

TOWN OF AMHERSTBURG

AMHERSTBURG FIRE STATIONS

COST COMPARISON REPORT

March 2023



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Appendix A: Summary Page of Building Assessment Report for Fire Station 1 prepared by JS Held Sept 2, 2022

Appendix B: Summary Page of Building Assessment Report for Fire Station 2 prepared by JS Held Aug 2, 2022

Appendix C: Summary Page of Building Assessment Report for Fire Station 3 prepared by JS Held Jul 25, 2022

1. INTRODUCTION

Masri O Inc. Architects has been retained by Town of Amherstburg to investigate options for the upgrade and modernization of its three fire stations and analyse the relative cost associated with these options. The purpose of this study is to provide comparable information to the Town of Amherstburg to allow for informed decision making based on factual and comprehensive cost analysis.

As part of this study, we have referred to the Building Assessment Reports prepared by JS Held in 2022 for each of the three Fire Station Buildings in the Town of Amherstburg. As these studies are current, they are relevant as the basis for this cost analysis.

We understand that the repairs identified in the reports by JS Held have not been implemented, making this report a timely analysis to determine as to where best to allocate the bulk of the town funds whether in repairs, renovations and additions or new buildings.

2. SCOPE

The Scope of this study is limited to exploring and comparing cost and viability of options for the development of appropriate fire rescue facilities for the Town of Amherstburg.

This study is limited on the fire station locations and sites that are currently existing and/or available. Options for development outside these sites or locations were not considered.

The study is based on the following background information - provided by the Town:

- . Building Assessment Report for Fire Station 1 prepared by JS Held dated September 2, 2022
- . Building Assessment Report for Fire Station 2 prepared by JS Held dated August 2, 2022
- . Building Assessment Report for Fire Station 3 prepared by JS Held dated July 25, 2022
- . Measured Drawings/diagrams for each building (Fire Stations 1, 2 and 3) provided by Town of Amherstburg.
- . Master Fire Protection Plan (Updated 2020-2025) prepared in April 2020 by Town of Amherstburg

In addition to the above, the study also benefits from the schematic design and cost estimate prepared by this office for the proposed Fire Station at Meloche Road, including a Class D Cost Estimate Report included in this previous design study.

The cost estimates in this report are driven from the reports above. Some are adjusted by to account for cost increases related to additional escalation and the increase of materials and labours following the pandemic, factors that were not fully accounted for in the estimates by JS Held.

The locations of the fire stations existing or proposed has been 'a given' and were not evaluated by the author beyond what is stated in this report i.e. appropriateness for additions.

Limitations: This report was based on available data above. Masri O Architects did not take part in site reviews of these facilities, neither prepared building investigation of the buildings systems or their compliance with building code. Similarly, an analysis was not prepared for the master planning of fire services for the Town of Amherstburg or the future programmatic needs for such facilities. Nevertheless, Masri O Architects has some understanding of the needs and requirements that the fire services in Town of Amherstburg through their involvement with the schematic design for the fire station at Meloche Road.

3. EXECUTIVE SUMMARY

The building condition assessment reports prepared by JS Held indicate that the three fire station buildings of Town of Amherstburg are in a poor condition, mainly due to their age. Years of neglect of on-going maintenance adds a compounding effect to the repairs these facilities need. Generally, these buildings are at the end of their life span and in need of significant repairs, some of it yet to be identified due potential structural issues that require further investigation.

The three existing facilities as follows:

- . Fire Station 1: located at 271 Sandwich Street South of 7140 SF area (partial single storey)
- . Fire Station 2: located at 3400 County Road of 7714 SF area (single storey)
- . Fire Station 3: located at 6744 Concession Road 6 South of 3286 SF area (single storey)

The total cost of building repairs for all three fire stations estimated in 2021-2022 is over \$8 Million Dollars. None of the repairs have been completed at the time of writing this report, despite some of the repairs being identified as critical and urgent.

The repairs identified relate mostly to the super and sub structure of the buildings and to failures related to the building envelope (water ingress). While upgrades to building finishes would also be well-advised, these were not identified in the assessment report. Furthermore, the three fire station buildings are functionally inadequate with respect to meeting current building codes related to energy savings and accessibility, as well as lacking operationally in terms of the standards and needs of a modern day fire and rescue facility.

This study is based on the repairs identified in the JS Held Buildings Assessment Reports as a starting point. It and then supplemented it with an architectural evaluation of the functionality of the facility and the building systems, assigning costs to each item. The costs identified in this study are shown both in 2022 and 2024 dollar values to facilitate a meaningful comparison between the cost of repairs which was completed in 2022 and a realistic time for a future tender in 2024.

The total cost to update these buildings to fulfill current needs and meet the modern standards for a functional fire station would bring this figure to close to \$20 Million Dollars (estimated in 2024 dollars).

The current commercial value of these three buildings combined (only fire station portion of Fire Station 1 is included) was estimated at about \$5 Million Dollars by J S Held in 2022.

These numbers reflect a dire reality. An investment of about \$10M is needed to address basic building repairs that may only add minimal value to these buildings. This large expenditure should be evaluated against the current value of these properties. The need to invest an additional \$10 Million in upgrades, renovation and additions to achieve functional and operational adequacy, adds another layer of complexity to the decision to be made regarding allocation of the needed funds. Directing these funds to repairs, upgrades and renovations will only enhance the commercial value of these buildings minimally. Additionally, the improvement in functionality would be less than optimal due to typical limitations of renovations and additions.

Furthermore, the existing buildings don't necessarily lend themselves well for updates due to limitations imposed by the buildings' structure and sites. Most importantly, it is unlikely for any of these building to meet 'Post Disaster' standard even after renovations, a significant consideration related to the reliability of these buildings at times of most need. This last limitation specifically, makes the option of repairs & upgrades an unviable option as it fails at meeting the very basic standard for a fire station – which is its ability to survive a disaster and be operative and functional when the community needs it the most.

Operationally, there are advantages for new build(s) over repairs, renovations and additions – beyond cost:

- A modern building would be far superior functionally as it would be designed to current standards and codes. Most importantly it will meet new codes including 'Post Disaster'.
- A modern building would be cheaper to operate due to higher functioning building envelope (higher insulation value), modern and efficient building systems, and minimal maintenance for the next 20 years.
- With new build, it is possible to replace the three fire stations with two fire stations eliminating the need for up-staffing and eliminating the redundancy in functional spaces.
- Overall it is a better investment to build new especially if the required funds are comparable, as a new building would have a higher commercial value than a repaired older building.
- New modern buildings will be an asset to the town helping in recruitment and in promoting health and equity.
- A new building will have a longer life span.

Section 9 summarises the potential of each of the existing buildings for modernization. It shows that Fire Station 2 is the most promising as a good candidate for renovations & additions or as a site for a new build. Fire Station 2 site is optimal in terms of response times and is of a good size with fewer restrictions. It also shows that Fire Station 1 and 3 are not good candidates for consideration for upgrades. This is due to the restrictions associated with the location of Fire Station 1 and the high cost of repairs and the small site of Fire Station 3 and its location not being optimal.

In Section 12, three scenarios for the re-development of fire and rescue facilities are evaluated. The evaluation shows that a scenario of two new buildings is the most favourable:

- Cost of two new buildings is lower than the alternatives – i.e. repair/reno/addition of the three existing buildings or a combination of a new facility and a repaired facility.
- New build will allow streamlined operations in terms of building and staffing with two new stations instead of three existing.
- New buildings will be built to 'Post Disaster' standards and will provide the function of an Emergency Operation Centre.
- Relocation of Fire Station 1 will help improve response times.
- There could be potential savings/income from the disposal, lease or some form or re-use of fire stations 1 and 3 which could generate some additional value.
- A new building will have a longer life span.

TABLE 1: COMPARATIVE SUMMARY OF DEVELOPMENT OPTIONS

| | SCENARIO A | SCENARIO B | SCENARIO C |
|------------------------|------------------|------------------|------------------|
| COST | \$20,545,357.02* | \$18,492,993.00* | \$20,594,701.73* |
| TOTAL AREA (SF) | 35,654 | 29,119 | 34,343 |
| STAFFING | 89 | 69 | 69 |

*2024 Dollars

4. EVALUATION METHODOLOGY

The evaluation of the existing fire stations related to repairs, upgrades and re-development has been based on two factors:

- Cost Analysis related to repair of the existing buildings: which was largely based on the Building Assessment Reports prepared by JS Held in 2022. The cost of repair is for replacement cost for 'Like-for-Like' as maintenance and does not take into account the special or operational needs of the fire rescue facilities.
- Design Evaluation of the buildings layouts of each of the existing Fire Stations 1, 2 and 3 floor plans relative to the needs and requirements of a modern day fire rescue facility and the ability of each site to accommodate such requirements through repairs, renovations or additions. The estimate of cost of upgrades/renovations/addition was based on historic data related to elemental cost of similar facilities we have been involved in within the last 3 years.

Regarding the Cost of Repairs, the reports by JS Held state the following limitations (taken from these reports):

- Cost estimates include removing the existing system and replacing it with a new version of the system that would provide equivalent service (i.e., a "like-for-like" replacement).
- These estimates are based on data compiled by RSMeans over previous years, whereas there has been a great deal of price volatility in the last two years due to the pandemic. While prices have come down for certain building products such as wood for example, but the price of materials such as steel continues to rise, as well as the cost of labour. Furthermore, there is a general increase in inflation in 2022-23 which affects the cost of all materials indirectly.
- Cost Data compiled by RSMeans is location specific. For this reason JS Held applied a 'location factor' to the cost figures which appears to be 10%.
- While the cost data provided by RSMeans includes an allowance for a general contractor towards overhead and profit, it does not include other related costs such as: project management costs and costs related to mobilization of trades where repairs are completed piecemeal.
- The cost estimates provided by SJ Held is Class C estimates, meaning the cost estimates provided are within the range of 25%-40% +/- from actual.
- The cost estimates provided by SJ Held are adjusted by a factor of 10% to accommodate for the particular location (from the data provided by RSMeans) and by a factor of 25% as an allowance for soft cost, which is essentially a contingency. However, the soft cost or contingency at the lowest range of accuracy factor.
- The figures shown in various tables reflect the capital repair costs at 2021 dollars. The figures do not include a contingency and when allocated to various years, they remain at 2021 dollar values and don't include escalation.

Related to the Design Analysis of the existing facilities, we have based our evaluation on best design practices for the design of fire stations, based on our experience in this field. The design evaluation was based on the following criteria:

- Functionality of the facility related to placement of various areas and their advances for efficient functioning,

- . Circulation patterns and effectiveness for speed, safety, accessibility and infringement of functional areas,
- . The availability of the needed functional spaces relative to a model rescue facility,
- . Size of various areas and functions,
- . The ability of the facility to accommodate the rescue equipment such as the new larger fire trucks,
- . Safety for fire fighters, such as decontamination facilities, designated gear room, and air extraction,
- . The extent the facility provided a good work environment for various functions such as office, training, washroom, day areas, etc.
- . The extent to which the facilities met the current building code standards,
- . The likelihood that the facility can respond to future needs of personnel, equipment and rescue needs of a growing community.
- . Location of Fire Stations. While no location analysis was undertaken as part of this study. The Master Fire Protection Plan (Updated 2020-2025) was referenced to understand the effect of the location of each facility on response times within the context of a 2 station-model vs. 3 station-model operation.
- . Staffing requirements related to current and future needs for a 2 station-model vs. 3 station-model operation, based on information provided by the Fire Department.

For the purposes of this report, we have used current 2022-2023 dollars for new buildings.

The repair costs have been adjusted from 2021-2022 to year 2024. The report did not take into consideration any deferral of the repairs as was illustrated in JS Held reports under Capital Expenditure. In order for the existing fire stations to perform functionally well, a large portion of these repairs has to be completed earlier rather than later regardless of the remaining life span of a given building component as was reported in the building assessment reports.

Years 2022 and 2024 are significant for the purposes of this report. 2022 is when J S Held Report was completed. 2024 is the soonest a new project can be tendered. As such, all costs were modified to 2024 dollar values aiming for a fair and meaningful comparison.

5. COMMENTARY ON REPAIRS IDENTIFIED IN BUILDING ASSESSMENT

The building Assessment Report prepared by JS Held analysed the building conditions identifying areas and components of the building requiring repair. The repairs have been identified and costed based on 'like-for-like' approach.

A building assessment report is meant to identify repairs for the proper maintenance of the building. It does not address the building in terms of performance or adequacy for serving its functions. While the report identified the building(s) and its various components as 'have reached the end of their life cycle' and that the building(s) as needing major repairs, these repairs when completed, only address the building and its systems by replacing what is existing with similar materials and components. For example, in case of fire station 3 where no back-up power is available, the report did not allocate funds for a back-up generator and a switch gear.

Overall, these repairs do not necessarily improve the building functionality or performance, as they do not change the physical dimensions of the building, improve the building efficiency in terms of reduction of operational costs, nor increase its durability or enhance its appearance. For example, while the report correctly identifies the need for accessible washrooms, it does not provide a solution as how to accommodate the additional space required for such a washroom. Another example is that the report identified the need for additional height to accommodate the newer fire trucks and have made a budget allowance for structural modification, however, often this is not a simple solution as installing a larger door as there could be a structural hindrance that would require a major modification to the building structure and roof and not only the door and its lintel.

Similarly, the repairs do not address other areas where current building codes are not met related to the overall accessibility of the facility (beyond washrooms) nor the energy performance of the building. However, these upgrades may be required once a building permit application is initiated so that the building meets the current building codes.

Most importantly, the building assessment report is not an evaluation of the fire station's efficiency in providing the critical rescue services to the public in terms of meeting rescue times, nor is it an evaluation of the facility's design in terms of meeting the standards and requirements for a modern fire station currently or in the future.

While the building assessment reports identify the repairs needed for the next 18-22 years with a yearly allocation of cost, it does not address the efficiency of the building and its performance in terms of running costs, such as utilities, staffing needs, etc. It may be prudent to invest in better functioning building systems, or consider adding insulation when exterior finishes are being replaced. While this may require higher initial investment, but it will improve the building's performance and reduce running cost over its renewed life.

It may not always, be a feasible or prudent option to continue to repair or upgrade and repair an old building where there are structural and dimensional realities that limit its usefulness. All existing fire stations were built around older and smaller rescue apparatus. Most significantly, none of the three fire stations are designed to 'Post Disaster' standards, which is a critical performance standard for an emergency building and its ability to continue to perform well during a disaster. None of the repairs address this critical issue.

Furthermore, the modern standards and needs of buildings have changed significantly, especially for public buildings as for example: more space is being allocated to design accessible buildings; either gender-neutral or male/female facilities are expected as firefighting is now a viable career option for women; expectations of staff related to safety and health have evolved due to more emphasis on well-being and historic information related to hazards and chemicals; new firefighting apparatus is larger and require more space and height; and firefighting is being held to high and strict standards in terms of response times which puts great emphasis on speed and efficiency of circulation within a firefighting facility.

6. FIRE STATION 1 - ASSESSMENT

Fire Station 1 is located at 271 Sandwich Street South in the Town of Amherstburg. The facility is connected to the Town Hall building, which was built in 1950 and the fire station was added in 1993. The building is a single storey structure with a partial basement floor. The Gross Floor Area (GFA) is 19,746SF composed of 13,653SF of ground floor and 6,093SF of basement floor. The fire station is about 7,140SF at the ground floor level.

According to the Building Assessment Report prepared by JS Held, the building is valued at approximately \$3,259,310.00 and requires repairs in the order of \$4,897,223.00 in 2022 dollars. See Appendix A1.



Figure 1: Fire Station 1 - Front Elevation

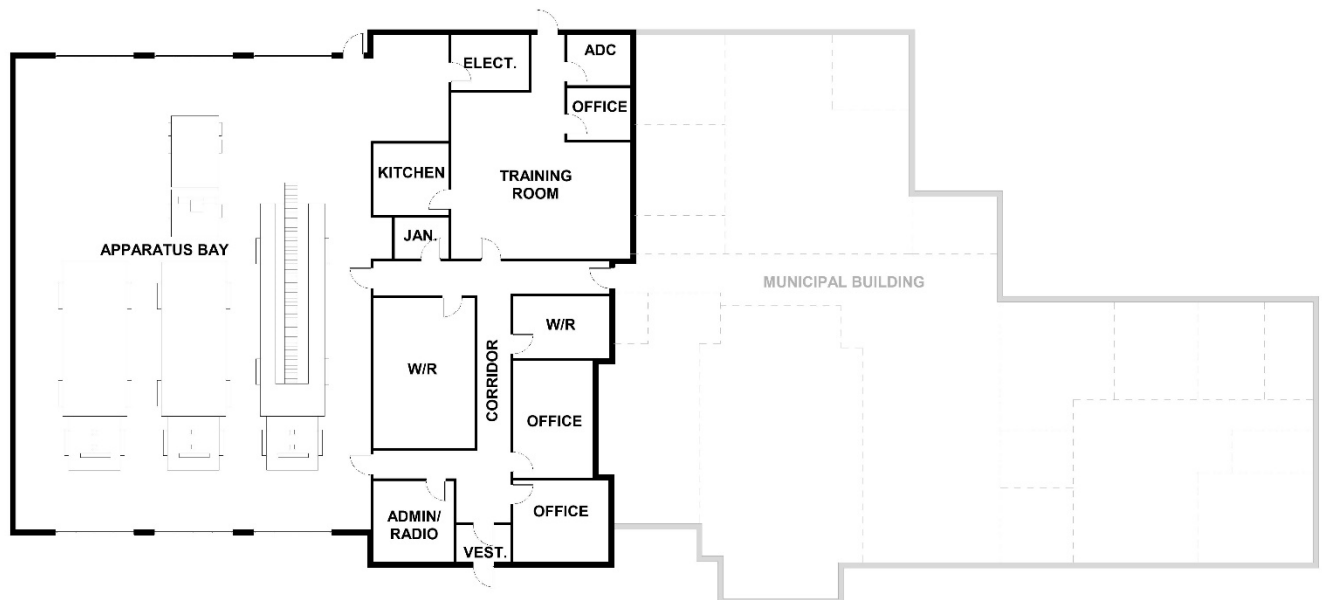


Figure 2: Fire Station 1 - Floor Plan

As the fire station area is 7,140 SF or 52% of the gross building area, the fire station portion of the building can be valued proportionally at \$1,694,841.20 and the repairs at \$2,546,556.00 in 2022 dollars or \$356/SF.

The figure for repairs above includes adjustments for location and soft cost according at 25% and 10% respectively. It does not include escalation factor, should the repairs be postponed or completed over a number of years in order of priority per the report. The Building Assessment Report refers to an escalation factor of 6.8% but that is not reflected in the numbers.

The current yearly escalation factor for 2022-2023 is around the 25% as a result of the pandemic and with inflation in general being around 10%.

Additionally, the estimate for repairs does not include contingency for the unknown which is very likely in any renovation project.

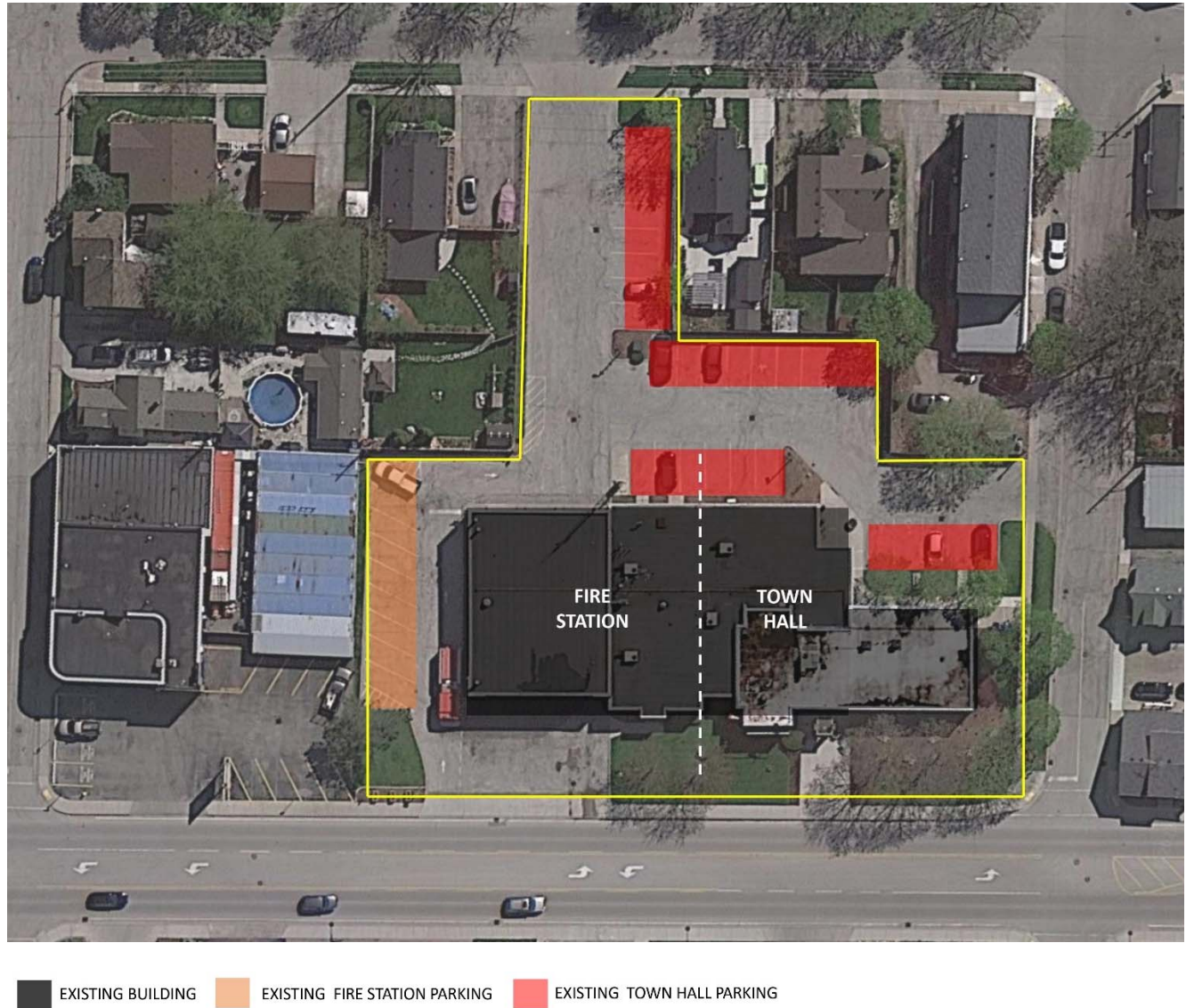


Figure 3: Fire Station 1 - Site Plan

6.1. SUMMARY OF REPAIR NEEDS

The Facility Condition Assessment Report prepared by JS Held found the building to be in 'poor condition'.

The challenges identified in this report relate:

- The age of the building systems as they are at or close to end of their life cycle and need to be replaced.
- The lack of space as the fire station one needs more room to be a fully functioning fire station.
- The location of the fire station needs to be re-considered and evaluated.

The fire station addition is 30 years old, whereas the main building structure (town hall) is over 70 years old. Major repairs of parts of the building envelope (windows, roofing...) seems to have been taken place between 20 - 30 years ago. Even with these relatively more recent repairs, the building envelope requires major

replacement due to the elements of the envelope reaching the end of their useful life cycle. The interior finishes seem to range between 30 years or 10 years where replaced since the building construction, but have reached the end of their useful life.

Based on the JS Held report, the required building upgrades are substantial ranging from foundations, superstructure, building envelope to mechanical and electrical systems, as well as finishes and site improvements. The estimated repair cost for the entire building over the next 18 years is \$4,632,296.51 (2022 dollars) with an overall average repair cost of \$240/SF.

Furthermore, the study recommends a structural scan of the building due to signs of cracks and moisture penetration. Since the fire station portion is at a single level, the report has not accounted for AODA and exiting compliance related to the basement floor.

The dollar figures above that were provided in the JS Held report have been adjusted for inflation at a conservative factor of 25% to estimate the cost in 2024 dollar amounts. Furthermore, the proportional cost of the fire station portion of the building (52%) was adjusted by 10% as a contingency to account for the partial upgrade, as it is often impractical to exactly proportion building systems based on area.

Tables 2 & 3 below shows the adjusted cost of repairs related to Fire Station 1 in 2024.

TABLE 2: FIRE STATION 1 - REPAIRS AND MAINTENANCE COST ADJUSTED TO PARTIAL REPAIR & TO 2024

| REPAIRS & MAINTENANCE | COST OF REPAIRS 2022 \$240/SF 2022 | COST OF REPAIRS 2022 + 10%** \$264/SF | COST OF REPAIRS Adjusted to 2024 + 25% escalation \$330/SF | COMMENTS |
|-----------------------------|---|--|---|---|
| Foundation/Substructure | \$206,502.03 | \$227,152.23 | \$283,940.29 | |
| Superstructure | \$237,284.56 | \$261,013.02 | \$326,266.27 | Structural concerns & moisture penetration. |
| Building Envelope | \$589,432.97 | \$648,376.27 | \$810,470.33 | Wall repair/replacement. Stucco Beyond useful life. Overhead doors let water. |
| Roofing & Roof Structure | \$135,186.47 | \$148,705.12 | \$185,881.40 | Beyond useful life. Leaks |
| Interior Walls & Partitions | \$162,956.97 | \$179,252.67 | \$224,065.83 | |
| Interior Finishes | \$235,832.56 | \$259,415.82 | \$324,269.77 | |
| Plumbing System | \$235,689.62 | \$259,258.58 | \$324,073.23 | No oil separator. |
| HVAC System | \$121,552.06 | \$133,707.27 | \$167,134.08 | |
| Fire Protection System | \$1,247.55 | \$1,372.31 | \$1,715.38 | |
| Electrical System | \$523,227.04 | \$575,549.74 | \$719,437.18 | No back-up power. |
| Furnishing | \$17,116.52 | \$18,828.17 | \$23,535.22 | |
| Site Improvements | \$69,601.50 | \$76,561.65 | \$95,702.06 | Pavement beyond useful life. |
| Washrooms | \$151,381.25 | \$166,519.38 | \$208,149.22 | Accessible & FWRs required. |
| TOTAL | \$2,687,011.10 | \$2,955,712.23 | \$3,694,640.26 | |

*Fire Station portion only 52% of gross building area

**10% has been added to account for additional cost related partial building renovation.

TABLE 3: FIRE STATION 1 - REPAIRS AND MAINTENANCE COST BY YEAR AND CATEGORY*

| REPAIR COST | SUPER & SUB STRUCTURES | INTERIOR | MECHANICAL/ELECTRICAL | ACCESSIBILITY | TOTAL |
|---------------------|------------------------|--------------|-----------------------|---------------|-----------------------|
| 2022 Dollars | \$1,285,246.64 | \$457,496.66 | \$969,887.90 | \$243,081.03 | \$2,955,712.23 |
| 2024 Dollars | \$1,606,558.29 | \$571,870.82 | \$1,212,359.87 | \$303,851.28 | \$3,694,640.26 |

*Assumes repairs completed all at once.

6.2. OPERATIONAL CHALLENGES AND CONSIDERATIONS

The site and layout of the facility pose major challenges relative to the needs and operations of a modern day fire station. The repairs identified will not improve the functionality of the station or its performance and ability to adapt to future needs on their own.

THE FUNCTIONAL SHORTCOMINGS OF FIRE STATION 1 ARE SUMMARISED AS FOLLOWS:

- The fire station lacks the basic functional spaces of a modern-day fire rescue facility such as: gear room, SCBA equipment and air compressor rooms, a repair/workshop room, and storage room.
- The apparatus bay appears to be a three-bay space with drive-through doors. However, due to the size of modern apparatus' the ability for tandem parking of the apparatus is limited to non-existent. In addition to the space limitation, the restrictions posed by the site limit the drive-through ability for 1-2 of the fire bays. Furthermore, space between rows of apparatus is deficient which restricts not only the maintenance, loading and easy access to vehicles, but also the ability to freely walk among them.
- The office side of the station appears to have three offices originally. Two additional offices seem to have been added by taking space from the training room. These two offices limit/reduce the capacity of the training room but also don't appear to be large enough to meet the accessibility requirements. Furthermore, the walls of these two added offices do not extend the ceiling and as such do not provide for a good work environment or the privacy required.
- The facility lacks proper accommodation for fire fighters such as: day room, proper washroom, shower and locker facilities, adequate kitchen, and exercise room.
- The facility lacks proper decontamination facilities on site for use by firefighters post-response. These include a properly ventilated gear room, a laundry, gear extraction facility and a decontamination area with a designated shower.
- The facility does not meet the current accessibility and inclusivity codes/standards. These include: main vestibule is too small; most doors don't meet accessibility requirements; there is no accessible public washroom; there is no universal type washroom facility; there is no accessible shower; there is no adequate female facilities.
- The facility lacks the appropriate space needs for training of fire fighters. There is no area for outdoor training and the available training room is not only a shared space but also being infringed upon with office spaces. The shared use of training room eliminates opportunities for firefighters to train during day time hours.
- The Office area of the facility lacks basic office functionality such as: limited privacy where confidentiality is needed when dealing with customers; adequate area at the front to meet the public; there is no copy/print/filing room; the office added at the rear hinder the functionality of the training room.

- There is no room on site for future growth neither to accommodate new equipment, nor to accommodate additional staffing whether full time or volunteer to satisfy current needs and future growth.
- Additionally, there is no space available within the building or the site to accommodate the additional space for the needs listed above such as accessible washrooms, fire fighter facilities, etc.
- There is no sufficient parking dedicated for firefighters. This is especially problematic during town hall working hours and evening council and committee meetings.
- Based on the age of the building, it is reasonable to assume that there is very little to no insulation in the walls or roof.
- Even though a (Designated Substances Report) DSS report is not available, based on the age of the building, it is reasonable to assume that the building requires some remediation.
- It is not clear (without detailed structural analysis) if the standards related to 'Post Disaster' can be met and if so if the related cost would be feasible.
- Other considerations include: Number of washrooms does not meet current building code requirements; there is no emergency generator; there is no oil & grit separator.

6.3. DESIGN UPGRADES & RELATIVE COST

As discussed in Section 5, the repairs identified in the JS Held report are intended to repair or replace the building components where they have reached their end of life. Following the repairs, the building will maintain its current level of service, operation or quality. These repairs will not improve the functionality or the operation of the fire station to the modern standards required today for a fire station.

In order for the fire station to perform at the desired level to current standards, several upgrades would be required relating to function, space and building systems.

The table below provides a list of improvement required to improve the functionality of the fire station. Due to the limitations by the site, building and location, some or most of these improvements may not be possible. Nevertheless, the table assigns an area and cost to these needs in order to be able to quantify the real needs of the station beyond just repairs and to assign a cost to these improvements.

TABLE 4: FIRE STATION 1 – COST OF ADDITIONS* TO IMPROVE FUNCTIONALITY

| ADDITIONAL SPACE NEEDED | SPACE NEEDS (SF) | COST (\$450/SF) 2022 | COST (\$517.50/SF) 2024 | COMMENTS |
|---|------------------|----------------------|-------------------------|--|
| Enlarge Apparatus Bay (One-single bay) | 1150 | \$517,500.00 | \$595,125.00 | To accommodate new fire truck and allow for better circulation around vehicles |
| Add Service Areas | 690 | \$310,500.00 | \$357,075.00 | SCBA, compressor, workshop, storage |
| Provide Fire Fighter Facilities | 690 | \$310,500.00 | \$357,075.00 | Gear Room, Dayroom, fitness, kitchen |
| Provide Dorm/Bunker Room | 230 | \$103,500.00 | \$119,025.00 | |
| Provide M/F Washroom, Change, Shower Facilities | 690 | \$310,500.00 | \$357,075.00 | Male, Female and public |
| Provide Add'l Office Space | 960 | \$432,000 | 496,800.00 | 5 offices, meeting room, copy area |
| Add Dedicated Training Room | 500 | 225,000 | 258,750.00 | |

| | | | | |
|---|-------------|-----------------------|-----------------------|---|
| Provide Decontamination Facility | 115 | \$51,750.00 | \$59,512.50 | Shower and change area with an exterior door, Laundry Room |
| Add Dedicated Fire Fighter Parking & Outdoor Training | 1150 | \$57,500.00 (\$50/SF) | \$66,125.00 | Lack of parking for fire fighters with town hall working/meeting hours. |
| Upgrade Building Envelope to Reduce Energy Use | - | \$180,000.00 | \$207,000.00 | Install insulation to meet current building code |
| Upgrade Mechanical System to Energy Efficient | - | \$250,000.00 | \$287,500.00 | To meet current building code |
| Upgrade Electrical System | - | \$80,000.00 | \$92,000.00 | |
| Provide Generator | - | \$100,000.00 | \$115,000.00 | |
| Site AODA upgrades | - | \$60,000.00 | \$69,000.00 | |
| TOTAL | 6175 | \$2,988,750.00 | \$3,437,062.50 | |

* Hypothetical since an addition is not possible.

As a result of the limited site, an addition to the town hall building is not physically possible. This restriction removes the possibility of adapting fire station 1 for future use from consideration as an actual viable option. Nevertheless, the costing exercise was completed in an attempt to put a dollar value to the improvements needed for sake of fair comparison.

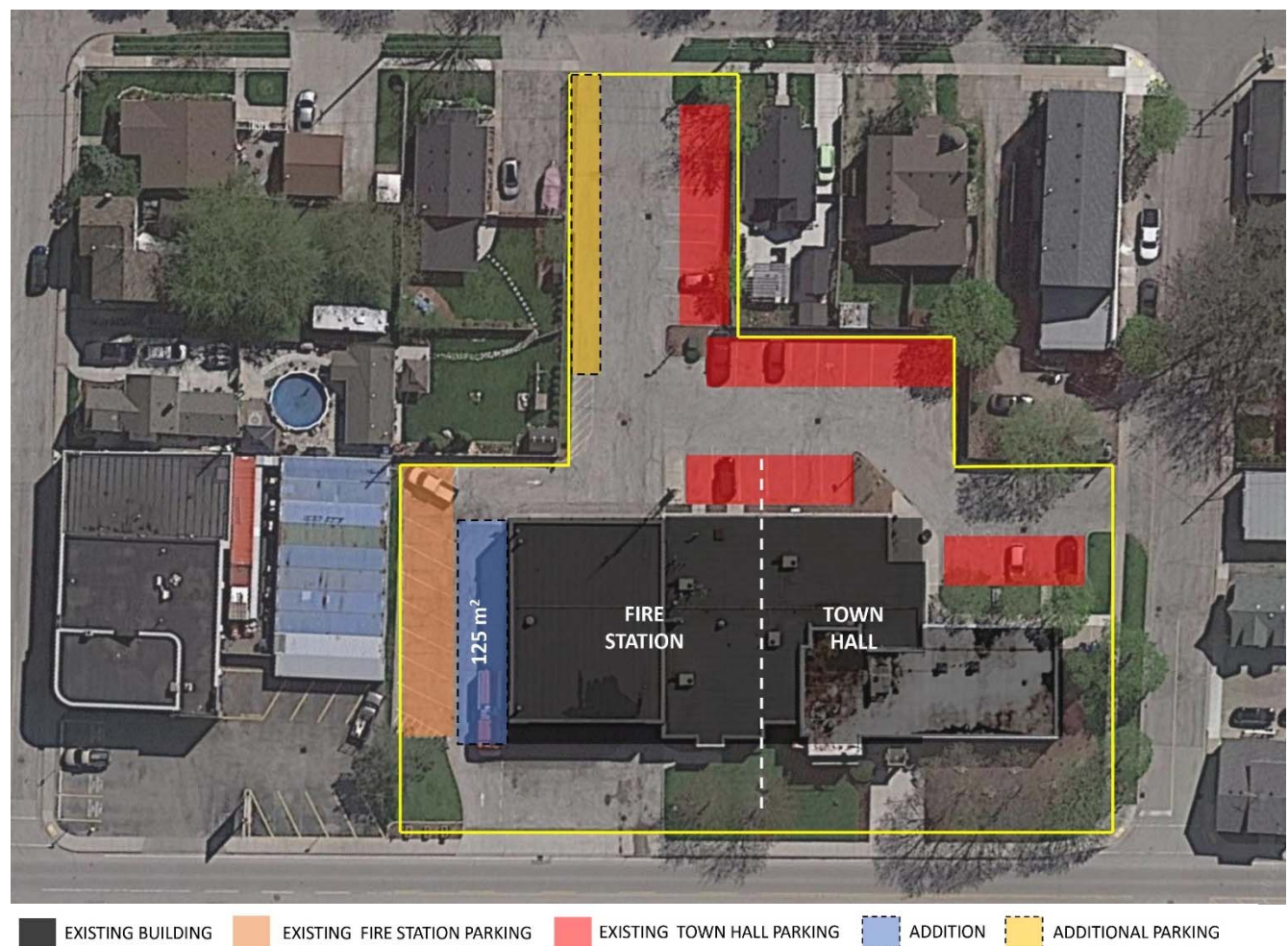


Figure 4: Fire Station 1 - Site Plan Expansion Potential

The site diagram shows limited to no ability to expand to the building. A maximum area of 125m² or 1332SF may be available, but at the expense of maneuverability and parking which is already less than needed.

6.4. SUMMARY OF OVERALL COSTS

The table below shows the overall cost associated with the repairs and improvements required to bring Fire Station 1 to a modern standard required for a functional fire station of today.

It is reasonable to allocate a budget towards overall renovations as a result of the repairs and renovation or to improve the indoor environment of the existing to a level similar to that of the addition. A conservative \$30/SF is allocated for that purpose.

TABLE 5: FIRE STATION 1 – TOTAL PROJECTED COSTS

| REPAIR COST | REPAIRS | ADDITIONS | RENOVATIONS (\$30/SF)* | TOTAL PROJECTED COST |
|---------------------|----------------|----------------|---------------------------|-----------------------|
| 2022 Dollars | \$2,955,712.23 | \$2,988,750.00 | \$214,400.00 | \$6,158,862.23 |
| 2024 Dollars | \$3,694,640.26 | \$3,437,062.50 | \$267,750.00 | \$7,399,452.76 |

7. FIRE STATION 2 - ASSESSMENT

Fire Station 2 is located at 3400 County Road 10 in the town of Amherstburg. It is a small single storey building of masonry and wood construction with an area of 7,714SF approximately. The building was constructed in 1962, with an addition made in 1965 and multiple interior renovations seem to have been completed with the last being in 1974. The building is a three single bay fire facility with two of the bays shorter than the third. The building includes a good size non-fire bay area of about two thirds of the overall area.



Figure 5: Fire Station 2 - Front Elevation

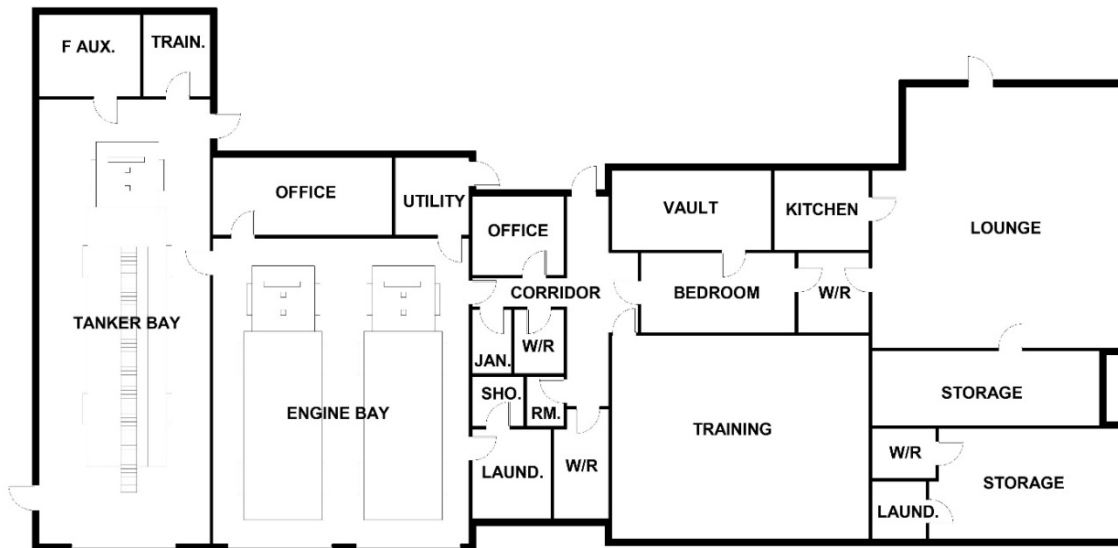


Figure 6: Fire Station 2 - Floor Plan

According to the Building Assessment Report prepared by JS Held, the building is valued at approximately \$1,646,978.00 and the cost of repairs is \$3,035,117.02 estimated at 2022 dollars. The average repair cost is \$393/SF. A large portion of these repairs 60% relate to the structure and building envelope.

The figure for repairs above includes adjustments for location and soft cost according at 25% and 10% respectively. It does not include escalation factor, should the repairs be postponed or completed over a number of years in order of priority per the report. The Assessment Report refers to an escalation factor of 6.8% but that is not reflected in the numbers.

The current yearly escalation factor for 2022-2023 is around the 25% as a result of the pandemic and with inflation in general being around the 10%.

Additionally, the budget for repairs does not include contingency for the unknown which is very likely in any renovation project.



Figure 7: Fire Station 2 - Existing Site Plan

7.1. SUMMARY OF REPAIR NEEDS

Building Assessment Report classified the building as in 'Poor Condition' requiring replacement within 2-5 years.

The building assessment report prepared by JS Held identified several issues with the building:

- Building Foundations (sub-structure) are compromised by age and weather and are deteriorating and permitting water ingress. All matters that require immediate attention based on further evaluation.
- Roofing requires replacement.
- Windows & doors require replacement.
- Exterior Finishes require replacement.

- . Fire Bay Overhead Doors are too small for new truck sizes.
- . Interior finishes require update.
- . Plumbing, HVAC and electrical systems need update or replacement.
- . The building is not accessible to current building code requirements.
- . Lack of accessible washrooms.

Several building components were identified as CRITICAL needing immediate attention. These include:

- . Foundations & Substructure: foundations and slab on grade.
- . HVAC System: hot water boilers, unit heaters, perimeter tube radiators, thermostats and control valves.
- . Electrical System: electrical service, switch gear, branch wiring, exit lighting, public address system.
- . Accessibility upgrades for washrooms.

The study recommends structural evaluation of the foundations due to signs of failure and moisture penetration.

Tables 6 & 7 below shows the adjusted cost of repairs related to Fire Station 2 in 2024.

TABLE 6: FIRE STATION 2 - REPAIRS AND MAINTENANCE COST ADJUSTED TO 2024

| REPAIRS & MAINTENANCE | COST OF REPAIRS JS Held 2022 \$393/SF | COST OF REPAIRS Adjusted to 2024 + 25% escalation \$491.25/SF | COMMENTS |
|-----------------------------|--|--|---|
| Foundation/ Substructure | \$268,080.30 | \$335,100.38 | Deteriorating, compromised by weather and age. |
| Superstructure | \$865,941.57 | \$1,082,426.96 | Overhead doors too small for new trucks |
| Building Envelope | \$476,754.48 | \$595,943.10 | Building envelope is compromised. |
| Roofing & Roof Structure | \$169,954.85 | \$212,443.56 | End of useful life. Leaks. Flashing falling off. |
| Interior Walls & Partitions | \$190,125.39 | \$237,656.74 | Many components reached end of useful life. |
| Interior Finishes | \$19,438.65 | \$24,298.31 | Surpassed end of useful life. Floor breaking off. |
| Plumbing System | \$308,834.65 | \$386,043.31 | Surpassed end of useful life. |
| HVAC System | \$261,446.20 | \$326,807.75 | Components are in dire need for replacement. |
| Fire Protection | \$624.83 | \$781.04 | |
| Electrical System | \$335,072.47 | \$418,840.59 | Need for replacement. Limited back-up power. |
| Furnishing | \$4,325.27 | \$5,406.59 | |
| Site Mechanical Utilities | \$35,270.18 | \$44,087.73 | |
| Exterior AODA | \$28,113.64 | \$35,142.05 | |
| Washrooms | \$71,134.54 | \$88,918.18 | Accessibility Updates |
| TOTAL | \$3,035,117.02 | \$3,793,896.28 | |

TABLE 7: FIRE STATION 2 - REPAIRS AND MAINTENANCE COST BY YEAR AND CATEGORY*

| COST OF REPAIRS | SUPER & SUB STRUCTURES | INTERIOR | MECHANICAL/ELECTRICAL | ACCESSIBILITY | TOTAL |
|------------------------|-----------------------------------|-----------------|------------------------------|----------------------|-----------------------|
| 2022 Dollars | \$1,780,731.20 | \$214,514.14 | \$940,623.50 | \$99,248.18 | \$3,035,117.02 |
| 2024 Dollars | \$2,225,914.00 | \$268,142.68 | \$1,175,779.38 | \$124,060.23 | \$3,793,896.28 |

*Assumes repairs completed all at once.

7.2. OPERATIONAL CHALLENGES AND CONSIDERATIONS

The layout of the facility poses major challenges relative to the needs and operations of a modern day fire station. The repairs will not improve the functionality of the station or its performance and ability to adapt to future needs.

THE FUNCTIONAL SHORTCOMINGS OF FIRE STATION 2 ARE SUMMARISED AS FOLLOWS:

- The circulation within the facility is not devised to ensure quick response and efficient flow of personnel. There is a lack of efficient circulation where larger spaces act as part of the circulation. For instance, the training room and fire bays. The proximity of certain spaces especially when responding to an emergency is not achieved, for example, fire fighters have to navigate through several spaces and corridors to move from the lounge to the fire bays.
- The apparatus bay appears to be a three-bay space but it is divided into two separate areas. Two of the bays are short (11.7m) and the single bay is deeper (17m). The two shorter bays cannot accommodate the modern fire trucks. All bays have single doors requiring the trucks to back-up into the bays. Furthermore, the space between rows of apparatus is limited which restricts not only the maintenance, loading and easy access to the vehicles but also the ability to freely walk among them.
- The station lacks the basic functional spaces of a modern day fire rescue facility such as: gear room, SCBA equipment room; and adequate storage.
- The facility lacks proper accommodation for fire fighters such as: proper washroom, shower and locker facilities, and exercise room.
- The facility lacks proper decontamination facilities on site for use by firefighters post-response. These include a properly ventilated gear room and a decontamination area with a designated shower with direct access from the outside.
- The facility does not meet the current accessibility and inclusivity codes/standards. These include: corridors that are too narrow; most doors not meeting accessibility requirements; there is no accessible public washroom; there is no universal type washroom facility; there is no accessible shower; and there are no adequate female facilities.
- The facility lacks the appropriate space needs for training of fire fighters. There is no defined area for outdoor training and the available training room is being used as a circulation.
- There is very limited office space. Offices are scattered within the facility in various areas which is not conducive to an effective office environment. Some offices open directly into the fire bays which poses a health risk. Furthermore, the facility lacks basic office functionality such as: lack of privacy where confidentiality is needed for when dealing with customers; adequate area at the front to meet the public; there is no copy/print/filing room, public washroom.
- Based on the age of the building, it is reasonable to assume that there is very little to no insulation in the walls or roof.

- Even though a (Designated Substances Report) DSS report is not available, based on the age of the building, it is reasonable to assume that the building requires some remediation.
- The septic bed was not evaluated and likely requires expansion esp. with the addition of washrooms.
- It is not clear (without detailed structural analysis) if the standards related to 'Post Disaster' can be met and if so if the related cost would be feasible.
- There is an existing vault that is not a functional part of the fire station.
- Other considerations include: Number of washrooms does not meet current building code requirements; there is no vestibule; and there is limited emergency power.

7.3. DESIGN UPGRADES & RELATIVE COST

As discussed in Section 5, the repairs identified in JS Held report are intended to repair or replace the building components where they have reached their end of life cycle. Following the repairs, the building will maintain its current level of service, operation or quality. These repairs will not improve the functionality or the operation of the fire station to the modern standards required for a fire station of today.

In order for the fire station to perform at the desired level to current standards, several upgrades would be required relating to function, space and building systems.

The table below provides a list of improvement required to improve the functionality of the fire station. Due to the limitations posed by the site, building and its location, some or most of these improvements may not be possible. Nevertheless, the table assigns an area and cost to these needs in order to be able to quantify the real needs of the station beyond just repairs and to assign a cost to these improvements.

TABLE 8: FIRE STATION 2 – COST OF ADDITIONS TO IMPROVE FUNCTIONALITY

| CHALLENGES | SPACE NEEDS (SF) | COST (450/SF) 2022 | COST (\$517.50/SF) 2024 | COMMENTS |
|---|------------------------|--------------------------|-------------------------------|--|
| Improve Circulation Add vestibule | 575 | \$258,750.00 | \$297,562.50 | |
| Enlarge Apparatus Bays | 1840 | \$828,000.00 | \$952,200.00 | Need additional depth height. To accommodate new fire truck and allow for better circulation around vehicles |
| Add Service Areas | 230 | \$103,500.00 | \$119,025.00 | SCBA, storage |
| Provide Fire Fighter Facilities | 460 | \$207,000.00 | \$238,050.00 | Gear Room, fitness |
| Provide M/F Washroom, Change, Shower Facilities | 690 | \$310,500.00 | \$357,075.00 | Male, Female and public |
| Provide Additional Office Space | 450 | \$202,500.00 | \$232,875.00 | 1 office, meeting room, copy area |
| Provide Decontamination Facility | 115 | \$51,750.00 | \$59,512.50 | Shower and change area with an exterior door, Laundry Room |
| Remove vault/Refinish | - | \$35,000 | \$40,250.00 | Vault is not part of the fire station |

| Space | | | | |
|--|-------------|-----------------------|-----------------------|--|
| Add Outdoor Training Area | 1150 | \$100,000.00 | \$115,000 | To improve self-sufficiency for FF certification |
| Upgrade Building Envelope to Reduce Energy Use | - | \$200,000.00 | \$230,000.00 | Install insulation to meet current building code |
| Upgrade Mechanical Systems to Energy Efficient | - | \$350,000.00 | \$404,500.00 | To meet current building code |
| Upgrade Electrical System | - | \$80,000.00 | \$92,000.00 | |
| TOTAL | 5510 | \$2,727,000.00 | \$3,078,537.50 | |



Figure 8: Fire Station 2 - Site Plan Expansion Potential

The site diagram shows possibilities to expand to the building at the front and the side to within the area needed for an expansion. With careful planning additional parking can be achieved.

7.4. SUMMARY OF OVERALL COSTS

The table below shows the overall cost associated with the repairs and improvements required to bring Fire Station 2 to a modern standard required for a functional fire station of today.

It is reasonable to allocate a budget towards overall renovations as a result of the repairs and renovation or to improve the indoor environment of the existing to a level similar to that of the addition. A conservative \$30/SF is allocated for that purpose.

TABLE 9: FIRE STATION 2 – TOTAL PROJECTED COSTS

| REPAIR COST | REPAIRS | ADDITIONS | RENOVATIONS (\$30/SF)* | TOTAL PROJECTED COST |
|---------------------|----------------|----------------|---------------------------|-----------------------|
| 2022 Dollars | \$3,035,117.02 | \$2,727,000.00 | \$231,420.00 | \$5,993,537.02 |
| 2024 Dollars | \$3,793,896.23 | \$3,078,537.50 | \$289,275.00 | \$7,161,708.73 |

8. FIRE STATION 3 - ASSESSMENT

Fire Station 3 is located at 6744 Concession Road 6 South in the town of Amherstburg. It is a single-storey building constructed in 1960 of approximately 3286 SF. It is a three single stacked fire facility with a small office area in the rear.



Figure 9: Fire Station 3 - Front Elevation

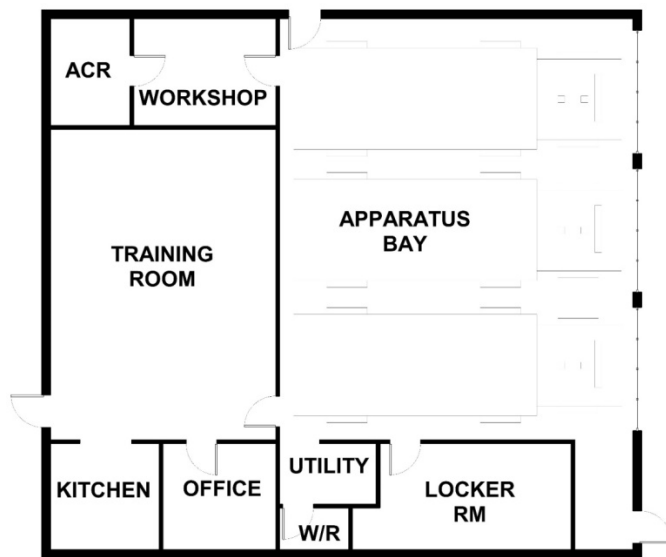


Figure 10: Fire Station 3 - Existing Floor Plan

According to the Building Assessment Report prepared by JS Held, the building is valued at approximately \$1,646,978.00 and the repair cost is \$1,746,226.38 estimated in 2022 dollars. The average repair cost is \$531/SF. A large portion of these repairs 60% relate to the structure and building envelope.

The figure for repairs above includes adjustments for location and soft cost according at 25% and 10% respectively. It does not include escalation factor, should the repairs be postponed or completed over a number

of years in order of priority per the report. The Assessment Report refers to an escalation factor of 6.8% but that is not reflected in the numbers.

The current yearly escalation factor for 2022-2023 is around the 25% as a result of the pandemic and with inflation in general being around the 10%.

Additionally, the budget for repairs does not include contingency for the unknown which is very likely in any renovation project.



Figure 11: Fire Station 3 - Site Plan

8.1. SUMMARY OF REPAIR NEEDS

The Building Assessment Report prepared by JS Held in 2021-2022 found the building to be in a very poor condition with evidence of significant systems failures.

In the report the building has been identified as in a “Poor Condition”. Most of the building components are original to the building of over 60 years, these include aspects such as: roofing and shingles and furnace and heating system. Other building components seem to have been replaced in 1980. These include aspects such as: electrical system; gas fired domestic water heaters; plumbing, interior finishes; and overhead doors. However, even the newer building components have either surpassed or neared their useful life expectancy.

The building assessment report identified several issues with the building:

- Building Foundations (sub-structure) are in an inferior condition and are compromised by age and weather and are deteriorating and permitting water ingress. All matters that require immediate attention based on further evaluation.
- Roofing requires replacement.
- Windows & doors require replacement.

- Exterior Finishes require replacement.
- Fire Bay Overhead Doors are too small for new truck sizes.
- Interior finishes require update.
- Plumbing, HVAC and electrical systems need update or replacement.
- The building is not accessible to current building code requirements.

Several building components were identified as CRITICAL needing immediate attention. These include:

- Foundations & Substructure: foundations and slab on grade.
- HVAC System: furnace, unit heaters, thermostats and control valves.
- Electrical System: electrical service, switch gear, branch wiring, exit lighting, public address system.
- Accessibility upgrades: washrooms and ramp.

Furthermore, the study recommends structural evaluation of the foundations due to signs of failure and moisture penetration

The report has not addressed the septic system age and capacity for reasons mentioned earlier (as assessment reports normally deal mostly with what is existing). However, the septic system will require replacement and expansion if a renovation or addition is to take place.

The table below shows the adjusted cost of repairs related to Fire Station 3 in 2024.

TABLE 10: FIRE STATION 3 - REPAIRS AND MAINTENANCE COST ADJUSTED TO 2024

| REPAIRS & MAINTENANCE | COST OF REPAIRS JS Held 2022 \$531/SF | COST OF REPAIRS 2024 25% escalation \$663.75/SF | COMMENTS |
|-----------------------------|--|--|---|
| Foundation | \$241,757.34 | \$302,196.68 | Deteriorating compromised by weather and age. |
| Superstructure | \$428,436.44 | \$535,545.55 | |
| Exterior Enclosure | \$319,048.76 | \$398,810.95 | Cracks in walls, siding is in poor condition. Windows at end of useful life. Overhead doors too small/short, exterior doors aged. |
| Roofing & Roof Structure | \$53,298.16 | \$66,622.70 | Roof in significant disrepair. |
| Interior Walls & Partitions | \$69,249.39 | \$86,561.74 | |
| Interior Finishes | \$80,285.25 | \$100,356.56 | Some finishes near end of useful life. |
| Plumbing | \$135,170.08 | \$168,962.60 | System does not include heater. |
| HVAC | \$34,610.17 | \$43,262.71 | Beyond the end of life cycle. |
| Fire Protection | \$433.61 | \$542.01 | |
| Electrical | \$178,872.55 | \$223,590.69 | Requires immediate attention No back-up power |
| Furnishing | \$4,325.27 | \$5,406.59 | |
| Site Improvements | \$101,481.19 | \$126,851.49 | |
| Exterior AODA | \$28,113.64 | \$35,142.05 | |
| Washroom | \$71,134.54 | \$88,918.18 | Accessibility updates |
| TOTAL | \$1,746,226.38 | \$2,182,782.98 | |

TABLE 11: FIRE STATION 3 - REPAIRS AND MAINTENANCE COST BY YEAR AND CATEGORY*

| COST OF REPAIRS | SUPER & SUB STRUCTURES | INTERIOR | MECHANICAL/ELECTRICAL | ACCESSIBILITY | TOTAL |
|------------------------|-----------------------------------|-----------------|------------------------------|----------------------|-----------------------|
| 2022 Dollars | \$1,042,540.70 | \$154,303.51 | \$450,133.99 | \$99,248.18 | \$1,746,226.38 |
| 2024 Dollars | \$1,303,175.88 | \$192,879.39 | \$562,667.49 | \$124,060.23 | \$2,182,782.98 |

8.2. OPERATIONAL CHALLENGES AND CONSIDERATIONS

The layout of the facility poses major challenges relative to the needs and operations of a modern day fire station. The repairs identified will not improve the functionality of the station or its performance and ability to adapt to future needs, on their own.

THE FUNCTIONAL SHORTCOMINGS OF FIRE STATION 3 ARE SUMMARISED AS FOLLOWS:

- The station lacks the basic functional spaces of a modern day fire rescue facility such as: main entrance and public area; gear room, SCBA equipment room, and adequate office and storage areas. The laundry machine is located in what appears to be the electrical room (named as the extractor room on plan) and it also functions as a janitor room.
- The apparatus bay appears to be a three-bay space. However, at a depth of 10.4m the bays cannot accommodate the larger trucks or tandem parking of the apparatus. The ceiling is low making it impossible to accommodate the larger trucks. Furthermore, space between rows of apparatus is limited which restricts not only the maintenance, loading and easy access to the vehicles but also the ability to freely walk among them.
- The main entrance of the facility leads onto the fire bays directly, lacking control related to who enters the building and which part. A member of the public cannot be greeted by the facility staff placed at the back.
- The circulation within the facility is not devised to ensure quick response and efficient flow of personnel. There is the lack of a proper circulation system where larger spaces act as part of the circulation for example, the training room and fire bays. Proximity of certain spaces especially when responding to an emergency is not achieved, for example, lockers are not directly connected to the washroom for quick access.
- The Training room makes up the bulk of the office area of the facility but also acts as a circulation area and office space.
- There is no area for indoor drills.
- The facility completely lacks acceptable washroom, shower and locker facilities. The existing locker room opens directly onto the fire bays, which is a health concern and it lacks direct access to the single washroom on site. There is no shower, nor a public washroom.
- The facility lacks proper decontamination facilities on site for use by firefighters post-response. These include a properly ventilated gear room, a laundry facility and a decontamination area with a designated shower.
- The facility does not meet the current accessibility and inclusivity codes/standards. These include: main vestibule is too small; most doors don't meet accessibility requirements; there is no accessible public washroom; there is no universal type washroom facility; there is no accessible shower; there is no adequate female facilities.
- The septic system is aged and with low capacity. A new septic system is needed sized according to the needs and requirements.

- The facility lacks proper accommodation for fire fighters such as: day room and exercise room.
- There is a single office. More offices are needed for current and future needs. Furthermore, the facility lacks basic office needs such as: a meeting space; adequate area at the front to meet the public; there is no copy/print/filing room.
- There is limited to no room for future growth to accommodate new equipment and additional staffing. Potentially, the fire bays can be expanded toward the street, and office area at the rear, but such an addition will not address the challenge with the building entrance. The main challenge is likely the expansion of the septic system as there is very little area, if any, available on site.
- Additionally, there is extremely limited space on site available to accommodate the needs listed above such as accessible washrooms, fire fighter facilities, etc.
- Based on the age of the building, it is reasonable to assume that there is very little to no insulation in the walls or roof.
- Even though a (Designated Substances Report) DSS report is not available, based on the age of the building, it is reasonable to assume that the building requires some remediation.
- It is not clear (without detailed structural analysis) if the standards related to 'Post Disaster' can be met and if so if the related cost would be feasible.
- Other considerations include: there is no emergency generator; no air management system; apron asphalt is deteriorating; no vestibule.

8.3. DESIGN UPGRADES & RELATIVE COST

The repairs identified in JS Held report are intended to repair the building components so that the building following the repairs can maintain its level of service, operation or quality. These repairs will not improve the functionality or the operation of the fire station to the modern standards required for a fire station of today.

The table below provides a list of improvement required to improve the functionality of the fire station. Due to the limitations posed by the building and its location some or most of these improvements may not be possible. Nevertheless, the table assigns an area and cost to these needs in order to be able to quantify the real needs of the station beyond just repairs.

TABLE 12: FIRE STATION 3 – COST OF ADDITIONS TO IMPROVE FUNCTIONALITY

| CHALLENGES | SPACE NEEDS (SF) | COST (450/SF) 2022 | COST (\$562.50/SF) 2024 | COMMENTS |
|---|------------------------|--------------------------|-------------------------------|---|
| Improve Circulation, Provide entrance and vestibule | 345 | \$155,250.00 | \$194,062.50 | |
| Enlarge Apparatus Bays | 1150 | \$517,500.00 | \$646,875.00 | Need additional depth and height and ability to drive-through. To accommodate new fire truck and allow for better circulation around vehicles |
| Add Service Areas | 345 | \$155,250.00 | \$194,062.50 | SCBA, storage, laundry |
| Provide Fire Fighter | 920 | \$414,000.00 | \$517,500.00 | Gear Room, fitness, Day Room |

| Facilities | | | | |
|---|-------------|------------------------|-----------------------|--|
| Provide M/F Washroom, Change, Shower Facilities | 690 | \$310,500.00 | \$388,125.00 | Male, Female and public |
| Provide Additional Office Space | 860 | \$388,125.00 | \$485,156.25 | 4 offices, meeting room, copy area |
| Provide Decontamination Facility | 69 | \$31,050.00 | \$38,812.50 | Shower and change area with exterior door |
| Provide Back-up Power | - | \$100,000.00 | \$125,000.00 | |
| Provide Air Extraction | - | \$100,000.00 | \$125,000.00 | |
| Add Outdoor Training Area | 1150 | 57,500.00 (\$50/SF) | \$71,250.00 | |
| Add Indoor Drill Area | 300 | 135,000.00 | \$168,750.00 | |
| Upgrade Building Envelope to Reduce Energy Use | - | \$150,000.00 | \$187,500.00 | Install insulation to meet current building code |
| Upgrade Mechanical Systems to Energy Efficient | - | \$250,000.00 | \$312,500.00 | To meet current building code |
| Upgrade Electrical Systems | | \$60,000.00 | \$75,000.00 | |
| Install Septic System | - | \$120,000.00 | 150,000.00 | |
| TOTAL | 5829 | \$2,943,050.00 | \$3,678,187.50 | Interior area multiplied by a factor of 15% to allow for walls and circulation |

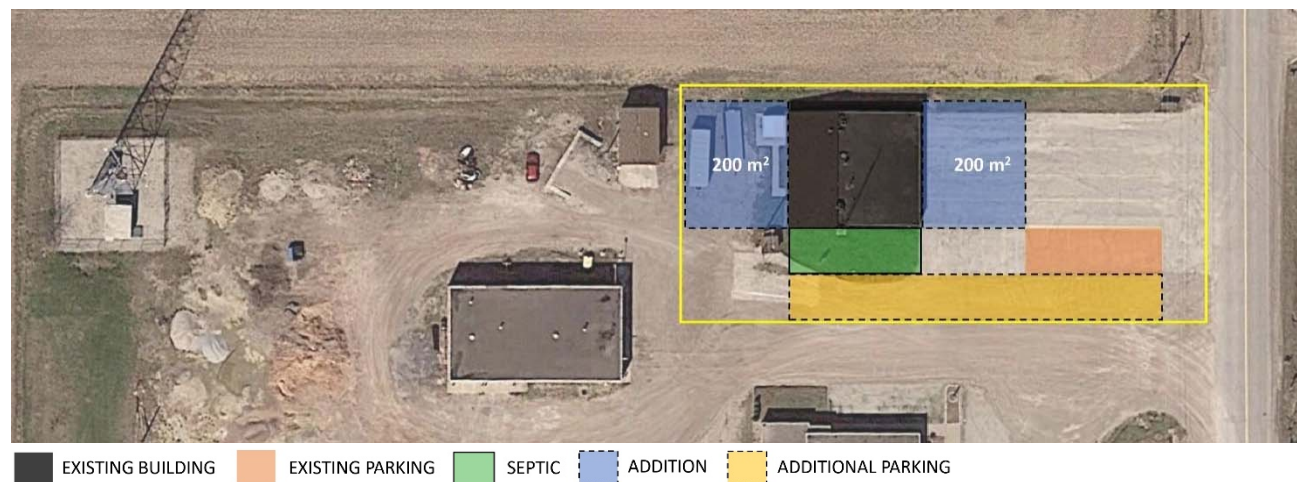


Figure 12: Fire Station 3 - Site Plan – Expansion Potential

Fire Station 3 site is extremely tight and poses several challenges related to an addition. A maximum of 400m² or 4264SF would be available for additions, which is less than the area required. There are other challenges with, for example: adding a new fire bay area will affect the parking and will eliminate current septic bed; there is some area for a building addition at the rear as office area but there is limited area to expand the septic bed and add parking at the same time.

Furthermore, it will be quite challenging for any addition to significantly improve building circulation or to provide appropriate public entrance.

8.4. SUMMARY OF OVERALL COSTS

The table below shows the overall cost associated with the repairs and improvements required to bring Fire Station 3 to a modern standard required for a functional fire station of today.

It is reasonable to allocate a budget towards overall renovations as a result of the repairs and renovation or to improve the indoor environment of the existing to a level similar to that of the addition. A conservative \$30/SF is allocated for that purpose.

TABLE 13: FIRE STATION 3 – TOTAL PROJECTED COSTS

| REPAIR COST | REPAIRS | ADDITIONS | RENOVATIONS (\$30/SF)* | TOTAL PROJECTED COST |
|---------------------|----------------|----------------|---------------------------|-----------------------|
| 2022 Dollars | \$1,746,226.38 | \$2,943,050.00 | \$98,580.00 | \$4,787,856.38 |
| 2024 Dollars | \$2,182,782.98 | \$3,678,187.50 | \$123,225.00 | \$5,984,195.48 |

*2022 Dollars

9. SUMMARY OF FINDINGS – ALL FIRE STATIONS

With a construction date at about 1960s, the age of two of the three buildings (Fire Station 2 and 3) is over 70 years old. Fire Station 1 is 30 years old as an addition to a 70 year old building. The building assessment completed by JS Held shows that very little repairs have been completed on these building for the last 30 years or more. The lack of continuous and regular building maintenance has resulted in accumulation of the repairs into large dollar amounts, and leading to structural concerns, and requiring urgent attention in some cases.

Furthermore, a large percentage of the repairs needed relate to the buildings structure and envelope (exterior walls and roof). This means the return on the funds to be spent is negligible in terms of increase of building value or operational functionality. Similar argument can be made related to the mechanical and electrical repairs and even the interior finishes. These repairs bring the buildings to what they should be at, had they received regular maintenance and repair since their construction, but they don't increase the buildings' real estate value except marginally.

Most importantly, implementing the repairs do not improve the performance of these buildings in terms of their responsiveness to the functional needs of a fire facility, and do not improve the fire and rescue services to meet the current and future requirements of the community. The challenges facing the existing fire stations include the lack of functional spaces needed, and the inability of the buildings to perform at a modern day public building or fire rescue facility. These challenges affect the ability to recruit and accommodate new fire fighters or provide safe and healthy work environment for staff.

TABLE 14: FIRE STATIONS 1, 2 & 3– COMPARISON OF TOTAL PROJECTED COSTS

| COST COMPARISON | FIRE STATION 1 | FIRE STATION 2 | FIRE STATION 3 | ALL STATIONS |
|---|-----------------------|-----------------------|-----------------------|------------------------|
| Commercial Value of Building* | \$1,694,841.20 | \$1,646,978.00 | \$1,646,978.00 | \$4,988,797.20 |
| Cost of Repairs* | \$2,955,712.23 | \$3,035,117.02 | \$1,746,226.38 | \$7,737,055.63 |
| Cost of Repairs** | \$3,694,640.26 | \$3,793,896.28 | \$2,182,782.98 | \$9,671,319.52 |
| Cost of Repairs* per SF | \$414.00 | \$393.00 | \$531.00 | |
| Area of Building (SF) | 7,140 | 7,714 | 3,286 | 18,140 |
| Additional Area Needed (SF) | 6,175 | 5,510 | 5,829 | 15,629 |
| Total Area (SF) | 13,315 | 13,224 | 9,115 | 35,654 |
| Cost of Design Upgrades (addition/reno)* | \$3,203,150.00 | \$2,958,420.00 | \$3,041,630.00 | \$9,203,200.00 |
| Cost of Design Upgrades ** | \$3,704,812.50 | \$3,367,812.50 | \$3,801,412.50 | \$10,874,037.50 |
| TOTAL COST OF REPAIRS & UPGRADES** | \$7,399,452.76 | \$7,161,708.78 | \$5,984,195.48 | \$20,545,357.02 |

* 2022 Dollars

**2024 Dollars

The summary in Table 14 shows that over \$9.6 million is needed to repair the three fire stations that are valued at about \$5 Million. Furthermore, the updates would require another \$10.8 Million, bringing the total funds required today to almost \$20.5 Million which is over three times the value of the buildings.

Beyond the cost factor, critical considerations related to the decision to invest funds in these building as working fire stations include:

- As buildings constructed in 1960s, these facilities were not designed to 'Post Disaster' standards.
- The ability of all or some of the buildings to act as an emergency operations centre when needed.
- The buildings' ability to accommodate new equipment including 'fire trucks' that are larger.

- The possibility for providing a healthy and safe work environment for fire fighters and staff. These include not only spaces such as: a well-ventilated gear room and a day room with adequate kitchen, and decontamination facilities, but also office spaces that meet the needs of current work environment. This is critical for the physical and mental health of fire fighters as well as for recruiting efforts considering the long term needs of the town.
- The ability to provide space for new staff for future growth.
- The ability to provide either gender-based or genderless and accessible washroom, shower and change facilities to meet the modern standards of a public building and to accommodate female fire staff to allow for equity and large recruitment base.
- The ability of each building and site to provide indoor and outdoor training areas for staff and volunteers to achieve the required certification.
- Availability of parking on site especially for facilities that rely on volunteer fire fighters.
- The location of each building in terms of response times.

9.1. EVALUATION

Based on the foregoing, we can evaluate the existing three buildings in terms of the cost of repairs, their performance and their capacity to be adapted to the modern standards of a current day fire station. This evaluation can help guide the decision as to where to focus the available funds to upgrade and modernize the fire and rescue services for the Town of Amherstburg in the most efficient manner.

TABLE 15: FIRE STATIONS 1, 2 & 3 – PERFORMANCE EVALUATION

| EVALUATION CRITERIA | FIRE STATION 1 | FIRE STATION 2 | FIRE STATION 3 |
|--|----------------------------------|----------------------------------|------------------------------|
| Cost of Repairs | Very High | Very High | High |
| Cost of Repairs / SF | High | Low | Extreme |
| Size -Area | Small | Good | Small |
| Cost of Updates (Addition/Reno) | High | Moderate | High |
| Possibility of Addition – Availability of Space | None | High | Low |
| Provide for Equity, Accessibility & Health | Low | Possible | Limited |
| Site: Parking – Training Availability | No | Possible | Low |
| Site: Aprons | Front: Adequate Rear: Limited | Front: Generous Rear: Limited | Front: Generous Rear: N/A |
| Site: Vehicular Circulation | Limited | Good | Limited |
| Site: Septic | N/A | Space Available | Limited space |
| Post Disaster | No | No | No |
| Perform as EOC | No | No | No |
| Location re Response Time | Restricted | Good | Far |
| Staffing: Future Needs | 6 | 8 | 6 |
| Staffing: Ability to Accommodate | Low | Moderate | None |
| AVERAGE VALUE OF EXPANSION/ MODERNIZATION POTENTIAL | LOW | MEDIUM | LOW |

Fire Station 2 factors better among the three buildings for renovation and expansion mainly due to its optimal location in terms of response time and its large site allowing a meaningful expansion. The cost of the repairs is the highest among the three facilities, however this is mostly due to the large size of the building.

10. STAFFING

Currently, Fire Protection is being provided by a composite department comprised of 5 Full-time staff 4 Career Firefighters, 1 Training Officer and 60 Volunteer Personnel. The current complement of staff responds from the three fire stations listed above.

Amherstburg Fire Department is comprised of six divisions;

- **Administration Division:** Comprised of Fire Chief, Deputy Fire Chief, and Assistant Deputy Fire Chief who also operates at incidents as an Incident Safety Officer to enhance the safety of firefighters, and an Administrative Assistant.
- **Operations Division:** Comprised of 4 Career Firefighters, 0 District Chiefs, 12 Volunteer (Paid on Call) Captains, and 48 Volunteer (Paid on Call) firefighters.
- **Training Division:** Consists of a fulltime Training Officer, District Chiefs, and 12 Station Captains who are assigned to each of the stations of firefighters. Their duties in addition to delivering training are also required to develop and deliver special programs.
- **Fire Prevention Division:** Consists of an Assistant Deputy Chief who develops programming and utilizes all staff to assist in program delivery. An addition of a fulltime Fire Prevention Officer is planned.
- **Apparatus Equipment & Communications:** Has No assigned staff however responsibilities are shared based on station staff assignment by Deputy Fire Chief.
- **Community Emergency Management:** Part of the role of the Fire Chief is to act as the Community Emergency Management Coordinator. Alternate CEMC's include the Deputy and Assistant Deputy Chiefs.

All staff is working out of 3 stations, staffing 3 pumpers, 1 Aerial apparatus 2 Tanker Trucks and three support vehicles. Minimum staffing is 1 Career firefighter on duty per shift, and 60 Volunteer (Paid on Call) firefighters from all three stations. This level of staffing allows for a response to a residential structure fire and one other simultaneous single apparatus response. Or, at a large incident, such as a high rise fire which would require the entire staff.

A study conducted by the fire department concluded that an additional 20 fire staff would be required including 5 career fire fighters within the next 5 years. The additional staff is required to improve response time and to correspond to the anticipated increase in fire instances and population growth.

TABLE 16: 3- STATION MODEL – STAFFING COMPARISON

| FIRE STATION | CURRENT STAFFING | ADD'L FUTURE STAFFING | TOTAL STAFFING |
|--------------|--|-----------------------|--|
| 1 | 4 Non-Union Staff 20 Volunteer FF | 10 Volunteer FF | 4 Non-Union Staff 30 Volunteer Firefighters |
| 2 | 5 Career Firefighters 20 Volunteer FF | 10 Volunteer FF | 5 Career Firefighters 30 Volunteer Firefighters |
| 3 | 20 Volunteer FF | | 20 Volunteer Firefighters |
| TOTAL | 69 | 20 | 89 |

TABLE 17: 2- STATION MODEL – STAFFING COMPARISON

| FIRE STATION | CURRENT STAFFING | TOTAL FUTURE STAFFING |
|---------------------|--|---|
| 1 | 4 Non-Union Staff 20 Volunteer Firefighters | 4 Non-Union Staff 5 Career Firefighters 30 Volunteer Firefighters |
| 2 | 5 Career Firefighters 20 Volunteer Firefighters | 30 Volunteer Firefighters |
| 3 | 20 Volunteer Firefighters | 0 |
| TOTAL | 69 | 69 |

A comparison between the current 3-station model and a possible alternative of a 2-station model shows that there would be a reduction in staffing needs of 20 fire fighters.

The reduction in staffing needs would not only mean reduction in the direct cost of salaries, but also space to accommodate the additional fire fighters as offices, facilities and washrooms, etc.

11. RESPONSE TIMES

A review by the Fire Department, of the past 3 years of calls showed that in the Urban Demand Zone although response time is frequently within the 9 min. target, the staffing requirement of having 15 firefighters on scene is almost never achieved. This means that the response time and intensity is not being consistently met within the urban core of the town. Projecting forward, the response time within the urban core will likely fall increasingly behind as the town grows and the urban centre intensifies.

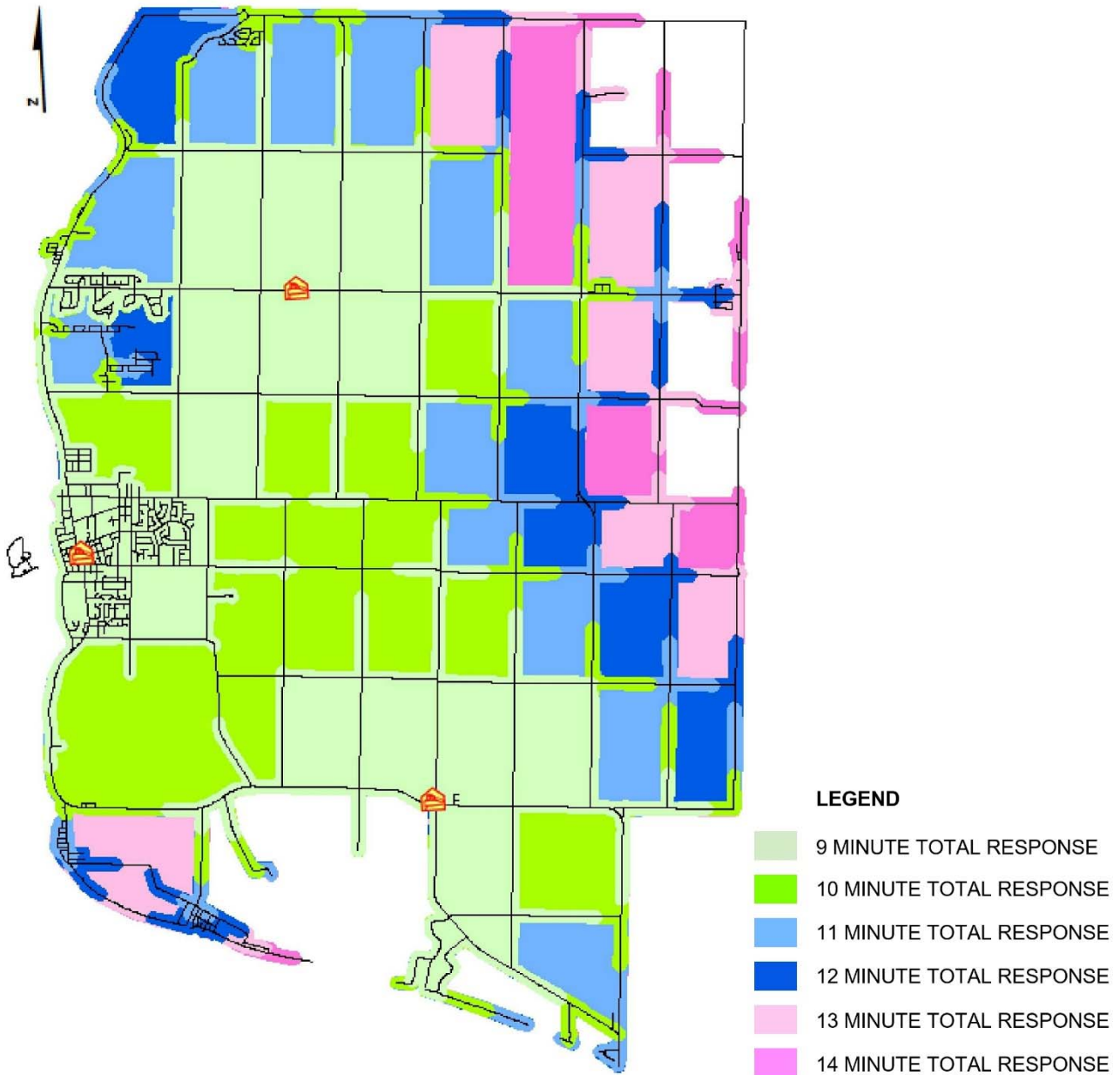


Figure 13: Current Response Standards Coverage Map from Master Fire Protection Plan, April, 2020

The current staffing level barely meets the lower effective response level for Low and moderate risk occupancies. The staffing levels result in AFD being unable to assemble adequate resources for an emergency occurring in high risk and extreme risk occupancies.

While the Fire Department is planning to increase staffing in the coming years, fire rescue operations are largely dependent on volunteer fire fighters who generally respond from outside the urban core who then have to arrive at Fire Station 1 first before deploying to any site, fighting traffic both ways.

Consideration of remedies did involve considering changing the response assignment to two stations, however neither second station (Fire Station 2 & 3) is within the proximity to achieve a 9 min response time. Second Stations are dispatched regularly on working fires but often manpower arrives later in the call.

Furthermore, career fire fighters are currently stationed only at Fire Station 2, adding additional time to responding from other stations which don't have a district chief on staff at all times.

The NFPA Table of Effective Response indicates that first response times should be:

- . 2 - 3.5 minutes is required for Institutional, Hospitals, and Nursing Homes
- . 4 minute response times for Industrial Commercial
- . 5- 6 min initial response time for residential occupancies

A Fire Station Location Exercise by the Fire Department showed that the location of Fire Station 2 is optimal. The proposed location at Meloche Road (Libro site) is optimal (2nd next best) based on available land. The rural locations have the advantage of being closer to where volunteer fire fighters live and their ability to reach these stations faster not only because of proximity but also due to lesser traffic on rural roads.

12. DEVELOPMENT OPTIONS

Based on the analysis in the previous sections, all the three fire stations serving the Town of Amherstburg are in a poor condition and require significant repairs and upgrades. The repairs required are of fundamental nature relating to the building sub and super structure. Furthermore, these buildings also require significant to full replacement of electrical, plumbing and HVAC systems, as well as accessibility upgrades. Despite all of these repairs requiring significant cost, the repairs identified in the Building Assessment Report by JS Held, only address maintaining the building as it is by replacing 'Like-for-Like'. The repairs do not address the operational needs and shortcomings of these buildings or their ability to respond to the current or future needs of the fire rescue operations.

Nevertheless, considering that the commercial value of these buildings is about \$5 Million, it is reasonable to consider a scenario where these buildings are repaired and upgraded to continue serving as fire stations.

Another option would be to build new fire rescue facilities to modern standards, where the entirety of the investment can be put towards new building(s) with a longer life span and with lower operational costs as a result of modern building methods.

A third option would be to choose the middle road as a combination of the above, with a new build and some form of repair or renovation of one or two of the existing buildings.

Previously Considered Options by the Fire Department:

The fire department, as part of the Amherstburg Master Fire Protection Plan 2020-2025, has studied several redeployments and station relocation scenarios in an effort to determine the most appropriate method to minimize this risk. These scenarios included:

- . **1 Station Option:** The One Station model could not provide the current level of service from a single location, nor meet the future needs.
- . **2 Station Option:** Station Consolidation Scenario models showed promise, and could provide the best long term solution to meet the needs. It was found that this option may involve the reconstruction of the stations.

The study found that the advantages of the Two Station consolidation model, that it would utilize the current number of volunteer staff with no needed increases to staff & vehicles. With staffing in mind this option was found to be potentially the least expensive solution with the lowest operating cost. As Fire Stations when newly built, are expected to last 40 or more years along with lowering the annual operating costs is a beneficial consideration.

- . **3 Station Option:** Several scenarios utilizing the GIS system were used as part of the Master Plan Study to evaluate the current station model but in optimal locations, giving consideration for risks, location of firefighters and future growth. Considering that this option pre-supposes 3 new stations, this was considered the most expensive option. (Either 3 new stations or 2 new stations, a major upgrade to the third station and 20 additional FF).
- . **4 Station Option:** The Master Plan Study showed that the four-station model to be more than adequate, but the costs associated would have been unreasonable and significant due to cost of new buildings and additional staffing (up to 50 additional FF)

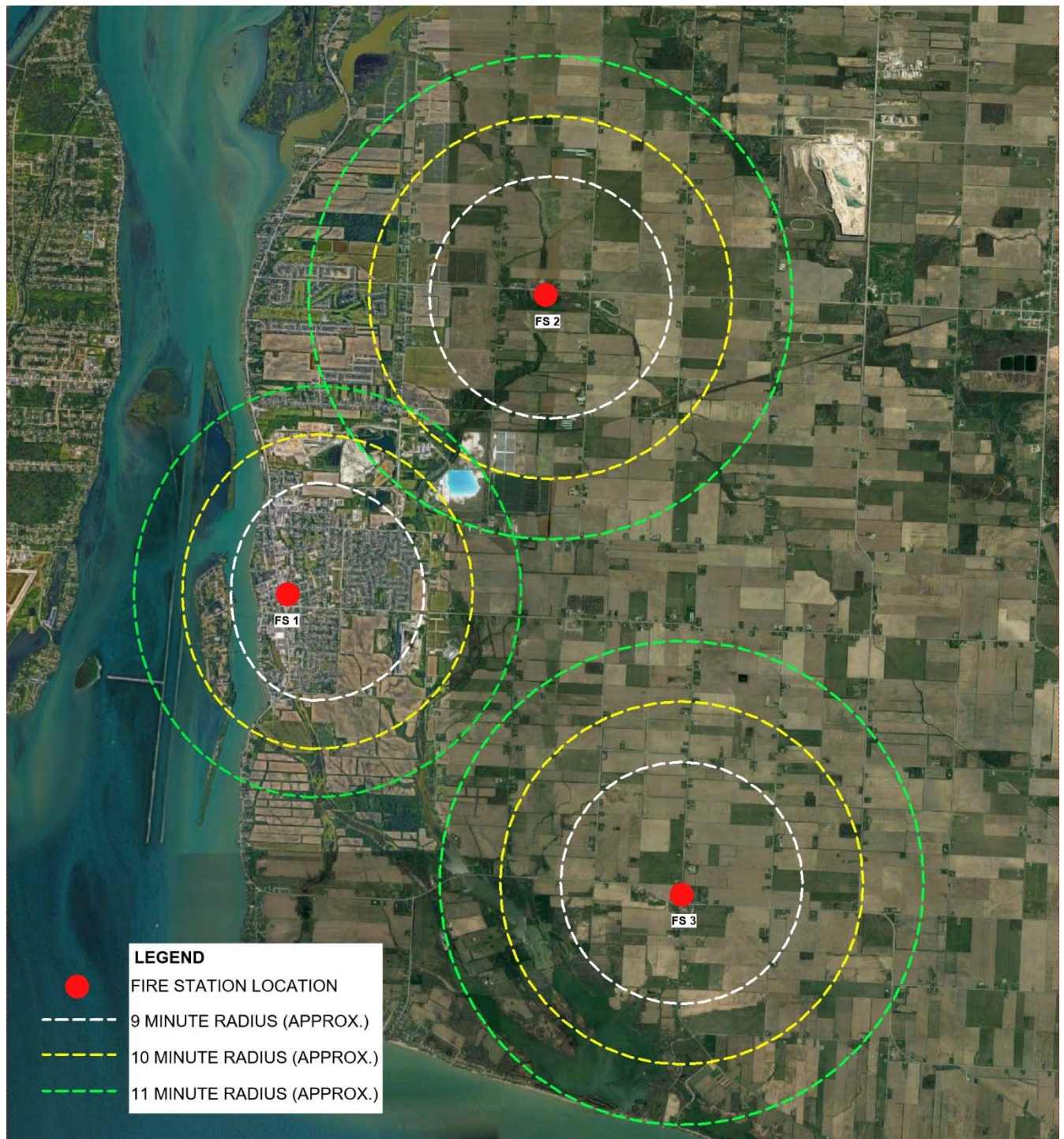


Figure 14: Google Map of Town of Amherstburg Showing Existing Fire Stations - 3 Fire Station Option

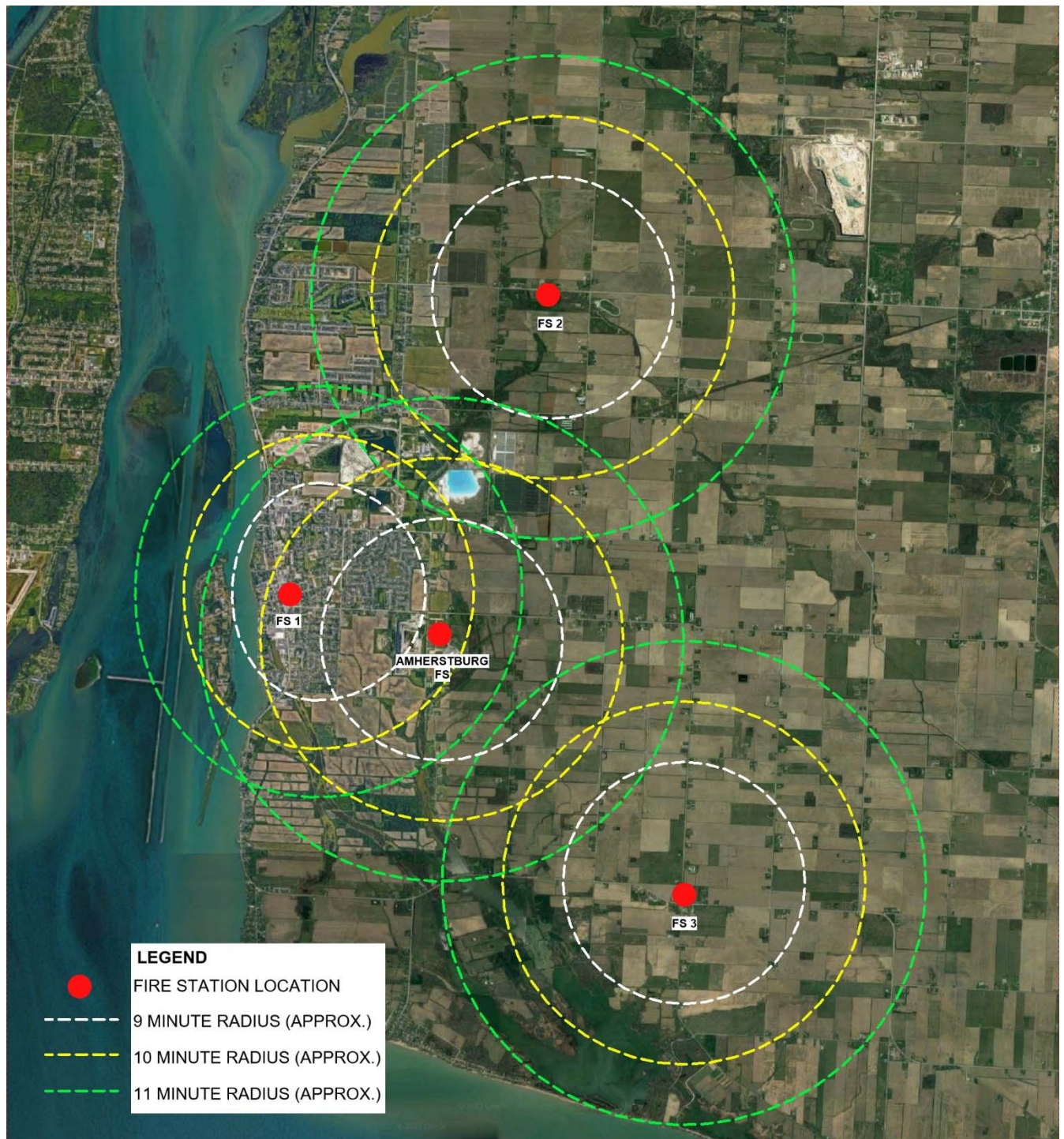


Figure 15: Google Map of Town of Amherstburg Showing a 4 Fire Station Option

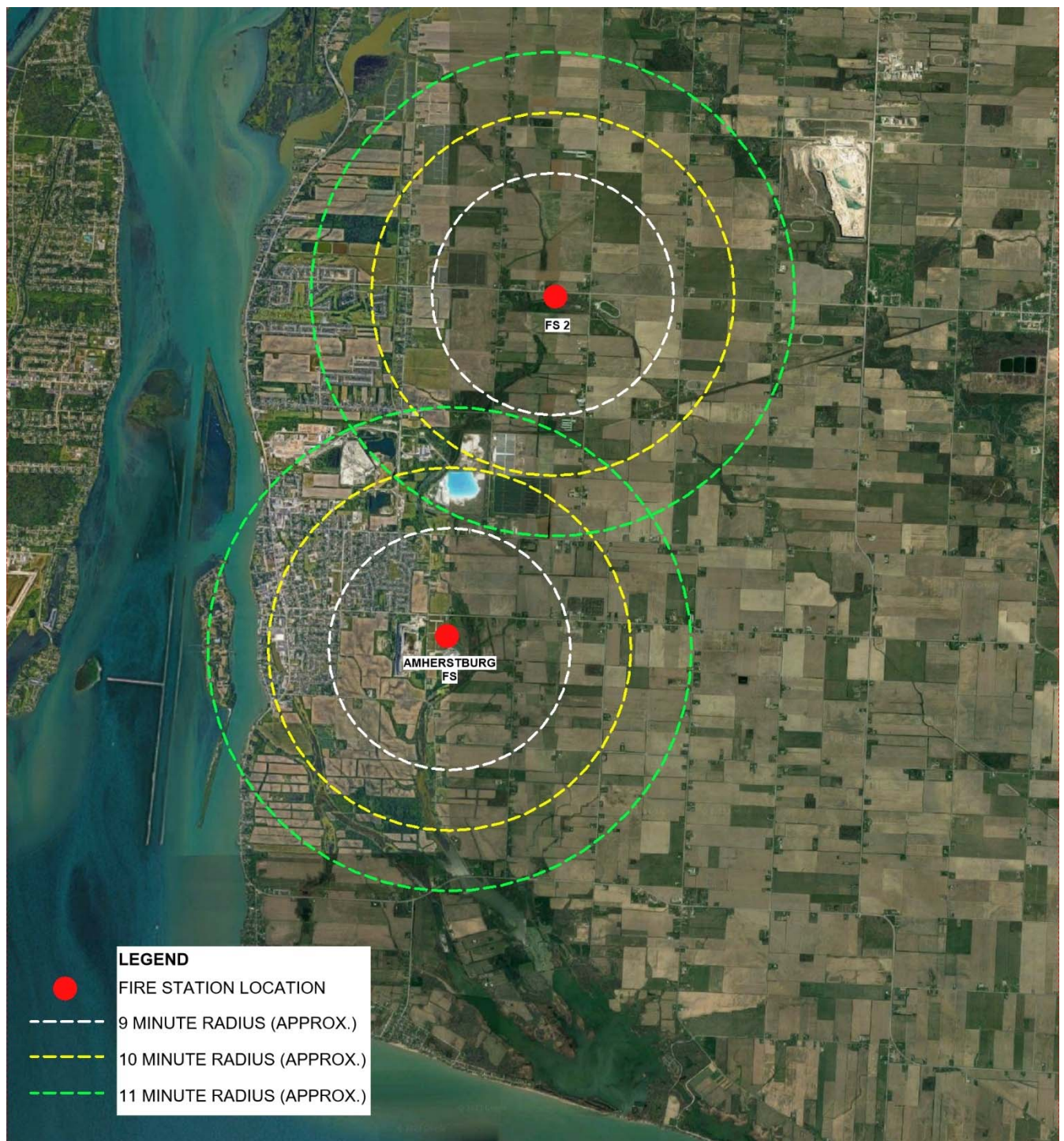


Figure 16: Map of Scenario B - 2 New Fire Stations

The goal of this study is to compare the costs associated with the possible scenarios whether the result is 2 or 3 fire stations. The 1 and 4 fire station options are eliminated being unrealistic given the previous analysis by the fire department.

The three possible scenarios are evaluated in Sections 12.1 to 12.5 below.

12.1. SCENARIO A - REPAIR EXISTING FACILITIES – 3 STATION DEVELOPMENT MODEL

As discussed earlier in this report, the repairs identified in the Buildings Assessment Reports by J S Held are not sufficient for the proper functioning of the fire facilities, and design & functional upgrades would also be required. Considering the large investment being made, it is reasonable to expect that following the repairs, these buildings should be serving the community for the next 20-50 years. For that reason the mere repair of the buildings is not sufficient and functional upgrades need to be considered for Scenario A to be viable.

TABLE 18: SCENARIO A - 3 STATION MODEL – TOTAL CAPITAL COSTS

| | YEAR | COST OF REPAIRS | REPAIR COST/SF | COST OF UPGRADES & RENOS | TOTAL CAPITAL COST | CAPITAL COST/SF |
|------------------|------|-----------------|----------------|--------------------------|--------------------|-----------------|
| FIRE STATION 1 | 2022 | \$2,955,712.23 | \$413.97 | \$3,203,150.00 | \$6,158,862.23 | \$462.55 |
| | 2024 | \$3,694,640.26 | \$517.46 | \$3,704,812.50 | \$7,399,452.76 | \$555.72 |
| FIRE STATION 2 | 2022 | \$3,035,117.02 | \$393.46 | \$2,958,420.00 | \$5,993,537.02 | \$453.23 |
| | 2024 | \$3,793,896.28 | \$491.82 | \$3,367,812.50 | \$7,161,708.73 | \$541.57 |
| FIRE STATION 3 | 2022 | \$1,746,226.38 | \$531.41 | \$3,041,630.00 | \$4,787,856.38 | \$525.27 |
| | 2024 | \$2,182,782.98 | \$664.27 | \$3,801,412.50 | \$5,984,195.48 | \$656.52 |
| TOTAL INVESTMENT | 2022 | \$7,737,055.63 | \$426.52 | \$9,203,200.00 | \$16,940,255.63 | \$475.13 |
| | 2024 | \$9,671,319.52 | \$533.15 | \$10,874,037.50 | \$20,545,357.02 | \$576.24 |

TABLE 19: SCENARIO A – 3 STATION MODEL - ADDITIONAL COSTS

| ADDITIONAL COST FACTORS | | COMMENTS |
|--------------------------------------|-------------------|------------------------------------|
| Additional Staffing –20 volunteer FF | \$350,000.00/year | |
| On-Going Utility Costs | Unknown | Improvement after upgrades |
| Temporary Facilities During Renos | \$145,000 | 8 months construction each station |

TABLE 20: SCENARIO A - 3 STATION MODEL - PROS & CONS

| PROS | CONS | COMMENTS |
|---|---|---|
| Save Existing Buildings | High Cost of repairs relative to bldg. value | Cost/SF for reno is close to new building |
| Buildings/Sites Owned by Town | All old buildings despite repairs | |
| Potentially sustainable practice to re-use old building stock | Cannot Solve most/all challenges with fire service performance, training, recruitment, safety, etc. | |
| | Not Possible to meet Post Disaster | |
| | Higher Operational Costs | 3 Stations. Old buildings |
| | More Staffing - Higher Cost | |
| | Limitations Posed by Renovations – not blank slate | |
| | Lower Commercial Building Value | Old buildings |
| | No improvement on Response Times | |
| | No ability to act as EOC Centre | |
| | Temporary relocation Cost During Repairs | |
| | Several Site Limitations esp. FS 1 & FS 3 | |
| | Building Limitations FS 3 | |

12.2. SCENARIO B - BUILD NEW FACILITIES - 2 FIRE STATION MODEL

The second scenario for serving the growing community of Amherstburg related to fire and rescue would be to build new fire station(s) at locations selected to achieve the best response times, and within lots that do not impose the physical space restriction that existing buildings and locations do.

The option of building new facilities will provide a blank slate to design the fire rescue facilities according to the modern standards and to suit to size of new equipment and current staffing needs. A new building would be built to current building codes, be energy efficient and have a longer life span with lower operational cost per SF and higher asset value. Most importantly, a new building would be built to 'Post Disaster' standards, meaning that the town can trust that the building will be in place when most needed.

A study has been prepared by this office in 2022 that included a schematic design and a cost analysis for a new fire station at 3295 Meloche Road (Libro Site). The design included four-double fire bays, 9 offices, training room, fire fighter facilities and fire bay support areas. The gross floor area of the proposed fire station including the mezzanine was 22,489SF and the cost estimate was \$11,680,863.81 in 2022. More recently, in 2023 few revisions were implemented to the design and the area was reduced to 21,111SF. The recently, updated cost estimate was \$11,100,022.31 (approximately \$525/SF).

The first cost estimate has been completed at a time of unprecedented increase in material cost due to supply challenges as a result of the pandemic. It is our impression that the market has eased somewhat since then, despite few materials like steel continuing to suffer from irregular supply at times. Hopefully, the market will have improved more positively at time of tendering for a new project.

To properly serve the Amherstburg community to meet the response times, at least a second fire station would be required to be strategically located according with the town's growth pattern and ability to respond swiftly to any call. Fire Station 2 is located optimally relative to response time.

The second fire station can feasibly be smaller than the main station with a smaller staffing complement.

This development model will allow the development of two new fire stations that would be built to current codes, current construction techniques and methods and to meet the standards of a modern day fire station. The new buildings would also include the capacity and considerations to adapt to future needs, staying relevant and modern for a minimum of 20 years during which the maintenance requirements would be very low. Being built to modern codes and possibly to a high standard of sustainability, the operational costs would be low.

These buildings will operate as an emergency operation centre and a back-up emergency operation centre being built to post disaster codes and to provide the type of space and communication infrastructure that an EOC requires.

The two station model will help concentrate staffing in two locations rather than three, eliminating the need for up-staffing and thus reducing staffing costs.

TABLE 21: SCENARIO B – 2 NEW STATION MODEL - TOTAL CAPITAL COSTS

| | YEAR | CAPITAL COST | | YEAR | TOTAL CAPITAL COST |
|--|------|-----------------|--|------|--------------------|
| NEW FIRE STATION 1 - Meloche Road | 2023 | \$11,100,022.31 | NEW FIRE STATION 1 & NEW FIRE STATION 2 | 2022 | \$15,500,022.31 |
| | 2024 | \$12,487,525.10 | | | |
| NEW FIRE STATION 2 - 8,000SF | 2022 | \$4,400,000.00 | | 2024 | \$17,547,525.10 |
| | 2024 | \$5,060,000.00 | | | |

The cost estimate for Fire Station 1 at Meloche Road (Libro Site) prepared in 2022 was used as is and was not adjusted for inflation as the estimate was prepared late in 2022 when construction costs were at all-time high. Since then costs of some materials have come down as the supply stresses have eased with the pandemic passing. An escalation of 15% was used for the 2024 dollar value.

TABLE 22: SCENARIO B – 2 NEW STATION MODEL - ADDITIONAL COSTS & SAVINGS

| ADDITIONAL COST FACTORS | | COMMENTS |
|---------------------------------------|-----------------------------|--|
| Save Additional Staffing - 20 | (\$350,000.00)/year | |
| Utility Costs (savings) | (25,000)/year possibly more | Based on study conducted by FD in 2018 re FS 1 & 3 |
| Temporary Facilities During Reno/Cons | None | |
| Funds From Sale of FS 3 | \$1M - \$1.7M | |
| Funds From Lease of FS 1 | \$10/SF \$71,400/year | |

TABLE 23: SCENARIO B – 2 NEW STATION MODEL - PROS & CONS

| PROS | CONS | COMMENTS |
|---|----------------------------------|-----------------------------|
| New modern buildings | Demolition Cost of Existing FS 2 | |
| Solve all challenges with fire service performance, training, recruitment, safety, etc. | | |
| Lower operational costs | | |
| Lower Staffing Cost | | |
| Higher Value of Building | | |
| No repairs for many years | | |
| Improve Response Times | | |
| Provide EOC Centre | | |
| No temporary Location Cost | | Can use FS 3 in the interim |
| Higher Asset Value | | |

12.3. SCENARIO C - BUILD A NEW FACILITY AND RENOVATE/ADD TO AN EXISTING FACILITY

The third scenario is a combination of the previous two scenarios, where a single new fire rescue facility can be built, and one of the existing facilities can be renovated.

The new facility in this scenario, can also be located at Meloche Road based on the previous study mentioned above. As this location has ample area for development and it is a good location relative to the town boundaries and 2nd best to optimal location relative to response times.

The cost of repairs for Fire Station 3 is estimated at \$531/SF which is a similar cost of building new. Additionally, its structure and layout does not lend itself well for modernization and its limited site does not allow for meaningful building addition or parking and due to many constraints imposed by the building. See Sections 8 and 11. For these reasons, Fire Station 3 is discounted from consideration for repairs, renovation and upgrades.

Fire Station 2 has the most potential among the three existing fire rescue facilities to be the facility selected for re renovations & upgrades (See Section9) , for the following reasons:

- Its location in closer proximity to urban areas and being somewhat central to the service area.

- It is a larger building, allowing more area to integrate the needs of a modern facility i.e. requiring less area of addition.
- Its fire bay is somewhat larger and more amenable for expansion relatively easily.
- It larger land area provides more opportunity for growth for building addition, parking and outdoor area for training.
- The cost of repairs and upgrades is not the highest.

TABLE 24: SCENARIO C – 2 STATION MODEL - TOTAL CAPITAL COSTS

| | YEAR | CAPITAL COST | | YEAR | TOTAL CAPITAL COST |
|--|------|-----------------|---|------|--------------------|
| NEW FIRE STATION 1 – Meloche Road | 2023 | \$11,100,022.31 | NEW FIRE STATION 1 – Meloche Road & RENOVATED FIRE STATION 2 | 2022 | \$17,093,559.33 |
| | 2024 | \$12,487,525.10 | | | |
| RENOVATED FIRE STATION 2 | 2022 | \$5,993,537.02 | | 2024 | \$19,649,233.83 |
| | 2024 | \$7,161,708.73 | | | |

TABLE 25: SCENARIO C – 2 STATION MODEL - ADDITIONAL COSTS & SAVINGS

| ADDITIONAL COST FACTORS | COST/SAVINGS | COMMENTS |
|-----------------------------------|------------------------------|----------|
| Save Additional Staffing - 20 | (\$350,000.00)/year | |
| Utility Costs | Reduced (\$25,000) or better | |
| Temporary Facilities During Renos | None | Use FS 3 |
| Funds From Sale of FS 3 | \$1M - \$1.7M | |
| Funds From Lease of FS 1 | \$10/SF/year = \$71,400/Year | |
| TOTAL | | |

TABLE 26: SCENARIO C – TWO STATIONS MODEL - PROS & CONS

| PROS | CONS | COMMENTS |
|---|---|-----------------------------|
| New modern buildings | Some restriction imposed by height of ceiling in exist FS2 building | |
| Salvage Exist FS 2 through reno/add'n | Some restriction relative to the site layout esp. for parking | |
| Solve all challenges with fire service performance, training, recruitment, safety, etc. | | |
| Lower operational costs | | |
| Lower Staffing Cost | | |
| Higher Value of Building | | |
| No repairs for many years | | |
| Improve Response Times | | |
| Provide EOC Centre | | |
| No temporary Location Cost | | Can use FS 3 in the interim |

12.4. COST COMPARISON

TABLE 27: ALL DEVELOPMENT SCENARIOS - COPARISON

| | SCENARIO A Renovate Three Existing Fire Stations | SCENARIO B Build Two New Fire Stations | SCENARIO C Build One New Fire Station & Renovate One Existing Fire Station |
|--------------|--|--|--|
| 2022 (2023)* | \$16,940,255.63 | \$15,500,022.31 | \$17,093,559.33 |
| 2024 | \$20,545,357.02 | \$17,547,525.10 | \$19,649,233.83 |

*For New FS 1

12.5. COMMENTARY ON DEVELOPMENT OPTIONS

Further to the analysis above, the following are related facts beyond the hypothetical that are to be considered in the final decision related to evaluating and choosing an option for development.

Scenario A is the most expensive option. It is not feasible not only for reason of cost but because the extent of the improvements required to bring the existing fire stations to the operational standard required, especially in the case of Fire Station 1 and Fire Station 3 is not physically possible. There are limitations of space both within these buildings and related to the site.

- In case of Fire Station 1, the repair and improvement even if it were possible and feasible, it will not help improve the response times over the long term as the urban core gets more dense.
- In case of Fire Station 3, the cost of repairs is extremely high relative to the size of the building, making just the cost of repairs same or more than building new. With a less than optimal location as well as tight site, Fire Station 3 is not a viable candidate for repairs or upgrades.
- As the Fire Department relies heavily on volunteer fire fighters who largely live outside the urban boundary of the town, the location of Fire Station 1 is not help expedite the volunteer force arriving at this location. Volunteer fire fighters have to drive through the higher traffic conditions to report to their calls adding to the overall response time of the rescue operation.

Scenario B appears to be the most sensible option. It is not only the relatively least expensive, but this option will result in two completely new buildings with a higher asset value where the investment is preserved for a longer period of time. The new buildings will be designed to modern codes and standards, with lower operational cost and with longer life span and will have a better chance adapting to future growth and needs.

Scenario C is surprisingly almost as costly as Scenario A (within 5%). It would seem at first glance renovation of an existing facility especially where there is room available for an addition, should be more economical as well as a more sustainable option. The reason for this option being the most expensive relates to the inherent higher cost and lesser efficiency of renovations in general, where one has to contend with the limitations imposed by the existing structure or otherwise the extra cost to remedy these limitations. Furthermore, the high cost of this option reflects the state of the building requiring extensive repairs accumulating over decades of lack of maintenance. This analysis shows that there is no value remaining in the existing buildings in terms of structure or real estate. This is evident in Section 6, 7 & 8 showing high cost or repair and renovation per SF.

13. RECOMMENDATIONS

Fire rescue is a critical community need and must meet strict standards in terms of response times and building design. Currently, the Fire Department is facing challenges in meeting these standards which is a great concern for the community of Amherstburg. The fire Department has been actively, investigating options for improvement related to assets and staffing. This report is part of these efforts.

The Town of Amherstburg is faced with the need to allocate funds to improve the fire facilities whether to repair the existing buildings or to build new. As the size of this investment is quite large, it is prudent to ponder how this investment is serving the community for the long term.

This report shows that building two new fire stations (Scenario B) offers the best value for the immediate and distant future.

The repairs the existing fire station buildings require are substantial, costly and pertain to structural failures or end of life issues. These buildings are aged, and outdated in terms of function, code and operations. Fire Stations 1 and 3 are not good candidates for modernization due to limitations with the buildings, the sites or their locations.

Consolidating Fire Station 1 and 3 in the new location at Meloche Road will address the challenges with the existing buildings, improve response times and help save the cost of additional staffing and operation costs.

While Fire Station 2 can be either upgraded or re-built due to its favourable location and large site. The cost to build new is projected to be lower than repairing and upgrading the existing facility. This can be attributed to the better efficiency of a new build in terms of area needed, having to content with existing walls and areas. The area of a renovated Fire Station 2 would be 13,224 SF whereas a new facility can be designed at 8,000SF. The savings in area will result in savings in the initial capital cost as well as operational costs long term.

Based on the foregoing, **Scenario B** - building two new fire stations is the most sensible option.

TOWN OF AMHERSTBURG

AMHERSTBURG FIRE STATIONS

COST COMPARISON REPORT

March 2023



FIRE STATION 1



FIRE STATION 2



FIRE STATION 3

APPENDICES

TOWN HALL & FIRE STATION 1

| COST OF REPAIRS | | | | | |
|------------------------------|--------------------------|-----------------------|--------------------|-----------------------|---------------------|
| | Town Hall & Fire Station | | | | Fire Station (52%) |
| | Replacement Cost | Location Factor (25%) | Soft Cost (10%) | Total Repair Cost | Total Repair Cost |
| Foundation | \$294,162.42 | \$73,540.62 | \$29,416.24 | \$397,119.28 | \$206,502.03 |
| | \$75,757.50 | \$18,939.38 | \$7,575.75 | \$102,272.63 | \$53,181.77 |
| | \$72,121.14 | \$18,030.29 | \$7,212.11 | \$97,363.54 | \$50,629.04 |
| | \$132,561.48 | \$33,140.37 | \$13,256.15 | \$178,958.00 | \$93,058.16 |
| | \$13,722.30 | \$3,430.58 | \$1,372.23 | \$18,525.11 | \$9,633.06 |
| Superstructure | \$338,012.20 | \$84,503.05 | \$33,801.22 | \$456,316.47 | \$237,284.56 |
| | \$310,012.20 | \$77,503.05 | \$31,001.22 | \$418,516.47 | \$217,628.56 |
| | \$28,000.00 | \$7,000.00 | \$2,800.00 | \$37,800.00 | \$19,656.00 |
| Exterior Enclosure | \$839,648.11 | \$209,912.05 | \$83,964.80 | \$1,133,524.95 | \$589,432.97 |
| | \$40,000.00 | \$10,000.00 | \$4,000.00 | \$54,000.00 | \$28,080.00 |
| | \$299,271.24 | \$74,817.81 | \$29,927.12 | \$404,016.17 | \$210,088.41 |
| | \$42,661.34 | \$10,665.34 | \$4,266.13 | \$57,592.81 | \$29,948.26 |
| | \$61,055.98 | \$15,263.99 | \$6,105.60 | \$82,425.57 | \$42,861.30 |
| | \$9,210.00 | \$2,302.50 | \$921.00 | \$12,433.50 | \$6,465.42 |
| | \$303,811.86 | \$75,952.97 | \$30,381.19 | \$410,146.01 | \$213,275.93 |
| | \$13,444.34 | \$3,361.09 | \$1,344.43 | \$18,149.86 | \$9,437.93 |
| | \$8,063.50 | \$2,015.88 | \$806.35 | \$10,885.73 | \$5,660.58 |
| | \$7,144.83 | \$1,786.21 | \$714.48 | \$9,645.52 | \$5,015.67 |
| | \$34,869.48 | \$8,717.37 | \$3,486.95 | \$47,073.80 | \$24,478.38 |
| | \$20,115.54 | \$5,028.89 | \$2,011.55 | \$27,155.98 | \$14,121.11 |
| Roofing | \$192,573.32 | \$48,143.34 | \$19,257.33 | \$259,973.99 | \$135,186.47 |
| | \$56,405.00 | \$14,101.25 | \$5,640.50 | \$76,146.75 | \$39,596.31 |
| | \$83,331.50 | \$20,832.88 | \$8,333.15 | \$112,497.53 | \$58,498.72 |
| | \$50,315.00 | \$12,578.75 | \$5,031.50 | \$67,925.25 | \$35,321.13 |
| | \$826.50 | \$206.63 | \$82.65 | \$1,115.78 | \$580.21 |
| | \$1,695.32 | \$423.83 | \$169.53 | \$2,288.68 | \$1,190.11 |
| Interior Construction | \$232,132.45 | \$58,033.12 | \$23,213.25 | \$313,378.79 | \$162,956.97 |
| | \$44,641.55 | \$11,160.39 | \$4,464.16 | \$60,266.09 | \$31,338.37 |
| | \$28,916.67 | \$7,229.17 | \$2,891.67 | \$39,037.50 | \$20,299.50 |
| | \$4,706.13 | \$1,176.53 | \$470.61 | \$6,353.28 | \$3,303.71 |
| | \$96,187.68 | \$24,046.92 | \$9,618.77 | \$129,853.36 | \$67,523.75 |
| | \$44,148.24 | \$11,037.06 | \$4,414.82 | \$59,600.12 | \$30,992.06 |
| | \$7,016.00 | \$1,754.00 | \$701.60 | \$9,471.60 | \$4,925.23 |
| | \$6,516.18 | \$1,629.05 | \$651.62 | \$8,796.84 | \$4,574.36 |
| Interior Finishes | \$335,943.81 | \$83,985.97 | \$33,594.38 | \$453,524.16 | \$235,832.56 |
| | \$12,903.80 | \$3,225.95 | \$1,290.38 | \$17,420.13 | \$9,058.47 |
| | \$14,704.20 | \$3,676.05 | \$1,470.42 | \$19,850.67 | \$10,322.35 |
| | \$82,895.90 | \$20,723.98 | \$8,289.59 | \$111,909.47 | \$58,192.92 |
| | \$55,089.30 | \$13,772.33 | \$5,508.93 | \$74,370.56 | \$38,672.69 |
| | \$13,182.70 | \$3,295.68 | \$1,318.27 | \$17,796.65 | \$9,254.26 |
| | \$7,020.00 | \$1,755.00 | \$702.00 | \$9,477.00 | \$4,928.04 |
| | \$100,744.91 | \$25,186.23 | \$10,074.49 | \$136,005.63 | \$70,722.93 |
| | \$49,403.00 | \$12,350.75 | \$4,940.30 | \$66,694.05 | \$34,680.91 |
| Plumbing | \$335,740.20 | \$83,935.07 | \$33,574.02 | \$453,249.27 | \$235,689.62 |
| | \$14,019.66 | \$3,504.92 | \$1,401.97 | \$18,926.54 | \$9,841.80 |
| | \$60,422.76 | \$15,105.69 | \$6,042.28 | \$81,570.73 | \$42,416.78 |
| | \$6,713.64 | \$1,678.41 | \$671.36 | \$9,063.41 | \$4,712.97 |
| | \$9,675.54 | \$2,418.89 | \$967.55 | \$13,061.98 | \$6,792.23 |
| | \$42,058.98 | \$10,514.75 | \$4,205.90 | \$56,779.62 | \$29,525.40 |
| | \$2,495.00 | \$623.75 | \$249.50 | \$3,368.25 | \$1,751.49 |
| | \$71,085.60 | \$17,771.40 | \$7,108.56 | \$95,965.56 | \$49,902.09 |
| | \$119,265.84 | \$29,816.46 | \$11,926.58 | \$161,008.88 | \$83,724.62 |
| | \$2,776.08 | \$694.02 | \$277.61 | \$3,747.71 | \$1,948.81 |
| | \$6,500.00 | \$1,625.00 | \$650.00 | \$8,775.00 | \$4,563.00 |
| | \$727.10 | \$181.78 | \$72.71 | \$981.59 | \$510.43 |
| HVAC | \$173,151.07 | \$43,287.79 | \$17,315.11 | \$233,753.96 | \$121,552.06 |
| | \$3,000.00 | \$750.00 | \$300.00 | \$4,050.00 | \$2,106.00 |
| | \$35,147.88 | \$8,786.97 | \$3,514.79 | \$47,449.64 | \$24,673.81 |
| | \$14,414.58 | \$3,603.65 | \$1,441.46 | \$19,459.68 | \$10,119.03 |
| | \$28,427.00 | \$7,106.75 | \$2,842.70 | \$38,376.45 | \$19,955.75 |
| | \$28,427.00 | \$7,106.75 | \$2,842.70 | \$38,376.45 | \$19,955.75 |
| | \$28,427.00 | \$7,106.75 | \$2,842.70 | \$38,376.45 | \$19,955.75 |
| | \$4,394.51 | \$1,098.63 | \$439.45 | \$5,932.59 | \$3,084.95 |
| | \$8,841.90 | \$2,210.48 | \$884.19 | \$11,936.57 | \$6,207.02 |
| | \$3,970.70 | \$992.68 | \$397.07 | \$5,360.45 | \$2,787.43 |
| | \$18,100.50 | \$4,525.13 | \$1,810.05 | \$24,435.68 | \$12,706.55 |
| Fire Protection | \$1,777.14 | \$444.29 | \$177.71 | \$2,399.14 | \$1,247.55 |
| | \$1,777.14 | \$444.29 | \$177.71 | \$2,399.14 | \$1,247.55 |
| Electrical | \$745,337.66 | \$186,334.45 | \$74,533.77 | \$1,006,205.85 | \$523,227.04 |
| | \$206,543.16 | \$51,635.79 | \$20,654.32 | \$278,833.27 | \$144,993.30 |

| | | | | | |
|--------------------------|-----------------------|---------------------|---------------------|-----------------------|-----------------------|
| | \$9,280.62 | \$2,320.16 | \$928.06 | \$12,528.84 | \$6,515.00 |
| | \$35,740.26 | \$8,935.07 | \$3,574.03 | \$48,249.35 | \$25,089.66 |
| | \$104,851.26 | \$26,212.82 | \$10,485.13 | \$141,549.20 | \$73,605.58 |
| | \$62,989.74 | \$15,747.44 | \$6,298.97 | \$85,036.15 | \$44,218.80 |
| | \$30,606.30 | \$7,651.58 | \$3,060.63 | \$41,318.51 | \$21,485.63 |
| | \$78,984.00 | \$19,746.00 | \$7,898.40 | \$106,628.40 | \$55,446.77 |
| | \$85,105.26 | \$21,276.32 | \$8,510.53 | \$114,892.10 | \$59,743.89 |
| | \$90,634.14 | \$22,658.54 | \$9,063.41 | \$122,356.09 | \$63,625.17 |
| | \$21,720.60 | \$5,430.15 | \$2,172.06 | \$29,322.81 | \$15,247.86 |
| | \$14,217.12 | \$3,554.28 | \$1,421.71 | \$19,193.11 | \$9,980.42 |
| | \$4,665.20 | \$1,166.30 | \$466.52 | \$6,298.02 | \$3,274.97 |
| Furnishings | \$24,382.50 | \$6,095.63 | \$2,438.25 | \$32,916.38 | \$17,116.52 |
| | \$24,382.50 | \$6,095.63 | \$2,438.25 | \$32,916.38 | \$17,116.52 |
| Site Improvements | \$99,147.44 | \$24,786.86 | \$9,914.74 | \$133,849.04 | \$69,601.50 |
| | \$12,697.44 | \$3,174.36 | \$1,269.74 | \$17,141.54 | \$8,913.60 |
| | \$86,450.00 | \$21,612.50 | \$8,645.00 | \$116,707.50 | \$60,687.90 |
| Exterior AODA | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Washrooms | \$215,642.80 | \$53,910.73 | \$21,564.27 | \$291,117.79 | \$151,381.25 |
| | \$22,006.14 | \$5,501.54 | \$2,200.61 | \$29,708.29 | \$15,448.31 |
| | \$15,053.70 | \$3,763.43 | \$1,505.37 | \$20,322.50 | \$10,567.70 |
| | \$9,669.35 | \$2,417.34 | \$966.93 | \$13,053.62 | \$6,787.88 |
| | \$32,537.82 | \$8,134.46 | \$3,253.78 | \$43,926.06 | \$22,841.55 |
| | \$5,931.71 | \$1,482.93 | \$593.17 | \$8,007.81 | \$4,164.06 |
| | \$6,203.31 | \$1,550.83 | \$620.33 | \$8,374.47 | \$4,354.72 |
| | \$3,004.35 | \$751.09 | \$300.44 | \$4,055.87 | \$2,109.05 |
| | \$9,018.72 | \$2,254.68 | \$901.87 | \$12,175.27 | \$6,331.14 |
| | \$316.20 | \$79.05 | \$31.62 | \$426.87 | \$221.97 |
| | \$20,338.50 | \$5,084.63 | \$2,033.85 | \$27,456.98 | \$14,277.63 |
| | \$91,563.00 | \$22,890.75 | \$9,156.30 | \$123,610.05 | \$64,277.23 |
| TOTAL | \$3,827,651.12 | \$956,912.97 | \$382,765.09 | \$5,167,329.07 | \$2,687,011.12 |

*Information taken from JS Held Facility Condition Assessment Report

FIRE STATION 2

| COST OF REPAIRS | | | | |
|------------------------------|---------------------|-----------------------|--------------------|---------------------|
| | Replacement Cost | Location Factor (25%) | Soft Cost (10%) | Total Repair Cost |
| Foundation | \$198,578.00 | \$49,644.50 | \$19,857.81 | \$268,080.30 |
| | \$66,218.69 | \$16,554.67 | \$6,621.87 | \$89,395.23 |
| | \$116,018.56 | \$29,004.64 | \$11,601.86 | \$156,625.06 |
| | \$6,340.75 | \$1,585.19 | \$634.08 | \$8,560.01 |
| | \$10,000.00 | \$2,500.00 | \$1,000.00 | \$13,500.00 |
| Superstructure | \$641,438.20 | \$160,359.55 | \$64,143.82 | \$865,941.57 |
| | \$348,055.68 | \$87,013.92 | \$34,805.57 | \$469,875.17 |
| | \$130,000.00 | \$32,500.00 | \$13,000.00 | \$175,500.00 |
| | \$163,382.52 | \$40,845.63 | \$16,338.25 | \$220,566.40 |
| Exterior Enclosure | \$353,151.48 | \$88,287.88 | \$35,315.16 | \$476,754.48 |
| | \$156,536.64 | \$39,134.16 | \$15,653.66 | \$211,324.46 |
| | \$8,001.72 | \$2,000.43 | \$800.17 | \$10,802.32 |
| | \$15,971.78 | \$3,992.95 | \$1,597.18 | \$21,561.90 |
| | \$77,230.35 | \$19,307.59 | \$7,723.04 | \$104,260.97 |
| | \$10,241.95 | \$2,560.49 | \$1,024.20 | \$13,826.63 |
| | \$66,673.29 | \$16,668.32 | \$6,667.33 | \$90,008.94 |
| | \$18,495.75 | \$4,623.94 | \$1,849.58 | \$24,969.26 |
| Roofing | \$125,892.48 | \$31,473.12 | \$12,589.25 | \$169,954.85 |
| | \$125,892.48 | \$31,473.12 | \$12,589.25 | \$169,954.85 |
| Interior constructure | \$140,833.62 | \$35,208.41 | \$14,083.36 | \$190,125.39 |
| | \$72,773.02 | \$18,193.25 | \$7,277.30 | \$98,243.57 |
| | \$36,655.20 | \$9,163.80 | \$3,665.52 | \$49,484.52 |
| | \$9,102.52 | \$2,275.63 | \$910.25 | \$12,288.40 |
| | \$17,057.36 | \$4,264.34 | \$1,705.74 | \$23,027.44 |
| | \$2,699.90 | \$674.98 | \$269.99 | \$3,644.87 |
| | \$2,545.62 | \$636.41 | \$254.56 | \$3,436.59 |
| Interior Finishes | \$14,399.00 | \$3,599.75 | \$1,439.90 | \$19,438.65 |
| | \$14,399.00 | \$3,599.75 | \$1,439.90 | \$19,438.65 |
| Plumbing | \$228,766.41 | \$57,191.63 | \$22,876.65 | \$308,834.65 |
| | \$28,696.08 | \$7,174.02 | \$2,869.61 | \$38,739.71 |
| | \$9,900.77 | \$2,475.19 | \$990.08 | \$13,366.04 |
| | \$5,988.95 | \$1,497.24 | \$598.90 | \$8,085.08 |
| | \$44,355.50 | \$11,088.88 | \$4,435.55 | \$59,879.93 |
| | \$4,045.64 | \$1,011.41 | \$404.56 | \$5,461.61 |
| | \$2,144.19 | \$536.05 | \$214.42 | \$2,894.65 |
| | \$16,276.54 | \$4,069.14 | \$1,627.65 | \$21,973.33 |
| | \$15,736.56 | \$3,934.14 | \$1,573.66 | \$21,244.36 |
| | \$20,133.54 | \$5,033.39 | \$2,013.35 | \$27,180.28 |
| | \$24,714.67 | \$6,178.67 | \$2,471.47 | \$33,364.80 |
| | \$24,714.67 | \$6,178.67 | \$2,471.47 | \$33,364.80 |
| | \$32,059.30 | \$8,014.83 | \$3,205.93 | \$43,280.06 |
| HVAC | \$193,663.84 | \$48,415.99 | \$19,366.37 | \$261,446.20 |
| | \$34,256.43 | \$8,564.11 | \$3,425.64 | \$46,246.18 |
| | \$5,690.62 | \$1,422.66 | \$569.06 | \$7,682.34 |
| | \$11,185.30 | \$2,796.33 | \$1,118.53 | \$15,100.16 |
| | \$45,975.44 | \$11,493.86 | \$4,597.54 | \$62,066.84 |
| | \$4,123.83 | \$1,030.96 | \$412.38 | \$5,567.17 |
| | \$14,733.74 | \$3,683.44 | \$1,473.37 | \$19,890.55 |
| | \$4,782.68 | \$1,195.67 | \$478.27 | \$6,456.62 |
| | \$36,457.90 | \$9,114.48 | \$3,645.79 | \$49,218.17 |
| | \$36,457.90 | \$9,114.48 | \$3,645.79 | \$49,218.17 |
| Fire Protection | \$462.84 | \$115.71 | \$46.28 | \$624.83 |
| | \$462.84 | \$115.71 | \$46.28 | \$624.83 |
| Electrical | \$248,201.83 | \$62,050.49 | \$24,820.18 | \$335,072.47 |
| | \$57,777.86 | \$14,444.47 | \$5,777.79 | \$78,000.11 |
| | \$14,039.48 | \$3,509.87 | \$1,403.95 | \$18,953.30 |
| | \$3,702.72 | \$925.68 | \$370.27 | \$4,998.67 |
| | \$24,761.94 | \$6,190.49 | \$2,476.19 | \$33,428.62 |
| | \$41,269.90 | \$10,317.48 | \$4,126.99 | \$55,714.36 |
| | \$3,317.02 | \$829.26 | \$331.70 | \$4,477.98 |

| | | | | |
|----------------------------------|-----------------------|---------------------|---------------------|-----------------------|
| | \$7,019.74 | \$1,754.94 | \$701.97 | \$9,476.65 |
| | \$12,419.54 | \$3,104.89 | \$1,241.95 | \$16,766.38 |
| | \$20,364.96 | \$5,091.24 | \$2,036.50 | \$27,492.70 |
| | \$16,893.66 | \$4,223.42 | \$1,689.37 | \$22,806.44 |
| | \$32,000.00 | \$8,000.00 | \$3,200.00 | \$43,200.00 |
| | \$14,635.01 | \$3,658.75 | \$1,463.50 | \$19,757.26 |
| Furnishings | \$3,203.90 | \$800.98 | \$320.39 | \$4,325.27 |
| | \$3,203.90 | \$800.98 | \$320.39 | \$4,325.27 |
| Site Mechanical Utilities | \$26,126.06 | \$6,531.52 | \$2,612.61 | \$35,270.18 |
| | \$26,126.06 | \$6,531.52 | \$2,612.61 | \$35,270.18 |
| Exterior AODA | \$20,824.92 | \$5,206.23 | \$2,082.49 | \$28,113.64 |
| | \$20,824.92 | \$5,206.23 | \$2,082.49 | \$28,113.64 |
| Washrooms | \$52,692.25 | \$13,173.07 | \$5,269.22 | \$71,134.54 |
| | \$3,667.69 | \$916.92 | \$366.77 | \$4,951.38 |
| | \$5,017.90 | \$1,254.48 | \$501.79 | \$6,774.17 |
| | \$3,223.12 | \$805.78 | \$322.31 | \$4,351.21 |
| | \$10,845.94 | \$2,711.49 | \$1,084.59 | \$14,642.02 |
| | \$1,977.24 | \$494.31 | \$197.72 | \$2,669.27 |
| | \$2,067.77 | \$516.94 | \$206.78 | \$2,791.49 |
| | \$1,001.45 | \$250.36 | \$100.15 | \$1,351.96 |
| | \$3,006.24 | \$751.56 | \$300.62 | \$4,058.42 |
| | \$105.40 | \$26.35 | \$10.54 | \$142.29 |
| | \$6,779.50 | \$1,694.88 | \$677.95 | \$9,152.33 |
| | \$15,000.00 | \$3,750.00 | \$1,500.00 | \$20,250.00 |
| TOTAL | \$2,248,234.83 | \$562,058.83 | \$224,823.49 | \$3,035,117.02 |

*Information taken from JS Held Facility Condition Assessment Report

FIRE STATION 3

| COST OF REPAIRS | | | | |
|------------------------------|---------------------|-----------------------|--------------------|---------------------|
| | Replacement Cost | Location Factor (25%) | Soft Cost (10%) | Total Repair Cost |
| Foundation | \$179,079.51 | \$44,769.88 | \$17,907.95 | \$241,757.33 |
| | \$43,317.32 | \$10,829.33 | \$4,331.73 | \$58,478.38 |
| | \$49,421.44 | \$12,355.36 | \$4,942.14 | \$66,718.94 |
| | \$6,340.75 | \$1,585.19 | \$634.08 | \$8,560.01 |
| | \$80,000.00 | \$20,000.00 | \$8,000.00 | \$108,000.00 |
| Superstructure | \$317,360.33 | \$79,340.09 | \$31,736.04 | \$428,436.44 |
| | \$148,264.32 | \$37,066.08 | \$14,826.43 | \$200,156.83 |
| | \$110,000.00 | \$27,500.00 | \$11,000.00 | \$148,500.00 |
| | \$29,719.35 | \$7,429.84 | \$2,971.94 | \$40,121.12 |
| | \$29,376.66 | \$7,344.17 | \$2,937.67 | \$39,658.49 |
| Exterior Enclosure | \$236,332.41 | \$59,083.10 | \$23,633.25 | \$319,048.76 |
| | \$92,289.60 | \$23,072.40 | \$9,228.96 | \$124,590.96 |
| | \$9,173.52 | \$2,293.38 | \$917.35 | \$12,384.25 |
| | \$23,346.60 | \$5,836.65 | \$2,334.66 | \$31,517.92 |
| | \$23,510.00 | \$5,877.50 | \$2,351.00 | \$31,738.50 |
| | \$10,241.95 | \$2,560.49 | \$1,024.20 | \$13,826.63 |
| | \$66,673.29 | \$16,668.32 | \$6,667.33 | \$90,008.94 |
| | \$11,097.45 | \$2,774.36 | \$1,109.75 | \$14,981.56 |
| Roofing | \$39,480.12 | \$9,870.03 | \$3,948.01 | \$53,298.16 |
| | \$30,991.68 | \$7,747.92 | \$3,099.17 | \$41,838.77 |
| | \$8,488.44 | \$2,122.11 | \$848.84 | \$11,459.39 |
| Interior Construction | \$51,295.84 | \$12,823.97 | \$5,129.59 | \$69,249.39 |
| | \$36,655.20 | \$9,163.80 | \$3,665.52 | \$49,484.52 |
| | \$3,877.48 | \$969.37 | \$387.75 | \$5,234.60 |
| | \$8,528.68 | \$2,132.17 | \$852.87 | \$11,513.72 |
| | \$1,150.10 | \$287.53 | \$115.01 | \$1,552.64 |
| | \$1,084.38 | \$271.10 | \$108.44 | \$1,463.91 |
| Interior Finishes | \$59,470.55 | \$14,867.64 | \$5,947.06 | \$80,285.25 |
| | \$2,375.80 | \$593.95 | \$237.58 | \$3,207.33 |
| | \$9,540.00 | \$2,385.00 | \$954.00 | \$12,879.00 |
| | \$15,187.65 | \$3,796.91 | \$1,518.77 | \$20,503.33 |
| | \$32,367.10 | \$8,091.78 | \$3,236.71 | \$43,695.59 |
| Plumbing | \$100,126.00 | \$25,031.52 | \$10,012.61 | \$135,170.08 |
| | \$12,223.92 | \$3,055.98 | \$1,222.39 | \$16,502.29 |
| | \$9,900.77 | \$2,475.19 | \$990.08 | \$13,366.04 |
| | \$5,988.95 | \$1,497.24 | \$598.90 | \$8,085.08 |
| | \$18,894.50 | \$4,723.63 | \$1,889.45 | \$25,507.58 |
| | \$4,045.64 | \$1,011.41 | \$404.56 | \$5,461.61 |
| | \$2,144.19 | \$536.05 | \$214.42 | \$2,894.65 |
| | \$6,933.46 | \$1,733.37 | \$693.35 | \$9,360.17 |
| | \$6,703.44 | \$1,675.86 | \$670.34 | \$9,049.64 |
| | \$8,576.46 | \$2,144.12 | \$857.65 | \$11,578.22 |
| | \$24,714.67 | \$6,178.67 | \$2,471.47 | \$33,364.80 |
| HVAC | \$25,637.15 | \$6,409.30 | \$2,563.71 | \$34,610.17 |
| | \$6,857.30 | \$1,714.33 | \$685.73 | \$9,257.36 |
| | \$5,690.62 | \$1,422.66 | \$569.06 | \$7,682.34 |
| | \$4,764.70 | \$1,191.18 | \$476.47 | \$6,432.35 |
| | \$6,287.21 | \$1,571.80 | \$628.72 | \$8,487.74 |
| | \$2,037.32 | \$509.33 | \$203.73 | \$2,750.38 |
| Fire Protection | \$328.60 | \$82.15 | \$32.86 | \$443.61 |
| | \$328.60 | \$82.15 | \$32.86 | \$443.61 |
| Electrical | \$132,498.19 | \$33,124.58 | \$13,249.82 | \$178,872.55 |
| | \$24,612.14 | \$6,153.04 | \$2,461.21 | \$33,226.39 |
| | \$5,980.52 | \$1,495.13 | \$598.05 | \$8,073.70 |
| | \$1,577.28 | \$394.32 | \$157.73 | \$2,129.33 |
| | \$10,548.06 | \$2,637.02 | \$1,054.81 | \$14,239.88 |
| | \$17,580.10 | \$4,395.03 | \$1,758.01 | \$23,733.14 |
| | \$1,412.98 | \$353.25 | \$141.30 | \$1,907.52 |
| | \$2,990.26 | \$747.57 | \$299.03 | \$4,036.85 |
| | \$5,290.46 | \$1,322.62 | \$529.05 | \$7,142.12 |
| | \$8,675.04 | \$2,168.76 | \$867.50 | \$11,711.30 |

| | | | | |
|--------------------------|-----------------------|---------------------|---------------------|-----------------------|
| | \$7,196.34 | \$1,799.09 | \$719.63 | \$9,715.06 |
| | \$32,000.00 | \$8,000.00 | \$3,200.00 | \$43,200.00 |
| | \$14,635.01 | \$3,658.75 | \$1,463.50 | \$19,757.26 |
| Furnishing | \$3,203.90 | \$800.98 | \$320.39 | \$4,325.27 |
| | \$3,203.90 | \$800.98 | \$320.39 | \$4,325.27 |
| Site Improvements | \$75,171.25 | \$18,792.81 | \$7,517.13 | \$101,481.19 |
| | \$75,171.25 | \$18,792.81 | \$7,517.13 | \$101,481.19 |
| Exterior AODA | \$20,824.92 | \$5,206.23 | \$2,082.49 | \$28,113.64 |
| | \$20,824.92 | \$5,206.23 | \$2,082.49 | \$28,113.64 |
| Washrooms | \$52,692.25 | \$13,173.07 | \$5,269.22 | \$71,134.54 |
| | \$3,667.69 | \$916.92 | \$366.77 | \$4,951.38 |
| | \$5,017.90 | \$1,254.48 | \$501.79 | \$6,774.17 |
| | \$3,223.12 | \$805.78 | \$322.31 | \$4,351.21 |
| | \$10,845.94 | \$2,711.49 | \$1,084.59 | \$14,642.02 |
| | \$1,977.24 | \$494.31 | \$197.72 | \$2,669.27 |
| | \$2,067.77 | \$516.94 | \$206.78 | \$2,791.49 |
| | \$1,001.45 | \$250.36 | \$100.15 | \$1,351.96 |
| | \$3,006.24 | \$751.56 | \$300.62 | \$4,058.42 |
| | \$105.40 | \$26.35 | \$10.54 | \$142.29 |
| | \$6,779.50 | \$1,694.88 | \$677.95 | \$9,152.33 |
| | \$15,000.00 | \$3,750.00 | \$1,500.00 | \$20,250.00 |
| TOTAL | \$1,293,501.02 | \$323,375.35 | \$129,350.13 | \$1,746,226.38 |

*Information taken from JS Held Facility Condition Assessment Report