Community Safety Department Building Assessments

Purpose

This report responds to Council's Motion (M-2) of June 13, 2017 directing the General Manager of Community Safety to identify non-compliance issues for all buildings utilized by Fire and Paramedic Services related to employee and public well-being including related legislation, and to determine the cost and timeframe required to remedy non-compliance issues. This includes the directions provided via discussions regarding the Motion at the above noted Council meeting, namely to describe previously identified critical issues and consider other elements relevant to the Motion that have been actioned. The intent is to identify resolutions to building condition issues that have been created over many years, focusing on their related cost and an estimated time to resolve.

Background

Motion M-2 directed staff as follows:

> ***WHEREAS*** *the health and safety of City of Greater Sudbury staff, volunteers and citizens is of paramount importance*
>
> ***AND WHEREAS*** *some of our aging Fire and EMS facilities may not meet all the current health and safety requirements*
>
> ***BE IT THEREFORE RESOLVED*** *that the General Manager of Community Safety be directed to identify non-compliance issues for all buildings utilized by Fire and Paramedic Services related to employee and public wellbeing including, but not limited to, the Accessibility for Ontarians with Disabilities Act, Occupational Health and Safety and other related legislation, determine the cost to remedy that non-compliance and a time frame necessary to remedy the issues with a report back to council in July, 2017.*

In July, staff advised that the time required to complete the work associated with fulfilling Council's direction required additional time and that staff anticipated results would be available in the fall.

Generally, Greater Sudbury's municipal facilities need a variety of changes to bring them into a state of good repair. These changes require a different and greater level of financial investment compared to prior periods. Fire and Paramedic stations across the city, having an average age of 44 years, are no different.

The attention on Fire and Paramedic stations has been driven by Council directions over the last two Council terms. Since 2014, there have been a series of Motions directing staff to identify plans that addressed a variety of operational matters including a plan for managing Fire and Paramedic stations.

- Compared to the municipality's other physical assets, Fire and Paramedic stations are relatively distinct. They serve several purposes including: Provide a base of operations for Firefighters and Paramedics

- Securely store equipment
- Provide amenities associated with managing the needs of a 24/7 workforce, all in accordance with applicable provincial legislation
- Contribute to a community's "sense of place" and residents' perceptions of safety

Although other municipal facilities serve some of these purposes, few serve all of them. The relative importance of these different purposes have not been assessed, but all of them rely to some extent on maintaining the station in a state of good repair.

Assessing a building's condition takes several forms. There are a variety of components necessary for the building's safe and efficient operation and the components wear out at different rates. An effective preventive maintenance program maintains a level of expenditure and a schedule of routine activities that ensures the most efficient building operation at least cost. Greater Sudbury has not previously established a standard preventive maintenance program for its facilities. A "point-in-time" condition assessment was undertaken in 2014 by CCI Engineering Group Inc. ("the CCI report").

The CCI Engineering Group was retained to perform building condition assessments for various city facilities. This included Fire and Paramedic stations, consistent with another analysis performed by the IBI Group in 2013-2014. IBI observed in its work on a "Comprehensive Fire Services Review", without detailed analysis, that the condition of Fire stations was generally below standard.

CCI's scope included Fire and Paramedic stations, in part because Council directed staff to optimize Fire and Paramedic services. As noted in CCI's reports on building condition assessments, "*the purpose of the report is to provide the CGS with conditional reviews of the main building components and to highlight the forecasted capital outlay required for these predominantly aging facilities over the next ten (10) years".* The report concluded that the probable costs required to address deficiencies in 24 Fire and Paramedic stations would necessitate an investment of $20.4 million over the course of ten years. This is higher than the current planned spending (approximately $400,000 per year) over this period by nearly $16.5 million.

The CCI report focused solely on needs specific to systems and structures. It did not, and was not intended to, address any changes that would be needed to a station's size and configuration so that it would meet current workforce and equipment demands. It only addressed the costs associated with improving the current state of the buildings without addressing other requirements needed to bring it into full compliance with the legislation described in Council's motion.

The City of Greater Sudbury uses a 60-year lifecycle for the structure of a building. Depending on the composition of the building, the lifecycle of major building components (such as the roof, life safety systems, heating, ventilating and air conditioning systems) ranges from 25 to 60 years. With more detailed assessments, these estimates can be refined based on specific observations.

Staff presented a plan for managing Fire and Paramedic station maintenance and repair needs as part of a comprehensive report that was presented in April. Over the last two years, staff elected to minimize substantive investments in facility renewal pending Council's review of staff's 10-year plan. Council voted against receiving the report.

Since then, work has been done to augment the analysis offered by the previously-completed CCI report so that staff could address the scope of Motion M-2. Specifically, this included utilizing area specific professionals to assess the buildings from an indoor air quality, designated substance and barrier free perspective.

Due to the cost of conducting the required detailed assessments, estimated to be almost $440,000 for all 24 stations, staff commissioned such assessments on two stations because funds were not available to undertake detailed studies on all stations. The cost of the two detailed assessments was $19,913, which was funded from current, approved 2017 budgets.

Analysis

The CCI report identified a 10-year horizon for addressing facility renewal and repair expenditures. The basis for its assessment is a standard guideline provided by ASTM, an international not-for-profit organization that establishes voluntary standards for a variety of subjects. While voluntary, governments often cite the need for compliance with ASTM standards in legislation.

The scope and exclusions of CCI's review is described in Appendix A. Since it did not address Accessibility for Ontarians with Disabilities Act and Ontario Health and Safety (OH&S) legislation, staff undertook a detailed examination of two stations to assess the potential costs and other implications associated with the scope of Motion M-2.

With a number of important caveats, the CCI report estimated the cost associated with the "critical" work it identified is approximately $1.8 million as detailed in the following table:

Item Category	**Cost**
Accessibility	$ 580,000
CO Detection	$ 982,000
Exterior building lighting	$ 5,000
SCBA	$ 40,000
Upper roof	$ 109,000
Ventilation	$ 75,000
TOTAL	**$ 1,791,000**

The time associated with addressing these issues varies with a range of between 1 and 10 years. However, there are a number of caveats associated with these estimates, as follows:

- The classification process CCI Engineering used was based on criteria provided by CGS for the ranking of projects. It was not intended to signal that one category of expenditure needed to be fully addressed before addressing any other category. Accordingly, CCI recommended a remediation timeframe of between 1 and 10 years depending on the component in question and the type of remediation required.
- Because some stations were never designed with current legislative requirements in mind, the cost estimates here are limited to remediating only parts of a building. For example, in assessing

Accessibility, in addition to what is noted within the exclusions of the methodology, the statements surrounding the costs attributed to this area are related to these buildings not being considered barrier free by design. Specific references deal with the lack of barrier free parking stalls, improper access to main entrances and dedicated accessible washrooms. Significant building modifications would be required to bring these buildings to current accessibility standards. In practical terms, allowance estimates deal with the modification of main entrances and the main washroom areas only in the short term. In each case where the building consists of multiple stories, the installation of an elevator has not been considered in cost assessments. In any case, a full assessment for barrier free design and true accessibility would be warranted to ensure full compliance with Accessibility for Ontarians with Disabilities Act by 2025.

- Comments on the CO monitoring systems range from suggesting units are undersized for the areas they support to monitoring units being non-existent within the buildings. The estimated $982,000 required to remedy this area is based on an allowance of between $35,000 and $45,000 per station to add effective CO monitoring equipment in 19 stations. The stations currently have monitoring in the garage bays for the vehicles, but CCI recommended further review for CO monitoring within other areas of each facility. This is not currently necessary to be implemented as each facility is “grand-fathered” to the version of Ontario Building Code in effect at the time of installation of the systems. Once ventilation equipment is replaced at a particular facility, then multiple new systems will be implemented in accordance with Ontario Building Code, two of which are CO detection (Ontario Building Code) and building automation (energy efficiency).
- The Van Horne Station is the source of two major areas of concern – ventilation and upper roof fixes. Significant costs are required to address issues with the roofing which reflect the recommendation for a roof replacement. The Van Horne roof replacement work has been tendered, awarded and is in progress of being replaced. The ventilation estimates relate to replacing older fans and removing old abandoned equipment with allowances for an overall review and balancing of the ventilation system as a whole.

On August 22, 2017, the General Manager of Corporate Services presented to Council the City of Greater Sudbury 2017-2021 Multi-Year Accessibility Plan which was adopted by Council. The plan outlines key objectives for the identification, removal and prevention of barriers and will provide focus and assistance in guiding the organization in its commitment to “ensuring an inclusive and accessible community for all residents” as outlined in the City of Greater Sudbury’s 2015 – 2018 Corporate Strategic Plan. Although the plan doesn’t outline specific departmental plans, projects and initiatives, it does identify a number of initiatives designed to enhance the accessibility of municipal programs, services and facilities.

Additional Detailed Analysis

While performing building condition assessments is a reasonable method for assessing a municipality's largest capital assets, the process relies on assumptions that require follow-up by other more system specific professionals. At this point some follow-up work is being pursued and is detailed below.

As a starting point, Community Safety, in consultation with various divisions within Corporate Services, developed a plan whereby two stations would be assessed utilizing a Designated Substance Survey (DSS), Indoor Air Quality assessment, and Barrier Free Audit as methodologies to assess compliance with legislation noted within the motion. These reports will be funded through the current operating budget at a cost of $19,913. The assessment of these two stations will provide a foundation for assessing the general state of the buildings across the entire Service.

Based on the cost to assess two stations, the estimated cost to conduct assessments across the entire Service is $440,000 and it would take approximately 8-12 months to obtain all relevant reports. These one-time costs are to conduct the assessments only and do not reflect the costs to remediate any findings.

It must be stated that sufficient funds are not currently available to proceed with the assessment of the buildings for the entire Service and would require Council's approval to move forward with an identified funding source for the one-time costs. All dollar amounts listed for probable costs later in this document are considered class D (ranges from -30% to +50% of the estimated actual amount).

The following assessments were conducted at the Van Horne & Black Lake Stations:

Designated Substance Surveys were conducted with the objective of identifying Designated Substances (DS) as defined by the Occupational Health and Safety Act. Substances falling within this definition include; acrylonitrate, arsenic, asbestos, benzene, coke oven emission, ethylene oxide, isocyanate, lead (in paint and fixtures), mercury (in equipment and fixtures), silica, and vinyl chloride. The scope of work for the DSS includes visually identifying and listing any designated substances found throughout the sites, collection of samples of suspect asbestos containing materials and lead paints followed up with independent lab evaluations, and preparation of a report detailing the findings with recommendations.

Barrier Free Audits were completed to satisfy the Accessibility for Ontarians with Disabilities Act element of Motion M-2. The Architect firm that conducted the audit, outlined that the reviews were specific to the internal environment of the building and the comments contained in the report were based on the accessibility requirements contained in the Ontario Building Code, with some commentary from the Accessibility for Ontarians with Disabilities Act as it applies to interior public service areas. In general, the Ontario Building Code regulates the construction of buildings while the Accessibility for Ontarians with Disabilities Act generally regulates the exterior environment.

Lastly, an Indoor Air Quality (IAQ) assessment was completed at the Black Lake station. This assessment, as the name suggests, measures levels of harmful particulates in the air including carbon monoxide, carbon dioxide, nitrogen dioxide, and diesel particulate. Additional comfort based parameters such as temperature and relative humidity were also measured. A similar assessment was completed at the Van

Horne station in 2015 and with no major changes in ventilation systems, staffing levels or equipment usage it was decided not to proceed with another assessment.

Golder Associates conducted Designated Substance Surveys at Van Horne and Black Lake Road (Waters) Stations. Golder provided a report for each station that includes a detailed analysis of the areas that contain designated substances, along with recommendations for remediation of each material. Both of these facilities contain a substantive amount of designated substances. If these materials have potential to be disturbed, the designated substance should be removed, or a process needs to be implemented to ensure no disruption occurs. The report doesn't address the potential costs, so further pricing is necessary to identify the estimated costs of remediation. The long term operational costs would be extensive to leaving the designated substance in place as ongoing inspections are required, along with reports being updated annually. Corporate Services recommends full removal of designated substances; however, complete removal is costly and no funding is currently available or identified to carry out this work.

3rd Line Studio Architects conducted the Accessibility for Ontarians with Disabilities Act Audit for both the Van Horne and Black Lake stations and the same general recommendations were observed. In the short-term non-compliant thresholds should be removed and replaced and accessibility signage should be provided and/or upgraded. Long-term recommendations noted that any future extensive renovations, by definition in Part 11 of the Ontario Building Code, must meet accessibility requirements as directed. More specific areas to address include enlarging washroom stalls to meet dimensional requirements, and converting secure keypad access to washrooms to an alternate form to allow "closed fist" operation.

Black Lake Road is intended to be a garage in terms of Ontario Building Code, so Accessibility for Ontarians with Disabilities Act compliance is not required. This is similar for Van Horne, except that this station is host to the Fire Prevention division, which does require public interaction. For the main level of Van Horne, Accessibility for Ontarians with Disabilities Act compliance is necessary. Further detailed review of facility operation is warranted. Staff received an estimate from 3rdLine Studios in the order of $760,000 to implement Accessibility for Ontarians with Disabilities Act for Van Horne. This would include a new ramp from the parking area, new parking lighting upgrades, new entrance doors and major interior upgrades. A new elevating device is required for the entire facility due to the occupant load of the facility. This probable cost estimate does not include interior upgrades to the entire facility, only for the areas that require Accessibility for Ontarians with Disabilities Act compliance

The Indoor Air Quality Assessment at the Black Lake Station was conducted by Golder Associates. The report found that over the course of 17 hours of monitoring there was demonstrated suitable air quality within nearly all parameters. The one area noted to be slightly unaligned is humidity which is an indicator of potential mould growth and comfort. Golder does note however that there was minimal activity within the Emergency Services Station over the course of the sampling period. Additionally, the testing was primarily conducted within the one lounge area and the recommendation is to perform further testing on a variety of areas during the winter months to gain a better understanding if seasonality has an effect on the air quality at the station.

The results of these assessments have been reviewed by the City's Corporate Services Department. The summary of their findings suggest that to bring the Van Horne Station up to a good state of repair, remove all designated substances, and comply with the Ontario Building Code is estimated at approximately $5.5M. To perform this work would take approximately 16-18 months and some operations would be disrupted necessitating the possible need to relocate areas of the operation for periods of time. Additionally it has been noted by the Capital Projects Section that the building is not in compliance with Accessibility for Ontarians with Disabilities Act and that a renovation to accomplish this would be a major undertaking for this facility and is not recommended, due to site constraints. When any major alteration/renovation is warranted in a large capital asset, there comes a point in cost consideration for total replacement dependent on overall cost, age of the asset, immediate future needs, and return on social investment.

The review by Corporate Services of the results from the Black Lake station reveals that to bring the Station up to a good state of repair, remove all designated substances, and comply with the Ontario Building Code would cost an estimated $2.2M. To perform this work would take approximately 10-12 months and some operations would be disrupted necessitating the possible need to relocate areas of the operation for periods of time. In relation to Accessibility for Ontarians with Disabilities Act, this building is not in compliance however this is not intended to be a public building. There are different obligations depending on whether a facility is intended for the public use or not however if a facility undergoes any major renovations it requires compliance with the current Ontario Building Code and compliance with Accessibility for Ontarians with Disabilities Act.

It has also been noted that as per the Occupational Health & Safety Act, each building undergoes a monthly Health & Safety inspection. The Community Safety Department reviews these inspections, verifies any non-compliance, and remedies the identified issues where applicable. It is understood that these inspections are intended to identify hazards associated with everyday work. Staff is generally trained as members of their respective joint health and safety committee, but is not expected or competent to determine significant deficiencies such as air quality issues, structural issues, building code issues or AODA deficiencies as examples. A joint health and safety committee member may recognize and express a concern with a potential hazard such as a sagging ceiling, crack in the wall, or potential poor air quality but they are not qualified, nor competent to assess those concerns. In accordance with OHSA legislation, verification of the hazard must be done by competent person or professional with the authority, professional designation and/or credentials that would provide a credible assessment and appropriate recommendations for remedying the deficiency.

Lastly, it is important be mindful that matters arising from the Paramedic and Fire Services Value for Money Audits presented by the City's Auditor General at the Audit Committees meeting of June 20, 2017. As per Council's direction, the Community Safety Department is preparing a business case for a fire station location study to effectively plan for the replacement of stations that are approaching the end of their useful service lives. Additionally, as per Council's direction, a business case is being developed to determine if the benefits exceed the costs for relocating the Headquarters to the city core. These business cases once complete and acted upon may once again provide for a different direction in terms of repair/replacing of Community Safety facilities.

Conclusion/Next Steps

To address all of the elements included in the motion, further investigation and analysis by specialists within the appropriate industries is prudent to provide a more concise analysis of what actions would be required within each station. Assessments of the two stations, at a cost of $19,913, have revealed an estimated price to address the issues in Motion M-2 to be up to $7 million. Previously within this report it is also noted that cost to assess the remaining stations was in the neighbourhood of $440,000. Next steps for these items are dependent on the outcome of the recommendation to Council.

Appendix A: Scope of CCI Building Condition Assessments

It is important to understand what the existing Building Condition Assessment (BCA) reports address within their scope and what the reports are not intended to address. Within the reports, CCI states the use of standard guidelines of ASTM E-2018-08 Standard Guide for Property Condition Assessments with some exceptions.

Areas of scope relevant to this CCI Engineering reports include:

- Prior to assessing the sites, reviewing historical data pertaining to the building(s) including drawings, past reports, major capital expenditure project records and associated costs;
- Conducting a comprehensive visual, non-intrusive review of the building major components as per the following:
    - Architectural (all exterior/interior components)
    - Building Shell (all exterior finishes, windows and doors)
    - Roofing (review of components including thermographic scans and cuts)
    - Structural (full visual review)
    - Mechanical (full visual review)
    - Electrical (full electrical review including thermographic scans)
    - Accessibility (full review based on Ontario Building Code only). This is not an AODA review.
    - Site elements, not affixed to buildings

There are also areas not included in the review as noted within the methodology section of each of the reports. These include:

- Accessibility
    - The intent of the review is to highlight main building and site components (parking stalls, entrances, walks, doorways, ramps, washrooms, showers, shelves, drinking fountains, elevators) that do not comply to the minimum requirements of the Ontario Building Code, 2006 (OBC), as amended, and to provide probable costs on removals of non-compliant barriers.
    - Although the Accessibility for Ontarians with Disabilities Act, 2005 (AODA) received Royal Assent and became law on June 13, 2005, it only addresses accessibility standards for information and communications, employment and transportation. The goal of the Act is to achieve accessibility for Ontarians with disabilities with respect to goods, services, facilities, accommodation, employment, structures and premises by January 1, 2025. The AODA's Accessible Built Environment Standard is in a final proposed format only as of July, 2010. Since the AODA Standard is not law at this time, it does not form the basis of the review.

- Code Compliance
    - The assessment is not one of detailed code compliance review (historical or current version of OBC or Ontario Fire Code). However, where obvious code infractions are observed, CCI reported on them.

- Building Operations Performance
    - The assessment is not considered an energy audit. CCI has noted areas where deficiencies occur in thermal or equipment performance however.
    - The building's mechanical and electrical systems were visually reviewed during our inspection. The inspection was limited to accessible equipment, without review of any drawings or schematics. Equipment was observed in its present operating state. Processes and performance criteria was based on visual assessment only.
    - Tests were not performed nor were dismantling of the systems carried out to verify the condition of the interior components of HVAC equipment. Seasonal use should be considered with regards to any comments made about the condition of any HVAC equipment.
    - Calculations were not made to verify the adequacy of the electrical supply, domestic hot water, or HVAC performance.
    - Tests were not performed on life safety systems such as fire alarm and suppression systems including sprinklers and smoke control system
- Environmental Health and Safety
    - The assessment is not considered a complete hazardous substance survey; surveys were not a requirement of the contract. CCI has taken note of obvious or suspected environmental issues or the need for physical testing.

Additionally, limitations are clearly noted within the reports. Amongst the activity exclusions noted are:

- Removing or relocating materials, furniture, storage containers, personal effects, debris material or finishes. Conducting exploratory probing or testing. Dismantling or operation of equipment or appliances, or disturbing personal items or property, which obstructs access or visibility.
- Preparing engineering calculations to determine any system, component or equipment adequacy or compliance with any specific or commonly accepted design requirements or building codes or preparing designs or specifications to remedy any physical deficiency.
- Reporting on the presence or absence of pests.
- Evaluating acoustical or insulating characteristics of systems or components.

- Providing an environmental assessment or opinion on the presence of any environmental issues such as asbestos, hazardous wastes, toxic materials, the location and presence of designated wetlands, IAQ, etc.

Lastly, within the reports, it is stated that:

> *"by providing this BCA, the Consultant is merely providing an opinion and does not warrant or guarantee the present or future condition of the subject property, nor may the BCA be construed as either a warranty or guarantee compliance with any federal, provincial or local statute, ordinance, rule or regulation including, but not limited to, building codes, safety codes, environmental regulations, health codes or zoning ordinances or compliance with trade/design standards or the standards developed by the insurance industry; however, should there be any conspicuous material present violations observed or reported based upon actual knowledge of the field observer are identified in the BCA."*