Fire Hall Technical Team - Progress Report 2

Meetings Held within Reporting Period

The (pro bono) Contract Services Agreement between the Fire Hall Technical Team (Tech Team) and the District anticipates the generation of Progress Reports on an approximately monthly basis, enabling the CAO to review and include these as *Reports for Information* in the agenda packages for scheduled Council meetings.

With no Council meeting scheduled for the month of August, this Report 2 covers the period from July 14 to September 9, inclusive. During this period three meetings (Aug. 5, Aug. 14. Sept 1.) were held between the CAO and Tech Team members and detailed meeting notes were generated for each of these. In addition, two intra-Tech-Team meetings were held to coordinate and advance team members' specific work activities.

Alignment of Over-arching Principles

The working relationship between Tech Team members and CAO has continued to solidify since their June 5 introductory meeting. Shared principles have been identified in the course of CAO / Team member dialogue:

- *Benchmarking* information from comparable regional projects can support scope refinement; design optimization; cost comparison and selection of optimum management and procurement approach.
- Tech Team contribution helps to support *transparent public communications* and taxpayer confidence in the ultimate project design, scope, estimated cost and schedule.
- *Recommendations related to costs, risks and trade-offs must be clear and evidence-based*. The public should be able to see that reasonable alternatives were genuinely considered.
- Taxpayer confidence can be enhanced through the adoption of a *Budget-constrained approach***:** A future project manager / team could be given a firm budget, clearly identified essential requirements and secondary wants, then asked to optimize the fire hall design within that envelope.
- *Cost effectiveness* is a key criterion in the formulation of recommendations. For e.g. the question is not whether the existing Metchosin fire hall apparatus bay could be upgraded. Rather, it is whether doing so would provide a material level of seismic upgrading, functional enhancement and building useful life extension *at a cost that would justify the added complexity and uncertainty of retrofit* versus the cost of new apparatus bay construction.
- *Time management* is critical: The first phase of the project master schedule should work backwards from the two-year construction commencement requirement specified in the recent $7 M federal grant award. Unmanaged delays increase exposure to inflation, contractor availability restrictions and changing construction-market conditions.
- *Undertake parallel (vs. sequential) due diligence*: Geotechnical work, servicing review, benchmarking, financing and other investigations should be undertaken in parallel wherever practical, to optimize time/schedule management.
- *Procurement Method affects Process:* Traditional design-bid-build may delay meaningful construction pricing until late in design, increasing exposure to cost escalation and market changes.

Conversely, a collaborative, progressive preconstruction approach with early contractor involvement may help mitigate cost escalation risk.

- *Stage-gated process:* Progressing through well-defined stages, with each stage authorized sequentially by Council, can reduce the risk of significant project cost overrun.

Work Undertaken, During the Reporting Period

Work undertaken during the reporting period aligns with the 8-point Work Scope set out in Schedule A of the Technical Team's Consulting Services Agreement.

Point 1 (team review of project materials compiled to date by District) is complete. See **Appendix 1** for the Tech Team's summarized review of current documentation pertaining to the existing apparatus bay.

Point 8 (project "roadmap" development) has been constructively accelerated through the CAO's recent engagement of Colliers Project Leaders, whose assigned representative participated in and contributed to the August 14 and Sept 1 meetings of the Tech Team and CAO.

The remaining 6 points all directly involve or will be informed by the Team's ongoing benchmarking survey work, which has been the main focus of team effort for this reporting period.

A. Benchmark Survey work:

Approach: Detailed information is being sought from 10 regional fire hall projects (generally, projects that are under construction or that have been completed since 2020).
Key contacts in "target" communities are first contacted by telephone, to provide context for a request for their participation in the benchmark survey and to verify their reciprocal interest and availability.
A standardized template (~ 40 topics / questions) has been developed for issuance by email to key contacts (generally, the fire chief) in each of the target, analog communities.
This template is pre-filled with all information available via conventional web search and from queries made to Gemini AI. Survey respondents are asked to check this pre-filled information (and correct it, if/where necessary) and to provide supplemental information in a separate column. All information provided by benchmark survey participants is then being uploaded and consolidated into a master excel workbook, for easy reference / comparison between projects.

As of Sept 9, eight outreach letters and benchmark surveys have been sent and two completed response packages (Comox; Cowichan Bay) have been received. See attached survey *example* (Comox) - included as **Appendix 2** to this Report.

Contacts have been generous, often offering future site tours where these may be desired / warranted. (The first half of October has been identified by the CAO and Tech Team as the preferred time frame, for site visits to the 3 or 4 regional fire halls that are deemed to be most pertinent).

Once they are aggregated, the results of the benchmarking surveys will help to inform:

- Metchosin's community needs assessment (for example, service area populations for the analog fire halls range to over 20,000, well above currently forecast values for Metchosin's population growth*)
- an evidence-based budget "envelope" (i.e. based on inflation-adjusted, analog fire hall costs)
- a range of design options, with an assessment of their pros and cons
- the regional service providers most strongly recommended by fire hall clients in analog communities

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*The rural municipality of Metchosin, BC is projected to experience stable, slow-paced growth, with its population expected to rise from its current size of roughly 5,200 residents to approximately 5,614 residents by 2038. [1, 2]
Unlike neighboring West Shore municipalities like Langford and Colwood—which are experiencing rapid suburban expansion—Metchosin remains committed to bylaws and an Official Community Plan aimed at preserving agricultural lands and a rural pace of life. [1, 2, 3]
Population & Growth Projections:
According to demographic forecasting models compiled by BC Stats and the Capital Regional District (CRD), Metchosin's growth breakdown spans the next decade: [1, 2]

Year	Projected Population	Total Growth % (Relative to 2019 Base)
Current (2026 Estimate)	~5,214	—
2028 Forecast	5,460	6% Increase
2038 Forecast	5,614	8% Increase

1 - metchosincivicweb.net
2 - https://worldpopulationreview.com/cities/canada/metchosin
3 - https://islandsocialtrends.ca/district-of-metchosin-celebrates-40-years/

B. Apparatus Bay Structural Review (Cost Effectiveness Dimension):

Although past work has been undertaken by both Herold Engineering and Skyline Engineering to assess the condition of and potential to upgrade Metchosin's existing 1996 apparatus bay, the conclusions of prior reports have not addressed *cost effectiveness* as squarely as would be ideal, for communication with Metchosin taxpayers who will be funding the ultimate choice between retrofit and new construction.

CAO Payette has received and considered a corresponding recommendation from the Tech Team, with the result that Herold Engineering has been re-engaged to more directly address cost effectiveness, based on a well-defined incremental work scope.

Because ongoing benchmarking efforts have verified that the Comox fire hall project includes refurbishment of their existing apparatus bay - as well as a new build for their administrative infrastructure - and since Herold Engineering is presently supporting the Comox Project, the above-noted re-engagement of Herold by Metchosin has included a request for related information (*paraphrasing*): *To the extent that the Comox fire hall apparatus bay refurbishment plan and implementation has involved engineering input from Herold, please include in the pending report for Metchosin a summary of: the rationale for retention of the Comox apparatus bay, the scope of refurbishment being undertaken and its impact on a) improving functionality and b) seismic upgrading*.

We anticipate receiving a decision-focused report that reviews 3 scenarios for Metchosin's fire hall apparatus bay:
Low: basic seismic upgrade.
Medium: seismic upgrade plus selected functional improvements.
High/New Build: replacement/full-functionality option based on existing feasibility work.
A qualitative **retrofit vs. new-build matrix** should compare criteria such as cost, cost certainty, seismic performance, accessibility, firefighter health/safety, sustainability, longevity and future flexibility and should address structural work, mechanical/electrical implications, demolition, temporary works, operational disruption, and the functions achieved with each scenario. Underlying reasoning, trade-offs and recommendations should be written in plain English, to facilitate transparent communication with the public.

The corresponding Herold report is expected to be submitted in draft form for review by CAO and Tech Team in October.

(*Pending*) Review of Federally Funded Grant (Terms & Conditions)

As of Sept. 9, the detailed Terms and Conditions of the August 2026 grant award from the Build Communities Strong (BCSF) have not yet been provided to Metchosin's CAO. These are expected to be conveyed later in September. In the meantime, verbal confirmation has been given to CAO Payette that Metchosin will need to "get shovels in the ground" within 2 years of the August award date and to complete construction within 5 years of the award date. Colliers Project Leaders will be developing a master project schedule that includes these and other key milestones.
It is anticipated that the work of the Technical Team will assist in optimizing the ultimate project scope and design within the terms and conditions of the grant, once these have been received and reviewed.

Appendix 1 - Summary of Current Documentation - Apparatus Bay			
Issue	**Importance**	**Detail**	**Comments**
Seismic			
Does not meet post-disaster seismic standard	**1**	Existing apparatus bay is substantially below current post-disaster requirements. Herold notes the 1992 seismic design basis was about **40%** of current BCBC 2024 seismic design load; JDa/Skyline also identify the bay as below current post-disaster expectations.	
Roof diaphragm and roof-to-wall connections are deficient	**1**	One of the most serious structural issues. The JDa/Skyline material states roof/ceiling-to-wall connection capacity is estimated at about **10% of current Code requirements**.	
Weak north and south elevations at overhead doors	**1**	The overhead door elevations have limited wall area to resist seismic forces and are identified as the weakest portions of the building.	
Concrete tilt-up walls require seismic upgrade	**1**	Existing concrete tilt-up walls are identified as seismically inadequate and may require new connections, supplemental reinforcement, or external concrete shear/buttress walls.	
Foundation / geotechnical capacity uncertain for retrofit	**1**	Herold assumed conventional strip footings but could not confirm footing configuration. JDa/Skyline also indicate foundation upgrades are likely required to support seismic loads.	
Existing roof may not meet current post-disaster snow-load requirements	**1**	Herold notes current post-disaster snow-load requirements represent a major increase over the 1992 design basis and that detailed investigation is needed to confirm existing truss capacity.	
Significant structural upgrade scope if the bay is retained		Retaining the bay would likely require extensive seismic work, including buttresses, roof diaphragm upgrades, roof-to-wall ties, and related architectural/mechanical/electrical impacts.	
Major renovation may trigger broader BCBC compliance		JDa notes that major renovations would trigger updated code requirements, including post-disaster standards. This is a key risk for a bay-retention strategy.	

Interior Vehicles			
Apparatus bays are undersized	**1**	Existing bays are smaller than current best-practice dimensions. JDa identifies existing bay size as inadequate for modern emergency vehicle sizes.	
Overhead doors are too small	**2**	Existing overhead doors are listed as **12 ft wide x 14 ft high**, while best practice is identified as **14 ft wide** doors for safer and more flexible apparatus access.	
Limited circulation around vehicles	**1**	Limited space around apparatus affects firefighter safety, turnout efficiency, maintenance, and emergency operations. This is also listed in the public Q&A as an OHS concern.	
Firehall apron too close to road	**1**	The limited apron setback prevents apparatus from fully exiting without encroaching onto the roadway, creating safety and traffic risks during staging and response.	
No direct vehicle exhaust extraction / poor diesel exhaust control	**1**	The bay lacks a direct vehicle exhaust system. JDa identifies this as a safety issue, and the Q&A separately notes poor diesel exhaust ventilation.	**Install Nederman System?**

Interior Gear and Contamination			
Apparatus bay layout does not support modern operational zoning	**1**	The current arrangement does not properly support red/yellow/green zoning, contaminant control, or modern firefighter health practices. This overlaps with decon, gear storage, and support-space separation.	
Inadequate clean/dirty separation	**1**	Existing layout does not properly separate contaminated operational zones from clean/support areas. NFPA and WorkSafeBC references in the JDa report emphasize clean/dirty zoning and contamination control.	
Turnout gear stored in apparatus bay	**1**	JDa recommends that turnout gear not be stored within the apparatus bay and instead be located in a separate room with dedicated HVAC.	
Inadequate decontamination space	**1**	Q&A identifies inadequate decontamination space as critical because crews may return from fires with asbestos, VOCs, hydrogen cyanide, lead, arsenic, and other contaminants.	
No dirty-side decontamination washrooms / showers	**1**	Existing layout does not properly support decontamination washrooms/showers on the contaminated side before personnel enter clean zones. JDa identifies decontamination showers and washrooms as part of required contamination-control practice.	
Poor gear cleaning, drying, and storage	**1**	Public Q&A identifies poor cleaning and drying facilities for firefighter gear. JDa recommends dedicated drying space and dedicated room for gear dryer and washer.	
SCBA / contaminated equipment washdown deficiency	**2**	The existing arrangement does not adequately support separated cleaning/washdown of contaminated masks, cylinders, SCBA, and other equipment. This should be addressed if the bay remains in fire-service use.	

No sprinkler system	**2**	Public Q&A lists no sprinkler system as an apparatus bay issue. JDa notes sprinklers may not be required under the current classification, so this is important but scope/code-trigger dependent.	
Mezzanine and support spaces exposed to operational zone	**2**	Mezzanine offices and support spaces are exposed to the apparatus bay, with air-quality, acoustic, contamination, and separation concerns. IT/radio room access from the bay is also a concern.	
Mezzanine headroom / fire-rating concerns	**2**	JDa identifies limited mezzanine headroom and potential unrated conditions, which may create structural, life-safety, and code-compliance issues if retained or repurposed.	
Unsafe storage platform / storage above gear area	**1**	Existing storage above turnout gear is not recommended. JDa also links workplace safety review to WorkSafeBC requirements for platforms, storage racks, guardrails, and safe access.	
Hose/training tower access concerns	**2**	Existing hose tower access and use raise safety and functionality concerns. Dedicated hose drying/training provisions are better addressed in a modern layout.	
Building envelope and energy performance deficiencies	**3**	Existing envelope does not meet modern energy-performance expectations. JDa recommends exterior insulation, rainscreen cladding, and improved roof assemblies if the bay is retained.	
Aging mechanical and electrical systems	**2**	HVAC, lighting, and electrical systems may not meet current safety, air-quality, energy, or operational expectations. Engineering review is recommended.	

General Considerations		
Retention of existing bay may disrupt operations during construction	Skyline/JDa note that impacts on existing fire services during construction must be considered when weighing retention against replacement.	
Temporary accommodation / phasing cost uncertainty	This is not just a construction logistics issue; it affects options analysis and budget reliability. It should be tracked because the email discussion specifically flagged concern around temporary accommodation cost basis.	
Retention may approach or exceed replacement value once all costs are included	Skyline states structural upgrades could approach the cost of a new replacement building serving the same purpose. Herold's $900,000 structural estimate excludes mechanical/electrical/architectural rework, fees, permits, escalation, phasing, and owner administration.	
Potential reuse for non-firehall purpose may avoid post-disaster requirement	JDa notes that reuse/repurposing of the existing bay for non-firehall district use may avoid the post-disaster standard required for firehall use. This could be important in a hybrid option: new firehall/admin building plus retained bay for lower-risk district use.	

Appendix 2 - *Example* Benchmark Survey (Comox Fire Hall)

COMMUNITY: COMOX **PRIMARY CONTACT: Fire Chief Gord Schreiner**

INFORMATION BEING SOUGHT	INFORMATION GLEANED FROM INTERNET SEARCH & *INFO FROM GEMINI A.I.*	SUPPLEMENTAL INFORMATION PROVIDED BY PRIMARY CONTACT
General Information		
Community	**Comox**	
Service Area Population	will serve combined population of approx. 22,000 to 23,000. 15,000 in town and balance in surrounding fire protection district	**correct**
Primary Contact phone & email	**Fire Chief Gord Schreiner** **tel.** 250-339-2432 **email:** firehall@comox.ca	**correct**
Fire Dept. Staff & Volunteer Count	More than 60 firefighters reported in January 2026	**50+ firefighters currently**
Call Volume Summary	Close to 1,000 incidents annually (medical and fire) reported in January 2026	**Yes, 54% medical**
Project Overview	New Admin Bldg & Upgraded Apparatus Bays (office portion is expanding from 4,200 square feet to approximately 11,000 square feet across three storeys, while existing vehicle bays are upgraded & retained). *Retains the seismically upgraded structural core of its existing truck bays while heavily expanding health, safety, and decontamination infrastructure*	**Original office built in 1977/78.** **Yes, minimum upgrades to truck bays, mostly cosmetic, replacing existing heating system and adding fire suppression sprinklers.** **Adding solar to both existing truck bays and new office roof. ($100K)**

General Notes & Comparison Elements	Post-disaster construction standards + integral EOC. Decontamination, laundry & 10+ showers/ washrooms. Universal accessibility (elevator) Training, classroom, kitchen & office space. Onsite lodging	**Yes, post disaster and fire suppression sprinklers for both truck bays and offices.** **Two saunas, Decon shower and decon SCBA unit and PPE washers and dryer.**
Site Constraints / Geotechnical		**Compact site, and additional challenges reconnecting with truck bays.**
Web-based information Sources	https://www.comox.ca/government-bylaws/news-alerts/town-comox-advances-fire-hall-replacement-project https://www.comox.ca/government-bylaws/news-alerts/next-phase-begins-construction-upgraded-fire-station	
Financial Information		
Project Approval &/or other Reference Date(s)	Council direction Jan 26, 2026	
Initial Cost Estimate &/or Approved Budget	$6.1M estimate; $7.0M incl. contingency	
Contingency Details	see above	
Construction Duration & Completion	Projected Completion Date: Fall 2027 Construction underway since May 2026; office demolition completed June 2026	**So far on track and on budget.**
Current Forecast or Final Cost	**Updated forecast of $6.5 M, mid-August 2026**	
General Notes	Grant of $5 Million received. Town funds 2/3 and Fire Protection Improvement District 1/3 of remaining cost.	

Resourcing		
Architect	MacDonald Hagarty Architects;	**Request for proposals, we received 13** **Chose MacDonald for several reasons including local firm.**
Project Management	Town project team	**Lacasse Construction with Fire Chief overview**
Engineering		**Herold Engineering**
Other Consultants/Notes on Resourcing		**All resourced through Architect**
Builder, General Contractor & Procurement	Lacasse Construction Ltd., construction manager Town procurement	**Request for proposals, we received 11, Chose Lacasse for several reasons including local firm.**
Source References	Media/project contact: firehall@comox.ca	
General Notes		
Build Overall		
Construction Type	New Construction: steel structure mixed with mass timber over a concrete foundation	**Yes, steel and wood, not very much big timber**
Gross Building Area	11,000 ft² new office wing	**yes**
Ground & Upper Floor Areas		**11,000 divided evenly over three floors**
Apparatus Bay Area	Three existing apparatus bays retained; dimensions not found in search	**4000 sq. ft.**
Admin. Function Area	11,000 ft² new office wing	**yes**
General Notes	Fully universal accessibility featuring an accessible elevator connecting the levels	**Yes, three different kitchens, one per floor**
Future Expansion Provisions		
Are You Able to Provide Copy of Project Floorplans?		**Yes, attached**

Build - Admin Functions		
Total Admin floor Area	see above	**11,000+ sq ft**
Offices & General	8 administrative workspaces	**yes**
Training, Meeting and EOC	three multipurpose boardrooms and classrooms that double as study areas. Built to post-disaster standards with reliable backup power so the facility can double as the town's central EOC during major emergencies	**Yes,** **We operate a regional training centre so classroom will be well used.**
Kitchen, Dining and Day Room	Upgraded, expanded cooking and dining areas designed to accommodate active duty and paid-on-call crews Integrated crew support spaces for downtime and shift transition	**5 private bedrooms** **4 Murphy beds on second floor in multi purpose classrooms**
Washrooms, Change & Lockers	up to 10 showers and 12 washrooms.	**yes**
Dormitories, Fitness and Other Support	five hotel-style residential lodging suites on top floor with a shared common area to support paid-on-call members and improve nighttime response times Dedicated health and wellness spaces to maintain firefighter physical readiness	**yes**
Dimensions / Other General Notes	Room dimensions not published in the current RFP/release	**Plans attached**
Build - Apparatus Bay		
Total area	Three existing apparatus bays retained; dimensions not found in search	**4000 sq. ft.**
Vehicle Fleet - Types & Functions	*Fire Rescue response vehicles include structural pumpers/engines like custom*	**110' tower truck, two Type 1 engines, 1 Squad (multi purpose), 1 rescue, one**

	Freightliner/Fort Garry apparatus, rescue units, and support vehicles	**empty bay. Three staff pickups and one staff prevention vehicle.**
Number of Vehicle Positions		**above**
Bay Structure & Configuration	*Utilizes the existing drive-through/back-in structural footprint with minor structural refreshing, a new roof overlay, and upgraded fire-suppression sprinkler grids*	**Yes, THREE drive through double bays.**
Bay Door Dimensions (H & W), Clearances & Apron	Retains existing short apron. *Standardized to modern post-disaster guidelines with wide bay clearances allowing adequate side-to-side walkarounds, matching minimum standard vertical clearances (~14 ft door heights) to accommodate modern aerial/top-feature apparatus*	**Existing apron gets replaced with new but remains same size.** **14'H X 12' W, (5' between doors)**
General Notes		
Future Expansion Notes		
Build - "Hot" Areas		
Gross Decontamination Area	*Introduces a dedicated, specialized gross decontamination and transition zone directly accessible from the apparatus floor to strip heavy carcinogens and soot, post-incident*	**Yes, First door from rear of station.**
Clean / Dirty Separation	*Architectural layouts explicitly segregate contaminated gear handling from administrative and living areas, materially reducing toxic off-gassing and secondary exposure in crew quarters*	**No locker room.**
Turnout Gear Storage		**No segregated room. Turnout gear in individual stalls throughout the truck bay area. Concern about**

		contamination when all gear is stored in same room.
Gear Washing & Drying	*heavy-duty industrial extractors/washer, dedicated gear drying space, and a jump from 1 to 10 total firefighter showers to ensure immediate personal hygiene*	**2 H/D extractors and one dryer** **And yes to showers.**
Vehicle Exhaust Capture, SCBA and Compressor	*Direct-source vehicle exhaust extraction systems integrated overhead to eliminate diesel particulate accumulation inside the apparatus floor envelope.* *Dedicated mechanical utility allocations for breathing-air cascade systems and high-pressure cascade compressor filling stations positioned adjacent to clean maintenance zones.*	**We used an internal air scrubbing system. AirVac911. Works great. Vehicle movement and gas detections starts scrubbers. No hoses!** **Yes, for fill station. We collect fresh air 40' above ground**
Equipment / Hose Cleaning & Storage	*Streamlined functional routing from apparatus re-loading directly to specialized hose-washing stations and integrated drying/rack storage*.	**Yes, electric hose dryer, right beside hose storage racks**
Dimensions / Other General Notes		