



# City of Richmond

## Report to Committee

**To:** General Purposes Committee

**Date:** December 20, 2019

**From:** Jim Young  
Director, Facilities and Project Development

**File:** 06-2050-01/2017-Vol 01

**Re:** Ageing Facility Infrastructure – Update

### Staff Recommendation

That the report titled “Ageing Facility Infrastructure – Update” dated December 20, 2019 from the Director, Facilities and Project Development, be received for information.

*Jim V. Young*

Jim Young, P.Eng.  
Director, Facilities and Project Development  
(604-247-4610)

REPORT CONCURRENCE		
<b>ROUTED TO:</b>  Finance Division	<b>CONCURRENCE</b>  <input checked="" type="checkbox"/>	<b>CONCURRENCE OF GENERAL MANAGER</b>  <i>John King</i>
<b>REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE</b>	<b>INITIALS:</b>  <i>CS</i>	<b>APPROVED BY CAO</b>  <i>Chris D...</i>

## Staff Report

### Origin

On September 23, 2002, staff submitted an Ageing Facility Infrastructure Report to Council for information as requested by the Public Works and Transportation Committee. The purpose was to provide Council with a pictorial overview of typical problems, a summary of the prioritized maintenance deficiencies and Facility Condition Index (FCI) for the selected buildings.

The report highlighted the early stage facility condition assessments done through the recently adopted Vanderwell Facility Advisors assessment program and computerized maintenance planning software (now VFA Canada Corporation) through RFP 2238P. Facility condition assessments have continued on a rotating schedule since 2002 providing valuable building information used to forecast the City's facility maintenance needs.

Staff have submitted multiple Ageing Facility Infrastructure Update Reports since the 2002 Report to Council for information. The reports are a means to periodically update Council on the overall facility condition, age, and future needs. The reports also provide Council with a comprehensive view of the City's infrastructure and funding needs which serve to support our upcoming capital submissions to better maintain the City's building inventory.

This report supports Council's Strategic Plan 2018-2022 Strategy #1 A Safe and Resilient City:

*Enhance and protect the safety and well-being of Richmond.*

*1.2 Future-proof and maintain city infrastructure to keep the community safe.*

This report supports Council's Strategic Plan 2018-2022 Strategy #4 An Active and Thriving Richmond:

*An active and thriving community characterized by diverse social and wellness programs, services and spaces that foster health and well-being for all.*

*4.2 Ensure infrastructure meets changing community needs, current trends and best practices.*

This report supports Council's Strategic Plan 2018-2022 Strategy #5 Sound Financial Management:

*Accountable, transparent, and responsible financial management that supports the needs of the community into the future.*

*5.3 Decision-making focuses on sustainability and considers circular economic principles.*

## Background

The City's owned and leased facilities inventory consists of 165 buildings with a total building area of approximately 2,200,000 sq. ft. These facilities are operating as intended and will continue to do so with appropriate funding levels.

City facilities are critical to the delivery of a broad range of services to the public. Several of the facilities are unique to Richmond and establish an important and positive cultural or iconic identity, such as Britannia Shipyards National Historic Site, Branscombe House, Seine Net Loft and the Richmond Olympic Oval.

Construction of City-owned facilities is accomplished through Council approved capital programs and/or agreements with developers. For capital projects, staff define a scope of work in consultation with the user groups and the public, leading to construction through the public procurement process. A similar process is followed with developer related facilities, whereby the developer often assumes the role of design/construction lead and City staff assumes a review/approval and quality assurance role.

Once constructed, it is necessary to fund and perform day-to-day operations and maintenance activities at all facilities to enable their intended uses, including janitorial services and minor repairs/replacements such as filter replacements to HVAC systems. It is also necessary to fund and complete preventative maintenance programs, which may include items such as roof replacement, boiler replacement and new paint for the building interior/exterior, to ensure continuity of service.

The practical life expectancy of a facility is generally 45 years or more; however, with regular preventive maintenance, the life of a quality building can be extended much longer. The City currently has Council approved funding in place for operations/maintenance, preventative maintenance and capital replacement programs. The Capital Building and Infrastructure Reserve has been established to fund capital related facility construction and major renovations.

On an ongoing basis, staff develop and update a comprehensive plan for capital repair and improvements. This plan considers the condition of all current infrastructure assets such as buildings and equipment, and is used to plan infrastructure replacement and repair needs in the future within available capital and operating funding levels.

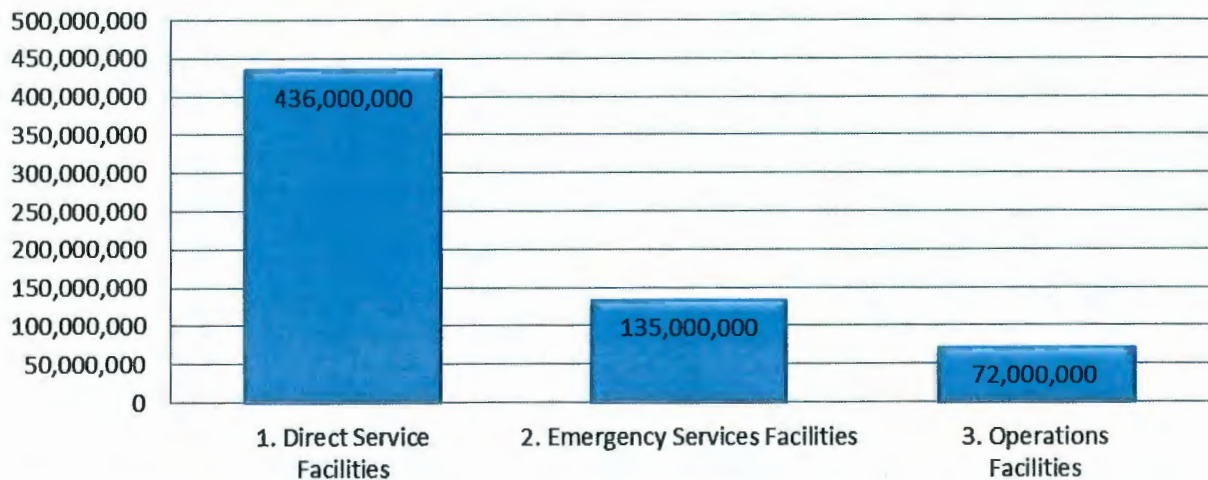
The City's building inventory is comprised of three categories, specifically facilities that serve community services, emergency services and City operations.

1. **Direct Service Facilities** – These are facilities where the public comes to access service or do business. This includes City Hall, community centres, libraries, sports/recreation, heritage, social programs and related facilities.
2. **Emergency Service Facilities** – This category includes fire, police, emergency response programs and related facilities.

3. **Operations Facilities** – These are facilities that are critical to service and infrastructure support, but do not receive the public. The key facility in this category is the Works Yard, excluding the recycling depot.

The graph below illustrates Council approved capital funding from 1989 to 2019 for the City’s three building categories.

### Capital Expenditure by Facility Category 1989 - 2019



The City currently has Council approved annual funding in the operating budget of approximately \$4 million for Infrastructure Replacement and Building Improvement programs. This is for repair and preventative maintenance, but is insufficient to ensure buildings remain operable. Additional capital funding is always required to complete major repairs and replacements for critical building components, such as roofs, boilers and elevators. For 2019, facility related capital utilities funding of \$17.5 million was approved by Council to complete major repairs to buildings such as Gateway Theatre, Watermania, Minoru Arenas, the Works Yard, City Hall and City Hall Annex facilities. Additional operating budget funding is also in place to complete day-to-day facility operations related activities such as janitorial, minor repairs, etc., as well as payment for power, gas, etc.

These preventative maintenance and facility capital programs are planned in advance by staff with the aid of maintenance planning software and are based on information collected through regular building condition assessments. These assessments are critical for staff in understanding the overall health and condition of the City’s building portfolio and the subsequent analysis enables staff to recognize levels of deferred maintenance and to anticipate future maintenance needs.

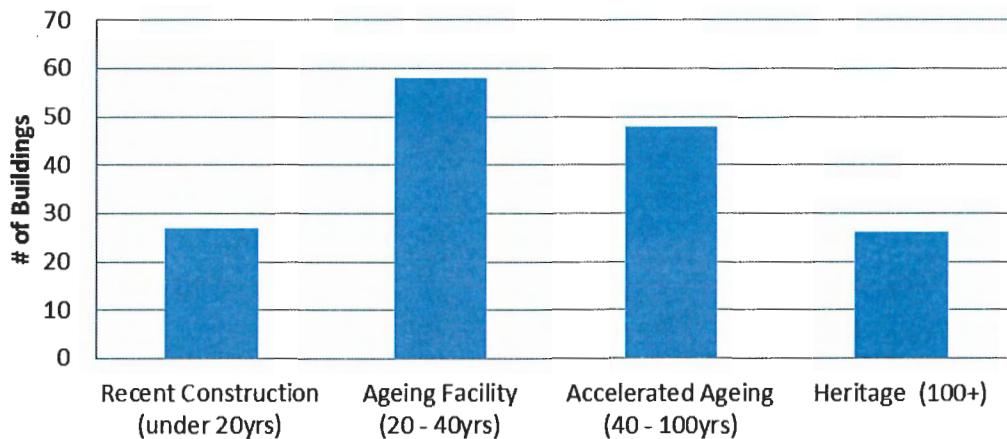
The City generally completes annual physical audits of 25 per cent of City facilities through detailed site visits and assessments. These assessments are conducted by a team of engineers, architects and staff through facility site walks, interviews, testing, plan review and historical maintenance reporting in order to expertly assess the overall facility condition.

**Analysis**

Through previous assessments and facility information, the City’s general building portfolio is entering a period of decline as the average building age is 48 years, which is beyond the practical life expectancy of 45 years. While some assets are in reasonable shape and lasting longer than anticipated, other assets have deteriorated due to heavier use or less resilient design/construction and deferred maintenance levels. The graph below provides an overview of facility age and number of buildings in each age category.

**Facility Information**

Average Facility Age = 48



As more facilities enter into the accelerated ageing category, it is estimated that annual funding levels will need to increase for Building Improvement, Infrastructure Replacement and Capital Programs in order to ensure continued, reliable service to residents and adoption of circular economic practices. A significant example of this is the City Works Yard site which is in the accelerated ageing category and requires increased funding to accommodate major repairs and replacements to ensure the facility continues to deliver the City wide emergency response, community operations and infrastructure performance as intended. Replacement of the Works Yard has been identified by Council as a priority and will be the subject of a separate report.

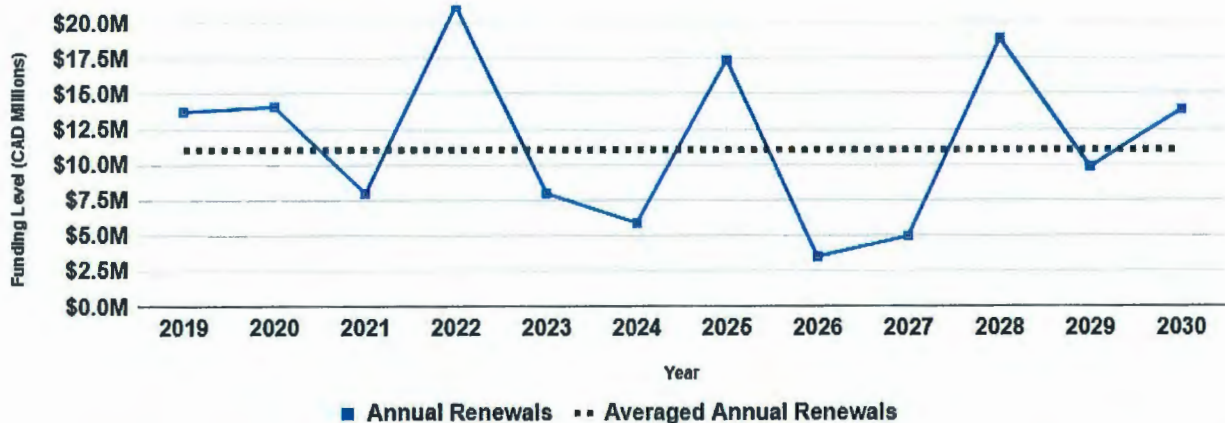
Funding projections for the next 10 years are shown on the next page in the ‘Facility Renewal Forecast’ graph, which shows a significant rise in maintenance related costs in the near future and a required average annual funding level of \$11 million. In addition to the increase in annual funding levels, construction cost escalation is being sought annually through the budgeting process; our current escalation cost is projected to be 7 per cent as detailed in the financial impact.

Without this level of funding, our facilities would deteriorate at an accelerated rate and service levels would be negatively impacted.



### Facility Renewal Forecast

Averaged Annual Funding Need - \$11M



### Consequence of Facility Deterioration

A notable industry observation related to facilities is that it costs five times as much to repair a facility on an emergency or reactive basis as compared to having a preventative maintenance program.

Significant deficiencies are anticipated should City facilities be allowed to deteriorate over the next 20 years. Examples that may be typical of non-functional facility infrastructure after 20 years includes failure of roofs, boilers and HVAC systems; similar to the recent chiller failure at the RCMP building and the boiler failure at City Hall. The consequence of these items no longer functioning are significant and could lead to facility closure, service level interruption, loss of City revenue, negative public perception and elevated costs to react in emergency conditions.

While facility replacement is an excellent solution to address growth needs and implement modern systems and design, those facilities that are intended for long term use greatly benefit from the City’s preventative maintenance programs.

The current service level can be maintained through increased preventative maintenance funding and continued capital funding for building rehabilitation and replacement support as follows:

- Capital Replacement - The Council-approved Major Facilities Phase 1 projects represent over \$124 million in capital investment for the replacement of Minoru Aquatics, Older Adults Centre, City Centre Community Centre, Fire Hall No. 1 and Fire Hall No. 3. On December 12, 2016, Council also approved Advanced Design and Planning funding to commence the Richmond Major Facilities Phase 2 program. This includes the replacement or expansion of the Richmond Animal Shelter, Richmond Lawn Bowling Club, City Centre Community Centre North, Steveston Community Centre and Branch Library. The new facilities will provide medium term relief from the increasing cost of maintaining the old facilities and introduce service level improvements. Investing in the capital replacement of buildings is a key strategy for maintaining overall facility condition and addressing growing service level demands;

- Capital Repairs - In 2019, Council approved \$17.5 million of capital funding to complete major repairs and rehabilitation. Staff are currently preparing the 2020 – 2024 Building Capital Program for Council consideration and it is anticipated that the capital repair funding for this five-year period will be in the \$60 - \$70 million range. Staff will continue to prepare annual and five-year capital programs with required levels of funding for Council consideration and approval; and
- Operating Maintenance and Minor Capital - Current facility infrastructure replacement, improvement and annual maintenance operating budget funding is approximately \$4 million. Going forward, it is estimated that this level of funding needs to be increased by at least the price index associated with building construction (estimated to be seven per cent in 2019), to maintain existing service levels.

Staff will utilize the preceding analysis and information outlined in preparation of future operating and capital budgets with the objective of maintaining the current level of overall facility condition and service level.

### **Financial Impact**

The impact of increasing the Operating Maintenance and Minor Capital budget by 7 per cent associated with building construction cost escalation is estimated to be approximately \$280,000 which will be considered in the 2020 budget process.

### **Conclusion**

While the City's facility infrastructure is operating as expected and being maintained in good order, it is entering a period of accelerated deterioration due to age and deferred major maintenance. In order to maintain the current facility condition and service levels, reduce levels of deferred maintenance and prevent future equipment failures and service disruptions, sustained funding will be required through the City's operating and capital budgets.



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