

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN ASSESSMENT



File Name: CPTED

Location: Lakeview Lift Station, 7305 Crowchild Tr SW

Completed by: Cst. Wall #4160 – District 2 CRO

Date Completed: December 5th, 2019

M E M O R A N D U M

DATE: December 5th, 2019

TO: Calgary Parks Department, City of Calgary

FROM: Cst. Rich Wall #4160

RE: Lakeview Lift Station - 7305 Crowchild Tr SW

As requested, I visited the Lakeview Lift Station located at 7305 Crowchild Tr SW over several days and nights in November and December, and I have reviewed the site from the perspective of personal safety and building security. This security audit is based on the crime prevention strategy known as Crime Prevention Through Environmental Design (C.P.T.E.D).

As you are aware, C.P.T.E.D. recognizes the relationship between the built environment and incidences of crime. Please find attached a matrix with recommendations that we hope will provide you with helpful information and guidelines with respect to your project.

Yours truly,

*Cst. Rich Wall #4160
Calgary Police Service
Community Resources Officer- District 2*

Attachments.

**CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN
(C.P.T.E.D.) ASSESSMENT**

REQUESTED BY:	John Merriman
POSITION:	Park Community Strategist, Calgary Parks
CONDUCTED BY:	Cst. Rich Wall #4160
LOCATION:	7305 Crowchild Tr SW. Calgary.

STATEMENT OF PURPOSE

This survey and the enclosed recommendations are not intended to completely eliminate the crime risk to the subject property. They will however enhance the personal safety and reduce the probability of attacks against the property if properly applied and maintained.

Implementation of these recommendations should not be fragmented. Many times, the incorporation of one phase depends upon the implementation of other security recommendations and the failure to utilize the systems approach can breach all elements of the system.

UNDERSTANDING OF PURPOSE

I understand that CPTED is a public service offered by the Calgary Police Service as part of its crime prevention strategy. CPTED audits are designed to make recommendations to reduce the likelihood of criminal activity in and around a physical structure such as a building. Compliance with the suggestions does not guarantee protection from crime. The officers conducting CPTED audits are trained in crime prevention techniques, and not in the enforcement of property standards, fire regulations, or other such regulations or bylaws. The Calgary Police Service takes no responsibility for the detection or enforcement of property deficiencies.

SCOPE

This report is based on the crime prevention strategy known as Crime Prevention Through Environmental Design or CPTED (pronounced sep-ted for short.) CPTED is a strategy that recognizes that a relationship exists between the built environment and incidence of crime.

The most attractive feature of CPTED as a strategy is that it, unlike other strategies such as target hardening, attempts to accomplish a high level of personal security without imposing a fortress like structure on the environment.

SUBJECT FACILITY (Description taken from the City of Calgary website December 2019)

Lift stations, a vital part of our sanitary system, are used throughout the City to lift wastewater/sewage from low-lying areas to higher areas where it can flow by gravity to one of our three wastewater treatment plants. The Lakeview Sanitary Lift Station was built in 1960 and was designed to the standards of that time. As the City of Calgary has grown over the past approximately 60 years the requirements for these lift stations have changed.

The existing Lakeview Sanitary Lift Station is located towards the North- East corner of North Glenmore Park.



The current Lakeview Sanitary Lift Station

FUTURE PLANS

(Description taken from the City of Calgary website December 2019)

A replacement lift station will be constructed just south of the current lift station, with the old structure being removed and turned into green space. The replacement lift station will incorporate two public washrooms.

The current Lakeview Sanitary Lift Station will be replaced with a more resilient structure that will ensure Calgarians continue to receive a high level of sanitary service.

In 2011, the City retained an independent engineering consulting firm to evaluate 15 sanitary lift stations in Calgary. The evaluation considered the overall condition of the lift stations and their compliance with current City standards. The evaluation included a multidisciplinary review: architectural, building mechanical, process mechanical, electrical, instrumentation and controls, civil, structural, HSE (health, safety and environment) and HAZMAT (hazardous materials and items). This independent report recommended the Lakeview Sanitary Lift Station be completely replaced between 2017-2021. Key findings from the 2011 report and subsequent investigations on the Lakeview Sanitary Lift Station were:

- Capacity of lift station to be increased to meet peak flow conditions
- Numerous safety concerns including lack of gas detection equipment
- Replacement of HVAC system needed
- Spot repairs of sanitary force main from lift station are required

The new lift station will meet all present-day safety and building standards and codes. The capacity of the new lift station is higher than the existing lift station, to accommodate higher inflows during storm events. The new building will also remedy the issue with there being no washrooms in the east side of the park. Currently users must walk 1400m to reach washrooms in the west end of the park or 500m to reach temporary port-a-potties. This will improve sanitation in the park due to some users urinating and in cases defecating in the park.

The City of Calgary has picked a design for the new building with has several options for different outside appearances and uses of materials. The actual physical design for the building, as in its size, function and amenities are the same throughout each option.

The City of Calgary expects to start building the new lift station in Spring 2020.



(Taken from City of Calgary website Calgary.ca 2019)

One of the options for new Lift Station Building

GENERAL CRIME CONCERNS FOR GLENMORE PARK

Glenmore Park is situated in the Calgary Police Service area of district 2. Historically the park has enjoyed low levels of crime. In fact, Glenmore Park is the lowest crime community in District 2.

What crime the park does suffer from, generally rises in the spring and summer months. This is due to a greater number of people visiting the park. The most common offences that are seen committed in the park are the thefts from motor vehicles, the consumption of alcohol and graffiti. There have been numerous instances of people being located in the park after hours drinking, having unsanctioned events such as firepits and on occasion, people located sleeping in their vehicles.

The current building doesn't show any sign of vandalism or graffiti which is a good indicator that the building isn't being targeted and that it doesn't draw any attention from offenders. The washrooms that are situated in the west end of the park do show some evidence of graffiti but is minimal.

2018-2019 Theft from a Motor Vehicle Statistics

Zone	Community	2018												2018 Total	2019												2019 Total
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
21	ALTADORE	6	4	9	3	10	19	14	18	4	6	4	2	99	4	6	5	12	9	3	11	6	12	14	18	100	
	BANKVIEW	11	9	6	9	12	10	14	15	17	18	20	9	150	22	17	10	14	22	6	6	12	8	7	12	136	
	CFB - CURRIE	1	0	0	0	2	1	0	0	0	0	1	0	5	1	2	0	0	1	1	0	1	3	0	1	10	
	CURRIE BARRACKS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2		
	CFB - LINCOLN PARK PMQ	0	0	0	0	0	1	2	3	0	3	0	0	9	0	0	0	2	0	0	0	2	0	1	0	5	
	GARRISON WOODS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	1	0	1	1	9		
	GARRISON GREEN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	3		
	GLENMORE PARK	3	1	4	0	4	1	5	1	2	1	3	0	25	0	0	0	0	2	1	1	4	3	0	0	11	
	LAKEVIEW	2	2	6	1	1	2	4	4	9	2	4	5	42	4	1	3	1	0	12	5	2	4	2	1	35	
	LINCOLN PARK	11	1	2	0	1	1	1	1	5	4	0	2	29	1	0	3	1	1	4	4	0	3	2	3	22	
	NORTH GLENMORE PARK	0	1	4	0	2	2	1	7	5	4	1	2	29	0	0	1	1	3	2	3	7	1	3	3	24	
	RICHMOND	4	1	0	6	4	4	4	7	3	8	5	6	52	2	5	7	4	4	8	4	14	2	9	6	65	
	RUTLAND PARK	7	2	1	1	3	2	1	8	2	2	4	3	36	0	0	4	0	4	2	0	4	3	0	3	20	
	SOUTH CALGARY	5	5	6	6	5	4	6	5	8	11	7	5	73	5	3	4	3	4	6	4	3	4	11	9	56	
21 Total		50	26	38	26	44	47	52	69	55	59	49	34	549	39	34	37	38	50	46	43	57	44	51	59	0	498

2018-2019 Theft of Motor Vehicles Statistics

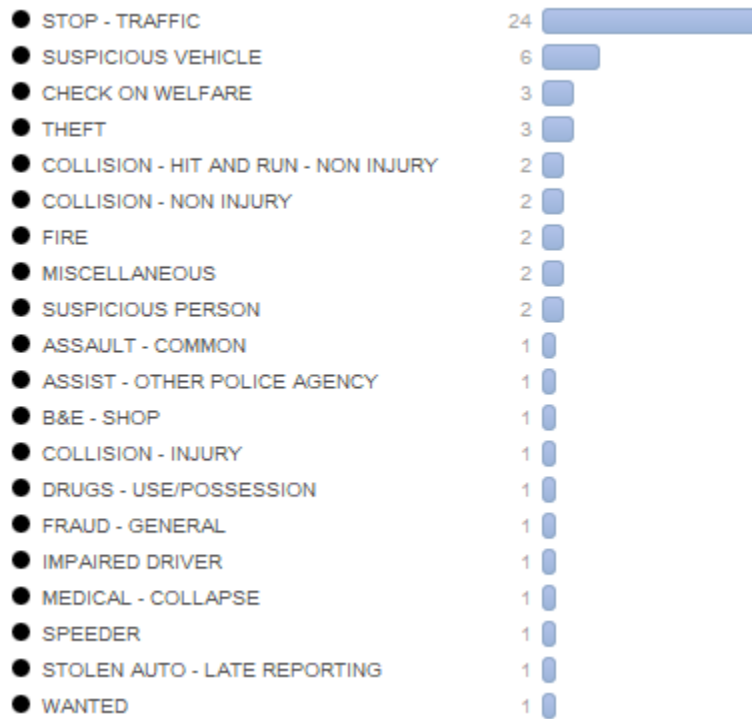
Zone	Community	2018												2018 Total	2019												2019 Total
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
21	ALTADORE	5	1	4	4	0	5	4	2	5	3	0	1	34	1	3	3	4	4	5	1	2	6	5	3	37	
	BANKVIEW	2	1	3	4	7	4	5	6	4	7	8	3	54	2	3	6	5	6	3	4	4	7	5	3	48	
	CFB - CURRIE	0	1	1	0	0	0	0	0	0	0	0	1	3	0	0	1	0	0	0	0	0	0	0	1		
	CFB - LINCOLN PARK PMQ	1	0	1	1	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	0	1	2		
	GARRISON WOODS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2		
	GLENMORE PARK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	LAKEVIEW	0	0	1	2	0	1	3	2	1	0	3	1	14	1	0	0	1	3	1	2	1	2	0	1	12	
	LINCOLN PARK	0	0	2	0	1	0	1	0	0	0	0	0	4	1	0	1	0	1	0	0	0	0	1	4		
	NORTH GLENMORE PARK	1	2	0	0	0	0	1	1	2	0	0	1	8	2	0	1	0	4	0	1	0	2	1	0	11	
	RICHMOND	3	1	0	2	4	3	2	1	4	3	1	1	25	1	1	2	2	2	0	2	5	3	1	2	21	
	RUTLAND PARK	0	0	1	0	0	0	0	1	0	1	0	0	3	0	0	0	0	0	0	2	0	1	1	4		
	SOUTH CALGARY	2	5	3	3	3	2	3	1	2	0	1	4	29	2	5	2	3	3	3	2	5	5	3	2	35	
21 Total		14	11	16	16	15	15	19	14	18	14	13	12	177	10	12	16	16	23	13	12	19	25	17	14	0	177

2019 Case Number Generation for Police Calls for Service

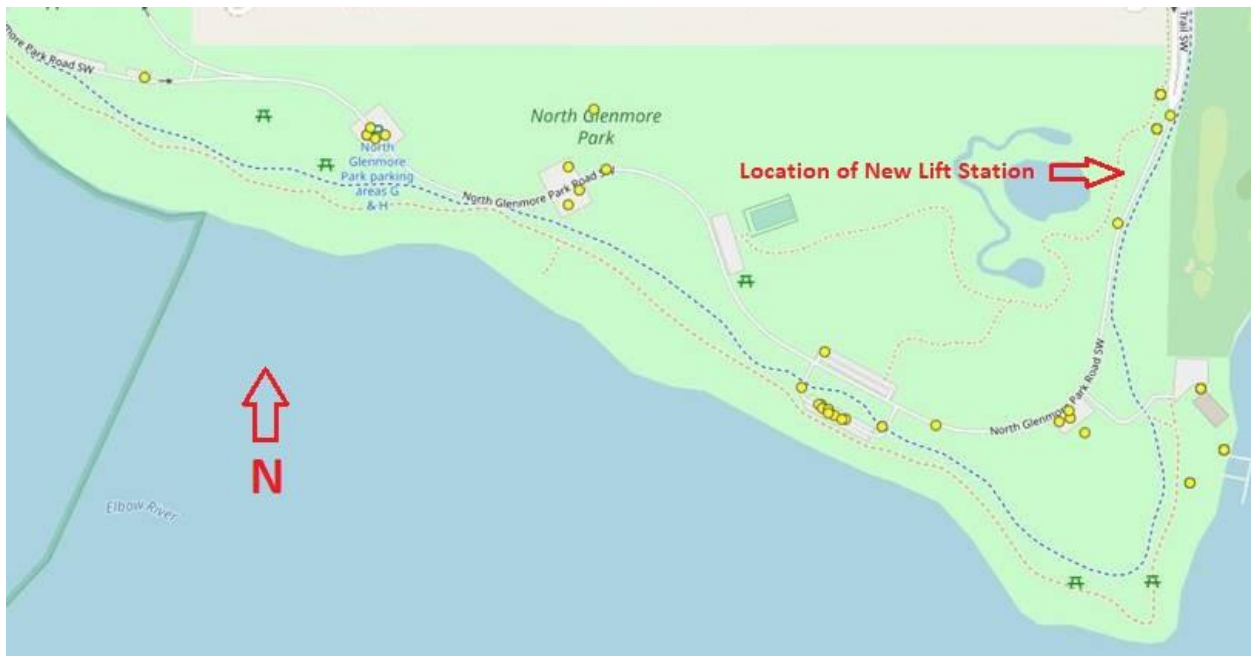
So far this year the Calgary Police Service has responded to 57 calls in Glenmore Park. Of these 57 calls, 24 of them were generated by the officers just patrolling the park. These were mainly traffic stops of vehicles located in the park during the day and night time hours. These calls included vehicles found to be parked illegally or in a suspicious manner and checks on people's welfare.

The types of calls that officers responded to and their quantities

Event Type - Sub Type: Subtype Only (20/20)



Map of Calls for Service Locations January to November 2019 in Glenmore Park



OTHER ACTIVITIES

Over the years there has been reports and complaints of sexual activity in the park. The area, like most large parks in Calgary, has been known to be a meeting area for men and women. On various websites on the internet Glenmore Park has been an advertised place where people can meet up for sexual activity. This is also the case for other comparable parks in Calgary such as Nose Hill, Fish Creek and Confederation Park.

There is a well-known and unofficial nudist beach close to the park. The beach is essentially a sandbar well off the authorized trail, but it is in the Weaselhead area close to the Tsuu-T'ina reserve on the opposite side to the park to where the new lift station will be built. This beach has been advertised on numerous online forums as a place to meet in the summer months.

As a police officer who patrols the park a great deal I can admit to locating men and women in the park in vehicles who were engaged in sexual activity, but they have been on very few occasions. Normally these encounters are dealt with by way of education, warning or in some cases violation tickets issued under the Parks and Pathways bylaw. In my experience, most of the people located in these situations tend to be amorous everyday people who are not in the park to cause anyone else a problem.

CONCERNS AND RECOMMENDATIONS

The Current Building

The site of assessment was visited during the day and night time hours in bright and low light conditions.

The current building is very different in design to the proposed structure which will include washrooms for public use. This being the situation I will comment on the current features that will continue to positively and negatively affect the new structure.

Natural Surveillance

Natural Surveillance is a design strategy that is directed at keeping offenders under observation. Designing for natural surveillance involves providing ample opportunity for legitimate users, engaged in their normal activities to observe the space around them. Natural surveillance is also the placement of physical features and/or activities, and people that maximizes natural visibility or observation.

Essentially it is the discouragement of wrongdoing by the presence of passers-by or the ability of people to be seen i.e. people walking by, a busy roadway, park users or even people living nearby that overlook the site. The primary thrust of a surveillance strategy is to facilitate observation and to accomplish the effect of an increased perception of risk.

Currently the old lift pump station is situated on the west side of Crowchild Tr SW. The new structure will do the same but approximately 20 metres to the south. Crowchild Tr is a busy road and is the most popular route into the park from the local communities. The roadway has a pathway on each side of it which is well used by park visitors and runs south and north next to the site.

From the roadway the building can easily be seen. It is not blocked by vegetation or trees and has easy access from the roadway for workers. This site was visited at both day and night hours and during the visits it was obvious that there is clear natural surveillance from pedestrians and vehicle users onto the site and around it. Even at night the sidewalk and roadway were popular with users.



Crowchild Trail SW

To assist with natural surveillance the building is surrounded by 3 trails that lead along the edge and into the park itself to the natural environment park and storm pond. The trails are well used by pedestrians and cyclists and the usage increases in the warmer months. This area is overlooked by several houses that are situated on Linden Dr SW and Laurier Ct SW. At the rear of the lift building are thick trees that obscure the view of the building from these homes, so the natural surveillance is greatly impeded in the summer.



Trails surrounding the rear of the current building
North and West sides

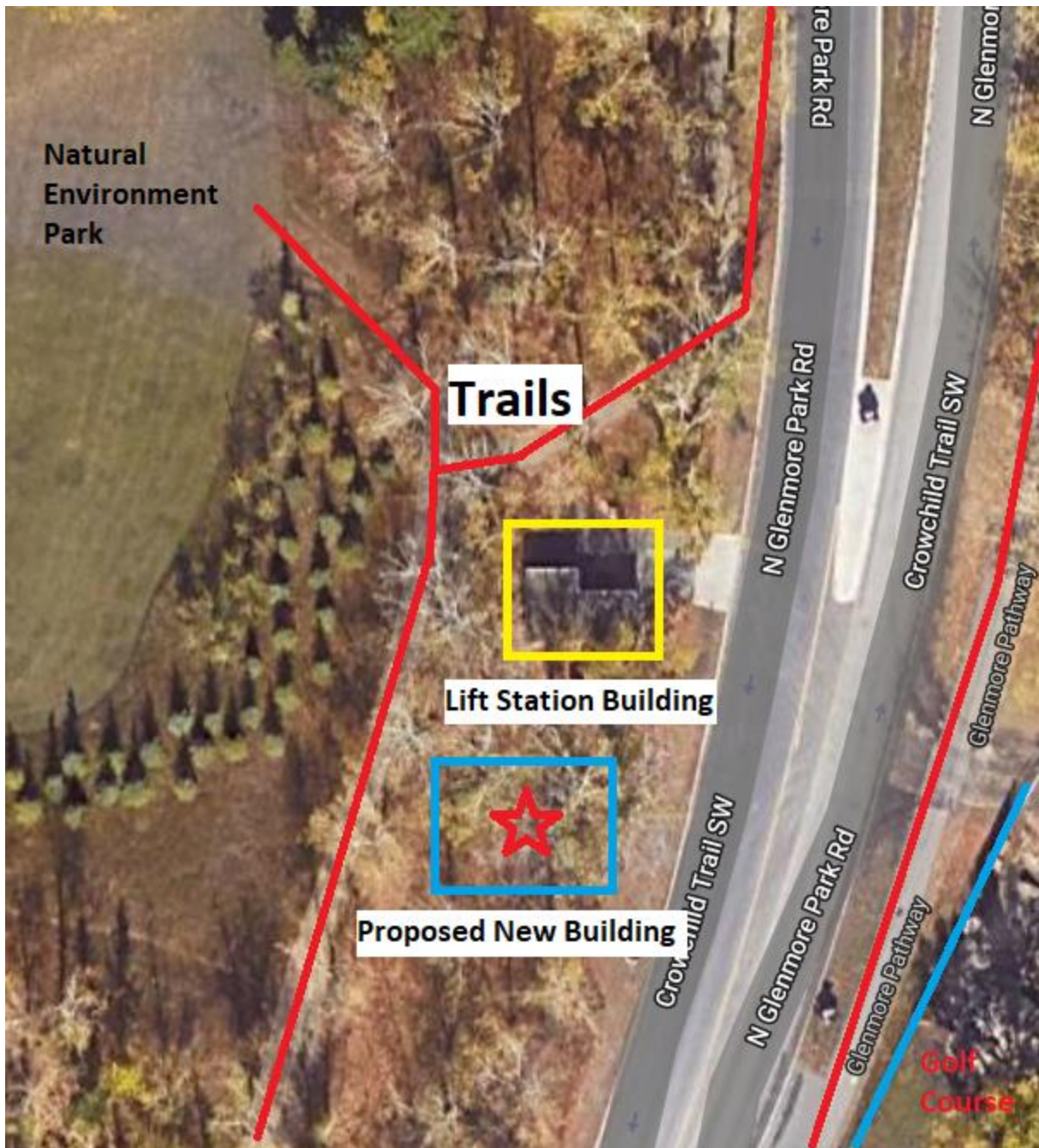


Trails surrounding the rear of the current building
North and West sides

To the west and south of the building is a trail that leads south into the the park and to the side of Crowchild Tr SW. It is lined by trees on its east edge but is well used. During the site visits pedestrians were seen using all three trails either walking or biking.

Across Crowchild Tr is the Earl Grey Golf Course. After visiting the course and speaking with staff, I discovered that there is a lot of activity on the golf course close to the site and natural surveillance comes from the players at Earl Grey when playing the course nearby.

It will be essential that the new building should have clear sightlines around it to encourage good natural surveillance and to discourage wrongdoing at the site.



Trail Layout around the current building

Lighting

Currently the lighting for the area around the building is poor. At night the building is barely lit. At this time the building has an industrial use, but the new structure will have a public sanitation use and so lighting will need to be greatly improved.

Mechanical Surveillance

At this site currently, there is no mechanical surveillance. Closed Circuit Cameras, also known as CCTV, are not installed at present. There are also no security signs or any clear messaging to the public that this site is under any surveillance at all. This would hopefully change with the new structure.

Access Control

Access Control is an important part of CPTED. This site is open to the public to wander around and get close to at any time of the day or night. There are no gates restricting movement close to the site only the shutter and entrance doors provide any security to the building.



Roller Shutter Door

Worker Entrance

When the new building is constructed the doors will need to have better security in the form of updated locks and handles.

RECOMMENDATIONS

The City of Calgary website details some of the features of the new construction. The recommendations that I will make are general CPTED principles. These recommendations can either be excepted or not.

The City of Calgary has taken measures to improve the security of the new structure and they have been listed in the project page on their engage website.

Some of the features are:

- Cleaning the washrooms on a regular maintenance schedule and locking them between 11p.m. – 6 a.m. Parks staff will monitor the washrooms as part of their regular duties.
- Installing CCTV/surveillance video outside the washrooms.
- Installing exterior lighting at the entrance to the washrooms.
- Creating a landscaping plan, including poplar trees and natural grasses, that does not restrict visibility at ground level.



(City of Calgary Engage website 2019)

Natural Surveillance

Traditionally, not much thought has been given to security when deciding where to locate public washrooms. They are often placed in out of the way locations so that they do not consume valuable floor or site space that can be used for other purposes. For good security, washrooms should be placed in highly-visible locations so that their entrances can be directly observed by employees and other customers. When designing a new facility, security as well as user convenience should be considered when planning the locations of public restrooms. The whole reason natural surveillance should be given a priority when designing the site is to make sure that unsafe activities are not promoted in a safe place.

The natural surveillance at this site is good but it could be improved to prevent wrongdoing. The biggest improvement for natural surveillance would be to have the washroom entrance face out onto the east side, towards Crowchild Tr. This would mean rotating the design of the building. By doing this it would allow the passers-by and users of the park to see the foot traffic, user activity and the patrons going into and out of the facility. At present the design has the washroom entrance facing the tree line and public pathway but in the darker hours this will reduce the amount of natural surveillance it would receive.

Concerns around offenders going into the washrooms, out of sight, to commit crime could be alleviated by only putting in two single stalls. Instead of having one large open washroom with stalls inside, it would be better to have single stalls with doors that open out to the street. An example of this would a trailhead style washroom like Alberta Parks have installed. See below.



Trailhead Style Single Stall
Washrooms

This design limits the amount of space that offenders have to damage and if two or more people enter the stall, it would look unusual and suspicious and witnesses can then call police to investigate. This design concept provides security benefits because

the lockable toilet rooms are smaller and a much less attractive place to commit crimes. An unlocked, no door and 24hrs a day open concept for this washroom would not be appropriate as the climate in Calgary during winter would make the washrooms almost unusable.

Landscaping Around the Site

It is important to trim and prune the trees around the building. The general rule of CPTED is the 2 to 7 Rule, Shrubs and Hedges should be kept trimmed at approximately 2 feet in height and Mature Trees should be kept trimmed up Approximately 7 feet from the Ground. This will assist with natural surveillance from the street and nearby trails into and looking out from the site.

Creating clear sightlines gives users uninterrupted views of other people coming and going near the site and allows users to modify their route or behavior if they become concerned about another person or group nearby. Good landscaping can overcome the feeling of isolation.

Anti-climbing devices could be introduced around the building or install anti-climb paint to stop offenders from climbing onto the roof.

Access Control

A good way to control the activities at the site is to close it during the night time hours. Between 11pm to 6am the city will have the washrooms closed to the public and this is a good rule to have in place. This could be expanded to seasonal closure hours. In the darker winter months, the washrooms could close at 7pm.

As this facility is designed to be used for pedestrians and cyclists I recommend that public vehicle parking not be implemented at the site to keep vehicles away and to prevent people loitering in vehicles outside.

The worker access to the parking pad needs to have an option of being locked down to stop public parking. A lockable and removable post would be a good way to stop cars pulling in. Another way to prevent vehicles stopping on the site would be to not install a drop kerb on the sidewalk. Drivers are less inclined to drive up a kerb as there is a risk of damaging their vehicle.

General Mechanical Security

The general security of the new structure should be high due to it being a non-residential building. Without people living at the site, the monitoring of it is far less as it lacks a constant human presence.

The locks on the doors need to be of a high industrial standard to prevent them from being broken or defeated. It is recommended that every entrance door to the building needs to have full door jamb shielding from top to bottom. This prevents an offender from using a lever to force the door open by separating the door jamb.

Another recommendation would be to install bike racks to allow users to be able to lock up their own bikes outside while using the washrooms. Without the racks, bikes will be left outside unattended and the owner/s cannot see them from the inside. Giving the public the option of being able to lock their property makes them feel that security is taken seriously.

Given that the facility will be used at night and is visible from the street, an occupancy light could be a viable option. The light would be outside the washroom door situated in the outside roof. When the stall is being used and the door locked, a light would come on. This would alert people outside that the room is occupied. It removes the secrecy of people being in the washroom.

Outside Lighting

Install lighting around the building to enhance the areas and to assist with natural surveillance from the street. Also, the lighting will assist any CCTV that is to be installed at this site. Lighting also allows for any offenders or trespassers to be seen on the site or approaching the area.

Ensure exterior lighting provides lighting that is well dispersed and directed, so users can see and are not blinded by glare.

Lighting should be transitional so as not to create a situation that causes temporary blindness while persons moving from one area to another. Alcoves or recessed areas should only be light if they within sight lines, otherwise they will only light the area for criminal behavior.

Adequate, uniform lighting should cover the entire site. The emphasis should be on installing low glare/high uniformity lighting levels. Preferred external lighting should be of a 'white light' source. (Note that low- pressure sodium 'orange' lighting is not compatible with quality CCTV systems)

Lighting to all external doors and common entrances should be operated by photoelectric cell.

CCTV (General)

This should be installed to enhance overall security and personal safety. This may provide police with information for apprehension. It will also provide a sense of safety for patrons and staff, however unless it is monitored full time and provisions have been made for quick response to an emergency or incident. Should a user or staff assume a higher level of personal safety and take risks they normally wouldn't, reactions to CCTV may lead to increased personal safety risk. Liability may be a concern if the CCTV system is not properly monitored and responded to. It should only be installed if properly assessed and suitable for use, by a professional in this area and should be installed by same.

Any system must be installed as to not breach privacy and meet the laws set out by the federal, provincial and local governments, and the Charter of Rights. We do not recommend the installation of cameras in the washrooms themselves.

CCTV recording, and management equipment must be stored in a secure area, with strictly controlled access, for authorized staff only. The system must record clear images. This is to provide for valid evidence in a court of law.

Signage

Entrance signage should be posted so visitors and residents can easily identify access and egress to the property especially in an emergency.

Make sure all signs are free from obstructions by pruning bushes and keeping them clean.

Signage should be installed to support the use of CCTV and alarm systems. Letting the visiting or passing public know that the site is monitored 24 hours a day by CCTV and that the building has a fulltime alarm is an important crime deterrent.

Alarms

The building should have monitored security system and alarm.

There are great benefits to having one installed on the property. It deters crime. With supporting signage alarms are a great deterrent to offenders. It can notify police in the case of a break-in and with modern systems, allow the site manager to have remote access to their property through software and apps giving an option of monitoring the property.

Using the site to promote Community

This new building will be of great interest to users in the park and the nearby communities of North Glenmore Park and Lakeview. To increase lawful activity at the site I would recommend installing a community notice board to encourage the community to use it to post information on local events and meetings.

*Cst. Rich Wall #4160
District 2
Community Resources Officer
Zone 2-1*

December 24, 2019

Disclaimer

It should be noted that these are the minimum level of CPTED Recommendations and each site must be reviewed on an individual basis. High risk sites will require additional and upgraded security measures. A Risk Assessment should be conducted in all cases by a certified professional. Only designated certified professionals should install machines and equipment. All installations and equipment must meet local, provincial and federal laws and Fire Codes. The information provided is intended to assist with safe practices. It is not a guarantee that you, your staff, patrons and visitors to you premise will not be vulnerable to crime. This document used in its entirety is designed as a basis for learning and for developing effective crime prevention strategies for facilities.