

Date: March 25, 2021	Originator's files:
To: Chair and Members of Budget Committee	
From: Shari Lichterman, CPA, CMA, Commissioner of Community Services	Meeting date: April 28, 2021

## Subject

**Fire Station Renovation Program**

## Recommendation

1. That the Fire Station Renovation Program for the 17 fire stations identified in the Corporate Report dated March 25, 2021 from the Commissioner of Community Services entitled "Fire Station Renovation Program" be incorporated into the Fire & Emergency Services 10 Year Capital Plan and be approved.
2. That the Fire Station Renovation Program be funded from the Public Fire Safety Program Reserve.
3. That all necessary by-laws be enacted.

## Executive Summary

- There are 17 stations that require interior renovations and structural additions to facilitate efficient operations and accommodate health and safety and accessibility requirements.
- Thirteen of these stations were constructed more than 30 years ago and have had no significant renovations since the time of construction.
- There are 11 stations where asbestos containing materials have been identified. Assessment reports confirm there is no immediate risk to the building occupants.
- In 2019 a Building Condition Audit (BCA) was completed that included overall building condition assessment, building code compliance report, asbestos report, schematic design drawings, engineering design briefs and cost estimates for each station.
- Design standards for fire stations have changed and are recommended to include provisions for the containment and avoidance of cross contamination to meet current health and safety standards.

- MFES has 39 female suppression staff and there are 8 stations that currently do not have provisions for female washroom/change room facilities.
- All 17 of the identified stations require work to provide an accessible universal washroom in order to be compliant and meet accessibility requirements such as AODA.
- The conversion of one truck fire stations to accommodate two trucks and associated staffing is critical to ensure the flexibility to address changing operational requirements and future risk.
- A cost estimate for 17 fire stations has been developed and will be submitted as part of the Fire & Emergency Services 10 year capital plan.

## Background

Mississauga Fire and Emergency Services has 21 fire stations. There are 17 stations that require interior renovations and structural additions to facilitate efficient operations, accommodate health and safety and accessibility requirements. Thirteen of these stations were constructed more than 30 years ago and have had no significant renovations since the time of construction. (See Appendix 1 for details) Over the years, demand maintenance has been completed as necessary to ensure they remain operational. There are 11 stations where asbestos containing materials have been identified. The impacted stations are 101, 102, 103, 104, 105, 107, 108, 109, 110, 111 and 112. Asbestos Reassessment Reports have been sent to each of these stations. The reports were completed by Pinchin in 2019 and 2020 and contain a summary of findings and recommendations. The assessment reports confirm there is no immediate risk to the building occupants.

## Capital Planning

The 2019 Fire and Emergency Services Master Plan recommended the implementation of a lifecycle replacement plan for fleet, equipment and facilities. In 2016 a lifecycle review of the fire fleet was conducted. A lifecycle replacement schedule was implemented that reflected a replacement schedule of 12 years for front line vehicles and 3 years in reserve rather than 15 front line and 5 in reserve. In 2017 Council approved \$22.4M over 5 years to support the replacement of aging front line fire apparatus. Since that time MFES has replaced 19 of its 31 front line vehicles. Fire facilities are the next phase of the lifecycle replacement plan.

## Studies

In 2016 an architectural firm was procured to conduct a feasibility study on Fire Station 102 in Lakeview and Fire Station 115 in Erin Mills. The scope of the study was to address the requirement for gender neutral washrooms and change rooms, the separation of bunker gear to protect from exhaust particulate and dormitory renovations to accommodate an additional crew.

As part of the 2018 Capital Budget submission, MFES requested and received funding for a Building Condition Audit (BCA) for the remaining fire stations. The objective of this study was to determine the current condition and scope of work required to meet applicable health and safety, building and fire code accessibility and operational requirements for each station. The final report included overall building condition assessment, building code compliance report, asbestos report, schematic design drawings, engineering design briefs and cost estimates for each station. There were 14 fire stations included in the study, which was completed in May 2019.

In September 2019, an Infrastructure Renewal Strategy was then completed by Dillon Consulting that used the BCA and the Comprehensive Risk Assessment to inform recommendations related to station renovations, relocation and deployment. This study recommended the optimal locations for both the existing and proposed future fire stations and to identify the optimal fire suppression deployment model to best mitigate current and future risk. This included recommendations for future staffing, apparatus and equipment deployment based on risk.

## **Present Status**

Fire capital assets staff are working cooperatively with Facilities & Property Management to complete asbestos abatement in all of the affected stations. A consultant has been engaged and station assessments have commenced; abatement work has started and will continue through 2021 and possibly into early 2022.

A cost estimate for 17 fire station renovations has been developed and will be submitted as part of the Fire & Emergency Services 10 year capital plan. Fire stations 106, 116, 119, and 120 are not included in the plan as they are relatively new builds.

## **Comments**

Notwithstanding the age and condition of the stations, lifecycle upgrades also take into consideration changes in industry best practice and updated standards. These include health and safety, accessibility, staff composition and risk.

### **Health and Safety**

As in every industry, standards and guidelines evolve over time. One of the most significant drivers of change in Fire & Emergency Services is the acknowledgement that cancer rates among firefighters both active and retired are much higher than rates in the general public. Front line operations staff are at a high risk of exposure to contaminants, carcinogens and other hazardous substances and as a result design standards for fire stations now include provisions for containment and avoidance of cross contamination as well as proper storage for Personal Protective Equipment. NFPA 1500 Standard on Fire Department Occupational Safety, Health and Wellness provides facility safety standards with respect to cross contamination and bunker

gear storage. The objective is to design a station that allows for a distinct division between 'cold' zones (dormitory, kitchen, washrooms) and 'hot' zones (apparatus bays/maintenance areas). These zones should be separated by a transitional zone in between hot and cold to avoid cross contamination. PPE has historically been hung in the apparatus bays. More recent studies have shown that bunker gear stored in an apparatus bay have the potential to be contaminated by residual exhaust and exposed to ultraviolet degradation. New design recommendations include proper storage and ventilation for contaminated personal protective equipment in a separate room with isolated HVAC to allow for off-gassing to be exhausted to the outside.

### **Staffing Composition**

Prior to the construction of fire station 120, the last fire station was built in 2003. At that time MFES had 8 female firefighters. In 2021 there are 39. There are currently 8 stations that do not have provisions for female washroom/change room facilities. Many stations have been temporarily modified to house female firefighters. As the staffing composition continues to change, stations must be modified to accommodate all employees.

### **Accessibility**

Section 4.5.11 of the 2015 City of Mississauga Facility Accessibility Design Standards defines the specifications for accessible/barrier free design for fire stations. Areas of fire stations that are likely to be used by the public, including the apparatus bay must be accessible. Only areas that are intended for the exclusive use of firefighters such as fitness rooms, and dormitories are exempt. At least one accessible public washroom must also be provided.

All 17 of the identified stations require work to provide an accessible universal washroom in order to be compliant. Fire Station 104 in Port Credit is a heritage designated building so no addition and only very minor renovations can be accommodated. The building is on three levels which makes it extremely challenging to bring it up to accessibility standards. Fire Station 107 is a multi-level station on a very small site which would require a major renovation including an elevator to make it compliant.

### **Community Changes/Risk**

MFES must position itself for the future. The city is undergoing rapid intensification and future growth predictions indicate considerable vertical growth particularly in the downtown core. Inspiration Port Credit, Inspiration Lakeview, Dundas Connects and the Downtown Master Plan will change the landscape of Mississauga. As communities and demographics change, the call volume, type and complexity change. There is a positive correlation between population and travel time. Increases in population typically translate into increases in travel time. Consideration must be given to the optimal locations, number of vehicles, staffing and programming required to match resources to risk.

One of the key priorities of the fire station renovation program is the conversion of one truck fire stations to accommodate two trucks and associated staffing. This is critical to ensure MFES has the flexibility to expand and/or change programming to address future risk.

### Model Program

While the program for renovation is station-specific, the following is a high level list of the program requirements and key considerations that were applied to each station when developing the renovation plan.

Item	Requirement
<b>General</b>	
Occupant Load	Accommodate two crews (10 people)
Accessibility	Per City of Mississauga 2015 Facility Accessibility Standards
Parking	Parking for 14 vehicles with 1-2 barrier free parking spaces
Site Access	Appropriate space to manoeuver apparatus in and out of bays
<b>Cold Zone</b>	
Dormitory	Accommodation for a min of 10 people
Showers/Washrooms	Gender neutral washrooms
Universal Washrooms	Meet accessibility guidelines
<b>Hot Zone</b>	
Apparatus Bay	Upgrade to accommodate two trucks with vehicle exhaust capture system
Bunker Gear Room	Self-contained with re-circulation system
Gear decontamination	Washer and dryer & extractor accessible from apparatus bay

The plan is to renovate two stations every year. (See Appendix 1) A priority order has been established, however it will be fluid, taking into consideration operational and relocation requirements. The timing and prioritization of the renovations are based on the following criteria:

- 1) **Washroom Facilities** - Stations which do not currently have provisions for female/gender neutral washrooms.
- 2) **AODA/Legislative Requirements** - Stations that do not accommodate accessibility requirements as per the 2015 City of Mississauga Standard.
- 3) **Age & Condition** - Stations where the age and overall condition of the facility require immediate remediation.
- 4) **Geographical Response Area** - Stations are grouped in order to ensure two stations in adjacent response areas will not be under renovation at the same time. This will ensure the ability to maintain appropriate service levels during construction.

### Financial Impact

The cost of the Fire Station Renovation program is estimated at \$66,000,000. It is recommended that Council approve the use of the Public Fire Safety Program Reserve (35592) to fund the lifecycle renovation of 17 fire stations. This reserve was established through Bylaw 0014-2019 to provide a stable funding source for new fire stations and staffing identified in the Fire & Emergency Service Master Plan, which was endorsed by Council in 2019. To fund the

renovation program, transfers to the reserve would have to be adjusted accordingly. The following illustrates the impact to the Public Safety Reserve tax levy. As shown, the program, which Council had previously approved, would be unchanged through 2023, but would continue through 2026 to incorporate the renovation program. This reserve would then be a stable funding source for fire capital requirements well into the future.

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	10 Year Total
2021 Budget plan	1.00%	1.00%	0.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.50%
Proposed to Fund Renovation Plan	1.00%	1.00%	1.25%	1.00%	1.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.25%
<b>Variance</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.75%</b>	<b>1.00%</b>	<b>1.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>2.75%</b>

Council will be updated through the Business Planning and budget process and adjustments may be made during that process subject to reserve requirements.

## Conclusion

The fire station renovation program is intended to repair aging infrastructure, react to evolving industry best practices, provide appropriate accommodations for current and future staff and respond to future growth and demographic changes. Fire stations operate 24 hours per day, 365 days per year. Given the nature of the business, staff both “live” and work out of their assigned station. The lifecycle renovation of fire station infrastructure is essential to ensure that staff can perform their duties effectively and safely, and that the City delivers on its committed level of service for this area.

## Attachments

Appendix 1: Fire Station Renovation Program Summary Table



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