

## **New Fire Station #3** CPTED Review Report



November, 2016 | Community Services Department, Planning & Development

*Neighbourhood Safety Program*

## Table of Contents

1.0	General Background.....	2
2.0	Project Background.....	4
3.0	Significant Findings.....	8
4.0	Recommendations.....	14
5.0	Attachments.....	15

# 1.0

## General Background

Crime Prevention Through Environmental Design (CPTED) is a collaborative, multifaceted approach to reducing opportunities for crime, improving perceptions of safety, and strengthening community bonds. CPTED emphasizes the relationship between the immediate physical environment and social behaviour related to crime. CPTED strategies are typically developed jointly by a number of trained individuals to ensure a creative and balanced approach to problem solving.

The principles of CPTED were adopted into the City of Saskatoon's Official Community Plan in May 2008, and the Senior Management Team approved the CPTED Design Review Administrative Policy No. A09-034 in September of 2008 (Attachment 1).

A CPTED Review of the concept plan for Fire Station #3 was undertaken by the CPTED Review Committee on November 3, 2016 and the findings of this review form the basis for the recommendations in this report. The proponent was represented Glen LeDray from the Saskatoon Fire Department (SFD) represented the design team and formally introduced the project and team members: Louis Aussant (Architect, aodbt architecture + design); Bruce Laing (Parks, Community Services); and, Jeanna South (Major Projects, Transportation and Utilities).

The CPTED Review Committee for this project included: Luc Durand (Saskatoon Fire); Jonathan Derworiz (Neighbourhood Planning, Community Services); David Godwin (Community Development, Community Services); Justine Marcoux (Transportation, Transportation and Utilities); Vanessa Champagne (Development Review, Community Services); Vlad Kolosnjaji (Urban Design, Community Services); Gerald Rees (Parks, Community Services); and, Elisabeth Miller, Chair (Neighbourhood Planning, Community Services).

No comments or submissions on this project were received from Saskatoon Police Services, Saskatoon Light and Power, or Saskatoon Transit.

The location plan for the new Fire Station #3 is shown on Map 1.





## 2.0

# Project Background

### 2.1 City of Saskatoon Fire Station #3

In 2014, the Saskatoon Fire Department (SFD) conducted a review process of operations in an effort to address budget concerns and highlight potential future shortfalls. As a result, 30 recommendations were put forward to increase internal savings. Currently Fire Station #3 (Station) is located on Taylor Street and York Avenue. As a result of these recommendation the location of this Station will be relocated to increase service effectiveness. According to the proponents, this location was strategically chosen and will offer increased response times for southern neighbourhoods while taking future growth areas into account. Citing a two million dollar savings to the City of Saskatoon, this project will increase overall coverage of the city without requiring additional staffing.

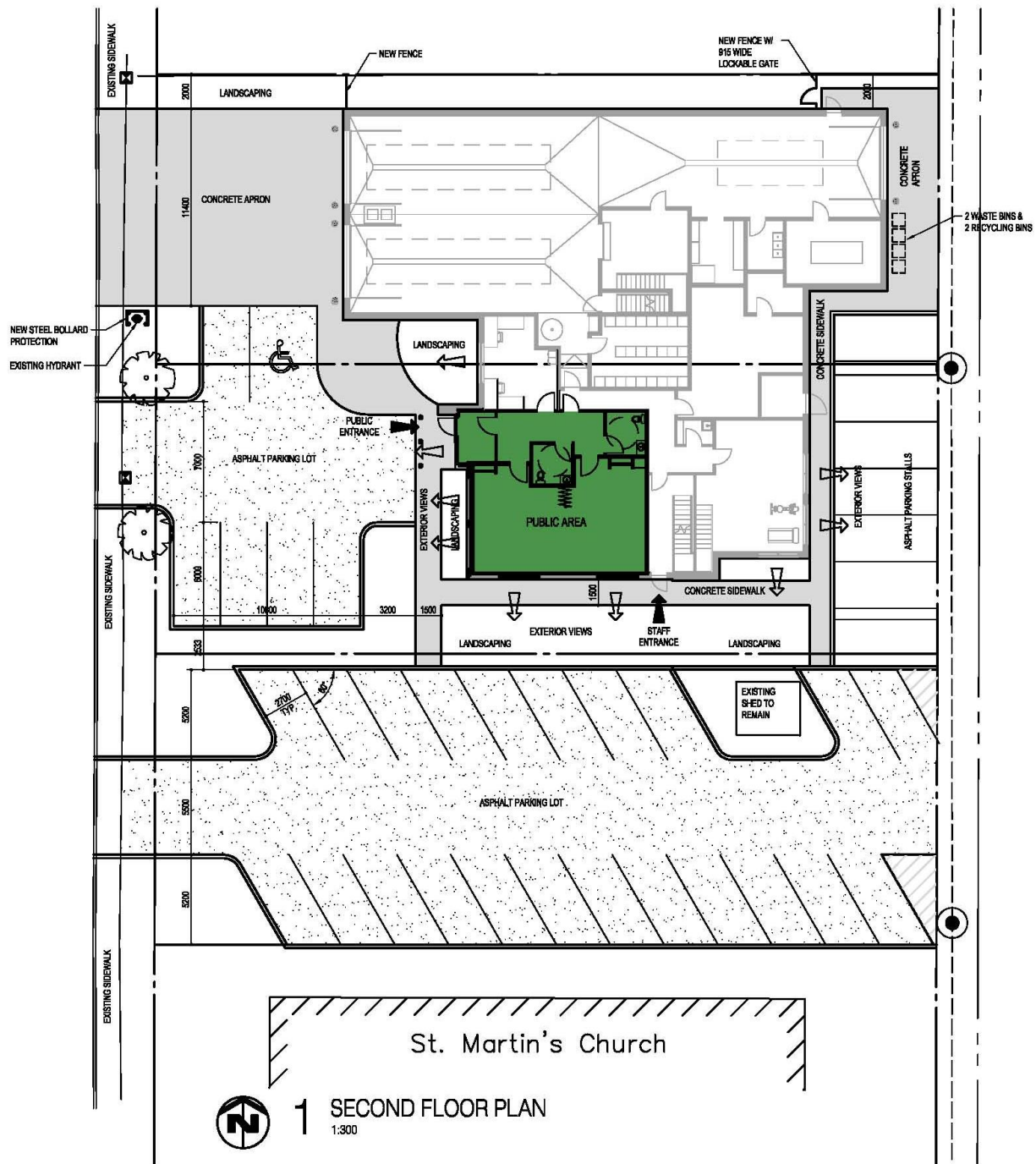
The Station itself occupies a consolidation of three lots and is approximately 10,000 ft<sup>2</sup> over two floors. The Station includes a community multi-purpose room, fitness center, rooftop patio, living quarters (kitchen, lounge, washroom, dorms) and space for two trucks and a fire investigation vehicle (Map 2 & 3).

Parking spaces are proposed on the east and west sides of the building and are complemented by a parking lot south of the Station that will be shared with the adjacent church.

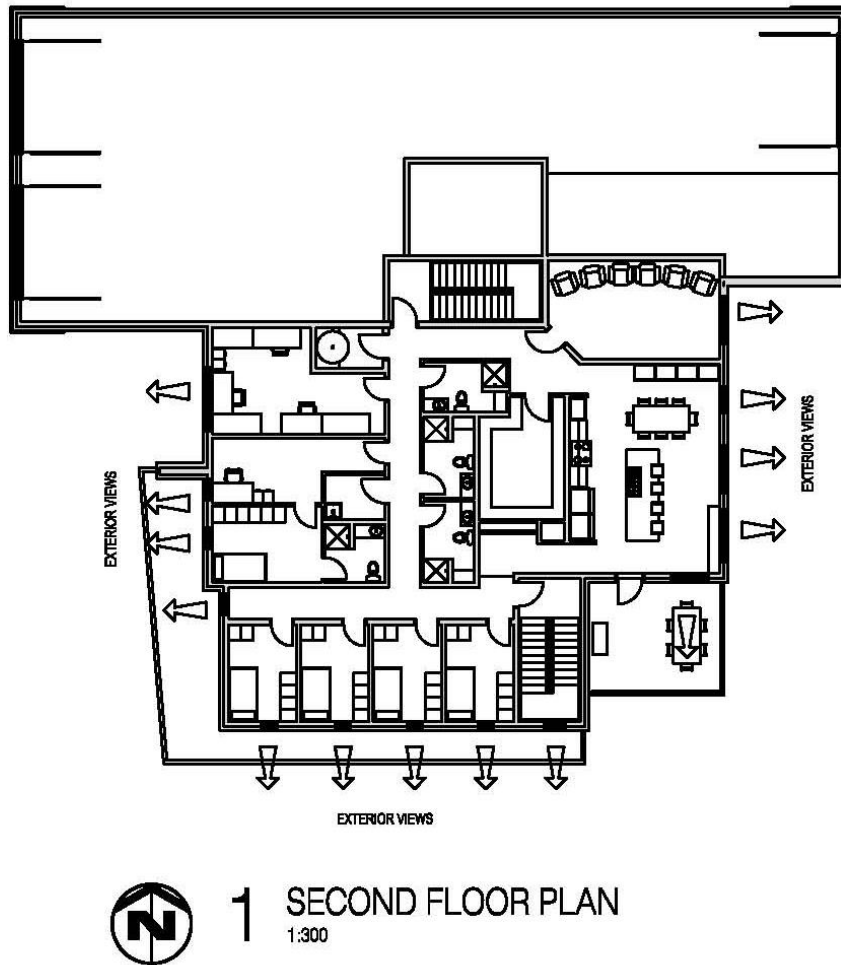
This design for the Hall was approved by City Council in June of 2016 and is slated for tender and construction in 2017. Operations are expected to begin in early 2018 (Figure 1).



**Figure 1:**  
**Fire Station #3**  
**Rendering**



Map 2: Fire Station #3 Site Plan – Main Floor



**Map 3: Fire Station #3 Site Plan – Second Floor**

## **2.2 Crime Activity**

Attachment 2 shows selected crime incidents around the site for the new Fire Station #3. The new site is located in the southern end of the Adelaide Park Churchill neighbourhood and has a church and language school to the south and residential to the north and west. The back of the site is bordered by Churchill Park. This is a mature neighbourhood with well-developed residential, long standing schools, and well developed park space. It is interesting to note that there has already been some infill development in the area, a large portion of which has been on that same block, north of the Station site.

In addition, Clarence Avenue, which fronts the Station, is the entry way to the Stonebridge neighbourhood and the Stonegate Shopping Centre which has had significant development recently. Both commercial and residential building has occurred and the neighbourhood is close to being completely built out.

There is very little personal or property related incidents of crime in the immediate area. There are no crimes showing in Churchill Park but this may be a function of how incidents are reported and collated. If something happens in the park and is reported elsewhere, at home or at school, that will often be the reported address of that crime. Having said that, the addition of the Station, which is continually staffed, will bring more eyes and positive activity support to the area.

It is unlikely that the Station will attract criminal or nuisance behaviour, although the staff vehicles may be a target of opportunity on occasion. It is also unlikely that any of the existing incidents of crime that are showing on the maps in Attachment 2 will have a negative effect on the Station. In general, this development will have a positive effect on the incidents of crime in the area.

Crime maps are one tool that is used in identifying activity in the area, and assists in determining if there are environmental changes that can be made to reduce the opportunity for crime to occur and increase user's feelings of safety. The recommendations in this report will help ensure that the proposed design for Fire Station #3 incorporates all the principles of Crime Prevention Through Environmental Design.



## 3.0

# Significant Findings

This section identifies the significant findings based on the proposed plans for the development of the new Fire Station #3 site and the principles of CPTED. It is important to note that not all of the CPTED principles, which are set out in Attachment 1, apply to every project and some principles may overlap. To clarify this review, some of the CPTED principles have been combined.

The preliminary plans were reviewed and the following findings and recommendations identified for use in the ongoing design work and management plan for Fire Station #3.

### 3.1 Natural Surveillance and Territoriality

Natural Surveillance is the concept of putting *eyes on the street*, making a place unattractive for potential illegitimate behaviour. Street design, landscaping, lighting and site design (e.g., neighbourhood layout) all influence the

potential for natural surveillance.

Territoriality is the concept of creating and/or fostering places that are adopted by legitimate users of the space (e.g., take ownership), making it less likely that people who do not belong will engage in criminal or nuisance behaviour at that location.

The residential uses around the site will offer Natural Surveillance potential; particularly on the front or west side of the Station. The park to the east will offer some natural surveillance when the park is being used but will not offer much opportunity during the night. The school and church staff, who come and go at different times, will support some Natural Surveillance during the day and particularly when classes move back and forth from the church to the park (Figure 2).



**Figure 2: Site Concept**

Natural Surveillance is reduced in the evening. This changes significantly between seasons. There will be street lighting in the area and lighting on the building. The one area that will be quite dark is the parking lot at the back (east side) of the building. This area will need to be lit for users' safety but the lighting will need to be a balance of safety, environmental considerations, and not attracting unwanted activity to an area that has little Natural Surveillance already. Particular attention should be paid to the alignment of the lights and potential glare that may negatively impact surrounding uses.

Lights controlled by motion sensors will be a good choice here, however, the area will need multiple sensors to work effectively. The lights will need to be activated when the cars pull into the back parking lot. This will light up the area and allow the user to make a judgement on their safety. In addition, there needs to be a sensor near the staff entrance so that when staff exit the building the pathway to the parking lot and the parking lot are lit. Together with a convex mirror, on the south east corner of the building, staff will be able to see the area and parking lot and choose to proceed or return to the building.

Most staff will be coming and going at similar times, depending on the shift change. However, there is one position that will be accessing the building at odd hours and potentially when the station is not occupied. The Fire Investigator will need to access their vehicle which is housed in Fire Station #3. One parking spot at the front of the building should be identified for the use of the Fire Investigator during evening hours. This will ensure the safety of staff that may need to access the station at night and potentially when the Station is empty.

The residential across the street will also help to assist with positive Territoriality. Residents may feel an increased sense of ownership over the site and may be more likely to take ownership of the area and potentially dissuade illegitimate uses. This will be supported by the Community Room that is planned for this fire station. Community members will be able to access this area for community meetings and activities. This will certainly forge a strong connection between the station and the community. Community members will keep an eye out on the station as they go about their daily activities and will notice and are likely to report inappropriate behaviour around the site.

There is an existing garden shed shown to remain in its current site. Unfortunately, this is located close to the staff entrance and near the picnic tables. The shed blocks sight lines to these areas from the east and south and also facilitates hiding spots. The shed contains gardening supplies and may present an issue for church members to be walking through a parking lot to access the shed. Moving the shed to the very south east edge of the new parking lot, or off the parking lot altogether, would facilitate better Natural Surveillance in the area and safe access to the shed.

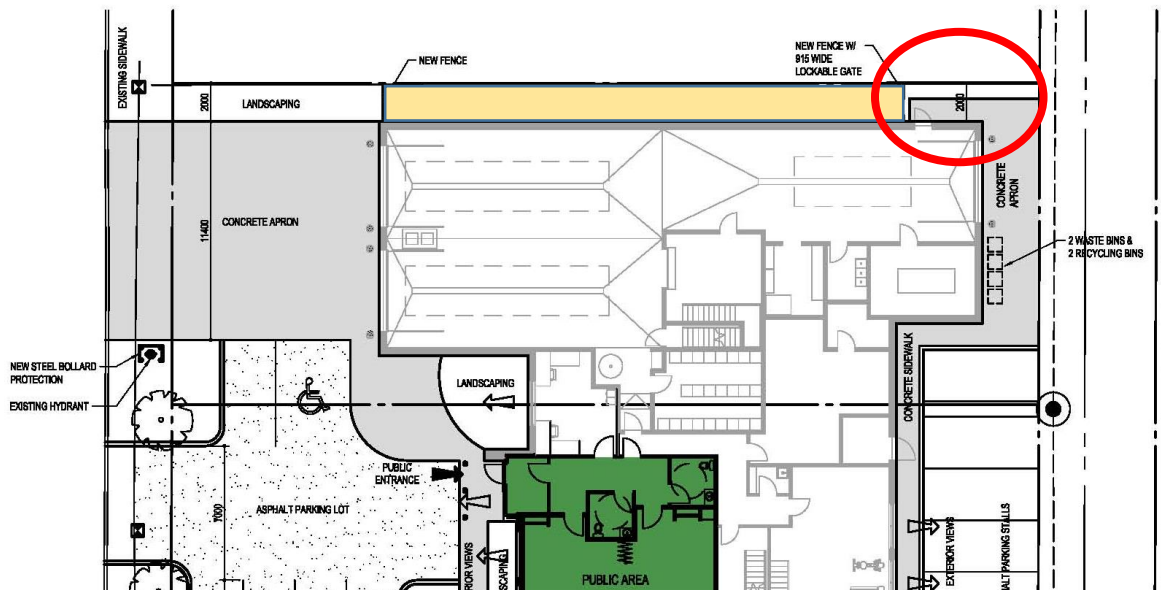
### 3.1 Access Control

Access Control is controlling who goes in and out of a neighbourhood, park, building, etc. Access control includes creating a sense of turf, for legitimate users, while focusing on formal and informal entry and exit points.

The Station itself will be card access to ensure security and ease of entry for staff. When the Community Area is open or booked the front door will be open to those attending the meeting or function. Other areas in the building will be locked.

The building can be accessed in a number of ways. There are overhead doors both on Clarence Avenue as well as off the back lane. Fire equipment will move in and out through the front overhead doors and the Fire Investigator's vehicle will move in and out of the east overhead door that is accessed off the back lane. It will be quite clear which doors are for the public and which are dedicated to the SFD operations.

There is a space on the north side of the building that will be fenced off to restrict access. The space is required under zoning to ensure proper spacing of buildings. Rather than leave it open the plans call for fencing off the area. Access to this area is from a gate at the north east corner of the Fire Station. This gate and the west fence of the area should be an open style wrought iron fence, or something similar, to ensure sight lines (Map 4)



**Map 4: Fenced off area on north side of Station shown in yellow. Entrapment area circled in red.**

There is an entrapment area produced by the need to accommodate the north east person door and this fenced off area. This leaves a hiding spot at the north east corner of the building. The area will be covered in mulch to reduce the need for maintenance. This area should be monitored on a consistent and ongoing basis. If issues arise, the proponent may need to consider thorny plants to deter loitering in the area. The person door on the north east corner should have a viewing window or peep hole so that staff can judge their personal safety before exiting the building. A convex mirror at the north east corner of the building should be added to ensure sight lines for staff exiting this door and for those coming up to the north east corner of the building.

### **3.1 Image**

**Image:** is the appearance of a place and how this is instrumental in creating a sense of place or territory for legitimate users of the space. A place that does not appear to be maintained or cared for may indicate to criminals that the place will not be defended and criminal activity in the area will be tolerated.

The Committee felt that the proponent has done a good job of being sensitive to the surrounding residential area and proximity to the church in the overall design of the building and site. Massing, site coverage, landscaping and glazing all contribute to a positive image of the station. Additionally, fire stations in Saskatoon typically have tidy sites and take pride in their station, which contributes to a positive image of the site and area in general.

Landscape planting on the site should be low to facilitate good image and sight lines. Trees should have a high canopy for the same reason. The landscaping at the front entrance should be chosen to ensure there will be no hiding spots between the foliage and the building or trap excessive garbage.

Bike racks would also be a good addition to the Station. They will reinforce the image of Saskatoon as a supporter of alternative forms of transportation and encourage and support staff and community members who choose to cycle to the Station.

### **3.1 Conflicting User Groups**

Conflicting User Groups refers to instances where different user groups may conflict (e.g. a school near industrial development or a seniors centre near a nightclub). Careful consideration of compatible land uses can minimize potential conflicts between groups.

There will be times when the activities of the fire station will conflict with the everyday activities of the neighbourhood and has the potential of causing disruption with traffic, sirens, and lights. The proponents have worked closely with the church, surrounding residents, and the community in general to address these issues. The SFD will also continue to work with the community in the future.

### **3.2 Activity Support**

Activity Support is the concept of filling an area with legitimate users (by facilitating or directly scheduling activities or events) so potential offenders cannot offend with impunity. Places and facilities that are underused can become locations with the potential for criminal activity.

The activity that occurs in and around a fire station is a supportive activity for the area. The station is always staffed and the SFD is committed to working with the Community. Staff should be encouraged to be accessible at times and connect with the Community when the opportunities arise.

### **3.1 Crime Generators**

Crime Generators are activity nodes that may generate crime. For example, a 24 hour convenience or liquor store may not be a problem in itself but where it is located in the community may cause conflict or unforeseen secondary activity. The location of some land uses is critical to ensuring an activity does not increase the opportunities for crime to occur or reduce users and residents perceptions of their safety in the area.

The addition of parking spots at the back, or east side, of the building may not be the most ideal place for parking as it is hidden behind the building and bordered by the park and another parking lot. This has the potential to set up these vehicles as targets for vandalism and break-ins. However, the fact that the building is staffed on a continuous basis will offset this somewhat in that those who may engage in this behaviour may choose not to victimize vehicles connected with the fire station because they may perceive the risk of getting caught is too high. Staff should be reminded, through signage or other methods, not to leave valuables in their vehicles.

### **3.3 Land Use Mix**

Land Use Mix is the concept that diversity in land uses can be a contributor or detractor for crime opportunities. Separating land uses (e.g., residential) from each other can create places that are unused during certain times of the day.

The addition of the fire station is a diverse use for this area. The block surrounding the stations includes residential uses, a church, and a municipal park. All of these areas tend to generate positive activity support in the area and the fire station will contribute to this. In addition, even when other uses are dormant during the day or week, the fire station is staffed.

### **3.4 Movement Predictor**

Movement Predictors force people, especially pedestrians and cyclists, along a particular route or path, without providing obvious alternative escape routes or strategies for safety. Potential attackers can predict where persons will end up once they are on a certain path (e.g., a pedestrian underpass or walkway).

There is not a true Movement Predictor on this site although the pathway from the staff entrance to the staff parking has a blind corner. Ensuring staff can see and make a choice of which path they wish to take or to choose to re-enter the building is critical.

A convex mirror on the south east corner of the building will allow staff to “see” around the corner and choose to proceed to their car or re-enter the building. This will help keep staff safe. A camera on the parking lot that has a monitor at the exit door is another way to “see” the area before exiting the safety of the building.

### **3.6 Community Cohesion and Connectivity**

Cohesion is the supportive relationships and interactions between all users of a place to support and maintain a sense of safety. Though not a specific urban design function, design can enhance the opportunity for positive social cohesion by providing physical places where this can occur, such as activity rooms, park gazebos, or multi-purpose rooms in schools and community centers. In some cases property owners or building managers can provide opportunities for social programming. This will increase the ability of local residents or users of a space to positively address issues as they arise.

Connectivity refers to the social and physical interactions and relationships external to the site itself. It recognizes that any given place should not operate in isolation from surrounding neighbourhoods and/or areas. Features such as walkways and roadways connecting a particular land use to the surrounding neighbourhoods and/or areas can accomplish this. Features such as centrally located community centers or program offices can also encourage activities to enhance this.

Fire Station #3 will support and enhance Community Cohesion in the area. The inclusion of a community room that will be accessible to the neighbourhood provides a physical space in the building where community members can connect with each other and with the staff. Additionally, this also facilitates the SFD’s connection with the community and will support the education of residents and the distribution of fire safety information. Being seen as a community partner is very important to SFC and the design work done on this building reflects this through site planning, access, and visual appeal.



## 4.0

# Recommendations

- 4.1 That the pathway from the staff entrance to the east parking lot be lit with motion sensors to ensure staff can see when arriving or departing the Station.
- 4.2 That the existing shed be moved out of the parking lot altogether or, alternatively, to the south east corner of the parking lot.
- 4.3 That the Station operating policy identify one parking spot in front of the station for nighttime use of the Fire Investigator..
- 4.4 That an open style wrought iron type fencing be used on the ends of the side yard on the north side of the station.
- 4.5 That the public seating area at the front door of the Station be design to eliminate any hiding spots or garbage trapping areas.
- 4.6 That the SFD monitor activity in the fenced area north of the Station to ensure illegitimate activity is identified early.
- 4.7 That the proponent consider alternate forms of ground cover, such as thorny plants, if this area becomes an issue for loitering.
- 4.8 That a viewing window or peep hole be added to the north east person door and the south staff door
- 4.9 That a convex mirror be added to the north east corner of the building to ensure sight lines into this entrapment area.
- 4.10 That the Station continue to work with the community in the fure as opportunities arise.
- 4.11 That staff be reminded, through signage, not to leave valuables in their vehicles.
- 4.12 That a convex mirror be added to the south east corner of the building so staff exiting the building can see around the corner to the parking lot **OR** an alternative is adding a camera to the parking lot, with a monitor inside the building at the exit door to facilitate viewing the parking lot before exiting the building.

## 5.0

# Attachments

- 5.1 Attachment 1:**  
Appendix A to the City of Saskatoon Administrative Policy A09-034 – Principles of Crime Prevention Through Environmental Design (CPTED) Principles
- 5.2 Attachment 2:**  
New Fire (Hall) Station #3 Area – 2015 Selected Incidents of Crime

## **APPENDIX A TO CITY OF SASKATOON ADMINISTRATIVE POLICY A09-034 – CPTED Review**

### **Principles of Crime Prevention Through Environmental Design (CPTED):**

**Natural Surveillance:** is the concept of putting “eyes on the street”, making a place unattractive for potential illegitimate behaviour. Street design, landscaping, lighting and site design (i.e. neighbourhood layout) all influence the potential for natural surveillance.

**Access Control:** is controlling who goes in and out of a neighbourhood, park, building, etc. Access control includes creating a sense of “turf”, for legitimate users, while focusing on formal and informal entry and exit points.

**Image:** is the appearance of a place and how this is instrumental in creating a sense of place or territory for legitimate users of the space. A place that does not appear to be maintained or cared for may indicate to criminals that the place will not be defended and criminal activity in the area will be tolerated.

**Territoriality:** is the concept of creating and fostering places that are adopted by the legitimate users of the space (i.e. take ownership), making it less likely for people who do not belong to engage in criminal or nuisance behaviour at that location.

**Conflicting User Groups:** refers to instances where different user groups may conflict (e.g. a school near industrial development or a seniors centre near a nightclub). Careful consideration of compatible land uses can minimize potential conflicts between groups.

**Activity Support:** is the concept of filling an area with legitimate users (by facilitating or directly scheduling activities or events) so potential offenders cannot offend with impunity. Places and facilities that are underused can become locations with the potential for criminal activity.

**Crime Generators:** are activity nodes that may generate crime. For example, a 24 hour convenience or liquor store may not be a problem in itself but where it is located in the community may cause conflict or unforeseen secondary activity. The location of some land uses is critical to ensuring an activity does not increase the opportunities for crime to occur or reduce users and residents perceptions of their safety in the area.

**Land Use Mix:** is the concept that diversity in land uses can be a contributor or detractor for crime opportunities. Separating land uses (i.e. residential) from each other can create places that are unused during certain times of the day.

**Movement Predictors:** force people, especially pedestrians and cyclists, along a particular route or path, without providing obvious alternative escape routes or strategies for safety. Potential attackers can predict where persons will end up once they are on a certain path (e.g. a pedestrian tunnel or walkway).

**Displacement:** can be positive or negative so it is critical to understand how crime may move in time or space and what the impact may be. In general, the displacement that must be considered is:

Negative displacement – crime movement makes things worse;

Diffusion of benefits – displacement can reduce the overall number of crimes more widely than expected;

Positive displacement – opportunities for crime are intentionally displaced which minimizes the impact of the crime.

**Cohesion:** is the supportive relationships and interactions between all users of a place to support and maintain a sense of safety. Though not a specific urban design function, design can enhance the opportunity for positive social cohesion by providing physical places where this can occur, such as activity rooms, park gazebos, or multi-purpose rooms in schools and community centers. In some cases property owners or building managers can provide opportunities for social programming. This will increase the ability of local residents or users of a space to positively address issues as they arise.

**Connectivity:** refers to the social and physical interactions and relationships external to the site itself. It recognizes that any given place should not operate in isolation from surrounding neighbourhoods and/or areas. Features such as walkways and roadways connecting a particular land use to the surrounding neighbourhoods and/or areas can accomplish this. Features such as centrally located community centers or program offices can also encourage activities to enhance this.

**Capacity:** is the ability for any given space or neighbourhood to support its intended use. For example, excessive quantities of similar land uses in too small an area, such as abandoned buildings or bars, can create opportunities for crime. When a place is functioning either over or under capacity, it can be detrimental to neighbourhood safety.

**Culture:** is the overall makeup and expression of the users of a place. Also known as “placemaking”, it involves artistic, musical, sports, or other local cultural events to bring people together in time and purpose. Physical designs that can encourage this include public multi-purpose facilities, sports facilities, and areas that local artists and musicians might use. Community memorials, public murals, and other cultural features also enhance this. These features create a unique context of the environment and help determine the design principles and policies that best support the well-being of all user groups and contribute to their cohesiveness.



