

1234 Main Street
Vancouver, BC 123 XYZ

November 26, 2021

Jason Chen
President of Strata Council
Mary Chen
Strata Agent
ABC Condominium
Vancouver, BC 123 XYZ

Subject: Letter of Transmittal

Dear Mr. Jason Chen and Mrs. Mary Chen,

Here is my report, Feasibility Analysis of Improving Security Measures at Condominium. This report provides recommendations for the Strata to consider increasing security measures at the condominium due to the rise in property crime over the past months. During the process of compiling this report, I've learned a great deal about security systems used in condominiums and how providing improved security can help to deter future crimes. As the President of the Strata Council and the Strata Agent representative from Rancho Management, the two of you work in tandem to maintain the wellbeing of this community and I thank you for your devotion and time in this matter.

The goal of this report is to bring attention to security concerns around the condominium and investigate the feasibility of improving security through additional security cameras and a third-party security team. By improving security, residents will feel more at ease and can live peacefully in their own residences.

I sincerely appreciate the time and consideration the residents have provided me during the process of this report. It is clear that all residents are happy to live at this condominium and want to make this a fantastic community.

If you have any questions or feedback concerning this report, please do not hesitate to contact me at tamjohn@ubc.ca.

Sincerely,

Johnathan Tam

Feasibility Analysis of Increasing Security Measures at Condominium

For Mr. Jason Chen
President of Condominium Strata Council
and
Mrs. Mary Chen
Strata Agent, Rancho Management Services

By
Johnathan Tam
ENGL 301 Student, University of British Columbia

November 26, 2021

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I. Abstract

Property crimes, such as burglaries and thefts, are the most common threat to households, especially to those who live in condominiums. Unfortunately, due to the COVID-19 (Coronavirus Disease 2019) pandemic, this issue has exacerbated. At this condominium, there has been an alarmingly high rate of property crime recently – four reported incidents in the past two months. It is evident that security measures must be increased to reduce the rate of crime to the condominium.

To determine the feasibility of increasing security measures, a survey was distributed among condominium residents to gather insights on their concerns regarding current security measures and budgeting costs associated with increasing security. A total of 53 residents completed the survey and the sentiment among those surveyed was that current security measures are lacking, and residents are willing to cover additional costs of increasing security by paying a higher strata fee per month.

In order to improve the condominium's current security measures, the strata council and Rancho Management Service should consider the following options:

- Installing a total of four new security cameras: one in the mail/package room for each building and four inside the shared parking garage.
- Hiring a security team to patrol the condominium grounds during times of higher crime rates.

II. Introduction

A. Background

Of all the crimes in the world, ranging from assault and battery to petty theft, the most prevalent type is property crime. By definition, property crime involves illegally entering private property and committing robbery, theft, or larceny with the motive of obtaining money, property, or some other benefit. In Canada, there are an average of 161,000 cases of reported property crimes per year (Statistics Canada).

On March 11, 2020, the world entered a state of global concern as the World Health Organization (WHO) officially declared COVID-19 to be a pandemic. Nations around the world entered lockdown to restrict social gatherings and businesses and restaurants were all closed. Due to this shutdown, there was a surge in unemployment and many households suffered from a subsequent loss of income; two key factors that are always linked to an increase in crime (Unodc). Unfortunately, Vancouver followed this pattern shown in studies as residential break-in-and-enters increased about 10%, around 55 incidents a week (Woodward). For this condominium building, over the past two months, there have been four reported incidents of property crime.

B. Overview of Problem and Purpose of Report

Condominiums are a very common target for burglars, especially ground-floor units where there is a lot of foot traffic from the streets. However, there are also instances where burglars are

accidentally let into the lobby, unbeknownst to residents who think they are holding the door open for a resident in the building.

As outlined above, there have been four reported incidents of crime in the past two months: 1) two cases of breaking, entering, and theft from the mail/package room; 2) one case of attempted breaking and entering of a ground floor unit; and 3) theft from breaking and entering a storage locker. Unfortunately, in all four of these cases, the culprits were never caught, and no significant changes were implemented. Being proactive is key to ensuring the safety of all residents so it is crucial that security measures are improved to prevent future crimes.

The purpose of this report is to bring attention to security concerns around the condominium and to investigate the feasibility of increasing security measures by installing security cameras in key areas and hiring a third-party security team to patrol the building grounds.

C. Scope of Inquiry

This report will address the following questions:

1. How worried are residents about the increased incidents of crime in the condominium?
2. What are the costs associated with implementing more security cameras and hiring a third-party security team to patrol the condominium grounds?
3. How safe do residents feel in the condominium with the current security measures?
4. How much are residents willing to pay to cover any additional costs associated with increasing security?

5. What are the most common time frames in which crime has occurred in the condominium?

D. Research Methods

Primary sources of data include a survey canvassing residents in the strata lot, gathering information about their concerns on security and outlining areas of improvement. There were also questions which gathered information on residents' exposure to crime in the condominium and how much they would be willing to contribute to the additional costs associated with improving security. Additionally, the second primary source of data included in this report is research conducted on the current strata budget and assessing the costs of the proposed solutions, such as the model type, amount, and installation costs of security cameras. The secondary sources include publications that highlight crime statistics.

E. Limitations of the Study

One of the greatest challenges for this study is the low sample size in survey responses. While there are a total of 53 responses, this may not be a proper representation of the entire strata's opinions as there are a total of 600 units in the strata. The low response rate could be attributed to the method of distribution as the survey was available in English and there are a lot of residents in the building who do not speak English fluently. Moreover, the survey was only available to complete online, and this could be an accessibility issue for older residents in the building who are not as proficient in using computers.

F. Summary of Conclusions

The findings of this study conclude that of the residents surveyed, majority did not feel satisfied with the current security measures and were in favor of implementing improvements. While the strata budget does not have any room to accommodate for these extra expenses, the residents surveyed were willing to pay a higher strata fee rate to cover the costs of installing more security cameras and hiring a third-party security team. This report recommends installing four AVM521C Cameras and four AVTECH TVI Dome Cameras, due to their appropriate cost and high effectiveness, and hiring CMI Concierge & Security Inc based on their high reviews. Improving security measures through these methods would be of reasonable cost to the strata and help ensure that all residents can live peacefully in their household.

II. Data Collected

A. Survey of Residents

1. Level of Concern Regarding Property Crimes and Security Measures in Condominium

On a scale of one to ten, with one being not concerned at all and ten being very concerned, residents responded with an average score of 7.7. Most residents responded with a score of 7 (30%) or 8 (25%). There were a few residents who answered with a ten, indicating that they were very concerned (10%) (Figure 1).

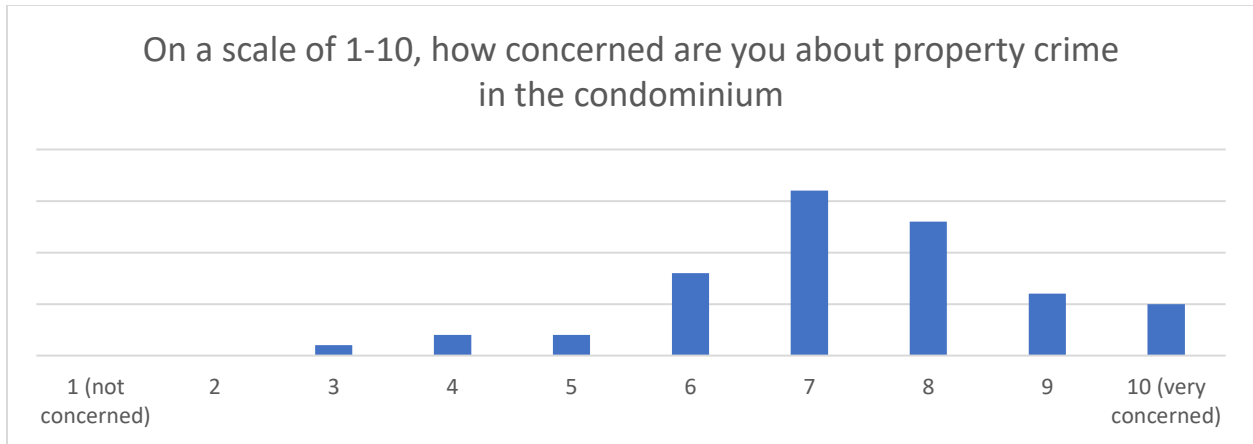


Figure 1: Residents' level of concern regarding property crime in the condominium

Regarding their rating of the current security measure, most residents did not feel very safe with what is currently implemented, responding with an average score of 3.6. Most residents answered with a score of 3 (40%) or 4 (26%) (Figure 2).

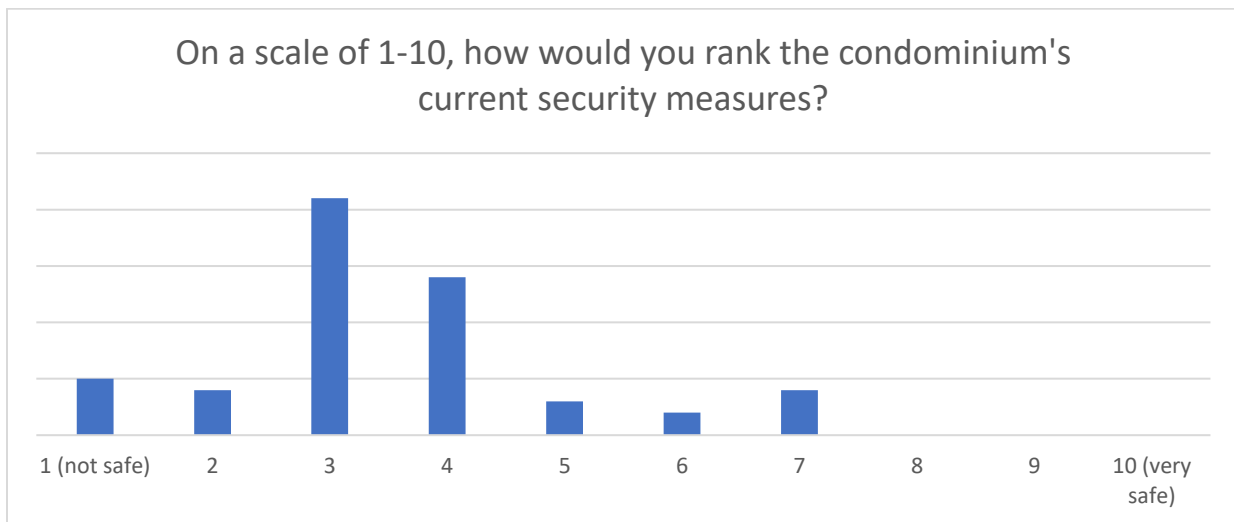


Figure 2: Residents' rating of current condominium security measures

2. Experiences with Crime in Condominium

When asked to elaborate on their experiences with crime in the condominium, majority of residents indicated that they had a package stolen from the mail room. These reports align with the current trend in crime in the condominium as there were two cases of theft in the mail room in the past two months. Additionally, there were some residents who reported that their storage lockers were broken into and objects inside were stolen. There were a few cases detailed regarding breaking and entering a ground floor unit and bicycles being stolen from the parking garage (Figure 3).

Someone broke the locks to my storage locker and stole all the things inside.
My bike was stolen in the parkade even though it was locked.
Storage locker was broken into and stuff was stolen from inside.
A man tried to enter the door into my condo from patio door.
My parcel was stolen from the mail room.

Figure 3: A sample of some residents' testimonials regarding their past experiences with property crime

3. Increasing Strata Fees

As there would be additional costs associated with not only buying and installing new security cameras, but also with ongoing payments for a security team, residents were asked how much they would feel comfortable contributing towards this cost. The additional costs would be paid through an increase to the monthly strata fees. Most residents (54%) indicated that they would be willing to pay an extra \$25-\$50 to offset the costs of improving the current security measures (Figure 4).

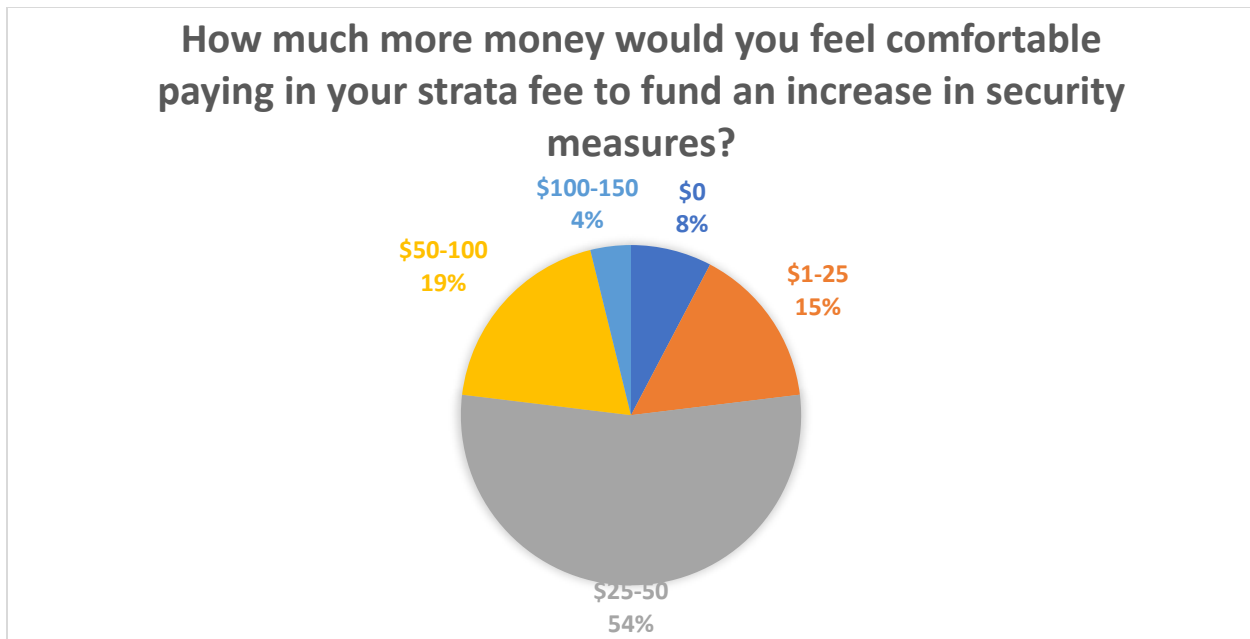


Figure 4: Amount of money residents would be willing to pay extra each month in their strata fee to cover the costs of increased security measures.

B. Background Research

1. Security Cameras

CPCAM CCTV Canada Corp. is a company located in Metro Vancouver that is rated highly for their quality security cameras and excellent customer service (Canadac CPcam). After discussing the needs of the condominium with a sale representative from the company, he recommended two different types of security cameras: the AVM521C IP Camera for indoor areas, and the AVTECH TVI 3.6m Fixed Lens Dome Camera for larger and darker areas. For the AVM521C Camera, it provides high quality 1080P HD video with a 3-axis tilt mechanism perfect for small-medium sized indoor areas. Regarding the AVTech Dome Camera, it has a low light sensitivity that allows it to automatically increase image recognizability during night times or in darker areas. The former costs \$45.47 per unit while the latter costs \$58.79 per unit. Installation for all

units purchased will come to a flat rate of \$200. Further specifications on both these units can be found in Figure 5A and 5B below.

AVTECH

AVM521C

2MP IR Dome IP Camera

FEATURES

- 3-axis mechanism for flexible ceiling and wall-mount installation
- Free P2P Cloud Eazzy Networking – Cloud Eazzy Networking available to connect this device to Internet automatically in three steps with our free mobile app, EagleEyes.
- The Buddy feature to share the device access permission to other people.
- Device login / out notifications reported.
- MicroSD card support (up to 64GB) for video storage
- External alarm I/O device connection
- POE (Power-over-Ethernet) support to eliminate the use of power cables and reduce installation costs
- ONVIF (ONVIF) standard supported to simplify system integration
- WDR to increase image recognizability in overexposure and dark areas
- Solid Light series featuring better overexposure prevention (Advanced Smart Light Control), automatic adjustment of image brightness, and longer lifetime of LEDs
- Microphone built-in for audio recording, and Line in / out jacks available for audio transmission
- Smart Light Control to dynamically adjust image performance for clear and accurate images
- Remote Surveillance – Fully compatible with iOS and Android devices, and Internet Explorer on Windows operating system
- Free PC program, CMS Lite, for 32CH devices monitoring on Windows operating system
- Push Video available on your iOS and Android devices

AVTECH HD CCTV Total Solution

DGC1204AXFTSE

HD CCTV 1080P IR Dome Camera

FEATURES

- 1/2.7" CMOS Sensor with 1080P video output
- Low light sensitivity of 0.1 Lux / F1.8, 0Lux (IR LED ON)
- DWDR to increase image recognizability in overexposure and dark areas
- Day and night 24-hour surveillance with IR effective distance up to 40 meters
- IP66 for weather-proof application
- Camera parameters adjustable when used with AVTECH HD CCTV DVR

DIMENSIONS*

SPECIFICATIONS*

MODEL	DGC1204AXFTSE
Pick-up Element	1/2.7" CMOS image sensor
Number of Pixels	1920(H) x 1080(V)
Video Frame Rate	1080P@30fps / 1080P@25fps
Min. Illumination	0.1 Lux / F1.8, 0 Lux (IR LED ON)
S/N Ratio	More than 48dB (AGC OFF)
Shutter Speed	1/50 (1/25) sec ~ 1/50000 sec
Lens	ƒ2.5mm / F1.8
Lens Angle	89° (Horizontal) / 46° (Vertical) / 108° (Diagonal)
IR LED	4 units
IR Effective Distance	Up to 40 meters
IR Shift	YES
Day & Night Mode	YES
IRIS Mode	AES
White Balance	AUTO / INDOOR / OUTDOOR / MANUAL
AGC	Adjustable
Sharpness	Adjustable
Flickerless	50Hz / 60Hz / OFF
BLC	Adjustable
DWDR	YES
IP Rating	IP66
Operating Temperature	-25° ~ 50°
Operating Humidity	Less than 90% relative humidity
Power Source (±10%)	DC12V / 1A
Current Consumption (±10%)	55mA (IR LED OFF) / 450mA (IR LED ON)
Net Weight (g)	0.7
Optional Bracket / Junction Box	AVI456-WBKT & AVI456-WBKT

*The specifications are subject to change without notice.

Figure 5A and 5B: Specifications for the AVM521C and the AVTECH TVI Dome Camera respectively.

2. Security Team

Online research showed that one of the most proficient security companies for condominiums in Metro Vancouver is CMI Concierge & Security (CMI Concierge). They provide quality services such as property watch and mobile patrol for parking garages and perimeter areas. All their security team members are certified and have received basic security training. After speaking with a customer service representative from CMI Concierge & Security, he estimated that based

on the size of this strata and the number of residents it has, the costs to properly secure the condominium would be around \$15,000 per month. This cost would include constant patrol from a team of security guards who would also be monitoring the security cameras.

3. Strata Budget

Based on the 2019/20 financial statement for this condominium, there is currently no budget allocated to having additional security measures besides the pre-installed security cameras (Figure 6). The building manager has access to the security room, but he is not able to monitor the cameras closely as he must attend to other duties around the building. In addition, the financials revealed that there was an operating deficit of \$108,651.80 in the previous fiscal year. Due to this, there are currently no plans to upgrade the current security cameras or implement more of them.

Curr Mth Actual	Curr Mth Budget	Description	YTD Actual	YTD Budget	Total Orig. Budget
0	625	RECREATION CENTRE			
		7311 Pool R&M	6,882	7,500	7,500
0	375	7321 Pool Chemicals & Supplies	473	4,500	4,500
1,487	708	7340 Rec. Centre R & M	8,487	8,500	8,500
1,487	1,708	TOTAL RECREATION CENTRE	15,842	20,500	20,500
		CONTRACTOR/PAYROLL			
5,145	5,417	7427 Building Supervisor	52,584	65,000	65,000
5,145	5,417	TOTAL CONTRACTOR/PAYROLL	52,584	65,000	65,000
		MAINTENANCE			
0	333	7685 Building Envelope Maintenance	1,554	4,000	4,000
(8,063)	7,083	7711 General Building R & M	168,002	85,000	85,000
701	687	7717 Garage Door	13,867	8,000	8,000
0	1,000	7718 Window Cleaning	10,127	12,000	12,000
2,730	4,167	7719 Landscaping	32,235	50,000	50,000
0	250	7719-4 Irrigation	3,857	3,000	3,000
0	667	7720 Snow Removal	2,072	8,000	8,000
373	292	7721 Pest Control	3,423	3,500	3,500
14,331	1,250	7730 Parkade R & M	14,331	15,000	15,000
0	583	7736 Dryer Vent R & M	11,340	7,000	7,000
0	583	7740 Carpet Cleaning & Repairs	6,615	7,000	7,000
0	1,250	7749 Drainage R&M	1,450	15,000	15,000
0	2,500	7750 Plumbing R & M	13,550	30,000	30,000
13,441	0	7751 HVAC R & M	27,987	0	0
2,459	2,750	7755 Elevator	31,492	33,000	33,000
0	1,250	7770 Fire & Safety Equipment R & M	15,276	15,000	15,000
0	833	7771 Fire Alarm Monitoring	1,229	10,000	10,000
0	417	7776 Supplies	5,575	5,000	5,000
7,980	8,167	7785 Common Area Cleaning	107,743	98,000	98,000
9,868	7,667	7788 Waste Removal	125,419	92,000	92,000
43,820	41,708	TOTAL MAINTENANCE	597,145	500,500	500,500
		STRATA'S SUITE			
2,339	2,345	7881 Strata's Suite Mortgage	28,080	28,140	28,140
986	1,000	7882 Strata's Suite Strata Fees	11,831	12,000	12,000
3,325	3,345	TOTAL STRATA'S SUITE	39,911	40,140	40,140
		UTILITIES			
7,000	12,500	7914 Electricity - Amenity	106,142	150,000	150,000
13,355	9,167	7915 Hydro Expense	135,031	110,000	110,000
7,589	12,083	7917 Gas Expense	104,605	145,000	145,000
26,620	28,083	7920 Sewer & Water	316,260	337,000	337,000
57,346	56,333	7921 Neighbourhood Energy Utilities	677,100	676,000	676,000
139	0	7925 Intercom	557	0	0
112,049	118,167	TOTAL UTILITIES	1,339,695	1,418,000	1,418,000

Figure 6: Strata operating expenses from Sep 2020 – Sep 2021.

4. Crime Statistics

Despite widespread belief that property crime occurs most often at night when it is difficult to see the perpetrator, a 2016 burglary victimization survey revealed that property crime occurs most often between the hours of 12pm and 4pm (Kuhns et al). Instead of being attacked in their home like many residents fear, burglars prefer to wait until the house is empty, most likely during work and school hours, before committing a crime. In addition, a survey conducted on burglars revealed how many burglars confessed to skipping any residential homes with a home security system in place for easier targets (Burglary Statistics). Security cameras installed in the proper locations could help to deter many crimes.

III. Conclusion

A. Summary of Findings

Due to the COVID-19 pandemic, property crimes across the world have been increasing and Metro Vancouver has followed the same trend. For this condominium, there have been four reported incidents of property crime in the past two months, but no significant changes were made to the current security measures which rely mainly on the use of security cameras that are installed outside the lobby, backdoor, courtyard, and inside the parking garage. Background research conducted on the strata budget revealed that there are no funds available to improve the current security measures; however, residents responded that they are willing to pay a higher strata fee to cover these costs. Based on the findings of the costs for installing security cameras, the total one-time cost for the eight security cameras would be \$617.48. The monthly

cost for a security guard team would be \$15,000. These additional expenses can all be covered through a one-time special payment of \$2 and an increase of \$25 to the monthly strata fee for each unit. This amount increase should be appropriate as residents responded they would be willing to pay an extra \$25-\$50 per month in their strata fee to cover any additional expenses of increasing security. However, this cost could potentially be reduced if less security guards were utilized during times of lower crime rates, outside of 12pm-4pm as shown in past studies.

B. Interpretation of Findings

The survey results for this report indicate that from the residents surveyed, many are concerned about the rise in property crime in the condominium. Furthermore, it has been indicated that they do not feel that the current measures are effective. Many have reported being victims of property crimes such as theft from mail/package room, stolen bicycles, and robbery from storage lockers. Improving security measures in the condominium is key to preventing future crime from occurring and ensuring that all residents feel safe in their own homes. As property crime has been reported to occur most commonly in the mail/package room and in the parking garage where the storage and bicycle lockers are located, the installation of new security cameras should be focused in those areas.

C. Recommendations

To improve security measures and help create a safe living environment for the residents living in the condominium, this report suggests the following options:

1. Installing four AVM521C IP Cameras each building's mail/package room and four AVTECH TVI Dome Cameras in the shared parking garage.
2. Hiring CMI Concierge & Security Inc as a security team to patrol the condominium grounds, especially during times of higher crime rates.

IV. Works Cited

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V. Appendix

Residents Survey Questions

1. Are you aware of the recent occurrences of property crimes (i.e., breaking and entering, theft etc.) around the condominium?
 - a. Yes
 - b. No

2. Have you ever been directly affected, or do you know someone who was a victim from a property crime in the condominium?
 - a. Yes
 - b. No
 - c. If yes, please provide some details below as to what happened:

3. On a scale of 1 (not concerned) -10 (very concerned), how concerned are you about property crime in the condominium?
 - a. 1
 - b. 2
 - c. 3
 - d. 4
 - e. 5
 - f. 6
 - g. 7
 - h. 8
 - i. 9
 - j. 10

4. On a scale of 1 (not safe) – 10 (very safe), how would you rank the condominium's current security measures?
 - a. 1
 - b. 2
 - c. 3
 - d. 4
 - e. 5
 - f. 6
 - g. 7
 - h. 8

- i. 9
 - j. 10
5. In general, do you feel that security measures around the condominium should be increased?
- a. Yes
 - b. No
 - c. Whether you answered yes or no, please explain below:
6. Would you feel more secure if more security cameras were installed in key areas (like the courtyard and mailroom) and security guard patrols were increased?
- a. Yes
 - b. No
 - c. Whether you answered yes or no, please explain below:
7. If needed, how much more money would you feel comfortable paying in your strata fee to fund the increased security measures?
- a. \$0
 - b. \$0-25
 - c. \$25-50
 - d. \$50-100