Central Saanich Municipal Building
Building Code Compliance & Accessibility
Building Assessment Report

Project Number:
2025506

Prepared For:
District of Central Saanich
1903 Mount Newton Cross Road
Saanichton BC V8M 2A9

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2025-05-15

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1 EXECUTIVE SUMMARY

Number Ten Architectural Group was engaged by the District of Central Saanich to provide a Facility Condition Assessment including building code compliance and accessibility of the existing Municipal Building located at 1903 Mount Newton Cross Road. The consultant team performed a review of the existing conditions, record drawings, and applicable codes, and have provided recommendations and proposed solutions to upgrade the existing facility to meet current building code and accessibility requirements.

The existing two storey municipal building is comprised of the original hall constructed in 1965, as well as additions for Police and Fire Departments constructed in 1977 and 1979, respectively. The building has undergone numerous renovations over the past decades including additions and interior renovations. The building has been generally well maintained, and renovations have provided improvements for both staff and public use of the building, however a number of key base building elements no longer meet current building code standards and should be upgraded to enhance safety, accessibility and building occupant experience.

Building codes have changed since the building was constructed. Generally new codes will not apply to buildings previously built to code, and upgrades to the entire existing non-compliant buildings are not typically required to meet new codes. The District has stated the intent is to meet current building code and upgrade the building to meet seismic standards, a portion of which will be upgrades to post disaster standards if they continue to occupy the facility. Any future renovations will be required to meet current building code standards; the District's proposed upgrade would include the entire existing municipal facility with the whole building being upgraded to meet the new building code standard. Key areas for consideration of upgrades to the base building and site include:

- Fire Separations and Sprinklers
- Means of Egress
- Provision of Elevator
- Design and Provision of Exterior Accessible Path of Travel to Street and Accessible Parking
- Accessible Design of Washrooms and Provision of Universal Washroom
- Exit Stair Design Including Addition of Visual and Tactile Indicators

There are additional deficiencies for building code and accessibility present throughout the building including provision of minimum clear maneuvering spaces at doors, accessible height of controls, and accessible door hardware. If the District were to undertake a full building upgrade, these deficiencies would be addressed as building system replacements and hazmat abatement would require reconstruction/replacement of the majority of these features. A full description of the key issues and proposed design solution options are detailed in the following report.

A Building Condition Assessment was prepared by WSP Canada Inc (WSP) and includes the evaluation of the existing structure, building envelope, fire safety systems, HVAC, plumbing and electrical. The building is approaching an age when lifecycle renewal of major components is expected and recommended upgrades are outlined in the report.

A Seismic Assessment was also prepared by WSP. The existing building was not designed to meet current structural seismic code requirements and upgrading to meet the new standard and make the building a post disaster building will require substantial renovation.

A Class D Cost Estimate Report was prepared by Advicas Group Consultants Inc. The estimate provides a capital construction cost for the work recommended and outlined in this report & proposed concept plans, the building condition assessment, the seismic assessment and the

hazardous materials report. The report estimates that the total capital construction cost to be $35,031,107 excluding GST, broken down as follows:

New Building	$14,707,377	$8,452.52/sq.m
Site Development	$2,784,101	$163.55/sq.m
Alterations & Demolition	$17,539,630	$8,171.47/sq.m
TOTAL	**$35,031,107**	**$8,171.47/sq.m**

2 TERMS OF REFERENCE

Project Name:	Central Saanich Municipal Building
Location of Project:	1903 Mount Newton Cross Road Saanichton BC
Client	District of Central Saanich
User:	Central Saanich Municipal Hall, Fire Department, & Police Department
Report Title:	Building Code Compliance and Accessibility Building Assessment Report

2.1 Project Description

The purpose of the Architectural project scope is to assess existing building condition in relation to building code compliance and accessibility. Building features deemed deficient or in need of improvement will be identified and recommendations for upgrades will be presented for consideration. The proposed design solutions are to bring building features up to current code requirements and improve building accessibility.

2.2 Project Scope of Work

Architectural Scope of Work for the project includes:

- Perform field review of existing conditions and review of existing building documentation.
- Identify building code deficiencies.
- Evaluate code compliance of existing building including accessibility features.
- Provide report with options and recommendations to upgrade the existing building systems.
- Provide recommendations that are based on feasibility and impact with regard to current code (2024 BCBC) requirements.
- Propose concept design solutions for building addition to meet expanded program requirements, and full building renovation to meet program, building code and accessibility requirements.

2.3 Project Team

This report has been prepared by Number Ten Architectural Group for the District of Central Saanich as part of a larger consultant project team including WSP Canada Inc. (WSP)

Number TEN Architectural Group

- Rob Halliday, Architect AIBC, MAA, MRAIC, Partner — Lead Architect
- Sian Demerse, BSc. Arch. — Project Manager
- Evan Locke, MFA, RHFAC Professional — Designer

3 EXISTING BUILDING ASSESSMENT

3.1 Existing Building & Site

The District of Central Saanich Civic Facility is located at 1903 Mount Newton Cross Road and is approximately 3000 square meters in area. It is a two-storey building made up of three functions constructed in phases; Municipal Hall originally constructed 1965, Police Department (1977), and Fire Department (1979). The building is owned and operated by the District of Central Saanich and contains municipal office spaces, Council Chambers, a Police Station including detention facilities, and a Fire Hall. The Civic Facility provides emergency response in terms of policing, fire protection and support services such as engineering support for water, roads, storm, and sewer systems.

The sloping site allows for staff and public entry to the municipal building at grade on both the Upper and Lower floors. The Upper floor serves as the main public access, with lobby and connection to both municipal and police services. The existing building does not have an elevator. Access between floors is by stairs or requires exterior circumnavigation of the building.

The building is primarily combustible wood frame construction. The primary exceptions are the fire apparatus bays, prisoner holding areas, and office storage vaults located on both levels that contain a combination of wood, concrete, and concrete block construction. The existing building is not sprinklered with the exception of the prisoner detention area.

1903 Mount Newton Cross Road Site

The site (1903 Mount Newton Cross Road) located in Saanichton BC is approximately 1.6-hectares. The site is accessible by vehicle from both Wallace Drive at the south and Mount Newton Cross Road from the north. Surface parking for staff and the public is provided at the South and East sides of the property. Police and Fire Department parking for staff and fleet vehicles as well as fire truck access and maneuvering is provided in the paved area to the North and West of the building. The property slopes from the northern most point at Mount Newton Cross Road, to the southeast corner approximately 5m in grade difference and with the exception of its street frontages, is adjoined by residential properties. A pathway connected to the site at the south provides pedestrian access from Scohon Drive.

In addition to the main building, the site contains the Fire Hall Museum (separate building) at the north end of the property as well as the Fire Department tower attached to the west of the building by walkway. These features are excluded from the building assessment by the consultant team.

3.2 Building Code

3.2.1 Existing Code Compliance

The existing building is not compliant with the current British Columbia Building Code 2024 (2024 BCBC). The existing building was built in phases from 1965-1979 with additional subsequent renovations, and it is assumed the building was code compliant at the time of construction. Building codes have changed since the building was constructed. Generally new codes will not apply to buildings previously built to code, and upgrades to the entire existing non-compliant buildings are not typically required to meet new codes. However, it is important for the District to understand that certain alterations to the existing building are more likely to trigger requirements for more substantial upgrades.

All modifications and renovations, including functional changes must be completed to the code in effect at the time, and where the existing building is affected by these renovations, it can be required that the impacted areas of the existing building be brought up to current code as part of the renovation. Even where non-compliant conditions do not require upgrades to the current code by the Authority Having Jurisdiction (AHJ), renovations cannot reduce the code compliance or life safety of a building. The stated intent of the District is for the facility to meet compliance including seismic, post-disaster, accessibility, and energy standards of the 2024 BC Building Code.

The current building area, construction type, and occupancies are not consistent with a non-sprinklered building under the 2024 BCBC. The building contains Group D (offices), Group F2 (fire hall apparatus bay), Group A (assembly space), and Group B1 (police detention area) occupancies. In Conformance with 3.2.2.6 of the 2024 BCBC, when containing more than one major occupancy, the building requirements of the most restricted major occupancy contained is to apply to the whole building. For the given uses and building area the building if constructed today would be classified under 3.2.2.60 Group D up to 6 storeys, sprinklered. For the existing building to conform to the requirements of the 2024 BCBC, it will be required that the whole building is sprinklered, as well as fire resistance ratings of all assemblies, and fire separations between suites upgraded.

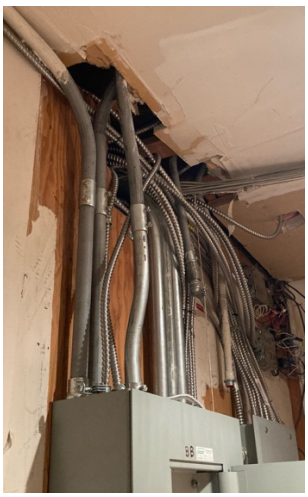
The building does not meet current building code intent regarding accessibility. In particular, all pedestrian entrances should be accessible, and although each floor has an accessible entry, an elevator is required as no continuous assessable path of travel is provided connecting different functions on the upper and lower floors of the building. The intent is to limit the probability that people using a manual wheelchair or other manual mobility assistance device will not be able to enter a suite without the assistance of another person. The existing building has multiple exterior access points that require use of stairs or require circumnavigation of the building via vehicle drive aisle to accessibly enter. The desired solution to accessible travel between floors is installation of a commercial grade elevator.

The existing building is asbestos containing and will require major building systems renewal within the next 10 years (see Appendix B - Facility Condition Assessment). Completing the desired abatement of existing hazardous materials and seismic upgrade of the building requires substantial demolition and impact throughout the existing facilities making a full upgrade to building code compliance a logical—if not required—aspect of a building renovation. Number TEN has proposed an upgrade of the existing building that additionally re-plans the functional spaces to accommodate the District's desired program requirements and eliminate existing code deficiencies (see Appendix D – Civic Facility Concept Renovation Plans).

3.3 Key Building Code Issues

3.3.1 Fire Separations and Sprinklers

Existing fire resistance ratings of assemblies and separations of suites were either deficient, or not present (no continuous drywall in ceilings, multiple openings/penetrations through assemblies). Where existing fire separations between suites do exist, they cannot be confirmed to meet the ratings (1&2 hours depending on location). Existing historic construction within the building also cannot be assumed to meet the fire resistance ratings (1/2" drywall of unspecified type). The proposed renovation including abatement in the building would additionally eliminate any/all existing fire separations and fire rating of assemblies through removal of the existing drywall. It should be assumed that all required fire separations and fire resistance ratings throughout the building would need to be constructed as new and include new Type X Gypsum Wall Board to all supporting structural walls, suite dividing walls, and ceilings.



Existing Assemblies Lack Required Fire Resistance Ratings

Existing 45min Doors

The building is currently partially sprinklered with coverage only provided to the prisoner detention area. Compliance with the current 2024 BCBC requires the entire building to be sprinklered. The building size, construction, included occupancies, and exit conditions, require installation of a new whole building automatic sprinkler system as the basis of the provided solutions to deficiencies.

3.3.2 Means of Egress

The existing building generally conforms to the required number of exits and maximum allowable travel distances for the given spaces. Exits consist of exterior doors at grade as well as enclosed exit stairs at the north and west of the building. An accessible exit directly at grade is available as required from each suite. The existing exits have a number of code deficiencies:

- Continuity and fire resistance ratings of exit stairs is assumed to be non-compliant with the required 1-hour rating.
- Exterior thresholds at north and west stairs are potential tripping hazards (they appear to exceed the allowable grade change per the code).
- Design of exit stairs are non-compliant with current safety design standards including hand-rail design, provision of colour contrasting nosing and tactile indicators and clear maneuvering space at manually operated doors. Stair width and tread and riser dimensions may additionally be non-compliant.

- West stair serving the council chambers and fire hall has a storage room that opens directly into the exit stair which is not permitted.
- Upper floor east exit door from municipal offices has non-conforming stairs and landing outside, storage located in the vestibule inside, and the vestibule door from the corridor does not have adequate clear maneuvering space.
- South exterior exit from council chambers is accessed via an interconnected floor space (open stairwell) with an exit door on the mid landing lacking adequate clear maneuvering space and the handrail design is also deficient.
- Lower floor northeast exterior exit from planning office requires use of exterior stairwell not conforming to current safety design standards and has an exposure condition to unprotected openings where it travels past windows on both floors.
- Lower floor south exit from municipal offices utilizes an exterior concrete stair that appears to meet general requirements, however lacks required visually contrasting nosing.
- Lower floor central south facing accessible exit doors exposes onto unprotected openings as it requires travel past exterior windows.
- Exiting within the existing fire hall has travel distance issues and interior stair design deficiencies once the existing mezzanines are taken into account - the mezzanines additionally lack required fire ratings.
- West lower floor access/exit from police staff room has non-conforming ramp/sloped floor condition both interior and exterior of door.
- Exit from police holding cell area exposes to unprotected openings of windows in adjacent staff area.

The existing building has a number of exits that are exposed to unprotected openings where the exit path outside the building requires travel past windows. These conditions can be resolved with removal of the exposing windows, replacement with fire-rated laminated glass or glass block, and the addition of sprinklers, or altering the exterior exit routes. Some combination of upgrading exterior windows in addition with sprinklering of the building is assumed and included in the proposed building renovation to eliminate the exposure conditions. The remaining exit/egress deficiencies would be eliminated through the process of demolition and replacement of the doors/hardware, and renovation of the interior and exterior building walls. Planned seismic upgrades will require excavation through exterior landing conditions requiring reconstruction to conforming standards – where possible exterior stairs should be replaced with at grade or ramped access on the upper floor.

To resolve code and design shortcomings of existing interior exit stairs, the plan being recommended is full demolition and reconstruction of the exit stairs. Full reconstruction of the exit stairs as opposed to renovation of the existing elements would allow better integration with the structural design of seismic shear elements and assist in achieving the structural post-disaster requirements.

As part of the existing building operations, a security gate is used to close off access to municipal offices from the public lobby. When this gate is in place the space still retains two means of egress, but the only accessible access and exit from the upper floor municipal offices is not accessible. Planned renovation would no longer require the security gate, however it is recommended the east upper floor exit be made accessible as an additional accessible exit and staff entry point. If continued use of the security gate is required, replacement with one that includes a swing man door would make the existing configuration compliant.

3.3.3 Provision of Elevator

Despite each floor of the existing building having an accessible entry, an elevator is required as no continuous assessable path of travel is provided connecting different functions on the upper and lower floors of the building. Additionally, the existing building is not sprinklered and contains an accessible path of travel which would necessitate provision of an elevator (3.3.1.7). As existing users (staff and public) are required to unsafely traverse the vehicle drive aisle or landscaping to get between the upper and lower floor accessible entrances – the travel route does not conform to an accessible path of travel and requires a circuitous exterior route. The desired solution to accessible travel between floors is installation of a commercial grade elevator. The elevator should not require assistance to operate and provide enough space for wheelchair maneuvering within the cab (a commercial 2500lb elevator that can also accommodate a stretcher).

The proposed upgrade of the building will require installation of a new automatic sprinkler system that removes the requirement for an elevator under 3.3.1.7 but not the requirement based on need to provide an accessible path of travel between the different floors. The accessible path of travel could be accommodated with construction of a conforming exterior accessible path of travel around the building, or installation of a Limited Use Limited Application (LULA) accessible lift, however these solutions are not ideal, and would not meet the convenience, accessibility, or amenity that would be expected of a public building if it were constructed new today. A new commercial elevator would additionally provide emergency/firefighter's access to both floors from either floor entry and allow secure accessible transportation of people and larger items between floors and is a recommended inclusion of the proposed building upgrade.

Installation of a new elevator will include a new fire separated hoistway requiring new openings in both floor and roof assemblies and excavation below existing slab for the elevator pit. The elevator will also require new additional electrical service, and mechanical provisions for ventilation, sprinklering, pit drain, inspection sump and connection to perimeter drainage. These requirements have been assumed to be part of the larger seismic upgrade and building systems replacement scope. The location of the elevator should ideally be located centrally and in close proximity to the main entry lobbies on both floors – proposed concept plans illustrate potential location of new elevator in renovated building (see Appendix D – Civic Facility Concept Renovation Plans).

3.3.4 Exterior Accessible Path of Travel

The building does not meet current building code intent regarding accessibility. In particular, the provision of an accessible path of travel to all pedestrian entrances and connecting to a public thoroughfare (2024 BCBC 3.8.2.5). The intent being to limit the probability that people using a manual wheelchair or other manual mobility assistance device will not be able to enter a suite without the assistance of another person. The existing connections to the public sidewalks requires pedestrians and wheelchair users to traverse the sloped vehicular driveway not conforming to the requirements of an accessible ramp and cross behind parked cars with no marked crossing provided.

Existing Exterior Main Floor Access

A proposed design solution is to provide a code compliant walkway connecting to the sidewalk along Mount Newton Cross Road including a marked crossing over the drive aisle. Some reconfiguration of the existing parking and landscaping would be required. Access from the parking area itself is provided by a curb ramp which should be upgraded to include tactile attention indicators now required by code to warn users they are crossing into a vehicle aisle.

Exterior accessible approach from the rear parking lot is provided by an existing sloped walkway. The existing walkway is not required to be a ramp with handrails, but would benefit from the addition of cane detectable edge protection to the surrounding landscaping, and the addition of tactile attention indicators at the transition to the drive aisle (required building code).

Existing Lower Floor Access

Two accessible parking stalls are provided near the front entry for public use. The parking stalls appear to be sized adequately and are provided with a shared access aisle and the code required identification signs. However, the stalls require users to cross into the vehicle path of travel as no direct accessible aisle is provided to get to the entrance. A marked crossing connecting the access aisle between the accessible stalls and the curb ramp to the entry would be a possible way to resolve the deficiency and serve a dual purpose with the need to provide an accessible pedestrian walkway connection to the public sidewalk. Ideally the accessible parking stall would be relocated to directly outside the entry and not require crossing the drive aisle (i.e., swap locations with the existing electric vehicle charging stalls).

Existing Accessible Stalls

The staff parking at the rear has no dedicated accessible stalls. The parking layout requires all users to cross the drive aisle. The addition of at least one compliant accessible stall and a marked pedestrian crossing would improve the existing condition.

The existing electric vehicle stalls at the upper main entry do not include provisions for accessible use. Best practice would be to provide at least one of the electric charging Stations in an accessible parking configuration and include some form of 'use last' signage to indicate intention that amenity is for use by those requiring different access needs. There are currently no universal/code requirements for accessible design of vehicle charging stations, but reconfiguring one of the stalls to meet the requirements of an accessible parking stall with an access aisle is recommended to improve equal access to the provided amenity.

3.3.5 Accessible Washrooms and Universal Washroom

Existing washroom facilities are provided as gendered (male/female) and dispersed throughout the building and meet the required number of water closets for the given use and building areas. The accessibility requirements under the 2024 BCBC would additionally require one universal washroom to be constructed on each floor (3.8.3.8). None of the existing provided washrooms meet the definition of universal washroom or accessibility standards required under the 2024 BCBC including the current marked 'accessible' single user toilet rooms. None of the provided staff shower or change facilities are accessible.

The existing public accessible toilet room located in the main lobby lacks the required powered door operation. The two accessible toilet rooms provided to the council chambers are more recent and meet most requirements, however narrow corridors and doors providing access to these rooms do not meet requirements for accessible path of travel, maneuvering, or location of installed powered door operator controls (located too far from door). All existing staff washrooms lack compliant accessible design including provisions (municipal offices, fire hall, and police station).

Examples of Existing Staff Washroom Facilitates

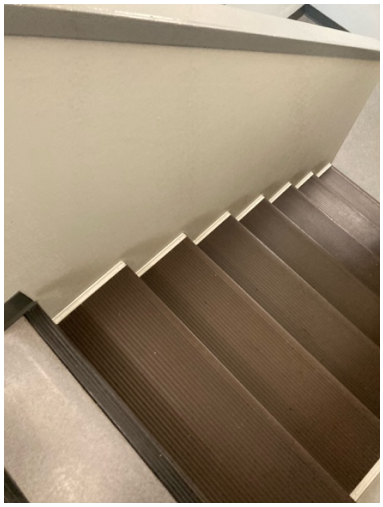
Accessible washroom facilities should be available for staff (and public) on each floor, and the provided staff washrooms do not meet accessible requirements The main shortcoming of the existing washroom layouts is size – current accessible standards have been increased in the current code and include requirements for clear areas at sinks, both sides of entry doors, and provision of larger accessible stalls that are not provided in the existing building and could not practically be accommodated in the existing building layout.

Within the existing fire hall, an additional universal washroom should be constructed in place of one existing water closet and the existing non-accessible shower to comply with the requirements of the 2024 BCBC. The requirement for users to have shower/change facilities means this universal washroom should ideally be constructed to include an accessible change bench and roll-in accessible shower. Despite the fire fighters as a user group not likely requiring accessible accommodations, the building code does not differentiate or exclude this use from the requirements of accessible design.

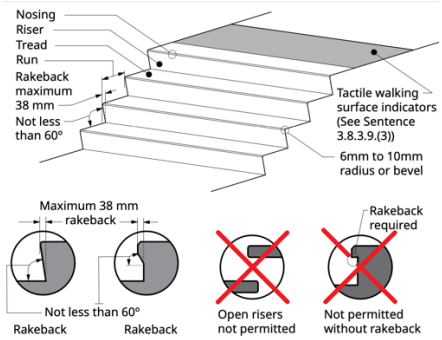
The proposed major upgrade of the building would include replacement of plumbing systems and reconfiguring of interior spaces including size and location of washroom facilities. To meet current building code requirements for accessible design and allow for desired adjacencies to a newly reconfigured floor plan, it would be required to remove all existing washroom facilities in the building and reconstruct as new. The District has included a change to gender neutral facilities as part of their provided programing for the facility which further reinforces the need to re-plan and reconstruct the washrooms as new.

3.3.6 Existing Exit Stair Design

The existing exit stair design does not meet current building code design standards. Current code requires the installation of tactile attention indicators at the top of each flight of stair as well as colour contrasting strips at the edge of each stair tread not uniformly present as existing. Design of handrails on exit stairs is also not uniform or necessarily conforming to current code design requirements. Existing exit stairs within the building vary in width, as well as provided sizes of landings and clearances at doors at landings – rise and run were not confirmed but may also not conform to code requirements. Compliance with all aspects of 2024 BCBC will likely require full reconstruction of the existing exit stairs, both for fire separation of the exits, and to meet design accessible/safety features of modern exit stairs.



Example of Existing Exit Stairs



Required Stair Design (Building Accessibility Handbook)

Proposed seismic upgrade of the building requires significant reinforcement of structure and additional retaining and shear elements that could potentially be coordinated and integrated with the architectural reconstruction of the required exit stairs.

3.4 Noted Areas for Improvement

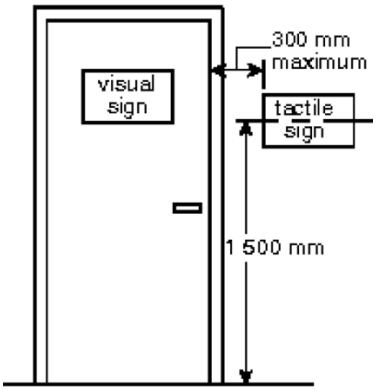
3.4.1 Signage

Building signage does not meet current code intent for provision and location of visual and tactile information signs. In addition to the universal sign for accessibility identifying accessible building elements, tactile information signage with Braille should be provided in addition wherever practical. The washrooms at each elevator lobby provide accessible facilities and the signage should be augmented with tactile signage on the wall adjacent to the latch side of the door as outlined in the code and illustrated below.

Directional signage in the lobby is not of a high standard and is plexiglass, resulting in reduced legibility due to glare. It is recommended that building directional signage be upgraded in line with accessibility recommendations of CSA B651:23 including use of glare-free surfaces.

Existing Lobby Signage

Existing Door Signage



2024 BCBC Signage Diagram

3.4.2 Accessible Design of Building Elements

As the existing building has been constructed to previous codes and renovated in multiple phases, there are currently a number of accessible design deficiencies in addition to the previously detailed key building code issues:

- A mix of door hardware throughout the facility including use of doorknobs where current code requires accessible door levers.
- Clear door widths in many areas are too narrow to meet the current requirements for accessible path of travel.
- Existing vestibules (upper floor main entry, upper floor east exit) do not provide sufficient space between successive doors.
- Insufficient clear maneuvering spaces at doors, including required clear spaces at latch side for manual operation.
- Narrow aisles in some staff work areas and some areas without clear turn around (i.e., the vault).
- No provision of accessible height transaction counter for public provided.
- Existing staff kitchen facilities are not designed to meet current 2024 BCBC accessibility requirements including provision of accessible knee space at sinks.
- Existing fully glazed doors and larger glazed sections at both front and rear accessible entrances lack a break in the glazing or visually contrasting indicator to distinguish glass from an open pass-through for people who are partially sighted.

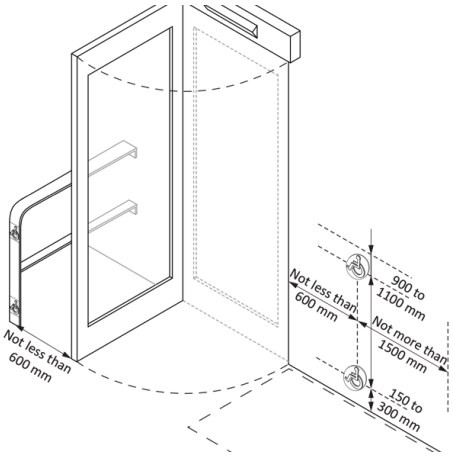
These design deficiencies would be remedied in a proposed building upgrade that for performance, abatement, and structural or fire separation upgrade will necessitate the replacement of these elements with new in conjunction with reconfiguration of building functions. If existing doors remain, hardware for each instance should be reviewed for compliance with accessibility and functional requirements and replaced if deficient.

3.4.3 Powered Door Operators

The existing building has powered door operators provided at the front and rear accessible entrances and at the two washrooms serving the council chambers. The current 2024 BCBC requires powered door operators to be provided into all washroom facilities at each floor which provide accessible stalls as well as universal washrooms. Additionally, doors that lack sufficient clear maneuvering space and clear area at latch for manual operation would also require powered door operators (i.e., existing condition has many doors with this condition).

Where provided, the current door operators installed do not meet current code requirements for design and range of operation. Door operators required under code need to be operable from a height between 150 mm and 300 mm as well as between 900 mm and 1100 mm above the floor – this necessitates the installation of two operator controls in each given location or the use of a full-length type operator as shown below.

Example Existing Powered Door



Door Operator Diagram (BCBC)

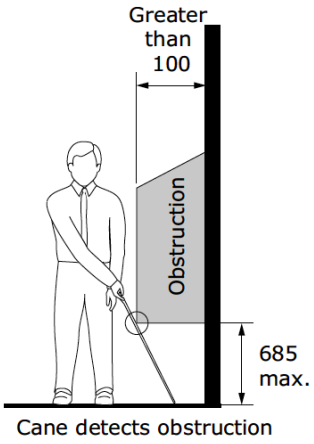
Full Length Operator

Upgrading of the existing door operators would not typically be mandatory, but replacement will be required as the proposed renovation is replacing existing doors and walls where these operators exist. Addition of new operators at all entrances, to all accessible washrooms, and interior doors that are part of the accessible exit paths should be part of any upgrades considered to the existing facilitates. We recommend use of full-length style operators as shown above which accommodate a larger range of operating heights.

3.4.4 Fire Extinguishers

Fire extinguishers are provided throughout the floor areas. Number and location of extinguishers are assumed to be compliant and approved by the local AHJ. Mounting height of the extinguishers appears compliant within the maximum permitted by the National Fire Protection Association (NFPA) (i.e., 5 ft./1.53m to top of extinguisher under 40 lbs). It should be noted that this mounting height, although permitted, can pose difficulties for persons with disabilities, specifically if someone in a wheelchair was required to access the extinguisher. Additionally, the surface mounted extinguishers can also be an obstacle for people who are blind or partially sighted as they project into the path of travel. The existing condition is code compliant but could be improved if mounted slightly lower to be cane detectable.

Existing Extinguisher Wall Mounted



Cane Detection from CSA B651:23

3.4.5 Exit Signage and Fire Alarm

Existing exit signage includes the older 'EXIT' style illuminated text that does not meet current code requirements. The recommendation is that these be replaced with newer graphical symbol 'running man' style exit signage illuminated in green.
The fire alarm system should be upgraded to include visible signal devices (strobe lights) in addition to the alarm signal (audible) devices. Strobe lights throughout floor areas are now required by code.

3.4.6 Accessible Height of Controls

Some mounting heights of controls throughout the building do not meet recommended best practices for accessibility design. Code requires controls for the operation of building services or safety devices to be mounted no higher than 1200mm above the floor. Current recommendation from the Rick Hansen Foundation suggest 1100mm should be the ideal height for mounting controls.
Existing light switches, electrical receptacles, thermostats, fire alarm pull Stations, and other controls are not installed at the code compliant heights to be used comfortably from a seated position. Wherever new controls are being installed, or existing ones being replaced, the installation heights should be between 400mm (outlets) to 1200mm maximum above floor to improve accessibility. Proposed renovation and building systems upgrade will require demolition or replacement of most controls and outlets throughout the existing building allowing reinstallation at compliant heights and locations.

4 MAJOR BUILDING RENOVATION AND EXPANSION

4.1 Building Systems Replacement and Seismic Upgrade

As directed by the District, the purpose of this report was to determine the feasibility and level of effort required to renovate the existing civic complex to bring it up to date with current building requirements and accommodate current use and expansion for future operations. The intent of the District was for the proposed renovation to meet seismic, post-disaster, accessibility, fire suppression, and energy standards under the 2024 BCBC.

The existing building is asbestos containing and will require major building systems renewal within the next 10 years (see Appendix B - Facility Condition Assessment). Completing the desired abatement of existing hazardous materials and seismic upgrade of the building require substantial demolition and impact throughout the existing facilities making a full upgrade to building code compliance a logical—if not required—aspect of a building renovation.

The need to replace the building systems, create needed fire separations, and the level of demolition required to accomplish the desired abatement and seismic upgrade makes preservation of interior finishes impractical even where existing finishes are in relatively good condition. The proposed renovation assumes full removal and replacement of all existing interior finishes.

The renovation will include:

- Replacement of exterior building envelope including roof, windows, insulation, new interior and exterior sheathing and exterior siding.
- Removal and replacement of all interior finishes and majority of existing partition walls.
- Replacement of all HVAC, plumbing, and electrical systems including new services to the building.
- Installation of new automatic sprinkler system.
- Installation of new gypsum wall board on all walls and ceilings for fire rating of assemblies.
- Demolition and reconstruction of enclosed fire exit stairs.
- Demolition and replacement of most existing concrete block construction.
- Installation of new elevator.
- Excavation and upgrade of existing concrete foundations and retaining walls.
- Construction of new seismic shear elements including interior shear walls with new foundations.
- Reconstruction of exterior site elements for accessible entry and to replace landscaping disturbed by excavation.

4.2 Expanded Program Requirements

As directed by the District, the purpose of this report included expansion to accommodate current and future operations. The desired larger program areas are based on the 2024 Facilities Redevelopment Space Programs prepared by Kasian Architecture as well as discussion with Central Saanich staff.

The existing facility has been renovated to maximize function within the limitations of the existing footprint. There are existing inefficiencies inherent to the existing building layout that have resulted

in inadequate spaces for municipal staff as well as Police operations. Changes in building code requirements including accessible design mean accommodating even the existing uses in a code compliant layout would require additional square footage. Providing enough space for future programming or additional staffing necessitates construction of a building addition.

4.3 Proposed Building Addition and Phased Renovation

To limit disruption to services and staff operations, a major renovation as proposed should be done in strategic phases. The District should be aware that during construction access to large portions of the site will be affected and will at different stages require temporary facilities for fire hall operations including apparatus bay, staff washrooms and office space, and accommodation of site parking.

Our proposed strategy is to accommodate all police operations and space requirements within a new purpose built and post-disaster compliant single storey addition. This allows the initial construction to bring in all required site services and create a fully completed space with the least impact to existing operations. The Police would be able to relocate into the new addition and not be subject to additional temporary facilities.

The fire hall operations are intended to remain in their existing location within the building. However, structural requirements to achieve post-disaster will require the demolition and reconstruction of the existing apparatus bay (see Appendix C - Seismic Assessment Report). Temporary facilities will be required for fire hall operation to continue during construction.

With the Police functions removed from the existing civic building, the municipal hall operations and staff would redistribute to occupy what is currently the police station in addition to their existing space within the existing building. The intent will be to renovate the existing facility in stages with the municipal hall continuing to operate within their existing offices initially before being relocated into the newly renovated spaces or temporary facilities until renovation of the entire existing building is completed.

Council meetings and functions related to the council chambers will be required to be relocated off-site for the duration of the building upgrade to allow for both renovation of the space itself, as well as use of the council chamber space as temporary office space during municipal office reconstruction.

The proposed new addition construction including police station and fire hall apparatus bay would be constructed to post-disaster requirements. The portion of the renovated existing building containing fire hall operations with council chambers above would also be upgraded to meet post-disaster standards. The remaining renovated municipal hall facility would be seismically upgraded but is not required or proposed to be post-disaster (see Appendix C - Seismic Assessment Report). Upgrade of the full existing building to post-disaster would require substantial additional structural intervention and pose significant cost implications.

4.3.1.1 Phase 1 (New Build Addition)

- New single storey police station on west site of property.
- Demolish existing apparatus bay (i.e., concrete block).
- Provide tent structure(s) and trailer(s) for fire department operations at the north west corner of the site through completion of Phase 2.
- Feed new services from Mount Newton Cross Road underground to the addition (i.e., water, sprinkler water, power, and communications).

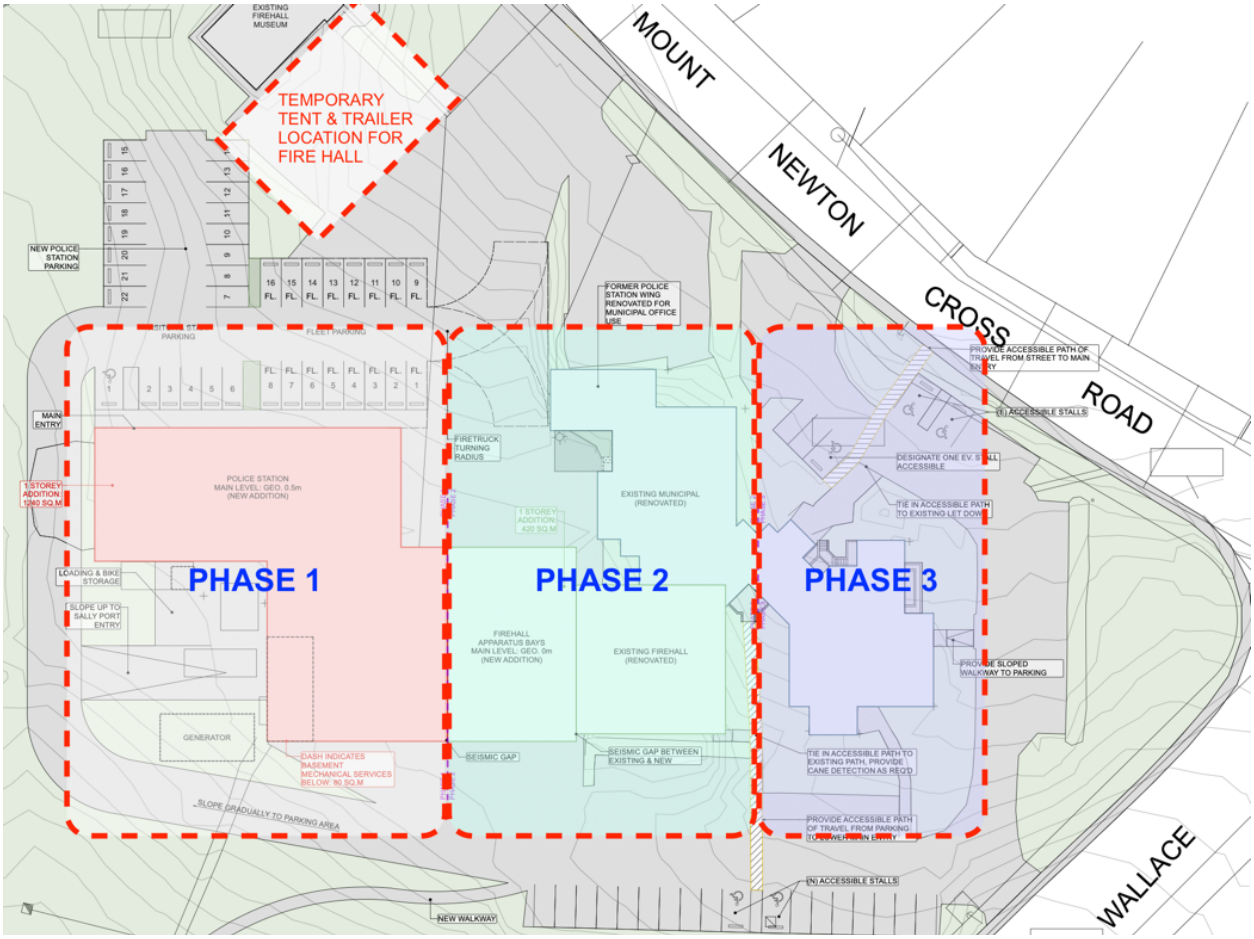
- Include a new backup generator to be part of the new build addition scope – initially for new police station but sized to service the whole complex and feed the renovated existing building when completed.
- Upon the completion of this phase the police department will relocate, vacating the existing building entirely.
- Duration of Phase 1 is estimated to take 12 -14 months.

4.3.1.2 Phase 2 (Fire Hall, Council Chambers, Renovation of Old Police Station)

- Full hazardous material abatement and selective demolition through west wing of existing civic building including: fire hall, council chambers, old police station, and lower floor municipal office staff room and storage.
- Construct new apparatus bay connecting completed newly built police station to existing building.
- Complete interior and exterior renovation of west wing.
- New services fed from addition – sprinkler, water, power, and communications.
- Council chambers relocated offsite until completion of Phase 3.
- Temporary washrooms and staff room provided in trailers for municipal staff.
- Old holding cells now used for file storage.
- Duration of Phase 2 is estimated to take 10-12 months.

4.3.1.3 Phase 3 (Municipal Services)

- Municipal services relocate into Phase 2 renovation. Some offices will be permanently moved to the old police area. Partial relocation to temporary offices in council chambers.
- Fire department moves back into completed apparatus bay and renovated fire station facilities.
- Full hazardous material abatement and selective demolition through remainder of existing building.
- Complete interior and exterior renovation of remaining existing building.
- New services fed from completed phases – sprinkler, water, power, and communications.
- Reconstruction of exterior site elements for accessible entry and reinstatement of landscaping disturbed by construction.
- Exterior washrooms in trailers may still be required until total renovation completion.
- Duration of Phase 3 is estimated to take 8-10 months.



Proposed Phasing Plan

4.4 Architectural Systems

4.4.1.1 Existing Building Renovation

- TYPICAL UPGRADED EXTERIOR WALL WOOD FRAME
  - (N) SIDING –WOOD-LOOK METAL PLANK OR SPLIT-FACE CONCRETE BLOCK
  - (N) 19x75MM PRESSURE TREATED WOOD STRAPPING @ 400 O.C.
  - (N) 76MM CONTINUOUS EXTERIOR INSULATION
  - (N) 6 MIL.VAPOR PERMEABLE SELF ADHERED MEMBRANE (AIR BARRIER)
  - (N) 12MM PLYWOOD SHEATHING
  - (E) SHEATHING
  - (E) WOOD STUDS
  - (N) BATT INSULATION TO FILL CAVITY
  - (N) 12MM PLYWOOD SHEATHING
  - (N) 6 MIL. POLY VAPOUR BARRIER

- (N) 16MM TYPE X GWB
- (N) PAINT FINISH

- TYPICAL UPGRADED FLOOR ASSEMBLY
  - (N) FLOORING (SHEET VINYL OR CARPET)
  - (E) PLYWOOD SHEATHING
  - (E) WOOD JOISTS
  - (N) TWO LAYERS 16MM TYPE X GWB
  - (N) PAINT FINISH
- TYPICAL UPGRADED ROOF ASSEMBLY
  - (N) 2 PLY SBS ROOF MEMBRANE
  - (N) PROTECTION BOARD
  - (N) SLOPED POLYISOANURATE INSULATION (25MM MIN. THICKNESS)
  - (N) 125MM POLYISOANURATE INSULATION TOTAL MINIMUM R VALUE 33.6
  - SELF ADHERED VAPOUR BARRIER
  - (N) 16 MM PLYWOOD SHEATHING
  - (E) WOOD JOISTS
  - (N) TWO LAYERS 16MM TYPE X GWB
  - (N) PAINT FINISH

4.4.1.2 Proposed New Construction

- EXTERIOR WALLS WOOD FRAME
  - (N) SIDING – PREFINISHED METAL, FIBRE CEMENT OR SPLIT-FACE CONCRETE BLOCK
  - (N) 19x75MM PRESSURE TREATED WOOD STRAPPING @ 400 O.C.
  - (N) 76MM CONTINUOUS EXTERIOR INSULATION
  - (N) 6 MIL.VAPOR PERMEABLE SELF ADHERED MEMBRANE (AIR BARRIER)
  - (N) 13MM PLYWOOD SHEATHING
  - (N) 38 X 184 WOOD STUDS
  - (N) BATT INSULATION TO FILL CAVITY
  - (N) 6 MIL. POLY VAPOUR BARRIER
  - (N) 16MM TYPE X GWB
  - (N) PAINT FINISH
- EXTERIOR CONCRETE BLOCK WALLS
  - (N) SIDING – PREFINISHED METAL, FIBRE CEMENT OR SPLIT-FACE CONCRETE BLOCK
  - (N) METAL GIRTS
  - (N) FIBERGLASS THERMAL SPACERS

  - (N) 125MM CONTINUOUS EXTERIOR INSULATION
  - 200MM STRUCTURAL CONCRETE BLOCK
  - (N) PAINT FINISH
- NEW FLAT ROOF
  - (N) 2 PLY SBS ROOF MEMBRANE
  - (N) PROTECTION BOARD
  - (N) SLOPED POLYISOANURATE INSULATION (25MM MIN. THICKNESS)
  - (N) 125MM POLYISOANURATE INSULATION TOTAL MINIMUM R VALUE 33.6
  - SELF ADHERED VAPOUR BARRIER
  - (N) 16 MM PLYWOOD SHEATHING OR STEEL DECK (SEE STRUCTURAL)
  - (N) WOOD OR METAL TRUSS (SEE STRUCTURAL)
  - (N) 2 LAYERS 16MM TYPE X GYPSUM WALL BOARD
  - (N) PAINT
- EXTERIOR DOORS AND WINDOWS
  - Doors are welded steel frames, insulated metal man doors.
  - Aluminum storefront glazing and doors for entrances.
  - Metal and glass overhead garage doors.
  - Windows are double glazed, aluminum frames (thermally broken).
- INTERIOR WALL CONSTRUCTION
  - Steel stud wall construction with 5/8" gypsum wall board.
  - Washrooms to have sound batt insulated.
- FLOOR CONSTRUCTION
  - Concrete slab on grade.
- FLOOR FINISHES
  - Service areas to have exposed concrete floor, staff areas to have sheet vinyl or carpet.
- WALL FINISHES
  - Washrooms to have ceramic tile, painted gypsum wall board for all other interior spaces.
- CEILING FINISHES
  - Painted GWB ceilings.
- INTERIOR DOORS
  - Solid core wood doors.
- SPECIALTIES
  - Wall mounted mirrors, toilet paper holders, towel bars, grab bars.

Central Saanich Municipal Building
Building Code Compliance & Accessibility
Building Assessment Report
Appendix A:
Existing Building Code Review Plans

numberTEN
architectural group

10

CODE ANALYSIS:

PLEASE NOTE: THIS BCBC 2024 BUILDING CODE SUMMARY IS NOT INTENDED TO BE AN EXHAUSTIVE ANALYSIS OF ALL BUILDING CODE & LIFE SAFETY RELATED ITEMS, AND IS INTENDED TO CAPTURE THE MAJOR DEFICIENCIES, BASED SOLELY ON OBSERVABLE CONDITIONS. ASSUMPTIONS ARE MADE BASED ON SITE WALKTHROUGHS, EXISTING ARCHITECTURAL DRAWINGS, AND PHOTOGRAPHS.

1.4.1.2 (A) TOTAL BUILDING AREA:
1750 SQ.M

3.1.2.1 MAJOR OCCUPANCIES:
MUNICIPAL OFFICES: GROUP D
FIREHALL: GROUP F2
POLICE STATION: GROUP B1 (SUBSIDIARY, LESS THAN 10% AREA OF FLOOR AREA) & GROUP D

3.1.3.1 SEPARATIONS REQUIRED BETWEEN MAJOR OCCUPANCIES:
BETWEEN GROUP D & GROUP F: 2 HR *(assumed deficient)*
BETWEEN GROUP D & GROUP B1: 2HR *(assumed deficient)*
BETWEEN GROUP A-2 & GROUP D: 2HR *(assumed deficient)*
NO SEPARATION REQUIRED BETWEEN GROUP D & GROUP D

3.1.17 OCCUPANT LOAD:

LOWER FLOOR:
MUNICIPAL OFFICE: 38 PERSONS
FIREHALL AMENITY: 171 PERSONS PER AREA, BUT CAPPED AT 5 TO MEET WASHROOMS PROVIDED.
FIREHALL APPARATUS BAY: 18 PERSONS
POLICE OFFICE/ASSEMBLY: 14 PERSONS
POLICE CELLS: 9 PERSONS

MAIN FLOOR:
MUNICIPAL OFFICE: 27 PERSONS
MUNICIPAL ASSEMBLY SPACE: 340 PERSONS PER AREA, BUT CAPPED AT 75 TO MEET WASHROOMS PROVIDED.
FIREHALL MEZZANINE: 2 PERSONS
POLICE OFFICE/ASSEMBLY: 38 PERSONS
POLICE STORAGE: 5 PERSONS

TOTAL: 301 PERSONS

3.2.2 BUILDING SIZE & CONSTRUCTION RELATIVE TO OCCUPANCY

IN CONFORMANCE WITH 3.2.2.6 ' IN A BUILDING CONTAINING MORE THAN ONE MAJOR OCCUPANCY, THE REQUIREMENTS OF THIS SUBSECTION FOR THE MOST RESTRICTED MAJOR OCCUPANCY CONTAINED SHALL APPLY TO THE WHOLE BUILDING.'.

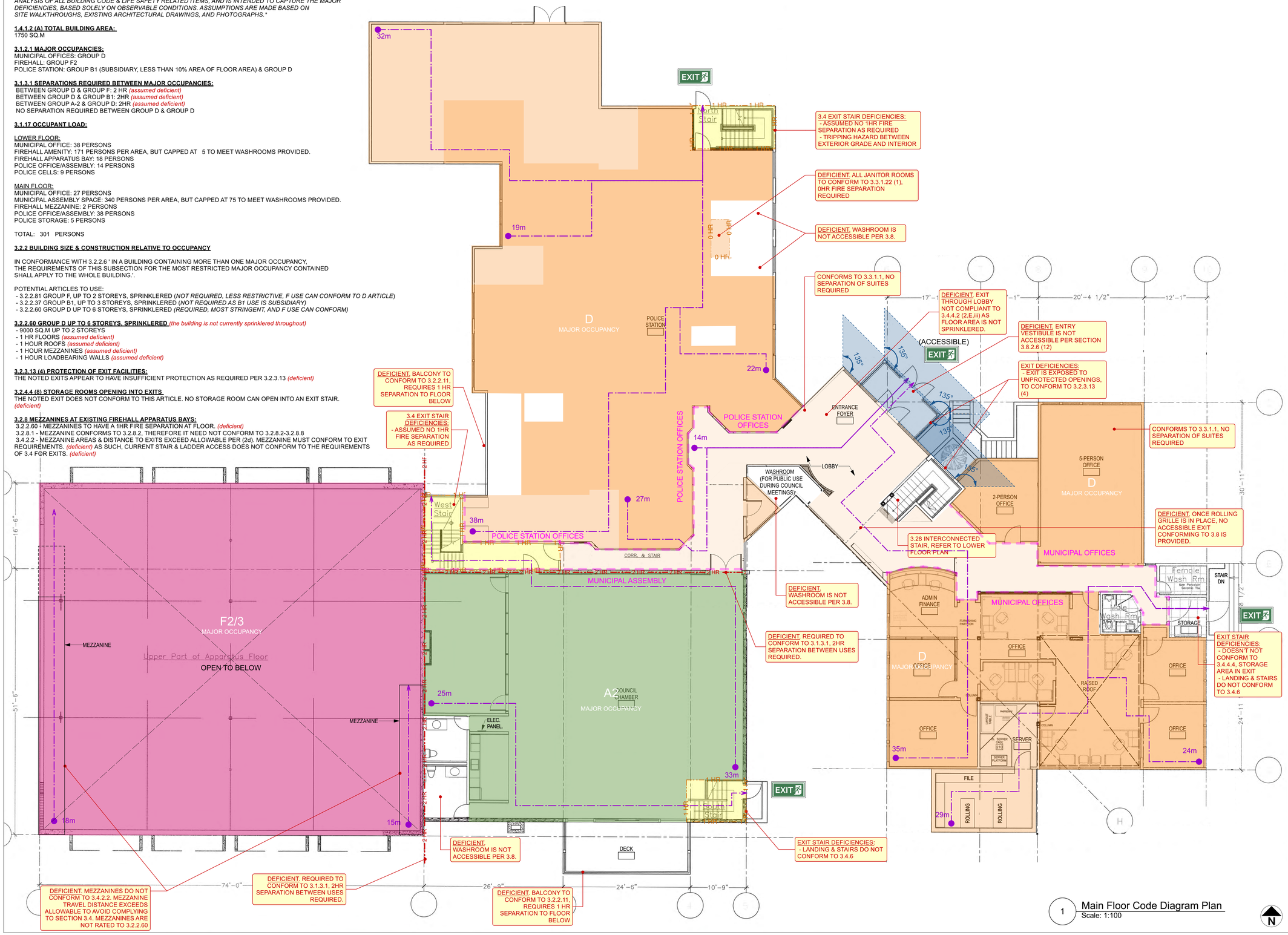
POTENTIAL ARTICLES TO USE:
- 3.2.2.81 GROUP F, UP TO 2 STOREYS, SPRINKLERED (*NOT REQUIRED, LESS RESTRICTIVE, F USE CAN CONFORM TO D ARTICLE*)
- 3.2.2.37 GROUP B1, UP TO 3 STOREYS, SPRINKLERED (*NOT REQUIRED AS B1 USE IS SUBSIDIARY*)
- 3.2.2.60 GROUP D UP TO 6 STOREYS, SPRINKLERED *(REQUIRED, MOST STRINGENT, AND F USE CAN CONFORM)*

3.2.2.60 GROUP D UP TO 6 STOREYS, SPRINKLERED *(the building is not currently sprinklered throughout)*
- 9000 SQ.M UP TO 2 STOREYS
- 1 HR FLOORS *(assumed deficient)*
- 1 HOUR ROOFS *(assumed deficient)*
- 1 HOUR MEZZANINES *(assumed deficient)*
- 1 HOUR LOADBEARING WALLS *(assumed deficient)*

3.2.3.13 (4) PROTECTION OF EXIT FACILITIES:
THE NOTED EXITS APPEAR TO HAVE INSUFFICIENT PROTECTION AS REQUIRED PER 3.2.3.13 *(deficient)*

3.2.4.4 (8) STORAGE ROOMS OPENING INTO EXITS
THE NOTED EXIT DOES NOT CONFORM TO THIS ARTICLE. NO STORAGE ROOM CAN OPEN INTO AN EXIT STAIR. *(deficient)*

3.2.8 MEZZANINES AT EXISTING FIREHALL APPARATUS BAYS:
3.2.2.60 - MEZZANINES TO HAVE A 1HR FIRE SEPARATION AT FLOOR. *(deficient)*
3.2.8.1 - MEZZANINE CONFORMS TO 3.2.8.2, THEREFORE IT NEED NOT CONFORM TO 3.2.8.2-3.2.8.8
3.4.2.2 - MEZZANINE AREAS & DISTANCE TO EXITS EXCEED ALLOWABLE PER (2d). MEZZANINE MUST CONFORM TO EXIT REQUIREMENTS. *(deficient)* AS SUCH, CURRENT STAIR & LADDER ACCESS DOES NOT CONFORM TO THE REQUIREMENTS OF 3.4 FOR EXITS. *(deficient)*



1 Main Floor Code Diagram Plan
Scale: 1:100

CLIENT

GENERAL NOTES

CODE ANALYSIS LEGEND:
- REQUIRED 0HR RATING: 0 HR
- REQUIRED 1HR RATING: 1 HR
- REQUIRED 2HR RATING: 2 HR
- LINE OF SEPARATE SUITE:
- DESIGNATED EXIT: EXIT
- LINE OF TRAVEL DISTANCE:
- CODE RELATED NOTE: NOTE
- AREA OF OCCUPANCY:
- AREA OF EXPOSED OPENING:

2	FINAL REPORT	2025-05-12
1	DRAFT REPORT	2025-05-02

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ARCHITECTURAL

CONSULTANTS

SEAL

SEAL

SCALE: As Noted

DATE: 2025-05-12

CENTRAL SAANICH MUNICIPAL HALL

1903 MT NEWTON CROSS RD,
SAANICHTON, BC

PROJECT

MAIN FLOOR CODE ANALYSIS PLAN

SHEET TITLE

DRAWN BY: SD

CHECKED BY: RH

CLIENT PROJECT NO.

NTAG PROJECT NO.: 2025506

SHEET NO.: A-1.03C

CODE ANALYSIS: CONTINUED

3.2.8.2 (6) EXCEPTIONS TO SPECIAL PROTECTION:
- INTERCONNECTED STAIR TO LOBBY DOES NOT COMPLY WITH THIS ARTICLE AS THE BUILDING IS NOT SPRINKLERED. *(deficient)* INTERCONNECTED STAIR WOULD BE REQUIRED TO COMPLY WITH 3.2.8.3-3.2.8.8 UNLESS SPRINKLERED.

3.3.1.22 JANITOR'S ROOMS:
- JANITOR ROOMS REQUIRE A FIRE SEPARATION OF 1 HR, UNLESS THE BUILDING IS SPRINKLERED, THE SEPARATION MAY BE REDUCED TO A 0 HR RATING. *(assumed deficient)*

3.6.2.1 FIRE SEPARATIONS AROUND SERVICE ROOMS:
- SERVICE ROOMS REQUIRE A FIRE SEPARATION OF 1 HR. *(assumed deficient)*

3.4 EXITS

EXITING WAS GENERALLY OBSERVED TO BE DEFICIENT IN THE FOLLOWING AREAS::
ALL EXIT STAIRS ARE ASSUMED TO BE DEFICIENT IN:
- 3.4.3.2 EXIT WIDTH
- 3.4.6.12 DOOR SWING CLEARANCES,
- 3.4.6.11 DOOR SIZES & CLEARANCES
- 3.4.5.2, 3.4.6.1 LACK OF TACTILE INDICATORS CONTRASTING NOSINGS,
- 3.4.5 EXITS SIGNS
- 3.4.6.5, 3.4.6.6 HAND & GUARDRAILS
- 3.4.4.1 REQUIRED FIRE SEPARATIONS
- 3.4.6.8 RISER & TREAD DIMENSIONS
- 3.4.6.11 3) TRIPPING HAZARDS EXCEEDING 150mm & FROM INTERIOR FLOOR LEVEL TO EXTERIOR GRADE

3.4.2.5. (B) DISTANCE TO EXITS
BUSINESS & PERSONAL SERVICES USE - 40m MAXIMUM TRAVEL DISTANCE. *(compliant)*

3.4.4.1 (1) SEPARATION OF EXITS
EXIT STAIRS ARE ASSUMED TO BE DEFICIENT. *(assumed deficient)*

3.4.4.2 EXITS THROUGH A LOBBY
- THE MAIN FLOOR LOBBY ACTS AS AN EXIT BUT DOES NOT COMPLY TO THE REQUIREMENTS OF (2c) REQUIRING INTERCONNECTED STAIRS EXITING THROUGH A LOBBY TO BE SPRINKLERED. *(deficient)*
- THE MAIN FLOOR LOBBY IS NOT SEPARATED FROM THE REST OF THE FLOOR AREA BY A 1HR SEPARATION AS REQUIRED BY (2f). *(deficient)*

3.4.4.4 INTEGRITY OF EXITS:
- EXIT STAIR AS NOTED DOES NOT CONFORM TO 3.4.4.4 (8) REQUIRING STORAGE ROOMS NOT OPEN DIRECTLY ONTO AN EXIT. *(deficient)*
- STORAGE AREA AS NOTED DOES NOT CONFORM TO 3.4.4.4 (8) REQUIRING STORAGE ROOMS NOT OPEN DIRECTLY ONTO AN EXIT. *(deficient)*

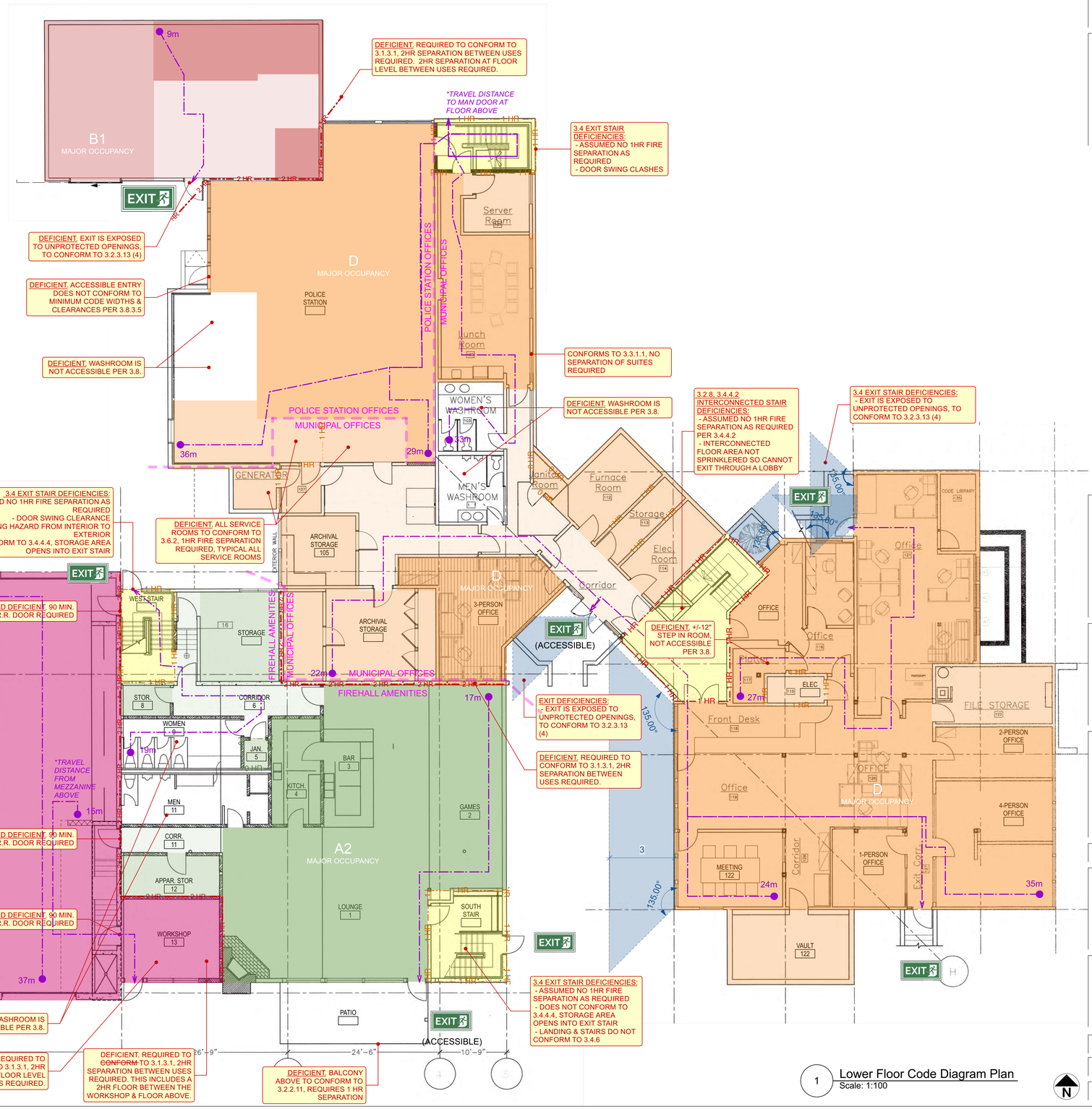
3.7.2 WASHROOM COUNT.

LOWER FLOOR:
NO STOREY-WIDE UNIVERSAL WASHROOM PROVIDED IN THIS STOREY. *(deficient)*
MUNICIPAL OFFICE: 2 PER SEX *(compliant)*
FIREHALL AMENITY: 2 FOR MALES, 3 FOR FEMALES *(compliant)* NO UNIVERSAL PROVIDED AT THIS FLOOR LEVEL. *(deficient)*
FIREHALL APPARATUS BAY: 1 PER SEX, GIVEN THE SAME OCCUPANTS IN ASSEMBLY WILL USE THIS SPACE *(compliant)*
POLICE OFFICE/ASSEMBLY: 1 PER SEX *(compliant)*
POLICE CELLS: 1 PER SEX *(compliant)*

MAIN FLOOR:
NO STOREY-WIDE UNIVERSAL WASHROOM PROVIDED IN THIS STOREY. *(deficient)*
MUNICIPAL OFFICE: 2 PER SEX *(compliant)*
MUNICIPAL ASSEMBLY SPACE USE AKIN TO PLACE OF WORSHIP PER 3.7.2.2-A): 1 PER SEX FOR EVERY 150 PERSONS *(compliant)*
FIREHALL MEZZANINE: 1 PER SEX *(compliant)*
POLICE OFFICE/ASSEMBLY: 1 PER SEX *(compliant)*
POLICE STORAGE: 1 PER SEX *(compliant)*

3.8.1 ACCESSIBLITY:

ACCESSIBILITY WAS GENERALLY OBSERVED TO BE DEFICIENT IN THE FOLLOWING AREAS:
- 3.8.2.3 (2) AREAS REQUIRING ACCESS
- 3.8.2.7 POWER DOOR OPERATORS
- 3.8.2.8 (1&2) PLUMBING FACILITIES
- 3.8.2.8 (13) SHOWERING FACILITY
- 3.8.3.2 ACCESSIBLE PATH OF TRAVEL
- 3.8.3.20 COUNTERS
- 3.8.3.3 EXTERIOR WALKS
- 3.8.3.6 DOORWAYS & DOORS
- 3.8.3.12 ACCESSIBLE WC STALLS
- 3.8.3.15 LIMITED MOBILITY
- 3.8.3.17 SHOWERS
- 3.8.3.22 SPACE IN SEATING AREA



1 Lower Floor Code Diagram Plan
Scale: 1:100

CLIENT

GENERAL NOTES

CODE ANALYSIS LEGEND:
- REQUIRED 0HR RATING: 0 HR
- REQUIRED 1HR RATING: 1 HR
- REQUIRED 2HR RATING: 2 HR
- LINE OF SEPARATE SUITE:
- DESIGNATED EXIT: EXIT
- LINE OF TRAVEL DISTANCE:
- CODE RELATED NOTE: NOTE
- AREA OF OCCUPANCY:
- AREA OF EXPOSED OPENING:

2	FINAL REPORT	2025-05-12
1	DRAFT REPORT	2025-05-02

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ARCHITECTURAL

CONSULTANTS

SEAL

SEAL

SCALE: As Noted
DATE: 2025-05-12

CENTRAL SAANICH MUNICIPAL HALL

1903 MT NEWTON CROSS RD,
SAANICHTON, BC

PROJECT

LOWER FLOOR CODE ANALYSIS PLAN

SHEET TITLE

DRAWN BY: SD
CHECKED BY: RH

CLIENT PROJECT NO.

NTAG PROJECT NO.: 2025506

SHEET NO.: A-1.04C

Central Saanich Municipal Building
Building Code Compliance & Accessibility
Building Assessment Report
Appendix B:
Facility Condition Assessment (WSP)

numberTEN
architectural group

10

Report No. CA0050029.5151

FACILITY CONDITION ASSESSMENT

CENTRAL SAANICH MUNICIPAL HALL
1903 MOUNT NEWTON CROSS ROAD, SAANICHTON, BRITISH COLUMBIA

MAY 15, 2025

Prepared For:

District of Central Saanich c/o Number TEN Architectural Group
200-1619 Store Street
Victoria BC V8W 3K3
Contact: Rob Halliday, Partner

Prepared By:

WSP Canada Inc.
Suite 301 - 3600 Uptown Boulevard
Victoria, BC, Canada V8Z 0B9
Contact: Scott Gassen, P.Eng.

GENERAL DESCRIPTION

The property at 1903 Mount Newton Cross Roads, Central Saanich, Victoria, includes a two-storey civil facility consisting of a Municipal Hall, Police Department, and Fire Department. According to the drawings, the gross floor area is about 3,000m² (32,300ft²). According to the drawings and site staff, the original Hall was constructed circa 1965, with later phases adding the Police and Fire Departments circa 1977 and 1979, respectively. The building has undergone multiple renovations, including a Police Department addition circa 2000 and interior renovations circa 2002 and 2017.

The above grade structures are primarily wood-framed, with some areas of the building including concrete block walls. The roofs consist primarily of plywood sheathing supported on engineered wood joists, with some areas including corrugated metal decking. The second-floor structures consist primarily of plywood sheathing supported on engineered wood joists and wood-framed walls, with some areas of the building including suspended concrete floor slabs. The below-grade foundation walls are reinforced cast-in-place concrete. The lowest level is a concrete slab-on-grade.

The cladding includes a combination of painted cedar wood lap siding with wood trims, painted CMU walls, painted wood cladding at parapets, cementitious panels with wood trims below windows, and prefinished metal cladding on parapet walls.

Exterior doors include single and double steel swing doors, aluminum storefront and sliding doors, and sectional roll-up doors. Materials include steel, aluminum, and wood. Roll-up doors are predominantly sectional aluminum units with integrated glazing used for bays and fire vehicle access.

The windows are a combination of older and newer units, primarily aluminum-framed with some vinyl, with single or double glazing. The variety of windows reflects the phased upgrades from the original 1965 build through renovations up to 2013. Configurations include fixed, sliding, awning, and operable swing types.

The roofing consists primarily of two-ply SBS modified bitumen membranes, with sections separated by short curbs. Additional elements include sloped standing seam metal roofing, large modular skylights, and a small asphalt-shingle canopy over a secondary entrance.

The building is equipped with a single-stage, monitored fire alarm system. The building is not sprinklered, with the exception of the holding cell area of the Police Department on the lower level. Portable fire extinguishers are provided throughout the facility.

Emergency power is provided to the Municipal Hall and Police Department by a propane-fired generator rated at 36 KW / 45 KVA. Emergency power is provided to the Fire Department by a diesel-fired generator rated at about 12 KW. Emergency light fixtures are powered by battery packs.

Heating, ventilation, and air conditioning (HVAC) for the building wings are primarily provided by rooftop heat pump units and indoor furnaces with refrigerant cooling and electric heating. Supplemental HVAC includes small split-system heat pump units, electric baseboard or wall-mounted heaters, portable window air-conditioning units, and local exhaust fans.

There is a two-inch main incoming water service that distributes domestic water to all areas of the building and supplies the limited fire sprinkler system. Four electric hot water heater tanks are situated throughout the building wings to supply hot water to various end fixtures. Rainwater drainage includes internal area drains and scuppers at the roof levels that connect and discharge to the below-grade system. Sanitary drainage includes vertical sanitary stacks for bathrooms and local floor drains that discharge to the below-grade system and sanitary pump station.

The main electrical service consists of a fused primary disconnect switch within the main switchgear unit rated at 800 Amp, 120/208V, 3 phase, 4 wire. Power is distributed from the smaller disconnect switches within the switchgear unit to various electrical throughout the facility.

EXECUTIVE SUMMARY

We acknowledge that the building is on the traditional Indigenous territories of the Á,LEN̲ENEĆ ŁTE (W̲SÁNEĆ) peoples.

MANDATE

This report was prepared at the request of the District of Central Saanich as facility condition assessment for the property under the understanding the building will be undergoing a major renovation in the next few years. Our review considers a 10-year capital renewal timeframe and a $10,000 capital threshold.

GENERAL CONDITION

The building is at an age when lifecycle renewal of major components is expected. General maintenance has been adequate.

CAPITAL RENEWAL HISTORY

The following major renewal has been completed over the past 10 years:
- 2022: Replaced two split-system heat pumps
- 2021: Replaced single rooftop unit
- 2020: Replaced southwest roof area; single rooftop heat pump unit
- 2018: Replaced exterior sealant joints
- 2017: Replaced two split-system heat pumps

LIFE CYCLE RENEWAL

Several components or systems will reach the end of their normal service life within the report term. The subsequent report section includes a summary of the work we recommend including as part of the planned major renovation. Costs related to the renovation work are not included as we understand Class D estimates will be provided by a third-party cost consultant. Once the major renovation is complete, no other renewal or capital repair exceeding the $10,000 threshold is anticipated within the 10 year report term.

KEY FINDINGS

Given the age of the building and the seismic requirements planned for the major renovation, the existing building will require seismic upgrades. Preliminary analysis indicates that implementing these upgrades will likely necessitate structural interventions through the exterior walls, roof assembly, interior floors and wall assemblies, and foundations, as significant portions of these assemblies will be affected. In addition, to comply with updated energy efficiency standards—specifically the NECB and BC Energy Step Code—upgrades to the roofing, exterior walls, windows, and exterior doors will be required. Accordingly, the major renovation scope includes full replacement of the exterior cladding, windows, sliding doors, and roof assemblies.

The horizontal wood siding, plywood panel sections, and wood trim around the Municipal Hall and Police Department had weathered and flaking paint and local wood deterioration. Portions of the wood-framed exterior walls of the Municipal Hall and Police Department were constructed with batt insulation rated at approximately R-12, which does not meet current energy performance standards. As such, full replacement of the cladding and wall assemblies at the Municipal Hall and Police Department is recommended.

All original windows, sliding doors, and individually replaced units installed up to the late 1990s had worn weatherstripping, inadequate water management detailing, degraded slider mechanisms, and a lack of caulking or sealants at transitions between window frames and adjacent siding, leaving the wall assembly vulnerable to water ingress. These assemblies are also prone to condensation during colder months, provide limited thermal resistance, and offer poor resistance to air and water infiltration. Given their age and condition, full replacement of all older windows and sliding doors is recommended.

There is approximately 217 m² of low-slope SBS modified bitumen roofing over the Police Department in poor condition, likely 20–25 years old, with observed cracking, surface crazing, and blisters and is scheduled for replacement.

The fire alarm system is functional, but will reach the end of its expected service life within the report term. Any expansion of the existing building would likely result in the need to replace the existing system.

The diesel generator serving the Fire Department has exceeded its expected service life and should be replaced in the near term. An

electrical capacity assessment should be performed to determine the appropriate size for the new generator.

The building's HVAC equipment varies in age, but the majority are around 15 years old or more. The cooling equipment uses either R-22 or R-410A refrigerant, both of which are now being phased out due to their ozone-depleting properties and global warming potential. The phase-out is expected to make these refrigerants less available and more expensive, which will mainly affect older equipment with greater repair needs. Based on age, reviewed condition, and the phase-out of R-22 and R-410A refrigerants, the plan includes replacing most of the older rooftop heat pump units and associated ductwork, indoor furnaces, and split-system heat pumps as part of the major renovation.

The age of the domestic water distribution lines was not confirmed, but assumed to be original and is currently about 45 to 55 years old. Pending further investigation, full replacement of distribution piping is included within the report term and would be prudent to include as part of the planned major renovation.

The electrical system's primary components are largely original. While still functional, given their age, it is prudent to plan for renewal as part of the major renovation.

ITEMS EXCLUDED FROM OUR REVIEW

The following components, systems and/or equipment are specifically excluded from our review:
- Egress and containment as they relate to fire and life safety code compliance
- Interior finishes, fixtures, and tenant operational equipment (security systems, network, telecom etc.)
- Site finishes

CLOSURE

No part of this report should be read in isolation. It is intended to be relied upon only in its entirety including the Scope of Work and Limitations.

RECOMMENDED SCOPE OF WORK FOR MAJOR BUILDING RENOVATION

We understand the District of Central Saanich intends to determine the feasibility and level of effort required to complete an 1000+ sq.m. building addition to accommodate the current use and planned expansion of site operations and renovate the existing building to:

1) Conform to current BC Building Code (BCBC 2024) requirements for building accessibility, fire and life-safety systems, and seismic to post-disaster standards
2) Upgrade any other deficient building components that don't conform to the current BCBC 2024
3) Replace components that have reached the end of their service life
4) Incorporate recommended energy efficiency upgrades

The addition and renovation strategy is understood to include constructing a new dedicated Police Department addition in place of the existing obsolete Fire Department Tower on the western portion of the site and expanding the Municipal Hall services into the existing Police Department wing. The following list provides a scope of renewal and upgrades to the existing building that are recommended to be incorporated into the planned major renovation project:

1.1 - Seismic requirements meeting current BCBC 2024 post-disaster requirements for new construction of the Police Department wing addition; Structural upgrades to meet current BCBC 2024 post-disaster requirements for the existing Fire Department wing, which includes rebuilding the Fire Department Apparatus Bays; Structural upgrades to meet current voluntary BCBC 2024 life safety seismic requirements for the existing Municipal Hall and Police Department (now becoming additional Municipal Hall space). The Police Department, Fire Department Apparatus Bay, Fire Department Administrative Areas/Hall Chambers, and the Municipal Hall building sections will be separated with seismic gaps. Refer to the Seismic Assessment report under separate cover. This scope of work includes all hazardous materials abatement required during the demolition to facilitate the upgrades (e.g. at drywall, sealants, etc., per the Hazardous Materials Survey).

1.2 - Balconies: Renew both balconies, including new vinyl membrane, plywood decking, allowance for some framing repairs, and a new face-mounted aluminum picket guardrail at the Municipal Hall balcony. The new Municipal Hall balcony guardrail would match the face-mounted configuration and appearance of the Police Department guardrail, which would be temporarily removed and reinstated to facilitate the balcony membrane repairs.

2.1 - Exterior Walls: Fully remove wood cladding, building paper, exterior sheathing, and batt insulation at all areas (excluding Fire Department Apparatus Bay) including all hazardous materials abatement (lead paint on wood cladding), install new R-20 fiberglass batt insulation, install new exterior plywood sheathing (per structural upgrades), install new air/moisture barrier membranes with continuity maintained at balconies, roofs, penetrations, windows/doors, and foundations, install approximately 3" of continuous exterior insulation, install new ventilated rainscreen assembly with wood strapping, and install new fibre-cement, metal, and concrete masonry cladding. The rebuilt Fire Department Apparatus Bay would include similar cladding assemblies and thermal performance.

2.2 - Windows and Sliding Doors: Fully remove existing window and sliding door assemblies, install new windows and sliding doors with new rough opening pre-stripping, thermally broken aluminum-framed window assemblies, double-glazed insulated glass units with two low-emissivity coatings, operable awnings or casements, perimeter flashings, and sealants.

2.3 - Exterior Doors: Replace all exterior entrance doors and steel doors, including rough opening pre-stripping, weatherstripping, hardware, flashings, sealants, and integration with new cladding systems. Include accessible automatic operators and clear width entry at the main entrance doors. Remove personnel and/or overhead doors and infill wall areas where doors are no longer required as part of repurposing the interior spaces. Supply new exterior personnel and overhead doors for the rebuilt Fire Department Apparatus Bay.

2.4 - Roofing: Fully remove all existing low-slope roofs down to sheathing (excluding the upper Council Chambers roof replaced in 2024), including all hazardous materials abatement, remove all skylights, locally repair roof sheathing and framing, install new roof assembly including vapor barrier, tapered polyisocyanate insulation (~4" on average), protection board, and two-ply SBS-modified bitumen membranes with new cap flashings, skylights, mechanical curbs, roof area drains, scuppers, downspouts, exhaust vent hoods, plumbing stacks, and downspouts.

3.1 - Replace and upgrade the fire alarm system to a modern addressable monitored system, including new control and annunciator panels, wiring, and devices throughout the building wings. Pull stations should be installed at accessible heights on walls.

3.1 - Replace the older emergency exit signs with the current "running man" exit signs for consistency throughout the building and to accommodate current fire and life safety and accessibility Code requirements.

3.2 - Remove the existing fire suppression system at the current Police Department cell block and install a new fire suppression system to serve all building wings, interfacing with the new fire alarm system and installing a new dedicated incoming fire supply line and a new mechanical room at the new Police Department addition.

3.3 - Replace both existing emergency backup generators with a single larger-capacity outdoor diesel generator with an integrated fuel tank and new transfer switches for electrical power distribution for additional capacity to accommodate the planned building additions. The generator would be located in a secure enclosure near the new incoming electrical services planned for the new Police Department addition.

4.1 to 4.3 - Replace all packaged and split-system heat pump units (excluding recently-replaced units, which would be temporarily removed and reinstated), resizing as needed to accommodate new thermal performance at the building envelope and a new automation system. Coordinate structural roof upgrades required at new mechanical units as needed. Implement heat recovery ventilators at exhaust fans in dropped ceilings or bulkheads to temper the air to the main HVAC equipment for improved energy efficiency.

4.4 - Replace all exhaust fans and ventilation systems, and upgrade where required for Code.

4.5 - Install a direct-digital control building automation system, including a monitoring interface, with control points to control the central HVAC equipment for each wing and particular room/area function for improved temperature control, occupant comfort, and energy efficiencies.

5.1 - Replace all domestic water distribution piping and implement a central domestic hot water heating plant supplied by heat pump units in a new mechanical room addition to replace the individual electric hot water tank heaters.

5.2 - Install new incoming water service to supply the expanded building wings, including backflow prevention. Existing buildings to switch over to the new service once in place.

5.3 - Replace the duplex sanitary pump station and controller, which could be upgraded and relocated based on the building addition and interior space repurposing.

6.1 - Install an upgraded incoming electrical service and a new pad-mounted transformer, adequately sized to accommodate the existing building and new additions. The new addition would contain a new main electrical room, and the existing electrical room would be repurposed as a sub-electrical room containing new distribution equipment.

6.1 - Replace all original electrical distribution systems, including the primary and secondary disconnect switches and distribution panels. The work includes replacing the older switches and outlets throughout the building and addressing existing electrical wiring deficiencies.

6.2 - Replace all older fluorescent T8 or T12 lighting fixtures (about 50% of interior lighting) with more modern and energy-efficient LED lamps with suitable lighting levels, and upgrade the lighting configuration to accommodate the building area functions. Add lighting control systems to improve energy efficiency.

COMPONENT ASSESSMENT

1. STRUCTURE

1.1 STRUCTURAL FRAME

Description:

The current civic facility was constructed in three main phases: the Municipal Hall circa 1965, the Police Department addition circa 1977, and the Fire Department addition circa 1979.

The facility primarily has wood-framed superstructures over reinforced concrete foundations and footings. Roof and floor assemblies consist of dimensional and engineered joists with plywood sheathing supported by stud-framed walls. Flat roofs have extended overhangs supported by cantilevered wood beams and exterior posts. Structural elements across the facility include wood or steel lintels at openings and wood or steel-framed canopies, stairs, and balconies. The lowest level floors are typically a concrete slab-on-grade. Some building wings incorporate concrete masonry unit (CMU) firewalls.

The Fire Department Apparatus Bay structure consists of plywood roof sheathing on engineered joists supported by steel beams and interior columns and load-bearing CMU perimeter walls on reinforced concrete footings. The Apparatus Bay floor is a reinforced concrete slab-on-grade.

Condition / Recommendation:

We note no evidence of unusual settlement, displacement, or structural cracking in the areas reviewed.

The interior structural elements are generally protected from weather and are not expected to require major repair within the report term. Structural elements exposed to weather (e.g., the balconies) are discussed in the other sections of this report.

This building is in an area with a relatively high risk of strong seismic activity. The current Building Code requirements for earthquake resistance are more stringent than the Code to which this building was designed. Upgrading to the current Code is normally only required if major structural renovations are completed (e.g., expansions, removing load-bearing walls, change of use, etc.).

Given that the planned major building renovation and additions for the site to meet current BCBC 2024 seismic requirements, the site will be upgraded as follows:

- Seismic requirements meeting current BCBC 2024 post-disaster requirements for new construction of the Police Department wing addition

- Structural upgrades to meet current BCBC 2024 post-disaster requirements for the existing Fire Department wing, which includes rebuilding the Fire Department Apparatus Bays

- Structural upgrades to meet current voluntary BCBC 2024 life safety seismic requirements for the existing Municipal Hall and Police Department (now becoming additional Municipal Hall space)

The Police Department, Fire Department Apparatus Bay, Fire Department Administrative Areas/Hall Chambers, and the Municipal Hall building sections will be separated with seismic gaps. Refer to the seismic assessment report under separate cover.

1.2 BALCONIES

Description:

The facility includes two balconies.

One balcony is on the south elevation, accessed from the Municipal Hall. This balcony acts as a canopy at the rear entrance to the fire hall common room. The balcony is wood-framed, with a plywood deck protected by a vinyl membrane. A prefinished picket-style aluminum railing encloses the balcony, with post anchors fastened through the top surface of the membrane.

The second balcony is on the west elevation, accessed from the Police Department. This balcony is also wood-framed with a vinyl membrane. The guardrails are an aluminum-and-glass railing system with clear tempered glass panels set in prefinished aluminum posts and rails. The posts are face-mounted to metal flashing over the fascia board at the balcony edge.

Condition / Recommendation:

The existing membranes on the balconies are worn and weathered. The membrane did not extend up behind the adjacent cladding or below the patio doors, which can lead to water ingress behind the membrane and eventual framing deterioration. At the Municipal Hall balcony, decay in the plywood decking was observed below the membrane at some of the guardrail post fasteners. Temporary wood post supports have been added to the balcony to stabilize the railing.

Given the extent of deterioration at the balconies, we recommend full balcony renewal within the report term, which would include replacing the vinyl membranes, plywood sheathing, and the guardrail at the Municipal Hall balcony and completing framing repairs and upgrades as required. The project assumes installing upgraded base-of-wall upturn details interfacing with the building walls. The new Municipal Hall balcony guardrail would match the face-mounted configuration and appearance of the Police Department guardrail, which would be temporarily removed and reinstated to facilitate the balcony membrane repairs.

Given that the planned major building renovation for the site includes structural upgrading of floors and exterior walls to satisfy current BCBC 2024 seismic requirements, the balcony renewals are recommended to occur as part of the renovation.

2.1 WALLS

Description:

The facility's three interconnected building wings each have distinct yet coordinated exterior wall assemblies.

The exterior walls of the Municipal Hall, Police Department, and the Fire Department administration/support areas are primarily clad with horizontal painted wood siding over plywood sheathing, with wood trim elements at corners, around windows and doors, and at panel transitions with painted wood trim and metal flashing at roof edges and parapets. Some sections beneath windows and along the south wall facing the Municipal Balcony and lower patio are finished with painted Crezon plywood and framed by battens. Moreover, concrete masonry unit (CMU) walls enclose the vault room at the south of the Municipal Hall. Based on available drawings, the wood-framed exterior wall assembly behind the horizontal wood siding/Crezon plywood consists of building paper, plywood sheathing, wood furring, and a combination of 2x4 and 2x6 wood framing at 12" or 16" o.c., with R-12 or R-20 batt insulation and interior gypsum board. Transitions between buildings are treated with coordinated finishes, maintaining a unified appearance across the site.

The Fire Department Apparatus Bay is constructed from reinforced CMU walls. The wall assembly at the CMU portions includes running bond blockwork and painted finishes, with parapets capped in metal coping. The roof over the Fire Department Apparatus Bay has painted fascia panels and Oxide Red–coloured plywood cladding above the overhead doors.

Condition / Recommendation:

The exterior cladding is mostly original to construction (now 45 to 55 years old) and varies in condition across the three interconnected buildings. The painted horizontal wood siding, Crezon plywood panel, and wood trim at the Municipal Hall and Police Department generally appear to be in good condition. Wood siding performance is dependent upon being maintained in a dry condition and relies upon the protective finish and the design of the workmanship of the original installation.

Localized deficiencies were noted, particularly at the southwest corner of the Municipal Hall, where paint failure, flaking, and cracking are visible on Crezon plywood panels. Additional deterioration was observed at wood trim elements around windows and doors, as well as isolated sections of horizontal siding exhibiting minor splitting, displacement, or surface wear. Wood siding performance is dependent upon being maintained in a dry condition and relies upon the protective finish and the design of the workmanship of the original installation.

At the Municipal Hall roof level, the painted plywood band at the clerestory windows shows more advanced deterioration, including weathered paint, open joints, and exposed wood along seams likely exacerbated by limited roof overhangs and evidence of standing water near the roof edge. Portions of the wood-framed exterior walls of the Municipal Hall and Police Department were constructed with batt insulation rated at approximately R-12, which does not meet current energy performance standards.

At the Fire Department, most of the wood siding and trims at the administration and support areas appear to be in fair condition, with no visible signs of decay from grade-level observation. The painted CMU walls of the Fire Department Apparatus Bay are also in serviceable visual condition, with no significant cracking, displacement, or moisture staining observed. The Oxide Red–coloured plywood cladding above the overhead Apparatus Bay doors shows finish and substrate deterioration, including some peeling paint and exposed upper edges.

The walls are generally designed as a face-sealed system, meaning that the outer surface is intended to be watertight. As such, the exterior seals need to be diligently maintained. With this type of wall system, leakage can occur into the wall system, causing degradation of the concealed components without any evidence of a problem on the exterior or interior. From grade, we could not see evidence of an obvious, widespread problem; however, this does not preclude the risk of concealed damage.

Given the age, current condition, and poor thermal performance of the cladding systems and the planned major building renovation—which includes significant seismic upgrades to meet current code requirements that will require removing the majority of the exterior cladding and sheathing and intends to upgrade Code-deficient building components and improve energy efficiencies—it is recommended to generally replace the exterior cladding with modern fiber-cement, metal, and/or concrete masonry cladding and upgrade the wall assembly to include new batt insulation, plywood sheathing (per structural upgrades), improved and continuous air/moisture barrier, modern rain-screen system, and ~3" exterior insulation. These upgrades would improve the overall thermal performance, moisture management, and air tightness of the cladding system, which will be important factors when implementing a new integrated and automated HVAC system as part of the renovation for improved occupant comfort and potentially reducing overall energy consumption and electricity costs. The scope would also include generally replacing all soffits with perforated aluminum panels, building fascia with new cladding systems and prefinished metal flashing, and all downspouts. Hazardous materials abatement will be required due to the presence of lead-containing paint on the existing cladding.

The exterior cladding finishes at the Fire Department Apparatus Bay are generally in serviceable condition, and major renewal of these wall areas is not anticipated within the report term. Given the planned major renovation to the site, which includes rebuilding the Apparatus Bay to satisfy current BCBC 2024 post-disaster seismic requirements, the new Apparatus Bay would include a modern steel structure and a similar new cladding assembly as the other building wings.

If the planned renovation and seismic upgrades were to be deferred, the wood cladding could be maintained for the report term. However, given the wet weather conditions in British Columbia, a general cladding renewal project would be recommended in the next few years. A wall condition evaluation would be recommended in the next few years to better establish existing conditions, scope of repair, and budgets and would include a review from the exterior via scaffolding, ladder, or boom-lift and exploratory test openings to review concealed details. Pending the evaluation, local wall repairs, general repainting, and replacement of decayed wood siding and sealants would be recommended.

2.2 WINDOWS & SLIDING DOORS

Description:

The facility contains a mix of original and replacement windows, comprising fixed, sliding, and awning units with varying frame materials and glazing configurations. Across the facility, window types vary and include original single-glazed aluminum windows from the late 1960s, early-generation double-glazed insulated glass units (IGUs) from the 1980s with narrow spacer widths (approximately 1/4"), mid-era aluminum-framed IGUs from around 2000 with wider spacers (approximately 1/2"), modern aluminum-framed IGUs in the east wing of the Municipal Hall, and newer aluminum-framed windows in some sections of the Police Department.

Approximately 90% of the windows in the east wing of the Municipal Hall appear to be newer aluminum-framed units with double-glazed IGUs. These include a mix of fixed and awning-opening types in dark brown, anodized, and limited silver-colored finishes. While the exact installation date could not be confirmed, historical mapping and date stamps suggest manufacturing years in the late 2000s.

In contrast, the Police Department and the south portion of the west wing of the Municipal Hall retain older window assemblies, including fixed and sliding units in dark brown aluminum frames. These windows are likely original to the Police Department construction date of 1977. These older windows are a mix of single-glazed and double-glazed units, with glazing technologies and frame profiles consistent with their respective eras when replaced.

There are 10 aluminum-framed clerestory awning windows installed along the upper perimeter of the Police Department below the raised parapet and above interior office spaces, which are integrated into the painted wood cladding and trim and, based on their frame profiles and hardware, appear original to the building’s late-1970s construction.

Three aluminum-framed sliding glass doors provide access to balconies from the Police Department and the Council Chambers in the Municipal Hall. All sliding doors are double-glazed units with one operable panel and one or two fixed panels. Two doors have dark brown or anodized aluminum frames, while one at the southeast Police Department balcony has a white-painted aluminum frame. With no manufacturing labels or date stamps observed, these assemblies are estimated to date from around 2000 based on frame profiles, glazing spacer widths, and general condition.

Additionally, four smaller awning-type windows with white-painted aluminum frames were observed at the lower level of the Police Department, opening into a staff room. These units appear to be original to the 1970s-era construction, based on age-related wear and matching design characteristics. No date stamps were observed on the glazing.

Condition / Recommendation:

With the exception of the newer windows in the east wing of the Municipal Hall, all original windows, sliding doors, and individually replaced units installed up to the late 1990s exhibit signs of aging. Observed deficiencies include worn weatherstripping, inadequate water management detailing, degraded slider mechanisms, and lack of caulking or sealants at transitions between window frames and adjacent siding. The absence or failure of sealants at exterior material transitions leaves the wall assembly vulnerable to water ingress. These assemblies are also prone to condensation during colder months, provide limited thermal resistance, and offer poor resistance to air and water infiltration.

Given the window age and condition and the planned major building renovation—which intends to upgrade Code-deficient building components and improve energy efficiencies—full replacement of all older windows and sliding doors is recommended within the report term. Replacement assemblies should incorporate low U-value, double-glazed insulating glass units (IGUs) with low-emissivity coatings and thermally efficient frames that comply with performance requirements under current Codes and regulations. The scope should also include the installation of new perimeter flashings and sealants to enhance drainage performance, coordinated with the anticipated cladding replacement and wall assembly upgrades.

The more recently installed windows and doors—estimated to date from the late 2000s—appear to be in serviceable condition, with improved frame profiles, double-glazed IGUs, and functional hardware. No operational issues were observed or reported during the review. While these more modern windows could remain in service for 10 years, full replacement of these assemblies is recommended as part of the 2026 exterior wall recladding to facilitate continuity of the air and moisture barrier, improve long-term waterproofing performance, and ensure consistency with other windows replaced during the upgrades.

2.3 EXTERIOR DOORS

Description:

The facility features a range of exterior doors serving the Municipal Hall, Police Department, and Fire Department, varying in location, material, and function.

The two primary public entrances consist of aluminum-framed storefront systems with glazed double doors, side lites, and transoms. The main entrance on the north elevation provides access to the upper floor from the public parking lot, while a second entrance located in the south courtyard serves the lower floor. Both are equipped with accessibility operators and card access systems, and appear to date from the early 2000s or later.

The Fire Department includes eight aluminum sectional overhead bay doors—four on the north elevation and four on the south—constructed of white-painted insulated panels with integrated horizontal vision lites, likely installed in the mid-2000s.

Service and staff access doors include one double and four single hollow-metal doors in metal frames, all painted oxide red and trimmed in wood, providing access to mechanical rooms and support spaces. Two light grey-painted metal single doors serve the Police Department’s lower-level staff area and cell block. A white vinyl-faced overhead sectional door at the rear provides vehicle access to the cell block. Additionally, a single wood-framed door with a wired-glass vision lite provides access to the Police Department’s lower-floor staff room and appears original to the building.

Condition / Recommendation:

The storefront-style entrance doors appear to have been replaced in more recent years and are generally of better quality. The main entrance doors on the north elevation were in a serviceable overall condition and benefit from partial weather protection from the entrance canopy. The south courtyard entrance doors were in a similar condition but lack sufficient overhead protection and are more exposed to weathering. The ground-level steel doors were in fair condition, and we noted age-related wear, deteriorated finishes, and poor weather resistance.

Given the suspected age and condition of the exterior doors and the planned major building renovation—which intends to upgrade the site to satisfy current accessibility Code requirements, upgrade Code-deficient building components, and improve energy efficiencies—replacement of all exterior entrance doors and ground-level steel doors is recommended. All door assemblies replaced during the renovation should be installed with new rough opening pre-stripping, perimeter metal flashings, appropriate sealants, and interfacing with the new cladding and wall assembly. Entrance door upgrades are required to integrate these doors with a new FOB access system and new accessible automatic operators with clear width entry.

The white vinyl-faced overhead door at the rear of the Police Department was in a serviceable condition and can be maintained for the report term. However, given the repurposing of the existing Police Department as part of the planned building renovation and addition, this door may be removed and the wall in-filled.

The aluminum overhead doors at the Fire Department Apparatus Bay set directly within CMU walls are expected to last the report term provided regular maintenance and part replacement continue. Given the planned building renovations, which includes rebuilding the Apparatus Bay to satisfy current BCBC 2024 post-disaster seismic requirements, the overhead doors are anticipated to be replaced with new doors.

2.4 FLAT ROOFING

Description:

The majority of the roof areas across the facility are protected by low-slope roofing systems consisting of two-ply SBS (styrene-butadiene-styrene) modified bitumen membranes with exposed, granulated cap sheets. The membranes appear in grey and reddish-brown colours, indicating different installation periods across the facility.

The roof assemblies are installed over interior portions of the facility and are enclosed by parapets finished with painted metal cap flashings. The roofs accommodate HVAC equipment, ductwork, vents, and other mechanical components, many of which are mounted on curbs or pads integrated with the membrane system. Flashing transitions are provided at parapet walls, curbs, penetrations, and vertical wall interfaces using granule-surfaced cap sheets.

Stormwater drainage is managed through internal roof drains fitted with domed strainers, as well as through-wall scuppers in select areas. Membranes are generally sloped toward these drainage points to facilitate runoff.

Mechanical zones are enclosed with wood screening or protective railings and include elevated service platforms where applicable. In some areas, the SBS roofing transitions into adjacent sloped metal roofs or skylight wells. At these junctions, the membranes are extended vertically and integrated with adjacent flashing systems to maintain waterproofing continuity.

History of Repairs:

2024: Replaced 140sqm roof area over Municipal Council Chambers (south of Police Department roofs), including insulation slope package and new 2-ply SBS membrane.
2017: Dome skylight replaced with metal roofing.
1965-Present: Roofing has been replaced several times, but dates unconfirmed.

Condition / Recommendation:

The Police Department roofs include two low-slope SBS membrane roofs. The northeast section is in poor condition, estimated at 20 to 25 years old, with blistering, cracking, and general membrane fatigue. Replacement is required in 2026. This is the only roof section that requires replacement within the report term due to its age and condition. All other flat roof areas throughout the site could remain in service until about 2036 or beyond. The condition of these other roof sections is discussed as follows:

The roof section over the north Police Department wing is in fair condition, estimated at 10 to 15 years old, showing typical aging signs such as ponding, surface wear, and weakened detailing. Replacement is not anticipated until about 2036.

The Fire Department roof appears to be 10 to 15 years old, with mid-life wear such as granule loss, biological buildup, and aging at membrane seams and flashing transitions. Minor ponding was noted near drains due to limited slope. While still performing adequately, replacement is anticipated in about 2036 to maintain performance and incorporate drainage and thermal upgrades.

The Municipal Hall roofs include three low-slope SBS membrane roofs and one sloped metal roof. Two flat membrane sections are in fair condition, estimated at 10 to 15 years old. Both areas show ponding, granule loss, and weathered detailing, with replacement anticipated in about 2036. The Council Chambers roof, located south of the Police Department, was replaced in 2024 and includes a tapered insulation package. This roof is in good condition, with no observed deficiencies, and replacement is not anticipated before 2050. A sloped metal roof above the main entrance lobby is also part of the Municipal Hall and remains in good condition, with no signs of deterioration.

The main entrance canopy includes a flat roof located directly above the public building entrance. This section is in fair condition, with membrane aging, signs of ponding, and surface weathering. While still functional, it is approaching mid-life and replacement is not anticipated until 2036.

Given the age, current conditions, and poor thermal performance of the roofing systems and the planned major building renovation—which includes significant seismic upgrades to meet current code requirements that will require removing the majority of the roofing systems and intends to upgrade Code-deficient building components and improve energy efficiencies—full roofing replacement across all building wings is recommended. The scope of work would exclude the recently replaced roof area over the Municipal Hall Council Chambers, assuming the planned seismic-related work can be performed from the underside at the interior. Roof replacements are recommended to include a new air/vapour barrier layer with continuity at wall interfaces, tapered polyisocyanate insulation (~4" on average), and a two-ply SBS-modified bitumen membrane system to improve drainage and thermal performance. The roof replacement would also include new cap flashings, skylights, mechanical curbs, roof drains, exhaust vent hoods, plumbing stacks, and downspouts.

2.5 SLOPED METAL ROOFING

Description:

The main entrance vestibule between the Municipal Hall and Police Department is covered by a pyramidal roof with standing-seam prefinished aluminum panels. The panels are vertically oriented with concealed fasteners and standard ridge and edge flashings. Perimeter eave gutters drain to adjacent roofs or the stormwater system via exposed downspouts. A snow retention element along the west-facing slope reduces snow shedding onto the walkway below, enhancing pedestrian safety near the rear entrance.

History of Repairs:

2019: Replaced to sloped metal roof (from skylight).

Condition / Recommendation:

The metal roof was installed approximately six years ago to replace a leaking skylight. This metal roof area is in good condition, with no signs of corrosion, fastener issues, coating failure, or joint separation. Drainage components are intact and functional. As such, replacement of the sloped metal roofing is not anticipated during the report term, and is expected to be retained as part of the planned major building renovations.

2.6 SLOPED ASPHALT SHINGLE ROOFING

Description:

Two small wood-framed canopy roofs with asphalt shingles are located above the north and south stairwell entrance doors. They provide basic weather protection. Drainage is directed off the eaves without gutters.

History of Repairs:

2024: Installed both roof canopies.

Condition / Recommendation:

Both canopy roofs appear to be in good condition and were reportedly installed within the past year. No deficiencies were observed. These assemblies are expected to remain serviceable beyond the report term with routine maintenance and can be retained during the planned major building renovation so long as the seismic upgrades and planned low-slope roof replacement do not require removal.

2.7 SKYLIGHTS

Description:

There are six rectangular, sloped skylight units arranged in pairs along the central portion of the Police Department roof. Each skylight assembly consists of two rows of inclined glazing panels supported by aluminum-framed T-bar structures, forming a shallow ridge configuration. The sloped glazing is set within metal frames and finished with aluminum pressure caps. The skylights are located within dedicated roof wells framed by raised parapets, with modified bitumen roofing membranes applied around the bases. Each skylight unit is approximately 5 m² in area, providing natural light to interior corridors below.

Condition / Recommendation:

The skylight assemblies appear to be in aging but serviceable condition. Signs of organic growth, debris accumulation, and weathered sealants were observed along the perimeter frames, particularly at the membrane-to-frame interface. No active leakage was reported at the time of assessment, but the assemblies remain vulnerable to water ingress due to their T-bar construction. With regular maintenance and local repairs—including perimeter cleaning and sealant renewal—the skylights are not expected to require replacement within the report term.

Given the planned major building renovation—which includes significant seismic upgrades to meet post-disaster code requirements that will require removing the majority of the roofing systems and intends to upgrade Code-deficient building components and improve energy efficiencies—full replacement of the skylights is recommended to occur with the surrounding roof areas.

3.1 DETECTION/ALARM

Description:

The building is equipped with a single-stage, zoned and electronically monitored fire alarm system. The control panel (Model EST QuickStart) was installed in 2008 and is located in the lower level Municipal Hall storage area adjacent to the diesel generator room. A remote annunciator is located in the upper level lobby adjacent to the main entrance doors.

The fire alarm system monitors heat detectors situated in most common areas, office spaces and service rooms, the manual pull stations at exits, and the supervised valve serving the Police Department cell block suppression system. Signaling devices consist of bells. The wiring and devices appear to vary depending on various renovation history.

Emergency exit signs in the corridors and stairwells are a combination of red "Exit" signs and the more modern "Green Running Man" signs.

History of Repairs:

2008: Replace fire alarm panel and some field devices, based on visual condition.
Dates Unknown: Replacement of some field devices and exit signs, based on visual condition.

Condition / Recommendation:

There were no reports of operational concerns with the fire alarm system. A copy of the complete fire alarm system annual inspection/testing report was not provided for our review. A copy of the field device record report completed as part of the Fire Alarm Inspection prepared by Cantec Fire Alarm, dated November 8 and 28, 2024, was provided for our review and noted no major concerns.

The fire alarm system is functional but will reach the end of its expected service life within the report term. The fire alarm panel is capable of supporting addressable devices as well as conventional devices. The system currently operates as a zoned system while more modern installations would commonly be set-up as addressable systems to provide enhanced life safety. The alarm panel has a typical service life of about 15 to 20 years; as the panel is currently 17 year old, replacement should be expected within the report term.

The existing heat detectors are a mix of older and newer units. Individual devices requiring replacement, as identified by ongoing inspections, are expected to be completed as part of regular maintenance.

The pull stations are located high on the walls, above the current accessibility height requirements. While the accessibility requirements are not retroactive in existing buildings, you may be required to lower the height of the pull stations if you undergo a major renovation or addition.

The emergency exit signs are a combination of older red "EXIT" signs and modern "green running man" signs. These exit signs should all be consistent to avoid confusion during an evacuation; as such, we recommend replacing all red "EXIT" signs with the modern "green running man".

Given the planned major building renovation—which intends to upgrade deficient building components to satisfy current accessibility, fire, and life safety Code requirements— we recommend planning to replace the existing fire alarm system with a modern addressable and monitored alarm system, including the replacement of all wiring and field devices so that they comply with current standards and Codes.

Other life-safety-related code compliance concerns were identified during our review, such as inadequate handrails in stairwells and defects in fire separations, which are related to egress and containment. The WSP review excluded a review for egress and containment as they relate to fire and life safety code compliance. Refer to the report prepared by Number TEN Architecture under separate cover for details.

3.2 SUPPRESSION

Description:

The building is not sprinklered, with the exception of the Police Department cell block on the lower level that was constructed in 2000. The system includes a small number of fast-response wet sprinkler heads. The 2" fire suppression water line branches off the main 2" incoming water service located in the Furnace Room on the lower level. The fire line includes a backflow preventer and a flow control sensor connected to the fire alarm system.

Fire extinguishers (ABC 5lb type) are provided throughout the facility. These units are inspected regularly and replaced as needed as part of ongoing maintenance activities.

Condition / Recommendation:

No major problems with the small fire suppression system were noted or reported. A copy of the annual testing report was not provided for our review. Inspection tags indicate the system is inspected/tested annually by Cantec Fire Alarms. The backflow preventer also had an annual inspection label that was up to date.

As the fire suppression system is now 25 years old, some individual component replacement should be expected (e.g. valves, piping, backflow preventer, sprinkler heads, etc.). We assume this work, as well as other minor repairs identified by annual testing, will be managed as a maintenance expense.

The limited number of sprinkler heads are fast-response sprinkler heads. After 25 years of service and every 10 years thereafter, a representative sample of sprinkler heads requires testing to verify they would perform as intended in a fire, or alternatively they need to be replaced. Given the limited quantity of sprinkler heads, we recommend planning for their replacement rather than testing, with this work completed by your local fire suppression service contractor in conjunction with future annual inspections/testing.

For the building's fire and life-safety systems to satisfy the current Building Code, full fire sprinkler system replacement and upgrades to serve the entire building would be required. A full sprinkler system upgrade for the site would require interfacing with the existing fire alarm control panel for monitoring and installing a new dedicated fire supply line to the building, as the existing 2" water service is not large enough to accommodate a fire suppression system serving the entire building.

3.3 EMERGENCY POWER

Description:

There are two emergency generators serving this site.

Emergency power is provided to the Municipal Hall and Police Department by a propane-fired generator, rated at 36 KW / 45 KVA, 102/208V, located outdoors in a small fenced enclosure within the landscaped area to the south of the Municipal Hall. The generator was manufactured by Generac in 2010. There are four propane tanks (each about 80-gallon capacity) within the fenced enclosure and a fixed fuel line connecting the tanks to the generator. The generator automatic transfer switch is located in the main electrical room. According to the electrical panel connected to the transfer switch, emergency power is supplied to some of the HVAC systems (heating and A/C), lighting, local plug loads and some operational equipment.

Emergency power is provided to the Fire Department by a diesel-fired generator, rated at about 12 KW, 120/208V, located in a dedicated generator room within the lower level municipal storage room area. The generator was manufactured by Simpson Maxwell (Model GCP14). The age of the generator was not confirmed, but based on visual appearance, it appears to be original (40+ years old). A small single-walled diesel fuel storage tank complete with fuel containment enclosure is also located in this room. The generator automatic transfer switch is located in the storage area beside the generator room. The transfer switch, with a rated capacity of 100A, 600V, was manufactured by Thompson Technologies in 2012.

While some of the emergency lighting is powered by the generators, additional emergency light fixtures are located throughout the

facility, powered by wall-mounted battery packs.

History of Repairs:

2010: Installed Generac emergency generator and transfer switch serving the Municipal Hall and Police Department, based on equipment data label.
2012: Installed new transfer switch for old generator serving the fire hall, based on equipment data label.

Condition / Recommendation:

No major problems with the propane generator serving the Municipal Hall and Police Department were noted or reported. A copy of the annual testing report was not provided for our review. Inspection tags indicate the system is inspected/tested by Total Power. Based on age (installed in 2010) and the absence of current issues, we anticipate this generator could remain in service for report term.

The diesel generator serving the Fire Department is reported to be operational and serviced by Total Power. A copy of the annual testing report was not provided for our review. The generator is currently undersized to support emergency response facilities such as a Fire Department. This generator, believed to be 40+ years old, has exceeded its expected service life and should be replaced in the near term. With age, performance typically degrades to the point where the generator cannot meet the full load requirements, and replacement is required. Major manufacturers typically do not support older equipment, and we cannot predict how long replacement parts will remain available.

Given the age, condition, and sizes of the both generators and the planned major building renovation—which intends to upgrade deficient building components to satisfy current accessibility, fire, and life safety Code requirements— both generators are recommended to be replaced with a single larger-capacity outdoor diesel generator with an integrated fuel tank and new transfer switches for electrical power distribution to service all building wings.

4.1 HVAC - MUNICIPAL HALL

Description:

Packaged rooftop units provide the main source of heating, cooling, and ventilation to the Municipal Hall Wing of the building. The units typically have electrical heating and R-410A refrigerant cooling. The units are summarized below.

- Packaged Rooftop Heat Pump Unit, labelled 'HVAC #A1', serving the office areas and was manufactured by Carrier (Model No. 50EZ-A30–30TP) in 2011 with a heating capacity of about 29 MBH and a nominal cooling capacity of 2.5 tons.

- Packaged Rooftop Heat Pump Unit, labelled 'HVAC #A2', serving the office areas and was manufactured by Carrier (Model No. 50EZ-A36–50) in 2012 with a heating capacity of about 35 MBH and a nominal cooling capacity of 3 tons.

- Packaged Rooftop Heat Pump Unit, labelled 'HVAC #A7', serving the office and lobby areas and was manufactured by Carrier (Model No. 50EZ-A36–30) in 2010 with a heating capacity of about 35 MBH and a nominal cooling capacity of 3 tons. The RTU has a ducted Power Ventilator manufactured by Delhi (Model 9210) in 2009.

- Packaged Rooftop Heat Pump Unit, serving the Hall Chambers and was manufactured by Carrier (Model No. 50FCQA068285A0) in 2020 with a heating capacity of about 56 MBH and a nominal cooling capacity of 5 tons.

- Packaged Rooftop Heat Pump Unit, serving the Hall Chambers and was manufactured by York (Model No. B2HZ042A25A) in 2012 with a heating capacity of about 40 MBH and a nominal cooling capacity of 3.5 tons.

Supplemental heating and cooling are provided by the following, typically using electric heating and R-410A refrigerant:

- Split-system heat pump, labelled 'HVAC #A3', serving the Hall's server/print room was manufactured by Fujitsu Model No. AOU12RLS) circa 2011 with a heating capacity of about 16 MBH and a cooling capacity of 1 ton.

- Electric force-flow and baseboard heaters serving local offices, common areas, and service rooms, typically below perimeter windows and at entrance doors.

History of Repairs:

In the last 10 years:
- 2020: Replaced single packaged rooftop unit on the Council Chambers roof, according to the data plate.

Condition / Recommendation:

The rooftop units were operating at the time of our site review. The Facilities Coordinator reported no major issues. We noted the rooftop ductwork is showing signs of corrosion, and some HVAC equipment has local vegetation/moss buildup. We also noted that some rooftop heat pump return air plenums and exhaust fans were located too close to the supply registers, resulting in cycling and poor air distribution. Adjustment of the ductwork or location of exhaust and supply grilles is recommended to occur as part of the equipment replacement.

The typical service life of rooftop units can range from 20 to 30 years and is highly dependent on maintenance practices. The cooling equipment uses R-410A refrigerant, which is a hydrofluorocarbon (HFC)-based refrigerant. In 2021, the EPA released a plan to phase out HFC-based refrigerants, based on the American Innovation & Manufacturing (AIM) Act, due to their global warming potential. The plan includes a phase-out of R-410A in new A/C equipment by 2025 and an 85% reduction in HFC production by 2036. Like with the previous R-22 phase-out, this is expected to make R-410A refrigerant less available and more expensive, although the extent of these changes is not yet known. Refrigerant is needed to top-up equipment where some has been lost due to repairs or leaks. As such, the phase-out is expected to affect mainly older equipment with greater repair needs. Based on the age of the equipment, escalating repair needs should be expected within the report term. The cost of these repairs is likely to be affected by the phase-out of R-410A, and we assume continued repairs will become cost-prohibitive within the report term.

Based on age, reviewed condition, and the phase-out of R-22 and R-410A refrigerants, the plan includes replacing the four older rooftop units and associated ductwork and the split-system heat pump within the next few years. Periodic repair and replacement of individual components (such as the compressors, burners, valves, blowers, ductwork, etc.) are expected to continue as a maintenance expense. No budgets for structural upgrades are included. Depending on the load differential between the original and new units, a structural review and upgrades may be needed.

The electric force-flow and baseboard heaters appear to be original to construction and are recommended for replacement within the report term at a cost below the capital threshold.

Given the planned major building renovation—which includes significant seismic upgrades to meet post-disaster code requirements that will require removing the majority of the cladding and roofing systems and intends to upgrade Code-deficient building components and improve energy efficiencies—full replacement of the four older rooftop units, the split-system heat pump, and the interior force flow and baseboard heaters are recommended as part of the renovation. We recommend implementing Heat Recovery Ventilators at washroom exhausts as part of the major renovation to provide tempered air to the HVAC equipment to improve energy efficiency. Equipment sizing and configurations will require comprehensive HVAC review and commissioning with the new thermal and air tightness performance of the building envelope and interfacing with a new building automation system. We recommend implementing Heat Recovery Ventilators at washroom exhausts to provide tempered air to the HVAC equipment to improve energy efficiency. Some HVAC equipment, like the force-flow and baseboard heaters, may become obsolete following the renovation and could be permanently removed.

The newer 2020 Carrier RTU is in a serviceable condition and is expected to last beyond the report term. The unit is expected to be temporarily removed and reinstated following the planned roof replacement as part of the planned major renovation.

4.2 HVAC - POLICE DEPARTMENT

Description:

The following equipment provides the main source of heating, cooling, and ventilation to the Police Department Wing of the building, typically having electric heating and R-410A refrigerant cooling:

- Packaged Rooftop Heat Pump Unit, labelled 'HP-1', serving the upper-level office areas and was manufactured by Trane (Model No. WSC060H3RBA25) in 2021 with a heating capacity of about 60 MBH and a nominal cooling capacity of 5 tons.

- Packaged Rooftop Make-up Air Unit, serving the cell block addition and was manufactured by Engineered Air (LMK Series, Model No. LM-1-KO) in 2000 with a heating capacity of 10 kW and no cooling.

- Indoor ducted furnace, labelled 'HVAC #P2', serving the lower-level office and administration areas and was manufactured by Carrier (Model No. FY4ANF036) in 2008 with a heating capacity of about 35 MBH. Cooling is provided by a packaged rooftop condensing unit manufactured by Carrier (Model No. 25HCB336A300) in 2010 with a nominal cooling capacity of 3 tons.

- Indoor ducted furnace, labelled 'HVAC #P3', serving the lower-level office and administration areas and was manufactured by Lennox (Model No. ES3D-341-2) in 1977 with a heating capacity of about 25 MBH and no cooling.

Supplemental heating and cooling are provided by the following, typically using electric heating and R-410A refrigerant cooling:

- Split-system heat pump serving the administration and communications center was manufactured by Mitsubishi ('Mr. Slim' Series, data plate not legible) circa 2003 with a heating capacity of around 18 MBH and a cooling capacity of around 1.5 tons.

- Split-system heat pump serving the detective offices was manufactured by Fujitsu (Model No. AOU12RL) in around 2011 with a heating capacity of 27.6 MBH and a cooling capacity of 1 ton.

- Two split-system heat pumps serving the northern lower-level server room were manufactured by Fujitsu (Model No. AOU24RLXFW) in around 2017 with a heating capacity of 27.6 MBH and a cooling capacity of 2 tons.

- Two split-system heat pumps serving the southern lower-level server room were manufactured by Fujitsu (Model No. AOUG09LMAS1, AOUH12LPAS1) in around 2022 with a heating capacity of 12 MBH and a cooling capacity of 3/4 and 1 ton.

- Portable window air-conditioning units serving local offices and areas.

- Electric force-flow and baseboard heaters serving local offices, common areas, and service rooms.

History of Repairs:

In the last 10 years:
- 2022: Replaced two split-system heat pumps according to the data plates.
- 2021: Replaced packaged rooftop unit according to the data plate.
- 2017: Replaced two split-system heat pumps according to the data plates.

Condition / Recommendation:

The rooftop units and indoor furnaces were operating at the time of our site review. The Facilities Coordinator reported no major issues. We noted the rooftop ductwork is showing signs of corrosion, and some HVAC equipment has local vegetation/moss buildup. We also noted that some rooftop heat pump return air plenums and exhaust fans were located too close to the supply registers, resulting in cycling and poor air distribution. Adjustment of the ductwork or location of exhaust and supply grilles is recommended to occur as part of the equipment replacement.

The typical service life of rooftop units can range from 20 to 30 years and is highly dependent on maintenance practices. The cooling equipment uses R-410A refrigerant, which is a hydrofluorocarbon (HFC)-based refrigerant. In 2021, the EPA released a plan to phase out HFC-based refrigerants, based on the American Innovation & Manufacturing (AIM) Act, due to their global warming potential. The plan includes a phase-out of R-410A in new A/C equipment by 2025 and an 85% reduction in HFC production by 2036. Like with the previous R-22 phase-out, this is expected to make R-410A refrigerant less available and more expensive, although the extent of these changes is not yet known. Refrigerant is needed to top-up equipment where some has been lost due to repairs or leaks. As such, the phase-out is expected to affect mainly older equipment with greater repair needs. Based on the age of the equipment, escalating repair needs should be expected within the report term. The cost of these repairs is likely to be affected by the phase-out of R-410A, and we assume continued repairs will become cost-prohibitive within the report term.

Based on age, reviewed condition, and the phase-out of R-22 and R-410A refrigerants, the plan includes replacing the older make-up air unit, both indoor furnaces and the corresponding condensing unit, and the older split-system heat pumps within the next few years. Periodic repair and replacement of individual components (such as the compressors, burners, valves, blowers, etc.) are expected to continue as a maintenance expense. No budgets for structural upgrades are included. Depending on the load differential between the original and new units, a structural review and upgrades may be needed. We understand that split-system heat pumps for server rooms are currently being proactively replaced on a five-year cycle to keep the server rooms within acceptable room temperatures to avoid equipment overheating, and we anticipate this strategy to continue at costs below the capital threshold.

The electric force-flow and baseboard heaters appear to be mostly original to construction and are recommended for replacement within the report term at a cost below the capital threshold.

The window air-conditioning units are expected to be replaced as needed at a cost below the capital threshold.

Given the planned major building renovation—which includes significant seismic upgrades to meet post-disaster code requirements that will require removing the majority of the cladding and roofing systems and intends to upgrade Code-deficient building components and improve energy efficiencies—full replacement of the older make-up air unit, both indoor furnaces and the corresponding condensing unit, and the two older split-system heat pumps, and interior force flow and baseboard heaters are recommended as part of the renovation. We recommend implementing Heat Recovery Ventilators at washroom exhausts as part of the major renovation to provide tempered air to the HVAC equipment to improve energy efficiency. Equipment sizing and configurations will require comprehensive HVAC review and commissioning with the new thermal and air tightness performance of the building envelope and interfacing with a new building automation system. Some HVAC equipment, like the baseboard heaters and portable air conditioners, may become obsolete following the renovation and could be permanently removed.

The newer Trane heat pump unit and the Fujitsu split-system heat pumps from 2017 and 2022 are in a serviceable condition and are expected to last beyond the report term. These units are expected to be temporarily removed and reinstated following the planned roof replacement as part of the planned major renovation.

4.3 HVAC - FIRE DEPARTMENT

Description:

The following equipment provides heating, cooling, and ventilation to the Fire Department Wing of the building:
- Packaged Rooftop Heat Pump Unit serving the lower-level lounge areas was manufactured by American Standard (Model No. WCH036B300CB) in 2004 with a heating capacity of 35 MBH and a cooling capacity of 3 tons. The unit uses R-22 refrigerant.

- Packaged Rooftop Heat Pump Unit, labelled 'HVAC #F4', serving the lower-level lounge areas was manufactured by Lennox (Model No. CHP16-261-4P) in 2012 with a heating capacity of 16kW and a cooling capacity of 2 tons. The unit uses R-22 refrigerant.

- In-slab radiant floor heating serves the Fire Department Apparatus Bay, which includes a series of electrically heat-traced oil tubes to regulate floor temperature with two wall-mounted zone controllers on the north wall on either side of the roll-up doors.

- Electric force-flow and baseboard heaters serving local offices, common areas, and service rooms.

Condition / Recommendation:

The two rooftop units were operating at the time of our site review. The Facilities Coordinator reported no major issues. We noted the equipment and associated ductwork are showing signs of corrosion and vegetation/moss buildup. We also noted that some rooftop heat pump return air plenums and exhaust fans were located too close to the supply registers, resulting in cycling and poor air distribution. Adjustment of the ductwork or location of exhaust and supply grilles is recommended to occur as part of the equipment replacement.

The typical service life of rooftop units can range from 20 to 30 years and is highly dependent on maintenance practices. The cooling equipment uses R-22 refrigerant which is being phased out under the Montreal Protocol due to its ozone-depleting properties. While the Protocol requires a 99.5% reduction in production and consumption of R-22 by 2020, it does allow for continued use in servicing existing equipment until 2030. However, the phase-out is expected to make R-22 refrigerant less available and more expensive, and the extent of these changes is not yet known. Refrigerant is needed to top-up equipment where some has been lost due to repairs or leaks. As such, the phase-out is expected to affect mainly older equipment with greater repair needs.

Based on the age of the equipment, escalating repair needs should be expected within the report term. The cost of these repairs is likely to be affected by the phase-out of R-22, and we assume continued repairs will become cost-prohibitive within the report term.

Based on age, reviewed condition, and phase-out of R-22 refrigerant, the plan includes replacing both rooftop units within the next few years. Periodic repair and replacement of individual components (such as the compressors, burners, valves, blowers, etc.) are expected to be managed as a maintenance expense. No budgets for structural upgrades are included. Depending on the load differential between the original and new units, a structural review and upgrades may be needed.

The electric baseboard heaters appear to be mostly original to construction and are recommended for replacement within the report term at a cost below the capital threshold.

Given the planned major building renovation—which includes significant seismic upgrades to meet post-disaster code requirements that will require removing the majority of the cladding and roofing systems and intends to upgrade Code-deficient building components and improve energy efficiencies—full replacement of the two rooftop units and the interior baseboard heaters are recommended as part of the renovation. We recommend implementing Heat Recovery Ventilators at washroom exhausts as part of the major renovation to provide tempered air to the HVAC equipment to improve energy efficiency. Equipment sizing and configurations will require comprehensive HVAC review and commissioning with the new thermal and air tightness performance of the building envelope and interfacing with a new building automation system. We recommend implementing Heat Recovery Ventilators at washroom exhausts to provide tempered air to the HVAC equipment to improve energy efficiency. Some HVAC equipment, like the baseboard heaters, may become obsolete following the renovation and could be permanently removed.

The Facilities Coordinator was unaware of the current condition and operation of the in-slab radiant heating system at the Apparatus Bay floor. The report assumes that the system will continue to be maintained until operation becomes unreliable. Given the planned renovations that include rebuilding the Apparatus Bays, implementing a packaged rooftop heat pump unit to provide a more energy-efficient heating and cooling source suitable for the area's use is recommended.

4.4 VENTILATION/EXHAUST FANS

Description:

Building bathrooms, lunchroom kitchenettes, and various service rooms are ventilated by exterior exhaust fans mounted on the roofs or walls and by individual exhaust fans which vent through the exterior walls or the roof.

The Fire Department Apparatus Bay includes a CO detection system that connects to the large rooftop exhaust fan. Four ceiling fans also supplement Apparatus Bay ventilation.

Condition / Recommendation:

Based on visual review, the rooftop exhaust fans vary in age and condition and have all been replaced or overhauled from the original construction as needed.

We anticipate this renewal trend will continue, with replacement costs below the capital threshold of the report.

Given the planned major building renovation—which includes significant seismic upgrades to meet post-disaster code requirements that will require removing the majority of the cladding and roofing systems and intends to upgrade Code-deficient building components and improve energy efficiencies—full replacement of the rooftop exhaust fans is recommended as part of the renovation. As mentioned in the HVAC sections of the report, we recommend implementing Heat Recovery Ventilators at washroom exhausts as part of the major renovation to provide tempered air to the HVAC equipment to improve energy efficiency. Equipment sizing and configurations will require comprehensive HVAC review and commissioning with the new thermal and air tightness performance of the building envelope and interfacing with a new building automation system. Some of the exhaust fans may become obsolete following the renovation and changes in interior use and could be permanently removed.

4.5 CONTROL SYSTEM

Description:

No building automation system (BAS) is currently installed in the building. All HVAC equipment is controlled by local wall-mounted thermostats or remotes.

Condition / Recommendation:

We understand there are current issues with controlling room temperatures and a lack of effective ventilation throughout the building, causing occupant discomfort. As a result, local offices and areas are being supplemented by portable window air conditioning and plug-in electric heaters as needed, causing further energy inefficiencies.

The building would benefit from a central direct digital control (DDC) BAS that controls the HVAC equipment and would allow night setbacks, summer night purges, free cooling opportunities, and improved efficiency in operation for occupied and unoccupied conditions. The BAS would be managed from a central monitoring system by maintenance staff using a monitor workstation. The ability to monitor and trend data on HVAC equipment will allow better prediction for equipment failure and reduced downtime of mechanical systems and, in turn, safety and comfort. As such, we would recommend installing a central DDC BAS in the next few years. Future software updates and local repairs, and commissioning would occur as a maintenance expense or at a cost below the capital threshold of the report.

Given the planned major building renovation—which intends to upgrade Code-deficient building components and improve energy efficiencies—we would recommend installing a central DDC BAS alongside HVAC equipment replacement as part of the renovation. Implementing the BAS will require a comprehensive HVAC review and commissioning with the new thermal and air tightness performance of the building envelope and interfacing with the new HVAC equipment.

5.1 HOT WATER STORAGE TANKS/ HEATERS

Description:

Domestic hot water is generated locally by a total of four electric hot water tank heaters manufactured by John Wood (Model No. Model E80TEM – 45240250) and last replaced between 2019 and 2022. Each tank heater has a heating capacity of 6 kW and a storage volume of 287 L (75 USGAL). The tank heaters are located in the Municipal Hall lower-level file storage room closet, the Police Department lower-level change room and the lower-floor furnace room, and on the lower floor of the Fire Department wing.

History of Repairs:

2019/2022: Replaced all hot water heater tanks, according to the Facilities Coordinator and data plates.

Condition / Recommendation:

The hot water heater tanks were all in a serviceable overall condition. The Facilities Coordinator reports no operational issues and that the tanks are replaced on a 10-year cycle. We noted that the tanks are not adequately seismically restrained and do not include drain pans piped to drain in the case of a leak.

Given the current age and condition, all tanks are expected to be replaced after 10 years of service life at a cost below the capital threshold of the report.

Given the planned major renovation—which intends to upgrade Code-deficient building components and improve energy efficiencies—we would recommend replacing all local electric tank heaters with a central hot water heating plant using heat pumps sized appropriately to accommodate the increased demand and improve energy efficiency.

5.2 DOMESTIC WATER SYSTEMS

Description:

The main water service enters the building through the floor slab in the lower-level furnace room. There is a two-inch-diameter domestic water line that includes main shut-off valves, a bypass system, and a pressure-reducing valve. There is no backflow preventer installed on the incoming line.

Domestic water is distributed through a series of risers to washrooms and kitchen areas from the main branch headers on the lower level. Where exposed in the Furnace Room and at hot water heater tanks, sinks, and toilets, the distribution piping is copper, type L (a thicker walled variety) and uninsulated. Based on the Facilities Coordinator, we believe that the piping dates to original construction.

Condition / Recommendation:

No major issues or leaks were reported for the domestic water piping. The Facilities Coordinator reported no problems with water flow or pressure. Piping was not insulated, where exposed for review.

The age of the domestic water distribution lines was not confirmed, and no repair history was available. The service life of piping varies widely between about 15 and 40 years and depends largely on materials and flow rates. Failure typically begins as isolated pinhole leaks, with leakage rates increasing over time and eventually justifying full replacement. Based on the Facilities Coordinator, we assume that the majority of the piping is original and is currently about 45 to 55 years old. The reported absence of leaks suggests that full re-piping may not be needed in the report term, but further investigation (such as wall thickness measurements and failure analysis of pipe test cuts) would be required to confirm this. Pending further investigation, full replacement of distribution piping is included within the report term.

Many municipalities are starting to enact bylaws requiring the installation of backflow preventers on the incoming domestic water line. As such, installing a backflow preventer on the incoming water service is recommended within the report term at a cost below the capital threshold of this report.

Given the age, current condition, and the planned major building renovation and addition—which includes significant seismic upgrades to meet current code requirements that will require removing interior wall finishes and intends to upgrade Code-deficient building components and improve energy efficiencies—it is recommended to generally replace the existing domestic water distribution piping with new modern PEX piping. The upgrade would also include installing a new incoming water service adequately sized to service the entire site with the increased demand. The new water service would include new backflow prevention.

5.3 DRAINAGE SYSTEMS

Description:

The sanitary system consists of plumbing fixtures and drains connected to central stacks that discharge to the buried sanitary line.

According to the drawings received, the Fire Department Apparatus Bay includes floor drains that discharge to an oil interceptor before connecting to the site's main sanitary line. Where viewed in service areas on the lower level, the piping is primarily cast iron.

According to the drawings and reports received, there is a sanitary pump station located in the lower-level garage in the Police Department wing that was installed as part of the 2000 cell block addition, potentially due to the fire sprinkler system installation as part of the project. The sump pit includes duplex pumps and is equipped with high-water-level alarms and control panels.

The storm drainage system controls rainwater runoff for the site. The roofs are drained by internal area drains with screens and scupper drains connected to downspouts that discharge directly to the below-grade storm system. Where viewed in the service rooms on the lower level, the storm system piping consists of a combination of PVC and cast-iron. According to the drawings, there is a perimeter weeping tile system installed at the foundation walls.

The type of buried storm and sanitary drainage piping could not be confirmed visually.

Condition / Recommendation:

The Facilities Coordinator indicated that the existing roof rainwater drainage systems in some roof areas were inadequate, causing roof ponding. They reported that rainwater drains often get clogged with debris from nearby trees that cause further ponding issues and require diligent maintenance practices. We noted that the rainwater scupper and downspouts in some areas around the building were not aligned and connected to the below-grade system in conformance with best practices; as a result, roof rainwater leaks were observed against adjacent exterior walls, which could lead to unintentional wall assembly water ingress and deterioration.

The sanitary pump station is original to construction and is now around 25 years old. The Facilities Coordinator reported no issues. Given the system's age, pump replacement, including controls, is anticipated within the report term.

The condition of the buried and concealed piping cannot be evaluated visually. We recommend that drains be flushed and scoped routinely, which maximizes the service life of the piping and also helps identify repair needs. We assume this will be done as part of ongoing maintenance or at a cost below the capital threshold of the report.

Given the planned major building renovation, which includes replacing the building envelope and installing a new fire suppression system throughout the building, complete replacement of the above-grade rainwater drainage systems and sanitary pump station is recommended as part of the renovation. The existing above-grade sanitary plumbing stacks are expected to be retained. The below-grade portions of the drainage systems may require upgrades due to increased demand and would require further Civil engineering review. The sizing, quantity, and location of the sanitary pump station may need to be revised after installing the fire suppression system and repurposing of interior spaces and would require further Civil engineering review.

6.1 ELECTRIC SUPPLY AND DISTRIBUTION

Description:

Electricity is supplied underground at 120/208V, 3 phase, 4 wire, into the main electrical service located on the lower level. The service is fed from three pole-mounted BC Hydro transformers, providing about 150 KVA (50 KVA each), located on Mount Newton Cross Road.

The main electrical service consists of a fused primary disconnect switch within the main switchgear unit rated at 800 Amp, 120/208V, 3 phase, 4 wire. Power is distributed from the main switch into two secondary switchboards containing various- sized fused disconnect switches which then distribute the power throughout the facility via multiple electrical distribution panels. The majority of the electrical equipment appears to be original and was manufactured by Federal Pioneer, unless noted otherwise.

The secondary disconnect switches noted in the main electrical room, supplying power to electrical panels, HVAC systems, fire alarm, etc., include: 1x 400A, 1x 225A, 7x 200A, 6x100A, 1x 60A, 1x30A. Two additional disconnect switches (1x 60A, 1x 30A) were noted in the fire sprinkler room serving HVAC equipment.

Other electrical equipment in the main electrical room included:
- BC Hydro meter
- Panel EV, rated at 225A by Eaton, manufactured in 2020, supplying power for the 8 electric vehicle chargers manufactured by Flo (2 stations at rear of the Municipal Hall with 3 chargers, 2 stations at front entrance to the Municipal Hall with 2 chargers, and 2 stations at the Police Department parking with 3 chargers)
- 4 distribution panels, rated at 225A

Electrical distribution panels located elsewhere throughout the facility were typically rated at 225A, with a few smaller capacity panels noted. Panels noted included:
- 2 in the secondary electrical room within the lower level engineering planning department
- 1 in the Municipal Hall lunch room
- 2 in vicinity of the Municipal Hall Council Chambers
- 3 in the Police Department
- 3 in the Fire Department

No electrical sub-metering was observed.

The wiring, where seen, was copper, consisting of a mix of Armored/BX cables, conduit run services and standard wiring.

History of Repairs:

2020: Added electric vehicle charging infrastructure and chargers, based on equipment data tags.

Condition / Recommendation:

The electrical system's primary components are largely original and now 40+ years old. No problems with performance or service capacity were reported by the Facilities Coordinator.

Inspection tags indicate a thermal scan was performed on most of the electrical components in 2013. No record of more recent thermal scans was provided for our review. We recommend that all panels and equipment be thermally scanned every few years to identify hot spots that require repair. The scans and related repairs found to be needed (assuming minor tightening, etc.) are assumed to be a maintenance expense.

Major electrical equipment has an average service life of about 40 to 50 years. The building is approaching an age where some capital expenditures are likely to be needed, but the scope and timing of such work is difficult to predict. While still functional, given their age, it is prudent to plan for renewal as part of any major renovations. The electrical work required in the existing building would include the following:
- Replacing the original electrical distribution components, including the primary and secondary disconnect switches, and distribution panels.
- Replacing the older individual outlets and switches throughout the building. Outlets and switches vary in age, with some recently replaced as part of the 2018 renovation and others appearing much older/original.

In order to construct an addition to the existing facility, it is likely that the existing incoming service and BC Hydro transformers would need to be upgraded with new incoming service and a new pad-mounted transformer. We anticipate that the addition would contain a new main electrical room, and the existing electrical room would be repurposed as a sub-electrical room containing new distribution equipment.

During our review, we note the following minor electrical distribution equipment/wiring deficiencies:
- Wiring in suspended ceiling spaces was generally not properly secured.
- Storage in the vicinity of the main electrical equipment in smaller service/server rooms should be kept at least one meter away.

We assume these deficiencies will be addressed as part of routine maintenance, rather than as a capital project, so no budget is provided.

No concerns were noted with the electric vehicle charging systems. As the system was installed in 2020, we assume it will remain in service for the term of this report and incorporated with the new site following the planned major renovations. No allowances have been made to increase the extent of vehicle chargers on this site. An electrical capacity assessment would be required to determine the number of additional chargers the existing system could accommodate.

6.2 LIGHTING

Description:

Interior lighting systems typically include ceiling-mounted strip fixtures in most common areas, services areas and offices spaces, with some wall mounted valance style strip fixtures in the corridors and Police Department, and various pot lights in lobby areas. The strip fixtures are mix of older fluorescent T12 and T8 tubes, and newer energy efficient LED lamps. Pot lights were generally LED lamps, where checked.

The exterior entrance canopies contained a few pot lights, containing LED lamps, where checked.

History of Repairs:

Ongoing: Replacing individual fixtures with more efficient LED lamps as existing fixtures fail or areas undergo renovation, as reported by Facilities Coordinator.

Condition / Recommendation:

The fixtures, where reviewed, were in varying conditions. The recently-replaced LED lights were functional and appear to provide adequate illumination, while older fixtures with fluorescent lamps providing poor quality lighting in some office spaces. The Facilities Coordinator advised fixtures have been replaced on an as needed basis as fixtures fail, or in some cases larger scale replacement were incorporated into interior renovations. Based on our sample review, less than 50% of the light fixtures appear to have been replaced with to incorporate LED lamps.

The light fixtures were inconsistent throughout various office spaces, incorporating a mix of newer surface mounted fixtures, older built-up suspended ceiling fixtures with various diffusers styles/covers. Some of the light fixtures had been screened-over with the intent to diffuse or reduce the amount of light.

Fluorescent T12 lamps are obsolete due to rapid advances in lighting technology, and all fluorescent fixtures (T12 and T8) are generally being replaced with more efficient systems. While it is possible to continue to replace individual fixtures and lamps on an as-needed basis, we suggest planning to replace all the older light fixtures with more energy efficient and readily available LED systems. The lighting configuration should also be reviewed by a lighting specialist to better suit the spaces. This lighting review should also consider adding lighting control systems for improved energy efficiency. Lighting retrofit incentives/rebates may be available to offset the cost of this work, but change over time so they have not been considered in this budget.

Given the planned building renovations—which includes significant seismic upgrades to meet current code requirements that will require removing the majority of the exterior cladding and intends to upgrade Code-deficient building components for improved accessibility and energy efficiencies— it is recommended to replace all older fluorescent T8 or T12 interior lighting fixtures (about 50% of interior lighting) and all exterior lighting fixtures with more modern and energy-efficient LED lamps with suitable lighting levels and control system, and upgrade lighting configuration to accommodate the building area functions.

SCOPE OF WORK

AUTHORIZATION

This report was prepared at the request of Number TEN Architectural Group on behalf of the District of Central Saanich as a facility condition assessment for the property.

MANDATE

Our scope of work is in general conformance with the ASTM Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment (ASTM E2018-15) with specific exceptions:
- We considered a higher capital threshold than is recommended by the Standard to better align with the scale of the building and typical management objectives.
- We did not make requests to building and fire officials for outstanding work orders or violations on file; we believe this is part of your legal due diligence.
- We make no comment on requirements of the Americans with Disabilities Act (an American standard which does not apply here) or any RBQ or NBC of Canada barrier-free provisions as these generally apply to new construction only;
- We make no comment on seismic or flood plain risks.
- We did not review rent roll, lease agreements, zoning or other documents related to the business operations at the site.

The purpose of this report is to provide a general indication of the present physical condition of the building(s) with respect to easily visible portions of the structure, enclosure, mechanical, electrical, and plumbing systems, and active fire safety systems. Passive fire safety systems (e.g., fire containment and egress), site finishes, vertical transportation, and interior finishes, furniture, and tenant equipment are specifically excluded from our mandate. We were to record deficiencies or conditions noted during a visual walk-through review that, in our opinion, will likely require Capital expenditures by the Owner over the next 10 years. Capital expenditures are defined as expenditures that are expected to exceed an annual threshold of $10,000 and are not normally associated with routine maintenance.

Opinions of cost related to capital expenditures are not included as we understand Class D estimates will be provided by a third-party cost consultant. Our opinions assume a prudent level of ongoing maintenance. It is not within our mandate to check the adequacy of existing maintenance practices, or confirm that all mandatory system tests and inspections have been completed (e.g., annual fire alarm testing). In the course of our review, we may identify some maintenance-type issues, but this should not be seen to indicate that a maintenance audit has been completed.

Our mandate was to complete a visual walk-through survey of items, components, and systems that are conspicuous, patent, and that may be observed visually during the walk-through survey without intrusion, removal of material, exploratory probing, and the use of special equipment or design calculations. Therefore, concealed physical deficiencies and design inadequacies are specifically excluded from our mandate. Our interviews of building personnel attempt to uncover known concerns at the property, but we cannot attest to the integrity or knowledge of the interviewees, nor can this process, or the scope of work in its entirety, be considered technically exhaustive or be considered to eliminate all risks related to owning this property. Only conditions actually seen during examination of representative samples can be said to have been assessed, and comments on the balance of the conditions are assumptions based upon extrapolation.

Our mandate does not include an exhaustive review of visible conditions against all code, property standards by-law, or other legislative requirements that existed at the time of construction, or that may retroactively apply, including Human Rights Code violations. During our review, patent concerns may be identified such as adequacy and acceptability of guards (at balconies, stairs, retaining walls, etc.), window opening restrictors, daytime light levels in corridors, stairs, and garages,

elevator equipment guarding, and backflow preventers or other potential compliance concerns. The inclusion of these findings in the report does not imply or infer that an exhaustive review has been completed.

Our mandate is to provide opinions that reflect the repair strategies that we foresee and should be considered preliminary budgets only. Accurate assessments can only be obtained by establishing a scope of work and receiving quotes from suitable contractors. We cannot guarantee the actual age of equipment, apparent maintenance practices, or the service lives that we have predicted. Time frames given for undertaking work represent our opinion of when to budget for the work. Failure of the item, or the optimum repair/replacement process, may vary from our estimate. There can be no assurance that this forward-looking information will prove to be accurate, as actual results and future events could differ materially from those anticipated. Accordingly, readers should not place undue reliance on forward-looking information. Typically further investigation and design will be needed to firm up construction budgets and timing for any significant projects.

In selecting repair strategies, we try to select strategies to match the client's business strategy for the building, when this is communicated to us. In many circumstances, more or less conservative repair approaches could be selected. Our opinions apply only to the strategies described in our report. In this instance, we assumed that the ownership strategy is to manage the property over the long term, balancing costs with a reasonably high level of service and performance. Capital renewal programs have been timed to occur prior to degradation progressing to the point of being overly evident, creating excessive disruption or causing unnecessary inconvenience. Upgrades are included where mandated by codes or by-laws, and where recommended to provide levels of performance considered acceptable by modern standards.

Our review was intended to identify conditions resulting from past and current uses. Additional evaluation may be required if a change of use, renovations or additions are anticipated.

Our work is subject to the terms, conditions and limitations referenced in the General Terms and Conditions issued at the time of engagement.

SURVEY METHOD

WSP reviewed the building structure, the building envelope, active fire safety systems, and mechanical, electrical, and plumbing systems. The site visit was completed on March 26, 2025.

Our field observers were Nima Khalkhali Sihijini, M.A.Sc., Scott Gassen, P.Eng., and Kevin Grasty, P.Eng. The report was prepared by Nima Khalkhali Shijini, M.A.Sc., Scott Gassen, P.Eng., and Kevin Grasty, P.Eng., and reviewed by Craig Harrison, P.Eng., Michael Phillips, P.Eng., and Iain Barnes, P.Eng.

The survey consisted of a visual review of samples of the following:

- The exterior walls, windows, and doors from ground level, sample locations from roof level, and from interior areas where possible
- The roofs
- Service areas
- common areas

INFORMATION PROVIDED

Emily Patstone, Facilities Coordinator, and Fernando Pimentel, Deputy Director of Finance, District of Central Saanich, answered our questions about the history of performance of the various systems, described existing capital plans, etc., and

accompanied us during our site visit.

The following reports/documents were provided:
- Life Safety System Logbook Report by Cantec Fire Alarms, dated November 8 and 24, 2024 (Annual inspection report)
- Facilities Redevelopment Program by Kasian Architecture, dated August 8, 2024
- Hazardous Materials Report by Island EHS, dated July 2023
- Facility Long-Term Asset Management Plan by Levelton Consultants, dated June 8, 2015
- Property Condition Assessment by Omicron, dated May 6, 2009
- Redevelopment Analysis Report by Omicron, dated October 20, 2009
- Facilities Plan by Matrix Planning, dated January 2000

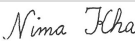
The following drawings were provided:
- Original Architectural, Mechanical, and Electrical drawings, prepared by Donald Wagg, dated 1963
- Architectural, Structural, Mechanical, and Electrical drawings, prepared by Orme & Linson, dated 1977
- Building Renovation drawings, prepared by Davies & Smith, dated 1986
- Police Department Addition Architectural drawings, prepared by Advanced Architecture, dated 2000
- Police Department Addition Mechanical drawings, prepared by Hirshfield Williams, dated 2000
- Interior Renovation drawings, prepared by InsideOut, dated 2002
- Interior Renovation drawings, prepared by Iredale Group, dated 2017/18
- Land Survey drawings, prepared by Polaris, dated 2018

Other Reference Document:

1) Seismic Assessment Report prepared by WSP (Issued Separately)

PROJECT TEAM

Respectfully submitted,
WSP Canada Inc.

NAME	TITLE	DATE	SIGNATURE
Nima Khalkhali Shijini, M.A.Sc.	Building Sciences Consultant	15 May 2025	
Scott Gassen, P.Eng.	Project Manager	15 May 2025	
Kevin Grasty, P.Eng., LEED AP	Project Director	15 May 2025	

LIMITATIONS

WSP Canada Inc. (“WSP”) prepared this report solely for the use of the intended recipient, Number TEN Architectural Group, in accordance with the professional services agreement. In the event a contract has not been executed, the parties agree that the WSP General Terms for Consultant shall govern their business relationship which was provided to you prior to the preparation of this report.

The report is intended to be used in its entirety. No excerpts may be taken to be representative of the findings in the assessment.

The conclusions presented in this report are based on work performed by trained, professional and technical staff, in accordance with their reasonable interpretation of current and accepted engineering and scientific practices at the time the work was performed.

The intended recipient is solely responsible for the disclosure of any information contained in this report. If a third party makes use of, relies on, or makes decisions in accordance with this report, said third party is solely responsible for such use, reliance or decisions. WSP does not accept responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken by said third party based on this report.

The content and opinions contained in the present report are based on the observations and/or information available to WSP at the time of preparation, using investigation techniques and engineering analysis methods consistent with those ordinarily exercised by WSP and other engineering/scientific practitioners working under similar conditions, and subject to the same time, financial and physical constraints applicable to this project.

It is understood and agreed by WSP and the recipient of this report that WSP provides no warranty, express or implied, of any kind. Without limiting the generality of the foregoing, it is agreed and understood by WSP and the recipient of this report that WSP makes no representation or warranty whatsoever as to the sufficiency of its scope of work for the purpose sought by the recipient of this report.

Only the specific information identified has been reviewed. No physical or destructive testing and no design calculations have been performed unless specifically recorded. Conditions existing but not recorded were not apparent given the level of study undertaken. Only conditions actually seen during examination of representative samples can be said to have been appraised and comments on the balance of the conditions are assumptions based upon extrapolation. Therefore, this work does not eliminate uncertainty regarding the potential for existing or future costs, hazards, or losses in connection with a property. We can perform further investigation on items of concern if so required.

Applicable codes and design standards may have undergone revision since the subject property was designed and constructed. Unless specifically included in our scope, no calculations or evaluations have been completed to verify compliance with current building codes and design standards.

Unless otherwise agreed in writing by WSP, the Report shall not be used to express or imply warranty as to the suitability of the site for a particular purpose. WSP disclaims any responsibility for consequential financial effects on transactions or property values, or requirements for follow-up actions or costs.

WSP is not responsible for, or obligated to identify, mistakes or insufficiencies in the information obtained from the various sources, or to verify the accuracy of the information.

WSP makes no other representations whatsoever concerning the legal significance of its findings.

WSP is not investigating or providing advice about pollutants, contaminants or hazardous materials. The Client and other users of this report expressly deny any right to any claim against the Consultant, including claims arising from personal injury related to pollutants, contaminants or hazardous materials, including but not limited to asbestos, mould, mildew or other fungus.

Budget figures, if provided, are our opinion of a probable current dollar value of the work and are provided for approximate budget purposes only. Accurate figures can only be obtained by establishing a scope of work and receiving quotes from suitable contractors.

Time frames given for undertaking work represent our opinion of when to budget for the work. Failure of the item, or the optimum repair/replacement process, may vary from our estimate.

WSP disclaims any obligation to update this report if, after the date of this report, any conditions appear to differ significantly from

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This limitations statement is considered an integral part of this report.

PHOTOS

Photo #1: Main Entrance

Photo #2: Balcony with Picket Guardrails - Municipal Hall

Photo #3: Balcony with Glass Panel Guardrails - Police Balcony

Photo #4: Balcony Sliding Doors - Police Balcony

Photo #5: Cladding- Wood Trims at Corners - Typical

Photo #6: Elevation- Southeast

Photo #7: Cladding-Wood Siding - Southeast Weathered

Photo #8: Cladding Failure- Municipal Clerestory

Photo #9: Cladding - Crezon Plywood with Peeling Paint

Photo #10: Windows- Double Glazed Vinyl - Typical

Photo #11: Windows- Double Glazed Aluminum - Typical

Photo #12: Windows-Newer Aluminum Awning - Typical

Photo #13: Windows- Old Double Glazed - Typical

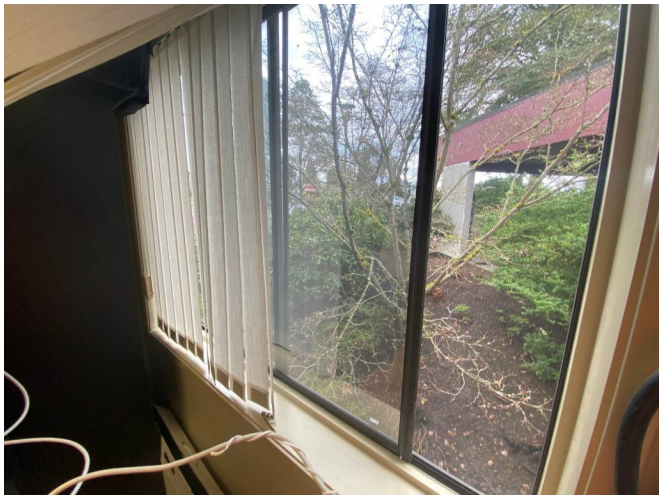

Photo #14: Windows- Oldest Single Glazed Aluminum - Typical

Photo #15: Exterior Door- Aluminum - Main Entrance

Photo #16: Exterior Wooden Door- Municipal Staff Room

Photo #17: Exterior Door- Aluminum - South Courtyard

Photo #18: Exterior Double Door - Metal

Photo #19: Exterior Single Metal Doors- Typical

Photo #20: Exterior Doors - Firehall North Overhead Rollup

Photo #21: Exterior Doors - Firehall South Overhead Rollup

Photo #22: Exterior Doors- Vinyl Rollup

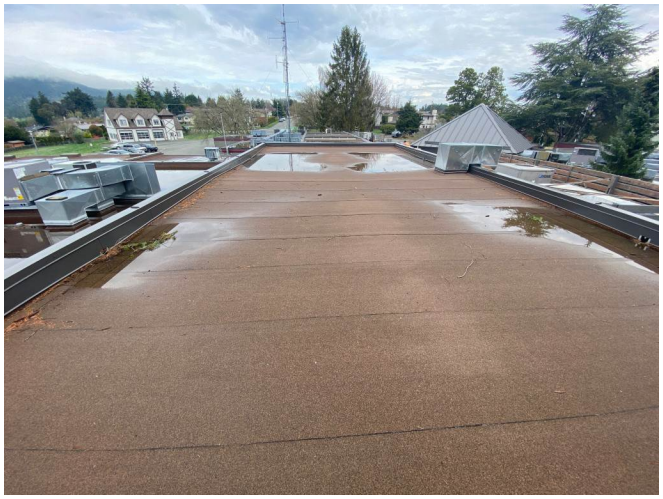

Photo #23: Flat Roofing in Good Condition

Photo #24: Flat Roofing in Poor Condition - Typical

Photo #25: Flat Roofing Blister and Alligator Cracks

Photo #26: Flat Roofing - Ponding at Area Drain

Photo #27: Parapet Metal Flashing- Sealant Failure

Photo #28: Roofing- Sheet Metal Dome

Photo #29: Roofing- Sloped Asphalt Canopy - Typical

Photo #30: Skylights - Typical

Photo #31: Fire Alarm Panel

Photo #32: Fire Alarm Annunciator Panel

Photo #33: Exit Signs - Old Type

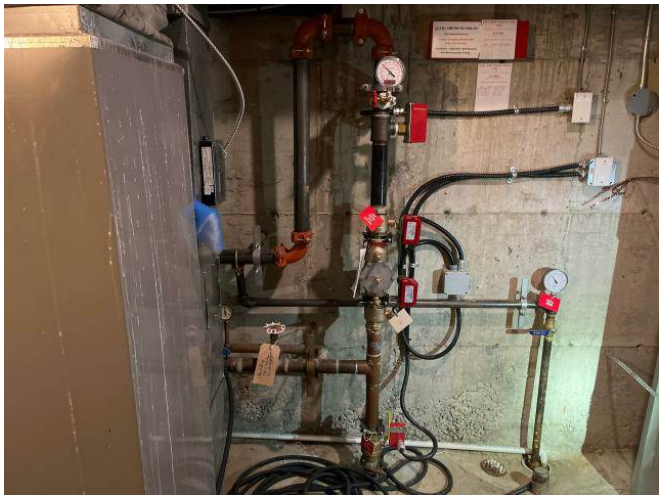

Photo #34: Fire Sprinkler Riser

Photo #35: Generator- Diesel (Indoor)

Photo #36: Generator- Propane (Outdoor)

Photo #37: HVAC - Rooftop HP Package Unit- Typical1

Photo #38: HVAC - Rooftop HP Package Unit- Typical2

Photo #39: HVAC - Split System Unit- Typical

Photo #40: HVAC - Split System HP- Condenser - Typical

Photo #41: HVAC - Furnace

Photo #42: HVAC - Rooftop Exhaust Fan - Typical

Photo #43: HVAC - Fire Department Apparatus Bay Exhaust Fan

Photo #44: HVAC - Electric Baseboard Heater

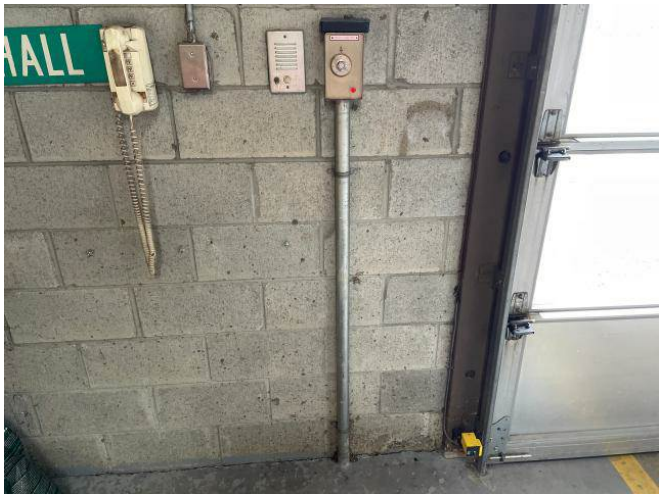

Photo #45: HVAC - Firehall In-Floor Heating Control

Photo #46: Incoming Water Service

Photo #47: Domestic Hot Water Tank - Typical

Photo #48: Electrical Main Switchgear

Photo #49: Electrical Panel - Typical

Photo #50: Lighting - Newer - LED

Photo #51: Lighting - Interior Recessed Fixtures

Photo #52: Lighting - Older - Florescent T12

Central Saanich Municipal Building
Building Code Compliance & Accessibility
Building Assessment Report
Appendix C:
Seismic Assessment Report (WSP)

numberTEN
architectural group

10

Central Saanich
STRUCTURAL SEISMIC ASSESSMENT REPORT

Central Saanich Municipal Hall

May 21, 2025

File CA0050029.5151

CENTRAL SAANICH MUNICIPAL HALL

STRUCTURAL SEISMIC ASSESSMENT REPORT

DISTRICT OF CENTRAL SAANICH

REPORT

PROJECT NO.: CA0050029.5151
DATE: MAY 21, 2025

WSP

WSP.COM

District of Central Saanich
c/o Number TEN Architectural Group
200-1619 Store Street
Victoria BC V8W 3K3

Attention: Rob Halliday, Partner

Dear Rob:

Subject: Central Saanich Municipal Hall Structural Seismic Assessment

Please find attached our assessment report for the existing Municipal Hall, Police and Firehall. Should you have any questions regarding the assessment, please do not hesitate to contact us.

Yours sincerely,

Gary Liang, P.Eng., Struct.Eng.
Senior Project Engineer

WSP ref.: CA0050029.5151

REVISION HISTORY

FIRST ISSUE

May 2, 2025	Draft Report			
Prepared by	Reviewed by	Approved By		
Gary Liang, P.Eng., Struct.Eng.				
SECOND ISSUE				
May 12, 2025	Final Report			
Prepared by	Reviewed by	Approved By		
Gary Liang, P.Eng., Struct.Eng.	Randall Emery, P.Eng.			
THIRD ISSUE				
May 21, 2025	Final Report (updated completion date of municipal hall)			
Prepared by	Reviewed by	Approved By		
Gary Liang, P.Eng., Struct.Eng.	Randall Emery, P.Eng.			

SIGNATURES

PREPARED BY

Gary Liang, P.Eng., Struct.Eng.
Senior Project Engineer

Date

REVIEWED BY,

Randall Emery, P.Eng.
Senior Project Engineer

Date

WSP prepared this report solely for the use of the intended recipient, District of Central Saanich in accordance with the professional services agreement between the parties. In the event a contract has not been executed, the parties agree that the WSP General Terms for Consultant shall govern their business relationship which was provided to you prior to the preparation of this report.

The report is intended to be used in its entirety. No excerpts may be taken to be representative of the findings in the assessment.

The conclusions presented in this report are based on work performed by trained, professional and technical staff, in accordance with their reasonable interpretation of current and accepted engineering and scientific practices at the time the work was performed.

The content and opinions contained in the present report are based on the observations and/or information available to WSP at the time of preparation, using investigation techniques and engineering analysis methods consistent with those ordinarily exercised by WSP and other engineering/scientific practitioners

working under similar conditions, and subject to the same time, financial and physical constraints applicable to this project.

WSP disclaims any obligation to update this report if, after the date of this report, any conditions appear to differ significantly from those presented in this report; however, WSP reserves the right to amend or supplement this report based on additional information, documentation or evidence.

WSP makes no other representations whatsoever concerning the legal significance of its findings.

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WSP has provided services to the intended recipient in accordance with the professional services agreement between the parties and in a manner consistent with that degree of care, skill and diligence normally provided by members of the same profession performing the same or comparable services in respect of projects of a similar nature in similar circumstances. It is understood and agreed by WSP and the recipient of this report that WSP provides no warranty, express or implied, of any kind. Without limiting the generality of the foregoing, it is agreed and understood by WSP and the recipient of this report that WSP makes no representation or warranty whatsoever as to the sufficiency of its scope of work for the purpose sought by the recipient of this report.

In preparing this report, WSP has relied in good faith on information provided by others, as noted in the report. WSP has reasonably assumed that the information provided is correct and WSP is not responsible for the accuracy or completeness of such information.

Design recommendations given in this report are applicable only to the project and areas as described in the text and then only if constructed in accordance with the details stated in this report. The comments made in this report on potential construction issues and possible methods are intended only for the guidance of the designer. The number of testing and/or sampling locations may not be sufficient to determine all the factors that may affect construction methods and costs. We accept no responsibility for any decisions made or actions taken as a result of this report unless we are specifically advised of and participate in such action, in which case our responsibility will be as agreed to at that time.

The original of this digital file will be kept by WSP for a period of not less than 10 years. As the digital file transmitted to the intended recipient is no longer under the control of WSP, its integrity cannot be assured. As such, WSP does not guarantee any modifications made to this digital file subsequent to its transmission to the intended recipient.]

This statement of limitations is considered an integral part of this report.

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A UPGRADE CONCEPT DRAWINGS

1 INTRODUCTION

1.1 TERMS OF REFERENCE

WSP Canada Inc. was retained by Number TEN Architectural Group on behalf of the District of Central Saanich to conduct a seismic assessment of the two-storey building structure that consists of the Municipal Hall, Police Department and the Fire Department. This assessment is carried out together with a comprehensive facility condition assessment that also includes the review of the building to meet accessibility, fire suppression, building code and energy standards. A review of the space requirements for future operations is also included. This report covers only the seismic assessment of the existing building. The hose tower and the covered walkway is excluded for this assessment.

1.2 PROJECT SCOPE

WSP's structural team will perform the following tasks:

- Assessment of the gravity load resisting and seismic force resisting systems relative to current building code requirements.
- Seismic assessment in accordance with Commentary L (Structural Evaluation and Upgrading of Existing Buildings) from the Structural Commentaries for the National Building Code of Canada.
- Provide structural recommendations for the proposed 1,320 m^2 expansion for the Police Department.
- Provide structural recommendations for upgrading of deficiencies identified in the seismic assessment.

Services exclude:

- Cutting of openings in existing finishes to verify existing conditions.
- Geotechnical engineering or materials testing.
- Detailed assessment of the existing gravity load resisting and seismic force resisting systems.
- Detailed design of structural upgrading for the existing, or detailed design of the expansion.

2 STRUCTURAL ASSESSMENT

2.1 ASSESSMENT CRITERIA

The gravity and seismic assessments were carried out in accordance with the 2024 British Columbia Building Code. For post-disaster portions (fire department and police department) of the building, the acceptance criteria for both the gravity resisting system and the seismic force resisting system is the same as that for a new post-disaster building. For portions of the building that do not need to be post-disaster, the seismic force resisting system is assessed following Commentary L of the Structural Commentaries for the 2020 National Building Code of Canada.

Commentary L provides guidance on the requirements for assessment and design of seismic upgrading for existing buildings. The commentary contains a flow chart that illustrates the process for determining whether upgrading is required and the level of upgrading that is to be performed. A simplified and shortened summary of the flow chart is shown in the table below.

REQUIREMENTS FOR SEISMIC ASSESSMENT AND UPGRADING OF EXISTING BUILDINGS

Minor Renovation	Seismic assessment not required	Seismic upgrading of primary structure not required	Perform non-structural (operational and functional components) upgrading within project area
Major Renovation	Perform seismic assessment of existing building structure	Upgrade to Level 3 if existing does not comply to Level 2. Maintain Level 2 if existing complies to Level 2.	Perform non-structural (operational and functional components) upgrading within project area

The assessment and upgrading levels are as follows:

- Level 1 – voluntary seismic upgrading to a minimum of half the spectral accelerations of Level 3 upgrade. For a wood frame building on this site, the seismic design base shear for a Level 1 upgrade is approximately equivalent to 35% of a new building.
- Level 2 – seismic upgrading to a minimum of the spectral accelerations with a probability of exceedance of 10% in 50 years. For a wood frame building on this site, the seismic design base shear for a Level 2 upgrade is approximately equivalent to 51% of a new building.
- Level 3 – seismic upgrading to a minimum of the spectral accelerations with a probability of exceedance of 5% in 50 years. For a wood frame building on this site, the seismic design base shear for a Level 3 upgrade is approximately equivalent to 70% of a new building.

From Commentary L:

> **Minor Renovation:** *A minor renovation is a limited renovation to the architectural, mechanical and electrical components in a portion of the building. The renovation may or may not involve some structural work but does not increase the occupied area of the building. A minor renovation is limited to one floor in a building with three or more storeys and a part of one floor in one- or two-storey building; a renovation affecting a larger part of the building is considered a major renovation. Minor renovations must not reduce the capacity of the Seismic Force Resisting System (SFRS).*
>
> **Major Renovation:** *A major renovation is an extensive renovation to the architectural, mechanical and electrical components in a major portion of the building that extends the useful life of the building. The renovation may or may not involve removal of the wall and ceiling finishes in the project area. A change of use is also considered a major renovation.*

2.2 DESIGN CODES AND STANDARDS

The following codes and standards were used for the structural assessment:

- 2024 BC Building Code
- Structural Commentaries, User's Guide, National Building Code of Canada 2020
- CSA A23.3-24 – Design of Concrete Structures
- CSA O86-24 – Engineering Design in Wood
- CSA S16-24 – Design of Steel Structures
- CSA S304-24 – Design of Masonry Structures

2.3 BUILDING INFORMATION

The following drawings of the existing building were used for the structural assessment:

- Municipal Hall drawings (5 drawings) by Donald Wagg Architect, dated Oct 15, 1963
- Police Department drawings A1 to A7 by Orme & Levinson Architects & Planners, dated November 1977
- Fire Department drawings A1 to A10 by Orme & Levinson Architects & Planners, dated March 1979
- Main Floor Demolition drawing A.2 by Davies and Smith Architects, dated July 11, 1986
- Police Department Addition drawings A1 to A6 by Advanced Architecture, dated July 17, 2000
- Police Department Renovation drawings A1 to A4 by Inside Out Planning and Architecture Inc., dated June 26, 2002

Publicly available documents for the municipal hall indicate that the construction of the building was completed in 1965. All subsequent references within this report will use the year 1965 for consistency.

We also visited the site on March 26, 2025 and observed the general conditions in and around the building for the structural assessment.

Existing drawings do not have sufficient structural information on the building structure as they are architectural drawings that included some structural information. Assumptions were made in the assessment to arrive at the upgrade concepts. If a more detailed assessment is desired or this project proceeds to detail design, exploratory investigations would be required.

2.4 STRUCTURAL ASSESSMENT PARAMETERS

The structural assessment and design parameters for the modification or upgrading of the existing building, and for the design of the new addition, including snow, live, wind and seismic loads are listed in the following table. In general, these are minimum design loads based on the building code.

SUMMARY OF STRUCTURAL DESIGN PARAMETERS

Superimposed Gravity Loads	

Snow Load (1/50 year) Importance Factors	S_s = 2.6 kPa, S_r = 0.3 kPa Post-disaster I_S = 1.25 (ULS) and 0.9 (SLS) Normal I_S = 1.0 (ULS) and 0.9 (SLS)
Upper and Lower Floor	Office live load = 4.8 kPa (accessible to exterior on both floors)
Wind Load	
Reference pressure (1/50 year) Importance Factors	q = 0.42 kPa Post-disaster I_W = 1.25 (ULS) and 0.75 (SLS) Normal I_W = 1.0 (ULS) and 0.75 (SLS)
Lateral Deflection Criteria	Building drift = h/500
Seismic Design Parameters	
Seismic Site Class	D (to be verified by geotechnical consultant)
Importance Factors	Post-disaster I_E = 1.5 Normal I_E = 1.0
Seismic Spectral Data (2% in 50 years)	$S_a(0.2,X_D)$ = 1.75, $S_a(0.5,X_D)$ = 1.87, $S_a(1.0,X_D)$ = 1.33, $S_a(2.0,X_D)$ = 0.841, $S_a(5.0,X_D)$ = 0.226, $S_a(10.0,X_D)$ = 0.076, $PGA(X_D)$ = 0.764, $PGV(X_D)$ = 1.19
Seismic Spectral Data For Level 3 Upgrade (5% in 50 years)	$S_a(0.2,X_D)$ = 1.26, $S_a(0.5,X_D)$ = 1.31, $S_a(1.0,X_D)$ = 0.903, $S_a(2.0,X_D)$ = 0.513, $S_a(5.0,X_D)$ = 0.116, $S_a(10.0,X_D)$ = 0.036, $PGA(X_D)$ = 0.563, $PGV(X_D)$ = 0.776
Seismic Spectral Data For Level 2 Upgrade (10% in 50 years)	$S_a(0.2,X_D)$ = 0.955, $S_a(0.5,X_D)$ = 0.958, $S_a(1.0,X_D)$ = 0.632, $S_a(2.0,X_D)$ = 0.322, $S_a(5.0,X_D)$ = 0.069, $S_a(10.0,X_D)$ = 0.021, $PGA(X_D)$ = 0.432, $PGV(X_D)$ = 0.534
Lateral Deflection Criteria	Post-disaster: inter-storey drift = h/100 Normal: inter-storey drift = h/40

2.5 MUNICIPAL HALL AND EXISTING POLICE DEPARTMENT

BUILDING DESCRIPTION

The municipal hall was constructed and completed in 1965. The police department was added in 1977 to the north-west side of the municipal hall. The combined building is a two-storey wood frame structure. The exterior grade on the east side and the north side of the building is in general level with the upper floor. The concrete walls that retain the grade difference between the exterior and the lower floor appear to rely on the building floor structure to resist lateral earth pressures. The roof of both the original municipal hall and the police department addition has steps. The raised roof areas in the municipal hall have clerestory windows on two sides. The raised roof areas in the addition for the police department have sloping skylights that slope down to the lower roof areas.

The building for both the municipal hall and the police department relies on plywood sheathed walls for lateral stability. These occur along the perimeter of the building. Other than gypsum boarded interior partition walls and bearing walls, there does not appear to be any interior walls that are sheathed with plywood.

ASSESSMENT RESULTS

The current municipal hall will be expanded to include the current areas occupied by the police department. The police department will be entirely moved to the new addition. As such, the combined areas built in 1965 and 1977 will be used by the municipal hall. This building is not categorized as a post-disaster building and is therefore not required to be upgraded to the post-disaster level.

The Seismic Force Resisting System (SFRS) for the combined municipal hall and the police department consists of plywood sheathed shear walls. These walls are assessed to have only 51% of the Level 2 capacity. Furthermore, the roof diaphragm is stepped and lack a proper load path to transfer diaphragm forces into the shear walls. This part of the building will be completely renovated for the municipal hall. This is considered a major renovation and it will require a seismic upgrade to Level 3.

2.6 FIRE HALL

BUILDING DESCRIPTION

The fire hall addition was constructed in 1979. It is located directly south of the addition for the police department. There are two areas for the fire hall addition. The west side is a single storey structure where the apparatus bays are located. The east side is a two-storey structure that joins with the police department. The apparatus part of the building has a wood roof constructed from ¾" plywood supported by TJI wood joists that are spaced at four feet on centre. The TJI joists are supported by steel beams which are in turn supported by interior steel columns and perimeter concrete block walls. The east side of the fire hall is a two-storey wood frame structure, consisting of wood roof joists supported by glulam beams and TJI floor joists supported by steel beams and interior steel columns. Exterior walls of this two-storey structure consist of plywood sheathed stud walls. There is a concrete block fire wall that separates the addition with the original building for the police department.

ASSESSMENT RESULTS

The wood roof (plywood and TJI joists) over the apparatus bays does not have the capacity to support the current day post-disaster roof snow load. Additional joists will have to be added to reinforce the roof. The steel columns supporting the roof are wide flange steel columns. It was found that these columns will fail in its weak axis when

subjected to the allowable lateral seismic deflection. These columns will need to be upgraded. The roof steel beams were assessed to have adequate capacity to resist the post-disaster snow load.

The SFRS for the apparatus bays consists of reinforced concrete block walls. These walls are not detailed to current day seismic ductility requirements. Furthermore, the concrete block walls between overhead doors only have small, isolated pad footings supporting them. These have very limited capacity to resist seismic forces and will drift and shift, resulting in lateral building deflections that are much more than the allowable limit for a post-disaster building. It is very difficult to add reinforcing to upgrade the existing concrete block walls. Given all these limitations, it is recommended that these walls be rebuilt, along with the steel column upgrades and roof upgrades. Or alternatively, demolish and build an entirely new structure.

The existing two-storey portion of the fire hall is essentially a wood frame building with some concrete block walls. The issue with existing concrete block walls for a post-disaster building can be addressed by removing these walls, as discussed above. Once removed, this portion of the fire hall is entirely wood framed and can be easily upgraded to the post-disaster level.

The two-storey portion of the fire hall also has a raised roof with sloping skylights. The raised roof interrupts the transfer of shear forces in the diaphragm and will need to be upgraded to allow for the shear transfer.

Shear walls in the existing two-storey building were assessed to have only 14% of the required capacity for earthquakes in the north-south direction. For earthquakes in the east-west direction, there is not much available shear walls that are effective along the south wall. Shear walls in both directions will need to be upgraded.

Floor diaphragm for the two-storey portion of the fire hall were assessed to have only 19% of the required capacity.

3 STRUCTURAL UPGRADE CONCEPTS

3.1 RENOVATED MUNICIPAL HALL

The seismic upgrade concept consists of upgrading existing plywood shear walls with additional nailing and plywood edge blocking, along with additional anchor bolts into existing concrete foundation and new hold-down anchors at the ends of shear walls. The deficiency of the stepped roof with clerestory windows can be addressed by infilling a window with a new section of plywood sheathed shear wall. Some areas in the renovated space have floor diaphragms that are far away from available shear walls. Drag struts will need to be added to collect shear forces from these diaphragm areas and drag them into shear walls. The renovated space on the lower floor allows for new shear walls to be added. See marked up drawings in the appendix.

To address the diaphragm deficiency from the raised roof with sloping skylights, there are two options. One is to add a vertical steel frame on the inside that goes from the high roof to the low roof along the length of the skylight, with horizontal extensions at the low roof level that transfer shear forces from the upper roof to the lower roof. The other is to add a steel brace on top of the low roof, on both ends of the skylight, in the direction along the length of the skylight, to transfer higher roof shear forces down to the lower roof.

The two-storey portion of the fire hall will be upgraded to post-disaster level. A seismic separation will be provided to separate the renovated municipal hall with the fire hall. The municipal hall portion of the existing building does not need to be upgraded to the post-disaster level.

3.2 FIRE HALL

The apparatus bay portion of the fire hall is recommended to be rebuilt.

The concrete block wall between the apparatus bay and the two-storey portion is recommended to be removed. Similarly, the concrete block fire wall is also recommended to be removed. With the concrete block walls removed, the existing plywood sheathed shear walls can be upgraded. The walls will need to be sheathed on both sides, with new anchor bolts installed along the wall to existing foundation and new hold-down anchors at the ends of shear walls.

Roof diaphragm upgrade will require additional plywood edge nailing and addition of blocking at plywood edges. Furthermore, the raised roof will require reinforcing as discussed in the previous section. The renovated space on the lower floor allows for new shear walls to be added. These shear walls will require new footings. The new shear walls will reduce the floor diaphragm span and thus the shear forces. Despite the reduced shear forces in the floor diaphragm, additional nailing and plywood edge blocking will need to be needed to upgrade the floor diaphragm.

3.3 STRUCTURAL CONCEPT FOR NEW FIRE HALL

The new apparatus bays of the fire hall will need to be designed to meet post-disaster requirements. It is a single storey building that can be economically framed in structural steel. The roof will consist of steel deck on open web steel joists (OWSJ), steel beams and steel columns. The SFRS will consist of steel braced frames and a rigid moment steel frame for the wall with the overhead doors.

Since the single storey fire hall will have a different height than the two-storey portion of the fire hall, and each side has its own SFRS which will react differently to earthquakes, it is recommended that a seismic separation be provided between these portions of the building. Similarly, a seismic separation will be provided between the fire hall and the new addition for the police department.

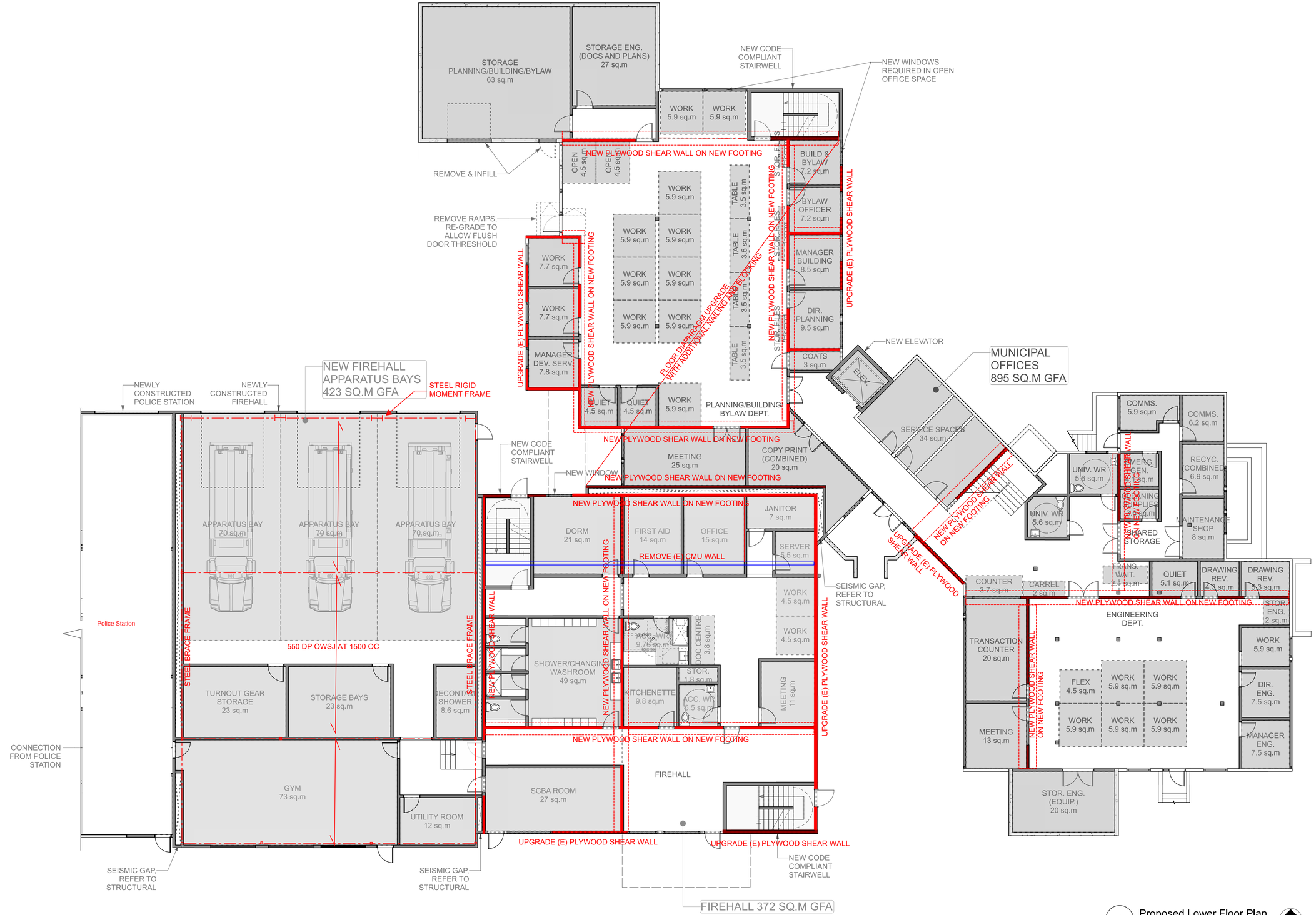
4 STRUCTURAL CONCEPT OF NEW ADDITION FOR POLICE DEPARTMENT

4.1 BUILDING DESCRIPTION AND CONCEPT

The proposed addition for the police department will need to be designed to meet post-disaster requirements. It is a single storey building that can be economically framed in wood. Roof plywood can be supported by wood trusses that bear onto bearing walls and shear walls. Perimeter and interior plywood shear wall will provide the necessary lateral resistance to meet post-disaster seismic and wind loads. Shallow spread footings will be feasible and likely the most economical means to provide support to the building.

APPENDIX

A UPGRADE CONCEPT DRAWINGS



1 Proposed Lower Floor Plan
Scale: 1:100

N

CLIENT

GENERAL NOTES

WALL TYPE LEGEND:

- EXISTING WALL
- PROPOSED WALL
- SHEAR WALL LOCATION

2	FINAL REPORT	2025-05-12
1	DRAFT REPORT	2025-05-02

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SCALE: As Noted

DATE: 2025-05-02

CENTRAL SAANICH MUNICIPAL HALL

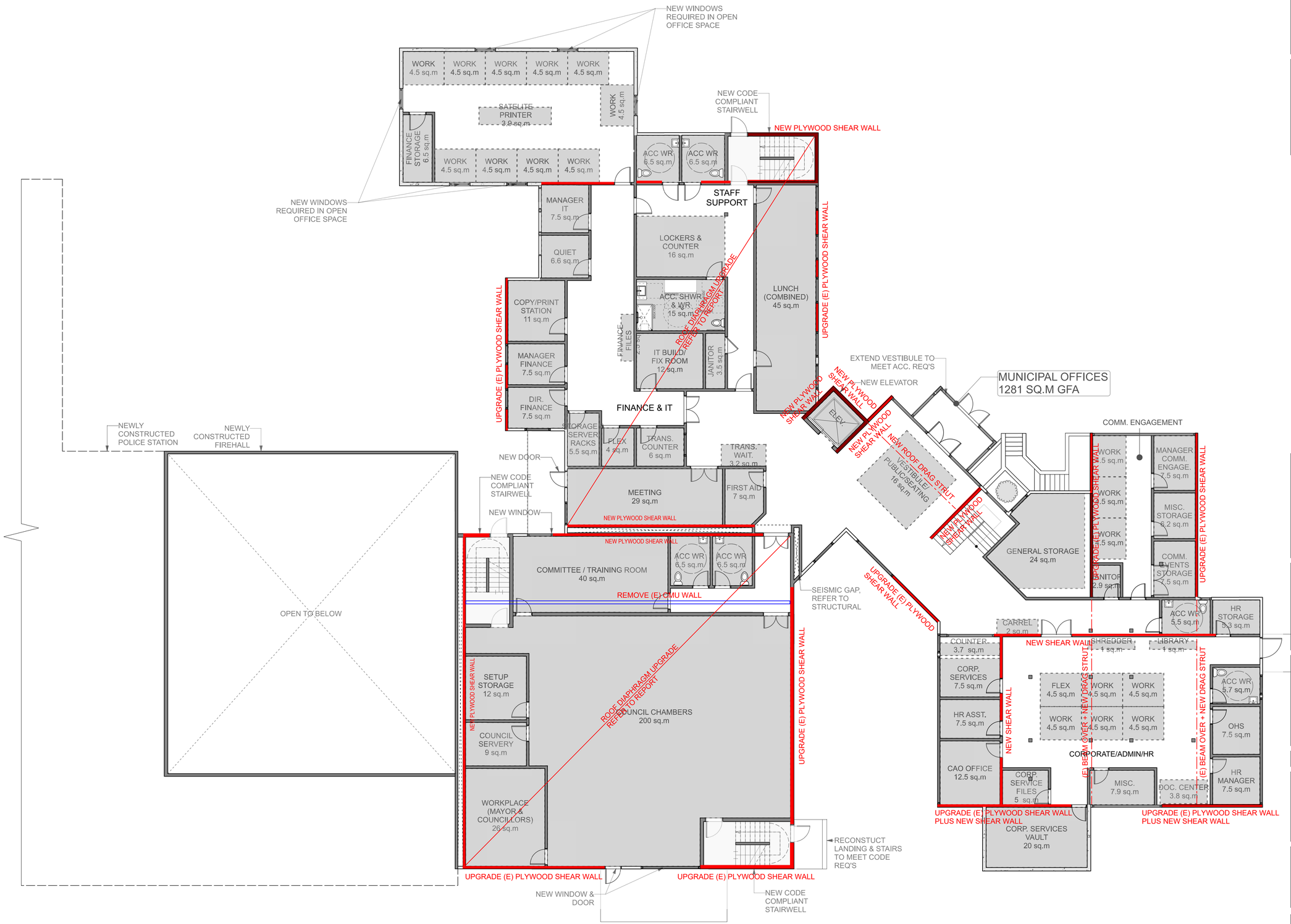
1903 MT NEWTON CROSS RD,
SAANICHTON, BC

PROJECT

LOWER FLOOR PROPOSED
MUNICIPAL/FIREHALL FLOOR PLAN

SHEET TITLE

DRAWN BY: SD	CHECKED BY: RH
CLIENT PROJECT NO.	
NTAG PROJECT NO.: 2025506	SHEET NO.: A-1.02



1 Proposed Municipal Main Floor Plan
Scale: 1:100

CLIENT

GENERAL NOTES

WALL TYPE LEGEND:

- EXISTING WALL
- PROPOSED WALL
- SHEAR WALL LOCATION

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CENTRAL SAANICH MUNICIPAL HALL

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PROJECT

MAIN FLOOR PROPOSED MUNICIPAL FLOOR PLAN

SHEET TITLE

DRAWN BY: SD

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CLIENT PROJECT NO.

NTAG PROJECT NO.: 2025506

SHEET NO.: A-1.03

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Central Saanich Municipal Building
Building Code Compliance & Accessibility
Building Assessment Report
Appendix D:
Civic Facility Concept Renovation Plans

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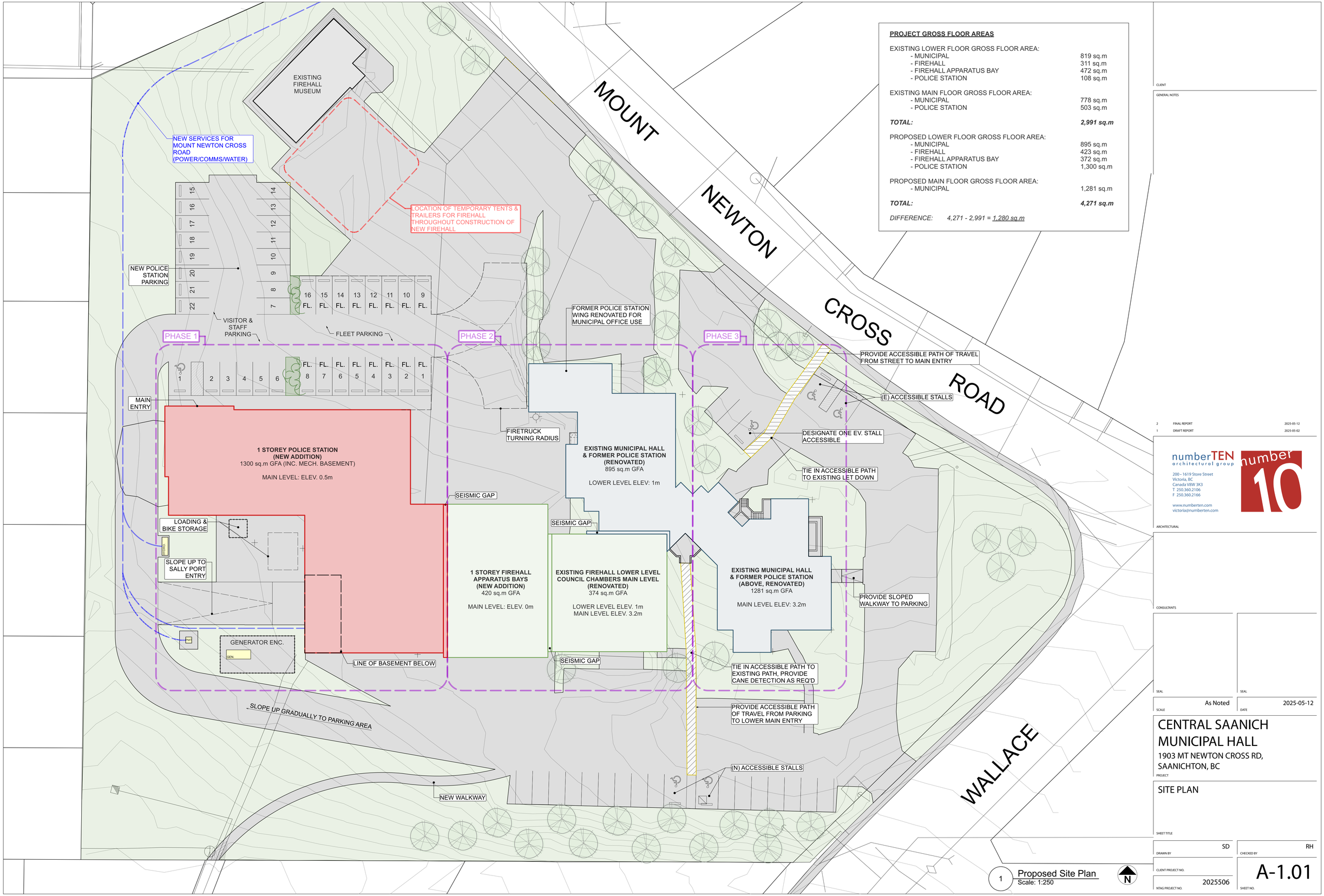
10



PROJECT GROSS FLOOR AREAS

EXISTING LOWER FLOOR GROSS FLOOR AREA:

- MUNICIPAL	819 sq.m
- FIREHALL	311 sq.m
- FIREHALL APPARATUS BAY	472 sq.m
- POLICE STATION	108 sq.m

EXISTING MAIN FLOOR GROSS FLOOR AREA:

- MUNICIPAL	778 sq.m
- POLICE STATION	503 sq.m
TOTAL:	***2,991 sq.m***

PROPOSED LOWER FLOOR GROSS FLOOR AREA:

- MUNICIPAL	895 sq.m
- FIREHALL	423 sq.m
- FIREHALL APPARATUS BAY	372 sq.m
- POLICE STATION	1,300 sq.m

PROPOSED MAIN FLOOR GROSS FLOOR AREA:

- MUNICIPAL	1,281 sq.m
TOTAL:	***4,271 sq.m***

DIFFERENCE: *4,271 - 2,991 = 1,280 sq.m*

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GENERAL NOTES

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CENTRAL SAANICH MUNICIPAL HALL

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PROJECT

SITE PLAN

SHEET TITLE

DRAWN BY: SD

CHECKED BY: RH

CLIENT PROJECT NO.

NTAG PROJECT NO.: 2025506

SHEET NO.: A-1.01

1 Proposed Site Plan
Scale: 1:250

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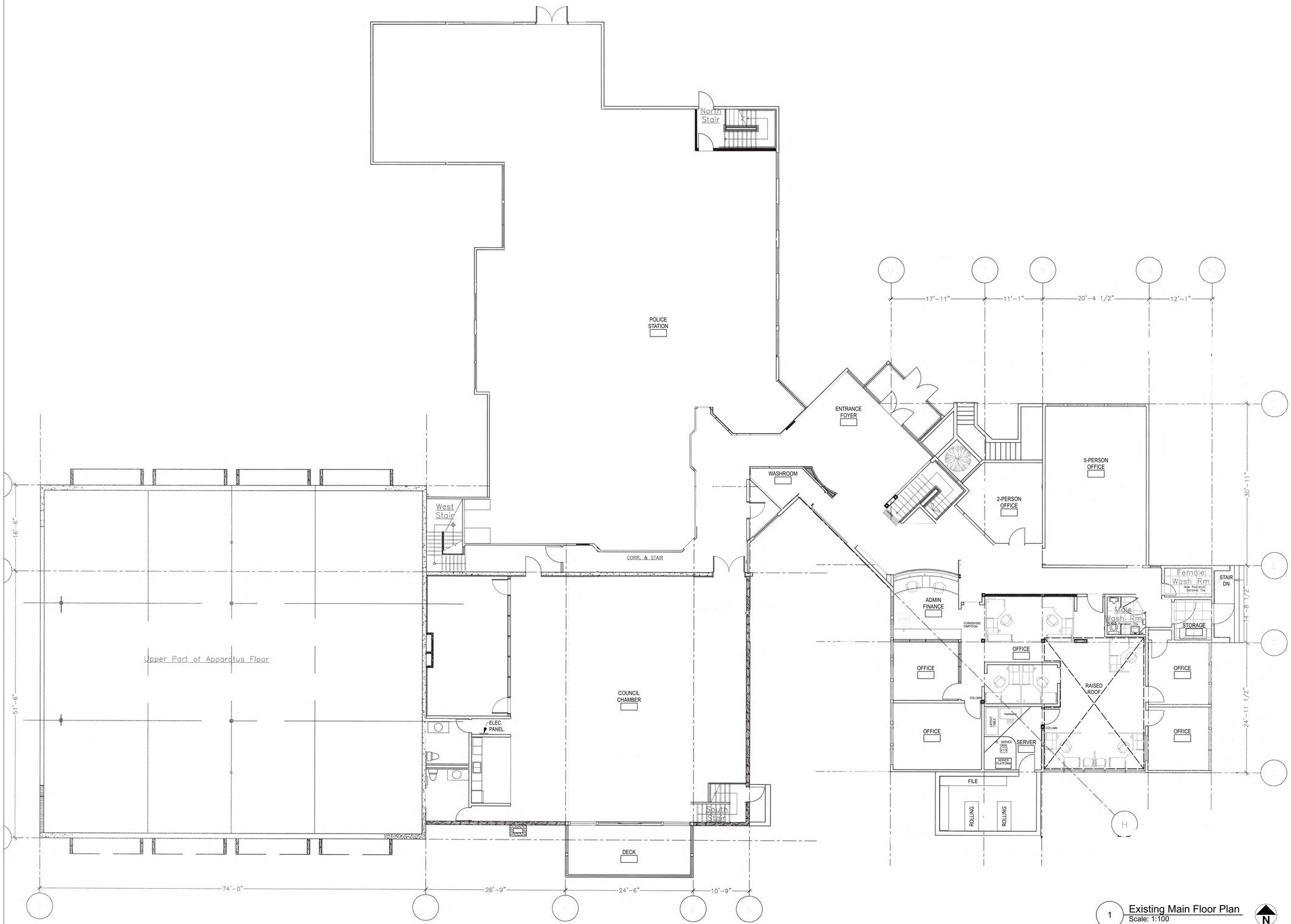

1 Existing Main Floor Plan
Scale: 1:100

N

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GENERAL NOTES

2	FINAL REPORT	2025-05-12
1	DRAFT REPORT	2025-05-02

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PROJECT

EXISTING MAIN FLOOR PLAN

SHEET TITLE

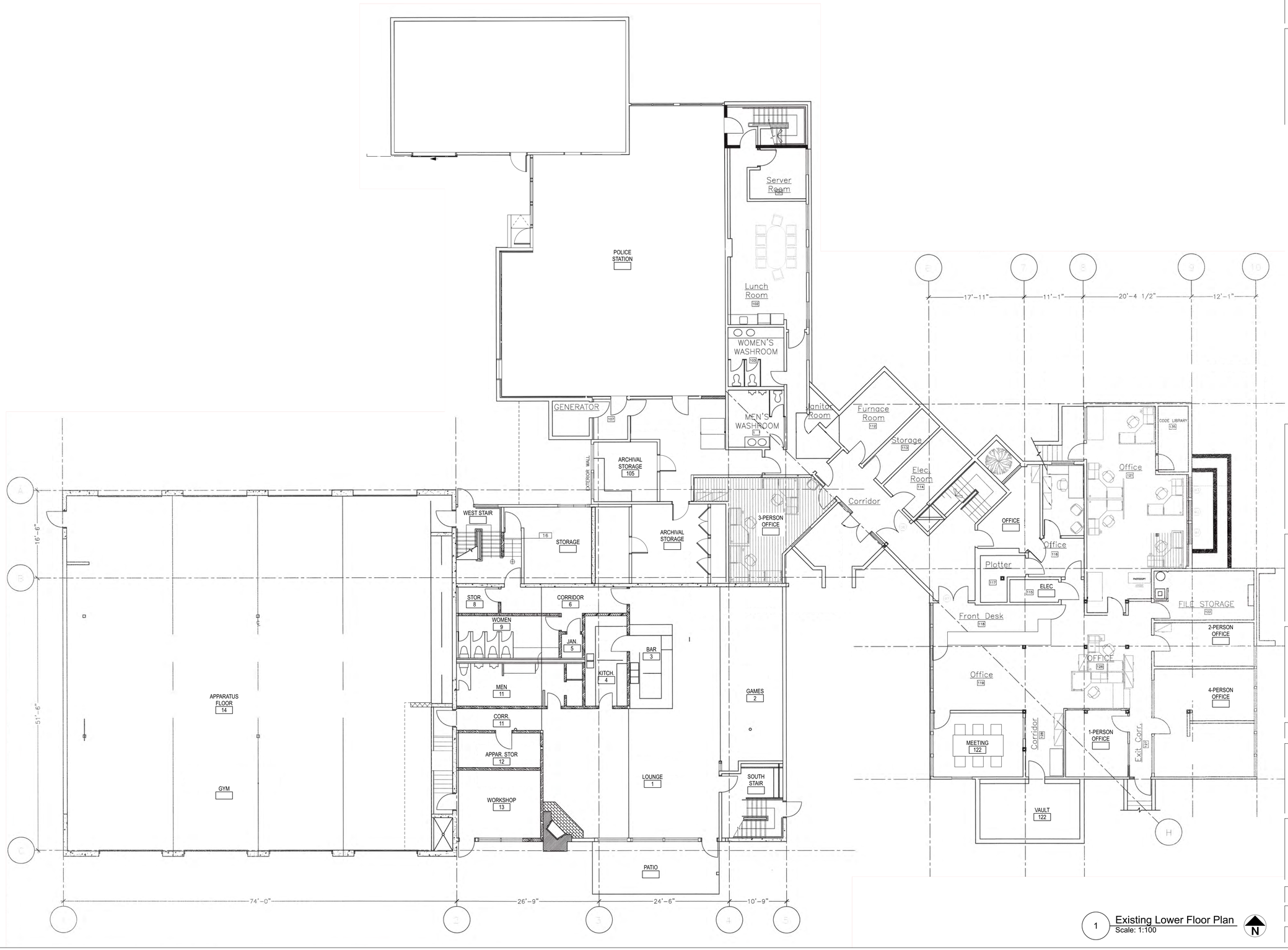
DRAWN BY: SD

CHECKED BY: RH

CLIENT PROJECT NO.

NTAG PROJECT NO.: 2025506

SHEET NO.: A-001



1 Existing Lower Floor Plan
Scale: 1:100

N

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GENERAL NOTES

2	FINAL REPORT	2025-05-12
1	DRAFT REPORT	2025-05-02

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SCALE: As Noted

DATE: 2025-05-12

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SAANICHTON, BC

PROJECT

EXISTING LOWER FLOOR PLAN

SHEET TITLE

DRAWN BY: SD

CHECKED BY: RH

CLIENT PROJECT NO.

NTAG PROJECT NO.: 2025506

SHEET NO.: A-002

1 Proposed Lower Floor Plan
Scale: 1:100

N

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GENERAL NOTES

WALL TYPE LEGEND:

- EXISTING WALL
- PROPOSED WALL
- SHEAR WALL LOCATION

2	FINAL REPORT	2025-05-12
1	DRAFT REPORT	2025-05-02

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SCALE: As Noted

DATE: 2025-05-12

CENTRAL SAANICH MUNICIPAL HALL

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PROJECT

LOWER FLOOR PROPOSED
MUNICIPAL/FIREHALL FLOOR PLAN

SHEET TITLE

DRAWN BY: SD

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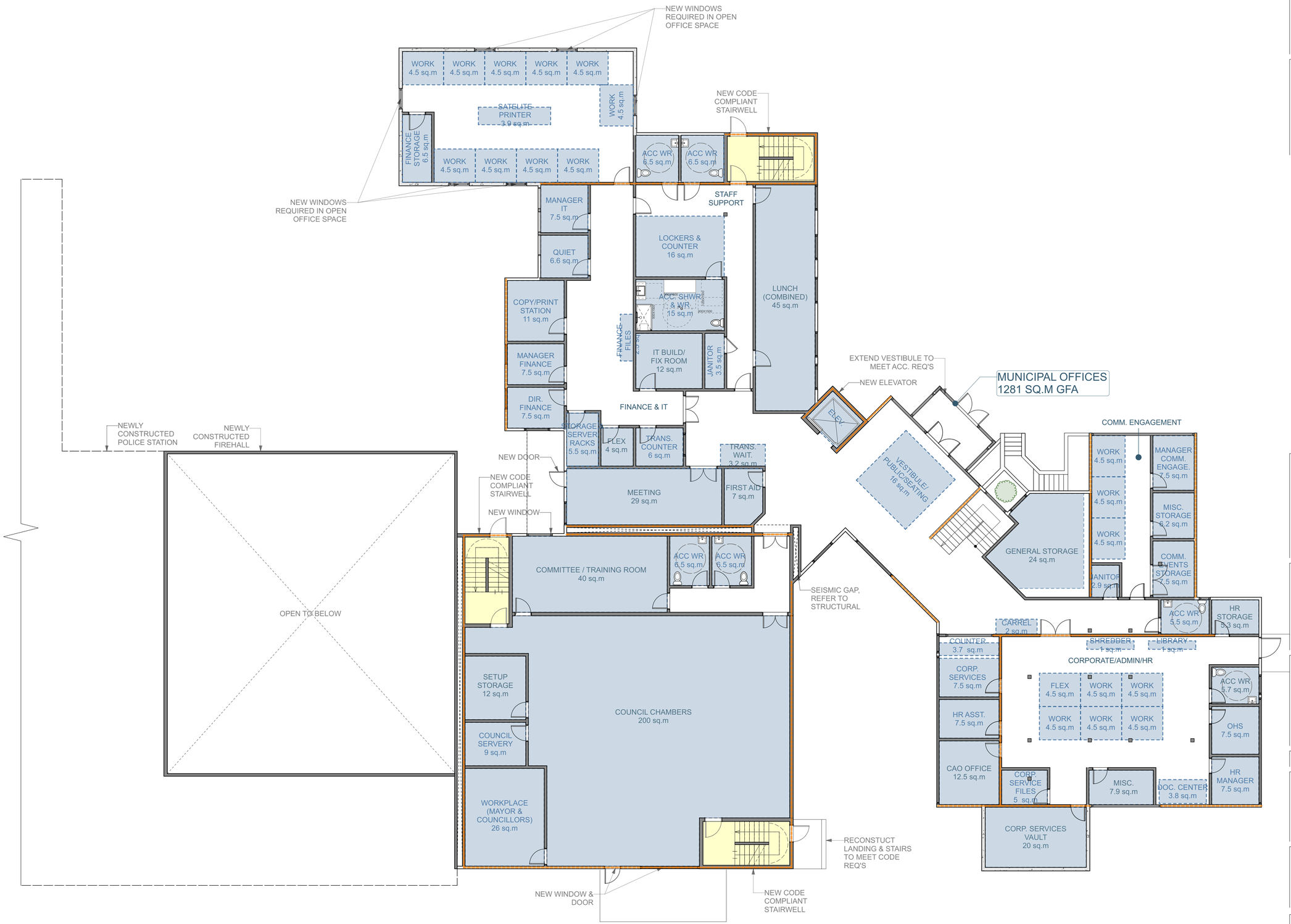
CLIENT PROJECT NO.

NTAG PROJECT NO.: 2025506

SHEET NO.: A-1.02



1 Proposed Municipal Main Floor Plan
Scale: 1:100

N

CLIENT

GENERAL NOTES

WALL TYPE LEGEND:

- EXISTING WALL
- PROPOSED WALL
- SHEAR WALL LOCATION

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SCALE: As Noted

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CENTRAL SAANICH MUNICIPAL HALL

1903 MT NEWTON CROSS RD, SAANICHTON, BC

PROJECT

MAIN FLOOR PROPOSED MUNICIPAL FLOOR PLAN

SHEET TITLE

DRAWN BY: SD

CHECKED BY: RH

CLIENT PROJECT NO.

NTAG PROJECT NO.: 2025506

SHEET NO.: A-1.03

1 Proposed Police Station Floor Plan
Scale: 1:100

CLIENT

GENERAL NOTES

WALL TYPE LEGEND:

- EXISTING WALL
- PROPOSED WALL
- SHEAR WALL LOCATION

2	FINAL REPORT	2025-05-12
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SEAL

SEAL

SCALE: As Noted

DATE: 2025-05-12

CENTRAL SAANICH MUNICIPAL HALL

1903 MT NEWTON CROSS RD, SAANICHTON, BC

PROJECT

PROPOSED POLICE STATION FLOOR PLAN

SHEET TITLE

DRAWN BY: SD

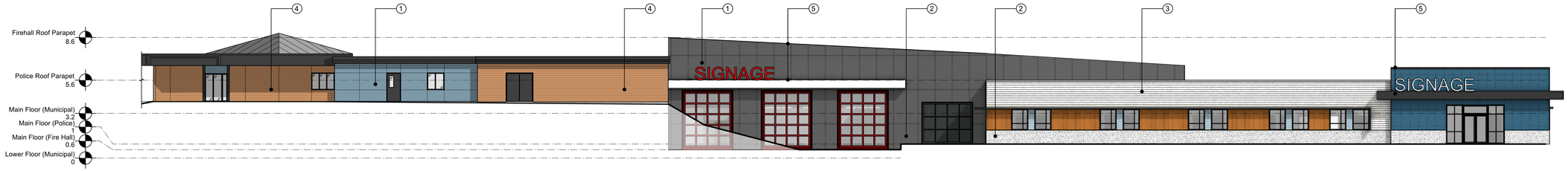
CHECKED BY: RH

CLIENT PROJECT NO.

NTAG PROJECT NO.: 2025506

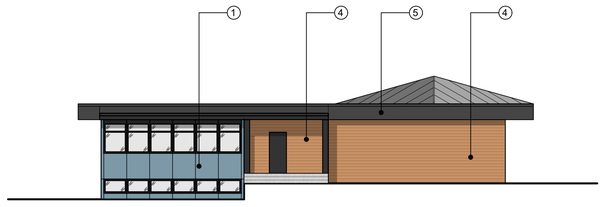
SHEET NO.: A-1.04

1 South Elevation
Scale: 1:150



2 North Elevation
Scale: 1:150

3 West Elevation
Scale: 1:150



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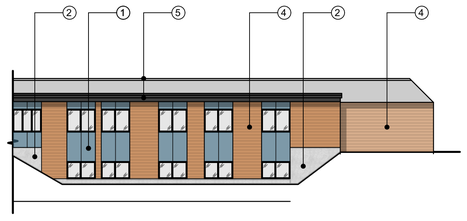

5 Partial East Elevation
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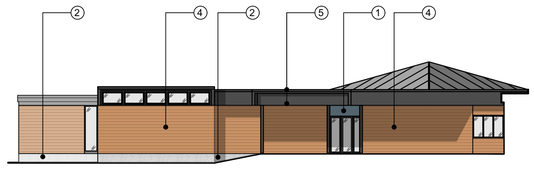

6 Partial North Elevation
Scale: 1:150

MATERIAL BOARD

CLIENT

GENERAL NOTES

MATERIAL LEGEND

①	FIBRE CEMENT BOARD PANEL SIDING
②	SPLIT FACE CONCRETE SIDING
③	HORIZONTAL CORRUGATED METAL SIDING
④	HORIZONTAL WOOD-LOOK METAL SIDING
⑤	FIBRE CEMENT BOARD PANEL TRIM & DETAILS

2	FINAL REPORT	2025-05-12
1	DRAFT REPORT	2025-05-02

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SCALE: As Noted

DATE: 2025-05-12

CENTRAL SAANICH MUNICIPAL HALL

1903 MT NEWTON CROSS RD,
SAANICHTON, BC

PROJECT

PROPOSED BUILDING ELEVATIONS

SHEET TITLE

DRAWN BY: SD

CHECKED BY: RH

CLIENT PROJECT NO.

NTAG PROJECT NO.: 2025506

SHEET NO.: A-1.05

Central Saanich Municipal Building
Building Code Compliance & Accessibility
Building Assessment Report
Appendix E:
Hazardous Materials Inventory
(Island EHS)

Hazardous Materials Inventory

1903 Mount Newton Cross Road, Saanichton, BC

Prepared for

District of Central Saanich
1903 Mt. Newton X Rd,
Saanichton, BC

Island EHS Project # 48738

July 2023

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Executive Summary

Island EHS was engaged by the District of Central Saanich to conduct a **non-destructive** hazardous materials inventory of at 1903 Mount Newton Cross Road, Saanichton, BC. The building was occupied at the time of the investigation. This investigation was carried out on May 24, 2023. This investigation was intended to identify the locations and types of hazardous materials that are present in the accessible areas of the building.

This investigation is intended to identify the presence or suspected presence of readily observable hazardous materials in the building using non-destructive sampling techniques as per the WorkSafeBC Occupational Health and Safety Regulation (OHSR). **Project-specific surveys are required prior to any construction or renovation work, as per Part 20.112 of the OHSR.**

The building was reportedly constructed in 1970 and was a single-storey, wood-framed building on a basement. Interior walls were finished with drywall and wood. Ceilings were finished with drywall, textured ceiling and ceiling tiles. Flooring finished included carpet, sheet vinyl, vinyl tile.

All areas of the building were included in this investigation with exception to the roof and fire department hose tower.

The following hazardous materials were identified:

Material	Description
Asbestos	Textured ceiling, sheet vinyl flooring, vinyl floor tile, drywall joint compound
Lead	Lead containing paints were identified on exterior surfaces of the building
Silica	Assumed to be present in concrete, acoustic ceiling tiles, brick, mortar, ceramic tile, grout, thin set, textured coatings, parging and drywall
Mercury	Fluorescent light tubes and mercury thermostats were observed in the building
Hantavirus - Rodent Droppings	Rodent droppings were not observed in the building
CCA-Pressure Treated Wood	Pressure treated wood not observed in the building
Radioactive Materials	Smoke detectors were observed in the building
Mould	Mould not observed in the building
PCBs	Fluorescent light fixtures were observed in the building
Ozone Depleting Substances	Older refrigerators were present in the building
Urea Formaldehyde Foam Insulation	None observed in the building
Above Ground Storage Tanks (AGST)	None observed in the building
Leachable Lead	Exterior painted surface concentration tested **exceed** the 100 ppm threshold
Other Hazardous Materials	Paints and cleaning products observed Synthetic insulation observed

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1.0 Introduction

Island EHS was engaged by District of Central Saanich to carry out a non-destructive asbestos inventory at 1903 Mount Newton Cross Road, Saanichton, BC. The building was occupied at the time of the investigation. This investigation was carried out on May 24, 2023.

The building was reportedly constructed in 1970 but has undergone several renovations and additions. The building was a single-storey, wood-framed building on a basement. The interior walls were finished with drywall and wood. Ceilings were finished with drywall, textured ceiling and ceiling tile. Flooring finishes were carpet, sheet vinyl, vinyl tile. The exterior was finished with wood siding. The roof had a torch-on tar membrane. The building was heated by a furnace and HVAC system.

This investigation inspected all areas of the building were inspected with exception to the roof, wall cavities and the fire department hose tower. Different materials may be present in areas that were not inspected and in other, inaccessible locations. Please refer to Section 5.0 for a more detailed list of limitations.

This investigation is intended to identify the presence or suspected presence of readily observable hazardous materials in the building using non-destructive sampling techniques as per the WorkSafeBC Occupational Health and Safety Regulation (OHSR). The scope of work for this inventory survey included:

- obtaining representative bulk samples of materials which could contain asbestos and lead in paint,
- analysis of bulk samples for asbestos content and paint chips for lead concentration, and,
- visual identification of mercury, polychlorinated biphenyl, pressure-treated wood, silica, radionuclide, suspect mould, and ozone-depleting substance sources, as well as the presence of rodent activity (hantavirus potential) and above ground storage tanks.

Photographs of materials sampled can be found in **Appendix 1.** Sample results of this investigation can be found in **Appendix 2.** Floorplans showing locations of sampled collected can be found in **Appendix 3. This report does not replace project-specific surveys, which are required prior to any construction or renovation work, as per Part 20.112 of the OHSR.**

2.0 Hazardous Materials

Hazardous materials are present in a large number of common building materials. These materials must be managed effectively to prevent exposure to workers and other persons, or they must be removed. In situations where work activities such as renovations and demolition will affect hazardous materials they must be removed prior to the start of work or appropriate control measures need to be implemented to ensure that workers are not exposed and contamination is not spread throughout the work and adjacent areas.

WorkSafeBC has established regulations regarding the handling and management of a number of hazardous materials along with guidelines for other hazardous materials. Other materials are regulated by environmental laws.

Materials that must comply with WorkSafeBC regulations include:

1. Asbestos
2. Lead
3. Silica
4. Mercury
5. Hantavirus
6. Arsenic
7. Radioactive materials

Materials that WorkSafeBC has established guidelines for include:

1. Mould

Materials that must comply with environmental regulations:

1. Polychlorinated biphenyls
2. Ozone depleting substances
3. Leachable metals
4. Urea formaldehyde foam insulation
5. Fuel oil storage tanks

2.1 Materials Subject to WorkSafeBC Regulations

2.1.1 Asbestos

Asbestos is a generic term used to describe a group of naturally occurring fibrous minerals divided on the basis of their mineralogical properties into; **serpentines** (snake-like or "S"-shaped); and **amphiboles** ("needle-like"). Three (3) types of asbestos were used commercially and were commonly encountered here in B.C. - Chrysotile (white), Amosite (brown) and Crocidolite (blue). Other forms of asbestos, which typically had little commercial value or use include Actinolite, Anthophyllite and Tremolite. (These forms of asbestos also belong to the amphibole family and may be found in Vermiculite insulation).

Asbestos is a very common component of building materials. Most asbestos containing materials went out of use in the early 1980s. However, WorkSafeBC has determined that buildings constructed up to and within the 1990s may still contain asbestos and must be inspected prior to the start of renovation or demolition activities.

Asbestos becomes a hazard when it is disturbed and airborne dust is created. Caution must be taken to ensure that asbestos containing materials are not disturbed. Asbestos exposure is known to have several health effects including asbestosis, lung cancer and mesothelioma.

Asbestos was used in approximately 3000 manufactured products, due to the fire-resistant properties, high tensile strength, chemical degradation resistance, high electrical resistance and strong insulating properties. Common sources of asbestos containing materials in residential structures include:

- Floor products (sheet flooring and floor tiles)
- Drywall filler compounds
- Plasters (usually in buildings constructed prior to 1930)
- Textured ceiling applications
- Duct tape (on heating system ducting and around forced air registers)
- Vermiculite
- Caulking and putties (on windows and doors and in levelling compounds)
- Cement products (siding and shingles as well as underground drainage pipes)
- Roofing felts and papers
- Pipe insulation (on piping, boilers and hot water tanks)

WorkSafeBC defines an asbestos containing material as one containing 0.5% or more asbestos by weight. Vermiculite is asbestos containing if any asbestos is present. WorkSafeBC has designated asbestos as an ALARA substance. This means that exposures to this material must be kept "as low as reasonably achievable". The Occupational Health and Safety Regulation (OHSR), Section 6.3(1) requires that if a worker is or may be exposed to potentially harmful levels of asbestos, the employer must develop and implement an exposure control plan meeting

the requirements of Section 5.54. A harmful level of asbestos is further defined in Section 5.54 of the OHSR as airborne concentrations greater than 50% of the exposure limit.

All asbestos waste must be handled, transported and disposed of in accordance with current Ministry of Environment regulations.

2.1.2 Lead

Lead is a naturally occurring, blueish-grey metal that is soft, malleable, corrosion-resistant and easily melted (The melting point is 327^{o}C). It can be found in a wide variety of consumer and industrial products, from electrical equipment, x-ray equipment, vehicle batteries, decorate glass, extruded ammunition, pigments, and coatings to storage containers for nuclear waste.

There are two types of lead: organic and inorganic. Organic lead is less common and has different properties and health effects than inorganic lead. Because of the elimination of organic lead in British Columbia (phased out in the 1970s and banned since 1990, except for certain applications (i.e., non-road vehicles)), exposure to organic lead is less of a concern. Therefore, the following refers to inorganic lead exposure in the workplace.

Lead has been commonly used in paints and coatings. Coatings manufactured prior to 1970 are likely to contain high concentrations of lead. In the late 1970s, Canada restricted the concentration of lead in consumer paints to 5,000 ppm. These restrictions did not apply to exterior paints. The acceptable level of lead in consumer paints was last reduced by the Federal government in 2010 to a concentration of 90 ppm. Lead can still be added to certain classes of paint if the display panel carries a warning. Lead in paint concentration is not regulated when used in commercial or industrial worksites.

Lead becomes a hazard when painted surfaces are disturbed and airborne dust is created. Caution must be taken to ensure that lead containing materials are not disturbed. Lead exposure is known to have several health effects including damage to the central and peripheral nervous systems. It also affects the uptake of oxygen in the blood and can accumulate in bones. Lead is toxic to both male and female reproductive system and can have damaging effects to a developing fetus. Lead exposures can also occur when lead products are touched and lead contamination is ingested (eaten).

Lead is used in plumbing fixtures. Flashings and other products found on roofs may be made of pure lead. Lead has also been used in solders. This may be found on plumbing lines as well as on electrical equipment.

WorkSafeBC has designated lead as an ALARA substance. This means that exposures to this material must be kept “as low as reasonably achievable”. An employer must not permit workers to engage in a work activity or lead process that may expose workers to lead dust, fumes or mist unless a risk assessment has first been completed by a qualified person. If the risk assessment indicates potential for lead exposure, an exposure control plan meeting the requirements of Section 5.54 of the Occupational Health and Safety Regulation must be developed.

Waste materials with lead containing paint on them may have special disposal requirements (See Section 2.3.5). Lead paint that has been removed from building materials requires leachate testing to determine the appropriate method of disposal.

2.1.3 Silica

"Silica" is the commonly used term for the chemical compound silicon dioxide ($Si0_2$). It is the second most common mineral on earth and makes up nearly all of what we call “sand” and “rock.”

It is found almost everywhere. It appears in two (2) main forms - amorphous and crystalline. Amorphous silica is not generally considered to be a significant hazard. Crystalline silica is known to have a number of health effects including silicosis. The definition of respirable crystalline silica (RCS) includes the quartz, crystalline silica and cristobalite. The form most likely to cause serious problems for worker health is quartz.

Crystalline silica is present in a number of common building materials. These include:

- Plasters
- Cement
- Sand/gravel
- Brick and Masonry
- Stucco
- Drywall Filler Compounds
- Granite
- Tile and tile grout

RCS becomes a hazard when it is disturbed and airborne dust is created. Caution must be taken to ensure that silica containing materials are not disturbed.

A worker may develop any of three (3) types of silicosis, depending on the concentrations of silica dust and the duration of exposure:

- Chronic silicosis—develops after 10 or more years of exposure to crystalline silica at relatively low concentrations
- Accelerated silicosis—develops 5 to 10 years after initial exposure to crystalline silica at high concentrations
- Acute silicosis—develops within a few weeks, or 4 to 5 years, after exposure to very high concentrations of crystalline silica

Initially, workers with silicosis may have no symptoms; however, as the disease progresses, a worker may experience shortness of breath; severe cough and/or weakness. These symptoms can worsen over time and lead to death.

The WorkSafeBC Occupational Health & Safety Regulation 8-hour time-weighted exposure limit for respirable crystalline silica is 0.025 mg/m^3. In addition (similar to asbestos and lead), as crystalline silica is considered to be a carcinogen, all reasonable precautions must be taken to reduce exposure to levels that are as low as reasonably achievable (ALARA). Likewise, an employer must not permit workers to engage in a work activity or silica process that may expose workers to respirable crystalline silica dust unless a risk assessment has first been completed by a qualified person. If the risk assessment indicates potential for RCS exposure, an exposure control plan meeting the requirements of Section 5.54 of the Occupational Health and Safety Regulation must be developed.

2.1.4 Mercury

Mercury is a metal that is liquid at room temperatures and vaporizes at low temperatures. Mercury has a number of industrial uses. It is also found in thermostats, thermometers and inside fluorescent light tubes.

Mercury has a significant toxic effect on the central nervous system and can cause disease and even death. Mercury becomes a hazard when it is released into the environment. Significant concentrations of mercury can be present at room temperature because it vaporizes at low temperatures. This can occur when mercury thermometers or thermostat bulbs are broken or when fluorescent light tubes are broken.

WorkSafeBC has designated mercury as an ALARA substance. This means that exposures to this material must be kept “as low as reasonably achievable”. OHSR, Section 5.57(1)(b) identifies mercury as a reproductive toxin which must be replaced, if practicable, with a material which

reduces the risk to workers. Section 5.57(2) states that "if it is not practicable to substitute a material which reduces the risk to workers…the employer must implement an exposure control plan" to maintain a workers' exposure as low as reasonably achievable. The exposure control plan must meet the requirements of OHSR Section 5.54.

All mercury waste requires disposal in accordance with current Ministry of Environment and Climate Change Strategy requirements, and/or disposed of as per local landfill requirements.

2.1.5 Hantavirus

Hantavirus is associated with Hantavirus Pulmonary Syndrome. This disease is contracted by coming into contact with the droppings or urine of infected rodents. It can also be contracted by being bitten or scratched by infected rodents.

WorkSafeBC states that employers are required to develop and implement an exposure control plan when workers may be exposed to potentially contaminated rodent droppings.

It should be noted that diseases are associated from contact with other animal droppings, most notably Histoplasmosis, from contact with infected bird droppings.

Any (potentially) hantavirus-contaminated waste should be treated/sprayed with a disinfectant (i.e. 10 percent chlorine bleach) and doubled bagged in plastic and sealed. (The plastic double-bagged waste should ideally be handled in a manner which is puncture-proof). Once treated and appropriately sealed, there are no special disposal requirements for waste containing infected animal droppings. It can be disposed of with regular construction waste, or household garbage.

2.1.6 CCA-Pressure Treated Wood

Pressure treated wood manufactured prior to 2004 used chromated copper and arsenate (CCA) as an insecticide, fungicide, and rodenticide preservative. CCA was a major source of treated wood for decks, playgrounds, and other outdoor residential structures.

Exposure concerns are centered around arsenic, an element that can increase the risk of certain types of cancers. Exposures can occur when the CCA wood is aggressively disturbed, and dust becomes airborne. Sawdust from cutting pressure treated wood or burning these materials can result in significant airborne arsenic concentrations. Workers should use the appropriate PPE when cutting pressure treated wood.

Disposal of arsenic waste must be in accordance with current Ministry of Environment and Climate Change Strategy requirements.

2.1.7 Radioactive Materials

Radioactive materials are commonly found in smoke detectors. A small amount of radioactive materials (^{241}Americium) is sealed in a metal case inside smoke detectors. This metal case must remain undisturbed to prevent exposure to radioactive materials.

Some ceramic tiles and forms of granite have also been found to contain radioactive materials. Radon is a naturally occurring gas created during the decay of other radioactive materials. It is not considered a significant concern on Lower Vancouver Island.

Dispose smoke detectors in accordance with Canadian Nuclear Safety Commission requirements and/or disposed of as per local landfill requirements.

2.2 Materials Subject to WorkSafeBC Guidelines

2.2.1 Mould

Mould is prevalent throughout our environment. It occurs naturally with mould spores being present everywhere. Mould is nature's way of breaking down and recycling materials. Mould spores require moisture and a food source to begin growing. Water leaks (even very minor leaks) and moisture accumulation are usually sufficient for mould to begin growing.

Exposure to mould spores most often results in allergy type responses in susceptible individuals. These are similar in nature to "hay fever" and can include runny eyes and noses and throat irritation. In more extreme cases, exposure to mould spores can result in "pneumonia-like" responses.

WorkSafeBC has not established exposure levels for airborne mould spores. WorkSafeBC does provide guidelines for dealing with mould contamination. These guidelines are included in the Indoor Air Quality regulation guidelines, section 4.79 and the Canadian Construction Association document, "Mould Guidelines for the Canadian Construction Industry," CCA82-2018

There are no special disposal requirements for mould waste.

2.3 Materials Controlled by Environmental Regulations

2.3.1 Polychlorinated Biphenyls

Polychlorinated biphenyls (PCBs) are regulated by both Provincial and Federal regulations. Fluorescent light ballasts containing PCBs manufactured prior to 1981 must be treated as PCB waste and stored and disposed of in accordance with current regulations. Fluorescent light fixtures removed during demolition, construction or maintenance activities must be inspected for the presence of PCBs.

Each ballast identified as containing PCBs must be sent to a licenced facility in accordance with current federal regulatory requirements.

2.3.2 Ozone Depleting Substances

Ozone depleting substances (ODS) and chlorofluorocarbons are commonly found in older refrigerators and air conditioning units and in fire suppression systems. Environmental regulations restrict the release of these compounds into the environment.

When systems or equipment contains ODS are set for disposal all the ODS must be collected for recycling or disposal by a licenced contractor.

2.3.3 Urea Formaldehyde Foam Insulation

Urea formaldehyde foam insulation (UFFI) was used as a retrofit insulation in older buildings. The expanding foam would be sprayed into wall and ceiling cavities to provide additional insulation in older buildings. It was most used in residential settings.

Over time, in the presence of moisture, the insulation can break down and release formaldehyde gas. This insulating material was banned in 1978. Many older buildings contain UFFI.

There are no special disposal requirements for UFFI waste.

2.3.4 Fuel Oil Storage Tanks

Fuel oil storage tanks (above and below ground) are found in many houses and commercial buildings. The tanks can corrode and leak as they age. Spills often occur during tank filling and create contamination.

Tanks in use must be monitored to ensure that spillage and contamination does not occur. Tanks no longer in use must be removed for disposal and the surrounding soil checked for contamination.

2.3.5 Leachable Metals

The BC Ministry of Environment regulates the disposal of some waste materials based on the leachability of metals and other compounds from the waste. Testing may have to be carried out on materials removed from the building before they can be sent for disposal. This will depend on where the waste is being sent.

Consult with your local landfill to determine if toxicity characteristic leaching procedure (TCLP) is required for the determination of leachable lead concentrations prior to acceptance as construction waste.

2.3.6 Other Materials

A number of hazardous materials may be present in a building that will be affected by renovations or demolition. These can include:

- Propane or butane cylinders
- Paint
- Solvents
- Toxic or corrosive products
- Other flammable materials

3.0 Methodology

3.1 Asbestos Containing Materials

Island EHS collected seventy-one (71) bulk samples of building materials for analysis of asbestos content (see Appendix 2 for a complete list of materials and the analytical results). Quantities and materials sampled were selected based on our experience and on the WorkSafeBC guideline "Safe Work Practices for Handling Asbestos" (current edition). Bulk samples were analyzed at our in-house laboratory in accordance with the National Institute for Occupational Safety and Health (NIOSH) Analytical Method 9002, "Asbestos (bulk) by Polarized Light Microscopy."

Island EHS's laboratory is deemed proficient by the American Industrial Hygiene Association (AIHA) and participates in quarterly rounds of proficiency testing to maintain registration.

3.2 Lead Containing Paints

Island EHS collected thirteen (13) representative samples of paint chips for analysis. The samples were collected in labelled re-sealable containers and submitted to our in-house laboratory for analysis of lead content using ASTM E1645-01 (for sample preparation of dried paint) and EPA 7000B (using Flame Atomic Absorption Spectrophotometry).

(One (1) of the samples collected was not submitted for analysis as the underlying substrate found to be asbestos containing).

Wherever a contradiction regarding control measures exists, the more stringent of the controls (e.g. asbestos controls) to satisfy WorkSafeBC must be implemented and strictly followed.

See Appendix 2 for the analytical results.

3.3 Other Hazardous Materials

The presence of mercury, arsenic ozone-depleting substances (ODS), PCBs, radioactive sources, silica, rodent/avian feces, mould, urea-formaldehyde foam insulation (UFFI), oil storage tanks, and other hazardous chemicals was determined by visual inspection only; no sampling of these materials was carried out.

4.0 Results and Discussion

The building was inspected for the presence of a variety of hazardous materials on May 24, 2023 WorkSafeBC requirements specify that precautions are necessary when handling identified hazardous materials. The necessary precautions will depend on the disposition of each hazardous material. Hazardous materials identified as being present and in good condition, do not need to be removed from the building at this time.

4.1 Asbestos

Island EHS collected seventy-one (71) representative bulk samples of such materials as textured ceiling, sheet vinyl flooring, drywall joint compound, ceiling tile, mastic, vinyl floor tile, mortar and parging from throughout the accessible areas of the building. Table 1 summarizes the asbestos containing materials that were identified.

Table 1: Summary of Asbestos Containing Materials at 1903 Mount Newton Cross Road, Saanichton, BC

Location	Description	Asbestos Type & Percentage	Sample ID
Main floor – Police department – Interview room ceiling	Textured ceiling	1% Chrysotile	48738-1
Main floor – Police department – Interview room under carpet	Sheet vinyl flooring	60% Chrysotile	48738-2
Main floor – Police department – File storage room/office ceiling	Textured ceiling	1% Chrysotile	48738-3
Main floor – Police department – Open office area outside interview room – Under carpet tile	Sheet vinyl flooring	60% Chrysotile	48738-5
Main floor – Police department – General office area – Under carpet tile	Sheet vinyl flooring	60% Chrysotile	48738-8
Main floor – Police Department - Communication room/washroom	Sheet vinyl flooring	60% Chrysotile	48738-10
Main floor – Police Department – Community policing room - Under carpet	Sheet vinyl flooring	60% Chrysotile	48738-15
Basement – Police Department - Men's locker room - Under carpet	Sheet vinyl flooring	60% Chrysotile	48738-17
Basement - Municipal Hall - Kitchen	Sheet vinyl flooring	60% Chrysotile	48738-23
Basement - Municipal Hall - Back document storage room floor	Vinyl floor tile	1% Chrysotile	48738-28

Location	Description	Asbestos Type & Percentage	Sample ID
Main floor - Municipal Hall - Council chambers - Lower ceiling	Textured ceiling/drywall joint compound	1% Chrysotile	48738-36
Main floor - Municipal Hall – Hall to Washroom - ceiling	Textured ceiling/drywall joint compound	1% Chrysotile	48738-37
Main floor - Municipal Hall - Council chambers corridor ceiling	Textured ceiling	1% Chrysotile	48738-40
Main floor - Municipal Hall - Council chambers corridor floor - Lower layer	Vinyl floor tile	2% Chrysotile	48738-42
Main floor - Municipal Hall - Stairwell and bottom of stairs	Vinyl floor tile	2% Chrysotile	48738-43
Basement - Planning Department - Corridor - Above ceiling tile	Drywall joint compound	1% Chrysotile	48738-45
Basement - Planning Department - File storage vault closet	Drywall joint compound	1% Chrysotile	48738-46
Basement - Planning Department - Corridor at Exit	Drywall joint compound	1% Chrysotile	48738-47
Main floor - Planning Department - Corporate services office	Vinyl floor tile	2% Chrysotile	48738-53
Main floor - Planning Department - Staff washroom wall	Drywall joint compound	1% Chrysotile	48738-54
Main floor - Planning Department - Office #2 wall	Drywall joint compound	1% Chrysotile	48738-58
Basement - Firehall Lounge - Corridor/bathrooms/kitchen	Vinyl floor tile	2% Chrysotile	48738-62
Basement - Firehall Lounge - Corridor ceiling	Textured ceiling	1% Chrysotile	48738-66
Basement - Workshop ceiling	Textured ceiling	1% Chrysotile	48738-67
Additional materials may be present in units not inspected and in other inaccessible locations. Refer to Section 5.0 for a detailed list of limitations.			

Photographs of all samples analyzed are attached in **Appendix 1**. Results of sample analysis are attached in **Appendix 2**. Floor plans showing sample locations are attached in **Appendix 3**.

Non-destructive and non-invasive sampling was undertaken, so as not to damage existing finishes. As such, additional suspect materials that were not accessible during this investigation will require further assessment. Examples include roofing materials, insulation within cinderblock walls or tape behind walls/ceilings, lower layers of flooring. **All efforts were made to determine all potential layers of flooring material, however due to the non-destructive nature of this survey additional layers of flooring may still exist. If discovered the material should be tested for the presence of asbestos.**

Determination of the locations of asbestos-containing material was made based on the results of bulk sample analysis, visual observations and physical characteristics of the applications as well as our knowledge of the uses of asbestos in building materials.

Prior to the performance of any work that may disturb asbestos containing materials it is a regulatory requirement that a qualified person perform a Risk Assessment. This requirement is in compliance with the WorkSafeBC Occupational Health & Safety Regulation *Part 6 "Substance Specific Requirements"*; specifically Section 6.6 subsections (1), (2), (3), & (4).

Prior to commencement of any work involving the disturbance of asbestos containing materials, a Notice of Project (NOP) for Work involving Asbestos must be submitted to WorkSafeBC a minimum of 48 hours prior to the work commencing. In conjunction with the NOP, the Contractor must also submit a copy of this report / any bulk sample analysis results, a site specific Risk Assessment; and site-specific work procedures.

All asbestos abatement activities must follow the guidelines outlined in the WorkSafeBC publication "Safe Work Practices for Handling Asbestos" (current edition).

Asbestos containing textured ceiling, sheet vinyl flooring, vinyl floor tile and drywall joint compound was identified 1903 Mount Newton Cross Road, Saanichton, BC. The condition, accessibility, and friability of these materials is provided in Table 2 on the subsequent page.

The removal of **asbestos containing textured ceiling, sheet vinyl flooring and drywall joint compound from ceilings** should be conducted using **High Risk** asbestos abatement procedures. These procedures must be utilized by a qualified contractor and include as a minimum requirement:

- HEPA-equipped Powered air purifying respiratory (PAPR) protection and disposable Tyvek coveralls;
- Application of water to the asbestos debris materials being disturbed;
- Isolation of the work area;
- HEPA equipped negative air unit for dust suppression purposes;
- Shower;
- Air monitoring as per WorkSafeBC requirements.

The removal of **asbestos containing drywall joint filler from walls** should be conducted using **Modified**, **Moderate Risk** asbestos abatement procedures. These procedures must be utilized by a qualified contractor and include as a minimum requirement:

- HEPA filtered half face respiratory protection and disposable Tyvek coveralls;
- Application of water to the asbestos debris materials being disturbed;
- Isolation of the work area;
- HEPA equipped negative air unit for dust suppression purposes;
- Air monitoring as per WorkSafeBC requirements.

The removal of **asbestos containing vinyl floor tiles** should be conducted using **Moderate Risk** asbestos abatement procedures. These procedures must be utilized by a qualified contractor and include as a minimum requirement:

- HEPA filtered half face respiratory protection and disposable Tyvek coveralls;
- Application of water to the asbestos debris materials being disturbed;
- Isolation of the work area;
- Air monitoring as per WorkSafeBC requirements.

Table 2: Summary of Quantities, Condition, Friability and Accessibility, Frequency of Access and Potential for Disturbance of Identified Asbestos-Containing Materials - 1903 Mount Newton Cross Road, Saanichton, BC.

Location	Material	Asbestos Type & Percentage	Estimated Quantity	Friable/Non-Friable	Accessibility	Condition	Potential for Disturbance
Main floor - Police department – Throughout	Textured ceiling	1% Chrysotile	~3,000 ft^2	Friable	Accessible by ladder	Good	Low
Main floor - Police department	Sheet vinyl flooring	60% Chrysotile	~3,000 ft^2	Friable	Covered with layers of newer flooring with exception to storage room and closet	Good	Low
Basement - Police department – Men's Locker room – Under carpet	Sheet vinyl flooring	60% Chrysotile	~200 ft^2	Friable	Not accessible – Covered with a layer of carpet	Good	Low
Basement – Municipal hall kitchen	Sheet vinyl flooring	60% Chrysotile	~200 ft^2	Friable	Accessible	Good	Low
Basement - Municipal Hall - Back document storage room floor	Vinyl floor tile	1% Chrysotile	~150 ft^2	Non-Friable	Accessible	Good	Low
Main floor - Municipal Hall - Council chambers and hall ceilings	Textured ceiling	1% Chrysotile	~5,000 ft^2	Friable	Accessible by ladder	Good	Low

Location	Material	Asbestos Type & Percentage	Estimated Quantity	Friable/Non-Friable	Accessibility	Condition	Potential for Disturbance
Main floor - Municipal Hall - Council chambers corridor and stairwell floors	Vinyl floor tile	2% Chrysotile	~1,000 ft^2	Non-Friable	Some covered with newer lay of floor tile in hall but accessible in stairwells	Floor tiles in stairwell landing at basement in poor condition	Moderate
Basement - Planning Department	Drywall joint compound	1% Chrysotile	~3,000 ft^2	Non-Friable	Some accessible covered with a layer of paint and some covered with textile wall paper	Good in most area. Damaged drywall observed above the ceiling tiles in corridor	Moderate, low in areas where covered with wall paper
Main floor – Planning Department - Corporate Services Office – Under carpet	Vinyl floor tile	2% Chrysotile	Unknown - Residual material	Non-Friable	Not accessible – Covered with carpet	Material covered with carpet	Low
Main floor – Planning Department – Staff washroom wall	Drywall joint compound	1% Chrysotile	~200 ft^2	Non-Friable	Accessible but covered with layers of paint	Good	Moderate
Main floor – Planning Department – Office #2 wall	Drywall joint compound	1% Chrysotile	~200 ft^2	Non-Friable	Accessible but covered with layers of paint	Good	Moderate

Location	Material	Asbestos Type & Percentage	Estimated Quantity	Friable/Non-Friable	Accessibility	Condition	Potential for Disturbance
Basement – Firehall Lounge/corridors/bathrooms/kitchen	Vinyl floor tile/adhesive	2% Chrysotile	~1,500 ft^2	Non-Friable	Not accessible – Covered with floor tile	Good	Low
Basement – Firehall Lounge – Corridor ceiling	Textured ceiling	1% Chrysotile	~1,000 ft^2	Friable	Accessible by ladder	Good	Low
Basement – Firehall – Workshop ceiling	Textured ceiling	1% Chrysotile	~200 ft^2	Friable	Accessible by ladder	Good	Low
Additional materials may be present in units not inspected and in other inaccessible locations. Refer to Section 5.0 for a detailed list of limitations.							

4.2 Lead

The allowable level of lead in new paints is set by Health Canada under the Canada Consumer Protection Act, Surface Coating Materials Regulation (SOR 2005-09). Under this regulation the maximum allowable concentration of lead in new paint sold to consumers is 0.009% (90 µg/g). WorkSafeBC considers paint which contains lead at any concentration to present a potential health hazard if it is removed incorrectly.

Lead testing was carried out on twelve (12) paint samples collected from drywall and exterior siding. (An additional one (1) sample was collected but was not analysed as the substrate was found to be asbestos containing). Eight (8) exterior paint sample results were determined to be lead containing paint, with concentrations greater than the laboratory detection limit. All samples determined to be lead containing are bolded in Table 3, below.

Table 3: Summary of Lead in Paint - 1903 Mount Newton Cross Road, Saanichton, BC.

Location	Description	Lead Content (µg/g)
Police Department Walls	Cream Paint	<6
Municipal Hall Basement Planning Department	Cream Paint	<7*
Firehall Washroom	Cream Paint	<9
Apparatus Ceiling	Beige Paint	<5
Exterior – Firehall Workshop Door	**Red Paint**	**1370**
Exterior Siding Outside Firehall Lounge	**Taupe paint**	**4620***
Exterior Municipal Hall Siding	**Taupe Paint**	**15100***
Exterior Municipal Siding	**Taupe Paint**	**3700**
Exterior Police Department Wood Siding	**Taupe Paint**	**4130***
Exterior Municipal Hall Vault Foundation	**Taupe Paint**	**3950**
Exterior Municipal Hall Front Entry - Upper	**Red/Taupe/White Paint**	**10900**
Exterior Municipal Hall Front Entry – Lower	**White paint**	**7920***

µg/g = micro grams per gram.
< = result is less than the limit of detection.
*substrate/matrix interference possible

The lead painted materials, identified on the exterior siding of the planning department was observed to be peeling from the substrate. The lead painted materials identified at the main entrance to the Municipal Hall was observed to be peeling from the substrate.

Any untested painted surfaces are presumed lead-containing unless sampled and found to be non-lead containing. Lead may be present as solder on any remaining plumbing systems and may be present on other fixtures such as flashings or roof vents.

WorkSafeBC Occupational Health and Safety Regulation (OHSR) requires that an employer not permit workers to engage in a work activity that may expose workers to lead dust, fumes or mist unless a risk assessment has first been completed by a qualified person. If the risk assessment indicates potential for lead exposure, an exposure control plan meeting the

requirements of Section 5.54 of the Occupational Health and Safety Regulation must be in place and implemented prior to commencing work. The Regulation also requires that lead in air samples be collected at the beginning of work tasks to ensure proper control methods are employed to control lead dust exposures. Alternatively, a qualified person may rely on existing exposure monitoring data for the purpose of assessing control measures under Section 6.59.1(4) of the OHSR.

Prior to commencement of any work involving the disturbance of lead containing materials, a Notice of Project (NOP) for Work involving Lead must be submitted to WorkSafeBC a minimum of 48 hours prior to the work commencing. In conjunction with the NOP, the Contractor must also submit a copy of this report / any lead paint bulk sample analysis results, a site specific Risk Assessment; and site-specific work procedures.

All lead abatement activities must follow the guidelines outlined in the WorkSafeBC publication "Safe Work Practices for Handling Lead" (current edition).

In order to control worker exposure to lead paint particulate, any demolition, cutting, burning, grinding, sanding or other disturbance of identified lead painted surfaces should be conducted following appropriate safe work procedures. Procedures will vary depending on the nature of the work but should consider, as a minimum, the following:

- Use of half face respirators equipped with P100 class filters, disposable Tyvek™ or equivalent coveralls and work gloves;
- Segregation of the work area by the use of barrier tape and warning placards;
- Use of drop sheets and tarps to prevent spread of lead-containing dust;
- Use of HEPA filter equipped vacuum cleaner(s);
- Thorough washing before eating, drinking or smoking;
- Application of water to the materials being disturbed;
- Filing of a "Notice of Project" with WorkSafeBC prior to significant disturbance of lead-containing paint; and
- Air monitoring during disturbance of lead-containing paint.

Under the BC Hazardous Waste Regulation materials with identified lead-based paint destined for disposal at a licensed landfill facility must be tested for leachability to determine if they should be handled as a hazardous waste.

4.3 Leachable Metals

The BC Ministry of Environment regulates the disposal of some waste materials based on the leachability of metals and other compounds from the waste.

Under the BC Hazardous Waste Regulation materials with lead paint concentrations over 0.01 wt.% (100ppm) destined for disposal at a licensed landfill facility must be tested for leachability to determine if they should be handled as a hazardous waste.

Exterior paints were found to have lead concentrations above the 100 ppm threshold for disposal. Consult the waste disposal facility for disposal requirements prior to disposal. Prior to demolition it is the responsibility of the client or the contractor to have samples collected by a qualified person and analyzed using the toxicity characteristic leachate procedure (TCLP).

4.4 Silica

Silica testing was not carried out, but this material is known to be present in concrete, cement, mortar, brick, grout, ceiling tiles, textured coat, parging, ceramic tile and possibly in drywall filler compounds.

Precautions must be put in place during demolition and renovation activities to ensure that workers are not exposed to silica containing dust and debris. **WorkSafeBC regulation requires that contractors working with silica-based containing materials have a Silica Exposure Control Plan in place including site specific work procedures prior to work commencing.**

In order to control worker exposure to silica dust, any abrasive blasting, jackhammering, chipping, drilling, cutting, sawing or other disturbance of identified concrete, plaster or drywall walls or cementitious products should be conducted following appropriate safe work procedures. Procedures will vary depending on the nature of the work but should consider, as a minimum, the following:

- Use of half-face respirators equipped with P100 class filters, disposable Tyvek™ or equivalent coveralls and work gloves;
- Continuous application of water spraying to materials being disturbed;
- Use of drop sheets and tarps to prevent spread of silica-containing dust;
- Use of HEPA filter equipped vacuum(s);
- HEPA equipped negative air unit for dust suppression purposes (recommended); and
- Air monitoring as per WorkSafeBC requirements.

4.5 Mercury

Fluorescent lights were observed in the building. Used light tubes and compact fluorescent bulbs must be sent for proper disposal.

A mercury containing thermostat were observed in the Firehall lounge area. Care must be taken to ensure that the glass bulb containing mercury is not damaged. Fluorescent light tubes and bulbs containing mercury vapour should be disposed of in accordance with BC Ministry of Environment Regulations and/or local landfill requirements. Systems are in place that can facilitate recycling of the glass and mercury in fluorescent lights while mitigating worker exposure during the disposal process.

4.6 Hantavirus (and other Animal Droppings)

Rodent faeces were not observed in the building. If encountered, it is recommended that all personnel conducting work in this area wear, at a minimum, half face respirator fitted with HEPA filtered P100 cartridges, disposable suits and impermeable gloves and eye protection and that use of HEPA filtered negative air cabinets and HEPA filtered vacuums be employed.

WorkSafeBC regulation requires that contractors handling/cleaning animal and rodent feces have a Hantavirus Exposure Control Plan in place including site specific work procedures prior to work commencing.

4.7 CCA-Pressure Treated Wood

Pressure treated wood was not observed in the building. If encountered, the material should be discarded as landfill waste, or recycled responsibility. Workers should wear protection (e.g., goggles, gloves, and dust mask) when sawing, cleaning, or handling CCA- pressure treated wood,

and **not** burned. Following handling, workers should properly decontaminate by washing hands/face and laundering any contaminated clothing.

3.8 Radioactive Materials

Smoke detectors were observed. These detectors may be of the ionization type or photoelectric type. Ionization smoke alarms contain a small amount of a material called Americium 241, which emits alpha particles that collide with the oxygen and nitrogen in the air to create ions. Photo-electric smoke detectors use a tiny beam of light to detect smoke particles with no radioactive materials. If smoke detectors are used as directed and not opened, or damaged, they pose no radiation health risk to humans. Smoke detectors may be disposed of as per local landfill requirements.

4.9 Mould

Mould was not observed in the building. If mould is encountered, precautions must be taken to ensure that workers are not exposed to mould spores.

Fungal contamination may be present within wall or ceiling cavities. During demolition activities, precautions must be taken to ensure that workers are not exposed to potential mould spores which would include, as a minimum, half face respirator fitted with HEPA filtered P100 cartridges, disposable suits and impermeable gloves and eye protection and that use of HEPA filtered negative air cabinets and HEPA filtered vacuums be employed. All fungal remediation activities must follow WorkSafeBC Occupational Health and Safety Guideline 4.79. Further investigations may be required to determine the nature and extent of any water and fungal damage along with remediation requirements.

4.10 Polychlorinated Biphenyls

Fluorescent light fixtures were observed in the building. All ballast labels must be inspected to determine whether PCBs are present prior to disposal using Environment Canada's document, "Identification of Light Ballasts Containing PCBs" (EPS 2/CC/2, revised August 1991). Non-PCB containing ballasts must have a label affixed which states they do not contain PCBs (e.g., "non-PCB"). If no determination can be made the ballasts must be assumed to contain PCBs. All confirmed and presumed PCB ballasts must be disposed in accordance with the Hazardous Waste Regulation (BC Reg. 243/2016).

4.11 Ozone Depleting Substances

Older refrigerators were observed in the building. These may contain chlorofluorocarbons. This material must be removed by a qualified refrigeration specialist for recycling or disposal in accordance with the *Ozone Depleting Substances and Other Halocarbons Regulation* when the units are taken out of service.

4.12 Urea Formaldehyde Foam Insulation

Urea Formaldehyde Foam Insulation was not observed in the building. This material is not suspected of being present.

4.13 Fuel Oil Storage Tanks

Fuel oil storage tanks (above ground) were not observed during the investigation.

The identification of the presence of (any) underground tanks was not included within the scope of this investigation.

4.14 Other Materials

The following miscellaneous hazardous materials were identified on the property. These must be removed for disposal, or recycling, in accordance with current regulations.

Synthetic fibre insulation exists throughout the wall and ceiling cavities. Removal of these materials should be conducted wearing proper respiratory protection and protective clothing including impermeable gloves, eye protection and half-face respiratory protection equipped with P-100 particulate filters.

Owner's contents were not assessed.

5.0 Recommendations

We recommend the following on the basis of the findings of the hazardous material assessment outlined in this report:

- The asbestos containing vinyl floor tiles in the stairwell off the Municipal Council Chambers was noted to be cracking at the time of this investigation. We recommend these floor tiles be removed or encapsulated to prevent further deterioration.

- The drywall with asbestos containing drywall joint compound above the ceiling tiles in the basement planning department corridor was observed to be damaged at the time of this investigation. We recommend the damaged drywall be removed or encapsulated.

- We recommend that any textured ceiling be painted to help prevent unintentional damage/disturbance.

- All other identified asbestos containing materials were observed to be in good condition. We recommend that asbestos containing materials be monitored in place.

- **Project-specific surveys are required prior to any construction or renovation work, as per Part 20.112 of the Occupational Health and Safe Regulation.**

- If any of the above-listed asbestos containing materials are affected by any construction and/or demolition work, they must be removed in accordance with work practices and procedures specified in B.C. Reg. 296/97 and outlined in WorkSafe BC publication *Safe Work practices for Handling Asbestos*.

- Asbestos may be present in materials which were not sampled during the course of the survey carried out by Island EHS, including, but not limited to, lower layers of flooring, roofing materials, components of electrical equipment, and/or in locations that were inaccessible at the time of survey (e.g. – within wall cavities, within cinderblocks). Sampling of these materials requires significant damage to building materials. Testing of any such materials should be undertaken as the need arises (i.e. at the time of renovations, modifications or demolition).

- The taupe lead containing paint, identified on the exterior wood siding of the Planning Department was observed to be in peeling at the time of this investigation. We recommend that the loose paint be removed.

- The red, taupe and white lead containing paint on the exterior of the main entrance to the building was observed to be in peeling at the time of this investigation. We recommend that the loose paint be removed.

- All other lead containing paints identified on the exterior of the building was observed to be in good condition at the time of this investigation. Ensure that the material continue to be regularly managed and monitored in place.

- If any of the above-listed lead containing materials are affected by any construction and/or demolition work, they must be removed in accordance with work practices and procedures specified in B.C. Reg. 296/97 and outlined in WorkSafe BC publication *Safe Work practices for Handling Lead*.

- Ensure that a risk assessment is performed and an exposure control plan is developed by a Qualified Person for lead-containing paint prior to renovation. For building materials that are to be disposed at a landfill, all lead-based paints must undergo Toxicity Characteristic Leachate Properties (TCLP) testing to determine disposal procedures.

- Prior to undertaking construction and/or demolition activities:
    - remove all fluorescent light tubes and mercury containing thermostats and transport to a licensed processing location for separation and recovery of mercury, if applicable;
    - develop a silica exposure control plan, if applicable;
    - ensure that a licensed electrician inspects ballasts to determine whether or not any light ballasts may contain PCBs. Guidance in identification of PCB ballasts is provided in the Environment Canada publication titled “Identification of Lamp Ballasts Containing PCBs. Report EPS 2/CC/2 (revised)”, August 1991;
    - Older refrigerators are segregated for appropriate disposal; and
    - Smoke detectors are segregated for appropriate disposal

This investigation inspected all areas of the building. Different finishes may be present in inaccessible locations. No inspection of the roof and/or fire station hose tower was caried out.

Copies of this report should be provided to site personnel, as required. Persons working in the building should be made aware of the presence of the hazardous materials and the required precautions in order to prevent worker exposure. It is recommended that the appropriate exposure control plan be developed and implemented for the site. Asbestos and lead containing materials should be inspected at least annually to identify any damage. Any damaged asbestos or lead containing materials should be repaired immediately by a qualified contractor. Training must be provided for staff who are at risk of exposure to asbestos or lead.

6.0 Closure

This document was prepared for the exclusive use of our client. All conclusions and recommendations are based upon conditions at the site at the time of this investigation. All conclusions and recommendations are based upon professional opinions. These opinions are in accordance with accepted industrial hygiene assessment standards and practices and comply with current WorkSafeBC requirements.

All conclusions and recommendations made in this report are based on conditions at the time of inspection. Changes may occur over time that will require a re-evaluation of the site.

All work was carried out based on the Scope of Work that was agreed upon with the client prior to the start of work, constraints imposed by the client and availability of access to the site. A Stage 1 Preliminary Site Investigation was not part of the scope of work.

No warranty or guarantee, whether expressed or implied, are made with respect to the data or the reported findings, observations, and conclusions, which are based solely upon site conditions at the time of the investigation.

This report may not be used, relied upon, copied, published, or quoted by any party without the written consent of Island EHS Ltd. Other parties reading this report must independently verify the completeness and accuracy of this report and its contents.

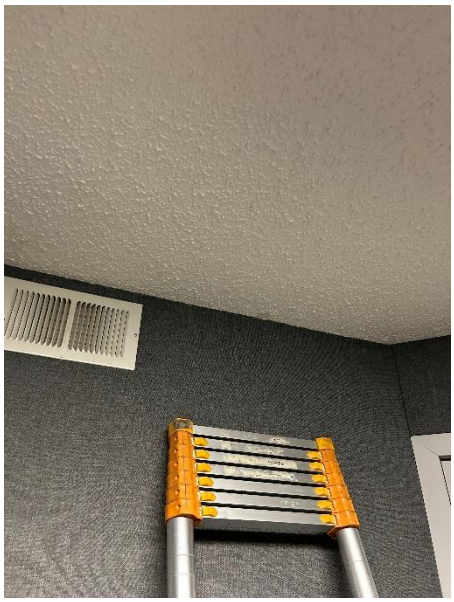
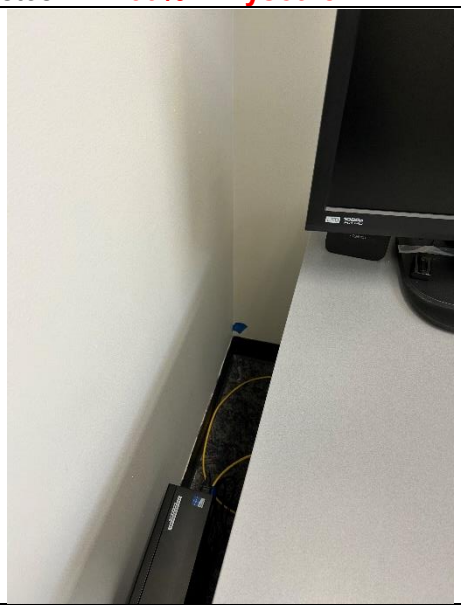
This report is not intended as a Scope of Work for tender or bidding purposes. Any use of this report in that fashion is at the sole discretion and liability of the Owner.

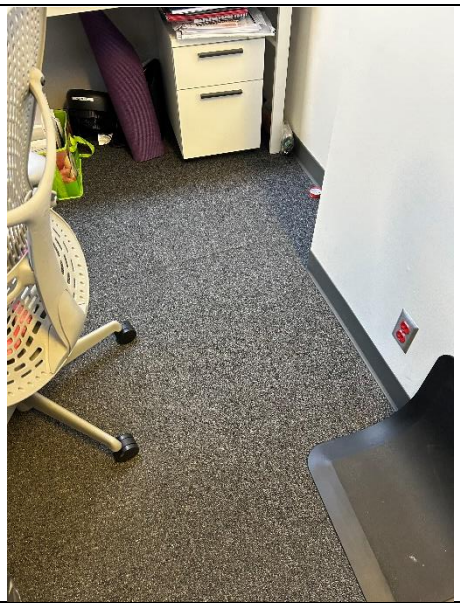
Heidi Dunn, CRSP
Principal
Field work and report

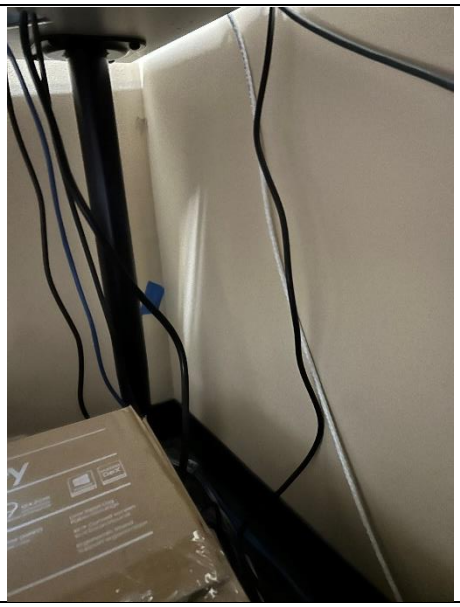
Ashlee McGiffin
Senior Occupational Hygienist
Report review

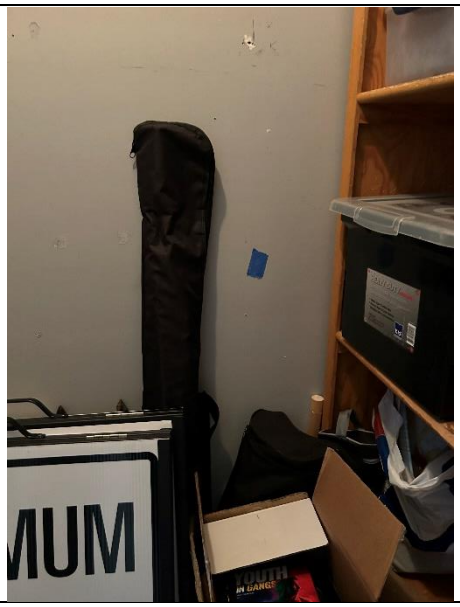
Appendix 1

Photographs

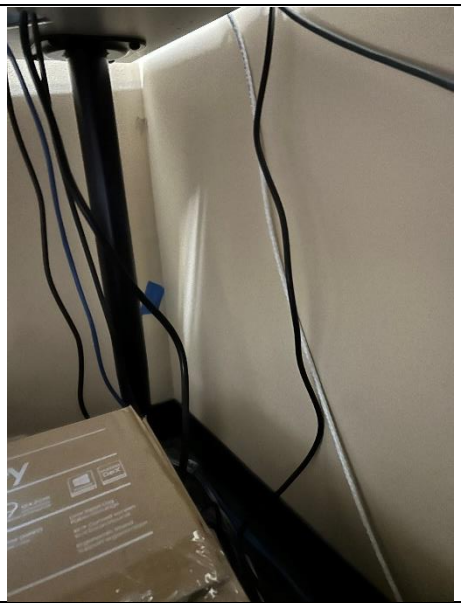
	
Sample: 48738 - 1 Location: Main floor – Police Department – Interview room ceiling Description: Textured ceiling Asbestos: **1% Chrysotile**	Sample: 48738 - 2 Location: Main floor – Police Department – Interview room – Under carpet Description: Sheet vinyl flooring Asbestos: **60% Chrysotile**
No Photo Available	
Sample: 48738 - 3 Location: Main floor – Police Department – File storage room/office ceiling Description: Textured ceiling Asbestos: **1% Chrysotile**	Sample: 48738 - 4 Location: Main floor – Police Department – File storage room/office wall Description: Drywall joint compound Asbestos: None detected

	No Photo Available
Sample: 48738 - 5 Location: Main floor – Police Department – Open office area outside interview room – Under carpet tile Description: Sheet vinyl flooring Asbestos: **60% Chrysotile**	Sample: 48738 - 6 Location: Main floor – Police Department – Outside deputy chief's office Description: Ceiling tile Asbestos: None detected
No Photo Available	No Photo Available
Sample: 48738 - 7 Location: Main floor – Police Department – Outside deputy chief's office Description: Drywall joint compound Asbestos: None detected	Sample: 48738 - 8 Location: Main floor – Police Department – General office area – Under carpet Description: Sheet vinyl flooring Asbestos: **60% Chrysotile**

	
Sample: 48738 - 9 Location: Main floor – Police Department – Office next to board room Description: Drywall joint compound Asbestos: None detected	Sample: 48738 - 10 Location: Main floor – Police Department – Communication room/ washroom Description: Sheet vinyl flooring Asbestos: **60% Chrysotile**
No Photo Available	
Sample: 48738 - 11 Location: Main floor – Police Department – Office next to board room ceiling Description: Ceiling tile Asbestos: None detected	Sample: 48738 - 12 Location: Main floor – Police Department – Hall ceiling Description: Textured ceiling Asbestos: None detected



Sample: 48738 - 13
Location: Main floor – Police
Department – Hall storage room wall
Description: Drywall joint compound
Asbestos: None detected



Sample: 48738 - 14
Location: Main floor – Police
Department – Community policing room wall
Description: Drywall joint compound
Asbestos: None detected

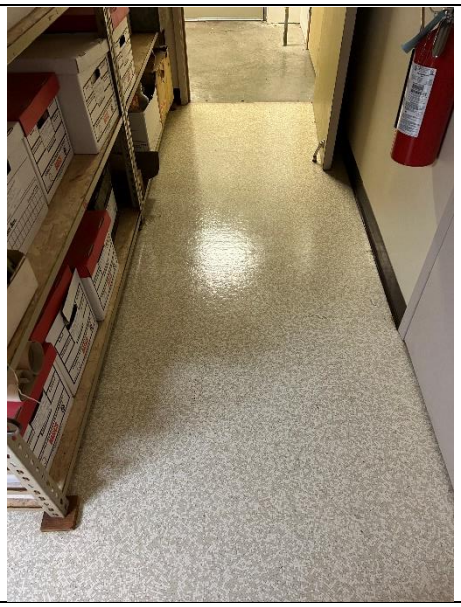
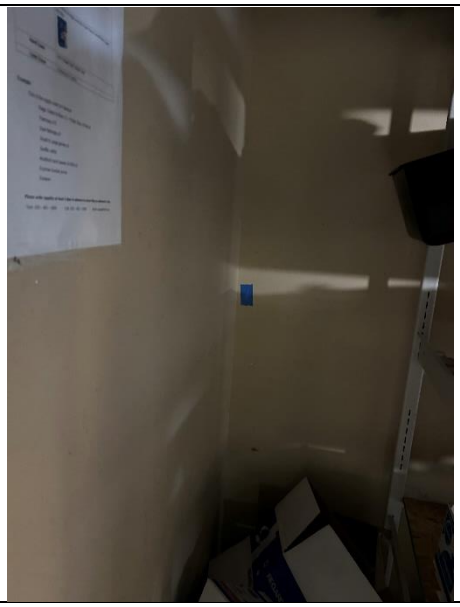
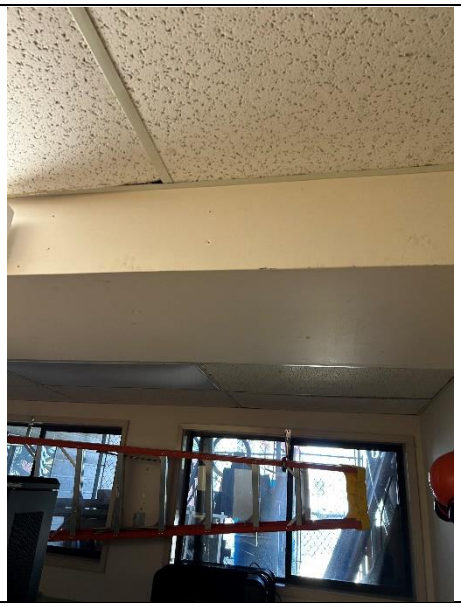
Sample: 48738 - 15
Location: Main floor – Police
Department – Community policing room – Under carpet
Description: Sheet vinyl flooring
Asbestos: **60% Chrysotile**

Sample: 48738 - 16
Location: Main floor – Police
Department – Stationery room ceiling
Description: Ceiling tile
Asbestos: None detected

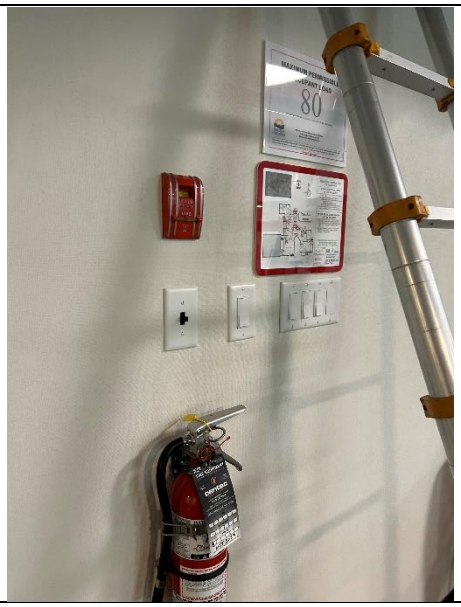
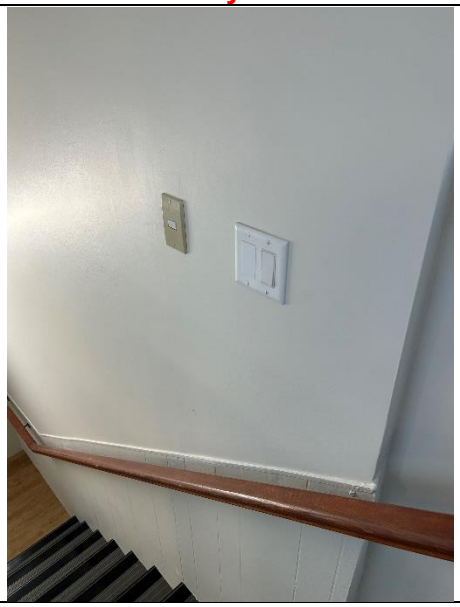
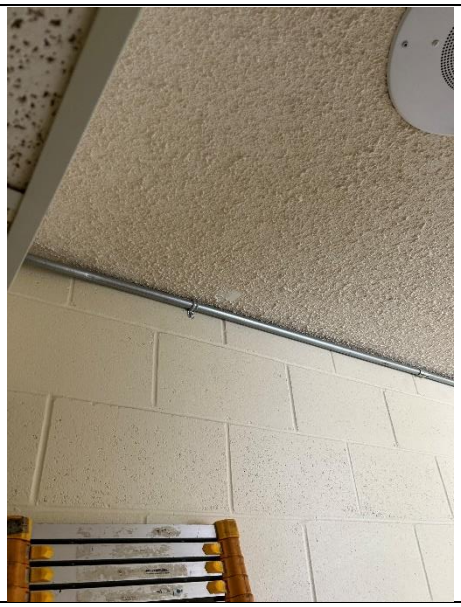
	
Sample: 48738 - 17 Location: Basement – Police Department – Men's locker room – Under carpet Description: Sheet vinyl flooring Asbestos: **60% Chrysotile**	Sample: 48738 - 18 Location: Basement – Police Department – Men's locker room ceiling Description: Ceiling tile Asbestos: None detected
	
Sample: 48738 - 19 Location: Basement – Police Department – Men's locker room wall Description: Drywall joint compound Asbestos: None detected	Sample: 48738 - 20 Location: Basement – Police Department – Women's locker room – Under carpet Description: Sheet vinyl flooring Asbestos: None detected

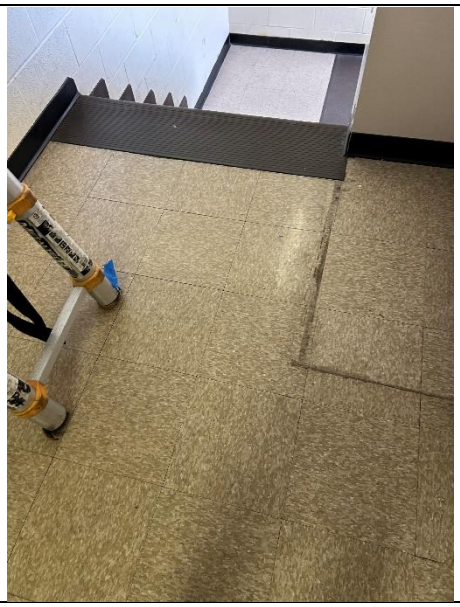
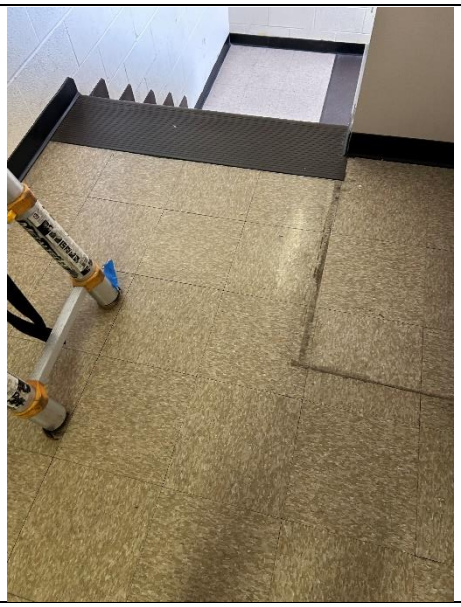
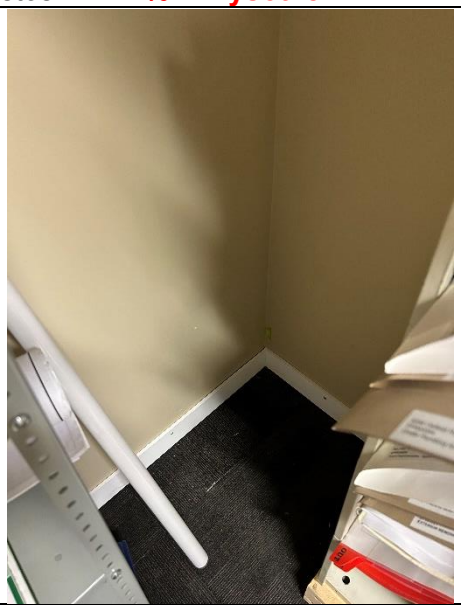
	No Photo Available
Sample: 48738 - 21 Location: Basement – Police Department – Hall outside locker rooms Description: Ceiling tile Asbestos: None detected	Sample: 48738 - 22 Location: Basement – Police Department – Staff room bulkhead Description: Drywall joint compound Asbestos: None detected
No Photo Available	
Sample: 48738 - 23 Location: Basement – Municipal Hall - Kitchen Description: Sheet vinyl flooring Asbestos: **60% Chrysotile**	Sample: 48738 - 24 Location: Basement – Municipal Hall – Kitchen wall Description: Drywall joint compound Asbestos: None detected

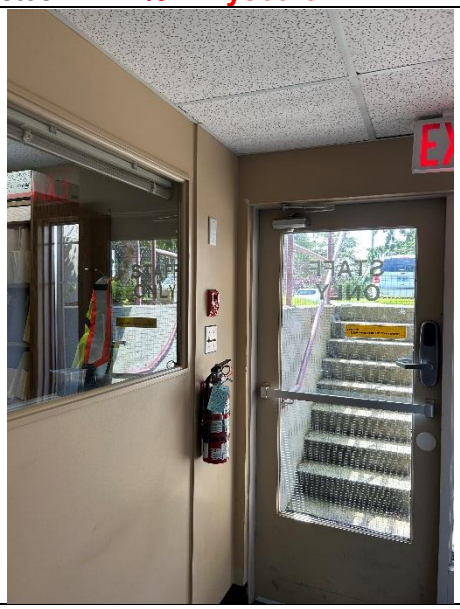
	
Sample: 48738 - 25 Location: Basement – Municipal Hall – Kitchen ceiling Description: Ceiling tile Asbestos: None detected	Sample: 48738 - 26 Location: Basement – Municipal Hall – Janitor's closet wall Description: Drywall joint compound Asbestos: None detected
No Photo Available	
Sample: 48738 - 27 Location: Basement – Municipal Hall – Back document storage room ceiling Description: Textured ceiling Asbestos: None detected	Sample: 48738 - 28 Location: Basement – Municipal Hall – Back document storage room floor Description: Vinyl floor tile Asbestos: **1% Chrysotile**

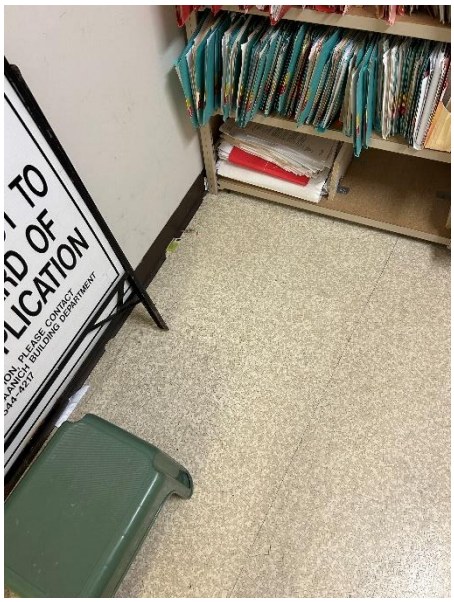
	
Sample: 48738 - 29 Location: Basement – Municipal Hall – Workshop wall Description: Drywall joint compound Asbestos: None detected	Sample: 48738 - 30 Location: Basement – Municipal Hall – Custodian storage/workshop Description: Sheet vinyl flooring Asbestos: None detected
	
Sample: 48738 - 31 Location: Basement – Municipal Hall – Custodian storage wall Description: Drywall joint compound Asbestos: None detected	Sample: 48738 - 32 Location: Basement – Municipal Hall - Workshop Description: Ceiling tile Asbestos: None detected

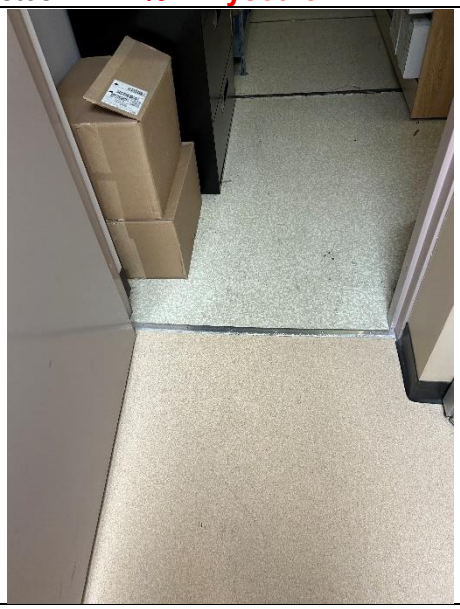
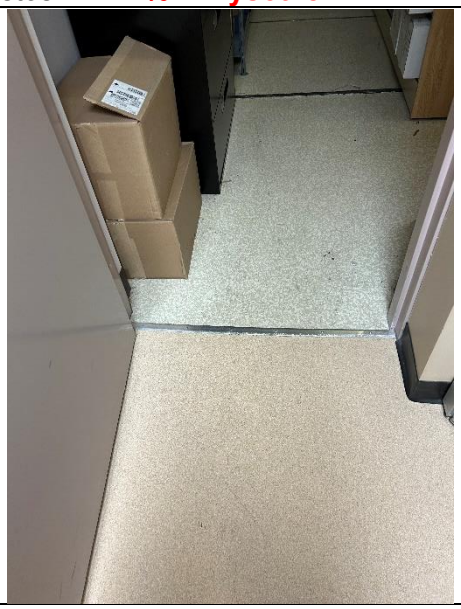
	
Sample: 48738 - 33 Location: Basement – Municipal Hall – Furnace room – HVAC ducting Description: Mastic Asbestos: None detected	Sample: 48738 - 34 Location: Basement – Municipal Hall – Furnace room ceiling Description: Drywall joint compound Asbestos: None detected
	
Sample: 48738 - 35 Location: Basement – Municipal Hall – Planning #2 office wall Description: Drywall joint compound Asbestos: None detected	Sample: 48738 - 36 Location: Main floor – Municipal Hall – Council chambers – Lower ceiling Description: Textured ceiling/drywall joint compound Asbestos: **1% Chrysotile**

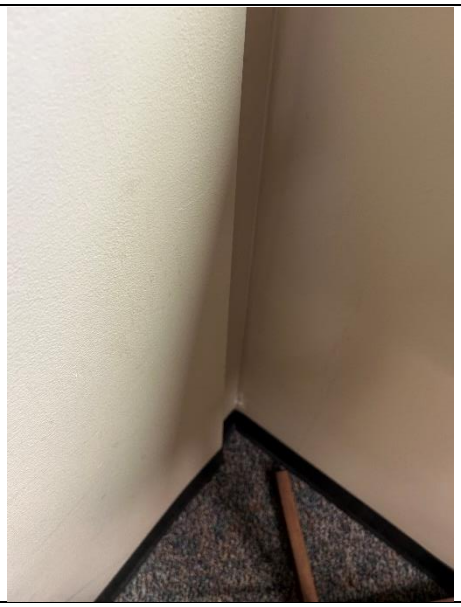
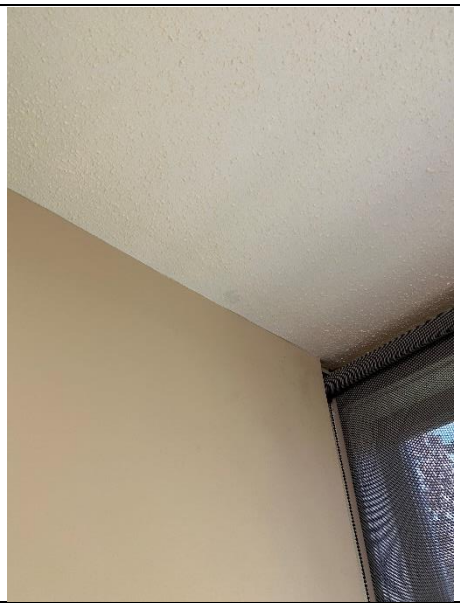
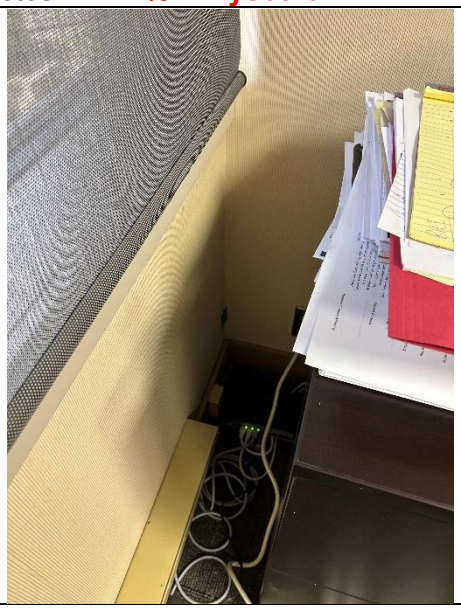
	
Sample: 48738 - 37 Location: Main floor – Municipal Hall – Hall to washroom ceiling Description: Textured ceiling/drywall joint compound Asbestos: **1% Chrysotile**	Sample: 48738 - 38 Location: Main floor – Municipal Hall – Council chambers wall Description: Drywall joint compound Asbestos: None detected
	
Sample: 48738 - 39 Location: Main floor – Municipal Hall – Stairwell main hall wall Description: Drywall joint compound Asbestos: None detected	Sample: 48738 - 40 Location: Main floor – Municipal Hall – Council chambers corridor ceiling Description: Textured ceiling Asbestos: **1% Chrysotile**

	
Sample: 48738 - 41 Location: Main floor – Municipal Hall – Council chambers corridor floor – Top layer Description: Vinyl floor tile Asbestos: None detected	Sample: 48738 - 42 Location: Main floor – Municipal Hall – Council chambers corridor floor – Lower layer Description: Vinyl floor tile Asbestos: **2% Chrysotile**
	
Sample: 48738 - 43 Location: Main floor – Municipal Hall – Stairwell and bottom of stairs Description: Vinyl floor tile Asbestos: **2% Chrysotile**	Sample: 48738 - 44 Location: Basement – Planning Department – Document storage room wall Description: Drywall joint compound Asbestos: None detected

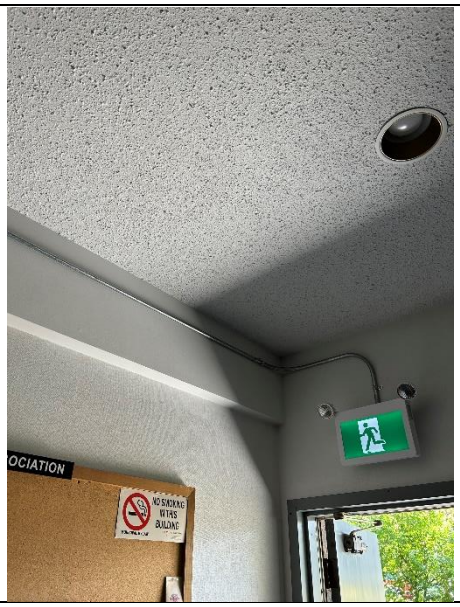
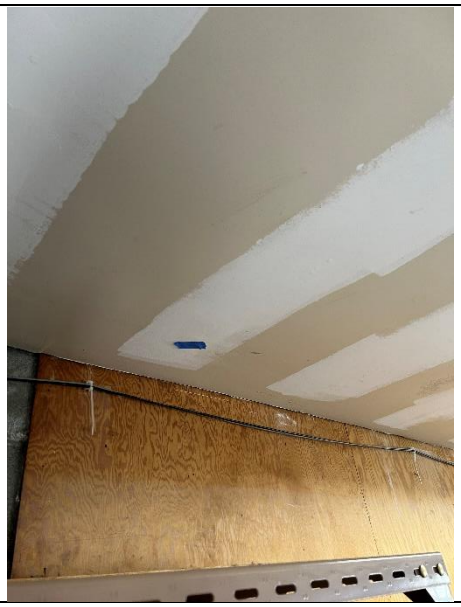
	
Sample: 48738 - 45 Location: Basement – Planning Department – Corridor – Above ceiling tile Description: Drywall joint compound Asbestos: **1% Chrysotile**	Sample: 48738 - 46 Location: Basement – Planning Department – File storage vault closet Description: Drywall joint compound Asbestos: **1% Chrysotile**
	
Sample: 48738 - 47 Location: Basement – Planning Department – Corridor at exit Description: Drywall joint compound Asbestos: **1% Chrysotile**	Sample: 48738 - 48 Location: Basement – Planning Department – Corridor ceiling Description: Ceiling tile Asbestos: None detected

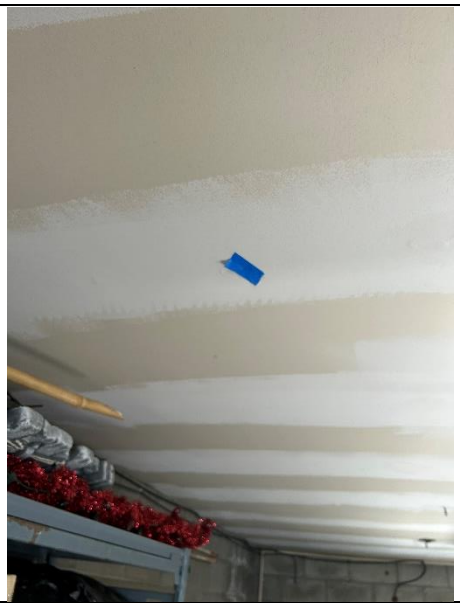
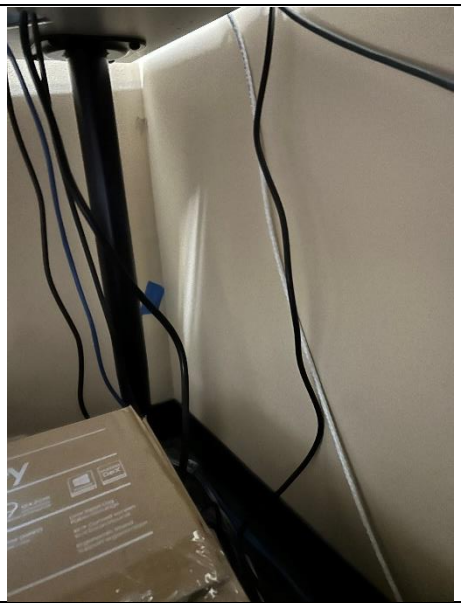
	
Sample: 48738 - 49 Location: Basement – Planning Department - Vault Description: Sheet vinyl flooring Asbestos: None detected	Sample: 48738 - 50 Location: Basement – Planning Department – Planning #1 office Description: Drywall joint compound Asbestos: None detected
	
Sample: 48738 - 51 Location: Basement – Planning Department – Planning #1 office Description: Ceiling tile Asbestos: None detected	Sample: 48738 - 52 Location: Main floor – Planning Department – Corridor at exit ceiling Description: Textured ceiling Asbestos: None detected

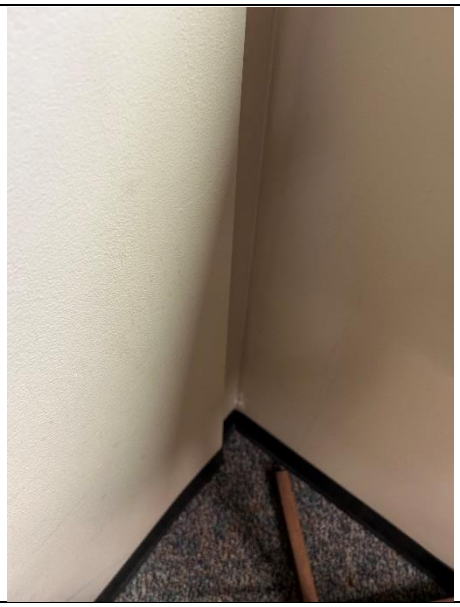
	
Sample: 48738 - 53 Location: Main floor – Planning Department – Corporate services office Description: Vinyl floor tile Asbestos: **2% Chrysotile**	Sample: 48738 - 54 Location: Main floor – Planning Department – Staff washroom wall Description: Drywall joint compound Asbestos: **1% Chrysotile**
	
Sample: 48738 - 55 Location: Main floor – Planning Department - Vault Description: Sheet vinyl flooring Asbestos: None detected	Sample: 48738 - 56 Location: Main floor – Planning Department – Server room – Top layer Description: Sheet vinyl flooring Asbestos: None detected

	
Sample: 48738 - 57 Location: Main floor – Planning Department – Vault wall Description: Drywall joint compound Asbestos: None detected	Sample: 48738 - 58 Location: Main floor – Planning Department – Office #2 wall Description: Drywall joint compound Asbestos: **1% Chrysotile**
	
Sample: 48738 - 59 Location: Main floor – Planning Department – Office #2 ceiling Description: Textured ceiling Asbestos: None detected	Sample: 48738 - 60 Location: Main floor – Planning Department – Office #3 wall Description: Drywall joint compound Asbestos: None detected

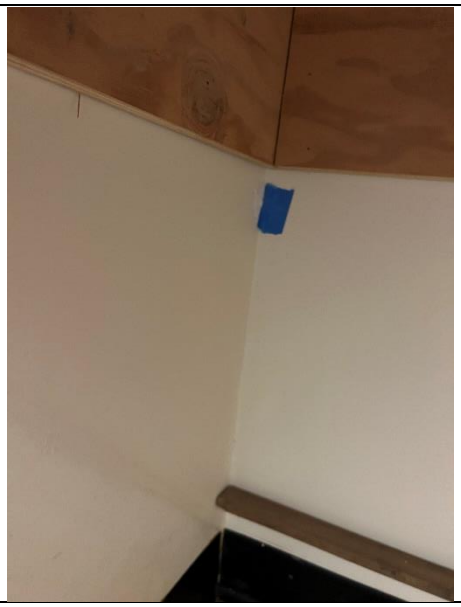
	
Sample: 48738 - 61 Location: Main floor – Planning Department – Office #3 ceiling Description: Textured ceiling Asbestos: None detected	Sample: 48738 - 62 Location: Basement – Firehall Lounge – Corridor/bathrooms/kitchen Description: Vinyl floor tile Asbestos: **2% Chrysotile**
	
Sample: 48738 - 63 Location: Basement – Firehall Lounge – Men's washroom wall Description: Drywall joint compound Asbestos: None detected	Sample: 48738 - 64 Location: Basement – Firehall Lounge – Women's washroom Description: Drywall joint compound Asbestos: None detected

	
Sample: 48738 - 65 Location: Basement – Firehall Lounge – Lounge ceiling Description: Textured ceiling/drywall joint compound Asbestos: None detected	Sample: 48738 - 66 Location: Basement – Firehall Lounge – Corridor ceiling Description: Textured ceiling Asbestos: **1% Chrysotile**
	
Sample: 48738 - 67 Location: Basement – Workshop ceiling Description: Textured ceiling Asbestos: **1% Chrysotile**	Sample: 48738 - 68 Location: Basement – Apparatus ceiling Description: Drywall joint compound Asbestos: None detected

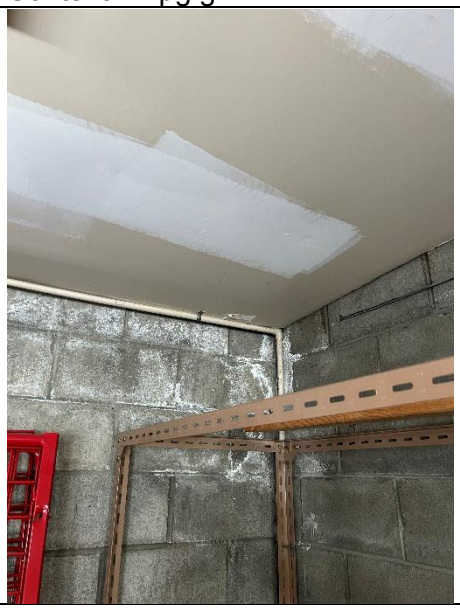
	
Sample: 48738 - 69 Location: Basement – Apparatus ceiling Description: Drywall joint compound Asbestos: None detected	Sample: 48738 - 70 Location: Exterior – Firehall – Woodstove brick Description: Mortar Asbestos: None detected
	
Sample: 48738 - 71 Location: Exterior – Over vault foundation Description: Parging Asbestos: None detected	Sample: 48738 - Pb1 Location: Police Department Walls Description: Cream Paint Lead Content: <6µg/g



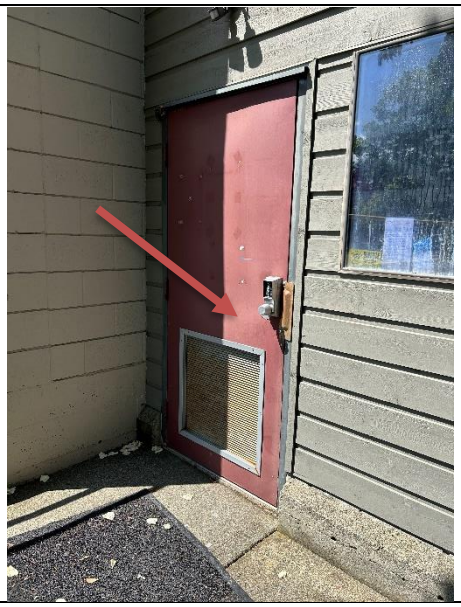
Sample: 48738 – Pb2
Location: Municipal Hall Basement Planning Department
Description: Cream Paint
Lead Content: <7µg/g*



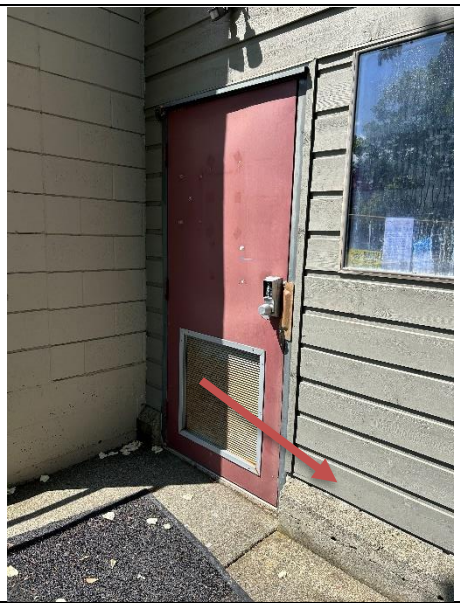
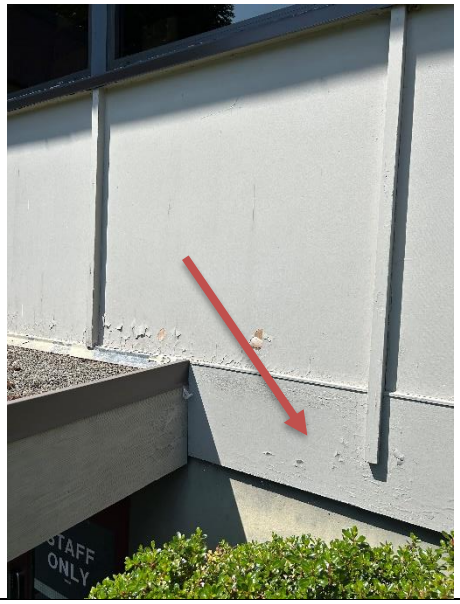
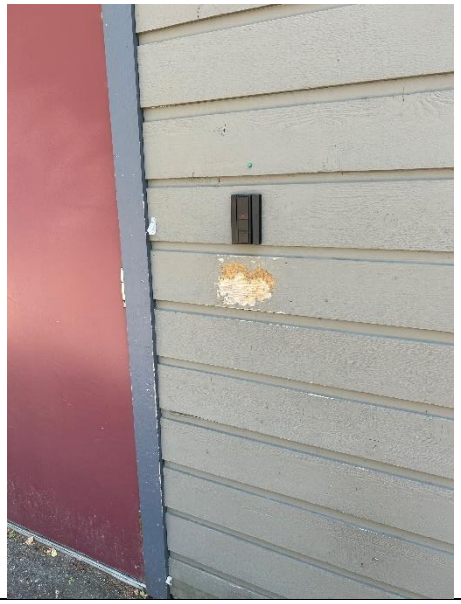
Sample: 48738 – Pb4
Location: Firehall Washroom
Description: Cream Paint
Lead Content: <9µg/g



Sample: 48738 – Pb5
Location: Apparatus Ceiling
Description: Beige Paint
Lead Content: <5µg/g



Sample: 48738 – Pb6
Location: Exterior - Firehall Workshop Door
Description: Red Paint
Lead Content: **1370µg/g**

	
Sample: 48738 – Pb7 Location: Exterior Siding Outside Firehall Lounge Description: Taupe Paint Lead Content: **4620µg/g***	Sample: 48738 – Pb8 Location: Exterior Munipical Hall Siding Description: Taupe Paint Lead Content: **15100µg/g***
	
Sample: 48738 – Pb9 Location: Exterior Munipical Hall Siding Description: Taupe Paint Lead Content: **3700µg/g**	Sample: 48738 – Pb10 Location: Exterior Police Department Wood Siding Description: Taupe Paint Lead Content: **4130µg/g***

Sample: 48738 – Pb11
Location: Municipal Hall Vault Foundation
Description: Taupe Paint
Lead Content: **3950µg/g**

Sample: 48738 – Pb12
Location: Municipal Hall Front Entry – Upper
Description: Red/Taupe/White Paint
Lead Content: **10900µg/g**

Sample: 48738 – Pb13
Location: Municipal Hall Front Entry – Lower
Description: White Paint
Lead Content: **7920µg/g***

Appendix 2

Laboratory Results

Island EHS
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Asbestos Bulk Sample Report

201 - 990 Hillside Avenue
Victoria, B.C. V8T 2A1
Tel: 778-406-0933
E-Mail: admin@islandehs.ca

Job: 48738
Project: 1903 Mount Newton X Rd
Client: District of Central Saanich
Client PO#:

Submitted By: HD
Date Received: 2023-05-24
Analyst: JH

SP	#	Location	Material	Analysis Date	Layer	Description	% of Sample	Asbestos Minerals	% Asbestos per Layer	Other Fibres	% Fibres per Layer
N	**1**	**Main floor - Police Department - Interview room ceiling**	**Textured ceiling**	**2023-06-09**	**1**	**White textured paint**	**100.0**	**Chrysotile**	**1.0**	**Non-fibrous**	**96.0**
										Cellulose	**3.0**
N	**2**	**Main floor - Police Department - Interview room - Under carpet**	**Sheet vinyl flooring**	**2023-06-09**	**1**	**Beige mosaic flooring**	**60.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**
					2	**Grey fibrous backing**	**40.0**	**Chrysotile**	**60.0**	**Non-fibrous**	**40.0**
N	**3**	**Main floor - Police Department - File storage room/office ceiling**	**Textured ceiling**	**2023-06-09**	**1**	**White textured paint**	**100.0**	**Chrysotile**	**1.0**	**Non-fibrous**	**96.0**
										Cellulose	**3.0**
N	4	Main floor - Police Department - File storage room/office wall	Drywall joint compound	2023-06-09	1	Grey paint	40.0	None Detected	0.0	Non-fibrous	100.0
					2	Chalky white	60.0	None Detected	0.0	Non-fibrous	100.0
N	**5**	**Main floor - Police Department - Open office area outside interview room - Under carpet tile**	**Sheet vinyl flooring**	**2023-06-09**	**1**	**Yellow adhesive**	**10.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**

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SP	#	Location	Material	Analysis Date	Layer	Description	% of Sample	Asbestos Minerals	% Asbestos per Layer	Other Fibres	% Fibres per Layer
					2	**Beige mosaic flooring**	**50.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**
					3	**Grey fibrous backing**	**40.0**	**Chrysotile**	**60.0**	**Non-fibrous**	**40.0**
N	6	Main floor - Police Department - Outside deputy chief's office	Ceiling tile	2023-06-09	1	White paint	3.0	None Detected	0.0	Non-fibrous	100.0
					2	Grey fibrous tile	97.0	None Detected	0.0	Non-fibrous	30.0
										Glass	30.0
										Cellulose	40.0
N	7	Main floor - Police Department - Outside deputy chief's office	Drywall joint compound	2023-06-09	1	White chalky	100.0	None Detected	0.0	Non-fibrous	100.0
N	**8**	**Main floor - Police Department - General office area - Under carpet**	**Sheet vinyl flooring**	**2023-06-09**	**1**	**Grey-yellow adhesive**	**10.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**
					2	**Beige mosaic flooring**	**50.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**
					3	**Grey fibrous backing**	**40.0**	**Chrysotile**	**60.0**	**Non-fibrous**	**40.0**
N	9	Main floor - Police Department - Office next to board room	Drywall joint compound	2023-06-09	1	White paint	40.0	None Detected	0.0	Non-fibrous	100.0
					2	White chalky	60.0	None Detected	0.0	Non-fibrous	100.0

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SP	#	Location	Material	Analysis Date	Layer	Description	% of Sample	Asbestos Minerals	% Asbestos per Layer	Other Fibres	% Fibres per Layer
N	**10**	**Main floor - Police Department - Communication room/washroom**	**Sheet vinyl flooring**	**2023-06-09**	**1**	**Grey-yellow adhesive**	**5.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**
					2	**Beige mosaic flooring**	**35.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**
					3	**Grey fibrous backing**	**20.0**	**Chrysotile**	**60.0**	**Non-fibrous**	**40.0**
					4	**Beige flooring**	**35.0**	**None Detected**	**0.0**	**Non-fibrous**	**80.0**
										Cellulose	**20.0**
					5	**Beige mesh**	**5.0**	**None Detected**	**0.0**	**Cellulose**	**100.0**
N	11	Main floor - Police Department - Office next to board room ceiling	Ceiling tile	2023-06-09	1	White paint	3.0	None Detected	0.0	Non-fibrous	100.0
					2	Grey fibrous tile	97.0	None Detected	0.0	Non-fibrous	30.0
										Glass	40.0
										Cellulose	30.0
N	12	Main floor - Police Department - Hall ceiling	Textured ceiling	2023-06-09	1	White textured paint	80.0	None Detected	0.0	Non-fibrous	95.0

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SP	#	Location	Material	Analysis Date	Layer	Description	% of Sample	Asbestos Minerals	% Asbestos per Layer	Other Fibres	% Fibres per Layer
										Cellulose	5.0
					2	Grey chalky	20.0	None Detected	0.0	Non-fibrous	100.0
N	13	Main floor - Police Department - Hall storage room wall	Drywall joint compound	2023-06-09	1	Grey paint	40.0	None Detected	0.0	Non-fibrous	100.0
					2	White chalky	60.0	None Detected	0.0	Non-fibrous	100.0
N	14	Main floor - Police Department - Community policing room wall	Drywall joint compound	2023-06-09	1	Beige paint	40.0	None Detected	0.0	Non-fibrous	100.0
					2	White chalky	60.0	None Detected	0.0	Non-fibrous	100.0
N	**15**	**Main floor - Police Department - Community policing room - Under carpet**	**Sheet vinyl flooring**	**2023-06-09**	**1**	**Beige mosaic flooring**	**50.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**
					2	**Grey fibrous backing**	**50.0**	**Chrysotile**	**60.0**	**Non-fibrous**	**40.0**
N	16	Main floor - Police Department - Stationery room ceiling	Ceiling tile	2023-06-09	1	White paint	3.0	None Detected	0.0	Non-fibrous	100.0
					2	Grey fibrous tile	97.0	None Detected	0.0	Non-fibrous	30.0
										Glass	40.0
										Cellulose	30.0
N	**17**	**Basement - Police Department - Men's locker room - Under carpet**	**Sheet vinyl flooring**	**2023-06-09**	**1**	**Yellow glue**	**10.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**

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SP	#	Location	Material	Analysis Date	Layer	Description	% of Sample	Asbestos Minerals	% Asbestos per Layer	Other Fibres	% Fibres per Layer
					2	**Beige flooring**	**50.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**
					3	**Grey fibrous backing**	**40.0**	**Chrysotile**	**60.0**	**Non-fibrous**	**40.0**
N	18	Basement - Police Department - Men 's locker room ceiling	Ceiling tile	2023-06-09	1	White paint	3.0	None Detected	0.0	Non-fibrous	100.0
					2	Grey fibrous tile	97.0	None Detected	0.0	Non-fibrous	30.0
										Glass	30.0
										Cellulose	40.0
N	19	Basement - Police Department - Men's locker room wall	Drywall joint compound	2023-06-09	1	White paint	40.0	None Detected	0.0	Non-fibrous	100.0
					2	White chalky	60.0	None Detected	0.0	Non-fibrous	100.0
N	20	Basement - Police Department - Women's locker room - Under carpet	Sheet vinyl flooring	2023-06-09	1	Yellow glue	10.0	None Detected	0.0	Non-fibrous	100.0
					2	Grey mosaic flooring	50.0	None Detected	0.0	Non-fibrous	100.0
					3	Grey fibrous backing	40.0	None Detected	0.0	Non-fibrous	40.0
										Synthetic	20.0
										Cellulose	40.0

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SP	#	Location	Material	Analysis Date	Layer	Description	% of Sample	Asbestos Minerals	% Asbestos per Layer	Other Fibres	% Fibres per Layer
N	21	Basement - Police Department - Hall outside locker rooms	Ceiling tile	2023-06-09	1	White paint	3.0	None Detected	0.0	Non-fibrous	100.0
					2	Grey fibrous tile	97.0	None Detected	0.0	Non-fibrous	30.0
										Glass	30.0
										Cellulose	40.0
N	22	Basement - Police Department - Staff room bulkhead	Drywall joint compound	2023-06-09	1	White paint	20.0	None Detected	0.0	Non-fibrous	100.0
					2	White chalky	80.0	None Detected	0.0	Non-fibrous	100.0
N	**23**	**Basement - Municipal Hall - Kitchen**	**Sheet vinyl flooring**	**2023-06-09**	**1**	**Grey mosaic flooring**	**60.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**
					2	**Grey fibrous backing**	**40.0**	**Chrysotile**	**60.0**	**Non-fibrous**	**40.0**
N	24	Basement - Municipal Hall - Kitchen wall	Drywall joint compound	2023-06-09	1	Off-white paint	40.0	None Detected	0.0	Non-fibrous	100.0
					2	White chalky	60.0	None Detected	0.0	Non-fibrous	100.0
N	25	Basement - Municipal Hall - Kitchen ceiling	Ceiling tile	2023-06-09	1	Grey fibrous tile	100.0	None Detected	0.0	Non-fibrous	30.0
										Glass	30.0
										Cellulose	40.0

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SP	#	Location	Material	Analysis Date	Layer	Description	% of Sample	Asbestos Minerals	% Asbestos per Layer	Other Fibres	% Fibres per Layer
N	26	Basement - Municipal Hall - Janitor's closet wall	Drywall joint compound	2023-06-09	1	Off-white paint	40.0	None Detected	0.0	Non-fibrous	100.0
					2	White chalky	60.0	None Detected	0.0	Non-fibrous	100.0
N	27	Basement - Municipal Hall - Back document storage room ceiling	Textured ceiling	2023-06-09	1	White textured paint	80.0	None Detected	0.0	Non-fibrous	100.0
					2	Grey chalky	20.0	None Detected	0.0	Non-fibrous	100.0
N	**28**	**Basement - Municipal Hall - Back document storage room floor**	**Vinyl floor tile**	**2023-06-09**	**1**	**Grey adhesive/caulking**	**5.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**
					2	**Beige tile**	**90.0**	**Chrysotile**	**1.0**	**Non-fibrous**	**99.0**
					3	**Black mastic**	**5.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**
N	29	Basement - Municipal Hall - Workshop wall	Drywall joint compound	2023-06-09	1	White paint	40.0	None Detected	0.0	Non-fibrous	100.0
					2	White chalky	60.0	None Detected	0.0	Non-fibrous	100.0
N	30	Basement - Municipal Hall - Custodian storage/workshop	Sheet vinyl flooring	2023-06-09	1	Grey mosaic flooring	60.0	None Detected	0.0	Non-fibrous	100.0
					2	Grey fibrous backing	40.0	None Detected	0.0	Non-fibrous	40.0
										Cellulose	60.0

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Asbestos Bulk Sample Report

201 - 990 Hillside Avenue
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Tel: 778-406-0933
E-Mail: admin@islandehs.ca

Job: 48738
Project: 1903 Mount Newton X Rd
Client: District of Central Saanich
Client PO#:

Submitted By: HD
Date Received: 2023-05-24
Analyst: JH

SP	#	Location	Material	Analysis Date	Layer	Description	% of Sample	Asbestos Minerals	% Asbestos per Layer	Other Fibres	% Fibres per Layer
N	31	Basement - Municipal Hall - Custodian storage wall	Drywall joint compound	2023-06-09	1	Beige paint	30.0	None Detected	0.0	Non-fibrous	100.0
					2	White chalky	70.0	None Detected	0.0	Non-fibrous	100.0
N	32	Basement - Municipal Hall - Workshop	Ceiling tile	2023-06-09	1	Grey fibrous tile	100.0	None Detected	0.0	Non-fibrous	30.0
										Glass	30.0
										Cellulose	40.0
N	33	Basement - Municipal Hall - Furnace room - HVAC ducting	Mastic	2023-06-09	1	Grey mastic	100.0	None Detected	0.0	Non-fibrous	100.0
N	34	Basement - Municipal Hall - Furnace room ceiling	Drywall joint compound	2023-06-09	1	White paint	40.0	None Detected	0.0	Non-fibrous	100.0
					2	White chalky	60.0	None Detected	0.0	Non-fibrous	100.0
N	35	Basement - Municipal Hall - Planning #2 office wall	Drywall joint compound	2023-06-09	1	White paint	40.0	None Detected	0.0	Non-fibrous	100.0
					2	White chalky	60.0	None Detected	0.0	Non-fibrous	100.0
N	**36**	**Main floor - Municipal Hall - Council chambers - Lower ceiling**	**Textured ceiling/drywall joint compound**	**2023-06-09**	**1**	**White textured paint**	**70.0**	**Chrysotile**	**1.0**	**Non-fibrous**	**95.0**
										Cellulose	**4.0**

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SP	#	Location	Material	Analysis Date	Layer	Description	% of Sample	Asbestos Minerals	% Asbestos per Layer	Other Fibres	% Fibres per Layer
					2	**Grey chalky**	**30.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**
N	**37**	**Main floor - Municipal Hall - Hall to washroom ceiling**	**Textured ceiling/drywall joint compound**	**2023-06-09**	**1**	**White textured paint**	**70.0**	**Chrysotile**	**1.0**	**Non-fibrous**	**95.0**
										Cellulose	**4.0**
					2	**Grey chalky**	**30.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**
N	38	Main floor - Municipal Hall - Council chambers wall	Drywall joint compound	2023-06-09	1	White paint	10.0	None Detected	0.0	Non-fibrous	100.0
					2	White chalky	90.0	None Detected	0.0	Non-fibrous	100.0
N	39	Main floor - Municipal Hall - Stairwell main hall wall	Drywall joint compound	2023-06-09	1	White paint	10.0	None Detected	0.0	Non-fibrous	100.0
					2	White chalky	90.0	None Detected	0.0	Non-fibrous	100.0
N	**40**	**Main floor - Municipal Hall - Council chambers corridor ceiling**	**Textured ceiling**	**2023-06-09**	**1**	**Off-white textured paint**	**100.0**	**Chrysotile**	**1.0**	**Non-fibrous**	**95.0**
										Cellulose	**4.0**
N	41	Main floor - Municipal Hall - Council chambers corridor floor - Top layer	Vinyl floor tile	2023-06-09	1	Beige tile	98.0	None Detected	0.0	Non-fibrous	100.0

Analyzed in accordance with NIOSH Method 9002. AIHA BAPAT Lab ID - 214686

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Asbestos Bulk Sample Report

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SP	#	Location	Material	Analysis Date	Layer	Description	% of Sample	Asbestos Minerals	% Asbestos per Layer	Other Fibres	% Fibres per Layer
					2	Yellow glue	2.0	None Detected	0.0	Non-fibrous	100.0
N	**42**	**Main floor - Municipal Hall - Council chambers corridor floor - Lower layer**	**Vinyl floor tile**	**2023-06-09**	**1**	**Beige tile**	**95.0**	**Chrysotile**	**2.0**	**Non-fibrous**	**98.0**
					2	**Black mastic**	**5.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**
N	**43**	**Main floor - Municipal Hall - Stairwell and bottom of stairs**	**Vinyl floor tile**	**2023-06-09**	**1**	**Beige tile**	**98.0**	**Chrysotile**	**2.0**	**Non-fibrous**	**98.0**
					2	**Black mastic**	**2.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**
N	44	Basement - Planning Department - Document storage room wall	Drywall joint compound	2023-06-09	1	Beige paint	30.0	None Detected	0.0	Non-fibrous	100.0
					2	White chalky	70.0	None Detected	0.0	Non-fibrous	100.0
N	**45**	**Basement - Planning Department - Corridor - Above ceiling tile**	**Drywall joint compound**	**2023-06-09**	**1**	**White paint**	**30.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**
					2	**Beige chalky**	**50.0**	**Chrysotile**	**1.0**	**Non-fibrous**	**99.0**
					3	**Brown paper**	**20.0**	**None Detected**	**0.0**	**Cellulose**	**100.0**

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SP	#	Location	Material	Analysis Date	Layer	Description	% of Sample	Asbestos Minerals	% Asbestos per Layer	Other Fibres	% Fibres per Layer
N	**46**	**Basement - Planning Department - File storage vault closet**	**Drywall joint compound**	**2023-06-09**	**1**	**Grey paint**	**30.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**
					2	**Beige chalky**	**70.0**	**Chrysotile**	**1.0**	**Non-fibrous**	**99.0**
N	**47**	**Basement - Planning Department - Corridor at exit**	**Drywall joint compound**	**2023-06-09**	**1**	**Grey paint**	**30.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**
					2	**Beige chalky**	**70.0**	**Chrysotile**	**1.0**	**Non-fibrous**	**99.0**
N	48	Basement - Planning Department - Corridor ceiling	Ceiling tile	2023-06-09	1	White paint	5.0	None Detected	0.0	Non-fibrous	100.0
					2	Grey fibrous tile	95.0	None Detected	0.0	Non-fibrous	30.0
										Glass	30.0
										Cellulose	40.0
N	49	Basement - Planning Department - Vault	Sheet vinyl flooring	2023-06-09	1	Grey flooring	60.0	None Detected	0.0	Non-fibrous	100.0
					2	Grey fibrous backing	40.0	None Detected	0.0	Non-fibrous	40.0
										Cellulose	50.0
										Synthetic	10.0
N	50	Basement - Planning Department - Planning #1 office	Drywall joint compound	2023-06-09	1	White chalky	100.0	None Detected	0.0	Non-fibrous	100.0

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SP	#	Location	Material	Analysis Date	Layer	Description	% of Sample	Asbestos Minerals	% Asbestos per Layer	Other Fibres	% Fibres per Layer
N	51	Basement - Planning Department - Planning #1 office	Ceiling tile	2023-06-09	1	Grey fibrous tile	100.0	None Detected	0.0	Non-fibrous	30.0
										Glass	30.0
										Cellulose	40.0
N	52	Main floor - Planning Department - Corridor at exit ceiling	Textured ceiling	2023-06-09	1	White textured paint	100.0	None Detected	0.0	Non-fibrous	95.0
										Cellulose	5.0
N	**53**	**Main floor - Planning Department - Corporate services office**	**Vinyl floor tile**	**2023-06-09**	**1**	**Beige tile**	**98.0**	**Chrysotile**	**2.0**	**Non-fibrous**	**98.0**
					2	**Black mastic**	**2.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**
N	**54**	**Main floor - Planning Department - Staff washroom wall**	**Drywall joint compound**	**2023-06-09**	**1**	**Beige paint**	**40.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**
					2	**Grey chalky**	**60.0**	**Chrysotile**	**1.0**	**Non-fibrous**	**99.0**
N	55	Main floor - Planning Department - Vault	Sheet vinyl flooring	2023-06-09	1	Grey flooring	60.0	None Detected	0.0	Non-fibrous	100.0
					2	Grey fibrous backing	40.0	None Detected	0.0	Non-fibrous	40.0

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SP	#	Location	Material	Analysis Date	Layer	Description	% of Sample	Asbestos Minerals	% Asbestos per Layer	Other Fibres	% Fibres per Layer
										Cellulose	60.0
N	56	Main floor - Planning Department - Server room - Top layer	Sheet vinyl flooring	2023-06-09	1	Yellow glue	5.0	None Detected	0.0	Non-fibrous	100.0
					2	Beige flooring	55.0	None Detected	0.0	Non-fibrous	100.0
					3	Grey fibrous backing	40.0	None Detected	0.0	Non-fibrous	40.0
										Cellulose	60.0
N	57	Main floor - Planning Department - Vault wall	Drywall joint compound	2023-06-09	1	Grey paint	40.0	None Detected	0.0	Non-fibrous	100.0
					2	Grey chalky	60.0	None Detected	0.0	Non-fibrous	100.0
N	**58**	**Main floor - Planning Department - Office #2 wall**	**Drywall joint compound**	**2023-06-09**	**1**	**Beige paint**	**40.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**
					2	**Grey chalky**	**60.0**	**Chrysotile**	**1.0**	**Non-fibrous**	**99.0**
N	59	Main floor - Planning Department - Office #2 ceiling	Textured ceiling	2023-06-09	1	White textured paint	100.0	None Detected	0.0	Non-fibrous	100.0
N	60	Main floor - Planning Department - Office #3 wall	Drywall joint compound	2023-06-09	1	Pink paint	40.0	None Detected	0.0	Non-fibrous	100.0
					2	Grey chalky	60.0	None Detected	0.0	Non-fibrous	100.0
N	61	Main floor - Planning Department - Office #3 ceiling	Textured ceiling	2023-06-09	1	White textured paint	100.0	None Detected	0.0	Non-fibrous	95.0

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SP	#	Location	Material	Analysis Date	Layer	Description	% of Sample	Asbestos Minerals	% Asbestos per Layer	Other Fibres	% Fibres per Layer
										Cellulose	5.0
N	**62**	**Basement - Firehall Lounge - Corridor/bathrooms/kitchen**	**Vinyl floor tile**	**2023-06-09**	**1**	**Beige tile**	**90.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**
					2	**Yellow glue**	**2.0**	**Chrysotile**	**2.0**	**Non-fibrous**	**98.0**
					3	**Grey cement**	**8.0**	**None Detected**	**0.0**	**Non-fibrous**	**100.0**
N	63	Basement - Firehall Lounge - Men's washroom wall	Drywall joint compound	2023-06-09	1	White paint	40.0	None Detected	0.0	Non-fibrous	100.0
					2	Grey chalky	60.0	None Detected	0.0	Non-fibrous	100.0
N	64	Basement - Firehall Lounge - Women's washroom	Drywall joint compound	2023-06-09	1	White paint	40.0	None Detected	0.0	Non-fibrous	100.0
					2	Grey chalky	60.0	None Detected	0.0	Non-fibrous	100.0
N	65	Basement - Firehall Lounge - Lounge ceiling	Textured ceiling/drywall joint compound	2023-06-09	1	White textured paint	70.0	None Detected	0.0	Non-fibrous	95.0
										Cellulose	5.0
					2	Grey chalky	30.0	None Detected	0.0	Non-fibrous	100.0
N	**66**	**Basement - Firehall Lounge - Corridor ceiling**	**Textured ceiling**	**2023-06-09**	**1**	**White textured paint**	**100.0**	**Chrysotile**	**1.0**	**Non-fibrous**	**95.0**
										Cellulose	**4.0**

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SP	#	Location	Material	Analysis Date	Layer	Description	% of Sample	Asbestos Minerals	% Asbestos per Layer	Other Fibres	% Fibres per Layer
N	**67**	**Basement - Workshop ceiling**	**Textured ceiling**	**2023-06-09**	**1**	**White textured paint**	**100.0**	**Chrysotile**	**1.0**	**Non-fibrous**	**95.0**
										Cellulose	**4.0**
N	68	Basement - Apparatus ceiling	Drywall joint compound	2023-06-09	1	White paint	20.0	None Detected	0.0	Non-fibrous	100.0
					2	White chalky	80.0	None Detected	0.0	Non-fibrous	100.0
N	69	Basement - Apparatus ceiling	Drywall joint compound	2023-06-09	1	White paint	20.0	None Detected	0.0	Non-fibrous	100.0
					2	Grey chalky	80.0	None Detected	0.0	Non-fibrous	100.0
N	70	Exterior - Firehall - Woodstove brick	Mortar	2023-06-09	1	Grey cement	100.0	None Detected	0.0	Non-fibrous	100.0
N	71	Exterior - Over vault foundation	Parging	2023-06-09	1	Grey paint	2.0	None Detected	0.0	Non-fibrous	100.0
					2	Grey cement	98.0	None Detected	0.0	Non-fibrous	100.0

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Certificate of Analysis

Client Name	District of Central Saanich	Report #	48738
Site Address	1903 Mount Newton X Road	Report Date	6/13/2023
Collection Date	5/24/2023	PO	
Collected by	HD	Notes	

Analysis Summary: Lead in Paint

Sample #	Pb1	Result (ug/g)	<6
Location	Police Department Walls		
Description	Cream Paint	Comments	
Sample #	Pb2	Result (ug/g)	<7
Location	Municipal Hall Basement Planning Department		
Description	Cream Paint	Comments	Possible Substrate Interference
Sample #	Pb4	Result (ug/g)	<9
Location	Firehall Washroom		
Description	Cream Paint	Comments	
Sample #	Pb5	Result (ug/g)	<5
Location	Apparatus Ceiling		
Description	Beige Paint	Comments	
Sample #	Pb6	Result (ug/g)	1370
Location	Exterior - Firehall Workshop Door		
Description	Red Paint	Comments	
Sample #	Pb7	Result (ug/g)	4620
Location	Exterior Siding Outside Firehall Lounge		
Description	Taupe Paint	Comments	Possible Substrate Interference

Notes
Pb3 "Municipal Hall Main Floor Washroom" not analyzed due to presence of ACM.

Results in **green** are below the limit of quantitation for that sample (not detectable)
Results in **red** are above the limit of quantitation for that sample (detectable)
Analysed using ASTM E1645-01 (modified for tile where applicable) and EPA 7000B
AIHA ELPAT Lab ID: 214686

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Client Name	District of Central Saanich	Report #	48738
Site Address	1903 Mount Newton X Road	Report Date	6/13/2023
Collection Date	5/24/2023	PO	
Collected by	HD	Notes	

Analysis Summary: Lead in Paint

Sample #	Pb8	Result (ug/g)	15100
Location	Exterior Munipical Hall Siding		
Description	Taupe Paint	Comments	Possible Substrate Interference
Sample #	Pb9	Result (ug/g)	3700
Location	Exterior Munipical Hall Siding		
Description	Taupe Paint	Comments	
Sample #	Pb10	Result (ug/g)	4130
Location	Exterior Police Department Wood Siding		
Description	Taupe Paint	Comments	Possible Substrate Interference
Sample #	Pb11	Result (ug/g)	3950
Location	Municipal Hall Vault Foundation		
Description	Taupe Paint	Comments	
Sample #	Pb12	Result (ug/g)	10900
Location	Municipal Hall Front Entry - Upper		
Description	Red/Taupe/White Paint	Comments	
Sample #	Pb13	Result (ug/g)	7920
Location	Municipal Hall Front Entry - Lower		
Description	White Paint	Comments	Possible Substrate Interference

Notes
Pb3 "Municipal Hall Main Floor Washroom" not analyzed due to presence of ACM.

Results in **green** are below the limit of quantitation for that sample (not detectable)
Results in **red** are above the limit of quantitation for that sample (detectable)
Analysed using ASTM E1645-01 (modified for tile where applicable) and EPA 7000B
AIHA ELPAT Lab ID: 214686

#NAME?

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Certificate of Analysis

Client Name	District of Central Saanich	Report #	48738
Site Address	1903 Mount Newton X Road	Report Date	6/13/2023
Collection Date	5/24/2023	PO	
Technician	HD	Notes	

Quality Assurance Report

	Result	Unit	Limits	Pass/Fail?
Duplicate	6	Rel. % Diff.	0% - 15%	**PASS**
CRM	85	% recovery	80% - 120%	**PASS**
QCS	95	% recovery	90% - 110%	**PASS**
MS	104	% recovery	80% - 120%	**PASS**
LRB	<0.06	mg/L	<0.242 mg/L	**PASS**

Duplicate: Paired analysis of a two portions of the same sample. Used to evaluate the variance in the measurement and homogenity of the sample.

Certified Reference Material (CRM): A paint sample of known lead concentration prepared by an external agency. Used as an independent check of method accuracy.

Quality Control Sample (QCS): A blank matrix sample to which a known amount of lead from a second source has been added. Used to verify instrument calibration.

Matrix Spike (MS): A portion of a sample to which a known amount of lead is added before digestion. Used to evaluate matrix effects of the sample.

Laboratory Reagent Blank (LRB): A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Laura Martin
Laboratory Analyst

End of Report

Central Saanich Municipal Building
Building Code Compliance & Accessibility
Building Assessment Report
Appendix F:
Class D Cost Estimate
(Adivcas)

ADVICAS
Professional Quantity Surveyors

CLASS D ESTIMATE

CENTRAL SAANICH CIVIC FACILITY CONDITION ASSESSMENT

SAANICHTON, BC

May 13, 2025

Prepared by
Advicas Group Consultants Inc.

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Victoria, BC V8W 1J1 Canada

Office: 250.383.1008

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APPENDICES

A ELEMENTAL COST ANALYSIS
B ESTIMATE BACKUP SHEETS

per: Advicas Group Consultants Inc.

Prepared by Francis Yong, BSc, PQS
Principal
(250) 995-5428 fyong@advicas.com

Advicas Project No. 2025050

INTRODUCTION

This report sets out the estimate of capital construction cost at feasibility study stage for the proposed Central Saanich Civic Facility Condition Assessment at 1903 Mount Newton Cross Road in Saanichton, BC.

Project Description

The project comprises renovation and addition to the civic facility to upgrade the existing facility to meet current building code and accessibility requirements and expansion to accommodate current and future operations. The existing facility is generally a combustible construction two-storey building housing the Municipal Hall, Police Department and Fire Department.

Gross Floor Area

The gross floor area[1] is:

Addition – Police Station	1,316	m^2
Replacement – Apparatus Bay	424	m^2
Renovation – Firehall and Council Chambers	746	m^2
Renovation – Municipal Hall	1,801	m^2
TOTAL	**4,287**	**m^2**

[1] measured to the outside face of exterior walls

ESTIMATE COSTS

The estimate costs have been developed in current (May 2025) dollars only. The estimated capital construction cost is as follows:

New Building	$14,707,377	$8,452.52/$m^2$
Site Development	$2,784,101	$163.55/$m^2$
Alterations & Demolition	$17,539,630	$6,886.39/$m^2$
TOTAL	**$35,031,107**	**$8,171.47/$m^2$**

A breakdown of the estimate, in an elemental format, is included in Appendix A.

Estimate backup sheets are included in Appendix B.

Escalation

Escalation during Construction Period – the estimate, as is typical, includes any cost increases incurred by the contractor/sub-contractor, and suppliers in conforming to contractor/supplier timelines dictated by the construction schedule. These increases are built into the respective detailed unit rate costs.

Future Escalation – Escalation beyond the current date is not included in the estimate and will be based on values given in the table below.

	Annual Escalation
May to Dec 2025	+4.7%
2026	+5.0%
2027	+4.5%
2028	+4.5%

Canadian/US Tariffs

The current trade tariffs between Canada and the United States, promulgated March 4, 2025, will result in a premium on material and equipment, sourced across the border. This will also impact corresponding Canadian sourced items which will increase to uphold the pricing margin between themselves and US competition. Suppliers are still coming to terms with the full pricing implication of the tariffs, and how they impact their bottom line price. At this juncture, we have not included a provisional premium allowance in the estimate to account for the expected overall increase in construction costs related to the tariffs.

General Requirements and Fee

The General Requirements provide for all General Contractor's costs associated with the management and supervision of the construction work in accordance with the contract documents and construction schedule. Typical costs include site superintendent/foreman, site set up and demobilization, temporary office and storage, temporary equipment including crane, first aid facilities, bonding, and construction insurance.

The General Contractor's Fee includes office expenses, profit, and attendance on building sub trades, and profit on own forces work.

BASIS OF THE ESTIMATE

We have assumed that the work will be tendered competitively in the open market.

It is assumed the work will be carried out under a phased procession and completion.

In all cases the estimates are based upon our assessment of fair value for the work to be carried out. We define fair value as the amount a prudent contractor, taking into account all aspects of the project, would quote for the work. We expect our estimate to be in the middle of the bid range to ensure that funding for the work remains adequate for the duration of the project.

It should be noted that Advicas Group Consultants Inc. does not have control over the cost of labour, materials, or equipment, over the Contractor's methods of determining bid prices, or over competitive market conditions. We define competitive conditions in the project as attracting a minimum of three general contractors' bids with a minimum of two sub-trade tenders, and suppliers' tenders, within each of the sub-trade categories. Accordingly, Advicas Group Consultants Inc. cannot and does not warrant or represent that bids will not vary from the estimate.

The current construction market remains active, bringing with it a volatility in tender price levels. Whilst we endeavor to gauge the developing market conditions, it is not always possible to predict industry interest in this project, and the likely-hood of a poor, uncompetitive, response.

Contingency Reserves

Contingency is an allowance specifically identified within the estimate to meet unforeseen circumstances and represents an assessment of the financial risk relating to this project.

Design Contingency – A design contingency allowance has been included, calculated at 15% of the construction costs, to provide for unforeseen items arising during the design phase.

Design contingency is introduced into the estimated cost at the earliest estimate stage and is a measurement of the amount and detail of the design information available. As the design develops and systems and material selections are fixed, the amount of the contingency allowance is reduced and is absorbed into the measured elements. On completion of contract documents, at tender stage, the allowance is normally reduced to zero. Our determination of this risk level and the amount of the contingency allowance is the result of many years of cost planning, on over 4,000 construction projects, and of monitoring the increasing design information that occurs during the design phase. The design contingency is not a discretionary cost element.

Construction Contingency – No allowance has been made for construction contingency. This typically provides for unforeseen items arising during the construction period – such as field conditions, coordination discrepancies – which will result in change orders and extra costs to the contract, other than changes in scope.

Project Contingency – No allowance has been made for project contingency. This is a contingency, held by the Client, to be used at their discretion to fund specific Client driven changes to the project scope, conditions, etc.

Taxes

PST at 7% is included in the estimate. GST is excluded from the estimate.

Documentation

The estimate is based on the following:

- Number Ten Architectural Group
  - Building Assessment Report, May 2, 2025, 27 pages
  - APPENDIX A - Existing Building Code Review Plans
  - APPENDIX B - Central Saanich Municipal Hall FCA Draft IFCR-Costing,.2025.05.02
  - APPENDIX D - Civic Facility Concept Renovation Plans
  - APPENDIX E - Hazardous Materials Report 2023 Received May 2, 2025
  - APPENDIX C – Seismic Assessment Report 20250502 DRAFT Received May 5, 2025
  - Central Saanich Municipal Hall [Existing Drawings] Received May 7, 2025
- Emails and telephone discussions with the design team during the preparation of the estimate

Exclusions

The following items are excluded from the capital construction cost:

- Loose furniture, fittings, and equipment including:
  - Office furniture and equipment
  - Artwork, artifacts, or murals
  - Audio visual and media equipment, projection screens
  - Tackboards, and whiteboards
  - Refuse containers, waste bins, etc.
  - Window furnishings
  - Cable TV equipment
  - Televisions
  - Telephone equipment
  - Computer hubs
  - Computers, server
  - Vending machines
- Removal and relocation of loose furniture, fittings, and equipment from the construction zone prior to construction work commencing
- Relocation and reinstallation of loose furniture, fittings, and equipment upon completion of construction work
- Costs associated with temporary relocation, i.e., decanting and relocating staff from the construction zone
- Storage costs
- Rock excavation
- Site fencing
- Site furniture
- Separate prices
- Client Administration costs
- Clerk of Works
- Client Project Manager
- Land acquisition costs
- Offsite costs
- Material testing
- Premium costs associated with environmental contaminants
- Traffic study costs
- Survey fees
- Financing costs
- Legal fees
- Client Insurances costs
- Development cost charges
- Development permit fees
- Phasing of the work
- Out of hours working
- Consultants' fees and expenses
- Construction contingency
- Project contingency
- Escalation
- GST
- Canadian/US tariffs

APPENDIX A

ELEMENTAL COST ANALYSIS

ELEMENTAL COST ANALYSIS

PROJECT: Central Saanich Municipal Building Phased Renovation and Expansion
1903 Mount Newton Cross Roads, Victoria, BC

DATE: 13-May-25

TYPE OF ESTIMATE: Class D

GROSS FLOOR AREA: 1,740 m²

ELEMENT	RATIO G.F.A.	ELEMENT QUANTITY	UNIT	UNIT RATE	ELEMENT COST	COST / m² FLOOR AREA	TOTAL COST	%
A1 SUBSTRUCTURE							426.09	741,400	5.0%
A11 Standard Foundations	0.95	1,660	m²	418.67	695,000	399.43			4.7%
A12 Special Foundations									
A13 Basement Excavation	0.21	360	m³	128.89	46,400	26.67			0.3%
A2 STRUCTURE							739.20	1,286,200	8.7%
A21 Lowest Floor Construction	0.95	1,660	m²	132.05	219,200	125.98			1.5%
A22 Upper Floor Construction	0.05	80	m²	750.00	60,000	34.48			0.4%
A23 Stair Construction	0.00	2	m	6500.00	13,000	7.47			0.1%
A24 Roof Construction	0.95	1,660	m²	598.80	994,000	571.26			6.8%
A3 EXTERIOR ENCLOSURE							1,400.52	2,436,900	16.6%
A31 Structural Walls Below Main Fl	0.06	101	m²	529.70	53,500	30.75			0.4%
A32 Walls Below Main Floor	0.06	101	m²	100.00	10,100	5.80			0.1%
A33 Structural Walls Above Main Fl	0.54	946	m²	192.71	182,300	104.77			1.2%
A34 Walls Above Main Floor	0.54	946	m²	914.48	865,100	497.18			5.9%
A35 Windows	0.03	54	m²	1644.44	88,800	51.03			0.6%
A36 Doors & Glazed Screens	0.01	16	lvs	13900.00	222,400	127.82			1.5%
A37 Roof Covering	0.95	1,660	m²	493.92	819,900	471.21			5.6%
A38 Roof Glazing									
A39 Projections					194,800	111.95			1.3%
B1 PARTITIONS & DOORS							545.75	949,600	6.5%
B11 Fixed Partitions	1.44	2,514	m²	264.24	664,300	381.78			4.5%
B12 Structural Partitions	0.29	500	m²	172.60	86,300	49.60			0.6%
B13 Movable Partitions									
B14 Internal Doors					199,000	114.37			1.4%
B2 INTERIOR FINISHES							322.30	560,800	3.8%
B21 Floor Finishes	0.92	1,601	m²	110.56	177,000	101.72			1.2%
B22 Ceiling Finishes	0.92	1,600	m²	117.06	187,300	107.64			1.3%
B23 Wall Finishes	2.30	4,004	m²	49.08	196,500	112.93			1.3%
B3 FITTINGS & EQUIPMENT							173.56	302,000	2.1%
B31 Fittings and Fixtures		1,740	m²	167.82	292,000	167.82			2.0%
B32 Equipment		1,740	m²	5.75	10,000	5.75			0.1%
B33 Conveying Systems									
C1 MECHANICAL SYSTEMS							832.99	1,449,400	9.9%
C11 Plumbing and Drainage		1,740	m²	131.26	228,400	131.26			1.6%
C12 Fire Protection		1,740	m²	73.91	128,600	73.91			0.9%
C13 HVAC		1,740	m²	529.20	920,800	529.20			6.3%
C14 Controls		1,740	m²	98.62	171,600	98.62			1.2%
C2 ELECTRICAL SYSTEMS							1,369.89	2,383,600	16.2%
C21 Service & Distribution		1,740	m²	289.43	503,600	289.43			3.4%
C22 Lighting, Devices & Heat		1,740	m²	268.22	466,700	268.22			3.2%
C23 Systems		1,740	m²	812.24	1,413,300	812.24			9.6%
Z GENERAL REQUIREMENTS & ALLOWANCES							1,539.73	2,679,124	18.2%
Z11 General Requirements					1,516,485	871.54			10.3%
Z12 Fee					1,162,639	668.18			7.9%
Z21 DESIGN CONTINGENCY							1,102.50	1,918,354	13.0%
Z22 ESCALATION CONTINGENCY									
GST EXCLUDED									
BUILDING COST: Current $				Excluding GST			8,452.52	$14,707,377	

ELEMENTAL COST ANALYSIS

PROJECT:	Central Saanich Municipal Building Phased Renovation and Expansion 1903 Mount Newton Cross Roads, Victoria, BC	DATE:	13-May-25
TYPE OF ESTIMATE:	Class D	GROSS FLOOR AREA:	1,740 m²

ELEMENT	RATIO G.F.A.	ELEMENT QUANTITY	UNIT	UNIT RATE	ELEMENT COST	COST / m² FLOOR AREA	TOTAL COST	%
D1 SITE DEVELOPMENT						112.42	1,913,800	
D11 General Sitework		17,023	m²	41.50	706,400	41.50		
D12 Mechanical Site Services		17,023	m²	11.16	190,000	11.16		
D13 Electrical Site Services		17,023	m²	59.77	1,017,400	59.77		
Z GENERAL REQUIREMENTS & ALLOWANCES						29.79	507,157	
Z11 General Requirements					287,070	16.86		
Z12 Fee					220,087	12.93		
Z21 DESIGN CONTINGENCY						21.33	363,144	
Z22 ESCALATION CONTINGENCY								
GST EXCLUDED								
SITE DEVELOPMENT COST: Current $				Excluding GST		163.55	$2,784,101	
CONSTRUCTION COST: Current $				Excluding GST		10,052.57	$17,491,478	

NOTES:

ELEMENT	RATIO G.F.A.	ELEMENT QUANTITY	UNIT	UNIT RATE	ELEMENT COST	COST / m² FLOOR AREA	TOTAL COST	%
D2 ALTERNS. & DEMOLITION						4,733.73	12,056,800	
D21 Demolitions		2,547	m²	434.63	1,107,000	434.63		
D22 Alterations		2,547	m²	4299.10	10,949,800	4299.10		
Z GENERAL REQUIREMENTS & ALLOWANCES						1,254.44	3,195,052	
Z11 General Requirements					1,808,520	710.06		
Z12 Fee					1,386,532	544.38		
Z21 DESIGN CONTINGENCY						898.22	2,287,778	
Z22 ESCALATION CONTINGENCY								
GST EXCLUDED								
ALTNS & DEMO COST: Current $				Excluding GST		6,886.39	$17,539,630	

NOTES:

Building	$14,707,377	$8,452.52 /m²
Site Development	$2,784,101	$163.55 /m²
Alterations & Demolition	$17,539,630	$6,886.39 /m²
TOTAL	$35,031,107	$8,171.47 /m²

APPENDIX B

ESTIMATE BACKUP SHEETS

Class D DATE: 13-May-25

A1 SUBSTRUCTURE	QUANTITY	UNIT	RATE	COST
A11 Standard Foundations	**1,660**	**m²**	**$418.67**	**$695,000**
Phase 1				
Standard concrete strip and pad footings including reinforcement, formwork, excavation, backfill, dampproofing, insulation, in slab on grade condition	1,236	m²	$400.00	$494,400
Seismic joint	25	m	$500.00	$12,500
Phase 2				
Standard concrete strip and pad footings including reinforcement, formwork, excavation, backfill, dampproofing, insulation, in slab on grade condition	424	m²	$400.00	$169,600
Seismic joint	19	m	$500.00	$9,500
Phasing premium allowance	1	sum	$9,000.00	$9,000
A12 Special Foundations				
Assume Nil				
A13 Basement Excavation	**360**	**m³**	**$128.89**	**$46,400**
Phase 1				
Mass excavation and remove from site	360	m³	$80.00	$28,800
Imported backfill around foundations	147	m³	$120.00	$17,640

A2 STRUCTURE	QUANTITY	UNIT	RATE	COST
A21 Lowest Floor Construction	**1,660**	**m²**	**$132.05**	**$219,200**
Phase 1				
Concrete slab on grade including placement and finish, screed and cure, reinforcement, moisture barrier, expansion and contraction joints	1,236	m²	$100.00	$123,600
150mm structural fill to underside of slab	185	m³	$120.00	$22,200
Premium over slab on grade for ramps	10	m²	$150.00	$1,500
Phase 2				
Concrete slab on grade including placement and finish, screed and cure, reinforcement, moisture barrier, expansion and contraction joints	424	m²	$140.00	$59,360
150mm structural fill to underside of slab	64	m³	$120.00	$7,680
Premium over slab on grade for 1.7m wide steps x 4 risers	1	sum	$1,500.00	$1,500
Phasing premium allowance	1	sum	$3,400.00	$3,400
A22 Upper Floor Construction	**80**	**m²**	**$750.00**	**$60,000**
Phase 1				
Suspended concrete floor structure including columns, beams, and slab bands, reinforcement and formwork	80	m²	$750.00	$60,000

A23 Stair Construction	2	m	$6,500.00	$13,000
Phase 1				
1.2m wide concrete stairs and half landing including railings and finish - total rise	2	m	$6,500.00	$13,000
A24 Roof Construction	1,660	m²	$598.80	$994,000
Phase 1				
Suspended flat wood roof structure including columns, beams, trusses/joists and sheathing	1,236	m²	$475.00	$587,100
Premium over suspended flat roof structure for higher roof	582	m²	$125.00	$72,750
Seismic joint	25	m	$500.00	$12,500
Phase 2				
Suspended flat steel roof structure including columns, beams, open web steel joists and decking	424	m²	$700.00	$296,800
Seismic joint	19	m	$500.00	$9,500
Phasing premium allowance	1	sum	$15,300.00	$15,300

A3 EXTERIOR ENCLOSURE	QUANTITY	UNIT	RATE	COST
A31 Structural Walls Below Main Floor	101	m²	$529.70	$53,500
Phase 1				
Concrete wall including reinforcement and formwork	101	m²	$530.00	$53,530
A32 Walls Below Main Floor	101	m²	$100.00	$10,100
Phase 1				
Waterproofing to concrete walls	101	m²	$100.00	$10,100
A33 Structural Walls Above Main Floor	946	m²	$192.71	$182,300
Phase 1				
13mm plywood sheathing with additional nailing and blocking at joints, built-up studs and hold-downs at sheer wall locations	618	m²	$100.00	$61,800
Phase 2				
Steel wind girts, beams at moment frame	328	m²	$350.00	$114,800
Phasing premium allowance	1	sum	$5,700.00	$5,700
A34 Walls Above Main Floor	946	m²	$914.48	$865,100
Phase 1				
76mm rigid insulation, air vapour membrane, 38x184 wood studs @400mm o/c, batt insulation, poly VB and interior 16mm gypsum wallboard	618	m²	$310.00	$191,580
Prefinished horizontal corrugated metal siding, 19x75mm PT wood strapping @ 400 o/c	236	m²	$350.00	$82,600
Cement board panel siding, Z-girts @ 400 o/c	242	m²	$515.00	$124,630
Split face concrete block veneer, connectors	140	m²	$600.00	$84,000
Flashing between siding and concrete block veneer	147	m	$100.00	$14,700
Scaffolding allowance	618	m²	$65.00	$40,170

Phase 2				
76mm rigid insulation, air vapour membrane, 203mm steel studs @400mm o/c, batt insulation, poly VB and interior 16mm gypsum wallboard	328	m²	$335.00	$109,880
Cement board panel siding, Z-girts @ 400 o/c	290	m²	$515.00	$149,350
Split face concrete block veneer, connectors	38	m²	$600.00	$22,800
Flashing between siding and concrete block veneer	40	m	$100.00	$4,000
Tie-in exterior wall to existing	15	m	$300.00	$4,500
Scaffolding allowance	328	m²	$65.00	$21,320
Phasing premium allowance	1	sum	$15,600.00	$15,600
A35 Windows	54	m²	$1,644.44	$88,800
Phase 1				
Aluminum thermally broken windows with low E, tinted double glazing, including flashings, caulking and installation	45	m²	$1,300.00	$58,500
Premium for opening lights - Allowance	19	no.	$700.00	$13,300
Interior wood sill	41	m	$50.00	$2,050
Phase 2				
Aluminum thermally broken windows with low E, tinted double glazing, including flashings, caulking and installation	9	m²	$1,300.00	$11,700
Premium for opening lights - Allowance	3	no.	$700.00	$2,100
Interior wood sill	8	m	$50.00	$400
Phasing premium allowance	1	sum	$700.00	$700
A36 Doors & Glazed Screens	16	lvs	$13,900.00	$222,400
Phase 1				
Metal door and frame including hardware and finish - Single	1	lvs	$2,800.00	$2,800
Metal door and frame including view panel, hardware and finish - Single	4	lvs	$3,050.00	$12,200
Metal doors and frame including glazing, transom, hardware and finish - Pair	1	prs.	$7,500.00	$7,500
Premium cost for automatic opener	1	no.	$4,000.00	$4,000
Prefinished metal overhead door including track and electric operation - 3.6m x 2.4m	3	no.	$15,000.00	$45,000
Prefinished metal overhead door including track and electric operation - 3.6m x 3.0m	1	no.	$19,000.00	$19,000
Phase 2				
Metal door and frame including hardware and finish - Single	2	lvs	$2,800.00	$5,600
Prefinished metal glazed overhead door including track and electric operation - 3.6m x 4.3m	3	no.	$40,000.00	$120,000
Phasing premium allowance	1	sum	$6,300.00	$6,300
A37 Roof Covering	1,660	m²	$493.92	$819,900
Phase 1				
2 ply SBS membrane, protection board, 25mm sloped polyisocyanurate insulation, 125mm polyisocyanurate insulation (R 33.6), vapour barrier membrane	1,236	m²	$295.00	$364,620
400mm high parapet with metal cladding finish	76	m	$510.00	$38,760
1.3m high parapet with cement board siding	46	m	$1,580.00	$72,680
1.6m average high sloping parapet with cement siding finish	50	m	$1,900.00	$95,000
Roof/wall intersection	42	m	$150.00	$6,300
Seismic joint curb	25	m	$580.00	$14,500

Scuppers - Allowance	5	no.	$750.00	$3,750
Phase 2				
2 ply SBS membrane, protection board, 25mm sloped polyisocyanurate insulation, 125mm polyisocyanurate insulation (R 33.6), vapour barrier membrane, exterior gypsum sheathing	424	m²	$325.00	$137,800
900mm average high sloping parapet with cement siding finish	40	m	$1,160.00	$46,400
800mm high parapet with cement board siding	19	m	$1,050.00	$19,950
Existing roof/new wall seismic joint intersection	19	m	$420.00	$7,980
Scuppers - Allowance	2	no.	$750.00	$1,500
Phasing premium allowance	1	sum	$10,700.00	$10,700

A38 Roof Glazing

Assume Nil

A39 Projections $194,800

Phase 1				
600 deep x 1000 wide cantilevered prefinished metal canopy including structure, roofing, fascia and sofit	21	m	$3,500.00	$73,500
850 wide sunshade	34	m	$1,400.00	$47,600
Exterior signage	1	sum	$7,000.00	$7,000
Phase 2				
600 deep x 1000 wide cantilevered prefinished metal canopy including structure, roofing, fascia and sofit	17	m	$3,500.00	$59,500
Exterior signage	1	sum	$4,000.00	$4,000
Phasing premium allowance	1	sum	$3,200.00	$3,200

B1 PARTITIONS & DOORS

	QUANTITY	UNIT	RATE	COST
B11 Fixed Partitions	2,514	m²	$264.24	$664,300
Phase 1				
Wood studs @ 400mm o/c, acoustic insulation, 16mm gypsum wallboard both sides	1,455	m²	$220.00	$320,100
Secure partitions	418	m²	$350.00	$146,300
Glazed partitions	40	m²	$1,000.00	$40,000
Phase 2				
Steel studs @ 400mm o/c, acoustic insulation,16mm gypsum wallboard both sides	641	m²	$230.00	$147,430
Glazed partitions - Allowance	3	m²	$1,000.00	$3,000
Phasing premium allowance	1	sum	$7,500.00	$7,500
B12 Structural Partitions	500	m²	$172.60	$86,300
Phase 1				
13mm plywood sheathing, additional nailing and blocking at joints, built-up studs and hold-downs at sheer wall locations	374	m²	$160.00	$59,840
Phase 2				
Steel brace frame	126	m²	$200.00	$25,200
Phasing premium allowance	1	sum	$1,300.00	$1,300

B13 Movable Partitions

Assume Nil

B14 Internal Doors				$199,000
Phase 1				
Wood door and metal frame including hardware and finish - Single	30	lvs.	$2,500.00	$75,000
Metal door and frame including secure hardware and finish - Single	6	lvs.	$4,200.00	$25,200
Metal cell door and frame including detention hardware and finish - Single	7	lvs.	$7,500.00	$52,500
Wood doors and metal frame including hardware and finish - Pair	1	prs.	$4,300.00	$4,300
Metal doors and metal frame including secure hardware and finish - Pair	2	prs.	$5,800.00	$11,600
Premium cost for automatic opener	3	no.	$4,000.00	$12,000
Phase 2				
Wood door and metal frame including hardware and finish - Single	7	lvs.	$2,500.00	$17,500
Phasing premium allowance	1	sum	$900.00	$900

B2 INTERIOR FINISHES	QUANTITY	UNIT	RATE	COST
B21 Floor Finishes	1,601	m²	$110.56	$177,000
Phase 1				
Sheet flooring	778	m²	$90.00	$70,020
Non slip flooring	10	m²	$120.00	$1,200
Concrete sealer	277	m²	$40.00	$11,080
Epoxy flooring with cove base	58	m²	$250.00	$14,500
Ceramic tiling	82	m²	$450.00	$36,900
Vinyl base	771	m	$6.00	$4,626
Ceramic tile base	39	m	$35.00	$1,365
Phase 2				
Sheet flooring	69	m²	$90.00	$6,210
Rubber flooring	72	m²	$180.00	$12,960
Concrete sealer	246	m²	$40.00	$9,840
Ceramic tiling	9	m²	$450.00	$4,050
Vinyl base	178	m	$6.00	$1,068
Ceramic tile base	12	m	$35.00	$420
Premium over sheet flooring for rubber treads and risers to steps	1	sum	$1,000.00	$1,000
Phasing premium allowance	1	sum	$1,800.00	$1,800
B22 Ceiling Finishes	1,600	m²	$117.06	$187,300
Phase 1				
Suspended gypsum board ceiling, painted	1,073	m²	$120.00	$128,760
Suspended gypsum board secure ceiling, painted	58	m²	$250.00	$14,500
Paint exposed structure	74	m²	$30.00	$2,220
Gypsum bulkheads allowance	1	sum	$5,000.00	$5,000
Phase 2				
Suspended gypsum board ceiling, painted	150	m²	$120.00	$18,000
Paint exposed structure	11	m²	$30.00	$330
Paint exposed structure, high level	234	m²	$50.00	$11,700
Gypsum bulkheads allowance	1	sum	$5,000.00	$5,000
Phasing premium allowance	1	sum	$1,800.00	$1,800

B23 Wall Finishes	4,004	m²	$49.08	$196,500
Phase 1				
Paint finish	2,957	m²	$25.00	$73,925
Ceramic tiling	197	m²	$450.00	$88,650
Phase 2				
Paint finish	824	m²	$25.00	$20,600
Ceramic tiling	26	m²	$450.00	$11,700
Phasing premium allowance	1	sum	$1,600.00	$1,600

B3 FITTINGS & EQUIPMENT	QUANTITY	UNIT	RATE	COST
B31 Fittings and Fixtures	1,740	m²	$167.82	$292,000
Phase 1				
Millwork	1,236	m²	$75.00	$92,700
Washroom accessories including detention grade	1,236	m²	$50.00	$61,800
Specialties - lockers, whiteboards/tackboards, signage, secure storage, detention fittings, etc.	1,236	m²	$45.00	$55,620
Miscellaneous metals	1,236	m²	$5.00	$6,180
Phase 2				
Millwork	424	m²	$10.00	$4,240
Washroom accessories	424	m²	$15.00	$6,360
Specialties - gear lockers, whiteboards/tackboards, signage, etc.	424	m²	$100.00	$42,400
Miscellaneous metals	424	m²	$45.00	$19,080
Phasing premium allowance	1	sum	$3,600.00	$3,600
B32 Equipment	1,740	m²	$5.75	$10,000
Phase 1				
Small appliances	1	sum	$10,000.00	$10,000
Phase 2				
Gear washer/dryer - **Excluded**				
Gym equipment - **Excluded**				
Phasing premium allowance				
B33 Conveying Systems				
Nil				

C1 MECHANICAL SYSTEMS	QUANTITY	UNIT	RATE	COST
C11 Plumbing and Drainage	1,740	m²	$131.26	$228,400
Phase 1				
Perimeter drainage	1	sum	$13,230.00	$13,230
Roof drains	8	sum	$1,500.00	$12,000
Sanitary fixtures	14	no.	$5,000.00	$70,000
Prisoner cell fixtures	3	no.	$10,000.00	$30,000
Allowance for dhow system	1	sum	$50,000.00	$50,000
Phase 2				
Plumbing and drainage	424	m²	$119.57	$50,696

Phasing premium allowance	1	sum	$2,500.00	$2,500
C12 Fire Protection	1,740	m²	$73.91	$128,600
Phase 1				
Fire sprinklers	1,316	m²	$75.00	$98,700
Phase 2				
Fire Protection	424	m²	$67.26	$28,517
Phasing premium allowance	1	sum	$1,400.00	$1,400
C13 HVAC	1,740	m²	$529.20	$920,800
Phase 1				
Exhaust system	1	sum	$79,610.00	$79,610
Heating and cooling	1	sum	$354,004.00	$354,004
Ductwork and accessories	1	sum	$197,400.00	$197,400
Mechanical contractor's general conditions	1	sum	$75,721.68	$75,722
Phase 2				
HVAC	424	m²	$480.85	$203,880
Phasing premium allowance	1	sum	$10,200.00	$10,200
C14 Controls	1,740	m²	$98.62	$171,600
Phase 1				
Mechanical controls	1	sum	$125,020.00	$125,020
Phase 2				
Mechanical controls	424	m²	$104.62	$44,359
Phasing premium allowance	1	sum	$2,200.00	$2,200

C2 ELECTRICAL SYSTEMS	QUANTITY	UNIT	RATE	COST
C21 Service & Distribution	1,740	m²	$289.43	$503,600
Phase 1				
Distribution:				
allowance for mdc 2000a 120/208V, grounding etc.	1	no.	$160,500.00	$160,500
installation for above	1	sum	$48,150.00	$48,150
allowance for sdc	2	no.	$53,500.00	$107,000
installation for above	2	sum	$32,100.00	$64,200
Panels:				
allowance for - installation	2	sum	$11,500.00	$23,000
Conduit & Wire:				
allowance for	1	sum	$22,500.00	$22,500
Mechanical Connections:				
connections, disconnects - conduit & wire	1,316	m²	$28.00	$36,848
Phase 2				
Panels:				
allowance for - installation	2	sum	$11,500.00	$23,000
Conduit & Wire:				
allowance for	1	sum	$4,500.00	$4,500
Mechanical Connections:				
connections, disconnects - conduit & wire	424	m²	$28.00	$11,872
Phasing premium allowance	1	sum	$2,000.00	$2,000

C22 Lighting, Devices & Heat	1,740	m²	$268.22	$466,700
Phase 1				
Interior Lighting:				
fixture, installation - conduit & wire	1,316	m²	$110.00	$144,760
Exterior Lighting:				
fixture, installation - conduit & wire	1,316	m²	$20.00	$26,320
Emergency Lighting:				
exit sign, installation - conduit & wire	1,316	m²	$15.00	$19,740
Lighting Control:				
switch, occ, dimmer etc. - conduit & wire	1,316	m²	$30.00	$39,480
Receptacles:				
duplex, gfi, hk etc. - conduit & wire	1,316	m²	$50.00	$65,800
Minor Electrical & Mechanical Connections:				
minor Electrical & Mechanical Connection - conduit & wire	1,316	m²	$40.00	$52,640
Phase 2				
Interior Lighting:				
fixture, installation - conduit & wire	424	m²	$110.00	$46,640
Exterior Lighting:				
fixture, installation - conduit & wire	424	m²	$20.00	$8,480
Emergency Lighting:				
exit sign, installation - conduit & wire	424	m²	$15.00	$6,360
Lighting Control:				
switch, occ, dimmer etc. - conduit & wire	424	m²	$30.00	$12,720
Receptacles:				
duplex, gfi, hk etc. - conduit & wire	424	m²	$50.00	$21,200
Minor Electrical & Mechanical Connections:				
minor Electrical & Mechanical Connection - conduit & wire	424	m²	$40.00	$16,960
Phasing premium allowance	1	sum	$5,600.00	$5,600
C23 Systems	1,740	m²	$812.24	$1,413,300
Phase 1				
Fire Alarm:				
panel, pull, strobe, heat/smoke etc. - conduit & wire	1,316	no.	$20.00	$26,320
Communication:				
data drops - vertical conduit rough-in's back box	120	no.	$37.38	$4,485
5 meters per point for containment drops	300	m	$18.33	$5,499
horizontal copper	1	sum	$24,000.00	$24,000
port faceplate/test and label	60	no.	$19.08	$1,145
Cable tray				
cable tray, tee's, corners etc.	72	m	$220.00	$15,840
Intercom station:				
exterior intercom station	1	no.	$2,000.00	$2,000
video intercom master station	1	no.	$1,000.00	$1,000
door chime	1	no.	$500.00	$500
conduit & wire	20	m	$35.00	$700
additional costs for intercom station	1	sum	$840.00	$840
Security:				
allowance for security - tie into existing systems	1,316	m²	$30.00	$39,480
CCTV:				
unknown allowance for	1,316	m²	$100.00	$131,600
Access Control:				
door controller	10	sum	$27,197.47	$271,975
door release button, position switch, rex, card reader, es - conduit & wire	40	no.	$6,500.00	$260,000
Management:				

rack includes; cable management, management panel,				
trough, relay rack - grounding	2	no.	$2,602.00	$5,204
24 port patch panel	12	no.	$852.00	$10,224
patch, HDMI cables etc.	1	no.	$2,500.00	$2,500
ups - allowance for	1	no.	$5,350.00	$5,350
nvr - allowance for	1	no.	$7,500.00	$7,500
additional costs for management	1	sum	$9,233.40	$9,233
General Conditions:				
testing, commissioning & programming for above systems	1	sum	$81,816.65	$81,817
general conditions for Electrical Contractor - demobilization - permits/working drawings - Early design	1	sum	$257,722.50	$257,723
Phase 2				
Fire Alarm:				
panel, pull, strobe, heat/smoke etc. - conduit & wire	424	no.	$20.00	$8,480
Communication:				
data drops - vertical conduit rough-in's back box	40	no.	$37.38	$1,495
5 meters per point for containment drops	100	m	$18.33	$1,833
horizontal copper	1	sum	$8,000.00	$8,000
port faceplate/test and label	20	no.	$19.08	$382
Cable tray				
cable tray, tee's, corners etc.	28	m	$220.00	$6,160
Intercom station:				
exterior intercom station		no.	$2,000.00	
video intercom master station	1	no.	$1,000.00	$1,000
door chime	1	no.	$500.00	$500
conduit & wire	20	m	$35.00	$700
additional costs for intercom station	1	sum	$440.00	$440
Security:				
allowance for security - tie into existing systems	424	m^2	$30.00	$12,720
CCTV:				
unknown allowance for	424	m^2	$100.00	$42,400
Access Control:				
door controller	1	sum	$27,197.47	$27,197
door release button, position switch, rex, card reader, es - conduit & wire	5	no.	$6,500.00	$32,500
Management:				
rack includes; cable management, management panel,				
trough, relay rack - grounding	2	no.	$2,602.00	$5,204
24 port patch panel	7	no.	$852.00	$5,964
patch, HDMI cables etc.	1	no.	$2,500.00	$2,500
ups - allowance for	1	no.	$5,350.00	$5,350
nvr - allowance for	1	no.	$7,500.00	$7,500
additional costs for management	1	sum	$7,955.40	$7,955
General Conditions:				
testing, commissioning & programming for above systems	1	sum	$16,880.60	$16,881
general conditions for Electrical Contractor - demobilization - permits/working drawings - Early design	1	sum	$53,173.95	$53,174

NIC - CCTV, audio visual, any specialty items for Police or Fire Stations - not shown above - POE switch

Class D DATE: 13-May-25

D1 SITE DEVELOPMENT	QUANTITY	UNIT	RATE	COST
D11 General Sitework	**17,023**	**m²**	**$41.50**	**$706,400**
Phase 1				
Clear site, remove vegetation	2,000	m²	$5.00	$10,000
Break up and remove existing paving	1,075	m²	$10.00	$10,750
Saw cut existing asphalt paving	50	m	$40.00	$2,000
Grade existing area to new levels	3,075	m²	$10.00	$30,750
Asphalt paving including lines and markings	2,234	m²	$145.00	$323,930
Tie-in asphalt paving to existing	51	m	$50.00	$2,550
Concrete paving/sidewalk	429	m²	$150.00	$64,350
Concrete curb and gutter	358	m	$150.00	$53,700
Concrete pad	82	m²	$200.00	$16,400
Fencing enclosure to generator including access gate	36	m	$200.00	$7,200
Grass areas	330	m²	$25.00	$8,250
Soft landscaping	1	sum	$50,000.00	$50,000
Phase 2				
Break up and remove existing paving	487	m²	$10.00	$4,870
Saw cut existing asphalt paving	52	m	$40.00	$2,080
Asphalt paving including lines and markings	323	m²	$145.00	$46,835
Tie-in asphalt paving to existing	52	m	$50.00	$2,600
Concrete apron	250	m²	$200.00	$50,000
Concrete curb and gutter	11	m	$150.00	$1,650
Asphalt walkway, 1.6m wide	83	m²	$120.00	$9,960
Make good existing grass areas	1	sum	$2,500.00	$2,500
Phasing premium allowance	1	sum	$6,000.00	$6,000
D12 Mechanical Site Services	**17,023**	**m²**	**$11.16**	**$190,000**
Allowance for storm	1	sum	$100,000.00	$100,000
Allowance for water	1	sum	$50,000.00	$50,000
Allowance for sanitary	1	sum	$40,000.00	$40,000
D13 Electrical Site Services	**17,023**	**m²**	**$59.77**	**$1,017,400**
BC HYDRO:				
pad mnt transformer unknown allowance for	1	sum	$195,000.00	$195,000
allowance for pad and grounding	1	sum	$5,000.00	$5,000
Trenching:				
conduit - 10 x 103mm	110	m	$514.91	$56,640
allowance for corners, couplings etc.	1	sum	$11,328.00	$11,328
Lighting:				
fixture	10	no.	$2,210.62	$22,106
base	10	no.	$350.00	$3,500
installation	10	no.	$440.00	$4,400
conduit & wire	195	m	$50.00	$9,750
EV Charger: Level 2				
duel pedestal EV charger - Level 2 - base & holder	6	no.	$7,650.50	$45,903
installation for Duel pedestal EV charger	5	sum	$1,912.63	$9,563
conduit & wire	138	m	$50.00	$6,900
Generator:				
allowance for - size unknown	1	sum	$350,000.00	$350,000
allowance for installation - conduit & feeders	1	sum	$122,500.00	$122,500
General Conditions:				

testing, commissioning & programming for above systems	1	sum	$42,129.50	$42,130
general conditions for Electrical Contractor - demobilization - permits/working drawings - Early design	1	sum	$132,708.00	$132,708

NIC - photovoltaic, main feeders from BC HYDRO, TELUS - pad mnt transformer by others

D2 ALTERNS. & DEMOLITION	QUANTITY	UNIT	RATE	COST
D21 Demolitions	2,547	m²	$434.63	$1,107,000
Phase 2				
Architectural				
Demolish existing apparatus bay including removing foundations and protect remaining firehall building to be retained	466	m²	$190.00	$88,540
Premium over demolition for hazmat abatement	466	m²	$150.00	$69,900
Remove existing siding to expose sheathing	1,565	m²	$35.00	$54,775
Remove existing windows	79	m²	$100.00	$7,900
Remove existing exterior single doors	7	lvs.	$150.00	$1,050
Remove existing exterior double doors	1	prs.	$200.00	$200
Remove existing exterior single door and infill opening	1	no.	$700.00	$700
Remove existing overhead door and track and infill opening	1	no.	$1,700.00	$1,700
Remove existing membrane roofing, curbs and flashings	845	m²	$40.00	$33,800
Remove existing small ramp and regrade area	1	sum	$1,000.00	$1,000
Remove existing interior partitions, doors, finishes and FF&E	1,683	m²	$115.00	$193,545
Premium over interior demolitions for hazmat abatement	1,683	m²	$150.00	$252,450
Premium over removing interior partitions for removing concrete block walls	283	m²	$50.00	$14,150
Mechanical				
Allowance for demolition in Apparatus Bay	1	sum	$25,000.00	$25,000
Allowance for mechanical demolitions for remaining Phase 2	1,683	m²	$35.00	$58,905
Electrical				
Allowance for electrical demolitions	1,683	m²	$20.00	$33,660
Phasing premium allowance	1	sum	$41,900.00	$41,900
Phase 3				
Architectural				
Remove existing siding to expose sheathing	1,081	m²	$35.00	$37,835
Remove existing windows	42	m²	$100.00	$4,200
Remove existing exterior single doors	2	lvs.	$150.00	$300
Remove existing exterior double doors	2	prs.	$200.00	$400
Remove existing membrane roofing, curbs and flashings	438	m²	$40.00	$17,520
Remove existing interior partitions, doors, finishes and FF&E	864	m²	$115.00	$99,360
Mechanical				
Allowance for mechanical demolitions	864	m²	$35.00	$30,240
Electrical				
Allowance for electrical demolitions	864	m²	$20.00	$17,280
Phasing premium allowance	1	sum	$20,700.00	$20,700
D22 Alterations	2,547	m²	$4,299.10	$10,949,800
Phase 2				
Structural				
Elevator foundation	1	sum	$10,000.00	$10,000
Footing to new shear walls	130	m	$2,000.00	$260,000
New plywood shear walls	737	m²	$220.00	$162,140

Additional nailing and plywood edge blocking to existing plywood shear walls	466	m²	$20.00	$9,320
New hold-downs	44	no.	$500.00	$22,000
Additional anchor bolts into existing concrete foundation walls	145	m	$200.00	$29,000
Plywood floor diaphragm including additional nailing and blocking at edges	839	m²	$70.00	$58,730
Plywood roof diaphragm including additional nailing and blocking at edges	845	m²	$70.00	$59,150
Drag struts	150	m	$200.00	$30,000
Architectural				
76mm rigid insulation, air vapour membrane	1,565	m²	$90.00	$140,850
Prefinished horizontal wood-look metal siding, 19x75mm PT wood strapping @ 400 o/c	1,408	m²	$510.00	$718,080
Cement board panel siding, Z-girts @ 400 o/c	156	m²	$515.00	$80,340
Scaffolding allowance	1,565	m²	$65.00	$101,725
Aluminum thermally broken windows with low E, tinted double glazing, including flashings, caulking and installation	89	m²	$1,300.00	$115,700
Premium for opening lights - Allowance	22	no.	$700.00	$15,400
New single door and frame including hardware and finish	7	lvs	$3,000.00	$21,000
New double doors and frame including hardware and finish	1	prs.	$4,500.00	$4,500
2 ply SBS membrane, protection board, 25mm sloped polyisocyanurate insulation, 125mm polyisocyanurate insulation (R 33.6), vapour barrier membrane	845	m²	$295.00	$249,275
Make good parapets, tie-in	285	m	$355.00	$101,175
Wood studs @ 400mm o/c, acoustic insulation, 16mm gypsum wallboard both sides	1,942	m²	$220.00	$427,240
Glazed partitions - Allowance	50	m²	$1,000.00	$50,000
Wood door and metal frame including hardware and finish - Single	58	lvs.	$2,500.00	$145,000
Wood doors and metal frame including hardware and finish - Pair	4	prs.	$4,300.00	$17,200
Premium cost for automatic opener	4	no.	$4,000.00	$16,000
Sheet flooring	1,535	m²	$90.00	$138,150
Ceramic tiling	47	m²	$450.00	$21,150
Vinyl base	1,257	m	$6.00	$7,542
Ceramic tile base	28	m	$35.00	$980
Premium for special flooring to Council Chambers	1	sum	$20,000.00	$20,000
Suspended gypsum board ceiling, painted	1,582	m²	$120.00	$189,840
Premium for special ceiling to Council Chambers	1	sum	$20,000.00	$20,000
Gypsum bulkheads allowance	1	sum	$5,000.00	$5,000
Paint finish	3,795	m²	$25.00	$94,875
Ceramic tiling	58	m²	$450.00	$26,100
Premium for special wall finishes to Council Chambers	1	sum	$80,000.00	$80,000
Millwork	1,683	m²	$120.00	$201,960
Washroom accessories	1,683	m²	$20.00	$33,660
Specialties - lockers, whiteboards/tackboards, signage, etc.	1,683	m²	$40.00	$67,320
Miscellaneous metals	1,683	m²	$10.00	$16,830
Small appliances	1	sum	$10,000.00	$10,000
Elevator	2	stops	$75,000.00	$150,000
Mechanical				
Firehall Office/Dorm/Shower)				
Plumbing and drainage	373	m²	$244.47	$91,188
Fire Protection	373	m²	$83.98	$31,324
HVAC	373	m²	$530.94	$198,039
Mechanical controls	373	m²	$55.05	$20,535
Council Chambers				
Plumbing and drainage	373	m²	$105.00	$39,165
Fire Protection	373	m²	$83.98	$31,325
HVAC	373	m²	$502.07	$187,272

Mechanical controls	373	m²	$75.00	$27,975
Municipal Hall (West)				
Plumbing and drainage	938	m²	$102.05	$95,726
Fire Protection	938	m²	$83.98	$78,773
HVAC	938	m²	$502.07	$470,938
Mechanical controls	938	m²	$75.00	$70,350
Electrical				
Phase 2 - Fire Hall, Council Chambers, Renovation of old Police Station				
C21 Services & Distribution				
replace of main electrical - see new addition				
allowance for panels, feeders, grounding etc.	1,683	sum	$65.00	$109,395
Mechanical Connections:				
connections, disconnects - conduit & wire	1,683	m²	$35.00	$58,905
C22 Lighting, Devices & Heat				
Interior Lighting:				
fixture, installation - conduit & wire	1,683	m²	$110.00	$185,130
additional cost for high bay lighting	1	sum	$18,513.00	$18,513
Exterior Lighting:				
fixture, installation - conduit & wire	1,683	m²	$15.00	$25,245
Emergency Lighting:				
exit sign, installation - conduit & wire	1,683	m²	$10.00	$16,830
Lighting Control:				
switch, occ, dimmer etc. - conduit & wire	1,683	m²	$30.00	$50,490
Receptacles:				
duplex, gfi, hk etc. - conduit & wire	1,683	m²	$50.00	$84,150
Minor Electrical & Mechanical Connections:				
minor Electrical & Mechanical Connection - conduit & wire	1,683	m²	$40.00	$67,320
Elevator:				
additional costs for elevator	1	sum	$24,977.00	$24,977
Service and Distribution:				
new breaker 250A 3P	1	no.	$4,345.00	$4,345
disconnects fused	1	sum	$2,975.00	$2,975
minor work to local panel	1	sum	$600.00	$600
Conduit & Wire				
allowance for feeder and conduit	20	m	$201.87	$4,037
jb	4	no.	$150.00	$600
Lighting:				
pit light with guard	1	no.	$374.50	$375
installation	1	no	$300.00	$300
24" strip light	1	no.	$150.00	$150
48" strip light	1	no.	$200.00	$200
installation	4	no	$150.00	$600
conduit & wire	55	m	$35.00	$1,925
Emergency Lighting:				
exit lighting	1	no.	$278.20	$278
installation	1	hr.	$172.50	$173
conduit & wire	5	m	$35.00	$175
Switching:				
switch	2	no.	$250.00	$500
conduit & wire	26	m	$35.00	$910
Receptacles:				
t-slot gfi	1	no.	$250.00	$250
conduit & wire	26	m	$35.00	$910
Fire Alarm system:				
minor work to existing panel	1	sum	$500.00	$500
smoke/heat detector	5	no.	$383.99	$1,920
conduit & wire	71	m	$40.00	$2,840
Data/Voice:				

data - vertical conduit rough-in's back box	1	no.	$40.63	$41
5 meters per point for containment drops	5	m	$19.93	$100
horizontal copper	1	sum	$250.00	$250
port faceplate/test and label	1	no.	$22.83	$23
C23 Systems:				
Fire Alarm:				
panel, pull, strobe, heat/smoke etc. - conduit & wire	2	no.	$212.08	$424
Communication:				
data drops - vertical conduit rough-in's back box	100	no.	$37.38	$3,738
5 meters per point for containment drops	250	m	$18.33	$4,583
horizontal copper	1	sum	$25,000.00	$25,000
port faceplate/test and label	50	no.	$19.08	$954
Cable tray				
cable tray, tee's, corners etc.	66	m	$240.00	$15,840
Intercom station:				
exterior intercom station	1	no.	$2,000.00	$2,000
video intercom master station	1	no.	$1,000.00	$1,000
door chime	1	no.	$500.00	$500
conduit & wire	20	m	$35.00	$700
additional costs for intercom station	1	sum	$840.00	$840
Security:				
allowance for security	1,683	m^2	$20.00	$33,660
CCTV:				
unknown allowance for	1,683	m^2	$100.00	$168,300
Access Control:				
door controller	3	sum	$27,197.47	$81,592
door release button, position switch, rex, card reader, es - conduit & wire	12	no.	$6,500.00	$78,000
Management:				
rack includes; cable management, management panel, trough, relay rack - grounding	1	no.	$2,602.00	$2,602
24 port patch panel	11	no.	$852.00	$9,372
patch, HDMI cables etc.	1	no.	$2,500.00	$2,500
ups - allowance for	1	no.	$5,350.00	$5,350
nvr - allowance for	1	no.	$7,500.00	$7,500
additional costs for management	1	sum	$8,197.20	$8,197
General Conditions:				
testing, commissioning & programming for above systems	1	sum	$55,929.20	$55,929
general conditions for Electrical Contractor - demobilization - permits/working drawings - Early design	1	sum	$176,176.95	$176,177
NIC - CCTV, audio visual, any specialty items for Police or Fire Stations - anything not shown above - POE switch				
Phasing premium allowance	1	sum	$331,000.00	$331,000
Phase 3				
Structural				
Footing to new shear walls	36	m	$2,000.00	$72,000
New plywood shear walls	232	m^2	$220.00	$51,040
Additional nailing and plywood edge blocking to existing plywood shear walls	211	m^2	$20.00	$4,220
New hold-downs	10	no.	$500.00	$5,000
Additional anchor bolts into existing concrete foundation walls	101	m	$200.00	$20,200
Plywood floor diaphragm including additional nailing and blocking at edges	426	m^2	$70.00	$29,820
Plywood roof diaphragm including additional nailing and blocking at edges	438	m^2	$70.00	$30,660
Drag struts	50	m	$200.00	$10,000
Premium for seismic upgrade to sloped roof - Allowance	1	sum	$20,000.00	$20,000

Architectural				
76mm rigid insulation, air vapour membrane	1,081	m²	$90.00	$97,290
Prefinished horizontal wood-look metal siding, 19x75mm PT wood strapping @ 400 o/c	973	m²	$510.00	$496,230
Cement board panel siding, Z-girts @ 400 o/c	108	m²	$515.00	$55,620
Scaffolding allowance	1,081	m²	$65.00	$70,265
Aluminum thermally broken windows with low E, tinted double	42	m²	$1,300.00	$54,600
Premium for opening lights - Allowance	9	no.	$700.00	$6,300
New single door and frame including hardware and finish	2	lvs	$3,000.00	$6,000
Metal doors and frame including glazing, hardware and finish - Pair	2	prs.	$6,500.00	$13,000
Premium cost for automatic opener	1	no.	$4,000.00	$4,000
2 ply SBS membrane, protection board, 25mm sloped	438	m²	$295.00	$129,210
Make good parapets, tie-in	197	m	$355.00	$69,935
Make good sloped roof - Allowance	1	sum	$29,000.00	$29,000
Wood studs @ 400mm o/c, acoustic insulation, 16mm gypsum wallboard both sides	922	m²	$220.00	$202,840
Glazed partitions - Allowance	25	m²	$1,000.00	$25,000
Wood door and metal frame including hardware and finish - Single	30	lvs.	$2,500.00	$75,000
Wood doors and metal frame including hardware and finish - Pair	6	prs.	$4,300.00	$25,800
Metal doors and frame including glazing, hardware and finish - Pair	1	prs.	$6,000.00	$6,000
Premium cost for automatic opener	5	no.	$4,000.00	$20,000
Sheet flooring	750	m²	$90.00	$67,500
Vinyl base	726	m	$6.00	$4,356
Suspended gypsum board ceiling, painted	750	m²	$120.00	$90,000
Gypsum bulkheads allowance	1	sum	$5,000.00	$5,000
Paint finish	2,178	m²	$25.00	$54,450
Premium for special wall finishes to Main Lobby	1	sum	$60,000.00	$60,000
Millwork	864	m²	$120.00	$103,680
Washroom accessories	864	m²	$20.00	$17,280
Specialties - lockers, whiteboards/tackboards, signage, etc.	864	m²	$40.00	$34,560
Miscellaneous metals	864	m²	$10.00	$8,640
Small appliances	1	sum	$5,000.00	$5,000
Mechanical				
Phase 3 - Municipal Services				
Plumbing and drainage	864	m²	$102.20	$88,305
Fire Protection	864	m²	$75.00	$64,800
HVAC	864	m²	$627.83	$542,446
Mechanical controls	864	m²	$65.00	$56,162
Electrical				
Phase 3 - Municipal Services				
C21 Services & Distribution				
replace of main electrical - see new addition allowance for panels, feeders, grounding etc.	864	sum	$65.00	$56,160
Mechanical Connections: connections, disconnects - conduit & wire	864	m²	$35.00	$30,240
C22 Lighting, Devices & Heat				
Interior Lighting: fixture, installation - conduit & wire	864	m²	$110.00	$95,040
Exterior Lighting: fixture, installation - conduit & wire	864	m²	$15.00	$12,960
Emergency Lighting: exit sign, installation - conduit & wire	864	m²	$10.00	$8,640
Lighting Control: switch, occ, dimmer etc. - conduit & wire	864	m²	$35.00	$30,240
Receptacles:				

duplex, gfi, hk etc. - conduit & wire	864	m²	$50.00	$43,200
Minor Electrical & Mechanical Connections:				
minor Electrical & Mechanical Connection - conduit & wire	864	m²	$40.00	$34,560
Service and Distribution:				
new breaker 250A 3P	1	no.	$4,345.00	$4,345
disconnects fused	1	sum	$2,975.00	$2,975
minor work to local panel	1	sum	$600.00	$600
Conduit & Wire				
allowance for feeder and conduit	20	m	$201.87	$4,037
jb	4	no.	$150.00	$600
Lighting:				
pit light with guard	1	no.	$374.50	$375
installation	1	no	$300.00	$300
24" strip light	1	no.	$150.00	$150
48" strip light	1	no.	$200.00	$200
installation	4	no	$150.00	$600
conduit & wire	55	m	$35.00	$1,925
Emergency Lighting:				
exit lighting	1	no.	$278.20	$278
installation	1	hr.	$172.50	$173
conduit & wire	5	m	$35.00	$175
Switching:				
switch	2	no.	$250.00	$500
conduit & wire	26	m	$35.00	$910
Receptacles:				
t-slot gfi	1	no.	$250.00	$250
conduit & wire	26	m	$35.00	$910
Fire Alarm system:				
minor work to existing panel	1	sum	$500.00	$500
smoke/heat detector	5	no.	$383.99	$1,920
conduit & wire	71	m	$40.00	$2,840
Data/Voice:				
data - vertical conduit rough-in's back box	1	no.	$40.63	$41
5 meters per point for containment drops	5	m	$19.93	$100
horizontal copper	1	sum	$250.00	$250
port faceplate/test and label	1	no.	$22.83	$23
C23 Systems:				
Fire Alarm:				
panel, pull, strobe, heat/smoke etc. - conduit & wire	2	no.	$212.08	$424
Communication:				
data drops - vertical conduit rough-in's back box	60	no.	$37.38	$2,243
5 meters per point for containment drops	150	m	$18.33	$2,750
horizontal copper	1	sum	$15,000.00	$15,000
port faceplate/test and label	30	no.	$19.08	$572
Cable tray				
cable tray, tee's, corners etc.	33	m	$240.00	$7,920
Intercom station:				
exterior intercom station	1	no.	$2,000.00	$2,000
video intercom master station	1	no.	$1,000.00	$1,000
door chime	1	no.	$500.00	$500
conduit & wire	20	m	$35.00	$700
additional costs for intercom station	1	sum	$840.00	$840
Security:				
allowance for security	864	m²	$20.00	$17,280
CCTV:				
unknown allowance for	864	m²	$100.00	$86,400
Access Control:				
door controller	3	sum	$27,197.47	$81,592

door release button, position switch, rex, card reader, es - conduit & wire	12	no.	$6,500.00	$78,000
Management: rack includes; cable management, management panel, trough, relay rack - grounding	1	no.	$2,602.00	$2,602
24 port patch panel	8	no.	$852.00	$6,816
patch, HDMI cables etc.	1	no.	$2,500.00	$2,500
ups - allowance for	1	no.	$5,350.00	$5,350
nvr - allowance for	1	no.	$7,500.00	$7,500
additional costs for management	1	sum	$7,430.40	$7,430
General Conditions: testing, commissioning & programming for above systems	1	sum	$33,271.80	$33,272
general conditions for Electrical Contractor - demobilization - permits/working drawings - Early design	1	sum	$104,806.20	$104,806
NIC - audio visual - POE switch				
Phasing premium allowance	1	sum	$363,500.00	$363,500