Naut'sa mawt
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First Edition 2021

Housing Sustainability Program - First Nation Housing Management

Practice Guide: Housing Financial Viability

Contents

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1. Introduction

The Housing Sustainability Project (HSP) addresses, among other things, the financial viability of First Nation housing. Prepared as part of the HSP, this Practice Guide uses a Sample House benchmark to assess financial viability; the approach estimates capital and operating costs for a representative First Nation house, including those built under the CMHC's Section 95 program.

This Practice Guide represents the body of knowledge assembled by the HSP to June 2021 and is based on: research of relevant, available literature; input by industry leaders; and input by Naut'sa mawt Members through HSP Working and Focus Groups. Naut'sa mawt intends to update this and related Practice Guides at future HSP milestones to incorporate additional knowledge and/or expanded stakeholder input.

This Practice Guide should be read in conjunction with the companion Naut'sa mawt document entitled "Practice Guide – Section 95 Operating Agreement Expiry - First Edition 2021", also prepared under the HSP. The latter document applies the same Sample House benchmark to issues that arise when Section 95 operating agreements expire.

The following sections summarize key findings on financial viability. Practices 1 to 8 in Appendix A provide specific, step-by-step guidance on the Sample House approach.

2. First Nation Home Ownership – Financial Requirements

The Sample House benchmark identified the following financial requirements for a representative First Nation home, including those built under the Section 95 program; all figures are in 2021 dollars:

a. ***Construction cost - $350,000***

- New Construction – easily accessible site; good access to trades, materials and supplies; no allowance for remoteness or local conditions that increase costs;
- Excludes land costs;
- Minimum to average vs. premium quality design, finishes, appliances and fixtures;
- Serviced lot; service connections are available at the property line;
- 1,400 sq.ft, 4 bedroom, two storey family home - no garage.

b. ***Annual maintenance cost***

- Planned, preventative maintenance – est. $8,200/year;
  - » Occupant component "in kind" – est. $6,044/year;
  - » Professional inputs "at cost" – est. $2,136/year;
- "Call outs" for breakdown repairs – est. $1,600/year.

c. ***Annual contribution to reserves for repairs and replacements***

As shown in ***Table 1*** and ***Practice 5,*** financial requirements are heavily influenced by service lives achieved for house components. In turn, service lives are heavily influenced by the level of maintenance and sufficient and timely repairs.

The Sample House assumes a $5,300/year annual contribution to reserves for repairs and replacements based on:

- 75-year life expectancy for the house; service lives for some house components are shorter than life expectancy; full house replacement at end of life-expectancy is financed by new borrowing – not from reserves;
- Capital reserves are only sufficient to replace house components with service lives less than 75 years – they are not sufficient to replace, for example, site services, foundations, framing and other components which are assumed to have service lives equal to life expectancy of the house (75 years).

Table 1. Financial requirements are heavily influenced by service lives achieved for house components

Annual Capital Reserve Requirements for Housing			
For components with service lives:	Long Avg. Service Life	Short Avg. Service Life	Sample House
< 25 years	$2,481	$4,015	$3,005
	0.72%	1.16%	0.87%
< 50 years	$3,608	$6,063	$4,482
	1.04%	1.75%	1.30%
< 75 years	$4,281	$7,116	$5,292
	1.24%	2.06%	1.53%

d. *Investment for repairs & replacements*

Estimated expenditures for house repairs and replacements during the first 40 years of life-expectancy are:

Repairs & Replacements	2021 $	Incl. Inflation*
Years 1 to 24	$69,467	$98,526
Years 25 to 30	$48,125	$81,773
Years 31 to 40	$60,264	$128,451
Total	$177,857	$308,750

*= inflation @ 2.0 %/year

e. ***Annual costs***

Sample House – Estimated Annual Costs	
Mortgage – applies during Operating Agreement	$17,916*
Municipal services - net of ISC funding**	$373
First Nation Community Services - net of ISC funding***	$1,065
Insurance	$600
First Nation Housing Administration	$1,200
Accounting & auditing	$110
Repairs & maintenance	
Planned maintenance	$2,136
Call outs & repairs	$1,600
Contribution to reserves	$5,300
Total/year	**$30,300**
Total/month during Operating Agreement	**$2,525**
Total/month after expiry of Operating Agreement	**$1,032 ******

*= $350,000 mortgage @ 2.5%; 25-year amortization

**= e.g. municipal water supply, sewage treatment, fire protection, animal control

***= First Nation supplied services – e.g. roads, grounds, drainage, water distribution, sewage collection, safety and security

****= assumes no mortgage payment – i.e. reserves are sufficient to fund ongoing repairs and replacements for remaining life-expectancy

3. First Nation Housing Management – Legal Context

In May 2021, Woodward and Co. (WW&C) provided Naut'sa mawt with advice on clarifying roles, responsibilities and potential liabilities related to First Nation housing, with a focus on managing Section 95 homes; advice comprised WW&C's memo to Naut'sa mawt dated May 16, 2021 (See Appendix B) plus subsequent verbal discussions to clarify specific topics.

The following represents Naut'sa mawt's interpretation of that advice in terms of implications for managing First Nation housing; it should not be considered a legal opinion and Nations are encouraged to seek independent legal advice before acting on any of the matters presented here.

Key points from the WW&C input are:

a. First Nations fulfil multiple roles when owning and administering housing on-reserve including: owner, landlord and seller. Obligations and duties under these roles can overlap but generally involve ensuring that homes are safe and habitable and that deficiencies are properly disclosed and addressed.

b. A First Nation's fiduciary duty underlies all roles in (a) and involves acting honestly, faithfully and in the best interests of the Nation. It also means that the Nation must exercise the care, due diligence and skill of a reasonably prudent person in carrying out the duty.

More specifically:

- First Nation Councils must avoid conflicts of interest and must manage the Nation's assets in the best interests of the Nation as a whole, treating all Members equally.
- CMHC Operating Agreements require that a First Nation manage housing assets in the best interests of the Nation. This means that the Nation must care for and maintain Nation-owned homes to preserve their value over their lifetime and to reduce unnecessary expenditures that arise from neglect.
- Sale of a Section 95 house at the end of the Operating Agreement is not an "arms-length" transaction due to a Nation's multiple roles as owner, landlord and seller and, importantly, the Nation's fiduciary relationship with the member tenant.
- The law is not clear on the extent of a First Nation's liability, if any, arising from transferring ownership of a home to a tenant who is known to lack the necessary financial resources and/or personal capacity to maintain the home as a homeowner.

  However, a Nation can mitigate or reduce the risk of legal or financial liability by:

  - » fully disclosing known defects or deficiencies in a home;
  - » obtaining a signed liability waiver from the tenant;
  - » advising the tenant to seek independent legal advice (even if the tenant doesn't procure that advice); and
  - » ensuring a valid and enforceable sale/transfer agreement is in place.

  As part of a transition process to ownership, the Nation could also take pro-active steps to make tenants aware of the costs and obligations of ownership such that they can make a more informed decision on ownership vs. continued tenancy.

  Where a new owner finds that they can't manage home ownership – either financially or through personal capacity - the Nation may decide to provide assistance to the new owner. Appropriate assistance will vary depending on the circumstances.

  For example, in some cases, a Nation might assist by providing a secured loan guarantee to a homeowner for a renovation; many such security agreements establish that the CP holder will sign over their CP to the band until they have paid the loan off in full, at which time the band transfers the CP back. Note that the Nation can't repossess lands that have been validly transferred to a member through a CP or other permanent interest; land transfer in such circumstances can only occur through expropriation.

To avoid breaching Council's fiduciary duty to treat all members equally, Nations should consider the nature of assistance they are prepared to provide in these situations. Nations should also establish policies that set out when the Nation will provide such assistance and clear criteria to support transparent, consistent and fair decision-making. For example, where a Nation provides a greater benefit to one member over another there needs to be a very good policy reason to justify such differential treatment. Legal advice is recommended.

- As in any purchase and sale of an older home, depreciation and a certain amount of wear and tear are to be expected as normal. The vendor and purchaser normally negotiate the allocation of responsibility and costs for correcting deficiencies.
- Failure to properly disclose known defects result in liability for the First Nation which may then be responsible for paying to correct defects and to compensate the purchaser for any injury suffered or costs incurred as a result of the failure to disclose.
- Where Nations do not maintain houses in response to rent arrears, the practice is contrary to their fiduciary duty. Such practice can create hazardous conditions for tenants, cause assets to deteriorate prematurely and increase the Nation's costs.
- In some cases a Nation may take steps to correct hazards that are outside a landlord's normal responsibility because of their fiduciary duty to preserve the housing asset and to act in the best interest of members. For example, the Nation may correct tenant-caused damage where it creates health and safety concerns, or where delaying repairs could give rise to increased costs – e.g. broken windows or exterior doors.
- If the tenant's own conduct has contributed to or created the hazards or where the tenant purposely or negligently failed to report the hazard to the Nation, the tenant will have breached the tenancy agreement and will be liable to the First Nation for remediation.

The tenant has duties under the tenancy agreement, both to carry out some repairs and maintenance and to notify the landlord of such repairs as would fall to the landlord. If the tenant has not fulfilled their duties, the landlord's duty to remediate may be offset by the tenant's own failure to meet their obligations. In such cases, it is open to the First Nation to negotiate shared responsibility for the remediation with the tenant prior to any transfer of a Section 95 house.

c. Under the common law of landlord/tenant, a First Nation has a responsibility to ensure that its Members on-Reserve are housed in safe, habitable and appropriate housing. To promote clarity and consistency, a Nation should expressly adopt a clear definition of safe and habitable. In the absence of such definition, a court would likely consider standards in national and provincial building codes and precedents arising from prior judicial considerations.

d. First Nations must have clear and transparent processes in place for managing Band-owned housing in a way that supports fair treatment of Members, helps to avoid conflicts of interest and that ensures that housing administration is carried out with due care, diligence and skill. Such processes include, for example: a Residential Tenancy Law; the tenancy agreement; and relevant spousal property laws.

e. A Nation has a responsibility to know the status of the houses they own and to regularly inspect them for hazards. Where hazards are found, the Nation, as landlord, has a responsibility to correct them where they fall within a landlord's responsibility.

f. Courts have generally upheld a First Nation's rights and obligations to its Members and tenants pursuant to contractual promises made between them. While there is limited case law dealing with on-reserve housing, First Nations can look to court decisions dealing with landlord/tenant relationships for guidance.

Courts in British Columbia have established that a landlord not only has a responsibility to maintain and repair their rental premises on notification by tenants, but also has a duty to reasonably inspect the premises for hazards. So, a Nation that does not conduct reasonable inspections could be found liable for injuries stemming from unsafe conditions even if the Nation was unaware of them, on the basis that the Nation ought to have known.

To promote clarity, the tenancy agreement should set out the tenant's and landlord's responsibilities and should provide recourse where the tenant causes the damage.

In summary, where a Nation faces expiring operating agreements for houses with significant defects, and where such defects arise because the First Nation did not fulfill its fiduciary and landlord duties, then, arguably that Nation has a duty to correct those defects before transferring the house, or to reach an amicable agreement with a pending owner on how those defects will be addressed post-transfer. Where a house has been so poorly maintained that it is not habitable by the time the transfer is due, the Nation could also be liable to the tenant for not having fulfilled its fiduciary and landlord duties.

While it can be argued that a tenant, having lived in such a house for many years, is aware of the defects and is a knowing purchaser, a First Nation that transfers such a house may still face liability in their fiduciary role. This is especially the case where the Nation has not properly inspected or maintained homes such that defects arose from the Nation's improper administration of its housing programs. The Nation can mitigate this liability by disclosing deficiencies and reaching agreement with a pending owner on how to address them as part of the sale/transfer agreement.

So, in such cases, a First Nation likely should remediate such defects to a safe and habitable condition.

4. Overview – CMHC Section 95 Homes

Under the On-Reserve Non-profit Housing Program, CMHC provides subsidies for financing and operations of First Nation housing projects. These Section 95 houses are built, administered and owned by the First Nation.

At expiry of the Operating Agreement (OA) – usually 25 years – the CMHC subsidy expires and the following issues may arise:

a. There can be limited documentation as to whether a house was intended to be First Nation owned or occupant owned (rent-to-own) on expiry of the Operating Agreement; the First Nation's legal obligations can also be unclear;

b. While mortgage debt is paid off, the house is 25 years old and may require significant capital investment for updating and/or renovation – both to meet occupant preferences as well as to restore safe, healthy living conditions. For example, some house components have an estimated 25-year service life and should be replaced around the time of OA expiry. Lack of maintenance and/or tenant damage often increase the level of investment required;

c. Rent charged may have been less than required to cover ongoing housing costs. This issue can be compounded by rent arrears which need to be reconciled at expiry of the Operating Agreement;

d. Ongoing housing costs beyond OA expiry may be unaffordable for tenants to assume ownership. Also, some tenants, who wish to purchase homes and borrow to pay for renovations, may not meet financial eligibility criteria (e.g. costs < 32% of income);

e. Some tenants may be reluctant to assume ownership until houses are restored to "acceptable" condition; other tenants may be unwilling under any circumstance to assume ownership and, instead, wish to continue as tenants.

Consequently, Section 95 homes can get "stuck in limbo" on expiry of the OA, with ownership, financial and other responsibilities unclear among the First Nation and the occupant.

For a a more detailed look at Section 95 homes please refer to to the companion Naut'sa mawt document entitled "Practice Guide – Section 95 Operating Agreement Expiry – June 2021".

5. Conclusions and Recommendations

The following conclusions and recommendations arise from the findings of this financial viability assessment:

a. Sigificant financial subsidy is required to make First Nation housing programs financially viable; such subsidy is likely required throughout the life cycle of a house. Typical rents (say $650/month) don't cover full housing costs, representing only 25% of costs during the term of an Operating Agreement and 60% of costs if the mortgage is excluded.

b. Given issues arising for Section 95 homes, it's clear that some Nations may not be meeting one or more of their fiduciary or landlord duties and, so, are exposed to risk and liability.

c. First Nation housing programs appear to be systemically underfunded:

- The CMHC subsidy for capital reserves usually covers only components with service lives less than 25 years – estimated at 0.87% for the Sample House, which is about half of requirements for full life expectancy;
- Some First Nations may not be applying for their full CMHC subsidy entitlement because they don't account for and bill operating costs to individual homes.

  To be eligible for CMHC subsidy, a First Nation must demonstrate that it actually charges operating costs to homes. A subsidy does not apply where a First Nation allocates costs to its housing program but doesn't charge-out those costs to individual homes. Also, to be eligible, charges must be consistently applied to all private and rental houses, not only to those in the First Nation's Section 95 program;
- Restoration of houses to "safe and habitable" conditions on expiry of Operating Agreements usually represents an un-funded liability for First Nations and

occupants alike. The extent of such liability is heavily influenced by underinvestment in maintenance and repairs during the term of the Agreement; tenant behavior is also a significant factor.

For context, Sample House results suggest that restoration in the order of 25% of house replacement cost represents an average funding requirement for a 25 year old house in a housing portfolio – about $85,000 in current (2021) dollars. Of course, amounts will vary significantly from house to house based on actual conditions with costs ranging in the order of 10% to 35% of replacement cost.

d. Housing costs for some First Nations are unnecessarily high due to:

- Re-active vs. planned maintenance - costs for breakdown or emergency repairs are significantly more costly than preventative maintenance;
- Use of materials with lower up-front cost vs. achieving lowest life cycle cost – e.g. roofing materials with a 50 vs. 20-year service life cost only marginally more up-front but last more than twice as long; plywood vs. strand board siding and roof decking has a lower life cycle cost;
- Use of less qualified contractors to reduce construction costs – resulting poor construction methods increase future costs through system failures, premature deterioration and increased maintenance;
- Inconsistent inspections and repairs which allow deficiencies to deteriorate further, resulting in higher costs for repairs.

e. The Sample House scenarios, combined with issues arising on expiry of CMHC Operating Agreements, demonstrate the urgent need for and importance of effective First Nation housing management.

f. To improve financial viability and to adequately fulfill its fiduciary, landlord and other duties, a First Nation requires a comprehensive, robust and structured approach to housing management involving:

- Sufficient, viable, sustainable funding to meet all requirements, pro-actively over the life-cycle of a house;
- An effective housing management regime including: clear, documented policies and practices; consistent and effective policy enforcement; routine house inspections and timely follow up on deficiencies; timely maintenance, repairs and replacements; and effective financial management, cost monitoring and cost control;
- Effective financial and information management systems;
- Community developed policy objectives for Section 95 homes upon expiry of the operating agreement, including whether transfer of ownership to tenants is an objective of the First Nation;

- Where it is a policy objective to transfer ownership to tenants, accessible community developed laws, policy, process, procedures and criteria for transferring the ownership of Section 95 homes to tenants including:
  - establishing a purchaser's financial and personal capacity for ownership;
  - land tenure;
  - a structured method for quantifying "safe and habitable" gaps and related restoration costs;
  - a structured process for allocating restoration scope and cost among key deficiency drivers including unclear First Nation and tenant obligations, delayed investment in repairs and replacements, limited maintenance, tenant damage and external damage (e.g. tree fall, hail, ice).
- Consistent, transparent and accountable practices for monitoring, assessing and maintaining house performance including:
  - A "safe and habitable" benchmark, defined in sufficient detail to promote consistent, comprehensive, repeatable and objective assessment by multiple independent inspectors;
  - Clearly defined key housing management terms including: deficiency; defect; life expectancy; service life; safe; habitable; hazard; significant;
  - A comprehensive and clearly specified housing maintenance program, including appropriate allocation of effort among the First Nation and their tenant;
  - An inspection template to be filled out at the time of inspections and related "user guide" and training to promote accuracy and consistency;
  - Up-to-date cost benchmarks for all house components – likely multiple benchmarks to reflect regional factors;
  - Regular house inspections and "safe and habitable" evaluations to assess scope and cost for correcting deficiencies and to allocate responsibility fairly among the First Nation and its tenant.

Appendix A

Planning for Financial Viability

PRACTICE GUIDE 1: Housing Management Policy

Purpose:

Provides Chief and Council policy guidance on housing management

Approach:

As part of a concerted effort to improve financial management, many First Nations are implementing Financial Administration Laws (FALs). Typical FALs provide guidance on managing housing (i.e. tangible capital assets) as follows:

a. ***General Council Duties***

Council will take reasonable steps to ensure that:

- First Nation-owned housing is maintained in a good and safe condition and to the same standard as a prudent owner of such assets
- The rehabilitation or replacement of housing is in accordance with an effective life-cycle management program
- Capital projects for the construction of buildings or other improvements are financed, planned and constructed in accordance with typical good industry practice

b. ***Tangible Capital Asset Reserve Fund***

- Council will establish a tangible capital asset reserve fund for the purpose of carrying out capital projects

c. ***Reporting on Capital Projects***

The CAO will regularly report to the Finance Committee on:

- Financing status related to capital projects
- The status of capital projects
- The status of work to establish and apply suitable policies and procedures related to planning, design, costing, procuring, constructing and controlling scope, schedule and budget for capital projects

d. ***Life-cycle Asset Management***

- The CAO will establish, and keep current, a register of all First Nation-owned housing including comprehensive information on all assets that is relevant for effective asset management
- On or before the end of a calendar year, the CAO will arrange for the inspection and review of the state of each tangible capital asset to update the information in the asset register including:
    - » Asset condition
    - » Suitability for use
    - » Replacement cost
    - » Estimated remaining service life
    - » A comparison of annual operations and maintenance costs for the last 5 years
    - » Amounts and adequacy of insurance coverage

- On or before January 31 each year, the CAO will prepare:
  - A schedule of routine maintenance for each tangible capital asset for the coming year
  - Short and long term projected costs for rehabilitation or replacement of housing – including a budget for the coming year

e. ***Review by Finance Committee***

- On or before February 28 each year, the Finance Committee will review the Life Cycle Asset Management information, schedules and budgets (item iv above) submitted by the CAO to:
  - Identify potential efficiencies and/or cost reductions
  - Understand the effect that the proposed rehabilitation and replacement program will have on operating and maintenance costs in coming years
- On or before February 28 each year, the Finance Committee will review any plans for new construction of housing

f. ***Multi-year Financial Plan***

No later than March 31 each year, Council will approve a multi-year financial plan that:

- Has planning periods of 5, 10 and 30 years (or longer)
- Is based on projected revenues, expenditures and transfers between accounts – all segregated by significant category
- Identifies projected deficits and surpluses

g. ***Risk Assessment and Management***

- At least annually, the CAO will:
  - Identify and assess any significant risks to housing and related operations
  - Report on risk mitigation activities and plans

h. ***Insurance***

Council will procure and maintain in force insurance coverage that is appropriate and commensurate with identified risks

Inputs:

- First Nation Finance Administration Law

Outputs:

- First Nation policy on housing management and reporting, including key roles and responsibilities

Tips and Tricks:

- A Housing Management Policy clarifies Chief and Council's direction on mandate and key roles and responsibilities for the First Nation'S Housing Program; it also promotes compliance with the First Nation's Finance Administration Law

PRACTICE GUIDE 2: Budgeting for House Construction

Purpose:

- Describes how to budget for constructing a new house
- Provides a breakdown of total house construction cost by key component
- Provides sample costs
- Lists key factors and assumptions

Approach:

A budget for house construction should be determined as follows:

a. Confirm First Nation/tenant needs for planning and design including quality of construction and finishes;

b. Confirm the land parcel for the house; identify applicable zoning and servicing requirements; confirm design/construction codes and standards; determine access; determine site conditions and address constraints (e.g. geotechnical, environmental);

c. Determine applicable general and off-site costs – e.g. municipal development cost charges; permit fees; connection charges for water, sewer, drainage, hydro, telephone and cable;

d. Prepare house design drawings, including site servicing and landscaping;

e. Confirm budget estimate for construction – match budget with affordability and any funding agency requirements (e.g. CMHC).

Building shape, floor area, design elements, materials used and overall quality all significantly impact costs. Generally, the larger the floor area, the lower the unit-area cost for construction.

For context, ***Table PG 2.1*** provides a high level comparison of design and quality characteristics for the following typical Classes of houses:

- Class 3 – Best Standard
- Class 4 – Good Standard
- Class 5 – Average Standard
- Class 6 – Minimum Standard

Class 1 (luxury) or Class 2 (semi-luxury), not shown in the Table, involve higher quality and design specifications that are not typically part of a First Nation's housing portfolio.

The Sample House construction cost in ***Table PG 2.2***, below, provides guidance on typical budget categories and costs to be considered for First Nation housing. The figures in the Table are only intended to illustrate a typical construction cost breakdown; First Nations should only use the Table as guidance for developing their own, project specific costs for budgeting.

Core Sample House assumptions are:

a. New Construction – easily accessible site; good access to trades, materials and supplies; no allowance for remoteness or local conditions that increase costs;

b. Excludes land costs;

c. Class 5/6 – minimum to average vs. premium quality design, finishes, appliances and fixtures;

d. Serviced lot; service connections are available at the property line;

e. 4 bedroom, two storey family home - no garage;

f. 2021 dollars.

Constructing a house involves two basic cost categories, namely:

a. General Costs – "soft" costs related to planning and designing the house and for preparing surveys, site investigations and detailed construction drawings; also, costs for First Nation staff to plan and manage house construction on behalf of the First Nation, including: liaison with the contractors; arranging financing; arranging services (water, sewer, cable); arranging and administering necessary permits; and hiring and managing consultants, trades and contractors.

b. Construction costs – costs related to constructing the house.

Key considerations include:

a. General Costs

- Development Cost Charges (DCCs) – through Municipal Type Service Agreements (MTSA's), some First Nations must pay capital charges (such as DCCs) to the municipality for off-Reserve servicing costs – e.g. water and sewer.
- Design Drawings – adapting "stock" plans to suit a specific lot is considerably less expensive than preparing new designs from scratch.
- Consultants – the variety and cost for consultants varies significantly, depending on site conditions and permitting requirements; a site with poor soil conditions, high groundwater or sensitive environmental issues will need more consulting effort.

b. Construction Costs

- Permits – some First Nations are implementing building by-laws and related permitting requirements and costs as part of implementing their Land Codes.
- Contractor Project Management, typically around 10% of total construction costs, covers the contractor's cost for liaising with the First Nation and for organizing trades and sub-contractors.
- Site wide labour is an allowance for contractor staff who are involved in multiple tasks – e.g.: site cleanup, monitoring site grading and handling materials and supplies

Inputs:

- Zoning and building requirements and standards
- Permitting requirements
- Municipal Type Service Agreements (MTSA's)
- First Nation staff and administration costs related to house construction
- Relevant, past house construction experience and costs
- Relevant reports on site conditions
- Up to date unit costs and checklists for estimating house construction

Outputs:

- Detailed design drawings ready for permitting and construction

- Detailed budget for constructing a house that is suitable for arranging financing

Tips and Tricks:

- Be sure to consider General Costs – they're significant; someone has to pay for internal First Nation costs related to house construction.
- Check your MTSAs to determine applicable costs.
- Be sure to consider all relevant costs – prepare checklists to avoid things falling between the cracks; continuously improve accuracy by using experience to update checklists for future projects.
- Within reason, the more detailed the construction cost breakdown, the more accurate the cost estimate will be.
- Time spent planning and budgeting for house construction is time well spent – it's always more expensive to change things during construction; also, it's always difficult to find additional money for cost overruns once approvals and financing are in place.
- Learn from past house construction experience – build knowledge to inform assumptions and decision making for future house construction.
- Get input from local, experienced contractors – their input will help to avoid incorrect assumptions and to ensure that current market conditions and pricing are properly accounted for.

References:

- B.C. Housing – Capital Budget Template

Table PG 2.1. *Construction & Finish Quality - Single Family Residences

	CLASS 3 Best Standard	CLASS 4 Good Standard	CLASS 5 Average Standard	CLASS 6 Minimum Standard
Foundation	Reinforced concrete	Reinforced concrete, or concrete block	Reinforced concrete, or concrete block	Reinforced concrete
Floor structure	Engineered wood or steel or reinforced concrete slab	Wood frame or slab on grade with changes in shape & elevation	Standard wood frame or slab on grade with elevation changes	Slab on grade. No changes in elevation.
Wall framing & exterior finish	Wood or steel, several wall offsets, wood or masonry accents, good grade doors & windows.	Wood or steel, stucco, or wood siding, some trim or veneer, average doors & windows.	Wood or steel, stucco or wood siding, few offsets, commodity grade doors & windows.	Wood or steel, stucco or hard-board siding, minimum grade doors & windows.
Roof	Multi-pitch, shake, tile or flat surface, large closed soffit.	Wood trusses, tile or good shingles, closed soffit	Wood frame, shingle or built-up cover, open 24″ soffit.	Wood frame, composition shingle cover, open soffit.
Floor finish	Simulated marble tile entry, good carpet, hardwood or vinyl elsewhere.	Better sheet vinyl & average carpet, some areas with masonry or tile.	Good sheet vinyl & standard carpet, small area with tile or hardwood.	Composition tile or minimum grade sheet vinyl.
Interior wall & ceiling finish	Gypsum wallboard with putty or texture coat finish, some irregular walls, decorative details in living room, entry and kitchen.	1/2' gypsum wallboard with textured finish, several irregular walls & wall openings, some decorative details.	1/21′ gypsum wallboard with textured finish, most walls are rectangular, doors & windows are the only openings.	1/2′ gypsum wallboard, smooth or orange peel finish. Nearly all walls are regular, no decorative details.
Interior details	Cathedral ceiling at entry, one or more floor levels changes, several wall openings or pass-throughs, formal dining area.	8′ or 9′ ceiling throughout, walk-in closet in master bedroom, separate dining area, some decorative wood trim.	8′ or 9′ ceiling throughout, sliding mirrored closet doors, standard grade moldings & trim, breakfast bar or nook.	Drop ceiling in kitchen, other rooms have 7′6″ to 8′ ceiling, minimum grade moldings & trim.
Bath details	Tile or fiberglass shower, at least one built-in bathtub, window in bathroom	Good plastic tub & shower in at least one bathroom, one small window in each bath.	Average plastic tub & shower in at least one bathroom.	Minimum plastic tub & shower in one bathroom.

	CLASS 3	CLASS 4	CLASS 5	CLASS 6
	Best Standard	Good Standard	Average Standard	Minimum Standard
Kitchen details	Over 20 LF of good stock wall & base cabinets, tile or acrylic counter top, desk & breakfast bar or nook.	Over 15 LF of stock standard grade wall & base cabinets, low-cost tile or acrylic counter top, breakfast nook.	Over 10 LF of stock standard grade wall & base cabinets, low-cost acrylic or laminated plastic counter top.	Less than 10 LF of low-cost wall & base cabinets, laminated plastic counter top, space for table.
Plumbing	3 good fixtures per bathroom, as many bathrooms as bedrooms.	3 standard fixtures per bathroom, less bathrooms than bedrooms.	3 standard fixtures per bathroom, less bathrooms than bedrooms.	3 minimum fixtures per full bathroom, 2 bathrooms.
Special features	6 good built-in appliances, walk-in pantry, wet bar, central vacuum.	5 standard built-in appliances, sliding glass or French doors, laundry room.	4 standard grade kitchen appliances.	2 minimum grade kitchen. appliances.
Electrical system	Ample recessed lighting on dimmers, computer network, multiple TV outlets.	Limited recessed lighting on dimmers, multiple TV outlets.	12 lighting fixtures, switch-operated duplex plug outlets in bedrooms.	10 or less lighting fixtures, switch operated plug outlets in most rooms.
If exterior walls are masonary	Textured or coated concrete block or good quality detailed brick.	Colored or coated concrete block or good quality brick.	Colored concrete block or painted common brick.	Painted concrete block or common brick.

*= Source – Integral Consultants - www.integralconsultants.ca

Table PG 2.2. Sample House Construction Cost Breakdown

	Component	Cost	$/sq ft
	Livable floorspace (sq.ft.)		1,400
General costs	Development Cost Charges	$3,000	$2.14
	Design drawings	$5,000	$3.57
	Consultants – geotech, structural, environmental, survey	$1,500	$1.07
	Client side project management	$7,500	$5.36
	Warranty	$0	$0.00
	Sub-total	**$17,000**	**$12.14**
Construction Costs	Permits	$500	$0.36
	Contractor project management	$25,000	$17.86
	Site preparation		
	Demolition	$0	$0.00
	Site preparation – clearing, constructing access, etc	$10,000	$7.14
	Sub-total	**$10,000**	**$7.14**
	Foundations		
	Excavation, haulage, perimeter drainage & backfill	$25,000	$17.86
	Concrete foundation – form, supply & place	$9,000	$6.43
	Sub-total	**$34,000**	**$24.29**
	Framing		
	Framing	$28,000	$20.00
	Insulation system (batts, vapour barrier etc)	$8,750	$6.25
	Roof trusses	$12,000	$8.57
	Sub-total	**$48,750**	**$34.82**
	Roofing (asphalt shingle)	$5,168	$3.69
	Windows (vinyl)	$7,600	$5.43
	Exterior doors (3 steel or fiberglass)	$2,400	$1.71
	Electrical incl. light fixtures	$16,500	$11.79

	Component	Cost	$/sq ft
Mechanical	Plumbing – rough-in plus fixtures	$14,000	$10.00
	Heating – electric baseboard or forced air	$10,000	$7.14
	Ventilation/HRV	$5,000	$3.57
	Sub-total	**$29,000**	**$20.71**
Exterior finishes	Siding – hardi board	$39,150	$27.96
	Soffits	$1,568	$1.12
	Painting	$4,200	$3.00
	Gutters & downspouts (aluminium)	$1,100	$0.79
	Decks & railings	$7,250	$5.18
	Sub-total	**$53,268**	**$38.05**
Interior finishes	Drywall	$28,608	$20.43
	Painting	$4,200	$3.00
	Interior doors	$3,000	$2.14
	Finishing trim	$4,800	$3.43
	Flooring (vinyl)	$11,200	$8.00
	Sub-total	**$51,808**	**$37.01**
Kitchen & Bathrooms	Kitchen cabinets & counters	$10,000	$7.14
	Mirrors & shower doors	$2,500	$1.79
	Sub-total	**$12,500**	**$8.93**
	Appliances	$4,700	$3.36
	Window coverings	$2,000	$1.43
	Site services & utilities - including hydro, gas, communications	$1,500	$1.07
	Site wide labour	$13,500	$9.64
	Landscaping	$7,400	$5.29
	Driveways & pathways	$5,000	$3.57
	Cleaning	$2,500	$1.79
	Total construction costs – 2021 $	**$350,094**	**$250.07**
	Total project costs – 2021 $	**$350,094**	**$250.07**

PRACTICE GUIDE 3: Budgeting for House Maintenance

Purpose:

- Describes how to budget for house maintenance
- Lists typical housing maintenance tasks
- Provides sample maintenance costs
- Lists key factors and assumptions

Approach:

House maintenance typically falls under 2 basic categories:

a. ***Planned, preventative maintenance; and***

b. ***Breakdown and emergency repairs.***

Experience shows that planned, preventative maintenance costs less overall while providing better living conditions for occupants. It's always more costly and disruptive to respond to breakdowns, particularly when they occur outside normal working hours.

a. ***Planned, preventative maintenance:***

For the Sample House, ***Table PG 3.2*** presents a sample, preventative maintenance plan and related costs as follows:

- Tasks by maintenance category – e.g. HVAC, plumbing, electrical, safety, envelope
- Task frequency – monthly, quarterly, twice/year, yearly or other
- Estimated labour hours to complete the task
- Estimated non-labour costs – e.g. parts, supplies
- Estimated annual budget to complete the task during the year:
  - Labour rates are assumed to be: $35/hour for general labour; $75/hour for trades
  - Budget = ((labour hours * rate) + (other cost)) * #/year
- Assumed maintenance by the house occupant. Some maintenance, such as for electrical and HVAC equipment, must be done by qualified professionals for reasons of safety and liability.

For the Sample House, estimated total preventative maintenance costs are $8,179/year; of this, house occupants do maintenance equivalent to 74% of the total program (valued at $6,044) while 26% of the total (valued at $2,136) is done by professionals. The house occupant component of maintenance represents < 3 hours of input/week.

b. ***Breakdown and emergency repairs***

Estimated annual call-outs and repairs for the Sample House are in Table PG 3.1. By their nature, the need for and cost for repairs is unpredictable. So, the budget should provide a reasonable allowance to be refined over time based on actual experience.

Table PG 3.1 – Sample Budget for Call-outs and Repairs

Call outs & Repairs		#/yr	Time (hrs)	Cost	Budget
HVAC	Respond to gas leak, repair faulty electrical connections, repair fan	0.5	1.5	$0	$56
	Replace bathroom fan motor	0.3	1.5	$50	$49
Plumbing	Replace washer hoses	0.5	1.5	$35	$74
	Fix leaking fixtures	1.0	1.5	$0	$113
	Fix leaking water pipe	0.3	2.0	$100	$75
Electrical	Replace circuit breaker	0.3	1.5	$50	$49
	Replace GFCI	0.3	1.5	$50	$49
Safety	Replace fire extinguisher	0.3	1.0	$50	$38
	Fix/replace faulty lockset	0.5	1.5	$50	$81
Envelope	Replace missing or damaged roofing shingles	0.5	2.0	$50	$100
	Repair damaged gutters & downspouts	0.3	1.5	$100	$64
	Replace broken window	0.5	1.5	$200	$156
	Repair door	0.5	1.5	$50	$81
Finishes	Drywall repairs	1.0	2.0	$150	$300
Appliance	Fix washer/dryer	0.5	1.5	$100	$106
	Fix refrigerator	0.5	1.5	$100	$106
	Fix stove, replace elements	0.5	1.5	$100	$106
				Total Call outs & repairs	**$1,603**

On this basis, total annual maintenance for the Sample House involves:

a. The planned, preventative maintenance program in Table P 3.2 plus a policy requiring occupants to conduct maintenance on their house valued at $6,044/year.

b. An annual maintenance budget of $3,739/year ($2,136 for planned maintenance plus $1,603 for call-outs and repairs).

The figures presented in this Practice Guide are only intended to illustrate typical maintenance requirements. First Nations should only use information here as guidance for developing program specific costs for their housing portfolio using local requirements and maintenance experience

Inputs:

- Planned, preventative maintenance task list in a form similar to ***Table PG 3.2***
- First Nation policy which sets out house occupant responsibilities for maintenance
- Records from routine house inspections – e.g. house condition plus standard of maintenance by house occupant
- Up-to-date list of qualified local trades and contractors and their contact details
- Local costs for labour, parts and supplies
- Records, specifications, warranties and user manuals for existing house systems, equipment and appliances
- Records from past maintenance and repairs to validate or refine budget assumptions

Outputs:

- Planned maintenance task list including maintenance to be done by house occupants
- Maintenance budget

References:

Tips and Tricks:

- In principle, the more that First Nations follow planned, preventative maintenance programs, the less that breakdowns occur;
- Ensure that rental agreements incorporate necessary details on maintenance procedures, including maintenance to be done by house occupants;
- Provide tenants with maintenance orientation and training as needed;
- Conduct regular checks on housing condition and status of maintenance – enforce policy by following up on any deficient maintenance by house occupants – a failure to conduct timely, effective maintenance causes premature depreciation and higher than necessary capital costs;
- Keep an up-to-date database with details and records on all housing and house maintenance;
- Keep good records of maintenance and related costs.

- First Nations Building National Officers Association – Basic Home Maintenance Guide for Tenants in First Nations Communities, December 2016
- Integral Consultants – Integral Blog – Building Maintenance 101, July 2016
- B.C. Housing – Operating Budget Template
- First Nations Building National Officers Association – Healthy Homes Checklist
- First Nations Building National Officers Association – Manual for Elected Councillors Responsible for Housing in First Nations Communities, February 2016
- Naut'sa mawt Tribal Council – Break Even Budget Toolkit

Table PG 3.2 - Sample House Maintenance Plan and Budget

Area	Planned Maintenance Task	12/yr	4/yr	2/yr	1/yr	Oth	Labour (hrs)	Other Cost	#/year	Budget	Done by Tenant
HVAC	Clean furnace filters & replace when necessary			x			0.50	$20.0	2.0	$55	Y
	Vacuum & clean heat registers				x		1.00	$0.0	1.0	$35	Y
	Check & clean HRV core & filters; replace filters as needed				x		1.00	$60.0	1.0	$135	
	Clean interior of the HRV unit & condensation drain				x		1.00	$0.0	1.0	$35	Y
	Clean forced air furnace ducting					5 yrs	4.00	$350.0	0.2	$130	
	Check for loose pipes, wires or hangers or leaking pipes in basement/ crawlspace				x		0.50	$0.0	1.0	$18	Y
	Clean bathroom fan & other exhaust vents			x			1.00	$0.0	2.0	$70	Y
	Check for signs of condensation throughout the house			x			1.00	$0.0	2.0	$70	Y
	Service combustion furnace					2 yrs	2.00	$200.0	0.5	$175	
	Check that thermostats are working				x		0.25	$0.0	1.0	$9	Y
	Vacuum baseboard heater elements; replace missing covers and check condition of fins				x		1.00	$0.0	1.0	$35	Y
	Clean & service humidifier				x		1.00	$125.0	1.0	$200	
Wood Stove	Remove/dispose of fireplace chimney ash	x					0.50	$0.0	12.0	$210	Y
	Adjust or replace fireplace door gaskets & other seals				x		0.50	$20.0	1.0	$58	
	Check chimney & clean soot; inspect fire bricks				x		2.00	$150.0	1.0	$300	
	Check chimney and flue pipes				x		0.50	$0.0	1.0	$18	Y
	Adjust fireplace door tension				x		0.25	$0.0	1.0	$19	
	Check catalytic converter				x		0.25	$0.0	1.0	$19	
	Check baffle plate at the top of the fire chamber				x		0.25	$0.0	1.0	$19	
	Check/maintain glass fireplace door				x		0.50	$0.0	1.0	$18	Y
Plumbing	Clear deposits from faucet aerators & showerheads				x		1.00	$0.0	1.0	$35	Y
	Check & clean traps & drains under tubs, sinks & showers		x				1.00	$0.0	4.0	$140	Y
	Flush sediment from water heater & check connections, thermostat, leaks, anode rod pressure release valve				x		1.00	$0.0	1.0	$75	
	Replace water heater anode rod					5 yrs	1.00	$25.0	0.2	$20	
	Check water main pressure relief valve, meters or pump, check for leaks and exercise valves				x		0.25	$0.0	1.0	$19	

Area	Planned Maintenance Task	12/yr	4/yr	2/yr	1/yr	Oth	Labour (hrs)	Other Cost	#/year	Budget	Done by Tenant
Plumbing	Replace main pressure relief valve					10 yrs	1.00	$20.0	0.1	$10	
	Check for leaks & corrosion below sinks, toilet & laundry			x			1.00	$0.0	2.0	$70	Y
	Run water & flush toilets in unused spaces	x					0.25	$0.0	12.0	$105	Y
	Check & repair caulking around showers, bathtubs, sinks & counters				x		1.50	$20.0	1.0	$73	Y
	Check & repair toilet flapper & chain				x		0.50	$10.0	1.0	$28	Y
	Check floor drains, sump pump & valve			x			0.50	$0.0	2.0	$35	Y
	Pour water in all floor drains (laundry, hot water heater, basement)	x					0.25	$0.0	12.0	$105	Y
	Exercise water shutoff valves for sinks, toilet & laundry				x		0.50	$0.0	1.0	$18	Y
	Check all faucets for leaks & replace washers as needed				x		0.25	$5.0	1.0	$14	Y
Electrical	Test & reset all ground-fault circuit interrupter (GFCI) outlets				x		0.25	$0.0	1.0	$9	Y
	Test all circuit breaker switches				x		0.25	$0.0	1.0	$9	Y
	Check trees for interference with power lines				x		0.25	$0.0	1.0	$9	Y
	Test all outlets for proper wiring & function				x		1.00	$0.0	1.0	$75	
	Check for overloaded outlets & power bars			x			0.25	$0.0	2.0	$18	Y
	Check & replace burned-out lights	x					0.25	$12.0	6.0	$65	Y
Safety	Check/test smoke alarms & carbon monoxide detectors; replace batteries where required			x			0.25	$0.0	2.0	$18	Y
	Check/recharge kitchen fire extinguisher			x			1.00	$40.0	1.0	$115	
	Check locks & deadbolts on windows & doors				x		0.50	$0.0	1.0	$18	Y
	Check all electrical cords and plugs for wear				x		0.50	$0.0	1.0	$18	Y
	Remove flammable objects that are too close to baseboard heaters, wood stoves, etc.	x					0.25	$0.0	12.0	$105	Y
	Ensure exits are not blocked & that any fire ladders are functioning			x			0.50	$0.0	2.0	$35	Y
	Check that tree branches are not touching power lines				x		0.25	$0.0	1.0	$9	Y
	Check that house numbers are attached & visible				x		0.25	$0.0	1.0	$9	Y
	Check & secure all stairs, railings & handrails				x		0.50	$0.0	1.0	$18	Y
Envelope	Check exterior drainage pipes for loose connections or blockages				x		0.50	$0.0	1.0	$18	Y
	Clean & repair gutters and downspouts and flush perimeter drains			x			3.00	$0.0	2.0	$210	Y
	Check siding and exterior finishes for flaking, woodpecker holes, rot, etc.				x		0.50	$0.0	1.0	$18	Y

Area	Planned Maintenance Task	12/yr	4/yr	2/yr	1/yr	Oth	Labour (hrs)	Other Cost	#/year	Budget	Done by Tenant
Envelope	Check & replace weatherstripping & caulking on windows and doors				x		3.00	$100.0	1.0	$205	Y
	Check flashing below windows & doors for leaking				x		0.50	$0.0	1.0	$18	Y
	Check & clean all tracks and weeping holes on windows & sliding doors				x		1.00	$0.0	1.0	$35	Y
	Check roofing for missing, loose or damaged shingles & leaks			x			1.00	$0.0	2.0	$150	
	Check attic for ceiling water stains, rodents, insects				x		1.00	$0.0	1.0	$75	
	Check roof flashing around chimney, vents, skylights & in roof valleys				x	5 yrs	1.00	$0.0	0.2	$15	
	Check & re-seal exterior wood & decks				x		10.00	$200.0	1.0	$550	Y
	Check attic insulation for settling					5 yrs	0.50	$0.0	0.2	$8	
	Check/repair attic hatch seal				x		0.25	$0.0	1.0	$19	
	Check basement & crawlspace for dampness, mould or mildew		x				0.50	$0.0	4.0	$70	Y
	Wash windows & siding				x		4.00	$0.0	1.0	$140	Y
	Lubricate window & door hinges & hardware				x		1.00	$0.0	1.0	$35	Y
	Check for mold etc. at room perimeters where walls meet flooring				x		1.50	$0.0	1.0	$53	Y
	Check chimney for mortar crumbling & cracks				x		1.00	$0.0	1.0	$75	
	Check & clean attic vents				x		1.00	$0.0	1.0	$75	
	Clean & test sump pump system				x		1.00	$0.0	1.0	$75	
	Clean & repair any exterior dryer & other vents				x		1.00	$10.0	1.0	$85	
	Check for leaks where decks & stairs attach to the house				x		0.50	$0.0	1.0	$18	Y
	Clear plants & branches away from the house & roofline				x		2.00	$0.0	1.0	$70	Y
	Check & repair insect or rodent issues			x			1.00	$0.0	2.0	$70	Y
	Check & re-fasten or re-paint soffits & facia				x		1.00	$35.0	1.0	$70	Y
Yard	Check that water & downspouts drain away from the house				x		0.25	$0.0	1.0	$9	Y
	Check & clear swales & culverts				x		0.50	$0.0	1.0	$18	Y
	Check & repair cracks or trip, fall or edge hazards on sidewalks or driveways			x			0.25	$0.0	2.0	$18	Y
	Check condition of fence				x		0.50	$0.0	1.0	$18	Y
	Drain outdoor faucets & hoses & store for winter			x			0.50	$0.0	2.0	$35	Y
	Clean out window wells & check drainage				x		0.50	$0.0	1.0	$18	Y
	Check for smells at propane & gas connections				x		0.25	$0.0	1.0	$9	Y
	Remove brush & other fire or escape hazards				x		1.00	$0.0	1.0	$35	Y

Area	Planned Maintenance Task	12/yr	4/yr	2/yr	1/yr	Oth	Labour (hrs)	Other Cost	#/year	Budget	Done by Tenant
Finishes	Check & tighten all handles, knobs, racks, hinges, etc.				**x**		1.00	$0.0	1.0	$35	Y
	Repaint interior walls					5 yrs	12.00	$250.0	0.2	$134	Y
	Clean carpets				**x**		4.00	$300.0	1.0	$440	Y
	Re-seal tile grout lines					2 yrs	3.00	$40.0	0.5	$133	
	Check & tighten cabinet doors, hinges & knobs				**x**		1.00	$0.0	1.0	$35	Y
	Check, clean & repair window coverings				**x**		2.00	$0.0	1.0	$70	Y
	Check & tighten towel holders, curtain rods, closet shelving, etc.				**x**		1.00	$0.0	1.0	$35	Y
Appliance	Vacuum refrigerator & freezer coils; empty & clean drip trays				**x**		0.50	$0.0	1.0	$18	Y
	Clean door seals on fridges & freezers		**x**				0.25	$0.0	4.0	$35	Y
	Clean laundry equipment & vacuum out dryer vent cavity	**x**					0.50	$0.0	12.0	$210	Y
	Check dryer hoses for wear & tears & replace as needed				**x**		0.5	$10.0	1.0	$28	Y
	Clean out all dryer vent ducts					5 yrs	2.00	$150.0	0.2	$60	
	Clean range hood filters & fan		**x**				1.00	$0.0	4.0	$140	Y
	Check washing machine & dishwasher hoses & fittings				**x**		0.50	$0.0	1.0	$18	Y
	Deep clean oven		**x**				1.00	$0.0	4.0	$140	Y
Other	Vacuum floor & walls in basement or crawlspace				**x**		3.00	$0.0	1.0	$105	Y
	Sanitize trash & recycle bins		**x**				1.00	$0.0	4.0	$140	Y
	Check that doorbells are functioning				**x**		0.25	$0.0	1.0	$9	Y
	Mow lawns	**2 wks**					1.00	$0.0	16.0	$560	Y
	Pull weeds, powerwash pathways, clean yard	x					1.50	$0.0	12.0	$630	Y

Total Planned Maintenance	**$8,179**
Occupant Component	**$6,044**
Non-Occupant Component	**$2,136**

PRACTICE GUIDE 4: Service lives for House Components

Purpose:

- Provides estimated service lives for key house components.

Approach:

Effective Life Cycle Management (LCM) should underpin all aspects of housing management. Key LCM terms are:

a. Life expectancy – means the typical length of time that a house, overall, will reasonably meet design performance requirements;

b. Service life – means the typical length of time that a house component, with adequate maintenance, will meet design performance requirements before needing to be replaced.

The average home, built to Class 5 or 6 design and quality standards, has a typical life expectancy of 50 to 80 years. However, local factors, such as climate, the environment, construction methods and level of maintenance all significantly impact life expectancy and service lives.

Also, service lives for many individual house components are significantly shorter than life expectancy for the whole house. So, life-cycle capital planning for housing involves:

- A detailed house replacement cost breakdown by its key components – see the Sample House breakdown in Practice Guide 2;
- Assumed life expectancy for the house as a whole - assumed to be 75 years for the Sample House given typical conditions on the west coast of British Columbia;
- Assumed service lives for each individual house component – see ***Table PG 4.1***.

Table PG 4.1 provides service life guidance from the following industry sources:

- AHMA – Aboriginal Housing Management Association
- CMHC – CMHC Capital Replacement Manual (* note: used median)
- ET – Etool
- IBS – Integral Building Specialists
- NAH – National Association of Homebuilders 2007 Study of Life Expectancy of Home Components (median). For NAH, the "lifetime" of a single family house in BC is set at 50 years
- NACHI – International Association of Certified Home Inspectors Standard Estimated Life Expectancy Chart for Homes

None of these sources provide figures for all house components; also, estimates vary significantly among sources. So, users must interpret among sources in Table PG 4.1 to establish appropriate service life ranges for their specific local conditions.

To that end, AHMA, IBS, NAH and NACHI data focus on residential experience and are likely more suitable for First Nation housing. ET and CMHC data focus on commercial and multi-family residential.

Inputs:

- First Nation Housing Management Policy, including policy for life-cycle capital planning;
- Local experience with life expectancy for housing and its component service lives – both First Nation and non-First Nation;
- Up-to-date service life experience from relevant industry sources.

Outputs:

- Sound guidance for life expectancy and service life assumptions.

Tips and Tricks:

Estimating service lives is not an exact science – in fact, service lives are highly variable and depend on multiple local factors. So, when estimating life-cycle costs, it is useful to consider operational and financial impacts of service life ranges (high, low, probable).

Service life assessment should carefully consider key variables and how they are impacted by local conditions, including: design and construction standards; construction quality; level of maintenance; repair/replacement history; occupant behavior; climate; and environment.

In principle, houses and their components last longer if First Nations apply:

- Good, longer lasting materials;
- Good design standards and construction quality;
- Comprehensive and effective preventative maintenance;
- Timely repairs and replacement.

References:

- Aboriginal Housing Management Association – Replacement Reserve Policy & Procedures
- CMHC Capital Replacement Manual
- Etool
- IBS – Integral Building Specialists
- NAH – National Association of Homebuilders 2007 Study of Life Expectancy of Home Components
- NACHI – International Association of Certified Home Inspectors Standard Estimated Life Expectancy Chart for Homes

Table PG 4.1 - House Component Service Lives

		Residential References						Multi-family & Commercial	
		NAH	NACHI	IBS	BCH	AHMA PSL	AHMA FSL	ET	CMHC*
Foundation	Poured	50	100					110	33
	Blocks	50						110	
	Waterproofing	10							28
	Pargeting	25							
Framing	Poured concrete walls	50						81	
	Timber frame	50	100					69	
	Roof trusses	50	100						
	Floor joists	50						90	
	Plywood	30						71	
	OSB & particle board	60						51	
	Caulking	9							
	Concrete floor							71	
Roofing	Slate	50		50				74	
	Copper	50		50				63	
	Clay	50						64	
	Asphalt	20	20	16		22			
	Fibre cement shingles	25		30			15-25	38	
	Wood shakes	30		24					
	Metal			20				37	

		Residential References						Multi-family & Commercial	
		NAH	NACHI	IBS	BCH	AHMA PSL	AHMA FSL	ET	CMHC*
Roofing	Wood shingles			20					
	Gutters - aluminum	20	20-40	15			10-15	40	
	Downspouts - aluminum	30		15					
Windows & Doors	Aluminum	18					15-20	44	23
	Wood	30						36	
	Vinyl		20-40					37	19
	Glazing	10		25					
	Screens			5					
	Skylight - glass			18					
	Skylight - plastic			14					
	Door - steel	50	20						
	Door - fibreglass	50	20				20		17
	Door - wood	50							
	Door - vinyl	30							17
Siding	Brick	50						86	35
	Vinyl	50					15-20	28	
	Engineered wood	50							

		Residential References						Multi-family & Commercial	
		NAH	NACHI	IBS	BCH	AHMA PSL	AHMA FSL	ET	CMHC*
Siding	Cedar			25					
	Stone	50						53	
	Wood							30	
	Stucco	75							21
Exterior	Stairs & decks - wood		15	10			10-15		
	Stairs & decks - cement			16					
	Sealers and silicone		5-10	2			5-10		
	Chimney & fireplace - masonry			40					
	Chimney & fireplace - metal			25					
	Flashing - metal						10-25		24
	Flashing - non-metal								18
	Vinyl deck coating			15		10			
	Paint - on masonry & metal	15	7-10	4			5-10		
	Paint - on wood	15		4	8	8			
HVAC	Furnace - electric	15	15-25			13	20		
	Furnace - gas	18		12	13				
	Heat pump	16		12					14

		Residential References						Multi-family & Commercial	
		NAH	NACHI	IBS	BCH	AHMA PSL	AHMA FSL	ET	CMHC*
HVAC	A/C unit	13		7					
	Humidifier	8		13					
	Ductwork	10		20				30	
	Heat Recovery Ventilator	20	20						
	Thermostat	35		11					15
	Baseboard heater (electric)	40	40	16	20	20			23
	Exhaust fan			9					
Electrical	Residential service wiring		100	30			25		
	Power wiring (copper)	50	100	23				30	32
	Circuit breaker panel						20	25	24
	Composite fixtures & wire			28				28	
	Lighting	10	40	10			15		18
	Accessories	10						27	
	Residential smoke detector (wired)			15					14
	Smoke & heat detector (battery)	10		12					9
Plumbing	Pipe - concrete waste	100	50-80						
	Pipe - cast iron waste	100						51	35
	Pipe - galvanized			16					24
	Pipe - copper			25				47	32

		Residential References						Multi-family & Commercial	
		NAH	NACHI	IBS	BCH	AHMA PSL	AHMA FSL	ET	CMHC*
Plumbing	Pipe - PVC		50-80	20				36	27
	Porcelain fixtures	50	20+	20			20		
	Fibreglass fixtures			13					
	Faucets	15		10					
	Shower enclosure	50	20						
	Showerheads	50							
	Toilet	50		20					
	Sprinkler & fire protection			23					
	Water heater - tankless	20							
	Water heater - electric	10		11	10	10	5		13
	Sump & well pump			10					
	Septic system			15					
Walls & Ceiling	Gypsum	50	75					39	24
	Clay wall tiles							37	22
	Paint - walls & ceiling	15		5	5	5	7		
	Wallpaper			10					
	Insulation - cellulose	50							
	Insulation - fibreglass	50	100					20	
	Insulation - foam	50							

		Residential References						Multi-family & Commercial	
		NAH	NACHI	IBS	BCH	AHMA PSL	AHMA FSL	ET	CMHC*
Flooring	Concrete	50							32
	Hardwood	50		40					
	Softwood			25					
	Engineered wood	50							
	Tile	88		30					
	Granite, slate, marble	100		45					
	Vinyl	50	25	15		10	10	17	14
	Laminate			19					
	Linoleum	25		13	10	10		20	14
	Carpet	9		5	5	5		13	10
Millwork	Built-in cabinets & millwork	50	50-100	25					
	Door - hollow core		20-30	20					19
	Door - solid core			32			15		31
Cabinets	Cabinet - wood	50	50	25			20		
	Cabinet - particle board			18					
	Counter - laminate		50	15	15	15			
	Counter - engineered stone			25					
	Counter - stone			45					

		Residential References						Multi-family & Commercial	
		NAH	NACHI	IBS	BCH	AHMA PSL	AHMA FSL	ET	CMHC*
Appliances	Range - gas	15	9-15	12	12		10-15		
	Range - electric	13		12	12	12	10-15		
	Range hood	14		12		12	10-15		
	Dryer - electric & gas	13		12	13	13	10-15		
	Washer	10		8	13	13	10-15		
	Refrigerator	13		12	14	14	10-15		
Window Coverings	Drapery			8	8	8	7		
	Vertical blinds			7	7	7			
	Mini blinds			5					
Siteworks	Culvert - concrete			34					
	Culvert - steel			14					
	Sewer & water lines			25					
	Curbing			19					
	Painted parking lines			2					
	Asphalt paving			8	15	15	10-15		
	Reinforced concrete driveway		40-50	13					
	Non-reinforced concrete driveway			11				31	

		Residential References						Multi-family & Commercial	
		NAH	NACHI	IBS	BCH	AHMA PSL	AHMA FSL	ET	CMHC*
Siteworks	Gravel driveway			5					
	Shrubs & trees			10					
	Fencing - chain link			15			10-20	25	
	Fencing - vinyl			15					
	Fencing - wood			8	10	10		22	
	Fencing - concrete			25					

AHMA PSL = Aboriginal Housing Management Association; Provincial Standardized List of Replacement Items

AHMA FSL = Aboriginal Housing Management Association; Federal Standardized List of Replacement Items

BCH - B.C. Housing Standardized List of Replacement Items - Estimated Useful Life

CMHC (multi-fam) - CMHC Capital Replacement Manual (* note: used median)

ET (commercial) - Etool

IBS - Integral Building Specialists

NAH - National Association of Homebuilders 2007 Study of Life Expectancy of Home Components (median)

NACHI – International Association of Certified Home Inspectors Standard Estimated Life Expectancy Chart for Homes

(Note: for NAH source, the "lifetime" of a single family house in BC is set at 50 years https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=4610000701)

PRACTICE GUIDE 5: Capital Planning for Housing

Purpose:

- Describes how to estimate capital funding requirements for housing
- Provides guidance on financial reserves for repairs and replacements

Approach:

Effective Life Cycle Management (LCM) should underpin all aspects of housing management. LCM identifies the best combination of activities – policies, planning, construction, operations and maintenance (O&M) – that deliver the highest quality housing at the lowest initial cost, the lowest sustainable operating cost and the longest service life attainable.

Key terms used in LCM are:

- Life expectancy – means the typical length of time that a house, overall, will reasonably meet design performance requirements;
- iService life – means the typical length of time that a house component, with adequate maintenance, will meet design performance requirements before needing to be replaced.

The average home, built to Class 5 or 6 design and quality standards, has a typical life expectancy of 50 to 80 years. Local factors, such as climate, the environment and construction methods, significantly impact life expectancy. Also, when good construction methods are coupled with good maintenance and effective replacement of house components when required, life expectancy can be extended up to 120 years for the Sample House.

However, service lives for individual house components can be significantly shorter than life expectancy for the whole house. For example, HVAC systems typically last for 15 to 20 years; asphalt roofing typically lasts for 15 to 20 years; appliances typically last for 9 to 15 years. Component service lives are also significantly impacted by the extent and quality of maintenance; failure to fix roof, window or siding leaks will cause framing timber to become wet and rot.

On this basis, life-cycle capital planning involves:

- A detailed house replacement cost breakdown by its key components – see the Sample House breakdown in Practice Guide 2;
- Assumed life expectancy for the house as a whole - assumed to be 75 years for the Sample House given typical conditions on the west coast of British Columbia;
- Assumed service lives for each individual house component – see Practice Guide 4;
- A life-cycle capital plan and cash flow to repair/replace house components at the end of their service lives;
- A capital funding strategy, including capital reserves, to cover cash flows identified in (iv);
- A process for routinely refining service life and funding projections based on actual experience.

Table PG 5.1 provides context for developing a suitable capital funding strategy (items d and e above). Figures in the Table are based on replacement cost and service life assumptions in ***Table PG 5.2***. The resulting amounts for annual contributions to capital reserves in ***Table PG 5.1*** simply demonstrate the Practice and should not be considered prescriptive.

Table PG 5.1 depicts the following Sample House funding scenarios:

a. ***Scenario 1*** – capital reserves are sufficient to fund replacement of all house components with service lives < 75 years (i.e. years 1 to 74); they are not sufficient to replace, for example, site services, foundations, framing and other components which are assumed to have service lives equal to life expectancy of the house (75 years). Assumes house will be replaced in year 75. Requires an annual contribution to reserves in the range 1.24% to 2.06% of replacement cost – equivalent to $4,300 to $7,100/year, increased annually by inflation

b. ***Scenario 2*** – capital reserves are sufficient to fund only house components with service lives < 50 years; requires an annual contribution to reserves in the range 1.04% to 1.75% of replacement cost – equivalent to $3,600 to $6,100/year, increased annually by inflation

c. ***Scenario 3*** – capital reserves are sufficient to fund only house components with service lives < 25 years; requires an annual contribution to reserves in the range 0.72% to 1.16% of replacement cost – equivalent to $2,500 to $4,000/year, increased annually by inflation

Table PG 5.1 - Annual Capital Reserve Requirements for Housing

Annual Capital Reserve Requirements for Housing			
For components with service lives:	Long Avg. Service Life	Short Avg. Service Life	Sample House
< 25 years	$2,481	$4,015	$3,005
	0.72%	1.16%	0.87%
< 50 years	$3,608	$6,063	$4,482
	1.04%	1.75%	1.30%
< 75 years	$4,281	$7,116	$5,292
	1.24%	2.06%	1.53%

All 3 Scenarios for the Sample House assume effective maintenance and timely repairs throughout the life of the house. However, when setting funding targets within the Service Life range, First Nations should carefully consider and address a variety of local factors, including:

a. ***Level of maintenance and repairs*** – the lower the level of maintenance and timely repairs, the more likely that house components will fail prematurely – trending to shorter service lives;

b. ***Occupant damage*** – requires higher than normal capital funding and trends to shorter service lives;

a. ***Quality of design and construction*** – good design and construction increase service lives;

b. ***Quality of materials*** – some materials inherently last longer than others; it is often more cost effective to spend more up-front on quality materials;

c. ***Expectations at the end of life-expectancy*** – for a well maintained house, key components may still be in servicable condition at the end of life expectancy; it may still be cost-effecitve to renovate vs. replace such a house at that time.

Inputs:

- First Nation Housing Management Policy
- Housing asset inventory, including information on type, size, age, condition, etc.
- Service life assumptions
- Current Tangible Capital Asset reports for housing
- Records on house maintenance, repairs and replacement, including actual costs
- Results of routine house inspections
- Local costs for labour, parts and supplies

Outputs:

- Projected, long term capital funding requirements
- Requirements for capital reserves
- Refined assumptions for Tangible Capital Asset reporting
- Requirements for "other funding" – e.g. debt financing, grants, etc

References:

Tips and Tricks:

- In principle, the more that First Nations follow planned, preventative housing maintenance programs, the longer that houses and their components will last – and the lower that capital funding requirements will be;
- Conduct regular checks on housing condition and status of maintenance – enforce policy by following up on any deficient maintenance by occupants – a failure to conduct timely, effective maintenance causes pre-mature depreciation and higher than necessary capital costs;
- Keep an up-to-date database with details and records on all housing, house maintenance and related warranties;
- Keep good records of maintenance, repairs and replacements and related costs;
- Transparently and accurately link Housing and Finance Department assumptions for housing Tangible Capital Asset reporting;
- Ensure that Council, the community and particularly any tenants who expect to take over ownership of a house are clear about service life assumptions used to construct and maintain the house and understand on-going financial and other requirements for maintenance and repairs;
- Carefully consider Replacement Reserve requirements when establishing Operating Agreements (OAs) for CMHC Section 95 houses; Naut'sa mawt Members' experience suggests that past OAs may significantly understate financial requirements for repairs and replacements – see ***Practice Guide 8***.

- First Nations Building National Officers Association – Basic Home Maintenance Guide for Tenants in First Nations Communities, December 2016
- Integral Consultants – Integral Blog – Building Maintenance 101, July 2016
- First Nations Building National Officers Association – Healthy Homes Checklist
- First Nations Building National Officers Association – Manual for Elected Councillors Responsible for Housing in First Nations Communities, February 2016
- Naut'sa mawt Tribal Council – Break Even Budget Toolkit
- Capital Replacement Planning - CMHC Manual for Co-operative and non-Profit Housing Providers; 2003
- Bulletin – CMHC Replacement Reserve Guide

Table PG 5.2 - Sample House Service Life Assumptions

	Components	Replacement Cost	Service Life (yrs)
General Costs	Development Cost Charges	$3,000	
	Design drawings	$5,000	
	Consultants - geotech, structural, environmental, survey	$1,500	
	Client side project management	$7,500	
	Total	**$17,000**	**75**
Construction Costs	Permits	$500	75
	Contractor project management	$25,000	75
	Site preparation	$10,000	75
	Foundations		
	Excavation, haulage, perimeter drainage & backfill	$25,000	
	Concrete foundation - form, supply & place	$9,000	
	Sub-total	**$34,000**	**75**
	Framing		
	Framing	$28,000	
	Insulation	$8,750	
	Roof trusses	$12,000	
	Sub-total	**$48,750**	**75**

	Components	Replacement Cost	Service Life (yrs)
Construction Costs	Roofing	$5,168	20
	Windows	$7,600	25
	Exterior doors (3)	$2,400	20
	Electrical incl. light fixtures	$16,500	75
	Mechanical		
	Plumbing - rough-in plus fixtures	$14,000	50
	Heating	$10,000	25
	Ventilation/HRV	$5,000	20
	Sub-total	**$29,000**	
	Exterior finishes		
	Siding - hardi board	$39,150	75
	Soffits	$1,568	30
	Painting	$4,200	8
	Gutters & downspouts	$1,100	30
	Decks & railings	$7,250	15
	Sub-total	**$53,268**	
	Interior finishes		
	Drywall	$28,608	65
	Interior doors	$3,000	25
	Finishing trim	$4,800	75
	Flooring	$11,200	20
	Sub-total	**$47,608**	
	Kitchen & Bathrooms		
	Kitchen cabinets & counters	$10,000	35
	Mirrors & shower doors	$2,500	20
	Sub-total	**$12,500**	
	Appliances	$4,700	10

	Components	Replacement Cost	Service Life (yrs)
Construction Costs	Window coverings	$2,000	8
	Site services & utilities	$1,500	75
	Site wide labour	$13,500	75
	Landscaping	$7,400	25
	Driveways & pathways	$5,000	50
	Cleanup	$2,500	75
	Replacement cost	**$345,894**	

*= Excludes interior painting – assumes post-construction interior painting is maintenance

PRACTICE GUIDE 6: Financial Planning and Budgeting for Sustainable Housing

Purpose:

- Presents long term, sustainable financial requirements for First Nation Housing
- Provides a sound basis for funding applications, including for the CMHC Section 95 Housing Program

Approach:

Effective Life Cycle Management (LCM) should underpin all aspects of housing management. LCM identifies the best combination of activities – policies, planning, construction, operations and maintenance (O&M) – that deliver the highest quality housing at the lowest initial cost, the lowest sustainable operating cost and the longest service life attainable.

For context, the costs for operating and maintaining (O&M) a house over its life represents over 70% of the total cost of house ownership. So, choosing the lowest capital cost is not always the least expensive long term approach.

Figure PG 6.1 shows the typical structure for enabling effective LCM through the Housing Financial Management Cycle. At the core of this approach are the multi-year Financial Projections which present actual and estimated housing revenues, expenditures and assets for 10 or more years – longer the better within reason.

For example, typical CMHC funding agreements are for 25 years; projections should extend beyond 25 years to identify First Nation financial requirements on expiry of CMHC subsidies.

Also, typical life expectancy for a house is around 75 years; financial projections should extend far enough to provide confidence for decision making on later year expenditures.

Key components of these financial projections are:

a. ***The Income Statement*** – details on all operating revenues, summary level operating expenses and amounts for asset depreciation. Projections provide for changes (+/-) over time due to, for example, inflation, housing expansion, increased quality of housing services and/or increased operating costs as houses age.

b. ***The Balance Sheet*** – details on liabilities plus financial and non-financial assets. Projections document changes (+/-) over time due to changes in debt, depreciation, revaluations (+/-) and asset additions/deletions.

c. ***The Cash Flow Statement*** – documents all incoming and outgoing cash. The key distinction between Income and Cash Flow Statements is that the latter includes capital as well as operating revenues and expenditures.

Typical financial reporting follows the same, three (3) component structure. Figures for each year represent the annual housing budget for that year.

Key building blocks for financial projections are:

- Operations and Maintenance – detailed, projected revenues and expenditures for each activity and sub-activity. ***Table PG 6.1***, below, provides a sound basis for an appropriate structure for activity based budgeting and accounting.

  Revenues and expenditures will change (+/-) year over year to reflect, for example, inflation, housing expansion, increased housing services and/or increased operating costs as houses age.

Where a capital project replaces a worn out housing component, for example, costs for maintaining that new/upgraded housing component could be less than the typically high cost of maintenance immediately prior to replacement (i.e. by investing capital, O&M costs are reduced).

Alternatively, if more houses are built, the operations and maintenance budget should be increased accordingly.

- ***Capital Plan*** – driven, primarily, by the comprehensive housing asset management process, the capital plan includes total and year by year capital expenditures for projects to repair/replace, upgrade and/or expand housing to sustain performance.

  Demand forecasts identify current and future housing requirements.

  The inventory of housing Tangible Capital Assets reports on key physical and financial housing asset information including age, type, construction cost, replacement cost, accumulated depreciation, revaluations and book value.

- ***The Funding Plan*** – presents current and expected sources of funding for housing for both capital and operations and maintenance. Typical funding sources include: CHMC, bank debt; grants; user fees; and capital reserves.

Table PG 6.1 provides highlights from financial projections for the Sample House to demonstrate the approach. Information is shown for years 1, 2, 3,10, 20, 25, 26 and 30; year 26 represents the first year following expiry of the typical CMHC Section 95 funding agreement.

Core assumptions applied to ***Table PG 6.1*** are:

a. Rent - $650/month

b. Life expectancy for house – 75 years

c. Depreciation – 1.53% of replacement cost in year 1, inflated yearly

d. Annual contributions to reserves for repairs and replacements:

- » First Nation expense – 1.53% of replacement cost in year 1, inflated yearly – provides funds to replace all house components with service lives < 75 years when required
- » CMHC contributes 0.85% of original construction cost – constant for each year of 25-year term of Operating Agreement (represents First Nation revenue)

e. Annual inflation – 2.0%

Key revenue and cost considerations are:

a. *Costs*

- Mortgage costs are determined from the loan agreement – e.g. CMHC Operating Agreement
- Municipal Type Service Agreements provide details on charges for off-Reserve municipal services – e.g. water, sewer, solid waste and fire; sometimes, police, libraries, animal control, parks and recreation services are also provided. Details on charges vary from community to community – e.g. some First Nations pay the municipality for police and some do not.
- Projections should include costs for all First Nation community services that support housing. For example: grounds, recreation, water, sewer, drainage, solid waste and recycling.
- The full cost for housing administration, accounting, auditing and legal should be included since it may be eligible for CMHC subsidy
- Costs for repairs and maintenance should include amounts for both planned, preventative maintenance and breakdown repairs

Contributions to reserves should be based on the First Nation policy on amounts to be funded from reserves vs. debt financed

b. ***Revenues***

- Rent should be based on the First Nation's policy, and adhere to CMHC requirements for minimum rents for Section 95 housing
- The CMHC operating subsidy should be based on "full costs" for eligible categories – including municipal and First Nation costs for water, sewer and solid waste
- The CMHC contribution to reserves should be according to the relevant Section 95 housing operating agreement

Inputs:

- First Nation Housing Management Policy
- Relevant CMHC Operating Agreements
- Municipal Type Service Agreements and related municipal charges
- First Nation costs for servicing housing, including grounds, recreation, water, sewer, drainage, solid waste and recycling
- First Nation costs for housing administration, accounting, auditing and legal
- Up to date housing asset inventory
- Records of routine house inspections
- Records of house maintenance, repairs and replacements, including costs
- Assumed overall service life for a house and for key house components
- Housing demand projections
- Amounts, terms and conditions for any financing, including mortgages for CMHC Section 95 housing
- Records on rents, housing subsidies and rent arrears
- Details on financial reserves for housing
- Details on the First Nation funding strategy for housing, including amounts to be debt financed vs. funded from reserves

Outputs:

- Long term financial projections for housing

Tips and Tricks:

- Document any actions already underway to address issues and their expected outcome. Where financial information is either not available at all or is not available in the required form, state that fact and recommend that financial practices be amended accordingly.
- Ensure that capital and O&M budgets are adequately linked to enable effective life cycle cost management.
- Where capital expenditures are expected to realize O&M savings, record the savings in the financial projections.
- While the cost for heating may be eligible for CMHC subsidy, some First Nation's don't include such costs in the Operating Agreement, preferring to mitigate potential energy wastage by making house occupants responsible for their own energy use.
- Where O&M costs are expected to increase over time due to depreciating assets, record the extra costs in the financial projections.
- Carefully consider Replacement Reserve requirements when establishing Operating Agreements (OAs) for CMHC Section 95 houses; Naut'sa mawt Members' experience suggests that past OAs may significantly understate financial requirements for repairs and replacements – see ***Practice Guide 8***.

Figure PG 6.1 – Structure – Housing Financial Management & Reporting

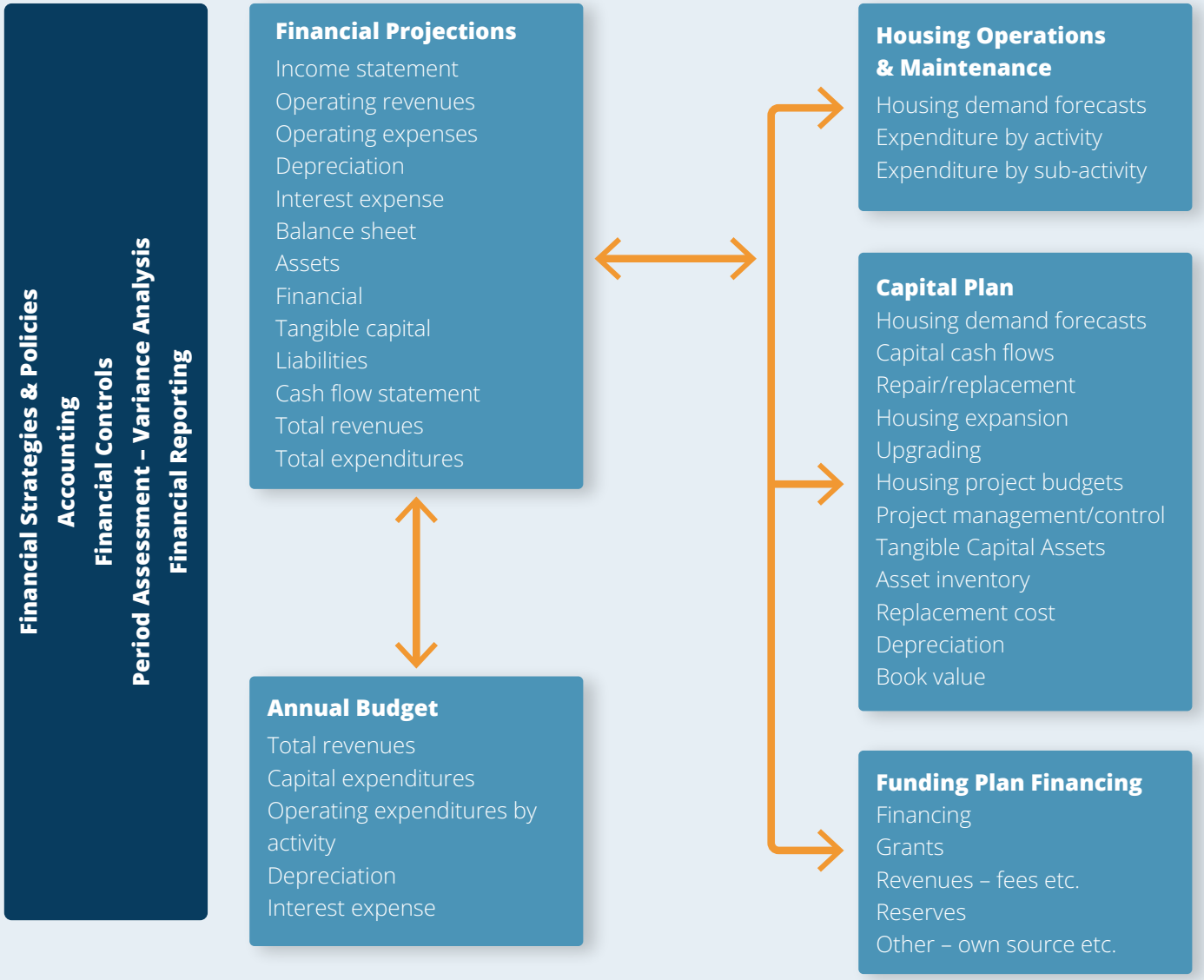

Table PG 6.1 - Housing Financial Projections Income Statement

Costs		Monthly	Year 1	Year 2	Year 3	Year 10	Year 20	Year 25	Year 26	Year 30
Mortgage		$1,493	$17,916	$17,916	$17,916	$17,916	$17,916	$17,916	$0	$0
Municipal services	Police	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Fire	$3	$33	$33	$34	$39	$47	$52	$53	$58
	Library	$9	$110	$112	$114	$131	$160	$177	$180	$195
	Animal control	$1	$10	$10	$10	$12	$15	$16	$16	$18
	Parks & recreation	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Water - net ISC MTSA	$8	$100	$102	$104	$120	$146	$161	$164	$178
	Sewer - net ISC MTSA	$6	$70	$71	$73	$84	$102	$113	$115	$124
	Drainage	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Solid waste - net ISC MTSA	$4	$50	$51	$52	$60	$73	$80	$82	$89
	Recycling - net ISC MTSA	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Green waste	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Sub-total	**$31**	**$373**	**$380**	**$388**	**$445**	**$543**	**$599**	**$611**	**$662**
First Nation Community Services	Grounds & recreation	$42	$500	$510	$520	$598	$728	$804	$820	$888
	Roads	$21	$250	$255	$260	$299	$364	$402	$410	$444
	Water - net ISC ICMS	$4	$50	$51	$52	$60	$73	$80	$82	$89
	Sewer - net ISC ICMS	$6	$75	$77	$78	$90	$109	$121	$123	$133
	Drainage - net ISC ICMS	$8	$90	$92	$94	$108	$131	$145	$148	$160
	Solid waste	$8	$100	$102	$104	$120	$146	$161	$164	$178
	Recycling	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Green waste	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Sub-total	**$89**	**$1,065**	**$1,086**	**$1,108**	**$1,273**	**$1,552**	**$1,713**	**$1,747**	**$1,891**

	Costs	Monthly	Year 1	Year 2	Year 3	Year 10	Year 20	Year 25	Year 26	Year 30
First Nation Community Services	Insurance	$50	$600	$612	$624	$717	$874	$965	$984	$1,066
	First Nation Housing Administration	$100	$1,200	$1,224	$1,248	$1,434	$1,748	$1,930	$1,969	$2,131
	Accounting & auditing	$9	$110	$112	$114	$131	$160	$177	$180	$195
	Repairs & maintenance									
	Planned maintenance	$178	$2,136	$2,178	$2,222	$2,552	$3,111	$3,435	$3,504	$3,793
	Call outs & repairs	$134	$1,603	$1,635	$1,667	$1,915	$2,335	$2,578	$2,629	$2,846
	Contribution to reserves	$446	$5,356	$5,464	$5,573	$6,401	$7,803	$8,615	$8,788	$9,512
	Total Costs	**$2,530**	**$30,358**	**$30,607**	**$30,861**	**$32,786**	**$36,042**	**$37,929**	**$20,413**	**$22,095**
Revenues	Rent	$650	$7,800	$7,956	$8,115	$9,322	$11,363	$12,546	$12,797	$13,852
	CMHC operating subsidy*									
	Housing administration	$113	$1,355	$1,361	$1,367	$1,410	$1,483	$1,526		
	Loan payments	$1,493	$17,916	$17,916	$17,916	$17,916	$17,916	$17,916		
	Fire insurance	$50	$600	$612	$624	$717	$874	$965		
	Maintenance	$312	$3,738	$3,813	$3,889	$4,468	$5,446	$6,013		
	Water, sewer, solid waste, snow	$19	$225	$230	$234	$269	$328	$362		
	Professional fees	$9	$110	$112	$114	$131	$160	$177		
	Less rents	**($650)**	**($7,800)**	**($7,956)**	**($8,115)**	**($9,322)**	**($11,363)**	**($12,546)**		
	Sub-total - CMHC subsidy*	**$1,345**	**$16,145**	**$16,088**	**$16,030**	**$15,589**	**$14,845**	**$14,413**	$0	$0
	CMHC contr. to depreciation*	$248	$2,976	$2,976	$2,976	$2,976	$2,976	$2,976		
First Nation subsidy		**$286**	**$3,438**	**$3,588**	**$3,740**	**$4,899**	**$6,859**	**$7,994**	**$7,616**	**$8,244**
	Total Revenues	**$2,530**	**$30,358**	**$30,607**	**$30,861**	**$32,786**	**$36,042**	**$37,929**	**$20,413**	**$22,095**
First Nation subsidy		**11.3%**	**11.3%**	**11.7%**	**12.1%**	**14.9%**	**19.0%**	**21.1%**	**37.3%**	**37.3%**

*= CMHC subsidies are assumptions based on our interpretation of CMHC guidelines; actual figures are subject to negotiation

BALANCE SHEET

Year	1	2	3	10	20	25	26	30
Book value at start of year	$345,894	$340,602	$335,310	$306,467	$280,644	$317,406	$363,987	$342,818
Depreciation	($5,292)	($5,292)	($5,292)	($5,292)	($5,292)	($5,292)	($5,292)	($5,292)
Additions *	$0	$0	$0	$6,470	$51,963	$51,873	$0	$29,900
Book value at end of year	$340,602	$335,310	$330,017	$307,644	$327,314	$363,987	$358,695	$367,426

Year	1	2	3	10	20	25	26	30
Reserve bal. at start of year	$0	$5,356	$10,900	$47,062	$100,313	$83,474	$41,468	$81,042
Contributions *	$5,356	$5,464	$5,573	$6,401	$7,803	$8,615	$8,788	$9,512
Interest on reserve balance	$0	$80	$164	$706	$1,505	$1,252	$622	$1,216
Expenditures *	$0	$0	$0	($6,470)	($51,963)	($51,873)	$0	($29,900)
Reserve bal. at end of year	$5,356	$10,900	$16,637	$47,700	$57,658	$41,468	$50,878	$61,870

*= includes inflation @ 2.0%/year

PRACTICE GUIDE 7: Financial Performance Indicators for Housing

Purpose:

- Provides metrics for measuring the financial health of a First Nation's housing program

Approach:

- The following core metrics provide a sound basis for measuring performance on key housing financial management issues:

Housing Management Issue

Are revenues sufficient to cover annual housing costs?

Financial Performance Metric

Cost Recovery Ratio (CRR): (total annual housing revenues eligible for O&M / total annual housing operating costs) > 1.0

- Revenues are from all sources and must be eligible for O&M expenditures
- Costs are all annual housing direct & indirect expenses plus depreciation

If total annual eligible revenues don't cover total annual housing operating costs, then any planned annual maintenance will typically need to be deferred to a future period when additional revenue is available. This deferral can result in reduced future service quality and premature housing deterioration.

Housing Management Issue

Are revenues sufficient to cover annual housing service operating and debt costs?

Financial Performance Metric

Debt Service Ratio: (total annual housing revenues / (total annual housing operating + debt service costs)) > 1.0

- Revenues are from all sources and must be eligible for O&M and capital expenditures
- Costs are all annual housing operating direct & indirect expenses plus interest and principal repayments for long-term debt
- Ratio value depends on debt policy and should be adjusted accordingly

If revenues are insufficient to cover costs then work, typically annual maintenance, must be deferred to match income – resulting in reduced service quality and premature housing deterioration. Also, obligations to lenders may not be met.

Housing Management Issue

Is enough being invested to keep existing housing in good condition and to meet requirements for its ongoing repair and replacement?

Financial Performance Metric

Capital Investment Ratio: (total annual capital investment/total replacement cost of existing housing) – 5-year rolling average > 0.0153

- Capital investment is total amount of capital spent, or contributed to reserves, for the current, or future, repair, rehabilitation or replacement of existing housing
- Total replacement cost is the estimated current cost of replacing all existing housing today to an equivalent standard

Insufficient reinvestment results in one or more of: reduced service quality; premature housing deterioration; higher costs; spikes in funding requirements.

The value – 0.0153 – represents the assumed annual contribution to capital reserves to replace of all house components with service lives < 75 years; this is not sufficient to replace components with service lives equal to house life expectancy (75 years) and assumes that the house will be replaced at that time.

Each First Nation should adopt a service life target specific to its community based on the weighted average service life of its housing portfolio.

Deferred Capital Maintenance Ratio: (total net book value of existing housing + total committed funding for repairing/replacing existing housing) / total replacement cost of existing housing) – 5-year rolling average > 0.95

Deferred capital maintenance (commonly known as "backlog") is the total, accumulated liability (in current dollars) for the repair, rehabilitation or replacement of existing housing.

Total replacement cost is the estimated current cost of replacing all existing housing today to an equivalent standard

- In terms of Tangible Capital Asset (TCA) accounting:
  - » Net book value is the undepreciated capital cost of existing housing (net of any impairment recorded) measured relative to original construction cost (i.e. "cost base")
  - » Accumulated depreciation is the proportion of existing housing capital cost "consumed" in providing housing to the current date, measured in terms of service life and "cost base"
- The difference between total book value and total replacement cost of existing housing represents an accumulated liability to be funded as and when housing repairs, rehabilitation or replacement are required
- Total Committed Funding means the amount of secure capital that a First Nation can readily access as and when required for housing repairs, rehabilitation and replacements – e.g. capital reserves; access to approved debt

To sustain existing housing, First Nations must have ready, secure access to sufficient financial capital as and when required to cover costs for housing repairs, rehabilitation and replacements. So, Total Committed Funding should be as close as practical to the difference between total replacement cost and total book value.

The lower the Deferred Capital Maintenance (DCM) Ratio, the bigger the funding gap and the harder it becomes to catch up with sufficient funds to keep housing in good enough condition to deliver services of the quality the community requires.

For context:

- DCM Ratio in the range 0.95 to 1.00 is good
- DCM Ratio in the range 0.90 to 0.95 is fair
- DCM Ratio in the range 0.70 to 0.90 is poor

- DCM < 0.70 is critical

Deferring capital maintenance results in one or more of: reduced housing quality; health and safety hazards; premature housing deterioration; higher future costs; unplanned spikes in funding requirements.

Inputs:

- First Nation financial reports for housing
- Financial projections for housing
- Tangible Capital Asset records
- Records for housing expenditures – operations, maintenance, repairs and replacements
- Up to date information on local costs for construction and maintenance

Outputs:

- Metrics on the current and future financial health of the First Nation's housing program

Tips and Tricks:

- Where financial information is either not available at all or is not available in the required form, state that fact and recommend that financial practices be amended accordingly.
- Benchmark with other First Nations to compare performance and learn from others' experience

PRACTICE GUIDE 8: Applying for and Managing CMHC Funding under Section 95

Purpose:

- To provide guidance on applying for and managing CMHC funding under the "On-Reserve Non-profit Housing Program (Section 95).

Approach:

Under the On-Reserve Non-profit Housing Program, CMHC provides subsidies for financing and operations of First Nation housing projects. These Section 95 houses are built, administered and owned by the First Nation.

Each Section 95 housing project is subject to an Operating Agreement (OA) that is signed by both the First Nation and CMHC. The OA outlines the legal obligations of both parties for the duration of the contract. The OA ends when the project loan is fully repaid.

Key features of the typical CMHC Operating Agreement are:

a. It is between CMHC and the First Nation;

b. The First Nation agrees to select all households to occupy the Project according to Client Selection Criteria that are established by Band Council Resolution and made known to all Band Members;

c. The First Nation agrees to establish, maintain and operate the Project for the duration of the Agreement as not-for-profit housing accommodation;

d. The First Nation has latitude to determine actual occupancy charges during the term of the Agreement; the First Nation can satisfy CMHC minimum revenue contributions by collecting occupancy charges, contributing other Band funds or a combination of both;

e. The First Nation must establish a Replacement Reserve Fund for the Project, a separate bank account that accrues interest;

f. The First Nation formally agrees to the importance of preparing long term capital replacement plans and to making them known to the Community; such plans identify the adequacy of or need to increase the Replacement Reserve Fund;

g. The First Nation commits to holding any surplus revenue in an Operating Reserve Fund for the Project, a separate bank account that accrues interest; such funds are only to be used for ongoing operating costs, including future years' operating deficits.

The Operating Reserve Fund can be accumulated to a maximum of $500/unit plus interest. The First Nation must return any excess surplus to CMHC.

h. The First Nation must, within 4 months of its fiscal year end, submit audited financial statements for the Project to CMHC.

A First Nation applies for CMHC funding by filling out the comprehensive application form (fillable template). Key

components of the application and related guidance are:

a. ***The project schedule*** – start and expected completion dates for the project; these dates are important in negotiating funding advances and the amount to budget for interest during construction on the CMHC loan;

b. ***The project construction cost and breakdown by key component*** – see Practice Guide 2: Budgeting for House Construction for a reference cost breakdown benchmark;

CMHC compares project estimates with benchmarks – Maximum Unit Prices (MUPs) – to determine eligibility for funding. The MUPs vary from Province to Province and by location within a Province to account for local factors such as: extent and ease of access; material and labour availability and prices; local and First Nation by-laws and standards; and remoteness;

Generally, abnormally high "soft costs" (e.g. design and permit fees and consultant charges) or higher than average costs for materials and/or construction standards are not eligible for CMHC funding.

c. ***Loan amount and terms*** – the CMHC loan amount must be consistent with construction according to CMHC Maximum Unit Prices (MUPs). A project can still proceed where its total cost is higher than MUPs if the First Nation supplements CMHC funding with equity or funding from other relevant sources;

Amortization is generally 25 years but a First Nation can select a shorter period – e.g. 10, 15 or 20 years. However, since the subsidy only applies for the term of the CMHC loan, First Nations get less total subsidy with shorter amortization periods;

CMHC sets an initial interest rate on approval of the application. However, at or near completion of construction, and "Interest Adjustment Date" is agreed and then CMHC adjusts that initial rate to reflect the applicable market interest rate at that date;

CMHC also adjusts the interest rate at each loan renewal – every 5 years; at that time, CMHC adjusts the loan related part of the subsidy up or down to reflect the new interest rate.

d. ***Minimum Revenue Contribution (MRC)*** – CMHC determines an applicable MRC for the project based on a variety of local factors such as incomes and affordability. The First Nation can choose to provide the MRC totally from rent or from a combination of rent and other funds – so long as such other funds are reliably available throughout the term of the agreement.

e. ***Operating Expenses*** – to be eligible for subsidy, the First Nation must show, transparently, that operating charges are levied consistently among all First Nation housing, not only to Section 95 houses.

Eligible operating expenses include:

- Insurance
- First Nation costs for administering the rental housing program
- Routine maintenance
- Utilities – electricity, gas, oil
- Charges for water, sewer, garbage and snow removal
- Property taxes and fees
- Audit and legal
- Annual contribution to the replacement reserve - an allowance for replacement of house components, when

required, during the term of the Operating Agreement.

The CMHC application includes a "forecast" section in which the First Nation demonstrates requirements based on relevant, past operating expenses (up to 3 prior years) as transparently reported by financial records such as annual financial statements.

CMHC uses these past records and applies appropriate inflation to:

- Project total operating expenses over the term of the Operating Agreement
- Determine the average annual operating expense – being the total expense over the agreement term divided by the number of years of the agreement.

f. ***Annual Section 95 Subsidy*** is:

Annual principal & interest + annual operating expenses – minimum revenue contribution

Except for interest cost, the operating subsidy is fixed for the term of the Operating Agreement.

It's important to note that CMHC determines Annual Section 95 Subsidy using the average annual operating expenses for the entire Operating Agreement term. As such, subsidies in early years are more than actually required according to projections and those in later years are less than required. So, it's important that First Nations keep accurate financial records and put funds away in early years to cover deficits in later years.

Inputs:

- CMHC application template for Section 95 housing
- Relevant local by-laws and standards
- Project scope, cost estimates and schedule – including documented support for pricing and other assumptions
- Records of actual housing costs – records and financial statements that transparently demonstrate operating costs and that they are charged to tenants and homeowners by way of taxes or fees.
- Municipal Service Agreements – showing charges for services
- Records and relevant agreements related to costs for First Nation systems including: on-Reserve water, sewer, drainage and road systems; First Nation operating solid waste facilities; First Nation fire protection services
- First Nation funding sources, including proposed breakdown of capital funding among: First Nation equity, CMHC loan and other relevant sources

Outputs:

- A completed application for CMHC funding under Section 95
- Scope and timing for First Nation financial requirements for Section 95 housing
- Upon CMHC approval, a signed Operating Agreement

References:

Tips and Tricks:

a. To be eligible for CMHC subsidy, a First Nation must transparently demonstrate that it actually charges operating costs to all individual houses. A subsidy does not apply where a First Nation simply allocates costs to its housing program but does not actually charge-out those costs to individual houses. Also, charges must be consistently applied to all houses, not only to those in the First Nation's Section 95 program.

In practice, First Nations typically:

- » Internalize costs and provide services to Member housing at no charge to tenants or homeowners;
- » Don't allocate all relevant costs to the the housing program – for example, costs for water, sewer, drainage, roads and garbage are often budgeted and paid by Public Works rather than Housing.

As such, First Nations could be receiving less than the CMHC subsidy that they are entitled to because they don't actually account for and bill operating costs to individual houses as service charges or property taxes.

b. Following (a), if a First Nation formally implements a property tax system (tax levies) or user fees to capture costs for "fire, library, animal control, drainage, roads" the nation could include these costs under "Services" in the CMHC application for operating expenses.

For costs to be recognized by the auditor, the First Nation may have to submit copies of property taxes or fees collected from other non-CMHC funded homes.

c. For the Replacement Reserve, CMHC considers only requirements during the term of the Operating Agreement (OA). In fact, replacements during that typical 25-year term only represent about half of the total funding required for full life-expectancy. So, when entering an OA, First Nations should also adopt a strategy for funding the entire house life-cycle.

d. Where a First Nation must pay a Development Cost Charge (e.g. to a municipality under an MTSA agreement), and such charge can be shown to be a legitimate "connection fee" (e.g. for water and sewer), then such costs may be included under site-servicing for the construction cost.

Typically, CMHC does not pay off-site development costs. However, if the First Nation has formally implemented a property development by-law or other recognized housing development fee system for collecting one-time development fees, CMHC may consider such fees to be an eligible site servicing cost.

e. Expenditures from the Replacement Reserve in any year must not exceed the annual contribution to that Reserve unless they are according to the First Nation's capital plan for the Project, already approved by CMHC.

- Capital Replacement Planning - CMHC Manual for Co-operative and non-Profit Housing Providers; 2003
- Bulletin – CMHC Replacement Reserve Guide
- CMHC Section 95 Application Form
- CMHC Sample Operating Agreement

Appendix B

Woodward & Co Legal Memo