

# Business Case Supplementary Information for New Community Safety Headquarters

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## EXECUTIVE SUMMARY

During the Audit Committee Meeting of June 20, 2017 the Auditor General presented his Value-for-Money Audit of the operations of Paramedic Services for the period January 1, 2013 to April 30, 2017. This report identified that a significant number of vehicle hours are lost annually as a result of driving ambulances between the city core and the current Headquarters (HQ) located at the Lionel E. Lalonde Centre (LELC) in Azilda. Operational and logistical staff manages the medical equipment and supplies, cleaning, sanitizing and re-stocking the ambulances at LELC prior to deployment back into the core. The audit identified that relocating the Division into the city core could result in operational efficiencies that may outweigh the costs of the relocation of the HQ into the city core (former City of Sudbury).

The Auditor General's report made the recommendation to, *"Prepare a business case to determine if the benefits exceed the costs for relocating the Division to the City Core, including the eligibility for 50% cost sharing with MOHLTC."*

Following the presentation of the report, the Audit Committee passed the following resolution:

*"WHEREAS the Auditor General's Office identified significant operational efficiencies that may outweigh the costs for relocating the Paramedic Services Division to the City Core in the Value for Money Audit of the Operations of Paramedic Services,*

*THEREFORE BE IT RESOLVED THAT the City of Greater Sudbury directs staff to prepare a 2018 business case to determine if the benefits exceed the costs for relocating the Division to the City Core including the eligibility of these relocation costs for 50% cost sharing with MOHLTC."*

This report is being provided to Finance and Administration Committee as supplemental supporting information to the Relocating Headquarters for Fire & Paramedic Services Business Case to be considered by Council as part of the 2018 Budget deliberations.

A newly designed and properly located Headquarters for the Community Safety Department provides the cornerstone towards achieving future efficiencies and improvements to overall emergency response, operations, programs and support functions for businesses and residents of the City of Greater Sudbury which may include:

- A headquarters that is properly sized, configured and located to best serve the residents of the community and the Department
- Improved paramedic and supervisor availability of approximately 5,000 hours per year, in city core response area due to elimination of non-value travel between Azilda and the city core which is expected to result in improved ambulance availability and supervisor support for employee issues and significant incidents.

- Improved productivity by reducing lost time incurred by logistical staff when replacing vehicles and equipment in the field or ferrying vehicles for maintenance and repairs.
- Provision of better support of the entire service from a response perspective helping to address paramedic call volume increases of about 2% per year which are expected to continue to grow due to the aging population.
- Reduction in the impact of road closures on MR#35 which can affect the ability for staff to arrive and depart from HQ and the deployment and recovery of ambulances from the city core.
- Positive impact on employee wellness, both Paramedic and Fire Services, due to improvements in work environment such as: reduced shift extension related to travel time, warehousing and garage layout that reduces physical impact related to ambulance preparation, training facilities designed for paramedic and fire needs, building design and functionality that better supports teamwork and divisional communications, 24/365 fitness facilities.
- More effective and efficient Fire Service administration, training and logistics. The closure/replacement of an existing response station for Fire Services would serve to reduce the Enterprise Risk, and deficiencies in infrastructure equity.

## CURRENT SITUATION

The Lionel E Lalonde Centre (LELC) is a 136,000 ft.<sup>2</sup> former high school built in 1970 that closed in the 1980's. The facility was repurposed and used by many community groups and clubs over the years. In 2005 the building underwent renovations in order to accommodate the co-habitation of Paramedic, Fire and Police Services. Of this space, Police Services inhabits 26,000 ft.<sup>2</sup>, Leisure Services Fitness Centre occupies 7,000 ft.<sup>2</sup>, and common space available for rental is 48,000 ft.<sup>2</sup>. This leaves 55,000 ft.<sup>2</sup> of dedicated space to support about 60 command, administrative and support staff working for the Community Safety Department out of the LELC. It is also important to note that 40 % of the current 55,000 ft.<sup>2</sup> is currently being used for garage, storage and warehousing.

All key operational and support components of the Community Safety Department for both Paramedic and Fire Services are located at the Headquarters in Azilda which is significantly removed from the majority of on-duty employees, other corporate departments and key community stakeholders. The headquarters for emergency services is foundational towards ensuring efficient and effective delivery of paramedic and fire services. The current seclusion results in both an operational support and leadership disconnect between headquarters and front-line paramedics and fire fighters working in the city core who service 80% and 70% of the respective call volumes in Greater Sudbury. The Community Safety Department has identified location, physical size, and design of the current LELC facility to be a significant barrier to a more effective and efficient delivery of paramedic and fire operations, support functions, administration, management and oversight. A centrally located headquarters facility is one that effectively supports the Community Safety Department operations while providing a harmonious work environment for all staff.

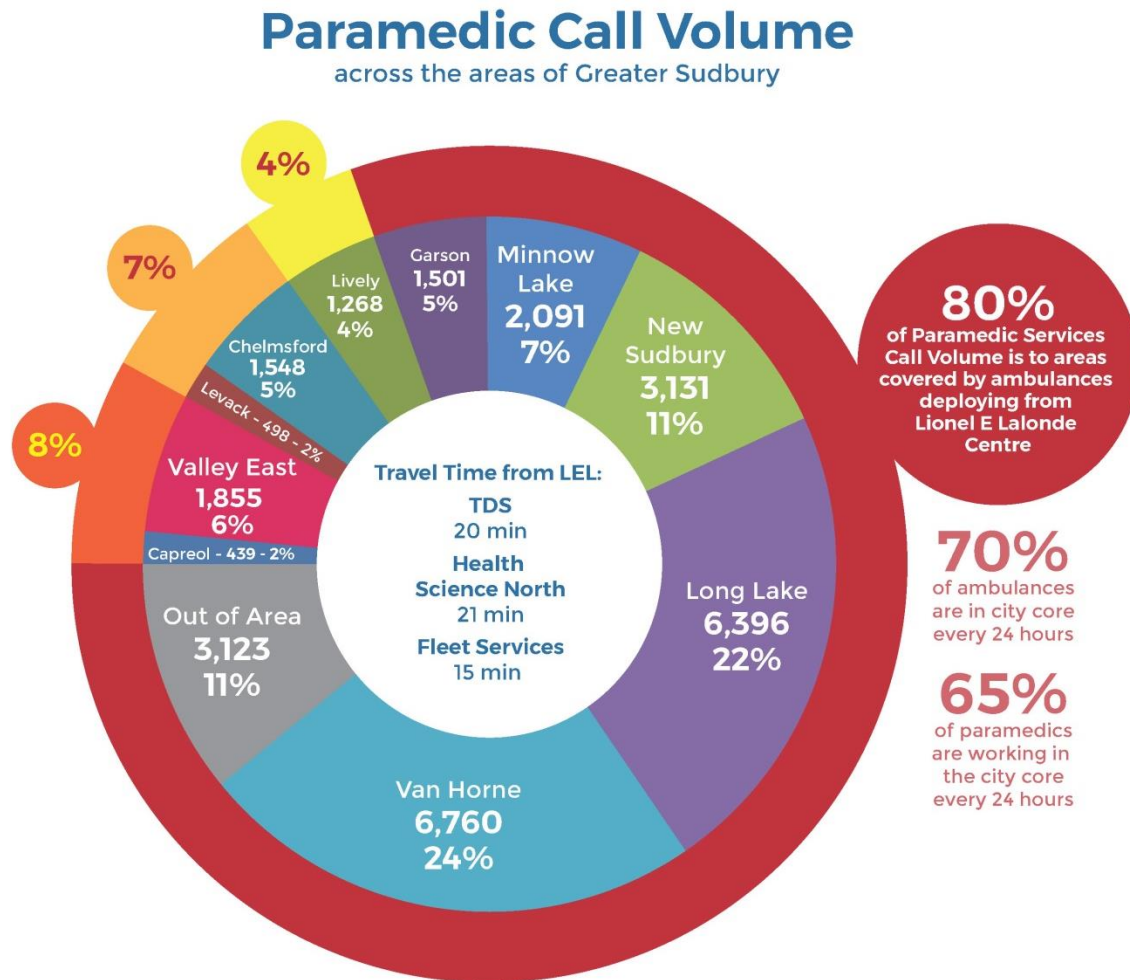
This report will describe the current challenges associated with the LELC in Azilda and identify operational efficiencies, benefits and opportunities that could be realized through a properly designed headquarters that is centrally located in the city core that would better serve the community and position the Department to meet the needs of the community well into the future. It will also demonstrate that building a new headquarters in the city core will help to move towards the overall goal of the Municipality of attaining value for money as it relates to economy, efficiency and effectiveness as described in the Auditor General's report while maintaining or improving public safety.

### Current Service Level

Paramedic Services deploys 14 ambulances (9 on days, 5 on nights) into the city core from LELC every 24 hours to respond to more than 28,600 calls each year. Eighty percent of these calls occur in the city core where ambulances are positioned to respond in five areas that include: Downtown, South-end, New Sudbury, Minnow Lake, and Garson. In addition, ambulances are located in Val Therese, Chelmsford, and Walden, with each having a single ambulance staffed on a 24-hour/365-day basis. The remaining two stations located in Levack and Capreol are staffed 24-hour/365-day and utilize Paramedic Response Units (PRU), which are single medic SUV, non-transporting units.

The Paramedic Call Volume Chart, Figure 1 below, depicts the breakdown of the annual call volume by response areas. The red outer ring highlights the fact that 80% of calls are serviced by city core ambulances which use 70% of fleet resources and 65% of paramedics.

Figure 1



Fire Services protects approximately 64,000 properties through the provision of public fire safety education, fire safety standards and enforcement, and emergency response. These activities are completed by 129 full-time and nearly 300 part-time employees which includes not only career and volunteer firefighters, but prevention, education, training and administrative personnel. Operating a fleet of 73 front-line fire trucks and major equipment out of 24 stations, the Service responds to 4,500 incidents per year. Similar to Paramedic Services, the bulk of these incidents occur within the city core (70%) which is protected by full-time career firefighters located at four stations situated in the Downtown, South End, New Sudbury and Minnow Lake areas. It therefore, becomes operationally imperative that the Department's HQ be located in the city core in order to effectively deliver and support emergency services to the community.

## Headquarters as a Central Start Station

Not only is LELC the Headquarters for the Community Safety Department, it plays a vital operational role for Paramedic Services functioning as the central start station. On-coming Paramedic crews report to this location at the beginning of their shift where they are provided a vehicle that has been cleaned, sanitized and fully equipped by equipment vehicle technicians (EVTs) in preparation for the next shift. The use of specially trained logistical staff to prepare ambulances between shifts decreases the need for higher paid Paramedics to stock or clean the vehicles, increasing the time they have in a shift to focus on their core duty of responding to calls and providing patient care.

Single start stations are an industry best practice for large or busy urbanized Paramedic Services in Ontario which provide effective management and deployment of a higher number of ambulance units within a geographic area. Paramedics commence their shift in a staggered fashion to ensure vehicles are available to respond during shift change periods. This centralized logistical system decreases the number of unit hours that are 'lost' to the vehicle pre-shift inspection function. For Greater Sudbury, this results in an additional 4,380 hours per year that ambulances are available in the field (16 vehicles x 365 days x 45 minutes = 262,800 minutes or 4,380 vehicle hours). If this function were to be completed by incoming paramedics, the cost would be equivalent to 8,760 hours at a wage higher than what is paid for EVT's. The combination of the improved response availability of paramedics working in a central deployment model combined with the monetary advantage of having EVT's perform the essential deployment preparatory functions further demonstrates the value of preserving a centralized deployment model in the city core for Paramedic Services.

## LOCATION

### Headquarters Location Impact

Every 12 hours at the commencement of each staggered shift, ambulance crews depart LELC and drive on MR 35 to provide Paramedic services in the city core. There are nine ambulances deployed for dayshift and five for nightshift. The distance from LELC to the five city core response areas (South End, Downtown, New Sudbury, Minnow Lake, and Garson) ranges between 16 and 28 kilometers with an overall average of 21 kilometers. Similarly, the time required to drive to the five response areas from LELC ranges between 20 – 31 minutes with an overall average 24 minutes. Figure 2 below provides the travel distance and time between LELC and the five city core response areas as well as other key locations such as fleet services, the hospital and paramedic reporting stations. This lengthy travel time impacts the availability of ambulances to respond to calls. Issues such as road closures (MR#35), poor weather, construction, or traffic congestion can further impact these travel times. A centrally located HQ that reduces this travel time and distance would greatly help to improve the value for money related to economy and efficiency as defined by the City's Auditor General. Reducing, and in some cases eliminating, the current non-value added travel time that will result in paramedics being immediately available from the moment they leave a centrally located headquarters (central start station) and not incurring a 20 minute delay getting to their response areas due to travel along the MR35 corridor.

**Figure 2**

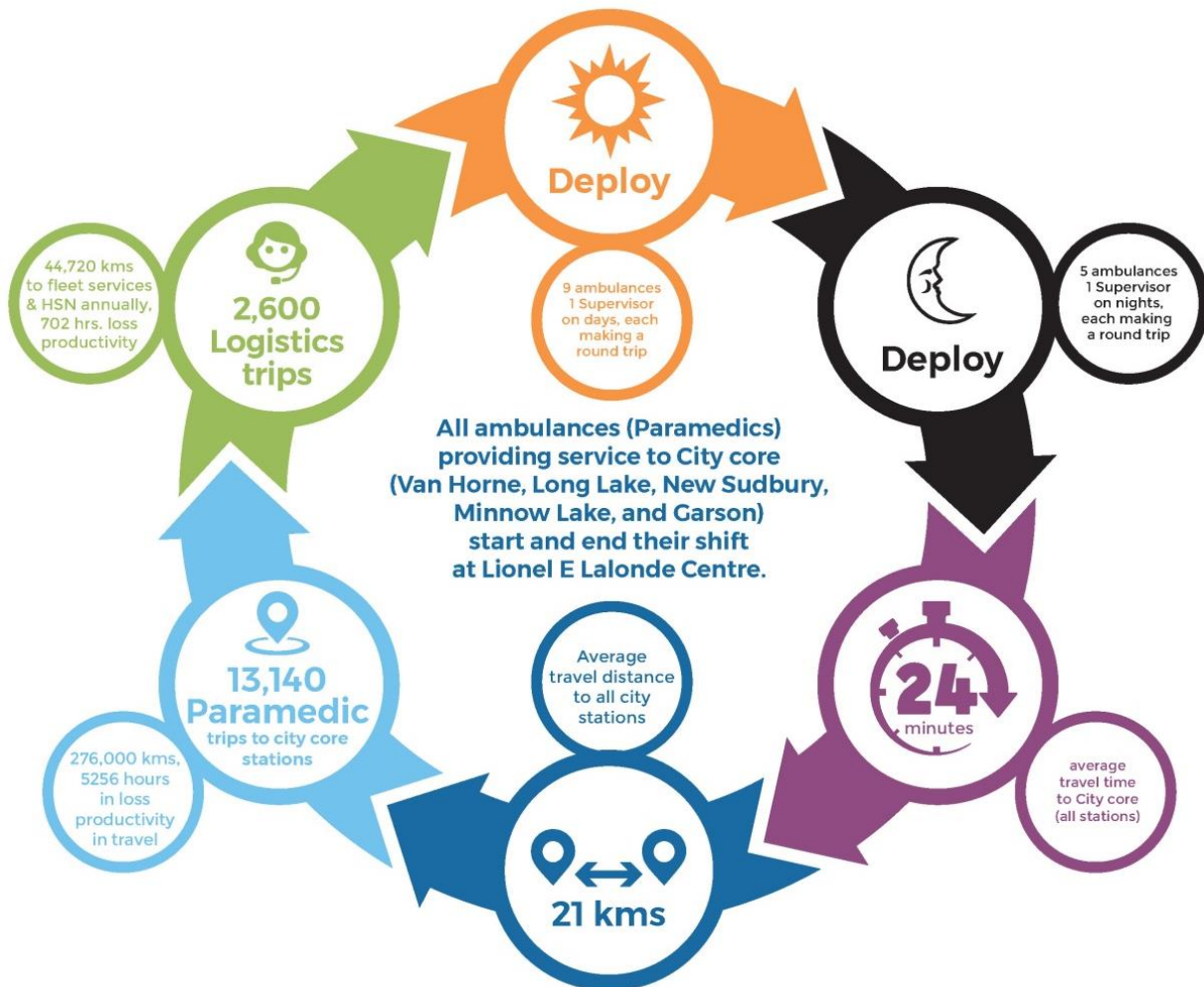
Key Location	Lionel E. Lalonde Centre	
	Distance (Kms.)	Time (Minutes)
Van Horne Station	16	20
New Sudbury Station	19	20
Long Lake Station	19	22
Minnow Lk. Station	21	25
Garson Station	28	31
<b>Ambulance Deployment Averages:</b>	<b>21</b>	<b>24</b>
Fleet Services – Lorne	17	14
Health Sciences North	18	21
<b>Logistics Averages:</b>	<b>18</b>	<b>18</b>
Val Therese Station	21	22
Capreol Station	34	36
Chelmsford Station	7	8
Levack Station	29	31
Walden Station	27	22
<b>Satellite Station Averages:</b>	<b>24</b>	<b>24</b>
<b>Total Service Averages</b>	<b>21</b>	<b>22</b>

Data Source: Google maps

## Deployment Impacts from Lionel E. Lalonde Centre

Every 24 hours, every day of the year, Paramedic Services deploys 14 ambulances and two Platoon Superintendents (supervisors) into the city core via MR #35. The graphic below, Figure 3, depicts the constant cycle that occurs twice a day, every day of the week. It also summarizes the significant distance and time spent as a result of the more than 45 one-way trips made every day between LELC and the city core when deploying ambulances or addressing operational, logistical, or administrative issues. In the current structure, approximately 6,000 hours per year of lost productivity occurs due to travel to and from LELC by paramedics and logistics staff. Moving the headquarters into the city core is expected to reduce this lost productivity time by more than 4,000 hours.

Figure 3



### End of Shift Clearing to LELC

Towards the end of each 12-hour shift, paramedic crews are recovered in a staggered manner from the city core to LELC in sufficient time to allow for arrival 15 minutes prior to the end of a shift in order to provide time needed to complete end of shift duties (e.g. secure medications and equipment and complete documentation). This means that vehicles are being cleared from the city core back to LELC on average 40 minutes prior to the end of shift, reducing the amount of time ambulances are responding to calls in this high volume area.

Paramedics often receive emergency calls near the end of their duty shift resulting in shift extensions (overtime). Through the MOHLTC legislated deployment plan, Paramedic Services has developed strategies to reduce this impact from both an employee wellness (getting the employee off duty) and a fiscal perspective (controlling over-time costs). Yet the distance where the paramedic ends their last call to the LELC contributes to both the frequency and duration of shift extension over time. Consider that a Paramedic, after transferring care of a patient, still faces the drive from the city core to LELC adds to their stress and the duration of the shift extension. Over the past four years, the Service has experienced an average of approximately 2,600 hours of shift extension (overtime) per year. Having a centrally located headquarters in the city core provides the opportunity to reduce the amount of shift extension



hours as a result of less travel time between the city core and HQ and thus improves the value for money related to efficiencies by getting more paramedic service (output) without increasing resources (input).

## Head Quarters as a Response Station

The LELC **is not** a response station for Paramedic Services where an ambulance is stationed and responding to calls. Azilda is included in the Chelmsford Station response area which also covers the Dowling and Levack areas. In contrast, a relocated Headquarters in the city core, would also be a response station for both Paramedic and Fire Services where crews would respond on a 24/365 basis. Depending on the location of HQ within the city core, it could replace an existing city core station allowing it to be declared redundant and be closed once the HQ response station is operational. As a result, the Department could eliminate the estimated cost of \$4.9 million over a 30-year period, or about \$165,000 per year, to replace the current aged station once again supporting the Municipality's goal of achieving better value for money.

## Logistics

The LEL headquarters location serves as the central maintenance and equipment warehouse for Paramedic Services. The distance from the bulk of the front-line staff creates logistical bottlenecks and supply inefficiencies when faced with the need to replace vehicles and equipment in the field during daily operations. These trips take significant time resulting in longer periods of down-time for ambulance crews compared to if the HQ was located in the city core. These trips are completed on an as-needed basis and although they occur relatively often, the frequency and reason are not tracked and thus are not reflected in any calculations within this report. The impact is even more notable during emergency events of large size and impact, when equipment and supplies must be transported from Azilda to the location of the incident. Furthermore, there is no dedicated 24 hour staffing in the Fire Services Division at the Headquarters in Azilda and thus incidents that occur outside of regular business hours (8:30 am – 4:40 pm) can experience delays in the supply of requested equipment at these times. Incorporating a fire station as part of a headquarters would mean that firefighters are available on site 24/7 and thus can more effectively support and respond during an emergency event. A properly sized HQ, located in the core, would also allow for better centralization of fire resources and equipment.

Equipment Vehicle Technicians (Logistics staff) are responsible for moving vehicles and equipment around in support of operations. They ferry ambulances between the LELC and fleet services located at the Lorne Street Depot (LSD) for scheduled preventative maintenance and unscheduled repairs at least once per day, but often two or more times. This task requires logistic staff to make multiple trips in a day with a minimum of two vehicles and two staff. Previously, mechanical repairs were carried out at the Northwest Depot in Chelmsford; the move to LSD has more than doubled the travel distance and time on task for each trip reducing the amount of time logistic staff are completing their core duty of readying vehicles and equipment for the next shift.

On a daily basis, Logistics staff also conducts trips to Health Sciences North to restock the inventory of medical and cleaning supplies. They also pick-up used soiled medical equipment to transport back to LELC for cleaning and sanitization. Once again, having a headquarters located in the city core is expected to reduce the amount of time required to complete these tasks.



Figure 3 below identifies the significant number of trips completed annually and estimates the total kilometers and number of hours required to make these trips. It then establishes an estimated cost resulting from this lost productivity (ambulance - \$80/hr., Supervisor - \$60/hr., Logistics - \$28/hr.) on a per hour basis. This demonstrates that the distance of LELC from the city core has a significant impact related to lost productivity and presents an opportunity to reallocate freed up resources due to system improvements.

**Figure 4**

	LELC - per trip		# trips per 24 hours	TOTAL ANNUAL TRIPS (estimated)			ANNUAL COSTS (estimated)		
	Km	Time		TRIPS	Total Km	Time (hrs)	Fuel**	Vehicle	Total
<b>OPERATIONS</b>									
14 Ambulances deployed	21	24	28	10,220	214,620	4,088	\$27,800	\$327,040	\$354,840
1 Platoon Supervisor deployed	21	24	8	2,920	61,320	1,168	\$7,726	\$70,080	\$77,806
<b>LOGISTICS</b>									
Trips to Fleet Services – Lorne*	17	15	8	2,080	35,360	520	\$4,455	\$31,200	\$35,655
Trips to Health Sciences North Making 2 trips Monday to Friday	18	21	2	520	9,360	182	\$1,180	\$5,096	\$6,276
<b>TOTALS:</b>			<b>46</b>	<b>15,740</b>	<b>320,660</b>	<b>5,958</b>	<b>\$41,161</b>	<b>\$433,416</b>	<b>\$474,577</b>

\*trips require a minimum of two vehicles and staff, often more

\*\*Fuel calculation - Based on 12 litres per 100km at a cost of \$1.05 per litre

If an HQ were relocated into the city core on city owned property (i.e. the Lorraine Street or Frobisher Street areas), the travel distance to fleet services would be reduced to about 10 km per trip from the current 17 km and for the hospital to about 8 km from the current 18 km. The resultant cost and time savings from this change of location are significant and would improve the efficiency of logistics section. Alternatively, a new HQ could be designed to incorporate space for minor mechanical maintenance and repairs to be completed by Fleet Services mechanics on site further reducing the need for logistics staff to ferry vehicles across the city. This concept is being used successfully in other paramedic services in Ontario, and has also been successfully done in Greater Sudbury for the bi-annual need to switch between summer and winter tires.

## Employee Interaction and Leadership

Paramedic and Fire Divisions' leadership, administration, training and logistics staff provide support from LELC in Azilda. Being so far removed from the bulk of the employees creates a disconnect between leadership, administration and key support services from those delivering front line services. While many organizations operate with a number of distinct locations without issue, for the Community Safety Department, the separation of management from the frontline workforce increases the risk of poor communication and contributes to the daily challenge of direct employee engagement and feedback

with leadership that is currently experienced. Paramedics identified Communication about Change as one of their top five employee issues in the 2016 Employee Survey.

On a regular basis, leadership and staff must travel into the city core to attend meetings with other corporate departments and community stakeholders. These trips generally add 45 minutes in round-trip travel time to every off site meeting, and conversely, 45 minutes for those who travel from the city core to meet at the LELC. This additional travel and time requirements significantly impacts a manager's daily schedule and ability to engage with frontline staff and stakeholders.

Both Paramedic and Fire Services have a need to regularly meet with staff to manage operational and human resource issues. To facilitate these meetings, Paramedics are often held back from deployment or brought back to headquarters during their shift. Each time this occurs, the lengthy travel time exacerbates the impact on resources available to respond to calls. Just as the case with Leadership, bringing a crew to LELC can result in an additional 45 minutes of round trip travel time. Paramedic Services have several key operational committees such as the Paramedic Advisory Committee or Quality Care Committee which require paramedics to be removed from deployment in order to participate, ensuring that Paramedic representation and input is provided. Again, the round trip travel time can add an additional 45 minutes in time to such a meeting. Although, where possible, meetings are scheduled to reduce this impact, this task could be more efficient and effective. If the HQ were located in the core and closer to frontline staff, it would be much easier to rotate staff into the HQ responding station for meetings where they would be quickly and readily available to respond to calls.

## Training

The training sections for both Paramedic and Fire Services operate out of headquarters. In the case of Paramedic Services, Training Officers work with Paramedic staff on a daily basis to educate and remediate when gaps have been identified in the application of clinical care and operational issues. This requires staff to be held back or recovered from deployment in order for training staff to meet up and work with paramedics on educational requirements.

Similarly, Fire Services Training Officers are housed at LELC which is isolated from the full-time staffed stations, located in the former city core. Locating the training division in the city core would enhance co-training with paramedic services, and provide additional opportunities for training division oversight. Having a training centre located in the city core would allow for the ability to bring in career firefighters during their shift for training with little to no impact on operations as firefighters would remain available to respond due to the HQ also being a response station. Staff would simply be assigned to report to the HQ response station on specified training days.

The location of the LELC impacts how quickly staff can be recovered back to headquarters for training or redeployed afterwards. This adds significant time and operational impact when scheduling educational activities. This is again another example whereas the distance between headquarters and the majority of frontline staff impacts the operation taking more time than needed when carrying out vitally important education of staff. As previously mentioned, a new HQ would also include a response station for both Paramedic and Fire Services. This means that staff can be scheduled to work from the HQ response station making training activities more effective and efficient thus increasing the value for

money by reducing the need to backfill or incur overtime costs. If an emergency call were to occur during training, staff would simply stop training to respond to the incident.

## Emergency Operations Centre (EOC)

An Emergency Operations Centre (EOC) is a complex facility that serves as a coordinating centre for key decision makers during both small emergencies and large disasters. The current primary EOC, is also located at LELC in Azilda and does not meet the needs of the City due to insufficient size, accessibility and lack of appropriate technology.

Location of an EOC is driven by many factors including space availability, accessibility and proximity to potential hazards. Currently, the primary EOC is accessible by MR 35 from the Downtown core. If this route becomes impassible, access to the EOC will be delayed as Community Control Group members, EOC Support Staff as well as key stakeholders will have to travel additional distance to get to the EOC. In an activation, timing is crucial in ensuring that key decision makers are able to participate in the decision making process. Relocating the HQ into the city core provides for multiple access routes that would improve the ease and timeliness for key decision makers to gather, assess the situation and respond when the EOC is activated for community emergencies and large disasters where minutes matter. It is important to note that this activation could carry on for hours or days requiring decision makers to attend the EOC multiple times over the duration of an incident.

Council has adopted a recommendation that the City implement an Incident Management System (IMS) to facilitate a unified approach to emergency response. Best practice recommends that IMS should be implemented at the EOC level as well. To achieve this, the current primary EOC will require numerous configurations which may be difficult to achieve in the existing location due to insufficient size. A new HQ would be built and designed to fit the needs of the EOC and would incorporate any new required technologies.

The integration of a new EOC with the relocation of Community Safety's headquarters provides a long term cost effective solution to the emergency management deficiencies currently experienced by the City.

## Enterprise Risk

The City's Auditor General conducted an Enterprise Risk Registry (ERR) for Paramedic Services as part of their value-for-money audit. The AG tracked information related to the short, mid-, and long-term sustainability of the department, and an analysis of the liabilities inherent in the delivery of services. Major criteria for the analysis include: reputation, operations, financial, and legal/regulatory.

The AG's Office used standard risk identification methodology by first identifying the potential consequence or impact of an event, and then assessing the frequency or likelihood of the event, based on historical analysis and/or projected frequency. The risk score for the event is then the simple multiplied product of these two numbers. Each criteria is scored on a scale of one to four, with one being low or least likely and four being high or likely, resulting in a risk score ranging from one to 16. The City of Greater Sudbury has adopted explanatory notes to assist in the scoring matrix for both impact and likelihood. These serve to reduce the subjectivity of the process to a minimum.

For Paramedic Services, 54 overall risks were identified for analysis. Of these risks, 49 are mitigated to a low risk level by way of people, process or system/technology. The five identified high risk items can be broken down further based on the ability for the Paramedic Services to design and implement impactful mitigation (see Figure 4 below). For example in risk item *O1A*- paramedic stations are noted to be in wrong locations. Headquarters is identified as a significant mitigated risk with a rating of nine. Based on existing knowledge and the fact that current mitigation strategies have already been exhausted (centralized deployment and logistical support, staggered shift start times) and there are no ways to further mitigate risk through evolving Paramedic Services opportunities. The only way left to reduce the risk for Paramedic Services would be to redesign and build a new HQ in the city core.

**Figure 5**

**Paramedic Services  
High Rated Risk Subjects – Current Mitigation and Adjusted Risk**

		<b>Risk Subject</b>	<b>Unmitigated Risk</b>	<b>Mitigated Risk</b>	<b>Adjusted Risk</b>
<b>Operational</b>	O1A	Paramedic stations are in wrong locations (Headquarters)	16.0	9.0	2.7
	O1B	Paramedic stations are in wrong locations (In-town posts)	12.0	6.8	2.4
	O1C	Paramedic stations are in wrong locations (Satellite posts)	12.0	6.8	2.4
	O02	Paramedic stations lack essential functionality	12.0	7.7	2.8
<b>Financial</b>	F18	Financial impact of Paramedic Headquarters in wrong location	14.0	9.0	2.7

An environmental scan of similar paramedic services in Ontario shows most HQ to be located in the urbanized areas of their communities where the highest call volume and the majority of ambulance and paramedic resources are utilized to respond to calls. After being under municipal control for the past 17 years, municipalities are beginning to reinvest in infrastructure for Paramedic Services and make strategic decisions to ensure central start stations are located in key response areas. The Regions of Peel, Waterloo, London and Thunder Bay have all built, or in the process of building new central start stations to best serve their communities. The City of Toronto recently hosted a community open house and official opening of their first multi-function ambulance station which will accommodate ambulances, paramedic crews and support services. Additional multi-function stations are being planned for the east and southern parts of the City.

## SIZE & CONFIGURATION

### Department Needs Versus Public Needs

The LELC remains a public access facility due to the co-location of a public fitness centre operated by Leisure Services and the rental of meeting space to both internal and external clients. Although these activities generate revenue, it also results in Paramedic or Fire Service functions being bumped into less desirable space on a regular basis. The co-location of the fitness centre does have some spin-off benefits due to ease of access for Community Safety Department staff. However, due to the nature of 24-hour shift scheduling for Paramedics and Firefighters, the limited hours of operation of the centre does present a challenge for staff wanting to access the Fitness Centre prior to or following their shift. The more significant impact on the department is the lack of dedicated classroom and meeting space which would allow for the permanent storage of educational material and supplies as well as the development of a permanent simulation lab to support continuing medical education of staff.

In addition, the public building status of the LELC does present an operational risk for both services from a security standpoint. Fire and Paramedic Services Stations are critical infrastructure and should have controlled access by members of the public at all times. Some areas of the building are controlled through security card access; however there are many areas that are open to the public.

The presence of public traffic on the grounds of the LELC facility which has emergency vehicles entering and leaving 24/7 introduces risk to the corporation. The parking lot at LELC presents an increased risk for collisions due to its use by the public as well as emergency vehicles which need to travel through quickly when responding to incident. The community interest to further develop the LELC would result in the increase of public traffic, further escalating these unmitigated risks.

### Station Space and Configuration

The Community Safety Department continues to struggle with the size and configuration of the LELC. The lack of garage, warehouse, and administrative space coupled with the poor configuration of existing space could only be addressed through a massive rebuild/renovation at a significant cost. Such an investment would not make sense as it fails to address the fact that the building is in the wrong location and would continue to waste resources as a result of the unnecessary travel to deliver service. Currently, Paramedic and Fire Services occupy 55,000 ft<sup>2</sup>. An analysis of floor area requirements was completed which determined that nearly 95,000 ft<sup>2</sup> is required for garage, warehouse, administration and operational activities that are currently undertaken at the LELC. The *Requirements Report: Proposed Community Safety Headquarters* from Perry + Perry Architects can be found in the appendix. The following sections speak to some of the operational impacts associated with the size and configuration of some key functional areas of the LELC.

### Garage Space & Configuration

The land ambulance certification standard requires ambulances and emergency response units be stored inside in a climate controlled environment in order to ensure security of vehicles and its contents from unauthorized access and extreme temperatures. Paramedics Services currently deploys 29 vehicles and pieces of equipment. LELC has four garage spaces; two of the four garage spaces can

accommodate a maximum of 8 light vehicles, and due to low ceiling height and garage door opening, nothing bigger than an SUV can be parked. The configuration of these two garages requires staff to constantly move one or more vehicles outside in order to access a second vehicle parked in behind it.

The main garage space consists of six drive-thru bays which can accommodate two vehicles each. One full bay is used to park the Gator and Emergency Support Unit trailers leaving room for a maximum of 10 ambulances. If no ambulances are at Fleet Services overnight for maintenance, then 12 spaces are required for parking of ambulances causing capacity issues resulting in vehicles left idling outside also creating security concerns. Often, the wash bay is utilized as parking spaces. This is not parking space but rather dedicated space set up specifically to clean vehicles as part of the standardized post shift vehicle cleaning and sanitization process. Parking ambulances in the wash bay has a direct impact by slowing the vehicle cleaning process due to staff having to constantly move vehicles to free up space in the wash bay to clean other vehicles. During the overnight hours, there is only a single EVT staff person on duty.

The design of the current garage space creates further bottlenecks in the flow of vehicles during shift changes. It is common in the morning and evening to have returning ambulances parked outside idling until space is cleared in the main garage when deployed vehicles depart.

The fourth and final garage space is dedicated for the Mobile Command Unit, a tractor trailer unit utilized as an incident command post by emergency services. Access to this garage space has a less than optimal turning radius from the roadway. If the predetermined turning marks are not hit exactly the operator they will need to go around the block to try again. Further, due to the lack of storage space, this dedicated MCU space has increasingly been taken over for supply and equipment storage resulting in concerns that medical supplies are being stored in a space that is subjected to diesel emissions. The encroachment of these supplies also makes it even more difficult to maneuver the MCU into the space, or to open the pop-outs to conduct inspections and maintenance.

It is important to note that through LEAN process improvement in 2016, changes to processing vehicles between shifts was optimized to the extent possible given the constraints of the configuration of the existing space. Despite the barriers of the current configuration of garage space at LELC, LEAN processes realized a reduction in number of tasks and time required to process a vehicle. This resulted in a time savings of approximately 30 minutes per vehicle per day. Further improvements to this critical function, would require structural changes to the design and configuration of garage and logistical spaces.

### **Medical Bag and Equipment Stocking Station**

One of the key functions of logistical staff is to check and restock vehicles and medical response bags between shifts. The current configuration of the workspace where these bags and defibrillators are checked and restocked every shift requires a significant amount of manual lifting. It has been identified by staff that this repetitive lifting could be reduced through a better design workspace that improves the proximity of the supply area to the vehicle being restocked thus reducing effort and making for a more effective and efficient process.

## Warehouse Space at LELC

The LELC lacks sufficient warehouse space to maintain and secure the inventory of medical supplies and equipment required for both Paramedic and Fire Services. This lack of space has resulted in supplies and equipment being stored in various spaces throughout the facility as well as off-site in spaces in Azilda (rental) and Capreol (city owned). Securing supplies off-site increases the effort and time required to manage and retrieve supplies. The requirement to drive to alternate sites across the city takes valuable time out of the shift to accomplish. Further, low use but vital equipment may take extended periods of time to recover and deploy from such storage spaces during times of crisis.

The service has increasingly seen the need to store supplies in garage spaces at LELC which subjects them to carbon emissions from the vehicles also sharing these spaces. This also leads to further clutter in the garage spaces. Logistical staff have particularly raised concerns about the volume of supplies and equipment stored in the MCU garage reducing the available space and increasing the difficulty of parking the mobile command unit (tractor-trailer unit) in this dedicated garage space. The space required for secure warehouse storage has far exceeded what is available at LELC, making it increasingly difficult for logistical staff to effectively manage all of the supplies and equipment stored in various locations at LELC as well as alternate spaces in the community.

## Administrative Office/Workspace

Community Safety staff are located in various offices that are spread throughout the two-floor LELC facility. Although efforts have been made to group staff by function, however the structure significantly limits the ability to create functional hubs. There continues to be challenges with effective and cohesive communication and teamwork due to the spread and separation of our staff within the respective business units of Paramedic and Fire Services resulting from the design and configuration of the LELC. Further, the spaces are not conducive to effective staff engagement and management, while also protecting the confidentiality of patients and staff. The LELC configuration has rental space that includes 24 dormitories, lounges, several breakout rooms, classrooms, cafeteria, and gym. There is no further usable space within LELC to meet the needs of the Community Safety Department.

## Change Rooms

LELC has two dedicated locker rooms, one each for male and female staff. These locker and shower rooms lack sufficient size and number of lockers to support the current complement of Community Safety Staff. The lockers are small in size (i.e. former school lockers that are stacked two high) and therefore Paramedics are unable to hang required uniform items such as pants, shirts, jackets and footwear.

## Training Space

The delivery of Paramedic and Fire services is a high risk industry and many of these risks are managed through quality education. This includes the need for dedicated space where each respective division can access both on a planned and adhoc basis to manage educational issues. Dedicated space would allow for an appropriate configuration to support training cycles and eliminate the requirement of set-up and tear down after each session. In addition, Paramedic Services requires a dedicated simulation



lab to allow better utilization of high fidelity medical mannequin training. The utilization of these simulation labs requires two-way glass and audio visual equipment permanently mounted to monitor students and provide proper evaluation and performance feedback. High fidelity simulation labs are widely used in the healthcare field and have become an industry best practice for medical education.

Paramedic and Fire Services Training Divisions have identified the lack of dedicated classroom space as a challenge. Although training space is available at LELC, this space serves as a revenue source as rooms are rented to both the public sector resulting in Fire and Paramedic Services being bumped into less desirable space. Paramedic Services is a high risk healthcare profession that is heavily regulated. In order to manage these risks and maintain clinical excellence, requires frequent testing, orientation, remediation and training in order to meet the ongoing needs of educating new and existing staff. In an average year, the Paramedic Services Training Division conducts about 100 training sessions with staff.

## ANALYSIS

### A New Community Safety Headquarters in the City Core

A Community Safety Headquarters is a foundational cornerstone to the entire department towards ensuring the consolidation of all program components that are essential to the overall successful delivery of quality community safety programs. The Executive Leadership knowledge, experience and evaluation validates that a new, properly designed Community Safety Headquarters built in the right location in the city core would significantly address the needs and challenges of the community now and well into the future.

There are multiple advantages to co-locating the entire department into a single headquarters in the core of the city. Community Safety personnel interact extensively and require a high degree of coordination both on a daily basis and during significant events. Cohabitation enables seamless coordination, collaboration and communication not only when responding to an emergency, but also during regular daily events. Operationally, each agency provides day-to-day logistical and administrative support to each other. During a crisis, the time saved and efficiencies realized from cohabitation are invaluable, minimizing delays in the delivery of both Paramedic and Fire services.

Co-location enables Community Safety divisions to share space, office equipment and resources. Over time, this will result in cost avoidance through elimination and reducing duplication of effort. Additionally, while we are not able to quantify the impact, maintaining Paramedic and Fire and administration in the same building will reduce trips and time spent traveling to and from meetings which occurs extensively in the ordinary course of business. Separation of paramedic and fire services into separate locations would further exacerbate the impact resulting from travel between divisional locations.

To aid in the development of this business plan, Perry & Perry Associates was engaged to complete a broad assessment of the needs of paramedic and fire services and subsequently the requirements for a new headquarters including building features, size and estimated costing. Their report found in Appendix A, and recommends that a new Community Safety Headquarters will require approximately 95,000 square feet built on a site of six to seven acres. The majority of this space would be dedicated for operational needs that would include both the single start station for Paramedic Services, while also housing both a Paramedic and Fire Service response station.

### Site Selection

In order to evaluate locations for a potential new headquarters members of Community Safety met with staff from Infrastructure, Finance and Assets to identify potential locations that maybe available for development. During this meeting five potential sites were broadly discussed and considered using the following criteria.

- a) Property Size –a minimum of 6-7 acres Location - in the city core, in a location that minimizes the travel time to the five key coverage areas, that is; New Sudbury, Garson, Minnow Lake, Downtown, and South-End.
- b) Property ownership - preference to city owned, but privately owned considered.

- c) Arterial Roads - located on or as near as possible to improve vehicle movement and reduce response times
- d) Site services - does the site have water and sewer services including proper water flows for fire protection
- e) Site excavation - such as blasting rock, or poor ground conditions that could require pilings to support foundation
- f) Properly Zoned - zoning will be required in order to build, so the preference would be to pick a property that is currently zoned for commercial use.
- g) Proximity to satellite stations and support centres (Tom Davies Square, Fleet Services, Health Sciences North, other emergency service stations)

Based on the above criteria, staff identified and discussed five potential sites in the city core that included city property in three areas, Lorraine Street (Lasalle & Notre Dame), Frobisher Complex, and Energy Court (Downtown), along with two private properties on the east-side of the city core and the south-end.

In order to quantify the benefit of relocating HQ into the city core the five sites were evaluated based on travel distances and time between the five city core response areas with the results being compared against the LELC results. This established the impact on both distance and time travelled for these five potential sites when compared against LELC and each other.

The potential sites were also evaluated from a logistics prospective in terms distance and time to Lorne Street Depot (LSD) as well as Health Sciences North. The travel distance and time to each of the satellite stations was evaluated for deployment of specialized response resources (e.g. Paramedic Remote Response Unit and Mobile Command Unit) and logistics that must pick up vehicles at these locations on a regular basis. The chart found below (Figure 4) provides the results of these comparative evaluations.

It is important to note that all of the locations under consideration would satisfy the Fire Service station location needs identified in the Community Risk Assessment completed earlier this year. Further, any new station location would result in replacement of an existing station, and result in a reduction in the Enterprise Risk exposure for the Service.

This comparative evaluation for the purposes of this business case, demonstrates that relocating the Community Safety Headquarters into the city core for Paramedic Services would result in an average 56% reduction kilometers travelled with a corresponding average 47% reduction in time to deploying and recovering ambulances from the city core. These are significant improvements. It is important to understand that with a HQ in the correct city core location, and by deploying ambulances in a rotational manner through a new deployment model, the vehicle time to response areas could be further reduced.

Key Location	LELC		Lorraine Street				Frobisher				Energy Court				South End				East Side			
	Kms.	Time	Kms.	Time	% Kms	% Time	Kms.	Time	% Kms	% Time	Kms.	Time	% Kms	% Time	Kms.	Time	% Kms	% Time	Kms.	Time	% Kms	% Time
Van Horne Station	16	20	4	9	-75%	-55%	5	10	-69%	-50%	2	5	-88%	-75%	9	12	-44%	-40%	8	11	-50%	-45%
New Sudbury Station	19	20	3	6	-84%	-70%	4	8	-79%	-60%	8	14	-58%	-30%	22	21	16%	5%	6	11	-68%	-45%
Long Lake Station	19	22	9	16	-53%	-27%	10	17	-47%	-23%	5	10	-74%	-55%	2	3	-89%	-86%	19	15	0%	-32%
Minnow Lake Station	21	25	8	16	-62%	-36%	4	8	-81%	-68%	8	14	-62%	-44%	18	16	-14%	-36%	3	5	-86%	-80%
Garson Station	28	31	12	18	-57%	-42%	9	10	-68%	-68%	14	21	-50%	-32%	25	20	-11%	-35%	13	13	-54%	-58%
<b>Ambulance Deployment Averages:</b>	<b>21</b>	<b>24</b>	<b>7</b>	<b>13</b>	<b>-66%</b>	<b>-46%</b>	<b>6</b>	<b>11</b>	<b>-69%</b>	<b>-54%</b>	<b>7</b>	<b>13</b>	<b>-66%</b>	<b>-47%</b>	<b>15</b>	<b>14</b>	<b>-28%</b>	<b>-39%</b>	<b>10</b>	<b>11</b>	<b>-52%</b>	<b>-52%</b>
Fleet Services – Lorne	17	14	11	9	-35%	-36%	11	18	-35%	29%	3	7	-82%	-50%	9	13	-47%	-7%	19	14	12%	0%
Health Sciences North	18	21	7	12	-61%	-43%	8	14	-56%	-33%	4	9	-78%	-57%	7	10	-61%	-52%	10	15	-44%	-29%
<b>Logistics Averages:</b>	<b>18</b>	<b>18</b>	<b>9</b>	<b>11</b>	<b>-48%</b>	<b>-39%</b>	<b>10</b>	<b>16</b>	<b>-45%</b>	<b>-2%</b>	<b>4</b>	<b>8</b>	<b>-80%</b>	<b>-54%</b>	<b>8</b>	<b>12</b>	<b>-54%</b>	<b>-30%</b>	<b>15</b>	<b>15</b>	<b>-16%</b>	<b>-14%</b>
Val Therese Station	21	22	16	15	-24%	-32%	22	26	5%	18%	21	23	0%	5%	29	34	38%	55%	24	28	14%	27%
Capreol Station	34	36	28	27	-18%	-25%	33	29	-3%	-19%	33	35	-3%	-3%	50	39	47%	8%	38	31	12%	-14%
Chelmsford Station	7	8	21	18	200%	125%	25	31	257%	288%	20	19	186%	138%	28	31	300%	288%	28	32	300%	300%
Levack Station	29	31	46	37	59%	19%	50	51	72%	65%	44	37	52%	19%	53	49	83%	58%	52	51	79%	65%
Walden Station	27	22	20	16	-26%	-27%	31	22	15%	0%	14	17	-48%	-23%	18	15	-33%	-32%	28	26	4%	18%
<b>Satellite Station Averages:</b>	<b>24</b>	<b>24</b>	<b>26</b>	<b>23</b>	<b>38%</b>	<b>12%</b>	<b>32</b>	<b>32</b>	<b>69%</b>	<b>70%</b>	<b>26</b>	<b>26</b>	<b>37%</b>	<b>27%</b>	<b>36</b>	<b>34</b>	<b>87%</b>	<b>75%</b>	<b>34</b>	<b>34</b>	<b>82%</b>	<b>79%</b>
<b>Total average travel time:</b>	<b>21</b>	<b>22</b>	<b>14</b>	<b>15</b>	<b>-25%</b>	<b>-24%</b>	<b>16</b>	<b>19</b>	<b>-15%</b>	<b>5%</b>	<b>12</b>	<b>16</b>	<b>-36%</b>	<b>-25%</b>	<b>20</b>	<b>20</b>	<b>1%</b>	<b>2%</b>	<b>19</b>	<b>20</b>	<b>5%</b>	<b>4%</b>

Figure 6

The initial evaluation shows clear benefits of relocating the Community Safety Headquarters into the core of the city. Lorraine Street and Frobisher Street Yard (old Transit garage) areas are considered to be promising optimal locations from this initial review and both areas have been identified in past studies (i.e. IBI Group) as ideal locations for a headquarters. If approved, the first step would be to identify the needs, configuration and the size of building required. This information would be required as part of a more detailed analysis and site selection evaluation by technical experts and city staff before a recommendation on a final location could be made.

## **Benefits of a New Headquarters (Qualitative and Quantitative Implications)**

A properly (size, configuration and function) designed Community Safety Headquarters located in an optimal location within the city core in close proximity to where the majority of the work is done would result in significant benefits for the City's residents and Community Safety Department that includes:

### **Productivity**

- Reduction of ambulance travel time between HQ and city core response areas approximately 47%
- A 56% reduction in distance traveled, or approximately 179,500 fewer kilometres and 21,540 litres of fuel saved
- Improved productivity and travel time for logistical staff when moving vehicles and equipment in support of operations
- Returns paramedics to service quicker due to reduced downtime when waiting on vehicle or equipment replacements by EVTs

### **Value For Money**

- A newly revised deployment model for the relocated headquarters could potentially provide further improvements and efficiencies related to deployment and value for money
- A new HQ in the city core would become a response station for both Paramedic and Fire Services, which could result in the ability to declare an existing city core station as redundant reducing the unfunded station liability by approximately \$1.2 million (based on CCI Group average building condition assessment for all city core stations) and there's a further potential to recover funds related to the sale of the redundant building and property.
- Provides the opportunity to mitigate the need to replace an existing potentially aged city core station at an estimated cost of approximately \$4.9 million
- Mitigates high-rated operational and financial risks identified by the Auditor General in the Enterprise Risk Registry

### **Efficiency**

- Provided proper size and designed garage space to meet both current and future needs of the service
- A properly sized and designed warehouse space that centralizes and consolidates all supplies into a single location that is readily accessible while ensuring their security and protection from environmental factors such as vehicle fumes and temperature and would also result in

eliminating the need for external rental space and allow for more effective support and response during an emergency event

- A properly configured logistical work area that can create efficiencies and improve vehicle processing while also improving employee wellness through reduced motion and lifting activities
- Opportunity to incorporate space for Fleet Service mechanics to complete minor mechanical maintenance and repairs on site and reduce the need for EVTs to travel back and forth multiple times in a day

### **Effectiveness**

- Depending on final location, improved response times could be achieved in some areas of the city, (e.g. Nickel Centre and Hwy 17 East corridor).
- Centrally located specialized Paramedic and Fire resources, (e.g. Paramedic Remote Response Unit, or Fire Hazmat), which may improve response time when deploying units
- Located on main arterial roadway with multiple alternative routes, can lead to improved deployment and response times for the city core, and reduce impact of road closures
- Provides dedicated training space for Paramedic and Fire Services that includes classrooms, meeting rooms, tactical training and simulation lab space allowing flexibility in both curriculum and scheduling of training in a manner that meets the service needs without interference resulting from public rental of spaces
- Locates all administrative office space in a functional manner that improves the sharing of information and workflows amongst various groups, creating efficiencies and improved team work
- Centrally located and properly designed Emergency Operations Centre (EOC) that improves the ease and timeliness for key decision makers to gather, assess and respond when EOC is activated
- Allows for properly sized locker rooms to ensure that each employee has access to a locker of proper size to store uniforms and equipment required to complete the job

### **Employee Wellness**

- Provides the opportunity to make available a dedicated workout/exercise area that is accessible on a 24/365 basis contributing to employee wellness through physical fitness that can also provide benefits to an employee's mental well-being. There is a strong body of evidence that employees who are physically fit are less likely to suffer from repetitive strain injuries which are an occupational hazard and can carry significant cost for both the employee and employer.
- Opportunity to reduce shift overruns caused by lengthy drive time to return to central deployment (LELC) at end of shift, resulting in possible reduction of wage costs and improved quality of life for paramedics
- Opportunity to incorporate public access space to celebrate and display the history and evolution of both Paramedic and Fire Services in the Greater Sudbury community. Currently, historical artifacts and photos are spread throughout the city at various stations and buildings, often in boxes or spaces not accessible to the public.

## Financial Implications– Revenues and Expenditures

This business case is for one time funding for relocating the new Headquarters for Fire & Paramedic Services. Based on a preliminary report for Perry & Perry Architects, the estimated cost to relocate the station is \$37,979,820 and if funded through debt financing at 4% over a 30-year period, the annual debt repayment would be \$2,196,377. The total acquisition cost for the project, including the principal repayment and associated interest would be \$65,891,303. This cost estimate is based on +/- 95,000 square feet.

The annual debt repayment would be allocated to Fire & Paramedic Services on a 50/50 basis. The interest portion of the Paramedic Services' annual debt repayment may be covered through the land ambulance grant with the Ministry of Health and Long Term Care. In the first year the total interest portion of the payment totals approximately \$1.5 Million. This would equate to approximately \$375,000 of total funding available.

Although the debt repayment for the new station is \$2,196,377, it is important to note that the Community Safety Department currently is charged \$783,038 for space at LELC. These funds would be redirected towards the debt repayment on a new headquarters. The loss of Fire and Paramedic Services as a tenant would have an impact on the net cost of LELC of up to \$783,038 per year until new tenants are found or repurposing of the facility is established.



## Summary of Quantitative and Qualitative Implications

Figure 7

Net Levy Impact of New Headquarters Build	
Annual mortgage on new headquarters	\$ 2,196,377
Less Ministry of Health and Long Term Care Current Grant (Year2) - Represents the 50% funding for Paramedic Services interest cost	375,000
<b>Net Levy Impact beginning in Year 2</b>	<b>\$ 1,821,377</b>

Future Cost Avoidance (Annual)	
Repairs for redundant city core station - Based on CCI Group Building Condition Assessment Report cost of \$1.21 million over 10 years	\$ 121,000
Redistribution of front-line paramedics to address rising call volumes - 4,088 hours that paramedics currently spend driving in and out of city core could be redeployed into other needed service areas. - Avoids the need to request additional staffing and vehicles in the near future	327,040
Additional consideration: - If the Department were to remain at LELC, it would require significant renovations to meet the Services' emerging needs - Estimated costs and opportunities would require a needs and architectural assessment	To be determined
<b>Total</b>	<b>\$ 552,609</b>

Efficiencies	
Recovery of lost productivity for paramedic and fire management, supervisors and logistical support (based on 80% recovery of current travel time) - 2,026 hours that staff currently spend driving in and out of the city core could be redirected to other needs within the service	104,569

Figure 8



## RECOMMENDATION AND NEXT STEPS

The current location of the LELC cannot be overcome through better deployment planning or adding more resources. Location is everything; Paramedic Services has over the past ten years fully optimized the deployment of ambulances from LELC. There are no changes that could recover the loss of more than 4000 ambulance hours, 1000 supervisor hours, 700 logistical hours, and an unknown amount of time spent annually by managers and administrative staff travelling between the LELC and city core. To add more resources would further amplify the problem by adding to the more than 320,000 kilometers and 5000 hours currently spent each year travelling between the LELC and city core.

It is recommended that the City of Greater Sudbury approves the development and construction of a new Headquarters for the Community Safety Department to be located in the city core at an estimated cost of \$62 million over 30 years to be funded as described in this report.

If this business case is approved by Council during the 2018 Budget deliberations, the following key steps would be undertaken:

- Complete a site evaluation and report back to Council with recommendations for a final location to be by the end of the second quarter of 2018; and,
- Develop final project costs and funding options for a new Community Safety HQ for Council's consideration and approval in first quarter 2018; and
- Authorize the General Manager of Community Safety to secure architectural services to develop architectural and engineering plans suitable for tendering the project; and
- Funding the above work from the Land Ambulance Station Development account, not to exceed \$240K.
- Complete a report on the recommended site which would be presented to Council in spring 2018. The analysis and site evaluation process is estimated to cost up to \$70,000 and should be funded through the Land Ambulance Station Development fund.
- Delegate authority to negotiate, execute any agreements to secure funding, acquire property and resolve all planning considerations including rezoning (if required), and issue a design build RFP required to execute these agreements be provided from the project budget.

## Drivers for Proposed Course of Action

1. Location - The current location of the Lionel E. Lalonde Centre in Azilda is poorly located to support Community Safety and city core response that account for 80% of the call volume and use 60-70% of vehicle and staff resources. Moving into the city core is estimated to reduce distance and time spent travelling by 50% or more
2. Size – Community Safety currently occupies 55,000 ft.<sup>2</sup> of the LELC facility which does not meet current and future requirements that include: garage space, warehouse, administration, training and simulation labs
3. Configuration – LELC was designed as a high school and despite renovations, the facility configuration remains a barrier to a more functional and effective space in the areas of garage, warehouse, administration and training, hampering the ability to make improvements to the delivery of emergency services.
4. Rental Space
  - a. Facility rental that favours rental clients resulting in Paramedic or Fire Service functions being bumped into less desirable space on a regular basis.

- b. Is a barrier to developing more functional administrative spaces within the complex.
- 5. Future Development Potential - Local organizations and councilors have ideas to further develop the LELC as a public community center, this type of development may result in introducing further risk and conflicting purposes. Relocation of the Community Safety Headquarters would free up the LELC for future community development projects such as: public community centre, pool, youth centre, splash pad, skate park, etc...

## Urgency

The Community Safety Department's recommends this project receive a high priority in order to proceed to the tendering process in Spring 2018 in order to complete the build by 2020. The relocation of a new HQ in the city core would have a potential impact of all other city station locations, therefore until the HQ is built no other station development or investments (except health & safety) should be undertaken.

## Alignment with Strategic Plan

This project relates to three of the priorities outlined in the 2015-2018 Corporate Strategic Plan. Improvements to the delivery of paramedic and fire services can improve the health and well-being of citizens in the City of Greater Sudbury which is identified by the priority of "Quality of Life and Place". It also supports the priority of "Responsive, Fiscally Prudent, Open Governance" as this project strategically considers the entire operations of the Community Safety Department and aims to reduce/eliminate duplication and redundancy of services, buildings and staffing. Finally, this project aims to create "Sustainable Infrastructure" by identifying essential structures and the relationship to others not only within the Community Safety Department, but the entire corporation.

## Risks

The Ministry of Health and Long Term Care typically funds 50% of approved costs. The Ministry reviews operating costs on an annual basis to establish their funding. Every year there is a risk that the approved funding amounts could be insufficient.

This report assumes that an appropriate city-owned site will be selected as the final desired location. If that is not the reality, a privately-owned site would need to be purchased, increasing the overall cost of building a new headquarters.

Internal financing may not be available and external financing could drive up costs.

Once a new headquarters is built, the Community Safety Department would vacate LELC. It is possible that the corporation will be unable to find suitable users to support a repurposed facility.

## **Dependencies/Synergies (Depend on any other projects)**

This project is dependent on building a new headquarters for the entire Community Safety Department and not separating paramedic and fire services.

Community Safety Department is meeting with both Infrastructure and Police Services to determine if there are synergies in doing a joint build.

## **Capacity**

Community Safety Department has the capacity to work with third party architectural and engineering companies to complete design and tender documents. The department would seek support and knowledge from Asset Management, Purchasing, Finance and Infrastructure Services. This work would not be above and beyond the normal business activities of these operating departments.

## **References**

**Value-for-Money Audit of the Operations of Paramedic Services For the Period January 1, 2013 to April 30, 2017**

**Value-for-Money Audit of the Operations of the Greater Sudbury Fire Services For the Period January 1, 2013 to April 30, 2017**

**City of Greater Sudbury Master Fire Plan, February 2004**

**IBI Group – Comprehensive Fire Services Review Report, March 2014**

**City of Toronto Press Release – Toronto Paramedic Services opens Toronto’s first multi-function paramedic station, September 13, 2017**



## PROPOSED COMMUNITY SAFETY HEADQUARTERS

Fire & Paramedic Services & Emergency Operational Centre

### REQUIREMENTS REPORT

#### PROPOSED COMMUNITY SAFETY HEADQUARTERS

Fire & Paramedic Services & Emergency Operational Centre





## PROPOSED COMMUNITY SAFETY HEADQUARTERS

### Fire & Paramedic Services & Emergency Operational Centre

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## PROPOSED COMMUNITY SAFETY HEADQUARTERS

### Fire & Paramedic Services & Emergency Operational Centre

## INTRODUCTION

The City of Greater Sudbury's Fire and Paramedic Services have a vision to realize a new, centrally located Community Safety Headquarters to better serve the City of Greater Sudbury. The Fire and Paramedic services have investigated their space needs based on the most efficient function of administration, training and the deployment of these services to the City of Greater Sudbury residents.

This Report has been prepared in response to the identified losses of operational efficiencies and costs as a result of driving ambulances between the City core and the current headquarters (HQ) located at Lionel E. Lalonde Centre (LELC) in Azilda and the current facilities poor configuration and inefficient flow and circulation. It defines the Fire and Paramedic Services combined space needs and serves as a guide in proceeding with the design and construction of a new Fire and Paramedic Headquarters that is to be located to best serve the City of Greater Sudbury, Ontario.

A newly designed and properly located Headquarters for the Community Safety Department provides the cornerstone towards achieving future efficiencies and improvements to overall emergency response, operations, programs and support functions for businesses and residents of the City of Greater Sudbury which may include.





## PROPOSED COMMUNITY SAFETY HEADQUARTERS

### Fire & Paramedic Services & Emergency Operational Centre

## PROJECT OBJECTIVES

A meeting with the Project Team was held to confirm the project objectives to clearly define the project scope and establish a clear understanding of the larger goals of the project.

The Project Team have established the following project specific goals and objectives:

- Functional, modern and efficient administrative operations deployment, training and storage facility
- Improved paramedic and supervisor communications
- Improved productivity and better call response
- Centrally located for effective deployment of services
- Accommodate for current and future space needs (4 fire bays & 11 paramedic bays)
- Environmentally responsible design (LEED principles)
- Increased employee wellness and healthy working environments
- Maintenance free design, materials and equipment
- Consolidate and centralize all related CGS functions
- Barrier Free accessible
- Incorporate design flexibility of space
- Build to current building, life safety, health and fire codes
- Technically current ("wired" building)
- Portray a professional image that is efficient, competitive and cost-effective
- Improve operational support and leadership between headquarters and front-line paramedics and fire –fighters

The resulting design solution should therefore reflect and support the established project objectives and guiding principles of the City of Greater Sudbury Fire and Paramedic Services.



## PROPOSED COMMUNITY SAFETY HEADQUARTERS

### Fire & Paramedic Services & Emergency Operational Centre

## FUNCTIONAL REQUIREMENTS

Perry + Perry Architects Inc developed the Functional Space Requirements for the City of Greater Sudbury Fire & Paramedic Services Headquarters.

A new location and facility will provide an opportunity to consolidate the two departments, along with the Emergency Operational Centre (EOC) and realize space savings in shared functions, deployment and training efficiency as follows:

- Meeting/Boardrooms
- Training Rooms/Training Equipment Storage Room
- IT Room
- Reception/Waiting
- Lockers/Shower & Fitness Rooms
- Lunchrooms
- Stock Room/ Shipping & Receiving
- Public Washrooms/Staff Washrooms
- Janitor Room & Laundry Room
- Mechanical/Electrical Room & Generator
- Compressor Room/Oxygen & Gas
- Quarter Masters
- Narcotic Safe Room
- Workshop/Equipment/Maintenance
- Car Wash Space & Vehicle Processing Space for Cleaning and Sanitizing (Ambulances)
- Garage Space for Paramedic Fleet & Fire Fleet
- Decontamination Room & Garage/Equipment Space
- Fire & Paramedic Response Stations

A Functional Requirements Chart was developed documenting the required allocated space for a shared facility summarized as follows:

DESCRIPTION	TOTAL ASSIGNABLE AREA (SF)	STAFF
EXECUTIVE LEADERSHIP	5785.00	19
EMERGENCY OPERATIONAL CENTER	10350.50	1
FIRE SERVICES	22353.50	25
PARAMEDIC SERVICES	33715.50	18
SHARED SPACES	17394.00	0
BUILDING SUPPORT & SERVICES	4215.90	0

**TOTALS**

**93,814.40**

**63**



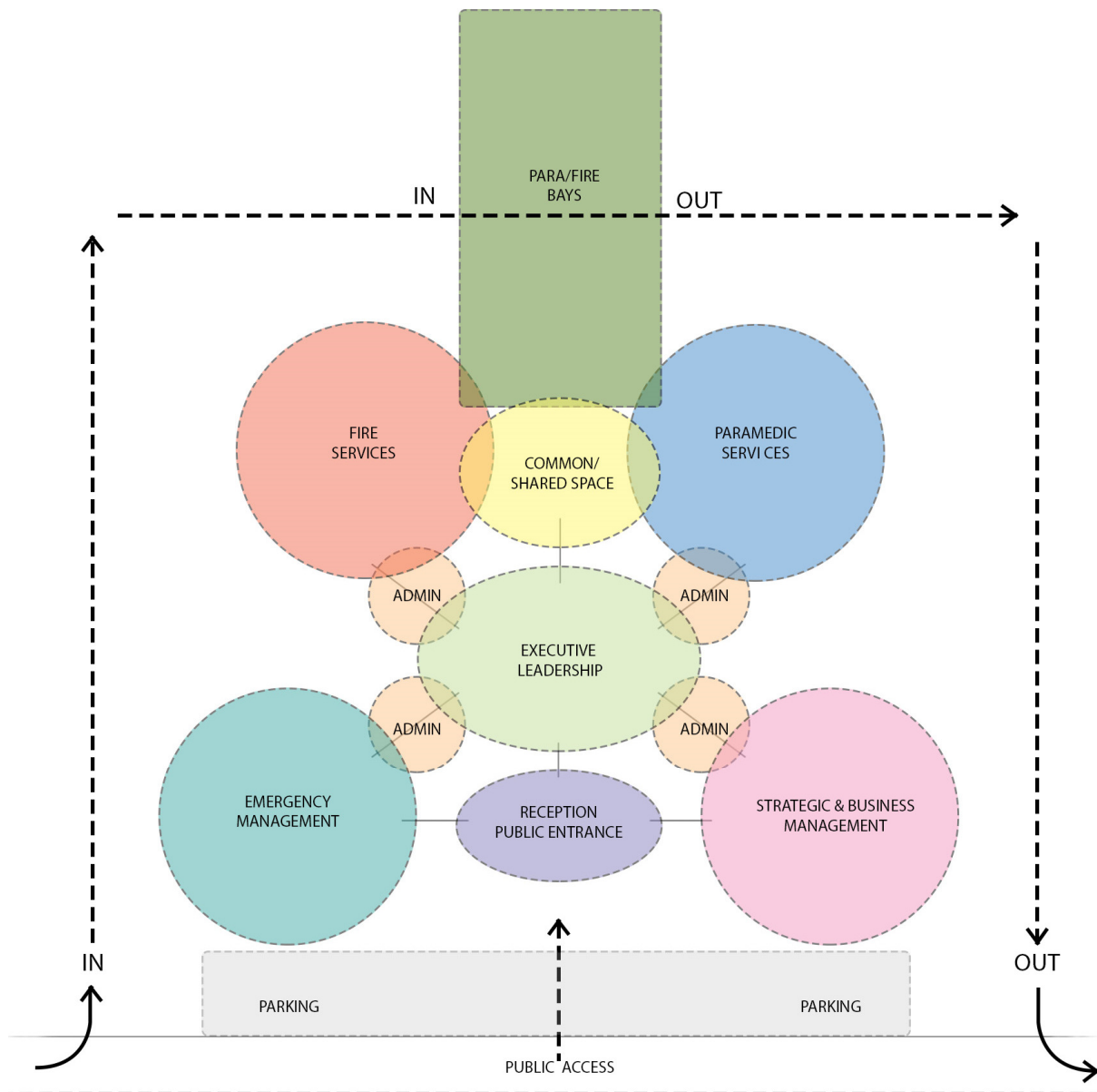
## PROPOSED COMMUNITY SAFETY HEADQUARTERS

### Fire & Paramedic Services & Emergency Operational Centre

DESCRIPTION	TOTAL ASSIGNABLE AREA (SF)	STAFF
<b>EXECUTIVE LEADERSHIP</b>	<b>5785.00</b>	<b>19</b>
Administration	3705.00	
General	1235.00	
Strategic & Business Services	1170.00	
Fire & Paramedic	1300.00	
Common/Support	2080.00	
<b>EMERGENCY OPERATIONAL CENTER</b>	<b>10350.50</b>	<b>1</b>
EOC Spaces	4875.00	
Common/Support Space	3168.00	
Support Space	2307.50	
<b>FIRE SERVICES</b>	<b>22353.50</b>	<b>25</b>
Administration	5752.50	
General	910.00	
Logistics	650.00	
Training	845.00	
Fire Prevention	2015.00	
Common/Support	1332.50	
Training	2275.00	
Logistics	11154.00	
Common & Living Spaces	3172.00	
<b>PARAMEDIC SERVICES</b>	<b>33715.50</b>	<b>18</b>
Administration	4777.50	
General	1040.00	
Logistics	715.00	
Training	650.00	
Quality assurance	650.00	
Common/Support	1722.50	
Training	1560.00	
Logistics	26598.00	
Logistics	858.00	
Garage Space	25740.00	
Common & Living Spaces	780.00	
<b>SHARED SPACES</b>	<b>17394.00</b>	<b>0</b>
Shared Space	11258.00	
Common Space	5616.00	
Building Services	520.00	
<b>BUILDING SUPPORT &amp; SERVICES</b>	<b>4215.90</b>	<b>0</b>
Common Space	1514.50	
Support Space	2701.40	
<b>TOTALS</b>	<b>93,814.40</b>	<b>63</b>

## KEY FUNCTIONAL RELATIONSHIPS

Design Team meetings were held to confirm the CGS Fire & Paramedic Services and operations, as well as the operation of the EOC. A key functional relationship diagram was further developed to confirm that the interrelationships of the functional requirements could be satisfied.





## PROPOSED COMMUNITY SAFETY HEADQUARTERS

### Fire & Paramedic Services & Emergency Operational Centre

## GENERAL CONSIDERATIONS

### Site Selection Criteria

Lot Area 2.5-3.0 Hectares (6-7.2 acres)

Building Coverage 95,000 sq. ft.

Parking 200 Vehicles

Property Ownership City Owned (preferred), Private (considered)

### Central Location

Proximity to 5 Key Coverage Areas (New Sudbury, Minnow Lake, Garson, Downtown, South End) as well as proximity to satellite stations, (Tom Davies Square, Fleet Services, Health Sciences North and other Emergency Services stations).

Currently, the deployment of the City of Greater Sudbury Fire and Paramedic services are from LELC, renovated, old high school at 239 Montée Principale in Azilda, Ontario. Time and costs are increased and efficiency and deployment of services are decreased due to the facilities current location. A centrally located HQ would allow costs and travel time to reduce and improve the efficiency of the HQ and the response times and deployment of services.

### Arterial Roads

Located on or as near as possible to arterial roads to improve vehicle movement and reduce response times

### Site Services

Water and Sewer services, as well as proper water flows for fire protection

### Zoning

The facility is zoned as Institutional use and is permitted in the following zones: "I" Institutional, "C2" General Commercial, "C4" Office Commercial, "C5" Shopping Centre Commercial subject to special provision 3 and the "C6" Downtown Commercial zones.



## PROPOSED COMMUNITY SAFETY HEADQUARTERS

### Fire & Paramedic Services & Emergency Operational Centre

#### Geotechnical Considerations

Minimal geotechnical constraints to be confirmed (ie. Rock blasting, poor ground conditions requiring pilings, etc.)

#### Size & Configuration

The site size and configuration must accommodate the appropriate flow and in-and-out access of the fire trucks and ambulances around the entire building.

#### Vehicle Gas Supply

Gas supply is required for the facility and for ease of service and operations with for both the Fire and Paramedic vehicles. A cardlock system with above ground tanks are required with unleaded regular fuel. Site proximity to city pumps may negate these needs.

#### Post Disaster Center

The New Community Safety HQ would also serves as the Emergency Operations Centre (EOC). It serves as the coordinating center for key decision makers during small emergencies and large disasters. A post-disaster building means a building that is essential to the provision of services in the event of a disaster and includes emergency response facilities, fire, rescue and police stations, storage facilities for vehicles or boats used for fire, rescue and police purposes, and communications facilities, including radio and television stations. The current location at the LELC building in Azilda does not meet the primary safety, functional and accessible needs of the EOC.

#### Special Equipment's

A vehicle wash bay with a car wash system for ambulances and light fleet vehicles.

Card access for doors and controlled drug security, cameras and video surveillance for building and yard.

Gate security systems to control vehicle access in specific areas.

#### Communication Systems

The facility will also serve as the city's Emergency Operational Centre (EOC) and will require dedicated telephone, radio, computers, servers, cameras and AV equipment. (Note: some equipment may be transferrable from existing EOC headquarters)





## PROPOSED COMMUNITY SAFETY HEADQUARTERS

### Fire & Paramedic Services & Emergency Operational Centre

## ONTARIO BUILDING CODE REVIEW

Ontario Building Code Data Sheet		Comments
<b>Project Description</b>	New Building	
<b>Major Occupancy(s)</b>	Group F3/ Group D	
<b>Building Area m<sup>2</sup> (ft<sup>2</sup>)</b>	6040 m <sup>2</sup> (+/-65,000 sf)	
<b>Gross Area</b>	8825 m <sup>2</sup> (+/-95,000 sf)	
<b>Number of Storeys</b>	2	
<b>Height of Building (ft)</b>	7.62 m (+/- 25'-0")	
<b>Number of Streets</b>	3 Streets	
<b>Building Classification</b>	Group D, up to 3 Storeys, Sprinklered	OBC 3.2.2.54
<b>Sprinkler System</b>	Required	
<b>Standpipe and Hose</b>	Required	
<b>Fire Alarm System</b>	Required	
<b>Fire Alarm Monitoring</b>	Yes	
<b>Voice Communication</b>	Yes	Public Address System
<b>Emergency Power</b>	Yes	Generator
<b>Water Service/Supply</b>	Yes	Fire Flow to be confirmed
<b>Fire Pumps</b>	(to be confirmed)	
<b>Maglocks</b>	(to be confirmed)	
<b>Special Systems</b>	Yes	Vehicle Exhaust, Emergency Operational Centre
<b>High Building</b>	No	
<b>Permitted Construction</b>	Non-combustible/Combustible	
<b>Roof Construction</b>	Non-combustible/Combustible	
<b>Mezzanine(s) Area m<sup>2</sup></b>	(to be confirmed)	Pending final design solution
<b>Occupancy Load</b>	200	
<b>Barrier-Free Design</b>	Yes	Administrative and Public areas only
<b>Plumbing Facilities</b>	5 wc (males) / 5 wc (females)	Does not include for M/F Shower/Change
<b>Spatial Separation</b>	(to be confirmed)	Storage Garage requires 1.5 hour fire separation



## PROPOSED COMMUNITY SAFETY HEADQUARTERS

### Fire & Paramedic Services & Emergency Operational Centre

## PRELIMINARY PROJECT BUDGET

This Preliminary Project Budget is intended to provide a modified Class D Order of Magnitude assessment (+/-20%) of the project costs associated with the project at the pre-design analysis stage. This type of estimate is used to obtain project approval and maintain a baseline for budgetary control.

	Units	Qty	Rate/Lot	TOTAL	Comments
<b>Land Acquisition</b>					
Purchase Cost	fixed	1	\$0.00	\$0.00	CGS Owned Property (2.5 - 3.0 Hectares)
Legal Fees/Closing Costs	%	PP	1.75%	\$0.00	
OLS Survey	fixed	1	\$3,500.00	\$2,500.00	ESA Phase 1
Topographic Survey	fixed	1	\$2,500.00	\$3,500.00	
Appraisal Fees	fixed	0	\$0.00	\$0.00	
Geotechnical Investigation	fixed	1	\$50,000.00	\$50,000.00	
Environmental Assessment	fixed	1	\$5,000.00	\$5,000.00	
Contingency	%	CC	10.00%	\$6,100.00	
<b>Sub Total</b>			\$0.00	<b>\$67,100.00</b>	
<b>Construction Costs</b>					
Off-Site Improvements	fixed	1	\$750,000.00	\$750,000.00	Allowance
On-Site Development	sf	2E+05	\$22.50	\$4,050,000.00	
New Construction	sf	95000	\$250.00	\$23,750,000.00	
Special Equipment (Wash Bay)	fixed	1	\$150,000.00	\$150,000.00	
Post Disaster Factor	%	CC	5.00%	\$1,435,000.00	
Contingency	%	CC	10.00%	\$3,013,500.00	
<b>Sub Total</b>				<b>\$33,148,500.00</b>	
<b>Professional Fees + Charges</b>					
Architect/Engineer	%	CC	8.0%	\$2,651,880.00	CGS to confirm
Civil Engineer	%	CC	10.00%	\$405,000.00	
Project Management	%	CC	1.00%	\$331,485.00	
Project Administration	%	CC	0.50%	\$165,742.50	
Quantity Surveyor	fixed	1	\$25,000.00	\$25,000.00	
Furnishings and Equipment	fixed	1	\$0.00	\$0.00	
Voice/Data/Security	fixed	1	\$75,000.00	\$75,000.00	
Contingency	%	CC	10.00%	\$365,410.75	
<b>Sub Total</b>				<b>\$4,019,518.25</b>	
<b>Financing and Administration</b>					
Not Applicable	%	PC	0.0%	\$0.00	To be confirmed
<b>Sub Total</b>				<b>\$0.00</b>	
<b>Project Contingency</b>	%	PC	2.0%	\$744,702.37	
<b>TOTAL PROJECT BUDGET</b>				<b>\$37,979,820.62</b>	does not include HST



## PROPOSED COMMUNITY SAFETY HEADQUARTERS

### Fire & Paramedic Services & Emergency Operational Centre

## PRELIMINARY PROJECT SCHEDULE

The proposed schedule documents the anticipated time required to execute all the required phases of the project development. It should be noted this schedule is preliminary in nature and subject to adjustment and refinement once more detail is known of the project design and construction particulars.

PHASE	START	COMPLETION	COMMENTS
<b>Requirements Phase</b>	July 01, 2017	September 30, 2017	Completed
<i>Review/Approval</i>			
<b>Business Case</b>	July 01, 2017	October 06, 2017	Completed
<i>Review/Approval</i>			
<b>Council Approval</b>		December 2017	Council Meeting
<i>Review/Approval</i>			
<b>Site Selection</b>	January 2018	Spring 2018	
<i>Review/Approval</i>			
<b>Feasibility Study</b>	Spring 2018	Fall 2018	Update Business Case
<i>Review/Approval</i>			
<b>Schematic Design</b>	Spring 2018	Fall 2018	
<i>Review/Approval</i>			
<b>Design Development</b>	Month 1	Month 2	
<i>Review/Approval</i>			
<b>Construction/Tender Documents</b>	Month 2	Month 4	Spring 2019
<i>Review/Approval</i>			
<b>Tender/Contract</b>	Month 4	Month 5	
<i>Review/Approval</i>			
<b>Construction</b>	Summer 2019	Winter 2020	18 month construction period
<i>Review/Approval</i>			
<b>Occupancy</b>		Winter 2021	



## PROPOSED COMMUNITY SAFETY HEADQUARTERS

### Fire & Paramedic Services & Emergency Operational Centre

## PROJECT STATISTICS

<b>Project Team</b>	Lynn Webster, <i>Manager of Strategic &amp; Business Services</i> <i>General Manager of Community Safety</i> Michael MacIsaac, <i>Executive Deputy Chief of Fire &amp; Paramedic Services</i> Darrel McAloney, <i>Deputy Chief of Fire Services</i> Joseph Nicholls, <i>Deputy Chief of Paramedic Services</i> Graham Campbell, <i>Deputy Chief of Fire Services</i> Paul Kadwell, <i>Deputy Chief of Paramedic Services</i> Chris Perry, <i>Perry + Perry Architects Inc.</i>	
<b>Service Area</b>	City of Greater Sudbury	
<b>Project Site Requirements</b>	Approximately 2.5-3.0 Hectares (site dependent)	
<b>Building Data</b>	95,000 SF (8,825 m <sup>2</sup> ) Gross Building Area Up to 3 storey, non-combustible/combustible construction, sprinklered	
<b>Total Project Budget</b>	\$37,979,820.62 (Class "D" Estimate) Construction Budget/SF:           \$348.93/SF Project Budget/SF:                 \$399.79/SF	
<b>Project Schedule</b>	Construction Start:	Summer 2019
	Occupancy:	Winter 2021
<b>Authorities Having Jurisdiction</b>	Ontario Building Code 2012 Ministry of Labour City of Greater Sudbury	
<b>Consultant</b>	Perry + Perry Architects Inc	