite in an apartment dwelling

RHR Discretionary Uses:

- Assisted living facility
- Business support service
- Community garden
- Day care facility
- Eating and drinking establishment (limited)
- Health service
- Office service
- Personal service
- Professional, financial and office service
- Public Utility
- Retail store (convenience)
- Retail store (general)
- Show home
- Temporary sales centre

5.24.3 RHR Site Subdivision Regulations for Apartment Dwellings

	Interior or Corner Site
Site Area	1,360.0m^2 (14,638.9ft_2) minimum
Site Width	40.0m (131.2ft) minimum
Site Depth	34.0m (111.5ft) minimum

5.24.4 RHR Site Development Regulations for Apartment Dwellings**

	Site
Angular Plane	Where the lot abuts a District containing a Single Detached Dwelling, Semi-detached Dwelling, or Duplex Dwelling as a permitted use, a 45° Angular Plane shall be taken from a height of 10.5m (34.4ft) above the property line and subsequent storeys must fit within this angular plane.
Building Height	a. The minimum Building Height shall be a minimum of 12 storeys or 40.0m (131.2ft) and a maximum of 20 storeys or 67.0m (219.0ft). b. The Building Height shall be determined by: • Angular plan requirements; • Wind Impact Study; • Sun/Shadow study; • Hydraulic Analysis; and • Transportation Impact Assessment.
Building Setback	a. A minimum Building Setback of 7.0m (23.0ft) shall be required from all lot lines and shall accommodate design features or street related activities, such as architectural elements, landscaping, public art or sidewalk cafes that contribute to the pedestrian-oriented character of the area. b. Notwithstanding (a.) above there shall be no Setback from the front or side lot lines where adjacent buildings abut the lot line to form a pedestrian-oriented street. c. Where no Setback is provided, development shall be subject to an encroachment agreement, if required. d. No utility servicing equipment shall be located within the front yard of any building.
Podium Height	The maximum height of a podium base shall not exceed four (4) storeys nor 16.0m (52.0ft).
Tower Stepbacks	A minimum stepback of 3.0m (9.8ft), shall be required for that portion of the building exceeding 14.0m (45.9) or four (4) Storeys.
Tower Separation	The minimum distance between a residential tower and any other tower shall be 25.0m (82.0ft).
Density	A maximum of 370 dwelling units per net developable hectare.
Site Coverage	a. 60% maximum for all buildings and structures. b. Notwithstanding "a" site coverage may be increased to 100% where the front or side lot lines of adjacent buildings abut the lot line to form a pedestrian-oriented street.
Minimum Common Amenity Area	A Minimum Common Amenity Area of 4.5m^2 (48.4ft^2) per Dwelling shall be provided in compliance with Section 5.14 of this Bylaw.
Minimum Private Amenity Area	A Minimum Private Amenity Area of 3.0m^2 (33.3ft^2) per Dwelling shall be provided and achieved through the use of balconies. Balconies may project a maximum of 2.0m (6.56ft) into the minimum Setback, except where there is no Setback required.

Landscaping	a. In addition to Part 4 - Section 4.8 and Part 5 – Section 5.10 of this Bylaw, a minimum of one deciduous tree shall be provided (minimum 50.0mm caliper, canopy occurring 2.0m (6.56ft) above finished grade) every 10.0m (32.8ft) along the street frontage, where the site is not built to property lines. b. The detailed Landscape Plan shall include two minimum 3.0m (9.8) wide walkways through the site (from the front property line to the building and from the visitor parking area to the building) to the satisfaction of the Development Officer.
Parking and Loading	a. Bicycle parking for residents shall be located inside the main floor of the building. b. Bicycle parking for visitors or commercial patrons shall be located adjacent to building entrances. If the development is built to the property line bike parking may be located on City right-of-way, subject to an encroachment agreement. c. Notwithstanding Part 11, if a development is located within 200m (656.1ft) of a public transit stop the Development Officer shall reduce the required parking by 5%. d. Notwithstanding Part 11, if a development has a car share program the Development Officer shall reduce the required parking by 10%, or 8 parking spaces for each car share vehicle in the residential tower. e. Resident parking shall be provided underground. Visitor parking may be provided at grade. f. Vehicular access shall be from the flanking roadway or abutting lane. In the event there is no flanking roadway or abutting lane, the vehicular access shall be designed in a manner that has minimal impact on abutting public roadways. g. Driveway ramps shall be at grade at the property line and must not exceed a slope of 6% for a distance of 4.5m (14.7ft) inside the property line. h. Adequate sight lines shall be maintained for vehicles entering and exiting the parkade, to the satisfaction of the Development Officer. Mirrors and/or a warning device may be required at the entrances by the Development Officer. i. Loading, storage and garbage collection areas shall be located to the rear or sides of the principal building. j. Service function areas, such as loading docks, truck parking, and utility meters, shall be incorporated into the overall design theme of the building and/or landscape.

** Internal site setbacks for condominium sites may be reduced and shall be determined at the discretion of the Development Authority.

5.24.5 Urban Design Regulations and Site Planning

(a) Architectural treatment of all sides of the building shall create visual interest through the use of architectural features, materials, windows and articulation.

(b) The tower exterior shall be finished with glass curtain wall, cementitous envelope materials, pre-finished metal, and/or painted metal.

(c) The building shall clearly differentiate residential entrances from commercial entrances through distinct architectural treatment.

(d) Exterior lighting shall be designed and finished in a manner consistent with the design and finishing of the development, be provided to ensure a well-lit environment and to highlight the development, to the satisfaction of the Development Officer.

(e) All mechanical equipment shall be screened from public view or be concealed by incorporating it within the roof envelope or by screening it in a way that is consistent with the character and finishing of the development.

5.24.6 Massing and Building Articulation

(a) The podium shall incorporate continuous weather protection in the form of a 2.0m (6.56ft) wide canopy or any other architectural element wherever commercial frontages exist to create a comfortable environment for pedestrians.

(b) The stepbacks in the mid-portion of the tower shall be designed to reduce the impact of the upper levels above the podium base portion of the building, to maintain view corridors, maximize solar penetration, and reduce adverse microclimatic effects related to wind and shadowing.

(c) The tower shall be differentiated from the podium, but should reinforce the design details, materials, and architectural expression from the podium.

(d) The building shall incorporate articulated façades, rooflines and architectural treatments that establish the building as a distinctive landmark for the surrounding areas.

(e) The Development shall incorporate design features to minimize adverse microclimatic effects such as wind tunnelling, snow drifting, rain sheeting, shadowing, and loss of sunlight, both on and off-site, consistent with the recommendations of the following studies to the satisfaction of the Development Officer.

   a. Prior to the issuance of a development permit the submission of a preliminary Wind Impact Statement or a detailed Wind Impact Study, or both shall be required. The Statement or Study shall be prepared by a qualified, registered Professional Engineer, to professional standards. The Study shall be based on a computer model simulation analysis.
   b. Prior to the issuance of a development permit the submission of a Sun Shadow Impact Study shall be required. The Study shall be prepared by a qualified, registered

Professional Engineer, to professional standards. The development shall minimize shadowing of on-site or adjacent amenity space, and adjacent development.

5.24.7 Entrances

(a) Building entrances shall be oriented toward a public roadway.

(b) All ground level residential units with street frontage shall have individual entrances that front onto the street and private outdoor amenity space. Entry transitions, such as steps, fences, gates or hedges, shall be provided to create an appropriate relationship with, and definition of, the public realm and the private space of dwelling units.

(c) Main building entrances for any Use shall be designed for universal accessibility as per the Barrier Free Design Guide published by the Safety Codes Council (Alberta) 1999, as amended.

(d) Level changes from the sidewalk to entrances of the building shall be minimized.

5.24.8 Development Regulations for Commercial Uses

(a) Commercial uses, if developed, shall be developed within the first two (2) storeys of the high rise development;

(b) Personal service, retail store (convenience) uses, professional, financial and office service uses and eating and drinking establishment (limited) shall not exceed 1,000.0 m^2 (10,763.9ft^2) in gross floor area or 10% of the gross floor area of the high rise development in which they are located, whichever is less. These uses are not permitted as a freestanding use in a stand-alone building, shall only be located in the first two floors of the high rise development, and shall have separate access at grade from residential uses;

(c) The placement and type of windows shall allow viewing into the building to promote a positive pedestrian-oriented street.

(d) At least 70% of ground floor commercial façades shall have clear glazing on the exterior; and

(e) Where the building frontage exceeds 20.0m (65.6ft), the front façade of the building shall be visually broken up with articulation at a minimum of 20.0m (65.6ft) intervals.

5.24.9 Sustainable Practices

(a) The development may apply LEED techniques to reduce consumption of water, energy, and materials consistent with best practices in sustainable design. Green sustainable targets may include Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, and Indoor Environmental Quality.

(b) The development may include Low Impact Design techniques to manage stormwater and reduce run off. This may be achieved by providing elements such as green roofs, landscaped rain gardens, or onsite bioretention facilities.

5.24.10 Technical Studies and Assessments

(a) In addition to Section 2.8.6 of this Bylaw, the Development Authority may also request that the applicant complete and submit any or all of the following:
   i. Traffic Impact Assessment;
   ii. Hydraulic Analysis;
   iii. Wind Study; and
   iv. Sun/Shadow Study.

(b) Notwithstanding the above, the owner shall be required to submit a Traffic Impact Assessment for development of the Old Hospital site south of 99 Avenue, east of Highway 15.

5.24.11 Off-site Improvements

(a) Prior to the issuance of any development permit, the owner shall enter into a Development Agreement with the City for off-site improvements necessary to serve the development. The Agreement shall include an engineering drawing review and approval process.

(b) Improvements to be addressed in the Agreement shall include any infrastructure improvements identified in any completed Traffic Impact Assessment, Hydraulic Analysis or other study, and are not limited to the following:

   i. Relocation of all underground and above ground utilities and maintaining required clearances as specified by the utility companies;
   ii. The construction of on-street fire hydrants, to the satisfaction of the Development Officer;
   iii. Provision of bicycle parking in accordance with Section 11.2 that is attributed to non-residential uses within the first two (2) storeys, where no front yard setback is provided.
   iv. Removal of all existing accesses as necessary to the site, with the restoration of the right-of-way to the satisfaction of the Development Officer;
   v. Repair of any damage to the abutting roadways and sidewalks resulting from construction of the development, to the satisfaction of the Development Officer. The site shall be inspected by the Development Officer prior to the start of construction and once again when construction is complete;
   vi. Provide sidewalk connections from the site to adjacent developments to create a continuous pedestrian environment;
   vii. The improvements to adjacent intersections to facilitate traffic movements into the area, if deemed required by a Traffic Impact Assessment or the Development Authority; and
   viii. Upgrading of adjacent right-of-ways directly abutting the site to appropriate standards.

5.24.12 Additional Development Regulations for RHR

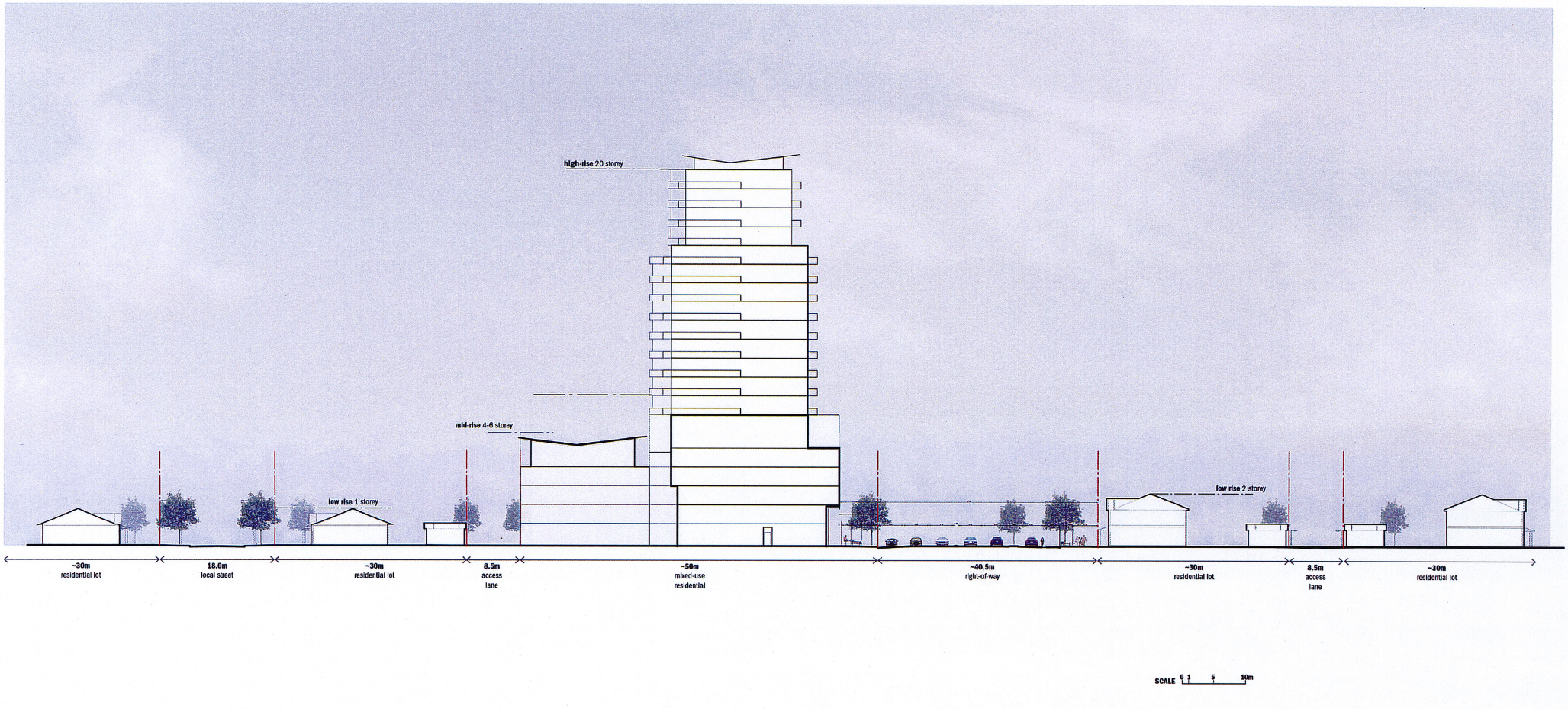
(a) All development and uses within this Land Use District are subject to the applicable provisions of Part 4 - General Regulations for all Land Use Districts, Sections 5.1 to 5.13 of Part 5 - Residential Land Use Districts, Part 11 - Parking and Loading, and Part 12 – Signs;

(b) Prior to the issuance of a Development Permit, the Owner shall enter into an Encroachment Agreement for any portion of the development that is to be located on public land to the satisfaction of the Development Officer.

Appendix B

Illustration – Building Heights Analysis

City of Fort Saskatchewan Height Analysis



Summary Report of Public Feedback

Building Height Limit for Apartments in Fort Saskatchewan

Purpose:

This report summarizes the public feedback and responses received regarding the possibility of increasing the maximum allowable height of high-rise apartment buildings in the City of Fort Saskatchewan.

Background:

An important component of potentially increasing the height limit of high-rise apartment buildings was public engagement. This included providing information on the topic, and collecting public feedback.

Planning & Development Services led the public engagement with support from Communications & Marketing. The public engagement and feedback strategy was designed to ensure the public could respond through a variety of methods. This included an online survey and poster/feedback form displays set up at different City facilities.

The public engagement occurred over a three week period beginning on Friday February 6, 2015 and ended on Friday February 27, 2015.

Online Survey:

The *Building Height Limit for Apartments in Fort Saskatchewan Survey* was accessible on the City of Fort Saskatchewan's website during the three week public consultation period. The online survey consisted of two questions (Attachment 1). The first was a multiple choice question asking whether the respondent supported 12, 15, or 20 Storeys. The second question was a text box asking the respondent to type in their opinions on height limits for high-rise apartments in the City.

The online survey was designed so one survey could be submitted per IP address to prevent the survey from being compromised. The respondent did not have to answer all of the questions to submit the survey.

The survey was available on the Public Engagement webpage. During the initial launch, there was a link on the City's main webpage to the survey. Planning & Development Services had an information page on the proposed height increase of high-rise apartments in Fort Saskatchewan that also linked to the survey.

The online survey was promoted through the City of Fort Saskatchewan's main Facebook Page and Twitter account. It was also promoted through Planning & Development Services' Facebook page and Twitter account.

During the three week consultation period, 121 online surveys were submitted.

Poster/Feedback Form Displays:

Another public engagement method also included setting up an information/feedback poster displays at different City facilities (Attachment 2). Three large mounted posters (40" x 32" inches) were created and included scaled graphics and information on the proposed height increase for high-rise apartment buildings. The poster had spaces where respondents could place a sticker if they supported 12, 15, or 20 Storeys.

The poster displays provided feedback forms (Attachment 3). Respondents filled out the forms by hand and submitted them into folders that were collected by staff.

There were three poster/feedback form displays in total that were set-up during the three week consultation period (Attachment 4).

Poster display 1 was set-up in the Shell Theatre lobby located in the Sherritt Cultural Pavilion of the Dow Centennial Centre (DCC) from February 6th to 23rd. The display was then moved to the lobby in City Hall from February 23rd to 27th. A total of 173 stickers were placed on this poster.

Poster display 2 was set-up in the Dow Centennial Centre (DCC) lobby from February 6th to 27th. A total of 325 stickers were placed on this poster.

Poster display 3 was set-up in Harbour Pool's lobby from February 9th to 17th. This display was then moved to the Jubilee Recreation Centre lobby from February 17th to 24th. A total of 171 stickers were placed on this poster.

A total of 18 completed feedback forms were collected from all of the poster displays during the three week engagement period.

Results:

The public feedback results were collected and calculated after Friday February 27th.

Online Survey:

The results from the online surveys were reviewed and totalled. The results of the multiple choice question were calculated to determine the total number in support of 12 Storeys, 15 Storeys, 20 Storeys, and n/a responses. A breakdown of the results are included in this report (Attachment 5).

Online Survey Results	
Number of Storeys	**Number of Votes**
12 Storeys	65
15 Storeys	17
20 Storeys	28
N/A	11
Total	**121**

The opinion/comments provided in question two were collected and provided for review (Attachment 5). All of the survey results collected follow the City of Fort Saskatchewan's *Freedom of Information and Protection of Privacy Act* (FOIP) policies.

Poster/ Feedback Form Displays:

The results from the poster/feedback form displays were reviewed and totalled. This included counting the stickers placed on the three poster displays and calculating the total number in support for 12 storeys, 15 storeys, and 20 storeys. A breakdown of the results are included in this report (Attachment 6).

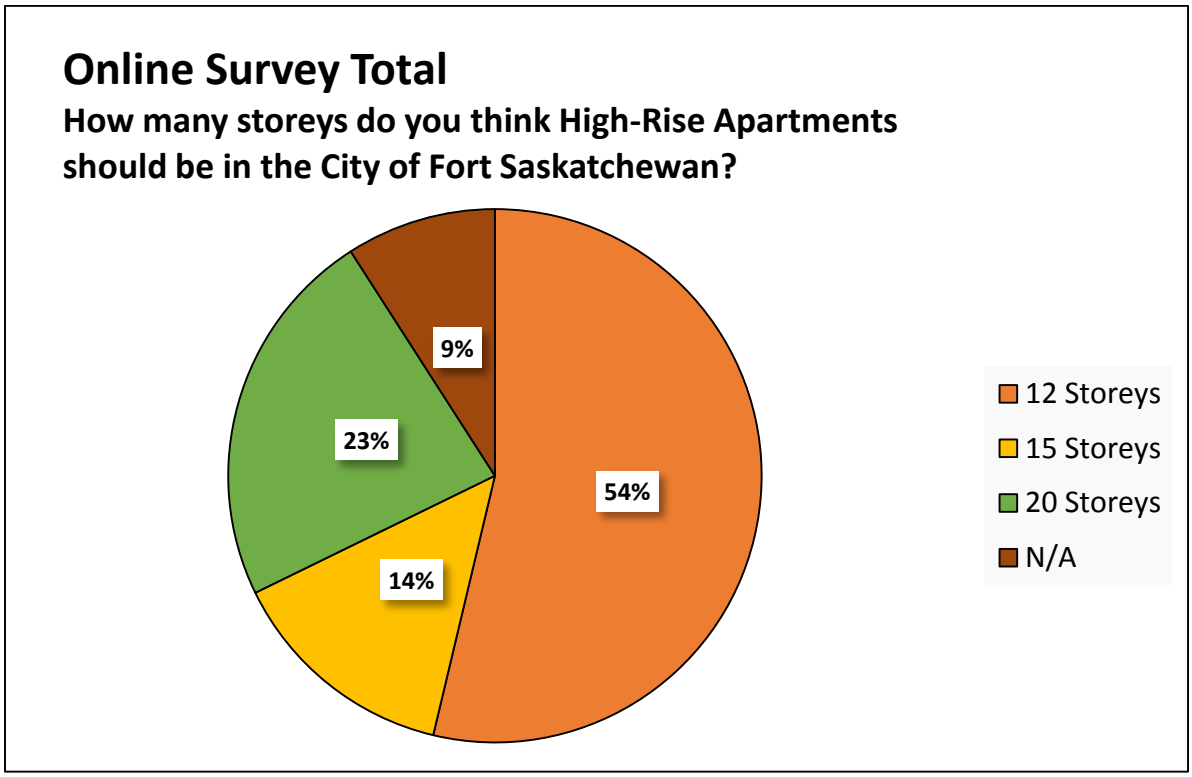
Total Poster Results from all Facility Locations	
Number of Storeys	**Number of Votes**
12 Storeys	226
15 Storeys	92
20 Storeys	351
Total	**669**

The feedback forms were collected and the respondent comments transcribed (Attachment 6). All of the feedback results follow the City of Fort Saskatchewan's FOIP policies.

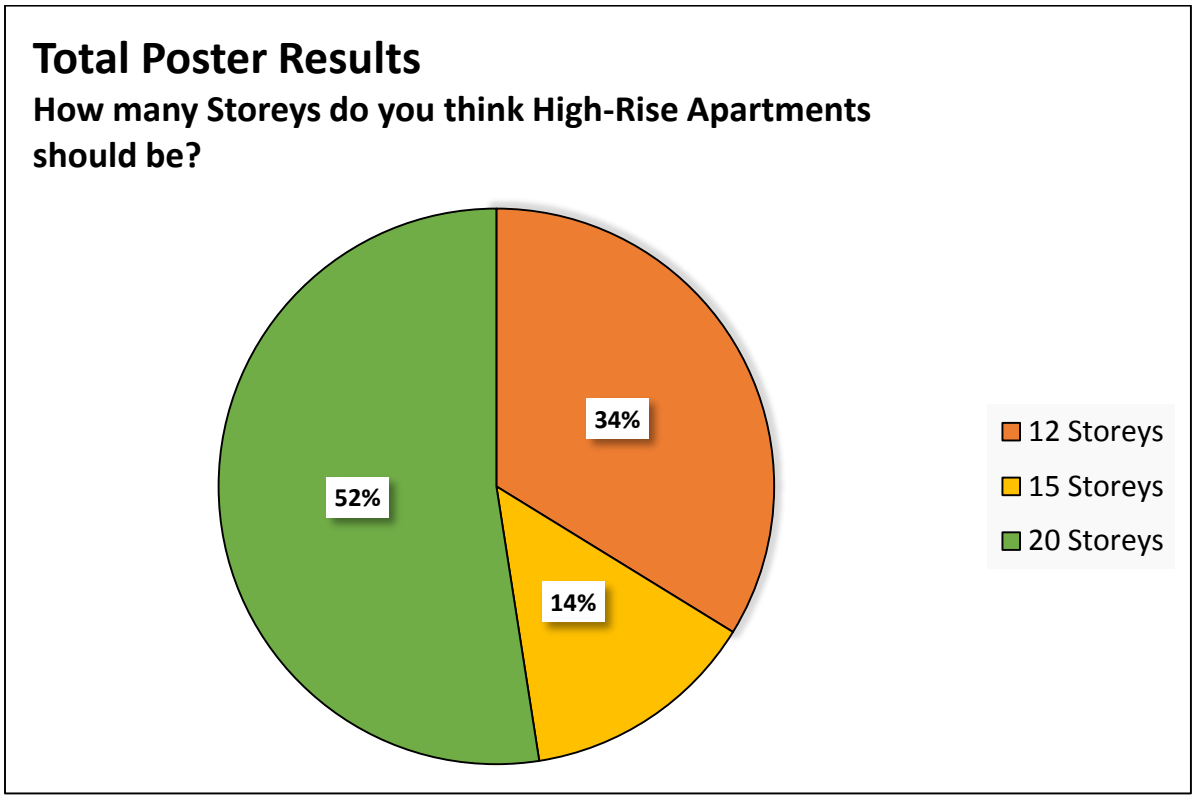
Analysis:

The feedback received shows that the public has various perspectives on the proposed height limits of 12 storeys, 15 storeys, and 20 storeys. Respondents provided a variety of comments for and against different building height limits.

The online survey results show that a majority of respondents (54%) support a height limit of 12 storeys for apartment buildings. This is followed by 20 Storeys (23%), 15 storeys (14%), and no answer/none of the above (9%).



The poster/feedback form display results show that a majority of respondents (52%) support a height limit of 20 storeys for apartment buildings. This is followed by 12 Storeys (34%), and 15 storeys (14%), and no answer (9%).



A number of themes emerged from the public opinion and feedback. Some of the reoccurring themes are listed below for each building height.

12 Storey Height Limit:

- Supporters of 12 storeys want to retain the existing “small town” feel of Fort Saskatchewan.
- Effects of high-rise apartments on the city’s skyline.
- Concerns on existing infrastructure (roads, sewers, etc.) and whether it can accommodate high-rise apartment buildings.
- Concerns on traffic congestion and increased number of cars generated from high-rise apartment buildings.

15 Storey Height Limit:

- Respondents feel this is an appropriate compromise between a 12 storey and 20 storey height limit.
- Accommodating new growth while retaining the “small town” feel of Fort Saskatchewan.

20 Storey Height Limit:

- Respondents feel this provides an opportunity for accommodating new growth in the City.
- Provide new and affordable housing units for residents.
- An alternative to the shortage of greenfield lands for new developments.
- The economic benefits of “building up not out” to accommodate growth at higher densities.

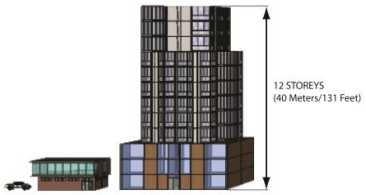
The analysis generated from the collected public feedback shows that the public has a variety of views and opinions on the potential increase of height limits for high-rise apartment buildings.

Attachment 1

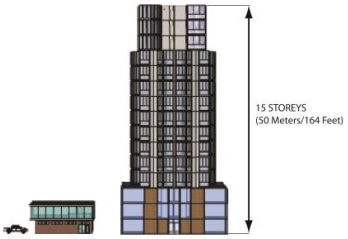
Height Limit for Apartment Buildings outside of the Downtown

The City of Fort Saskatchewan is considering whether the maximum height limit for high-rise apartments should be increased. Currently, apartments can be 12 storeys in designated areas outside of the Downtown. We are looking at whether the maximum building height outside of the Downtown should be increased.

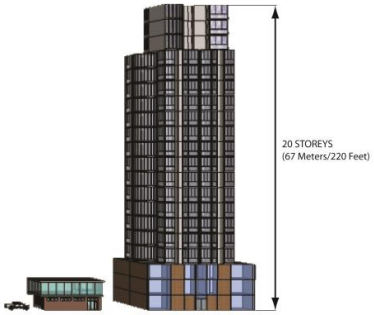
How many storeys do you think High-Rise Apartments should be in the City of Fort Saskatchewan?



12 STOREYS
(40 Meters/ 131 Feet)
Current Maximum



15 STOREYS
(50 Meters/ 164 Feet)



20 STOREYS
(67 Meters/ 220 Feet)

12 Storeys (40 Meters/131 Feet)- Current height limit
15 Storeys (50 Meters/164 Feet)
20 Storeys (67 Meters/220 Feet)

We want to hear your opinions on the height limit of apartment buildings in the City of Fort Saskatchewan. Click the link below to access the survey

SURVEY- BUILDING HEIGHT LIMIT FOR APARTMENTS IN FORT SASKATCHEWAN

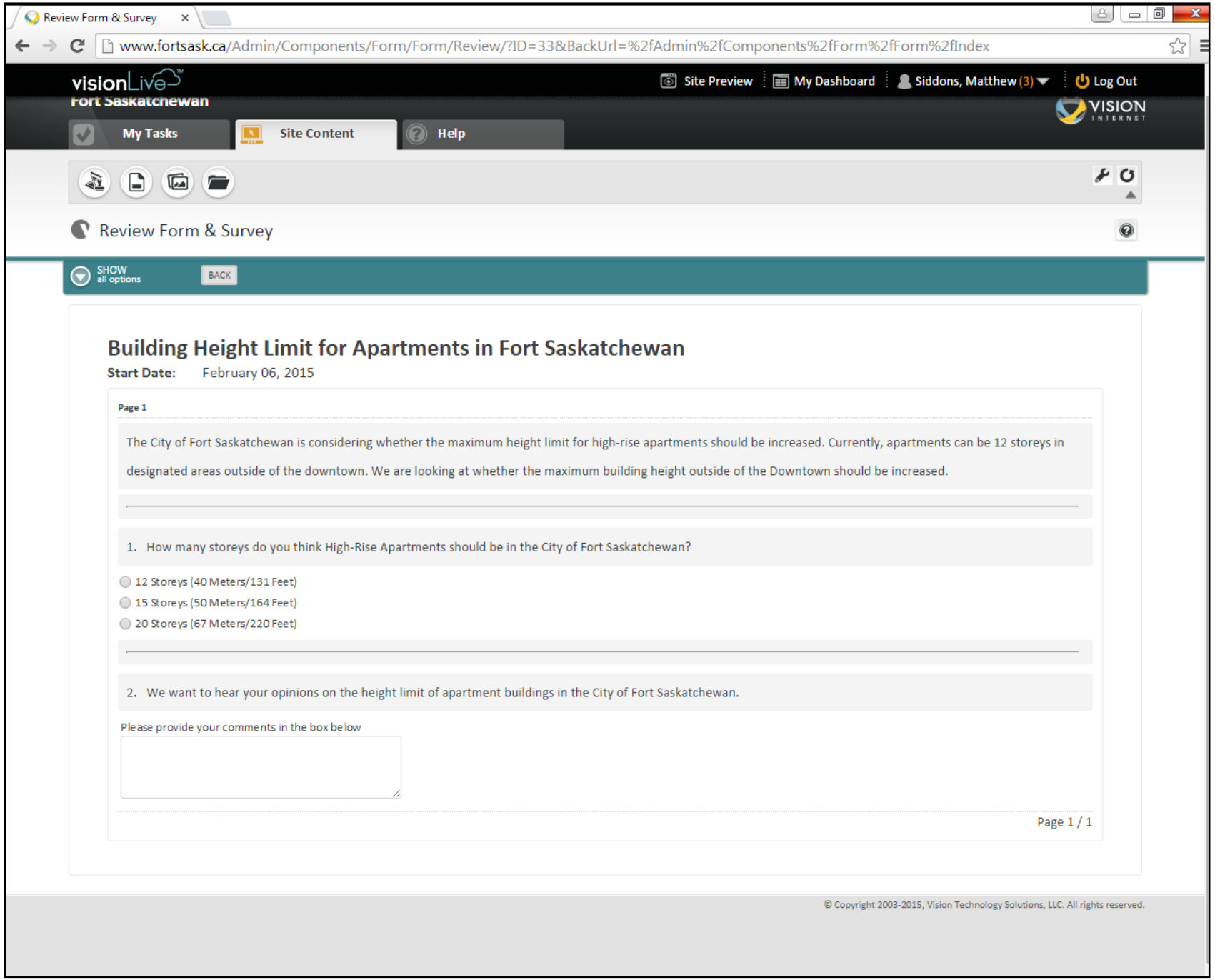
Thank you for your responses and valuable feedback. Some residents have asked why less than 12 storeys was not an option. Currently, the height limit outside of the downtown is 12 storeys. This current height has been in place since 2008. At this time, we are not considering decreasing the height limit. Thank you again, and please continue to provide your input through the discussion box.

You can also fill out the Feedback Form below and submit it to landuseplanning@fortsask.ca or fax it to 780-992-6180. Forms can be submitted in person to Planning & Development Services, 2nd Floor of City Hall - 10005 102 Street.

Feedback Form Apartment Building Height Limit

Apartment Building Height Comparison poster

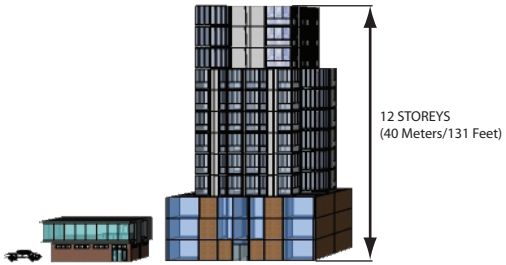
Schedule I- Building Height Limit for Apartments in Fort Saskatchewan Survey



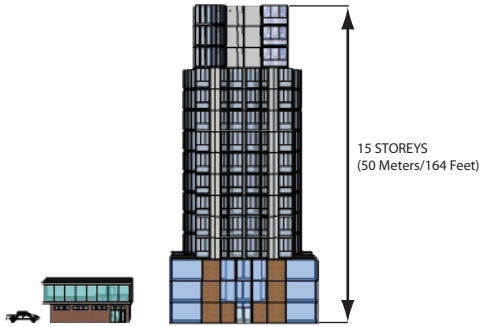
CITY OF FORT SASKATCHEWAN
HOW HIGH SHOULD WE GO?

Attachment 2

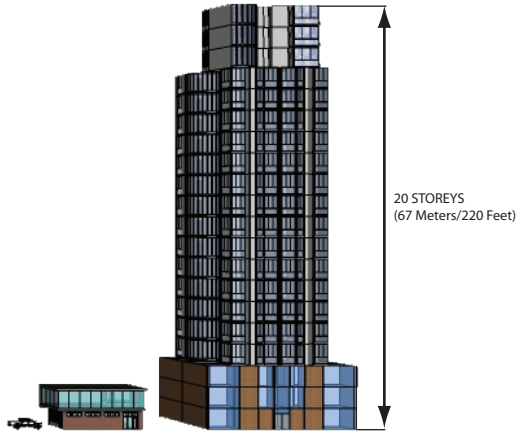
How many Storeys do you think High-Rise Apartments should be?



12 STOREYS
(40 Meters/ 131 Feet)
Current Maximum



15 STOREYS
(50 Meters/ 164 Feet)



20 STOREYS
(67 Meters/ 220 Feet)

Apartment building heights outside the Downtown
The City is reviewing height limits for high-rise apartments. Currently, apartments can be 12 storeys in designated areas outside of the Downtown. To support growth and sustainability, we are looking at whether the maximum building height outside the Downtown should be increased.

Final locations will be determined through the rezoning process. All rezonings include a Public Hearing, which provides residents with the chance to voice their opinions to Council.

We want to hear your opinion!
We are interested in hearing your opinion on apartment building heights. Please **place a sticker in the boxes** above to show which **height you support**. Please include your comments on the feedback forms provided. Visit fortsask.ca for more information, or to submit your comments online.

CITY OF FORT SASKATCHEWAN

Planning & Development Services
Location: 2nd Floor of City Hall,
10005 – 102 Street Fort Saskatchewan
Phone: 780-992-6198

Fax: 780-992-6198
Website: www.fortsask.ca
Email: landuseplanning@fortsask.ca
Facebook: facebook.com/fortsaskplanning
Twitter: @fortplanning

CITY OF
FORT SASKATCHEWAN
FORTSASK.CA

10005 – 102 St., Fort Saskatchewan, Alberta T8L 2C5

BUILDING HEIGHT LIMIT FEEDBACK FORM

The City of Fort Saskatchewan is considering whether the maximum height limit for high-rise apartments outside of the Downtown should be increased. We want to hear your opinions on the height limit of apartment buildings in the city.

Name: _____

Date: _____

Neighbourhood of Residence: _____

Building Heights you Support: ____ 12 Storeys ____ 15 Storeys ____ 20 Storeys

Comments:

_____

_____

_____

_____

_____

_____

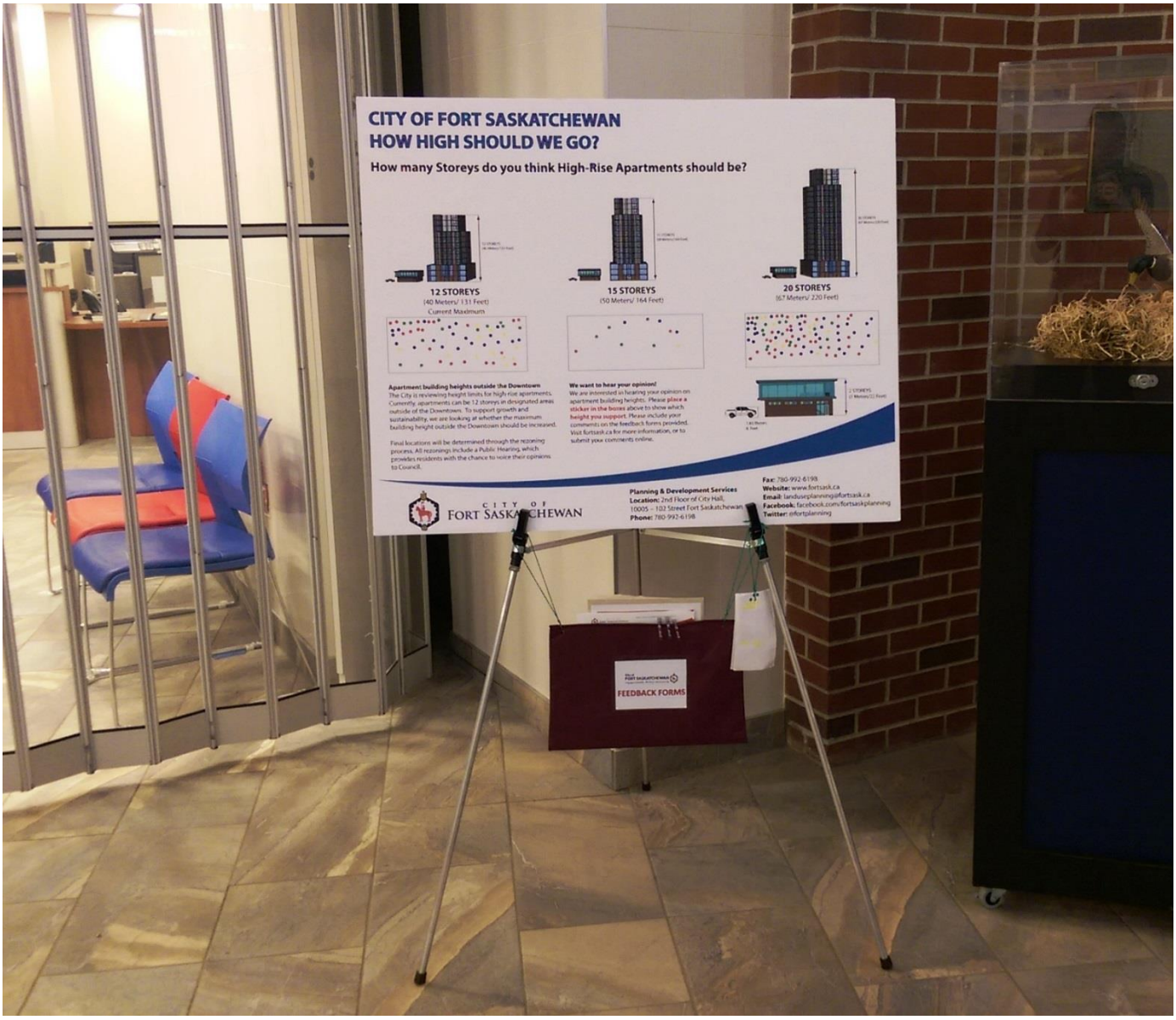
_____

_____

_____

Forms can be placed in the envelope provided, emailed to landuseplanning@fortsask.ca, or faxed to 780.992.6198. For more information go to fortsask.ca. Personal info on these forms will not be shared.

Attachment 4- Poster/Feedback Form Display



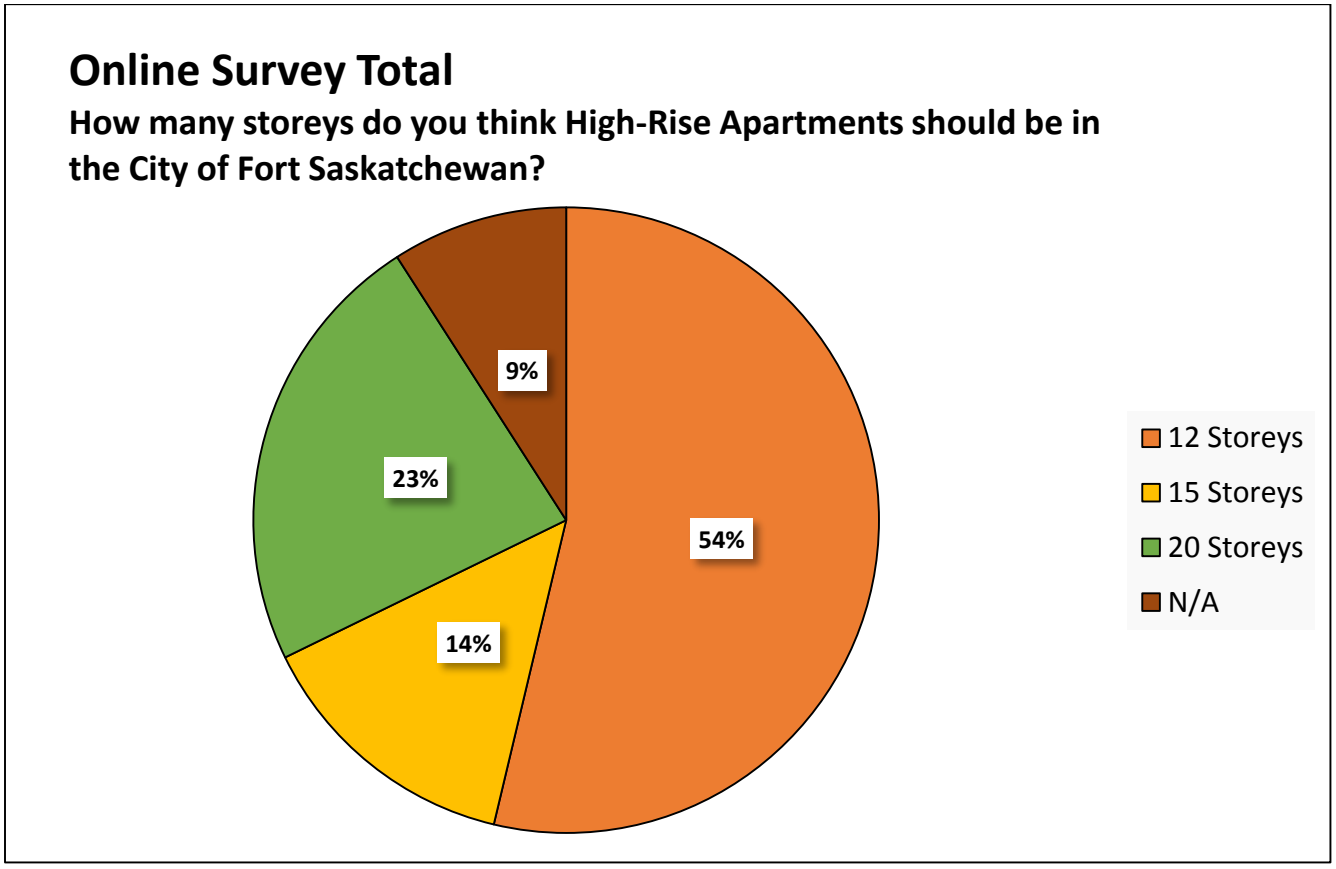
Attachment 5- Public Feedback Online Survey Results

Building Height Limit for Apartments in Fort Saskatchewan Survey Results

1. How many storeys do you think High-Rise Apartments should be in the City of Fort Saskatchewan?

    - 12 Storeys (40 Meters/131 Feet)
    - 15 Storeys (50 Meters/164 Feet)
    - 20 Storeys (67 Meters/220 Feet)

Online Survey Results	
Number of Storeys	**Number of Votes**
12 Storeys	65
15 Storeys	17
20 Storeys	28
N/A	11
Total	**121**



2. We want to hear your opinions on the height limit of apartment buildings in the City of Fort Saskatchewan.

# Storeys	Opinions/Comments
N/A	Considering the existing building landscape of Fort Sask, constructing an apartment building more than ~ 8 stories is a bad idea. More than 12 stories?....a terrible idea. Where could something like that be built without having an existing neighbourhood live in the shadows? Plus, it would look ridiculous to have a 12+ story building in our low-rise city. Perhaps in the future (decades from now), 12+ stories might make sense, but should be located in future, annexed City land. If you are currently looking at the parcel of land that is zoned high density on Town Crest Road, and considering 12+ stories for that, I think that is a mistake. It would look terrible, and would be a running joke of the Capital Region.
N/A	I believe even 12 stories is too high in our community. Nothing is even close to that height currently. To jump to that height (or higher) would look ridiculous.
12	12 Storeys would be a big step in bringing higher densities to downtown Fort Saskatchewan, I am not sure how going higher would be a benefit. Would underground parking be proposed?
12	I feel when they become too high, it takes away from the small city feel.
20	I think MORE information is needed. I think it depends on where it is being built, whether in middle of mainly residential, or something closer to the new downtown area, mall, commercial area? All depends on where.
12	Considering FSFD only has a ladder truck that extends to 100 Ft , I wouldn't suggest going to much that 12 stories until such time that it is in the Capital budget to replace that unit with a bigger one.
20	I think Fort Saskatchewan is in need of more rental places given the transient workers who come in and out of the town. This will open up more hotel rooms and rooms for rent in houses and even apartment rentals for long term residents. There is however, always a downside. The crime has been growing in the town exponentially since the town has grown. Many friends and family of mine have had their vehicles broken into or vandalized, and my boyfriend even had his home broken into just this week. If we grow the rental options in the town, then we need to seriously think about growing the police force and monitoring before we expand.
20	I think go as high as you want. More room for people to live without taking up valuable land.
12	I think the height restriction should stay the same and not be increased. Part of what makes Fort Saskatchewan have the 'small town' warm, homey' feeling is the absence of high rises which I think is great, and necessary. I don't see any need to build buildings upwards of 15 stories tall here in the Fort.
20	Why should there be sky high limits the Fort is growing we either grow together or fold together
12	Do not increase this limit in order to market the hospital land. Let us try to have some small town left in us, we do not need to continue to bend and break the rules for builders. We have the mindset that this is the only way they will come here/build here but it is not the case and we should not be the

	community that is always out for business, make this a great city to live because it is listening to citizens and maintaining small town charm
12	The lower the better. We don't need our beautiful city to start looking gross with massive buildings. Can our fire department handle a 20 story fire?
15	There is no real restrictions like a nearby airport. But a 15 or 20 storey would look very out of place. And if not done right, styling and color wise, you could have a 20 storey eye sore in a few years.
12	It all comes down to parking and traffic flow. The more people in one area the more problems with traffic congestion.
N/A	Even 12 storeys is too tall
12	I think 12 stories in more than tall enough.
12	too many cheap looking apartments are being built in Fort Saskatchewan
12	I think apartments are terrible for our community. They create congestion, are an eye sore and if low rent can attract crime etc.
20	No limits. Good for the environment, good for lower cost units.
12	I don't even agree with the 12 stories I think anything over 5 is excessive. This takes away from the visual appeal of the city this size. Ridiculous that this is even being considered
12	12 stories does not fit the small town feel we have in the Fort. Increasing height is not an option most want in the Fort. The only one to being it will be the developers. Do not let them keep over riding or hood winking council. Repeat no increase in height. In fact the max should be 6 stories!
20	I feel that allowing taller buildings only encourages more housing to be available which would encourage affordable living, which as a university starting to realise that staying in Fort Saskatchewan is unrealistic, sounds great
15	I'm curious why this is being pursued? Do we currently have any buildings that are even 12 stories? I think if there's a call for taller apartments, then we should make allowances for that, within reason. However, having said that, I would hope they control the location more closely so we don't ever have a repeat of the tall-ish condo right in the back yard of single story homes like the development along the river.
20	Height shouldn't matter. The more people the better in our city
15	Tall apartments are fine as long as the firemen have ladders high enough to save people if they start on fire.
15	At this time, 12-15 stories would tower over everything else. Start at that and see how it goes.
15	Don't get too carried away but another 3 stories aren't going to hurt anyone.
12	I thought we had a 4 Storey Maximum height in Fort Sask Your question only goes the smallest at 12 storeys I plan on fighting this apartment building the whole way - 4 stories max!
12	I do not think we should be considering high rise buildings as an option. This is a family community and is not the place for cheap high rise buildings so a developer can cash in on low income priced units.
20	Build them tall skyscrapers in the fort! Be sweet!
N/A	None of the above. Apartment buildings should not be any higher than 6 stories in this community. Especially if they are built right next to an existing apartment building.
12	I love living in the fort because it's so different from Edmonton. Edmonton is too crowded. I feel high rises would affect the beauty of our city.

15	It should be dependent on what the fire dept. can accommodate. If they can successfully attend and attack a 20 story bldg., then that would be fine.
12	Tall high rises take away from the small town feel. I moved here to get away from the big city feel of large overpowering buildings! If I wanted big lurking buildings I would move to a big ugly City!
20	It would be good for a fast growing city such as ourselves to have tall apartments downtown, for that will bring more residents downtown, and more development.
12	12 storeys outside of the downtown core is enough. Apartment buildings reduce direct sunlight and may reduce privacy in yards.
N/A	You have asked the wrong question. It should have been do you think high rises should be allowed in Fort Saskatchewan
15	It really doesn't matter to me. 12 or 15 stories is fine as long as it is out of the downtown core.
N/A	Without a full time fire dept. to ensure better response times then a volunteer service can offer a high rise of these heights would be crazy. That's a huge task to evacuate and do search and rescue in something of those sizes! It's not fair to the fire fighters of this city to put them in that situation
20	Time for us to grow UP
N/A	I think fort Saskatchewan should still be considered a town and I don't agree that the apartments should be built over 6 stories. I feel that if we had high rise apartments we would lose our small town charm.
12	I'm not clear as to why this is currently an issue considering our highest building is only 5-6 storeys. Anything over 12 would look incredibly out of place. However, if there is interest I don't see a real reason why not to build higher (provided that ER services are upgraded to handle it).
12	It's a difficult choice between effective land use and maintaining the small city atmosphere that makes the Fort so appealing. I find high towers in Edmonton and Calgary block out sun and are sterile buildings without much architectural merit.
12	12 storeys is a great starting point. We can always make them taller in the future.
N/A	High rise apartments should not exist in residential areas with houses. We now have to deal with an apartment building looking right down into our backyard. There goes our privacy.
12	We shouldn't start too high. It would look out of place here. Start with 12 stories and we can get higher later
20	Let them grow tall! Help build our city and allow it to grow!
20	I personally think having the tallest set at 20 stories high would give ample room for growth, and more opportunity for housing/new business opportunities. Seeing high-rises in Fort Saskatchewan would be an amazing thing to see, as to how far our community has grown within the 21 years I've been in the city.
12	I don't know anything about the technicalities of apartments, however, as a member of Fort Sask I like the small town feel. Seeing even a 12 story building makes me feel like a "big city" kind of look. I don't want to see 12 story buildings either. 5-6 even seems high. I like driving into the Fort and still saying to my kids - "look there is the water tower - home is close" and they are 11 and 12 now. I am proud to say where we live - the tallest building

	is the water tower even though the Integra building is tall also. I took the kids there for a pop so they could see above the trees and the city we live in.
20	If the occupancy can be filled, they should be allowed to go as high as safety services can realistically protect them should fire or some other disaster take place. High occupancy is the best way to ensure public transit succeeds
12	Actually I think high rises belong in the downtown. Though I do consider downtown to include areas somewhat beyond the official area. My home is across from Co-op, but not considered downtown, for example. Obviously it is downtown in fact. I would go for 15 or even 20 stories downtown, in the old mall area, for example.
15	Might help city centre look like the centre of community.
12	The reason why I moved to Fort Saskatchewan was for how unique it was. Not like any other typical City. No huge high rise buildings towering in the beautiful downtown core. No huge ugly high rise buildings in the pristine neighbourhoods. I wish your survey would have included no high rises. The 5 story buildings we have now are high enough. Don't take how unique and beautiful Fort Saskatchewan really is away. It would be an awful shame.
12	They block the sun, I think 12 is good unless there is a very good argument for more???
12	Please not too high! This is a small city, and I think it will dwarf us. I also think it's unnecessary.
12	Low-rise apartments rather than high-rises give our city a "small town" charm. High-rise apartments would ruin the family-friendly feel of the Fort and make it just like any other city. High-rise apartments would definitely detract from our beautiful city and ruin our sky-line.
12	Tower Idea for Hospital Site - I would like to know whose idea this was. Does City Council not understand what this community needs? It does not need any kind of high rise condos - 12, 15 or 20 storey. We need affordable housing for seniors and perhaps another Dr. Turner Lodge type of facility. That whole hospital area needs to be reserved for a senior's development. These are the folks that made this City was it is today. If any of you think it is because of Mayor and Council (past, present or future) you are sadly mistaken. Without our seniors this City would be less than nothing. They deserve our support and respect. The people of this City make it what it is. If you want a Legacy - let it be that you were proud of our seniors and want to make sure that they are taken care of at a time in their life when they need it most. To sell that property to a developer to build a 10 or 12 story condo in the midst of a well-developed 'small town' area of this city is laughable at best. When is Mayor and Council going to start putting the needs of this Community above their need for a LEGACY. Having a large condo building in that area of town WILL NOT bring people to the downtown area - businesses are still building on the other side of the highway. There is not proper infrastructure in that area. The only road into and out of that area is congested during rush hours. There are no proper sidewalks or safe crossings. It is bad enough for those that live in behind that area or ones that go into the 2 clinics there. What about when the residents move into Dr. Turner? You cannot honestly believe this is a good idea for the City of Fort Saskatchewan. Your Heritage Centre got turned down and I truly hope this does too. I cannot believe the order of priority for this Mayor and Council. Mayor thinks the City of Fort Saskatchewan will continue to boom during this

	economic downturn or recession or whatever you want to call it. Perhaps the City will survive; I certainly hope so. But this has affected, is going to or will affect many residents in this City that depend on the oil industry for their paycheques. While the City may survive, some of our residents may not. Where are your priorities? Seriously, I cannot believe I voted for some of you. Make no mistake, it won't happen the next time around.
12	I believe that the skyline of the city should (as much as possible) allow for clear, open views of the surrounding river valley and open areas. My family and I chose to live in this city because of the abundance of green space, open sky, and the beauty of the river valley and parks. I believe the overall aesthetic of the city would be negatively impacted by large, looming high-rises of any kind.
12	Tall buildings are not only an eyesore in a community like this, but also a safety concern. If plans are in the works to build these structures then consideration must also be given to how the city would respond to a fire or other emergency on the top floors.
12	They should be limited to 6 stories or less. We're Fort Saskatchewan, not Edmonton. People who want to live in a big, dense city can move there. Please don't bring the high density out here.
12	I think 12 or lower would suite the city and fit in ok. Anything taller would take away from the cultural side and over all look of the city.
N/A	None of the above. Building a 12 storey will cause traffic problems and take away from the city of FS. We are not a big city that needs high rises. We moved to The Fort to get away from "the big city"
12	I believe that the maximum number of stories should be decreased to 5 floors.
12	I don't have any problem with hi rises I just feel that 12 stories is high enough for our little city. But if we had to go higher I don't have a problem with that either.
12	So far we already have 12 story on the books but we do not have a 12 story building yet. I think 12 is enough.
12	I only put 12 because there was no lower option. We moved here because it wasn't a large, tall, loud city. We understand growth, but please do not lose the charm of our city. It's what brings people here.
12	If you build any of the options of these high rises in such a small area the parking or downtown area will become congested as there is little access in or out for that amount of population. Disappointed as the community is become condensed and lack family appeal for parks or sports areas. Money and or time as members of council should be spent investing into the roads and traffic flows and upgrading the hwy 15 bridge to twin it! :(
N/A	There was no option for 4 or 6. What gives? I feel firmly that 12 or more is way too much. That would also clog one of the only roads out of town. Not a fan.
12	I do not want to see skyscrapers in the Fort. Even 12 storeys is too high. Six storeys would be the highest.
12	Leave it as it is
N/A	6 stories is plenty high enough in the older part of the Fort! We are not and never will be the big CITY nor do we wish to be!!
12	lower as possible in my opinion for safety concern
20	We need more apartments this is good!

20	will run out of space if don't
20	Going up costs nothing. Going out costs millions.

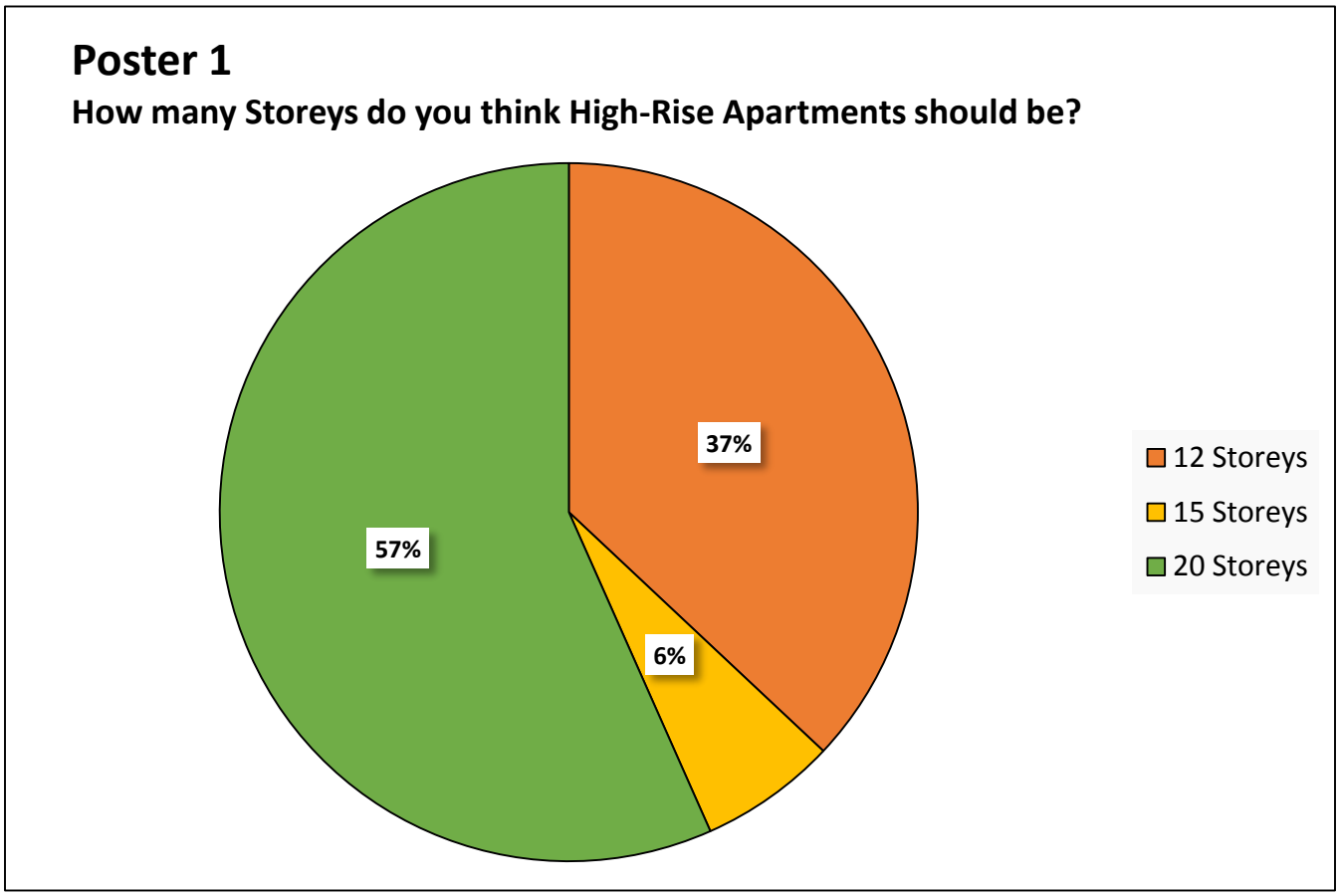
Attachment 6- Poster/Feedback Form Display Results

Building Height Limit for Apartments in Fort Saskatchewan Poster Results

Poster 1- Shell Theatre Lobby/City Hall Lobby

1. How many Storeys do you think High-Rise Apartments should be?

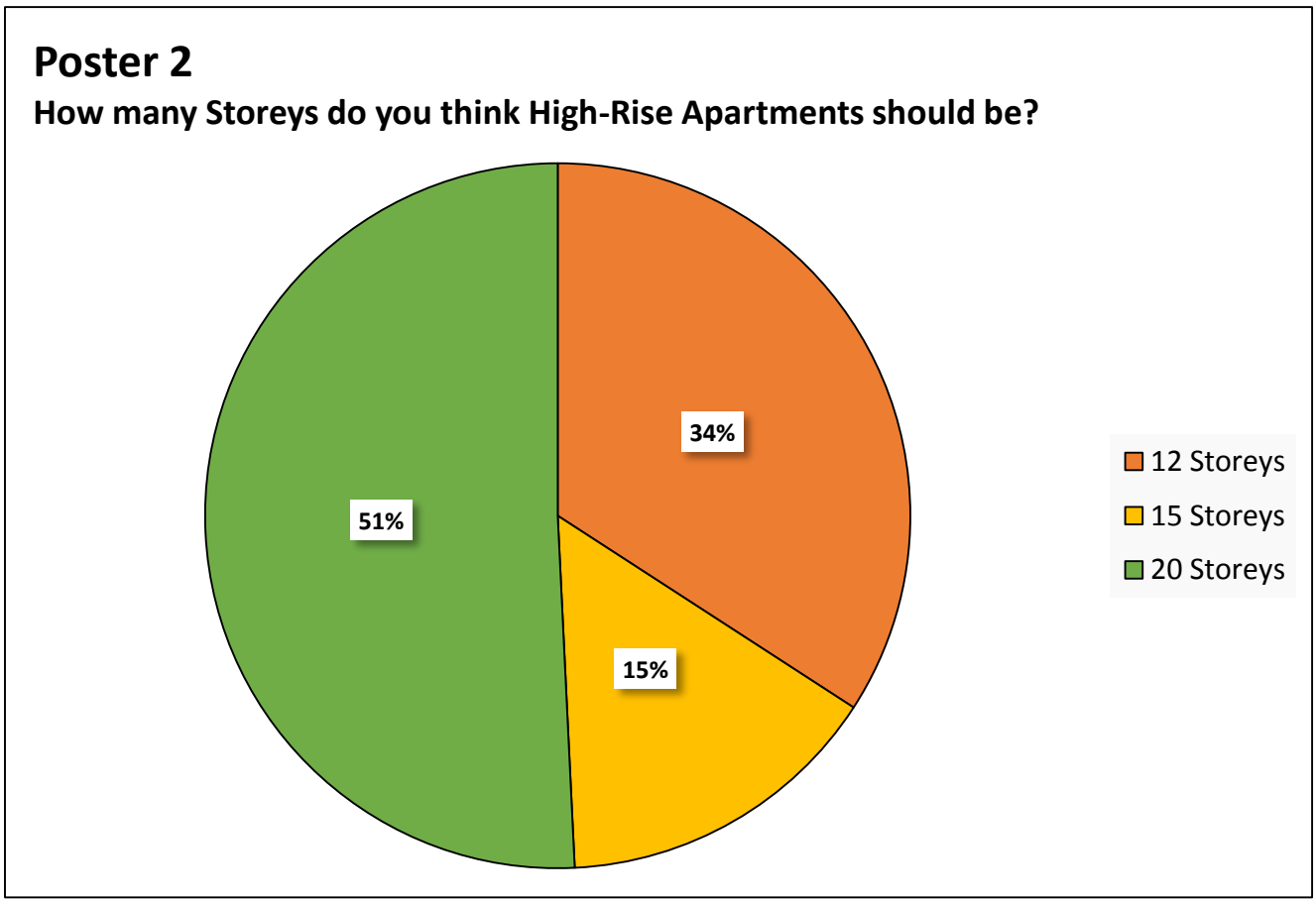
Poster 1 Results	
Number of Storeys	**Number of Votes**
12 Storeys	64
15 Storeys	11
20 Storeys	98
Total	**173**



Poster 2- Dow Centennial Centre (DCC) Lobby

How many Storeys do you think High-Rise Apartments should be?

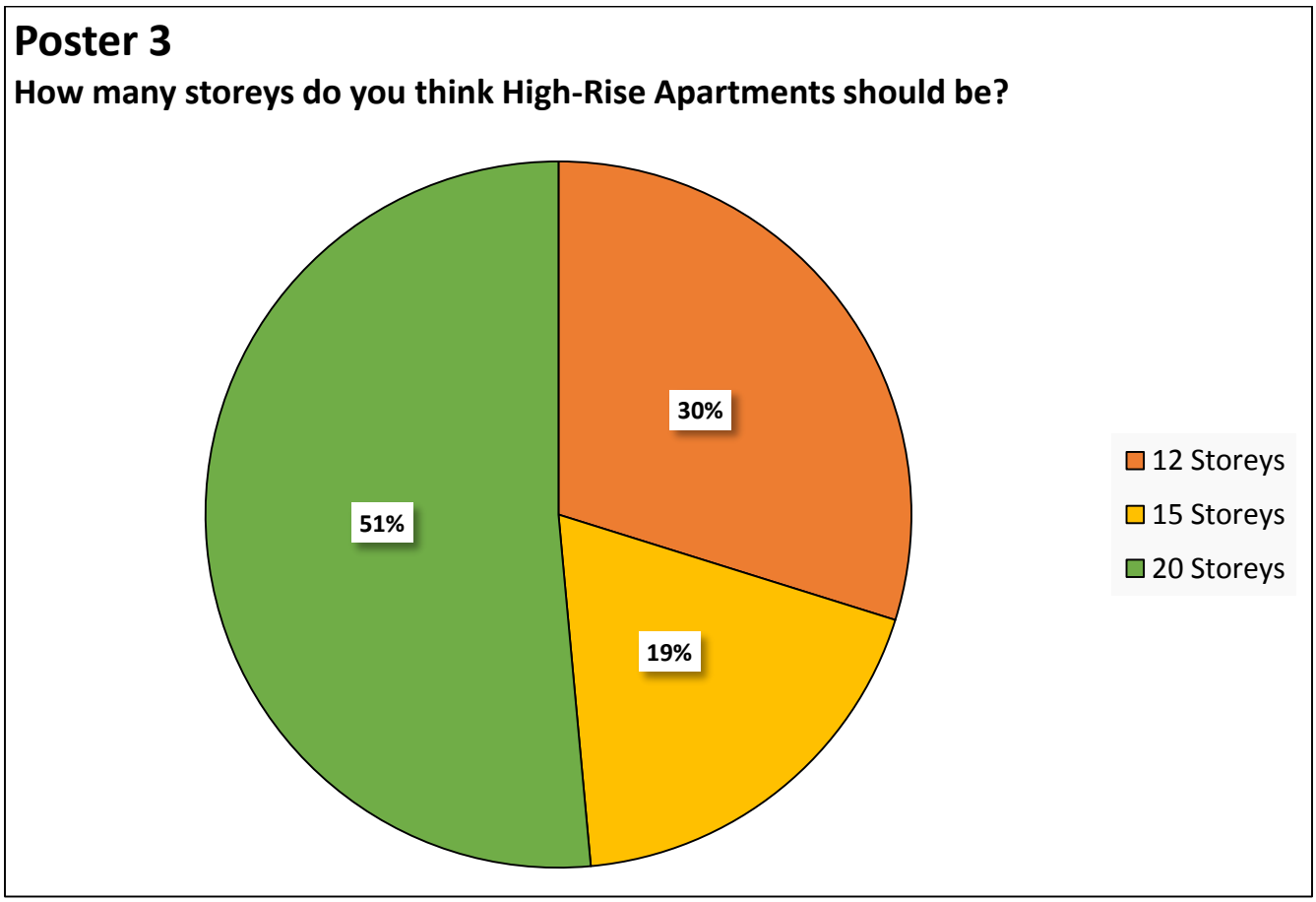
Poster 2 Results	
Number of Storeys	**Number of Votes**
12 Storeys	111
15 Storeys	49
20 Storeys	165
Total	**325**



Poster 3- Harbour Pool Lobby/Jubilee Recreation Centre Lobby

How many Storeys do you think High-Rise Apartments should be?

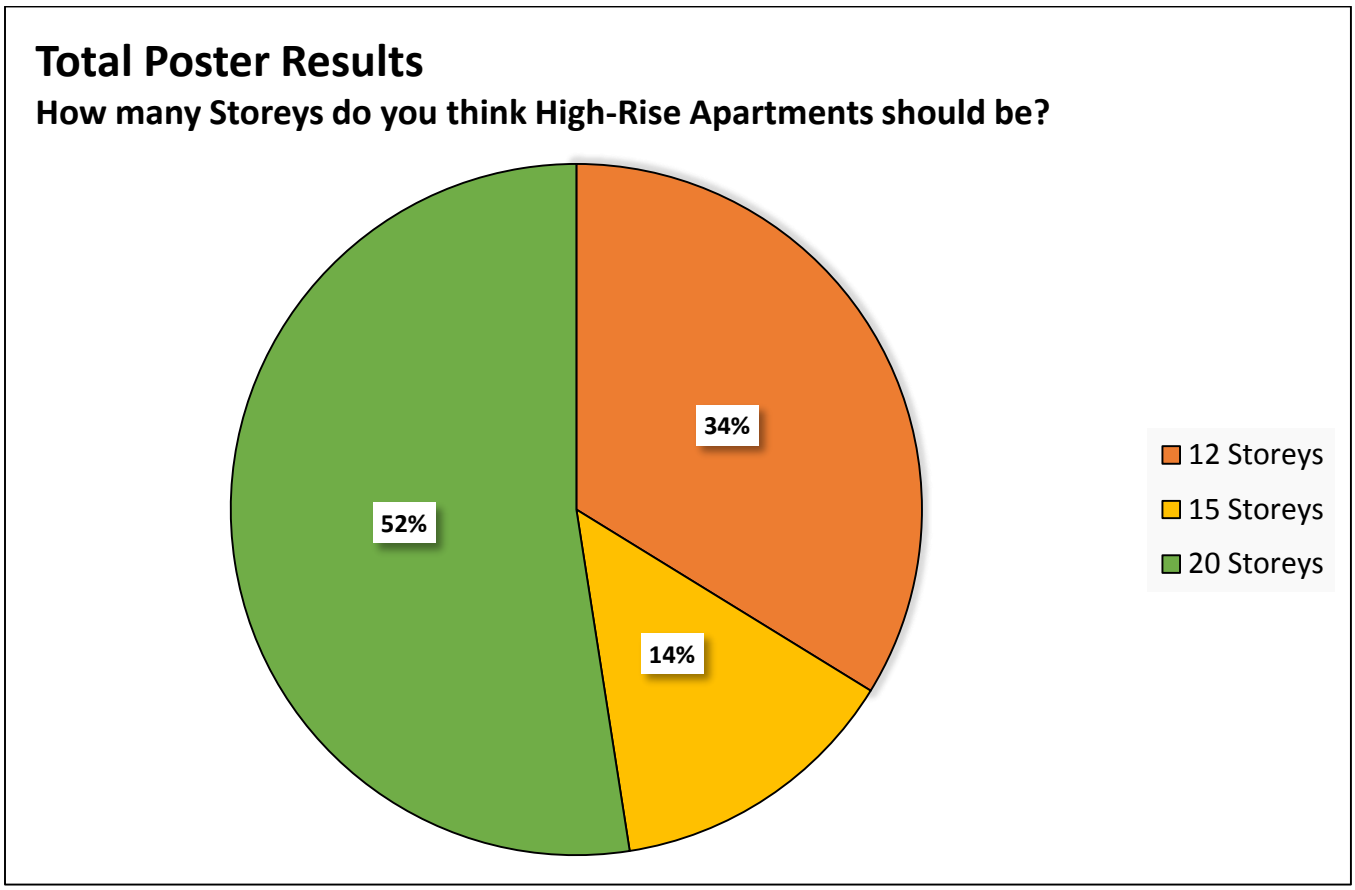
Poster 3 Results	
Number of Storeys	**Number of Votes**
12 Storeys	51
15 Storeys	32
20 Storeys	88
Total	**171**



Total Poster Results- All Three Posters

How many Storeys do you think High-Rise Apartments should be?

Total Poster Results	
Number of Storeys	**Number of Votes**
12 Storeys	226
15 Storeys	92
20 Storeys	351
Total	**669**



Building Height Limit Feedback Form Results

The City of Fort Saskatchewan is considering whether the maximum height limit for high-rise apartments outside of the Downtown should be increased. We want to hear your opinions on the height limit of apartment buildings in the city.

# Storeys	Opinions/Comments
15	I think we need to be cognizant of the resources of the Fire Department as well. If we are building taller buildings then their needs may be necessary as well (ability to properly respond to a fire on floors 15-20).
15	
15	I just believe this to be a happy medium; wouldn't be against 20. Looking @ Ross Creek Building I believe is 4 story's, 3 times that would still look good but not out of place.
12	I love the feel of a small city, most homes are bungalows. We don't want a "concrete jungle"
N/A	This should not be a public question based on aesthetics. Look at how well city infrastructure is designed in order to support then appropriate population density.
12	Encouraging the growth necessary to flourish
20	
12	Any bldg. over 12 storeys is completely out of place in Fort Sask., in fact I believe even 12 is too high. And any high-rises must include underground parking. Also, Can you imagine the traffic congestion of all those vehicles coming out to one of our roadways? Definitely need to balance Developer "Greed" with city's long term vision.
20	To sustain the economic growth of the city and area, accommodations must be made for the people who will drive the growth. A properly engineered and constructed 20 storey building will be just as much space as a 12 storey building and will allow for better use of real estate so that school and parks will have the space they deserve.
15	
12	Keep small town feeling!!! If 20 stories- might as well live in Edmonton
15 & 20	As we get closer to building towards the outskirts of the city limits and industrial plans blocking one area, it only makes sense to build up. Let's be the city we know we can be.
15	A large building or buildings to suit the city's growing needs but not too large to lose the smaller city setting.
12	Suggestion- Top floor (railings) - ltd light for 'light free' sky watching. - The more levels, the more apartments, and thus the more vehicles (almost everybody seems to 'need' a vehicle it seems) and more parking. - What about cooling in summer. Heat rises and in my apt building, anything above 1st or 2nd floor for sure tends to be over-warm summer

	(and at times, winter too)? Are each expected to supply their own cooling (air conditioning) or is adequate building cooling planned? - Fire safety and rescue problems/Increased “view” blockage.
20	The higher the better. Do a 1,000 stories! This will have less impact on the surrounding ecosystem due to urban sprawl.
15	
N/A	Am opposed to any apartment building height above 4 storeys. Would support family- friendly- affordable low cost housing only. Do not turn Fort Sask. into another Sherwood Park or St. Albert.
N/A	How tall can the Fire Department handle?

City of Fort Saskatchewan

Bylaw C10-15 - Amend Land Use Bylaw C10-13 - Redistricting a Portion of Lot B, Block 25, Plan 042 6931 from PR - Parks and Recreation District to R3 - Small Lot Residential District, and from R3-Small Lot Residential District to PR - Parks and Recreation District - Forest Ridge Stage 11

Motion:

1. That Council give second reading to Bylaw C10-15 to amend Land Use Bylaw C10-13 by redistricting a Portion of Lot B, Block 25, Plan 042 6931 from PR - Parks and Recreation District to R3 - Small Lot Residential District, and from R3 - Small Lot Residential District to PR - Parks and Recreation District for Forest Ridge Stage 11.

2. That Council give third reading to Bylaw C10-15 to amend Land Use Bylaw C10-13 by redistricting a Portion of Lot B, Block 25, Plan 042 6931 from PR - Parks and Recreation District to R3 - Small Lot Residential District, and from R3 - Small Lot Residential District to PR - Parks and Recreation District for Forest Ridge Stage 11.

Purpose:

The purpose of this report is to present Council with information on Bylaw C10-15 for Forest Ridge Stage 11, and to request consideration of second and third reading.

Background:

On February 23, 2015 Administration received a redistricting application from Qualico Communities on behalf of Westpark Land Company Ltd. The proposed redistricting is in the Westpark area, west of the existing Forest Ridge neighbourhood. This application represents part of Forest Ridge Stage 11.

Bylaw C10-15 will redistrict two sections of lands within this stage:

1. From PR - Parks and Recreation District to R3 - Small Lot Residential District (0.25 ha/0.618 ac) adjacent to Woodbridge Link.

2. From R3 - Small Lot Residential District to PR - Parks and Recreation District (0.37 ha/0.914 ac) to the south.

The purpose of this redistricting is to relocate a portion of park space. The Bylaw reconfigures a block of R3 lots to allow for increased accessibility from surrounding areas to the large park. This new configuration would create a mid-block access, providing better visibility and pedestrian access to the site.

Plans/Standards/Legislation:

The Community Sustainability Plan (CSP) encourages the incorporation of "the natural environment, greenways and parks in the overall design of the City". The Municipal Development Plan (MDP) provides policy direction for the subject area, as a Developing Community Area (DCA). The Westpark Area Structure Plan (WP-ASP) provides policy direction for the subject area as Low Density Residential and Park.

The MDP, CSP, and the WP-ASP support integrating park and recreational spaces within residential land uses. The park space within this redistricting will provide trail connections and recreational opportunities for the surrounding community.

The WP-ASP identifies the large MR lot (Block 39, Lot 62 MR) as a potential school site. It is important that the site has adequate frontage to roadways to potentially accommodate vehicular and bus traffic.

Financial Implications:

The City of Fort Saskatchewan would be responsible for regular maintenance of the roads, public lands, park and park facilities, and usual municipal operations (waste pickup, fire, policing, snow removal, utilities, roads and the related hardware, future infrastructure, etc.).

Alternatives:

1. That Council give second and third reading to Bylaw C10-15 to amend Land Use Bylaw C10-13 by redistricting a Portion of Lot B, Block 25, Plan 042 6931 from PR - Parks and Recreation District to R3 - Small Lot Residential District, and from R3 - Small Lot Residential District to PR - Parks and Recreation District for Forest Ridge Stage 11.

2. That Council not proceed with second and third reading to Bylaw C10-15, thus leaving the lands in their current legal designation, and advise how they wish to proceed.

Attachments:

1. Bylaw C10-15
2. Schedule "A" - Map Amendment to Appendix A- Land Use Map Bylaw C10-13
3. Appendix "A" - Orthophoto with Existing Land Use Districts
4. Appendix "B" - Forest Ridge Outline Plan Development Concept
5. Appendix "C" - R3 – Small Lot Residential District Land Use Bylaw C10-13 regulations
6. Appendix "D" - PR – Parks and Recreation District Land Use Bylaw C10-13 regulations

7. Appendix “E” - Policy Evaluation for Forest Ridge Stage 11 Redistricting

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File No.: Bylaw C10-15

Prepared by:	Matthew Siddons Current Planner, Planning & Development	Date: April 7, 2015
Approved by:	Troy Fleming General Manager, Infrastructure & Community Services	Date: April 8, 2015
Reviewed by:	Brenda Rauckman Acting City Manager	Date: April 8, 2015
Submitted to:	City Council	Date: April 14, 2015

CITY OF FORT SASKATCHEWAN

A BYLAW OF THE CITY OF FORT SASKATCHEWAN IN THE PROVINCE OF ALBERTA TO AMEND BYLAW C10-13, LAND USE BYLAW

BYLAW C10-15

WHEREAS the *Municipal Government Act,* R.S.A.,2000, c.M-26 as amended or repealed and replaced from time to time*,* provides that a municipality has the power to amend the Land Use Bylaw;

NOW THEREFORE, the Council of the City of Fort Saskatchewan, in the Province of Alberta, duly assembled, enacts as follows:

1. That Appendix A, Land Use District Map, covering a Portion of Lot B, Block 25, Plan 042 6931 be amended to redistrict from PR - Parks and Recreation District to R3 - Small Lot Residential District, and from R3 - Small Lot Residential District to PR - Parks and Recreation District (Forest Ridge Stage 11) as shown on the attached Schedule "A"

2. This Bylaw is cited as the Amendment to Bylaw C10-13 Land Use Bylaw as amended and repealed and replaced from time to time.

3. If any portion of this Bylaw is declared invalid by a court of competent jurisdiction, the invalid portion must be severed and the remainder of the Bylaw is deemed valid.

4. This Bylaw becomes effective upon third and final reading.

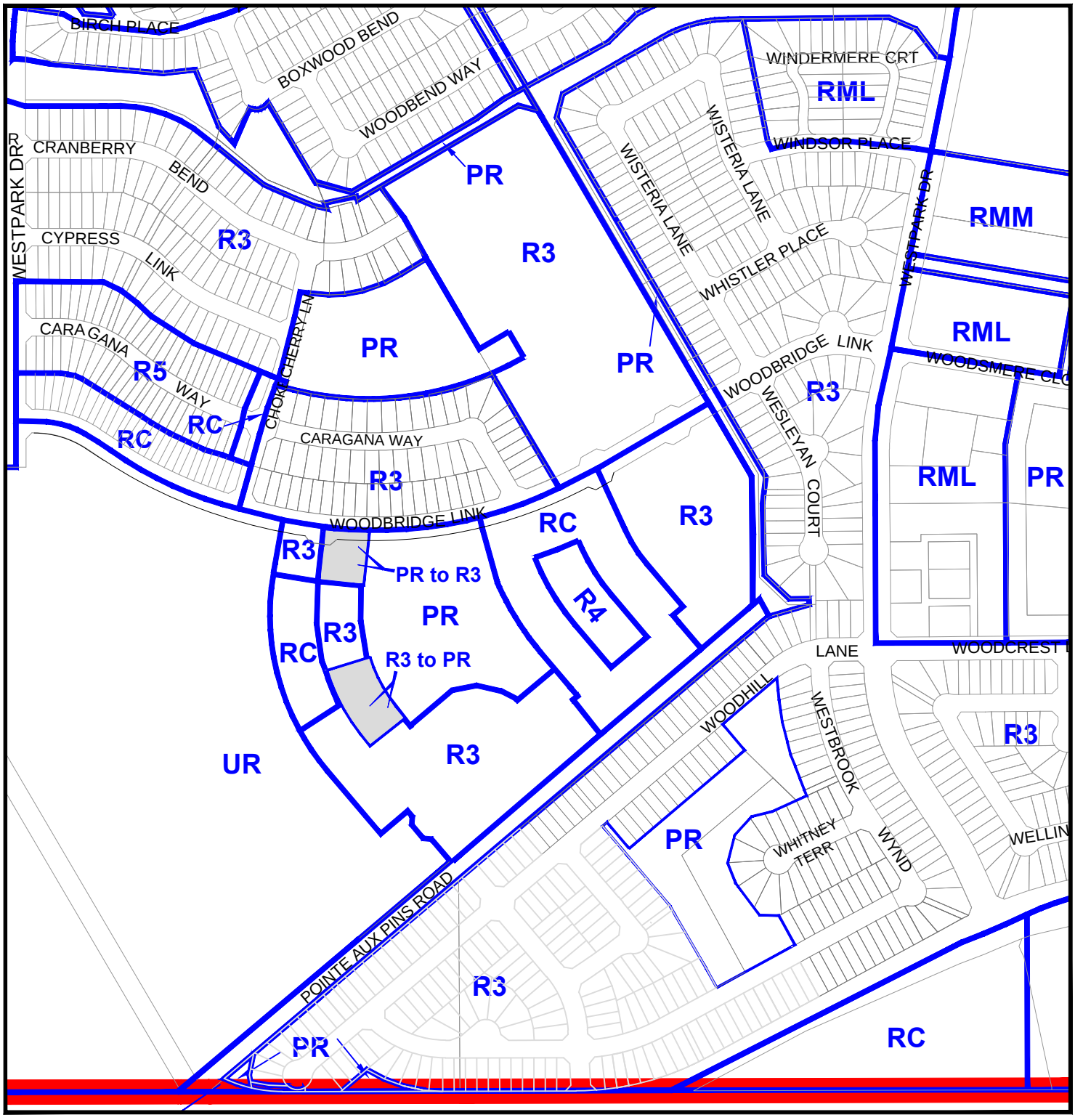
READ a first time this	24th	day of	March	2015.
READ a second time this		day of		2015.
READ a third time and passed this		day of		2015.

_____
MAYOR

_____
DIRECTOR, LEGISLATIVE SERVICES

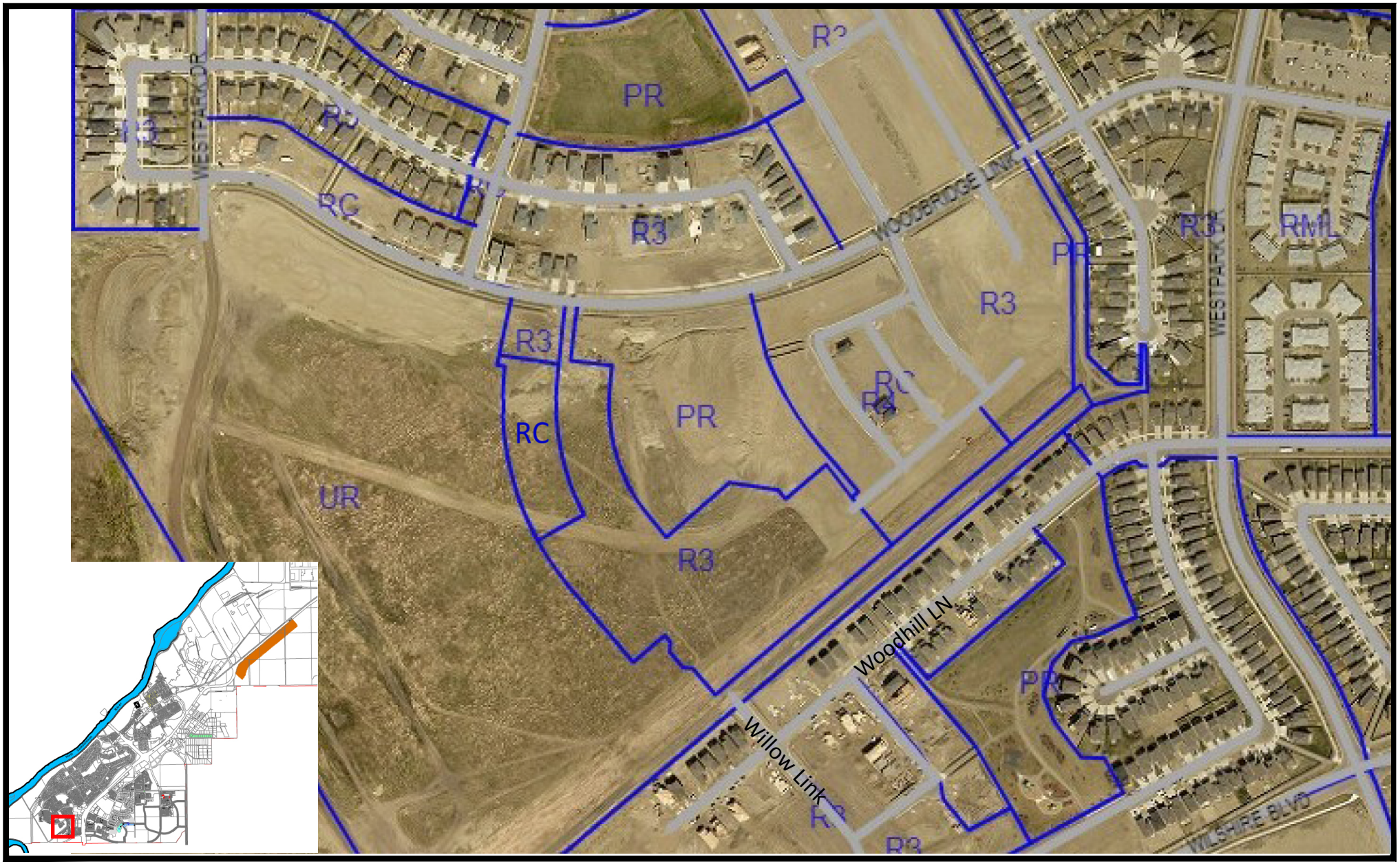
DATE SIGNED: _____

BYLAW C10-15
Schedule "A"



Subject Area

APPENDIX A- ORTHOPHOTO OF EXISTING LAND USE DISTRICTS



DISCLAIMER: The information shown is for reference only. The City of Fort Saskatchewan disclaims all responsibility for the accuracy, completeness, timelines and merchantability of information shown. Use this information at your own risk.

N

CITY OF FORT SASKATCHEWAN ALBERTA

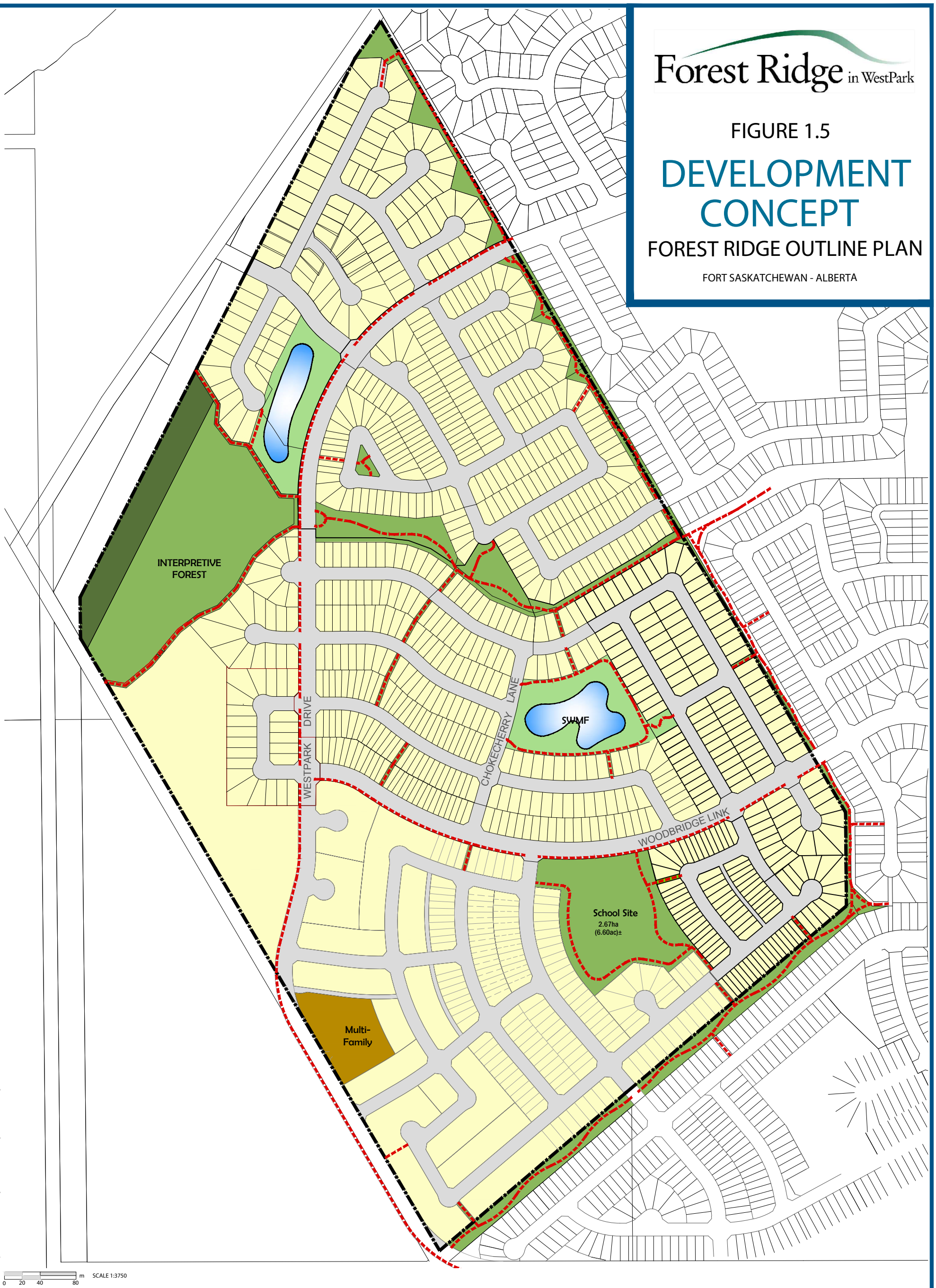
Forest Ridge in WestPark

FIGURE 1.5

DEVELOPMENT CONCEPT

FOREST RIDGE OUTLINE PLAN

FORT SASKATCHEWAN - ALBERTA



LEGEND

- Outline Plan Boundary
- Low Density Residential
- Medium Density Residential
- Park / School / MR
- Storm Water Management Facility (Dry Pond)
- Environmental Reserve
- Trail Connections (Existing / Proposed / Future)

QUALICO Communities

December 3, 2013

5.17 R3 – Small Lot Residential District

5.17.1 R3 Purpose

This District is generally intended to accommodate single detached dwellings and accessory uses on small lots.

5.17.2 R3 Permitted and Discretionary Uses

R3 Permitted Uses:

- Accessory development
- Home office
- Single detached dwelling
- Secondary suite dwelling*
- Swimming pool

R3 Discretionary Uses:

- Bed and breakfast
- Community garden
- Day care facility (limited)
- Group home (limited)
- Home business
- Show home
- Temporary sales centre

*Subject to Regulations in Section 4.35 Secondary Suites.

5.17.3 R3 Site Subdivision Regulations

	Interior Site	Corner Site
Site Area	374.0m^2 (4,024.0ft^2) minimum	435.2m^2 (4,684.6ft^2) minimum
Site Width	11.6m (38.0ft) minimum	11.8m (42.0ft) minimum
Site Depth	34.0 (111.6ft) minimum	

5.17.4 R3 Site Development Regulations

	Interior Site	Corner Site	
Front Yard Setback	6.0m (19.7ft) minimum 7.0m (23.0ft) maximum	Front	6.0m (19.7ft) minimum 7.0m (23.0ft) maximum
		Flanking	3.0m (9.8ft) minimum 4.5m (14.8ft) maximum
Rear Yard Setback	8.0m(26.2ft) minimum [1]6.0m (19.6ft) minimum where a garage or carport is attached to the principal building and is accessed from a lane at the rear of the site		
Side Yard Setback	1.5m (4.9ft) minimum		
Principal Building Height	Two and one half (2 ½) storeys not to exceed 10.0m (32.8ft) maximum		
Site Coverage	45% maximum for principal building over one storey, excluding decks 50% maximum for principal building of one storey, excluding decks		
	50% maximum for all buildings and structures where principal building is over one storey 55% maximum for all buildings and structures where principal building is one storey		
Density	Maximum of one dwelling unit per site, plus one secondary suite dwelling where permitted		

5.17.5 Additional Development Regulations for R3:

(a) All development and uses within this Land Use District are subject to the applicable provisions of Part 4 – General Regulations for all Land Use Districts, Sections 5.1 to 5.13 of Part 5 – Residential Land Use Districts, Part 11 – Parking and Loading, and Part 11 – Signs;

[1] C19-14

(b) [1] Subject to Section 1.3.4, where a dwelling constructed prior to the adoption of this Bylaw has a 1.2m (3.9ft) minimum side yard setback, it shall be considered to be in conformity with the Land Use Bylaw;

(c) [2] Subject to Section 1.3.4, where a dwelling is to be constructed on a site located in a subdivision with an application received and deemed complete prior to the adoption of this Bylaw, it may be constructed with a 1.2m (3.9ft) side yard; and

(d) [3]Subject to Section 1.3.5, where a dwelling constructed prior to the adoption of this Bylaw exceeds the maximum front yard setback, it shall be considered to be in conformity with the Land Use Bylaw.

[1] C19-14
[2] C19-14
[3] C19-14

8.7 PR – Parks and Recreation District

8.7.1 PR Purpose

This District is intended to provide for parks, open space and natural areas with minor accessory developments to serve the active and passive recreational needs of the community.

8.7.2 PR Permitted and Discretionary Uses in the PR District

PR Permitted Uses:

- Accessory development
- Community service facility
- Fascia sign
- Freestanding sign
- Identification sign
- Indoor recreation facility
- Natural conservation use
- Outdoor recreation facility
- Park
- Projecting sign
- Public facility

PR Discretionary Uses:

- Campground
- Communication tower
- Community garden
- Eating and drinking establishment
- Eating and drinking establishment (limited)
- Those uses which, in the opinion of the Development Authority, are similar to a permitted or discretionary use and which conform to the general purpose and intent of this District.

8.7.3 PR Site Subdivision Regulations

	Interior or Corner Site
Site Area	At the discretion of the Development Authority
Site Width	At the discretion of the Development Authority
Site Depth	At the discretion of the Development Authority

8.7.4 PR Site Development Regulations

	Interior Site	Corner Site
Front Yard Setback	6.0m (19.7ft) minimum	Front: 6.0m (19.7ft) minimum Flanking: at the discretion of the Development Authority
Rear Yard Setback	8.0m (26.2ft) minimum	
Side Yard Setback	3.0m (9.8ft) minimum	
Building Height	14.0m (45.9ft) maximum	
Site Coverage	40% maximum	

8.7.5 Additional Development Regulations for PR

(a) All development and uses within this Land Use District are subject to the applicable provisions of Part 4 - General Regulations for all Land Use Districts, Sections 8.1 to 8.4 of Part 8 – Institutional Land Use Districts, Part 11 - Parking and Loading, and Part 12 – Signs;

(b) The Development Authority may modify the parking standards for development in the PS – Public Service District set out in Part 11 - Parking and Loading; and

(c) Development design, siting, landscaping, screening and buffering shall minimize and compensate for any objectionable aspects or potential incompatibility with development in abutting Land Use Districts; and the Development Authority may modify the site development regulations in Section 8.7.4 above in order to achieve this compatibility.

Related Policy to Bylaw C10-15
Forest Ridge Stage 11 Redistricting

Municipal Development Plan – Bylaw C16-10
Designation: Developing Community Area

7.0 Community Design		
7.1.3	Through implementation of area structure plans, encourage multiple connections to the existing street network and create a permeable network of internal streets	Satisfactory
7.1.4	Recognizing the role that streets and parks play as a key feature of the public realm, encourage building and housing development that face public streets and parks, rather than turning its back on the public realm.	Satisfactory
8.0 Mobility		
8.1.4	When undertaking transportation planning, ensure that streets are designed for all users, with adequate facilities for pedestrians, cyclists, and users of public transit, as well as consideration for the effective operation of Public Works and Emergency Services.	Satisfactory
10.0 Parks & the Natural Environment		
10.1.1	Provide all neighbourhoods with access to passive and active recreational opportunities.	Excels
10.2.6	Encourage joint use of municipal reserve lands for recreation, park and school purposes	Satisfactory

Community Sustainability Plan – R173-14

UR – Urban Resources		
UR6	Emphasize the pedestrian experience in all urban design ensuring people have places to socialize and connect.	Satisfactory
NE – Natural Environment		
NE2	Incorporate the natural environment, greenways and parks in the overall design of the City.	Satisfactory

Westpark Area Structure Plan – Bylaw C8-13
Designation: Low Density Residential and Park

4.2 Residential	
To create an attractive and complete community that is designed for people to live, work, and play.	Satisfactory
To integrate a mix of uses throughout the community to improve pedestrian accessibility.	Satisfactory
4.6 Institutional	
To identify ideal locations for future school sites that best utilize Municipal Reserve dedications while meeting the School Boards' needs	Satisfactory
To integrate school and community facilities into the neighbourhood and open space system, while encouraging multiple uses of sites.	Satisfactory
School sites shall be centrally located and connected to the pathway systems to improve pedestrian accessibility.	Excels
Vehicular access to school sites shall be from a collector roadway. Preferred sites will be accessible from two collectors to provide sufficient distance between separate accesses and allow for dedicated bus bays.	Excels
4.6 Green Spaces	
To best utilize Municipal Reserve dedications to provide passive and active recreational opportunities that benefits Fort Saskatchewan residents.	Satisfactory
Ensure all parks and open spaces, schools, and recreational sites are connected through trails/and or walkways. Facilitate continued development of community and regional trail systems that provide connectivity for both leisure and commuting purposes.	Satisfactory

CITY OF FORT SASKATCHEWAN

Reconsideration of Alternating Flashing Lights on School Buses

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Motions:

1. That Council agree to reconsider the use of alternating flashing lights and stop arms on school buses within the City of Fort Saskatchewan.
2. That Council direct Administration to bring forward a bylaw which prohibits the use of alternating flashing lights and stop arms on school buses within the City of Fort Saskatchewan.
3. That Council direct Administration to advertise the intent to discuss the use of alternating flashing lights and stop arms on school buses, prior to the matter being presented to Council.

Purpose:

The purpose of this report is to present Council with new information relating to the use of alternating flashing lights and stop arms on school buses within the City of Fort Saskatchewan.

Background:

In 1986 the Provincial Government repealed their legislation relating to school bus operations within the province. At that time the Province encouraged municipalities to enact their own legislation restricting the use of flashing lights and stop arms by school buses. Subsequently, Fort Saskatchewan enacted Bylaw C28-86. The restricted use of this equipment is also captured within Traffic Bylaw C4-09.

On October 14, 2014 Council heard information presented by City Administration (report and attachments attached), the Elk Island Public School Board and citizens relating to this topic. Both Elk Island Public Schools and City Administration supported retaining the legislation currently in place. Ultimately the decision was made to enact Bylaw C21-14, requiring school buses to use flashing lights and stop arms effective August 24, 2015.

Additional research and information on this topic is now available for Council's review. Letters have been received, and are attached, from the Elk Island Public School Board and Elk Island Catholic School Superintendent. Concerns expressed in this correspondence relate to traffic flow and congestion; provincial requirement for mid-block stops increasing traffic interruption in both directions; a requirement for the City to maintain windrow removal at bus stop locations; significant problems with vehicle "fly-bys" resulting in risk to student safety and calls for enforcement along with court appearance time; challenges to public messaging and education of drivers; and a loss of commonality within our region.

The primary concern expressed by Elk Island Public and Catholic School Boards is student safety. It is believed that the current practice of students crossing at existing crosswalks and intersections is the safest. Crossing mid-block places the responsibility on the students to be alert and aware, because we cannot depend on all traffic stopping as required. This responsibility should not rest with the students, especially at the younger ages. Elk Island Public School Board will present information supporting this at the April 14, 2015 Council meeting.

Both Elk Island Public Schools and Elk Island Catholic Schools have student transportation departments whose main responsibility is to ensure safe transportation of students on school buses. They are the subject matter experts in Fort Saskatchewan and we can rely on their analysis and advice on this subject.

Should Council wish to reconsider this matter, Administration could be directed to prepare a bylaw prohibiting the use of flashing warning lights and stop arms on school buses within the City of Fort Saskatchewan. If Council supported the motion to proceed with a bylaw, it would be left to their discretion whether to hold a non-statutory public hearing, and conduct the necessary advertising.

Plans/Standards/Legislation:

- City of Fort Saskatchewan Strategic Plan Guiding Principles: To work collaboratively with our colleagues, residents, partners and stakeholders. To use a forward thinking mindset and consider the impact of decisions on others.

- Community Sustainability Plan Update: Goal of a safe community.

Financial Implications:

Should the City require school buses to use flashing lights and stop arms, there would be a financial impact for removing windrows at newly located school bus stops. There would also be a significant number of complaints forwarded to Municipal Enforcement and/or the RCMP regarding vehicles that fail to stop for the flashing lights and stop arms. Resources would be required to receive and investigate these complaints.

Internal Impacts:

Staffing resources would have increased workloads relating to windrow clearing and traffic enforcement.

Alternatives:

1. That Council agrees to reconsider the use of alternating flashing lights and stop arms on school buses within the City of Fort Saskatchewan, and:

   a) direct Administration to bring forward a bylaw which prohibits the use of alternating flashing lights and stop arms on school buses within the City of Fort Saskatchewan, and

   b) direct Administration to advertise the intent to discuss the use of alternating flashing lights and stop arms on school buses, prior to the matter being presented to Council.

2. That Council not reconsider the use of alternating flashing lights and stop arms on school buses within the City of Fort Saskatchewan, and advise how they wish to proceed.

Attachments:

1. Appendix A - Correspondence from Elk Island Public School Board
2. Appendix B - Correspondence from Elk Island Catholic School Superintendent
3. Appendix C - Traffic Bylaw Amendment C21-14
4. Appendix D - October 14, 2014 Council Report and attachments

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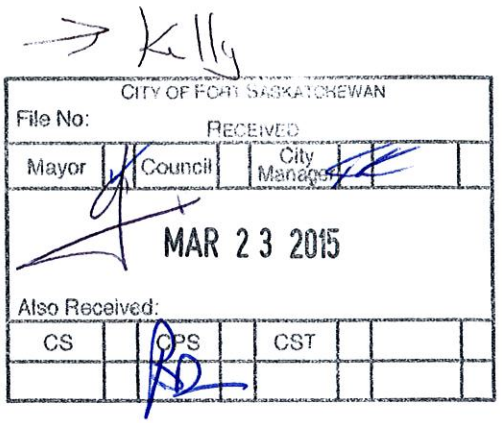
Prepared by:	Josie Krokis Director of Protective Services	Date: March 31, 2015
Approved by:	Brenda Rauckman General Manager, Corporate & Protective Services	Date: April 7, 2015
Reviewed by:	Kelly Kloss City Manager	Date: April 7, 2015
Submitted to:	City Council	Date: April 14, 2015

Appendix A

Office of the Board Chair

ELK ISLAND PUBLIC SCHOOLS



March 19, 2015

Her Worship Gale Katchur
Mayor of the City of Fort Saskatchewan
10005 – 102 Street
Fort Saskatchewan, AB T8L 2C5

Dear Madam Mayor:

Re: Request to reverse decision to enact Bylaw C21-14

Elk Island Public Schools' (EIPS) Board of Trustees is respectfully submitting this letter requesting Council to reverse their decision to enact Bylaw C21-14 that would remove the current Bylaw prohibiting the use of alternately flashing amber and red lights and stop arms on school buses within the City of Fort Saskatchewan.

After significant consideration, specifically for student safety, the Board of Trustees for EIPS requests Fort Saskatchewan City Council review their decision on Bylaw C21-14 which is to come into effect August 24, 2015. EIPS Student Transportation conducted a Safety Assessment and gathered documentation and studies that were relevant to the use of alternately flashing amber and red lights and stop arms on school buses. The information gathered reaffirms the current practice in place, in the City of Fort Saskatchewan, is the safest practice for our students.

EIPS would certainly be available to share supporting documentation validating this request. Should you require further information please do not hesitate to contact me.

Regards,

Trina Boymook
Board Chair

cc Josie Krokis, Director of Protective Services
Lisa Weder, Director Student Transportation

Your Future in MIND

683 Wye Road
Sherwood Park, AB T8B 1N2
P 780 417 8101
Toll Free 1 800 905 3477
F 780 417 8275

www.eips.ca

Elk Island Public Schools

Appendix B

Rcvd mar 5/15 KK RD

ELK ISLAND CATHOLIC SCHOOLS
Seeing Christ in Everyone

March 2, 2015

City of Fort Saskatchewan
Kelly Kloss, City Manager
10005 – 102 Street
Fort Saskatchewan, AB
T8L 2C5

KK Mar 24/15

Re: School Bus Flashing Lights

Mr. Kloss,

In a recent decision to amend Bylaw C4-09-School Bus Flashing Lights, prohibiting alternating flashing red lights and stop arms on school buses within the City of Fort Saskatchewan, we have been asked to provide our perspective on the possible effects of this change in procedures.

The practice of school buses stopping traffic with flashing red lights was originally intended for use on rural roads only. Rural roads are typically operated at a higher speed limit with no curbs and gutters, stop signs, signals, crosswalks or other traffic control devices to safely assist pedestrians to cross the road.

Elk Island Catholic Schools' Administration is of the opinion that implementing the use of school bus lights will seriously impede traffic flow and will also jeopardize student safety.

From a traffic flow and financial perspective, please consider the following points:

- EICS provides service at approximately 175 stop locations within Fort Saskatchewan, with 10 buses averaging 30 stops per bus at an estimated 100 seconds per stop. The use of the light system will have a negative impact on traffic flow holding up vehicles and increasing driver frustration.
- The School Bus Driver Improvement Program (S-Endorsement) instructs drivers to load and unload students mid-block when buses activate the flashing red lights and stop arm, causing traffic stoppage, mid-block, in both directions.
- School zone loading and unloading is estimated to take between 5 and 15 minutes, again having a negative impact on motorists and backlog.
- Windrows will require clearing in order to provide safe loading and unloading for students having a financial impact on the City, as this is not current practice.
- Authorities report multiple traffic violations on a daily basis, which are difficult to manage and enforce. We foresee an increase with this new practice, resulting in more calls to the authorities and potential court appearances.
- Public messaging and training: 70% of motorists do not have children in school.
- Loss of commonality within municipalities resulting in confusion for commuters.

... 2

Elk Island Catholic Separate Regional Division No. 41
160 Festival Way, Sherwood Park, AB, Canada T8A 5Z2
Telephone: 780-467-8896
Fax: 780-467-5469
Email: eics@eics.ab.ca
Website: www.eics.ab.ca

ELK ISLAND CATHOLIC SCHOOLS
Seeing Christ in Everyone

As listed, there are several financial and traffic flow concerns but they are only secondary to the main concern of student safety. Although we have no direct information from within our own practices, we rely on third-party studies, anecdotal comments, and statistics that have been provided by other school divisions, ASTAC (Alberta Student Transportation Advisory Council), STAA (Student Transportation Association of Alberta) and the NAPT (National Association for Pupil Transportation) that have revealed that the implementation of School Bus flashing lights and stop arms in the urban areas will have zero to a negative effect on student safety.

Drivers who are not aware of the law or choose to pass in an attempt to avoid the lights can cause even greater risks in terms of student safety. Students walking in front of a bus to cross are now exposed to a possible collision from drivers who may not see them due to the blind spot created by the bus remaining on the road as students cross. Additionally students can develop a false sense of security from the lights and run in front of busses.

The current practice of students exiting the bus and waiting for the bus to leave before crossing at appropriate cross walks ensures that safety is the responsibility of both drivers on the road and the students. The ability for everyone to be able to see clearly vehicle traffic and students is an advantage.

What is proposed by the change in practice will only be as effective and as safe as those drivers choosing to follow the rules. It is also an impediment for us to stop, look, and proceed safely as neither drivers behind buses or students moving forward can really see what may be coming.

We are providing this information for your discernment as we are aware that there has been a request that City Council consider repealing the decision to amend the Bylaw which is to take effect in August of 2015.

Sincerely,

Michael Hauptman
Superintendent of Schools

Cc: Gale Katchur, Mayor, City of Fort Saskatchewan
Tony Sykora, Board Chair, Elk Island Catholic Schools
Josie Krokis, Director of Protective Services, City of Fort Saskatchewan
Lynne Lambert, Director of Transportation Services, EICS
Mark Liguori, Superintendent of Schools, EIPS

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160 Festival Way, Sherwood Park, AB, Canada T8A 5Z2
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CITY OF FORT SASKATCHEWAN

A BYLAW OF THE CITY OF FORT SASKATCHEWAN TO AMEND TRAFFIC BYLAW C4-09 AND TO REPEAL BYLAW C28-86 - FLASHING WARNING LIGHTS ON SCHOOL BUSES

BYLAW C21-14

NOW THEREFORE, the Council of the City of Fort Saskatchewan in the Province of Alberta, duly assembled, enacts as follows:

1. That Traffic Bylaw C4-09 be amended by deleting Part II, Subsection 31(a), which reads:

   "The use of alternating amber and red flashing lights, and the Stop signal, by any school Bus operating on a Highway with a posted speed limit of fifty (50) kilometers or less within the City is prohibited."

2. That Bylaw C28-86 is hereby repealed.

3. If any portion of this Bylaw is declared invalid by a court of competent jurisdiction, the invalid portion must be severed and the remainder of the Bylaw is deemed valid.

4. That this Bylaw shall become effective August 24, 2015.

READ a first time this	26th		day of	August	, 2014.
READ a second time this	14th		day of	October	, 2014.
READ a third time and passed this		14th	day of	October	, 2014.

MAYOR

DIRECTOR, LEGISLATIVE SERVICES

Date Signed: October 15, 2014

CITY OF FORT SASKATCHEWAN

SCHOOL BUS FLASHING LIGHTS

Motions:

Following the Non-Statutory Public Hearing:

1. That Council give second reading to Bylaw C21-14, which repeals Bylaw C28-85 and amends Traffic Bylaw C4-09 – Flashing Warning Lights on School Buses, with an effective date of August 24, 2015.
2. That Council give third reading to Bylaw C21-14, which repeals Bylaw C28-85 and amends Traffic Bylaw C4-09 – Flashing Warning Lights on School Buses, with an effective date of August 24, 2015.

Administrative Recommendation:

That Council not approve second and third reading of Bylaw C21-14.

Background:

At the August 26, 2014 regular Council meeting Bylaw C21-14 was given first reading. Council also directed that a Non-Statutory Public Hearing be scheduled for October 14, 2014 prior to second reading of the bylaw. If approved, Bylaw C21-14 would remove the current restriction on school buses from using their flashing amber and red lights, and stop arm, while loading and unloading students within the City. The removal of this legislation would effectively require all school buses to use their lights and stop arms at each school bus stop, with the exception of the loading zones at the schools.

In 1986 the Provincial Government removed their legislation relating to school bus operations and encouraged municipalities to consider prohibiting the use of the traffic control equipment by school buses within urban areas. The City of Fort Saskatchewan followed this recommendation and created Bylaw C28-86 at that time. In 2009, Council passed Traffic Bylaw C4-09 which further prohibited the use of school bus flashing lights and stop arms within the City limits.

The use of amber and red flashing lights and stop arms by school buses was originally intended for rural areas as they typically have higher speed limits with no curbs, stop signs, signals, crosswalks, or other traffic control devices to properly assist pedestrians to cross the road.

Topic Identification/Outcomes:

Traffic safety, including safe student transportation is a priority for our School Boards, the City of Fort Saskatchewan and the RCMP. Administration has investigated the use of flashing lights and stop arms by school buses and consultations were held with important stakeholders: the Provincial Office of Traffic Safety, Fort Saskatchewan Traffic Safety Working Group, Fort Saskatchewan Policing Committee, Elk Island Catholic and Public Student Transportation Authorities, the Provincial School Bus Operators Association, and other municipalities. Everyone agrees that our shared goal is to create the safest environment possible for our children to travel to and from school.

Some incidents involving students crossing roadways at or near bus stops have occurred, which have raised concerns, and resulted in reviews and reports to ensure we are doing our best to protect children. Camrose conducted a review in 2011 that resulted in them retaining their

practice of prohibiting the use of lights and stop arms. Red Deer also prohibits use of this equipment, and conducted a review in 2011 as a result of citizen concerns. A copy of Red Deer's report is attached as Appendix "A". The City reconfirmed the prohibition of the use of flashing lights as appropriate for the safety of students. Calgary recently reviewed their practice of not using flashing lights, and their comprehensive report is attached as Appendix "B". As a result of an incident, St. Albert conducted a review of their school bus operations, resulting in retaining their practice of not using flashing lights. They have undertaken an extensive public education campaign called "Safe Journeys to School."

Although there are a variety of practices for school bus operations in Alberta, the majority of larger centers, Calgary, Edmonton, Red Deer, Lethbridge, St. Albert, Camrose, Strathcona (urban area only) and Grande Prairie do not use flashing lights and stop arms. The rationale followed is:

1. The use of flashing lights and stop arms encourages students to cross the street at bus stop locations, rather than crosswalks or intersections. This can create a false sense of security with an expectation that traffic will always stop. There may be decreased pedestrian vigilance in these situations.
2. Drivers failing to stop when lights are activated are referred to by the industry as "fly byes", and they are a growing problem across the province.
3. There are frequent opportunities for safe crossing in an urban setting.
4. The school bus creates a visibility barrier for approaching vehicles, whereas crossing at intersections results in the improved visibility of pedestrians.
5. Stopping traffic in both directions when a school bus loads or unloads children impacts vehicular traffic flow and may increase the chance of rear end collisions.

It was identified, during stakeholder consultations that there would be a benefit to having the School Board Transportation Authority groups meet regularly with the Traffic Safety Working Group. This would promote the shared goal of safe student transportation by jointly reviewing the City's bus stops, crosswalks and practices. Increased efforts could focus on public education and promoting safe practices, including slowing down when passing school buses.

Should Council enact legislation requiring a change in school bus operations in Fort Saskatchewan, Protective Services and the Traffic Safety Working Group will develop an action plan to prepare for the smooth transition to this new requirement.

Alternatives:

City Council may recommend:

1. That Council give second and third reading to Bylaw C21-14, which repeals Bylaw C28-85 and amends Traffic Bylaw C4-09 – Flashing Warning Lights on School Buses, with an effective date of August 24, 2015.
2. That Council not approve second and third reading of Bylaw C21-14.

Preferred Alternative:

That Council not approve second and third reading of Bylaw C21-14, for the following reasons:

1. There is not substantive evidence that a change is needed or will result in a safer environment for bus users or the motoring public.
2. Based on safe pedestrian practices and the good safety record of our School Boards in managing safe student transportation, a change in practice is not warranted.
3. The likelihood of safety concerns arising due to traffic congestion during peak periods or risky driver behavior, such as passing when unsafe.
4. Stakeholder consultation agreed that the current practice is safest for our community.
5. Other major communities in close proximity have the same current practice as Fort Saskatchewan, and change could cause driver confusion. If a change is to be made it needs to be done across the region, preferably through standardized Provincial legislation.

Staff Capacity:

Should Fort Saskatchewan make this change in school bus operating requirements, Elk Island School Boards would take on the task of re-educating bus drivers and students on safe practices.

City of Fort Saskatchewan Protective Services staff and RCMP hold the responsibility to educate citizens and drivers of any new bylaw and driver requirements in our City, and enforce all regulations. As this is a substantive change there will be an impact on RCMP and Municipal Enforcement hours. Further allocation of internal resources would be required and would take staff away from other priorities.

Financial Implications:

Public education and advertising would be required for a minimum three month period prior to implementation of the new bylaw. Drivers in the City come from many locations and an education campaign would need to extend beyond the City's borders. This campaign would require $10,000 for a variety of multi-media advertising, roadside signage and educational materials/presentations.

Community Sustainability Plan:

Consideration of this issue speaks to the City of Fort Saskatchewan being a safe and welcoming community.

External Communications/Participation:

Should the City decide to require school buses to use their traffic control equipment, significant driver education would be required for the community. The use of this equipment is not common in larger urban centers and drivers would need to be made aware of the requirement to stop at each bus loading and unloading location.

Enclosures:

1. Bylaw C21-14
2. Appendix “A” – Red Deer School Bus Operations Report
3. Appendix “B” – Calgary School Bus Operations Report
4. Appendix “C” – Frequently Asked Questions

Prepared/Approved by:	Josie Krokis Acting General Manager, Corporate & Protective Services	Date:	October 7, 2014
Reviewed by:	Kelly Kloss City Manager	Date:	October 8, 2014
Submitted to:	City Council	Date:	October 14, 2014

THE CITY OF Red Deer

November 02, 2011

School Bus Flashing Lights

Engineering Services

Report Summary & Recommendation:

A resolution was passed during the regular Council meeting held on Monday, October 17, 2011directing the administration to review its prohibition of the activation of flashing red lights or stop arms of a school bus within the City in light of citizen concerns, and to consider revising Bylaw 3186/97 to permit their use within City limits; and provide a report to Council, by November 14, 2011.

After reviewing the history and the rationale for prohibiting the activation of flashing red lights or stop arms of a school bus on roads that have curbs and gutters within the City, Engineering reconfirmed that the current prohibition is appropriate for the safety of the students. Engineering does not support revising the current Traffic Bylaw to allow school buses to use flashing lights or stop arms to stop traffic on City's roads that have curbs and gutters.

City Manager Comments:

LGS Only - City Manager Comments

Proposed Resolution

LGS Only - Proposed Resolutions

THE CITY OF Red Deer

Report Details

Background:

The practice of school buses stopping traffic with flashing red lights was originally intended for use on rural roads only. Rural roads usually have a higher operating speed limit, with no curbs and gutters, stop signs, signals, crosswalks or other traffic control devices to properly assist pedestrians to cross the road. In the rural application, the use of flashing red lights is extremely effective in providing safety for the children.

Due to safety concerns, the Provincial Government had never allowed school buses to stop traffic on roadways with a posted speed limit of 50km/h or lower until 1986. In 1986, the Provincial Government revised the then *Highway Traffic Act* to allow municipalities to regulate school bus flashing lights within their jurisdictions. The Minister of Transportation at the time also urged Alberta municipalities to incorporate the necessary regulations in their Traffic Bylaws before the revised *Highway Traffic Act* came into effect.

The safety reasons for not allowing school buses to stop traffic on City streets can best be summarized by one paragraph of the letter provided by the Minister of Transportation at the time:

> *"In some low speed urban situations, it is better to require students on school buses to use existing traffic controls such as stop signs or signals and crosswalks than to depend on school bus warning lights for protection. Where well marked intersections and roadways are present, it is actually safer to use those markings and devices than to use flashing school bus lights. With this in mind, the amendment authorizes large urban centres of 10,000 or more population to pass a bylaw that exempts school buses from the requirement to use alternately flashing lamps on any street or roadway where the speed limit is 50km/h or less."*

Major urban centres like Calgary, Edmonton, Red Deer, Lethbridge and St. Albert had subsequently adopted bylaws to prohibit school buses from using flashing red lights or stop arms to stop traffic within their cities.

Discussion:

The existing City Bylaw to prohibit school buses to use flashing lights and stop arms to stop traffic dates back to 1982. It was adopted by Council at the time based on consultation with the Prairie Bus Lines, the Transit Department, the RCMP, the City Solicitor and the Engineering Services Department. Traffic Bylaw 2800/82, Section 100.14 states the following:

"The use of school buses of flashing red lights or stop arms is prohibited on highways within the City having a speed limit of 50km/h or less."

In 1995, it was updated to allow their use on City's rural roads and adopted by Council at the time. Traffic Bylaw 2800/B-95, Section 21, Section 100.14 which states:

"The use of school buses of flashing red lights or stop arms is prohibited on highways that are constructed with curbs and gutters."

It was further consolidated and adopted by Council in 1997 and the current Traffic Bylaw 3186/97, Part 10, Section 100 – Operation of School Buses, states:

"No person shall activate the flashing red lights or stop arms of a school bus on any highway where such highway has been constructed with curbs and gutters."

Analysis:

In an urban environment, if school buses are allowed to stop traffic on major arterials like Gaetz Avenue, 30 Avenue, 32 Street, 67 Street, there will be serious disruption of traffic flow, signal coordination, and safety concern as most motorists would not be expecting a stop situation. On multi-lane or divided roads, some motorists in the opposing direction may be confused whether or not they should be stopping for children while they are still crossing in the opposing lanes. This increases the potential for rear-end collisions and the pedestrians may be placed in severe conflict with the motorists if they try to cross mid-blocks.

On local streets, allowing buses to stop randomly mid-block and have children cross the street in front of the school buses is unsafe and increases the pedestrian accident risk. This contradicts what children are learning about traffic safety (basically, to cross at the corner and not to cross the street from between parked cars). Children may rely on stop arms instead of other measures to cross the street (like school patrols, signals and pedestrian crosswalks) and develop a false sense of security that all drivers will stop when the stop arm is activated. The onus of safety has to be the responsibility of the pedestrian to be alert and cautious while crossing any street. Current education presented to children is to cross only at intersections, and signal their intentions to cross the street in accordance with the Alberta *Traffic Safety Act.* Although the alternative crossing location may not be the most direct route, it is felt to be the safest route and that safety, not convenience, is the purpose for the Traffic Bylaw.

The Transit Department is under contract to the school boards in providing student ride services but does not have any buses equipped with flashing red lights and stop arms. Not only would adding flashing red lights and stop arms be an added capital expenditure, it would

also potentially cause confusion to the motorists and students as some buses having flashing red lights and others not.

Over the past years, there were one to two inquiries received by the Engineering Services Department on the same subject every year. Based on the low number of inquiries, it is a good indication that the Bylaw is adequate. Engineering Services does not support revising the current Traffic Bylaw to allow school buses to use flashing lights or stop arms to stop traffic on City's roads that have curbs and gutters. Transportation staffs of both the public and catholic schools have been consulted on this matter. Both parties are in support with the recommendation being presented in this report.

Financial Implications

There are no financial implications with the recommendation in this report.

THE CITY OF CALGARY
CITY CLERK'S OFFICE

NM 2014-16
RECEIVED
2014 MAR 20 A 9:46
THE CITY OF CALGARY
CITY CLERK'S

NOTICE OF MOTION

CC 661 (R2009-05)

NM2014 – March 20

RE: USE OF FLASHING LIGHTS ON SCHOOL BUSES

COUNCILLOR JOE MAGLIOCCA & COUNCILLOR PETER DEMONG

WHEREAS currently Bylaw 26M96 requires school buses to use flashing lights in only a few select areas of the City while picking up or dropping off of school children;

AND WHEREAS there has recently been another incident where a 7 year old child was struck by a vehicle while exiting a school bus in the community of Kincora;

AND WHEREAS tragedies of this nature are completely preventable;

AND WHEREAS the City of Calgary has been granted the authority to adjust the operating times of playground zones city wide;

AND WHEREAS the City of Calgary will be implementing and signing these new times in the fall of 2014;

AND WHEREAS most school buses pick up and drop off children in playground zones;

AND WHEREAS the City of Calgary currently has a Bylaw regarding the added protective benefit of regulating the use of flashing lights on school buses when loading and unloading children in only some areas of the City.

NOW THEREFORE BE IT RESOLVED that Administration explore amending Bylaw 26M96 mandating the use of flashing lights and/or similar such mechanism/s as described in the Traffic Safety Act, on school buses throughout the City of Calgary for the protection of children while entering and exiting, including but not limited to discussions with the school boards;

AND FURTHER BE IT RESOLVED that this report return concurrently with the upcoming report on the implementation of the new playground zone times.

Signature of Member(s) of Council

Page 1 of 1

ISC: Protected

USE OF FLASHING LIGHTS ON SCHOOL BUSES

EXECUTIVE SUMMARY

Administration has investigated the use of flashing lights and stop arms by school buses when they are loading or unloading children in the City. It has been found that the perceived benefits of using these mechanisms do not outweigh the risks they create for children and road users. A public education campaign should be developed for educating motorists, parents and children about safe procedures to be followed around school buses loading or unloading, and proper methods for crossing a roadway.

ADMINISTRATION RECOMMENDATION(S)

That the SPC on Transportation and Transit recommends that Council:

1. Direct administration to review Schedule L of the Calgary Traffic Bylaw 26M96;
2. Direct administration to work collaboratively with external stakeholders to develop a public awareness campaign regarding school bus safety; and
3. Direct administration to work collaboratively with external stakeholders to ensure that the most appropriate pick-up and drop-off locations for school buses are selected.

RECOMMENDATION OF THE SPC ON TRANSPORTATION AND TRANSIT, DATED 2014 JUNE 18:

That the Administration Recommendations contained in Report TT2014-0467 be approved.

Oppositions to Recommendation 1:

Opposed: P. Demong, J. Magliocca

PREVIOUS COUNCIL DIRECTION / POLICY

At the 2014, March 31, Regular Meeting of Council, Notice of Motion 2014-16 was carried and directed administration as follows: (Attachment 1)

"NOW THEREFORE BE IT RESOLVED that Administration explore amending Bylaw 26M96, permitting the use of flashing lights and/or similar such mechanism/s as described in the Traffic Safety Act, on school buses throughout the City of Calgary for the protection of children while entering and exiting, including but not limited to discussions with the school boards and Calgary Police Service;

AND FURTHER BE IT RESOLVED that this report return concurrently with the upcoming report on the implementation of the new playground zone times."

BACKGROUND

The Traffic Bylaw 26M96 prohibits the use of the red and yellow flashing light system by a school bus when it is loading or unloading passengers in the city. Since 1999 there have been two incidents involving student-vehicle collisions near school bus drop-offs. On March 13, 2014, in the community of Kincora, a seven year old child was struck by a vehicle while crossing mid-block after exiting a school bus. Fortunately this incident did not result in a serious injury. A similar incident in the community of Erin Woods in 1999 resulted in a report to investigate the

use of flashing lights and stop arms by school buses unloading children in the City. The recommendations of the 1999 study were that the bylaw continue to prohibit the use of flashing lights and stop arms.

INVESTIGATION: ALTERNATIVES AND ANALYSIS

The use of the red and yellow flashing light system by a school bus when it is loading or unloading passengers in the city is prohibited, with some exceptions. Schedule L of the Calgary Traffic Bylaw 26M96 makes exceptions for rural-style roads, without safe crossing locations or signage, within the city. This schedule requires updating as some of these roads have changed and new rural roads have been annexed into the city.

To investigate the use of flashing lights by school buses, Administration conducted a review of current practices in other urban municipalities, reviewed the 1999 report to the SPC on Transportation, Transit and Parking, TTP99-06, and engaged important internal and external stakeholders (see Attachment 2).

The rationale for the prohibition of use of flashing lights and stop arms by buses includes five primary items:

1. The use of flashing red lights and stop arms effectively creates a mid-block crossing and encourages children to cross the street mid-block, rather than at crosswalks and intersections;
2. Non-compliance with flashing red lights and stop arms is an identified problem in jurisdictions that mandate their use. This puts children at risk for collisions;
3. There are frequent opportunities for safe crossing at marked crosswalks and intersections in an urban setting;
4. The bus itself creates a visibility barrier for approaching vehicles; and
5. Stopping traffic mid-block in both directions when a school bus loads or unloads children would result in impacts to vehicular traffic flow and may increase rear-end collisions.

It was identified by administration during consultation with stakeholders that there would be a benefit to annually reviewing the exact locations of school bus pick-up and drop-off zones with the school boards, to optimize safety. It may be possible to change the exact location of some of these zones to improve sight lines and bring them closer to crosswalks, making it easier for children to use the proper crossing locations.

The review of other jurisdictions in North America showed that many municipalities in Alberta and Saskatchewan, including Edmonton, Red Deer and Lethbridge, prohibit the use of flashing lights and stop arms. In Ontario, California and New York State the use of flashing lights and stop arms is required by law. Recent studies in the United States have brought into question the use of these tools and attributed their use to six child fatalities during the 2011-2012 school year.

The technical report does recommend the use of flashing amber hazard lights when school buses are loading and unloading passengers. This is to increase driver attentiveness when passing school buses and reduce the seriousness of collisions, should they occur.

USE OF FLASHING LIGHTS ON SCHOOL BUSES

Stakeholder Engagement, Research and Communication

Administration has engaged the Calgary Police Service (CPS), the Calgary Board of Education (CBE), the Calgary Catholic School District (CCSD), the Alberta Motor Association (AMA), the Alberta Student Transportation Advisory Council (ASTAC) and the school bus industry. These stakeholders have all stated that they would not support changes to current practices. ASTAC further stated that vehicles failing to stop for flashing red lights and stop arms are a significant concern in rural Alberta. Some motorists ignore these devices which can increase the hazard to school children who perceive they are protected.

A public education campaign, including the creation of public and school focused video material, should be developed and implemented by Roads in collaboration with CPS and external stakeholders. The campaign should focus on the responsibilities of drivers, parents/caregivers and children when school buses are loading and unloading. Ideally the program wouldbe ready for the fall school semester.

Strategic Alignment

The recommendations in this report align with the goals identified in the Calgary Transportation Plan as well as Sustainability Principles for Land Use and Mobility. These include promoting safety for all transportation system users and providing transportation services in a safe, effective, affordable and efficient manner.

Social, Environmental, Economic (External)

The issue of child safety when loading or unloading from school buses is a key social issue, as is any matter regarding safety of children in the city.

Increased safety for children when loading and unloading school buses may encourage increased use of buses as the transportation of choice to schools. This could reduce green house gas emissions and congestion by motor vehicles when children are driven to school alone by parents or caregivers.

No quantifiable external economic implications are identified in this report.

Financial Capacity

Current and Future Operating Budget:

The cost estimate to create video material for a public education campaign is approximately $10,000. This cost would normally be within Roads operating budget however the 2014 Snow and Ice Control expenditures place us over budget.

Current and Future Capital Budget:

There are no identified impacts to Capital Budget as a result of this report.

Risk Assessment

The risks associated with allowing the use of flashing lights on school buses and making changes to the Traffic Bylaw 26M96 are summarized in the technical report (Attachment 2). They include the promotion of mid-block crossing as an acceptable means to cross the roadway and the possibility of driver error or inattention further endangering children.

USE OF FLASHING LIGHTS ON SCHOOL BUSES

REASON(S) FOR RECOMMENDATION(S):
Administration has investigated the use of flashing lights on school buses when loading and unloading children and this is not considered an overall safer system for all road users.
Consultation with stakeholders also contribute to the recommendations.
A public education campaign aimed at increasing awareness for children and drivers regarding school bus safety could benefit all road users.

ATTACHMENT(S)

1. Notice of Motion 2014-16
2. Use of Flashing Lights and Stop Arms for School Buses Technical Report

Use of Flashing Lights and Stop Arms for School Buses

Technical Report

Traffic Engineering

Roads

The City of Calgary

May 2014

EXECUTIVE SUMMARY

This report summarizes safety and operational issues related to the use of flashing red lights and bus-mounted stop signs for school buses within the city of Calgary. A review of current practice in other urban municipalities in Alberta, Saskatchewan, and Ontario and in the United States (US) was completed. During the past 20 years there have been two documented collisions involving children being struck while crossing near a school bus in the City of Calgary (September 17, 1998 and March 13, 2014).

In summary, the rationales for prohibition of use of flashing red lights and bus-mounted stop sign in an urban setting are as follows:

- There are frequent opportunities for safe crossing of roadways at intersections in an urban setting;
- Traffic Safety Act – Alberta mandates the right of way to the pedestrians at uncontrolled crossings, which provides ample crossing opportunities at marked mid-block crosswalks; and
- Stopping traffic when a school bus loads or unloads would result in impacts to vehicular traffic flow.

State laws in US mandating the use of flashing red lights and the stop arms on school buses were intended to increase the safety of the passengers. However, a number of negative safety results of the operation were observed due to non-compliance with the law by motorists. In one survey in the US, 108,000 school bus drivers reported 85,279 violations by motorists in a single school day. Similar violations have resulted in a number of fatalities (e.g. six fatalities in the 2011-2012 school year in the US) of children in different states of US.

Options for bylaw revision are as follows:

1. Maintain existing bylaw and continue to prohibit the use of flashing red lights and bus mounted stop signs during loading and unloading of school buses in urban setting.
2. Amend the bylaw to allow the use of flashing red lights and bus-mounted stop sign.

Based on the potential negative impacts of allowing the use of flashing red lights and bus-mounted stop signs in an urban setting, and the safety issues experienced in other urban jurisdictions within Canada and US due to non-compliance to the law, it is suggested that the bylaw (Calgary Traffic Bylaw 26M96) continue to prohibit the use of flashing red lights and bus-mounted stop signs. It is also recommended that the Schedule “L” of Calgary Traffic Bylaw 26M96 be reviewed and updated if required.

It is suggested that the pick-up/drop-off locations of school buses be reviewed annually with the school board in order to ensure safety of the pick-up/drop-off locations.

Any speed reduction when passing school buses would result in a safety improvement over the current operations. Reduced speed increases the drivers' cone of vision and reduces the likelihood of a collision as well as the severity level of a collision should it occur. Therefore, it is recommended that a public awareness campaign be contemplated to increase public awareness to slow down while passing a school bus during its loading/unloading operation.

Table of Contents

1.0 INTRODUCTION

This report summarizes safety and operational issues related to the use of flashing red lights and bus-mounted stop signs for school buses within the City of Calgary. This issue was examined in 1999 by the Transportation Department and reported to the Council via the S.P.C. on Transportation, Transit and Parking; a summary of item TTP99-06 is included in Appendix A. An update to the previous summary has been completed to review current practice in other urban municipalities in Alberta, Saskatchewan and Ontario. The current practices in selected states in the United States (US) were also reviewed as a part of this exercise. Based on the review, an expanded discussion on pedestrian crossing safety associated with the loading/unloading of school buses in an urban setting is included in this report.

During the past 20 years there have been two documented collisions involving children being struck while crossing a roadway near a school bus in the City of Calgary (September 17, 1998 and March 13, 2014). The most recent collision occurred in the community of Kincora when a student ran across the road in front of a bus to a relative who had parked on the opposite side of the road. There were no sight distance obstructions, other than the bus, and a safe crossing location at the intersection is available near the bus stop. The police investigation noted that the driver was not exceeding the speed limit, but 'should have slowed down a bit more', and that the child ran into the side of the car and was struck by the rear-view mirror. The injury was a minor concussion. This collision may have been prevented if the relative had not parked in a location which encouraged crossing the road in front of the school bus.

Transportation Department of the City of Calgary has completed a review of the existing bylaw (Calgary Traffic Bylaw 26M96) and current practices in other jurisdictions with a view to improving safety of the students during the loading/unloading of school buses. The objective of this report was to review the safety effects of the flashing red lights and stop arms on school buses and recommend any amendment(s) to the Calgary Traffic Bylaw 26M96 to improve the safety of the students during the loading and unloading of school buses in urban settings.

The use of flashing red lights and bus-mounted stop sign effectively creates a mid-block crossing, and is used primarily in rural settings where no crosswalks are provided. In the urban setting, however, crossing opportunities at intersections are frequent as either unmarked or marked crosswalks. Bus stop locations are generally near an intersection. Provision of adequate sight distance at intersections results in improved visibility of pedestrians as compared to mid-block locations where sight distance limitations may exist due to the geometry of the roadway or on-street parking. Drivers are also more likely to expect pedestrians at an intersection or crosswalk as opposed to a mid-block location. Introduction of a mid-block crossing when a school bus is loading or unloading may also create a false sense of security and decreased pedestrian vigilance which would in turn place children at an increased

risk if stop compliance is low. Drivers may not notice the stop arm and/or the flashing red lights in a busy urban setting due to higher driver workload compared to the rural setting, where driver workload is much lower.

Allowing children to cross the road at mid-block locations contradicts what students are taught about traffic safety (i.e., to cross the road at the intersections and painted cross-walk) at school. Again, children (students) may rely on stop arms and flashing red lights instead of paying attention to the oncoming motor vehicles before crossing the road. Overall children (students) may develop a false sense of safety that all the drivers will stop when the stop arm and/or the red-flashing lights are activated; however, some drivers may not stop even when the stop arm is down and the flashing red lights are activated.

Stopping traffic for school buses to load or unload would frequently occur during peak traffic times. The need to stop near an intersection may be unexpected, particularly if the flashing red lights and bus-mounted stop sign are not visible to vehicles at the end of a queue of stopped traffic; this may lead to an increase in rear-end collisions and further traffic flow impacts.

Enforcement of the requirement to stop for a school bus with flashing red lights and a bus-mounted stop sign may be difficult due to the transient nature, in time and space, of the requirement to stop.

2.0 JURISDICTIONAL REVIEW

2.1 City of Calgary

The existing City bylaw, Bylaw Number 26M96, reads as follows with respect to school buses:

> **SCHOOL BUSES**
>
> 38. (1) The operator of a vehicle bearing the sign "School Bus" shall not activate the alternately flashing red or yellow lights on the vehicle while loading or unloading passengers on a highway in the City except on those highways listed in Schedule "L" of this Bylaw.
>
> (2) The requirement under the Act for the operator of a school bus to make a mandatory stop at a railway crossing not controlled by a traffic control signal shall not apply to such uncontrolled crossings within the corporate limits.

The Schedule "L" of the bylaw should be reviewed and updated if required in order to ensure the safe operation of the school buses on the highways.

It is of paramount importance to ensure the safety of the pick-up/drop-off locations of the school buses for the safety of the students. The pick-up/drop-off locations of the school buses should be reviewed annually with the school board in order to ensure safe loading/unloading operation of the school buses.

It is important to note that the current Alberta Use of Highway and Rules of the Road Regulation (Section 71 and Section 72) and Driver's Guide (Section 8) differentiate between the use of alternate flashing amber (yellow) lights and alternately flashing red lights. When passing a school bus with alternately flashing amber lights drivers must reduce the speed of the vehicle so that if it passes the school bus it does so in a cautious manner. When flashing red lights are displayed drivers must stop, unless traveling in the opposite direction of the bus on a divided roadway.

Traffic Safety Act – Alberta mandates the right of way to the pedestrians at uncontrolled marked pedestrian crossing.

Traffic Safety Act – Alberta

Yielding to pedestrians 41(1)

> A person driving a vehicle shall yield the right of way to a pedestrian crossing the roadway within a crosswalk.

Pedestrians' right of way 93(1)

> At a place where there is a crosswalk, a pedestrian has, unless otherwise directed by a peace officer or a traffic control device, the right of way over vehicles for the purpose of crossing the roadway within the crosswalk.

According to Alberta Traffic Safety Act 1(d) "crosswalk" means

> (i) that part of a roadway at an intersection included within the connection of the lateral line of the sidewalks on opposite sides of the highway measured from the curbs or, in the absence of curbs, from the edges of the roadway, or
>
> (ii) any part of a roadway at an intersection or elsewhere distinctly indicated for pedestrian crossing by signs or by lines or by other markings on the road surface.

Therefore, Traffic Safety Act – Alberta mandates the right of way to the pedestrians even at uncontrolled crossings, which provides ample crossing opportunities at intersections and/or marked crosswalks. Therefore, it is not necessary to create a controlled crossing with the use of flashing red lights and/or the stop arm on school buses during loading and unloading.

2.2 Traffic Laws and Bylaws in Different Jurisdictions of Canada

A rigorous review of the traffic laws and bylaws in other jurisdictions of Canada was completed as a part of this exercise.

The following sections present the summary of associated laws and bylaws in the selected municipalities in Alberta, Saskatchewan, and Ontario.

2.3 Other Urban Municipalities in Alberta

Traffic bylaws in a selection of other Alberta urban municipalities were reviewed and are as follows:

City of Edmonton (Bylaw 5590)

SCHOOL BUS LIGHTS

83	A person operating a school bus shall not activate the alternately flashing lights or the stop arm on a highway unless the highway is one designated as permitting this activity.

City of Red Deer (Bylaw No. 3186/97)

OPERATION OF SCHOOL BUSES

100	No person shall activate the flashing red lights or stop arms of a school bus on any highway where such highway has been constructed with curbs and gutters.

City of Lethbridge (Bylaw 4122)

B/L 4122 9/1/86	1614	No person shall activate alternating flashing lights and stop arms on a school bus upon any highway in the City of Lethbridge where that highway has a posted speed limit of 50 kilometres or less.

All of the reviewed bylaws in Alberta consistently prohibit the use of flashing red lights or the use of the stop arm with some exceptions based on specific designation of the roadway, the posted speed or the physical characteristics of the roadway.

2.4 Urban Municipalities in Saskatchewan

Traffic bylaws in some urban municipalities of other provinces within Canada were reviewed as a part of this exercise. The summary is presented below:

City of Regina (Bylaw No. 9900)

SCHOOL BUS SAFETY LIGHTS

28 No person shall activate the safety lights or stop sign on a school bus when loading or unloading passengers.

City of Saskatoon (Bylaw No. 7200)

SCHOOL BUS SAFETY LIGHTS

32(1) Notwithstanding Section 22 of *The Traffic Safety Act,* the driver of a school bus shall not use the safety lights on the bus while operating the bus within the corporate limits of the City of Saskatoon.

2.5 Urban Municipalities in Ontario

Bylaws of a few selected urban municipalities in Ontario (City of Toronto, City of London, and City of Waterloo) were reviewed. It was found that these urban municipalities do not have a bylaw in effect prohibiting the use of overhead flashing red lights and the stop arm on school buses during loading and unloading of passengers. The Highway Traffic Act regulated by the Ministry of Transportation, Ontario mandates the usage of the overhead flashing red lights and the stop arm on school buses during the loading and unloading of passengers:

HIGHWAY TRAFFIC ACT (Ontario) – RELATING TO SCHOOL BUSES

Section 175 (6) Subject to subsection (9), every school bus driver:

a. Who is about to stop on a highway for the purpose of receiving or discharging children or receiving adults who have developmental disabilities, shall actuate the overhead red signal-lights on the bus.
b. As soon as the bus is stopped for a purpose set out in the clause (a), shall actuate the school bus stop arm; and
c. While the bus is stopped for a purpose set out in clause (a) on a highway, shall continue to operate the overhead red signal-lights and stop arm until all passengers having to cross the highway have completed the crossing.

2.6 Summary of Jurisdictional Reviews within Canada

The review of the laws and bylaws in other jurisdictions within Canada provided mixed results. The City of Regina and the City of Saskatoon prohibit the use of flashing red lights and/or the stop arm on school buses during loading and unloading of passengers within the city limits which is consistent with the City of Calgary and other municipalities in Alberta with some exceptions based on specific designation of the roadways. However, the municipalities in Ontario that were included in the jurisdictional review (the City of Toronto, the City of London, and the City of Waterloo) allow the usage of the flashing red lights and the stop arm on the school buses during loading and unloading of children (students) by virtue of the Highway Traffic Act regulated by the Ministry of Transportation, Ontario.

However, the need for flashing red lights and/or the stop arms on school buses during loading and unloading of students in the municipalities of Ontario can be explained by the differences in Ontario's Highway Traffic Act and Alberta's Highway Traffic Safety Act.

Highway Traffic Act - Ontario rules of the road indicate that when a pedestrian is about to step from the side of the road onto the roadway, there are fundamentally two distinct categories of pedestrian crossings. The crossing may be either:

1. A controlled crossing - where vehicles are required to stop or yield to traffic legally in the intersection, which includes pedestrians, or
2. An uncontrolled crossing - where pedestrians must wait for safe gaps in traffic, sufficient for them to cross the roadway.

An uncontrolled crossing is a crossing that does not have any traffic control measure to provide a dedicated pedestrian right-of-way. Pedestrians must wait for a safe gap sufficient to fully cross the roadway or for vehicles to stop before crossing. In accordance with Ontario's Highway Traffic Safety Act, protected pedestrian crossings in the Province of Ontario are only at locations where vehicles are controlled by any of the following: traffic signals, intersection pedestrian signals, mid-block pedestrian signals, pedestrian crossovers, stop signs, yield signs or school crossings when an adult school crossing guard is supervising the crossing[1].

Table 1 summarizes those conditions where there are controlled crossings and those that are uncontrolled.

[1] *Ontario Traffic Manual – Pedestrian Crossing Facilities (2010)*.

Table 1 – Controlled and Uncontrolled Crossings[1]

Controlled Crossings	Uncontrolled Crossings
• Traffic Control Signals • Intersection Pedestrian Signals • Pedestrian Crossover • STOP Sign • YIELD Sign • Designated School Crossing with Crossing Guard	• Mid-block Crossings (in the absence of traffic control signals, intersection pedestrian signals or pedestrian crossover) • Designated School Crossing (in the absence of a crossing guard and without other forms of control such as traffic control signals, intersection pedestrian signals, pedestrian crossover, STOP signs or YIELD signs) • Marked Crossing (at intersection in the absence of STOP or YIELD signs)

The types of controlled crossing and the pertinent right-of-way rules as proclaimed in the Highway Traffic Safety Act – Ontario are presented in Appendix B.

Therefore, in the province of Ontario, it is the shared responsibility between the pedestrians and drivers at the uncontrolled crossings i.e. the pedestrians do not have the right of way at uncontrolled crossings (see Table 1). If a driver is approaching an uncontrolled crossing and a pedestrian is already at the crossing and trying to cross it (i.e. the pedestrian has not yet begun crossing), the driver is not lawfully required to yield to the pedestrian. However, if the pedestrian has already started crossing the intersection, the driver does have to yield. The pedestrian, however, has to make sure that there is a safe gap in the traffic before starting to cross.

The discussion above reveals that because of the pedestrians not having the right of way at the uncontrolled crossing, the use of flashing red lights and/or stop arms on school buses during loading and unloading of students (children) is justified in order to provide a controlled crossing to the students in the municipalities of Ontario.

However, in contrast to the province of Ontario, the Traffic Safety Act – Alberta mandates the right of way to the pedestrians at uncontrolled marked pedestrian crossing. This provides ample crossing opportunities to pedestrians at intersections and/or marked crosswalks. Therefore, it is not necessary to create a controlled crossing with the use of flashing red lights and/or stop arms on school buses during loading and unloading as it is necessary in Ontario.

2.7 Urban Municipalities in United States (US)

Traffic laws and bylaws in selected urban municipalities (New York City, the City of San Jose, the City of San Francisco, and the City of San Diego) in the US were also reviewed. The use of flashing red lights and stop arm on school buses during loading and unloading of passengers is mandated by state laws in these urban municipalities. The state laws in New York and California regarding the use of flashing red lights and stop arms on school buses are presented below:

Vehicle and Traffic Law – New York State
Article 29 & Section 1174(b)

> The drivers of school buses, when receiving or discharging passengers who must cross a public highway, street or private road, shall instruct such passengers to cross in front of the bus and the driver thereof shall keep such school bus halted with red signal lights flashing until such passengers have reached the opposite side of such highway, street or private road. Whether such passengers are crossing such highway street or private road or discharging to the same side of such highway, street or private road, the driver of such bus shall keep such school bus halted with red signal lights flashing until such passengers are at least fifteen feet from the bus and either off the highway, street or private road or on a sidewalk.

California Law
Vehicle Code Section – 22112(c)

> When a school bus is stopped on a highway or private road for the purpose of loading or unloading pupils, at a location where traffic is not controlled by a traffic officer, the driver shall, before opening the door, ensure that the flashing red light signal system and stop signal arm are activated, and that it is safe to enter or exit the school bus.

The laws and bylaws in different jurisdictions of US included in this review (New York City, the City of San Jose, the City of San Francisco, and the City of San Diego) allow the use of flashing red lights and stop arm on the school buses during loading and unloading of children. However, different states in US are currently facing stiff challenges in mandating the laws associated with the use of flashing red lights and/or the stop arm on school buses during loading and unloading of students (children).

2.8 Challenges When Use of Flashing Lights and Bus-Mounted Stop Permitted

State laws in US mandating the use of flashing red lights and the stop arms on school buses were intended to increase the safety of the passengers during the loading and unloading operation. A number of negative safety results of the operation have been observed. Most of the negative safety results were due to non-compliance with the law by motorists that led to collisions. In a survey conducted on speeding and other unsafe driving behaviours in 1997, about 99 percent of the drivers interviewed felt that the most dangerous unsafe driving behaviour was passing a school bus with its lights flashing and stop arm extended[2]. The use of flashing red lights and stop arm on school buses provides passengers a sense of safety to cross the road at a mid-block location even though the high violation rate of stop arm and flashing red light on school buses put passengers at a high risk of severe collisions. The National Association of State Directors of Pupil Transportation Services (NASDPTS) conducted an annual survey in 2013 on the violation of stop-arm and flashing red lights on school buses in 29 states throughout the US where 23 percent of the nation's school bus drivers participated. In the survey, 108,000 school bus drivers reported 85,279 stop arm and flashing red light violations by motorists in a single school day1[3]. Over the years the violation of stop arm and flashing red lights on school buses has resulted in a number of fatalities (e.g. six fatalities in the 2011-12 school year in the US[4]) of children (students) in different states of US. The states are facing strong challenges in mandating the laws regarding the school bus stop arm and flashing red lights on school buses. It draws passengers to mid-block locations for crossing, and becomes particularly unsafe when there is a significant violation rate of the stop arm and flashing red light on school buses.

Due to high non-compliance rate of flashing red light and stop arm on school buses, some states in US e.g. Texas, Georgia, Indiana, Iowa, South Carolina, Maryland, and New York are seriously considering the installation of cameras on stop arms of school buses. This clearly indicates that running stop arm on school buses has become a significant concern for the safety of the students (children) in US.

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[2] *Best Practices Guide: Reducing the Illegal Passing of School Buses*, National Highway Traffic Safety Administration, USA.

[3] *Motorists Still Endangering Children by Passing School Buses Illegally – Press Release: August 12, 2013,* National Association of State Directors of Pupil Transportation Services

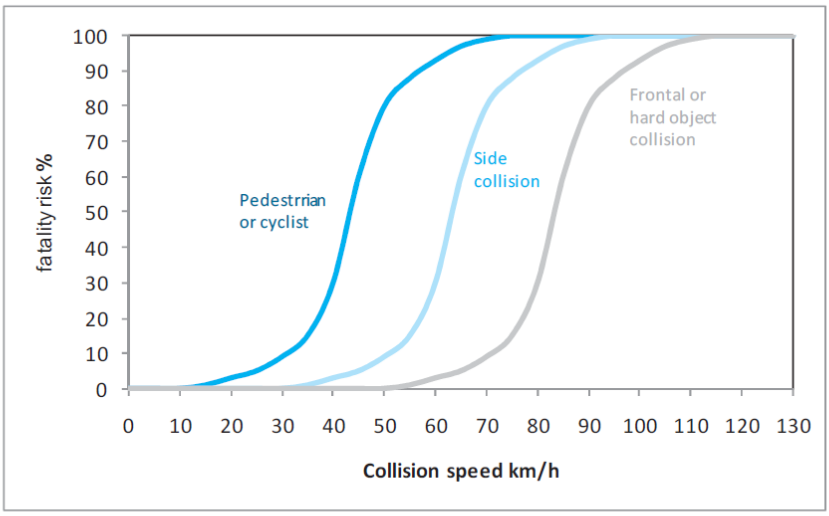
[4] *Kansas State Department of Education's (KSDE) Report 2011-2012*
http://www.campussafetymagazine.com/article/6-of-9-danger-zone-deaths-were-by-other-vehicles

The statistics presented above clearly indicates a continued lack of compliance of the flashing red light and stop arm on school buses. Therefore, mandating the use of flashing red light and stop arm cannot guarantee students safety during loading-unloading of the school buses; rather this could increase the risk of a collision by providing false notions of safety to the students while crossing the road.

3.0 RELATIONSHIP OF COLLISION SPEED AND PEDESTRIAN COLLISION SEVERITY

The relationship between pedestrian collision severity and collision speed has been proven internationally; this relationship, as shown in the Calgary Safer Mobility Plan, is presented graphically below.

The uniformity of international findings on the probability of a fatal collision as a function of collision speed is due to the physical limitations of the human body to handle the energy of a collision. This relationship illustrates that at 50 km/h there is a 20% chance of survival, compared to 30 km/h with a 90% chance of survival.



Source: Wramborg, P. (2005). A New Approach to a Safe and Sustainable Road Structure and Street Design for Urban Areas. Paper presented at Road Safety on Four Continents Conference, Warsaw Poland.

Any speed reduction when passing school buses would result in a safety improvement over the current operations. Reduced speed not only increases the drivers' cone of vision and reduces the likelihood of a collision, but also reduces the severity level of a collision should it occur. In this case during loading/unloading of a school bus, reduced speed of the approaching vehicles would significantly reduce the likelihood of a severe collision should a child run out from in front of a bus. Therefore, it is recommended that a public awareness campaign be contemplated to increase public awareness to slow down while passing a school bus during its loading/unloading operation.

4.0 CONCLUSIONS

Based on the potential negative impacts of allowing the use of flashing red lights and bus-mounted stop signs in an urban setting, and the safety issues experienced in other urban jurisdictions within Canada and US due to non-compliance to the law, it is suggested that the use of the flashing red lights and bus-mounted stop signs continue to be prohibited during the loading/unloading operation of school buses in urban setting.

5.0 RECOMMENDATIONS

1. It is recommended that Calgary Traffic Bylaw 26M96 continue to prohibit the use of flashing red lights and bus-mounted stop signs;
2. The Schedule “L” of Calgary Traffic Bylaw 26M96 should be reviewed and updated if required;
3. It is recommended that the pick-up/drop-off locations of school buses be reviewed annually with the school board in order to ensure safety.
4. It is suggested that a public awareness campaign be contemplated to increase public awareness to slow down while passing a school bus during its loading/unloading operation.

APPENDIX A – TTP99-06

S.P.C. ON TRANSPORTATION, TRANSIT AND PARKING
TTP99-06 FLASHING LIGHT POLICY - SCHOOL BUSES

ISSUE:
1999 FEBRUARY 09
A review of the current on and off loading procedures for buses and, specifically, whether there needs to be a change in the legislation with regards to the use of alternating flashing lights.

RECOMMENDATIONS:
That:
1. No changes be made to the Traffic Bylaw concerning alternating flashing lights on school buses and
2. The Transportation Department embark on an education program directed at motorists related to safe practices around school buses loading or unloading.

COMMISSIONER'S COMMENTS:
Commissioner Ward concurs with this report.

BACKGROUND:
At the 1998 September 28 Council meeting the following motion was adopted:
. . . that, with respect to Commissioners' Report TTP98-42, the Administration prepare a report on the recent school bus incident on Erin Woods Drive, with input from Calgary Police Service, Calgary Board of Education, and the school bus operator, and make recommendations on whether the flashing light policy needs to change, or not, and any other actions which would prevent further such actions.

Alderman Ceci prepared this motion as a result of a 1998 September 17 pedestrian accident that occurred on Erin Woods Boulevard. The student exited the bus onto the south side of Erin Woods Boulevard S.E. and then ran north in front of the parked bus without looking. The student then ran into an eastbound vehicle.
In 1986 September, Bill 17 was introduced which amended the Provincial Highway Traffic Act as it pertained to the loading and unloading of school buses utilizing the newly introduced alternating flashing warning light system . The legislation would have required school buses to activate their flashing lights and stop arms when loading or unloading passengers within the city. However, it also provided that a municipality could pass a bylaw prohibiting the use of flashing lights and stop arms within their corporate limits. Given that pedestrians have the right-of-way at all intersections with or without marked crosswalks and the extent of pedestrian crossing protection that exists within the city (i.e . crosswalks, intersection and corridors), the use of the flashing lights and stop arms was considered superfluous.

In 1986 November Council approved an amendment to the Traffic Bylaw 40M80 whereby drivers of school buses were prohibited from activating the alternating flashing lights or stop arms on roadways within the city, except for those roadways listed in Schedule "K' of the Traffic Bylaw. The current Traffic Bylaw Section 38(l) states the operator of a vehicle bearing the sign "School Bus" shall not activate the alternating flashing red or yellow lights on the vehicle while loading and unloading passengers on a highway in the city except on those highways listed in Schedule "U of this bylaw. Schedule "L" (see Attachment) now lists all roadways on which the alternating flashing lights are required. The list of roads in Schedule "L" where drivers of school buses would be required to activate the alternating flashing lights and stop arms was developed by the Transportation Department in consultation with the Public and Catholic School Boards and the school bus operators. Typically, the roadways listed in Schedule "U' are rural in nature, i.e. without sidewalks and pedestrian facilities usually found in an urban environment.

INVESTIGATION:
The Transportation Department contacted the Calgary Police Service, the Calgary Board of Education, the Calgary Catholic School District, the three major school bus operators and Calgary Transit for their input and all agree that the current legislation is appropriate.
There are currently 764 school bus routes in the city. On average, there are seven stops per route which means in excess of 5,000 stops in the morning and a similar number in the afternoon. If the flashing light system was activated at each and every one of these 10,000 stops, it would result in unnecessary traffic congestion.
The majority of stops are located at the far side of intersections so passengers can disembark and walk back to the intersection to cross the roadway safely.
The consensus was that the use of the alternating flashing light system should occur only on roadways that are rural in nature where pedestrian facilities, which would alert drivers to the potential presence of pedestrians, are absent. It was considered prudent to have school buses continue to activate the flashing lights and stops arms while loading/unloading passengers on all roads listed on Schedule "L".
An awareness program promoted by Alberta Transportation and Utilities addresses only the procedures to be followed by motorists encountering a school bus in rural Alberta and no mention is made of urban centres. An information brochure, produced by the Transportation Department, can be developed for educating motorists about safe practices to be followed around school buses loading or unloading in an urban area. Students are continually trained and retrained on safe procedures for loading and unloading of school buses, as well as the proper methods for crossing a roadway.

On 1999 January 19, Transportation Department and Calgary Police Service representatives met with the Erinwoods' School Council to discuss the pedestrian vehicle accident of 1998 September 17. Numerous issues were discussed to improve pedestrian safety around Erinwoods School. These concerns will be addressed through the normal procedures currently in place to deal with school issues.
The Transportation Department representative presented the existing legislation with respect to flashing school bus lights. The School Council appreciated the information

and agreed to work with the Transportation Department on safety related issues around the school.

CONCLUSION:
Most roadways in Calgary have sidewalks and pedestrian crossing protection in various forms at the nearest intersection to the school bus stop. The use of flashing lights and stop arms on school buses is not necessary on these roadways and, in fact, creates a safety hazard by stopping the traffic flow unnecessarily and by encouraging mid-block crossing.
It is important to continue with the operation of the flashing lights on all roadways listed in Schedule "L". However, the Transportation Department should embark on an educational awareness program for motorists related to safe practices to be followed around school buses loading or unloading in an urban area.

ATTACHMENT:
Schedule "L" Bylaw 26M96

APPENDIX B – Highway Traffic Safety Act - Ontario

Highway Traffic Act – Ontario

According to the **Highway Traffic Act Section 144 – Traffic Control Signals and Pedestrian Control Signals**, a pedestrian crossing is controlled by the WALK, FLASHING DON'T WALK and the DON'T WALK indicators:

Pedestrian Crossing

(22) Where portions of a roadway are marked for pedestrian use, no pedestrian shall cross the roadway except within a portion so marked. R.S.O. 1990, c. H.8,s. 144 (22).

Pedestrian Control Signals - Walk

(26) Where pedestrian control signals are installed and show a "walk" indication, every pedestrian facing the indication may cross the roadway in the direction of the indication despite subsections (24) and (25). R.S.O. 1990, c. H.8, s. 144 (26).

Pedestrian Control Signals – Don't Walk (27) No pedestrian approaching pedestrian control signals and facing a solid or flashing "don't walk" indication shall enter the roadway. R.S.O. 1990, c. H.8, s. 144 (27).

Pedestrian Right of Way

(28) Every pedestrian who lawfully enters a roadway in order to cross may continue the crossing as quickly as reasonably possible despite a change in the indication he or she is facing and, for purposes of the crossing, has the right of way over vehicles. R.S.O. 1990, c. H.8, s. 144 (28).

According to the **Highway Traffic Act Section 140 – Pedestrian crossover, duties of driver**:

(1) Subject to subsection (2), when a pedestrian or a person in a wheelchair crossing a roadway within a pedestrian crossover,

(a) is upon the half of the roadway upon which a vehicle or street car is travelling; or

(b) is upon half of the roadway and is approaching the other half of the roadway on which a vehicle or street car is approaching so closely to the pedestrian crossover as to endanger him or her,

the driver of the vehicle or street car shall yield the right of way to the pedestrian or a person in a wheelchair by slowing down or stopping if necessary. R.S.O.1990, c. H.8, s. 140 (1).

According to the **Highway Traffic Act Section 136 – Stop at through highway**:

(1) Every driver or street car operator approaching a stop sign at an intersection,

(a) shall stop his or her vehicle or street car at a marked stop line or, if none, then immediately before entering the nearest crosswalk or, if none, then immediately before entering the intersection; and

(b) shall yield the right of way to traffic in the intersection or approaching the intersection on another highway so closely that to proceed would constitute an immediate hazard and, having so yielded the right of way, may proceed. R.S.O. 1990, c. H.8, s. 136(1).

Interpretation

Traffic includes pedestrians, ridden or herded animals, vehicles, bicycles, inline skaters, scooters and other conveyances, either singly or together, while using a highway for purposes of travel.

According to the **Highway Traffic Act Section 138 – Yield right-of-way signs**:

(1) The driver or operator of a vehicle or street car approaching a yield right-of-way sign shall slow down to a speed reasonable for the existing conditions or shall stop if necessary as provided in clause 136 (1) (a) and shall yield the right of way

to traffic in the intersection or approaching on the intersecting highway so closely that it constitutes an immediate hazard and having so yielded may proceed with caution. R.S.O. 1990, c. H.8, s. 138 (1).

Interpretation

Traffic includes pedestrians, ridden or herded animals, vehicles, bicycles, inline skaters, scooters and other conveyances, either singly or together, while using a highway for purposes of travel.

Adult school crossing guards may also provide a designated right-of-way for school children as vehicles must yield to a crossing guard. According to the **Highway Traffic Act Section 176 – School crossings**:

School crossing guard shall display sign

(2) A school crossing guard about to direct persons across a highway with a speed limit not in excess of 60 kilometres per hour shall, prior to entering the roadway, display a school crossing stop sign in an upright position so that it is visible to vehicles approaching from each direction and shall continue to so display the school crossing stop sign until all persons, including the school crossing guard, have cleared the roadway. 2005, c. 26, Sched. A, s. 29 (1).

Vehicles approaching guard displaying sign

(3) Where a school crossing guard displays a school crossing stop sign as provided in subsection (2), the driver of any vehicle or street car approaching the school crossing guard shall stop before reaching the crossing and shall remain stopped until all persons, including the school crossing guard, have cleared the

half of the roadway upon which the vehicle or street car is travelling and it is safe to proceed. 2005, c. 26, Sched. A, s. 29 (1).

Appendix "C"
Frequently Asked Questions
School Bus Operations – Flashing Lights and Stop Arm
October 14, 2014 regular Council Meeting

School Bus Flashing Lights

1. Is it safer for school buses to operate within the City using their flashing red and amber lights and stop arm extension?

   There is no clear answer to this question. There is support for the thinking that traffic stopping in all directions when students are loading and unloading creates a safer environment for them and allows for some unpredictable student behavior. There is an equal amount of support for the thinking that existing traffic controls in urban areas, such as marked intersections, crosswalks, stop signs and traffic lights provide the safest means of crossing a roadway, as opposed to in front of a school bus.

2. What is the provincial practice for school bus operations?

   By far the majority of larger urban centres prohibit the use of school bus flashing lights and stop arms while loading and unloading students. The goal of this practice is to allow the free flow of traffic and prevent congestion. Some school boards practice the use of this equipment in municipalities of 10,000 population or less. All rural areas require the use of the flashing lights and stop arms to stop traffic in all directions and allow students to cross the road at the location of the bus stop. The majority of these stops are at locations with no other traffic control devices. Provincial legislation requires traffic travelling in the same direction to stop if on a divided highway and traffic travelling in both directions to stop if on an undivided highway, when the flashing red lights are activated on a school bus.

3. What is the risk of changing our practice to require school buses to use flashing lights and stop arms?

   Allowing students to cross roadways at bus stop locations contradicts what they are taught about traffic safety, (i.e. to cross the road at the intersections and painting cross walks) at school. We may create a false sense of security and decreased pedestrian vigilance in students in that they will trust that all traffic will stop for them.

4. Does Fort Saskatchewan require a new bylaw to require school buses to use their traffic control equipment within the City?

   No, the amendment of our existing bylaw prohibiting use of this equipment, will effectively require all school buses to use their equipment when loading and unloading students.

5. What could Fort Saskatchewan do to alleviate potential traffic congestion that may result from school buses using their traffic control equipment?

The use of flashing lights and stop arms by school buses will impede traffic within our City. Many school buses transport students to more than one school, so staggering school start times or changing bus schedules is not a viable traffic management option. Our best approach is to communicate and educate all drivers, both residents and non-residents of the school bus operations within our City, should they change. Ongoing communication with both school boards will be required to coordinate this change in operation.

6. How many vehicles are passing school buses while the lights and arm are activated?

   These are referred to as “fly-bys” in the school bus industry. They are on the increase in all areas. This was an agenda item at a recent meeting of the Alberta School Bus Operators Association. They are working on improving systems for tracking and reporting vehicles that fly by the buses while they have lights activated. Beaumont reported 101 fly-bys last school year in the urban area. Leduc had 64 in the urban area and 60 in the County. Black Gold reported 72 last school year.

7. Information from other regions.

   Ontario has different legislation. They require school buses to use their flashing lights and stop arm in all locations. Their pedestrian legislation is different than Alberta’s. If pedestrians are crossing at marked crossings they have the right of way. If they are crossing at unmarked locations, they must yield to the traffic and cross whenever there is a safe gap to allow them to do so. Because of this difference the use of traffic control equipment on buses creates a controlled crossing for students. United States has a variety of practices, however due to high non-compliance rate of vehicles passing school buses with lights activated, several states are looking at installing cameras on stop arms of buses to enforce the requirement. This is a significant concern for safety of students.

CITY OF FORT SASKATCHEWAN

Dow Centennial Centre Heating / Cooling System Upgrades

Motion:

That Council approve funding in the amount of $800,000 for upgrades to the Dow Centennial Centre mechanical system, with funds to be allocated from the Municipal Sustainability Initiative grant.

Purpose:

The purpose of this report is to get Council direction on the future of the Dow Centennial Centre (DCC) mechanical system as it relates to the current functionality and the ability to provide a year-round ice surface for the community.

Background:

When the DCC was constructed it was originally given a state of the art heat recovery system. This system was designed to use wasted heat from the ice plant to help heat the rest of the building. While the heat recovery side of the system works, the heat that is recovered is considered low grade and must still be supplemented by gas fired air units and boilers.

How the system is designed to work:
One of the by-products of the system is that the heating system is fully integrated with the ice-plant. This means that when the ice plant runs it must dump heat into the building to properly cool the refrigerant before it is compressed and used to cool the brine in the ice floor. As well, when the building needs heat, it must run the ice plant to generate enough heat within the heating system. These by-products are by design, as the cooling system on the ice plant is smaller due to the heat loads of the building, and the heating units in the building are smaller due to the heat generated from the ice plant.

The system works reasonably well within a small window of mild winter temperatures. This occurs when the building needs heat and the plant needs to run to make ice. The issues with the system arise during periods of colder and warmer external temperatures.

Issues during the warmer seasons:
While maintaining ice in the spring and making ice in late summer, the ice plant must work at full capacity to maintain the ice surface. This means that it must dump heat back into the building because the cooling tower for the plant is not sized to dump enough heat on its own. The only place the heat can be dumped is into the theatre space and the soccer pitch. This makes both areas uncomfortably warm. Even with the dumping of excess heat into the building, the cooling tower cannot keep up, which results in the ice plant running at higher than optimal pressures. This risks damaging the plant and reducing its expected life. The excess heat is also causing issues with theatre equipment, as it cannot cool itself adequately.

Issues during cooler seasons:
During colder external temperatures, the ice plant does not need to run often to maintain ice. However, the building may still need the heat from the plant to heat the rest of the building. This means that the building controls turn on the plant in order to generate heat. Ice plants are not an efficient way to generate building heat when they are not required.

Looking ahead:
These issues have been compounded by the increased demand for ice rental availability in the months before and after the regular ice user season. In addition, requests for year-round ice availability have been denied, given that there is no assurances the flawed system could operate during periods of high external temperatures.

In the summer of 2014, an engineering report was commissioned to look at the issues, and a plan was developed to address the problems. This report was reviewed and confirmed by the engineering firm that evaluated the DCC, as part of the Recreation Facility evaluations prior to the kick-off of the Recreation and Parks Master Plan. The report recommends decoupling the ice plant from the building systems and letting the two systems run independent of each other. This will require the installation of a high efficiency boiler, an upgrade to the cooling tower, additional cooling capacity in the building, the replacement of controls, and programming.

Work completed to solve the heating and cooling systems will be designed to be compatible with future building expansions. This includes increasing the cooling tower size to accommodate a second sheet of ice.

Much of the work must be completed while the ice is out. In order to have the problems solved for the fall Theatre programs, and to offer the community ice rental opportunities for summer ice in 2016, the work must be completed in the summer of 2015.

Plans/Standards/Legislation:

Strategic Plan Goal 3.2 – Develop new and expand existing recreation facilities and programs.

Financial Implications:

It is recommended that funding for this project will be through the Municipal Sustainability Initiative (MSI) grant. There is approximately $7,000,000 available in the City's MSI funding.

Internal Impacts:

The Shell Theatre will be able to provide a comfortable atmosphere for its performers and patrons on a more consistent basis. The facility will be capable of hosting spring / summer ice without adversely affecting the other users of the building.

Alternatives:

1. That Council approve funding in the amount of $800,000 for upgrades to the Dow Centennial Centre mechanical system, with funds to be allocated from the Municipal Sustainability Initiative grant.

2. That Council not approve funding in the amount of $800,000 for upgrades to the Dow Centennial Centre mechanical system, with funds to be allocated from the Municipal Sustainability Initiative grant, and advise how they wish to proceed.

Attachment:

Appendix A - Dow Centennial Centre Equipment Assessment – March 2015, Reinbold Engineering Group

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File No.:

Prepared by:	Grant Schaffer Director Project Management	Date: April 7, 2015
Approved by:	Troy Fleming General Manager, Infrastructure and Community Services	Date: April 8, 2015
Reviewed by:	Brenda Rauckman Acting City Manager	Date: April 8, 2015
Submitted to:	City Council	Date: April 14, 2015

DOW Centennial Centre
Equipment Assessment

Prepared for:

BR2 Architecture
201, 10441-123 Street
Edmonton, Alberta, T5N-1N8

Prepared by:

ENGINEERING GROUP
REINBOLD

305, 10080 Jasper Avenue
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March 11, 2015

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1.0 GENERAL

1.1 PURPOSE OF THE REPORT

This report is a summary of the visual inspection performed by Reinbold Engineering Group for the DOW Centennial Centre, Fort Saskatchewan, Alberta. DOW Centennial Centre is a multi-use facility comprising of recreational sports (soccer and ice) arenas, art and pottery studios, 538 seat theatre as well as banquet and meeting rooms. The centre was originally constructed in 2004 and is approximately 15,800m^2,

The intent of the inspection was to determine areas of the mechanical system that have visually evident deterioration and are in need of repair or replacement. The mandate was also to determine in a general way, the overall condition of the mechanical system and identify potential items or issues inherent in the system for consideration.

1.2 METHODOLOGY

The report incorporates a review of available drawings, operations and maintenance manuals, and visual inspection performed on January 21st, 2015 in conjunction with information provided by the facility operators.

Additional information was also obtained from the 2014 TSE Consulting/Koldworks report titled DOW Centennial Centre Mechanical Systems Study. This report outlines operational problems of the Eco-Chill ice plant heat recovery system and the building HVAC system, and proposes several options to resolve these issues. The report recommends the separation of the ice plant from the building HVAC system to simply operation, operational and maintenance costs; we concur with this recommendation.

1.3 LIMITATIONS

1. Inspections were performed on a random basis with no attempt to review or inspect every element or portion of the building. Our comments are not a guarantee or warranty of any aspect of the condition of the building whatsoever.
2. The available mechanical record drawings were limited and certain information related to the Eco-Chill heat recovery system was not available.
3. It should be noted that the City of Fort Saskatchewan Facilities does not report any major issues with the building and site drainage.
4. Cost estimates in this report are typically based on preliminary information, which are influenced by factors such as market conditions. The opinions of probable costs are based on current dollars and subject to change due to market conditions.
5. Where available, equipment age was determined from equipment labels, drawings, maintenance manuals or comments from maintenance personnel. Where no information was available assumptions were made based on the equipment's general condition. Equipment ages cannot be guaranteed.
6. Location and identification of asbestos containing materials is beyond the scope of this report.

1.4 CODES AND STANDARDS

For the purpose of this report, the following applicable codes and standards will be used for evaluation of the building systems:

1. Alberta Building Code 2006
2. Alberta Fire Code 2006
3. National Plumbing Code 2005
4. Local Building By-Laws
5. Workers Compensation Board
6. Canadian Standards Association (CSA)
7. Canadian Gas Code B-149.1
8. Boiler and pressure vessel Act.
9. National Fire Protection Association (NFPA)
10. Underwriters' Laboratories of Canada (ULC)
11. American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE)

1.5 BUILDING OVERVIEW

The DOW Centennial Centre is a 15,800m^2 two story high building incorporating a soccer pitch, ice arena, gymnasium, fitness track, leisure rink, pottery studios, a 540 seat theatre, banquet and meeting rooms that was constructed in 2004. With a high level of care of maintenance from the facilities operators the equipment are generally in fair to good condition.

Operational problems with the Eco-Chill ice plant heat recovery system continues to persist since the building opened. Heat transfer from the ice plant compressors in winter does not provide sufficient heat for the air handling units it is connected to and in the spring/fall the system cannot dissipate excess heat from the system because the cooling tower is undersized causing the ice plant to overheat and leading to the system to shutdown. With the dedication from the facilities operators the facility operators have learned to minimized the shutdowns, thus minimizing the impact to the operations of the facility.

1.6 EQUIPMENT LIFE EXPECTANCY

The Followong contains an excerpt table of median equipment life expectancy table produced by ASHRAE. Facilities which undergo high levels of operation and maintenance of mechanical systems and equipment can allow for longer equipment service lifespan in comparison the tabulated median life spans indicated in the table. Throughout the reports comments regarding the life expectancy of a piece of equipment will be made with respect to the ASHRAE table.

Table 1: Comparison of Service Life Estimates

Table 4 Comparison of Service Life Estimates

Equipment Item	Median Service Life, Years: Abramson et al. (2005)	Median Service Life, Years: Akalin (1978)
Air Conditioners		
Window unit	N/A*	10
Residential single or split package	N/A*	15
Commercial through-the-wall	N/A*	15
Water-cooled package	>24	15
Heat pumps		
Residential air-to-air	N/A*	15[b]
Commercial air-to-air	N/A*	15
Commercial water-to-air	>24	19
Roof-top air conditioners		
Single-zone	N/A*	15
Multizone	N/A*	15
Boilers, Hot-Water (Steam)		
Steel water-tube	>22	24 (30)
Steel fire-tube		25 (25)
Cast iron	N/A*	35 (30)
Electric	N/A*	15
Burners	N/A*	21
Furnaces		
Gas- or oil-fired	N/A*	18
Unit heaters		
Gas or electric	N/A*	13
Hot-water or steam	N/A*	20
Radiant heaters		
Electric	N/A*	10
Hot-water or steam	N/A*	25
Air Terminals		
Diffusers, grilles, and registers	N/A*	27
Induction and fan-coil units	N/A*	20
VAV and double-duct boxes	N/A*	20
Air washers	N/A*	17
Ductwork	N/A*	30
Dampers	N/A*	20
Fans	N/A*	
Centrifugal	N/A*	25
Axial	N/A*	20
Propeller	N/A*	15
Ventilating roof-mounted	N/A*	20
Coils		
DX, water, or steam	N/A*	20
Electric	N/A*	15
Heat Exchangers		
Shell-and-tube	N/A*	24
Reciprocating compressors	N/A*	20
Packaged Chillers		
Reciprocating	N/A*	20
Centrifugal	>25	23
Absorption	N/A*	23
Cooling Towers		
Galvanized metal	>22	20
Wood	N/A*	20
Ceramic	N/A*	34
Condensers		
Air-cooled	N/A	20
Evaporative	N/A*	20
Insulation		
Molded	N/A*	20
Blanket	N/A*	24
Pumps		
Base-mounted	N/A*	20
Pipe-mounted	N/A*	10
Sump and well	N/A*	10
Condensate	N/A*	15
Reciprocating engines	N/A*	20
Steam turbines	N/A*	30
Electric motors	N/A*	18
Motor starters	N/A*	17
Electric transformers	N/A*	30
Controls		
Pneumatic	N/A*	20
Electric	N/A*	16
Electronic	N/A*	15
Valve actuators		
Hydraulic	N/A*	15
Pneumatic	N/A*	20
Self-contained		10

*N/A: Not enough data yet in Abramson et al. (2005). Note that data from Akalin (1978) for these categories may be outdated and not statistically relevant. Use these data with caution until enough updated data are accumulated in Abramson et al.

2.0 SYSTEM DESCRIPTION

2.1 PLUMBING SYSTEMS

1. Gas Service

    1. The gas service, pressure reducing/relief valve and meter is located in the north mechanical room 1108. The piping and pressure reducing/relief valve appear to be in good condition.

2. Drainage Systems

    1. Storm Drainage Systems

        The roof structure is sloped to the roof drains which enters the facility via rainwater leaders and drain by gravity to the back of the facility where it is splashed to grade, with the runoff draining to a local retention pond to the south (back) of the building.

        The maintenance staff has advised that the existing east rain water leader discharge floods the area around the cooling tower and during the spring and fall this flooded area freezes. This frozen area is also the path used by people to walk to the overflow parking area and poses a slipping hazard. Potentially, this area could be re-landscaped to re-direct the rainwater runoff.

    2. Sanitary Drainage Systems

        Drainage from the washrooms, locker/dressing rooms, activity rooms and kitchen drains are collected into the sanitary sewer. The facility is serviced with five connections to three manholes that drain to a 200mm diameter sanitary service. At the time of the site review there was no evidence of any problems with the existing sanitary sewer service.

3. Domestic Water Cold Water and Fire Protection

    The DOW Centre has two 150mm diameter water service, one for domestic water and the second for fire protection, both services enter the complex in the north mechanical room 1108.

    1. The domestic water service is 150mm that is reduced in size to 75mm before passing through a water meter and then a backflow prevention device before servicing the facility. The backflow prevention device appears to be in good condition.
    2. The fire protection water flows through a backflow prevention device before connecting to a fire and jockey pump and then the sprinkler tree. The pumps and controller appear in good condition.

4. Domestic Hot Water

    There are three main domestic hot water plants in the DOW Centre Complex, located in the west, north (with a booster system for the kitchen) and east mechanical rooms.

    1. West Mechanical Room Rm 1442: The west domestic hot water system supplies the paint and pottery studios, theatre washrooms and the soccer pitch dressing rooms. Domestic hot water is generated by a single Viessmann Vitocell indirect hot water heater (DHW-3) with a 450L storage capacity each, with a recovery rate of 590L/hr when the heating water supply is 50C. The heating water source is a single Viessmann Vitodens 200 high efficiency low mass gas-fired boiler (B-8), with a gas input of 67kW and an output of 60kW. The boiler is coupled with its own circulating pump (P-8) which is a Grundfos TP32-160 0.75HP pumps, operating at 2.5L/s at 115kPa.

The incoming city water is pre-warmed before it heated by the water heater by a single Viessmann Vitocell 300 (PHT-1) indirect hot water heater, with the pre-heat glycol supplied from the Eco-Chill heat recovery system. Information on the Eco-Chill system was not available. The maintenance staff has modified the system and installed an intermediate brazed plate heat exchanger and circulator pump to maintain an indirect (ie, double wall) connection between the heating glycol and the domestic water. This modification was completed about 3 years ago.

The boilers, tanks, plate and frame heat exchangers and pumps appear to be in good condition.

2. North Mechanical Room 1108: The north domestic hot water system supplies the kitchen, washrooms adjacent to the administration offices, gymnasium change rooms CR1 and CR2, men and women washroom next to the childrens play room. Domestic hot water is generated by two (2) Viessmann Vitocell 100 indirect hot water heaters (DHW-1, 2) each with a 450L storage capacity each, with a recovery rate of 590L/hr when the heating water supply is 50C. The heating water source is three Viessmann Vitodens 200 high efficiency low mass gas-fired boilers (B-1, 2, 3), with a gas input of 67kW and an output of 60kW. Each boiler is coupled with its own circulating pump (P-1, 2, 3) which are Grundfos TP32-160 0.75HP pumps, operating at 2.5L/s at 115kPa.

   The kitchen has two hot water boosters that increases the domestic temperature for the kitchen equipment. The first one boosts the temperature for the entire kitchen and the second booster serves only for the dishwasher. Maintenance advised that both heaters have been replaced approximately 3-4 years ago.

   The incoming city water is pre-warmed before it heated by the water heaters by a single Viessmann Vitocell 300 (PHT-2) indirect hot water heater, with the pre-heat glycol supplied from the Eco-Chill heat recovery system. Information on the Eco-Chill system was not available. The maintenance staff has modified the system and installed an intermediate brazed plate heat exchanger and pump to maintain an indirect (ie, double wall) connection between the heating glycol and the domestic water. This modification was completed about 3 years ago.

   The boilers, tanks, plate and frame heat exchangers and pumps appear to be in good condition.

3. East Mechanical Room 1204: The east domestic hot water system supplies the ice rink dressing rooms, washrooms, the ice plant and the Zamboni room. Domestic hot water is generated by a single Viessmann Vitocell 100 indirect hot water heater (DHW-4), with a recovery rate of 590L/hr when the heating water supply is 50C. The heating water source is a single Viessmann Vitodens 200 (B-13) high efficiency low mass gas-fired boilers, with a gas input of 67 kW and an output of 60 kW, coupled to its own circulating pump (P-13) which is Grundfos TP32-160 0.75HP pumps, operating at 2.5L/s at 115kPa.

   The incoming city water is pre-warmed before it heated by the water heaters by a single Viessmann Vitocell 300 (PHT-3, 4) indirect hot water heater, with the pre-heat glycol supplied from the Eco-Chill heat recovery system. Information on the Eco-Chill system was not available. The maintenance staff has modified the system and installed an intermediate brazed plate heat exchanger and pump to maintain an indirect (ie, double wall) connection between the heating glycol and the domestic water. This modification was completed about 3 years ago.

   Hot water for the Zamboni is generated by a two (2) Viessmann Vitocell 300 (ZHT-1, 2) indirect hot water heater, with a recovery rate of 739 L/hr when the heating water supply is 70C. The heating water source is a single Viessmann Vitogas 050 (B-14) cast iron sectional

gas-fired boiler, with a gas input of 308 kW and an output of 225 kW, coupled to its own circulating pump (P-14) which is Grundfos TP40-240 2.0HP pump, operating at 2.5L/s at 140kPa.

The incoming city water is pre-warmed before it heated by the domestic and Zamboni water heaters by two (2) Viessmann Vitocell 300 (PHT-3, 4) indirect hot water heaters, with the pre-heat glycol supplied from the Eco-Chill heat recovery system. Information on the Eco-Chill system was not available. For the domestic water only (not the Zamboni system) the maintenance staff has modified the system and installed an intermediate plate and frame brazed heat exchanger and pump to maintain an indirect (ie, double wall) connection between the heating glycol and the domestic water. This modification was completed about 3 years ago.

The boilers, tanks, plate and frame heat exchangers and pumps appear to be in good condition.

4. Domestic hot water re-circulation systems is provided to ensure timely delivery of hot water to the plumbing fixtures. The system is distributed throughout the facility and extends out the furthest public washrooms. As there are no hot water mixing valves for the plumbing fixtures in the facility, domestic water is set at approximately 41C. The re-circulation systems mirror the domestic hot water systems with recirculation pumps DHWRC-1, 2, 3 located in the north, east and west mechanical rooms. These pumps are Grundfos TP32-160, operating at 2.5L/s at 115kPa. The pumps appear to be in good condition.

5. Plumbing Fixtures

    1. Electronic (flush valve) water closets are used in the locker/change rooms and public washrooms. The maintenance staff has advised that the water closets are in fair to good condition.

       There are three floor mounted tank flush water closets in the facility. These are located near the Scotia Bank Room, the pottery studios, children play area and the ice rink referee rooms. These are also in fair to good condition.

    2. Electronic (flush valve) urinals are located in the Men's Locker room. The maintenance staff has advised that the urinals are in fair to good condition.

    3. Porcelain enameled steel lavatories and automatic faucets are used in the locker and change rooms, and the public washrooms. The infrared faucets appear to be in fair condition. Some minor chipping was evident on some of the lavatory basins. As part of preventative maintenance, the chips can be filled periodically to mitigate the chops from spreading. Several of the Bradley faucets have been replaced over the years with Waltec faucets. The maintenance staff has advised that the lavatories are in fair to good condition.

    4. The locker/change rooms incorporates shower stalls located throughout the facility. The shower stalls are built up and are equipped with electronic metering shower valves. The maintenance staff has advised that the showers are in fair to good condition.

    Note, the maintenance staff has advised that there are no mixing valves installed for any of the showers or faucets in the facility.

6. Solids and Grease Interceptors

Solids and grease interceptors are used through the complex to minimize the amount of debris and grease from entering the sanitary system that could create blockages in the piping.

.1 Solid interceptors are used in the Scotia Bank Room (formerly the paint studio) and pottery rooms. The interceptors are both under counter and recessed in the floor to collect solids from the sinks and floor drains. The maintenance staff has advised that the solids interceptors are in fair to good condition.

.2 A grease interceptor is used in the dishwashing room to collect grease from the three compartment sink. The maintenance staff has advised that the grease interceptor is in fair to good condition.

7. Sump Pump Systems

There are several sump pump systems in the complex that serves various requirements for the building. The sump systems are as follows:

1. Sump-1: This sump serves a weeping tile system that surrounds the Theatre Stage 1437 and is pumped to the sanitary system. The pump (SP-1) is a Myers SPD50H, which the maintenance staff has advised is in fair operating condition.
2. Sump-2: This sump serves a weeping tile system that surrounds the Family Leisure Zone and is pumped to the sanitary system. The pump (SP-2) is a Myers SPD50H, which the maintenance staff has advised is in fair operating condition.
3. Sump-3: This sump pit and pump was not found in the location shown on the drawings. This sump was to have served a weeping tile system that surrounds the Ice Rink Arena 1212 and is to have pumped to the sanitary system.
4. Sump-4: This sump is located under the theatre stage and serves the theatre curtain deluge sprinkler system. Should the sprinkler system activate and discharge water, then the floor drains below the stage collects the water and direct it to the sump which is then pumped to the sanitary system. However, maintenance has advised that when they went to test the sump and pump system a few years ago, the pump activated, but the discharge pipe appeared to be blocked.

   After scoping the discharge pipe it was determined that the discharged pipe did not connect to any drainage system. The sump pit was abandoned and the pump removed. The pump (SP-4) was a Myers SPD50H, which the maintenance staff has advised was in fair operating condition when it was removed.
5. Sump-5: This sump serves the sink in Storage 1406 and is pumped to the sanitary system. The pump (SP-5) is a Myers SPD50H, which the maintenance staff has advised is in fair operating condition.
6. Sump-6: This sump serves Elevator #2 next to Theatre House 1138 and is pumped to the sanitary system. The pump (SP-6) is a Myers SW33, which the maintenance staff has advised is in fair operating condition.
7. Sump-7: This sump serves Elevator #1 next to Gymnasium 1109 and is pumped to the sanitary system. The pump (SP-7) is a Myers SW33, which the maintenance staff has advised is in fair operating condition.

2.2 HEATING VENTILATION AND AIR CONDITIONING (HVAC)

The majority of the HVAC systems including air systems, boilers, domestic hot water, pumps and accessories were originally installed when the building was constructed in 2004. During construction a glycol recovery loop (Eco-Chill) was installed with the intention to recover heat from the ice plant compressors. This low temperature heat (approximately 40C) is used to pre-heat the domestic hot water and provide heat for air handling units AHU-01, RTU-12, 14, 15 and HRV-1, 2 and 3.

The HVAC system is compartmentalized into four main areas: theatre building, administration and gymnasium, soccer pitch and ice arena with fans located throughout the facility. Hydronic heating systems are based in the three mechanical rooms.

1. Theatre Building HVAC: The theatre building HVAC comprises of the following air systems:
    1. AHU-01: This is an Engineered Air unit that supplies air to the theatre, stage, foyer and stairs #10 and #11. This unit is capable of 8,750L/s with an indirect gas-fired heating section and hydronic heating and cooling coils. The gas-fired heating section provides primary heating for the unit with the hydronic heating coil providing supplementary heating from the Eco-Chill system. The maintenance staff has advised that the unit is in fair to good condition.
    2. RTU-01: This is a Carrier 48TME005 rooftop unit with 33kW gas-fired heating section and a 4 nominal ton DX cooling that serves meeting room #3. The maintenance staff has advised that the unit is in fair to good condition.
    3. RTU-02: This is a Carrier 48TME004 rooftop unit 48TME005 rooftop unit with 22kW gas-fired heating section and a 3 nominal ton DX cooling that serves the Scotia Bank meeting room (formerly the paint studio). The maintenance staff has advised that the unit is in fair to good condition.
    4. RTU-03: This is a Carrier 48TMN016 unit 48TME005 rooftop unit with 105kW gas-fired heating section and a 16 nominal ton DX cooling that serves the pottery studio. The maintenance staff has advised that the unit is in fair to good condition.
    5. RTU-04: This is a Carrier 48TMF012 rooftop unit with 73kW gas-fired heating section and a 10 nominal ton DX cooling that serves meeting room #1. The maintenance staff has advised that the unit is in fair to good condition.
    6. RTU-05: This is a Carrier 48TMF009 rooftop unit with 64kW gas-fired heating section and 8.5 nominal ton DX cooling that serves meeting room #2. The maintenance staff has advised that the unit is in fair to good condition.
    7. RTU-06: This is a Carrier 48TMF009 rooftop unit with 64kW gas-fired heating section and 8.5 nominal ton DX cooling that serves the kitchen/dishwashing rooms. The maintenance staff has advised that the unit is in fair to good condition.
    8. MUA-01: This is an Engineered Air unit that provides makeup air for the kitchen and is interlocked with exhaust fan EF-13. This unit is capable of 2,400L/s with a 161kW direct gas-fired heating section, no cooling. Unit is in good condition. The maintenance staff has advised that the unit is in fair to good condition.

2. Administration and Gymnasium HVAC: The administration and gymnasium HVAC comprises of the following air systems:
    1. RTU-07: This is a Carrier 48TME009 rooftop unit with 52kW gas-fired heating section and 8.5 nominal ton DX cooling that serves the Gymnasium. The maintenance staff has advised that the unit is in fair to good condition.
    2. RTU-08: Upper floor fitness. This is a Carrier 48AJN030D rooftop unit with 154kW gas-fired heating section and a 30 nominal ton DX cooling that serves the upper floor fitness area. The maintenance staff has advised that the unit is in fair to good condition

3. RTU-09: This is a Carrier 48TME012 rooftop unit with 65kW gas-fired heating section and a 12 nominal ton DX cooling that serves the upper floor fitness, reception and washrooms. The maintenance staff has advised that the unit is in fair to good condition.
4. RTU-10: This is a Carrier 48TME020 rooftop unit with 71kW gas-fired heating section and a 20 nominal ton DX cooling that serves the gymnasium. The maintenance staff has advised that the unit is in fair to good condition.
5. RTU-11: This is a Carrier 48TME020 rooftop unit with 71kW gas-fired heating section and a 20 nominal ton DX cooling that serves the gymnasium. The maintenance staff has advised that the unit is in fair to good condition.
6. RTU-12: This is an Engineered Air unit that supplies air to the flex gym. This unit is capable of 3,300L/s with a hydronic heating and cooling coils. The maintenance staff has advised that the unit is in fair to good condition.
7. RTU-13: This is a Carrier 48TME012 rooftop unit with 65kW gas-fired heating section and a 12 nominal ton DX cooling that serves the upper floor fitness. The maintenance staff has advised that the unit is in fair to good condition.
8. RTU-17: This is a Carrier 48TMF009 rooftop unit with 64kW gas-fired heating section and 8.5 nominal ton DX cooling that serves the second floor tenant space. The maintenance staff has advised that the unit is in fair to good condition
9. RTU-18: This is a Carrier 48TMF009 rooftop unit with 64kW gas-fired heating section and 8.5 nominal ton DX cooling that serves the physiotherapy centre. The maintenance staff has advised that the unit is in fair to good condition
10. MUA-02: This is an Engineered Air unit that supplies air to the leisure area. This unit is capable of 6,150L/s with a 71kW direct gas-fired heating section and a regenerative section to dehumidify. The maintenance staff has advised that the unit is in fair to good condition.
11. MUA-03: This is an Engineered Air unit that supplies air to the soccer pitch. This unit is capable of 6,150L/s with a 71kW direct gas-fired heating section and a regenerative section to dehumidify. The maintenance staff has advised that the unit is in fair to good condition.
12. HRV-2: This is an Engineered Air plate and frame heat recovery unit that supplies air to the second floor fitness washrooms. This unit is capable of 2,900L/s supply air and 3,500L/s exhaust air with a hydronic coil, which is supplied from the Eco-Chill system. The maintenance staff has advised that the unit is in fair to good condition.
13. HRV-3: This is an Engineered Air plate and frame heat recovery unit that supplies air to the second floor fitness area. This unit is capable of 2,600L/s supply air and 2,600L/s exhaust air with a hydronic coil which is supplied from the Eco-Chill system. The maintenance staff has advised that the unit is in fair to good condition.
14. VR-2: These are gas-fired infrared heaters located over the soccer bleachers. The maintenance staff has advised that the infrared heaters are in fair to good condition.

3. Soccer Arena HVAC: The soccer arena HVAC comprises of the following air systems:
    1. RTU-14: This is an Engineered Air unit that supplies air to the soccer pitch. This unit is capable of 3,800L/s with a hydronic heating (80kW) and cooling (60kW) coils. A gas-fired humidifier is connected to the unit. The hydronic heating coil is feed from the Eco-Chill system. The maintenance staff has advised that the unit is in fair to good condition.
    2. RTU-15: This is an Engineered Air unit that supplies air to the soccer pitch. This unit is capable of 3,800L/s with a hydronic heating (80kW) and cooling (60kW) coils. A gas-fired humidifier is connected to the unit. The hydronic heating coil is feed from the Eco-Chill system. The maintenance staff has advised that the unit is in fair to good condition.

3. HRV-1: This is an Engineered Air plate and frame heat recovery unit that supplies air to the soccer arena dressing rooms. This unit is capable of 3,000L/s supply air and 3,500L/s exhaust air with a hydronic (190kW) coil which is feed from the Eco-Chill system. The maintenance staff has advised that the unit is in fair to good condition.

4. Ice Arena HVAC: The ice arena HVAC comprises of the following air systems:
   1. Infrared heaters: These units are used to provide heat to the spectator seating areas. The maintenance staff has advised that the unit is in fair to good condition.
   2. RTU-16: This is a Carrier 48TMN016 unit 48TME005 rooftop unit with 105kW gas-fired heating section and a 16 nominal ton DX cooling that serves the Zamboni area. The maintenance staff has advised that the unit is in fair to good condition.

5. Fans: There are numerous supply and exhaust fans throughout the complex serving washrooms, kitchen exhausts, transfer air and supply air. Maintenance has advised that these are all in fair to good operating condition.

6. Hydronic heating: Hydronic heating is based in the three (west, north and east) mechanical rooms.

   West Mechanical Room 1442: The west hydronic heating glycol system supplies heat to unit heaters, force flows and inslab heating system. The heating glycol is generated in two Viessmann Vitodens 200 high efficiency low mass gas-fired boilers (B-7, 8), with a gas input of 67kW and an output of 60kW. Each boiler is coupled with its own circulating pump (P-7 and 8) which are Grundfos TP32-160 0.75HP pumps, operating at 2.5L/s at 115kPa that pumps to a low loss header. Pumping from the low loss header to the terminal units is pump LLHP-3 which is an Armstrong 4360-1.5B pump capable of 2.3L/s at 60kPa. The hydronic system is also connected to the Eco-Chill heat recovery system, providing heat when available from the chiller through pump LGHP-16. The boilers and pumps appear to be in good condition.

   North Mechanical Room 1108: The north hydronic heating glycol system supplies heat to unit heaters, force flows and inslab heating system. The heating glycol is generated in two Viessmann Vitodens 200 high efficiency low mass gas-fired boilers (B-4, 5), with a gas input of 67kW and an output of 60kW. Each boiler is coupled with its own circulating pump (P-4, 5) which are Grundfos TP32-160 0.75HP pumps, operating at 2.5L/s at 115kPa that pumps to a low loss header. Pumping from the low loss header to the terminal units is pump LLHP-2 which is an Armstrong 4360-1.5B pump capable of 2.3L/s at 60kPa. The hydronic system is also connected to the Eco-Chill heat recovery system, providing heat when available from the chiller through pump LGHP-14. The boilers and pumps appear to be in good condition.

   East Mechanical Room 1204: The east hydronic heating glycol system supplies heat to unit heaters, force flows and inslab heating system. The heating glycol is generated in two Viessmann Vitodens 200 high efficiency low mass gas-fired boilers (B-11, 12), with a gas input of 67kW and an output of 60kW. Each boiler is coupled with its own circulating pump (P-11, 12) which are Grundfos TP32-160 0.75HP pumps, operating at 2.5L/s at 115kPa that pumps to a low loss header. Pumping from the low loss header to the terminal units is pump LLHP-1 which is an Armstrong 4360-1.5B pump capable of 2.3L/s at 60kPa. The hydronic system is also connected to the Eco-Chill heat recovery system, providing heat when available from the chiller through pump LGHP-12. The boilers and pumps appear to be in good condition.

7. Inslab heating system:
    1. Snow melt: Inslab snow melt is used in the entry to the building. The heating glycol for this system is from the north mechanical room. The maintenance staff has advised that this system has failed and is no longer operational.
    2. Room heating: Inslab room heating is used in the art gallery, soccer dressing rooms, soccer track, fitness area, children play area and the ice rink dressing rooms. The maintenance staff has advised that this system has failed and is no longer operational, except for the ice rink dressing rooms which still operates.

8. Building Controls

    The building controls incorporates two Building Management Systems (BMS), one for the building automation and the second for the ice plant. There is some overlap of controls when the Eco-Chill (compressor heat recovery) system operates on the ice plant side, taking over control of air units AHU-1, RTU-12, 14, 15 and HRV-1, 2, 3 and the water pre-heat system on the building side. This overlap is not streamlined or optimized leading to some operational problems.

    .1 The building BMS system was created by ESC Automation that monitors and controls the facilities HVAC units, boilers, pumps, heat exchangers and control valves. This system has been modified by CIMCO Refrigeration and does not appear to operate as intended by the maintenance staff. In the last 2 years, the maintenance staff has modified some of the ESC BMS in an attempted to restore the system to its previous operation; this is ongoing.

    .2 The ice plant BMS system is a proprietary system created by CIMCO Refrigeration that controls the ice plant system including the Eco-Chill heat recovery system. Basic parameters and set points can be viewed and appears to be in operating order. However, the CIMCO system cannot be modified and only viewed, as the maintenance operators do not have the password to change any parameters of the system.

    .3 Part of the ice plant BMS is the Eco-Chill heat recovery system that removes low grade heat from the ice plant compressors and transfers the heat to several air handlers (AHU-1, RTU-12, 14, 15 and HRV-1, 2, 3) and preheats the domestic hot water (PHTs and ZHTs). When heat is available, the system takes over several of the air handlers from the ESC building BMS, which sometime conflicts with what the maintenance operates intend. See section 2.7 for additional information on the ice plant.

2.3 FIRE PROTECTION

1. The building has an automatic fire sprinkler system throughout the building but no fire hose cabinets. There is a fire pump to boost the water pressure to the building which is an Armstrong 5x5x8 20HP pump capable of 31.5L/s at 120kPa. The jockey pump is an Armstrong VMS 1503 1 HP pump capable of 0.31L/s at 150kPa. Located through the complex are portable hand held fire extinguishers.
2. There is a deluge sprinkler system for the theatre stage area that protects the seating area from the stage in the event of a fire.

2.4 SAUNA (WET AND DRY) ROOMS

1. The sauna rooms have been rebuilt in the past 2-3 years to repair humidity damage. The heater and the steam generators are operating and are in fair to good condition.

2.5 COAT ROOM

1. The existing Coat Room 1423 was converted to an office in 2014. This room has no ventilation, but a Mitsubishi heat pump was installed to provide heating and cooling to the room. Ventilation air is required to be provided to the room to meet the building code.

2.6 ZAMBONI ICE MELT SYSTEM

1. The Zamboni ice melt system failed about 2-3 years ago. The maintenance staff have created a new system that uses heating glycol from the east mechanical room to run a new system which included a plate and frame heat exchanger, pump, new piping in the ice melt pit, new thermostat in the ice pit and local controls. The maintenance staff has advised that the Zamboni ice melt system is operating and in good condition.

2.7 ICE PLANT

1. The existing ice plant was constructed/created by CIMCO Refrigeration. The ice plant is operational and produces ice when required. The system comprises of a chiller, cooling tower, pumps, expansion tanks, equalizer tanks, heat exchangers, ice storage and compressors.

   The ice plant also incorporates the Eco-Chill heat recovery system which is a glycol loop that transfers low temperature heat (43C) from the compressors which can be pumped into the building to provide heat to air handling units (AHU-1, RTU-12, 14, 15, HRV-1, 2, 3), in addition to pre-heating water (PHT-1, 2, 3, 4) to the domestic water to domestic water system. This heat recovery system has reduced the size of the ice plant cooling tower.

   Winter operation: The maintenance staff has advised that in winter the ice plant does not have to operate frequently and therefore the amount of heat recovered is minor. However, on warm winter days when the ice plant runs more frequently and the compressors produces more heat than the undersized cooling tower can dissipate. Without dissipating the heat, the compressors safety devices shutdown the compressors to protect them from high head pressures and/or high oil temperature. To maintain operation of the ice plant/compressors, the maintenance staff has to activate the Eco-Chill system to dump heat into the theater (AHU-1), soccer pitch (RTU-14, 15), and flex gym (RTU-12), causing the theatre, soccer pitch and flex gym cooling system to operate.

   Additionally, in winter when heat is required for the air handling systems, the maintenance staff must turn on the ice plant to generate heat for the Eco-Chill system, even though cooling is not required for the ice rink or ice storage tanks; this is an inefficient and expensive way of creating heat.

   Spring/Fall operation: The ice plant operates more frequently than in winter and produces more heat than can be recovered and the excess heat cannot be released because of the undersized cooling tower. The maintenance staff must manually operate the Eco-Chill system to dump the excess heat into the theatre, soccer pitch and the flex gym, as done in the winter operation.

   Summer operation: The facility currently does not operate the ice rink/plant during the summer. However, if they do wish to operate the ice rinks/plant during the summer, heat dissipation must be considered as the cooling tower is undersized and dumping excess heat into the building is not efficient or recommended.

   A report titled "2014 Dow Centennial Centre Mechanical Systems Study, May 2014 Revision 1" by TSE Consulting and Koldworks proposed several options that addressed the above issues and recommended separating the ice plant and HVAC systems to unify controls, simplify operation and operational and maintenance costs. The options recommended were cooling option 2 (abandon/remove the existing ice storage system and install a small 70 ton air cooled chiller package) and heating option 1 (abandon the heat recovery from the ice plant and install an

independent heating system with about 3,000 MBH capacity). In both cases, building and ice plant controls be changed to remove proprietary and to unify controls. See attached opinion of probable costs matrix in Appendix A.

System pressure: The chilled glycol system was operated at a system pressure of over 40psi which caused one of the thermal equalizer tank to "bulge out" in one of the tank wall. The maintenance staff reduced the operating pressure to 14psi to maintain pressure equal to the tank rating. As the equalizer tank is a pressure vessel the bulge in the tank indicates that it that the pressure rating has been compromised and the tank must be replaced. Additionally, the chilled glycol system relief valve is set to 50psi which is quite high for the system. The relief valve setting should be reviewed for safety.

2.8 RETRO COMMISSIONING OF THE FACILITY

1. The facility has not been operating as intended since the building was opened in 2004. The over the years, several system modifications have been implemented in an attempt to address functional and operational issues, with some success. It is recommended that consideration for a retro commissioning for the facility be completed to and document where the mechanical equipment are operating at and to aid in addressing recurrent issues. See attached opinion of probable costs matrix in Appendix A.

3.0 COSTS

See the Appendix A for Capital Reserve Table – Opinion of Probable Cost Matrix.

4.0 EXPANDABILITY TO THE FACILITY

Relative to the existing mechanical spaces, there is limited space to accommodate new mechanical equipment to support a large expansion to the facility. Smaller expansions may be accommodated that have heating and ventilation requirements that the existing plant can accommodate.

Any major additions for the complex will have to be coordinated with the owner/architect to establish new minimum space requirements for mechanical systems.

5.0 APPENDICES

APPENDIX A
Capital Reserve Table – Opinion of Probable Cost Matrix

Appendix A- Capital Reserve Table
Opinion of Probable Cost Matrix

Project information	Dow Community Centre, Ft. Saskatchewan			Threshold	x,xxxx
Total Gross Sq. m.		Year Built		Reserve Term (Years)	xx
Number of Buildings	1	Age	0	Assumed inflation	xx

* Unit rate is for equipment only budgetary purposes +/-30%.

Identified Costs

Report Section	Building Component	Year Installed	Expected Useful Life	Effective or Actual Age	Remaining Useful Life	Quantity	Unit Rate*	Event Type	Event Year														Total Reserve
									Immediate (<60-90days)	Year 0 (2015)	Short Term (year 1-5)					Long Term (year 6-10)					Long Term (year 11-25)		
											2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026-2030	2031-2035	2035-2040	
				2004																				
	MECHANICAL																							
2.2	AHU 1	2004	2024	11	9	1	260,000												X					
2.2	Air Conditioning Unit	2004	2024	11	9	1	5,000												X					
2.2	HRV 1	2004	2024	11	9	1	100,000												X					
2.2	HRV 2	2004	2024	11	9	1	100,000												X					
2.2	HRV 3	2004	2024	11	9	1	100,000												X					
2.2	MUA 1	2004	2024	11	9	1	13,000												X					
2.2	MUA 2	2004	2024	11	9	1	10,000												X					
2.2	MUA 3	2004	2024	11	9	1	10,000												X					
2.2	Roof Top Unit 1	2004	2024	11	9	1	6,000												X					
2.2	Roof Top Unit 2	2004	2024	11	9	1	5,500												X					
2.2	Roof Top Unit 3	2004	2024	11	9	1	15,000												X					
2.2	Roof Top Unit 4	2004	2024	11	9	1	10,000												X					
2.2	Roof Top Unit 5	2004	2024	11	9	1	10,000												X					
2.2	Roof Top Unit 6	2004	2024	11	9	1	10,000												X					
2.2	Roof Top Unit 7	2004	2024	11	9	1	10,000												X					
2.2	Roof Top Unit 8	2004	2024	11	9	1	5,000												X					
2.2	Roof Top Unit 9	2004	2024	11	9	1	12,000												X					
2.2	Roof Top Unit 10	2004	2024	11	9	1	20,000												X					
2.2	Roof Top Unit 11	2004	2024	11	9	1	20,000												X					
2.2	Roof Top Unit 12	2004	2024	11	9	1	30,000												X					
2.2	Roof Top Unit 13	2004	2024	11	9	1	12,000												X					
2.2	Roof Top Unit 14	2004	2024	11	9	1	30,000												X					
2.2	Roof Top Unit 15	2004	2024	11	9	1	30,000												X					
2.2	Roof Top Unit 16	2004	2024	11	9	1	6,000												X					
2.2	Roof Top Unit 17	2004	2024	11	9	1	10,000												X					
2.2	Roof Top Unit 18	2004	2024	11	9	1	10,000												X					
2.2	Entrance Heater	2004	2024	11	9	1	1500												X					
2.2	Entrance Heater	2004	2024	11	9	1	1500												X					
2.2	Heater	2004	2024	11	9	1	1500												X					
2.2	Heater	2004	2024	11	9	1	1500												X					
2.2	Heater	2004	2024	11	9	1	1500												X					
2.2	Heater	2004	2024	11	9	1	1500												X					
2.2	ESC AUTOMATION	2004	2024	11	9	1	-												X					
2.2	EXHAUST FAN 1	2004	2024	11	9	1	900												X					
2.2	EXHAUST FAN 2	2004	2024	11	9	1	900												X					
2.2	EXHAUST FAN 3	2004	2024	11	9	1	1,000												X					
2.2	EXHAUST FAN 4	2004	2024	11	9	1	300												X					
2.2	EXHAUST FAN 5	2004	2024	11	9	1	1,000												X					
2.2	EXHAUST FAN 6	2004	2024	11	9	1	1,100												X					
2.2	EXHAUST FAN 7	2004	2024	11	9	1	1,100												X					
2.2	EXHAUST FAN 8	2004	2024	11	9	1	300												X					
2.2	EXHAUST FAN 9	2004	2024	11	9	1	5,700												X					
2.2	EXHAUST FAN 10	2004	2024	11	9	1	5,700												X					
2.2	EXHAUST FAN 11	2004	2024	11	9	1	5,700												X					
2.2	EXHAUST FAN 12	2004	2024	11	9	1	5,700												X					
2.2	EXHAUST FAN 13	2004	2024	11	9	1	1,900												X					
2.2	EXHAUST FAN 14	2004	2024	11	9	1	1,900												X					
2.2	EXHAUST FAN 15	2004	2024	11	9	1	1,000												X					
2.2	EXHAUST FAN 16	2004	2024	11	9	1	900												X					
2.2	EXHAUST FAN 17	2004	2024	11	9	1	900												X					
2.2	EXHAUST FAN 18	2004	2024	11	9	1	900												X					
2.2	EXHAUST FAN 19	2004	2024	11	9	1	900												X					
2.2	EXHAUST FAN 20	2004	2024	11	9	1	1,600												X					
2.2	EXHAUST FAN 21	2004	2024	11	9	1	900												X					
2.2	EXHAUST FAN 22	2004	2024	11	9	1	900												X					
2.2	EXHAUST FAN 23	2004	2024	11	9	1	3,800												X					
2.2	EXHAUST FAN 24	2004	2024	11	9	1	3,800												X					

2.2	EXHAUST FAN 25	2004	2024	11	9	1	3,800											X					
2.2	EXHAUST FAN 26	2004	2024	11	9	1	1,300											X					
2.2	EXHAUST FAN 27	2004	2024	11	9	1	1,500											X					
2.2	EXHAUST FAN 28	2004	2024	11	9	1	900											X					
2.2	EXHAUST FAN 29	2004	2024	11	9	1	100											X					
2.2	EXHAUST FAN 30	2004	2024	11	9	1	900											X					
2.2	EXHAUST FAN 31	2004	2024	11	9	1	1,300											X					
2.2	EXHAUST FAN 32	2004	2024	11	9	1	3,500											X					
2.2	EXHAUST FAN 33	2004	2024	11	9	1	3,500											X					
2.2	EXHAUST FAN 34	2004	2024	11	9	1	1,200											X					
2.2	EXHAUST FAN THEATRE WASHROOM	2004	2024	11	9	1	5,200											X					
2.2	EXHAUST FAN THEATRE WASHROOM	2004	2024	11	9	1	5,200											X					
2.2	TRANSFER FAN 1	2004	2024	11	9	1	5,000											X					
2.2	TRANSFER FAN 2	2004	2024	11	9	1	1,200											X					
2.2	Transfer Fan	2004	2024	11	9	1	1,200											X					
2.2	Humidifiers	2004	2024	11	9	1	15,000											X					
2.2	Humidifiers	2004	2024	11	9	1	15,000											X					
2.7	ICE PLANT COMPRESSOR #1	2004	2014	11	-1	1	-			X													
2.7	ICE PLANT COMPRESSOR #2	2004	2014	11	-1	1	-			X													
2.2	Infrared Heaters	2004	2029	11	14	3	3000													X			
2.3	FIRE PUMP	2004	2034	11	19	1	20,000														X		
2.3	JOCKEY PUMP	2004	2034	11	19	1	5,000														X		
2.1/2.2	BOILER B 1	2004	2034	11	19	1	8,000														X		
2.1/2.2	BOILER B 2	2004	2034	11	19	1	8,000														X		
2.1/2.2	BOILER B 3	2004	2034	11	19	1	8,000														X		
2.1/2.2	BOILER B 4	2004	2034	11	19	1	8,000														X		
2.1/2.2	BOILER B 5	2004	2034	11	19	1	8,000														X		
2.1/2.2	BOILER B 6	2004	2034	11	19	1	8,000														X		
2.1/2.2	BOILER B 7	2004	2034	11	19	1	8,000														X		
2.1/2.2	BOILER B 8	2004	2034	11	19	1	8,000														X		
2.1/2.2	BOILER B 11	2004	2034	11	19	1	8,000														X		
2.1/2.2	BOILER B 12	2004	2034	11	19	1	8,000														X		
2.1/2.2	BOILER B 13	2004	2034	11	19	1	8,000														X		
2.1/2.2	BOILER B 14 (ZAMBONI)	2004	2034	11	19	1	7,500														X		
2.1/2.2	PUMP BP1	2004	2009	11	-6	1	3,500			X													
2.1/2.2	PUMP BP2	2004	2009	11	-6	1	3,500			X													
2.1/2.2	PUMP BP3	2004	2009	11	-6	1	3,500			X													
2.1/2.2	PUMP BP4	2004	2009	11	-6	1	3,500			X													
2.1/2.2	PUMP BP5	2004	2009	11	-6	1	3,500			X													
2.1/2.2	PUMP BP6	2004	2009	11	-6	1	3,500																
2.1/2.2	PUMP BP7	2004	2009	11	-6	1	3,500																
2.1/2.2	PUMP BP8	2004	2009	11	-6	1	3,500																
2.1/2.2	PUMP BP11	2004	2009	11	-6	1	3,500																
2.1/2.2	PUMP BP12	2004	2009	11	-6	1	3,500																
2.1/2.2	PUMP BP13	2004	2009	11	-6	1	3,500																
2.1/2.2	PUMP BP14	2004	2009	11	-6	1	3,750																
2.1	PUMP DHWRP 1	2004	2009	11	-6	1	3,500																
2.1	PUMP DHWRP 2	2004	2009	11	-6	1	3,500																
2.1	PUMP DHWRP 3	2004	2009	11	-6	1	3,500																
2.7	PUMP IP1	2004	2014	11	-1	1	3,000			X													
2.7	PUMP IP5	2004	2014	11	-1	1	10,000			X													
2.7	PUMP IP6	2004	2014	11	-1	1	5,000			X													
2.7	PUMP IP7	2004	2014	11	-1	1	4,500			X													
2.7	PUMP IP8	2004	2014	11	-1	1	12,000			X													
2.7	PUMP IP9	2004	2014	11	-1	1	15,000			X													
2.7	PUMP IP10	2004	2014	11	-1	1	10,000			X													
2.7	PUMP IP11	2004	2014	11	-1	1	10,000			X													
2.7	PUMP LLHP1	2004	2009	11	-6	1	1,500			X													
2.7	PUMP LLHP 2	2004	2009	11	-6	1	1,500																
2.7	PUMP LLHP 3	2004	2009	11	-6	1	1,500																
2.7	PUMP VFD1P2	2004	2014	11	-1	1				X													
2.7	Reheat Coil RHC 1	2004	2024	11	9	1												X					
2.1/2.2	PHT-1	2004	2034	11	19	1	4,700														X		
2.1/2.2	PHT-2	2004	2034	11	19	1	4,700														X		
2.1/2.2	PHT-3	2004	2034	11	19	1	4,700														X		
2.1/2.2	PHT-4	2004	2034	11	19	1	4,700														X		
2.1/2.2	DWH-1	2004	2024	11	9	1	3,400																
2.1/2.2	DWH-2	2004	2024	11	9	1	3,400																
2.1/2.2	DWH-3	2004	2024	11	9	1	3,400																
2.1/2.2	DWH-4	2004	2024	11	9	1	3,400																
2.1/2.2	TANK	2004	2024	11	9	1	3400																
2.3	Theatre Deluge System	2004	2024	11	9	1	-											X					

2.7	THERMAL EQUALIZER	2004	2034	11	19	1	-															X	
2.1.2.1	Storm drainage to the east.					1	8,500															X	
2.5	Ventilation for the coat room/office.					1	4,000															X	
2.7	Replace one equalizer tank.					1	15,000																
2.7	Separtion of the ice plant and building HVAC systems - Option 1					1	692,000															X	
	Cooling option #2 - new piping and air cooled chiller					1	(275,000)																
	Heating option #1 - abondon heat recovery and add new boilers					1	(342,000)															X	
	Consulting					1	(75,000)																
																						X	
2.8	Retro Commissioning of Facility and Engineering for Ice Plant Recovery					1	35,000															X	

Capital Reserve Analysis

	inflated	*uninflated*
Average Cost/Year		
Average Cost/Year/Sq. M.		

	Immediate	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026-2030	2031-2035	2035-2040	Reserve Totals
$CAD																
$CAD																

Notes

LCR= Lifecycle Replacement

FR= Failure Replacement

CITY OF FORT SASKATCHEWAN

Bylaw C14-15 – to Close Road Plan 822 1665 and to Consolidate into Lot 1, Block 37, Plan 102 6236

Motion:

That Council give first reading to Bylaw C14-15 to close a portion of Road Plan 822 1665 and to consolidate the remainder into Lot 1, Block 37, Plan 102 6236 in the Westpark area.

Purpose:

The purpose of this report is to present Council with information on Bylaw C14-15 to close Road Plan 822 1665, and to request consideration of first reading.

Background:

On November 20, 2014, Lenac Developments Ltd., Quattro Capital Inc., and Mercyr Consulting Ltd., (collectively the "Purchaser") submitted an Offer to Purchase a 0.49ha (1.211ac) portion of Road Plan 822 1665. The Offer to Purchase was approved by Council at its January 13, 2015 regular Council meeting. A condition of the Offer to Purchase was that the subsequent Road Closure Bylaw would be approved.

On March 9, 2015, the Purchaser submitted a Road Closure Application to close the Road Right-of-Way legally described as Road Plan 822 1665 (Schedule A). The application was referred to the City of Fort Saskatchewan Project Management and Infrastructure Management Departments, and Alberta Transportation. None of the referrals had concerns with the proposed road closure.

In consultation with Project Management, it was determined the portion of Road Right-of-Way is considered excess. Should expansion of Highway 21 occur in the future, existing infrastructure has been designed to facilitate expansion in the center. The likelihood of expanding the roadway further is minimal, but should it become necessary a curb and gutter road standard would be required, which would reduce the right-of-way width requirement.

If Bylaw C14-15 is approved, Road Plan 822 1665 will be closed. The Road Plan will be redistricted from its current zoning as UR (Urban Reserve District) to C2 (Vehicle Oriented Retail and Service District). The Road Plan can then be consolidated with the adjacent parcel of land (Lot 1, Block 37, Plan 102 6236) during the subdivision process. Lot 1, Block 37, Plan 102 6236 is designated as C2 in the Westpark area adjacent to Highway 21 and Wilshire Boulevard.

If Council gives Bylaw C14-15 first reading, adjacent landowners will be notified by mail. As well, advertisements will be published in a local newspaper to notify community members of the scheduled Public Hearing. The target date for the Public Hearing is Tuesday, April 28, 2015, or as soon as practical thereafter, in Council Chambers at 6:00 p.m.

Plans/Standards/Legislation

The Municipal Development Plan and Area Structure Plan provide policy direction for the subject area. Further analysis regarding how this proposed amendment aligns within such existing City policies will be outlined in the subsequent Public Hearing report to Council.

Financial Implications:

Analysis on the financial considerations will be examined and outlined in the subsequent Public Hearing report to Council.

Alternatives:

1. That Council give first reading to Bylaw C14-15 to close a portion of Road Plan 822 1665 and to consolidate the remainder into Lot 1, Block 37, Plan 102 6236 in the Westpark area.

2. That Council not give first reading to Bylaw C14-15, and advise how they wish to proceed.,

Attachments:

1. Bylaw C14-15
2. Schedule “A” - Map Amendment to Appendix A- Land Use Map Bylaw C10-13
3. Appendix “A” - Orthophoto with Existing Land Use Districts
4. Appendix “B” - Westpark Outline Plan Development Concept
5. Appendix “C” - UR Urban Reserve District
6. Appendix “D” - C2- Vehicle Oriented Retail and Service District

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File No.: Bylaw C14-15

Prepared by:	Matthew Siddons Current Planner, Planning & Development	Date: April 7, 2015
Approved by:	Troy Fleming General Manger, Infrastructure and Community Services	Date: April 8, 2015
Reviewed by:	Brenda Rauckman Acting City Manager	Date: April 8, 2015
Submitted to:	City Council	Date: April 14, 2015

CITY OF FORT SASKATCHEWAN

BYLAW C14-15

A BYLAW OF THE CITY OF FORT SASKATCHEWAN IN THE PROVINCE OF ALBERTA TO CLOSE A ROAD, BEING A PORTION OF ROAD PLAN 822 1665

NOW THEREFORE, the Council of the City of Fort Saskatchewan, in the Province of Alberta, duly assembled, enacts as follows:

1. That portion of road covering:

   "ROAD PLAN 822 1665 LYING WITHIN AREA 'A', PLAN 152___ SURVEYED BY NICHOLAS R. RONSKO, ALBERTA LAND SURVEYOR, CONTAINING 0.492 HECTARE (1.22 ACRES) MORE OR LESS. EXCEPTING THEREOUT ALL MINES AND MINERALS"

   be closed as shown on Schedule "A".

2. That Council declares this closed portion to be consolidated with Lot 1, Block 37, Plan 102 6236.

3. If any portion of this Bylaw is declared invalid by a court of competent jurisdiction, then the invalid portion must be severed and the remainder of the Bylaw is deemed valid.

4. That Bylaw No. C14-15 becomes effective upon third and final reading.

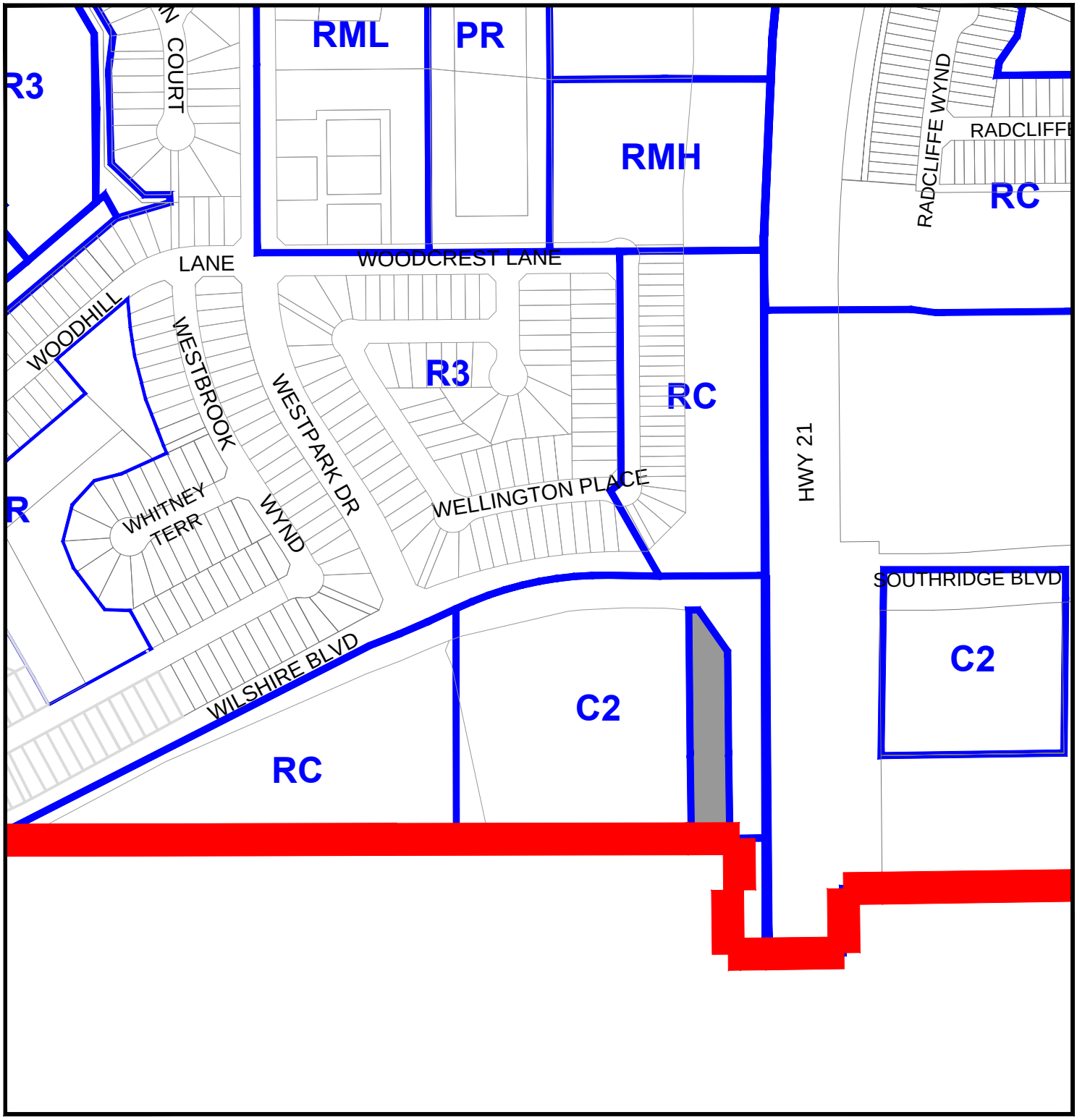
READ a first time this	day of	2015.
READ a second time this	day of	2015.
READ a third time and passed this	day of	2015.

_____
MAYOR

_____
DIRECTOR, LEGISLATIVE SERVICES

DATE SIGNED: _____

BYLAW C14-15
Schedule "A"



Subject Area

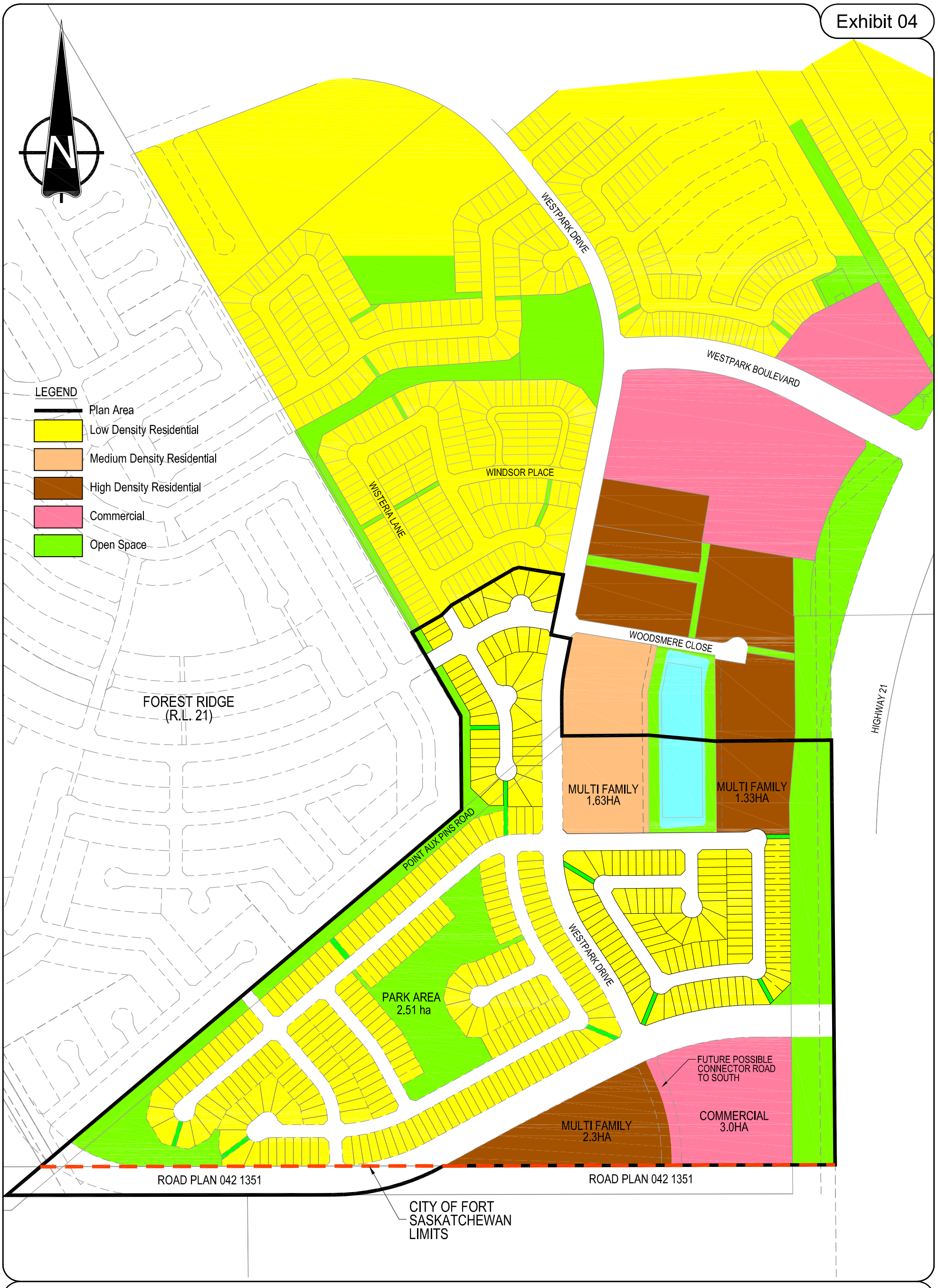
APPENDIX A- ORTHOPHOTO OF EXISTING LAND USE DISTRICTS

N

DISCLAIMER: The information shown is for reference only. The City of Fort Saskatchewan disclaims all responsibility for the accuracy, completeness, timelines and merchantability of information shown. Use this information at your own risk.

CITY OF FORT SASKATCHEWAN ALBERTA

Exhibit 04



ELT - JANUARY 31, 2007 - J:\11900\11941_Westpark_Stages10_11\02_drafting\02a_project\exhibits\exhibits 070131.dwg

ISL Engineering and Land Services

Lovatt Planning Consultants

WESTPARK SOUTH EAST OUTLINE PLAN

LAND USE CONCEPT

CITY OF FORT SASKATCHEWAN · ALBERTA ·

0 50 100 150 200

CONCEPT ONLY.
SUBJECT TO
DETAILED DESIGN.

MARCH 2007

8.9 UR – Urban Reserve District

8.9.1 UR Purpose

This District is intended to reserve areas within the City which are typically rural or undeveloped and have been identified for future subdivision and development. Interim uses may be permitted provided they would not inhibit the convenient and economical redevelopment of the site.

8.9.2 Discretionary Uses in the UR District

UR Discretionary Uses:

- Agriculture
- Billboard sign
- Communication tower
- Community garden
- Natural conservation use
- Those uses which, in the opinion of the Development Authority, are similar to a permitted or discretionary use and which conform to the general purpose and intent of this District.

8.9.3 UR Site Subdivision Regulations

	Interior or Corner Site
Site Area	At the discretion of the Development Authority
Site Width	At the discretion of the Development Authority
Site Depth	At the discretion of the Development Authority

8.9.4 UR Site Development Regulations

	Interior Site	Corner Site
Front Yard Setback	7.0m (23.0ft) minimum	Front: 7.0m (23.0ft) minimum Flanking: 7.0m (23.0ft) minimum
Rear Yard Setback	7.0m (23.0ft) minimum	
Side Yard Setback	7.0m (23.0ft) minimum	
Principal Building Height	At the discretion of the Development Authority	
Site Coverage	40% maximum	

8.9.5 Additional Development Regulations for UR

(a) All development and uses within this Land Use District are subject to the applicable provisions of Part 4 - General Regulations for all Land Use Districts, Sections 8.1 to 8.4 of Part 8 – Institutional Land Use Districts, Part 11 - Parking and Loading, and Part 12 – Signs;

(b) The Development Authority may specify the length of time that a use is permitted in the Land Use District having regard for the servicing and future residential development of the site; and

(c) All development shall be compatible with the Municipal Development Plan and any applicable Area Structure Plan.

6.10 C2 –Vehicle Oriented Retail and Service District

6.10.1 Purpose

This District is generally intended to provide sites for the development of business areas intended to serve vehicular traffic. C2 – Vehicle Oriented Retail and Service District designations shall be reserved for those sites located adjacent to arterial roadways and highways in order to minimize the intrusion of vehicle traffic into residential areas and to promote the orderly flow of vehicular traffic using these sites.

6.10.2 C2 Permitted and Discretionary Uses:

Permitted Uses:

- Accessory development
- Business support service
- Commercial school
- Community service facility
- Day care facility
- Drive through service
- Eating and drinking establishment
- Eating and drinking establishment (limited)
- Emergency response service
- Fascia sign
- Freestanding sign
- Government service
- Health service
- Hotel
- Identification sign
- Indoor entertainment facility
- Indoor recreation facility
- Motel
- Outdoor entertainment facility
- Outdoor recreation facility
- Parking facility
- Pawn shop
- Personal service
- Pet care service
- Portable sign
- Professional, financial and office service
- Projecting sign
- Recycling drop-off
- Retail store (convenience)
- Retail store (general)
- Retail store (liquor)
- Roof sign
- Seasonal garden centre
- Service station
- Service station (limited)
- Vehicle repair facility (limited)
- Vehicle sales, leasing and rental facility (limited)
- Vehicle wash
- Veterinary clinic

Discretionary Uses:

- Communication tower
- Communication tower (limited)
- Custom manufacturing establishment
- Eating and drinking establishment (outdoor)
- Electronic message sign
- Funeral home
- Greenhouse
- Inflatable sign
- Kennel
- Late night club
- Place of worship
- Vehicle repair facility
- Vehicle sales, leasing and rental facility
- Warehouse Sales
- Those uses which, in the opinion of the Development Authority, are similar to a permitted or discretionary use, and which conform to the general purpose and intent of the District.

6.10.3 C2 Site Subdivision Regulations

	Interior or Corner Site
Site Area	2,023.5m ^{2} (0.5ac) minimum
Site Width	At the discretion of the Subdivision or Development Authority
Site Depth	At the discretion of the Subdivision or Development Authority

6.10.4 C2 Site Development Regulations

	Interior or Corner Site
Front Yard Setback	7.5m (24.6ft) minimum
Rear Yard Setback	4.5m (14.8ft) minimum for sites abutting a non-Residential Land Use District 7.5m (24.6ft) minimum for sites abutting a Residential Land Use District.

6.10.4 C2 Site Development Regulations

	Interior or Corner Site
Side Yard Setback	4.5m (14.8ft) [1]7.5m (24.6ft) minimum for sites abutting a Residential Land Use District
Building Height	14.0m (45.9ft) maximum

6.10.5 Additional Development Regulations for C2:

(a) All development and uses within this Land Use District are subject to the applicable provisions of Part 4 – General Regulations for all Land Use Districts, Sections 6.1 to 6.7 of Part 6 – Commercial Land Use Districts, Part 11 – Parking and Loading, and Part 12 – Signs;

(b) The siting and appearance of all buildings or improvements, and the landscaping of the site shall be to the satisfaction of the Development Authority in order that there shall be general conformity with adjacent buildings, and that there may be adequate protection afforded to the amenities of adjacent buildings and sites. The form and character of buildings shall complement adjacent residential character of the neighbourhood;

(c) Where at least 50% of the required parking for a C2 – Vehicle Oriented Retail and Service District use is allocated in a parking garage, an additional one storey or 4.0m (13.1ft) may be permitted in addition to the maximum building height;

(d) Except for off-street parking, loading areas and approved patios, all business activities shall be carried out entirely within completely enclosed buildings or structures;

(e) [2]The required side yard shall be increased by 1.0 m in depth for each storey above the first storey, when adjacent to residential; and

(f) [3]The required rear yard shall be increased by 1.0 m in depth for each storey above the first storey, when adjacent to residential.

[1] C19-14
[2] C19-14
[3] C19-14