Attachment 1

SQUAMISH

HARDWIRED *for* ADVENTURE

Real Estate and Facilities Master Plan

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Table of Contents

EXECUTIVE SUMMARY

In April 2018, the District adopted the Real Estate and Facilities Strategy ("REFS") as a first step towards meeting the District's future facilities and land requirements in a fiscally responsible manner. The next step in the REFS implementation plan is to complete a Real Estate and Facilities Master Plan ("REFMP") to ground truth the REFS findings including architects' reviews and more detailed cost estimates. The objective of the REFMP is to establish a prioritized list of future facility and land investments ("What"), a recommended timeline for making those investments ("When") and potential funding strategies to support those investments ("How").

The *Strategic Principles* identified in the REFS provided important guidance for completing the due diligence, analysis, prioritization and decision making required for recommending the "What, How and When" in the REFMP.

Through the development of the REFS and the REFMP the District also learned the importance of District facilities and lands as community spaces. As a result, future investments decisions are recommended to be evaluated with a view to ensuring that District facilities and lands will be welcoming, safe and inclusive for all members of the community regardless of culture, race, gender or age.

The District will also continue to respect and acknowledge that facility and land investments identified in the REFMP will occur on Squamish Nation traditional territory. This provides our two governments with the opportunity to support the development of inclusive community spaces and look at opportunities to:

- Explore partnerships to share facilities where possible;
- Engage in ongoing consultation on facility and land investments of mutual interest (i.e. diking, landfill expansion, affordable housing, regional transit, recreation).

The key findings/recommendations from the REFMP include:

WHAT

- The architects' reviews confirm the recommendations from the REFS – all of the existing facilities identified in the first column in Table ES1 below are recommended for replacement. The architects concluded that further investment into these facilities may improve the end-of-life conditions but would not address future expansion needs, seismic instability or increase functionality.

- After the review by the architects and cost consultants, the facility estimates from the REFS have increased from $97-$118m to $141-$169m. In order to be conservative, the cost estimates include the estimated design, site development and construction costs (lower end of range) plus potential contingencies (higher end of range). The estimates are reflected in 2020 dollars. They are provided at this time to support future decision making and are not expected to be the final investment numbers. Prior to making final investment decisions on any of the facilities noted in this plan, a more detailed scope and design of each building will be completed and from that more accurate estimates of capital and operating and maintenance costs will be established.

Table ES1 – Facility Investment Summary (2020$)

Replacements (plus Expansion)		New Facilities - Expansions		Renovations	
Fire Hall #2	$8.7-9.9m	Brennan Park		Brennan Park	
Fire Hall #1	$2.8-3.1m	- 2nd Ice Rink	$16.2-23m	- Rec Ctr. Reno #1	$2m
Public Works	$10.1-12.6m	- 8 Lane pool	$8.3-11m	- Rec Ctr. Reno#2	$1.7-2.5m
Municipal Hall	$20.5-25m	- Wellness Ctr. – Gym	$2.7-$3.8m	- New Cust. Service	$2.5-3.7m
Parks Operations	$1.5-2.1m	- Wellness Ctr. – Prog	$6.7-9.4m		
BP – Field Users	$1.1-$1.5	Parks DT Satellite	+/-$1.0m		
Library	$16.7-20.2m	Multi Modal Hub	$0.65m		
Fire Hall#3	$0 (CAC's)	Transit Maintenance	$20m+		
		Neighborhood Ctrs	$1m		
		Downtown Parking	$15m		
Total	$63-$76m	Total	$72-85m+	Total	$6-8m
Not Recommended for Replacement or Expansion					
Suitable Condition/Function		End of Life/Relocation		Non-Operational	
RCMP		Art's Council Building		Forestry Building	
The 55		Youth Centre		Cleveland Ave. Restaurant	
Adventure Centre		Drop in Centre			
		Animal Control			

- *Total future land investments* cannot be identified at this time and requires further analysis.

WHEN

- *Fire Halls and Public Works* –These facilities are the most immediate priorities. Replacement is recommended within the next 3 years to address end-of-life conditions and improve community safety.

- *Municipal Hall* – Replacement of this facility is recommended within 5 years to address end-of-life and overcapacity issues before significant capital repairs are required.

- *Transit Maintenance Facility* – The Transit Maintenance Facility is required for the expansion of the transit service. If the District is successful in securing federal funding currently offered, the Transit Maintenance Facility is recommended to advance in in prioritization and to be completed within five years.

- *Remaining "Growth-Oriented" facilities* at Brennan Park (Second Ice Rink, Eight Lane pool Addition, Wellness & Arts Centre, New Customer Service Area) and the Library are to be prioritized after the investments identified above given these facilities are not experiencing end-of-life conditions, do not impact community safety or have immediate grant funding identified.

- The District will continue to *explore opportunities to support community needs* (youth services) and non-profit community groups (Squamish Arts Council and heritage community) through providing space within District facilities, grants to support leasing from third parties or long-term leases on District land - without requiring the District to invest in new standalone facilities.

- *Interim solutions* will be required, until new facilities are built to address current overcapacity issues at Municipal Hall, Brennan Park (programming) and the Library.

- Replacing/expanding the existing facilities, building new facilities and extending the lifespan of facilities that will continue also requires *increased annual capital repairs and operating expenses*. These increased annual expenses will need to be considered when adding new facilities.

HOW

There is no singular approach to funding the upcoming facility and land investments. Many events and circumstances beyond the control of the District will occur that will impact the "What" and "When" and ultimately the "How" for the District's investments. Initial funding illustrations, based on current information provide insights and guidance to support future decision making by Council and the community. These illustrations, confirm that funding the gap between the estimated $155m+ in facility and land investments and the District's current Land Reserve balance of $11m, requires the following funding sources:

  - *Annual District borrowing* – is required right from the beginning to fund critical facility investments (Fire Halls, Public Works - $30.6m) in the next 3 years – the District's Land Reserve Account ($11m) cannot fund these investments. Anticipated maximum annual borrowing is $4m/year.
  - *District Dispositions* – disposition of surplus fee simple District land can provide an estimated $45m in funding (1) without increasing taxes and (2) to support investments which exceed the annual borrowing capacity. The dispositions cannot occur all at once and a Disposition Strategy is required to ensure the District maximizes the values of its surplus properties.
  - *External funding* – attracting external funding (i.e. grants, sponsorship) is required to complete the "Growth Oriented" expansion candidates at Brennan Park (Second Ice Rink, Eight Lane pool Addition, Wellness Centre, New Customer Service Area). Annual borrowing and the Land Reserve will not be sufficient to fund the estimated $77m for these investments. The amount of external funding available is still to be determined and the timing will determine when these investments can be completed.
  - *Partnerships* – public-public and public-private partnerships can provide enhanced service to the community and reduce the District's facility investment, especially for the Growth Oriented expansion candidates at Brennan Park. Partnerships are recommended to be explored prior to making final investments decisions for these investments and Municipal Hall.
  - *Leasing* – Leasing Municipal Hall and the Library would free up an estimated $45m of District capital to fund other projects. This possibility must be explored before final decisions are made regarding these facilities.
  - *Development Funding* – will supplement future funding but not a guaranteed source.

- In addition to providing capital for upfront investments, District Dispositions can generate increased tax revenues to help fund increased ongoing annual capital repairs and operating expenses anticipated as the District's facility portfolio expands. District Dispositions can also generate increased economic development, creation of employment space and increased housing opportunities.

- Given that the District's future land investments requires further analysis; it is anticipated that the District's funding approach will need to be adjusted in the future to accommodate these investments.

- In 10 years, or when the current facility backlog is addressed, whichever is earlier, the District will need to begin rebuilding its financial reserves to support the next generation of facility replacements 25+ years from now. Future facility replacements will not be possible without sufficient reserves.

IMPLEMENTATION

Through implementation of the REFMP:

- The Long-Term Financial Plan ("LTFP") will be updated with the "What/When/How" from the REFMP.

- Once the LTFP is updated, investments decisions can then be considered for the District's Five-Year Financial Plan (Annual Budget).

- The District will commence an unprecedented period of facility analysis, design and construction. The District will require in-house project management resources immediately to support this process. These activities are anticipated to be focused throughout the next three years and beyond as follows:

Table ES2 - Implementation Timeline

Year	Focus	Activities
1	Due Diligence	Final site analysis, partnership and grant funding opportunities, final needs assessments
2	Decision Making	Options analysis, community engagement and Council endorsements in budget
3+	Project Work	Detailed design, tendering and construction

- The District's funding illustrations will require updating to reflect the many external factors impacting the District's ability to fund future investments including:

    - market values of District Dispositions;
    - contributions from development;
    - other financial challenges the District may face;
    - external funding availability/timing;
    - partnerships reached for facility delivery; and
    - escalations in construction costs.

GLOSSARY OF ABBREVIATIONS AND ACRONYMS

Architects	Studio Hub, Johnston Davidson, Kasian
BP	Brennan Park
BPRC	Brennan Park Recreation Centre
Budget	Annual Five Year Financial Plan process
CACs	Community Amenity Contributions
Cost Consultants	Ross Templeton, Hanscomb, Bty Group
DCCs	Development Cost Charges
District	District of Squamish
District Dispositions	Disposition of surplus District property
EDPA	Environmental Development Permit Area
EFCI	Extended Facility Condition Index
EOC	Emergency Operations Centre
EOI	Expression of Interest
ESAs	Environmentally Sensitive Areas
FCI	Facility Condition Index
IFHMP	Integrated Flood Hazard Management Plan
k	Thousand
Library	Squamish Public Library
LTFP	Long-Term Financial Plan
m	Million
OCP	Official Community Plan
PRMP	2012 Parks and Recreation Master Plan
PSAB	Public Sector Accounting Board
RDH Study	2011 Study completed by RDH Engineering
REFMP	Real Estate and Facilities Master Plan
REFS	2018 Real Estate and Facilities Strategy
ROW	Right of Way
SCG	Sponsored Crown Grant
SLRD	Squamish-Lillooet Regional District
The 55	The 55 Activity Centre
WWTP	Waste Water Treatment Plant

1.0 INTRODUCTION

The District manages a sizable real estate portfolio of facilities (18), land (1,400 acres) and tenants (80+) to serve the needs of the community. In 2017/18 the District developed a Real Estate and Facilities Strategy ("REFS") in response to the following:

- Many of the District's existing facilities are at or near end of life conditions and require an immediate and significant investment to keep them operating;
- The community is experiencing significant growth;
- The undeveloped land base in Squamish is diminishing;
- The District has not made provisions for future investments into facilities and land in its Long-Term Financial Plan;
- The District had no policy/strategy for evaluating future facility and land investments in the context of the District's overall real estate needs or the District's overall capital needs.

In April 2018, the District adopted the REFS prepared by Stantec Consulting and the District's support team. The REFS identified:

- A +/-$100m "gap" between the District's current state and future state for facilities and land;
- Six strategic recommendations supported by 25 action items to focus future decision making to enable the District to fill the gap in a fiscally responsible manner;
- An implementation process to ensure that the District's future investment into facilities and land will be evaluated in the context of the District's broader capital needs and financial constraints.

As a result, the REFS called for the completion of a Real Estate and Facilities Master Plan ("REFMP"), similar to other District asset management or master plans as the next step in the process to ensure a path to providing the necessary services to the community in a fiscally responsible manner over the next 25 years. The REFMP identifies:

"What"	A prioritized list of the facility and land investments required to meet the current and future service needs of the community.
"When"	The recommended timing of those investments.
"How"	An overview of funding strategies to support the required investment.

In recent months, the District completed the due diligence recommended in the REFS including:

(1) refining project investment/funding estimates
(2) options analysis
(3) District Council engagement
(4) community engagement (Brennan Park)

and has developed the REFMP based on the findings.

2.0 Review of the REFS (2018)

The REFS, which was adopted in 2018, provided key findings, guiding principles, and recommended due diligence for completing the REFMP. Prior to considering the REFMP, the following review of the REFS is provided.

2.1 Key Findings

- The District's facilities portfolio has reached a critical state; 75% of the District's facilities are 25 years or older. A preliminary review of the capacity, function and condition of the District's existing facilities identified that at least seven of the District's 13 operational facilities are candidates for replacement and three additional facilities are exceeding capacity as shown below:

Figure 1 – REFS from 2018 (Table 3-3)

Facility	Capacity	Functionality	Age / Life stage	Condition (FCI)	EFCI (5yr)	EFCI (10yr)	Facility Management Strategy
Public Works - Office	Exceeding	Unsuitable	End of life – 21yrs	23.45%	79.10%	87.82%	Replace
Fire Hall #2- Tantalus	Exceeding	Unsuitable	End of life – 39yrs	29.55%	60.09%	62.94%	Replace
Junction Park Bldg. (Arts Council)	Exceeding	Unsuitable	End of life – 37yrs	38.38%	32.43%	58.95%	Replace
Parks Operations /Brennan Concession	Exceeding	Unsuitable	End of life – 44yrs	25.85%	51.48%	61.53%	Replace
Municipal Hall	Exceeding	Unsuitable	End of life – 41yrs	27.64%	41.67%	58.09%	Replace
Youth Centre	Sufficient	Unsuitable	End of life – 52yrs	32.64%	37.82%	59.72%	Replace
Animal Control	Exceeding	Unsuitable	End of life – 42yrs	17.83%	33.00%	40.27%	Replace
Public Works - Maintenance	Exceeding	Unsuitable	End of life – 35 yrs	18.85%	26.29%	27.84%	Replace (with Ops Office)
Brennan Park Recreation Centre & Rink	Exceeding	Unsuitable	End of life -39yrs	17.43%	25.90%	32.69%	Maintain long-term, Initiate plan to renew/ rehab
Brennan Park Aquatic Centre	Exceeding	Unsuitable	Old – 25yrs	11.77%	36.00%	50.58%	Maintain long-term; Initiate renewal plan
Public Library	Exceeding	Suitable	20yrs	5.53%	41.08%	49.27%	Maintain long-term, Initiate expansion plan
Fire Hall #1- Alex Munro	Upcoming	Suitable	18yrs	4.07%	10.14%	14.55%	Maintain long-term, Initiate expansion plan
RCMP Building	Upcoming	Suitable	11yrs	5%	11.49%	26.08%	Maintain long-term, Initiate expansion plan
The 55	Sufficient	Suitable	8yrs	1.00%*	6.32%*	17.47%*	Maintain long-term
Forestry Building	Sufficient	Suitable	Old -26yrs	6.96%	39.98%	43.65%	Maintain short-term, Assess future investment
Drop-in Centre	Sufficient	Suitable	End of life – 52yrs	6.07%	25.63%	29.30%	Maintain short-term, Assess future investment

Facility	Capacity	Functionality	Age / Life stage	Condition (FCI)	EFCI (5yr)	EFCI (10yr)	Facility Management Strategy
Cleveland Ave. Restaurant	Sufficient	Suitable	End of life – 117yrs	0.00%	4.52%	8.49%	Maintain short-term, Assess future investment
Adventure Centre	Sufficient	Suitable	12yrs	3.27%	3.97%	23.74%	Maintain short-term Assess future investment

- Preliminary cost estimates were established for all of the replacement and expansion candidates plus additional new facilities identified to provide new services *(REFS - Sections 3.2.3 to 3.2.5).* A $100m+ investment was identified as shown in Table 1 below:

Table 1 – REFS Funding Gap

Needs	Estimated Investment
Existing Facility – Replacements	$30-$38m
Existing Facilities - Upgrade	$58m - $65m
New Facilities -	$9m - $15m
Land	Tbd
Total	$97m - $118m +

- Over 100 land acquisitions were identified to support important community infrastructure including:

Infrastructure	Dikes, utilities roads, transportation facilities
Public Realm	Parks, trails, public access
Environmental	Greenspaces, environmental sensitives areas, storm water retention

- The future facility and land needs identified during the REFS were consolidated into an overall Needs Assessment (See Appendix 1).

- Funding for a +/-$100m investment requires a variety of non-taxation funding sources as the District does not currently have the financial means available to complete this level of investment in a timely fashion. The District currently has $11m in financial reserves to support this investment. The maximum available borrowing capacity to support future facility/land investments is estimated at +/-$4m/year. Without additional funding, it would require over 20 years of borrowing to complete a $100m+ real estate investment that the community requires much sooner.

2. 2 Guiding Principles

The primary output from the REFS is six strategic recommendations to support the analysis and decision-making required to meet the objective of fiscally responsible provision of community services through facility and land investments including:

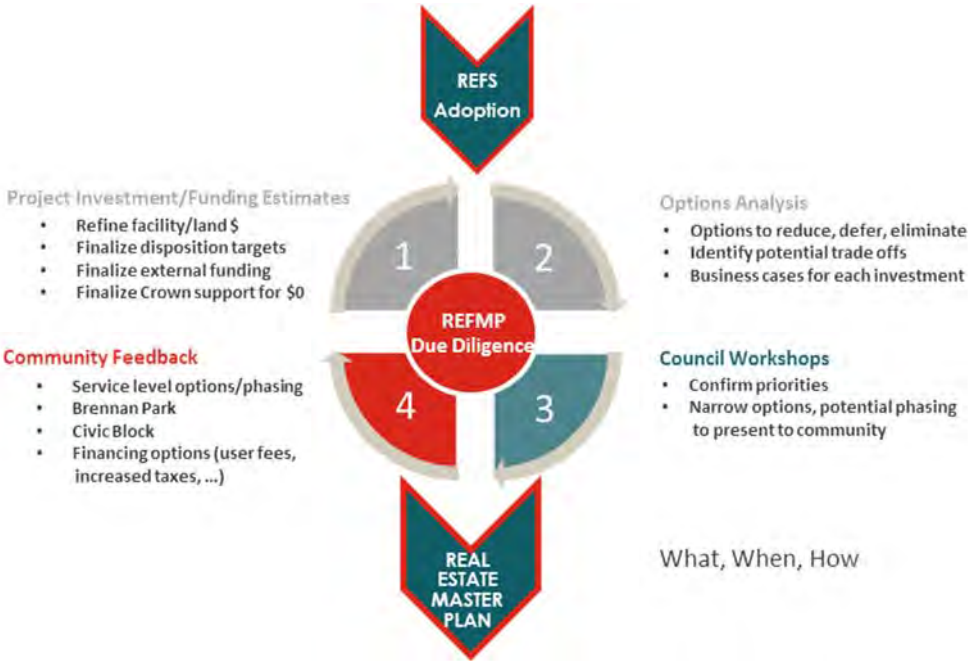
1. Prioritize needs
2. Manage facility investment
3. Optimize facilities and land
4. Minimize private land investment
5. Increase available (non-taxation) capital
6. Strengthen management processes and systems

These strategies are supported by 25 recommended actions in the REFS –*Strategic Recommendations and Actions*. These strategies and supporting actions were then consolidated into six strategic principles to ensure the analysis and decision-making process that lies ahead for the community, District Council and staff moves forward in a timely, focused fashion. Reference to these strategic principles and how they impact the development of the REFMP is found throughout the remainder of the REFMP.

2.3 Recommended Due Diligence

In order to identify the "*What/When/How*" for the REFMP, the REFS recommended four areas of due diligence be completed.

Figure 2 – REFS Implementation



The recommended due diligence has since been completed including:

- Engaging Architects (Studio Hub, Johnston Davidson, Kasian) to provide updated space plans and cost estimates for most of the facilities investments. The findings are shown in the "Facility Reports and Cost Estimates" in Appendix 4.
- Engaging / contacting numerous facility stakeholders and non-profit lessees to ensure the most up-to-date information regarding their needs was captured in the REFMP.
- Creating a database identifying over 350 anticipated District land acquisitions.
- Identifying and valuing District-owned properties that could be disposed of to fund investments.
- Advertising Expressions of Interest ("EOI") in early 2019 to identify the potential for partnerships and cost sharing in the delivery of new facilities at Brennan Park.
- Advertising an EOI in early 2019 to establish interest for purchase or lease of District land in the Business Park.
- Exploring external funding and partnership opportunities.
- Contacting possible partners to determine their interest in locating within District facilities.
- Undertaking a community engagement campaign in Summer 2018 to collect community feedback on future redevelopment options and priorities for Brennan Park.

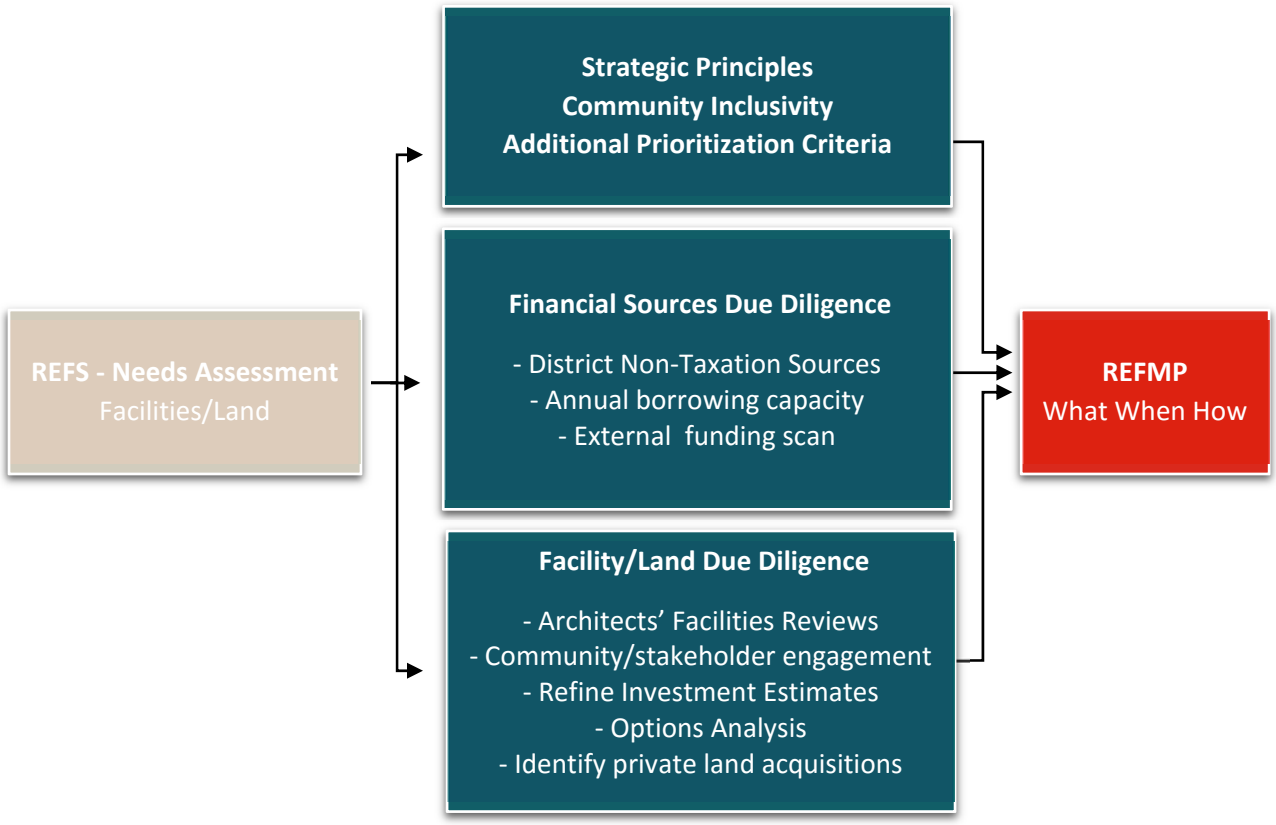
3.0 REFMP – Analysis Lens

3.1 Overview

In order to complete the REFMP, the initial Needs Assessment was ground truthed through the following approach into the *"What/When/How"* of the REFMP.

The Strategic Principles adopted in the REFS focused the due diligence into two sections (1) *Financial Sources Due Diligence* and (2) *Facility/Land Due diligence* as shown below in Figure 3. The Strategic Principles also supported the prioritization of the Needs Assessment, along with *Additional Prioritization Criteria* to be discussed later in the REFMP (Section 4.2.1 c-*f*), that led to the recommended *What and When.* The *Facility and Land Due Diligence* also provided updated data to support the *What and When* recommendations. The District's *Financial Sources Due Diligence* provided the financial context to support the *How* recommendations.

Figure 3 – REFMP Analysis Lens



3.2 Strategic Principles

As indicated earlier in *Section 2 - Review of the REFS (2018),* the REFS identified six strategic principles to support the development of the REFMP. These principles provide important guidance for completing the due diligence, analysis and decision-making required for recommending future facility and land investments in the REFMP and for final facility and land investment decisions to follow.

Figure 4 – REFS Strategic Principles

1. **Prioritize Needs**
   a) Prioritize the District's facilities and land needs based on the following approach:

Primary – groups needs into 3 categories	**Secondary** –prioritizes within Primary categories
1.Critical – required to operate and govern the community, provide safety and essential services. Municipal Hall, Public Works, Parks Ops, Fire, Police, Waste Mgmt., Roads (Primary), Dikes, Commuter Trails **2.Core** – crucial to the community that the District must deliver (or find others to deliver on our behalf). Parks and Rec, Roads (Secondary), Library, Cemeteries, Employment Lands, Environmental Protection **3.Support** – want and need these in our community but not directly in the District's mandate. Child care, Transit, Affordable Housing, Seniors/Youth Services, Tourism (Info Ctr.) Socio/Cultural/Arts, Trails	a) Committed/Regulated – have to do it b) End of Life – to minimize physical or financial risk c) Legitimize Asset – to eliminate legal risk d) Opportunistic – economies of scale or timing e) Growth – improve service as community grows f) Economic Development – attract business g) Community Enhancement – improve quality of life

2. **Manage Facility Investment**
   a) Minimize investment into replacements/upgrades/expansions/new facilities where possible by deferring projects, capitalizing on temporary solutions, reducing the project scope, securing alternative delivery methods such as Public-Public (P2) partnerships, leasing or eliminating the service.

   b) Evaluate facility investment decisions through a business case approach that considers the full life cycle investment required (i.e. operating costs, maintenance, repairs and replacements) not just the initial upfront cost.

   c) Adopt individual maintenance levels for each facility to maximize life expectancy as applicable and provide the greatest return on investment to the District.

   d) Adjust leasing activities to maximize the resources available to meet critical community needs, including:

      i. Focus leasing to non-profit partners and commercial leasing where municipal services/community goals are supported;
      ii. Explore alternate methods to supporting non-profits such as grants to support leasing from third parties;
      iii. Provide facility space to non-profit partners, when required and where possible, inside larger District facilities rather than stand-alone facilities or by creating multi-user space to reduce the amount of space required;
      iv. Re-evaluate non-profit facility lease rates to include a greater recovery of the costs associated to operate the facility; and
      v. Include reasonable termination clauses (where possible) to maintain the greatest amount of flexibility

3. Optimize Existing Facilities and Land

a) Explore existing District-owned Sponsored Crown Grant lands first (which can only be used for municipal purposes and cannot be sold) when considering a relocation or expansion of District facilities.

b) Complete a stand-alone Master Plan process for Brennan Park to:

- Maximize the use of this site for recreation purposes;
- Capitalize on its Highway 99 location; and
- Explore its potential for non-recreation uses

4. Minimize Private Land Investment

a) Acquisition of private land will only be for specific operational or community purposes. Private land acquisition for land banking or speculating will not be pursued. Future land needs will be explored in the following order of priority:

- Existing District Sponsored Crown Grants Lands (Also noted in 3a above)
- Crown lands
- Rezoning or subdivision
- Existing District Fee Simple land
- Private land

b) Affordable housing opportunities will be pursued through alternate methods (than purchasing private land) including:

- Acquiring units through the rezoning process
- Utilize Crown Land where possible
- Partnering with organizations such as BC Housing
- Include affordable housing components in any sales of District land, where possible

5. Increase Available Capital

a) Identify external funding sources – public-public partnerships (non-profits, provincial agencies), public-private partnerships (private developers), federal and provincial government grants and naming rights – prior to making any investment decisions. Recreation and cultural facility upgrades and expansions appear to be prime candidates for these external funding sources.

b) Identify District-owned, fee simple real estate to sell or lease long-term that does not have an operational purpose within the next 25 years or a longer-term strategic use.

c) Identify opportunities to enhance a potential disposition of District property through (i) rezoning, subdividing, improving infrastructure and (ii) additional community benefits such as allotting affordable housing or day care space.

d) Any disposition of District-owned property will occur through an open process appropriate to the type of disposition pursued.

6. Interim Principles Until Real Estate and Facilities Master Planning Process (see Implementation) is Complete

a) The District will not acquire any property unless at no cost to the District.

b) The District will not complete any significant repairs to District facilities being explored for replacement unless in an emergency or required under a lease agreement.

c) The District will not enter into any new leases/licenses without Council approval.

3.3 Community Inclusivity of District Assets

Through the development of the REFS and the REFMP the District has also learned the importance of District facilities and lands as community spaces. As a result, future investments decisions are recommended to be evaluated with a view to ensuring that District facilities and lands will be welcoming, safe and inclusive for all members of the community regardless of culture, race, gender or age.

The District will also continue to respect and acknowledge that facility and land investments identified in the REFMP will occur on Squamish Nation traditional territory including. This provides our two governments with the opportunity to support the development of inclusive community spaces and look at opportunities to:

- Explore partnerships where possible with Squamish Nation to share facilities
- Engage in ongoing consultation with Squamish Nation on facility and land investments of mutual interest (i.e. diking, landfill expansion, affordable housing, regional transit, recreation.)

3.4 Financial Sources Due Diligence

Further analysis of the funding sources identified in the REFS identifies that numerous funding sources are available for the District to fund the future facility and land investments including:

3.4.1 District Funding Sources (Non Taxation)

There is currently +/- $11m in the Land Reserve and an estimated $45m through disposition of surplus District property ("District Dispositions") that could be applied to construction of municipal facilities. Both of these sources have a finite capacity, as once they have been depleted, they cannot be replenished.

a) Land Reserve – The District administers financial reserves through bylaw including a Land Reserve which can be used to fund both facility and land investments. The Land Reserve has been funded over the years through dispositions of District lands. Any future dispositions that would normally replenish the Land Reserve are identified separately below under *District Dispositions.* Therefore, once the Land Reserve is depleted, it will not be replenished in the future.

   Estimated Funding - $11m (Current balance) - Facilities and Land

b) District Dispositions – *Strategic Principle 5b* provides a framework to *"identify District-owned, fee simple real estate to sell or lease long-term that does not have an operational purpose within the next 25 years or a longer-term strategic use"*. Appendix 5 (District Facility Inventory) and Appendix 6 (District Land Inventory) identify all of the District's operational properties. These inventories do not include parks, greenspaces, small surplus lands or unused road dedications. After the REFMP is adopted, the "fee simple" properties in these inventories will be evaluated against Strategic Principle 5b to identify which properties are surplus to the District's operational needs and are candidates for disposition. Land properties that are identified under "Ownership" in Appendix 6 as "leased" and properties that are identified under "Ownership Type" as "Sponsored Crown Grant" cannot be sold and will not be evaluated.

   It is not anticipated that funds from the disposition of District lands will be available for at least two years due to the following:

- Final decisions are still required for facilities such as Municipal Hall and the Library.
- Rezoning may be required for the District to maximize the financial and community benefit through a disposition.
- Consideration of existing leases.

Based on the above, a District Disposition Strategy is recommended following the adoption of the REFMP to ensure the District maximizes the potential returns to the community and schedules any dispositions identified to support the facility investments when needed. It is also recommended during the District Disposition Strategy process that the District consider Action #12 from the REFS and:

"Explore a long-term land reserve" including:

"Although there appears to be sufficient District-owned land to meet the District's operational land needs for the next 25 years, it is recommended that the District continue to monitor its future land needs to ensure any lands required will be available if needed beyond the life of the REFS or in case projections in the REFS change. During this process, the District should monitor its own lands to ensure they are being used to the highest and best use for the community to identify any potential repurposing of District land if required. Future land needs beyond the life of the REFS should also be considered while processing rezoning applications of private lands."

The District's existing District Sponsored Crown Grant lands or Crown Lands within the District are recommended to be evaluated for their potential for future long-term needs beyond the next 25 years.

An exact estimate of the District Dispositions that will be available in the future is not possible at this time. For the purposes of the REFMP, however, it is estimated that future District Dispositions could provide $45m in funding support. Disposition is not only defined as selling the property, but may include long-term leases.

Estimated Funding - $45m - Facilities and Land

3.4.2 Development Funding

The District collects development cost charges (DCCs), community amenity contributions (CACs) and parks funding (Parks Reserve) through land development processes (building permits, rezoning's and subdivisions). The monies collected support future investments but the amount of support is dependent upon the volume of development activity in the future and cannot be predicted at this time. Also, under current regulations and policies, these fees are applicable to a portion but not all of the land acquisitions identified (DCCs) and to critical facilities (CACs) only.

a) Parks Reserve – The District acquires parkland through the subdivision process. If acquisition is not a practical option, a cash-in-lieu payment is made. Cash-in-lieu payments are held in the Parks Reserve and the use of the funds is restricted to park acquisitions or improvements. The amount of contributions is solely dependent upon the volume of subdivision applications approved by the District.

Estimated Funding – $600k (Current Balance) + future contributions - Park Land Only

b) Development Cost Charges – The District currently collects DCCs from land developers to ensure that new development pays for future infrastructure required as a result of that growth. DCCs are not intended to support facility and land investments to address growth that has already occurred. The DCC process is regulated by the Province of BC through the *Local Government Act*. As provided in the legislation, DCCs are limited to collection for growth-related roads, drainage, sewers, water and parkland projects. DCCs are not eligible to be used for construction of municipal facilities unrelated to sewer, water or drainage.

DCCs are collected at the building permit and subdivision approval stages. DCCs are accumulated in each of the reserve categories and are used to fund projects identified in the DCC bylaw. In order to be included in the DCC bylaw, a project must be determined to create an impact as the result of future growth resulting from the development. DCC reserves are drawn down to provide funding for prioritized projects endorsed by Council.

Estimated Funding – A future source of funding for land investments.

c) Community Amenity Contributions – CACs are negotiated as part of a rezoning application so that new development contributes a fair share to community infrastructure required by new growth. Under the District's current CAC Policy, CACs are collected to provide funding for construction of "Critical Facilities" (i.e. Fire Halls, Public Works, Municipal Hall) and to support affordable housing. Approximately $2m has been collected for community amenities, mostly prior to the adoption of the CAC Policy in 2018, and is largely committed to either affordable housing ($900k) or other specific purposes. It is estimated that +/-$650k of this provision is available to support investments into Critical Facilities.

Estimated funding – Currently +/- $650k. Given that the CAC provision is reliant upon the level of development activity, it is not possible to predict the amount of funding CACs can provide on an annual basis. - Critical Facilities Only

d) Environmental Reserve Fund - The *Environmental Reserve Bylaw No. 2642* was established in November 2018 to support environmental initiatives throughout the District. Currently, revenue is primarily through cash contributions in lieu of required tree replacement under the new *Tree Management Bylaw No. 2640*, though there are also opportunities through other land development processes such as rezoning's and development permits. Funds are for the purpose of supporting environmental initiatives including, but not limited to, vegetation and habitat restoration or enhancement, and land acquisition for the purpose of habitat preservation.

Estimated Funding – To be determined given this fund is newly established - Environmentally Sensitive Areas ("ESAs") Only

3.4.3 External Funding

The REFS recommended exploring external sources of funding, such as Federal/Provincial grants, partnerships, sponsorships and donations to reduce the District's capital investment.

Recreational/cultural/social facility investments are the only facility investments that are anticipated to attract external funding. Further insights into how the various forms of external funding will apply include:

a) Grant Funding – The REFS identified numerous Federal and Provincial grant funding programs. Some programs are offered for a limited time only (Small Communities Fund until 2024), while others have ongoing funding available (Gas Tax Fund). These grant opportunities tend to be available for recreational and cultural facilities, as opposed to operational administrative facilities. For the District, all of the Brennan Park Recreation Centre projects and the Library are expected to be candidates for grant funding. The amount of funding changes from year to year and forecasting is unpredictable.

The amount of Federal and Provincial grant funding varies from funding program to funding program (i.e. 50%/75% of project). In many cases, a funding contribution from the local community/government is required. There also tends to be significant competition amongst smaller communities to secure these funds. As a result, it is anticipated there will be a limit on the amount of funding Squamish can expect to receive over a short time period.

Subsequent to the REFS, the District is exploring grant funding opportunities for the Transit Maintenance Facility and a Brennan Park Recreation Centre Renovation project. The details of these projects are discussed further in the *Facilities Analysis* section. If successful, the District will be receiving $6m and $1.4m respectively from the Federal and Provincial governments towards these projects.

b) Public-Public Partnerships

Public-public partnerships have been successful in delivering important community projects in the past and it is anticipated they will continue in the future. The Aquatic Centre at Brennan Park Recreation Centre initially was a public-public partnership between the District and the Squamish Lillooet Regional District ("SLRD").

The District is also currently a partner in three public-public partnerships:

Table 2 – Public-Public Partnerships - Examples

Partner	Project
BC Transit	1. Expansion of local transit / Possible regional transit hub
BC Housing	2. Buckley Ave. Affordable Housing – 76 units 3. Under One Roof Project – 44 units

In the case of the two (2) BC Housing projects, the District provides land at no charge while BC Housing provides construction and operating funding support. In the transit partnership, the District funds 53% of the facility cost while BC Transit funds 47%. In the event that partnership is successful in obtaining the Federal funding identified in *Grant Funding* above, the District's share of the facility cost decreases to 20%.

The District is also exploring partnerships with other government agencies in an attempt to provide enhanced community service and reduced facility investments. Partnerships opportunities, including co-locating in future District facilities, will continue to be pursued following the adoption of the REFMP.

c) Public-Private Partnerships

A review of other communities identifies public-private partnerships having the greatest opportunity to support the delivery of indoor recreational facilities. For example, privately run

ice rinks and aquatic centres are operating in other communities in BC. Several options for private delivery of facilities exist including but not limited to:

- District providing a long-term land lease to a private operator;
- District and private operator agree to a shared initial investment; or
- Private operator locates on private land without District involvement.

All of the options listed above reduce the amount of the District's upfront capital investment and preserves District capital for other investments. In addition, utilizing private operators will accelerate the timeframe to complete these facilities.

An EOI was recently advertised to identify private partnering opportunities for new facilities at Brennan Park. EOI's received for partnerships included an indoor soccer facility and an indoor bike facility. These opportunities will be explored further by staff and are addressed in more detail in the *Facilities Analysis* Section.

d) Sponsorships, Naming Rights – Sponsorship and naming rights are sources of funding commonly used for recreational/social/cultural facilities. There are many considerations in this form of funding that require the development of a fulsome process in the future, as sponsorship and naming are often accepted or implemented following development of values-based criteria, as opposed to dollars-only based criteria. It is not anticipated that these sources would entirely fund a new facility, but they can accelerate the timeframe for constructing a new facility.

e) Private Organization Support – Additional funding support may be available outside of typical federal and provincial funding through private organization support. For example, the Canadian Wood Council offers technical design services free of charge for projects utilizing wood products.

3.4.4 District Borrowing (Impacts Taxation)

Borrowing provides the District with an opportunity to fund new construction without an immediate tax impact. There are, however, both legal and policy limitations which constrain the amount of funds the District has available to borrow. The legal limit under the *Community Charter Municipal Liabilities Regulation 251/2004* is 25% of stable revenue; however, the *Long Term Financial Plan - Guiding Principles* has set a debt service limit of 20% to ensure the District always has access to borrowing. During annual financial planning, District Staff review the current levels of debt service and determine what can be supported over a 15 to 20-year period without exceeding policy limits. Based on revenues and current debt servicing, that analysis indicates that $8m per year over the next 20 years is a supportable level of borrowing. On average, past capital plans absorb approximately $4m of this annual allowance, leaving approximately $4m residual for additional capital investments. The debt servicing on borrowing $4m is approximately $335k/year (based on a 15-year debt amortization period) and results in an approximate increase in taxation of 1.1% in the first year of borrowing. It is anticipated that annual borrowing capacity will increase in the future, but it is impossible to predict at this time what the increase will be.

Many of the required facility investments identified in the REFS would exceed the District's annual borrowing capacity (e.g. Facility Investment = $24m/$4m per year borrowing limit = 6 years of borrowing). Capital construction may be spread over multiple years, but annual construction costs are

likely to exceed the $4m annual target for borrowing. There are no legal limits on annual borrowing beyond the legislative constraints, however the District must be cautious to ensure sufficient future borrowing capacity year-over-year as the District may need to respond to other unforeseen financial challenges. It is also important to smooth the impact of new debt service on operating budgets to prevent volatile tax rates (e.g. $4m borrowing for three years' vs $12m borrowing in one year). Therefore, a combination of borrowing together with other sources of funding is anticipated to complete larger facility projects.

Borrowing is established through bylaw and generally requires establishing longer-term (i.e. 15-20 years) repayment commitments with the Municipal Financing Authority. Administrative and Elector Assent processes are a requirement to utilize long term borrowing. As a result, borrowing is not anticipated to be a primary source of funding for land acquisitions unless absolutely necessary.

Subsequent to adoption of the REFS, the District completed comprehensive community engagement on the revitalization of Brennan Park Recreation Centre and surrounding parklands and fields in 2018. The results indicated that 78% of community members who took part in the engagement support an increased investment into recreational facilities, with only 5% opposed and with 13% of comments expressing reservations about increasing property taxes to meet this goal.

3.4.5 Leasing vs Owning

Strategic Principle 2a) Manage Facility Investment identifies leasing as a possible option to reduce the District's capital investment. The ability to preserve capital and borrowing capacity for other investments is dependent on whether a lease by the District is considered to be "capital or operating". The Public Sector Accounting Board (PSAB) establishes detailed guidelines for determining whether a lease is capital or operating. In general terms, the following tests are applied:

- Is the lease term as long as the useful life of the facility?
- Will the owner recover a significant amount of its facility investment during the lease term?
- Is the facility purpose built for the District?

A *capital* lease constrains the District's borrowing capacity, but would not require the District to utilize any of its funding capital. A lease for a shorter period of time (i.e. 10-15 years) and for general administrative space, such as Municipal Hall or the Library, does not appear to meet the criteria for a capital lease and would be considered an operating lease. An *operating* lease does not impact the borrowing capacity or the capital reserves of the District. Also, typically in commercial leases, the responsibility for major capital repairs to the facility are included in the lease payment and then completed by the landlord. This can provide additional relief to the District's capital resources. It is important to note, though, regardless of whether a lease is considered capital or operating, the payment is reflected in the annual operating budget and likely funded through tax revenue. Leasing for shorter periods of time means the District will not have the same cost certainty for these facilities as in owning the space or with a longer-term lease (+15 years).

3.4.6 Operating Revenues

The District may utilize two sources of operating revenue to offset future increases in operating costs as the facility portfolio expands:

a) User Fees - Through user fees and charges, the District recovers approximately 35% of the direct operating expenses for Brennan Park Recreation Centre, 22% for The 55 Activity Centre and 10% for sports fields. A market survey of Metro Vancouver, neighboring, and similar communities identified that Squamish recreation fees are consistently below market range. Options to partially fund the increased operating expenses for additional or renovated recreation facilities are to expand the current fees and charges to include user fees for the new facilities and shift towards a "user pay" model to decrease dependence on and subsidy from taxation.

b) Increased Property Tax Revenue – District-owned properties that are vacant or utilized for District operations do not generate tax revenues. When these properties are disposed of to private, for-profit parties, they become taxable. The amount of property tax revenues will depend on which properties are disposed of and when. The property tax revenues will not be available immediately but will gradually increase over time as they are (1) transferred to private parties and (2) developed. Initial estimates are that property taxes could increase by up to $450,000/year when all the properties are disposed of and up to $2.5m/year by the time all properties are fully developed.

3.5 REFMP – Facility Due Diligence

To further refine the estimated facility investments identified in the Needs Assessment and to support recommendations for the *What and When* components of the REFMP, the following due diligence was undertaken:

3.5.1 Updated Facility Investment Estimates

The facilities identified for an "Updated Analysis Required" in Table 3 underwent a deeper review performed by Architects, Cost Consultants or engineering firms.

Table 3 – District Facilities Analysis

Updated Analysis Required				
Facility	Type	Architect	Cost Consultant	Date
Public Works Municipal Hall Parks Operations Animal control BP – Field Users	Replacements and Expansion	Studio Hub	Ross Templeton	Early 2019
Library	Expansion			
Parks Downtown Satellite Multi Modal Hub Neighborhood Centres	New Services			
Fire Hall#2 (Tantalus) Fire Hall#1 (Alex Munro)	Replacement Expansion	Johnston Davidson Architecture and Planning		Spring 2019
Brennan Park o 2nd Ice Rink o 8 Lane Pool o Wellness Centre o Rec Centre o New Customer Serv.	New Facility New Facility New Facility Renovation Renovation	Kasian	Hanscomb	Summer 2018

Transit Maintenance	New Facility	BC Transit	Fall 2018
DT Parking Structure	New Facility	ISL Engineering	Currently

Not Recommended for Further Analysis		
Suitable Condition/Function	End of Life/Relocation	Non-Operational
RCMP The 55 Adventure Centre	Art's Council Building Youth Centre Drop in Centre Animal Control	Forestry Building Cleveland Ave. Restaurant

a) Studio Hub Review

Each of the facilities associated with Studio Hub in the *Updated Analysis Required* section of Table 3 above was reviewed by Studio Hub to assess:

- *Capacity Challenges – required size vs current size* to meet current needs and future growth
- *Physical condition* – building issues, potential life safety concerns, worker conditions
- *Functionality/Design* – ability to effectively provide required service, accessibility, issues that limit productivity

Studio Hub then identified future space considerations to provide the optimal level of service at each facility for the next 20 years. A Facility Report summarizing these findings for each facility is found in Appendix 4.

Once the future space considerations were completed, a cost consultant (Ross Templeton) provided updated estimates of the investment required for each facility. These cost estimates are also included in the Facility Report for each facility in Appendix 4.

Table 4 – Cost Components

Item	**Description**
Site	Clearing, fill, landscaping, off-sites, parking, asphalt
Building	Construction costs
FFE	Furniture, fixtures, equipment
Professional ("Soft")	Design
Contingencies	Supplementary site costs, supplementary building costs, design pricing contingencies, construction contingencies

The costing estimates provided for the Studio Hub/Ross Templeton facilities identified in Table 3 are more detailed compared to the estimates provided in the REFS. They also include construction contingencies which have a significant impact on the estimates, adding up to 25% to the total cost of the project. These contingencies may not be fully required, but for planning purposes and to be conservative, they have been included. Based on REFS *Strategy #2 – Supporting Action #4 – determine a Project Manager to coordinate investment analysis and subsequent project management*, project management costs were not included in the costings and will be addressed through an alternate approach.

All of the cost estimates provided for these facilities and for all of the cost estimates identified below in Section 3.5.2 have been established for the year 2020.

The cost consultant has provided estimates for the buildings listed in Table 3 based on Step 2 of the new BC Energy Step Code. It is recommended that the District explore wherever possible to incorporate leading energy efficiency designs into future facility investments. Currently, District buildings are considered Institutional buildings and as such are actually exempt from the Step Code as energy efficiency is often harder to achieve in such buildings. Each municipality is responsible for setting their own Step Codes for Institutional buildings. The District does not currently include Institutional buildings in its Bylaws relating to Step Codes. It is recommended that the District explore the final Step Code to be used prior to a final investment decision being made. An analysis is recommended for each facility investment to determine the cost/benefit of incorporating higher levels of energy efficiency into the initial design. For example, increasing beyond the current Step 2 code applied in the Studio Hub/Ross Templeton facility estimates will add an estimated minimum of 2% (Step 3) up to an estimated 8% to reach Step 5. These additional upfront investments will be weighed against potential annual operating cost savings.

b) Fire Halls Analysis

An architect specializing in fire halls (Johnston Davidson Architecture and Planning) completed a preliminary feasibility analysis for the replacement and expansion of the main Fire Hall#2 (Tantalus) and to identify long-term expansion requirements for the volunteer Fire Hall#1 (Alex Munro) in Valleycliffe. The architect provided preliminary cost estimates in its report (Appendix 4).

c) Brennan Park Expansions/Renovations

In 2018, the District conducted community engagement regarding the future facility investments at Brennan Park identified above in Table 3.

At that time, cost estimates were prepared by an architect (Kasian) and a cost consultant (Hanscomb) to support the community engagement program. The cost estimates also included a contingency allowance approach and were utilized for the Brennan Park estimates in the development of the REFMP (Appendix 4.) Subsequent to the Brennan Park community engagement the Squamish Minor Hockey Association has been working the District o further understand and evaluate potential investments costs for the 2nd Ice Rink.

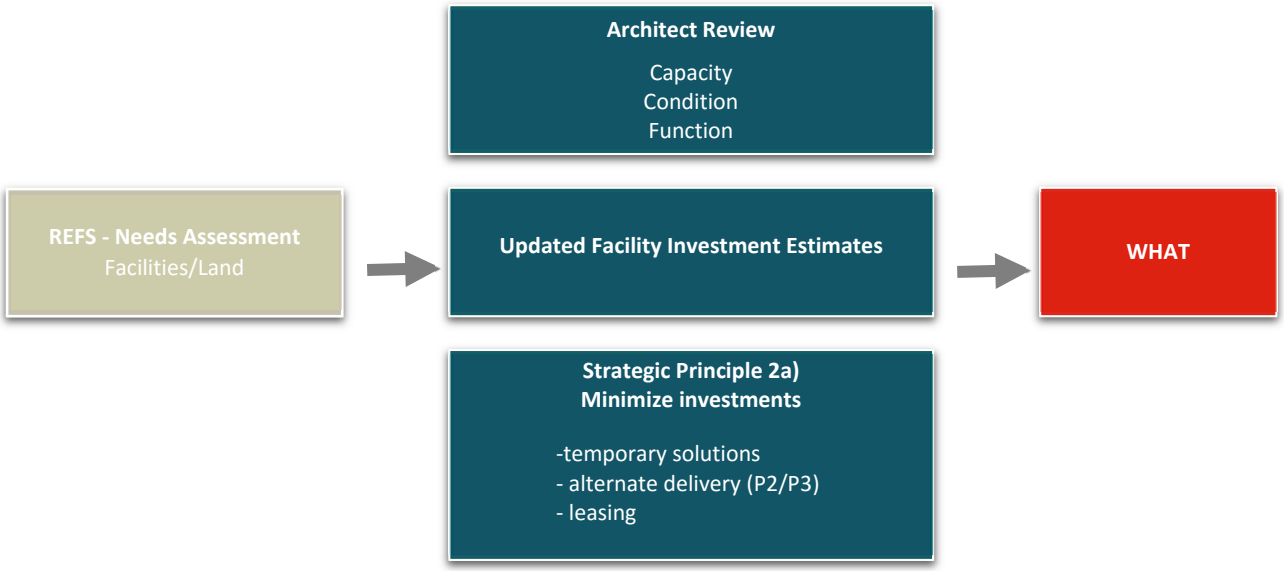
d) Transit Facility/Downtown Parking

Cost estimates for the Transit Facility are provided by BC Transit. These estimates are based on experiences in constructing similar transit facilities in other communities. An engineering firm (ISL) is coordinating the analysis for the Downtown Parking Structure on behalf of the District.

3.5.2 Facilities Analysis

An individual analysis was completed for each facility investment identified in the Needs Assessment utilizing the different architects' reviews and the updated facility investment estimates. In some cases, there was only one practical facility option while in other cases multiple options exist to be explored further and final decisions will be made during the implementation of the REFMP. REFS *Strategic Principle 2a)* was also applied to identify opportunities for the District to minimize its capital investments into facilities "*by deferring projects, capitalizing on temporary solutions, reducing the project scope, securing alternative delivery methods such as Public-Public (P2) partnerships, leasing or eliminating the service*."

Figure 5 – Facilities Analysis Process



The findings and recommendations for each facility are identified in the individual facility summaries provided below. They are listed in order based on the prioritization approach identified in the REFS.

PUBLIC WORKS - Critical

a) Current State

Public Works contributes significantly to community safety, both through its day-to-day operations (sewer and water repairs, snow plowing, parks maintenance) but also in the case of emergencies (water line break, flooding, hazard spills). The current Works Yard consists of a vehicle and equipment maintenance and repair building, an administrative trailer, a lunch room trailer, a large yard for equipment storage, a sand and salt shelter, and a number of sea cans and sheds. The maintenance building and administrative trailer are 34 and 21 years old respectively. As shown in the architect's review below in Table 5, the Public Works facility faces challenges in all assessment categories. Most importantly, the current facility experiences life safety challenges – (1) seismic stability is substandard and would impact on Public Works' ability to respond in the event of earthquake and (2) the configuration of the facility mixes staff with larger, moving vehicles. Both buildings are significantly undersized, staff are occasionally using sea cans as office space, and part of the work on vehicles and equipment takes place outdoors and there are insufficient facilities for clothes drying. As well, expensive equipment is stored outdoors.

Table 5 – Architect Review Summary - Public Works

Capacity		Functionality/ Design	Conditions			
Current ft^2	Required ft^2		Age	Life Safety	Building Issues	Workplace Issues
12,630	26,000	Vehicle bays too short. Valuable work vehicles worked on outside. No clothes drying facility.	21-34	Seismic instability. Staff areas close to vehicle bays. Safety concerns with large vehicles.	Building code. History of roof leaks. Building siding.	Lack of office space. History of pests.

b) Future State

Based on all of the widespread challenges faced by Public Works, it is the opinion of the District's architect that this facility cannot be reasonably modernized and/or expanded based on the current structure. Both buildings are at the end of life, undersized, and the works yard needs to be reconfigured to separate staff and the public from the operations yard, which will require both buildings to move. A larger 26,000 ft^2 facility is recommended to replace the current facilities (13,000 ft^2) at an estimated base cost of construction of $10.1m with a provision of $2.5m in contingencies for a total of $12.6m.

Table 6 – Public Works Facility Cost Estimate (2020$)

Item	Estimate
Design Fees	$1.2m
Site Works	$1.9m
Building Construction	$6m
FFE (Furniture, fixtures and equipment)	$0.3m
Insurance	$0.1m
Escalation to 2020	$0.6m
Subtotal (Building Cost)	**$10.1m**
Contingencies (design, site prep, escalation, changes)	$2.5m
Total	**$12.6m**

The current location of Public Works is still considered to be highly functional. It is centrally located and provides quick access to Highway 99. This location is Sponsored Crown Grant (SCG) land owned by the District and relocating the new facility within the site is supported by REFS *Strategic Principle 3 a)* – under *"Optimize Existing Facilities and Land"*. Further, there did not appear to be a suitable opportunity to relocate the Public Works Yard completely away from all hazards while still maintaining accessible service to the existing urban areas.

An initial test fit indicates that this location is large enough to accommodate the new facility. Relocating the facility to the northern portion of the site will also create improved access to both the Public Works facility and the Waste Water Treatment Plant (WWTP). Further, a relocation to the north portion of the property provides the District with greater design flexibility for the future expansion of the WWTP. The northern portion of the site is located in a secondary floodway and additional geotechnical analysis is required to identify any extraordinary site preparation costs that would require the current project estimate to be adjusted. During the development phase, Public Works operations will continue from the existing facility.

c) REFS Strategic Principle 2a) Minimize Investments

Given the critical importance of the Public Works facility, deferring, securing an alternative delivery model or eliminating the service is not recommended. Leasing is also not recommended given that there is no private land in a similar, suitable location. There is an opportunity to phase the development given the proposed construction will be occurring on an adjacent portion of the Public Works property.

Recommendation

Replacement and expansion of the Public Works facilities at the current location is recommended as soon as possible.

FIRE HALL #2 AND #1 - Critical

a) Current State

Fire Hall#2 (Tantalus) is the District's main fire hall. The Fire Department's administration (career staff) are located at Fire Hall#2 (Tantalus), as well as most of its key fire apparatus. In 2015, the District committed to performing seismic stability upgrades to the Fire Hall#2 (Tantalus). These upgrades were structural only and did not address a number of issues, including:

- insufficient space (storage, office layout);
- lack of gender neutrality/inclusivity within the facility;
- the need for a firefighter decontamination washroom and other elements of a cancer reduction program;
- end of life mechanical/electrical systems and structural areas such as roofs and overhead doors;
- the building is not Building Code compliant for accessibility - the administrative offices are on the second floor and there is no elevator; and
- lack of security to limit visitor access to the hall beyond the administrative entryway.

b) Future State

Before renovations were completed, an architect (Johnston Davidson Architecture and Planning), was hired in 2018 to identify how the District could address these additional issues. The architect's review identified that even with renovations, Fire Hall#2 (Tantalus) could not meet the needs of the District now and into the future and recommended that the District build a new, larger and more efficiently designed fire hall to replace Fire Hall#2 (Tantalus). At the time of this recommendation, all new facility investments had been paused until the District completed the REFS. As a result, only immediate safety repairs were completed in 2017/2018.

Table 7 – Architect Review Summary – Fire Hall #2 (Tantalus) and Fire Hall #1(Alex Munro)

Location	Capacity		Functionality/ Design	Conditions			
	Current ft^2	Required ft^2		Age	Life Safety	Building Issues	Workplace Issues
Fire Hall #2 (Tantalus Rd) *Main*	15,707	17,970	Flood potential. Inadequate room for vehicles to exit bays. Shared access with neighbor.	40	Seismic instability. No decontamination washroom.	Building code. History of roof leaks. Not accessible. History of pests.	Insufficient heat and cooling. Lack of gender neutrality and inclusivity
Fire Hall #1 (Valleycliffe) *Volunteer*	4,700	4,400 – 7,000	Insufficient bay length for longer ladder trucks. Current hose tower insufficient as a training facility.	20	No decontamination room for gear	Seismic for hose tower,	Lack of laundry

c) Options Analysis

Initially, District staff explored relocating Fire Hall#2 (Tantalus) in the Garibaldi Estates area. More recently, an updated architect's review explored the possibility to construct a new 18,300 ft^2 main fire hall at the current Fire Hall#1 (Alex Munro) location in Valleycliffe and constructing a new 4,700 ft^2 volunteer fire hall on the Fire Hall#2 (Tantalus) site. Considering community growth, the architect's

review also suggested that a new volunteer fire hall at the Fire Hall#2 (Tantalus) location be designed to permit a 2,300 ft^2 expansion that would incorporate additional apparatus and further administrative space and/or quarters when needed.

The primary rationale for this alternative approach is to relocate the main fire hall out of the floodplain. This relocation is supported under the "Managed Retreat" approach to relocating critical District facilities out of hazard areas identified in the Integrated Flood Hazard Management Plan ("IFHMP"). Additional reasons for pursuing this approach include:

Closer proximity to Downtown – Downtown Squamish represents the highest density area in Squamish and the tallest and most complex buildings will be located there. Relocating the main fire hall and the aerial apparatus to the Valleycliffe location will significantly enhance the Fire Department's ability to respond to calls from Downtown.

Combines main fire hall with training facility – The Valleycliffe location is home to the Fire Department's outside training facility. Combining the main fire hall with the training facility reduces the amount of travel for career firefighters and reduces the response time in the event of a call during a training session.

Emergency Preparedness – Currently neither Fire Hall #1 (Alex Munro) nor Fire Hall #2 (Tantalus) have fire protection systems. This plan will see all fire halls built with modern fire protection systems, which will enhance the resiliency of critical emergency response infrastructure.

REFS Strategic Principle 4a) "Minimize Private Land Investment" – Under the original approach, the current Fire Hall#2 (Tantalus) location is not large enough to accommodate an expanded main fire hall (Johnston Davidson study – 2018). If the main Fire Hall #2 (Tantalus) was to be replaced in the immediate areas, private land would be required. Under the new approach there is sufficient land for the expanded main fire hall at the current Fire Hall #1 (Alex Munro) location in Valleycliffe and sufficient land for a volunteer fire hall at the current Fire Hall #2 (Tantalus) location. As a result, this approach will eliminate the need for the District to acquire additional private land as both fire halls will be located on existing District lands.

EOC Relocation – Moving the main fire hall to the Fire Hall #1 (Alex Munro) location in Valleycliffe provides the opportunity to relocate the District's Emergency Operations Centre (EOC) from its current location at the RCMP facility, out of the floodplain for the same IFHMP rationale as the fire hall. Relocating the EOC will provide the RCMP 2,300 ft^2 of space to expand its future operations without having to construct additional space. This is estimated to eliminate a future facility investment of at least $500k

A preliminary Fire Hall Feasibility study was completed by Johnston Davidson Architecture and Planning to compare the estimated costs of both options being considered. As shown in Table 8, the two approaches are estimated to cost in the +/-$11-$12.5m range. The range in values provided in Table 8 represents +/-$1.5m in contingency allowances.

Table 8 – Estimated Fire Hall Costs (2020$)

Item	A- Relocate Main Fire Hall to Valleycliffe	B - Replace Main Fire Hall near Tantalus Rd. location
Build new main fire hall	$8.7-$9.9m	$9-$10.2m
Build new volunteer fire hall	$2.8m-$3.1	$0
Land acquisitions	$0	$1.0m+
Renovations to FH#1 (Alex Munro)	$0	$1.0m
Total	$11.5-$13m	$11-12.2m
EOC Relocation Savings (RCMP Expands)	+/-$0.5m	n/a
Net Investment	**$11-$12.5m**	**$11-$12.2m+**

Note that the above costs include temporary facilities required to maintain operational continuity during the phased construction.

d) Strategic Principle 2a) – Minimize Investment

Entering into a partnership, deferring the project, reducing the scope, securing alternative delivery methods or eliminating this critical service is not recommended for the fire halls. Leasing is not recommended either as a fire hall lease will be categorized as a capital lease, due to the uniqueness of the facility, and will not provide the same capital relief as an operating lease.

Recommendation

Relocating the main Fire Hall to Fire Hall #1 (Alex Munro) in Valleycliffe and relocating the volunteer Fire Hall to the Fire Hall #2 (Tantalus) location is recommended as soon as possible.

MUNICIPAL HALL – Critical

a) Current State

The majority of the District's legislative, administrative operational, and development services functions are located at Municipal Hall and the public access these services on a daily basis. Currently 85 employees are located at Municipal Hall.

Municipal Hall (16,000ft^2) was constructed in 1972 and a modular trailer (3,960ft^2) was added in 1996, currently housing the Engineering and Economic Development Departments. A second modular trailer (1.040ft^2) was installed in 2017 as a temporary measure to address overcrowding and currently houses the Information Technology (IT) Department. Municipal Hall requires significant repairs to address current and pending deficiencies; estimated at $2,553,000 in the next 10 years. These repairs, however, will not address:

- Seismic upgrading
- Modernization of the facility including:
    - Building envelope upgrades such as new insulation
    - Roof structure upgrades to provide higher snow load
    - New mechanical systems including a new and efficient HVAC system, plumbing replacements
- Increased area to address current or future space requirements

During their term, the 2014-2018 District Council recognized the need to address this situation and identified a Municipal Hall Redevelopment Plan within their Strategic Plan. Preliminary space

requirement and location analysis was completed in 2016 and the process was paused in 2017 to dovetail with the development of the REFS.

b) Future State

Similar to the Public Works and Fire Halls, the District's space planner (Plotform) confirmed the findings in the REFS: Municipal Hall is performing poorly in all categories, including capacity, life safety, and that the building and all of its systems are at end-of-life. A previous space plan completed as part of the Municipal Hall Redevelopment study indicated that the current Municipal Hall is approximately 3,500ft^2 too small based on current spatial needs and those needs could reach 33,000ft^2 (vs. 20,000ft^2 today) in the next 10-15 years. A significant investment into repairing the current facility to maintain the basic operating level, and making seismic upgrades and renovating/modernizing the facility is unsupportable given these space challenges. Vertical expansion of the existing building is not an option, as foundations and structure were not designed for additional load. As a result, the District needs to evaluate future options for Municipal Hall and determine a path forward.

Table 9 – Architect Review Summary – Municipal Hall

Capacity		Functionality/ Design	Conditions			
Current ft^2	Required ft^2		Age	Life Safety	Building Issues	Workplace Issues
20,000	25,000 – 40,000	Currently 3,500ft2 too small based on occupancy. Council Chambers too small.	25-40	Seismic instability.	Roof leaks, siding deteriorating, heating/cooling.	Lack of office space, meeting rooms, accessibility

c) Options Analysis

There are numerous options to address the future needs for Municipal Hall. Four key approaches are identified for further consideration:

i. Build New on District Land – Under this option, the District would build a new facility designed to the specifications of the District. The District currently owns several properties Downtown that could accommodate a new Municipal Hall including SCG lands that can only be used for municipal purposes. The use of SCG lands is supported by REFS *Strategic Principle 4a – "Minimize Private Land Investment".* The current Municipal Hall site could be sold to generate funding for the new development or other facility investments.

ii. Developer-built Project – Under this option, the District would relocate Municipal Hall into a commercial office building constructed by a third party. The current Municipal Hall site could be sold to generate funding for the new development.

iii. Renovate Existing Municipal Hall and Lease Additional Space – Under this option, the District would renovate the existing Municipal Hall to produce a more efficient building that is more structurally sound and could last another 20 years of service. This option would require significant disruption to current operations and service. Some portions of the service would relocate during the construction and some would be permanently relocated. This option includes expanding the horizontal footprint to replace the two current modular structures. Leasing costs for 20 years for the additional space is also required and is estimated at $5m. Under this option, revenue from the sale of the property would not be realized.

iv. Rebuild a New Municipal Hall on the Existing Site – Under this option the District would demolish the existing Municipal Hall and build a new facility on the current site to its specifications. The current Municipal Hall site would not be sold under this option. The District would need to relocate from Municipal Hall during the demolishing and construction phase. Temporary leasing costs to accommodate Municipal Hall during construction may also be required.

The cost consultant (Bty Group) prepared cost estimates for a new build on alternate District land or at the existing site and for a renovation of the existing facility. As shown in Table 10 below, the estimated cost for a new 33,000ft^2 Municipal Hall is $20.5m plus a provision for $4.5m in contingencies for a total of $25m. The estimated cost to renovate the current facility is $14m plus a provision for $3m in contingencies for a total of $17m. The required investment would need to be determined if Municipal Hall was delivered by a private developer. There is the possibility for economies of scale in the construction if part of a larger facility, however, the private developer will require a return on the land supporting the facility.

Table 10 – Municipal Hall Options – Financial Comparison (2020$)

Option	New Build	Renovation + Lease	Land Acquisition	District Land Disposition	Net Estimated Investment
Build New on District Land	$25m			Yes	**$25m - land**
Developer Builds New	tbd		tbd	Yes	**tbd**
Renovate Existing + Lease		$17m/$5m			**$22m**
Rebuild New at Existing Site	$25m				**$25m**

As shown in Table 10, once land acquisition costs or disposition potential of each option is taken into consideration, the Net Estimate Investment appears relatively close amongst all options. Each of these options also generate different community benefits that will be taken into consideration before a final decision is recommended to Council:

Customer Service	Community Animation	Future Expansion
Staff Efficiency	Density	Impacts on Park Space

d) REFS Strategic Principle 2a) Minimize Investment

As identified in Section 3.4.5, the potential exists for the District to enter into a 10-15-year lease that could be considered an operating lease and free up $20m+ in capital for other facility and land investments. It is anticipated that there will be multiple new developments in Squamish in the next 0-5 years that could accommodate a new Municipal Hall on a lease basis.

The District has also contacted other governmental/institutional organizations to determine their interest in co-locating in a new Municipal Hall to reduce the investment through sharing of facilities. Further research will be required to determine whether a co-location agreement can be reached and the potential savings that could be achieved.

Recommendation

Replacing and expanding Municipal Hall is recommended to be completed as soon as possible after the completion of the Public Works and Fire Halls, ideally within 5 years.

Exploring opportunities to minimize the District's capital investment is also recommended including:

- Advertising an EOI to identify opportunities for a private developer to provide Municipal Hall, including the potential to lease;
- Continuing to explore partnerships with other entities to share space.

Until Municipal Hall is replaced:

- Further investment into the building systems (i.e. HVAC, electrical) and building envelope (i.e. roof, siding) is not recommended. Repairs will be undertaken as necessary to maintain the building in functioning order.
- An interim solution is recommended to address the current and forthcoming shortfall in space.

FIRE HALL #3 – Critical

a) Current State

No facility.

b) Future State

The Fire Service Master Plan (Dave Mitchell & Associates, 2013) identifies criteria for building a third fire hall in Brackendale to provide service to residents and structures located outside of the existing coverage area as recommended by the Fire Insurance Underwriters - commercial (5km) and residential (8km). The third fire hall is planned to be similar in size to the proposed volunteer fire hall on Tantalus Road, and will provide equipment storage, a training room, parking and firefighter decontamination. The Fire Services Master Plan also recommended that the District identify and secure a location within 3 years; which would have been 2016.

Further, identifying a location for a future hall in North Squamish was identified as a medium priority under the "Anticipating Future Growth" objective in the Squamish Fire Services Five Year Plan (2018-2022). Based on this, a preliminary placeholder of $2.5m for a new fire hall was identified in the REFS Needs Assessment for years 5-10.

It is anticipated that this fire hall can be located on District-owned SCG land in the Brackendale area without land acquisition costs (REFS *Strategic Principle 4b - Minimize Private Land Investment*). At this point a detailed space analysis or costing has not been prepared for this facility and the original facility investment estimates are used for the REFMP. It is also anticipated that this facility will be funded through CACs, as it is designated as a Critical Facility, and that no facility investment by the District will be required. The timing of a third fire hall will be dependent upon how quickly new developments are completed in North Squamish, but the Fire Services Master Plan indicates a 7 to 10-year timeframe (from 2013).

c) Strategic Principle 2a) – Minimize Investment

Not applicable.

Recommendation

Monitoring of rezoning applications in the Cheekye Fan area is recommended to ensure that the District will be able to secure future Fire Hall#3 in the Brackendale area at no cost to the District.

RCMP - Critical

a) Current State

The RCMP Sea to Sky Regional Detachment is located in Squamish and was built in 2005. The building houses the operational needs of the detachment, including the current contingent of Squamish members, the municipal employee team, and provincially-funded regional positions. The Bylaw Enforcement team is also based out of the detachment. The detachment contains cell blocks, a vehicle yard, and exhibit storage as well as administrative space. Squamish's 2,365ft^2 EOC is also located at the detachment. The RCMP was identified in Table 3 as a facility not requiring further analysis by an architect and cost consultant.

b) Future State

With projected growth of the community, RCMP staffing needs will increase and the detachment will require more space in the next 5-10 years. A detailed space analysis or costing has not been prepared for this facility.

In addition to projected needs of the main detachment, it has been identified that RCMP would benefit from a satellite detachment in Downtown Squamish. As the most densely populated neighbourhood, the highest concentration of multifamily residential property, the community's central retail zone, and location of virtually all the social service agencies in Squamish, a more visible RCMP presence in Downtown would enhance the RCMP's ability to have preventative, relationship-based police operations.

c) Strategic Principle 2a) Minimize Investment

If the main Fire Hall relocates to the Fire Hall #1 (Alex Munro) location in Valleycliffe as recommended and the EOC is co-located on that site, the current EOC space at the Detachment can be freed up for RCMP expansion. It is anticipated that this additional space will accommodate medium-term future growth needs.

The space for a satellite Downtown detachment can be provided in a rebuilt Municipal Hall. Approximately 1,000ft^2 of administrative, customer service, and ancillary operational space such as interview rooms and meeting rooms will accommodate an expansion and enhancement of RCMP's community operations.

Recommendation

Upon relocation of the EOC to the new main Fire Hall in Valleycliffe, it is recommended that Bylaw Enforcement utilize the space in the short-term and that in the longer-term, the space be utilized by the RCMP when future expansion is required.

Including a satellite detachment Downtown in the future replacement of Municipal Hall is also recommended.

PARKS OPERATIONS OFFICE – Core

a) Current State

The Parks Department currently operates from three facilities located at Brennan Park, referred to herein as the Parks Operations facilities.

Admin Facility – The department's administrative activities take place in the "Concession" building located on the edge of the soccer fields at Brennan Park. The 2,000ft^2 building is 46 years old. The

bottom floor of this facility (1,500ft^2) is used by the public for a concession kitchen, washrooms and change rooms (See Brennan Park Field Users' Washrooms/Change rooms below). The upstairs area is 500ft^2 and is used as a small lunch room and office space.

Storage Bunker – Staff utilize a 560ft^2 bunker adjacent to the Admin Facility for tools storage and repair, as well as a fuel storage room and paint/chemical storage room.

Greenhouses - Greenhouses and trucks storage are located on the north end of the soccer fields adjacent to Highway 99. This land is owned by the Province and the District does not have a formal license agreement to occupy or locate the greenhouses there.

From March to October, up to 30 staff use the lunch room and bunker for meetings, plant ordering, timecards and lunch, as well as for equipment repairs and a staging area for the day.

As shown in Table 11, these facilities perform poorly in all of the categories. The facilities pose considerable challenges to the staff, including life safety challenges related to, moving between buildings in the path of traffic accessing the soccer fields car park, and a lack of adequate washroom/shower facilities. In addition, the space is inadequate to accommodate staff office needs and meetings are held in the bunker surrounded by tools and equipment with no cooling or ventilation. The greenhouses are also considered to be end of life, at overcapacity and inefficient to heat.

Table 11 – Architect Review Summary – Parks Operations Office

Capacity		Functionality/ Design	Conditions			
Current ft^2	Required ft^2		Age	Life Safety	Building Issues	Workplace Issues
500	2,000	Insufficient storage for tools and hazardous materials. No shower/change rooms – use the field change rooms.	46	Seismic instability. Staff meeting area near tools. Staff moving between buildings in a public access area.	Building code. Not accessible. History of roof leaks.	Lack of office and lunchroom space. No meeting space – use tool repair bunker.

b) Future State

The proposal includes a Parks Administration building at approximately 2,000 ft^2 with a meeting room, washrooms, lunchroom and office area for up to 40 people. This facility could be co-located with the field users' washrooms and change rooms or be separate, depending on the location. The bunker would be replaced with a tool shop and storage facility of 800 ft^2 and would accompany the administration building. A 1,000 ft^2 greenhouse area is also identified.

The estimated facility investment to replace the three (3) facilities (not including Brennan Park Field Users' Washrooms/Change rooms) is $1.6m plus a provision for contingencies of $0.5m for a total of $2.1m (2020$).

Taking into account the challenging conditions of this facility, an ideal target for completion is five years.

The location of these buildings is considered ideal in that the staff start their day near one of the major parks and near all of their vehicles and equipment. It is proposed to keep these facilities at Brennan Park, though the exact location has not been determined. A Brennan Park Land Master Plan is contemplated for completion in 2020.

c) Strategic Principle 2a) Minimize Investment

Investment in a new facility could be deferred by utilizing modular buildings. In addition, the project could be phased with the administrative and operations functions being addressed first and the greenhouses completed at a later date.

Recommendation

Consolidating the Parks Administration facilities is recommended once a location is finalized through the Brennan Park Land Master Plan.

Until the facility is replaced, installing a modular building is recommended in the vicinity of the current bunker to provide adequate office space, meeting space and a lunch room.

PARKS DOWNTOWN SATELLITE - Core

a) Current State

No facility.

As mentioned above, the Parks Department currently operates from three facilities located at Brennan Park. All Parks staff meet at Brennan Park daily to plan their day, load up equipment and will return for breaks and to return/replace or repair equipment.

b) Future State

The Parks Department projects that 5-10 staff will be required in the downtown to service the upcoming Squamish Oceanfront park and the drawbridge across the Mamquam Blind Channel to connect downtown to the Waterfront Landing project ("External Developments"). A downtown Parks facility has been identified for the storage and maintenance of tractors, mowers, small vehicles, and tools, so these items do not have to be transported to and from the works yard to downtown every time work needs to be done. In addition, if Parks staff have a base downtown for daily meetings and breaks they no longer need to travel to and from Brennan Park. An approximately 2,000 ft^2 facility has been identified including a meeting/lunch room, washrooms and change rooms and three bays for equipment storage and maintenance. The estimated construction cost is $1,000,000. A completion date for this facility has not been established yet. Ideally it will be completed prior to the opening of the new oceanfront park and the drawbridge.

c) Strategic Principle 2a) Minimize Investment

As mentioned above, the need for the Parks Downtown Satellite will be dictated by External Developments. It is anticipated that this facility can be deferred until these External Developments are completed. Once the Parks Downtown Satellite is required, it is not anticipated that the District will be able to further defer its investment through a lease. The type of facility required is somewhat unique to the District's needs and it is unlikely that the District would be able to lease this space from a third party in the Downtown other than through a purpose built facility. A purpose built facility would be categorized as a capital lease and not provide the investment relief that an operating lease provides. Based on land values in the Downtown, it is also anticipated that lease rate would be significantly greater than if the District located the facility on District SCG Land. Based on the size of this facility, it is anticipated that the District will be able locate it on District SCG land in the downtown area. No private land acquisition is anticipated.

Recommendation

Constructing a new Parks Downtown Satellite is recommended on District SCG land in the Downtown to coincide with the completion of the External Developments.

ANIMAL CONTROL - Core

a) Current State

The District currently provides animal control services to the community including the impounding of stray domestic animals, and facilitating adoptions of unclaimed impounds and surrendered animals. The existing facility is located next to the Waste Water Treatment Plant and is 1,200ft^2 in size with a 3,600ft^2 outside fenced area. This facility accommodates boarding of animals, an administrative office, Bylaw Enforcement space and a public counter.

As shown in Table 12, this facility is experiencing end-of-life conditions and is performing poorly in all possible categories. Most importantly, the current facility does not have quarantine space, and there are safety concerns with the location where the public mixes with larger, moving vehicles accessing the Waste Water Treatment Plant.

Table 12 – Animal Control Architect Review

Capacity		Functionality/ Design	Conditions			
Current ft^2	Required ft^2		Age	Life Safety	Building Issues	Workplace Issues
1,660	2,400	No quarantine facilities. Lack of counter space	42	Seismic instability. Staff and patrons park in heavy truck traffic area.	Building code. Foundation shifting. Roof leaks	Poor washroom facilities. Office next to washroom. Office crowded. Lack of property ventilation. History of pests.

Based on all of the challenges identified, it is the opinion of the architect that this facility cannot be reasonably modernized and expanded based on the current structure and location.

b) Future State

Due to the existing life safety and functionality/design issues, it is not anticipated that the current facility can remain in operation beyond 5 years. A new facility would provide a properly ventilated quarantine space, appropriate office space, animal examination and treatment space and a staff kitchen and lunch room in a more suitable location. The cost of a new, expanded facility (2,400 ft^2 to accommodate projected community growth) that meets the unique operational requirements of an Animal Control facility consistent with health and safety best practices is estimated at $1.5m with an additional $0.5m in contingencies for a total of $2m (2020$).

c) Strategic Principle 2a) Minimize Investment

Modular buildings were not considered to be suitable due to the need for quarantine space (HVAC requirements) and direct and same-level indoor-outdoor relationships for dog kennels.

Based on the significant estimated costs to replace the Animal Control facility, the District is currently exploring alternate service delivery through outsourcing poundkeeper operations to an external

organization that would transition to providing these services in non-District owned facilities. Alternatively, the District could also contract the service through an out of Squamish provider if such an agreement cannot be reached.

Recommendation

Investing into a new Animal Control facility or re-investing into the existing facility is not recommended at this time.

BRENNAN PARK FIELD USERS' WASHROOMS/CHANGEROOMS - Core

a) Current State

The field users' washrooms and change rooms are located in the 46-year-old "Concession" building on the edge of the soccer fields and occupy 1,500 ft^2 on the ground floor. The washrooms are open year-round and are heavily used by approximately 800 soccer players, 500 ball players, visiting teams, and spectators. The change rooms are open during the regular season for ball and soccer. Additionally, there are multiple tournaments a year bringing over 1,000 players to the fields for three days at a time.

The washrooms and change rooms saw extensive water damage from roof leaks over several years until 2012 when repairs were made to fix the roof and remediate damages. While functional, the facility is very basic and beyond end of life. Plumbing is mostly original and Parks staff repaint walls each year.

The concession kitchen is currently closed as the equipment does not meet Vancouver Coastal Health standards and the floor is rotten. Further discussions will determine if there is sufficient demand for a new concession as part of the Brennan Park Land Master Plan. As mentioned above in *Parks Operations*, renovating this facility is not recommended based on the age and poor condition of the building and the inadequacy of the upstairs area as a lunchroom for staff.

b) Future State

It is necessary to keep the washroom/change room facility at Brennan Park in order to serve the soccer and baseball fields. A Brennan Park Land Master Plan is contemplated for completion in 2020. During this process, a new location for the Brennan Park Field Users' Washrooms/Change rooms is recommended to be pursued. The cost for a new facility is estimated at $1.1m with additional $0.4m in contingencies for a total cost of $1.5m (2020$).

Although this facility is performing poorly, there are no life safety/worker safety issues. Completion of this project is desirable but not required within the next five years.

c) Strategic Principle 2a) Minimize Investment

The District can defer the investment by continuing to utilize the current washrooms/change rooms on the ground floor of the building even if the lunchroom upstairs is closed and relocated.

Recommendation

Replacing the Brennan Park Field Users' Washrooms/Change rooms is recommended once the location is identified through the Brennan Park Land Master Plan process.

BRENNAN PARK RECREATION CENTRE UPGRADES AND EXPANSIONS - Core

Overview

Squamish's only recreation centre, Brennan Park Recreation Centre (BPRC), consists of an ice arena, an auditorium and a leisure pool. The original building housing the arena and auditorium was built in 1977

with the pool wing added in 1992. The existing facility has a total main floor area of 71,257ft^2, with a large mezzanine over the arena lobby.

The existing building is not compliant with the BC Building Code with regards to fire separation, accessibility, and the fire rating of the floor assemblies of the mezzanine and the viewing bleachers. The original ice arena and auditorium are in need of upgrades to better serve the community.

BPRC is one of the busiest in the province with over 520,000 visitors per year (5% growth 2017-2018. Source - door counters) with growing waitlists for programs and facility rentals. In addition, the space is dated and not ideally suited to meet current demands. Squamish is both one of the fastest growing and one of the youngest communities in BC (Source – *District Official Community Plan Bylaw 2500, 2017*). Utilization of BPRC has grown significantly over the past five years, including a 75% increase in people on waitlist for Recreation Services programs from 2015-2018 (Source – District benchmarking statistics). This includes high social value programs such as Neuro Fit, a program that provides much needed fitness and rehabilitation to those living with brain injury or degenerative disease, and swim lessons that provide essential life skills to children living in a coastal community with many local lakes. Capacity challenges will continue to grow until additional program, ice, fitness, and pool space is available.

The SLRD undertook the last expansion at BPRC when the aquatic centre was constructed. It is recommended that any opportunities through the SLRD be explored as projects are prioritized.

After the adoption of the REFS in 2018, the District of Squamish undertook significant community engagement on the "BPRC Upgrade and Expansion Plan" identified in the Needs Assessment. The BPRC Upgrade and Expansion Plan identifies five key facility investments to be developed over the course of 20 years (in no particular order):

1. Renovations to existing BPRC and New Customer Service Area
2. Wellness Centre
3. Second Ice Rink
4. Eight Lane Pool Addition

RENOVATIONS TO BPRC and NEW CUSTOMER SERVICE AREA – Core

a) Current State

Currently Recreation Programming operates out of three activity rooms, Tantalus (small), Black Tusk (small), and the Stawamus Chief, which doubles as a gymnasium. Programs at BPRC, particularly those for children, are nearly always at capacity with a waitlist. For example, the gymnastics program is consistently waitlisted and has 618 members making it the largest youth sport in Squamish. In 2018, the BC Recreation and Parks Association compiled visitation numbers from 396 municipal indoor recreation facilities in BC. BPRC had over 500% more annual visitors than the average visitation of 97,200 at a municipal indoor recreation facility (BC Parks & Recreation Association 2018).

In addition to the activity rooms, the BPRC includes two lobby areas, reception desk, washrooms, and two office areas – one on the ground floor adjacent to the reception desk and one in the mezzanine area overlooking the ice rink. BPRC is not facing end-of-life conditions found in other District facilities, however, it faces numerous operational challenges.

b) Future State

The BPRC Upgrade and Expansion Plan identified renovations to BPRC and creation of a new customer service area.

Renovations – In order to improve programming opportunities and update facilities, five areas for renovations were identified. The costs of these renovations is estimated at $2.50m total plus an additional contingency allowance of $1.2m.

Table 13 – BPRC Renovations Estimates (2020$)

Area	Estimated Costs	Contingencies	Total Cost	Rationale
Auditorium Tantalus Room	$0.8m	$0.4m	$1.2m	New gymnastics area, increased programming flexibility
Mezzanine	$0.5m	$0.3m	$0.8m	Update for shift to programming space
Existing Change rooms	$0.3m	$0.1m	$0.4m	Update
Existing Concourse	$0.5m	$0.3m	$0.8m	Update
Entry and New Canopy	$0.4m	$0.1m	$0.5m	Update
Total	**$2.50m**	**$1.2m**	**$3.7m**	

New Customer Service Area - In order to improve the operational efficiency and security of the reception/administration function, the Brennan Park Recreation Centre Expansion Plan includes the addition of a new customer service area of approximately 3,900 ft^2. Currently, staff work in makeshift cubicles and there is a temporary office space in the mezzanine in an area intended for program space. Moving staff to the new customer service area from (1) the mezzanine would free up approximately 1,800ft^2 of program space and (2) the current reception/office area would free up an additional 2,400ft^2 of lobby space which is often congested with visitors and program participants. This reconfiguration would also improve sight lines for staff to see the facility entrances and exits. A proper administration area would also improve staff access to the public and improve operational proximity to work areas. The cost to construct the New Customer Service Area is estimated at $3.7m which includes a $1.2m contingency.

Table 14 – New Customer Service Area Estimated Costs (2020$)

Area	Estimated Costs	Contingencies	Total Cost
Building Construction	$1.0m	$0.4m	$1.4m
Site Development	$0.2m	$0.1m	$0.3m
Total	**$2.50m**	**$1.2m**	**$3.7m**

Overall – In terms of timing, developing the Wellness Centre prior to completing the renovations and New Customer Service Area will create new program space and allow programs to continue to operate throughout a renovation of BPRC and the construction of the New Customer Service area. Otherwise, program space will be temporarily lost during renovations. If the Wellness Centre is completed first, it also creates the opportunity to temporarily relocate the BPRC office spaces during the renovation and construction of the New Customer Service Area.

c) Strategic Principle 2a) Minimize Investment

The original concept was for all of the renovations and New Customer Service Area (single-floor) to be undertaken at the same time. In late 2018, the District became aware of a recreation infrastructure

funding program administered through the provincial government. In order to capitalize on this funding opportunity, the District submitted a grant application to complete the renovations to the auditorium and Tantalus Room identified above plus some aesthetic improvements to the lobby area ("BP Recreation Centre Reno #1"). The total grant application project cost was estimated at $1.9m with the Province contributing $1.4m and the District contributing $0.5m. If successful, the timeline is to complete the project by 2022. The remaining items identified in Table 13 (mezzanine, change rooms, concourse and canopy) are identified as "BP Recreation Centre Reno #2".

Until the Wellness Centre and New Customer Service Area is completed, however, BPRC will continue to experience programming capacity challenges. Installing temporary modular facilities at BPRC would:

- Provide additional programming space;
- Enable the relocation of the mezzanine office area to free up 1,800 ft^2 of programming space inside BPRC and improve working conditions for staff.

Additional space off-site from BPRC in other District facilities, other institutional facilities or private lease space may also provide a cost effective way to increase programming space.

As evidenced by the initial grant application mentioned above, there is also the opportunity for additional phasing if necessary. For example, the updates to the mezzanine, existing change rooms, and concourse (BP Recreation Centre Reno #2) can be completed in advance of the New Customer Service Area.

Recommendation

Advancing the completion of the renovations identified in the facility infrastructure grant (BP Recreation Centre Reno #1), is recommended, if successful.

Relocating administrative staff from the mezzanine to a temporary modular building at Brennan Park is recommended to free up programming space in the mezzanine and create administrative efficiencies through centralizing staff.

Completing the development of the New Customer Service Area is also recommended after the development of the Wellness Centre.

BRENNAN PARK WELLNESS CENTRE – Core

(Formerly Brennan Park Rec Centre - Programming in REFS)

a) Current State

No Facility.

b) Future State

The most requested recreation community amenity is the addition of a fitness centre. Community fitness centers reduce or eliminate socio, economic, and physical barriers that keep at-risk residents from participating in healthy or rehabilitation program. Cost was the number one barrier identified by youth to participating in fitness (Youth World Cafes May 2019). Compared to private sector fitness centres, municipally-run fitness centres are typically lower cost than the private sector and cater to a more entry-level demographic, or those who have physical limitations, such as seniors. Municipally-run fitness centers typically do not require operational subsidies as they generate sufficient revenue through fees to offset operational costs and can help subsidize other much-needed accessible programs. Further,

a fitness centre operated by the District would fill a gap left by the private market fitness centers, that primarily cater to people who are experienced, athletic, and can afford private market fees. An additional benefit is a community fitness centre provides the opportunity for a parent or caregiver to exercise while their child is in a program such as swim lessons or gymnastics.

The Wellness Centre concept, which resulted from the Kasian Architecture Parks and Recreation Master Plan ("PRMP") in preparation of the BPRC Upgrade and Expansion Community Engagement, consists of 38,000ft^2 programming space on three floors, including a new gymnasium, fitness centre and multiple activity rooms.

Table 15 – Wellness Centre Cost Estimate – 2020$

Item	Estimated Cost	Contingencies	Total
Building Construction	$6.6m	$2.7m	$9.3m
Fit Up	$1.6m	$0.6m	$2.2m
Site Development	$1.2m	$0.5m	$1.7m
Total	**$9.4m**	**$3.8m**	**$13.2m**

The estimated cost is $9.4m plus contingency allowances of $3.8m for a total of $13.2m. The three story, 38,000ft^2 Wellness Centre would provide significant programming capacity for Brennan Park Recreation Centre and enhance the District's ability to provide a wide range of recreation opportunities and programming that is open to, available for, and safe for all community members – eliminating socio, economic or physical barriers to the community. As the community grows, particularly in the demographic of children and families, a new facility will be required to accommodate increasing demand, which has been experienced over the past seven years. The Wellness Centre is unique and the program fees, rentals and leases could offset operational costs. Also, the upper floors of the Wellness Centre may be leased to a partner agency for a 5-15 year term and Recreation Services would ultimately grow into this space as community demand required. Further to this concept, the District recently advertised an EOI to identify potential partnership opportunities for Brennan Park and received two EOI's from third parties interested in leasing space in a future expansion at Brennan Park.

c) Strategic Principle 2a) Minimize Investment

Recreation Services also operates The 55 Activity Centre, which caters to the 55+ population during the day and the general adult population in the evenings. Recently the District implemented recommendations to revitalize The 55 Activity Centre and address its underutilization with limited success to date. The 55 Activity Centre can be optimized to better align capacity with demand, and relieve some program pressure from Brennan Park. The District is currently exploring other partnerships to enhance program capacity, including increased community access to Quest University's recreation facilities. Further analysis is required to determine the population threshold that will exceed capacity of these interim solutions.

Additionally, the District could consider building a standalone fitness centre/rehab centre to address this remaining immediate term service gap. A standalone fitness centre/rehab centre would require less than 30% (11,000 ft^2) of the total floor space (38,000 ft^2) which suggests a potential facility investment of +/-$2.7-3.8m. Further costing analysis is required to develop this model for consideration.

Recommendation

Refining the Wellness Centre concept is recommended through further analysis to identify:

- Detailed cost estimates to construct the gymnasium/rehab component separately;
- Potential third parties interested in occupying space.

Developing an interim solution is also recommended to relieve current programming pressures at Brennan Park that may include temporary modular space or sharing underutilized recreation space in other community locations.

BRENNAN PARK SECOND ICE RINK - Core

a) Current State

Brennan Park currently houses a single ice rink, which community groups rent for hockey and figure skating and is open to the public for public skating and programs. Ice is available for eight months of the year with the opportunity to expand to 11-12 months if there is demand. When the ice is removed during the summer, Recreation Services utilizes the dry slab to offset program demand.

As shown in Table 16, there is not enough ice time to accommodate all user groups during prime times between 6-8am and 4-10pm:

Table 16 – Brennan Park Ice Rink Utilization

Day	Hours	Utilization
Monday to Friday	6am -8am	Full
	8am – 4pm	Limited
	4pm – 10pm	Full
	10pm -12pm	Limited
Weekends	6am – 12am	Full

There are currently seven ice user groups with 635 members utilizing the existing rink annually through rentals, with the largest contingent made up of two youth groups; Squamish Minor Hockey (250 members) and Squamish Skate Club (225 members). Squamish Minor Hockey Association anticipates creating a wait list for children wanting to play hockey due to prime time ice hour shortage. Other user groups are similarly stretched, though waitlists have not yet been proposed. Squamish Minor Hockey states that their registration is on the rise in Squamish, in contrast to the national trend of declining participation (Source - Hockey Canada Annual Report 2016-17).

b) Future State

As the population of Squamish increases, it is anticipated that the number of ice users and demand for an ice rink will increase. The PRMP recommended adding a second rink when the population hits 20,000. This is consistent with comparable communities and the District's current population is +21,000.

Prior to the Brennan Park Engagement in 2018, a revised estimated cost was established for a second arena (Table 17 below). This estimate includes a base estimated construction cost for the second ice rink of $13.5m plus additional supporting renovations, site costs ($2.7m) and contingencies ($6m) up to a total of $23m.

Table 17 – Second Ice Rink Cost Estimate – 2020$

Item	Estimated Cost	Contingencies	Total
New Rink	$13.5m	$5.4m	$18.9m
New Concourse	$1.1m	$0.5m	$1.6m
Concession/Skateshop Update Storage Space Update New Canopy			$0.3m
Site development and Services	$1.6m	$0.7m	$2.3m
Total	**$16.2m**	**$6.6m**	**$23m**

c) Strategic Principle 2a) Minimize Investment

A temporary facility is not possible to defer the investment.

The second ice rink, however, is a candidate for a private-public partnership. Privately run ice rinks are located in several communities throughout the province. Under this arrangement, a private operator could secure a long-term lease with the District to build and operate a second ice rink at Brennan Park. This type of agreement could accelerate the construction of the second ice rink as it would not have to compete with other District facilities for use of District funds or federal/provincial grants. It would also save District capital and annual borrowing for other projects.

Recommendation

Exploring a private-public partnership is recommended for the construction of a second ice rink.

Exploring interim solutions with stakeholders is also recommended to manage demand and to better utilize the off-peak daytime hours.

BRENNAN PARK AQUATIC CENTRE 8 LANE POOL ADDITION – Core

a) Current State

Brennan Park houses an aquatic centre used for public swimming, swim clubs, and swimming lessons. The pool is owned by the SLRD and managed by the District. The Aquatic Centre consists of change rooms, viewing area, child warm pool, a six-lane lap pool, steam room and a jacuzzi.

The Aquatic Centre is extremely well-utilized, and regularly has waitlists for swimming lessons, which have doubled since 2015. Public swims are at capacity on weekends. In 2017, the public swim program rose to 61,700 users, up from 37,600 in 2010. Aquatic programs such as swim lessons saw 7,800 users in 2017, and swim club participation grew to 578 users. This growth and high utilization reflects Squamish's active lifestyle and the value the community holds for public recreation. Currently, the aquatic programs are at capacity, affecting Recreation Services' ability to provide sufficient service.

b) Future State

As part of the BRPC Upgrade and Expansion Plan engagement in 2018, an additional eight lane pool, jacuzzi and viewing area was identified to meet current demand and future growth. The cost to construct this facility is estimated at $10.3m plus a $1m contingency allowance.

Table 18 – Eight Lane Pool Addition Cost Estimate – 2020$

Item	Estimated Cost	Contingencies	Total
New 8 Lane pool	$5.9m	$1.9m	$7.8m
New Sauna/Jacuzzi	$0.7m	$0.2m	$0.9m
Extension of Viewing Gallery	$0.7m	$0.2m	$0.9m
Integration of Pool Equipment Renovation of Covered Courtyard			$0.5m
Site development and Services	$0.7m	$0.2	$0.9m
Total	**$8.3m**	**$2.7m**	**$11m**

The PRMP indicated that this is a medium to long term need, and estimates a 10 to 20-year horizon for this development. Notwithstanding the PRMP, which did not consider the exceptional growth that Squamish experienced between 2014 and present, the impact of expanding the Aquatic Centre would impact the broader community when compared to some of the other Recreation Centre expansions. There would be growth in programming for children, young families, seniors, individuals with physical or neuro disabilities, or accessibility issues. Additionally, the pool is a low-barrier, accessible means to activity, recreation, and social interaction.

c) Strategic Principle 2a) Minimize Investment

The potential exists for a public-public partnership to fund the new eight lane pool. As mentioned above, the current Aquatic Centre was originally funded by the SLRD and has now been paid for. This creates the opportunity to explore an expansion, especially given the growth in the Britannia Beach area. The YMCA also operates aquatic centres across North America.

In addition, there are several private pool facilities located in Squamish that likely have excess capacity. There may be the potential to share these facilities to alleviate some of the pool programming pressures at Brennan Park both in the short-term and longer-term.

Currently, Squamish swim clubs practice in prime time hours (i.e. after school) limiting the District's ability to program public swims and swim lessons at those times. Creating pool allocation guidelines that prioritize recreation programs such as swim lessons and public swims in prime time hours and moving swim club practices to early in the morning will allow the District to defer this investment. This approach is common in other communities where pool facilities are at capacity.

Recommendation

Exploring a public-public partnership is recommended for the construction of the eight lane pool addition.

Exploring the following interim solutions is also recommended until a new facility can be completed:

- Creating a series of allocation policies to smooth the demand for pool time;
- Partnership agreements for shared use of private pool facilities.

LIBRARY - Core

a) Current State

The Squamish Public Library ("Library") is a significant community hub, providing a welcoming environment for everyone. The Library is open seven days a week, for a total of 60 hours per week. Last year the Library saw more than 151,000 visitors (an average of 54 people per open hour), it is a gathering place for many community groups and partners, and it is central to a variety of local initiatives, including those that promote early literacy and welcome new families to Squamish. It aspires to provide the collection, services and programs best suited to the needs and interests of the community. The Library also manages a digital local history collection of hundreds of historical photographs, newspapers, and audio recordings.

The Library plays an ever-increasing role in providing programming to the community. In 2018, it hosted over 12,400 attendees at library programs, and partnered with various local organizations, including Safe 'N Sound Squamish, Vancouver Coastal Health, Squamish Climate Action Network, Work BC and Quest University Canada to offer community programming. The Library meeting room was used for 1,500 hours including for both Library programming use and room rental by community groups. In addition to running hundreds of in-library programs each year, Library staff provide regular outreach services to various locations in the community, including seniors' centres, early childhood centres and schools.

The Library is in a state of transition as Squamish is growing and technology impacts its operating model. The Library has expanded its open hours and services over the past several years, which has resulted in significant growth in its annual visitor count (a 33% increase compared to 2010). People now visit for much more than just borrowing materials; they use the space and Wi-Fi for study, work, meetings and as a safe, warm community space to spend their days and evenings.

The current Library (12,600ft^2) is in good physical condition and is not facing end-of life investment decisions like other District facilities. However, utilizing BC Public Libraries Statistics 2002-Present, the Library is already 15% behind other communities of similar size in terms of space per capita, and this gap will widen as Squamish grows disproportionately. The Library, is also not flexible enough to adapt to changing programming needs (small meeting groups, large-scale events) due to high ceilings and concrete floors. Addressing this will require a significant investment in renovations. The Library also lacks adequate space and layout for silent study, digital lab/creation stations, a separate children's area where the volume level does not interfere with other patrons, and adequate work space for Library staff. The location of public bathrooms at a far distance from the rest of the library also proves problematic in terms of safety for children.

b) Future State

In 2017, a preliminary space analysis for the Library was completed as part of a broader Civic Block study. At that time a 20,000ft^2 Library was projected to meet future needs.

During REFMP due diligence, the architect recommended a 20,000-25,000 ft^2 Library based on anticipated future growth in Squamish (Appendix 4). **The estimated cost construction for a Library of this size is $16.5m plus a $3.5m allowance for contingencies for a total of $20m.** In order to ensure the Library addresses current challenges and definitively meets future needs it is undertaking a deeper analysis in 2019. Firstly, the Library Board recently completed a workshop with the architect supporting the REFMP. One of the findings of this workshop included the importance of programming space to

future Library service delivery. Secondly, a future needs study will be completed in 2019 involving extensive community engagement coupled with an assessment of future library trends and best practices, providing an in-depth understanding of the type of programming and service delivery required over the next 30 years ("Library Future Needs Study"). This study will inform the timing and scope of facilities required by the Library and possible compatibility with other municipal facilities.

c) Strategic Principle 2a) Minimize Investment

To be determined upon completion of Library Future Needs Study.

Recommendation

Replacing or expanding the Library is not recommended until the Library completes the Library Future Needs Study.

Until a long-term space solution is completed, an interim solution is recommended to relieve programming pressures at the Library.

MULTI MODAL TRANSPORTATION HUB – Core

a) Current State

The Downtown Transit exchange is located on the north side of Pemberton Avenue immediately west of the Pemberton Avenue/Second Avenue intersection. A small bus shelter is the only improvement at this location.

b) Future State

The District's Multi-Modal Transportation Plan recommends that the District establish a multi modal transit hub to:

- Connect transportation modes (local transit, regional transit, bike, pedestrian, car share, taxi, and possibly park and ride, and rail);
- Support a mode shift that makes it easier for people to transfer between local transit and active transportation or regional transit.

This recommendation is further supported by the facts that the current downtown transit exchange is limited in size, requires additional amenities and may be required to move due to expanding active transportation needs on Pemberton Avenue.

BC Transit has recommended a hub that accommodates up to seven bays for local, regional and private buses. The Multi Modal Transportation Plan initially recommended an ambitious development with supporting services including a public plaza, café, shops and office. Recognizing the context of this REFMP, a more economical "cheap and cheerful" hub is being explored that will include vehicle bays, transit shelter(s) and a washroom. **The estimated cost of the hub is $650k.**

The recommended location for the hub is in Downtown Squamish with the following characteristics:

- Ideally close to the existing transit exchange and surrounding commercial area;
- Easy for local transit buses to access;
- Close to the highway;
- Accessible from bike and pedestrian routes;

- Parking is desirable.

After a review of the sites recommended in the Multi Modal Transportation Plan and a further analysis of lands Downtown, District-owned land on the east side of Loggers Lane, north of Pemberton Avenue is recommended. Once further design work is completed, it will be determined whether additional land may be required from the immediately adjacent BC Hydro lands to the east. The existing transit exchange is situated on land that is slated for future active transportation (protected bike path). It is estimated that the transit exchange will need to relocate within 5 years.

c) Strategic Principle 2a) Minimize Investment

Not applicable.

Recommendation

Completing a new multi-modal hub is recommended on the District-owned road dedication on the east side of Loggers Lane, north of Pemberton Avenue prior to the completion of active transportation improvements at the current transit exchange location.

NEIGHBORHOOD CENTRES – Core

a) Current State

No facilities.

b) Future State

The concept of neighbourhood nodes or centres was introduced in the District's 2040 Official Community Plan, adopted in 2018. They are envisioned to encompass a range of neighbourhood-oriented services and amenities. Over the long-term, designation and development of neighbourhood nodes will provide a focal point and gathering place for both commercial and public uses to support complete neighbourhoods and reduce auto reliance for accessing day to day services. They may be opportunistically co-located near schools, neighbourhood commercial areas, community gathering places, or parklands. Neighbourhood facilities within these nodes are critical and present an important opportunity to offer satellite parks and recreation programing, early or adult learning, and "neighbourhood support hubs" for emergency management. Enhancing neighbourhood nodes also relieves pressure on core recreation hubs (Brennan Park) outlined in the PRMP.

The Needs Assessment from the REFS identified three neighborhood centres for future consideration in Brackendale, Garibaldi Estates (or Highlands) and Valleycliffe. Each of these facilities was estimated at 1,000 ft^2 in size. A preliminary cost estimate of $330k was suggested for each facility. These facilities are identified in the REFS as required in 5-10 years. It is anticipated that the District will be able to locate these facilities on District land and no private land acquisitions are anticipated.

c) Strategic Principle 2a) Minimize Investment

Although not identified in the Needs Assessment as a short-term need or immediate need, accelerating the timeline for these facilities can relieve programming capacity pressures currently experienced at Brennan Park and the Library. The opportunity also exists to defer capital investment by locating the neighborhood centres within existing community based facilities such as schools or churches or through the leasing of modular buildings. This approach also enables the District to test the long-term needs for this new service including potential locations before making any long-term decisions. Further, once final scope and location decisions are made, there is the possibility that the District will be able to secure

these facilities as CACs through a future rezoning. If successful, the District will be able to deliver the neighborhood centres without any capital investment.

Recommendation

A pilot project is recommended to advance the timeline for delivery of the Neighborhood Centres in locations that do not require any capital investment by the District.

ADDITIONAL RECREATIONAL FACILITIES - Core

a) Overview

Additional new Recreation & Parks Facilities have been identified in the PRMP and it is anticipated that through the upcoming Brennan Park Land Master Plan, community groups will request additional facilities such as water/spray park, running track and campground facilities.

The District also recently advertised an EOI to explore partnership opportunities at Brennan Park and received several EOI's to locate new facilities at Brennan Park. In each of these cases, the proponent is seeking a long-term lease agreement with the District to provide the security to build and operate the facility. The Brennan Park Land Master Plan process provides the District with the opportunity to gauge the following for each facility in the broader context of all of the potential recreation facilities at Brennan Park:

- public support for prioritization
- the optimal locations

Recommendation

Exploring opportunities for additional recreation and parks facilities and partnerships is recommended through the Brennan Park Land Master Planning process.

YOUTH CENTRE – Support

a) Current State

The Youth Centre in Squamish, located in Dentville adjacent to the Skate Park and Howe Sound Secondary School, is at end-of-life condition.

b) Future State

Given the growth Squamish is experiencing in the youth demographic and the need for purpose built-space and specialized services for youth, the need for a new youth-focused facility was identified.

c) Strategic Principle 2a) Minimize Investment

In 2018, the District was successful in a receiving a BC Housing grant to develop a 76-unit affordable housing building on Buckley Avenue. The proposal included a ground floor commercial unit Youth Hub to be operated and managed by the non-profit building operator. Sea to Sky Community Services, the current contract holder of the District's Youth Services program, have entered into a partnership agreement with BC Housing to operate the Buckley Avenue building and will continue to operate the Youth Hub. It is anticipated that other youth-serving agencies, including the Ministry of Child and Family Development, Vancouver Coastal Health, and the District's Recreation Services will operate programs

out of the Youth Hub, in addition to programming provided by Sea to Sky's Youth Services team. Details of this program model are under development and will be clarified through the District's Youth Strategy.

Recommendation

Incorporating youth space is recommended to be explored when developing public spaces such as a Library, Neighbourhood Centres, new recreation facilities or parks.

ARTS COMMUNITY - Support

a) Current State

The Squamish Arts Council currently occupies a District building in Junction Park. It is located alongside the public washrooms. The building provides administrative space only. Historically it has been used by artists to showcase their work. The facility is 37 years old and is end-of-life. A structural engineer inspected the building in December 2017 and discovered serious building code and decay issues related to the wooden foundation. As a result, the structural engineer recommended that the occupancy be reduced from an A2 type occupancy (Public Assembly) to D type occupancy (Office) with a maximum occupancy of 10. He also recommended annual inspections to monitor the decay and assess suitability of occupancy. A further inspection was completed in April 2019 and the foundation decay situation is stable. The arts community also utilizes Eagle Eye Theatre as a performing space when needed.

b) Future State

The Squamish Arts Council recently provided the District with a preliminary vision of its long-term needs and neither of the above facilities meet current or future needs including:

- Administrative space – Offices/storage space for the Squamish Arts Council.
- Maker - Space for artists to create their products
- Storage Space - Space for the artists to store their products.
- Artist's Showcase space –A space for artists, show and sell their products, and hold performance arts events.
- Performing Arts Centre - The development of an Arts Centre has been identified by the arts community as a gap in Squamish's cultural infrastructure. The Squamish Arts Council has indicated that a performance space is critical to support a vibrant and diverse arts culture. It will also provide community benefits such as economic development, public realm activation, and cultural diversification and enhancement.

The District is currently undertaking an Arts, Culture and Heritage Strategy to determine:

- How residents and visitors want to participate in arts, culture and heritage experiences?
- Current barriers to these experiences.
- How the District can support access to these experiences?

It is anticipated that the Arts, Culture and Heritage Strategy will provide further insights into the needs indicated above and identify a critical path to these opportunities. This strategy is targeted for completion in Spring 2020.

a) Strategic Principle 2d) Manage Facility Investment

In order to maximize the District's financial resources to meet critical needs, this strategic principle identifies several approaches for the District to support a non-profit entity such as the Squamish Arts Council without investing in standalone facilities including:

- Grants to support leasing from third parties;
- Providing space where possible inside larger District facilities or by creating multi-user space.

It is anticipated that these two approaches offer potential to support the Arts Community needs identified above with the exception of the Performing Arts Centre space.

The Performing Arts Centre requires specialized space. It is anticipated that further exploration after the completion of the Arts, Culture and Heritage Strategy will identify alternate approaches for the District to support these specialized space needs without the District constructing a stand-alone facility. Possibilities for District support include providing a long-term land lease on District property, or supporting further renovations to the Eagle Eye Theatre.

Note that Arts programming capacity, delivered through Recreation Services and the Squamish Arts Council, is addressed in BPRC sections of this report.

Recommendation

Exploring opportunities to support the Squamish Arts Council's future needs (without constructing a stand-alone facility) consistent with the recommendations of the upcoming Arts Culture and Heritage Strategy, is recommended.

TRANSIT MAINTENANCE FACILITY - Support

a) Current State

The Squamish transit system is a partnership between BC Transit, the District and the transit operator. Two sets of bilateral agreements lay out the terms of the partnership. On the District side, a Transit Services Agreement describes the ongoing roles and responsibilities of the District and BC Transit, and an Annual Operating Agreement lays out the annual service specifications and costs. Similar agreements exist between BC Transit and the operator.

The Squamish Transit system had a ridership of approximately 277,000 in the 2016/17 operating year, the last year for which accurate data is available. Ridership has very likely increased.

Currently, the transit operator, PW Transit, leases a one bay maintenance facility on approximately one acre of land that provides space for vehicle maintenance, storage and office space. With eight conventional buses and three handyDART vehicles, this facility is now at capacity. There is no larger facility available in Squamish that PW Transit could move to, nor is there one anticipated in to be available in the foreseeable future. Therefore, the responsibility for building a new facility falls to the District and BC Transit.

b) Future State

Enabling continued growth of public transit in Squamish through the construction of a new transit maintenance facility contributes to several of Council's 2019 to 2022 Strategic Plan priority areas. These include: 1) acting on climate change now 2) stimulating diverse Squamish based job growth and 3) connecting citizens through facilities, programs, and gathering spaces. Increasing the frequency of transit service and expanding service to new areas (such as regional transit) contributes to a mode shift

away from single occupant vehicles. Public transit provides a service for Squamish's most vulnerable populations – youth, seniors and low income individuals, enabling them to hold jobs, travel to appointments and move around the community without access to personal vehicles.

If the District does not develop a new Transit Maintenance Facility, it will not be able to increase the transit service as the community grows. The level of service will decline over time as pass ups (this occurs when buses are full and cannot take additional passengers) will increase. It would still be possible to have some regional service by parking buses in Whistler, but there would be a sizable additional cost for deadheading the buses from the Whistler facility (e.g. a bus would have to leave Whistler in the early morning empty in order to get to Squamish for the morning commuter run).

BC Transit estimates that a new facility will cost approximately $20M to build plus land acquisition costs. At final build out, this will provide space for up to 40 vehicles with three full maintenance bays. It is sized to accommodate ongoing local growth as well as space for buses to serve a regional transit system. In order to begin planning for this facility, the District will need to sign a Memorandum of Understanding with BC Transit within the next 12-18 months. The target completion of the facility is in 2025/26.

BC Transit has requested that the two parties proceed with a shared feasibility study in 2019/2020 to confirm a location and further refine the cost estimates for the new Transit Maintenance Facility. After the feasibility study is complete, the two parties would then enter into an Memorandum of Understanding to proceed with the project.

c) Immediate Funding Opportunity

Federal funding is currently available for the construction costs of the new facility through the Investing in Canada Infrastructure Program. This means that the District contribution for construction would only be 20%, with 40% from the Federal government and 40% from the Province (Table 19). The land costs for the facility would be cost shared at 53.3% local government contribution and 46.7% Provincial contribution. BC Transit is able to purchase the land and hold it until the facility is built. The local government contribution to the land and construction costs would not start until the facility is complete. If the District is not able to commit to completing this project in the short term (~5 years), this federal funding opportunity will no longer be available. Other funding opportunities may arise in the future, but this is uncertain.

Table 19 – Impact of Federal Funding

Funding Options	District Investment
With Federal Funding	$4M
Without Federal Funding	$10.7M

d) Strategic Priority 2a) Minimize Investment

Constructing a new smaller facility to supplement the existing facility is not supported by BC Transit as this would create logistical challenges with the complex nature of shift and route changes throughout the day. The cost of the smaller facility would be similar, but without the ability to carry Squamish through into the future.

Staff explored constructing a new facility that was sized only for growth of the local fleet, without the possibility of regional transit, but the cost estimate was only slightly lower than full build out

construction costs of $17m compared to $20m. Further, any portion of the land and building utilized for regional transit is expected to be leased to the Regional Transit Authority and there is a possibility the lease will generate revenue towards the extra investment required. It is anticipated that the Regional Transit Authority will require funding from a variety of sources including all participating municipalities (i.e. Squamish, Whistler and Pemberton).

An interim solution is possible but there is a limit to how much additional capacity can be created within the existing facility to defer investment. BC Transit estimates this to be four or five buses. Under this scenario 2 new buses are proposed in 2020, two in 2021 and one in 2022. As a result, the system would reach capacity again by 2022. These buses will improve service on Route 5 (South Parks), increase frequency on the core network and begin to address the need for additional coverage for large new developments.

Recommendation

Proceeding with a shared feasibility study with BC Transit is recommended in 2019/2020 for the development of a new Transit Maintenance Facility.

Implementing an interim solution with BC Transit is also recommended to alleviate current capacity constraints until the new Transit Maintenance Facility can be completed.

CIVIC BLOCK - Support

a) Current State

No Facilities.

b) Future State

The Needs Assessment recognized a pre REFS study (2016) to explore creating a new Civic Block in Downtown Squamish. It identified additional services that could complement a new Municipal Hall including:

- *Other governmental and institutional agencies* – See Municipal Hall Section for further details.
- *Daycare/Café* – Further analysis on these opportunities will be dependent upon future Municipal Hall decisions. As these facilities are anticipated to be privately run, there is the possibility they will be able to locate in adjacent privately-owned facilities.
- *Community Centre* - In terms of a "Community Centre", the recent Library Board workshop identified the role of the Library as a community space. As result, it is anticipated that the potential and need to create community space in the downtown either as part of the Library or in a separate location will be addressed in the upcoming Library Future Needs Study.

Recommendation

Investing in the Civic Block is not recommended at this time. The opportunity to create a Civic Block will be dependent upon the future analysis to occur for Municipal Hall and the Library.

FAMILY CHILDREN'S CENTRE – Support

a) Current State

No Facility.

b) Future State

Section 4.4 of PRMP recommends creating a Family Children's Centre in the Forestry Building (owned by the District) across from Brennan Park when vacancies permit. The recommended programming for this space includes a family drop-in and pre-school/day care along with expanded outside play space. This facility is currently tenanted and is not anticipated to be vacated in the short-term.

c) Strategic Principle 2a) Minimize Investment

An expansion of BPRC is contemplated in the REFMP including increased programming space. Any additional child care programming required in the area is anticipated to be explored within the context of the future expansion of the Brennan Park Recreation Centre.

Recommendation

Locating the Family Children's Centre in the Forestry Building is not recommended.

HISTORICAL ARCHIVES – Support

a) Current State

A variety of community organizations are actively involved in displaying and storing historical artifacts. These organizations are located throughout the community and are listed in Table 20 below, several do not currently have a venue to display their historical information.

Table 20 - Historical Organizations Space Profile

Organization	Displaying	Storing
Squamish Public Library	Yes	Yes
District of Squamish	Yes	Yes
Squamish Historical Society	No	Yes
Chamber of Commerce	No	Tbd
West Coast Railway Association	Yes	Yes
Sea to Sky Forestry Centre Society	In progress	Yes
Britannia Mine Museum	Yes	Yes
Town of Woodfibre Group	No	Yes
Squamish Nation	Yes	Yes
Squamish Estuary Management Committee	No	Yes

b) Future State

It is anticipated that the upcoming Arts, Cultural and Heritage Strategy may provide additional insights into future space required for the effective storage and display of historical information in the community. If required, the District can supplement this Strategy with additional engagement with these groups.

c) Strategic Principle 2d) Minimize Investment

Similar to the Squamish Arts Council, this strategic principle identifies approaches for the District to support a non-profit entity, without investing in standalone facilities including:

- Grants to support leasing from third parties;

- Providing space where possible inside larger District facilities or by creating multi-user space.

The suitability of these approaches can be evaluated after the completion of the Arts, Cultural and Heritage Strategy.

Recommendation

Exploring opportunities to support the historical community (without building a stand-alone facility) is recommended upon completion of the Arts, Cultural and Heritage Society.

DOWNTOWN PARKING STRUCTURE – Support

a) Current State

No facility.

In the REFS the Downtown Parking Structure was categorized as a *"Core"* priority. *"Core"* priorities are defined as *"crucial to the community that the District must deliver (or find others to deliver on our behalf)"*. Upon closer review, the Downtown Parking Structure appears more aligned with the definition for *"Support"* priorities - *"want and need these in our community but not directly within the District's mandate"*.

b) Future State

The District completed a Downtown parking study in 2017 to assess both current parking facilities and utilization as well as future parking needs and associated infrastructure in Downtown Squamish. A parking structure in the Downtown was identified in the Needs Assessment in the REFS. Although initially projected in the REFS within five years, the 2017 Downtown Parking Study recommended that the parking structure would be a longer-term need. ISL Engineering has since been engaged to complete a location, timing, and costing analysis for a potential Downtown parking structure. The final analysis is not yet complete but preliminary findings indicate the parking structure could cost +/-$15m for approximately 300 parking stalls.

c) Strategic Principle 2a) Minimize Investment

There is a possibility that the future parking structure may not be required in perpetuity as technologies evolve and impact car ownership habits. As a result, incorporating the potential to repurpose the parking structure in the longer-term may enable the District to reduce future facility investments.

Recommendation

Reprioritizing the Downtown Parking Structure as a "Support" facility is recommended. Further analysis is recommended after the completion of the ISL Engineering Analysis.

3.4.5 Full Life Cycle Accounting

As the District's facility portfolio expands to meet community needs, the District's annual operating budgets and capital budgets will also increase.

Strategic Principle 2b) recommends that the District *evaluate facility investment through a business case approach that considers the full life cycle investment required (i.e. operating costs, maintenance, repairs and replacements) not just the initial upfront cost*. The annual increases in operating expenses and capital repairs cannot be reliably predicted until final designs are completed and won't be truly known until the facility investments are completed. A preliminary analysis was completed to identify potential increases in annual operating costs and annual capital repairs and replacements (*Appendix 2 - Operating*

Costs and Appendix 3 – Capital Replacements) in order to support future decision making during implementation of the REFMP. This analysis is based on the recommended replacements and expansions identified in the *Facilities Analysis* section.

Annual Operating & Maintenance Costs (Operating) - Annual operating and maintenance costs (i.e. utilities, janitorial, minor maintenance) include those items required to keep buildings running day to day. The District currently spends $2.2m/annum on operating and maintenance costs for the entire facility portfolio and this amount is funded through the District's Annual Operating Budget.

Strategic Principle 2c) recommends that the District *adopt individual maintenance levels for each facility to maximize life expectancy as applicable and provide the greatest return on investment to the District.* As a result, it is anticipated that the District will follow a more proactive maintenance approach for each facility instead of the current reactive approach the District has been following in the absence of a long-term strategy.

Preliminary estimates have been established in order to illustrate the effect that more proactive maintenance and expanding the portfolio will have on annual operating and maintenance costs for the District. (*Appendix 2 – Operating and Maintenance Costs*). As shown in Table 21, it is estimated that the District annual operating and maintenance costs will increase by $1.45m+ per year by the time all of the District's facility replacements and new facility builds are completed ("Full Build Out").

Table 21 – Projected Increase in Operating and Maintenance Expenses

Item	Amount
Projected Annual Operating and Maintenance Costs (At Full Build-Out) (not including Transit Facility)	$3,600,000+
Current Annual Operating and Maintenance Costs (Current Portfolio)	$2,150,000
Projected Increase in Operating and Maintenance Costs (At Full Build Out)	$1,450,000+

Although the new and replacement facilities are anticipated to be more energy efficient than the current facilities, the District's portfolio will be expanding from 185,000 to 354,000 ft^2.

For the more complex facilities, such as the Second Ice Rink or Eight Lane Pool Addition, significantly higher increases in annual operating and maintenance costs are estimated as compared to other newer facilities or replacements. For example, the projected annual increase in operating and maintenance costs from adding the Second Ice Rink is $360k and for the Eight Lane Pool Addition it is $140k. These operating and maintenance cost increases require annual tax increases of 1.2% and 0.5%, respectively, utilizing the current annual operating budget figures. As a result, the District will need to consider when the annual operating budget can accommodate such increases. Depending on other budgetary pressures, these amounts may not be supportable in a given year.

The total impact on taxes cannot be accurately predicted at this time but will occur gradually as facilities are replaced and expanded. A simple approach for illustration is:

- $1.45m increase occurring over eight years = $180k/year = 0.60% tax increase each year

Annual Repairs and Replacements (Capital) – In addition to operating and maintaining its facilities, the District is required to perform annual repairs and replacements (i.e. HVAC, roof) to ensure its facilities are operating. These expenses tend to be larger in nature and have a longer life span than annual

maintenance items. As a result, they are funded through the District's Capital Budget. With the anticipated expansion of the District's facility portfolio, capital replacements will increase over time.

In 2011, the District contracted RDH Engineering to perform a high level assessment of the state of municipal facilities from a maintenance and investment point of view and to produce an asset inventory for all facilities ("RDH Study"). The RDH study identified an estimated $1.87m annual capital repairs and replacements over the next 10 years based on the current portfolio. Therefore, even if the District did not expand its portfolio, the annual capital repairs would increase by an estimated $865k/year over the next 10 years.

Table 22 – Estimated Annual Increase in Capital Repairs

Item – Annual Capital Repairs and Replacements	Per Year
Actual	+/-$1,000,000
Recommended by RDH Study - based on current portfolio	$1,865,000
Recommended Increase	$865,000
Preliminary Estimate - based on expanded portfolio	$2,275,000
Preliminary Estimated Increase	**$1,275,000**

A preliminary estimate of the increased capital repairs based on the expanded portfolio has also been developed to provide initial information for long-term capital planning (*Appendix 3 – Annual Capital Repairs)*. This estimate is labelled as "preliminary" as the District does not currently have annual capital repair estimates for each recommended expansion. This information will become available as the District completes detailed designs for the facility investments. This estimate is based on extrapolating information from the RDH study and current capital expenditures.

Similar to the findings for Operating Expenses, it is anticipated that the capital expenses will decrease on a ft^2/year basis as the District replaces several end of life facilities, which require significant capital repairs, with newer facilities. As shown above, the total/year for the entire portfolio is anticipated to increase based on expanding the portfolio from 215,000 to 354,000 ft^2.

Also, the increased property taxes as a result of expanding the portfolio cannot be accurately predicted at this time but will occur gradually as new facilities are added and older facilities are demolished.

3.5 REFMP - Land Due Diligence

3.5.1 Overview

The Needs Assessment from the REFS identified a "significant amount" of land acquisitions in the following categories:

Infrastructure	Diking (river and sea), utilities (water and sewer), roads (expansion), transportation (transit exchanges, park and rides)
Public Realm	Neighborhood parks, trails, public access, waterfront walkways, trailheads
Environmental	Greenspaces, environmental sensitives areas, storm water retention
Civic	Landfill expansion, cemetery expansion, facility expansions

These land needs were also prioritized in the REFS through *Strategic Principle 1a – Prioritize Needs* into Critical, Core and Support categories. To support the development of the REFMP, further analysis was undertaken to identify the anticipated acquisitions within each of the above categories. A database of over 350 potential land acquisitions ("land database") was developed. The land database is not 100% complete. Continued effort will be required during the implementation of the REFMP. The land acquisitions identified to date, however, are believed to represent the vast majority and highest priority transactions anticipated.

The land database was scrutinized utilizing *Strategic Principle 4a) Minimize Private Land Investment* which states "*acquisition of private land will only be for specific operational or community purposes. Private land acquisition for land banking or speculating will not be pursued. Future land needs are to be explored in the following order of priority:*

1. *DOS SCG Lands*
2. *Crown SCG Lands*
3. *Rezoning or subdivision*
4. *Existing District Fee Simple Land*
5. *Private Land"*

For clarity, this approach does not preclude the District from acquiring private land to ensure it is available to be considered as an option to meet a future operational need that is being assessed. If the acquired property is not chosen to fulfill the operational need, it could be disposed of at that time.

The goal of this process was to identify the amount of private land acquisitions that could be expected in the future and their potential impact on the REFMP.

The land categories have been split into their subcategories and ordered based on their prioritization in the Needs Assessment. The following analysis is focused on identifying acquisitions (i.e. fee simple, park dedications, rights-of-way) on private land only.

3.5.2 Land Analysis

CIVIC USES – Critical and Core

The Needs Assessment identified land needs for the Landfill expansion (Critical), Brennan Park Consolidation (Core) and Cemetery Expansion. Crown land has been identified to fulfill all of these needs so acquisition of private land is not required.

All of the District's facility needs are currently expected to be located on District land. No private acquisitions are required.

DIKING - Critical

a) Overview

The District's Integrated Flood Hazard Management Plan ("IFHMP") identifies the need for the District to construct new diking, expand existing diking or legitimize access to maintain existing dikes over the next 20 years. Note, typically right-of-way ("ROW") agreements for dike construction, expansion or maintenance do not permit public access.

The future diking work is categorized into two project areas:

River Dike – The River diking system is already built but requires expansion and upgrades to meet flood risk management objectives. The IFHMP included a capital plan with prioritized dike upgrades. Short to mid-term upgrades with land acquisition needs are concentrated on the Squamish and Mamquam River dikes and are summarized as follows:

Table 23 – River Dike Private Acquisitions

Subproject (Ordered from North to South)	**Est. Timing (yrs)**	**Potential Private Acquisitions**	**Rezoning Potential**
Squamish River - Judd Slough	0-5	3 (complete)	-
Squamish River - Brackendale (Judd Slough to Eagle Run Dr.)	5-10	25	No
Squamish River - Eagle Viewing Area (Eagle Run Dr. to S. of 40813 Government Rd.)	0-5	1+	No
Squamish/Mamquam confluence - North Yards	5-10	2	Tbd
Mamquam River - Centennial Way	10+	1	Tbd

As shown in Table 23, it is possible that all of the identified ROW acquisitions above will require an outright acquisition. Only one of these private acquisitions has been identified as an immediate priority within the next five years.

Sea Dike – The IFHMP also identifies the requirement for a fully developed sea dike and provides the following priorities and potential timing:

Table 24 – Sea Dike Private Acquisitions

Subproject	Est. Timing (yrs)	Rationale	Potential Private Acquisitions	Rezoning Potential
Mamquam Blind Channel	0-5	Significant areas where diking does not exist and areas requiring upgrade	21	Portions
Cattermole Slough	5-10	Existing diking in place, but requires upgrade	11	Limited
Estuary/Downtown West	10+	Existing dike in place, but requires upgrade	Tbd	No

As shown in Table 24, there is the potential for portions of the private land acquisitions for the sea dike to occur through future rezoning applications. Most of the required Mamquam Blind Channel lands have rezoning potential. Similarly, there is rezoning opportunity for properties along Cattermole Slough. The ability to acquire these lands through rezoning will depend on whether the applications from the landowner are received sufficiently in advance of the need to construct the dike on the property. In several cases, a rezoning is not anticipated as the lots are narrow and have limited development potential. The District will need to acquire outright a right-of-way for those properties.

The sea dike in the Estuary and Downtown West has one major area requiring land acquisition along Sixth/Seventh Avenue. The existing dike is likely inadequate to support future upgrades. Further design work is required to confirm approach, however, since the CN Rail berm is providing de facto flood protection, this area will not likely require an upgrade for 10+ years.

b) Funding

The District's diking projects are currently funded through a planned $4m annual capital budget ($2m from municipal funding, $2m assumed through grant funding). The immediate acquisitions identified above, will be funded through this diking capital budget and it is anticipated that this annual capital budget will be sufficient to support future land acquisitions.

Recommendation

Continuing the dike acquisition program currently underway is recommended.

UTILITIES - Critical

a) Overview

The District generally acquires ROW agreements for the installation and maintenance of utilities (i.e. water, sewer and storm water pipes) through development permitting at the time of development or redevelopment. In the past, utility upgrades occurred with the consent of a private land owner outside of a development process, but without a formal ROW agreement being registered on title. A recent analysis identified approximately 240 situations where this has occurred.

After additional review of their locations, it is possible for future acquisitions to occur utilizing the following approaches:

- Approximately 20% may be acquired through a future rezoning of the property;
- Acquire the remainder through a gradual acquisition process based on a prioritized order.

b) Funding

All land acquisitions identified will be funded through the separate annual budget for the water and sewer utility.

Recommendation

Prioritizing utility acquisitions is recommended within the next year to enable the creation of long-term Utility Land Analysis.

PARKS - Core

a) Overview

The District currently administers over 200 hectares of parkland in the community. District Parks are categorized as:

- *District and Community Parks* – destination parks visited by residents throughout the community.
- *Neighborhood Parks* – smaller parks that are walkable within neighborhoods

The PRMP identifies targets for parkland in both categories.

District and Community Parks – Comparing the PRMP target (2.2 ha/1,000 population in the community) against the existing park inventory identifies a surplus state. This is largely due to the size of Brennan Park. This category is expected to increase in the future with park dedications occurring through larger approved or pending rezoning applications. These parks can also help support neighborhood park needs.

Neighborhood Parks – In contrast, comparing the target (1.4 ha/1,000 population in the neighborhood) against the existing parks inventory identifies a state of undersupply in each of the 12 neighborhoods in Squamish. The aggregate deficit across all neighborhoods was 15 hectares. It is not anticipated that Crown land or rezonings will eliminate a significant amount of the neighborhood park deficit identified. Finding and funding 15 ha of additional neighborhood park space on privately owned land is anticipated to prove challenging given the limited vacant lands generally remaining in many of Squamish's neighborhoods and may require significant acquisition costs based on current land values.

A "Parkland Analysis" is required to evaluate the targets set out in the PRMP with what may realistically be achievable through private land acquisition on a neighborhood-by-neighborhood basis. This strategy would also prioritize and provide recommended timing for acquisitions.

Recently, a land base analysis of Squamish identified approximately 10 private parcels of land as prospective future parks. Two of these sites have been identified as immediate acquisition candidates.

In addition, the PRMP also recommended two additional softball diamonds at Brennan Park and the development of a Playing Fields Strategy to determine long-term playing field need. The PRMP recommended improving the capacity of existing fields and expanding the inventory in the future by upgrading school fields with joint use agreements, as well as the conversion of the remaining all-weather soccer pitch to synthetic turf.

b) Funding

The existing Parks Reserve is capable of funding the immediate acquisition candidates. The identified Parkland Analysis could inform *DCC Bylaw* updates related to parkland acquisitions and improvement projects to determine whether DCC's can support future funding needs for park acquisitions or whether additional funding sources will need to be identified.

Recommendation

Completing a Parkland Analysis is recommended to identify future land needs.

ACTIVE TRANSPORTATION - Core

a) Overview

The Discovery and Corridor Trails are key components of the District's active transportation network.

Table 25 – Active Transportation Network Potential Acquisitions

Item	Potential Private Acquisition	Rezoning Potential
Corridor Trail	6	None
Discovery Trail	4	Tbd – 1
Future Phases	Tbd – Future Study	Tbd – Future Study

As shown in Table 25, virtually all of the Corridor and Discovery Trail acquisitions are anticipated to be outright, as opposed to being secured through rezoning. Significant acquisition costs are not anticipated, as the District had prior permission to install the trail and none of the future trail alignments appear to have a significant impact on the parent properties.

The future phases of the Active Transportation network identified in Table 26 will target:

- East-west cycling connections;
- Downtown cycling routes;
- Safe routes to school improvements including critical sidewalks;
- Other high priority sidewalks throughout town, including Downtown; and
- Neighbourhood connector routes.

A detailed study for each of these future targets is required to identify the lands that will be required to support the future phases. Although it is not anticipated at this time that these future targets will require significant private land acquisitions, this can only be confirmed once the future study is completed.

b) Funding

Currently, the District is funding an Active Transportation budget in the amount of $700k/year. This budget is not anticipated to be a significant source of funding for future acquisitions. Future acquisition funding may be possible from the *Roads DCC Reserve Bylaw* where active transportation and road needs overlap.

Recommendation

Completing an "Active Transportation Land Analysis" is recommended to identify future land needs.

ROADS – Core

a) Overview

The District administers the road network (Highway 99 excluded) on behalf of the community. Additional land will be required for future road expansions and realignments.

Expansions/Improvements – The District's Multi Modal Transportation Plan identifies several road expansion/ improvement projects that may require land acquisitions. These projects support future community growth and are identified in the *DCC bylaw*.

Table 26 – Road Network Expansion/Improvement Projects (In DCC Bylaw)

Project	Timeline	Private Land Needs	Rezoning Potential
Pioneer Way Extension Government/ Centennial/Pioneer Way	2019 - Design Work Underway	Design will work around private land if possible.	No
Cleveland Ave./Bailey Street Intersection	0-5 years	Possible. Traffic study to determine.	TBD
Brackendale Hw99 Connection (DCC Bylaw – North Rd/Dryden Bridge)	Tbd – Further Design Required	Tbd	No
Tantalus Rd/Garibaldi Way Signaling	0-5 years - Current study underway	Tbd	Yes
Pemberton Bridge	0-5 years	+/- 0.1 ha	No

As shown in Table 26, further design work is required for three of these projects to establish the required land acquisitions and costs.

Existing Network Improvements - There are road projects that are not growth related and not listed in the *DCC Bylaw* but are important for improving the existing road network. These projects include:

Table 27 – Existing Road Network Improvements – (Not in DCC Bylaw)

Project	Est. Timing (yrs)	Land Area	Rezoning Potential
Loggers Lane Widening	0-5	1.23 ha	No
Galbraith Realignment	0-5	Tbd - design	Possible
Oceanfront Bridge to Third Ave.	10 +	Tbd - design	No

b) Funding

Expansions/Improvements – The current *DCC Bylaw* will be updated in 2019. The amount of funding available through DCCs for land acquisitions to support the expansions/improvements in Table 27 will be identified in the process. There is the possibility additional funds will be required based on property value increases since the current bylaw was adopted. For those acquisitions that need to occur prior to the *DCC Bylaw* update, rezonings are not anticipated to support these acquisitions. As a result, outright acquisitions may be required. Currently, there is no funding source established for these acquisitions other than the Land Reserve.

Existing Network Improvements – As shown above in *Table 27 – Existing Road Network Improvements Projects* acquiring the lands for the Galbraith realignment may be possible through a

future rezoning application, but not for the Loggers Lane widening. An outright acquisition is required for the Loggers Lane property. There is no funding source anticipated to support these acquisitions other than the Land Reserve.

Recommendation

Completing the design work identified above is recommended to further clarify the requirements for the expansions/improvements and then exploring including these projects in a future *DCC Bylaw* amendment.

PUBLIC ACCESS (Diking) - Core

a) Overview

The District's network for public access is located largely on the District's existing dike system or the District active transportation network including the Corridor and Discovery Trails and neighborhood connectors. The District's land needs for public access through the active transportation network are addressed in the *Active Transportation* section.

For public access on the diking system, the land needs are expected to be within the lands required for dike maintenance. Public access, however, typically creates a larger impact on the parent parcel, often resulting in higher acquisition costs. The capital funding identified for dike maintenance and expansion does not include public access on the dikes.

Table 28 – Public Access Land Needs

Project	Type	Est. Timing (yrs)	Private Acquisitions	Current Public Use	Rezoning Potential
Mamquam Blind Channel	Sea	0-5	20	Partial	20 - tbd
Eagle Viewing/Government Rd.	River	0-5	Tbd	Partial	No
Cattermole Slough	Sea	5-10	11	Partial	1
Rivendale to Eagle Run Dr.	River	5-10	25	None	No
Estuary		10+	6	Yes	No
North Yards	River	10+	2	Yes	1 - tbd
Centennial Way	River	10+	1	Yes	1

Table 28 summarizes the future diking projects identified in the Diking Section. It is not anticipated that public access will be pursued on any of these lands prior to undertaking the dike projects. As shown in Table 28, for the highest priority area – the Mamquam Blind Channel acquisitions could be addressed through the rezoning process. If rezoning applications are received for these properties within the timelines set out in Table 26, the District can pursue public access and dike maintenance rights-of-way at the same time.

The remaining 40+ diking acquisitions from Cattermole Slough to Centennial Way will not be supported through rezoning are scheduled to occur over the next 5-10+ years. Until further designs on alignment are complete, the land required for public access cannot be definitively identified, nor the estimated acquisitions costs. It is anticipated that design work will be completed for each dike segment 1-2 years prior to construction/completion of the dike project to allow time to complete grant applications and acquire ROW's. This time will allow the District to establish the public access needs on each impacted property, establish a value for the acquisition, and determine whether to pursue the public access acquisition.

b) Funding

There is no identified funding source anticipated for public access acquisitions other than the Land Reserve.

Recommendation

Coordinating the acquisition of public access ROW's is recommended to occur simultaneously with dike maintenance/expansion acquisitions. If funding is not available for public access acquisitions to occur simultaneously, the dike project is recommended to proceed and the public realm needs will be addressed at a later date.

PUBLIC ACCESS (Other) - Core

a) Overview

The District also requires public access for a variety of other recreation uses that are not trail-oriented including but not limited to fishing, kayaking, rafting.

b) Current State

Although the District has not completed a formal assessment of these public access needs it is anticipated that:

- Private, Crown and District lands are all being used to support the public's current access needs;
- In the case of private lands, some portion of the public access is occurring without a formal agreement.

The District currently is acquiring public access agreements on private land where public access is required whenever the landowner submits an application for a rezoning.

c) Future State

As Squamish and the demand for recreation amenities grow in the future it is anticipated that further public access through private lands will be required. It is also possible that some of the future public access on private land will not be able to secured through the rezoning process. An inventory of current public access on private land without agreements and anticipated future public access on private lands will enable the District to begin an acquisition program to ensure that public access is secured through the appropriate agreements.

Recommendation

Developing a "Public Access Land Inventory" is recommended.

EMPLOYMENT LANDS – Core

a) Overview

The District's 2015 Employment Lands Strategy includes several recommendations to "Create new inventory" of employment lands in the community. One of these recommendations (#16 "*Explore Crown Land Opportunities*) requires the District to consider acquiring land itself. The description and rationale of this approach is:

a) Where feasible, appropriate and in association with Squamish Nation consultations, the District should explore employment land opportunities for Crown Land within District boundaries;

b) While a significant portion of Crown Land tenures may be transferred to Squamish Nation in the Cheekye Fan area, some Crown Land parcels remain that could be suitable for industrial employment land development should existing hazards be mitigated.

There are no other recommendations in this Strategy that directs the District to acquire private land to create new inventory. The other recommendations aimed to "Create new inventory", "Maintain inventory" or "Improve land management" are achieved through various initiatives led by the District as a facilitator and regulator including updates to the Official Community Plan, amendments to the Zoning Bylaw, and updates to the Business Park sub area plan.

Circumstances in Squamish have not changed since the Employment Lands Strategy update to suggest a different course of action for the District in this regard.

Recommendation

Acquiring private land is not recommended for employment land purposes.

ENVIRONMENTALLY SENSITIVE LANDS (ESA's) - Core

a) Overview

Currently, there are federal, provincial and municipal regulations, policies and guidelines to support environmental stewardship of natural assets in the community. The District's role in this effort is administered through the tools outlined in Table 29 below:

Table 29 – District Environmental Regulation/Policies

Item	Protection
Official Community Plan	New OCP expanded to consider terrestrial resources (e.g. old growth), marine shorelines, and wetlands.
Environmental Development Permit Areas ("EDPA")	Establishes up to 30 m riparian setbacks (includes creeks, stream, watercourses). Protects highly valuable terrestrial ecosystems and marine shorelines.
Integrated Storm water Management Plans	Identify current and projected needs for storm water management systems (infrastructure and natural assets) with respect to storm water quality and quantity. Identify areas providing important natural storm water functions.

A preliminary review of the lands classified as high Environmental Sensitive Area (ESA) identifies seven private parcels of interest. The District's Development Permit Area 1 guidelines for Environmental Protection would apply to all of the parcels. The intent of the EDPA is to provide guidelines for development but is not to sterilize lands. For two of the seven properties, however, it is more desirable that the properties remain in their current native state and the EDPA guidelines will not provide the necessary protection.

A deeper review of ESA lands is anticipated to identify additional potential acquisitions.

b) Funding

Currently, no funding source is identified for ESA acquisitions other than the Land Reserve. If applicable, there may be the possibility to combine ESA acquisitions with parkland acquisitions and include them in a future amendment to the *DCC Bylaw*.

Recommendation

Completing a comprehensive Conservation Land Analysis is recommended to identify all of the ESAs that may require a higher level of protection than provided for by the EDPA guidelines.

TRANSIT RIDESHARING – Support

a) Overview

BC Transit, the District and PW Transit (transit operator), jointly provide transit services in Squamish. Related to infrastructure, the District is responsible for establishing and maintaining bus stops and the local roadway system, while larger facilities such as maintenance facilities or transit exchanges are cost shared with BC Transit.

Ridesharing is supported by the District of Squamish as a means to reduce the number of single occupant vehicles. One way that the District can encourage ridesharing is to formalize and promote carpool locations.

The District has identified future needs for the following transit and ridesharing infrastructure improvements:

Table 30 – Transportation Projects

Project	Location
Multi Modal Transit Hub	Downtown
Transit Exchange	Garibaldi Estates
Park n Rides	Combine with Multi Modal Transit Hub and Transit Exchange
Car Pool Locations	Throughout community
Bus Shelters	Throughout community

A project scope and new location for the Multi Modal Transit Hub is identified in the *Facility Analysis* section.

For the remaining initiatives, a long–term "Transit/Ridesharing Land Analysis" is required to establish future needs and to prioritize needs to establish the timing of the investments. A preliminary review suggests that existing road dedications, Ministry of Transportation and Infrastructure Highway right-of-way or Crown lands will accommodate these needs but this cannot be confirmed until the long-term strategy and land analysis is complete. As a result, future acquisition costs cannot be estimated.

b) Funding

Currently, there is no funding identified to fund land acquisitions for transit needs other than the Land Reserve. These transportation projects are not included in the *DCC Bylaw* and further analysis is required to establish whether these projects could be incorporated into a future *DCC Bylaw* amendment.

Recommendation

Complete a long-term Transit/Ridesharing Land Analysis and then explore including these projects in a future amendment to the DCC bylaw.

TRAILS - Core

Squamish possesses a significant network of trails located throughout and adjacent to the community. These trails are generally located above the valley floor or outside of urban areas and do not include the Discovery or Corridor Active Transportation Trails. This network is enjoyed by a significant group of recreationalists including hikers, trail runners, mountain bikers, dirt bikers and commercial operators. The network is located on a combination of private and Crown lands. Various local recreational clubs, associations and groups liaise with landowners (Crown and private) on behalf of recreational trail users on a regular basis. Virtually all of the private lands with trails are anticipated to be redeveloped in the future and, based on their sizes, will require sub-area plans. It is anticipated that the trail interests on these properties can be addressed through that process when development planning occurs. As a result, at this point no private land acquisitions have been identified.

PUBLIC REALM – Support

a) Overview

The Needs Assessment identified a variety of public realm uses that support specific segments of the community or require improvements including:

- Farmers Market
- Community Gardens
- Public/Community Event Space
- Boat Launch and Parking
- Campgrounds
- Legacy/ Trail Head Parking and washrooms
- Mamquam Blind Channel Water Lease
- Eagle Run Viewing Area Parking and Washrooms

These public realm needs are all identified in the Support category. A preliminary review suggests that these needs may be fulfilled on Crown land, existing District land or through the rezoning process. In some instances, the District may need to support all of the needs identified above as private operators may step in to address some of these needs (i.e. boat launch, campground).

Recommendation

Continuing to support the development of these public realm assets is recommended without requiring the acquisition of private property.

AFFORDABLE HOUSING – Support

Strategic Principle 4b) states *"affordable housing opportunities will be pursued through alternate methods (than purchasing private land)".* As a result, no private land acquisitions have been identified for affordable housing.

4.0 RECOMMENDATIONS – What When How

4.1 What - Summary

4.1.1 Facilities

The *Facilities Analysis* confirms the recommendations from the REFS – all of the existing facilities identified in the first column in Table 31 are recommended for replacement. The Architects concluded that further investment into these facilities may improve the end-of-life conditions but would not address future expansion needs, seismic instability or increase functionality. In case of Fire Hall #2, the additional opportunity to relocate out of the floodplain will considerably increase community safety.

Table 31 – Facility Investment Summary (2020$)

Replacements (plus Expansion)		**New Facilities - Expansions**		**Renovations**	
Fire Hall #2	$8.7-9.9m	Brennan Park		Brennan Park	
Fire Hall #1	$2.8-3.1m	- 2nd Ice Rink	$16.2-23m	- Rec Ctr. Reno #1	$2m
Public Works	$10.1-12.6m	- 8 Lane pool	$8.3-11m	- Rec Ctr. Reno#2	$1.7-2.5m
Municipal Hall	$20.5-25m	- Wellness Ctr. – Gym	$2.7-$3.8m	- New Cust. Service	$2.5-3.7m
Parks Operations	$1.5-2.1m	- Wellness Ctr. – Prog.	$6.7-9.4m		
BP – Field Users	$1.1-$1.5	Parks DT Satellite	+/-$1.0m		
Library	$16.7-20.2m	Multi Modal Hub	$0.65m		
Fire Hall#3	$0 (CAC's)	Transit Maintenance	$20m+		
		Neighborhood Ctrs	$1m		
		Downtown Parking	$15m		
Total	$62-$74m	Total	$72-85m+	Total	$6-8m

A range of values is shown above in Table 31 summarizing the findings from the earlier *Facility Analysis*. The lower end of the range is the estimated minimum facility investment. The higher end of the range includes all of the potential contingencies. All of the estimates have been adjusted to reflect the potential investments as of 2020. Based on these updated figures, the estimated facility investment has increased from $97-$118m in the REFS to $140-$167m. More refined facility replacement costs will be available as projects move forward and designs are finalized.

Expanding the District's facility portfolio will also increase annual operating and maintenance expenses and annual capital repairs and replacements. Upon completion of all of the contemplated facility replacements and new facilities, preliminary estimates indicate that the District's operating and maintenance expenses will increase +/- $1.45m/year and capital repairs and replacements will increase by at least +/-$1.28m per year. These additional increases will have an impact on the District's annual operating and capital budgets and consideration will be needed as to when they can be absorbed. These estimated increases won't occur simultaneously, but gradually over time as each new facility is completed.

4.1.2 Land

A deeper analysis of the land categories identified in the REFS, which included diking, utilities, roads, transportation, parks, trails, public access, environmentally sensitive lands (ESAs) and District operational needs was completed in the *Land Analysis* section.

This analysis identifies over 350 possible private property acquisitions. The District's estimated investment to complete these acquisitions cannot be accurately estimated at this time given the volume required. Additional design work is required to define the needs for diking, roads and public access. Additional analysis is also required to identify the needs for parks, active transportation, transit and ESAs. At least ten land investments have been identified as immediate priority acquisitions. These acquisitions are estimated at up to $5m in the next five years with the expectation that additional land investments will be identified as further analysis is completed.

4.2 When

4.2.1 Facilities

In addition to identifying the recommended Facility investments ("What"), the Facility Analysis also provided initial insights into "When" these facility investments ideally would occur. Each facility investment identified in the Facility Analysis section was then assessed using the following criteria to reach a recommended "When" it is to occur:

a) Primary Prioritization Criteria - REFS

Strategic Principle 1a - Prioritize Needs from the REFS recommended prioritizing the facilities based on the following approach:

Table 32 – Prioritization Criteria

Category	Rationale	Facilities
Critical	Required to operate and govern the community, provide safety and essential services.	Public Works, Fire, Municipal Hall, Police
Core	Crucial to the community that the District must deliver (or find others to deliver on our behalf).	Parks Operations, Animal control, Brennan Park (Field Users Washrooms, Recreation Centre Renovations, Second Ice Rink, Eight Lane Pool Addition, Wellness & Arts Centre, New Customer Service Area), Library, Parks Operations, Parks Downtown Satellite, Multi Modal Hub, Downtown Parking Structure, Neighborhood Centres
Support	Want and need in our community but not directly within the District's mandate.	Child Care, Transit, Affordable Housing, Seniors'/Youth Services, Tourism, Socio/Cultural/Arts

b) Secondary Prioritization Criteria - REFS

Strategic Principle 1 "Prioritize Needs" from the REFS also established the following secondary criteria to assist with further prioritization within each primary category:

a) Committed/Regulated	Have to do it
b) End-of-Life	To minimize physical or financial risk
c) Legitimize Asset	To eliminate legal risk
d) Opportunistic	Economies of scale or timing (funding)
e) Growth	Improve service as community grows
f) Economic Development	Attract business
g) Community Enhancement	Improve quality of life

Under the secondary criteria, *End-of-Life* condition is rated as the second highest priority after *Committed/Regulated.* The Architects' reviews of the existing facilities reaffirm the importance of prioritizing *End-of-Life* conditions above drivers such as *Growth* or *Community Enhancement*. For example, Fire Hall #2 (Tantalus), Public Works and Municipal Hall are all at *End-of-Life* and renovating these facilities is not recommended. Irrespective of any other possible considerations, replacement strategies for these facilities are important to ensure the District does not make significant repairs in the short term to facilities that are intended to be replaced. The Parks Operations facility and the Brennan Park Field Users' Washrooms/Change rooms are also facing End-of-life and are not recommended to be renovated.

It was identified in the *Facilities Analysis* section that the current transit exchange at Pemberton Avenue / Second Avenue will need to be relocated to accommodate current and future active transportation needs along Pemberton Avenue. As a result, secondary prioritization for the Multi Modal Hub (Core priority) changes from "*e) Growth*" to "*c) Legitimize Asset*". This adjustment supports moving the Multi Modal Hub ahead of other "Core - Growth" projects such as the Library and the projects located at Brennan Park.

c) Community Benefit

Community benefit of an investment has been identified as an additional prioritization criterion. This refers to the incremental benefit to the community of making the investment.

The District's most critical community protection facilities are Fire Hall#2 (Tantalus), Public Works and the Emergency Operations Centre (EOC), all of which are located in the floodplain. Additionally, Fire Hall#2 (Tantalus) and Public Works are not constructed to seismic standards. The IFHMP recommends a "Managed Retreat" approach to relocate critical District facilities out of hazard areas as they are replaced. he recommended approach in the Facilities Analysis is to relocate the District's main Fire Hall#2 (Tantalus) and the Emergency Operations Centre currently located at the RCMP Building to the Fire Hall #1 (Alex Munro) site in Valleycliffe. The relocation of the main Fire Hall #2 (Tantalus) in closer proximity to Downtown Squamish will improve community safety as it brings the department's key apparatus closer to where the greatest density of development is slated to occur, including the tallest and most complex buildings.

Public Works also plays an important role in emergency response and a new facility built to current flood construction levels and seismic standards improves the District's ability to respond effectively.

Replacing Municipal Hall also improves community resiliency. Key administrative functions for the community are located in Municipal Hall and in the event of an earthquake, this facility is not expected to survive. In the event Municipal Hall is destroyed in an earthquake, the District will be challenged to find 20-30,000ft^2 to re-establish operations. Relocating Municipal Hall into a, seismically upgraded, resilient facility helps to ensure business operations can continue as soon as possible.

The proposed expansion of the Transit Maintenance Facility and the new Multi Modal Transit Hub will increase access options for all citizens, especially those least likely to own a car (i.e. youth, seniors):

- Between neighborhoods;
- To school and places of employment;
- To recreational and commercial areas.

As a result, both of these facilities are recommended to advance in the priority list to reflect their specific community benefits.

d) External Funding Opportunities

The REFS identified that external funding would be required for the District to be able to complete all of the contemplated facility investments.

Current Opportunities - Two projects are identified as candidates for grant funding:

Table 33 – Current Grant Funding Opportunities

Project	Total Cost	Provincial Funding	Federal Funding	District $	District %
Transit with Federal Funding	$20m	$8m	$8m	$4m	20%
Transit w/o Federal Funding	$20m	$10m	$0	$10m	50%
District Capital Savings				$6m	
Brennan Park Rec Centre Reno #1	$1.9m	$1.4	n/a	$0.5m	26%

Based on the cost-sharing agreement with BC Transit, obtaining currently available Federal grant funding will save the District $6m. The Provincial funding for the Brennan Park Recreation Centre Reno #1 will save the District $1.4m in funding required to complete that investment. As a result, it is recommended that these two projects advance in the priority list pending successful applications.

Future Opportunities – External funding opportunities such as grants, sponsorships, donations, or private partnerships, are anticipated to play a significant role in determining when the larger "Core-Growth" projects are completed. Included in this list are the Library and the following Brennan Park Recreation Centre Upgrade and Expansion components:

1. Wellness Centre;
2. Second Ice Rink;
3. New Customer Service Area; and
4. Eight Lane Pool Addition.

All of these facilities have the potential to attract external funding. As the level of external funding for each investment increases, the time required to complete the facility investment is anticipated to decrease. For example, a project can advance immediately if 100% funding is possible through a private

partnership or a combination of donations and grant funding and District capital or borrowing is not required.

e) Leasing

Three of the 19 facilities have the potential to be leased from a third party. Privately-owned commercial developments could accommodate the space requirements of Municipal Hall and the Library. The investment into these facilities has been estimated up to $45m. Leasing these properties could accelerate the timeframe for completion of other facilities by freeing up significant District capital and annual borrowing capacity. Further, in the case of the Library, if leasing is selected it may allow it to be completed prior to other Core Growth projects at Brennan Park because it will not be competing with those projects for District capital. As identified earlier in the *Financial Sources Due Diligence Section*, it is recommended that the District fully explore the opportunities to lease the Municipal Hall/Library and Transit Maintenance facility before making any final decisions on these facilities.

f) Temporary Solutions

The potential for a facility to utilize a temporary solution or provide a temporary solution can impact the timing of the investments. BPRC and the Library require additional programming space. There is the possibility to alleviate some of their capacity pressures in other District or third party locations such as The 55 Activity Centre, Quest University or private facilities. The Neighborhood Centres identified in the Needs Assessment may also provide additional programming space. The use of temporary space may enable the deferral of investments into the Wellness Centre and Library, allowing other investments to advance earlier. As a result, the Neighborhood Centres are recommended to advance in priority to reflect their possibility to provide temporary space for other facility needs. Further, in the case of the Neighborhood Centres, it is recommended that a temporary solution be used in the early stages as a pilot project to test possible concepts prior to investing in permanent facilities. The administrative portion of Parks Operations could initially be located in a modular building. A modular building can be leased and not require any immediate District capital, thereby accelerating the delivery of these facilities.

g) Conclusion - When

Utilizing the updated prioritization above and the earlier recommendations from the Facilities Analysis, the following timelines are recommended for the facility investments:

Fire Halls, Public Works - These “Critical” investments are recommended as immediate priorities within the next three years to address end-of-life conditions, capacity challenges and to improve community safety and emergency response resiliency

BPRC Reno #1, Neighborhood Centres – If the grant funding application is successful for the BPRC Reno #1, it will need to be completed within the first three years. A pilot project in temporary facilities for the Neighborhood Centres is recommended as soon as possible to provide capacity relief for other facilities. This approach will enable the District to defer the investment into permanent facilities until a later date.

Municipal Hall – This “Critical” facility is facing end-of-life conditions and a further renovation of the facility will not address current or future needs or substandard seismic stability. The architect’s review confirms that significant repairs are required ($2.5m+) to keep the building operating the status quo, and the longest the District can expect to extend its life without making these repairs is five years. Therefore, replacement is recommended within that period of time.

Parks Operations and Brennan Park Field Users' Washrooms/Change rooms – These facilities are all facing end-of-life and it is recommended that they be replaced within the next five years. Based on the secondary prioritization criteria these "Core" facilities are recommended to be prioritized ahead of those Core facility investments driven by growth.

Parks Downtown Satellite – This new "Core" facility is not required until the External Developments are completed, which is anticipated within 5 years.

Transit Maintenance Facility and Multi Modal Hub – These "Support" facility investments are recommended to be advanced in priority to:

- Reflect the importance of the accessibility generated by these investments for the community;
- Capitalize on the current funding opportunity for the Transit Maintenance Facility;
- Address the relocation of the existing transit exchange to a new Multi Modal Hub required due to active transportation expansions on Pemberton Avenue.

Both of these investments are recommended to occur within five years.

Brennan Park Recreation Centre (Second Ice Rink, Eight Lane Pool, Wellness Centre, Reno #2, New Customer Service Area) and Library - These remaining "Core Growth" facility investments are driven by capacity issues and growth, and are recommended to be prioritized after the facility investments identified above. Each of these are candidates for external funding and if sufficient funding is available so that these investments do not compete with the investments prioritized above for District borrowing capacity, the timelines for completion of these investments could be accelerated. Therefore, the timeline for these investments is still to be determined.

Fire Hall #3 (Brackendale), Downtown Parking Facility – The timing of these investments is to be determined but is expected beyond 5-10 years. Fire Hall#3 will depend on development activity in Brackendale. In 2017, the Downtown Parking Strategy identified a 10 year + timeline for completion of a parking structure.

Table 34 below provides a summary of the prioritization when combined with the recommended timelines above.

Table 34 – Prioritization Table

Item	Estimated Invest.	REFS Primary	REFS Secondary	Investment Impact	External Funding Opportunities	Timing/Funding Deferral Options
Years 0-3						
Main Fire Hall Volunteer Fire Hall	$8.7-9.9m $2.8-3.1m	Critical	a Committed b End of Life e Growth	Community/Life safety	Not anticipated	
Public Works	$10.1-12.6m	Critical			Not anticipated	
BPRC – Reno#1	$1.9m	Core	b Near End of Life	Customer Service	Available - $1.4m	
Neighborhood Centres	$1m	Core	f Community Enhance	Community programs	Not anticipated	Temp Sol
Years 3-5						

Municipal Hall	$20.5-25m	Critical	b End of Life e Growth	Community Resiliency	Not anticipated	Leasing
Parks Ops	$1.5-2.1m	Core	b End of Life	Worker Safety	Not anticipated	Modular
BP Field Users Washrooms	$1.1-1.5m	Core	b End of Life	Customer Service	Not anticipated	
Multi Modal Hub	$0.65m	Core	c Legitimize Asset	Access, affordability	Not anticipated	
Parks DT Satellite	+/-$1m	Core	e Growth	Efficiency	Not anticipated	Temp Sol
Transit Maintenance	$20m+	Support	e Growth	Access, affordability	Available - $16m	Leasing - tbd
To be Determined						
BP – Second Ice Rink	$16.2-23m	Core	e Growth	Prime time ice access	Grants, Sponsorship,	Private
Library	$16.7-$20.2m	Core	e Growth	Community programs	Grants, Sponsorship	Leasing
BP – 8 Lane Pool Addition	$8.3-11m	Core	e Growth	Prime time lessons	Grants, Sponsorship	
BPRC Reno#2	$1.7-2.5m					
BP – New Customer Service	$2.5-3.7m	Core	e Growth	Customer Service	Grants	
BP – Wellness Centre	$9.4-13.2m	Core	e Growth	Health programs	Grants, Sponsorship	
DT Parking Structure	$15m	Core	f Community Enhance	Economic dev.	Not anticipated	
Fire Hall#3	$0 - CACs	Critical	e Growth	Community/Life Safety	Not anticipated	
Not Recommended						
Animal control						
Temp Sol – Temporary Solution, Modular – Modular building, CAC's – Community Amenity Contribution, Private – Private Operator, Cust Serv – Customer Service						

4.2.3 Land

The timing of land investments is anticipated to be spread out over the next 20 years as compared to the facility investments that are more urgent within the next 5+ years. All of the land acquisitions will occur through a prioritized, phased approach. Based on previous IFHMP work, the *Diking* category has already established its priorities based on five year increments. Further research is required for all of the remaining land categories to reach a similar state of prioritization and phasing.

Table 35 – Land Summary

Category	Est. Timing	Required to Confirm Estimates	Existing Budget	Est. Impact on District Borrowing and Disposition $	Immediate Targets (Closed Only)
Critical					
Diking 1. Mamquam Blind Channel 1. Eagle Run South 2. Cattermole, Eagle Run North 2. North Yards 3. Estuary, Centennial Way	0-5 0-5 5-10 5-10 10+	*Cost Only* Design Work	Yes – Diking Capital Budget is $2m/year	None	1
Utilities	0-20	Utility Land Analysis	Yes – Sewer and Water Utility	None	2
Core					
Parks	0-20	Parkland Analysis	DCC's - TBD	*Moderate to Significant*	2
Active Transportation (AT) 4. Corridor/Discovery Trail 5. Neighborhoods	0-5 0-10	n/a Active Transportation Land Analysis	*Limited* AT budget does not inc. land	*Low to Moderate*	3
Roads	0-5	Design Work	*TBD* DCCs possible	*Low to Moderate* - Rezoning potential	1
Public Access See Diking above for timing	0-20	Design Work	*None*	Moderate to Significant - Urban land is $$$ - Some rezoning potential	1
Employment Lands	No private land acquisitions are recommended.				
Environmental Sensitive Lands	0-10	Conservation Land Analysis	*TBD* DCCs via Park	*Low to moderate* - District processes (EDPA …) to support	2
Transit	0-10	Transit/Ridesharing Land Analysis	None	*Low* - District and Crown land to support	1
Trails	0-20	n/a	None	*Low*	None

				Acquire through development	
SUPPORT					
Affordable Housing, Public Realm/Support Lands, Public/Community Event Space, Airport Consolidation, Campgrounds					No private land recommended

Table 35 identifies (1) possible funding sources already established and (2) development permitting processes that may support acquisitions. The critical land categories – *Diking and Utilities* – already have funding sources established and it is anticipated that the acquisitions required in the next 0-5 years will not impact on the District's annual borrowing capacity or require District Disposition proceeds. *Parks* and *Public Access* acquisitions, however, could require moderate to significant funding from the District's annual borrowing capacity or District Disposition proceeds. Future land acquisitions required to support these categories will be located in urban areas of Squamish where land values are substantial. The ability to acquire public access space through rezonings is anticipated to provide some relief from private acquisitions. Further research is required to estimate the land investments required and when the acquisitions will need to occur. As a result, future funding of facility and land investments will need to be flexible to accommodate future land investments that may be identified through this research.

4.3 HOW

4.3.1 Funding Illustrations

There is no singular approach to funding the upcoming facility and land investments ("How"). The "How" and "When" will fluctuate depending upon the circumstances and events experienced during the implementation of the REFMP, many beyond the control of the District. An illustration of a funding approach, using the best information available today, provides insights and guiding principles to support future decision making for the contemplated facility and land investments. It also more clearly demonstrates how the many variables can impact the funding scenarios and ultimately the timing of future investments.

Two funding approaches are provided below for illustration. In both cases, the following assumptions/principles are applied:

- Land Reserve starting balance is $11m:
- The estimated value of District Dispositions is $45m;
- Annual maximum borrowing capacity is capped +/-$4m/year;
- District Disposition funds are not anticipated to be available for at least two years so the Land Reserve and the Critical Amenities CACs must be used to support the most immediate facility and land investments;
- To be conservative, investment figures include the full estimated design, site development and construction costs plus contingencies provided by the cost consultant;
- All investment figures are based on 2020 dollars for comparison purposes.
- All of the Critical/end-of-life facilities are replaced and current funding opportunities are prioritized;
- Detailed operating and maintenance costs and capital repairs and replacements for each facility are not identified yet and as such not included in these illustrations. The illustrations only address the initial capital investments.

Illustration 1- Maximize External Funding

a) Assumptions

Table 36 illustrates a funding approach that maximizes external funding, leasing and private operator opportunities to minimize the use of District capital and borrowing.

- *Leasing* – Suitable lease locations are found for Municipal Hall and the Library.
- *External Funding* – Assumes the Provincial grant funding for the BPRC Reno #1 and the Federal grant funding for the Transit Maintenance Facility is approved. At least $15m in external funding is achieved for the remaining Core–Growth projects that are candidates - 50% of the investment for each project.
- *Private Operator* – A suitable private party is identified that will build and operate the Ice Rink.

b) Findings

- The District has sufficient Land Reserve funding, Disposition proceeds and borrowing capacity to replace all of the "Critical/end-of-life" facilities and capitalize on immediate external funding opportunities within five years.

- The Second Ice Rink could advance as soon as a private operator is secured and can construct the facility.

- The completion of the remaining Core Growth facilities - Eight Lane Pool, Wellness Centre, Reno #2, New Customer Service Area – will depend on the timing of external grant funding. It is impossible to predict at this point how long it may take for the $15m identified for all five to accumulate. Once the grant funding is secured, it is possible these projects could proceed in parallel with the "Critical/end-of-life" facilities identified above, providing they are not competing for annual borrowing capacity.

- Further analysis is required to assess fully the impact of leasing vs owning on the District's financial plan. In this illustration, the annual lease payment for Municipal Hall is estimated at +/- $750k/annum and for the Library it could reach +/-$500k/annum (depending on the final scope). If the lease qualifies as an operating lease it does not impact on the District's borrowing capacity or require District Disposition proceeds. The annual payment, however, does have to be incorporated into the District's operating budget. A $750k annual payment represents an approximately 2.5% tax increase. Even if the increase can be split into two 1.25% annual increases or additional operating revenues are available to offset or reduce this impact, it still represents a significant impact on the District's financial situation and it is assumed under this approach that in those years the annual borrowing capacity would not be utilized.

- $5m is available for the next wave of land acquisitions to occur after the initial *Prioritized Land Acquisitions*

TABLE 36 - Funding Illustration 1 - Maximize External Funding

INITIAL CAPITAL INVESTMENT

Timing	Prioritization Primary	Prioritization Secondary		Estimated Investment	Non-Taxation: Land Reserve	Non-Taxation: Critical Amenity Fund	Non-Taxation: Disposition Proceeds	Non-Taxation: Estimated Ext. Funding	Requires Taxation: Annual Borrowing	Requires Taxation: Years of Borrowing	Requires Taxation: Total Borrowing	Ending Balance
			Starting Balances		$11,000,000	$650,000	$45,000,000					
within 3 years	Critical	Community Safety, End of Life,	**Fire Hall#2 - Main (moved to Valleycliffe)**	$9,900,000	$5,000,000	$650,000			$4,250,000	1	$4,250,000	$0
			Fire Hall#1 - Volunteer (moved to Tantalus Rd)	$3,100,000	$500,000				$2,600,000	1	$2,600,000	$0
			Public Works	$12,600,000			$8,600,000		$4,000,000	1	$4,000,000	$0
	Various		**Prioritized Land Acquisitions**	$5,000,000	$5,000,000							$0
			Subtotal	$30,600,000	$10,500,000	$650,000	$8,600,000			3	$10,850,000	$0
			Remaining Balances		$500,000	$0	$36,400,000					
	Core	External Funding	**Brennan Park - Rec Centre Renovation #1**[1]	$1,900,000	$500,000			$1,400,000				$0
			Remaining Balances		$0		$36,400,000					
		End of Life/Worker Conditions										
within 5 years	Core		**Parks Ops**	$2,100,000			$2,100,000					$0
	Core	End of Life	**Brennan Park - Field Users Washrooms**	$1,500,000			$1,500,000					$0
	Core	Legitimize Asset	**Multi Modal Hub**	$650,000			$650,000					$0
			Subtotal	$4,250,000			$4,250,000		$0		$0	$0
			Remaining Balances				$32,150,000					
	Core	Efficiency	**Parks Downtown Satelilite**	$1,000,000			$1,000,000					$0
			Remaining Balances				$31,150,000					
	Support	External Funding	**Transit Maintenance Facility**	$29,000,000			$9,000,000	$20,000,000	$0	0	$0	$0
			Remaining Balances				$22,150,000					
	Critical	End of Life	**Municipal Hall - Lease**[2]	$0			$0	$0	$0	2	$0	$0
			Remaining Balances				$22,150,000					
TBD	Core	Growth	**Brennan Park - Second Ice Sheet Private**[4]	$0			$0	$0	$0	0	$0	$0
	Core	Growth	**Library - Lease**[3]	$0			$0	$0	$0	2	$0	$0
	Core	Growth	Land **- Parks, Active Transportation, Roads, ESA's Public Access, Transit - TBD**	$5,000,000			$5,000,000		$0	0	$0	$0
	Core	Growth	**Neighborhood Centres - Permanent**	$1,000,000			$1,000,000	$0	$0	0	$0	$0
	Core	Growth	**Brennan Park - Wellness Centre - Gym/Rehab**	$3,800,000			$1,900,000	$1,900,000	$0	0	$0	$0
	Core	Growth	**Brennan Park - Rec Centre Renovation #2**	$2,500,000			$1,250,000	$1,250,000	$0	0	$0	$0
	Core	Growth	**Brennan Park - Wellness Centre - Programming**	$9,400,000			$4,700,000	$4,700,000	$0	0	$0	$0
	Core	Growth	**Brennan Park - Eight Lane Pool Addition**	$11,000,000			$5,500,000	$5,500,000	$0	0	$0	$0
	Core	Growth	**Brennan Park - New Customer Service Area**	$3,700,000			$1,850,000	$1,850,000	$0	0	$0	$0
							$21,200,000	$15,200,000				
			Remaining Balances				$950,000					
	Support	Future Considerations	DT Parking Structure	$15,000,000								
		Funding Threshold	Eight Lane Pool Addition, Wellness Centre, New Customer Service Area, Renovation #2	50%								

NOTES:

1 Based on successful grant funding application
2 Estimated annual lease payment is +/-$750,000 . Assume no borrowing will be possible during the first 2 years lease payment is absorbed into the operating budge
3 Estimated annual lease payment is $500,000 . Assume no borrowing will be possible during the first 2 years lease payment is absorbed into the operating budget
4 Private operator builds and operates the Ice Rink in return for long-term lease

OPERATING AND MAINTENANCE EXPENSES	Increase / annum
Annual operating and maintenance expenses are anticipated to increase as the District's facility portfolio expands. A preliminary analysis estimates that once the entire portfolio is expanded the annual costs will increase from the current $2.2m / annum to an estimated +/-$3.6m / annum. Detailed estimates for each facility will be established at the design stage.	$1,450,000

CAPITAL REPAIRS AND REPLACEMENTS	Increase / annum
Annual capital repairs and replacements are also anticipated to increase as the District's facility portfolio expands. A preliminary analysis estimates that once the entire portfolio is expanded the annual costs will increase from the current $1m / annum to an estimated +/-$2.275m / annum. Detailed estimates for each facility will be established at the design stage.	$1,275,000

Illustration 2 – Limited External Funding

a) Assumptions

Table 37 illustrates a funding approach where only a limited amount of external funding is secured.

- *Leasing* – No suitable lease locations are found for Municipal Hall and the Library.
- *External Funding* – Assumes the Provincial grant funding for the BPRC Reno #1 and the Federal grant funding for the Transit Maintenance Facility are not approved. Similar to Illustration #1, at least $15m of external funding (i.e. grants, donations, sponsorships) is available for the remaining Core-Growth projects -reduced to 20% of the funding for each projects due to more projects requiring funding.
- *Private Partnership* – A suitable private party is not identified to build and operated the Second Ice Rink.

b) Findings

- All of the "Critical/community safety/end-of-life" facilities are still replaced and current funding opportunities capitalized within five years.

- The Transit Maintenance facility and the Second Ice Rink are now competing for the same District capital and borrowing capacity as the other Core-Growth Projects at Brennan Park (Second Ice Rink, Eight Lane Pool Addition, Wellness Centre, Reno #2, New Customer Service Area) and the Library.

- There are less District Disposition proceeds ($13.25m vs $22.15m) remaining to support a greater number of Core-Growth projects. Also there isn't enough borrowing capacity to complete the Core-Growth projects.

- The Transit Maintenance Facility could still proceed based on the funding support from BC Transit and justified based on the community benefit of this project. The BPRC Reno #2, the Wellness Centre-Gym/Rehab and the New Customer Service Area are small enough in value that they could be completed through borrowing over a two-year period and a modest amount of external funding ($2m).

- For the remaining projects the timing for completion appears less certain. The Wellness Centre-Programming, Second Ice Rink, Eight Lane Pool and Library are estimated to cost $67m. At this point, the District has no District Disposition proceeds available, is limited to $4m/year in borrowing capacity and is projected to have $13m in external funding available. The illustration is based on a four year borrowing period, which leaves a shortfall of $37.92m.

- $2.5m (vs $5m for Illustration 1) is available for the next wave of land acquisitions to occur after the initial *Prioritized Land Acquisitions.*

TABLE 37 - Funding Illustration 2 - Limited External Funding

INITIAL CAPITAL INVESTMENT

Timing	Prioritization Primary	Prioritization Secondary	Location	Estimated Investment	Non-Taxation: Land Reserve	Non-Taxation: Critical Amenity Fund	Non-Taxation: Disposition Proceeds	Non-Taxation: Estimated Ext. Funding	Requires Taxation: Annual Borrowing	Requires Taxation: Years of Borrowing	Requires Taxation: Total Borrowing	Ending Balance
			Starting Balances		$11,000,000	$650,000	$45,000,000					
within 3 years	Critical	Community Safety, End of Life	**Fire Hall#2 - Main (moved to Valleycliffe)**	$9,900,000	$5,000,000	$650,000			$4,250,000	1	$4,250,000	$0
			Fire Hall#1- Volunteer (moved to Tantalus Rd)	$3,100,000					$3,100,000	1	$3,100,000	$0
			Public Works	$12,600,000			$8,600,000		$4,000,000	1	$4,000,000	$0
	Various		**Prioritized Land Acquisitions**	$5,000,000	$5,000,000							$0
			Subtotal	$30,600,000	$10,000,000	$650,000	$8,600,000			3	$11,350,000	$0
			Remaining Balances		$1,000,000	$0	$36,400,000					
												$0
within 5 years	Core	End of Life/Worker Conditions	**Parks Ops**	$2,100,000	$1,000,000		$1,100,000					$0
	Core	End of Life	**Brennan Park - Recreation Centre Renovation #1**	$1,900,000			$1,900,000					$0
	Core	End of Life	**Brennan Park Field Users Washrooms/Changerooms**	$1,500,000			$1,500,000					$0
	Core	Legitimize Asset	**Multi Modal Hub**	$650,000			$650,000					$0
			Subtotal	$6,150,000	$1,000,000		$5,150,000		$0		$0	$0
			Remaining Balances		$0		$31,250,000					
	Core	Efficiency	**Parks Downtown Satelilite**	$1,000,000			$1,000,000					$0
			Remaining Balances				$30,250,000					
	Critical	End of Life	**Municipal Hall**	$25,000,000			$17,000,000		$4,000,000	2	$8,000,000	$0
			Remaining Balances				$13,250,000					
within 8.5 years	Core	Growth	**Transit Maintenance Facility (No federal Funding)**	$29,000,000			$9,750,000	$14,000,000	$4,000,000	1.31	$5,250,000	$0
	Core	Growth	Land **- Parks, Active Transportation, Roads, ESA's Public Access, Transit - TBD**	$2,500,000			$2,500,000					
	Core	Growth	**Neighborhood Centres - Permanent**	$1,000,000			$1,000,000					$0
	Core	Growth	**Brennan Park - Recreation Centre Renovation #2**	$2,500,000			$0	$500,000	$4,000,000	0.50	$2,000,000	$0
	Core	Growth	**Brennan Park - Wellness Centre - Gym/Rehab**	$3,800,000				$760,000	$4,000,000	0.76	$3,040,000	$0
	Core	Growth	**Brennan Park - New Customer Service Area**	$3,700,000				$740,000	$4,000,000	0.74	$2,960,000	$0
TBD	Core	Growth	**Brennan Park - Wellness Centre - Programming**	$9,400,000				$1,880,000	$4,000,000	1	$4,000,000	$3,520,000
	Core	Growth	**Brennan Park - Eight Lane Pool Addition**	$15,000,000				$3,000,000	$4,000,000	1	$4,000,000	$8,000,000
	Core	Growth	**Library**	$20,000,000				$4,000,000	$4,000,000	1	$4,000,000	$12,000,000
	Core	Growth	**Brennan Park - Second Ice Rink**	$23,000,000				$4,600,000	$4,000,000	1	$4,000,000	$14,400,000
			Subtotal					$15,480,000				$37,920,000
			Remaining Balances									
	Future Considerations		DT Parking Structure	$15,000,000								
	Funding Threshold		Library, Ice Rink, Aquatic Ctr, Wellness Ctr, Cust Serv#2	20%								

OPERATING AND MAINTENANCE EXPENSES — Increase / annum

Annual operating and maintenance expenses are anticipated to increase as the District's facility portfolio expands. A preliminary analysis estimates that once the entire portfolio is expanded the annual costs will increase from the current $2.2m / annum to an estimated +/-$3.6m / annum
Detailed estimates for each facility will be established at the design stage — $1,450,000

CAPITAL REPAIRS AND REPLACEMENTS — Increase / annum

Annual capital repairs and replacements are also anticipated to increase as the District's facility portfolio expands. A preliminary analysis estimates that once the entire portfolio is expanded the annual costs will increase from the current $1m / annum to an estimated +/-$2.275m / annum
Detailed estimates for each facility will be established at the design stage — $1,275,000

4.3.2 Guiding Principles from Funding Illustrations

The illustrations confirm earlier REFS strategic principles and provide additional guiding principles to support future facility and land investment decisions:

a) Immediate Borrowing Required – As shown in both illustrations, the District cannot complete the immediate, Critical Fire Halls, Public Works investments and Prioritized Land Acquisitions in the next three years without borrowing. There aren't sufficient funds in the District's Land Reserve ($11m) to fund the estimated investment ($30.6m). Also, funds from District Dispositions are not anticipated to be available for +/- 2 years in order to maximize the potential proceeds. Even if the District attempted to access District Disposition proceeds earlier, utilizing these funds to avoid immediate borrowing would result in less funds being available to support the Core-Growth projects identified and delay their completion.

b) Use of District Dispositions –The District must use District Dispositions once they are available in the estimated +/-2 years. The Critical projects identified for completion in the next three years are estimated to total $30.6m. The funding available through the Land Reserve, Critical Amenity Fund and three years of borrowing totals $21m. District Dispositions are required to make up the estimated $10m shortfall.

   Also, in order to complete the remaining end-of-life projects and capitalize on the immediate grant funding opportunities within five years, an estimated $17m to $37m (depending on leasing opportunities) more will be required in two years. Annual borrowing can only provide for $8m of the $27-$47m funding gap to complete all of these projects.

c) Importance of External Funding Confirmed - Although the need for external funding, leasing ability, and private partnerships has been identified since the REFS, the illustrations above provide additional confirmation of their importance. The leasing of Municipal Hall and a private operator for the Second Ice Rink could reduce the District's capital needs by up to $48m. The leasing of the Library could save another $20m in capital. This will have a significant impact on the District's ability to complete all of the contemplated facility investments in a timely and financially sustainable manner.

   Further, Table 37 - Illustration 2 demonstrates that the Core Growth projects at Brennan Park aren't able to be completed without external funding and the amount of and timing of external funding secured will determine when these projects can be completed. The total estimated cost of these projects is $57m. With a borrowing capacity of $4m/year that represents just under 15 years of borrowing. In this illustration utilizing the annual borrowing for 4 years ($16m) plus external funding ($15.5m) still leaves a shortfall of $25.5m.

d) Disposition Strategy Required – The timely disposition of District assets is critical to ensuring that funds are available for future facility and land investments. The District's Dispositions, however, cannot all occur immediately and at the same time. As a result, it is recommended that a disposition strategy be developed that capitalizes on rezoning opportunities, respects existing tenants and acknowledges when operating facilities can be vacated.

e) Need for Business Cases – If the District is unsuccessful in securing a private operator for the Second Ice Rink or securing a lease for the Library there will be a limited source of funding or annual borrowing for the Core Growth projects. Under *Strategic Principle 1a) – Prioritize Needs* the Library and all of the Brennan Park projects are prioritized equally under "Core" (primary criteria) and "Growth" (secondary criteria). In order to assist with prioritization a business case approach is recommended. This approach is also recommended in the REFS under *Strategic Principle 2b):*

> *Evaluate facility investment decisions through a business approach that considers the full life-cycle investment required (i.e. operating costs, maintenance, repairs and replacements) not just the initial upfront cost.*

A business case will identify all of the potential costs associated with each project. This will be important in the case of expansions to the Second Ice Rink and Eight Lane Pool Addition. In addition to any capital investment costs, the annual operating and maintenance costs of these facility investments are substantially higher than other District facilities (Appendix 2). Currently they are estimated at $360k (rink)/ and $140k (pool) respectively. These figures will have a significant impact on the annual operating budget and there needs to be consideration as to when these increases can be absorbed.

The business case approach will clearly identify the specific community impact beyond the general need for more capacity. It will identify how the increased capacity will increase programming opportunities and how many citizens will benefit which can then be assessed against the investment required. Finally, the business case approach may also support any future community engagement required for decision making regarding annual borrowing or other tax increases/user fees that may be required to fund the investment.

f) Support facilities require alternate approach – The illustrations confirm the recommendations from the earlier REFS and identified earlier in the *Facilities Analysis* section – the District should explore opportunities to support non-profit support agencies through alternate means than providing a stand-alone facility. It is not anticipated that the District will have funding capacity to support any separate facility investments for those facility needs originally identified in the Support Category.

g) Future Contributions to Reserves Required

The financial illustrations demonstrate the importance of *Strategic Principle 2 Manage Facility Investment – Supporting Action #7 – Increase Contributions to reserves for future facility replacements*. The legal limits on annual borrowing and practical limits on external funding requires the District to utilize capital reserves (i.e. the Land Reserve and District Disposition proceeds). The capital reserves are required not only to fill the overall funding gap, but will also be required to support facilities where the investment far exceeds practical annual borrowing (i.e. requires five years of borrowing) or external funding is not applicable (i.e. Fire Halls, Public Works). The current Land Reserve and District Disposition proceeds, however, can only be used once. Therefore, as recommended in *Action#7*, the District must *"establish a fund for facility replacements and identify mechanisms for building up the fund in the Long-Term financial plan".* Otherwise, the District will not have the sufficient reserves to complete future facility replacements. For example, a $20m facility replacement in 2020 becomes a $67m replacement in 2045 based on a construction costs increasing 5%/year on average.

h) Many External Factors Impact the Illustrations

While it is important to establish "When" and "How" estimates in the REFMP to guide decision making, the funding illustrations above demonstrate that there are many external factors that are beyond the control of the District that will impact its ability to fund future investments including:

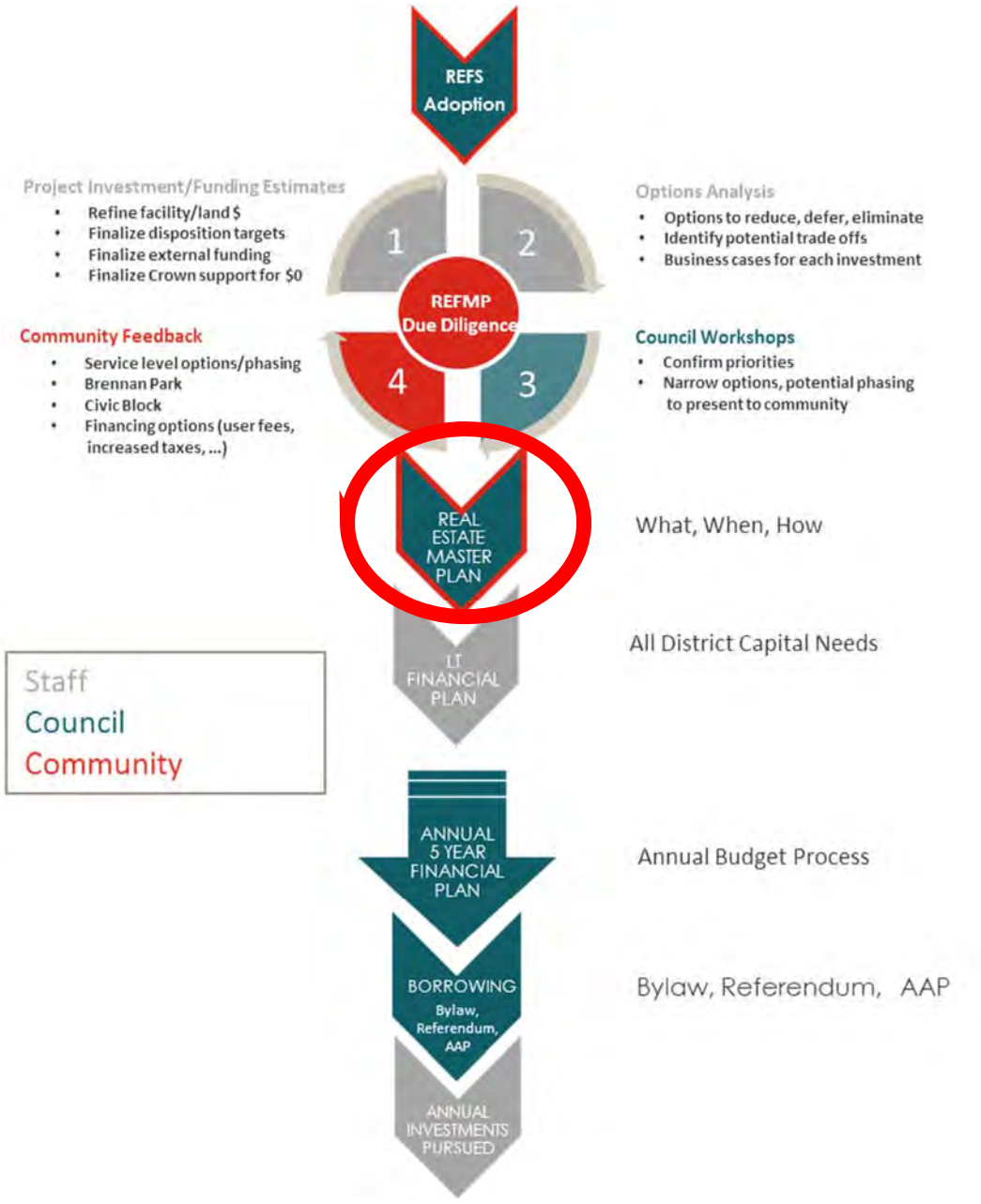
- Market impacts on District Disposition revenues;
- Contributions from development;
- Other financial challenges the District may face;
- Amount of external funding available, will have the greatest impact on how much funding support will be available for future facility and land investments. As a result, these actual experiences will ultimately determine when those investments can occur.

These illustrations are currently based on 2020 dollars and do not include escalations for annual increases in construction costs. If construction costs increase significantly in the upcoming years the timelines for completing the investments (especially the Core-Growth related investments) are expected to lengthen unless the District is able to secure greater funding than initially estimated through the District Dispositions, external funding or the District's annual borrowing capacity increases. Given the likelihood for increased constructions costs in the future, however, it is recommended that the District's funding projections be updated annually to reflect the actual costs incurred as projects are completed and the potential for increased construction costs/District Dispositions in subsequent years.

5.0 IMPLEMENTATION

As identified earlier in the REFS, the "*What/When/How*" recommended in the REFMP provides key inputs into the District's Long-Term Financial Plan ("LTFP") which establishes long range funding strategies for the District's projected capital requirements. The LTFP in turn provides inputs into the District's Annual Five Year Financial Plan process ("the Budget") where the actual investment decisions are proposed, considered and endorsed.

Figure 6 – REFS Implementation



The District will also commence an unprecedented period of facility analysis, design and construction. The District will require in-house project management resources immediately to support this process. Table 38 illustrates the various activities that will occur after the REFMP is adopted and a timeline for completion. The items in black are due diligence activities, the items in red require Council engagement, and the items in green are project activities. The activities are anticipated to be focused throughout the next 3 years + as follows:

Table 38 – Implementation Timeline

Year	Focus	Activities
1	Due Diligence	Final site analysis, partnership and grant funding opportunities, final needs assessments
2	Decision Making	Options analysis, community engagement and Council endorsements in budget
3+	Project Work	Detailed design, tendering and construction

The District's funding illustrations will require updating to reflect the many external factors impacting the District's ability to fund future investments including:

- market values of District Dispositions;
- contributions from development;
- other financial challenges the District may face;
- external funding availability/timing;
- partnerships reached for facility delivery; and
- escalations in construction costs.

Table 39 – Recommended Implementation Plan

Item	Year 1	Year 2	Year 3+
FACILITIES			
Fire Halls#2 and #1	• Detailed Design/Site Analysis • Project Endorsement (Budget)	• Tender • Construction	• Construction
Public Works	• Final Site Analysis • Project Endorsement (Budget)	• Detailed Design	• Tender • Construction
Transit Maintenance Facility	• Shared Feasibility Study (Budget) o Project scope o Land Selection	• Memorandum of Understanding • Federal Funding Application (tbd) • Project Endorsement (Budget)	• Tender (BC Transit) • Construction (BC Transit)
Brennan Park Rec Centre Reno #1	• Grant funding approved • Finalize project scope/design	• Project Endorsement (Budget) • Tender	• Construction
Municipal Hall	• Partnership opportunities • EOI • Interim Space Solution	• Options analysis/endorsement • Business Case • Project Endorsement (Budget)	• Design/Tender (if required) • Construction (if required) or Lease Negotiations
Multi Modal Hub	• Final Needs Assessment/Site selection	• Project Endorsement (Budget) • Detailed Design • Land Negotiations (if required)	• Tender • Construction
Parks Downtown Satellite	• Final Needs Assessment/Site selection	• Project Endorsement (Budget) • Detailed Design	• Tender • Project Construction
Brennan Park - **Field Users' Washrooms** - **Parks Operations**	• Final Needs Assessment • Site Selection through Brennan Park Land Master Plan	• Project Endorsement (Budget) • Detailed Design	• Project Construction
Neighborhood Centres	• Finalize scope/Locations (Pilot Project) • Pilot Project		• Final Needs Assessment/Site selection • Project Endorsement (Budget) • Design/Tender/Construction

Item	Year 1	Year 2	Year 3+
FACILITIES (cont.)			
Brennan Park - **Second Ice Rink** - **8 Lane Pool Addition** - **Wellness Ctr.** - **Rec Centre Reno #2**	• EOI for Ice Rink partner • EOI for 8 Lane Pool Addition partner • EOI for sponsorship opportunities • Fundraising approach finalized • Interim Space Solution (inc. Allocation policies)	• Options analysis • Business Cases • Project Endorsement (Budget) • Private partner negotiations (if applicable)	• Private partner negotiations (if applicable) • Fundraising, sponsorships, grants • Design/Tender • Project Construction
Library	• Future space needs analysis • Interim Space Solution	• Options analysis • Business Case • Fundraising approach finalized (if required)	• Project Endorsement (Budget) • Design/Tender (if required) • Construction (if required) or • Lease Negotiations
Downtown Parking	• Estimate of cost to incorporate into diking at Xwu'nekw Park	• Tbd	• Tbd
Arts Community - Admin Historical Archives	• Explore options to support within District facilities	• Tbd	• Tbd
LAND			
Acquisitions	• Negotiations for Priority Land Acquisitions	• Diking design work, Utilities Prioritization • Land Studies/Strategies: o Parkland Acquisitions o Active Transportation o Conservation Lands o Transit/Ridesharing o Public Access	• Ongoing acquisitions
Disposition	• Disposition Strategy for each property • Disposition Strategy for Road Dispositions	• Rezoning and subdivisions • Dispositions launched	• Ongoing dispositions •
Arts Community	• Explore opportunities to support Performance Space through District land	• Tbd	• Tbd
Additional Parks and Recreation Facilities	• Explore partnerships with 3rd party operators of new facilities and community groups during Brennan Park Land Master Plan process	• Tbd	• Tbd

6.0 APPENDICES

Appendix 1 – Needs Assessment

Appendix 2 – Operating Costs

Appendix 3 – Capital Expenses

Appendix 4 – Architect Reports and Cost Estimates

Appendix 5 – District Facility Inventory

Appendix 6 – District Land Inventory

Appendix 1 – Needs Assessment

APPENDIX 1 - NEEDS ASSESSMENT (Sorted by Asset Type, Use, Urgency)

IDENTIFIED NEED	ASSET TYPE	USE	URGENCY	FACILITY FT^2	FACILITY NET COST MINIMUM	FACILITY NET COST MAXIMUM	LAND AREA NEEDED	# OF TRANSACTIONS
Municipal Hall	Facility - replacement	Administration / governance	2. Short-term (1-5 yrs)	31000 to 33,000	$15,000,000	$20,000,000	tbd	tbd
Fire Hall#2 - Tantalus	Facility - replacement	Administration / governance	2. Short-term (1-5 yrs)	18,000	$4,700,000	$7,500,000	+/-1.5 acres	tbd
Public Works (Office and Maintenance)	Facility - replacement	Administration / governance	2. Short-term (1-5 yrs)	20,000	$5,000,000	$5,000,000	On existing site	
Parks Operations - Office/Maintenance (Storage, Greenhouses, Fleet)	Facility - replacement	Administration / governance	2. Short-term (1-5 yrs)	10,000	$2,000,000	$2,000,000	On existing site	
Downtown Policing Office - Civic Block	Facility - new	Administration / governance	2. Short-term (1-5 yrs)	tbd	tbd	tbd	tbd - Civic Block	
Parks Downtown Satellite Office	Facility - new	Administration / governance	2. Short-term (1-5 yrs)	2,000	$500,000	$500,000	tbd	tbd
Public Library	Facility - expansion	Civic Service	2. Short-term (1-5 yrs)	10,000 to 20,000	$3,000,000	$10,000,000	tbd	tbd
Youth Centre - Replacement	Facility - replacement	Civic Service	2. Short-term (1-5 yrs)	5,000	$1,500,000	$2,000,000	tbd	
Dog Pound - Replacement	Facility - replacement	Civic Service	2. Short-term (1-5 yrs)	6,000	$1,500,000	$1,500,000	+/-0.5 acres	tbd
Partnering Agencies Office (Provincial/Federal) - Civic Block	Facility - new	Civic Service	2. Short-term (1-5 yrs)	tbd	tbd	tbd	tbd - Civic Block	tbd
Child Care Facility - Civic Block	Facility - new	Civic Service	2. Short-term (1-5 yrs)	tbd	tbd	tbd	tbd - Civic Block	tbd
Community Space/Arts Centre - Civic Block	Facility - new	Civic Service	2. Short-term (1-5 yrs)	tbd	tbd	tbd	tbd - Civic Block	tbd
Family and Childrens Centre (Brennan Park)	Facility - new	Civic Service	3. Medium-term (5-10 yrs)	tbd	$1,500,000	$1,500,000	tbd	
Neighbourhood centre @ Brackendale	Facility - new	Civic Service	3. Medium-term (5-10 yrs)	1,000	$300,000	$300,000	tbd - future	
Neighbourhood centre @ Valleycliffe	Facility - new	Civic Service	3. Medium-term (5-10 yrs)	1,000	$300,000	$300,000	tbd - future	
Neighbourhood centre @ Garibaldi (Highlands or Estates)	Facility - new	Civic Service	3. Medium-term (5-10 yrs)	1,000	$0	$300,000	tbd - future	
Café - Civic Block	Facility - new	Parks, Trails, Public realm	2. Short-term (1-5 yrs)	tbd	tbd	tbd	tbd - Civic Block	tbd
Brennan Park Recreation Centre & Rink (Auditorium, Reception, Mezzanine, Changerooms, Washrooms)	Facility - expansion/upgrade	Recreation	2. Short-term (1-5 yrs)	4,000 new	$12,000,000	$12,000,000	On existing site	
Brennan Park Aquatic Centre	Facility - expansion	Recreation	2. Short-term (1-5 yrs)	tbd	tbd	tbd	On existing site	
Brennan Park Recreation Centre & Rink (New Ice Rink)	Facility - new	Recreation	2. Short-term (1-5 yrs)	51,000	$27,000,000	$27,000,000	On existing site	
Brennan Park Recreation Centre & Rink - Programming	Facility - expansion	Recreation	2. Short-term (1-5 yrs)	37,000	$13,000,000	$13,000,000	On existing site	
Brennan Park Concession Field Users - Washrooms/Change rooms	Facility - replacement	Recreation	2. Short-term (1-5 yrs)	1,400 - tbd	$500,000	$500,000	On existing site	
Fire Hall #3 - Cheekye - (Conditional upon Cheekye Fan Development)	Facility - new	Safety	3. Medium-term (5-10 yrs)	6,000	$2,500,000	$2,500,000	tbd	1
Fire Hall #1 - Alex Munro	Facility - expansion	Safety	4. Long-term (10+ yrs)	2,000	$1,000,000	$1,000,000	On existing site	
Parking Structure - Civic Block	Facility - new	Transportation	2. Short-term (1-5 yrs)	tbd	tbd	tbd	Civic Block	tbd
Multi-modal Transit Hub (plus parking for Regional transit)	Facility - new	Transportation	2. Short-term (1-5 yrs)	tbd	$500,000	$500,000	tbd	tbd
Affordable Housing	Land	Affordable Housing	2. Short-term (1-5 yrs)				tbd	TBD
Cemetary Expansion	Land	Civic Service	2. Short-term (1-5 yrs)				8.4	1
Airport Consolidation	Land	Civic Service	3. Medium-term (5-10 yrs)				5.5	1
Public/Community Event Space	Land	Civic Service	3. Medium-term (5-10 yrs)				Civic Block, Brennan Park Study	1
Training Dike	Land	Dikes	2. Short-term (1-5 yrs)				18	1
Eagle Run South Dike Upgrade	Land	Dikes	2. Short-term (1-5 yrs)				0.56	1
Fisherman's Bend Dike Upgrade	Land	Dikes	2. Short-term (1-5 yrs)				tbd - Detailed Design	1
Eagle Run Mid (Eagle Viewing) Dike Upgrade	Land	Dikes	2. Short-term (1-5 yrs)				tbd - Detailed Design	1
Brackendale North Dike Upgrade (Fisherman's Park to Seaichem)	Land	Dikes	2. Short-term (1-5 yrs)				tbd - Detailed Design	25
Sea Dike Project - Private Lands	Land	Dikes	2. Short-term (1-5 yrs)				tbd - Detailed Design	15+
Sea Dike Project - BCRP Lands	Land	Dikes	2. Short-term (1-5 yrs)				tbd - Detailed Design	5
North Dike Upgrade (Fisherman's Bend to WCRA Access)	Land	Dikes	3. Medium-term (5-10 yrs)				tbd - Detailed Design	1
Harris Slough Dike Expansion	Land	Dikes	3. Medium-term (5-10 yrs)				tbd - Detailed Design	2
Stawamus Dike Upgrades	Land	Dikes	3. Medium-term (5-10 yrs)				tbd - Detailed Design	1
Sea Dike Project - Crown Lands	Land	Dikes	3. Medium-term (5-10 yrs)				tbd - Detailed Design	10
Mamquam South Dike Expansion (Cardinal to Fisherman's Bend)	Land	Dikes	4. Long-term (10+ yrs)				tbd - Detailed Design	1
Mamquam South Centennial Way Dike Expansion (Cardinal)	Land	Dikes	4. Long-term (10+ yrs)				tbd - Detailed Design	1
Aikwucks (Brackendale) Dike Expansion	Land	Dikes	4. Long-term (10+ yrs)				tbd - Detailed Design	1
Mamquam North Dike Upgrades	Land	Dikes	4. Long-term (10+ yrs)				tbd - Detailed Design	1
Biosolids Composting Facility	Land	Economic Development	3. Medium-term (5-10 yrs)	tbd	tbd	tbd	tbd	1
Downtown Energy Utility	Land	Economic Development	4. Long-term (10+ yrs)	tbd	tbd	tbd	tbd	1
Stormwater retention areas - various	Land	Greenspace	2. Short-term (1-5 yrs)				tbd	Multiple
Envrionmentally Sensitive Areas - various	Land	Greenspace	2. Short-term (1-5 yrs)				tbd	Multiple
Estuary / or portions thereof - various	Land	Greenspace	2. Short-term (1-5 yrs)				tbd	tbd
Neighbourhood park - Cheekye Fan	Land	Parks, Trails, Public realm	2. Short-term (1-5 yrs)				50	1
Smoke Bluffs Park Consolidation	Land	Parks, Trails, Public realm	2. Short-term (1-5 yrs)				tbd	tbd
Smoke Bluffs Park Consolidation - Crown	Land	Parks, Trails, Public realm	2. Short-term (1-5 yrs)				6	1
Carson Place Boundary Adjustment	Land	Parks, Trails, Public realm	2. Short-term (1-5 yrs)				0.84	1
Eagle Run Viewing Area Parking & Washrooms	Land	Parks, Trails, Public realm	2. Short-term (1-5 yrs)				1.73	1
New neighbourhood park @ Garibaldi Estates	Land	Parks, Trails, Public realm	2. Short-term (1-5 yrs)				6 +	1
New neighbourhood park @ Garibaldi Highlands	Land	Parks, Trails, Public realm	2. Short-term (1-5 yrs)				6 +	1
New second neighbourhood park @ North Yards	Land	Parks, Trails, Public realm	2. Short-term (1-5 yrs)				6 +	1
New neighbourhood park @ S. Valleycliffe	Land	Parks, Trails, Public realm	2. Short-term (1-5 yrs)				6 +	1
Boat Launch and Parking	Land	Parks, Trails, Public realm	2. Short-term (1-5 yrs)				tbd	1
Mamquam Blind Channel Water Lease	Land	Parks, Trails, Public realm	2. Short-term (1-5 yrs)				100+	1
Legacy Trail Head Parking & Washrooms	Land	Parks, Trails, Public realm	2. Short-term (1-5 yrs)	tbd			tbd - Detailed Design	1
Trail Head Parking & Washrooms - various	Land	Parks, Trails, Public realm	2. Short-term (1-5 yrs)				tbd - Detailed Design	Multiple
Turtle Trail lands	Land	Parks, Trails, Public realm	2. Short-term (1-5 yrs)				tbd	Multiple
Public access along dikes - various	Land	Parks, Trails, Public realm	2. Short-term (1-5 yrs)				tbd	Multiple (10+)
Public waterfront walkway - various	Land	Parks, Trails, Public realm	2. Short-term (1-5 yrs)				tbd	Multiple - tbd
Public access/staging areas to water access -various	Land	Parks, Trails, Public realm	2. Short-term (1-5 yrs)				tbd	Multiple
Corridor Trail Completion	Land	Parks, Trails, Public realm	4. Long-term (10+ yrs)				tbd	Multiple - tbd
Discovery Trail Completion	Land	Parks, Trails, Public realm	4. Long-term (10+ yrs)				tbd	Multiple - tbd
Campgrounds	Land	Parks, Trails, Public realm	4. Long-term (10+ yrs)				tbd	Multiple - tbd
Brennan Park - Consolidation	Land	Recreation	3. Medium-term (5-10 yrs)				4	

IDENTIFIED NEED	ASSET TYPE	USE	URGENCY	FACILITY FT^2	FACILITY NET COST MINIMUM	FACILITY NET COST MAXIMUM	LAND AREA NEEDED	# OF TRANSACTIONS
Loggers Lane Expansion - BCR Lands	Land	Roads	1. Immediate (0 yrs)				3.1	1
Pemberton Bridge Crossing	Land	Roads	2. Short-term (1-5 yrs)				1	2
Undedicated road - various	Land	Roads	2. Short-term (1-5 yrs)				16	Multiple 10+
Landfill expansion	Land	Safety	2. Short-term (1-5 yrs)				33	1
Pemberton to Hunter Connector	Land	Safety	2. Short-term (1-5 yrs)				0.3	1
Government Road/Pioneer Way Re-Alignment	Land	Safety	2. Short-term (1-5 yrs)				tbd - Detailed design	1
Transit Exchange - Garibaldi Estates	Land	Transportation	2. Short-term (1-5 yrs)		tbd	tbd	tbd	1
Hwy 99 Overpass - Valleycliffe/Adventure Centre	Land	Transportation	2. Short-term (1-5 yrs)				0.5	1
Park and Ride (North)	Land	Transportation	2. Short-term (1-5 yrs)				tbd	1
Park and Ride (South)	Land	Transportation	2. Short-term (1-5 yrs)				tbd	1
Land for Pedestrian improvements - various	Land	Transportation	2. Short-term (1-5 yrs)				tbd - as needed	Multiple - tbd
Transit Admin and Maintenance	Land (Facility)	Transportation	2. Short-term (1-5 yrs)	tbd	tbd	tbd	3	1
Landing location(s) and passenger facilities for local water taxis	Land	Transportation	3. Medium-term (5-10 yrs)				tbd	Multiple
Brackendale Water Tower Ownership	Land	Utility Services - water, sanitary, waste`	2. Short-term (1-5 yrs)				1.28	1
ROWs for existing utilities - various	Land	Utility Services - water, sanitary, waste`	2. Short-term (1-5 yrs)				tbd - as needed	Multiple 10+
Upper University Reservoir Access Road (also public access for trails)	Land	Utility Services - water, sanitary, waste`	2. Short-term (1-5 yrs)				1.5	1
New water resevoir	Land	Utility Services - water, sanitary, waste`	2. Short-term (1-5 yrs)				0.5	1

Appendix 2 – Operating Costs

Facility	CURRENT VALUES												FUTURE VALUES								
	Current ft²	Current Replacement cost	Annual Operating costs	Operating costs per ft²	Annual Maintenance costs	Maintenance costs per ft²	Total O & M existing	Target service level	Annual maintenance target %	Annual maintenance target $	Total O & M adjusted with service level	Current (shortfall)/excess	Future ft²	Operating costs per ft²	Operating cost	Current Replacement cost	Future replacement cost	Annual maintenance target %	Maintenance cost (based on replacement cost)	Total O &M	Total O&M Increase
Existing Facilities - Status Quo																					
Adventure Centre (1)	9,000	$ 5,410,321	$ 105,025	$ 11.67	$ 51,975.00	$ 5.78	$ 157,000	3	2%	$ 108,206	$ 213,231	$ (56,231)	9,000	$ 11.67	$ 105,025	$ 5,410,321	$ 5,410,321	2%	$ 108,206.42	$ 213,231	$ 56,231
RCMP (1)	22,247	$ 7,400,220	$ 108,944	$ 4.90	$ 49,927.00	$ 2.24	$ 158,871	3	2%	$ 148,004	$ 256,948	$ (98,077)	22,247	$ 4.90	$ 108,944	$ 7,400,220	$ 7,400,220	2%	$ 148,004.40	$ 256,948	$ 98,077
The 55 + (1)	10,000	$ 1,200,000	$ 71,879	$ 7.19	$ 28,239.00	$ 2.82	$ 100,118	3	2%	$ 24,000	$ 95,879	$ 4,239	10,000	$ 7.19	$ 71,879	$ 1,200,000	$ 1,200,000	2%	$ 24,000.00	$ 95,879	$ (4,239)
TOTALS	**41,247**	**$ 14,010,541**	**$ 285,848**		**$ 130,141**		**$ 415,989**			**$ 280,211**	**$ 566,059**	**$ (150,070)**	**41,247**		**$ 285,848**	**$ 14,010,541**	**$ 14,010,541**		**$ 280,211**	**$ 566,059**	
Exisiting Facilities - Replacement																					
Municipal Hall (2)	19,767	$ 4,305,858	$ 98,800	$ 5.00	$ 54,793	$ 2.77	$ 153,593	2	1.25%	$ 53,823	$ 152,623	$ 970	33,000	4.52	$ 149,073	$ 4,305,858	$ 17,500,000	0.47%	$ 82,500	$ 231,573	$ 77,980
New Main Fire Hall #1 (Alex Munro) (3)	4,700	$ 1,181,784	$ 13,495	$ 2.87	$ 12,846	$ 2.73	$ 26,341	3	1.00%	$ 11,818	$ 25,313	$ 1,028	17,970	4.14	*$ 74,394*	$ 1,181,784	$ 9,900,000	0.50%	$ 49,500	$ 123,894	$ 97,553
New Volunteer Fire Hall #2 (Tantalus) (3)	15,203	$ 2,822,776	$ 62,939	$ 4.14	$ 51,385	$ 3.38	$ 114,324	2	1.75%	$ 49,399	$ 112,338	$ 1,986	4,400	2.87	*$ 12,634*	$ 2,822,776	$ 3,100,000	0.50%	$ 15,500	$ 28,134	$ (86,190)
Public Works - Admin (2	3,400	$ 464,835	$ 26,774	$ 7.87	$ 14,630	$ 4.30	$ 41,404	2	2.00%	$ 9,297	$ 36,071	$ 5,333	26,400	4.69	$ 123,710	$ 2,480,621	$ 10,721,010	0.62%	$ 66,000	$ 189,710	$ 106,302
Public Works - Works Yard (2)	6,000	$ 2,015,786	$ 22,774	$ 3.80	$ 19,230	$ 3.21	$ 42,004	2	2.00%	$ 40,316	$ 63,090	$ (21,086)									
Parks Ops, BP Field Users Washrooms, Parks DT Satellite (2)	1,000	$ 284,754	$ 7,900	$ 7.90	$ 2,500	$ 2.50	$ 10,400	2	1.00%	$ 2,848	$ 10,748	$ (348)	7,200	3.26	$ 23,490	$ 284,754	$ 2,898,400	0.60%	$ 13,000	$ 36,490	$ 26,090
Dog Pound (2)	1,663	$ 342,155	$ 2,000	$ 1.20	$ 12,705	$ 7.64	$ 14,705	2	1.00%	$ 3,422	$ 5,422	$ 9,283	2,400	5.44	$ 13,046	$ 342,155	$ 1,606,200	0.40%	$ 7,500	$ 20,546	$ 5,841
Library (2)	12,675	2,168,855	74,773	$ 5.90	36,500	$ 2.88	$ 111,273	3	2.00%	$ 43,377	$ 118,150	$ (6,877)	*20,000*	6.07	$ 121,365	2,168,855	18,500,000	0.30%	$ 62,500	$ 183,865	$ 72,592
TOTALS	**64,408**	**$ 11,417,948**	**$ 234,682**		**$ 204,589**		**$ 514,044**			**$ 214,298**	**$ 523,753**	**$ (9,709)**	**111,370**		**$ 517,712**	**$ 11,417,948**	**$ 64,225,610**		**$ 296,500**	**$ 814,212**	
Existing Facilities - Expansion																					
Brennan Park community centre incl rink (4)	45,000	9,293,326	343,427	$ 7.63	424,717	$ 9.44	$ 768,144	3	4.00%	$ 371,733	$ 715,160	$ 52,984	45,000	$ 7.63	$ 343,427	9,293,326	$ 9,293,326	5.00%	$ 464,666.30	$ 808,093	$ 39,949
Brennan Park Aquatic centre (4)	35,000	5,307,900	291,253	$ 8.32	131,705	$ 3.76	$ 422,958	3	3.50%	$ 185,777	$ 477,030	$ (54,072)	35,000	$ 8.32	$ 291,253	5,307,900	$ 5,307,900	3.75%	$ 199,046.25	$ 490,299	$ 67,341
TOTALS	**80,000**	**14,601,226**	**634,680**		**556,422**		**1,191,102**			**$ 557,510**	**$ 1,192,190**	**$ (1,088)**	**80,000**		**634,680**	**14,601,226**			**663,713**	**$ 1,298,393**	**$ 107,291**
New Builds																					
Brennan Park - Rink 2 (5)													34,444		$262,867		$ 20,700,000	0.50%	$ 103,500	$ 366,367	$ 366,367
Brennan Park - Pool (5)													10,620		$88,374		$ 10,100,000	0.50%	$ 50,500	$ 138,874	$ 138,874
Brennan Park - Wellness Centre (6)													38,000		$189,933		$ 11,500,000	0.50%	$ 57,500	$ 247,433	$ 247,433
Brennan Park - Renovations and New Customer Service Area (6)													16,000		$79,972		$ 7,000,000	0.50%	$ 35,000	$ 114,972	$ 114,972
Transit Maintenance													20,000				tbd				$ -
Multi Modal Hub (2)															$41,348		$ 651,700	0.50%	$ 3,259	$ 44,607	$ 44,607
Community Centres X 3													3,000		tbd		$0	0.00%	$ -	$ -	$ -
TOTALS													**122,064**		**$ 662,494**				**$ 249,759**	**$ 912,252**	
Future Considerations																					
Arts Council Building	1,145	$ 299,385	$ 7,500	$ 6.55	$ 5,696	$ 4.97	$ 13,196	2	1.00%	$ 2,994	$ 10,494	$ 2,702									
Youth Centre	4,831	$ 930,318	$ 1,915	$ 0.40	$ 3,500	$ 0.72	$ 5,415	2	0.50%	$ 4,652	$ 6,567	$ (1,152)									
Drop-In	1,713	$ 494,098	$ 7,220	$ 4.21	$ 750	$ 0.44	$ 7,970	2	0.50%	$ 2,470	$ 9,690	$ (1,720)									
		1,723,801	**$ 16,635**		**$ 9,946**		**$ 26,581**			**10,116**	**26,751**	**(170)**									
Total Sq.Ft.	185,655												354,681								
Total Current O&M			**1,171,845**		**901,098**		**2,147,716**								**$ 2,100,733**				**$ 1,490,182**	**$ 3,590,915**	$ 1,443,199
							$11.57													$ 10.12	

Notes:

(1) Operating Costs - Current Annual Operating Costs Maintenance - 2%of Historic Replacement Value
(2) Operating & Maintenance Costs - Provided by Cost Consultant (average annual)
(3) Operating Costs - Current Annual Operating Costs Maintenance - 0.5% of New Replacement Value
(4) Operating & Maintenance Costs - Based on current figures
(5) Operating Costs - Current Annual Operating Costs for Existing rink & pool Maintenance - 0.5% of New Replacement Value
(6) Operating Costs - Based on new figures provided by Cost Consultant for Municipal Hall Maintenance - 0.5% of New Replacement Value
Forestry Building and Cleveland Ave. Restaurant not included as Operating Expense are paid by tenants.

Appendix 3 – Capital Replacements

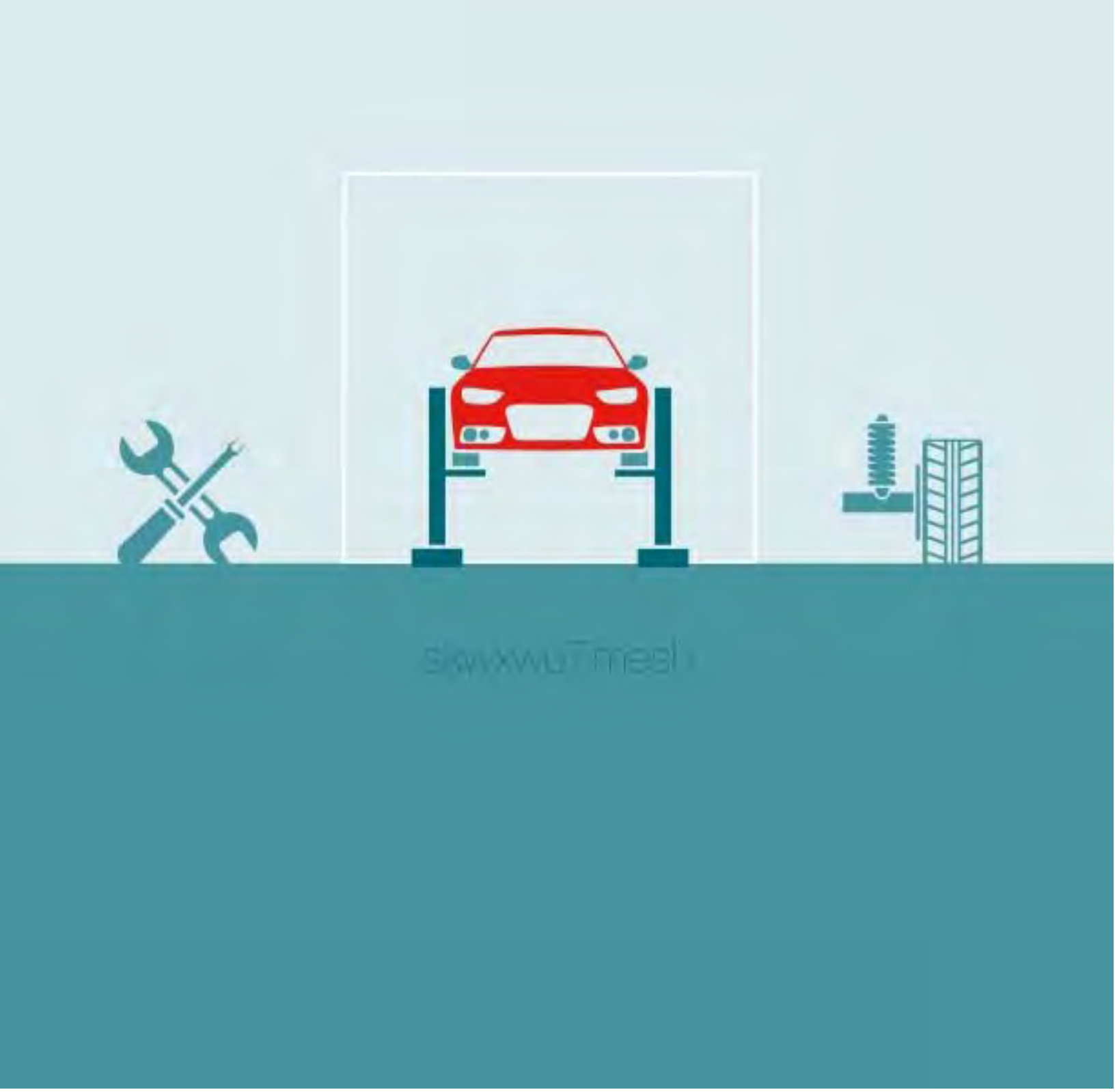
APPENDIX 3 - CAPITAL REPLACEMENTS

Facility	CURRENT VALUES				FUTURE VALUES		
	Current Sq.Ft.	Current Capital Repairs 0 - 5 years	Current Capital Repairs 6 - 10 years	Current Capital Repairs Total 10 years	Future Sq.Ft.	Future Capital Repairs 0 - 10 years	Future Capital Repairs per year
Existing Facilities - Status Quo		(1)	(1)				(1)
Adventure Centre	9,000	$ 199,450	$ 1,134,130	$ 1,333,580			
RCMP	22,247	$ 820,330	$ 1,359,730	$ 2,180,060			
55 +	10,000	$ 137,120	$ 104,350	$ 241,470			
TOTALS	**41,247**	**$ 1,156,900**	**$ 2,598,210**	$ 3,755,110	**41,247**		
TOTAL AVERAGE PER YEAR.		**$ 231,380**	**$ 519,642**	**$ 375,511**			**$ 375,511**
Exisiting Facilities - Replacement		(1)	(1)				(2)
Municipal Hall	19,767	$ 2,148,914	$ 404,540	$ 2,553,454	33,000		$ 224,577
New Main Fire Hall #1 (Alex Munro)	4,700	$ 667,000	$ 73,850	$ 740,850	17,970		$ 92,424
New Volunteer Fire Hall #2 (Tantalus)	15,203	$ 1,135,200	$ 413,079	$ 1,548,279	4,400		$ 15,317
Public Works - Admin	3,400	$ 356,242	$ 24,080	$ 380,322	26,400		$ 91,900
Public Works - Yard	6,000	$ 515,060	$ 47,980	$ 563,040			
Parks Ops, BP Fields User Washrooms, Parks DT Satellite	1,000	$ 123,540	$ 40,510	$ 164,050	7,200		$ 24,980
Dog Pound	1,663	$ 91,840	$ 39,950	$ 131,790	2,400		$ 15,662
Library	12,675	$ 999,750	$ 610,900	$ 1,610,650	*20,000*		$ 173,180
TOTALS	**64,408**	**$ 6,037,546**	**$ 1,654,889**	$ 7,692,435	**111,370**		
TOTAL AVERAGE PER YEAR.		**$ 1,207,509.20**	**$ 330,977.80**	**$ 769,243.50**			**$ 638,039**
Existing Facilities - Future Expansion							
Brennan Park community centre incl rink	45,000				45,000		$ -
Brennan Park Aquatic centre	35,000				35,000		$ -
TOTALS	**80,000**	$ 4,389,000	$ 847,140	$ 5,236,140	**80,000**	**$5,236,140**	**$0**
TOTAL AVERAGE PER YEAR.		**$877,800**	**$169,428**	**$523,614**			**$523,614**
New Builds							(2)
Brennan Park - Rink 2					34,444	tbd	$225,442
Brennan Park - Pool					10,620	tbd	$69,510
Brennan Park - Wellness					38,000	tbd	$258,604
Brennan Park - Admin					16,000	tbd	$108,886
Transit Maintenance					20,000	tbd	tbd
Multi Modal Hub						tbd	$71,277
Community Centres X 3					4,500	tbd	tbd
TOTALS					**123,564**	-	
TOTAL AVERAGE PER YEAR.						-	**733,718**
Future Consideration							
Arts Council Building	1,145		$ 169,028	$ 169,028			
Copper Coil	1,200		$ 75,000	$ 75,000			
Youth Centre	4,831		$ 453,421	$ 453,421			
Drop-In	1,713		$ 109,791	$ 109,791			
Forestry Building	19,297		$ 1,161,769	$ 1,161,769			
TOTALS	**28,186**		$ 1,969,009	$ 1,969,009			
TOTAL AVERAGE PER YEAR.			**$196,901**	**$196,901**			
TOTAL SQ.FT.	**213,841**				356,181		

SUMMARY	Total/Year	Sq.Ft./Year
CURRENT - Capital Expense	**$1,000,000**	
FUTURE - Capital Expense (No Replacements - RDH))	**$1,865,269**	**$8.72**
FUTURE - Annual Capital Expense (w Replacements and new Builds)	**$2,270,883**	**$6.38**

Notes:
(1) Source - RDH Asset Management. All RDH capital estimates have been discounted by 25% to reflect a Service Level of 3.
(2) Source - Cost Consultant - Ross Templeton and Assoc.
Target Capital repairs for Brennan Park overall split 50/50 into rink and pool

Appendix 4 – Facility Reports and Cost Estimates



District of Squamish

PUBLIC WORKS – WORKS YARD AND ADMINISTRATION.

Facilities Review

April 11th, 2019

SQUAMISH
HARDWIRED for ADVENTURE

Current Status

Location:	39909 Government Road
Building Area:	12,360 sq ft (approximate)
Building Function:	Maintenance and Administrative
Land Area:	4.322 ha *(for the whole lot, includes water treatment plant and SPCA/pound buildings)*
Zoning:	P-2 (District Assembly)
Ownership: Ownership type:	Municipally owned Fee simple
Tenant(s): Tenant(s) sq.ft.: Tenant expiry:	None N/A N/A

REFS Findings

**from DoS Real Estate and Facilities Strategy by Stantec, April 2018. Figures for age and FCI adjusted to reflect 2019.*

Facility Management Strategy:	Replace
Age of facility:	End of life -34 years garage and 21 years admin trailer
Capacity:	Exceeding
Functionality:	Unsuitable
Facility Condition Index:	23.07% garage and 42.46% admin trailer

Upcoming building investments

**from RDH Asset Management – 2010 costings multiplied by estimated inflation. Figures reflect all repairs and replacements assuming Service Level 4. Table below combines current Works Yard and Operations office.*

Repair and replacement Backlog and Upcoming replacements 0 – 5 years – insulation, doors, overhead doors, roofs, siding and HVAC	$871,000
Upcoming replacements 0 – 7 years	$898,000
Upcoming replacements 0 – 10 years – electrical, plumbing	$1,028,000

Analysis

Is the facility at a seismic risk?	Yes	
Is the facility built to post-disaster standards?	No	
Is the facility able to provide the customer service it is meant to provide?	No: • Not enough meeting space;	

	• Visitors need to come through shared parking lot; and • Valuable equipment is stored out in the open air at the Works Yard and so exposed to the elements.	
Are there any life safety issues?	Yes: Public: • Visitors share parking area with access road to water treatment plant. Visitors to the Dog pound are extra vulnerable as they are often emotional and not paying attention to traffic. • Visitor access not well signed: visitors often enter directly into works yard Workers: • Staff access and parking are shared with maintenance yard, is poorly lit, and there are possibilities of staff encountering work vehicles while walking to/from their cars; • Several stairs to mezzanine areas do not meet current code and guardrails most likely do not meet code for fall protection. • Small first aid room, hard to access from some areas. • Staff access lunch room through the vehicle bays area.	
Are there any additional code issues?	Yes: • Washrooms and changeroom facilities do not meet code: there are no M/F washrooms, no adequate change facilities and no accessible washrooms. • Works Yard area is not accessible.	
Are there working condition challenges?	• A number of the work bays are outside and unheated; • The office space is very overcrowded; • There is only one meeting room; • Appropriate storage space is limited.	
Does the site have soil or other environmental issues (flood plain, debris flow hazard zone etc)	Secondary Floodway Possibly poor soils	

If no remediation work is done, how long can the facility remain in operation?	0-5 years	

Conclusion

There are life safety challenges, code compliance challenges, the buildings are beyond the end of their life span and beyond capacity. Immediate replacement is recommended based on these conditions.

Program

item	**Current** ** All Areas are approximate (extrapolated from Squamish WebMap)*	**Future** (20+ years)
Administrative Building current Workstations/offices for 10 people Meeting room for 12 people Kitchenette Washrooms Lunchroom First aid room Showers	4,200 sqft	8,400 sqft Includes: Adequate workstations/offices for 15 people Customer reception All of the current spaces, at a larger capacity, plus: Meeting room for 70 people.
Maintenance Building Large open area with mezzanine spaces for storage, half of bays is in open air. No storage for larger equipment.	8,160 sqft	18,000 sqft Includes: • Interior and heated shop bay areas • Equipment storage • Adequate Washrooms/change rooms/showers • Washbay • Welding bay • Equipment storage for speciality vehicles

		• w/ 4 truck drive-through bays • Sign workshop • Carpentry workshop • Tire storage • Stores (large storeroom for supplies) • Meeting room • Heated shop for scada
Site Parking for 30-35 Shared entrance for staff and maintenance vehicles Two large sheds (salt and sand)		• Parking for 50-60 • Separate entrances for visitors, staff and maintenance vehicles • Two large sheds (salt and sand). • Allowance for electric charging stations connections for future fleet. • Exterior material bays (asphalt, topsoil, 19mm minus spoil, sand, salt) • Secure staff bike storage • Wet soils offload/decant bay • •

Location Options

Existing Location	Still desirable for customer service and central town location.
Expansion Capabilities	Yes. There appears to be sufficient land available at north end of property to locate a new facility and complete a proper layout for the yard area.
Alternate Site Options	Not explored based on Expansion Capabilities.
Est. Land Acquisition	n/a

Conclusion: Explore locating the future facility at the current site.

Investment Deferral Options

Phasing	The construction could be done in two phases: the maintenance building and the Administrative building, however for the site to be reconfigured, both buildings would have to be completed.
Leasing Potential	n/a Not anticipated that a facility will be available in Squamish in foreseeable future that could accommodate Public Works future space requirements.
Trailer option	n/a The maintenance uses cannot be located in trailers. No financial advantage to relocating the current administrative functions out of the current facility until a new facility is completed.
Temporary Accommodations	n/a No temporary accommodation required, the existing facility can remain in operation while the new buildings are constructed at the opposite end of the yard

Other Project Considerations (s)

Floodplain	Property is located in a secondary flood zone.	
Geotechnical	Would require further investigation	
Environmental	Would require further investigation	
Servicing	Would require further investigation	
Neighborhood Impacts	Would remain in same location	
Any other concerns that could impact on the project going forward	May require Development permit and other permits related to floodway location.	
Project Schedule	Milestone	Duration (months)
	Design	3
	Construction documentation	3
	Tender	3
	Construction	12
	Total duration	20+

ROSS TEMPLETON + ASSOCIATES

Squamish Masterplan
Squamish, BC
March 18, 2019
WORKS YARD

COST ESTIMATE SUMMARY				WORKS YARD
A	OFFSITE COSTS			$150,000
	Allow for off-site services and infrastructure - water, storm, sanitary, gas, etc.		150,000	
	Allow for sidewalks, curbs, streetlights, cross walks, 4-way stops or intersection traffic lights (Assume existing)		N/A	
B	SITE DEVELOPMENTS			$1,504,800
	Allowance for on site development, site services, hard and soft landscaping		400,000	
	Large storage sheds (cold), exterior material bays; allowance		750,000	
	New surface parking stalls including site lighting	60 no.	354,800	
C	SUPPLEMENTARY SITE COSTS			$275,000
	Re-work access circulation roads/pavement etc		150,000	
	Existing Services - remove abandoned, extend to new building		25,000	
	Soils - overburden, replace with struct fill etc.		100,000	
	Sloping site - cut and fill, retaining walls/steps		N/A	
D	NEW BUILDING CONSTRUCTION	2,453 m²		$5,581,400
	New Building - Administrative	780 m²	$3,221 /m² 2,513,400	
	New Building - Maintenance	1,672 m²	$1,835 /m² 3,068,000	
E	RENOVATION TO EXISTING			Excluded
	Tying into existing building including all fire rating, seismic and code upgrade requirements		N/A	
F	SUPPLEMENTARY BUILDING COSTS AND RENOVATIONS			$1,067,600
	Sloping sites		N/A	
	Unsuitable subsurface materials requiring over-excavation and backfilling		3.00% 167,400	
	Subsurface condition requiring piling or soil densification		8.00% 446,500	
	Flood plain - raise floor elevation with structural fill	2,453m²	$185/m² 453,700	
G	BUILDING DEMOLITION			$401,900
	Demolition of existing	1,148m²	$200/m² 229,700	
	Allowance for removal of hazardous materials	1,148m²	$150/m² 172,200	
H	TEMPORARY ACCOMMODATION			Excluded
I	DESIGN & CONSTRUCTION CONTINGENCIES			$2,740,500
	Design Pricing Contingency		10% 898,100	
	Escalation Contingency	24 months allowance	13% 1,284,200	
	Construction Contingency (Change Orders)		5% 558,200	
J	TOTAL CONSTRUCTION COST (excluding Soft Costs & GST)			$11,721,200
K	DCC's, BUILDING PERMIT, MUNICIPAL CHARGES			Excluded
	DCC	Excluded - Exempt		
	Building Permit	Excluded - Exempt		
L	LOOSE FF&E (Allowance)		5.00%	$279,100
M	DESIGN FEES (Allowance)		11.00%	$1,289,300
N	OWNERS COSTS			$117,200
	Internal Management Costs		Excluded	
	Insurances		1.00% 117,200	
O	PROJECT MANAGEMENT (Excluded - in a separate City Budget)		0.00% Excluded	Excluded
P	GST (Excluded)		0.00% Excluded	Excluded
Q	FEASIBILITY STUDY (Excluded)		0.00% Excluded	Excluded
R	SUB-TOTAL SOFT COSTS (excluding GST)			$1,685,600
S	TOTAL PROJECT COST (excluding Reserves & GST)		WORKS YARD	$13,406,800

COST ESTIMATE SUMMARY		WORKS YARD
	LIST OF IDENTIFIED RISKS	
1	Unforeseen demolition, existing building, tying into existing (% of Construction Cost)	Excluded
2	Debris Hazard Flow Area (% of Construction Cost)	Excluded
3	Unforeseen flood plain (% of Construction Cost)	Excluded
4	Unforeseen site/soil conditions (% of Construction Cost)	Excluded
5	Municipal requirements and offsite (% of Construction Cost)	Excluded
6	Renovation trigger upgrade requirements to the existing building	Excluded
T	SUB-TOTAL RISK RESERVES	Excluded
U	TOTAL PROJECT COST EXCLUDING RESERVES (excluding GST)	WORKS YARD $13,406,800

Notes + Exclusions:

- Legal, financing, land costs are all excluded
- Unforeseen existing buildings, ground and dewatering conditions (beyond cash allowances included)
- Out of hours working premium / restricted working hours / restricted noise conditions
- Off-site utility upgrades (beyond cash allowances included)
- Site works outside the defined scope
- Construction works outside the defined scope
- LEED Gold (or PassiveHouse) design or certification
- Hazmat Abatement (beyond cash allowances included)
- Phasing of the works or Accelerated Schedule
- CAC's or other Municipal Contributions
- Public Art
- Moving or decanting costs
- Pricing based on BCBC 2018
- Goods & Services Tax (GST)
- Extraordinary Market Conditions
- Costing reflects current day (2019) best practices in terms of energy efficiency
- Cost escalation past allowances included
- Items listed as 'excluded' in the estimate detail

LIFE CYCLE COST ANALYSIS - ORDER OF MAGNITUDE COSTING FOR PURPOSES OF EXERCISE

LIFE CYCLE & OPERATING COSTS SUMMARY		WORKS YARD
Total Estimated Construction Cost (Item J)		$11,721,200
Gross Floor Area (m²)		2,453
Average Yearly Janitorial / Custodial		$79,195
Janitorial / Custodial cost / m²	$32.29 $/m²	
Average Yearly Maintenance Staff		$66,000
Maintenance staff annual cost / m²	$26.91 $/m²	
Escalation Rate for Custodial & Annual Maintenance		2.0%
Escalation Rate for Cyclical Renewals (Construction)		5.00%
Annual Energy Cost		$44,515
Energy cost annual cost / m²	$18.15 $/m²	
Escalation Rate for Energy Cost (GAS/Electrical COMBINED)		4.30%
Escalation Rate for Energy Cost (GAS)		5.00%
Escalation Rate for Energy Cost (Electric)		3.50%
Interest Rate for investment		2.5%
LIFE CYCLE Study Period		40
NET PRESENT VALUE OF CUMULATIVE COSTS at Yr 40		$21,201,500
TOTAL NET CASH FLOW (Future Value Yr 40)		$22,985,600

NET PRESENT VALUE OF CUMULATIVE COSTS at Operating Years		
	Year 0	$11,721,200
	Year 5	$12,671,300
	Year 10	$13,786,300
	Year 20	$16,050,200
	Year 30	$18,906,400
	Year 40	$22,985,600
ANNUAL NPV COST (excluding initial building cost)		$281,610

ENERGY ONLY OPERATING COSTS	
Annual Energy Cost	$44,515

Squamish Tantalus Firehall Needs Assessment

District of Squamish
Squamish Fire Rescue

needs assessment report

issued: 2019- march - 14

johnston davidson architecture + planning inc. suite 301 - 877 east hastings street, vancouver, bc V6A 3Y1 t. 604. 684. 3338 f. 604. 684. 3600 www.jdarch.ca

District of Squamish - **Firehall Needs Assessment**

TABLE OF CONTENTS

District of Squamish - **Firehall Needs Assessment**

TEAM LIST

client:

Squamish Fire Rescue Service
Squamish Tantalus Firehall
40438 Tantlaus Road
Squamish, BC

Contact: Fire Chief Bill Stoner

e-mail: bstoner@squamish.ca
tel: 604-898-9666

District of Squamish
Municipal Hall
37955 Second Avenue,
PO. Box 310
Squamish, BC
V8B OA3

Contact: Matt Simmons
Capital Projects Manager
e-mail: msimmons@squamish.ca
tel: 604-815-5000

consultant team:

Architect / Prime Consultant:
Johnston Davidson Architecture + Planning Inc.
Suite 301 – 877 East Hastings Street, Vancouver, BC V6A 3Y1
T 604 684 3338 F 604 684 3600

Contact: Kimberly Johnston, Architect AIBC, MRAIC, LEED® AP, Principal
e-mail: kim@jdarch.ca

Contact: John Botelho, LEED® AP, Senior Associate
e-mail: john@jdarch.ca

District of Squamish - **Firehall Needs Assessment**

TABLE OF CONTENTS

District of Squamish - **Firehall Needs Assessment**

EXECUTIVE SUMMARY

1.0 executive summary

The Fire Department is an essential service for the safety and well being of any community. The Squamish Fire Rescue Service was established in 1912, with volunteer members serving under 600 residents in the area. Since that time, the Service has grown to include 40 Paid-on-Call members, a full time Fire Chief, 1 Deputy Chief, one support staff and 6 full time suppression crew members all of whom operate out of their main firehall. With over 750 emergency calls per year and serving over an estimated 20,000 constituents, they have been located in Firehall #2 on Tantalus Road since 1978. However, after over 39 years in service the main firehall building has met the end of its respective service life and will need to be replaced in order to meet the demands on the fire service today and into the future. The spaces found in the Squamish Tantalus Road Firehall #2 can no longer provide suitable crew accommodations, nor sufficient operational spaces to sustain the required level of service for the District.

This needs assessment was commissioned to evaluate the current state of the firehall focusing on the comparison of the existing functionality, with current fire hall programmatic standards, and to accommodate the current and future needs of the Squamish Fire Rescue Service (SFR). In short, this report identifies the wideness of the "gap" between the existing conditions and required functional building spaces needed to maintain current industry standards. In addition, this report looks at the amount of building space and site area needed to accommodate the current and future needs.

existing conditions

As noted above, the existing firehall building has met the end of its respective service life. Deficient building envelope performance (energy loss), low seismic design capacity, general ongoing operating costs (repairs to aged finishes, asbestos management, pest control, etc.) code deficiencies and a lack of key programmatic spaces are all present in the firehall.

needs analysis - program / facilities

A needs analysis regarding the spatial programming of firehall functional spaces revealed several gaps between the existing facility and the needs of modern day firehalls. Unfortunately, the Tantalus Firehall has issues with lack of essential functional spaces to accommodate fire department administration, decontamination, gender neutrality and industry standard key operational spaces required to meet the need of current fire department industry standards, both for today and for the future.

site evaluation

The conclusion of the site evaluation finds that the gaps between the existing conditions and required functional building spaces in conjunction with the regulatory level of services requires a new building be constructed.

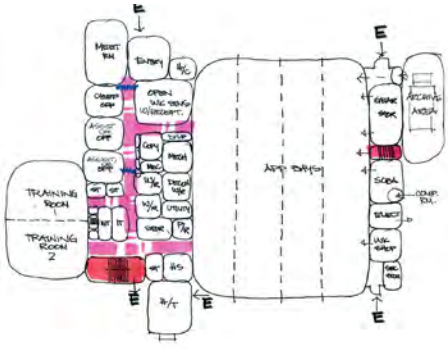
The siting studies portion of the report focuses on examining the option to rebuild a replacement for the Tantalus FH (Headquarters) on the existing FH #1 (Satellite FH) site located at 8989 Clarke Drive (referred to as the CLARKE DRIVE SITE for this portion of the report) and rebuilding of Firehall #1 (Satellite FH) at the Tantalus Firehall Site (referred to as the TANTALUS SITE for this portion of the report). The reasoning behind this approach and associated drawings can be found in Section 5.0.

Please do not hesitate to contact us if there are any follow-up concerns regarding this report, Johnston Davidson Architecture + Planning will be more than happy to discuss any issues in person or present to Mayor and Council if required.

Sincerely,

Kimberly Johnston, Architect AIBC, MRAIC, LEED AP
Principal

2.0 existing building / site conditions



2.0 existing building

"You can't manage what you don't measure."
W. Edwards Deming

the process

This report was created by meeting with the Squamish Fire Rescue Service including Suppression Crew Members, and Fire Rescue Administration along with the members of the District Staff to ensure that all aspects of concerns were addressed. This included multiple interviews and progress reviews which outlined the findings and assessment of the conditions throughout the process.

This section of the report, outlines the collection of data regarding the current state of Firehall No. 2 - Tantalus Firehall - for the Squamish Fire Rescue (SFR). For this report, only the quarters portion of the hall was reviewed as there was currently a design for renovation of the apparatus bays. The quarters portion of the building was reviewed under three main categories; site, program and code compliance.

introduction

The Fire Rescue Services is an essential service for the safety and well being of any community. The Squamish Fire Rescue Service was established in 1912 with a contingent of 100% volunteer members. Since that time, the Service has grown to include over 50 paid-on-call / volunteer members, 6 full time fire fighters, a full time Fire Chief, 1 Deputy Chief, and one support staff operating out of their main firehall. The SFR responds to over 750 emergency calls per year and serves over 20,000 residents. The building that the SFR currently resides in was originally designed as a Pubic Safety building to serve the needs of both the Fire Service and the RCMP. However, after over 39 years in service the Public Safety Building, now known as the Tantalus Fire Hall, has met the end of its respective service life and will need to be replaced in order to meet the demands on the fire service today and into the future. The spaces found in the Tantalus Firehall can no longer provide suitable crew accommodations, nor sufficient operational spaces to sustain the required level of service for the community.

The Tantalus Firehall (SFR Headquarters) which houses the main suppression crew quarters and apparatus bays, was built in 1978 and renovated over the years to accommodate the growing needs to the department and the vacancy of the RCMP in 2010.

The following is historical population data from the BC Government - Stats Municipal Census Data:

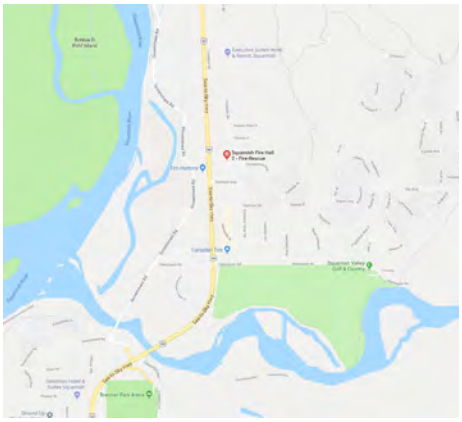
- 1951 Population census data 589
- 1971 Population census data 6,121
- 1991 Population census data 11,709
- 2014 Population census data 19,300

Given the population has increased 32 times since the inception of the fire services over 100 years ago and comparatively over 200% since the firehall was built in 1978 (39 years ago), it would be unreasonable to expect another 34 years of service from this firehall. This facility was appropriate for the era and population base of the time, and was strategically built to allow for a reasonable lifespan which has included expansion and growth.

Over those past 39 years, many advancements in both fire fighting and the associated equipment have necessitated larger firehalls with increased functional requirements for items such as gender neutrality, decontamination, Self-Contained Breathing Apparatus (SCBA) maintenance, Personal Protective Equipment (PPE) cleaning and storage, training, fitness and other programmatic requirements needed to meet current industry standards. In addition, the existing structure presents several physical concerns ranging from building code issues, seismic capacity limitations and environmental performance with regards to energy efficiency and general sustainability.

facility statistics

Currently the Squamish Fire Rescue operates out of two firehalls and provides services for over an estimated 20,000 constituents (2017). The main firehall (Headquarters) is located in the north/eastern area of the District near the Garibadli Heights neighborhood and the continuation of the Sea to Sky Highway on route to Whistler. The following is a brief overview of the existing building:



Tantalus Firehall (Headquarters):

- Location: 40439 Tantalus Road, Garibaldi Heights
- Built: Public Safety Building (1978) for both Fire and RCMP
- Building Size: Total Building = 15,707sf (1,459sm)
  - 11,027 sf (1,024.86sm) quarters
  - 4,680 sf (434.7sm) - apparatus bays and radio
- Site Size: 1.18 acres (4,773sm / 51,374 sf)
- Construction: 1.5 + 2 storey structure comprised mostly of concrete block and metal cladding (non-combustible construction). A 4 storey hose tower originally designed for the building has since been demolished.
- Function: suppression crews, fire department administration, office of the fire chief, fire prevention, deputy chief, training officers.
- Apparatus: 3 bays (tandem, drive through bays):
  1 front-line engine, 1 aerial/ladder truck,
  1 heavy rescue, 3 command units, 1 wildlands truck,
- Other: small training yard + parking area for 14 spots currently on site.
  covered parking for some vehicles required.

The building was undergoing a seismic improvement and a design to improve the seismic conditions of the apparatus bays as this report was being complied. There is currently the following reports which have been complied for the project to date outside of this report:

1. Building Assessment Report: Prepared by CCI Group Engineering August 2013
2. Environmental Building Survey / Hazardous Material Building Survey: Prepared by Total Safety, June 15, 2015
3. Structural Assessment: Prepared by CWMM Engineering July , 2001
4. Geotechnical Report: Prepared by Horizon Engineering, July 2002
5. Facility Condition Assessment: Prepared by RDH, February 2011
6. Roof Condition Analysis: Prepared by IRC Building Science Group, April 2014.
7. Electrical Infrastructure Assessment: Prepared by PBX Engineering, March 12, 2015.

A. site data

The existing site is located at the civic address of 40439 Tantalus Road, directly adjacent to Hwy 99, also know as the Sea to Sky Highway one of the main arterial roads through the Coast Mountain Range. This location is central to the business district, civic, mercantile and residential properties, with quick access to both Hwy 99 and the Garibaldi Neighborhood. This headquarters facility is a small building with approximately 14 surface parking stalls located to the eastern and western sides of the site.

The current firehall is sited on a small rectangular piece of land which is bordered along the south side by multifamily residential / retail, agricultural/ vacant land to the north and is bordered by streets on the east and west side of the property. This is a good location as it provides excellent service delivery coverage; however, it directly affects the adjacent residential neighborhoods with any noise issues and is insufficient in size to accommodate both training, and parking for the Paid-On-Call Members. The Fire Hall facility is zoned P-2 (Assembly District). Both the original site plan drawings and site photographs are located within this Appendix for further information.

The site measures approximately 1.18 acres (4773 sm). It is essentially flat throughout with a gentle slope towards the western edge. The majority of vehicular traffic enters the site from the southern edge along Garibaldi Way with a few public parking spaces along the eastern side of the property adjacent to the emergency vehicle apron.

Substantial power lines and supports are located in the middle of the rear yard of the Firehall along the western edge of the site. This element renders a good portion of the site to restricted use limiting SFRs ability to use the entire site for training. The remainder of the site is devoid of any substantial landscaping and is heavily paved for vehicle access, parking and training purposes.

Site servicing has not been analyzed in this needs assessment.

B. site analysis

The site currently contains two BC Hydro ROWs located on the western side of the area as shown on the existing site plan drawing in **Section 2.0.** These two ROWs occupy more than half of the available site for development limiting any future development / expansion towards the west. This essentially means that the usable area of the site has been reduced down from 1.18 acres to 0.38 acres (1617 sm) which is well under the ideal site area for a department of this size.

The existing site currently houses a building foot print of 15,707sf (1,459sm) including the apparatus bays. This compact facility is comprised of two main components; a rectilinear building form containing primarily the apparatus bays which runs east / west on the site and another rectilinear form which is divided into two wings and runs parallel to the apparatus bays primarily serving administrative and crew functions. The positioning of the apparatus bays is ideal for exiting the site directly onto a relatively low traffic street which runs north / south parallel to the highway and requires fire fighters to drive safely at lower speeds to reach emergency calls. A small paved training yard is located on the west portion of the site. Staff parking is situated west of the apparatus bays. There are a few parking spaces at the front of the building designated for public parking and staff; however, parking on site is extremely limited. The present parking is not physically separated from the Paid-On-Call (POC) members and the public which can cause a conflict when crews are arriving for an emergency call.

The current layout of the Firehall uses approximately 19.27% of the overall site coverage for the entire site and 57% of the developable site area. The apparatus bays are tandem, drive-through type bays and the front apron is shallow but utilized for positioning, trucks checks and backing vehicles into the apparatus bays when

necessary. Consideration to future development of this site should address the following points.

Flood Concerns: The site is currently located in a flood zone and developing on the current site would need to ensure that the building incorporate flood mitigation strategies to minimize damage and ensure that the building is operational during a flood event. It is a requirement of the new Squamish Flood By-Law that civic buildings are no longer located within the Flood Plain. Although this may not be achievable for the Firehall due to the location requirements regarding response times, the renovation to this building would require that flood mitigation strategies be implemented due to the current location.

The Tantalus Firehall facility is located on a small site by industry standards, and currently does not share site access with any other colocated municipal user groups - in order to accommodate the current and future needs of the SFR, redevelopment would require the following design considerations:

The following points identify the prime design concerns with the site:

- From an operational perspective the concerns relate to the movement of emergency response vehicles and personnel when responding to a call.
    - Emergency response vehicles need to leave in both directions from the apparatus bays which is in direct conflict with crews arriving on site to park.
    - Crews arrive at the site rapidly and need to get access to parking without conflict with emergency vehicles leaving the site. The parking is currently located at the rear of the site using the same driveway that emergency response vehicles use when leaving the site from the rear.
    - Public access: limited public parking provided is directly adjacent to the apparatus bays indicating that there could be conflict with emergency response vehicles leaving the site.
- The building currently sits outside the setbacks allowed for a P2 zone.
- If the site was to house the required 4 tandem apparatus bays (85’ x 18’ approximately) the bays would need to be increased in size to meet current industry standards, then underground parking will need to be implemented as there will not be ample on site parking for staff, crews and public. In order to examine this option in more detail a Geotechnical report of the existing site should be completed.
- Variances would likely be required to allow for some encroachment into the current set backs.
- Developing the new space program on the current site would require a site coverage of approximately 24%. Permitted site coverage under zoning P2 is undefined; as a result, this may require a variance as part of the future project depending on the further development in the next stages project.
- Respond to all existing grade elevations, with the intention to utilize existing grades as much as possible for cost friendly design solutions.
- A minimum of 4 tandem drive-through bays are recommended for any future redevelopment - drive thru bays will not be possible on this site due to the width of the property.
- The shape of the site will allow for drive thu bays access but will have limited on grade parking for staff and public. See **Section 4.0** for reference diagrams.
- A complete topographical survey and geotechnical report should be completed for this site before any further development to this site is considered.

C. space program

The Tantalus Firehall is the main headquarters hall and has functioned well for the growing needs of the Fire Service. In order to understand the size and organization of this facility, please refer to the existing floor plan drawing following this Section.

Due to the size and changing industry standards, this building no longer meets the current needs of the SFRs for various reasons which will be outlined below. A comparison of the existing space program to that of the current needs of the Fire Services will be found in **Section 3.0** of this report.

A summary sheet of the current space program is attached to this Section which catalogues the current size and types of spaces found at the Firehall. Included on this chart are spaces which would be found in a Typical firehall built in accordance with today's best practices and NFPA standards which are currently not present in the Tantalus Firehall. In addition to any missing programmatic spaces, many of the present spaces are undersized for the current services that the Fire Department provides and or the changing operational requirements of the department.

C.1 space program - areas of concern

The description below summarizes the major spatial deficiencies found at the Tantalus Firehall. (See the Space Program for future space program recommendations).

The current building program utilizes 15,406sf (1,431.86sm) of programmed space. The following is a summary of those spaces on the project and areas of concern related to the current layout.

- **Public Areas:**
  - There is currently limited space for the public and separation of those areas from the operational and HQ staff.
  - There is no security at the current time separating Fire Rescue Services from incoming public as the front door is open during regular hours. Once in the hall, people are no longer physically separated from the remainder of the Firehall areas.
  - The current administration area has no security control in place for the safety of administrative personnel.
  - The Public area of the Firehall is located on the second level with only a stair to allow people to reach this area of the hall. There is no elevator or lift provided and as such the building does not currently meet accessibility standards of the BC Building Code (BCBC).
  - There is no H/C washroom available for the Public or visiting groups.
  - The current Public access counter does not meet accessible requirements as per current BC Building Code. This is the case for the Administration Staff as well as the Public.

- **HQ and administration (Fire Chief, Deputy Chief, Training + Support Staff):**
  - Current floor space is maximized.
  - Medium meeting space for public consultation and fire department training required to be separate from the training office. Currently this space does not exist.
  - Office space required for crews should be reconfigured into a much better use of space and arrangement which is not possible in the current building layout.
  - Open work station areas should be provided for general crew use.
  - Additional file storage space required.
  - It is key to accommodate all HQ staff within one floor of the building to maximize efficiencies and promote effective culture. Placing these spaces on different floors most likely will reduce the effective flow of communication between the HQ team.

- **Emergency Program + Coordinator:**
  - the emergency program coordinator currently works out of the hall but as the Emergency Operations Centre is not located within this building there is no efficiency in the relationship. The current training room is already maximized in multi functionality and would not be suitable for an EOC at this time.
  - need for secure, dry and easily accessible storage recommended.

- **FH Operational Areas:**
  - Apparatus Bays (three tandem, 2 drive through + 1 back-in bay):
  - although this report did not focus on the status of the apparatus bays,

the following is a brief list of concerns related to these spaces.

- the current bays themselves are too small to accommodate the current standard for emergency vehicle sizes. Width and length of the bays being the most crucial deficiency.
- typical firehall design in today's standards would create apparatus bays 85'-90' in length, 16.5'- 18.5' in width, with overhead doors being a minimum of 14' wide.
- the bays are encumbered by a complete lack of seismic, environmental and general structural integrity. There are external shoring supports currently being used to ensure the exterior walls are supported which presents a space that no longer meets NFPA, worksafe nor BCBC requirements.
- the apparatus bays can house up to 5 vehicles. Additional vehicles are stored outdoors or off-site which is undesirable, as it requires additional costs for maintenance and storage fees.
- There is currently no space allocated to store the archive vehicle as there are no other spaces to accommodate the historic item inside the building.
- radio room, general storage, hose storage are all currently exposed to the general apparatus bays mixing clean and dirty spaces which allows for contaminates to spread from operational areas into living quarters.
- The current standards of best practice for decontamination are not able to be followed due to the current building design. BC Building Code Standards have changed since the design of the current firehall and these could be costly to address; in some cases, the issues are simply unable to be achieved with the current building design.
    - radio area / rip and run zone - is currently exposed to the general apparatus bays mixing clean and dirty spaces which allows for contaminates to spread to equipment and can unknowingly be transferred from operational areas into living quarters.
    - gear washing facilities- the current hall has limited gear washing available in the hall.
    - turnout gear (Personal Protection Equipment = PPE) - is currently stored within a renovated portion of the hall in a separate room. This is excellent use of the adjacent space with the one weakness here being that there is a connection from the PPE storage directly into the remainder of the hall which does not allow for the decontamination zone to remain intact.

- **Hose / Training Tower:**
    - the hose drying and training tower has been demolished due to unsuitable structural capacity. There is currently no space allocated for drying of hoses to take place.
    - A hose tower provides the space for hose drying as well as training opportunities and is often still used in many modern, multi-functional firehalls.

- **Suppression Crew Quarters.**
    - There is direct access to the operational quarters from the day room area creating a difficulty in managing the separation of the "clean" and "contaminated zones" within the hall.
    - kitchen is undersized and would not be suitable to provide for an EOC or other similar emergency-type situation.
    - there is currently no space allocated or available for dorms.
    - there are not enough washrooms suitable for the number of staff and crews.
    - the space available for decontamination washrooms and showers has reached the end of it's service life and currently is not functional.

- gender-neutrality solutions should be addressed in **Item D of Section 3.0.**

D. existing building

This section aims to compare existing conditions to best practices using three categories. This information is then used to assess the gaps between the existing and new program outlined in **Section 3.0** in order to identify the gaps between current and spatial needs. The Tantalus Firehall (TFH) was assessed under the following three categories:

1. building code issues
2. environmental concerns
3. building systems

D.1 building code issues

The building code requirement under the 2012 British Columbia Building Code (BCBC) has different requirements from previous versions of the BC Building Code which have been upgraded over the past 34 years since the building was built in 1978. As a result, it is not unusual for buildings in this situation to not comply with the current code nor is it always necessary that the existing building issues be upgraded; however, as part of this report we have outlined the current deficiencies in order to give a full picture of the gaps between existing conditions and current standards.

- Seismic Concerns: In British Columbia, firehalls are designated to be constructed to meet post-disaster design standards which simply means the buildings are designed to withstand 1.5 times the seismic force of conventional buildings during an earthquake. This is required so essential services maintain operations during these kinds of emergencies. In general, there have been ongoing upgrades which have been temporary solutions to the overall approach to the building. In general, the building does not meet seismic standards of the current BC Building Code with the apparatus bays area being highly deficient in this regard. A comprehensive seismic review of current codes has not been completed as part of this review.

- BCBC Classification: The current Firehall is classified under BCBC 3.2.2.81, Group F, Division 3 up to 4 storeys - non sprinklered.
    - The building is 2 storeys, facing 2 streets which allows for a maximum building area of 3,000 sm.
    - The building is permitted to be non-sprinklered and built of non - combustible or combustible construction.
    - Floor assemblies are required to have a fire separation of not less than 45 minutes.
    - Load bearing walls must be rated to 45 minutes or built out of non combustible construction. It is unclear if this requirement has been met from the existing drawings and would require a more exhaustive examination to confirm this requirement.
    - Roof must be rated - this is not the current condition.
    - the current firehall complies with some of these requirements as outlined under this classification, as the building is currently constructed of non-combustible construction; however, the fire separations required appear to be compromised.

- BCBC 2012: fire separations between the living quarters and the apparatus bays / operation spaces are to be 1.5 hours meaning that spaces such as the SCBA / workshop /apparatus bays / gear storage can all be separated from the living / training / office areas by a 1.5 hour fire separation.
    - the TFH currently has a concrete block wall between the apparatus bays and some of the living quarters which should technically meet the 1.5 hour FRR requirement.
    - the doors in this separation must be rated to 1.5 hours and all

should have closers on them.
- all fire stopping separation should be reviewed to meet the 1.5 hour rating of this wall.

- Handicapped accessibility: BCBC 2012 Section A3.8.1.1 “to make buildings accessible for persons with disabilities”. In protective services buildings, a reasonable case can be made that in order to perform as a fire fighter one must be able bodied; therefore, much of building does not need to be accessible. This exception would not apply to areas such as the Public Areas, Administration, EOC, Emergency Programs, or anywhere where persons with disabilities may work. As suppression crew areas would fall under this exception, accessibility in the firehalls would only be required for areas accessed by the Public.
    - The public reception is located on the top floor without access to an elevator or lift; as a result, it is not accessible.
    - the front entry does not have a handicapped door opener.
    - the entry counter does not have an accessible portion to the counter.
    - The entry itself would need to ensure that door widths and slopes in all cases met accessible requirements.
    - there would need to be a handicapped accessible washroom available.

- Exiting requirements: BCBC 3.4.2.1 for an F3 classification: 2 exits are required as the total floor area is over 200sm. The floor area break downs are as follows:
        - Apparatus Bays = 434sm (4,680.00sf)
        - Administration = 1,024sm (11,022.00sf)
    - the current apparatus bays has 1 pedestrian exit directly to the exterior - BCBC requires that there must be at least 2 exits directly from the apparatus bays positioned 1/2 diagonal distance of the bays apart from each other. This requirement has not been met under the existing layout.
    - living quarters of the hall: due to the size of the floor plate and the maximum travel distance to exits of 15m, there should be two exits provided. Currently there are two exits provided from the upper floor, but they do not meet the 15m travel distance.
    - The exit through the reception area is not separated from the remainder of the second floor by a fire separation therefor compromising the access to exit.

- Sprinklers: under BCBC 3.2.2.83 sprinklers are not required. The building is permitted to be non-sprinklered and constructed of both combustible and non-combustible construction.

- Washrooms: BCBC 3.1.17.1.
    - Occupant load is calculated by area and type of building.
    - Firehall occupant load for the updated building is estimated at:
        - 434sm / 46 = 9.43 (apparatus bays)
        - 1,027sm / 9.6 = 107.0 (living quarters)
    - Total occupant load = 116 /2 = 58.2 persons of each gender.
    - Total Washrooms required by Code (BCBC 3.7.2.2.C) = 5 washrooms in total - 2 male and 3 female. If there are gender neutral, Handicapped accessible (universal) washrooms the total load can be reduced by 15.
    - Current Firehall has 7 fixtures in 3 washrooms. 6 of those 7 fixture are designated as male. The washroom on the main floor is non functional at this time.

- Seismic requirements: A seismic review has not been completed under this

report.

D.2 environmental

The building code requirement under the 2012 British Columbia Building Code (BCBC) requires that the building meet new energy standards as outlined by ASHRAE 90.1 (2010) or NECB 2010. This requirement means that Architectural, Mechanical and Electrical components of new buildings must meet the environmental energy performance as outlined in these standards. When identifying the gaps between existing and current best practices, it needs to be recognized that this Firehall would not meet the current energy code requirements for following reasons.

1. Building Envelope: a high performance building envelope is to be designed to equal the R values as required by the BCBC and outlined below. From review of the existing drawings only, it appears as if the building envelope has limited insulation by current standards leaving the building exterior with low energy performance. As a result, it would not likely meet the R-values as summarized below.
    - R Value definition: the capacity of an insulating material to resist heat flow. The higher the R-value, the greater the insulating power.
    - Each building material has an established insulating power and together the items which make up the roof, walls and floors must meet the following requirements as outlined be ASHREA 90.1 (2010).
    - Walls = R11.4 - R16.8 (varies with construction type)
    - Roofs = R20 +
    - Floors = R10 - R30 (varies with construction type)
    - Slab on Grade (Heated) R-15.

2. Electrical: The revised ASHRAE standards will require that the electrical systems be approximately 27% more efficient than the previous Code requirements. This includes lighting and power. The current Firehall would not meet this code requirement.

D.3 building content

The space program of the Firehall has been reviewed under **Section 3.0** of this Appendix and outlines existing spaces as well as those which are missing from a typical contemporary Firehall. This section is an initial evaluation of the content of the project from a building stand point. The following points are general to the overall building and apply for most scenarios within the amalgamation of the nine separate building areas.

- Apparatus Bays:
    - The current state of the apparatus bays is quite dire. The bays are seisimically unstable and hose tower has already been removed to improve the current structural status of the building overall.
    - There have been structural improvements which have extended the life of the building as a temporary strategy.
    - Due to the seismic instability of the apparatus bays, the building envelope in this area has been compromised to the point where there are visible openings in the walls to the exterior making the energy efficiency and usability of this area less than ideal.

- Security:
    - Currently there are no doors located between the front entry and the remainder of the hall to help keep visitors from accessing the hall beyond the front entry without permission. There should be engineered controls for administrative safety and security.
    - Proximity readers have not been installed on the exterior doors to the hall. Access is currently though key access only.
    - HQ offices are directly accessible from the main entry where there is no level or security between the Public interface and these spaces.

- Personnel Flow:
  - Flow from the operation quarters on the main floor is not acceptable as in order to reach the apparatus bays, there is no main corridor from leading directly into the bays. The crews must pass from their offices through other spaces, then into the bays.
  - The two main stairways from the upper floor where the full time crews generally spend most of their time, do not lead into the bay. These circulations spaces only lead directly outside providing limited direct access to gear storage and the emergency vehicles. This greatly limits the response time and creates a dysfunctional flow of crews to the equipment and vehicles.
  - A third stair into the bays directly to the upper floor was built as part of the original design in order to address this deficiency; however, this adjustment takes up space within the apparatus bays limiting use of the first bay restricting access (non drive thru) for vehicle and equipment storage.
  - However there is a single access to the bays into which many other rooms also enter which could provide conflict in this regard.
  - The current NFPA 1710 + 1720 standards set separate benchmark times for fire and EMS responses with the same compliance criteria for Turnout. Turnout time represents the elapsed time from the moment a call is dispatched, until the assigned Emergency Response Unit(s) is physically en route.
    - NFPA 1710 standard states:
      - 90% of all emergency responses to fire calls must turnout within 80 seconds or less.
      - 90% of all emergency responses to EMS calls must turnout within 60 seconds or less.
  - Current firehall design standards would keep this access separate from any other rooms in order to provide an unimpeded route to the emergency vehicles improving response times.

- Equipment:
  - Gear storage drying system, washer + dryer for uniforms, SCBA room and equipment (fill station and compressor), separate radio or rip/run area, AV training systems are all areas of deficiency from a contemporary typical firehall design.
  - Emergency genset is present but would need to be evaluated to assess how much of the building could be powered. Current best practice would be to power the entire building, minus any cooling systems for a minimum of 72 hours.

- Systems:
  - Mechanical and Electrical systems would need to be assessed in a separate report.
  - Environmentally, low flow fixtures, LED lighting and a high efficiency mechanical system would be some of the usual areas where older buildings do not match current design and BCBC standards.
  - Traffic preemption control is not existing.

- Site:
  - the site is in a good location but is small in size and impacted by the located of power lines running along the western side of the site.
  - parking is limited and combines Public and SRS parking in the same location which can be an issue when crews are arriving on site for deployment in an emergent situation.
  - The site is adjacent to residential on the southern side which limits the ability for a safe response from the western side of the building when Emergency vehicles are being deployed from the bays in both directions. This is further complicated by the single lane access point here which creates a conflict between volunteers arriving to the hall and Emergency Vehicles leaving.
  - The recommended front apron depth of 16 - 21m is not able to be accommodated here due to the limitations of the site as previously mentioned. This lack of apron does not allow to allow for emergency vehicles to safely exit the bays fully before entering into the street or sidewalks. (See Diagram in Section 4.0)

- there is opportunity to address the SFR future programmatic needs through rebuilding on site; however, the layout needed to accommodate the needs in this case would require that the existing building be demolished and the fire department be housed off site. This would be a significant cost to the overall construction. =
- Site is fully serviced although the services would need to be examined to accommodate a larger building.

E. existing building photographs

north eastern corner of the existing Tantalus Firehall

north western corner of the existing Tantalus Firehall

E. existing building photographs

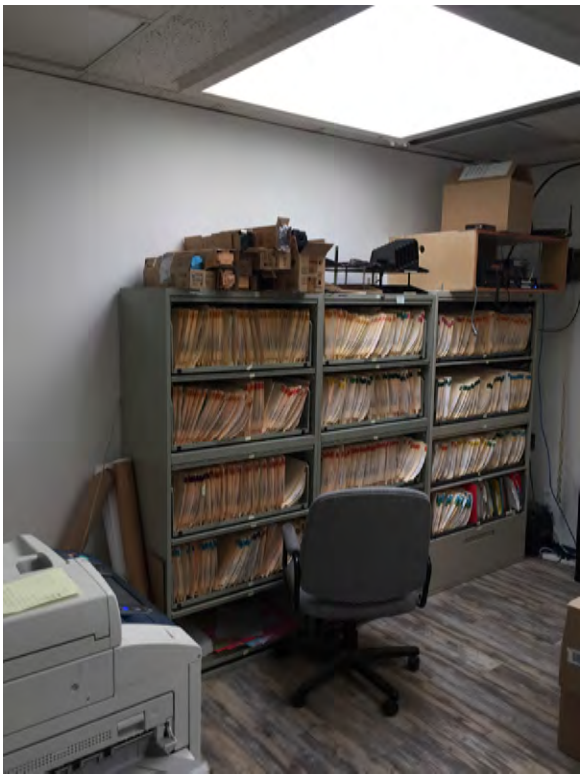
seismic bracing to the added to the exterior concrete block walls to keep them as seismically sound as currently possible.

seismic bracing at the south/ west corner of the quarters building

view of covered parking area at the rear of the site

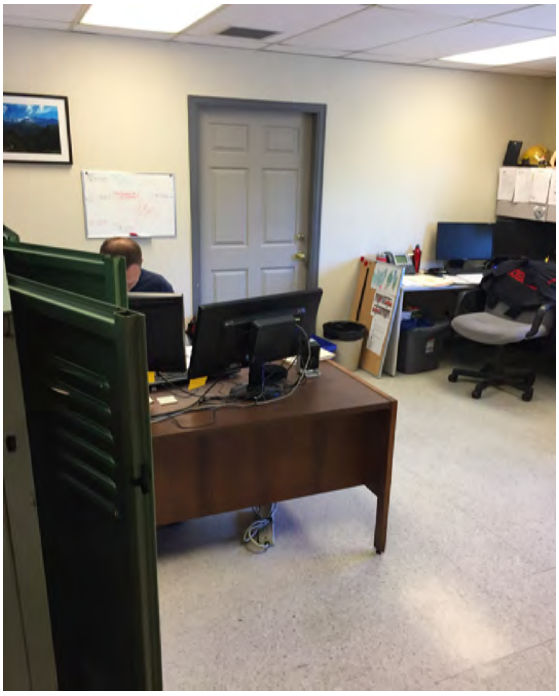
shoring used to hold up the exterior walls of walls between the apparatus bay doors. the cracks in these walls are so large that light is visible through them.

E. existing building photographs

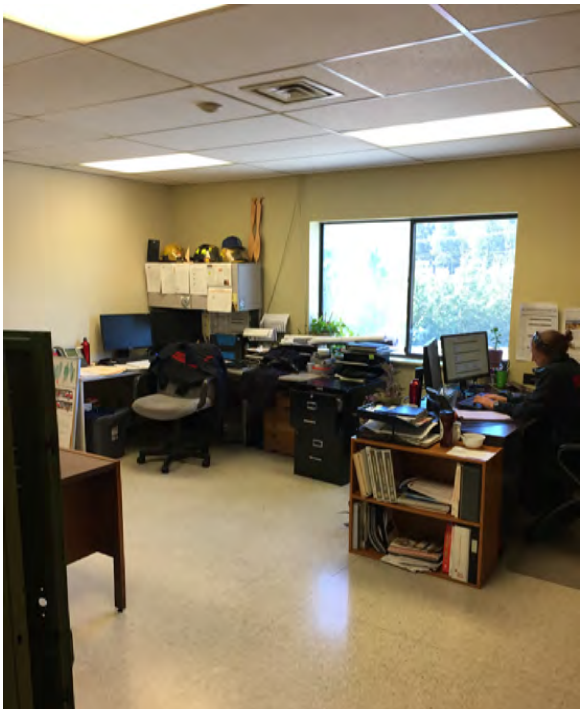


Current file storage is under sized and does not provide necessary secure storage.

existing server area is located in an office area which is unsecured and not in accordance with BCBC. A proper ventilated room with restricted access should be provided.



current location of work stations doesn't provide comfort and privacy.



existing office areas do not have enough storage for documents. Because there are limited personal lockers personal possessions are kept at the desks.

E. existing building photographs

existing counter / food preparation space is limited for a department of this size.

existing kitchen and lounge can not accommodate required amount of people. Facility is at the end of its service life.

kitchen table only provides seating for 6 people.

Cleaning equipment storage is not big enough and does not have enough shelves cabinets to organize supplies.

E. existing building photographs

existing washroom - not gender inclusive.

workshop and storage area directly off the apparatus bays.

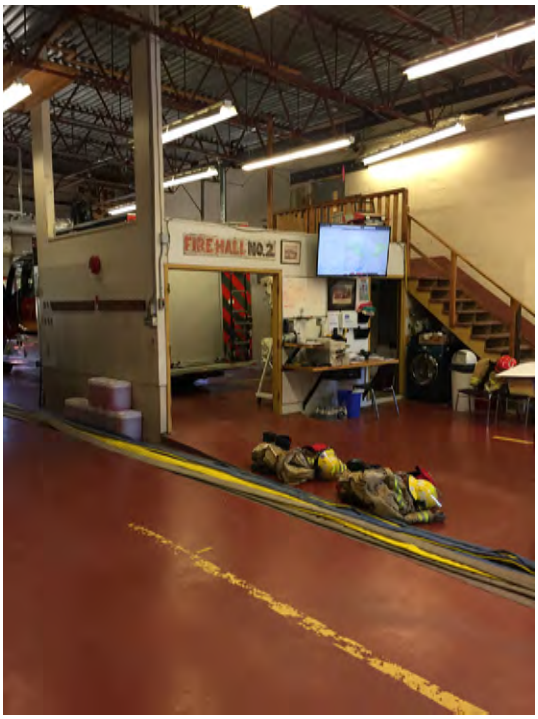
workshop and storage area and view to adjacent storage room for fleet maintenance.

workshop / storage room.

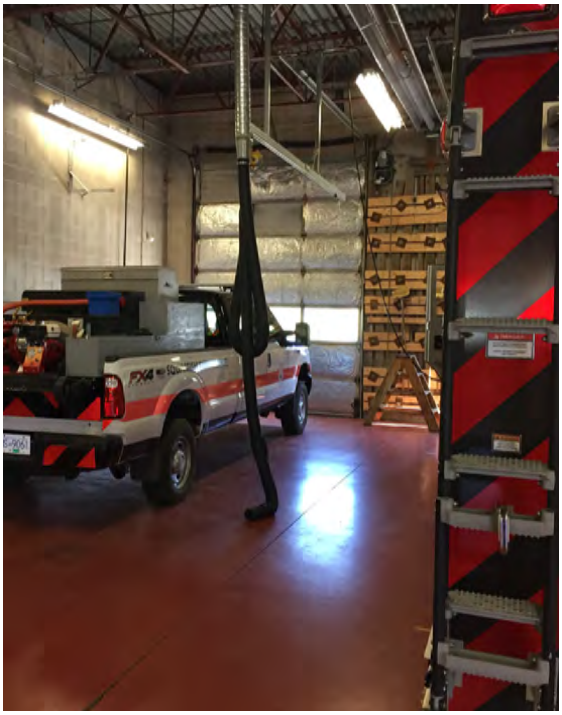
E. existing building photographs

Existing bike storage is located in apparatus bay - the drive through bays are not currently activated due to lack of storage space and size of bays.

bay doors are undersized for current vehicles slowing response times and providing less effective space for the emergency vehicles to safely leave the bays.

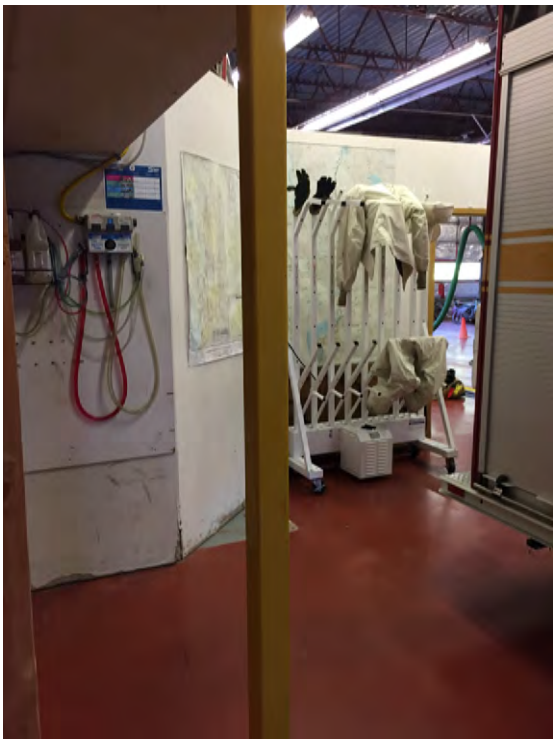


a view of interior of bays at radio / rip and run area along with hose storage on the floor of the bays.



a view of semi - legitimate vehicle exhaust system and the shoring required inside the hall to hold up the walls between the bay doors.

E. existing building photographs

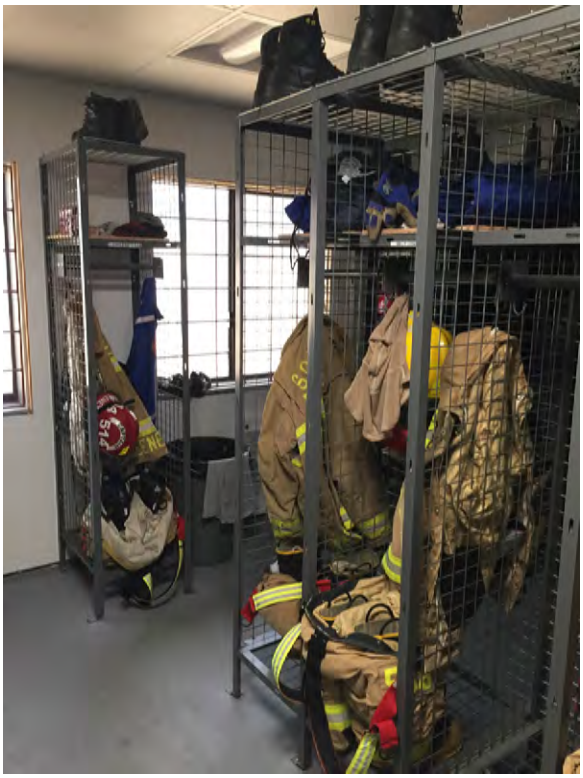


gear drying rack located within the bays

separate room for laundry equipment is a requirement for PPE gear management. The washer shown here is a standard commercial washer - an official gear washer should be implemented to reduce wear and tear on gear as well as ensure that gear is washed sufficiently. A gear washer will require substantial room around them for maintenance but are hugely beneficial to the overall decontamination process.

storage room for first aid supplies.

E. existing building photographs

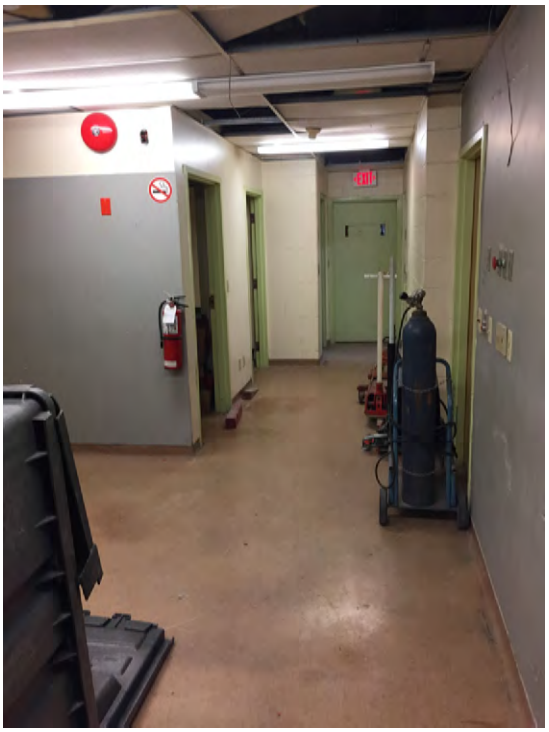


gear storage room with lockers specifically for gear storage to dry and to control contamination exposure.

each gear locker is used for full turnout gear including an storage room for additional sets of gear for lengthy events. The mesh construction of teh lockers allows for the gear to dry more quickly and efficiently in the room.

a close look at the amount of shoring that is required to ensure that the exterior walls can stand up. In addition, one can see the additional insulation which has been adhered to the interior face of the overhead doors to increase thermal performance. These doors themselves are well past their service life and should be upgraded for use and the energy efficiency standards.

E. existing building photographs



existing RCMP area converted into storage rooms.

existing RCMP area converted into storage rooms

the existing RCMP sally port has been converted into an exercise room. overhead doors are uninsulated and tehre is no proper air exchange provided.

using the are under the stair for exercise room storage.

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N

needs assessment

district of squamish

squamish firehall #2

aerial

1:750

17-oct-04

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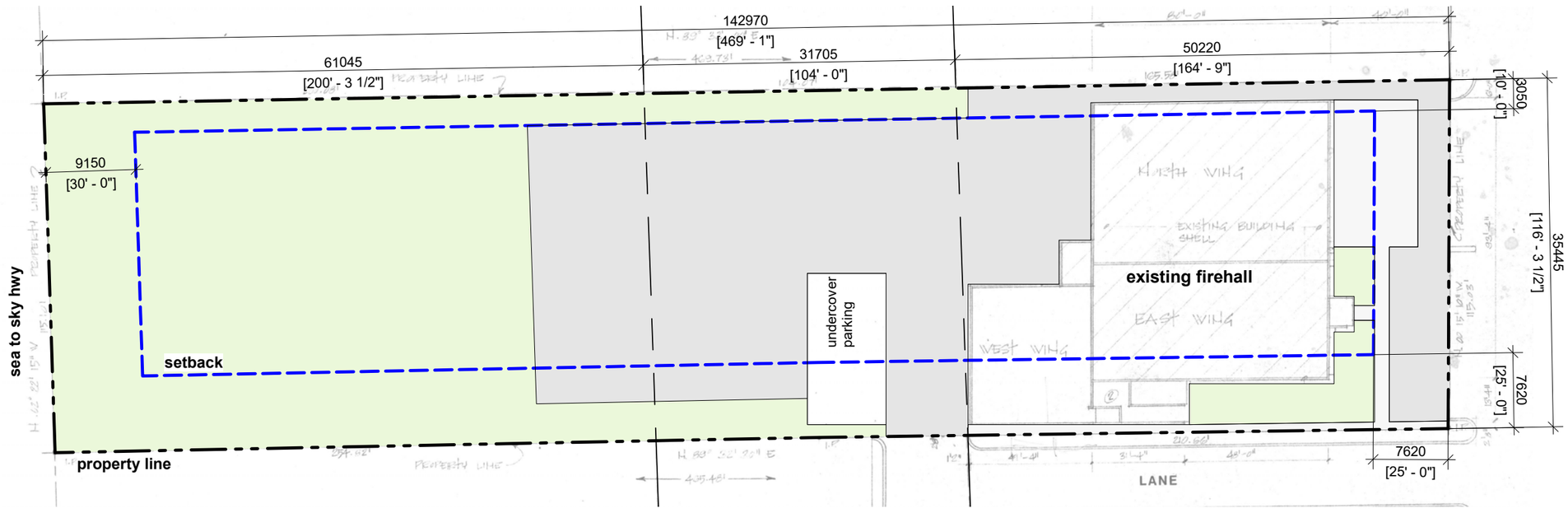

needs assessment

district of squamish

squamish firehall #2

existing site plan

1:500

17-december-07

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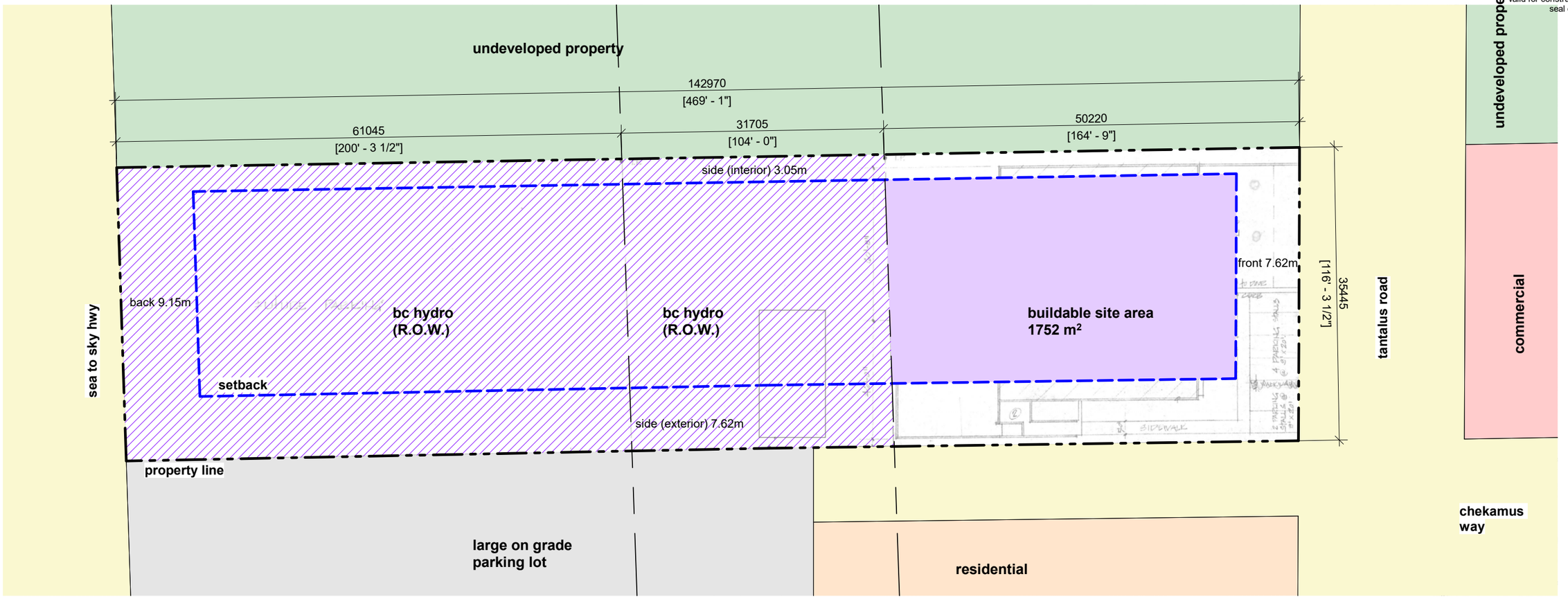


needs assessment

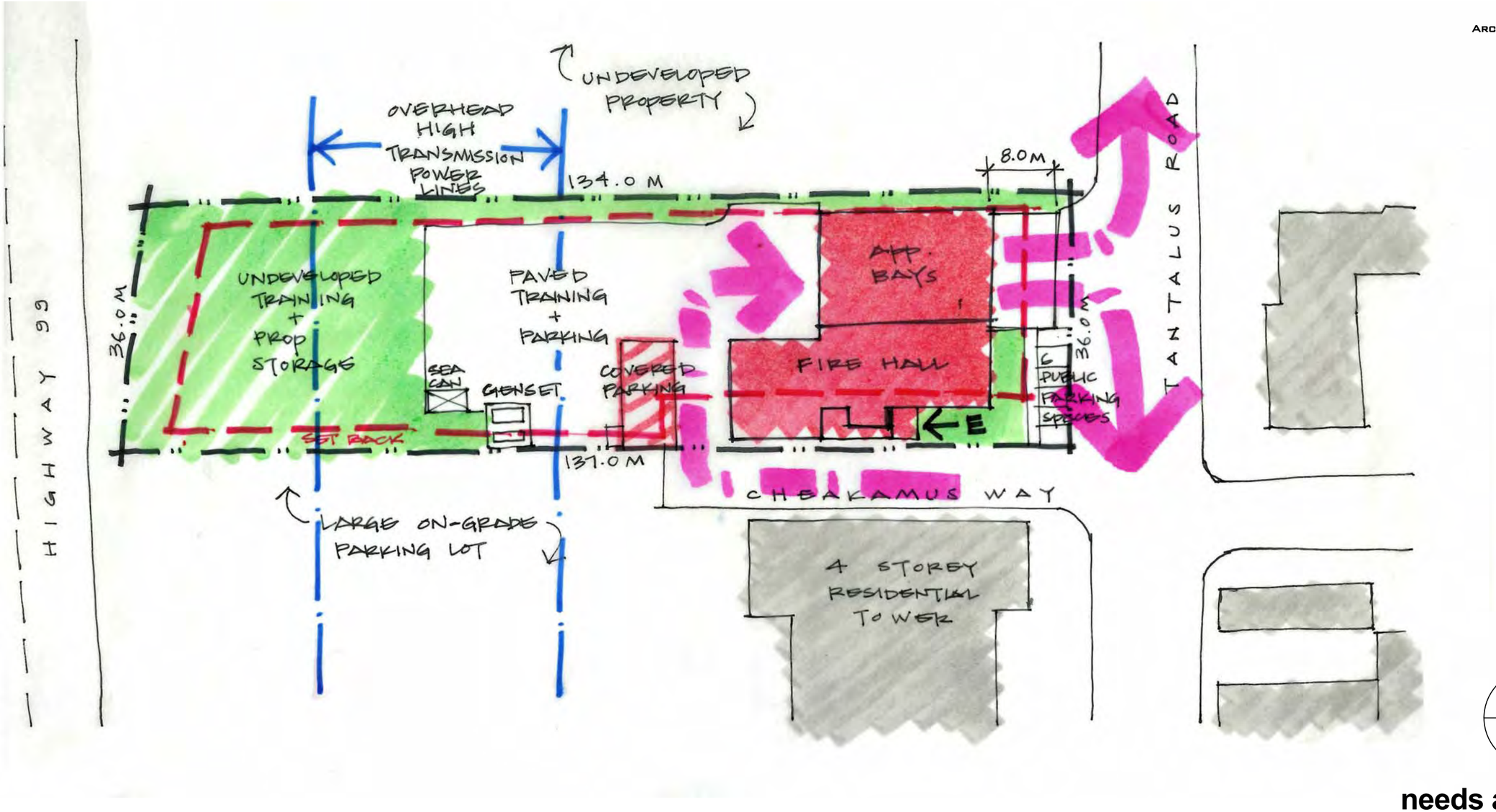
district of squamish

squamish firehall #2

site - regulatory analysis

1:500

17-december-07



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needs assessment

district of squamish

squamish firehall #2

site analysis

n.t.s.

17-oct-04

LEGEND:

- PUBLIC AREAS
- ADMIN
- CREW
- OPERATIONAL
- CIRCULATION
- SERVICE SPACES
- UNUSED

AREA:

	SM	SF
MAIN FLOOR	485.27	5223.40
UPPER FLOOR	457.69	4926.53

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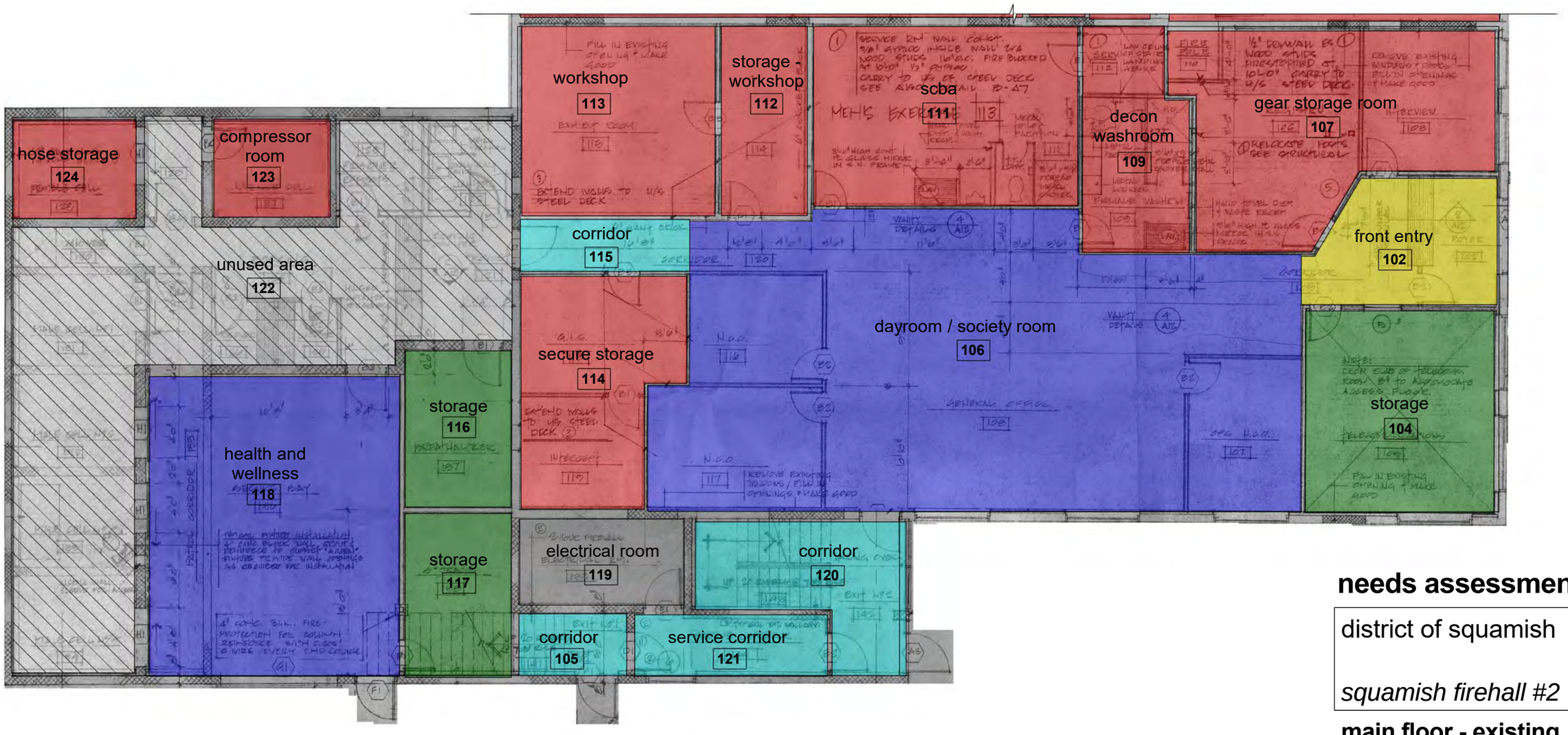

needs assessment

district of squamish

squamish firehall #2

main floor - existing

1:100

17 - october - 4

LEGEND:

- PUBLIC AREAS
- ADMIN
- CREW
- OPERATIONAL
- CIRCULATION
- SERVICE SPACES
- UNUSED

AREA:

	SM	SF
MAIN FLOOR	485.27	5223.40
UPPER FLOOR	457.69	4926.53

Johnston Davidson
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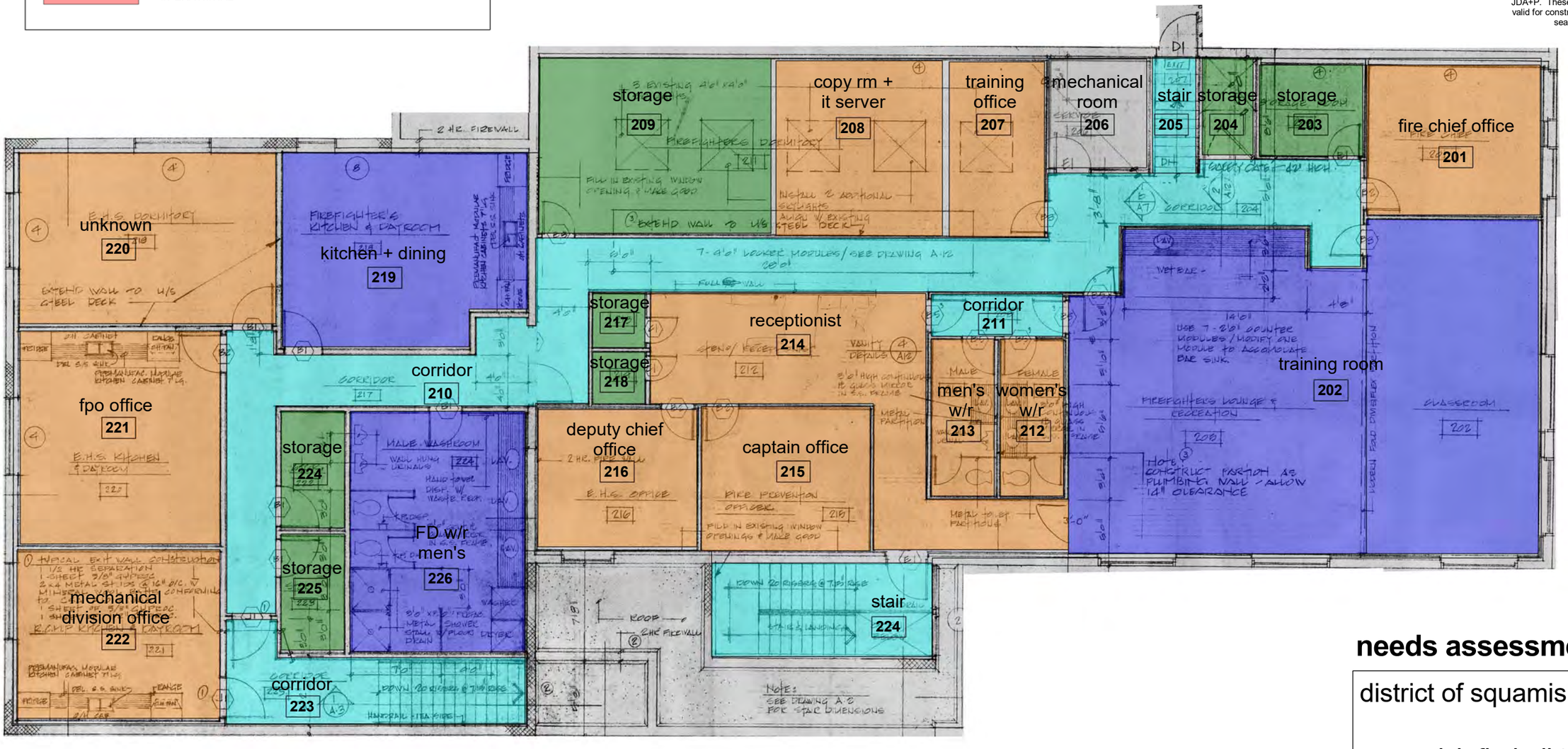


needs assessment

district of squamish

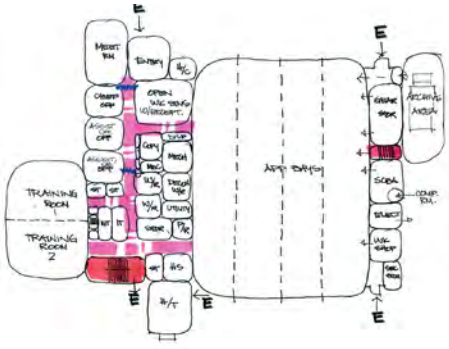
squamish firehall #2

upper floor plan - existing

1:100

17 - october - 4

3.0 needs analysis - programming



3.0 needs analysis - program / facilities

All buildings are based on an initial architectural 'program', which in its simplest definition; is a combination of client wants and needs that the Architect then interprets to create a feasible list or arrangement of spaces, which ultimately becomes the pragmatic basis of the built structure.

A survey of the building program was conducted to primarily review function, size and relationship of spaces in order to establish if the existing facility is suitable to maintain effective fire and rescue services to meet current standards. In addition to evaluating the existing architectural programs, recommendations have been made to modify or add functional spaces to meet the current standards; in short, this report aims to identify the current needs of the fire service as well those projected into the future. This is determined by extensive staff interviews, industry standards and recommending programmatic spaces which are not only typically required for modern firehalls but dictated by best practice methodologies, British Columbia building codes, and the National Fire Protection Association guidelines.

The following is a brief overview of the primary program for a replacement firehall and is intended to lend context to the program scope. This hall focuses on providing suppression and rescue services and as such requires facilities which accommodate equipment + staff necessary to these functions. In addition, the building also needs to house supplementary suppression crew functions such as basic dorms, kitchen, day room, training and fitness for the crews. As a Headquarters hall, SFR needs to house a larger collection of functions, such as Senior Level Management and Administration, Fire Prevention, Training, the Emergency Management Program, and a back up City Server Room.

Building Program:
The existing and proposed spatial program has been compared in two key documents which have been organized into a matrix type chart for ease of use.

1. Proposed Space Program Chart
   (A full list of proposed programmatic spaces with associates area sizes in square metres and square feet).

2. Programming Spatial Diagram
   (Graphic representation of the space program and a comparison with the existing).

The first of these two documents compares the spatial program of the current hall and types of spaces with that of current and future needs of the Department. The second document compares these spaces graphically for an easy visual comparison.

Upon completion of the programming needs analysis, the next stage of the report examines the current program on the site - to test if the new space program could fit on the existing site, then to provide direction on the requirements for a new site if the building was to be constructed in a different location. The report at this point examines the pros and cons of these two option in **Section 3.0**.

A. current industry standards

The current hall does not meet best practice industry standards in terms of flow, decontamination, security and building code. SFR has made the best of the situation but as technology, equipment and training needs of the Fire Services changes so do the requirements for facilities which house them. This issue pertains to those spaces which are considered to be standard practice for today's fire fighter.

Some examples are as follows:

- Fire fighters are exposed to micro carcinogenic particles during an event which need to be kept from contaminating other equipment or being dragged into the clean portions of the hall.

- Decontamination Washroom: a washroom should be positioned directly off the apparatus bays, or directly off a vestibule adjacent to the apparatus bays, to allow for the fire fighters to perform a first stage decontamination when returning from a fire. This room allows them to shower and bag their soiled uniforms before entering the remainder of the hall which limits the spread of contaminants which are potentially harmful.
    - Currently the existing hall does not have a decontamination washroom.

- Personal Protective Gear (Turnout Gear) is required to be worn by firefighters to every emergency. Currently the firehall has PPE Gear stored in a separate room which is ideal - this room should also have the following considerations in the future:
    - Cleaned and ready-to-wear PPE Gear which is stored in the apparatus bays are exposed to contaminants from other dirty gear + equipment. Having this equipment located in a separate room meets today's standards.
    - There should be provisions for an on site official gear washer to ensure that gear is able to be cleaned to limit the spread and exposure of contaminants.
    - A separate room also allows for the gear to dry effectively while in such a large, open space which deteriorates it over time and requires the storage of additional gear incase there is another call before the gear is dry.
    - The gear clutters the apparatus bays making quick access to vehicles slower and works against NFPA 1710 + 1720 standards.
    - Current industry standards dictate a dedicated and environmentally controlled room, designed to store and dry PPE Gear is required for a new firehall.

- SCBA room: industry standards for FIrehall design require a SCBA room which is limited to this function only. The SCBA area houses the filling station and usually located adjacent to the SCBA compressor to maintain the breathing apparatus and masks essential to fighting fires. This equipment should be washed, dried and maintained in a clean environment as this equipment plays a crucial role in protection of fire fighters in the field.
    - Currently the hall does not have a dedicated SCBA room and currently the compressor and filling station are located a fair distance from the apparatus bays. The compressor should be located in its own room due to the noise and impact on crews when they would be working in the room.

- NFPA 1500 specifies the minimum requirements for an occupational safety and health program for fire departments or organizations that provide rescue, fire suppression, emergency medical services, hazardous materials mitigation, special operations, and other emergency services.

- WorkSafe BC has recognized 10 presumptive cancers associated with

Firefighting. Under the Workers Compensation Act of BC, when a firefighter who was regularly exposed to the hazards of a fire scene contracts a prescribed occupational disease, the disease must be presumed to be due to the nature of the worker's employment as a firefighter. The Firefighters' Occupational Disease Regulation lists the following ten cancers as prescribed occupational diseases that are causally related to the occupation of firefighting:

1. Primary leukemia
2. Primary non-Hodgkin's lymphoma
3. Primary site bladder cancer
4. Primary site brain cancer
5. Primary site colorectal cancer
6. Primary site kidney cancer
7. Primary site lung cancer
8. Primary site testicular cancer
9. Primary site ureter cancer
10. Primary site esophageal cancer

- Provision of current industry standard Decontamination Washrooms, PPE Gear Washing and Storage Rooms and SCBA Rooms are required to comply with current the NFPA 1500 Standard and assist with the mitigation of presumptive cancers associated with firefighting.

B. gender neutrality / gender inclusivity

The fire department "family" is a much different entity in 2017 compared to when the current firehall was built 39 years ago. In the 1980's, departments were primarily made-up of male dominated crews who would work and live together in the firehall. Dorms and washrooms were designed in an open style, with beds or cots all contained within one large room and male only washrooms with gang-type shower facilities.

- As this hall was never designed to accommodate full time career staff, these facilities are less generous but are still focused on male only crews. The building was designed with male only washroom facilities which were focused on serving one gender and with limited privacy, as well as no dorms spaces and no locker areas.

Over the years, women firefighters on suppression crews have become more and more prevalent. In addition, privacy is equally important regardless of gender so the old days of group dorms and washrooms are being quickly phased out.

The general approach today dictates that all Fire Department members be treated equally and with dignity. The simple fact before us is that the current building does not have enough or appropriate accommodations to address crew changes now or into the future. There is a need to provide the opportunity to accommodate women, men and transgender crew members under one roof as a unified team. These issues have a level complexity which flows between encouraging camaraderie, personal privacy, and cost. The SFR has established a policy to address these issues first hand with the current layout of the hall, but due to lack of available space, this is clearly a deficiency which needs to be addressed with the next reiteration of facility.

C. specialized programmatic needs

As the nature of the fire services has evolved, so has the scope of work for the firefighter. Additional services, such as Medical Response, Motor Vehicle Accidents, Search and Rescue and Hazardous Materials handling have firefighters expanding their skill sets well beyond the suppression of a traditional structure fire. Current training needs, both classroom and physical, require adequate classroom facilities

with modern teaching aids. Physical training requires an outdoor yard with life-size props to simulate real life scenarios, which can also test and certify specific apparatus equipment, such as a Pumper test-pit. In addition to maintaining the training and certification levels of firefighters, specialized facilities are required to respond to current industry standards for PPE Gear Washing and Storage, SCBA and Mask Repair and Fleet Maintenance to keep moving the SFR into the future.

- The establishment of training facilities and associated interior spaces at the Firehall is a necessary step to maintain required training and certification levels for the firefighters. A large, dedicated classroom-style training room(s) is necessary to allow for the frequency of training and expanded skill set requirements for today's firefighter. The classroom should be located with exterior access to the training yard and possess modern teaching aids and technology.
    - This would only be possible if the new building was relocated to a larger site.
    - This space can be used effectively as the EOC space to create a multifunctional use of the training rooms.

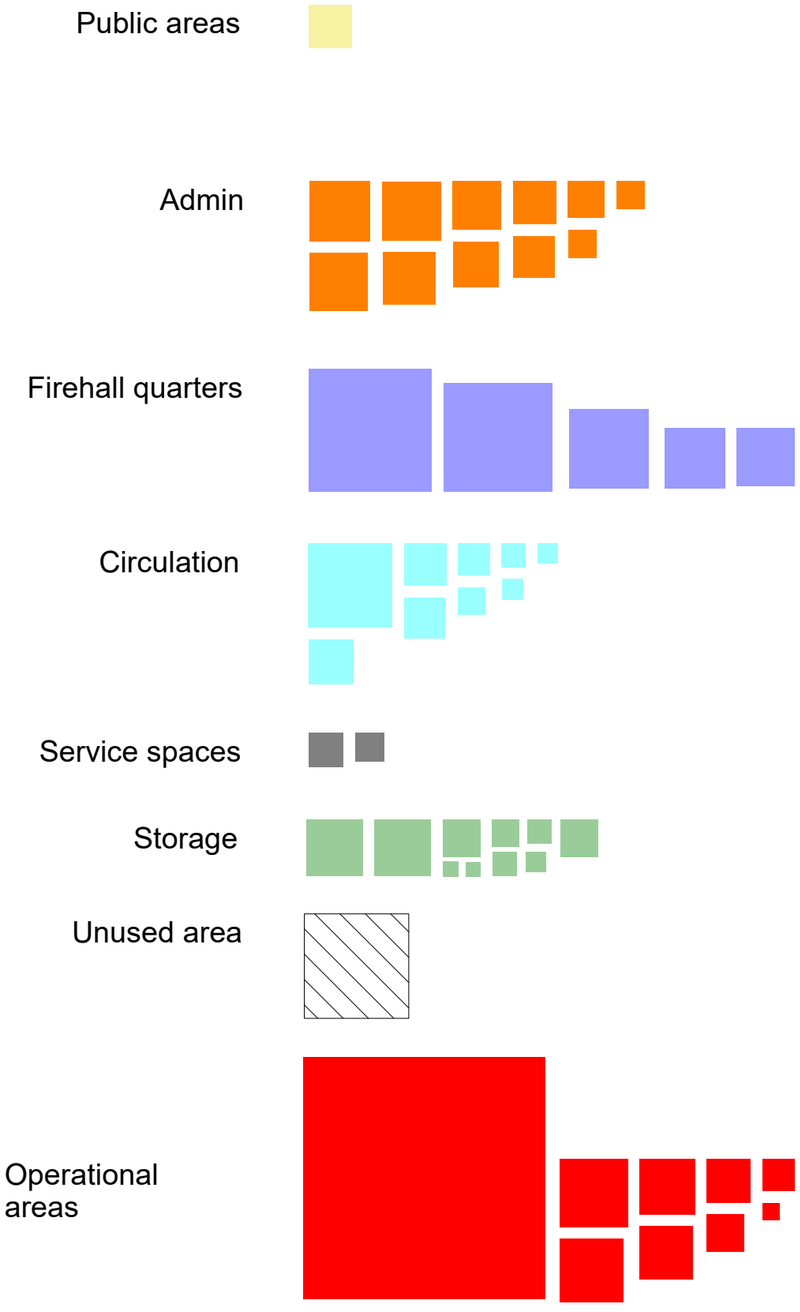
- PPE Gear Washing and Storage Room will allow the SFR to wash and maintain their own gear on site which reducing costs and providing quality control in order to meet current industry and NFPA standards. A dedicated Storage Room will also allow them to meet current industry and NFPA standards for decontamination and preservation of PPE Gear.

- Specialized Suppression Crew Teams needs to have the ability for specialized training, storage of purpose-built vehicles and props.

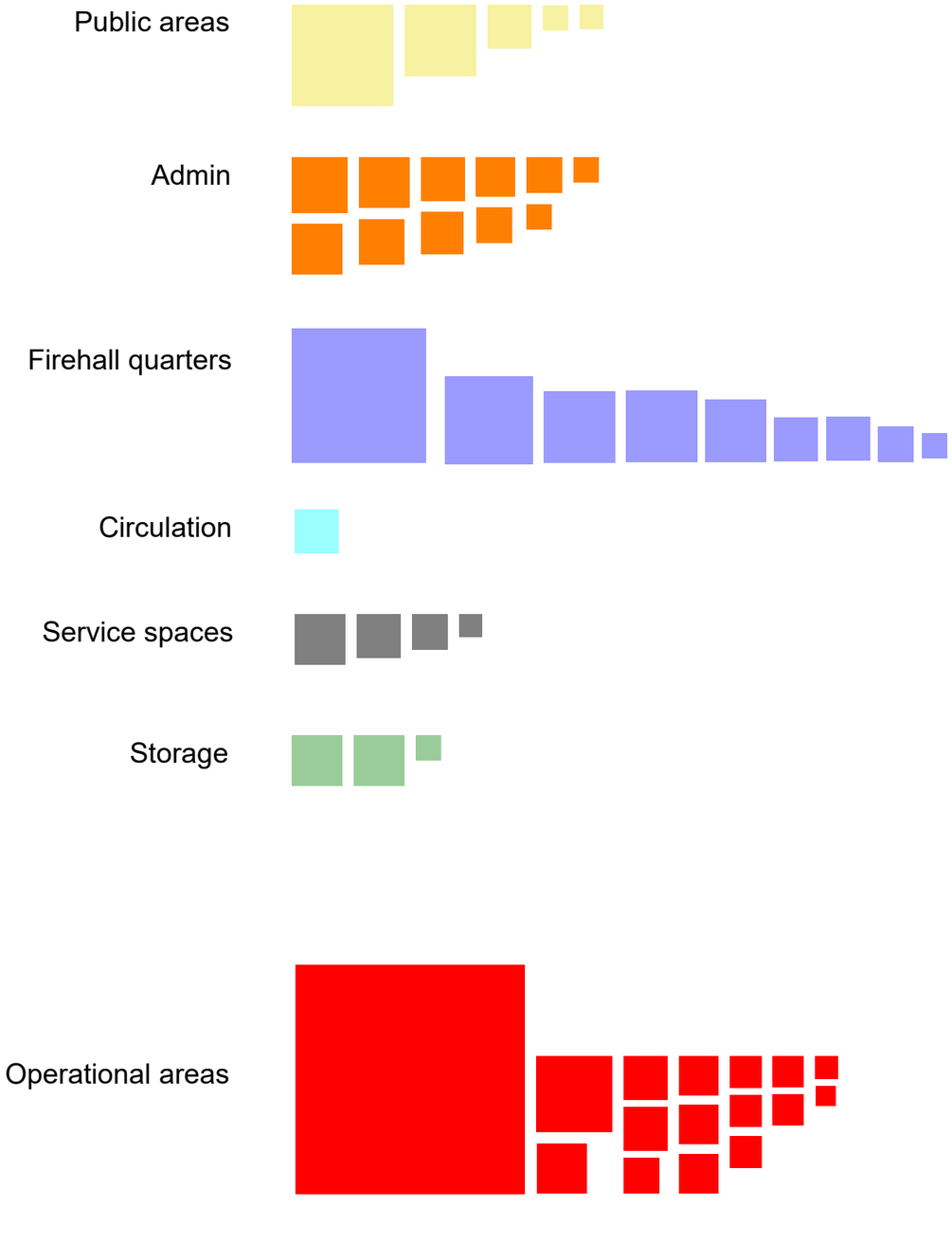
- Emergency Operation Centre: The firehall is often one of the only post disaster buildings in a community which make it ideal to serve as the community's EOC. The intention for this building would be to design the training rooms so that they are easily adaptable to become and EOC for what every Emergency arrises. This would include the ability to quickly set up in EOC mode and flexibility within the rooms to handle multiple desking situations. In addition, associated storage room would be provided within the near vicinity of the main EOC rooms.

squamish firehall								R3
Space Program			**EXISTING**	**EXISTING**		**PROPOSED**	**PROPOSED**	
BASE BUILDING						***AREA***	***NET AREA***	**NOTES**
Item	**FL**		**SF**	**SM**		**SF**	**SM**	
		PUBLIC AREAS						
		VESTIBULE	0.00	0.00		53.80	5.00	
102		Front entry	140.42	13.05		161.40	15.00	
		PUBLIC WASHROOM (H/C	0.00	0.00		48.42	4.50	
		MEETING ROOM	0.00	0.00		430.40	40.00	
		ARCHIVAL DISPLAY	0.00	0.00		861	80.00	
		Sub Total	**140.42**	**13.05**		**1,554.82**	**144.50**	
		ADMIN						
201		Fire Chief Office	156.13	14.51		215.20	20.00	
216		Deputy Chief Office	130.95	12.17		161.40	15.00	
215		Captain Office	146.34	13.60		129.12	12.00	
207		Training Office	99.96	9.29		215.20	20.00	2 wk stations
222		Mechanical Division Office	206.59	19.20		0.00	0.00	
		EMERGENCY COORD - 2 wk stations	0.00	0.00		172.16	16.00	
214		Receptionist	273.09	25.38		150.64	14.00	
		WORK STATIONS (4 people)	0.00	0.00		258.24	24.00	
		FILE STORAGE	0.00	0.00		107.60	10.00	
212		Pubic - Women's washroom	59.72	5.55		0.54	5.00	
213		Public - Male washroom	59.72	5.55		0.54	5.00	
220		Unknown spaces	263.40	24.48		0.00	0.00	
221		FPO Office (2 person office)	257.06	23.89		0.00	0.00	included in work stations
208		Copy Rm + IT Server	174.96	16.26		107.60	10.00	NEW: just copy Room and IT Closet noted below
		Sub Total	**1827.91**	**169.88**		**1518.24**	**151.00**	
		OPERATIONAL AREAS						
Bays		Dispatch / Rip & Run	21.52	2.00		161.40	15.00	
107		Gear Storage Room (40 units)	350.02	32.53		484.20	45.00	
114		Secure Storage	211.86	19.69		161.40	15.00	for additional sets of Gear
112		Storage - workshop	103.94	9.66		107.60	10.00	
109		Decon Washroom + Shower	142.25	13.22		80.70	7.50	
		DECON W/R + SHOWER	0.00	0.00		80.70	7.50	
		INFRARED DETOX UNIT	0.00	0.00		43.04	4.00	
111		SCBA	302.03	28.07		129.12	12.00	
		UTILITY / JANITOR'S ROOM	0.00	0.00		129.12	12.00	
		GEAR WASHER	0.00	0.00		86.08	8.00	
		BIKE STORAGE	0.00	0.00		86.08	8.00	
123		Compressor Room	72.20	6.71		86.08	8.00	
		FIRST AID STORAGE	0.00	0.00		32.28	3.00	
124		Hose storage	77.47	7.20		102.22	9.50	
113		Workshop	232.63	21.62		129.12	12.00	
		Apparatus Bays	3,981.20	370.00		4,411.60	410.00	
		Sub Total	**5495.13**	**510.70**		**6310.74**	**586.50**	
		FIREHALL QUARTERS						
106		Dayroom / Society Room	1,139.27	105.88		430.40	40.00	
118		Health and Wellness	479.14	44.53		645.60	60.00	
202		Training Room	889.31	82.65		1,506.40	140.00	to accommodate 50-60 people
219		Kitchen + Dining	273.52	25.42		430.40	40.00	combined with Day Room

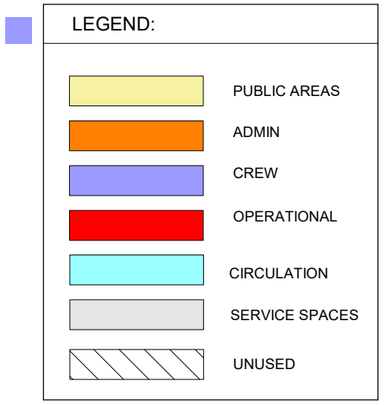
squamish firehall								R3
Space Program			**EXISTING**	**EXISTING**		**PROPOSED**	**PROPOSED**	
BASE BUILDING						***AREA***	***NET AREA***	**NOTES**
Item	**FL**		**SF**	**SM**		**SF**	**SM**	
		FD WASHROOMS - WOMEN'S	0.00	0.00		161.40	15.00	
226		FD washrooms - men's	253.61	23.57		161.40	15.00	
		UTILITY RM	0.00	0.00		107.60	10.00	
		FUTURE REST & RECOVERY (4)	0.00	0.00		322.80	30.00	
		FIRE POLE	0.00	0.00		53.80	5.00	
		Sub Total	**3034.86**	**282.05**		**3819.80**	**355.00**	
		STORAGE						
104		General Storage	242.53	22.54		215.20	20.00	
116		General Storage	106.31	9.88		215.20	20.00	Yard Storage
117		General Storage	106.31	9.88		53.80	5.00	Hazmat Storage
203		General Storage	56.60	5.26		0.00	0.00	
204		General Storage	29.70	2.76		0.00	0.00	
209		General Storage	243.39	22.62		0.00	0.00	
217		Office Storage	17.32	1.61		0.00	0.00	
218		Office Storage	16.25	1.51		0.00	0.00	
224		General Storage	44.33	4.12		0.00	0.00	
225		General Storage	44.33	4.12		0.00	0.00	
		Sub Total	**907.07**	**84.30**		**484.20**	**45.00**	
		CIRCULATION						
105	1	Corridor	42.18	3.92		0.00	0.00	Remainder of circulation counted in mark up below
115	1	Exit	55.95	5.20		0.00	0.00	
120	1	Corridor	149.89	13.93		0.00	0.00	
205	2	Stair	30.02	2.79		0.00	0.00	
210	2	Corridor	529.39	49.20		0.00	0.00	
211	2	Corridor	33.36	3.10		0.00	0.00	
223	2	Corridor	132.67	12.33		0.00	0.00	
224	2	Stair	124.92	11.61		161.40	15.00	
121		Service corridor	75.86	7.05		0.00	0.00	
		Sub Total	**1623.90**	**150.92**		**161.40**	**15.00**	
		SERVICE SPACES						
119		Electrical room	90.38	8.40		161.40	15.00	
206		Mechanical Room	64.24	5.97		215.20	20.00	
		BACK UP SERVER RM	0.00	0.00		107.60	10.00	
		IT CLOSET	0.00	0.00		43.04	4.00	
		Sub Total	**154.62**	**14.37**		**527.24**	**49.00**	
122		Unused area	822.28	76.42		0.00	0.00	
		Sub Total	**822.28**	**76.42**		**0.00**	**0.00**	
		Building Total (Pre Mark-up) sm	**14,006.18**	**1,301.69**		**14,376.44**	**1,346.00**	
		Mark-up 25%	0.00	0.00		3,594.11	336.50	
		Mark-up 10%	1,400.62	130.17		0.00	0.00	
		TOTAL FIREHALL	**15,406.80**	**1,431.86**		**17,970.55**	**1,682.50**	



existing program



future program



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needs assessment

district of squamish

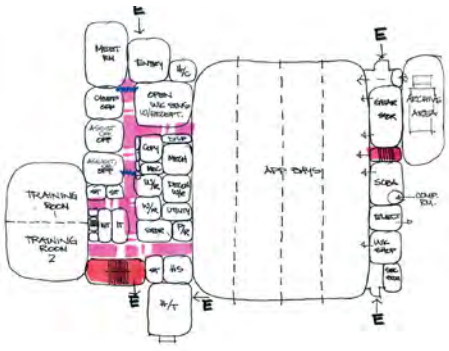
squamish firehall #2

program comparison diagram

n.t.s.

17 - october -4

4.0 siting options



4. siting options

The siting studies for the replacement of the Tantalus Firehall began with the development of an elementary site analysis, defining general site characteristics, context influences and zoning impacts. This portion of the report focuses on examining the option to rebuild a replacement for the Tantalus FH (Headquarters) on the existing FH #1 (Satellite FH) site located at 8989 Clarke Drive (referred to as the CLARKE DRIVE SITE for this portion of the report) and rebuilding of Firehall #1 (Satellite FH) at the Tantalus Firehall Site (referred to as the TANTALUS SITE for this portion of the report). The reasoning behind this approach are as follows:

1. the Tantalus Site is too small to house the replacement for the Firehall Headquarters building; however, it would be sufficient to house a Satellite Firehall.
2. the Clarke Drive Site has enough space to accommodate the Headquarters Firehall replacement and the Training Yard.
3. Firehall #1 (Satellite Firehall) does not currently meet the seismic requirements of the BCBC and would need extensive upgrades to reach these standards including a replacement of the hose tower.

The original overall goal of the feasibility study was to try use test existing site against with the new space program and to provide direction as to how ir if this was possible. Since that time, the existing FH #1 site has been reconsidered as an option for the rebuilding of the Tantalus FH (Headquarters) due to the proximity to new development in Squamish and access to the new overpass to the Downtown core.

The following sections present a preliminary look at a Siting Option for the replacement options of both the Tantalus FIrehall (Headquarters) and Firehall #1 (Satellite Firehall. All associated drawings are located directly after this section.

A. FH #1 (clarke drive) site characteristics

The Clarke Drive Site is located at the civic address of 37890 Clarke Drive, relatively adjacent to Hwy 99, also know as the Sea to Sky Highway, one of the main arterial roads through the Coast Mountain Range. This location is central to the business district, civic, mercantile and residential properties, with quick access to both Hwy 99 and the new proposed overpass to Downtown Squamish. This site is approximately 5.642 hectares (13.9 acres) is size with a portion of the site which is relatively flat and houses the current FH #1 / Training Yard with the majority of the remainder of the site covered by relatively steep terrain. There is additional area with relatively flat terrain located south of the current site accessed from Valley Drive, but is not connected to the current site area due to a section of steep terrain which separates the two.

The existing development footprint measures approximately 1.56 acres (6,313sm). It is essentially flat throughout with sloped terrain on the eastern, southern, western sides. This sloped terrain heads downwards on the south and west sides and slopes upwards along the eastern edge. Set backs on the property for the P-2 zone are 3.05m on the interior side, 7.62m on the exterior side, 7.62m at the front and 9.15m at the rear - none of which would be an issue for redevelopment. The maximum height allowable for this zone is 10.68m for the principal building. This requirement would likely need a relaxation to accommodate the hose tower height of 11.5m =/-.

- The dimensions of the current development footprint vary due to the surrounding slopes and the tear drop shape of the current site, with the depth of the site being approximately 120m and a maximum width of 70m; however, it is important to note that due to the varying width of the site, the location of the apparatus would be limited to where the width of the site is 60m or wider.

B. general layout issues

The siting options shown after this section will outline a high level option for the building layout. The following is a list of layout concerns which need to be considered for the future phases of work on this site.

- One of the main objectives in siting the firehall is to position the apparatus bays as perpendicular to the road as possible, so that the wear and tear on the vehicles is not extensive – all layouts shown are based on this premise.

- Programmatic zoning of the site in all layouts: Current industry standards for a composite department require a separation of the vehicular traffic between the general Public, exiting emergency vehicles, and P.O.C + Career staff. This is especially crucial as these groups converge on the Firehall to respond to an emergency call and as vehicles leave to address emergent incidents. Keeping these zones separate is key in protecting the safety of the surrounding public and the Fire Fighters.

- The depth and the width of the ideal site are crucial in the site selection. The minimum depth of the site should be 60m and minimum width needs to be 62-65m to accommodate the apparatus bays, return road, fire truck turning radii, and the firehall portion of the space program. This will ensure that the fire fighters have the room they need for training, completion of their regular duties and that site development will not create additional cost or maintenance over time.

- Traffic control will need to be addressed in the next phases of the project.

C. clarke drive - siting study for Headquarters FH

The following are a list of challenges that the District and the SFD would need to address if this was the project option that was preferred.

i. The **Clarke Drive Site** will accommodate a typical 3 tandem bay drive thru firehall and will meet the programmed space required.
   - the site will be able to accommodate a full apron - in fact due to the location of the high tension power lines which run through the north / western side of the site, the building will need to be positioned a minimum of 40m south of the north property line giving the SFR a large apron to train, perform truck checks and enter the public street safely and quickly.
   - The size of the site will permit surface parking; however, some additional retaining walls will be required along both the eastern and western side of the site to increase the width of development footprint. This aspect has been identified in the high level costing and should be flagged for further investigation once the Schematic Design Phase of the project has been started.
   - The administration portion of the Firehall has been located on the western side of the building with the apparatus bays positioned as far east as possible to allow them clear and direct access to the street. This would allow the project to build both single storey and 2 storey portions to the administration building in order to accommodate the space program. At this time there should be no need to build administration space above the apparatus bays which would increase the cost of construction due to the height of the bays and the need to address a 1.5 to 2 hour fire separation between the administration functions and the operation side of the firehall.
   - 35 parking spaces 3m x 6m in size - have been shown on site for use by both the public and SFD staff.

ii. Demolition: the existing satellite firehall and a portion of the training yard will need to be demolished to accommodate the new building and returning vehicle apron. The existing training yard has a combination of the larger training structures and smaller prop pads - all of which are used extensively

for SFD training purposes. The siting option shown in the report proposes to keep the larger structures in their current location and relocate the smaller prop pads to the rear of the existing development footprint.

iii. A property / topographical survey for the site should be provided to confirm the on-site grading, the exact location of the existing services and all structures on site. This information will provide the Consultant team with confirmation of these items in a digital fashion in order to move the project from a feasibility study to into the next stages of the design. Key points to establish at that point will be:
- The Hydro R.O.W. for the existing High Tension lines has not been identified on the information provided from the Squamish Mapping System. This item needs to be identified on the survey.
- The location of the existing building power service should be identified.
- Position of existing buildings and grades.

iv. Geotechnical Report: this portion of the report was based on the Geotechnical report produced for the replacement of the hose tower. This information was useful in establishing a high level approach to the structural foundation design but should be updated to reflect the current BCBC, and a new building development. The current geotechnical report for this site proposed to build any structures on a structural raft slab to address the bearing capacity of the soil conditions and allow for the building to adjust due to liquefaction during a seismic event.

v. Relaxations P2 Zone:
- The height currently outlined in P2 zoning guidelines is a max of 10.82 m for the principle building. This would require a relaxation for the new hose tower which most likely be close to 11.5m in height.

vi. ESA: The development footprint on this site is surrounded on the south, east and partial west sides by an environmentally sensitive area which is of low status. It is not the intention that there would be further encroachment into this zone as per the preliminary study; however, the team should be aware of this condition as the project moves forward and ensure that there are no issues in this regard as the project moves into more detailed design.

vii. Although this study did not examine floor plans in detail, operational spine quarters have been shown on both sides of the apparatus bays creating opportunity for optimal positioning of gear storage, and a radio room as close to the crew entry as possible.

viii. Relocation: The second site layout shown in this section, identifies where the temporary quarters for both crew areas and emergency vehicles could be stored on site until the new apparatus bays could become operational. Key to the success of this development would be to coordinate the timing of the any repaving of this portion of the apron with the access needed by the SFD. The relocation during the construction period is likely to be between 12 - 18 months.

C. tantalus site - siting study for satellite FH

The following are a list of challenges that the District and the SFR would need to address if the SFR Satellite FH was to relocated at this site.

i. Despite an overall site size of 1.3 acres, Current developable area of the site is only 0.38 acres due to the position of two BC Hydro Right of Ways located on the western side of the site. This area presents only 32% of site which is available to build a new Firehall. This site size by any standard is extremely small and well below industry standards for a Headquarters FIrehall with a composite fire department; however, although the site is small and has a

number of restrictions it would be possible to locate a satellite firehall on this site. The program for this Firehall would be limited to 2 drive through bays under this current development, with the possibility of 2 more bays in the future and a limited amount of administration space.

ii. The site layout has been established to accommodate a 16m apron which is the minimum length recommended for an apron for a department of this size in order for Emergency Vehicles to leave the bays fully before entering the street or sidewalk providing the safest exiting process for the SFR and the Public.

iii. Due to the site size and planning for future expansion, most of the surface parking would need to be positioned within the existing Hydro ROW with some Public spaces positioned to the northern side of the site and limited site area for training or other uses.

iv. The return road would be positioned within the Hydro ROW.

v. The emergency generator and fueling system is shown positioned within the developable area but currently located outside the existing property set backs, which would require a relaxation from Planning. The position of the generator in this location is due to a combination of available site area and accommodation of future expansion of this hall. The number of bays currently shown only accommodates the existing fleet and with the population growth of Squamish, it is advisable that site planning for future expansion be included for serious consideration.

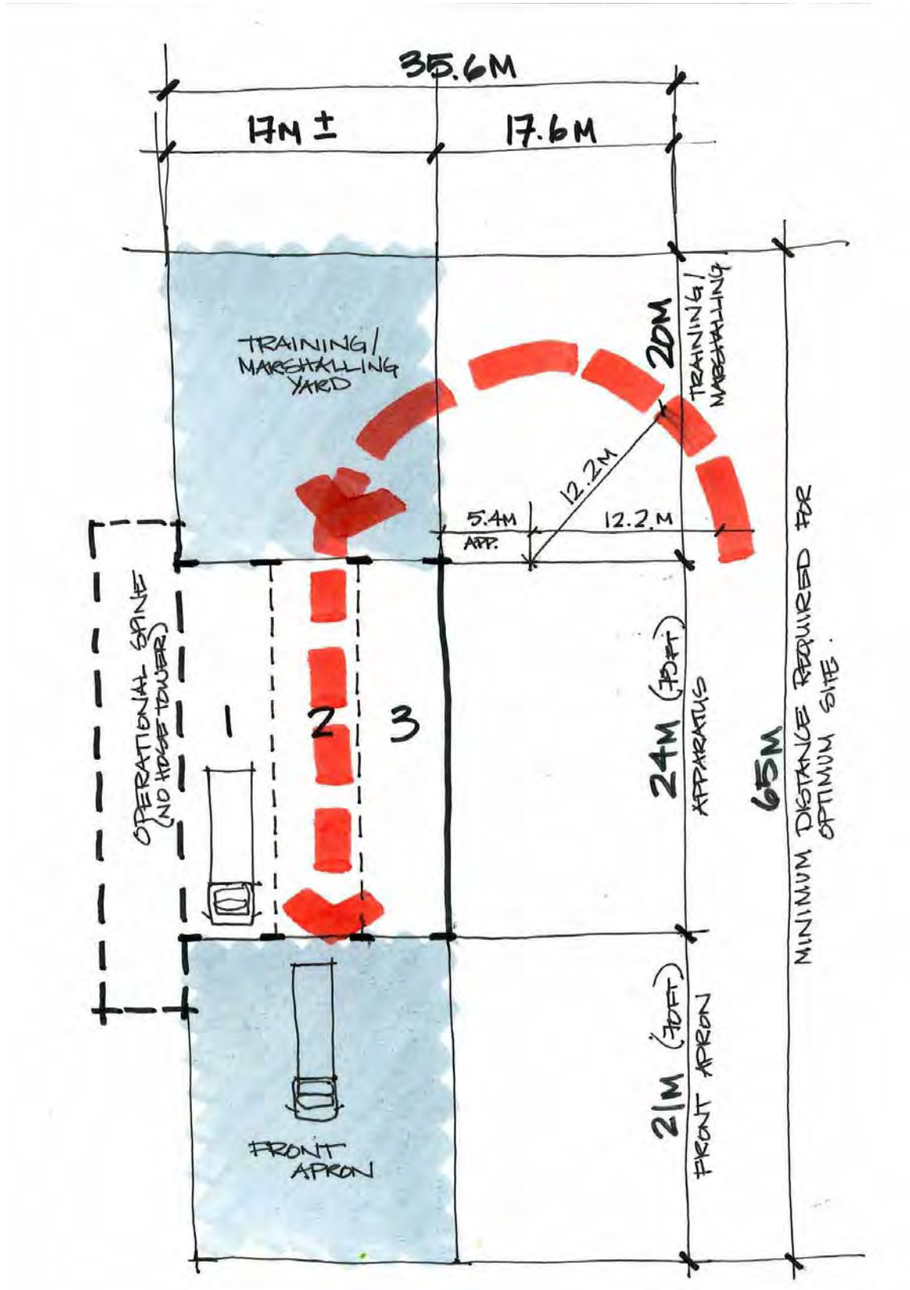
vi. Geotechnical Report: The current geotechnical report for this site proposes that there will need to be soil densification performed such as the use of stone columns or steel piles. However, this report was written in 2002 and should be updated to reflect the the new BCBC 2018. There have been three BCBC updates since this Geotechnical Report was written and seismic concerns and approaches have changed greatly since this time.

vii. A property / topographical survey for the site should be provided to confirm the on-site grading, the exact location of the existing services and all existing structures on site. This information will provide the Consultant team with confirmation of these items in a digital fashion in order to move the project from a feasibility study to into the next stages of the design.

E. project phasing

It would be economical to phase the two projects within the same time line so that each could take advantage of the other as the crews are shifted from one site to another. The idea being to construct a process to house Crews / Staff with as little impact to the operation or expense as possible. A possible sequencing is outlined below:

i. Construct Temporary Quarter for FH #1 (Satellite FH) on the Clarke Drive Site as shown on Layout 2.
ii. Demolish FH #1on Clarke Drive site and start construction on the new Headquarters Firehall (FH #2)
iii. Complete construction on new FH #2.
iv. Move Tantalus Crews into new FH #2 once completed.
v. Move FH#1 Temporary Quarters to new site near Tantalus Site.
vi. Demolish FH #2 (Tantalus Firehall).
vii. Either move FH #1 temporary quarters onto Tantalus site OR construct new FH #1 (Satellite FH) on Tantlaus Site.
viii. Move crews into new FH #1 (Satellite FH)



Typical Apparatus Bay Layout

a. The Apparatus Bays house and preserve some of the Fire Department's most important and expensive equipment – the Fire Trucks.

b. Optimal Design Parameters:
- Apparatus Bays to be a minimum 27 metres long (90'-0"). This distance allows for both current and future vehicle needs.
- Apparatus Bay widths are determined by number of bays and proximity to exterior walls. Typical inside bays should be a minimum 5.2 metres wide with outside bays (against exterior walls) should be a minimum 5.6 metres wide. To accomodate hose storage, 6m wide is recommended.
- Front Apron to be between 14 to 16 metres long which this allows for vehicles to fully exit the Bays before entering the street.
- Training Yard usually is a minimum 20 metres from the rear of the Firehall for training or hose work. If a Hose / Training Tower is required, it is best located at the rear of the central spine for optimal usage.
- Turning Radius of 12.2 metres (or 40 feet) will accommodate the majority of Fire Trucks (including most Ladder Trucks). This also provides easier driving for all driver levels and reduces 'wear-and-tear' on vehicles by avoiding harsh turning or 3-point parking.
- Spine functions along one or both sides of the Apparatus Bays. These locations provide direct bay access for key functions, such as the Radio Room, Gear Storage, SCBA Room, Workshop,

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needs assesment

district of squamish

squamish firehall #2

typical apparatus bays layout

nts

17-oct-04

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N

needs assessment

District of Squamish

squamish firehall #2

clarke drive site - existing aerial

1:750

19 - mar - 04

1 view of site - east

2 view of north firehall

3 view of site - south-west

4 view of training yard - south

5 view of training yard - south-east

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needs assessment

District of Squamish

squamish firehall #2

clarke drive site
site photos

n.t.s.

19 - mar - 04

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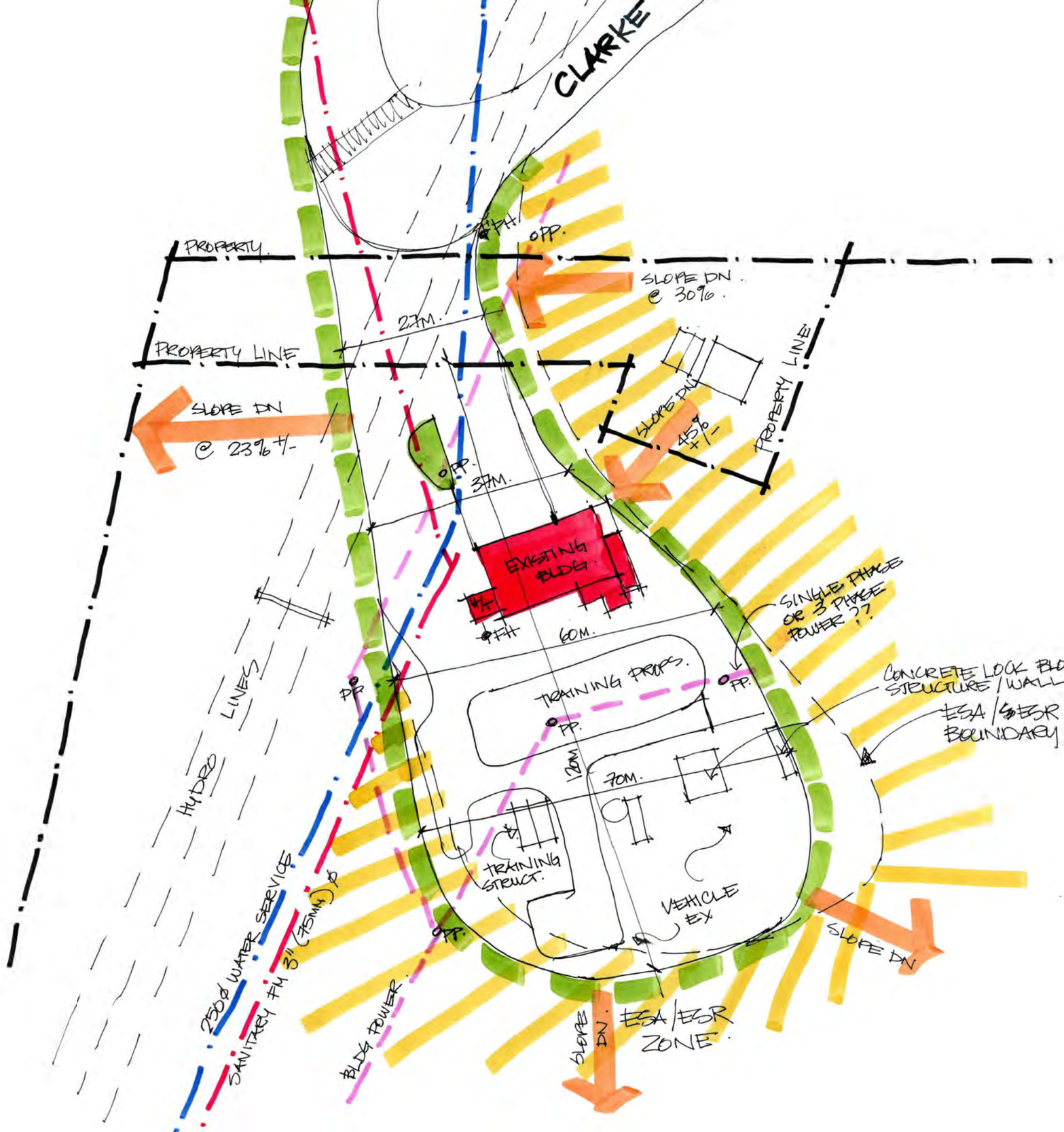

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needs assessment

District of Squamish

squamish firehall #2

clarke drive
site analysis

1:750

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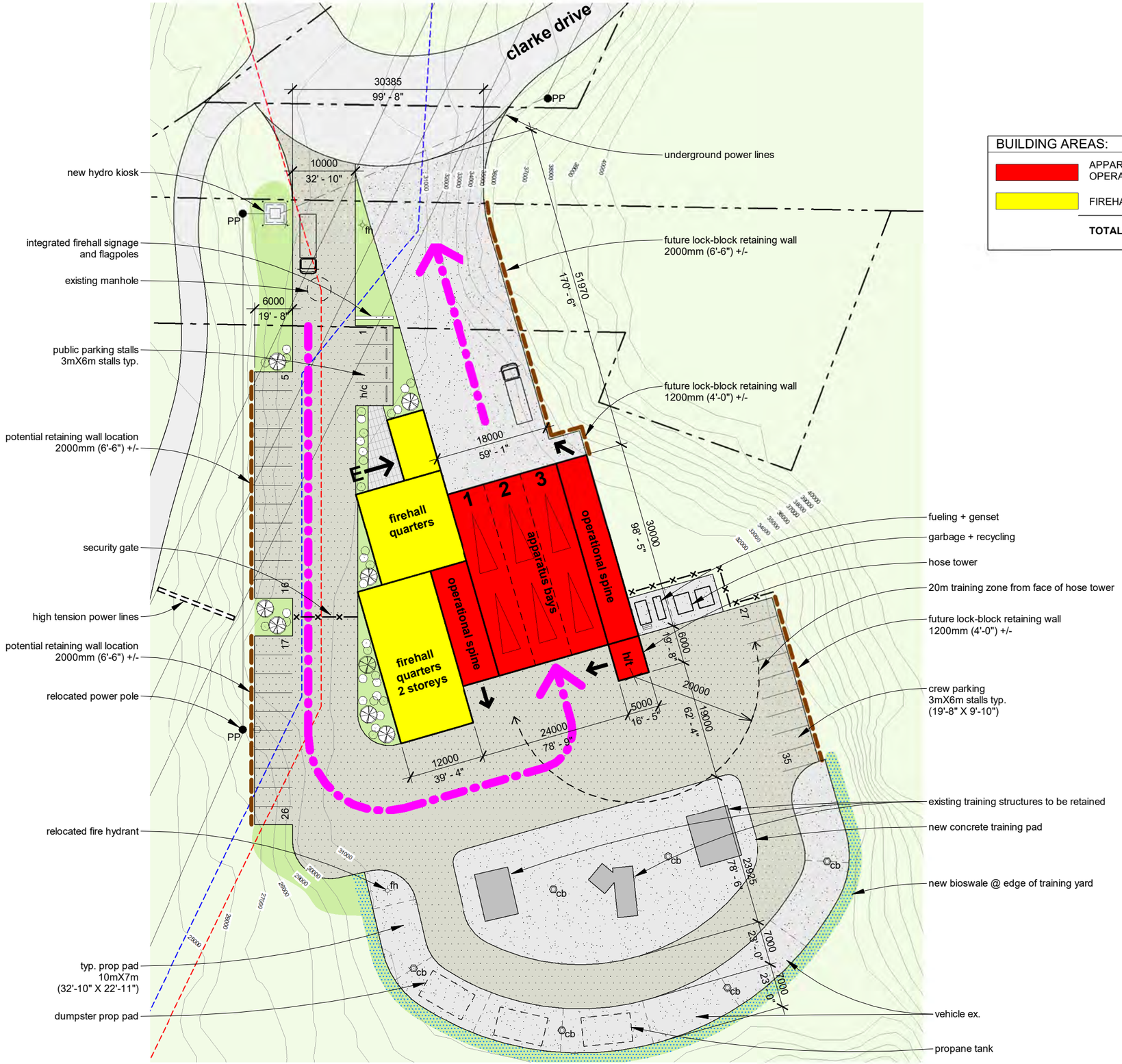

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BUILDING AREAS:

APPARATUS BAYS + OPERATIONAL SPACES	= 834 m^2	(8,977 ft^2)
FIREHALL QUARTERS	= 870 m^2	(9,365 ft^2)
TOTAL AREA	**= 1,704 m^2**	**(18,342 ft^2)**

SITE LEGEND:

- APPARATUS BAYS + OPERATIONAL SPACES
- FIREHALL QUARTERS
- CONCRETE PAVERS
- CONCRETE
- ASPHALT
- NEW LANDSCAPING
- EXISTING LANDSCAPING
- NEW BIOSWALE
- NEW CHAIN LINK FENCE
- PROPERTY LINE
- POWER LINES
- SEWERAGE LINES
- WATER LINES
- RETAINING WALL

needs assessment

District of Squamish

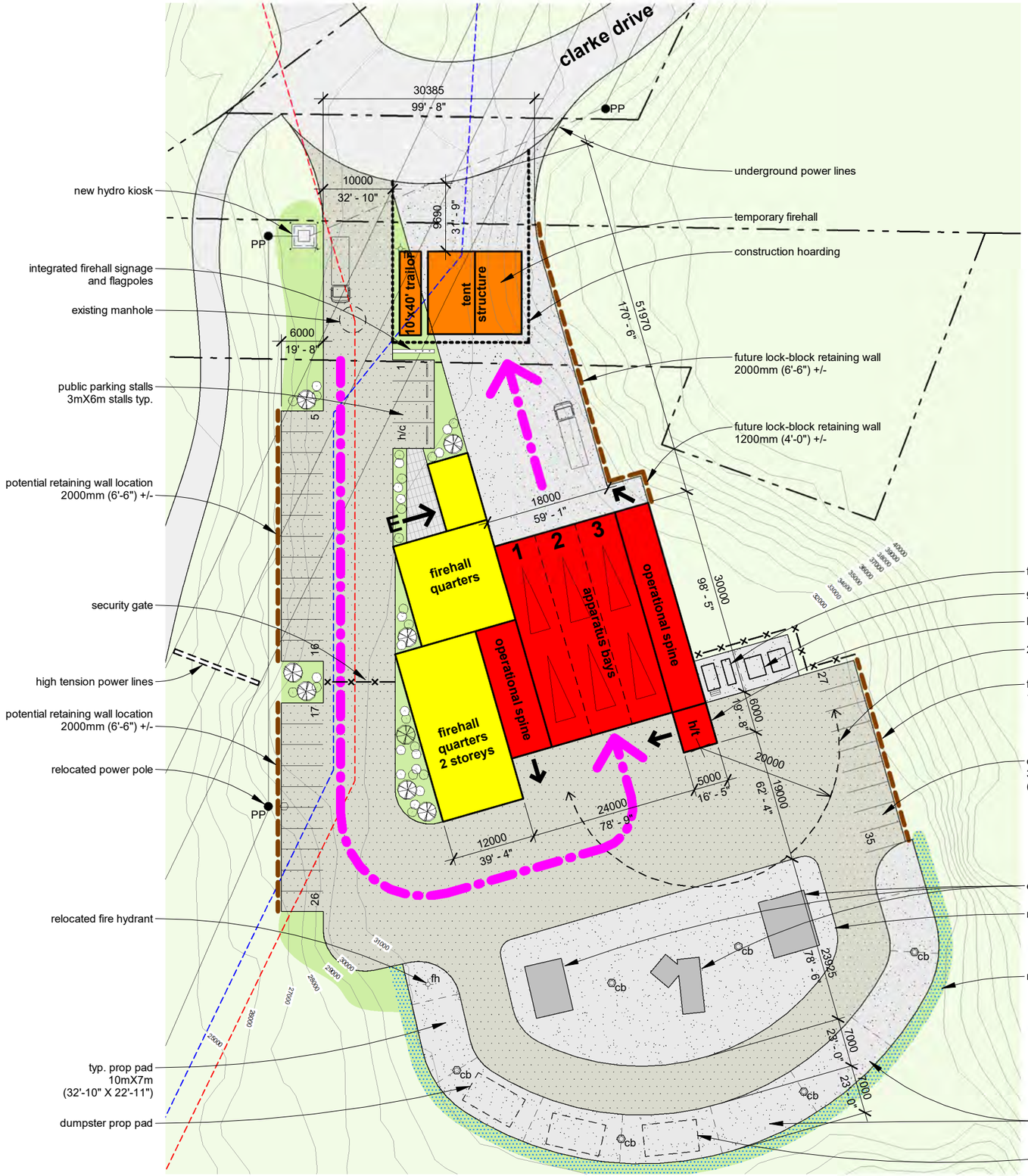
squamish firehall #2

clarke drive site
site layout

N

n.t.s.

19 - mar - 05



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SITE LEGEND:

- APPARATUS BAYS + OPERATIONAL SPACES
- FIREHALL QUARTERS
- FIREHALL QUARTERS
- CONCRETE PAVERS
- CONCRETE
- ASPHALT
- NEW LANDSCAPING
- EXISTING LANDSCAPING
- NEW BIOSWALE
- NEW CHAIN LINK FENCE
- PROPERTY LINE
- POWER LINES
- SEWERAGE LINES
- WATER LINES
- HOARDING
- RETAINING WALL

needs assessment

District of Squamish

squamish firehall #2

N

clarke drive site
site layout + temporary firehall

19 - mar - 05

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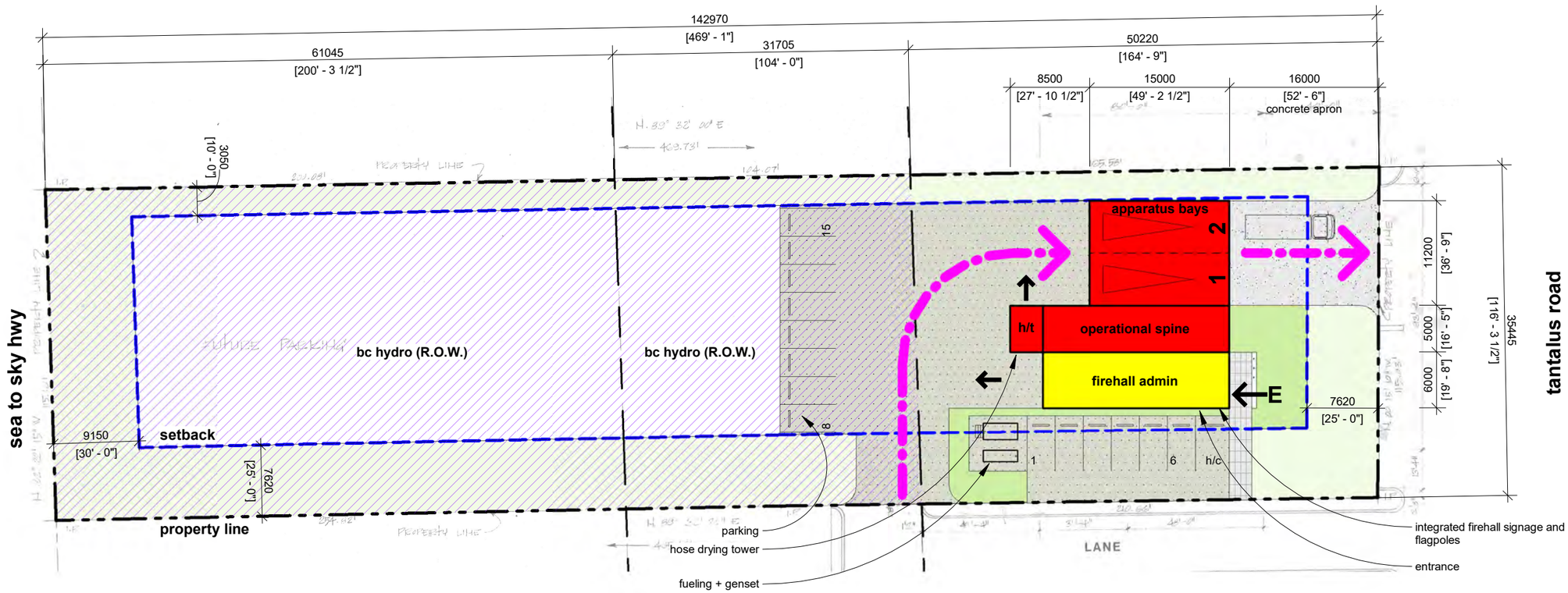

SITE LEGEND:

APPARATUS BAYS + OPERATIONAL SPACES	ASPHALT	BC HYDRO RIGHT OF WAY (R.O.W)
FIREHALL ADMIN	NEW LANDSCAPING	PROPERTY LINE
CONCRETE	EXISTING LANDSCAPING	

BUILDING AREAS:

APPARATUS BAYS + OPERATIONAL SPACES	= 286 m²	(3,078 ft²)
FIREHALL QUARTERS	= 120 m²	(1,292 ft²)
TOTAL AREA	**= 406 m²**	**(4,370 ft²)**

N

needs assessment

district of squamish

squamish firehall #2

site layout - option 1 r1

1:500

19 - mar - 13

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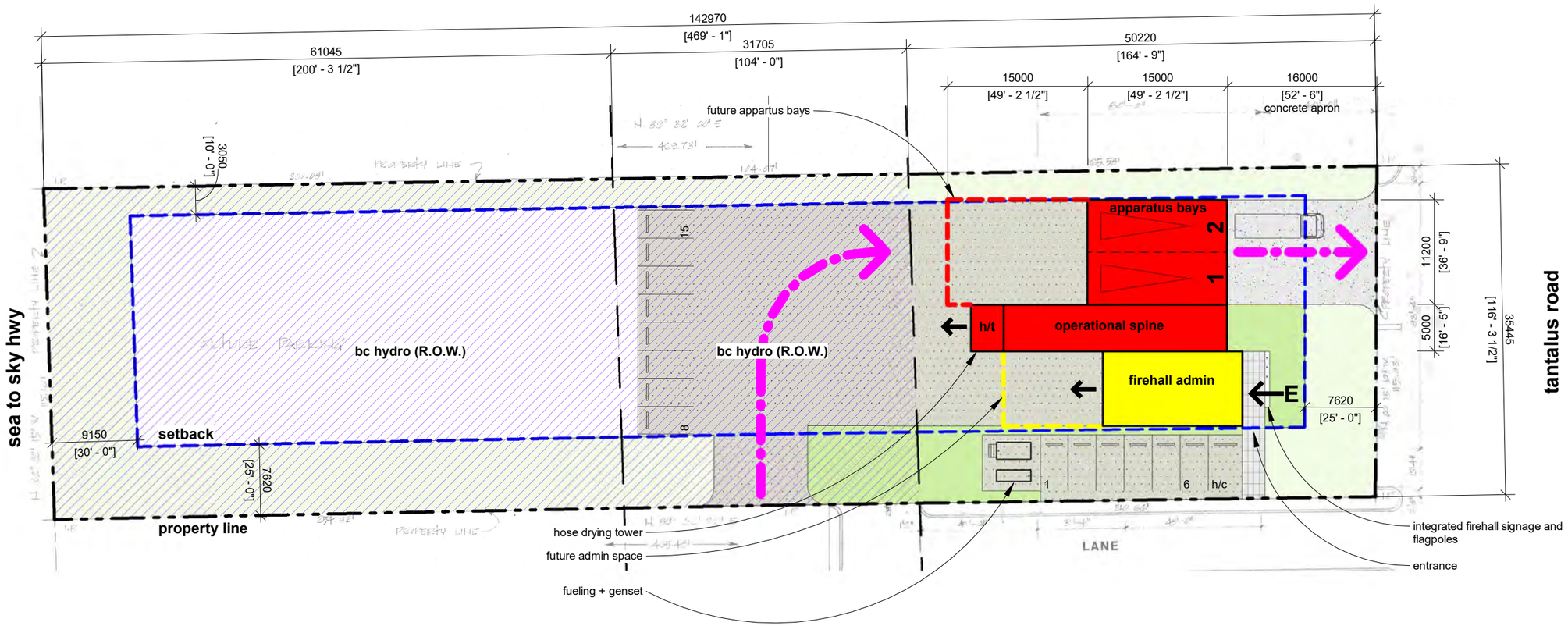


SITE LEGEND:

APPARATUS BAYS + OPERATIONAL SPACES	ASPHALT	BC HYDRO RIGHT OF WAY (R.O.W)
FIREHALL ADMIN	NEW LANDSCAPING	PROPERTY LINE
CONCRETE	EXISTING LANDSCAPING	

BUILDING AREAS:

APPARATUS BAYS + OPERATIONAL SPACES	= 286 m²	(3,078 ft²)
FUTURE APP. BAY	= 168 m²	(1,808 ft²)
FIREHALL QUARTERS	= 120 m²	(1,292 ft²)
FUTURE ADMIN.	= 85 m²	(915 ft²)
TOTAL AREA	**= 659 m²**	**(7,093 ft²)**

N

needs assessment

district of squamish

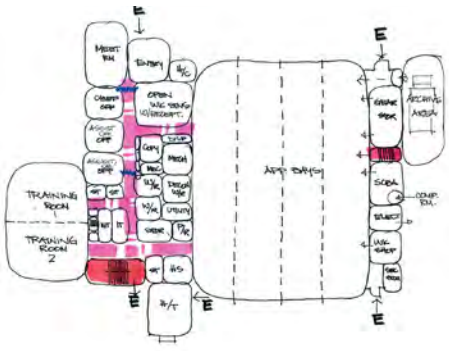
squamish firehall #2

site layout - option 1 r1 + future expansion

1:500

19 - mar - 13

5.0 costing + recommendation



A. high level costing

The costs listed below are construction related costs only and do not provide include soft costs such as Consultants, Land, Permitting etc.

These costs do not include a rate of escalation for 2020 which is projected to be within 5-6%.

Squamish Headquarters Firehall

a. Option 1: new site + new building: (Lot 40480)

#	Description	Costs
1.	Demolition Costs: Existing FH #1.	$ 120,000.00
2.	Base Building Costs	$ 7,200,000.00
3.	Escalation from January 2018 to January 2019 @ 6%	$ 432,000.00
4.	Services to be provided to the site: • Sanitary does not extend down Tantalus at this point to this site. • Water line need to be brought to the site. • Power is located on the other side of the street. Connection would be required but no lines dropped. • Gas ???	$ TBD $ TBD $ 100,000.00
5.	Site Fill - Raising the site to meet current flood plain requirements. This includes the buildings, yard and generator from a fill perspective. This is based on usable area of the site only.	$ 200,000.00
6.	Geotechnical Allowance: For ground densification for the area of the building foot print + front and rear apron.	$ 264,000.00
7.	Temporary Quarters : (12 -14 months) @ $135,000 - $180,000	$ 180,000.00
8.	Design Contingency (10%)	$ 831,600.00
9.	Escalation 2019 (6%)	$ 498,600.00
10.	Construction Contingency (5%)	$ 415,800.00
	Total:	**$10,242,000.00**

* It should be noted that this site will have to be rezoned as it is currently zoned a RL-2 not P-2.

b. Option 2: Clarke Drive site + new building:

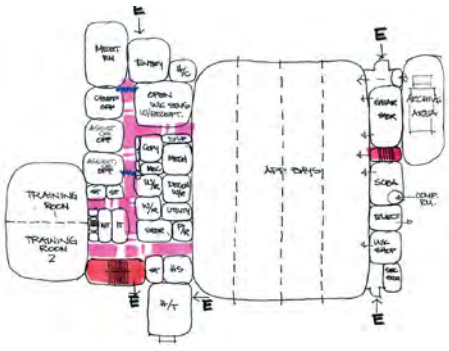
#	Description	Costs
1.	Demolition Costs: existing structure on site and site works	$ 100,000.00
2.	Base Building Costs	$ 7,200,000.00
3.	Escalation from January 2018 to January 2019 @ 6%	$ 432,000.00
4.	FH #1 Site: Distribution communication / power lines to be dropped underground as they cross the site **(this is optional due to the current height of the lines)**	$ 200,000.00
5.	Services on site to be realigned : Sanitary force main and water line.	$ TBD
6.	Retaining walls required at various points throughout the site.	$ 50,000.00
7.	Additional work for the training yard to relocate the prop pads to the rear of the site and additional apron.	$ 175,000.00
8.	Temporary Quarters : (12 -14 months) for the satellite crews on this site currently.	$ 70,000.00
9.	Design Contingency (10%)	$ 795,700.00
10.	Escalation 2019 (6%)	$ 477,420.00
11.	Construction Contingency (5%)	$ 397,850.00
	Total: (without dropping the power lines)	**$ 9,697,970.00**

Squamish Satellite Firehall

c. Option 1: Tantalus site + new building:

#	Description	Costs
1.	Demolition Costs: existing structure on site	$ 120,000.00
2.	Base Building Costs	$ 2,185,000.00
4.	Site Fill - Raising the site to meet current flood plain requirements of 6.01m This includes the buildings, yard and generator from a fill perspective. This is based on a 1.38 usable area on the site.	$ 62, 300.00
5.	Geotechnical Allowance: For ground densification for the area of the building foot print + front and rear apron.	$ 60,000.00
6.	Temporary Quarters : (12 months) for the satellite crews on this site currently.	$ 60,000.00
7.	Design Contingency (10%)	$ 242,730.00
8.	Escalation 2019 (6%)	$ 145,638.00
9.	Construction Contingency (5%)	$ 121,365.00
	Total: (without dropping the power lines)	**$ 2,997,033.00**

5.0 appendix



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squamish firehall #1 **feasibility study**
meeting minutes – siting options

Meeting date: March 01, 2019
Meeting minutes issued: March 01, 2019

ATTENDEES:

Bill Stoner	Fire Chief – Squamish Fire Rescue (SFR)
Aaron Foote	Deputy Fire Chief – Squamish Fire Rescue (SFR)
Chis Wyckham	Director of Engineering – District of Squamish (DOS)
Kimberly Johnston	Johnston Davidson Architecture (JDa)
Kimberley Allingham	Johnston Davidson Architecture (JDa)

CC:
All on list of attendees.

DOCUMENTS PROVIDED:

- Existing Aerial
- Site Contours
- Site Photos
- Site Analysis
- Site Layout – Option 1
- Site Layout – Option 2
- Site Layout – Option 3

	Topic	Action
1.0	**SITE SERVICES**	
1.1	**Sanitary Force Mains** • Realignment of the existing 3" FM will likely be required as part of this development. At the northern most manhole shown on the site, the 3" FM turns into an 8" gravity fed line. • Proposed solution: Extend 3" force main to second manhole (closest to Clark Drive). Continue 8" gravity line from that manhole across entrance to Clark Drive. This will realign the Sanitary line to run under the drive aisle. • This would need to be explored in more detail as this process continues.	INFO
1.2	**Power Lines** • 3 high tension lines on site – site layout options have all avoided these lines. o Legal Right Of Way to be determined. • Residential power lines cross site entrance. o Recommend dropping these lines underground across the site. o This would need to be explored in more detail as this process continues. • Training power lines are not live.	INFO DOS
1.3	**Water Line** • 10" water line is running through the north western / portion of the usable area of the site and would likely require some realignment due to the proposed redevelopment of the site. • This would need to be explored in more detail as this process continues.	INFO DOS

2.0	**RETAINING WALLs**	
2.1	**Retaining wall at Eastern edge.** • There is a concern regarding debris running off hill running along east of site. A retaining wall is desirable and would work the new layouts.	INFO
3.0	**ESA Zone**	
3.1	**Design Considerations** • ESA zone surrounding site is low to mid-level. Minor advancement into these areas would be acceptable after a Bio-inventory was completed. • Compensation planting may be required.	INFO
4.0	**SITE**	
4.1	**Site Analysis** • Available area is as currently shown – and currently under development is approximately 1.57 acres. • Services as noted above. • District of Squamish anticipates that parking and access for the SFR will be allowed through the Northern property parcel (37925 Clarke Drive).	INFO
4.2	**Parking** • Parking for 30 required on site. • Parking under power lines is allowed in District of Squamish.	INFO
4.3	**Training Yard** • If would be preferable to keep as much of the training yard as possible to the rear of the site. There are some large training props located here which are valuable for training and will be expensive to relocate.	INFO
5.0	**SITE OPTIONS**	
5.1	**General** • Site Layouts Option 1 and 2 are the preferred options and will be developed further.	INFO
5.2	**Training Yard** • As much of the training yard is to be retained as possible. • The prop pads, north of the training infrastructure, are to be moved towards the back of the site if possible. JDA to create new layout.	
5.2	**Building Over Apparatus Bays** • DoS would like to explore building over the Apparatus Bay to ensure that all aspects of the space program are covered. • Costs associated with this approach due to fire-rating and structural requirements will be outlined in high level costing.	INFO
6.0	**ACTION ITEMS**	
6.1	**General** • JDa to develop further Layout Options 1 and 2 for review. • Plans for temporary firehall quarters on Firehall #2 sites to be developed. • Satellite hall layout to be provided for Firehall #2 site. • Legal right of way for high powered (tension) lines to be determined. • Next Meeting – 3:00pm Tuesday, March 5th. Conference Call.	JDa JDa JDa DoS

The above minutes are considered accurate recording of all items discussed. Should any inconsistencies be noted, please bring to the attention of the writer within 3 days or prior to the next meeting, otherwise it is assumed that the minutes are accurate and accepted by all.

Johnston Davidson
ARCHITECTURE + PLANNING INC.

squamish firehall #1 **feasibility study**
meeting minutes – siting options

Meeting date: March 01, 2019
Meeting minutes issued: March 01, 2019

ATTENDEES:

Bill Stoner	Fire Chief – Squamish Fire Rescue (SFR)
Aaron Foote	Deputy Fire Chief – Squamish Fire Rescue (SFR)
Chis Wyckham	Director of Engineering – District of Squamish (DOS)
Kimberly Johnston	Johnston Davidson Architecture (JDa)
Kimberley Allingham	Johnston Davidson Architecture (JDa)

CC:
All on list of attendees.

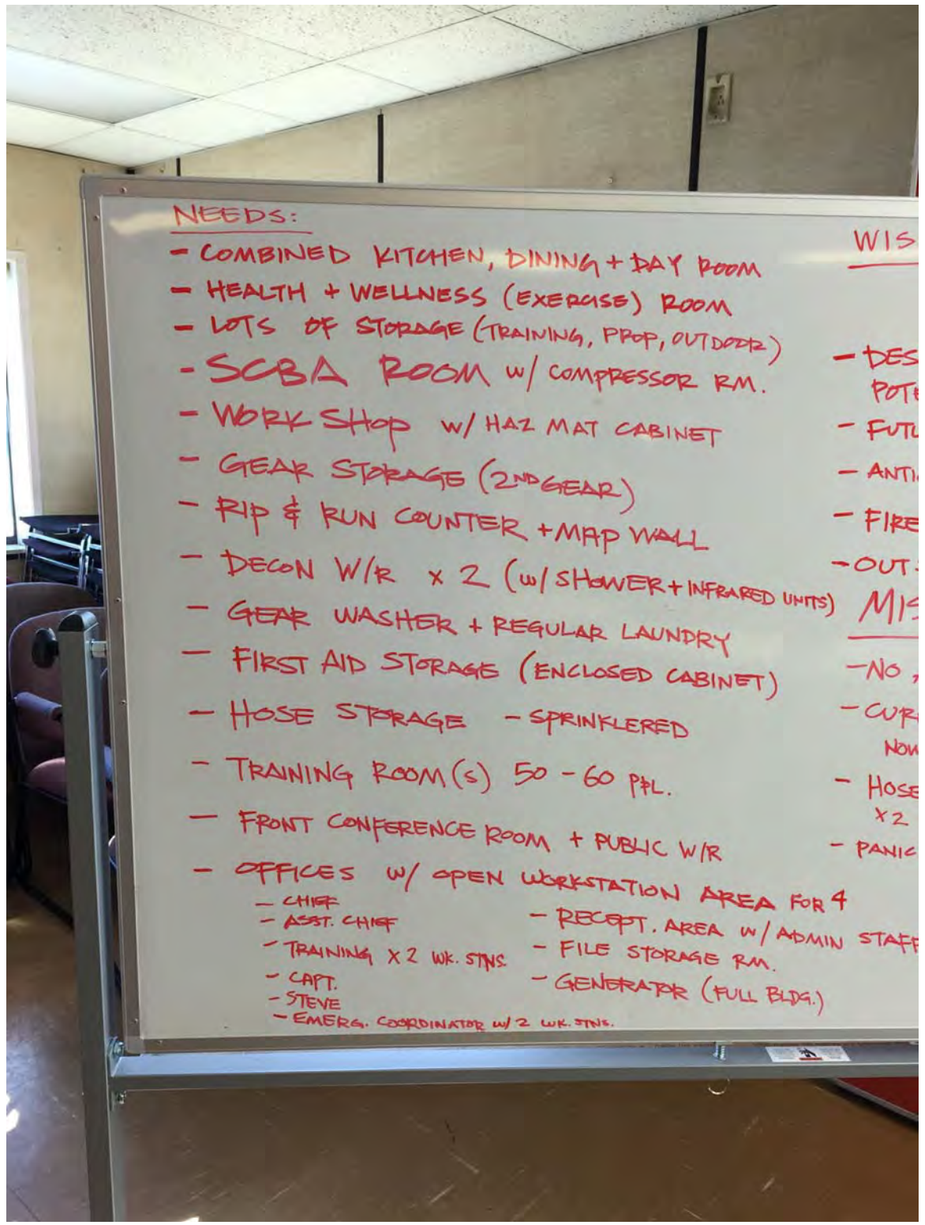
DOCUMENTS PROVIDED:

- Existing Aerial
- Site Contours
- Site Photos
- Site Analysis
- Site Layout – Option 1
- Site Layout – Option 2
- Site Layout – Option 3

	Topic	Action
1.0	**SITE SERVICES**	
1.1	**Sanitary Force Mains** • Realignment of the existing 3" FM will likely be required as part of this development. At the northern most manhole shown on the site, the 3" FM turns into an 8" gravity fed line. • Proposed solution: Extend 3" force main to second manhole (closest to Clark Drive). Continue 8" gravity line from that manhole across entrance to Clark Drive. This will realign the Sanitary line to run under the drive aisle. • This would need to be explored in more detail as this process continues.	INFO
1.2	**Power Lines** • 3 high tension lines on site – site layout options have all avoided these lines. o Legal Right Of Way to be determined. • Residential power lines cross site entrance. o Recommend dropping these lines underground across the site. o This would need to be explored in more detail as this process continues. • Training power lines are not live.	INFO DOS
1.3	**Water Line** • 10" water line is running through the north western / portion of the usable area of the site and would likely require some realignment due to the proposed redevelopment of the site. • This would need to be explored in more detail as this process continues.	INFO DOS

2.0	**RETAINING WALLs**	
2.1	**Retaining wall at Eastern edge.** • There is a concern regarding debris running off hill running along east of site. A retaining wall is desirable and would work the new layouts.	INFO
3.0	**ESA Zone**	
3.1	**Design Considerations** • ESA zone surrounding site is low to mid-level. Minor advancement into these areas would be acceptable after a Bio-inventory was completed. • Compensation planting may be required.	INFO
4.0	**SITE**	
4.1	**Site Analysis** • Available area is as currently shown – and currently under development is approximately 1.57 acres. • Services as noted above. • District of Squamish anticipates that parking and access for the SFR will be allowed through the Northern property parcel (37925 Clarke Drive).	INFO
4.2	**Parking** • Parking for 30 required on site. • Parking under power lines is allowed in District of Squamish.	INFO
4.3	**Training Yard** • If would be preferable to keep as much of the training yard as possible to the rear of the site. There are some large training props located here which are valuable for training and will be expensive to relocate.	INFO
5.0	**SITE OPTIONS**	
5.1	**General** • Site Layouts Option 1 and 2 are the preferred options and will be developed further.	INFO
5.2	**Training Yard** • As much of the training yard is to be retained as possible. • The prop pads, north of the training infrastructure, are to be moved towards the back of the site if possible. JDA to create new layout.	
5.2	**Building Over Apparatus Bays** • DoS would like to explore building over the Apparatus Bay to ensure that all aspects of the space program are covered. • Costs associated with this approach due to fire-rating and structural requirements will be outlined in high level costing.	INFO
6.0	**ACTION ITEMS**	
6.1	**General** • JDa to develop further Layout Options 1 and 2 for review. • Plans for temporary firehall quarters on Firehall #2 sites to be developed. • Satellite hall layout to be provided for Firehall #2 site. • Legal right of way for high powered (tension) lines to be determined. • Next Meeting – 3:00pm Tuesday, March 5th. Conference Call.	JDa JDa JDa DoS

The above minutes are considered accurate recording of all items discussed. Should any inconsistencies be noted, please bring to the attention of the writer within 3 days or prior to the next meeting, otherwise it is assumed that the minutes are accurate and accepted by all.



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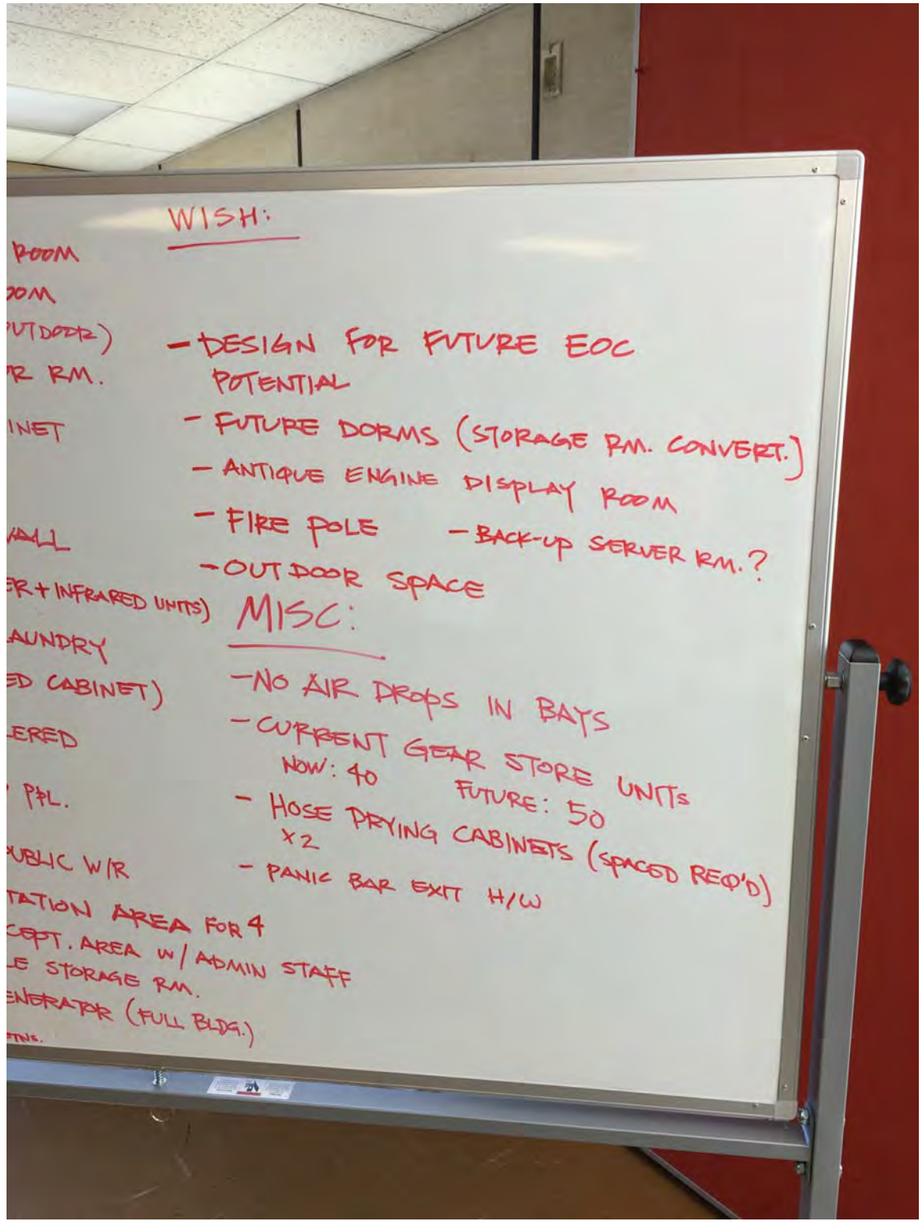


"wish"

feasibility study

district of squamish

squamish firehall #2

programming charette needs / wish lists

nts

17-oct-04

District of Squamish
Facilities Review

April 11th, 2019

MUNICIPAL HALL

SQUAMISH
HARDWIRED *for* ADVENTURE

Current Status

Location:	37955 second avenue
Building Area:	Current building area is approximately 21,000sqft, including two trailer areas
Building Function:	Municipal hall, houses council chambers and all of the District's administrative departments. Has a public visitor component.
Land Area:	0.224 ha
Zoning:	P-2 District Assembly
Ownership: Ownership type:	Municipally owned
Tenant(s): Tenant(s) sq.ft.: Tenant expiry:	None Na na

REFS Findings

**from DoS Real Estate and Facilities Strategy by Stantec, April 2018. Figures for FCI and age have been updated to 2019.*

Facility Management Strategy:	Replace
Age of facility:	end of life -41 years
Capacity:	exceeding
Functionality:	Unsuitable
Facility Condition Index:	27.64%

Upcoming building investments

**from RDH Asset Management – 2010 costings multiplied by estimated inflation. Figures reflect all repairs and replacements assuming Service Level 4.*

Repair and replacement Backlog and Upcoming replacements 0 – 5 years – windows, flooring, doors, plumbing, siding, electrical, doors, roofs and HVAC	$2,148,000
Upcoming replacements 0 – 7 years – exterior brick, alarm system	$2,275,000
Upcoming replacements 0 – 10 years	$2,785,000

Analysis

Is the facility at a seismic risk?	yes	
Is the facility built to post-disaster standards?	no	
Is the facility able to provide the customer service it is meant to provide?	No: • Council chambers can only hold 20 visitors so any public hearing needs to be held off site; staff are sharing offices and in general there is not enough space for staff. • Very limited storage. • The facility does not project as a municipal hall.	
Are there any life safety issues?	no	
Are there any additional code issues?	no	
Does the site have soil or other environmental issues (flood plain, debris flow hazard zone etc)	The whole of downtown is located in a Flood Hazard Area and includes many secondary floodways. Most likely poor soil conditions.	
Are there any other working condition challenges?	Yes: • Majority of work spaces have no daylight; • The building is poorly ventilated, and heat/cold are a constant challenge. • Several items/services are at the end of their lifespan (HVAC, cladding and roofing). • There is not enough storage for many of the departments. • Many departments do not have enough space to sit the people (Building is housing people in closets). • Pests are an issue in the Engineering trailer.	
Could the above items be remediated and if so, what would need to be done?	Partially: new cladding and roofing could be done but the investment would make little sense if the building will be replaced in the near future.	

If no remediation work is done, how long can the facility remain in operation?	0-5 years without any large investments, after that the likelihood of major envelope and services failures will increase dramatically.	

Conclusion

The building is beyond the end of its life span and beyond capacity. It is recommended to completely renovate the existing building or to build a new Municipal Hall in the next 0 – 7 years.

Program

item	**Current** ** All Areas are approximate (extrapolated from Squamish WebMap)*	**Future** (20+ years)
See attached space planning work by Plotform from 2017	21,000	Plotform: 33,000 sqft, Would recommend to plan for 40,000 sqft given the expected growth of the municipality and the fact that municipal hall could easily fill 25,000 sqft currently.

Location Options

Existing Location	Rebuilding in existing location would be possible but not make the most sense: temporary accommodation would have to be found and the District has access to nearby land to build the facility while municipal hall remains in operation.
Expansion Capabilities	Not available on existing site
Alternate Site Options	Requires further investigation
Est. Land Acquisition	N/A - would use District owned land

Conclusion: requires further investigation

Investment Deferral Options

Phasing	The building could be phased into: Phase 1: Facility that meets current demands; Phase 2: future growth and possibly the library or other functions. (expansion would be assumed to be horizontally)
Leasing Potential	Some departments could be housed off site, but nearby, while waiting for the new facility to be built: • Current needs would be for 1000-3000sqft; • If completion of a new facility is 5 yrs out, 3000-5000sqft would be required; • If completion is 10 yrs out, 5000-8000sqft will be required.
Trailer option	Several trailers are already being used, there is no more space on site for additional trailers.
Temporary Accommodations	See above

Other Project Considerations (s)

Floodplain/Debris Flow hazard/other	The whole of downtown is located in a Flood Hazard Area and includes many secondary floodways.	
Geotechnical	Would require further investigation	
Environmental	Would require further investigation	
Servicing	Would require further investigation	
Neighborhood Impacts	Would require further investigation	
Any other concerns that could impact on the project going forward	May require Development permit and other permits related to Flood Hazard areas.	
Project Schedule	Milestone	Duration (months)
	Design	6
	Construction documentation	6
	Tender	3
	Construction	18
	Total duration	33+

COST ESTIMATE SUMMARY	1.new building 33,000 sqft with surface parking (80 stalls, 2 loading bays, 20 bike parking and assume rough in for 100% future electric charging)			MUNICIPAL HALL #1
A	OFFSITE COSTS			$150,000
	Allow for off-site services and infrastructure - water, storm, sanitary, gas, etc. (NEW SITE TBD, LAND EXCLUDED)		150,000	
	Allow for sidewalks, curbs, streetlights, cross walks, 4-way stops or intersection traffic lights (Assume existing)		N/A	
B	SITE DEVELOPMENTS			$1,763,000
	Allowance for on site development, site services, hard and soft landscaping (NEW SITE TBD)		1,290,000	
	New surface parking stalls including site lighting	80 no.	473,000	
C	SUPPLEMENTARY SITE COSTS			$300,000
	Re-work access circulation roads/pavement etc		150,000	
	Soils - overburden, replace with struct fill etc.		150,000	
	Sloping site - cut and fill, retaining walls/steps		N/A	
D	NEW BUILDING CONSTRUCTION			$12,948,400
	New Building	3,066 m² $4,224 /m²	12,948,400	
E	RENOVATION TO EXISTING			Excluded
	Tying into existing building including all fire rating, seismic and code upgrade requirements		N/A	
F	SUPPLEMENTARY BUILDING COSTS AND RENOVATIONS			$1,708,000
	Sloping sites		N/A	
	Unsuitable subsurface materials requiring over-excavation and backfilling (NEW SITE TBD)	3.00%	388,500	
	Subsurface condition requiring piling or soil densification (NEW SITE TBD)	8.00%	1,035,900	
	Flood plain - raise floor elevation with structural fill (NEW SITE TBD) - 2 storey	1,533m² $185/m²	283,600	
G	BUILDING DEMOLITION			Excluded
	Demolition of existing - site sold with existing building on it		Excluded	
	Allowance for removal of hazardous materials - site sold with existing building on it		Excluded	
H	TEMPORARY ACCOMMODATION			Excluded
I	DESIGN & CONSTRUCTION CONTINGENCIES			$6,316,700
	Design Pricing Contingency	10%	1,686,900	
	Escalation Contingency	36 months allowance 19%	3,525,700	
	Construction Contingency (Change Orders)	5%	1,104,100	
J	TOTAL CONSTRUCTION COST (excluding Soft Costs & GST)			$23,186,100
K	DCC's, BUILDING PERMIT, MUNICIPAL CHARGES			Excluded
	DCC	Excluded - Exempt		
	Building Permit	Excluded - Exempt		
L	LOOSE FF&E (Allowance)	15.00%		$1,942,300
M	DESIGN FEES (Allowance)	10.00%		$2,318,600
N	OWNERS COSTS			$231,900
	Internal Management Costs	Excluded		
	Insurances	1.00%	231,900	
O	PROJECT MANAGEMENT (Excluded - in a separate City Budget)	0.00%	Excluded	Excluded
P	GST (Excluded)	0.00%	Excluded	Excluded
Q	FEASIBILITY STUDY (Excluded)	0.00%	Excluded	Excluded
R	SUB-TOTAL SOFT COSTS (excluding GST)			$4,492,800
S	TOTAL PROJECT COST (excluding Reserves & GST)		MUNICIPAL HALL #1	$27,678,900

COST ESTIMATE SUMMARY	1.new building 33,000 sqft with surface parking (80 stalls, 2 loading bays, 20 bike parking and assume rough in for 100% future electric charging)	MUNICIPAL HALL #1

	LIST OF IDENTIFIED RISKS	
1	Unforeseen demolition, existing building, tying into existing (% of Construction Cost)	Excluded
2	Debris Hazard Flow Area (% of Construction Cost)	Excluded
3	Unforeseen flood plain (% of Construction Cost)	Excluded
4	Unforeseen site/soil conditions (% of Construction Cost)	Excluded
5	Municipal requirements and offsite (% of Construction Cost)	Excluded
6	Renovation trigger upgrade requirements to the existing building	Excluded
T	SUB-TOTAL RISK RESERVES	Excluded

U	TOTAL PROJECT COST EXCLUDING RESERVES (excluding GST)	MUNICIPAL HALL #1	$27,678,900

Notes + Exclusions:

- Legal, financing, land costs are all excluded
- Unforeseen existing buildings, ground and dewatering conditions (beyond cash allowances included)
- Out of hours working premium / restricted working hours / restricted noise conditions
- Off-site utility upgrades (beyond cash allowances included)
- Site works outside the defined scope
- Construction works outside the defined scope
- LEED Gold (or PassiveHouse) design or certification
- Hazmat Abatement (beyond cash allowances included)
- Phasing of the works or Accelerated Schedule
- CAC's or other Municipal Contributions
- Public Art
- Moving or decanting costs
- Pricing based on BCBC 2018
- Goods & Services Tax (GST)
- Extraordinary Market Conditions
- Costing reflects current day (2019) best practices in terms of energy efficiency
- Cost escalation past allowances included
- Items listed as 'excluded' in the estimate detail

LIFE CYCLE COST ANALYSIS - ORDER OF MAGNITUDE COSTING FOR PURPOSES OF EXERCISE

LIFE CYCLE & OPERATING COSTS SUMMARY		MUNICIPAL HALL #1
Total Estimated Construction Cost (Item J)		$23,186,100
Gross Floor Area (m²)		3,066
Average Yearly Janitorial / Custodial		$98,994
Janitorial / Custodial cost / m²	$32.29 $/m²	
Average Yearly Maintenance Staff		$82,500
Maintenance staff annual cost / m²	$26.91 $/m²	
Escalation Rate for Custodial & Annual Maintenance		2.0%
Escalation Rate for Cyclical Renewals (Construction)		5.00%
Annual Energy Cost		$50,079
Energy cost annual cost / m²	$16.34 $/m²	
Escalation Rate for Energy Cost (GAS/Electrical COMBINED)		4.30%
Escalation Rate for Energy Cost (GAS)		5.00%
Escalation Rate for Energy Cost (Electric)		3.50%
Interest Rate for investment		2.5%
LIFE CYCLE Study Period		40
NET PRESENT VALUE OF CUMULATIVE COSTS at Yr 40		$35,697,100
TOTAL NET CASH FLOW (Future Value Yr 40)		$41,432,100

NET PRESENT VALUE OF CUMULATIVE COSTS at Operating Years		
	Year 0	$23,186,100
	Year 5	$24,373,400
	Year 10	$25,964,300
	Year 20	$29,202,300
	Year 30	$33,848,600
	Year 40	$41,432,100
ANNUAL NPV COST (excluding initial building cost)		$456,150

ENERGY ONLY OPERATING COSTS	
Annual Energy Cost	$50,079

COST ESTIMATE SUMMARY	**2** full gut and renovation of existing building (full strip-out, all new building envelope, re-roofing, new systems, new interior partitions and finishes				MUNICIPAL HALL #**2**
A	OFFSITE COSTS				Excluded
	Allow for off-site services and infrastructure - water, storm, sanitary, gas, etc.			N/A	
	Allow for sidewalks, curbs, streetlights, cross walks, 4-way stops or intersection traffic lights (Assume existing)			N/A	
B	SITE DEVELOPMENTS				Excluded
	Allowance for on site development, site services, hard and soft landscaping			N/A	
C	SUPPLEMENTARY SITE COSTS				Excluded
	Re-work access circulation roads/pavement etc			N/A	
	Soils - overburden, replace with struct fill etc.			N/A	
	Sloping site - cut and fill, retaining walls/steps			N/A	
D	RENOVATED BUILDING CONSTRUCTION				$10,642,800
	Interior strip-out	1,626 m²	$162 /m²	263,400	
	Interior HazMat Abatement allowance	1,626 m²	$150 /m²	243,900	
	Exterior envelope demolition, and new exterior envelope	1,626 m²	$1,548 /m²	2,516,200	
	Re-roofing	1,626 m²	$323 /m²	524,300	
	Seismic Upgrades to current BCBC2018 (allowance - no engineer report)	1,626 m²	$511 /m²	830,300	
	Interior Fit-Out and Reconfiguration, including all new M&E systems	1,626 m²	$3,009 /m²	4,891,400	
	Lease costs for additional space			Excluded	
	New Building (replacement 3,500 sqft trailer)	325 m²	$4,224 /m²	1,373,300	
E	RENOVATION TO EXISTING				Included
	Tying into existing building including all fire rating, seismic and code upgrade requirements			Included in Item D	
F	SUPPLEMENTARY BUILDING COSTS AND RENOVATIONS				Excluded
	Sloping sites			N/A	
	Unsuitable subsurface materials requiring over-excavation and backfilling			N/A	
	Subsurface condition requiring piling or soil densification			N/A	
	Flood plain - raise floor elevation with structural fill			N/A	
G	BUILDING DEMOLITION				Excluded
	Demolition of existing			N/A	
	Allowance for removal of hazardous materials			Included in Item D	
H	TEMPORARY ACCOMMODATION				Excluded
I	DESIGN & CONSTRUCTION CONTINGENCIES				$5,378,300
	Design Pricing Contingency		15%	1,596,400	
	Escalation Contingency	36 months allowance	19%	2,325,400	
	Construction Contingency (Change Orders)		10%	1,456,500	
J	TOTAL CONSTRUCTION COST (excluding Soft Costs & GST)				$16,021,100
K	DCC's, BUILDING PERMIT, MUNICIPAL CHARGES				Excluded
	DCC		Excluded - Exempt		
	Building Permit		Excluded - Exempt		
L	LOOSE FF&E (Allowance)		7.50%		$798,200
M	DESIGN FEES (Allowance)		12.00%		$1,922,500
N	OWNERS COSTS				$160,200
	Internal Management Costs		Excluded		
	Insurances		1.00%	160,200	
O	PROJECT MANAGEMENT (Excluded - in a separate City Budget)		0.00%	Excluded	Excluded
P	GST (Excluded)		0.00%	Excluded	Excluded
Q	FEASIBILITY STUDY (Excluded)		0.00%	Excluded	Excluded
R	SUB-TOTAL SOFT COSTS (excluding GST)				$2,880,900
S	TOTAL PROJECT COST (excluding Reserves & GST)			MUNICIPAL HALL #**2**	$18,902,000

COST ESTIMATE SUMMARY	**2**.full gut and renovation of existing building (full strip-out, all new building envelope, re-roofing, new systems, new interior partitions and finishes	MUNICIPAL HALL #**2**

	LIST OF IDENTIFIED RISKS	
1	Unforeseen demolition, existing building, tying into existing (% of Construction Cost)	Excluded
2	Debris Hazard Flow Area (% of Construction Cost)	Excluded
3	Unforeseen flood plain (% of Construction Cost)	Excluded
4	Unforeseen site/soil conditions (% of Construction Cost)	Excluded
5	Municipal requirements and offsite (% of Construction Cost)	Excluded
6	Renovation trigger upgrade requirements to the existing building	Excluded
T	SUB-TOTAL RISK RESERVES	Excluded
U	TOTAL PROJECT COST EXCLUDING RESERVES (excluding GST)	MUNICIPAL HALL #**2** $18,902,000

Notes + Exclusions:

- Legal, financing, land costs are all excluded
- Unforeseen existing buildings, ground and dewatering conditions (beyond cash allowances included)
- Out of hours working premium / restricted working hours / restricted noise conditions
- Off-site utility upgrades (beyond cash allowances included)
- Site works outside the defined scope
- Construction works outside the defined scope
- LEED Gold (or PassiveHouse) design or certification
- Hazmat Abatement (beyond cash allowances included)
- Phasing of the works or Accelerated Schedule
- CAC's or other Municipal Contributions
- Public Art
- Moving or decanting costs
- Pricing based on BCBC 2018
- Goods & Services Tax (GST)
- Extraordinary Market Conditions
- Costing reflects current day (2019) best practices in terms of energy efficiency
- Cost escalation past allowances included
- Items listed as 'excluded' in the estimate detail

LIFE CYCLE COST ANALYSIS - ORDER OF MAGNITUDE COSTING FOR PURPOSES OF EXERCISE

LIFE CYCLE & OPERATING COSTS SUMMARY		MUNICIPAL HALL #**2**
Total Estimated Construction Cost (Item J)		$16,021,100
Gross Floor Area (m²)		1,626
Average Yearly Janitorial / Custodial		$52,497
Janitorial / Custodial cost / m²	$32.29 $/m²	
Average Yearly Maintenance Staff		$43,750
Maintenance staff annual cost / m²	$26.91 $/m²	
Escalation Rate for Custodial & Annual Maintenance		2.0%
Escalation Rate for Cyclical Renewals (Construction)		5.00%
Annual Energy Cost		$29,508
Energy cost annual cost / m²	$18.15 $/m²	
Escalation Rate for Energy Cost (GAS/Electrical COMBINED)		4.30%
Escalation Rate for Energy Cost (GAS)		5.00%
Escalation Rate for Energy Cost (Electric)		3.50%
Interest Rate for investment		2.5%
LIFE CYCLE Study Period		40
NET PRESENT VALUE OF CUMULATIVE COSTS at Yr 40		$21,916,200
TOTAL NET CASH FLOW (Future Value Yr 40)		$27,049,800

NET PRESENT VALUE OF CUMULATIVE COSTS at Operating Years		
	Year 0	$16,021,100
	Year 5	$16,650,800
	Year 10	$17,558,500
	Year 20	$19,408,100
	Year 30	$22,221,500
	Year 40	$27,049,800
ANNUAL NPV COST (excluding initial building cost)		$275,718

ENERGY ONLY OPERATING COSTS	
Annual Energy Cost	$29,508

District of Squamish
Facilities Review

May 1st, 2019

PARKS ADMIN & FIELD WASHROOM/CHANGE FACILITIES AT BRENNAN PARK

SQUAMISH
HARDWIRED *for* ADVENTURE

Current Status

Location:	Brennan Park
Building Area:	1,500 sq ft public wash/changerooms 500 sq ft parks administration staff area 560 sq ft storage area
Building Function:	Parks administration staff building; storage of tools and small equipment; storage of hazardous materials; greenhouses; fenced in area for storage of large equipment. Existing Parks admin building includes public washrooms and changerooms.
Land Area:	
Zoning:	P-3 (Park & Public Use)
Ownership: Ownership type:	Municipally owned
Tenant(s): Tenant(s) sq.ft.: Tenant expiry:	None N/A N/A

REFS Findings

**from DoS Real Estate and Facilities Strategy by Stantec, April 2018. Figures for FCI and age updated to 2019.*

Facility Management Strategy:	Replace
Age of facility:	End of life -46 years
Capacity:	Exceeding
Functionality:	Unsuitable
Facility Condition Index:	26.94%

Upcoming building investments

**from RDH Asset Management – 2010 costings multiplied by estimated inflation. Figures reflect all repairs and replacements assuming Service Level 4.*

Backlog and Upcoming replacements 0 – 5 years – windows, interior finishes, plumbing siding, electrical, decking	$123,450
Upcoming replacements 0 – 7 years – flooring,	$135,000
Upcoming replacements 0 – 10 years - roofs	$178,000

Analysis

Is the facility at a seismic risk?	yes	
Is the facility built to post-disaster standards?	no	
Is the facility able to provide the customer service it is meant to provide?	Yes: • Change/wash rooms are in poor condition but still serving their purpose; No: parks admin and storage areas provide potentially dangerous and inadequate working conditions that have an effect on the level of service: • space is located upstairs and inaccessible for anyone with mobility challenges; • there is only one washroom in the lunch room; • there are no change or shower facilities exclusive to staff; • lunch space is of a residential nature, too small to safely house more than 4 people. • Staff currently meet in a tool repair area.	
Are there any life safety issues?	Yes: parks admin and storage areas provide potentially dangerous and inadequate working conditions that may have an effect on the life safety of staff and visitors to the area: • Staff are exiting the bunker into the line of vehicles entering the parking area; • hazardous materials are not stored appropriately, not appropriately vented and storage is attached to larger tool area.	
Are there any additional code issues?	Yes: staff washroom/changeroom facilities do not meet code; there is only one washroom,	

	no separate facilities for M/F and no changeroom facilities.	
Does the site have soil or other environmental issues (flood plain, debris flow hazard zone etc)	The whole of Brennan park is located in a Flood Hazard Area/ Secondary Floodway/Overland Flow Hazard Area; Possibly poor soils	
Are there any other working condition challenges?	In general: the current space is a converted residential suite that is used in summer by up to 30 people. The space is too small, not designed for a department to use, and does not meet any current standards for office, change, meeting, or storage space.	
Greenhouse analysis	Existing houses are beyond service life. They run on propane which is very inefficient. They are too small for the amount of plants that could be grown. Need double the existing capacity.	
If no remediation work is done, how long can the facility remain in operation?	0-5 years	

Conclusion

There are life safety challenges, code compliance challenges, the building is beyond the end of its life span and beyond capacity. There is potential danger to district staff as well as the general public. Immediate replacement is recommended based on these conditions.

Program

item	**Current** ** All Areas are approximate (extrapolated from Squamish WebMap)*	**Future** (20+ years)
Parks Admin Building at Brennan park <u>Current:</u> Small meeting room/kitchenette One washroom	500 sqft	2,000 sqft <u>Future:</u> Office space for 3-4 people Kitchenette/lunch space for 40 people Staff washrooms/changerooms for 35-40 people

		Large Meeting room for 40 people Smaller break out meeting room Heated indoor shop for repairs
Tool and materials storage Tool storage and workshop Hazardous materials storage (in separate space)	560 sqft	800 sqft for tool and equipment storage and workshop
Greenhouse area Fenced in area 2-4 greenhouses Parking for large equipment (trailers, trucks) Storage shed	1000sqft	2,400sqft
Public washrooms/changerooms + concession	1,500 sqft	1,500 sqft

Location Options

Existing Location	Buildings could be built in same location as a shared building, or could be separated into public facility and staff facility in two separate areas
Expansion Capabilities	Not available on existing site
Alternate Site Options	on same site, closer to BMX track
Est. Land Acquisition	n/a

Conclusion: Explore locating the future facility at Brennan park but in different location on the site.

Investment Deferral Options

Phasing	The project could be split and phased into three components: Parks admin building, public changerooms, and greenhouse area.
Leasing Potential	n/a
Trailer option	Storage could be in trailer, staff area could be in trailer, provided there are adequate washroom and changeroom facilities.

Temporary Accommodations	n/a No temporary accommodation required, the existing facility can remain in operation while the new buildings are constructed .

Other Project Considerations (s)

Floodplain/Debris Flow hazard/other	Located in triple floodzone: Flood Hazard Area/ Secondary Floodway/Overland Flow Hazard Area	
Geotechnical	Would require further investigation	
Environmental	Would require further investigation	
Servicing	Would require further investigation	
Neighborhood Impacts	No impact to neighbourhood	
Any other concerns that could impact on the project going forward	May require Development permit and other permits related to Flood Hazard areas.	
Project Schedule	Milestone	Duration (months)
	Design	2
	Construction documentation	2
	Tender	1
	Construction	6
	Total duration	11+

District of Squamish

PARKS DOWNTOWN SATELLITE BUILDING

May 24th, 2019

SQUAMISH
HARDWIRED *for* ADVENTURE

Current Status

Not applicable as no building currently.

REFS Findings

Not applicable as no building currently.

Upcoming building investments

Not applicable as no building currently.

Analysis

Not applicable as no building currently.

Program

With construction of the Squamish waterfront, and other developments, the amount of public park space in downtown, to be maintained by the DoS, will increase. It is important to have a downtown Parks facility for the storage and maintenance of tractors, mowers, small vehicles, and tools, so these items do not have to be transported from the works yard to downtown every time work needs to be done. Also the provision of a small lunch room, change rooms and washrooms for Parks staff working in that location as well as a workshop.

Staff change room and lunch facilities, as well as shop space for repairs, will be provided at the works yard and Brennan Park new Parks Admin facility for Parks staff who work in that area.

item	**Current** ** All Areas are approximate (extrapolated from Squamish WebMap)*	**Future** (20+ years)
Parks Admin Building at Brennan park	1,075 sqft	Currently the only storage and workshop area for all Parks equipment and supplies.
Parks building in downtown Storage/workshop for equipment including 3 bays, lunch room for up to 10 staff, change room and washrooms.	N/A	2,000 sqft

Location Options

Existing Location	Currently all equipment is stored and maintained at the DoS Works Yard and Brennan Park. Most Parks staff are based out the Brennan Park location.
Expansion Capabilities	N/A
Alternate Site Options	With the construction of the downtown waterfront, and other developments, the amount of public park space in the south end of Squamish will be increased, and a satellite Parks building location nearby is required for equipment and Parks staff use.
Est. Land Acquisition	N/A

Investment Deferral Options

Not Applicable

Other Project Considerations (s)

Floodplain/Debris Flow hazard/other	The whole of downtown is located in a Flood Hazard Area and includes many secondary floodways.	
Geotechnical	Would require further investigation	
Environmental	Would require further investigation	
Servicing	Would require further investigation	
Neighborhood Impacts	Would require further investigation	
Any other concerns that could impact on the project going forward	May require Development permit and other permits related to Flood Hazard areas. If included as part of a larger development, will require negotiations with building owner and be depending on owner timeline for completion of construction.	
Project Schedule *Depending on if facility goes into a larger development or is free standing. Needs to be operational prior to waterfront parks and drawbridge becoming	Milestone	Duration (months)
	Design	
	Construction documentation	
	Tender	
	Construction	
	Total duration	

operational – estimated 5 years.		

COST ESTIMATE SUMMARY	PARKS

	LIST OF IDENTIFIED RISKS	
1	Unforeseen demolition, existing building, tying into existing (% of Construction Cost)	Excluded
2	Debris Hazard Flow Area (% of Construction Cost)	Excluded
3	Unforeseen flood plain (% of Construction Cost)	Excluded
4	Unforeseen site/soil conditions (% of Construction Cost)	Excluded
5	Municipal requirements and offsite (% of Construction Cost)	Excluded
6	Renovation trigger upgrade requirements to the existing building	Excluded
T	SUB-TOTAL RISK RESERVES	Excluded

U	TOTAL PROJECT COST EXCLUDING RESERVES (excluding GST)	PARKS	$3,579,200

Notes + Exclusions:

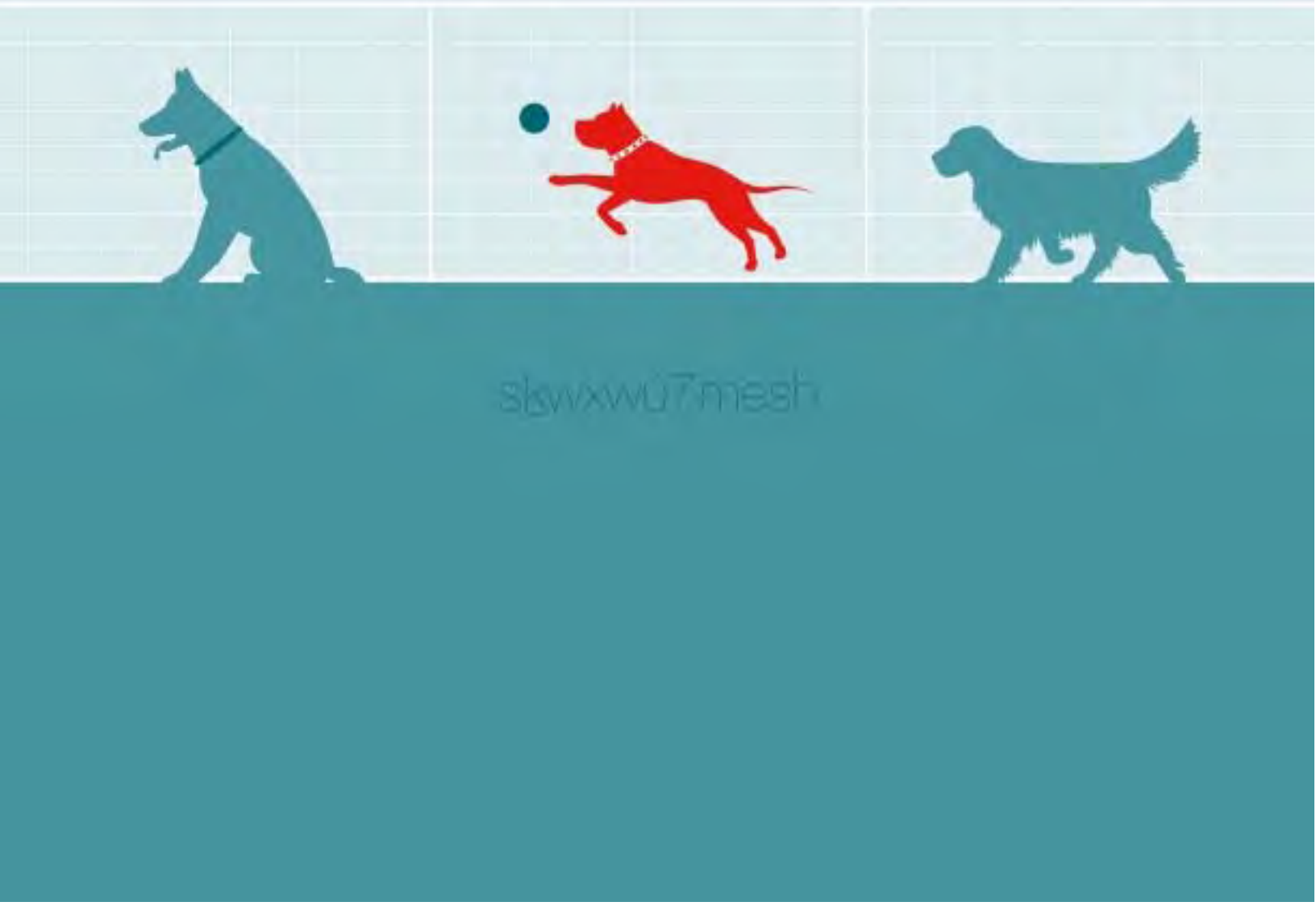
- Legal, financing, land costs are all excluded
- Unforeseen existing buildings, ground and dewatering conditions (beyond cash allowances included)
- Out of hours working premium / restricted working hours / restricted noise conditions
- Off-site utility upgrades (beyond cash allowances included)
- Site works outside the defined scope
- Construction works outside the defined scope
- LEED Gold (or PassiveHouse) design or certification
- Hazmat Abatement (beyond cash allowances included)
- Phasing of the works or Accelerated Schedule
- CAC's or other Municipal Contributions
- Public Art
- Moving or decanting costs
- Pricing based on BCBC 2018
- Goods & Services Tax (GST)
- Extraordinary Market Conditions
- Costing reflects current day (2019) best practices in terms of energy efficiency
- Cost escalation past allowances included
- Items listed as 'excluded' in the estimate detail

LIFE CYCLE COST ANALYSIS - ORDER OF MAGNITUDE COSTING FOR PURPOSES OF EXERCISE

LIFE CYCLE & OPERATING COSTS SUMMARY		PARKS
Total Estimated Construction Cost (Item J)		$3,132,800
Gross Floor Area (m²)		483
Average Yearly Janitorial / Custodial		$15,599
Janitorial / Custodial cost / m²	$32.29 $/m²	
Average Yearly Maintenance Staff		$13,000
Maintenance staff annual cost / m²	$26.91 $/m²	
Escalation Rate for Custodial & Annual Maintenance		2.0%
Escalation Rate for Cyclical Renewals (Construction)		5.00%
Annual Energy Cost		$7,891
Energy cost annual cost / m²	$16.34 $/m²	
Escalation Rate for Energy Cost (GAS/Electrical COMBINED)		4.30%
Escalation Rate for Energy Cost (GAS)		5.00%
Escalation Rate for Energy Cost (Electric)		3.50%
Interest Rate for investment		2.5%
LIFE CYCLE Study Period		40
NET PRESENT VALUE OF CUMULATIVE COSTS at Yr 40		$4,705,500
TOTAL NET CASH FLOW (Future Value Yr 40)		$5,591,600

NET PRESENT VALUE OF CUMULATIVE COSTS at Operating Years		
	Year 0	$3,132,800
	Year 5	$3,319,900
	Year 10	$3,551,100
	Year 20	$4,020,700
	Year 30	$4,645,100
	Year 40	$5,591,600
ANNUAL NPV COST (excluding initial building cost)		$61,470

ENERGY ONLY OPERATING COSTS	
Annual Energy Cost	$7,891



District of Squamish
Facilities Review

April 11th, 2019

DOG POUND

SQUAMISH
HARDWIRED *for* ADVENTURE

Current Status

Location:	39909 Government Road
Building Area:	1,200 sqft building 3,635 sqft fenced outdoor area (approximate)
Building Function:	Boarding, administrative office, bylaw enforcement, public counter for licensing
Land Area:	4.322 ha *(for the whole lot, includes water treatment plant and work yard)*
Zoning:	P-2 (District Assembly)
Ownership: Ownership type:	Municipally owned Fee simple
Tenant(s): Tenant(s) sq.ft.: Tenant expiry:	None N/A N/A

REFS Findings

**from DoS Real Estate and Facilities Strategy by Stantec, April 2018. Age and FCI update to 2019 figures.*

Facility Management Strategy:	Replace
Age of facility:	End of life -50+ years
Capacity:	Exceeding
Functionality:	Unsuitable
Facility Condition Index:	15.42%

Upcoming building investments

**from RDH Asset Management – 2010 costings multiplied by estimated inflation. Figures reflect all repairs and replacements assuming Service Level 4.*

Repair and replacement Backlog and Upcoming replacements 0 – 5 years – roof, siding and plumbing replacements. Foundation repairs.	$92,000
Upcoming replacements 0 – 7 years - HVAC	$106,000
Upcoming replacements 0 – 10 years – Concrete wall, flooring	$143,000

Analysis

Is the facility at a seismic risk?	Yes	
Is the facility built to post-disaster standards?	No	
Is the facility able to provide the customer service it is meant to provide?	No: • Not enough public counter space • Not enough/adequate office space • No kitchenette for staff • No room to examine or treat animals • Mo inside area for public to meet with animals	
Are there any life safety issues?	Yes: • Visitors parking is in path of traffic to water treatment plant; • No separate facilities for quarantined animals, no separate ventilation system for sick animals.	
Are there any additional code issues?	Yes: • Washrooms do not meet code • There is only one washroom • No shower or change rooms facilities • Poor ventilation.	
Are there any other working condition challenges?	• Insufficient cooling and air flow for the inside of the building. • Washroom in the small office area.	
Does the site have soil or other environmental issues (flood plain, debris flow hazard zone etc)	• Current site is located in secondary floodway, potential new site is located in Cheekeye Debris Flow Hazard area; • Possibly poor soils	
If no remediation work is done, how long can the facility remain in operation?	0-5 years	

Conclusion

There are Life safety challenges, code compliance challenges, the building is beyond the end of its life span and the administrative and public areas are beyond capacity. Immediate replacement is recommended based on these conditions.

Program

item	**Current** ** All Areas are approximate (extrapolated from Squamish WebMap)*	**Future** (20+ years)
Administrative/Public area	Counter space for 1 Open office space for 2	Office space for 3-4 people, can be in open work area Managers office Possible second private office (volunteer coordinator) Public entrance and counter Community Space (400-500sqft) Retail area
Support Spaces	Two storage/laundry spaces No kitchenette One washroom	Storage room, including laundry Dog Kitchen Human kitchen Dog washing area Staff/volunteer washrooms
Kennels	Approximately 18 kennels, no mechanical separation.	(*all kennels to have direct access to outside area) Isolation kennels (2) with isolation prep area Dangerous dog kennel (1-larger) Adoption kennels (2) Stray kennels (5) Chicken coop
Site	Shared parking with works yard	Parking for 10 Two outdoor areas, separated physically and visually
Total area	1,200 sqft building 3,635 sqft fenced in area Shared parking	2,400 sqft building 3,000 sqft fenced in outdoor area 10 new parking stalls

Location Options

Existing Location	Existing site may be required for works yard and water treatment plant expansion. Existing site close to residential.
Expansion Capabilities	Not available on existing site unless expands into old SPCA site.
Alternate Site Options	On District owned land near cemetery/airport
Est. Land Acquisition	n/a

Conclusion: Explore locating the future facility at a new site

Investment Deferral Options

Phasing	Project is too small to be phased
Leasing Potential	n/a Not anticipated that a facility will be available in Squamish in foreseeable future that could accommodate the specific space requirements.
Trailer option	n/a the kennel component of the facility cannot be housed in a trailer
Temporary Accommodations	n/a

Other Project Considerations (s)

Floodplain/Debris Flow hazard/other	Located in Cheekeye Debris Flow Hazard area
Geotechnical	Would require further investigation
Environmental	Would require further investigation
Servicing	Would require further investigation
Neighborhood Impacts	Surrounded by undeveloped district owned land Depends on future plans for development of land

Any other concerns that could impact on the project going forward	May require Development permit and other permits related to Cheekeye Debris Flow Hazard area.	
<u>Project Schedule</u>	Milestone	Duration (months)
	Design	2
	Construction documentation	2
	Tender	1
	Construction	6
	Total duration	11+

	COST ESTIMATE SUMMARY			DOG POUND	
A	OFFSITE COSTS				$50,000
	Allow for off-site services and infrastructure - water, storm, sanitary, gas, etc.			50,000	
	Allow for sidewalks, curbs, streetlights, cross walks, 4-way stops or intersection traffic lights (Assume existing)			N/A	
B	SITE DEVELOPMENTS				$314,800
	Allowance for on site development, site services, hard and soft landscaping			100,000	
	Fenced in outdoor area	279 m²	$200 /m²	55,700	
	Allowance for exterior dog run, animal holding, meet/greet site furnishings, separation fences etc			100,000	
	New surface parking stalls including site lighting	10 no.		59,100	
C	SUPPLEMENTARY SITE COSTS				$140,000
	Re-work access circulation roads/pavement etc			75,000	
	Existing Services - remove abandoned, extend to new building			15,000	
	Soils - overburden, replace with struct fill etc.			50,000	
	Sloping site - cut and fill, retaining walls/steps			N/A	
D	NEW BUILDING CONSTRUCTION				$709,500
	New Building	223 m²	$3,182 /m²	709,500	
E	RENOVATION TO EXISTING				Excluded
	Tying into existing building including all fire rating, seismic and code upgrade requirements			N/A	
F	SUPPLEMENTARY BUILDING COSTS AND RENOVATIONS				$119,300
	Sloping sites			N/A	
	Unsuitable subsurface materials requiring over-excavation and backfilling		3.00%	21,300	
	Subsurface condition requiring piling or soil densification		8.00%	56,800	
	Flood plain - raise floor elevation with structural fill	223m²	$185/m²	41,200	
G	BUILDING DEMOLITION				$39,000
	Demolition of existing	111m²	$200/m²	22,300	
	Allowance for removal of hazardous materials	111m²	$150/m²	16,700	
H	TEMPORARY ACCOMMODATION				Excluded
I	DESIGN & CONSTRUCTION CONTINGENCIES				$323,800
	Design Pricing Contingency		10%	137,300	
	Escalation Contingency	12 months allowance	7%	105,700	
	Construction Contingency (Change Orders)		5%	80,800	
J	TOTAL CONSTRUCTION COST (excluding Soft Costs & GST)				$1,696,400
K	DCC's, BUILDING PERMIT, MUNICIPAL CHARGES				Excluded
	DCC		Excluded - Exempt		
	Building Permit		Excluded - Exempt		
L	LOOSE FF&E (Allowance)		10.00%		$71,000
M	DESIGN FEES (Allowance)		11.00%		$186,600
N	OWNERS COSTS				$17,000
	Internal Management Costs		Excluded		
	Insurances		1.00%	17,000	
O	PROJECT MANAGEMENT (Excluded - in a separate City Budget)		0.00%	Excluded	Excluded
P	GST (Excluded)		0.00%	Excluded	Excluded
Q	FEASIBILITY STUDY (Excluded)		0.00%	Excluded	Excluded
R	SUB-TOTAL SOFT COSTS (excluding GST)				$274,600
S	TOTAL PROJECT COST (excluding Reserves & GST)			DOG POUND	$1,971,000

COST ESTIMATE SUMMARY	DOG POUND

	LIST OF IDENTIFIED RISKS	
1	Unforeseen demolition, existing building, tying into existing (% of Construction Cost)	Excluded
2	Debris Hazard Flow Area (% of Construction Cost)	Excluded
3	Unforeseen flood plain (% of Construction Cost)	Excluded
4	Unforeseen site/soil conditions (% of Construction Cost)	Excluded
5	Municipal requirements and offsite (% of Construction Cost)	Excluded
6	Renovation trigger upgrade requirements to the existing building	Excluded
T	SUB-TOTAL RISK RESERVES	Excluded

U	TOTAL PROJECT COST EXCLUDING RESERVES (excluding GST)	DOG POUND	$1,971,000

Notes + Exclusions:

- Legal, financing, land costs are all excluded
- Unforeseen existing buildings, ground and dewatering conditions (beyond cash allowances included)
- Out of hours working premium / restricted working hours / restricted noise conditions
- Off-site utility upgrades (beyond cash allowances included)
- Site works outside the defined scope
- Construction works outside the defined scope
- LEED Gold (or PassiveHouse) design or certification
- Hazmat Abatement (beyond cash allowances included)
- Phasing of the works or Accelerated Schedule
- CAC's or other Municipal Contributions
- Public Art
- Moving or decanting costs
- Pricing based on BCBC 2018
- Goods & Services Tax (GST)
- Extraordinary Market Conditions
- Costing reflects current day (2019) best practices in terms of energy efficiency
- Cost escalation past allowances included
- Items listed as 'excluded' in the estimate detail

LIFE CYCLE COST ANALYSIS - ORDER OF MAGNITUDE COSTING FOR PURPOSES OF EXERCISE

LIFE CYCLE & OPERATING COSTS SUMMARY		DOG POUND
Total Estimated Construction Cost (Item J)		$1,696,400
Gross Floor Area (m²)		279
Average Yearly Janitorial / Custodial		$8,999
Janitorial / Custodial cost / m²	$32.29 $/m²	
Average Yearly Maintenance Staff		$7,500
Maintenance staff annual cost / m²	$26.91 $/m²	
Escalation Rate for Custodial & Annual Maintenance		2.0%
Escalation Rate for Cyclical Renewals (Construction)		5.00%
Annual Energy Cost		$4,047
Energy cost annual cost / m²	$14.52 $/m²	
Escalation Rate for Energy Cost (GAS/Electrical COMBINED)		4.30%
Escalation Rate for Energy Cost (GAS)		5.00%
Escalation Rate for Energy Cost (Electric)		3.50%
Interest Rate for investment		2.5%
LIFE CYCLE Study Period		40
NET PRESENT VALUE OF CUMULATIVE COSTS at Yr 40		$2,779,900
TOTAL NET CASH FLOW (Future Value Yr 40)		$3,144,700

NET PRESENT VALUE OF CUMULATIVE COSTS at Operating Years		
	Year 0	$1,696,400
	Year 5	$1,804,400
	Year 10	$1,939,100
	Year 20	$2,213,000
	Year 30	$2,580,900
	Year 40	$3,144,700
ANNUAL NPV COST (excluding initial building cost)		$36,208

ENERGY ONLY OPERATING COSTS	
Annual Energy Cost	$4,047

District of Squamish

April 11th, 2019

NEIGHBORHOOD CENTRES

SQUAMISH
HARDWIRED *for* ADVENTURE

Current Status

Not applicable as no buildings currently.

REFS Findings

Not applicable as no buildings currently.

Upcoming building investments

Not applicable as no buildings currently.

Analysis

Not applicable as no buildings currently.

Program

Through the recent OCP process a need was identified for neighborhood centres in 3 communities:

- Valleycliffe
- Highlands/Quest
- Brackendale

Each centre will be a community space available for rent/booking offering basic facilities. The provision of these centres falls under the overall goal for the neighborhoods in terms of improving livability and connecting people in their communities. This recognises that Squamish is relatively spread out with unique neighborhoods/communities.

item	Current ** All Areas are approximate (extrapolated from Squamish WebMap)*	Future (20+ years)
Centres X 3		Estimated 1,500 sq ft. • Meeting/recreation space • Office • Washrooms • Kitchen

Location Options

Part of a new development	This plan assumes land will be provided by a developer as part of a new development. The space could be stand alone or part of a new building.

Investment Deferral Options

Not Applicable

Other Project Considerations (s)

Floodplain/Debris Flow hazard/other		
Geotechnical		
Environmental		
Servicing		
Neighborhood Impacts		
Any other concerns that could impact on the project going forward		
Project Schedule *Depending on if facility goes into a larger development or is free standing	Milestone	Duration (months)
	Design	
	Construction documentation	
	Tender	
	Construction	
	Total duration	

District of Squamish
Facilities Review

April 11th, 2019

MULTI-MODAL TRANSIT HUB

SQUAMISH
HARDWIRED *for* ADVENTURE

Current Status

Location:	Current site: Pemberton Avenue, between 2nd and 3rd New site: Pemberton Avenue @ Loggers Lane
Building Area:	N/A- bus shelter only
Building Function:	Transit hub location for people to change buses and wait in shelter.
Land Area:	N/A
Zoning:	N/A
Ownership: Ownership type:	
Tenant(s): Tenant(s) sq.ft.: Tenant expiry:	None N/A N/A

REFS Findings

**from DoS Real Estate and Facilities Strategy by Stantec, April 2018. Figures for FCI and age have been updated to 2019.*

Facility Management Strategy:	N/A
Age of facility:	N/A
Capacity:	N/A
Functionality:	N/A
Facility Condition Index:	N/A
Upcoming facility investments:	N/A

Note: This facility was not part of the REFS review.

Analysis

Is the facility at a seismic risk?	N/A	
Is the facility built to post-disaster standards?	N/A	
Is the facility able to provide the customer service it is meant to provide?	For now, but cannot expand at current location, when bus service expands	
Are there any life safety issues?	no	
Are there any additional code issues?	no	

Does the site have soil or other environmental issues (flood plain, debris flow hazard zone etc)	The whole of downtown is located in a Flood Hazard Area and includes many secondary floodways. Most likely poor soil conditions.	
Are there any other working condition challenges?	N/A	
If no remediation work is done, how long can the facility remain in operation?	N/A	

Conclusion

At its current location, the transit hub can serve the current bus volume, however with BC Transit expanding service to the corridor, and the wish to allow private companies to drop off and pick up, the current location is too small. It is recommended that the facility move to a new location so that it can expand.

Program

Note: refer to attached BC Transit report for additional detailed information

item	**Current** ** All Areas are approximate (extrapolated from Squamish WebMap)*	**Future** (20+ years)
Transit hub	bus stop with space for up to 3 buses, one shelter	7 bus bays Possibility for future expansion Shelter for waiting public from wind and driving rain Secure bike storage

Location Options

Existing Location	Not possible: The existing location is too small and has no expansion possibilities.
Expansion Capabilities	Not available on existing site.
Alternate Site Options	Pemberton Avenue @ Loggers Lane: The option explored is situated along Loggers Lane, between the roadway and the BC Hydro property. This strip of land is currently under-utilized, easy accessible off the highway, centrally located, and not suitable for other development, due to its proximity to the sub

	station. The new work would consist of the construction of a raised sidewalk, with shelter for people, and a secure bike storage. Space for future expansion should be taken into consideration, due to growth in the District.
Est. Land Acquisition	would use District owned land, possible second phase on BC Hydro land.

Conclusion: This project could be designed and constructed in a relatively short timeframe, for an economical budget, on District-owned land. It will alleviate pressure off the existing hub and set the District up for transit expansion.

Investment Deferral Options

Phasing	Could be phased in two phases of 3-4 bays each
Leasing Potential	N/A
Trailer option	N/A
Temporary Accommodations	N/A

Other Project Considerations (s)

Floodplain/Debris Flow hazard/other	The whole of downtown is located in a Flood Hazard Area and includes many secondary floodways.	
Geotechnical	Would require further investigation	
Environmental	Would require further investigation	
Servicing	Would require further investigation	
Neighborhood Impacts	Would require further investigation, in particular for parking	
Any other concerns that could impact on the project going forward	May require Development permit and other permits related to Flood Hazard areas.	
Project Schedule	Milestone	Duration (months)
	Design	2
	Construction documentation	2
	Tender	1-2
	Construction	4
	Total duration	10

	COST ESTIMATE SUMMARY				MULTI-MODAL
A	OFFSITE COSTS				Excluded
	Allow for off-site services and infrastructure - water, storm, sanitary, gas, etc.			N/A	
	Allow for sidewalks, curbs, streetlights, cross walks, 4-way stops or intersection traffic lights (Assume existing)			N/A	
B	SITE DEVELOPMENTS				$0
	Allowance for on site development, site services, hard and soft landscaping			Included in Item D	
C	SUPPLEMENTARY SITE COSTS				$325,000
	Re-work access circulation roads/pavement etc			100,000	
	Existing Services - remove abandoned, extend to new building			25,000	
	Soils - overburden, replace with struct fill etc.			200,000	
	Sloping site - cut and fill, retaining walls/steps			N/A	
D	NEW BUILDING CONSTRUCTION				Excluded
	None			N/A	
E	RENOVATION TO EXISTING				Excluded
	Tying into existing building including all fire rating, seismic and code upgrade requirements			N/A	
F	SUPPLEMENTARY BUILDING COSTS AND RENOVATIONS				$150,000
	Sloping sites			N/A	
	Unsuitable subsurface materials requiring over-excavation and backfilling			50,000	
	Subsurface condition requiring piling or soil densification			50,000	
	Flood plain - raise floor elevation with structural fill			50,000	
G	BUILDING DEMOLITION				Excluded
	Demolition of existing				Excluded
	Allowance for removal of hazardous materials				Excluded
H	TEMPORARY ACCOMMODATION				Excluded
I	DESIGN & CONSTRUCTION CONTINGENCIES				$112,100
	Design Pricing Contingency		10%	47,500	
	Escalation Contingency	12 months allowance	7%	36,600	
	Construction Contingency (Change Orders)		5%	28,000	
J	TOTAL CONSTRUCTION COST (excluding Soft Costs & GST)				$587,100
K	DCC's, BUILDING PERMIT, MUNICIPAL CHARGES				Excluded
	DCC		Excluded - Exempt		
	Building Permit		Excluded - Exempt		
L	LOOSE FF&E (Allowance)		0.00%	Excluded	Excluded
M	DESIGN FEES (Allowance)		10.00%		$58,700
N	OWNERS COSTS				$5,900
	Internal Management Costs		Excluded		
	Insurances		1.00%	5,900	
O	PROJECT MANAGEMENT (Excluded - in a separate City Budget)		0.00%	Excluded	Excluded
P	GST (Excluded)		0.00%	Excluded	Excluded
Q	FEASIBILITY STUDY (Excluded)		0.00%	Excluded	Excluded
R	SUB-TOTAL SOFT COSTS (excluding GST)				$64,600
S	TOTAL PROJECT COST (excluding Reserves & GST)			MULTI-MODAL	$651,700

COST ESTIMATE SUMMARY	MULTI-MODAL

	LIST OF IDENTIFIED RISKS	
1	Unforeseen demolition, existing building, tying into existing (% of Construction Cost)	Excluded
2	Debris Hazard Flow Area (% of Construction Cost)	Excluded
3	Unforeseen flood plain (% of Construction Cost)	Excluded
4	Unforeseen site/soil conditions (% of Construction Cost)	Excluded
5	Municipal requirements and offsite (% of Construction Cost)	Excluded
6	Renovation trigger upgrade requirements to the existing building	Excluded
T	SUB-TOTAL RISK RESERVES	Excluded

U	TOTAL PROJECT COST EXCLUDING RESERVES (excluding GST)	MULTI-MODAL	$651,700

Notes + Exclusions:

- Legal, financing, land costs are all excluded
- Unforeseen existing buildings, ground and dewatering conditions (beyond cash allowances included)
- Out of hours working premium / restricted working hours / restricted noise conditions
- Off-site utility upgrades (beyond cash allowances included)
- Site works outside the defined scope
- Construction works outside the defined scope
- LEED Gold (or PassiveHouse) design or certification
- Hazmat Abatement (beyond cash allowances included)
- Phasing of the works or Accelerated Schedule
- CAC's or other Municipal Contributions
- Public Art
- Moving or decanting costs
- Pricing based on BCBC 2018
- Goods & Services Tax (GST)
- Extraordinary Market Conditions
- Costing reflects current day (2019) best practices in terms of energy efficiency
- Cost escalation past allowances included
- Items listed as 'excluded' in the estimate detail

LIFE CYCLE COST ANALYSIS - ORDER OF MAGNITUDE COSTING FOR PURPOSES OF EXERCISE

LIFE CYCLE & OPERATING COSTS SUMMARY		MULTI-MODAL
Total Estimated Construction Cost (Item J)		$587,100
Gross Floor Area (m²)		3,250
Average Yearly Janitorial / Custodial		$32,500
Janitorial / Custodial cost / m²	$10.00 $/m²	
Average Yearly Maintenance Staff		$32,500
Maintenance staff annual cost / m²	$10.00 $/m²	
Escalation Rate for Custodial & Annual Maintenance		2.0%
Escalation Rate for Cyclical Renewals (Construction)		5.00%
Annual Energy Cost		$8,848
Energy cost annual cost / m²	$2.72 $/m²	
Escalation Rate for Energy Cost (GAS/Electrical COMBINED)		4.30%
Escalation Rate for Energy Cost (GAS)		5.00%
Escalation Rate for Energy Cost (Electric)		3.50%
Interest Rate for investment		2.5%
LIFE CYCLE Study Period		40
NET PRESENT VALUE OF CUMULATIVE COSTS at Yr 40		$10,304,100
TOTAL NET CASH FLOW (Future Value Yr 40)		$6,392,100

NET PRESENT VALUE OF CUMULATIVE COSTS at Operating Years		
	Year 0	$587,100
	Year 5	$1,218,200
	Year 10	$1,869,900
	Year 20	$3,246,400
	Year 30	$4,740,800
	Year 40	$6,392,100
ANNUAL NPV COST (excluding initial building cost)		$145,125

ENERGY ONLY OPERATING COSTS	
Annual Energy Cost	$8,848

District of Squamish
Facilities Review

April 11th, 2019

LIBRARY

SQUAMISH
HARDWIRED *for* ADVENTURE

Current Status

Location:	37907 second avenue
Building Area:	Current building area is approximately 12,600 sqft
Building Function:	Only Public Library in town, has very active programming with story time, lectures, etc. Only place in town where people can spend the entire day/evening with free, warm, dry access to a facility and resources, and no requirement to spend money.
Land Area:	0.314 ha.
Zoning:	P-2 District Assembly
Ownership: Ownership type:	Municipally owned
Tenant(s): Tenant(s) sq.ft.: Tenant expiry:	None N/A N/A

REFS Findings

**from DoS Real Estate and Facilities Strategy by Stantec, April 2018. Age and FCI update to 2019 figures.*

Facility Management Strategy:	Maintain long term, initiate expansion plan.
Age of facility:	22 years
Capacity:	Exceeding
Functionality:	Suitable
Facility Condition Index:	12.93%

Upcoming building investments

**from RDH Asset Management – 2010 costings multiplied by estimated inflation. Figures reflect all repairs and replacements assuming Service Level 4.*

Repair and replacement Backlog and Upcoming replacements 0 – 5 years – flooring, millwork, plumbing roof, HVAC	$999,000
Upcoming replacements 0 – 7 years	$1,045,000
Upcoming replacements 0 – 10 years - siding and windows	$1,760,000

Analysis

Is the facility at a seismic risk?	Not sure	
Is the facility built to post-disaster standards?	No	
Is the facility able to provide the customer service it is meant to provide?	Yes. However, the space does not lend itself well to layout adjustments, to better suit programming and needs. In particular, the library would like to: • Provide an enclosed childrens area • Provide a childrens washroom close to the childrens area • Provide a few small pods for 1-2 people to do quiet study in	
Are there any life safety issues?	No	
Are there any additional code issues?	No	
Does the site have soil or other environmental issues (flood plain, debris flow hazard zone etc)	The whole of downtown is located in a Flood Hazard Area and includes many secondary floodways. Most likely poor soil conditions.	
Are there any other working condition challenges?	• The staff work area is not acoustically separated from the library, and acoustics are very poor. This makes for challenging conditions to do focused work in; • The children's area is open to the library, which allows noise to transfer throughout. • Complete lack of storage.	
Could the above items be remediated and if so, what would need to be done?	Partially: there could be some internal changes made to make the facility more efficient, such as reconfiguration of staff area, move archival material out of storage room.	
If no remediation work is done, how long can the facility remain in operation?	The facility could remain in operation for another 10 years; however the library would need to do some interior renovations and the	

	space may not be able to adapt exactly as desired.	

Conclusion

The building is not yet beyond its lifespan and does not have any code or life safety issues. The building is not very flexible to adapt to changing needs, due to its high ceilings and concrete floors. The whole building is currently in use, some efficiencies could be gained through space planning and small renovations, growth beyond 5+ years would be harder to accommodate.

Program

item	**Current** ** All Areas are approximate (extrapolated from Squamish WebMap)*	**Future** (20+ years)
Current program: Open work area for 10 staff Check out counter and 2 work stations 2 private areas Lunch room for staff Staff washroom Storage/archives Electrical/Mechanical Meeting room Public wc Stack area Fire place area Study carrels Work area Childrens area Computer area	12,600 sqft	20,000 – 25,000 sqft Future program (ideal): In addition to existing areas: Quiet pods for 2-3 people Meeting rooms for 4-8 people Childrens area/reading area for 50-60 Large meeting room with seating for 80 Dedicated tech lab space for 20-25

Location Options

Existing Location	Rebuilding in existing location would be possible but not make most sense: temporary accommodation would have to be found and the District has access to nearby land to build the facility while the library remains in operation.
Expansion Capabilities	Not available on existing site, and building design does not lend itself to expansion.

Alternate Site Options	Requires further investigation

Conclusion: requires further investigation

Investment Deferral Options

Phasing	Library functions and services are integrated and should ideally not be split apart
Leasing Potential	Could be (temporarily) housed in a leased space
Trailer option	Functions would not fit well in trailers
Temporary Accommodations	See above

Other Project Considerations (s)

Floodplain/Debris Flow hazard/other	The whole of downtown is located in a Flood Hazard Area and includes many secondary floodways.	
Geotechnical	Would require further investigation	
Environmental	Would require further investigation	
Servicing	Would require further investigation	
Neighborhood Impacts	Would require further investigation	
Any other concerns that could impact on the project going forward	May require Development permit and other permits related to Flood Hazard areas.	
Project Schedule	Milestone	Duration (months)
	Design	4-6
	Construction documentation	4
	Tender	1-2
	Construction	12-18
	Total duration	30+

ROSS TEMPLETON + ASSOCIATES

Squamish Masterplan
Squamish, BC
March 18, 2019
LIBRARY

	COST ESTIMATE SUMMARY			LIBRARY	
A	OFFSITE COSTS				$150,000
	Allow for off-site services and infrastructure - water, storm, sanitary, gas, etc. (NEW SITE TBD, LAND EXCLUDED)			150,000	
	Allow for sidewalks, curbs, streetlights, cross walks, 4-way stops or intersection traffic lights (Assume existing)			N/A	
B	SITE DEVELOPMENTS				$1,550,000
	Allowance for on site development, site services, hard and soft landscaping, parking (NEW SITE TBD)			1,550,000	
C	SUPPLEMENTARY SITE COSTS				$300,000
	Re-work access circulation roads/pavement etc			150,000	
	Soils - overburden, replace with struct fill etc.			150,000	
	Sloping site - cut and fill, retaining walls/steps			N/A	
D	NEW BUILDING CONSTRUCTION				$10,346,900
	New Building	2,323 m²	$4,455 /m²	10,346,900	
E	RENOVATION TO EXISTING				Excluded
	Tying into existing building including all fire rating, seismic and code upgrade requirements			N/A	
F	SUPPLEMENTARY BUILDING COSTS AND RENOVATIONS				$1,353,000
	Sloping sites			N/A	
	Unsuitable subsurface materials requiring over-excavation and backfilling (NEW SITE TBD)		3.00%	310,400	
	Subsurface condition requiring piling or soil densification (NEW SITE TBD)		8.00%	827,800	
	Flood plain - raise floor elevation with structural fill (NEW SITE TBD) - 2 storey	1,161m²	$185/m²	214,800	
G	BUILDING DEMOLITION				Excluded
	Demolition of existing - site sold with existing building on it			Excluded	
	Allowance for removal of hazardous materials - site sold with existing building on it			Excluded	
H	TEMPORARY ACCOMMODATION				Excluded
I	DESIGN & CONSTRUCTION CONTINGENCIES				$5,130,000
	Design Pricing Contingency		10%	1,370,000	
	Escalation Contingency	36 months allowance	19%	2,863,300	
	Construction Contingency (Change Orders)		5%	896,700	
J	TOTAL CONSTRUCTION COST (excluding Soft Costs & GST)				$18,829,900
K	DCC's, BUILDING PERMIT, MUNICIPAL CHARGES				Excluded
	DCC		Excluded - Exempt		
	Building Permit		Excluded - Exempt		
L	LOOSE FF&E (Allowance)		15.00%		$1,552,000
M	DESIGN FEES (Allowance)		10.00%		$1,883,000
N	OWNERS COSTS				$188,300
	Internal Management Costs		Excluded		
	Insurances		1.00%	188,300	
O	PROJECT MANAGEMENT (Excluded - in a separate City Budget)		0.00%	Excluded	Excluded
P	GST (Excluded)		0.00%	Excluded	Excluded
Q	FEASIBILITY STUDY (Excluded)		0.00%	Excluded	Excluded
R	SUB-TOTAL SOFT COSTS (excluding GST)				$3,623,300
S	TOTAL PROJECT COST (excluding Reserves & GST)			LIBRARY	$22,453,200

COST ESTIMATE SUMMARY		LIBRARY
	LIST OF IDENTIFIED RISKS	
1	Unforeseen demolition, existing building, tying into existing (% of Construction Cost)	Excluded
2	Debris Hazard Flow Area (% of Construction Cost)	Excluded
3	Unforeseen flood plain (% of Construction Cost)	Excluded
4	Unforeseen site/soil conditions (% of Construction Cost)	Excluded
5	Municipal requirements and offsite (% of Construction Cost)	Excluded
6	Renovation trigger upgrade requirements to the existing building	Excluded
T	SUB-TOTAL RISK RESERVES	Excluded
U	TOTAL PROJECT COST EXCLUDING RESERVES (excluding GST)	LIBRARY $22,453,200

Notes + Exclusions:

- Legal, financing, land costs are all excluded
- Unforeseen existing buildings, ground and dewatering conditions (beyond cash allowances included)
- Out of hours working premium / restricted working hours / restricted noise conditions
- Off-site utility upgrades (beyond cash allowances included)
- Site works outside the defined scope
- Construction works outside the defined scope
- LEED Gold (or PassiveHouse) design or certification
- Hazmat Abatement (beyond cash allowances included)
- Phasing of the works or Accelerated Schedule
- CAC's or other Municipal Contributions
- Public Art
- Moving or decanting costs
- Pricing based on BCBC 2018
- Goods & Services Tax (GST)
- Extraordinary Market Conditions
- Costing reflects current day (2019) best practices in terms of energy efficiency
- Cost escalation past allowances included
- Items listed as 'excluded' in the estimate detail

LIFE CYCLE COST ANALYSIS - ORDER OF MAGNITUDE COSTING FOR PURPOSES OF EXERCISE

LIFE CYCLE & OPERATING COSTS SUMMARY		LIBRARY
Total Estimated Construction Cost (Item J)		$18,829,900
Gross Floor Area (m²)		2,323
Average Yearly Janitorial / Custodial		$74,995
Janitorial / Custodial cost / m²	$32.29 $/m²	
Average Yearly Maintenance Staff		$62,500
Maintenance staff annual cost / m²	$26.91 $/m²	
Escalation Rate for Custodial & Annual Maintenance		2.0%
Escalation Rate for Cyclical Renewals (Construction)		5.00%
Annual Energy Cost		$46,370
Energy cost annual cost / m²	$19.97 $/m²	
Escalation Rate for Energy Cost (GAS/Electrical COMBINED)		4.30%
Escalation Rate for Energy Cost (GAS)		5.00%
Escalation Rate for Energy Cost (Electric)		3.50%
Interest Rate for investment		2.5%
LIFE CYCLE Study Period		40
NET PRESENT VALUE OF CUMULATIVE COSTS at Yr 40		$28,055,700
TOTAL NET CASH FLOW (Future Value Yr 40)		$33,111,700

NET PRESENT VALUE OF CUMULATIVE COSTS at Operating Years		
	Year 0	$18,829,900
	Year 5	$19,729,500
	Year 10	$20,956,400
	Year 20	$23,454,500
	Year 30	$27,092,900
	Year 40	$33,111,700
ANNUAL NPV COST (excluding initial building cost)		$357,045

ENERGY ONLY OPERATING COSTS	
Annual Energy Cost	$46,370

BRENNAN PARK RECREATION CENTRE
NEW ADDITION & RENOVATION
SQUAMISH, BRITISH COLUMBIA

CLASS 'D' ESTIMATE

February 16, 2018

Hanscomb

BRENNAN PARK RECREATION CENTRE
NEW ADDITION & RENOVATION
SQUAMISH, BRITISH COLUMBIA

CLASS 'D' ESTIMATE

Prepared For:

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V2848

February 16, 2018

TABLE OF CONTENTS

Appendices

1. INTRODUCTION

1.1 Purpose:

This Class 'D' Estimate is intended to provide a realistic allocation of direct and indirect construction costs for the Brennan Park Recreation Centre, New Addition & Renovation, located in Squamish, British Columbia with exceptions of items listed in 1.5 section.

1.2 Methodology:

From the documentation and information provided, quantities of all major elements were assessed or measured where possible and priced at rates considered competitive for a project of this type under a stipulated sum form of contract in Squamish, British Columbia

Pricing shown reflects probable construction costs obtainable in the Squamish, British Columbia area on the effective date of this report. This estimate is a determination of fair market value for the construction of this project. It is not a prediction of low bid. Pricing assumes competitive bidding for every portion of the work.

1.3 Description:

The Brennan Park Recreation Centre, New Addition & Renovation project consists of new construction and renovations of different areas and appropriate site services:

1.1) New Rink Addition of 4,250m2 GFA
1.2) New Concourse of 470m2 GFA,
1.3) Concession & Skateshop (Expansion & Renovation) of 70m2 GFA
1.4) Storage Space Renovation of 15m2 GFA
1.5) New Canopy of 22m2 GFA
2.0) Renovation of Auditorium, Lounge & New Gym of 925m2 GFA
3.0) Renovation & Expansion for New Admin. Offices of 365m2 GFA
4.0) New Wellness Centre with Gymnasium of 3,500m2 GFA
5.0) Renovation of Existing Rink Mezzanine Level of 340m2 GFA
6.0) Renovation of Existing Change Rooms of 190m2 GFA
7.0) Renovation of Existing Change Rooms of 190m2 GFA
8.0) Renovation of Entry & New Entry Canopy of 70m2 GFA
9.0) Renovation of Existing Concourse of 770m2 GFA

1.4 Specifications:

For building components and systems where specifications and design details are not available, quality standards have been established based on discussions with the design team.

1. INTRODUCTION

1.5 Exclusions: This Class 'D' Estimate does not provide for the following, if required:

- Land acquisition costs and impost charges
- Development charges
- Legal fees and expenses
- Right of way charges
- Easement costs
- Financing costs
- Fund raising costs
- Owner's staff and associated management
- Relocation of existing facilities, including furniture and equipment
- Professional fees and expenses
- Cost of contaminated soil removal
- Window washing equipment
- Vending equipment
- Maintenance equipment
- Exercise Equipment
- Zamboni
- Winter construction (foundation concrete heating & hoarding)
- Special audio, visual, security equipment or installation other than provision of empty conduit systems carried in electrical division
- Loose furniture, furnishings and equipment
- Window treatments
- Third Party Commissioning Costs
- Overtime premiums for work done outside normal working hours
- Phased construction premiums
- Cash Allowance
- Building permit
- Preventative maintenance contracts
- Value added tax (e.g. Harmonized Sales Tax, Goods and Services Tax)

2. DOCUMENTATION

- This Class 'D' Estimate has been prepared from the documentation included in Appendix B of this report.

All of the above documentation was received from Kasian Architecture and was supplemented with information gathered in meeting(s) and telephone conversations with the design team, as applicable.

Design changes and/or additions made subsequent to this issuance of the documentation noted above have not been incorporated in this report.

3. COST CONSIDERATIONS

3.1 Cost Base:

All costs are estimated on the basis of competitive bids (a minimum of at least 3 subcontractor bids for each trade) being received in February 2018 from all major subcontractors and suppliers based on a stipulated sum form of contract.

Should the above bidding conditions not occur, we can expect to see an increase in the estimated cost of construction.

3.2 Escalation:

An allowance of 6% has been made for construction cost escalation that may occur between February 2018 and the anticipated bid date of January 2020 for the project.

3.3 Contingencies:

An allowance of 20% has been included to cover design and pricing unknowns. This allowance is not intended to cover any program space modifications but rather to provide some flexibility for the designers and cost planners during the remaining contract document stages.

An allowance of 10% or 15% has been made to cover construction (post contract) unknowns.

3.4 Unit Rates:

The unit rates in the preparation of this Class 'D' Estimate include labour and material, equipment, subcontractor's overheads and profits.

3.5 Taxes:

No provision has been made for Goods and Services Tax. It is recommended that the owner make separate provision for GST in the project budget as applicable.

3.6 Statement of Probable Costs:

Hanscomb has no control over the cost of labour and materials, the contractor's method of determining prices, or competitive bidding and market conditions. This opinion of probable cost of construction is made on the basis of experience, qualifications and best judgment of the professional consultant familiar with the construction industry. Hanscomb cannot and does not guarantee that proposals, bids or actual construction costs will not vary from this or subsequent cost estimates.

3. COST CONSIDERATIONS (cont'd)

3.6 Statement of Probable Costs: (continued)

Hanscomb has prepared this estimate in accordance with generally accepted principles and practices. Hanscomb's staff is available to discuss its contents with any interested party.

3.7 Ongoing Cost Control:

Hanscomb recommends that the Owner and design team carefully review this document, including line item description, unit prices, clarifications, exclusions, inclusions and assumptions, contingencies, escalation and mark-ups. If the project is over budget, or if there are unresolved budgeting issues, alternative systems/schemes should be evaluated before proceeding into the next design phase.

Requests for modifications of any apparent errors or omissions to this document must be made to Hanscomb within ten (10) days of receipt of this estimate. Otherwise, it will be understood that the contents have been concurred with and accepted.

It is recommended that a final update estimate be produced by Hanscomb using Bid Documents to determine overall cost changes that may have occurred since the preparation of this estimate. The final updated estimate will address changes and additions to the documents, as well as addenda issued during the bidding process. Hanscomb cannot reconcile bid results to any estimate not produced from bid documents including all addenda.

4. GROSS FLOOR AND SITE DEVELOPED AREA

GROSS FLOOR AREA:

Description	M2
Area 1.1	4,250
Area 1.2	470
Area 1.3	70
Area 1.4	15
Area 1.5	22
Area 2	925
Area 3	365
Area 4	3,500
Area 5	340
Area 6	190
Area 7	190
Area 8	70
Area 9	773
TOTAL	**11,180**

SITE DEVELOPED AREA:

Description	M2
Area of Site	8,560
TOTAL	**8,560**

The above areas have been measured in accordance with the Canadian Institute of Quantity Surveyors' Method of Measurement of Buildings by Area and Volume.

5. CONSTRUCTION COST ESTIMATE SUMMARY

COST SUMMARY:

Please see next page:

Brennan Park Recreation Centre
Squamish, British Columbia

Report Date: Feb 19, 2018
Page No.: 1 of 1

CONSTRUCTION COST PROJECT SUMMARY WITH PHASING

Phase 1 Commencing January 2020					
Area Description	**Area in m2**	***Area in SF***	**Rate/m2**	***Rate/SF***	**Total**
Area 1: New Rink Addition					
1.1 New Rink	*4,250 m2*	*45,747 SF*	*$4,436.61/m2*	*$412.17/SF*	*$18,855,600*
1.2 New Concourse	*470 m2*	*5,059 SF*	*$3,305.96/m2*	*$307.14/SF*	*$1,553,800*
1.3 Concession / Skateshop (Expansion & Renovation)	*70 m2*	*753 SF*	*$3,234.29/m2*	*$300.66/SF*	*$226,400*
1.4 Storage Space Renovation	*15 m2*	*161 SF*	*$2,280.00/m2*	*$212.42/SF*	*$34,200*
1.5 New Canopy	*22 m2*	*237 SF*	*$2,000.00/m2*	*$185.65/SF*	*$44,000*
Area 1 Sub-Total					$20,714,000
Site Development and Services for Phase 1					$2,285,400
Phase 1 Sub-Total *(excludes Soft Costs and FF&E)*					**$22,999,400**

Phase 2 Commencing January 2022 (includes 2 more years of escalation)					
Area Description	**Area in m2**	***Area in SF***	**Rate/m2**	***Rate/SF***	**Total**
Area 4: New Wellness Centre with Gym (base buildiing)	3,500 m2	*37,674 SF*	$2,820.17/m2	*$262.00/SF*	$9,870,600
Site Development and Services for Phase 1					$1,089,000
Phase 2 Sub-Total *(excludes Soft Costs and FF&E)*					**$10,959,600**

Phase 3 Commencing January 2024 (includes 4 more years of escalation)					
Area Description	**Area in m2**	***Area in SF***	**Rate/m2**	***Rate/SF***	**Total**
Area 2: Renovation of Auditorium, Senior's Lounge and New Gymnastics	925 m2	*9,957 SF*	$1,401.73/m2	*$130.22/SF*	$1,296,600
Area 3: Renovation & Expansion for New Administration Offices	365 m2	*3,929 SF*	$4,441.37/m2	*$412.60/SF*	$1,621,100
Area 4: New Wellness Centre with Gym (fit up)	2,000 m2	*21,528 SF*	$1,220.00/m2	*$113.34/SF*	$2,440,000
Area 5: Renovation of the Existing Rink Mezzanine Level	340 m2	*3,660 SF*	$2,634.71/m2	*$244.75/SF*	$895,800
Area 6: Renovation of Existing Change Rooms	190 m2	*2,045 SF*	$2,299.47/m2	*$213.64/SF*	$436,900
Area 7: Renovation of Existing Change Rooms	190 m2	*2,045 SF*	$2,467.89/m2	*$229.29/SF*	$468,900
Area 8: Renovation of Entry & New Entry Canopy	70 m2	*753 SF*	$7,562.86/m2	*$703.05/SF*	$529,400
Area 9: Renovation of Existing Concourse	773 m2	*8,320 SF*	$1,153.30/m2	*$107.15/SF*	$891,500
Site Development & Services for Phase 3					$963,100
Phase 3 Sub-Total *(excludes Soft Costs and FF&E)*					**$9,543,300**

Total Construction Estimate in 3 Phases *(excludes Soft Costs and FF&E)* **$43,502,300**

Hanscomb

CONSTRUCTION COST ESTIMATE SUMMARY

Area Description	Area	Unit	Rate/m2	Total
Area 1: New Rink Addition				
1.1 New Rink	*4,250*	*m2*	*$4,436.61*	*$18,855,600.00*
1.2 New Concourse	*470*	*m2*	*$3,305.96*	*$1,553,800.00*
1.3 Concession / Skateshop (Expansion & Renovation)	*70*	*m2*	*$3,234.29*	*$226,400.00*
1.4 Storage Space Renovation	*15*	*m2*	*$2,280.00*	*$34,200.00*
1.5 New Canopy	*22*	*m2*	*$2,000.00*	*$44,000.00*
Area 1 Sub-Total				$20,714,000.00
Area 2: Renovation of Auditorium, Senior's Lounge and New Gymnastics	925	m2	$1,245.40	$1,152,000.00
Area 3: Renovation & Expansion for New Administration Offices	365	m2	$3,946.00	$1,440,300.00
Area 4: New Wellness Centre with Gym	3500	m2	$3,315.40	$11,603,900.00
Area 5: Renovation of the Existing Rink Mezzanine Level	340	m2	$2,340.88	$795,900.00
Area 6: Renovation of Existing Change Rooms	190	m2	$2,043.20	$388,200.00
Area 7: Renovation of Existing Change Rooms	190	m2	$2,192.60	$416,600.00
Area 8: Renovation of Entry & New Entry Canopy	70	m2	$6,720.00	$470,400.00
Area 9: Renovation of Existing Concourse	773	m2	$1,024.70	$792,100.00
Site Development & Services	8560	m2	$486.87	$4,167,600.00
Total Construction Estimate				**$41,941,000.00**

6. UNDERSTANDING THE ELEMENTAL COST SUMMARY

The cost information presented in this report is organized in a form referred to by the Canadian Institute of Quantity Surveyors as an 'Elemental Cost Summary'. To help you get the most out of the report, we have summarized the key features of this type of summary.

Building components are summarized into 'elements'. This grouping system has the advantage of allowing comparisons between buildings constructed with different materials. Under this format, we can review the cost of 'A22 Upper Floor Construction' for a building whether it is made of steel, concrete or wood - something that can prove difficult when using a summary by 'trade'.

Another feature of the summary is the column titled 'Ratio to GFA'. As the name implies, the value is arrived at by dividing the 'Element Quantity' by the 'GFA' (gross floor area) of the building. This can be a useful tool for getting a sense of layout. For example, in the case of partitions, this ratio allows us to get a feel for the overall 'density' of partitions. Or if we compare the ratios for 'A21 Lowest Floor Construction' and 'A22 Upper Floor Construction', we can get a sense of the number of stories. By listing these values by 'element' we can compare independently of the different systems (and even compare different projects).

ELEMENT	Ratio to GFA	Element Cost Quantity	Unit Rate	Element Amount Sub-total	Total	Rate per SF of GFA Sub-total	Total	%
A SHELL		73,969 SF			$2,797,020		$37.82	68.8
A1 SUBSTRUCTURE					$270,150		$3.65	6.7
A11 Foundations	0.896	66,285 SF	4.00	265,160		3.59		
A12 Basement Excavation	0.007	485 CY	10.29	4,990		0.07		
A13 Special Conditions	0.000	1 Nil	0.00	-		-		
A2 STRUCTURE					$1,268,720		$17.15	31.2
A21 Lowest Floor Construction	0.896	66,285 SF	4.63	307,040		4.15		
A22 Upper Floor Construction	0.104	7,675 SF	35.43	271,950		3.68		
A23 Roof Construction	0.896	66,285 SF	10.41	689,730		9.33		
A3 EXTERIOR ENCLOSURE					$1,258,150		$1	
A31 Walls Below Grade	0.000							
A32 Walls Above Grade	0.358	26,4						
A33 Windows & Entrances	0.083	6,1						
A34 Roof Covering	0.896	66,2						
A35 Projections	1.000	73,9						
B INTERIORS		73,9						
B1 PARTITIONS & DOORS								
B11 Partitions	0.114	8,4						
B12 Doors	0.001							
B2 FINISHES								
B21 Floor Finishes	1.000	73,9						
B22 Ceiling Finishes	1.000	73,9						
B23 Wall Finishes	0.576	42,6						
B3 FITTINGS & EQUIPMENT								
B31 Fittings & Fixtures	1.000	73,9						
B32 Equipment	1.000	73,9						
B33 Elevators	0.000							
C SERVICES		73,9						
C1 MECHANICAL								
C11 Plumbing & Drainage	1.000	73,9						
C12 Fire Protection	1.000	73,9						
C13 HVAC	1.000	73,9						
C14 Controls	1.000	73,9						
C2 ELECTRICAL								
C21 Service & Distribution	1.000	73,9						
C22 Lighting, Devices & Heating	1.000	73,9						
C23 Systems & Ancillaries	1.000	73,9						
NET BUILDING COST - EXCLUDING SITE							$50.79	92.5
Z GENERAL REQ'S & ALLOWANCES							$4.12	7.5
Z1 GENERAL REQ'S & FEE							$4.12	7.5
Z11 General Requirements	6.0%							
Z12 Fee	2.0%							
TOTAL CONSTRUCTION ESTIMATE - EXCLUD							$54.92	100.0
Z2 ALLOWANCES							$0.00	0.0
Z21 Design Allowance	0.0%							
Z22 Escalation Allowance	0.0%							
Z23 Construction Allowance	0.0%			-		-		
TOTAL CONSTRUCTION ESTIMATE - INCLUDING CONTINGENCIES					$4,061,550		$54.92	100.0
							$591 /m2	

In this format of summary, the various materials (or trades) are not the main concern - we are interested in evaluating the costs of the more 'intuitive' elements of a building (e.g. foundations, roof covering, plumbing & drainage). To do this, we first cost the individual components of the system, we then report the resulting rate based on the quantity we have measured for that 'element'. We can then compare the costs and overall 'rates' for different types of construction that have the same basic building function, or even compare completely different buildings types.

The last set of columns returns to the concept of GFA by converting the costs associated with each 'element' into a cost per SF (or m2) of building area and as a percentage of the total construction cost. This allows us to get a sense of the relative cost of the different elements of a building.

Subtotals as well as a listing of the percentages that may have been included for costs additional to the 'net' building cost.

As can be seen, the power of the elemental cost summary lies in the ability to compare building alternatives without losing sight of the cost associated with that *element* of the building. As well, we can compare different types of buildings and get a sense where the costs may vary.

When we start asking questions such as "what's different between the buildings?" or "why is the 'roof covering' element more on this project, if it's fulfilling the same function?" we can begin to have an understanding and be better prepared for the all-important question we are all asked at one time or another: "why are the costs different?"

Appendix
A - ELEMENTAL COST SUMMARY

Project	: **Brennan Park Recreation Centre - Area 1**			Report date	: 16 Feb 2018
	: **New Rink Addition**			Page No.	: 1
Location	: **Squamish, BC**	**ELEMENTAL COST SUMMARY**		Bldg Type	: 550
Owner	: **District of Squamish**			C.T. Index	: 0.0
Consultant	: **Kasian Architecture**			GFA	: 4,250 m2

Element	Ratio to GFA	Elemental Cost Quantity	Elemental Cost Unit rate	Elemental Amount Sub-Total	Elemental Amount Total	Rate per m2 Sub-Total	Rate per m2 Total	%
A SHELL		4,250 m2			5,212,500		1,226.47	38.7
A1 SUBSTRUCTURE					1,300,000		305.88	9.6
A11 Foundations	0.765	3,250 m2	250.00	812,500		191.18		
A12 Basement Excavation				0		0.00		
A13 Special Conditions	0.765	3,250 m2	150.00	487,500		114.71		
A2 STRUCTURE					2,320,000		545.88	17.2
A21 Lowest Floor Construction	0.765	3,250 m2	160.00	520,000		122.35		
A22 Upper Floor Construction	0.235	1,000 m2	500.00	500,000		117.65		
A23 Roof Construction	0.765	3,250 m2	400.00	1,300,000		305.88		
A3 EXTERIOR ENCLOSURE					1,592,500		374.71	11.8
A31 Walls Below Grade				0		0.00		
A32 Walls Above Grade	0.306	1,300 m2	600.00	780,000		183.53		
A33 Windows & Entrances	0.071	300 m2	800.00	240,000		56.47		
A34 Roof Coverings	0.765	3,250 m2	150.00	487,500		114.71		
A35 Projections	1.000	4,250 m2	20.00	85,000		20.00		
B INTERIORS		4,250 m2			1,857,300		437.01	13.8
B1 PARTITIONS & DOORS					433,500		102.00	3.2
B11 Partitions	1.000	4,250 m2	90.00	382,500		90.00		
B12 Doors	0.004	17 No	3,000.00	51,000		12.00		
B2 FINISHES					743,800		175.01	5.5
B21 Floor Finishes	1.000	4,250 m2	65.00	276,250		65.00		
B22 Ceiling Finishes	1.000	4,250 m2	60.00	255,000		60.00		
B23 Wall Finishes	1.000	4,250 m2	50.00	212,500		50.00		
B3 FITTINGS & EQUIPMENT					680,000		160.00	5.0
B31 Fittings & Fixtures	1.000	4,250 m2	70.00	297,500		70.00		
B32 Equipment	1.000	4,250 m2	90.00	382,500		90.00		
B33 Elevators				0		0.00		
B34 Escalators				0		0.00		
C SERVICES		4,250 m2			4,813,800		1,132.66	35.7
C1 MECHANICAL					3,793,800		892.66	28.2
C11 Plumbing & Drainage	1.000	4,250 m2	50.00	212,500		50.00		
C12 Fire Protection	1.000	4,250 m2	45.00	191,250		45.00		
C13 HVAC	1.000	4,250 m2	747.60	3,177,510		747.65		
C14 Controls	1.000	4,250 m2	50.00	212,500		50.00		
C2 ELECTRICAL					1,020,000		240.00	7.6
C21 Service & Distribution	1.000	4,250 m2	25.00	106,250		25.00		
C22 Lighting, Devices & Heating	1.000	4,250 m2	125.00	531,250		125.00		
C23 Systems & Ancillaries	1.000	4,250 m2	90.00	382,500		90.00		
NET BUILDING COST - EXCLUDING SITE				**$**	**11,883,600**		2,796.14	88.2
D SITE & ANCILLARY WORK		4,250 m2			0		0.00	0.0
D1 SITE WORK					0		0.00	0.0
D11 Site Development				0		0.00		
D12 Mechanical Site Services				0		0.00		
D13 Electrical Site Services				0		0.00		
D2 ANCILLARY WORK					0		0.00	0.0
D21 Demolitions				0		0.00		
D22 Alterations				0		0.00		
NET BUILDING COST - INCLUDING SITE				**$**	**11,883,600**		2,796.14	88.2
Z1 GENERAL REQUIREMENTS & FEE					1,592,400		374.68	11.8
Z11 General Requirements		8.0 %		950,690		223.69		
Z12 Fee		5.0 %		641,710		150.99		
TOTAL CONSTRUCTION ESTIMATE - EXCLUDING ALLOWANCES				**$**	**13,476,000**		3,170.82	100.0
Z2 ALLOWANCES					5,379,600		1,265.79	
Z21 Design & Pricing Allowance		20.0 %		2,695,200		634.16		
Z22 Escalation Allowance		6.0 %		970,270		228.30		
Z23 Construction Allowance		10.0 %		1,714,150		403.33		
TOTAL CONSTRUCTION ESTIMATE - INCLUDING ALLOWANCES				**$**	**18,855,600**		4,436.61	
VALUE ADDED TAX (GST/HST)					0		0.00	
Value Added Tax (GST/HST)		0.0 %		0		0.00		
TOTAL CONSTRUCTION ESTIMATE				**$**	**18,855,600**	**$**	**4,436.61**	

Project	: **Brennan Park Recreation Centre - Area 1**			Report date	: 16 Feb 2018
	: **New Concourse**			Page No.	: 1
Location	: **Squamish, BC**	**ELEMENTAL COST SUMMARY**		Bldg Type	: 550
Owner	: **District of Squamish**			C.T. Index	: 0.0
Consultant	: **Kasian Architecture**			GFA	: 470 m2

Element	Ratio to GFA	Elemental Cost Quantity	Elemental Cost Unit rate	Elemental Amount Sub-Total	Elemental Amount Total	Rate per m2 Sub-Total	Rate per m2 Total	%
A SHELL		470 m2			567,100		1,206.60	51.1
A1 SUBSTRUCTURE					188,000		400.00	16.9
A11 Foundations	1.000	470 m2	250.00	117,500		250.00		
A12 Basement Excavation				0		0.00		
A13 Special Conditions	1.000	470 m2	150.00	70,500		150.00		
A2 STRUCTURE					263,200		560.00	23.7
A21 Lowest Floor Construction	1.000	470 m2	160.00	75,200		160.00		
A22 Upper Floor Construction				0		0.00		
A23 Roof Construction	1.000	470 m2	400.00	188,000		400.00		
A3 EXTERIOR ENCLOSURE					115,900		246.60	10.4
A31 Walls Below Grade				0		0.00		
A32 Walls Above Grade	0.021	10 m2	600.00	6,000		12.77		
A33 Windows & Entrances	0.064	30 m2	1,000.00	30,000		63.83		
A34 Roof Coverings	1.000	470 m2	150.00	70,500		150.00		
A35 Projections	1.000	470 m2	20.00	9,400		20.00		
B INTERIORS		470 m2			131,600		280.00	11.9
B1 PARTITIONS & DOORS					0		0.00	0.0
B11 Partitions				0		0.00		
B12 Doors				0		0.00		
B2 FINISHES					98,700		210.00	8.9
B21 Floor Finishes	1.000	470 m2	80.00	37,600		80.00		
B22 Ceiling Finishes	1.000	470 m2	100.00	47,000		100.00		
B23 Wall Finishes	1.000	470 m2	30.00	14,100		30.00		
B3 FITTINGS & EQUIPMENT					32,900		70.00	3.0
B31 Fittings & Fixtures	1.000	470 m2	70.00	32,900		70.00		
B32 Equipment	1.000	470 m2	0.00	0		0.00		
B33 Elevators				0		0.00		
B34 Escalators				0		0.00		
C SERVICES		470 m2			280,600		597.02	25.3
C1 MECHANICAL					167,800		357.02	15.1
C11 Plumbing & Drainage	1.000	470 m2	32.00	15,040		32.00		
C12 Fire Protection	1.000	470 m2	45.00	21,150		45.00		
C13 HVAC	1.000	470 m2	230.00	108,100		230.00		
C14 Controls	1.000	470 m2	50.00	23,500		50.00		
C2 ELECTRICAL					112,800		240.00	10.2
C21 Service & Distribution	1.000	470 m2	25.00	11,750		25.00		
C22 Lighting, Devices & Heating	1.000	470 m2	125.00	58,750		125.00		
C23 Systems & Ancillaries	1.000	470 m2	90.00	42,300		90.00		
NET BUILDING COST - EXCLUDING SITE				**$**	**979,300**		2,083.62	88.2
D SITE & ANCILLARY WORK		470 m2			0		0.00	0.0
D1 SITE WORK					0		0.00	0.0
D11 Site Development				0		0.00		
D12 Mechanical Site Services				0		0.00		
D13 Electrical Site Services				0		0.00		
D2 ANCILLARY WORK					0		0.00	0.0
D21 Demolitions				0		0.00		
D22 Alterations				0		0.00		
NET BUILDING COST - INCLUDING SITE				**$**	**979,300**		2,083.62	88.2
Z1 GENERAL REQUIREMENTS & FEE					131,200		279.15	11.8
Z11 General Requirements		8.0 %		78,340		166.68		
Z12 Fee		5.0 %		52,880		112.51		
TOTAL CONSTRUCTION ESTIMATE - EXCLUDING ALLOWANCES				**$**	**1,110,500**		2,362.77	100.0
Z2 ALLOWANCES					443,300		943.19	
Z21 Design & Pricing Allowance		20.0 %		222,100		472.55		
Z22 Escalation Allowance		6.0 %		79,960		170.13		
Z23 Construction Allowance		10.0 %		141,260		300.55		
TOTAL CONSTRUCTION ESTIMATE - INCLUDING ALLOWANCES				**$**	**1,553,800**		3,305.96	
VALUE ADDED TAX (GST/HST)					0		0.00	
Value Added Tax (GST/HST)		0.0 %		0		0.00		
TOTAL CONSTRUCTION ESTIMATE				**$**	**1,553,800**	**$**	**3,305.96**	

Project	: **Brennan Park Recreation Centre - Area 1**			Report date	: 16 Feb 2018
	: **Concession & Skateshop (Expansion/Reno)**			Page No.	: 1
Location	: **Squamish, BC**	**ELEMENTAL COST SUMMARY**		Bldg Type	: 550
Owner	: **District of Squamish**			C.T. Index	: 0.0
Consultant	: **Kasian Architecture**			GFA	: 70 m2

Element	Ratio to GFA	Elemental Cost		Elemental Amount		Rate per m2		%
		Quantity	Unit rate	Sub-Total	Total	Sub-Total	Total	
A SHELL		70 m2			45,200		645.71	27.9
A1 SUBSTRUCTURE					16,000		228.57	9.9
A11 Foundations	0.571	40 m2	250.00	10,000		142.86		
A12 Basement Excavation				0		0.00		
A13 Special Conditions	0.571	40 m2	150.00	6,000		85.71		
A2 STRUCTURE					22,400		320.00	13.8
A21 Lowest Floor Construction	0.571	40 m2	160.00	6,400		91.43		
A22 Upper Floor Construction				0		0.00		
A23 Roof Construction	0.571	40 m2	400.00	16,000		228.57		
A3 EXTERIOR ENCLOSURE					6,800		97.14	4.2
A31 Walls Below Grade				0		0.00		
A32 Walls Above Grade				0		0.00		
A33 Windows & Entrances				0		0.00		
A34 Roof Coverings	0.571	40 m2	150.00	6,000		85.71		
A35 Projections	0.571	40 m2	20.00	800		11.43		
B INTERIORS		70 m2			17,200		245.71	10.6
B1 PARTITIONS & DOORS					4,800		68.57	3.0
B11 Partitions	0.286	20 m2	90.00	1,800		25.71		
B12 Doors	0.014	1 No	3,000.00	3,000		42.86		
B2 FINISHES					8,400		120.00	5.2
B21 Floor Finishes	0.571	40 m2	80.00	3,200		45.71		
B22 Ceiling Finishes	0.571	40 m2	100.00	4,000		57.14		
B23 Wall Finishes	0.571	40 m2	30.00	1,200		17.14		
B3 FITTINGS & EQUIPMENT					4,000		57.14	2.5
B31 Fittings & Fixtures	0.571	40 m2	100.00	4,000		57.14		
B32 Equipment	0.571	40 m2	0.00	0		0.00		
B33 Elevators				0		0.00		
B34 Escalators				0		0.00		
C SERVICES		70 m2			22,900		327.14	14.2
C1 MECHANICAL					13,300		190.00	8.2
C11 Plumbing & Drainage				0		0.00		
C12 Fire Protection	0.571	40 m2	52.50	2,100		30.00		
C13 HVAC	0.571	40 m2	230.00	9,200		131.43		
C14 Controls	0.571	40 m2	50.00	2,000		28.57		
C2 ELECTRICAL					9,600		137.14	5.9
C21 Service & Distribution	0.571	40 m2	25.00	1,000		14.29		
C22 Lighting, Devices & Heating	0.571	40 m2	125.00	5,000		71.43		
C23 Systems & Ancillaries	0.571	40 m2	90.00	3,600		51.43		
NET BUILDING COST - EXCLUDING SITE				**$**	**85,300**		1,218.57	52.7
D SITE & ANCILLARY WORK		70 m2			57,400		820.00	35.5
D1 SITE WORK					0		0.00	0.0
D11 Site Development				0		0.00		
D12 Mechanical Site Services				0		0.00		
D13 Electrical Site Services				0		0.00		
D2 ANCILLARY WORK					57,400		820.00	35.5
D21 Demolitions	0.429	30 m2	100.00	3,000		42.86		
D22 Alterations	0.429	30 m2	1,812.30	54,370		776.71		
NET BUILDING COST - INCLUDING SITE				**$**	**142,700**		2,038.57	88.2
Z1 GENERAL REQUIREMENTS & FEE					19,100		272.86	11.8
Z11 General Requirements		8.0 %		11,420		163.14		
Z12 Fee		5.0 %		7,710		110.14		
TOTAL CONSTRUCTION ESTIMATE - EXCLUDING ALLOWANCES				**$**	**161,800**		2,311.43	100.0
Z2 ALLOWANCES					64,600		922.86	
Z21 Design & Pricing Allowance		20.0 %		32,360		462.29		
Z22 Escalation Allowance		6.0 %		11,650		166.43		
Z23 Construction Allowance		10.0 %		20,580		294.00		
TOTAL CONSTRUCTION ESTIMATE - INCLUDING ALLOWANCES				**$**	**226,400**		3,234.29	
VALUE ADDED TAX (GST/HST)					0		0.00	
Value Added Tax (GST/HST)		0.0 %		0		0.00		
TOTAL CONSTRUCTION ESTIMATE				**$**	**226,400**	**$**	**3,234.29**	

Project	: **Brennan Park Recreation Centre - Area 1**			Report date	: 16 Feb 2018
	: **Storage Space Renovation**			Page No.	: 1
Location	: **Squamish, BC**	**ELEMENTAL COST SUMMARY**		Bldg Type	: 550
Owner	: **District of Squamish**			C.T. Index	: 0.0
Consultant	: **Kasian Architecture**			GFA	: 15 m2

Element	Ratio to GFA	Elemental Cost		Elemental Amount		Rate per m2		%
		Quantity	Unit rate	Sub-Total	Total	Sub-Total	Total	
A SHELL		15 m2			0		0.00	0.0
A1 SUBSTRUCTURE					0		0.00	0.0
A11 Foundations				0		0.00		
A12 Basement Excavation				0		0.00		
A13 Special Conditions				0		0.00		
A2 STRUCTURE					0		0.00	0.0
A21 Lowest Floor Construction				0		0.00		
A22 Upper Floor Construction				0		0.00		
A23 Roof Construction				0		0.00		
A3 EXTERIOR ENCLOSURE					0		0.00	0.0
A31 Walls Below Grade				0		0.00		
A32 Walls Above Grade				0		0.00		
A33 Windows & Entrances				0		0.00		
A34 Roof Coverings				0		0.00		
A35 Projections				0		0.00		
B INTERIORS		15 m2			8,100		540.00	34.6
B1 PARTITIONS & DOORS					3,900		260.00	16.7
B11 Partitions	0.667	10 m2	90.00	900		60.00		
B12 Doors	0.067	1 No	3,000.00	3,000		200.00		
B2 FINISHES					1,200		80.00	5.1
B21 Floor Finishes	1.000	15 m2	30.00	450		30.00		
B22 Ceiling Finishes	1.000	15 m2	20.00	300		20.00		
B23 Wall Finishes	1.000	15 m2	30.00	450		30.00		
B3 FITTINGS & EQUIPMENT					3,000		200.00	12.8
B31 Fittings & Fixtures	1.000	15 m2	200.00	3,000		200.00		
B32 Equipment	1.000	15 m2	0.00	0		0.00		
B33 Elevators				0		0.00		
B34 Escalators				0		0.00		
C SERVICES		15 m2			6,500		433.33	27.8
C1 MECHANICAL					2,300		153.33	9.8
C11 Plumbing & Drainage				0		0.00		
C12 Fire Protection	1.000	15 m2	20.00	300		20.00		
C13 HVAC	1.000	15 m2	100.00	1,500		100.00		
C14 Controls	1.000	15 m2	34.00	510		34.00		
C2 ELECTRICAL					4,200		280.00	17.9
C21 Service & Distribution	1.000	15 m2	133.30	2,000		133.33		
C22 Lighting, Devices & Heating	1.000	15 m2	66.70	1,000		66.67		
C23 Systems & Ancillaries	1.000	15 m2	82.00	1,230		82.00		
NET BUILDING COST - EXCLUDING SITE				**$**	**14,600**		973.33	62.4
D SITE & ANCILLARY WORK		15 m2			6,000		400.00	25.6
D1 SITE WORK					0		0.00	0.0
D11 Site Development				0		0.00		
D12 Mechanical Site Services				0		0.00		
D13 Electrical Site Services				0		0.00		
D2 ANCILLARY WORK					6,000		400.00	25.6
D21 Demolitions	1.000	15 m2	100.00	1,500		100.00		
D22 Alterations	1.000	15 m2	300.00	4,500		300.00		
NET BUILDING COST - INCLUDING SITE				**$**	**20,600**		1,373.33	88.0
Z1 GENERAL REQUIREMENTS & FEE					2,800		186.67	12.0
Z11 General Requirements		8.0 %		1,650		110.00		
Z12 Fee		5.0 %		1,110		74.00		
TOTAL CONSTRUCTION ESTIMATE - EXCLUDING ALLOWANCES				**$**	**23,400**		1,560.00	100.0
Z2 ALLOWANCES					10,800		720.00	
Z21 Design & Pricing Allowance		20.0 %		4,680		312.00		
Z22 Escalation Allowance		6.0 %		1,680		112.00		
Z23 Construction Allowance		15.0 %		4,460		297.33		
TOTAL CONSTRUCTION ESTIMATE - INCLUDING ALLOWANCES				**$**	**34,200**		2,280.00	
VALUE ADDED TAX (GST/HST)					0		0.00	
Value Added Tax (GST/HST)		0.0 %		0		0.00		
TOTAL CONSTRUCTION ESTIMATE				**$**	**34,200**	**$**	**2,280.00**	

Project	: **Brennan Park Recreation Centre - Area 2**			Report date	: 16 Feb 2018
	: **Auditorium, Lounge Etc, Renovation**			Page No.	: A - 1
Location	: **Squamish, BC**	**ELEMENTAL COST SUMMARY**		Bldg Type	: 550
Owner	: **District of Squamish**			C.T. Index	: 0.0
Consultant	: **Kasian Architecture**			GFA	: 925 m2

Element	Ratio to GFA	Elemental Cost Quantity	Elemental Cost Unit rate	Elemental Amount Sub-Total	Elemental Amount Total	Rate per m2 Sub-Total	Rate per m2 Total	%
A SHELL		925 m2			0		0.00	0.0
A1 SUBSTRUCTURE					0		0.00	0.0
A11 Foundations				0		0.00		
A12 Basement Excavation				0		0.00		
A13 Special Conditions				0		0.00		
A2 STRUCTURE					0		0.00	0.0
A21 Lowest Floor Construction				0		0.00		
A22 Upper Floor Construction				0		0.00		
A23 Roof Construction				0		0.00		
A3 EXTERIOR ENCLOSURE					0		0.00	0.0
A31 Walls Below Grade				0		0.00		
A32 Walls Above Grade				0		0.00		
A33 Windows & Entrances				0		0.00		
A34 Roof Coverings				0		0.00		
A35 Projections				0		0.00		
B INTERIORS		925 m2			401,900		434.50	51.0
B1 PARTITIONS & DOORS					14,400		15.60	1.8
B11 Partitions	0.060	56 m2	150.00	8,400		9.10		
B12 Doors	0.000	2 No	3,000.00	6,000		6.50		
B2 FINISHES					166,600		180.10	21.2
B21 Floor Finishes	1.000	925 m2	130.00	120,300		130.10		
B22 Ceiling Finishes	1.000	925 m2	20.00	18,500		20.00		
B23 Wall Finishes	1.000	925 m2	30.00	27,800		30.10		
B3 FITTINGS & EQUIPMENT					220,900		238.80	28.1
B31 Fittings & Fixtures	1.000	925 m2	189.00	174,600		188.80		
B32 Equipment	1.000	925 m2	50.00	46,300		50.10		
B33 Elevators				0		0.00		
B34 Escalators				0		0.00		
C SERVICES		925 m2			218,400		236.10	27.7
C1 MECHANICAL					143,400		155.00	18.2
C11 Plumbing & Drainage				0		0.00		
C12 Fire Protection	1.000	925 m2	20.00	18,500		20.00		
C13 HVAC	1.000	925 m2	120.00	111,000		120.00		
C14 Controls	1.000	925 m2	15.00	13,900		15.00		
C2 ELECTRICAL					75,000		81.10	9.5
C21 Service & Distribution	1.000	925 m2	5.00	5,000		5.40		
C22 Lighting, Devices & Heating	1.000	925 m2	43.00	40,000		43.20		
C23 Systems & Ancillaries	1.000	925 m2	32.00	30,000		32.40		
NET BUILDING COST - EXCLUDING SITE				**$**	**620,300**		670.59	78.8
D SITE & ANCILLARY WORK		925 m2			74,100		80.10	9.4
D1 SITE WORK					0		0.00	0.0
D11 Site Development				0		0.00		
D12 Mechanical Site Services				0		0.00		
D13 Electrical Site Services				0		0.00		
D2 ANCILLARY WORK					74,100		80.10	9.4
D21 Demolitions	1.000	925 m2	50.00	46,300		50.10		
D22 Alterations	1.000	925 m2	30.00	27,800		30.10		
NET BUILDING COST - INCLUDING SITE				**$**	**694,400**		750.70	88.2
Z1 GENERAL REQUIREMENTS & FEE					93,100		100.60	11.8
Z11 General Requirements		8.0 %		55,600		60.10		
Z12 Fee		5.0 %		37,500		40.50		
TOTAL CONSTRUCTION ESTIMATE - EXCLUDING ALLOWANCES				**$**	**787,500**		851.35	100.0
Z2 ALLOWANCES					364,500		394.10	
Z21 Design & Pricing Allowance		20.0 %		157,500		170.30		
Z22 Escalation Allowance		6.0 %		56,700		61.30		
Z23 Construction Allowance		15.0 %		150,300		162.50		
TOTAL CONSTRUCTION ESTIMATE - INCLUDING ALLOWANCES				**$**	**1,152,000**		1,245.41	
VALUE ADDED TAX (GST/HST)					0		0.00	
Value Added Tax (GST/HST)		0.0 %		0		0.00		
TOTAL CONSTRUCTION ESTIMATE				**$**	**1,152,000**	**$**	**1,245.40**	

Project	: **Brennan Park Recreation Centre - Area 3**			Report date	: 16 Feb 2018
	: **New Admin Offices (Adition & Renovation)**			Page No.	: A - 1
Location	: **Squamish, BC**	**ELEMENTAL COST SUMMARY**		Bldg Type	: 550
Owner	: **District of Squamish**			C.T. Index	: 0.0
Consultant	: **Kasian Architecture**			GFA	: 365 m2

Element	Ratio to GFA	Elemental Cost		Elemental Amount		Rate per m2		%
		Quantity	Unit rate	Sub-Total	Total	Sub-Total	Total	
A SHELL		365 m2			519,000		1,421.90	50.4
A1 SUBSTRUCTURE					120,000		328.80	11.7
A11 Foundations	0.820	300 m2	250.00	75,000		205.50		
A12 Basement Excavation				0		0.00		
A13 Special Conditions	0.820	300 m2	150.00	45,000		123.30		
A2 STRUCTURE					168,000		460.30	16.3
A21 Lowest Floor Construction	0.820	300 m2	160.00	48,000		131.50		
A22 Upper Floor Construction				0		0.00		
A23 Roof Construction	0.820	300 m2	400.00	120,000		328.80		
A3 EXTERIOR ENCLOSURE					231,000		632.90	22.4
A31 Walls Below Grade				0		0.00		
A32 Walls Above Grade	0.480	175 m2	600.00	105,000		287.70		
A33 Windows & Entrances	0.210	75 m2	1,000.00	75,000		205.50		
A34 Roof Coverings	0.820	300 m2	150.00	45,000		123.30		
A35 Projections	0.820	300 m2	20.00	6,000		16.40		
B INTERIORS		365 m2			96,000		263.00	9.3
B1 PARTITIONS & DOORS					36,000		98.60	3.5
B11 Partitions	0.820	300 m2	110.00	33,000		90.40		
B12 Doors	0.000	1 No	3,000.00	3,000		8.20		
B2 FINISHES					45,000		123.30	4.4
B21 Floor Finishes	0.820	300 m2	60.00	18,000		49.30		
B22 Ceiling Finishes	0.820	300 m2	60.00	18,000		49.30		
B23 Wall Finishes	0.820	300 m2	30.00	9,000		24.70		
B3 FITTINGS & EQUIPMENT					15,000		41.10	1.5
B31 Fittings & Fixtures	0.820	300 m2	50.00	15,000		41.10		
B32 Equipment				0		0.00		
B33 Elevators				0		0.00		
B34 Escalators				0		0.00		
C SERVICES		365 m2			198,500		543.80	19.3
C1 MECHANICAL					133,500		365.80	13.0
C11 Plumbing & Drainage	0.820	300 m2	150.00	45,000		123.30		
C12 Fire Protection	0.820	300 m2	35.00	10,500		28.80		
C13 HVAC	0.820	300 m2	220.00	66,000		180.80		
C14 Controls	0.820	300 m2	40.00	12,000		32.90		
C2 ELECTRICAL					65,000		178.10	6.3
C21 Service & Distribution	0.820	300 m2	17.00	5,000		13.70		
C22 Lighting, Devices & Heating	0.820	300 m2	100.00	30,000		82.20		
C23 Systems & Ancillaries	0.820	300 m2	100.00	30,000		82.20		
NET BUILDING COST - EXCLUDING SITE				**$**	**813,500**		2,228.77	79.0
D SITE & ANCILLARY WORK		365 m2			94,300		258.40	9.2
D1 SITE WORK					0		0.00	0.0
D11 Site Development				0		0.00		
D12 Mechanical Site Services				0		0.00		
D13 Electrical Site Services				0		0.00		
D2 ANCILLARY WORK					94,300		258.40	9.2
D21 Demolitions	0.180	65 m2	100.00	6,500		17.80		
D22 Alterations	0.180	65 m2	1,351.00	87,800		240.50		
NET BUILDING COST - INCLUDING SITE				**$**	**907,800**		2,487.12	88.2
Z1 GENERAL REQUIREMENTS & FEE					121,600		333.20	11.8
Z11 General Requirements		8.0 %		72,600		198.90		
Z12 Fee		5.0 %		49,000		134.20		
TOTAL CONSTRUCTION ESTIMATE - EXCLUDING ALLOWANCES				**$**	**1,029,400**		2,820.27	100.0
Z2 ALLOWANCES					410,900		1,125.80	
Z21 Design & Pricing Allowance		20.0 %		205,900		564.10		
Z22 Escalation Allowance		6.0 %		74,100		203.00		
Z23 Construction Allowance		10.0 %		130,900		358.60		
TOTAL CONSTRUCTION ESTIMATE - INCLUDING ALLOWANCES				**$**	**1,440,300**		3,946.03	
_ VALUE ADDED TAX (GST/HST)					0		0.00	
__ Value Added Tax (GST/HST)		0.0 %		0		0.00		
TOTAL CONSTRUCTION ESTIMATE				**$**	**1,440,300**	**$**	**3,946.00**	

Project	: **Brennan Park Recreation Centre - Area 4**			Report date	: 16 Feb 2018
	: **New Wellness Centre Adition**			Page No.	: A - 1
Location	: **Squamish, BC**	**ELEMENTAL COST SUMMARY**		Bldg Type	: 550
Owner	: **District of Squamish**			C.T. Index	: 0.0
Consultant	: **Kasian Architecture**			GFA	: 3,500 m2

Element	Ratio to GFA	Elemental Cost Quantity	Elemental Cost Unit rate	Elemental Amount Sub-Total	Elemental Amount Total	Rate per m2 Sub-Total	Rate per m2 Total	%
A SHELL		3,500 m2			3,623,000		1,035.10	43.7
A1 SUBSTRUCTURE					600,000		171.40	7.2
A11 Foundations	0.430	1,500 m2	250.00	375,000		107.10		
A12 Basement Excavation				0		0.00		
A13 Special Conditions	0.430	1,500 m2	150.00	225,000		64.30		
A2 STRUCTURE					1,840,000		525.70	22.2
A21 Lowest Floor Construction	0.430	1,500 m2	160.00	240,000		68.60		
A22 Upper Floor Construction	0.570	2,000 m2	500.00	1,000,000		285.70		
A23 Roof Construction	0.430	1,500 m2	400.00	600,000		171.40		
A3 EXTERIOR ENCLOSURE					1,183,000		338.00	14.3
A31 Walls Below Grade				0		0.00		
A32 Walls Above Grade	0.310	1,080 m2	600.00	648,000		185.10		
A33 Windows & Entrances	0.090	300 m2	800.00	240,000		68.60		
A34 Roof Coverings	0.430	1,500 m2	150.00	225,000		64.30		
A35 Projections	1.000	3,500 m2	20.00	70,000		20.00		
B INTERIORS		3,500 m2			1,930,000		551.40	23.3
B1 PARTITIONS & DOORS					375,000		107.10	4.5
B11 Partitions	1.000	3,500 m2	90.00	315,000		90.00		
B12 Doors	0.010	20 No	3,000.00	60,000		17.10		
B2 FINISHES					735,000		210.00	8.9
B21 Floor Finishes	1.000	3,500 m2	100.00	350,000		100.00		
B22 Ceiling Finishes	1.000	3,500 m2	60.00	210,000		60.00		
B23 Wall Finishes	1.000	3,500 m2	50.00	175,000		50.00		
B3 FITTINGS & EQUIPMENT					820,000		234.30	9.9
B31 Fittings & Fixtures	1.000	3,500 m2	150.00	525,000		150.00		
B32 Equipment	1.000	3,500 m2	50.00	175,000		50.00		
B33 Elevators	0.000	1 No	120,000.00	120,000		34.30		
B34 Escalators				0		0.00		
C SERVICES		3,500 m2			1,760,200		502.90	21.2
C1 MECHANICAL					1,185,100		338.60	14.3
C11 Plumbing & Drainage	1.000	3,500 m2	49.00	170,100		48.60		
C12 Fire Protection	1.000	3,500 m2	35.00	122,500		35.00		
C13 HVAC	1.000	3,500 m2	225.00	787,500		225.00		
C14 Controls	1.000	3,500 m2	30.00	105,000		30.00		
C2 ELECTRICAL					575,100		164.30	6.9
C21 Service & Distribution	1.000	3,500 m2	29.00	100,100		28.60		
C22 Lighting, Devices & Heating	1.000	3,500 m2	71.00	249,900		71.40		
C23 Systems & Ancillaries	1.000	3,500 m2	64.00	225,100		64.30		
NET BUILDING COST - EXCLUDING SITE				**$**	**7,313,200**		2,089.49	88.2
D SITE & ANCILLARY WORK		3,500 m2			0		0.00	0.0
D1 SITE WORK					0		0.00	0.0
D11 Site Development				0		0.00		
D12 Mechanical Site Services				0		0.00		
D13 Electrical Site Services				0		0.00		
D2 ANCILLARY WORK					0		0.00	0.0
D21 Demolitions				0		0.00		
D22 Alterations				0		0.00		
NET BUILDING COST - INCLUDING SITE				**$**	**7,313,200**		2,089.49	88.2
Z1 GENERAL REQUIREMENTS & FEE					980,000		280.00	11.8
Z11 General Requirements		8.0 %		585,100		167.20		
Z12 Fee		5.0 %		394,900		112.80		
TOTAL CONSTRUCTION ESTIMATE - EXCLUDING ALLOWANCES				**$**	**8,293,200**		2,369.49	100.0
Z2 ALLOWANCES					3,310,600		945.90	
Z21 Design & Pricing Allowance		20.0 %		1,658,600		473.90		
Z22 Escalation Allowance		6.0 %		597,100		170.60		
Z23 Construction Allowance		10.0 %		1,054,900		301.40		
TOTAL CONSTRUCTION ESTIMATE - INCLUDING ALLOWANCES				**$**	**11,603,800**		3,315.37	
VALUE ADDED TAX (GST/HST)					0		0.00	
Value Added Tax (GST/HST)		0.0 %		0		0.00		
TOTAL CONSTRUCTION ESTIMATE				**$**	**11,603,800**	**$**	**3,315.40**	

Project	: **Brennan Park Recreation Centre - Area 5**			Report date	: 16 Feb 2018
	: **Rink Mezzanine Renovation**			Page No.	: A - 1
Location	: **Squamish, BC**	**ELEMENTAL COST SUMMARY**		Bldg Type	: 550
Owner	: **District of Sqaumish**			C.T. Index	: 0.0
Consultant	: **Kasian Architecture**			GFA	: 340 m2

Element	Ratio to GFA	Elemental Cost Quantity	Elemental Cost Unit rate	Elemental Amount Sub-Total	Elemental Amount Total	Rate per m2 Sub-Total	Rate per m2 Total	%
A SHELL		340 m2			70,000		205.90	12.9
A1 SUBSTRUCTURE					50,000		147.10	9.2
A11 Foundations	0.000	1 Sum	50,000.00	50,000		147.10		
A12 Basement Excavation				0		0.00		
A13 Special Conditions				0		0.00		
A2 STRUCTURE					20,000		58.80	3.7
A21 Lowest Floor Construction				0		0.00		
A22 Upper Floor Construction	0.000	1 Sum	20,000.00	20,000		58.80		
A23 Roof Construction				0		0.00		
A3 EXTERIOR ENCLOSURE					0		0.00	0.0
A31 Walls Below Grade				0		0.00		
A32 Walls Above Grade				0		0.00		
A33 Windows & Entrances				0		0.00		
A34 Roof Coverings				0		0.00		
A35 Projections				0		0.00		
B INTERIORS		340 m2			263,700		775.60	48.5
B1 PARTITIONS & DOORS					38,000		111.80	7.0
B11 Partitions	0.240	80 m2	400.00	32,000		94.10		
B12 Doors	0.010	2 No	3,000.00	6,000		17.60		
B2 FINISHES					44,200		130.00	8.1
B21 Floor Finishes	1.000	340 m2	80.00	27,200		80.00		
B22 Ceiling Finishes	1.000	340 m2	20.00	6,800		20.00		
B23 Wall Finishes	1.000	340 m2	30.00	10,200		30.00		
B3 FITTINGS & EQUIPMENT					181,500		533.80	33.4
B31 Fittings & Fixtures	1.000	340 m2	137.00	46,500		136.80		
B32 Equipment	0.000	1 No.	135,000.00	135,000		397.10		
B33 Elevators				0		0.00		
B34 Escalators				0		0.00		
C SERVICES		340 m2			118,900		349.70	21.9
C1 MECHANICAL					63,900		187.90	11.7
C11 Plumbing & Drainage	1.000	340 m2	53.00	18,000		52.90		
C12 Fire Protection	1.000	340 m2	20.00	6,800		20.00		
C13 HVAC	1.000	340 m2	100.00	34,000		100.00		
C14 Controls	1.000	340 m2	15.00	5,100		15.00		
C2 ELECTRICAL					55,000		161.80	10.1
C21 Service & Distribution	1.000	340 m2	15.00	5,000		14.70		
C22 Lighting, Devices & Heating	1.000	340 m2	88.00	30,000		88.20		
C23 Systems & Ancillaries	1.000	340 m2	59.00	20,000		58.80		
NET BUILDING COST - EXCLUDING SITE				**$**	**452,600**		1,331.18	83.2
D SITE & ANCILLARY WORK		340 m2			27,200		80.00	5.0
D1 SITE WORK					0		0.00	0.0
D11 Site Development				0		0.00		
D12 Mechanical Site Services				0		0.00		
D13 Electrical Site Services				0		0.00		
D2 ANCILLARY WORK					27,200		80.00	5.0
D21 Demolitions	1.000	340 m2	50.00	17,000		50.00		
D22 Alterations	1.000	340 m2	30.00	10,200		30.00		
NET BUILDING COST - INCLUDING SITE				**$**	**479,800**		1,411.18	88.2
Z1 GENERAL REQUIREMENTS & FEE					64,300		189.10	11.8
Z11 General Requirements		8.0 %		38,400		112.90		
Z12 Fee		5.0 %		25,900		76.20		
TOTAL CONSTRUCTION ESTIMATE - EXCLUDING ALLOWANCES				**$**	**544,100**		1,600.29	100.0
Z2 ALLOWANCES					251,800		740.60	
Z21 Design & Pricing Allowance		20.0 %		108,800		320.00		
Z22 Escalation Allowance		6.0 %		39,200		115.30		
Z23 Construction Allowance		15.0 %		103,800		305.30		
TOTAL CONSTRUCTION ESTIMATE - INCLUDING ALLOWANCES				**$**	**795,900**		2,340.88	
VALUE ADDED TAX (GST/HST)					0		0.00	
Value Added Tax (GST/HST)		0.0 %		0		0.00		
TOTAL CONSTRUCTION ESTIMATE				**$**	**795,900**	**$**	**2,340.90**	

Project	: **Brennan Park Recreation Centre - Area 6**			Report date	: 16 Feb 2018
	: **Existing Changerooms Renovation**			Page No.	: A - 1
Location	: **Squamish, BC**	**ELEMENTAL COST SUMMARY**		Bldg Type	: 550
Owner	: **District of Squamish**			C.T. Index	: 0.0
Consultant	: **Kasian Architecture**			GFA	: 190 m2

Element	Ratio to GFA	Elemental Cost Quantity	Elemental Cost Unit rate	Elemental Amount Sub-Total	Elemental Amount Total	Rate per m2 Sub-Total	Rate per m2 Total	%
A SHELL		190 m2			0		0.00	0.0
A1 SUBSTRUCTURE					0		0.00	0.0
A11 Foundations				0		0.00		
A12 Basement Excavation				0		0.00		
A13 Special Conditions				0		0.00		
A2 STRUCTURE					0		0.00	0.0
A21 Lowest Floor Construction				0		0.00		
A22 Upper Floor Construction				0		0.00		
A23 Roof Construction				0		0.00		
A3 EXTERIOR ENCLOSURE					0		0.00	0.0
A31 Walls Below Grade				0		0.00		
A32 Walls Above Grade				0		0.00		
A33 Windows & Entrances				0		0.00		
A34 Roof Coverings				0		0.00		
A35 Projections				0		0.00		
B INTERIORS		190 m2			144,400		760.00	54.4
B1 PARTITIONS & DOORS					20,900		110.00	7.9
B11 Partitions	1.000	190 m2	60.00	11,400		60.00		
B12 Doors	1.000	190 m2	50.00	9,500		50.00		
B2 FINISHES					47,500		250.00	17.9
B21 Floor Finishes	1.000	190 m2	90.00	17,100		90.00		
B22 Ceiling Finishes	1.000	190 m2	130.00	24,700		130.00		
B23 Wall Finishes	1.000	190 m2	30.00	5,700		30.00		
B3 FITTINGS & EQUIPMENT					76,000		400.00	28.6
B31 Fittings & Fixtures	1.000	190 m2	400.00	76,000		400.00		
B32 Equipment	1.000	190 m2	0.00	0		0.00		
B33 Elevators				0		0.00		
B34 Escalators				0		0.00		
C SERVICES		190 m2			61,200		322.10	23.1
C1 MECHANICAL					41,200		216.80	15.5
C11 Plumbing & Drainage	1.000	190 m2	132.00	25,000		131.60		
C12 Fire Protection	1.000	190 m2	20.00	3,800		20.00		
C13 HVAC	1.000	190 m2	50.00	9,500		50.00		
C14 Controls	1.000	190 m2	15.00	2,900		15.30		
C2 ELECTRICAL					20,000		105.30	7.5
C21 Service & Distribution	1.000	190 m2	11.00	2,000		10.50		
C22 Lighting, Devices & Heating	1.000	190 m2	53.00	10,000		52.60		
C23 Systems & Ancillaries	1.000	190 m2	42.00	8,000		42.10		
NET BUILDING COST - EXCLUDING SITE				**$**	**205,600**		1,082.11	77.5
D SITE & ANCILLARY WORK		190 m2			28,500		150.00	10.7
D1 SITE WORK					0		0.00	0.0
D11 Site Development				0		0.00		
D12 Mechanical Site Services				0		0.00		
D13 Electrical Site Services				0		0.00		
D2 ANCILLARY WORK					28,500		150.00	10.7
D21 Demolitions	1.000	190 m2	120.00	22,800		120.00		
D22 Alterations	1.000	190 m2	30.00	5,700		30.00		
NET BUILDING COST - INCLUDING SITE				**$**	**234,100**		1,232.11	88.2
Z1 GENERAL REQUIREMENTS & FEE					31,300		164.70	11.8
Z11 General Requirements		8.0 %		18,700		98.40		
Z12 Fee		5.0 %		12,600		66.30		
TOTAL CONSTRUCTION ESTIMATE - EXCLUDING ALLOWANCES				**$**	**265,400**		1,396.84	100.0
Z2 ALLOWANCES					122,800		646.30	
Z21 Design & Pricing Allowance		20.0 %		53,100		279.50		
Z22 Escalation Allowance		6.0 %		19,100		100.50		
Z23 Construction Allowance		15.0 %		50,600		266.30		
TOTAL CONSTRUCTION ESTIMATE - INCLUDING ALLOWANCES				**$**	**388,200**		2,043.16	
_ VALUE ADDED TAX (GST/HST)					0		0.00	
__ Value Added Tax (GST/HST)		0.0 %		0		0.00		
TOTAL CONSTRUCTION ESTIMATE				**$**	**388,200**	**$**	**2,043.20**	

Project	: **Brennan Park Recreation Centre - Area 7**			Report date	: 16 Feb 2018
	: **Existing Changerooms Renovation**			Page No.	: A - 1
Location	: **Squamish, BC**	**ELEMENTAL COST SUMMARY**		Bldg Type	: 550
Owner	: **District of Squamish**			C.T. Index	: 0.0
Consultant	: **Kasian Architecture**			GFA	: 190 m2

Element	Ratio to GFA	Elemental Cost		Elemental Amount		Rate per m2		%
		Quantity	Unit rate	Sub-Total	Total	Sub-Total	Total	
A SHELL		190 m2			0		0.00	0.0
A1 SUBSTRUCTURE					0		0.00	0.0
A11 Foundations				0		0.00		
A12 Basement Excavation				0		0.00		
A13 Special Conditions				0		0.00		
A2 STRUCTURE					0		0.00	0.0
A21 Lowest Floor Construction				0		0.00		
A22 Upper Floor Construction				0		0.00		
A23 Roof Construction				0		0.00		
A3 EXTERIOR ENCLOSURE					0		0.00	0.0
A31 Walls Below Grade				0		0.00		
A32 Walls Above Grade				0		0.00		
A33 Windows & Entrances				0		0.00		
A34 Roof Coverings				0		0.00		
A35 Projections				0		0.00		
B INTERIORS		190 m2			144,400		760.00	50.7
B1 PARTITIONS & DOORS					20,900		110.00	7.3
B11 Partitions	1.000	190 m2	60.00	11,400		60.00		
B12 Doors	1.000	190 m2	50.00	9,500		50.00		
B2 FINISHES					47,500		250.00	16.7
B21 Floor Finishes	1.000	190 m2	90.00	17,100		90.00		
B22 Ceiling Finishes	1.000	190 m2	130.00	24,700		130.00		
B23 Wall Finishes	1.000	190 m2	30.00	5,700		30.00		
B3 FITTINGS & EQUIPMENT					76,000		400.00	26.7
B31 Fittings & Fixtures	1.000	190 m2	400.00	76,000		400.00		
B32 Equipment	1.000	190 m2	0.00	0		0.00		
B33 Elevators				0		0.00		
B34 Escalators				0		0.00		
C SERVICES		190 m2			78,200		411.60	27.5
C1 MECHANICAL					58,200		306.30	20.4
C11 Plumbing & Drainage	1.000	190 m2	221.00	42,000		221.10		
C12 Fire Protection	1.000	190 m2	20.00	3,800		20.00		
C13 HVAC	1.000	190 m2	50.00	9,500		50.00		
C14 Controls	1.000	190 m2	15.00	2,900		15.30		
C2 ELECTRICAL					20,000		105.30	7.0
C21 Service & Distribution	1.000	190 m2	11.00	2,000		10.50		
C22 Lighting, Devices & Heating	1.000	190 m2	53.00	10,000		52.60		
C23 Systems & Ancillaries	1.000	190 m2	42.00	8,000		42.10		
NET BUILDING COST - EXCLUDING SITE				**$**	**222,600**		1,171.58	78.2
D SITE & ANCILLARY WORK		190 m2			28,500		150.00	10.0
D1 SITE WORK					0		0.00	0.0
D11 Site Development				0		0.00		
D12 Mechanical Site Services				0		0.00		
D13 Electrical Site Services				0		0.00		
D2 ANCILLARY WORK					28,500		150.00	10.0
D21 Demolitions	1.000	190 m2	120.00	22,800		120.00		
D22 Alterations	1.000	190 m2	30.00	5,700		30.00		
NET BUILDING COST - INCLUDING SITE				**$**	**251,100**		1,321.58	88.2
Z1 GENERAL REQUIREMENTS & FEE					33,700		177.40	11.8
Z11 General Requirements		8.0 %		20,100		105.80		
Z12 Fee		5.0 %		13,600		71.60		
TOTAL CONSTRUCTION ESTIMATE - EXCLUDING ALLOWANCES				**$**	**284,800**		1,498.95	100.0
Z2 ALLOWANCES					131,800		693.70	
Z21 Design & Pricing Allowance		20.0 %		57,000		300.00		
Z22 Escalation Allowance		6.0 %		20,500		107.90		
Z23 Construction Allowance		15.0 %		54,300		285.80		
TOTAL CONSTRUCTION ESTIMATE - INCLUDING ALLOWANCES				**$**	**416,600**		2,192.63	
VALUE ADDED TAX (GST/HST)					0		0.00	
Value Added Tax (GST/HST)		0.0 %		0		0.00		
TOTAL CONSTRUCTION ESTIMATE				**$**	**416,600**	**$**	**2,192.60**	

Project	: **Brennan Park Recreation Centre - Area 8**			Report date	: 16 Feb 2018
	: **Entry Addition & Renovation**			Page No.	: A - 1
Location	: **Squamish, BC**	**ELEMENTAL COST SUMMARY**		Bldg Type	: 550
Owner	: **District of Squamish**			C.T. Index	: 0.0
Consultant	: **Kasian Architecture**			GFA	: 70 m2

Element	Ratio to GFA	Elemental Cost Quantity	Elemental Cost Unit rate	Elemental Amount Sub-Total	Elemental Amount Total	Rate per m2 Sub-Total	Rate per m2 Total	%
A SHELL		70 m2			239,100		3,415.70	71.1
A1 SUBSTRUCTURE					28,000		400.00	8.3
A11 Foundations	1.000	70 m2	250.00	17,500		250.00		
A12 Basement Excavation				0		0.00		
A13 Special Conditions	1.000	70 m2	150.00	10,500		150.00		
A2 STRUCTURE					39,200		560.00	11.7
A21 Lowest Floor Construction	1.000	70 m2	160.00	11,200		160.00		
A22 Upper Floor Construction				0		0.00		
A23 Roof Construction	1.000	70 m2	400.00	28,000		400.00		
A3 EXTERIOR ENCLOSURE					171,900		2,455.70	51.1
A31 Walls Below Grade				0		0.00		
A32 Walls Above Grade	0.860	60 m2	600.00	36,000		514.30		
A33 Windows & Entrances	0.710	50 m2	1,000.00	50,000		714.30		
A34 Roof Coverings	1.000	70 m2	150.00	10,500		150.00		
A35 Projections	1.000	70 m2	1,077.00	75,400		1,077.10		
B INTERIORS		70 m2			22,400		320.00	6.7
B1 PARTITIONS & DOORS					0		0.00	0.0
B11 Partitions				0		0.00		
B12 Doors				0		0.00		
B2 FINISHES					18,900		270.00	5.6
B21 Floor Finishes	1.000	70 m2	120.00	8,400		120.00		
B22 Ceiling Finishes	1.000	70 m2	120.00	8,400		120.00		
B23 Wall Finishes	1.000	70 m2	30.00	2,100		30.00		
B3 FITTINGS & EQUIPMENT					3,500		50.00	1.0
B31 Fittings & Fixtures	1.000	70 m2	50.00	3,500		50.00		
B32 Equipment	1.000	70 m2	0.00	0		0.00		
B33 Elevators				0		0.00		
B34 Escalators				0		0.00		
C SERVICES		70 m2			3,000		42.90	0.9
C1 MECHANICAL					0		0.00	0.0
C11 Plumbing & Drainage				0		0.00		
C12 Fire Protection				0		0.00		
C13 HVAC				0		0.00		
C14 Controls				0		0.00		
C2 ELECTRICAL					3,000		42.90	0.9
C21 Service & Distribution	1.000	70 m2	13.00	900		12.90		
C22 Lighting, Devices & Heating	1.000	70 m2	30.00	2,100		30.00		
C23 Systems & Ancillaries				0		0.00		
NET BUILDING COST - EXCLUDING SITE				**$**	**264,500**		3,778.57	78.7
D SITE & ANCILLARY WORK		70 m2			32,000		457.10	9.5
D1 SITE WORK					0		0.00	0.0
D11 Site Development				0		0.00		
D12 Mechanical Site Services				0		0.00		
D13 Electrical Site Services				0		0.00		
D2 ANCILLARY WORK					32,000		457.10	9.5
D21 Demolitions	0.290	20 m2	100.00	2,000		28.60		
D22 Alterations	0.290	20 m2	1,500.00	30,000		428.60		
NET BUILDING COST - INCLUDING SITE				**$**	**296,500**		4,235.71	88.2
Z1 GENERAL REQUIREMENTS & FEE					39,700		567.10	11.8
Z11 General Requirements		8.0 %		23,700		338.60		
Z12 Fee		5.0 %		16,000		228.60		
TOTAL CONSTRUCTION ESTIMATE - EXCLUDING ALLOWANCES				**$**	**336,200**		4,802.86	100.0
Z2 ALLOWANCES					134,200		1,917.10	
Z21 Design & Pricing Allowance		20.0 %		67,200		960.00		
Z22 Escalation Allowance		6.0 %		24,200		345.70		
Z23 Construction Allowance		10.0 %		42,800		611.40		
TOTAL CONSTRUCTION ESTIMATE - INCLUDING ALLOWANCES				**$**	**470,400**		6,720.00	
VALUE ADDED TAX (GST/HST)					0		0.00	
Value Added Tax (GST/HST)		0.0 %		0		0.00		
TOTAL CONSTRUCTION ESTIMATE				**$**	**470,400**	**$**	**6,720.00**	

Project	: **Brennan Park Recreation Centre - Area 9**			Report date	: 16 Feb 2018
	: **Concourse Renovation**			Page No.	: A - 1
Location	: **Squamish, BC**	**ELEMENTAL COST SUMMARY**		Bldg Type	: 550
Owner	: **District of Squamish**			C.T. Index	: 0.0
Consultant	: **Kasian Architecture**			GFA	: 773 m2

Element	Ratio to GFA	Elemental Cost Quantity	Elemental Cost Unit rate	Elemental Amount Sub-Total	Elemental Amount Total	Rate per m2 Sub-Total	Rate per m2 Total	%
A SHELL		773 m2			0		0.00	0.0
A1 SUBSTRUCTURE					0		0.00	0.0
A11 Foundations				0		0.00		
A12 Basement Excavation				0		0.00		
A13 Special Conditions				0		0.00		
A2 STRUCTURE					0		0.00	0.0
A21 Lowest Floor Construction				0		0.00		
A22 Upper Floor Construction				0		0.00		
A23 Roof Construction				0		0.00		
A3 EXTERIOR ENCLOSURE					0		0.00	0.0
A31 Walls Below Grade				0		0.00		
A32 Walls Above Grade				0		0.00		
A33 Windows & Entrances				0		0.00		
A34 Roof Coverings				0		0.00		
A35 Projections				0		0.00		
B INTERIORS		773 m2			193,300		250.10	35.7
B1 PARTITIONS & DOORS					0		0.00	0.0
B11 Partitions				0		0.00		
B12 Doors				0		0.00		
B2 FINISHES					193,300		250.10	35.7
B21 Floor Finishes	1.000	773 m2	90.00	69,600		90.00		
B22 Ceiling Finishes	1.000	773 m2	130.00	100,500		130.00		
B23 Wall Finishes	1.000	773 m2	30.00	23,200		30.00		
B3 FITTINGS & EQUIPMENT					0		0.00	0.0
B31 Fittings & Fixtures				0		0.00		
B32 Equipment				0		0.00		
B33 Elevators				0		0.00		
B34 Escalators				0		0.00		
C SERVICES		773 m2			253,300		327.70	46.8
C1 MECHANICAL					158,300		204.80	29.2
C11 Plumbing & Drainage	1.000	773 m2	65.00	50,000		64.70		
C12 Fire Protection	1.000	773 m2	20.00	15,500		20.10		
C13 HVAC	1.000	773 m2	100.00	77,300		100.00		
C14 Controls	1.000	773 m2	20.00	15,500		20.10		
C2 ELECTRICAL					95,000		122.90	17.5
C21 Service & Distribution	1.000	773 m2	6.00	5,000		6.50		
C22 Lighting, Devices & Heating	1.000	773 m2	65.00	50,000		64.70		
C23 Systems & Ancillaries	1.000	773 m2	52.00	40,000		51.70		
NET BUILDING COST - EXCLUDING SITE				**$**	**446,600**		577.75	82.5
D SITE & ANCILLARY WORK		773 m2			30,900		40.00	5.7
D1 SITE WORK					0		0.00	0.0
D11 Site Development				0		0.00		
D12 Mechanical Site Services				0		0.00		
D13 Electrical Site Services				0		0.00		
D2 ANCILLARY WORK					30,900		40.00	5.7
D21 Demolitions	1.000	773 m2	30.00	23,200		30.00		
D22 Alterations	1.000	773 m2	10.00	7,700		10.00		
NET BUILDING COST - INCLUDING SITE				**$**	**477,500**		617.72	88.2
Z1 GENERAL REQUIREMENTS & FEE					64,000		82.80	11.8
Z11 General Requirements		8.0 %		38,200		49.40		
Z12 Fee		5.0 %		25,800		33.40		
TOTAL CONSTRUCTION ESTIMATE - EXCLUDING ALLOWANCES				**$**	**541,500**		700.52	100.0
Z2 ALLOWANCES					250,600		324.20	
Z21 Design & Pricing Allowance		20.0 %		108,300		140.10		
Z22 Escalation Allowance		6.0 %		39,000		50.50		
Z23 Construction Allowance		15.0 %		103,300		133.60		
TOTAL CONSTRUCTION ESTIMATE - INCLUDING ALLOWANCES				**$**	**792,100**		1,024.71	
VALUE ADDED TAX (GST/HST)					0		0.00	
Value Added Tax (GST/HST)		0.0 %		0		0.00		
TOTAL CONSTRUCTION ESTIMATE				**$**	**792,100**	**$**	**1,024.70**	

Project	: **Brennan Park Recreation Centre**			Report date	: 16 Feb 2018
	: **Site Development & Site Services**			Page No.	: A - 1
Location	: **Squamish, BC**	**ELEMENTAL COST SUMMARY**		Bldg Type	: 550
Owner	: **District of Squamish**			C.T. Index	: 0.0
Consultant	: **Kasian Architecture**			GFA	: 8,560 m2

Element	Ratio to GFA	Elemental Cost		Elemental Amount		Rate per m2		%
		Quantity	Unit rate	Sub-Total	Total	Sub-Total	Total	
A SHELL		8,560 m2			0		0.00	0.0
A1 SUBSTRUCTURE					0		0.00	0.0
A11 Foundations				0		0.00		
A12 Basement Excavation				0		0.00		
A13 Special Conditions				0		0.00		
A2 STRUCTURE					0		0.00	0.0
A21 Lowest Floor Construction				0		0.00		
A22 Upper Floor Construction				0		0.00		
A23 Roof Construction				0		0.00		
A3 EXTERIOR ENCLOSURE					0		0.00	0.0
A31 Walls Below Grade				0		0.00		
A32 Walls Above Grade				0		0.00		
A33 Windows & Entrances				0		0.00		
A34 Roof Coverings				0		0.00		
A35 Projections				0		0.00		
B INTERIORS		8,560 m2			0		0.00	0.0
B1 PARTITIONS & DOORS					0		0.00	0.0
B11 Partitions				0		0.00		
B12 Doors				0		0.00		
B2 FINISHES					0		0.00	0.0
B21 Floor Finishes				0		0.00		
B22 Ceiling Finishes				0		0.00		
B23 Wall Finishes				0		0.00		
B3 FITTINGS & EQUIPMENT					0		0.00	0.0
B31 Fittings & Fixtures				0		0.00		
B32 Equipment				0		0.00		
B33 Elevators				0		0.00		
B34 Escalators				0		0.00		
C SERVICES		8,560 m2			0		0.00	0.0
C1 MECHANICAL					0		0.00	0.0
C11 Plumbing & Drainage				0		0.00		
C12 Fire Protection				0		0.00		
C13 HVAC				0		0.00		
C14 Controls				0		0.00		
C2 ELECTRICAL					0		0.00	0.0
C21 Service & Distribution				0		0.00		
C22 Lighting, Devices & Heating				0		0.00		
C23 Systems & Ancillaries				0		0.00		
NET BUILDING COST - EXCLUDING SITE				**$**	**0**		0.00	0.0
D SITE & ANCILLARY WORK		8,560 m2			2,626,600		306.80	88.2
D1 SITE WORK					2,626,600		306.80	88.2
D11 Site Development	0.000	1 Sum	2,401,600.00	2,401,600		280.60		
D12 Mechanical Site Services	0.000	1 Sum	200,000.00	200,000		23.40		
D13 Electrical Site Services	0.000	1 Sum	25,000.00	25,000		2.90		
D2 ANCILLARY WORK					0		0.00	0.0
D21 Demolitions				0		0.00		
D22 Alterations				0		0.00		
NET BUILDING COST - INCLUDING SITE				**$**	**2,626,600**		306.85	88.2
Z1 GENERAL REQUIREMENTS & FEE					351,900		41.10	11.8
Z11 General Requirements		8.0 %		210,100		24.50		
Z12 Fee		5.0 %		141,800		16.60		
TOTAL CONSTRUCTION ESTIMATE - EXCLUDING ALLOWANCES				**$**	**2,978,500**		347.96	100.0
Z2 ALLOWANCES					1,189,100		138.90	
Z21 Design & Pricing Allowance		20.0 %		595,700		69.60		
Z22 Escalation Allowance		6.0 %		214,500		25.10		
Z23 Construction Allowance		10.0 %		378,900		44.30		
TOTAL CONSTRUCTION ESTIMATE - INCLUDING ALLOWANCES				**$**	**4,167,600**		486.87	
_ VALUE ADDED TAX (GST/HST)					0		0.00	
__ Value Added Tax (GST/HST)		0.0 %		0		0.00		
TOTAL CONSTRUCTION ESTIMATE				**$**	**4,167,600**	**$**	**486.90**	

Appendix
B - DOCUMENTS & DRAWINGS LIST

APPENDIX B – DOCUMENTS & DRAWINGS LIST

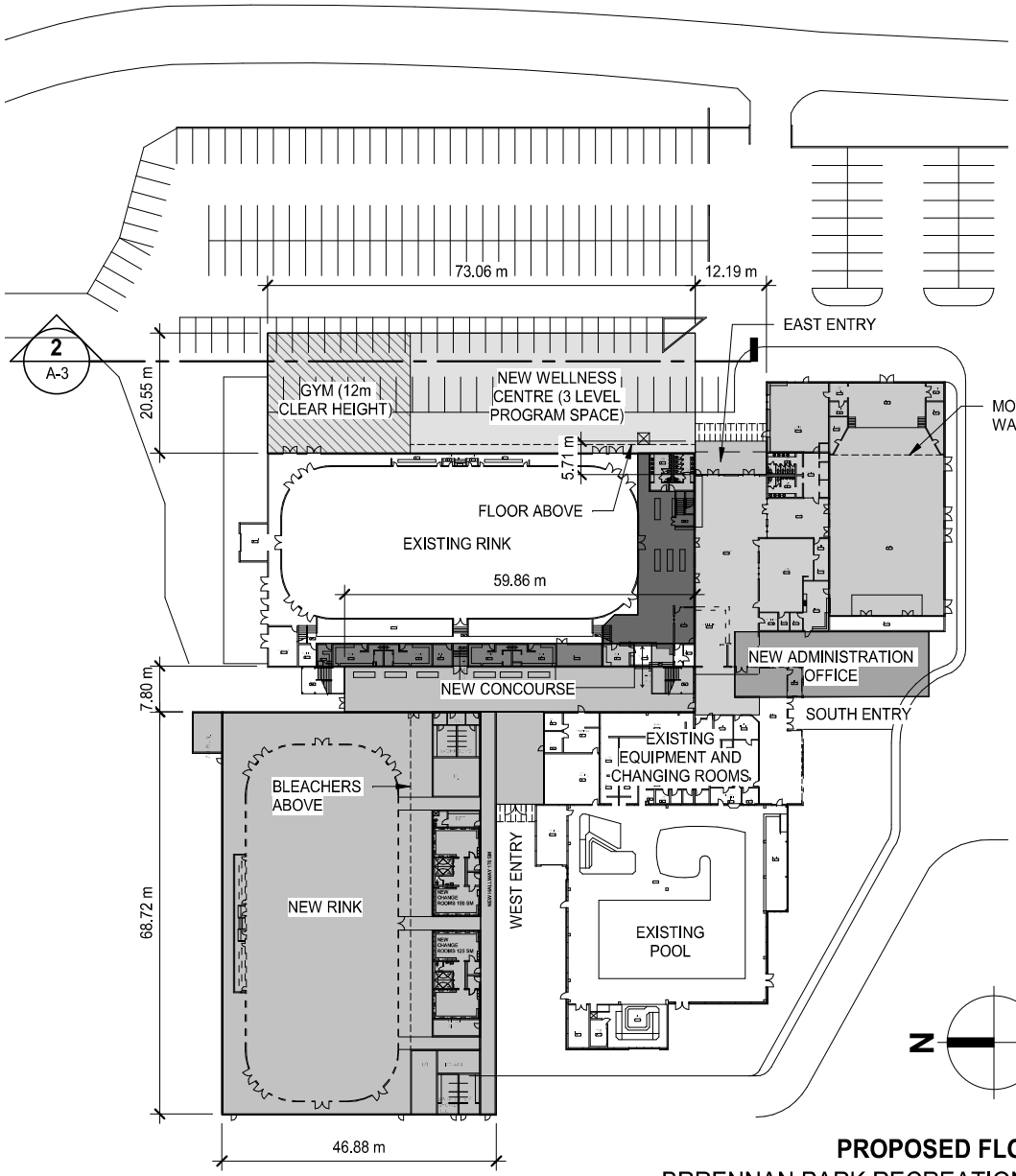
DOCUMENTS

Renovations & Expansion Feasibility Study dated July 13, 2016 received February 6, 2018 (13 pages).
Aerial Photo Site Location Sheet dated February 5, 2018 received February 6, 2018 (1 page)

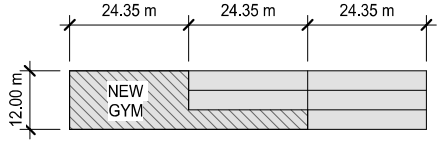
DRAWINGS

Renovations & Expansion Study drawings dated Feb. 5, 2016 received February 6, 2018 (4 pages).

Appendix
C - REPRESENTATIVE DRAWINGS



1 SITE PLAN
SCALE: 1 : 800



NOTE: 4m HEIGHT FLOOR TO FLOOR

2 A-3 WELLNESS CENTRE SECTION
SCALE: 1 : 1000

STANDARD OF WORK LEGEND

AREA 1 - NEW RINK ADDITION
1. 3250sm NEW RINK
2. 470sm NEW CONCOURSE
3. 70sm CONCESSION AND SKATESHOP (30sm RENOVATION AND 40sm EXPANSION)
4. 15sm STORAGE SPACE (RENOVATION)
5. NEW CANOPY AT WEST ENTRY

AREA 2 - RENOVATION OF AUDITORIUM AND SENIOR'S LOUNGE AND NEW GYMNASTICS
1. 925sm RENOVATION AREA
2. NEW PORTABLE STAGE
3. CEILING WORK IN SENIOR'S LOUNGE

AREA 3 - RENOVATION AND EXPANSION FOR NEW ADMINISTATION OFFICES
1. 365sm TOTAL RENOVATION AND EXPANSION AREA
2. 65sm RENOVATION AREA
3. 300sm EXPANSION AREA

AREA 4 - NEW WELLNESS CENTRE
1. 1500sm
2. 3 STOREYS

AREA 5 - RENOVATION OF THE EXISTING RINK MEZZANINE LEVEL
1. 340sm TOTAL RENOVATION AREA
2. REFER TO PAGE A-4

AREA 6 - RENOVATION OF EXISTING CHANGE ROOMS
1. 190sm TOTAL RENOVATION AREA
2. NEW PARTITIONS, NEW PLUMBING FIXTURES, NEW PAINT, NEW TILED FLOOR, NEW CEILING AND LIGHT FIXTURES (ACCESSIBILITY TO BE ADDRESSED AT NEXT STAGE OF WORK)

AREA 7 - RENOVATION OF EXISTING CHANGE ROOMS
1. 190sm TOTAL RENOVATION AREA
2. NEW PARTITIONS, NEW PLUMBING FIXTURES, NEW PAINT, NEW TILED FLOOR, NEW CEILING AND LIGHT FIXTURES

AREA 8 - RENOVATION OF ENTRY AND NEW ENTRY WITH CANOPY
2. 70sm NEW EAST ENTRY WITH CANOPY

AREA 9 - EXISTING CONCOURSE
1. REMOVE EXISTING LIGHTS AND CEILING
2. NEW LIGHTS AND CEILING FINISHES
3. NEW FLOORING

EXISTING TO REMAIN

PROPOSED FLOOR PLAN
BRRENNAN PARK RECREATION CENTRE
SQUAMISH, BRITISH COLUMBIA, CANADA

A-3
2018-02-05
PROJECT 200135

kasian

CAVEAT

The estimate(s) for construction cost, contained in this report, represents Hanscomb's professional opinion, as Cost Consultants/Quantity Surveyors, of a fair and reasonable price for the work, based on the information provided to Hanscomb, and the condition of the market place as ascertained by Hanscomb, at the time of preparing this report.

The estimate(s) does not constitute an offer to undertake the work, nor is any guarantee given that an offer, to undertake the work at the estimate(s) price, will subsequently be submitted by a construction contractor. Unless explicitly stated otherwise, it is assumed that competitive bids will be sought when tender documents have been completed. Any significant deviation between bids so received and a pre-tender estimate prepared by Hanscomb from the same tender documents, will be evaluated to establish the possible cause(s), so that advice can be offered, to the Client, as to whether the bid price is fair and acceptable or, if not, what course action is appropriate.

This report is intended solely for the use of the Client within the context of the contract for professional services between the Client and Hanscomb, and shall not create any liability to any person or body not specifically stated as being a party to that contract.

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- replacement cost estimates

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- design scheduling
- construction scheduling
- schedule analysis

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Applied Research
- life cycle costing
- cost/benefit analysis
- construction price indexing
- risk analysis

Project Loan Monitoring
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BRENNAN PARK RECREATION CENTRE
NEW ADDITION & RENOVATION (PHASE 4 & PHASE 5)
SQUAMISH, BRITISH COLUMBIA

CLASS 'D' ESTIMATE

June 08, 2018

Hanscomb

BRENNAN PARK RECREATION CENTRE
NEW ADDITION & RENOVATION (PHASE 4 & PHASE 5)
SQUAMISH, BRITISH COLUMBIA

CLASS 'D' ESTIMATE

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V2848

June 08, 2018

TABLE OF CONTENTS

Appendices

1. INTRODUCTION

1.1 Purpose:

This Class 'D' Estimate is intended to provide a realistic allocation of direct and indirect construction costs for the Brennan Park Recreation Centre, New Addition & Renovation (Phase 4 & Phase 5), located in Squamish, British Columbia with exceptions of items listed in 1.5 section.

1.2 Methodology:

From the documentation and information provided, quantities of all major elements were assessed or measured where possible and priced at rates considered competitive for a project of this type under a stipulated sum form of contract in Squamish, British Columbia

Pricing shown reflects probable construction costs obtainable in the Squamish, British Columbia area on the effective date of this report. This estimate is a determination of fair market value for the construction of this project. It is not a prediction of low bid. Pricing assumes competitive bidding for every portion of the work.

1.3 Description:

The Brennan Park Recreation Centre, New Addition & Renovation (Phase 4 & Phase 5) project consists of new construction and renovations of different areas and appropriate site services:

Phase 4:

Area 10. New 8 Lane Pool
Area 11. New Sauna/ Jacuzzi
Area 12. Extension of Viewing Gallery
Area 13. Integration of Pool Equipment
Area 14. Renovation of Covered Courtyard

Phase 5:

1. Expansion over Wellness Centre (2 additional floors)
2. Expansion over Admin (4 additional floors)

1.4 Specifications:

For building components and systems where specifications and design details are not available, quality standards have been established based on discussions with the design team.

1. INTRODUCTION

1.5 Exclusions: This Class 'D' Estimate does not provide for the following, if required:

- Land acquisition costs and impost charges
- Development charges
- Legal fees and expenses
- Right of way charges
- Easement costs
- Financing costs
- Fund raising costs
- Owner's staff and associated management
- Relocation of existing facilities, including furniture and equipment
- Professional fees and expenses
- Cost of contaminated soil removal
- Window washing equipment
- Vending equipment
- Maintenance equipment
- Exercise Equipment
- Zamboni
- Winter construction (foundation concrete heating & hoarding)
- Special audio, visual, security equipment or installation other than provision of empty conduit systems carried in electrical division
- Loose furniture, furnishings and equipment
- Window treatments
- Third Party Commissioning Costs
- Overtime premiums for work done outside normal working hours
- Phased construction premiums
- Cash Allowance
- Building permit
- Preventative maintenance contracts
- Value added tax (e.g. Harmonized Sales Tax, Goods and Services Tax)

2. DOCUMENTATION

- This Class 'D' Estimate has been prepared from the documentation included in Appendix B of this report.

All of the above documentation was received from Kasian Architecture and was supplemented with information gathered in meeting(s) and telephone conversations with the design team, as applicable.

Design changes and/or additions made subsequent to this issuance of the documentation noted above have not been incorporated in this report.

3. COST CONSIDERATIONS

3.1 Cost Base:

All costs are estimated on the basis of competitive bids (a minimum of at least 3 subcontractor bids for each trade) being received in June 2018 from all major subcontractors and suppliers based on a stipulated sum form of contract.

Should the above bidding conditions not occur, we can expect to see an increase in the estimated cost of construction.

3.2 Escalation:

An allowance of 34% % 76% has been made for construction cost escalation that may occur between June 2018 and the anticipated bid date of January 2020 for the project for Phase 4 and Phase 5 respectively.

3.3 Contingencies:

An allowance of 20% has been included to cover design and pricing unknowns. This allowance is not intended to cover any program space modifications but rather to provide some flexibility for the designers and cost planners during the remaining contract document stages.

An allowance of 10% has been made to cover construction (post contract) unknowns.

3.4 Unit Rates:

The unit rates in the preparation of this Class 'D' Estimate include labour and material, equipment, subcontractor's overheads and profits.

3.5 Taxes:

No provision has been made for Goods and Services Tax. It is recommended that the owner make separate provision for GST in the project budget as applicable.

3.6 Statement of Probable Costs:

Hanscomb has no control over the cost of labour and materials, the contractor's method of determining prices, or competitive bidding and market conditions. This opinion of probable cost of construction is made on the basis of experience, qualifications and best judgment of the professional consultant familiar with the construction industry. Hanscomb cannot and does not guarantee that proposals, bids or actual construction costs will not vary from this or subsequent cost estimates.

3. COST CONSIDERATIONS (cont'd)

3.6 Statement of Probable Costs: (continued)

Hanscomb has prepared this estimate in accordance with generally accepted principles and practices. Hanscomb's staff is available to discuss its contents with any interested party.

3.7 Ongoing Cost Control:

Hanscomb recommends that the Owner and design team carefully review this document, including line item description, unit prices, clarifications, exclusions, inclusions and assumptions, contingencies, escalation and mark-ups. If the project is over budget, or if there are unresolved budgeting issues, alternative systems/schemes should be evaluated before proceeding into the next design phase.

Requests for modifications of any apparent errors or omissions to this document must be made to Hanscomb within ten (10) days of receipt of this estimate. Otherwise, it will be understood that the contents have been concurred with and accepted.

It is recommended that a final update estimate be produced by Hanscomb using Bid Documents to determine overall cost changes that may have occurred since the preparation of this estimate. The final updated estimate will address changes and additions to the documents, as well as addenda issued during the bidding process. Hanscomb cannot reconcile bid results to any estimate not produced from bid documents including all addenda.

4. GROSS FLOOR AND SITE DEVELOPED AREA

GROSS FLOOR AREA:

Description	M2
Phase 4:	
Area 10	1,264
Area 11	126
Area 12	275
Area 13	136
Area 14	281
Sub Total	**2,082**
Phase 5:	
Expansion over Wellness Centre	1,988
Expansion over Admin	1,488
Sub Total	**3,476**
TOTAL	**5,558**

The above areas have been measured in accordance with the Canadian Institute of Quantity Surveyors' Method of Measurement of Buildings by Area and Volume.

5. CONSTRUCTION COST ESTIMATE SUMMARY

COST SUMMARY:

Please see next page:

Brennan Park Recreation Centre
Squamish, British Columbia

Report Date: June 8, 2018
Page No.: 1 of 1

CONSTRUCTION COST PROJECT SUMMARY WITH PHASING

I - From Previous Report dated Feb 19, 2018

Phase 1 Sub-Total *(excludes Soft Costs and FF&E), commencing January 2020*	**$22,999,400**
Phase 2 Sub-Total *(excludes Soft Costs and FF&E), commencing January 2022*	**$10,959,600**
Phase 3 Sub-Total *(excludes Soft Costs and FF&E), Commencing January 2024*	**$9,543,300**

II - This Current Report dated June 8, 2018

Phase 4 Commencing January 2028 (includes 8 more years of escalation from 2020)

Area Description	**Area in m2**	***Area in SF***	**Rate/m2**	***Rate/SF***	**Total**
Area 10: New 8 Lane Pool	*1,264 m2*	*13,606 SF*	*$8,297.71/m2*	*$770.86/SF*	*$10,488,300*
Area 11: New Sauna / Jacuzzi	*126 m2*	*1,356 SF*	*$9,265.08/m2*	*$860.91/SF*	*$1,167,400*
Area 12: Extensiion of Viewing Gallery	*275 m2*	*2,960 SF*	*$4,701.82/m2*	*$436.82/SF*	*$1,293,000*
Area 13: Integration of Pool Equipment	*136 m2*	*1,464 SF*	*$1,393.38/m2*	*$129.44/SF*	*$189,500*
Area 14: Renovation of covered courtyard	*281 m2*	*3,025 SF*	*$1,698.58/m2*	*$157.79/SF*	*$477,300*
				Total	$13,615,500
Site Development and Services for Phase 4, allow 10% of the total cost					$1,361,550
Phase 4 Sub-Total *(excludes Soft Costs and FF&E)*					**$14,977,050**

Phase 5 Commencing January 2032 (includes 16 more years of escalation from 2020)

Area Description	**Area in m2**	***Area in SF***	**Rate/m2**	***Rate/SF***	**Total**
1. Potential Expansion over Wellness Centre (2 floors)	*1,988 m2*	*21,399 SF*	$6,615.04/m2	*$614.55/SF*	$13,150,700
2. Potential Expansion over Administration (4 floors)	*1,488 m2*	*16,017 SF*	$7,898.45/m2	*$733.78/SF*	$11,752,900
				Total	$24,903,600
Site Development and Services for Phase 5 (modication to existing), allow 5% of the total cost					$1,245,180
Phase 5 Sub-Total *(excludes Soft Costs and FF&E)*					**$26,148,780**

Total Construction Estimate in 5 Phases *(excludes Soft Costs and FF&E)*	**$84,628,130**

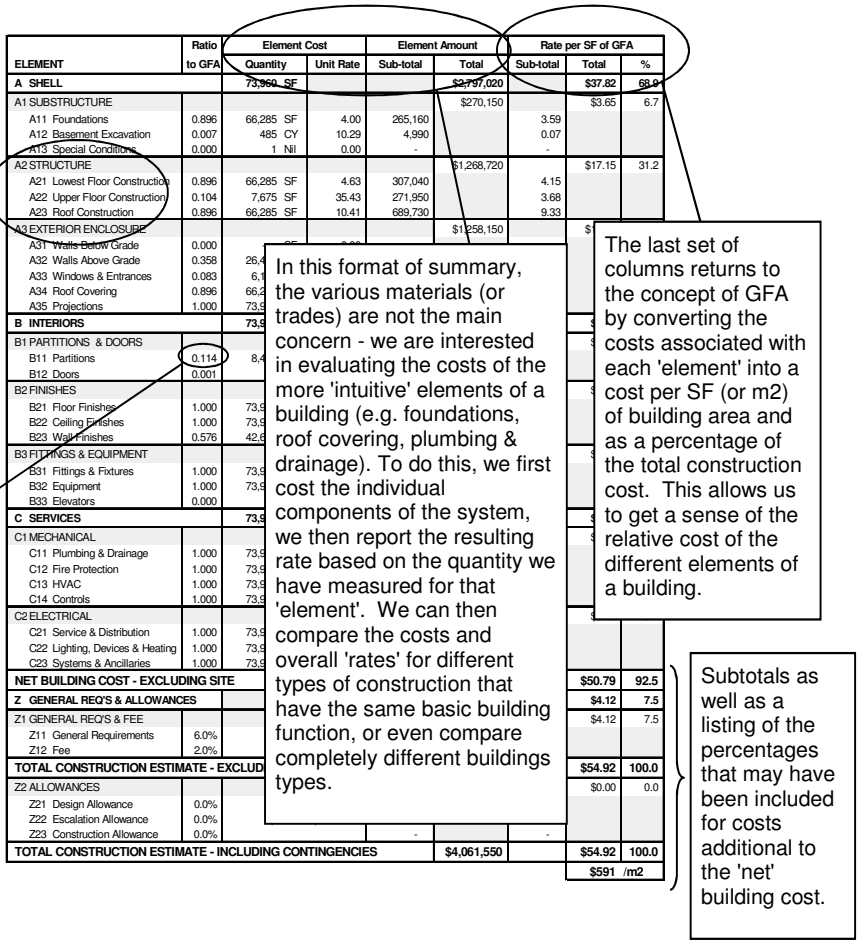
Hanscomb

6. UNDERSTANDING THE ELEMENTAL COST SUMMARY

The cost information presented in this report is organized in a form referred to by the Canadian Institute of Quantity Surveyors as an 'Elemental Cost Summary'. To help you get the most out of the report, we have summarized the key features of this type of summary.

Building components are summarized into 'elements'. This grouping system has the advantage of allowing comparisons between buildings constructed with different materials. Under this format, we can review the cost of 'A22 Upper Floor Construction' for a building whether it is made of steel, concrete or wood - something that can prove difficult when using a summary by 'trade'.

Another feature of the summary is the column titled 'Ratio to GFA'. As the name implies, the value is arrived at by dividing the 'Element Quantity' by the 'GFA' (gross floor area) of the building. This can be a useful tool for getting a sense of layout. For example, in the case of partitions, this ratio allows us to get a feel for the overall 'density' of partitions. Or if we compare the ratios for 'A21 Lowest Floor Construction' and 'A22 Upper Floor Construction', we can get a sense of the number of stories. By listing these values by 'element' we can compare independently of the different systems (and even compare different projects).



ELEMENT	Ratio to GFA	Element Cost Quantity	Unit	Element Cost Unit Rate	Element Amount Sub-total	Element Amount Total	Rate per SF of GFA Sub-total	Rate per SF of GFA Total	%
A SHELL		**73,960**	**SF**			**$2,797,020**		**$37.82**	**68.9**
A1 SUBSTRUCTURE						$270,150		$3.65	6.7
A11 Foundations	0.896	66,285	SF	4.00	265,160		3.59		
A12 Basement Excavation	0.007	485	CY	10.29	4,990		0.07		
A13 Special Conditions	0.000	1	Nil	0.00	-		-		
A2 STRUCTURE						$1,268,720		$17.15	31.2
A21 Lowest Floor Construction	0.896	66,285	SF	4.63	307,040		4.15		
A22 Upper Floor Construction	0.104	7,675	SF	35.43	271,950		3.68		
A23 Roof Construction	0.896	66,285	SF	10.41	689,730		9.33		
A3 EXTERIOR ENCLOSURE						$1,258,150		$	
A31 Walls Below Grade	0.000								
A32 Walls Above Grade	0.358	26,4							
A33 Windows & Entrances	0.083	6,1							
A34 Roof Covering	0.896	66,2							
A35 Projections	1.000	73,9							
B INTERIORS		**73,9**							
B1 PARTITIONS & DOORS									
B11 Partitions	0.114	8,4							
B12 Doors	0.001								
B2 FINISHES									
B21 Floor Finishes	1.000	73,9							
B22 Ceiling Finishes	1.000	73,9							
B23 Wall Finishes	0.576	42,6							
B3 FITTINGS & EQUIPMENT									
B31 Fittings & Fixtures	1.000	73,9							
B32 Equipment	1.000	73,9							
B33 Elevators	0.000								
C SERVICES		**73,9**							
C1 MECHANICAL									
C11 Plumbing & Drainage	1.000	73,9							
C12 Fire Protection	1.000	73,9							
C13 HVAC	1.000	73,9							
C14 Controls	1.000	73,9							
C2 ELECTRICAL									
C21 Service & Distribution	1.000	73,9							
C22 Lighting, Devices & Heating	1.000	73,9							
C23 Systems & Ancillaries	1.000	73,9							
NET BUILDING COST - EXCLUDING SITE								**$50.79**	**92.5**
Z GENERAL REQ'S & ALLOWANCES								**$4.12**	**7.5**
Z1 GENERAL REQ'S & FEE								$4.12	7.5
Z11 General Requirements	6.0%								
Z12 Fee	2.0%								
TOTAL CONSTRUCTION ESTIMATE - EXCLUD								**$54.92**	**100.0**
Z2 ALLOWANCES								$0.00	0.0
Z21 Design Allowance	0.0%								
Z22 Escalation Allowance	0.0%								
Z23 Construction Allowance	0.0%				-		-		
TOTAL CONSTRUCTION ESTIMATE - INCLUDING CONTINGENCIES						**$4,061,550**		**$54.92**	**100.0**
								$591	**/m2**

In this format of summary, the various materials (or trades) are not the main concern - we are interested in evaluating the costs of the more 'intuitive' elements of a building (e.g. foundations, roof covering, plumbing & drainage). To do this, we first cost the individual components of the system, we then report the resulting rate based on the quantity we have measured for that 'element'. We can then compare the costs and overall 'rates' for different types of construction that have the same basic building function, or even compare completely different buildings types.

The last set of columns returns to the concept of GFA by converting the costs associated with each 'element' into a cost per SF (or m2) of building area and as a percentage of the total construction cost. This allows us to get a sense of the relative cost of the different elements of a building.

Subtotals as well as a listing of the percentages that may have been included for costs additional to the 'net' building cost.

As can be seen, the power of the elemental cost summary lies in the ability to compare building alternatives without losing sight of the cost associated with that *element* of the building. As well, we can compare different types of buildings and get a sense where the costs may vary.

When we start asking questions such as "what's different between the buildings?" or "why is the 'roof covering' element more on this project, if it's fulfilling the same function?" we can begin to have an understanding and be better prepared for the all-important question we are all asked at one time or another: "why are the costs different?"

Appendix
A - ELEMENTAL COST SUMMARY

Project	**: Brennan Park Recreation Centre - Area 10**	Report Date :	15th Feb. 18
	: New Lane Pool	Page No. :	
Location	**: Squamish, B.C.**	C.T. Index :	
Owner	**: District of Squamish**	Bldg. Type :	
Consultant	**: Kasian**	GFA :	See below

Description of Project: Lane Pool

Class D Estimate

GFA : 1,264 m2

ELEMENT		Quantity	Unit Rate	Total
A SHELL		1,264 m2		$2,710,100
A1 SUBSTRUCTURE				587,800
A11	Foundations	1,264 m2	250.00	316,000
A12	Basement Excavation	1,264 m2	65.00	82,160
A13	Special Conditions	1,264 m2	150.00	189,600
A2 STRUCTURE				758,400
A21	Lowest Floor Construction	1,264 m2	200.00	252,800
A22	Upper Floor Construction	0 m2	500.00	0
A23	Roof Construction (composite roof deck)	1,264 m2	400.00	505,600
A3 EXTERIOR ENCLOSURE				1,363,900
A31	Walls Below Grade	198 m2	500.00	99,000
A32	Walls Above Grade	1,350 m2	600.00	810,000
A33	Windows & Entrances	300 m2	800.00	240,000
A34	Roof Covering	1,264 m2	150.00	189,600
A35	Projections	1,264 m2	20.00	25,280
B INTERIORS		1,264 m2		$581,400
B1 PARTITIONS & DOORS				0
B11	Partitions	1,264 m2	-	0
B12	Doors	1,264 No.	-	0
B2 FINISHES				379,200
B21	Floor Finishes	1,264 m2	150.00	189,600
B22	Ceiling Finishes	1,264 m2	75.00	94,800
B23	Wall Finishes	1,264 m2	75.00	94,800
B3 FITTINGS & EQUIPMENT				202,200
B31	Fittings & Fixtures	1,264 m2	70.00	88,480
B32	Equipment	1,264 m2	90.00	113,760
B33	Elevators	0 No.	-	0
B34	Escalators	0 No.	-	0
C SERVICES		1,264 m2		$1,937,400
C1 MECHANICAL				1,545,600
C11	Plumbing & Drainage	1,264 m2	500.36	632,455
C12	Fire Protection	1,264 m2	48.00	60,672
C13	HVAC	1,264 m2	614.44	776,652
C14	Controls	1,264 m2	60.00	75,840
C15	Mechanical Allowance	1,264 m2	-	0
C2 ELECTRICAL				391,800
C21	Service & Distribution	1,264 m2	70.00	88,480
C22	Lighting, Devices & Heating	1,264 m2	150.00	189,600
C23	Systems & Ancillaries	1,264 m2	90.00	113,760
NET BUILDING COST - EXCLUDING SITE				**$5,228,900**
D SITE & ANCILLARY WORK				$0
D1 SITE WORK				0
D11	Site Development	0 Sum	-	0
D12	Mechanical Site Services	0 Sum	-	0
D13	Electrical Site Services	0 Sum	-	0
D2 ANCILLARY WORK				0
D21	Demolition	Sum	-	0
D22	Alterations	Sum	-	0
NET BUILDING COST - INCLUDING SITE				**$5,228,900**
Z GENERAL REQ'S & ALLOWANCES				$5,259,400
Z1 GENERAL REQ'S & FEE				700,700
Z10	Transport & Accomodation	0.0%		0
Z11	General Requirements	8.0%		418,312
Z12	Fee	5.0%		282,361
Z13	Cash Allowance	Sum		0
TOTAL CONSTRUCTION ESTIMATE - EXC. CONTINGENCIES				**$5,929,600**
Z2 ALLOWANCES				4,558,700
Z21	Design & Pricing Allowance	20.0%		1,185,920
Z22	Escalation Allowance (2020 to 2028)	34.0%		2,419,277
Z23	Construction Allowance	10.0%		953,480
TOTAL CONSTRUCTION ESTIMATE - INC. CONTINGENCIES				$10,488,300
GOODS & SERVICES TAX		0.0%		0
TOTAL CONSTRUCTION ESTIMATE		1,264 m2	**8,297.71**	**$10,488,300**

Project	**: Brennan Park Recreation Centre - Area 11**	Report Date :	15th Feb. 18
	: New Sauna / Jacuzzi	Page No. :	
Location	**: Squamish, B.C.**	C.T. Index :	
Owner	**: District of Squamish**	Bldg. Type :	
Consultant	**: Kasian**	GFA :	See below

Class D Estimate

Description of Project: New Sauna / Jacuzzi **GFA :** 126 m2

ELEMENT	Quantity	Unit Rate	Total
A SHELL	126 m2		$326,400
A1 SUBSTRUCTURE			50,400
A11 Foundations	126 m2	250.00	31,500
A12 Basement Excavation	0 m2	-	0
A13 Special Conditions	126 m2	150.00	18,900
A2 STRUCTURE			70,600
A21 Lowest Floor Construction	126 m2	160.00	20,160
A22 Upper Floor Construction	0 m2	-	0
A23 Roof Construction (composite roof deck)	126 m2	400.00	50,400
A3 EXTERIOR ENCLOSURE			205,400
A31 Walls Below Grade	0 m2	-	0
A32 Walls Above Grade	240 m2	600.00	144,000
A33 Windows & Entrances	50 m2	800.00	40,000
A34 Roof Covering	126 m2	150.00	18,900
A35 Projections	126 m2	20.00	2,520
B INTERIORS	126 m2		$62,400
B1 PARTITIONS & DOORS			0
B11 Partitions	0 m2	-	0
B12 Doors	0 No.	-	0
B2 FINISHES			53,600
B21 Floor Finishes	126 m2	150.00	18,900
B22 Ceiling Finishes	126 m2	100.00	12,600
B23 Wall Finishes	126 m2	175.00	22,050
B3 FITTINGS & EQUIPMENT			8,800
B31 Fittings & Fixtures	126 m2	70.00	8,820
B32 Equipment	0 m2	-	0
B33 Elevators	0 No.	-	0
B34 Escalators	0 No.	-	0
C SERVICES	126 m2		$193,200
C1 MECHANICAL			154,100
C11 Plumbing & Drainage	126 m2	500.36	63,045
C12 Fire Protection	126 m2	48.00	6,048
C13 HVAC	126 m2	614.44	77,419
C14 Controls	126 m2	60.00	7,560
C15 Mechanical Allowance	0 m2	-	0
C2 ELECTRICAL			39,100
C21 Service & Distribution	126 m2	70.00	8,820
C22 Lighting, Devices & Heating	126 m2	150.00	18,900
C23 Systems & Ancillaries	126 m2	90.00	11,340
NET BUILDING COST - EXCLUDING SITE			**$582,000**
D SITE & ANCILLARY WORK			$0
D1 SITE WORK			0
D11 Site Development	0 Sum	-	0
D12 Mechanical Site Services	0 Sum	-	0
D13 Electrical Site Services	0 Sum	-	0
D2 ANCILLARY WORK			0
D21 Demolition	Sum	-	0
D22 Alterations	Sum	-	0
NET BUILDING COST - INCLUDING SITE			**$582,000**
Z GENERAL REQ'S & ALLOWANCES			$585,400
Z1 GENERAL REQ'S & FEE			78,000
Z10 Transport & Accomodation	0.0%		0
Z11 General Requirements	8.0%		46,560
Z12 Fee	5.0%		31,428
Z13 Cash Allowance	Sum		0
TOTAL CONSTRUCTION ESTIMATE - EXC. CONTINGENCIES			**$660,000**
Z2 ALLOWANCES			507,400
Z21 Design & Pricing Allowance	20.0%		132,000
Z22 Escalation Allowance (2020 to 2028)	34.0%		269,280
Z23 Construction Allowance	10.0%		106,128
TOTAL CONSTRUCTION ESTIMATE - INC. CONTINGENCIES			$1,167,400
GOODS & SERVICES TAX	0.0%		0
TOTAL CONSTRUCTION ESTIMATE	126 m2	**9,265.08**	**$1,167,400**

Project	**: Brennan Park Recreation Centre - Area 12**	Report Date :	15th Feb. 18
	: Viewing Gallery	Page No. :	
Location	**: Squamish, B.C.**	C.T. Index :	
Owner	**: District of Squamish**	Bldg. Type :	
Consultant	**: Kasian**	GFA :	See below

Description of Project: Viewing Gallery

Class D Estimate

GFA : 275 m2

ELEMENT	Quantity	Unit Rate	Total
A SHELL	275 m2		$377,800
A1 SUBSTRUCTURE			110,000
A11 Foundations	275 m2	250.00	68,750
A12 Basement Excavation	0 m2	-	0
A13 Special Conditions	275 m2	150.00	41,250
A2 STRUCTURE			154,000
A21 Lowest Floor Construction	275 m2	160.00	44,000
A22 Upper Floor Construction	0 m2	-	0
A23 Roof Construction (composite roof deck)	275 m2	400.00	110,000
A3 EXTERIOR ENCLOSURE			113,800
A31 Walls Below Grade	0 m2	-	0
A32 Walls Above Grade	85 m2	600.00	51,000
A33 Windows & Entrances	20 m2	800.00	16,000
A34 Roof Covering	275 m2	150.00	41,250
A35 Projections	275 m2	20.00	5,500
B INTERIORS	275 m2		$71,500
B1 PARTITIONS & DOORS			13,800
B11 Partitions	275 m2	40.00	11,000
B12 Doors	275 No.	10.00	2,750
B2 FINISHES			37,100
B21 Floor Finishes	275 m2	25.00	6,875
B22 Ceiling Finishes	275 m2	60.00	16,500
B23 Wall Finishes	275 m2	50.00	13,750
B3 FITTINGS & EQUIPMENT			20,600
B31 Fittings & Fixtures	275 m2	75.00	20,625
B32 Equipment	0 m2	-	0
B33 Elevators	0 No.	-	0
B34 Escalators	0 No.	-	0
C SERVICES	275 m2		$195,300
C1 MECHANICAL			120,500
C11 Plumbing & Drainage	275 m2	36.00	9,900
C12 Fire Protection	275 m2	40.00	11,000
C13 HVAC	275 m2	320.00	88,000
C14 Controls	275 m2	42.00	11,550
C15 Mechanical Allowance	0 m2	-	0
C2 ELECTRICAL			74,800
C21 Service & Distribution	275 m2	52.00	14,300
C22 Lighting, Devices & Heating	275 m2	160.00	44,000
C23 Systems & Ancillaries	275 m2	60.00	16,500
NET BUILDING COST - EXCLUDING SITE			**$644,600**
D SITE & ANCILLARY WORK			$0
D1 SITE WORK			0
D11 Site Development	0 Sum	-	0
D12 Mechanical Site Services	0 Sum	-	0
D13 Electrical Site Services	0 Sum	-	0
D2 ANCILLARY WORK			0
D21 Demolition	0 m2	-	0
D22 Alterations	0 m2	-	0
NET BUILDING COST - INCLUDING SITE			**$644,600**
Z GENERAL REQ'S & ALLOWANCES			$648,400
Z1 GENERAL REQ'S & FEE			86,400
Z10 Transport & Accomodation	0.0%		0
Z11 General Requirements	8.0%		51,568
Z12 Fee	5.0%		34,808
Z13 Cash Allowance	Sum		0
TOTAL CONSTRUCTION ESTIMATE - EXC. CONTINGENCIES			**$731,000**
Z2 ALLOWANCES			562,000
Z21 Design & Pricing Allowance	20.0%		146,200
Z22 Escalation Allowance (2020 to 2028)	34.0%		298,248
Z23 Construction Allowance	10.0%		117,545
TOTAL CONSTRUCTION ESTIMATE - INC. CONTINGENCIES			$1,293,000
GOODS & SERVICES TAX	0.0%		0
TOTAL CONSTRUCTION ESTIMATE	275 m2	**4,701.82**	**$1,293,000**

Project	**: Brennan Park Recreation Centre - Area 13**	Report Date :	15th Feb. 18
	: Integration of Pool Equipment Room	Page No. :	
Location	**: Squamish, B.C.**	C.T. Index :	
Owner	**: District of Squamish**	Bldg. Type :	
Consultant	**: Kasian**	GFA :	See below

Description of Project: Integration of Pool Equipment Room

Class D Estimate

GFA : 136 m2

ELEMENT	Quantity	Unit Rate	Total
A SHELL	136 m2		$0
A1 SUBSTRUCTURE			0
A11 Foundations	0 m2	-	0
A12 Basement Excavation	0 m2	-	0
A13 Special Conditions	0 m2	-	0
A2 STRUCTURE			0
A21 Lowest Floor Construction	0 m2	-	0
A22 Upper Floor Construction	0 m2	-	0
A23 Roof Construction	0 m2	-	0
A3 EXTERIOR ENCLOSURE			0
A31 Walls Below Grade	0 m2	-	0
A32 Walls Above Grade	0 m2	-	0
A33 Windows & Entrances	0 m2	-	0
A34 Roof Covering	0 m2	-	0
A35 Projections	0 m2	-	0
B INTERIORS	136 m2		$6,800
B1 PARTITIONS & DOORS			0
B11 Partitions	0 m2	-	0
B12 Doors	0 No.	-	0
B2 FINISHES			0
B21 Floor Finishes	0 m2	30.00	0
B22 Ceiling Finishes	0 m2	20.00	0
B23 Wall Finishes	0 m2	30.00	0
B3 FITTINGS & EQUIPMENT			6,800
B31 Fittings & Fixtures	136 m2	50.00	6,800
B32 Equipment	0 m2	-	0
B33 Elevators	0 No.	-	0
B34 Escalators	0 No.	-	0
C SERVICES	136 m2		$59,800
C1 MECHANICAL			39,400
C11 Plumbing & Drainage	136 m2	100.00	13,600
C12 Fire Protection	136 m2	40.00	5,440
C13 HVAC	136 m2	50.00	6,800
C14 Controls	136 m2	100.00	13,600
C15 Mechanical Allowance	0 m2	-	0
C2 ELECTRICAL			20,400
C21 Service & Distribution	136 m2	75.00	10,200
C22 Lighting, Devices & Heating	136 m2	35.00	4,760
C23 Systems & Ancillaries	136 m2	40.00	5,440
NET BUILDING COST - EXCLUDING SITE			**$66,600**
D SITE & ANCILLARY WORK			$23,800
D1 SITE WORK			0
D11 Site Development	0 Sum	-	0
D12 Mechanical Site Services	0 Sum	-	0
D13 Electrical Site Services	0 Sum	-	0
D2 ANCILLARY WORK			23,800
D21 Demolition	136 m2	25.00	3,400
D22 Alterations	136 m2	150.00	20,400
NET BUILDING COST - INCLUDING SITE			**$90,400**
Z GENERAL REQ'S & ALLOWANCES			$99,100
Z1 GENERAL REQ'S & FEE			12,100
Z10 Transport & Accomodation	0.0%		0
Z11 General Requirements	8.0%		7,232
Z12 Fee	5.0%		4,882
Z13 Cash Allowance	Sum		0
TOTAL CONSTRUCTION ESTIMATE - EXC. CONTINGENCIES			**$102,500**
Z2 ALLOWANCES			87,000
Z21 Design & Pricing Allowance	20.0%		20,500
Z22 Escalation Allowance (2020 to 2028)	34.0%		41,820
Z23 Construction Allowance	15.0%		24,723
TOTAL CONSTRUCTION ESTIMATE - INC. CONTINGENCIES			$189,500
GOODS & SERVICES TAX	0.0%		0
TOTAL CONSTRUCTION ESTIMATE	136 m2	**1,393.38**	**$189,500**

CLASS D COST ESTIMATE

Hanscomb

Project	**: Brennan Park Recreation Centre - Area 14**	Report Date :	15th Feb. 18
	: Renovation to Covered Court Yard	Page No. :	
Location	**: Squamish, B.C.**	C.T. Index :	
Owner	**: District of Squamish**	Bldg. Type :	
Consultant	**: Kasian**	GFA :	See below

Description of Project: Renovation

Class D Estimate

GFA : 281 m2

ELEMENT	Quantity	Unit Rate	Total
A SHELL	281 m2		$154,600
A1 SUBSTRUCTURE			0
A11 Foundations	0 m2	-	0
A12 Basement Excavation	0 m2	-	0
A13 Special Conditions	0 m2	-	0
A2 STRUCTURE			112,400
A21 Lowest Floor Construction	0 m2	-	0
A22 Upper Floor Construction	0 m2	-	0
A23 Roof Construction (composite roof deck)	281 m2	400.00	112,400
A3 EXTERIOR ENCLOSURE			42,200
A31 Walls Below Grade	0 m2	-	0
A32 Walls Above Grade	0 m2	-	0
A33 Windows & Entrances	0 m2	-	0
A34 Roof Covering	281 m2	150.00	42,150
A35 Projections	0 m2	-	0
B INTERIORS	281 m2		$28,100
B1 PARTITIONS & DOORS			0
B11 Partitions	0 m2	-	0
B12 Doors	0 No.	-	0
B2 FINISHES			21,100
B21 Floor Finishes	281 m2	25.00	7,025
B22 Ceiling Finishes	281 m2	25.00	7,025
B23 Wall Finishes	281 m2	25.00	7,025
B3 FITTINGS & EQUIPMENT			7,000
B31 Fittings & Fixtures	281 m2	25.00	7,025
B32 Equipment	0 m2	-	0
B33 Elevators	0 No.	-	0
B34 Escalators	0 No.	-	0
C SERVICES	281 m2		$32,300
C1 MECHANICAL			8,400
C11 Plumbing & Drainage	281 m2	15.00	4,215
C12 Fire Protection	0 m2	-	0
C13 HVAC	0 m2	-	0
C14 Controls	281 m2	15.00	4,215
C15 Mechanical Allowance	0 m2	-	0
C2 ELECTRICAL			23,900
C21 Service & Distribution	281 m2	10.00	2,810
C22 Lighting, Devices & Heating	281 m2	50.00	14,050
C23 Systems & Ancillaries	281 m2	25.00	7,025
NET BUILDING COST - EXCLUDING SITE			**$215,000**
D SITE & ANCILLARY WORK			$12,600
D1 SITE WORK			0
D11 Site Development	0 Sum	-	0
D12 Mechanical Site Services	0 Sum	-	0
D13 Electrical Site Services	0 Sum	-	0
D2 ANCILLARY WORK			12,600
D21 Demolition	281 m2	15.00	4,215
D22 Alterations	281 m2	30.00	8,430
NET BUILDING COST - INCLUDING SITE			**$227,600**
Z GENERAL REQ'S & ALLOWANCES			$249,700
Z1 GENERAL REQ'S & FEE			30,500
Z10 Transport & Accomodation	0.0%		0
Z11 General Requirements	8.0%		18,208
Z12 Fee	5.0%		12,315
Z13 Cash Allowance	Sum		0
TOTAL CONSTRUCTION ESTIMATE - EXC. CONTINGENCIES			**$258,100**
Z2 ALLOWANCES			219,200
Z21 Design & Pricing Allowance	20.0%		51,620
Z22 Escalation Allowance (2020 to 2028)	34.0%		105,305
Z23 Construction Allowance	15.0%		62,254
TOTAL CONSTRUCTION ESTIMATE - INC. CONTINGENCIES			$477,300
GOODS & SERVICES TAX	0.0%		0
TOTAL CONSTRUCTION ESTIMATE	281 m2	**1,698.58**	**$477,300**

Project	**: Brennan Park Recreation Centre - Expansion**	Report Date :	15th Feb. 18
	: Expansion over Wellness Centre (2 floors)	Page No. :	
Location	**: Squamish, B.C.**	C.T. Index :	
Owner	**: District of Squamish**	Bldg. Type :	
Consultant	**: Kasian**	GFA :	See below

Description of Project: Expansion of 2 floors

Class D Estimate

GFA : 1,988 m2

ELEMENT	Quantity	Unit Rate	Total
A SHELL	1,988 m2		$2,393,500
A1 SUBSTRUCTURE			298,200
A11 Foundations (design consideration)	994 m2	200.00	198,800
A12 Basement Excavation	0 m2	-	0
A13 Special Conditions (design consideration)	994 m2	100.00	99,400
A2 STRUCTURE			994,000
A21 Lowest Floor Construction (modification to existing roof)	994 m2	100.00	99,400
A22 Upper Floor Construction	994 m2	500.00	497,000
A23 Roof Construction	994 m2	400.00	397,600
A3 EXTERIOR ENCLOSURE			1,101,300
A31 Walls Below Grade	0 m2	-	0
A32 Walls Above Grade	1,104 m2	600.00	662,400
A33 Windows & Entrances	250 m2	1,000.00	250,000
A34 Roof Covering	994 m2	150.00	149,100
A35 Projections	1,988 m2	20.00	39,760
B INTERIORS	1,988 m2		$989,900
B1 PARTITIONS & DOORS			188,900
B11 Partitions	1,988 m2	90.00	178,920
B12 Doors	1,988 m2	5.00	9,940
B2 FINISHES			347,900
B21 Floor Finishes	1,988 m2	60.00	119,280
B22 Ceiling Finishes	1,988 m2	60.00	119,280
B23 Wall Finishes	1,988 m2	55.00	109,340
B3 FITTINGS & EQUIPMENT			453,100
B31 Fittings & Fixtures	1,988 m2	70.00	139,160
B32 Equipment	1,988 m2	90.00	178,920
B33 Elevators (allowance)	1 No.	135,000.00	135,000
B34 Escalators	0 No.	-	0
C SERVICES	1,988 m2		$1,518,800
C1 MECHANICAL			978,100
C11 Plumbing & Drainage	1,988 m2	70.00	139,160
C12 Fire Protection	1,988 m2	40.00	79,520
C13 HVAC	1,988 m2	340.00	675,920
C14 Controls	1,988 m2	42.00	83,496
C15 Mechanical Allowance	0 m2	-	0
C2 ELECTRICAL			540,700
C21 Service & Distribution	1,988 m2	52.00	103,376
C22 Lighting, Devices & Heating	1,988 m2	150.00	298,200
C23 Systems & Ancillaries	1,988 m2	70.00	139,160
NET BUILDING COST - EXCLUDING SITE			**$4,902,200**
D SITE & ANCILLARY WORK			$89,500
D1 SITE WORK			0
D11 Site Development	0 Sum	-	0
D12 Mechanical Site Services	0 Sum	-	0
D13 Electrical Site Services	0 Sum	-	0
D2 ANCILLARY WORK			89,500
D21 Demolition	1,988 m2	10.00	19,880
D22 Alterations	1,988 m2	35.00	69,580
NET BUILDING COST - INCLUDING SITE			**$4,991,700**
Z GENERAL REQ'S & ALLOWANCES			$8,159,000
Z1 GENERAL REQ'S & FEE			668,900
Z10 Transport & Accomodation	0.0%		0
Z11 General Requirements	8.0%		399,336
Z12 Fee	5.0%		269,552
Z13 Cash Allowance	Sum		0
TOTAL CONSTRUCTION ESTIMATE - EXC. CONTINGENCIES			**$5,660,600**
Z2 ALLOWANCES			7,490,100
Z21 Design & Pricing Allowance	20.0%		1,132,120
Z22 Escalation Allowance (2020 to 2032)	76.0%		5,162,467
Z23 Construction Allowance	10.0%		1,195,519
TOTAL CONSTRUCTION ESTIMATE - INC. CONTINGENCIES			$13,150,700
GOODS & SERVICES TAX	0.0%		0
TOTAL CONSTRUCTION ESTIMATE	1,988 m2	**6,615.04**	**$13,150,700**

Project	**: Brennan Park Recreation Centre - Area 4**	Report Date :	15th Feb. 18
	: Expansion over Admin (4 floors)	Page No. :	
Location	**: Squamish, B.C.**	C.T. Index :	
Owner	**: District of Squamish**	Bldg. Type :	
Consultant	**: Kasian**	GFA :	See below

Description of Project: Expansion of 4 floors

Class D Estimate

GFA : 1,488 m2

ELEMENT		Quantity	Unit Rate	Total
A SHELL		1,488 m2		$2,430,400
A1 SUBSTRUCTURE				446,400
A11	Foundations (design consideration)	1,488 m2	200.00	297,600
A12	Basement Excavation	0 m2	-	0
A13	Special Conditions (design consideration)	1,488 m2	100.00	148,800
A2 STRUCTURE				744,000
A21	Lowest Floor Construction (modification to existing roof)	372 m2	100.00	37,200
A22	Upper Floor Construction	1,116 m2	500.00	558,000
A23	Roof Construction	372 m2	400.00	148,800
A3 EXTERIOR ENCLOSURE				1,240,000
A31	Walls Below Grade	0 m2	-	0
A32	Walls Above Grade	1,424 m2	600.00	854,400
A33	Windows & Entrances	300 m2	1,000.00	300,000
A34	Roof Covering	372 m2	150.00	55,800
A35	Projections	1,488 m2	20.00	29,760
B INTERIORS		1,488 m2		$819,500
B1 PARTITIONS & DOORS				156,200
B11	Partitions	1,488 m2	90.00	133,920
B12	Doors	1,488 m2	15.00	22,320
B2 FINISHES				290,200
B21	Floor Finishes	1,488 m2	80.00	119,040
B22	Ceiling Finishes	1,488 m2	60.00	89,280
B23	Wall Finishes	1,488 m2	55.00	81,840
B3 FITTINGS & EQUIPMENT				373,100
B31	Fittings & Fixtures	1,488 m2	70.00	104,160
B32	Equipment	1,488 m2	90.00	133,920
B33	Elevators (allowance)	1 No.	135,000.00	135,000
B34	Escalators	0 No.	-	0
C SERVICES		1,488 m2		$1,211,200
C1 MECHANICAL				717,200
C11	Plumbing & Drainage	1,488 m2	60.00	89,280
C12	Fire Protection	1,488 m2	40.00	59,520
C13	HVAC	1,488 m2	340.00	505,920
C14	Controls	1,488 m2	42.00	62,496
C15	Mechanical Allowance	0 m2	-	0
C2 ELECTRICAL				494,000
C21	Service & Distribution	1,488 m2	52.00	77,376
C22	Lighting, Devices & Heating	1,488 m2	190.00	282,720
C23	Systems & Ancillaries	1,488 m2	90.00	133,920
NET BUILDING COST - EXCLUDING SITE				**$4,461,100**
D SITE & ANCILLARY WORK				$0
D1 SITE WORK				0
D11	Site Development	0 Sum	-	0
D12	Mechanical Site Services	0 Sum	-	0
D13	Electrical Site Services	0 Sum	-	0
D2 ANCILLARY WORK				0
D21	Demolition	Sum	-	0
D22	Alterations	Sum	-	0
NET BUILDING COST - INCLUDING SITE				**$4,461,100**
Z GENERAL REQ'S & ALLOWANCES				$7,291,700
Z1 GENERAL REQ'S & FEE				597,800
Z10	Transport & Accomodation	0.0%		0
Z11	General Requirements	8.0%		356,888
Z12	Fee	5.0%		240,899
Z13	Cash Allowance	Sum		0
TOTAL CONSTRUCTION ESTIMATE - EXC. CONTINGENCIES				**$5,058,900**
Z2 ALLOWANCES				6,693,900
Z21	Design & Pricing Allowance	20.0%		1,011,780
Z22	Escalation Allowance (2020 to 2032)	76.0%		4,613,717
Z23	Construction Allowance	10.0%		1,068,440
TOTAL CONSTRUCTION ESTIMATE - INC. CONTINGENCIES				$11,752,800
GOODS & SERVICES TAX		0.0%		0
TOTAL CONSTRUCTION ESTIMATE		1,488 m2	**7,898.45**	**$11,752,900**

CLASS D COST ESTIMATE

Hanscomb

Appendix
B - DOCUMENTS & DRAWINGS LIST

APPENDIX B – DOCUMENTS & DRAWINGS LIST

Received project document on June 7, 2018 as follows:

- A-Brennan Park – Proposed Area Plans 2018-05-23 (2 sheets)

Appendix
C - REPRESENTATIVE DRAWINGS

CAVEAT

The estimate(s) for construction cost, contained in this report, represents Hanscomb's professional opinion, as Cost Consultants/Quantity Surveyors, of a fair and reasonable price for the work, based on the information provided to Hanscomb, and the condition of the market place as ascertained by Hanscomb, at the time of preparing this report.

The estimate(s) does not constitute an offer to undertake the work, nor is any guarantee given that an offer, to undertake the work at the estimate(s) price, will subsequently be submitted by a construction contractor. Unless explicitly stated otherwise, it is assumed that competitive bids will be sought when tender documents have been completed. Any significant deviation between bids so received and a pre-tender estimate prepared by Hanscomb from the same tender documents, will be evaluated to establish the possible cause(s), so that advice can be offered, to the Client, as to whether the bid price is fair and acceptable or, if not, what course action is appropriate.

This report is intended solely for the use of the Client within the context of the contract for professional services between the Client and Hanscomb, and shall not create any liability to any person or body not specifically stated as being a party to that contract.

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Appendix 5 - District Facility Inventory

APPENDIX 5 - DISTRICT FACILITY INVENTORY

NAME / FACILITY	LOCATION	MAP ID	OWNERSHIP	OWNERSHIP TYPE	USE	DESCRIPTION	ZONING	YEAR BUILT	TOTAL BLD AREA (FT^2)	TOTAL BDL LAND AREA (AC)	TOTAL BLD LAND AREA (ha)	OCCUPANCY
Adventure Centre	38551 Loggers Lane	22	Owned	Fee Simple	Socio-cultural	Offices, kiosks, café	CD-29	2005	9,000	1.38	0.56	95%
Brennan Park Aquatic Centre	1009 Centennial Way	53	Owned	Sponsored Crown Grant	Recreation	Recreation	P-3	1992	40,000	1.42	0.57	100%
Brennan Park Community Centre & Rink	1009 Centennial Way	29	Owned	Sponsored Crown Grant	Recreation	Recreation	P-3	1978	40,000	5.20	2.10	100%
Brennan Park Concession / Parks Office	1009 Centennial Way	51,52	Owned	Sponsored Crown Grant	Recreation	Concession	P-3	1973	2,000	0.10	0.04	0%
Cleveland Ave. Restaurant	37996 Cleveland Avenue	5	Owned	Fee Simple	Other	Copper Coil Restaurant	C-4	1900	1,200	0	0.04	1.00
Dog Pound	39903 Government Road	30	Owned	Fee Simple	Other	Dog pound	P-2	1975	1,663	0	0.69	1.00
Fire Hall #2- Tantalus	40439 Tantalus Road	70	Owned	Fee Simple	Safety	Firehall/Lounge	P-2	1978	15,203	1	0.47	1.00
Fire Hall #1- Alex Munro	37890 Clarke Drive	2	Owned	Fee Simple	Safety	Firehall/Lounge	P-2	1999	4,700	2	0.90	1.00
Forestry Building	42000 Loggers Lane	61	Owned	Fee Simple	Other	Office	P-2	1991	19,300	1	0.58	1.00
Homeless Shelter / Drop-in Centre	37930 Third Avenue	200	Owned	Fee Simple	Socio-cultural	Shelter	P-2	1965	1,713	0	0.52	1.00
Junction Park Building	37950 Cleveland Avenue	198,4	Owned	Fee Simple	Socio-cultural	Office	C-4	1980	1,145	2	0.61	1.00
Public Library	37907 Second Avenue	166	Owned	Fee Simple	Civic	Library	P-2	1997	12,675	1	0.26	1.00
Municipal Hall	37955 Second Avenue (Main/IT/Eng)	28	Owned	Fee Simple	Civic	Office	P-2	1976/2016	19,767	1	0.30	1.00
Public Works - Maintenance	39909 Government Road	33	Owned	Sponsored Crown Grant	Utility Services	Office	P-2	1970	6,000	0	0.19	1.00
Public Works - Office	39909 Government Road	34	Owned	Sponsored Crown Grant	Utility Services	Operations Yard	P-2	1973	3,400	0	0.10	1.00
RCMP Building	1000 Finch Drive	49	Owned	Sponsored Crown Grant	Safety	Police Station	P-2	2006	22,247	4	1.50	1.00
The 55	1210 Village Green Way	50	Owned	Air Space Parcel	Socio-cultural	Multi-purpose room	CD-2	2009	10,000	0	0.09	1.00
Youth Centre	1135 Carson Place	11	Owned	Sponsored Crown Grant	Socio-cultural	Recreation	P-2	1965	4,831	4	1.74	1.00
Downtown Community Policing Station (Telus building)	38080 Cleveland Ave.	62	Leased	Leased	Safety	Police Station	C-4	NA	1,064	0.14	0.14	100%

Note: Does not include Waste Water Treatment Plant

Appendix 6 – District Land Inventory

APPENDIX 6 - DISTRICT LAND INVENTORY

LOCATION	MAP ID	ASSET SUBCATEGORY	OWNERSHIP	OWNERSHIP TYPE	CATEGORY	USE	CATEGORY	ZONING	LAND AREA (ac)
OPERATIONAL PROPERTIES									
Adventure Centre Parking Lot	21	Operational Properties	Owned	Fee Simple	Economic Development	Tourism, Parking	Operated/Leased Out	C-3	1.50
Airport - Airside Developed Area	40	Operational Properties	Owned	Sponsored Crown Grant	Economic Development	Aviation	Leased Out	RE	17.60
Airport - Future Expansion	43,44,45	Operational Properties	Owned	Sponsored Crown Grant	Economic Development	Vacant	Vacant	RE	59.50
Airport - Groundside Developed Area	41	Operational Properties	Owned	Sponsored Crown Grant	Economic Development	Parking	Operated	RE	3.10
Airport - Runway System	42	Operational Properties	Owned	Sponsored Crown Grant	Transportation	Aviation	Operated	RE	55.80
Airport - West	46	Operational Properties	Owned	Sponsored Crown Grant	Economic Development	Waste Management	Leased Out	I-5/RE	14.20
Alice Lake Quarry	47	Operational Properties	Leased	Province	Safety	Gravel Reserve	Operated	P-3	30.60
Alice Ridge Communications Site	-	Operational Properties	Leased	Province	Utility services	Telecommunications	Operated	RE	14.50
Brennan Park - Campground	57	Operational Properties	Owned	Sponsored Crown Grant	Socio-cultural	Tourism	Operated	P-3	1.88
Brennan Park - Fields	59, 218	Operational Properties	Owned	Sponsored Crown Grant	Recreation	Field Uses	Operated	P-3	43.50
Brennan Park - Future	60	Operational Properties	Owned	Sponsored Crown Grant	Recreation	Vacant	Vacant	P-3	11.61
Brennan Park - Greenhouse	12	Operational Properties	Owned	Sponsored Crown Grant	Recreation	Field Uses, Nursery	Operated	P-3	3.80
Brennan Park - Lease/License Areas	54,55,56,58	Operational Properties	Owned	Sponsored Crown Grant	Recreation	Recreation, Events	Leased Out	P-3	17.78
Brennan Park - Other Leased	-	Operational Properties	Owned	Sponsored Crown Grant	Utility services	Telecommunications	Leased Out	P-3	0.00
Brennan Park - Storage Containers	13	Operational Properties	Owned	Sponsored Crown Grant	Recreation	Storage	Leased Out	P-3	1.03
Brennan Park - Tennis Courts	14	Operational Properties	Owned	Sponsored Crown Grant	Recreation	Tennis	Operated	P-3	1.42
Business Park - Lot 38	140	Operational Properties	Owned	Fee Simple	Economic Development	Vacant	Vacant	RS-2	4.20
Business Park - Lot 39	138	Operational Properties	Owned	Fee Simple	Economic Development	Vacant	Vacant	I-1	11.80
Castle Rock	175	Operational Properties	Owned	Sponsored Crown Grant	Socio-cultural	Affordable Housing	Leased Out	CD-2	2.40
Cheekye Fan - Squamish River	145	Operational Properties	Owned	Fee Simple	Future	Vacant	Vacant	RE	4.40
Cheekye River - Gravel Extraction	36	Operational Properties	Leased	Province	Safety	Gravel Reserve	Operated	RE	24.50
Cleveland Ave. Parking Lot	146	Operational Properties	Owned	Sponsored Crown Grant	Transportation, Economic Developemnt	Parking Lot	Operated	C-4	0.21
Darrell Bay	16	Operational Properties	Owned	Road	Revenue	Parking Lot	Operated/Licensed Out	I-3	2.55
Downtown Pump Station	178	Operational Properties	Owned	Fee Simple	Greenspace	Pump Station	Operated	CD-34	0.09
Junction Park Parking Lot	6	Operational Properties	Owned	Fee Simple	Socio-cultural	Parking Lot/Events	Operated/Licensed Out	C-4	0.37
Landfill	19	Operational Properties	Leased	Province	Utility Services	Landfill	Operated	RE	25.00
Lot 3 - Cheekye River	193	Operational Properties	Owned	Fee Simple	Future	Vacant	Vacant	RE	10.90
Lot 69 - Commercial	38	Operational Properties	Leased	Province	Revenue	Firewood	Leased Out	I-6	1.00
Lot 69 - Institutional	39	Operational Properties	Leased	Province	Safety	Gravel Extraction	Operated	I-5	7.81
Pioneer Way Pump Station	143	Operational Properties	Owned	Fee Simple	Greenspace	Pump Station	Operated	I-1	0.23
Smoke Bluffs - Remainder Lot C	157	Operational Properties	Owned	Fee Simple	Recreation	Vacant	Vacant	RS-1	0.14
Smoke Bluffs Tower Site	25	Operational Properties	Owned	Fee Simple	Utility services	Telecommunications	Leased Out	RE	1.60
SPCA	32	Operational Properties	Owned	Sponsored Crown Grant	Socio-cultural	Animal Shelter	Leased Out	P-2	0.05
Squamish Cemetery	20	Operational Properties	Owned	Sponsored Crown Grant	Socio-cultural	Cemetery	Operated	RE	11.79
Squamish Valley Golf Club	39	Operational Properties	Owned	Sponsored Crown Grant	Recreation	Golf Course	Leased Out	P-3	144.22
The Spit	48	Operational Properties	Leased	Province	Recreation	Windsports Access	Leased Out	RE	2.00
Third Ave.	123	Operational Properties	Owned	Fee Simple	Socio-cultural	Affordable Housing	Vacant	CD-34	0.39
Thunderbird Ridge Water Tower	177	Operational Properties	Owned	Dedicated Parkland	Utility Services	Water Tower	Operated	RE	1.67
Valley Dr.	27	Operational Properties	Owned	Fee Simple	Future	Vacant/Vacant	Leased Out/Vacant	P-2	4.42
Valleycliffe Gateway	66	Operational Properties	Owned	Fee Simple	Future	Vacant	Vacant	RM-2	1.80
Xwu'nekw Park - Loggers Lane Waterlot	199	Operational Properties	Leased	ROW	Recreation	Water access	Operated	I-3	2.20
		Operational Properties							**543.56**