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Interim Guide to Indigenous Housing Development and Design





Introduction

The Interim Indigenous Housing Development and Design Guide is meant to be a quick, high-level starting point for First Nations and their partners to help ensure that new housing best meets the needs of the community. The information presented is not exhaustive, and where available, directions to further resources are provided (see “Suggested Reading” boxes). A full list of secondary sources is available in Appendix A.

Designing and building homes that better meet the needs of First Nation communities is a growing area of interest and research, with new work being undertaken across British Columbia (B.C.) and Canada. Recognizing this, BC Housing welcomes practitioners to provide feedback and additional information based on their own projects and experiences.

Acknowledgements

The Resource Guide was developed based on existing secondary research and interviews with First Nations Housing Managers from across B.C. We wish to thank our interview participants for sharing their knowledge, experience, and expertise with us.

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Contact

Research Centre

Email: research@bchousing.org

Telephone: 604-439-4135

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Community Planning for Housing

Before commencing with the design and construction of new housing, developing a solid foundation of housing and procurement policies, as well as a full understanding of the community's needs and priorities, will help ensure success. This section outlines the key planning pieces that are useful to have in place.

1.1 Community Consultation

Consulting Chief and Council and the larger community from the beginning of the planning process saves valuable time and resources, as it allows for many voices to be heard and for members to understand the basis of the decisions that are being made. Consultation can take many different forms, and often includes a mix of strategies such as townhall meetings, targeted and smaller workshops, community surveys, or outreach at a community event. Some voices are more easily captured than others, so special attention may need to be spent consulting with Elders, youth, and members living further away.

Questions you may want to answer through community consultation include:

- › **What are the community's biggest housing concerns?**
- › **What should be the housing priorities over the next 5 years?**
- › **How are existing homes not meeting the community's needs?**
- › **What demographics in the community are struggling to find housing the most?**
- › **What makes a home feel comfortable and inviting?**
- › **What types of housing are preferred?**
- › **What activities do members undertake in their home?**
- › **How much are members paying for housing? What would be appropriate to pay?**
- › **What maintenance activities do members undertake on their homes? What are the major challenges in maintaining homes?**
- › **What existing housing policies work or not? If not, why?**

A First Nation may choose to conduct all consultation internally, but may find it useful to employ facilitators for events such as townhalls and workshops.

These resources contain useful information on community consultations:

- › [BC Housing \(2017\) Making a House a Home: Indigenous Engagement and Housing Design in B.C.](#)
- › [CMHC \(2009\) The Northern Sustainable House: An Innovative Design Process](#)
- › [EcoTrust \(2011\) Green and Culturally Appropriate Building Design for Clayoquot Sound First Nations Part 1](#)
- › [EcoTrust \(2011\) Green and Culturally Appropriate Building Design for Clayoquot Sound First Nations Part 2](#)

1.2 Housing Policy Development

A current and enforceable Housing Policy developed through extensive community consultation, and ratified by Chief and Council, is an important prerequisite before developing new housing.

A community that is involved in policy development and understands the rationale not only ensures that the community complies with new policies, but that they also support the implementation of these policies.

Housing policies should clearly outline the rationale of each policy, including enforcement measures, consequences of noncompliance and the process of allocating and managing housing. Although policies will vary across communities, they generally cover:

- › **Land use and tenure**
- › **Eligibility criteria for accessing housing, land, subsidies or loans**
- › **The process for allocating housing, land, subsidies or loans among eligible members**
- › **Transfer of land and housing between members**
- › **Home construction procedures and guidelines**
- › **Division of home maintenance, repair, and renovation responsibilities between members and the Nation**
- › **Payment of rent, collection of rental arrears, and eviction**
- › **Mechanisms to address disputes and conflicts of interest**

Depending on the capacity of existing staff, a First Nation may choose to employ an experienced consultant to help draft a workable Housing Policy or complete it in-house.

Many First Nations have made their existing Housing Policies publicly available online, and these may be useful to review. Further information on housing policy development can be found at:

- › [Assembly of First Nations \(2010\) First Nations Guide to Housing Policy](#)
- › [BC First Nation Housing Mentorship Program Useful Tools/Templates](#)
- › [CMHC \(2018\) First Nation Housing Policies Development Guide](#)
- › [CMHC \(2016\) Penticton Indian Band – Housing Program Governance](#)
- › [First Nations National Building Officers Association \(2017\) Housing and Rental Operational Policy Framework](#)
- › [First Nations National Building Officers Association \(2017\) First Nations Rental Policy and Programs: Addressing Key Issues and Challenges](#)
- › [Naut'sa mawt Tribal Council Housing Policy Toolkit Project](#)

1.3 Housing Feasibility Plan

A feasibility study helps determine whether resources are available to develop and maintain new housing, and should be completed prior to planning specific design elements in new homes. Information on budgets, resources and available land is typically included, and may also include a longer-term housing plan to provide direction moving forward.

Answering the following questions, as well as any others that community members may have, will help ensure the planning and construction phases of housing development move efficiently:

- › **Does the First Nation have the capacity to build and maintain new homes?**
- › **What is the budget and available funding?**
- › **Are there members ready and appropriate to move into new housing?**
- › **Is there available land for development?**
- › **Are there readily available lots?**
- › **Is there an existing land code?**
- › **Are there current zoning or building restrictions?**
- › **Are there any significant geotechnical considerations (see Section 2.1 on Site Conditions)?**
- › **How will the homes be serviced, and will they be on sewer or a septic system?**
- › **Does existing infrastructure (i.e. roads, water, electrical, schools) need to be upgraded?**

- › **Are there any land ownership issues among members that may affect the project?**
- › **Are there traditional or ecological concerns that must be considered, such as traditional harvesting sites, burial sites, hunting or culturally significant lands near the area to be developed?**

Depending on the First Nation’s capacity to conduct this research, it may be useful to work with a consultant to conduct the feasibility study. However, most of the information needed should be reasonably easy to collect.

1.4 Housing Needs Assessment

A Housing Needs Assessment is an analysis of the current and future need for housing in a community, and identifies households in the community that currently lack their own housing or live in inadequate housing, and cannot afford the housing they need without some assistance. A Housing Needs Assessment can determine:

- › **Existing housing assets, occupant needs, renovation needs and other housing gaps**
- › **Current and future population growth trends that will impact future housing demand**
- › **Suitable housing sites for new home construction**
- › **Housing priorities in the community, including the housing types and quantities best suited to the community and the strategies to address them**

A Housing Needs Assessment may be done in-house or by an external consultant, but the general research activities include:

- › **Review available secondary information on the community, such as data from Statistics Canada, BC Stats, CMHC, as well as any other relevant documents or publications**
- › **Document the existing housing inventory, including number of rental units, rental rates, and waiting lists**
- › **Collect information on housing needs and preferences from the potential resident population, either through interviews, focus groups or surveys (refer to Section 1.1 Community Consultation)**

SUGGESTED READING

Many completed Housing Needs Assessments by local governments are available online and can provide useful examples. Further information and guidance on how to conduct a Housing Needs Assessment is available at:

- › [BC Housing \(2010\) Housing Needs and Demands Study](#)
- › [BC First Nation Housing Mentorship Program Useful Tools/Templates](#)

1.5 Procurement Policy Development

A procurement policy governs the way goods and services are purchased, and will help prioritize procurement goals, obtain competitive pricing, and ensure transparency. For example, if employing First Nation members as contractors or suppliers is important to the community, this can be reflected in the procurement policy. Procurement for new housing is frequently complex, and having an established process will help promote ethical, legal, professional, and accountable sourcing strategies.

Depending on the capacity of existing staff, a First Nation may choose to employ an experienced consultant to help draft a Procurement Policy.

SUGGESTED READING

Some First Nations have published their procurement policies online, which may be useful to review. Further information on procurement policy development can be found at:

- › [Auditor General for Local Government \(2016\) Improving Local Government Procurement Processes](#)
- › [BC Housing \(2013\) Procurement Guidelines for Non-Profit Housing](#)
- › [First Nations Financial Management Board Procurement](#)
- › [Indigenous Services Canada \(2010\) Framework to Guide the Development of a First Nation Tendering Policy](#)

1.6 Construction Approach

While most residential construction in B.C. is done on-site, there are off-site construction methods available, including manufactured homes¹, modular construction², and pre-fabrication of the housing frame and walls³. It is useful to be aware of the opportunities and challenges associated with both on and off-site construction so that the best approach can be selected for the community.

Advantages of off-site construction can include faster construction, higher-quality control, greater cost certainty, and easier project management and administration. When everything is built off-site in a factory, lot servicing can occur at the same time and significantly reduce the overall project time, which is particularly advantageous in northern climates with a short construction season. Modular and pre-fabricated construction can also be customized, and use of local

¹ Homes constructed in a factory and installed on-site without permanent foundation.

² Modules are constructed in a factory and assembled into housing on-site with a permanent foundation. Can be done with different levels of finishing provided in the modules.

³ Also referred to as panelized construction, where the walls are manufactured in a factory and assembled on-site with permanent foundation.

materials and labour may be negotiated with some off-site construction companies. However, the cost advantage of off-site construction is typically achieved when the same dwelling can be replicated in larger numbers. Smaller orders of modular or pre-fabricated custom-designed homes may be more expensive and likely comparable with on-site construction. Information on specific projects can be obtained through direct consultation with off-site construction companies.

Some potential disadvantages of off-site construction may include: need for a crane (if using a modular approach), potential for damage during transportation and storage, lack of familiarity among builders and trades with off-site construction practices, and limited opportunity to change plans during construction.

SUGGESTED READING

Further information on the benefits and challenges of modular and prefabricated homes can be found at:

- › [BC Housing \(2014\) *Modular and Prefabricated Housing: Ideas, Innovations and Considerations to Improve Affordability, Efficiency and Quality*](#)
- › [BC Housing \(2011\) *Modular Housing: Benefits, Challenges and Lessons Learned*](#)
- › [BC Housing \(2018\) *Alkali Lake Healthcare Facility*](#)
- › [Coastal First Nations Great Bear Initiative \(2017\) *New Housing Guide*](#)
- › [Passivehouse Canada \(2017\) *Yale Nation Passive House Sixplex*](#)

1.7 Builder Licensing and Home Warranty Insurance

Under B.C.'s *Homeowner Protection Act*, all residential builders applying for building permits to construct new homes in B.C. must be a licensed residential builder (LRB) and arrange for home warranty insurance. The licensing and warranty insurance systems work together to ensure that builders meet minimum standards and consumers are protected with a strong, third-party warranty should a construction defect occur.

However, as the Act is provincial legislation, it does not automatically apply to on-reserve communities. Some First Nations have decided to require LRBs and warranty insurance in their community for the added protection they provide.

Further information on building licensing and home warranty insurance can be found at:

- › [BC Housing Licensing and Consumer Services branch](#)
- › [BC Housing Public Registry of Residential Builders](#)
- › [Fraser Basin Council \(2016\) Protecting On-Reserve Housing: HPO's Home Warranty Program](#)

1.8 Economic and Capacity Development

New housing can be used to promote economic development by creating opportunities to:

- › **Train members in building trades:** There may be opportunities to involve members who are interested in obtaining work experience, trades skills or certifications. Consider each member's current skill level, qualifications and goals, and how additional education or support can be delivered. For example, interested members could enroll in an existing training course, but this may not offer the right mix of skills training and could be more difficult for remote communities. Alternatively, there may be options to collaborate with a training provider to bring tailored education to the community, but this may take more time and resources to arrange.
- › **Employ local trades and labour:** As noted in the previous section, members with trades qualifications or operating construction-related businesses could be employed as contractors and sub-contractors.
- › **Use local materials:** If your community has access to natural resources such as lumber, gravel, or stone, these materials could be incorporated into the housing design. This may also be a business opportunity for the First Nation or its members.

The ease of including local labour and materials into a housing project may depend on the construction method chosen and the amount of housing being developed. Off-site construction likely will present different opportunities than on-site construction. Contractors may also be more willing to use local labour and materials if they know the project will generate enough guaranteed work to off-set additional effort or training costs. If the inclusion of local labour and materials are important to the community, speaking directly with potential contractors, manufacturers or suppliers is the best way to explore these opportunities.

Although the use of local materials and labour can provide benefits to the community, doing so could also slow the initial development of new housing. It is important to weigh the urgency for new housing against the potential economic benefits of increasing local capacity. Additional challenges to using local labour and materials may include:

- › Finding contractors that are willing to apprentice or hire members
- › Finding members who are committed to training
- › Ensuring the project remains cost effective
- › Having sufficient employment for members in the community after the housing project is complete

SUGGESTED READING

Further information on the use of local labour and materials can be found at:

- › [CMHC \(2005\) Aboriginal Housing: Local Materials and Design Preferences](#)
- › [Coastal First Nations Great Bear Initiative \(2017\) New Housing Guide](#)
- › [Coast Funds \(2018\) Nuxalk Nation Housing Program Breaks New Ground in Bella Coola](#)
- › [Ecotrust \(2015\) Building for the Future: Case Study of Quarter Long House in Clayoquot Sound](#)



Technical Considerations

Good technical design can help ensure homes are durably built, suited to local conditions, healthy and comfortable for occupants and energy efficient. This section outlines key technical design considerations as they relate to the building's location, building envelope (cladding, insulation, air barrier, vapour barrier, windows, doors and roof) and mechanical systems (heating, ventilation and cooling – HVAC).

2.1 Geotechnical Site Conditions

B.C. has a wide variety of soil types, landforms and topographical features that can pose different geotechnical challenges when building. Hazards that can arise without proper site assessment include: flooding, erosion, rock falls, avalanche and ground water flows. Depending on the community's location, a geotechnical report may be needed to confirm which land can be used safely and without risk. Locations of concern include foreshore areas, steep slopes and riparian areas.

Legally valid geotechnical reports must be completed by a qualified professional. A guidance document on how to select a qualified professional is available from the Engineers and Geoscientists of British Columbia: [*Advice on Hiring a Professional Engineer or Professional Geoscientist in B.C.*](#)

SUGGESTED READING

Further information on geotechnical considerations can be found here:

- › [BC Housing \(2015\) Housing Foundations and Geotechnical Challenges](#)
- › [City of Nanaimo \(2013\) Guidelines for the Preparation of Geotechnical Reports](#)
- › [Engineers and Geoscientists of British Columbia \(2010\) Guidelines for Legislated Landslide Assessments for Proposed Residential Development in B.C.](#)

2.2 Radon

Radon is an odourless, colourless radioactive gas that can enter a building where the foundation comes into direct contact with the soil. When radon decays and the resulting radioactive particles are not properly controlled for, occupants are put at risk of developing lung cancer through long-term exposure.

B.C. is known for having many high-risk radon areas. [A map outlining the potential radon hazard in B.C. is available on the RadonAware website.](#)

SUGGESTED READING

Further information on radon and radon mitigation can be found here:

- › [Canadian-National Radon Proficiency Program Find a Professional](#)
- › [RadonAware \(2016\) A Model for Radon Testing and Mitigation in Affordable Housing](#)

2.3 Climate Conditions

B.C. experiences wide variations in climactic conditions, which means designs that work in one region will not necessarily work in another. Changes in elevation can also significantly affect climate conditions faced by a home. For example, homes in the District of North Vancouver generally experience more rain and snow over the course of a year than homes located in the City of Vancouver because of elevation differences.

Design elements to consider when planning homes for specific climates include:

› **Wet Climates:**

- Roof overhangs should be large enough to cover walls so cladding is protected.
- To ensure water does not drain into the home, landscaping should slope away from the building.

› **Snowy Climates:**

- Roof overhangs should be large enough to cover walls so cladding is protected.
- Roof pitch should be high so snow does not accumulate on the roof.
- Ensure roof is designed to avoid shedding snow in front of doors.

› **Sunny/Hot Climates:**

- Summer home overheating can be limited by including exterior, window shading. When properly designed, these sunscreens or overhangs block the summer sun while allowing winter sun to enter the home.
- For areas at risk of wildfire, locating plants, wood and other storage away from the home improves safety.

› **Windy Climates:**

- Home wind load can be reduced with landscaping. This may include planting evergreen trees or hedges to create a windbreak, or taking advantage of adjacent buildings.
- Limiting the number of windows on the wind-facing side of the home can also help mitigate wind impact.

The durability of different roofing and cladding materials also varies with climate conditions. For example, stucco can work well in hot and dry climates, but is more likely to deteriorate if used in wet or snowy conditions.

SUGGESTED READING

Further information on considerations for wet climates can be found here:

- › [Coastal First Nations Great Bear Initiative \(2017\) New Housing Guide](#)
- › [Coast Funds \(2018\) Nuxalk Nation Housing Program Breaks New Ground in Bella Coala](#)

2.4 Ventilation

Ventilation is the process of supplying and removing air from a space to control air contaminant levels, humidity and temperature. Our bodies, activities and belongings can load the air in our homes with moisture and other contaminants making proper home ventilation vital to ensure high indoor air quality and occupant health.

Elements that affect the amount of ventilation required include:

- › **Occupant Density:** As each individual introduces moisture through their bodies (i.e. breath) and daily activities (i.e. showering, drying clothes, etc.), occupant density needs to be considered when determining the amount of ventilation required.
- › **Occupant Activities:** The type and frequency of activities that can introduce substantial amounts of humidity inside the home should also be considered. For example, if the occupants are likely to process traditional foods by canning at home, extra ventilation may be required. An alternative may be to create a communal kitchen specifically for food processing located outside the home.

- › **Climate:** Wet coastal conditions make it harder for the home to dry out naturally, and places it at greater risk of mould. Water may also be introduced into the home if occupants leave windows open or frequently enter with wet clothing. Some design elements include building a mudroom to take off wet clothes and shoes prior to entering the home and having outbuildings to store wet equipment.

The industry association for HVAC contractors in B.C. is the Thermal Environmental Comfort Association, and they provide [a list of “Quality First” contractors on their website](#).

SUGGESTED READING

Further information on home ventilation and moisture control can be found:

- › [BC Housing \(2015\) Heat Recovery Ventilation Guide for Houses](#)
- › [BC Housing \(2015\) Heat Recovery Ventilation Guide for Multi-Unit Residential Buildings](#)
- › [Coastal First Nations Great Bear Initiative \(2017\) New Housing Guide](#)

2.5 Energy Efficient Design

Aside from reducing energy bills, energy efficient design can help make homes more durable, comfortable, and healthy. However, these benefits need to be weighed against potential higher upfront costs and high repair costs (i.e. replacing a broken window or door).

The most cost-effective ways to increase home performance include:

- › **Square floorplans that help optimize the floor area in relation to the wall area. Complex layouts with more corners and joints create more opportunities for heat loss to occur.**
- › **Multi-unit buildings can take advantage of the transfer of heat between walls and floors, and are generally more efficient than single detached homes.**
- › **Aligning homes on an east-west axis can allow natural heating from the sun in the winter, with neighbouring homes providing protection in the summer.**
- › **Adding more insulation and ensuring air tightness of the building envelope helps to maximize the performance of the wall assembly. Use of an exterior air barrier system makes it easier to achieve greater air tightness and is more difficult for occupants to mistakenly damage.**
- › **Ensuring proper ventilation and adding a heat recovery ventilation (HRV) system to improve indoor air quality.**
- › **Smaller window-to-wall ratios and using fewer but larger windows help to reduce heat loss through the glass and frame. Similarly, strategic placement of windows (south versus north facing) and use of higher-performance windows helps limit heat loss.**

Window performance can be affected by the window type (casement and awning windows are more energy efficient than sliders), low-e coatings used on the glass, and the number of panes used.

SUGGESTED READING

More information on planning for energy efficient homes can be found at:

- › [BC Housing \(2015\) Consumer Guide to High Performance Homes](#)
- › [BC Housing \(2018\) BC Energy Step Code Design Guide](#)
- › [BC Housing \(2017\) Illustrated Guide – Achieving Airtight Buildings](#)
- › [BC Housing \(2017\) Illustrated Guide – R22+ Effective Walls in Residential Construction in B.C.](#)
- › [BC Housing \(2014\) Pathways to High-Performance Housing in British Columbia](#)
- › [City of Vancouver \(2009\) Passive Design Toolkit for Homes](#)
- › [Coastal First Nations Great Bear Initiative Ultra-Energy Efficient Homes](#)
- › [EcoTrust \(2011\) Assessment of Sustainable and Cultural Housing Design in the Clayoquot Sound First Nations](#)
- › [EcoTrust \(2011\) Green and Culturally Appropriate Building Design for Clayoquot Sound First Nations Part 1](#)
- › [EcoTrust \(2011\) Green and Culturally Appropriate Building Design for Clayoquot Sound First Nations Part 2](#)
- › [Fraser Basin Council First Nations Home EnergySave Webinars](#)
- › [Passive House Canada \(2017\) Yale Nation Passive House Sixplex](#)



Housing Design by Demographic

Different demographic groups will have different housing needs, and a mismatch between housing and population can create stress and economic issues for those living in the community. When thinking about building new homes, the results of the House Needs Assessment (Section 1.4) will help ensure that the right quantity and type of housing is built.

3.1 Housing Design for Single Adults

Housing units for single adults are typically smaller than units designed for families, usually a bachelor or one-bedroom unit. Advantages to smaller housing includes lowered cost and maintenance compared to living in single-family homes.

However, single members may be accustomed to, and expect, large single-family homes, rejecting multi-family or smaller housing options. First Nations that have successfully built multi-family or smaller units use a number of approaches to make smaller-home living more appealing for their members, including:

- › **Design the homes to reflect a modern, high-quality appearance**
- › **Build single-storey units or tiny homes for single persons with shared amenity spaces to facilitate social connections**
- › **Stagger the units to ensure better privacy**
- › **Use additional sound-proofing materials in a multi-family complex to maximize privacy**
- › **Build highly energy-efficient homes, thereby lowering monthly energy bills**
- › **Build secure storage units nearby for larger personal belongings, such as skidoos, boats, camping and fishing gear, etc.**

SUGGESTED READING

More information on designing homes for single adults can be found at:

- › [Journal of Commerce \(2018\) B.C. First Nation goes tiny as answer to housing needs for homeless single men](#)

3.2 Housing Design for Families

First Nations families are larger on-average and may prefer living arrangements that reflect their specific cultural values. A preference for intergenerational family living has been accommodated by some First Nations through the development of duplexes, where a young family lives in one unit and Elders and grandparents live in a smaller attached unit. Some First Nation members may also have a preference for closer family sleeping arrangements, and different bedroom size, design, and location can help to accommodate this. Additional design criteria for homes designed for families may include:

- › **Allocating the majority of floor space to communal living areas so the family can remain more connected**
- › **Building the kitchen off the living space so individuals remain connected when they are cooking**

SUGGESTED READING

More information on designing homes for families can be found at:

- › [City of Abbotsford \(2009\) Child and Youth Friendly Housing and Neighbourhood Design](#)
- › [EcoTrust \(2011\) Green and Culturally Appropriate Building Design for Clayoquot Sound First Nations Part 2](#)

3.3 Housing Design for Youth and Students

Depending on the need in the community, some First Nations may find it appropriate to create housing specifically designed for youth. In such developments, supportive programming such as life-skills, health and wellness, and traditional and cultural knowledge are often incorporated.

Some First Nations have also considered building or purchasing homes off-reserve. This may be a viable option for First Nations whose members primarily live off-reserve, or for members that go away to school but return home upon completion of their education.

SUGGESTED READING

More information on designing for youth and students can be found at:

- › [Aboriginal Housing Management Association \(2015\) Indigenous Housing Guide](#)
- › [BC Housing \(2018\) Indigenous Housing Series: Lu'ma Native Housing Society](#)
- › [BC Housing \(2018\) Indigenous Housing Series: Vancouver Native Housing Society](#)

3.4 Housing Design for Elders

Many First Nation communities are experiencing an increase in their Elder population. Elders often need housing that can meet their specific health and support needs, such as easy accessibility and proximity to services and supports. These needs may be met through renovating existing housing or building new housing:

- › **Renovate existing housing:** When Elders want to remain in their homes, it may be possible to modify the existing home so they can age in place with at-home care and support. Considerations include:
 - The ongoing cost and effort of maintaining the home can make this option difficult or infeasible in the long-run for Elders.
 - Existing homes may not be close enough to amenities, such as transit or health care.
 - The Elder's family may be unable to help with care or emergency events.
 - The Elder's health and mobility could deteriorate to the point where at-home care is insufficient to meet their needs.
- › **Build new housing:** New housing may be better to meet Elders' care needs but can also be resisted by Elders and their families. Considerations include:
 - Elder-specific housing may not be viewed as culturally appropriate for the community.
 - Moving Elders into a new home environment or location may negatively affect their mental and emotional well-being.
 - The design of new housing may impact how it is accepted by the community. For example, a collection of small homes orientated around a communal facility may be more acceptable than one larger multi-unit facility.
 - A supportive living model can be beneficial for Elders because it allows for a higher level of social interactions, for bonds to form, and continuous monitoring of health.
 - Depending on the location of the First Nation, there may be an option to develop Elders housing either on or off-reserve. Factors that may inform this decision include proximity to friends and family as well as amenities and services.

If the First Nation does not have enough Elders to sustain a supportive living complex, consideration could be given to including non-members.

Whether existing homes are renovated or new homes are built, the following design elements are typically included in Elders housing and should be considered:

- › **Home entrances at grade and necessary living spaces on main floor (i.e. kitchen, bathroom, bedroom)**
- › **Doorways, hallways and corridors built wide**
- › **Site topography is flat or gently sloping**

- › Pedestrian walkways and parking areas accessible for scooters and wheelchairs
- › Bathrooms have a shower that has a level entry to the floor
- › Bathrooms and tubs have grab bars
- › Water temperature controls are provided to prevent scalding
- › A tenant activated emergency response system is installed

SUGGESTED READING

Further information on design elements for seniors and Elders housing can be found at:

- › Agnello, Kristin (2018) [Zero to 100: Planning for an Aging Population](#)
- › [City of Vancouver Accessible Street Design](#)
- › CMHC (2005) [Architecture for Elder Health in Remote British Columbia: A Nisga'a-Led Research](#)
- › CMHC (2016) [Accessible Housing by Design – House Designs and Floor Plans](#)
- › SAFERHome Standards Society (2017) [SAFERhome Standards Manual: How to Easily Build to the 15-point Standards](#)

3.5 FlexHousing™

An approach to housing design that may be of interest to some First Nation communities is CMHC's FlexHousing™, which allows the floorplan, amenities and services of a home to be easily and cost-effectively adapted to match the changing needs of the household occupants. FlexHousing™ can be appropriate for different demographics, such as:

- › **Young families who over time want to reconfigure rooms to meet their changing space needs**
- › **Elders who want to age-in-place and ensure more accessible housing in the event of decreased mobility or vision loss due to aging**
- › **People with disabilities who need wheelchair accessibility, wider corridors to make the use of a walker easier, or other special features for the visually impaired**
- › **Single adults who may want to live in such a way as to use some space communally and other space independently**
- › **Homeowners seeking rental income opportunities**

Further information can be found online at:

[CMHC Flexhousing™ Checklist – Homes that Adapt to Life’s Changes](#)



Cultural Housing and Community Design

First Nations in B.C. uphold rich cultural and traditional practices, but many homes in First Nation communities were not designed to sustain traditional lifestyles and cultural practices. Culturally-appropriate design elements should be considered when building homes in First Nation communities.

Specific design elements are unique to each community, but may include:

- › **Use of local materials, including natural wood, logs and appropriate colours**
- › **Use of internal courtyards and wraparound porches to foster greater interaction between community members**
- › **Develop Community Gathering Spaces with access to common areas and playgrounds for children**
- › **Developing outdoor spaces that include community gardens, trees and indigenous plants**
- › **Providing outside access to potable water for fish and traditional food processing**
- › **Building out-buildings for traditional practices and for storage of equipment**
- › **Provide a Community Kitchen for traditional food processing and feasts**
- › **Provide access to natural light and views of the outdoors at home**
- › **Feature Indigenous artwork**

Further information on inclusion of culturally-appropriate design elements can be found at:

- › [Aboriginal Housing Management Association \(2015\) Indigenous Housing Guide](#)
- › [CMHC \(2005\) Aboriginal Housing: Local Materials and Design Preferences](#)
- › [Coastal First Nations Great Bear Initiative \(2017\) New Housing Guide](#)
- › [Coast Funds \(2018\) Nuxalk Nation Housing Program Breaks New Ground in Bella Coola](#)
- › [EcoTrust \(2015\) Building for the Future Case Study:Quarter Long House in Clayoquot Sound](#)
- › [EcoTrust \(2011\) Assessment of Sustainable and Cultural Housing Design in the Clayoquot Sound First Nations](#)
- › [EcoTrust \(2011\) Green and Culturally Appropriate Building Design for Clayoquot Sound First Nations Part 1](#)
- › [EcoTrust \(2011\) Green and Culturally Appropriate Building Design for Clayoquot Sound First Nations Part 2](#)



Appendix A – Full Suggested Reading List

- › Aboriginal Housing Management Association. 2015. Indigenous Housing Guide
- › Agnello, Kristin. 2018. Zero to 100: Planning for an Aging Population
- › Assembly of First Nations. 2010. First Nations Guide to Housing Policy
- › Auditor General for Local Government. 2016. Improving Local Government Procurement Processes
- › BC First Nation Housing Mentorship Program. Useful Tools/Templates
- › BC Housing. 2018. Alkali Lake Healthcare Facility
- › BC Housing. 2015. Consumer Guide to High Performance Homes
- › BC Housing. 2017. BC Energy Step Code Design Guide
- › BC Housing. 2015. Housing Foundations and Geotechnical Challenges
- › BC Housing. 2017. Illustrated Guide – Achieving Airtight Buildings
- › BC Housing. 2017. Illustrated Guide – R22+ Effective Walls in Residential Construction in B.C.
- › BC Housing. 2018. Indigenous Housing Series: Lu'ma Native Housing Society
- › BC Housing. 2018. Indigenous Housing Series: Vancouver Native Housing Society
- › BC Housing. 2015. Heat Recovery Ventilation Guide for Houses
- › BC Housing. 2015. Heat Recovery Ventilation Guide for Multi-Unit Residential Buildings
- › BC Housing. 2010. Housing Needs and Demands Study (Template)
- › BC Housing. Licensing and Consumer Services branch
- › BC Housing. 2017. Making a House a Home: Indigenous Engagement and Housing Design in B.C.
- › BC Housing. 2014. Modular and Prefabricated Housing: Ideas, Innovations, and Considerations to Improve Affordability, Efficiency, and Quality
- › BC Housing. 2011. Modular Housing: Benefits, Challenges and Lessons Learned
- › BC Housing. 2014. Pathways to High-Performance Housing in British Columbia
- › BC Housing. 2013. Procurement Guidelines for Non-Profit Housing
- › BC Housing. Public Registry of Residential Builders
- › Canadian – National Radon Proficiency Program (C-NRPP). Find a Professional
- › City of Abbotsford. 2009. Child and Youth-Friendly Housing and Neighbourhood Design
- › City of Nanaimo. 2013. Guidelines for the Preparation of Geotechnical Reports
- › City of Vancouver. Accessible Street Design

- › City of Vancouver. 2009. Passive Design Toolkit for Homes
- › Canada Mortgage and Housing Corporation (CMHC). 2005. Aboriginal Housing: Local Materials and Design Preferences
- › Canada Mortgage and Housing Corporation (CMHC). 2016 (rev). Accessible Housing by Design – House Design and Floor Plans
- › Canada Mortgage and Housing Corporation (CMHC). 2005. Architecture for Elder Health in Remote British Columbia: A Nisga’a-Led Research
- › Canada Mortgage and Housing Corporation (CMHC). 2018. First Nation Housing Policies Development Guide
- › Canada Mortgage and Housing Corporation (CMHC). 2016 (rev). Flexhousing™ Checklist – Homes that Adapt to Life’s Changes
- › Canada Mortgage and Housing Corporation (CMHC). 2009. The Northern Sustainable House: An Innovative Design Process
- › Canada Mortgage and Housing Corporation (CMHC). Penticton Indian Band Housing Program Governance
- › Coastal First Nations Great Bear Initiative. Ultra-Energy Efficient Homes
- › Coastal First Nations Great Bear Initiative. 2017. New Housing Guide
- › Coast Funds. 2018. Nuxalk Nation Housing Program Breaks New Ground in Bella Coola
- › Ecotrust. 2011. Assessment of Sustainable and Cultural Housing Design in the Clayoquot Sound First Nations
- › EcoTrust. 2015. Building for the Future Case Study: Quarter Long House in Clayoquot Sound
- › Ecotrust. 2011. Green and Culturally Appropriate Building Design for Clayoquot Sound First Nations Part 1
- › Ecotrust. 2011. Green and Culturally Appropriate Building Design for Clayoquot Sound First Nations Part 2
- › Engineers and Geoscientists of British Columbia. 2010. Guidelines for Legislated Landslide Assessments for Proposed Residential Development in BC
- › First Nations National Building Officers Association (FNNBOA). 2017. Housing and Rental Operational Policy Framework
- › First Nations National Building Officers Association (FNNBOA). 2017. First Nations Rental Policy and Programs: Addressing Key Issues and Challenges
- › First Nations Financial Management Board. Procurement
- › Fraser Basin Council. First Nations Home EnergySave Webinars
- › Fraser Basin Council. 2016. Protecting On-Reserve Housing: HPO’s Home Warranty Program
- › Indigenous Services Canada. 2010. Framework to Guide the Development of a First Nation Tendering Policy
- › Naut’sa mawt Tribal Council. Housing Policy Toolkit Project
- › Passive House Canada. 2017. Yale Nation Passive House Sixplex
- › RadonAware. 2016. A Model for Radon Testing and Mitigation in Affordable Housing
- › SAFERHome Standards Society. 2017 (rev). SAFERHome Standards Manual: How to Easily Build to the 15-Point System.



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