

Intro

Opening : Attention housing people

Thank you creator for this day.

Thanks to the People of this land.

Housing guests of this forum.

I want to open your minds, change your perspective and provide you with a Vision.

A template to follow ,opportunity to work together with federal agencies and your own community.

This objective is to create and incorporate new and innovative building concepts and to develop opportunities for your community membership.

A step closer ,I say ; to freedom ,independence and better living conditions.

Opportunity:

To construct homes that would suit your social, economic and cultural needs.

Bella Coola – Nuxalk Nation



Nuxalk Nation : Vision

Create opportunities

1. Invest in community membership.
2. Utilize the Nations Assets.
3. Build capacity within community membership.
4. Guide homeowners to be accountable and responsible for own assets.
5. Construct homes to suit the coastal climate and to meet the nation's economical, social and cultural needs.
6. Provide training opportunities for adults , children and elders.
7. Support other communities in growth, sharing ideas and resources

Networking

- I.N.A.C.
- Canada Mortgage and Housing Corporation
- Camosun College- Olaf Nielson
- Industry trades Association
- Nuxalk Education Authority
- Lip'alhayc College
- Nuxalk Chief and council
- Rona Supplies

Training and development

Nuxalk is to:

- a) Become mentor(s) as builders and teachers.
- b) Educate tenants about home maintenance.
- c) Educate the owners about their specific roles and responsibilities to their home.
- d) Educate the children about their roles and responsibility's to their space and home.
- e) Develop educational curriculum for the First Nations Schools. i.e. (maintenance and financing.)

Development of Nuxalk Construction and Asset Management Team

Red seal carpenters
Site manager
Site superintendent
Certified building Inspector
Carpenter Apprentices
Accounting staff

The development and preparation of New Homes.

In the process and preparation of constructing new homes.

Several key issues needed to be problem solved.

1. Plans were selected and developed.
2. A building specification Booklet was developed for the community's wet west coast.
3. Geotechnical Engineers tests were performed.
4. Hydrological studies were completed when required.
5. Construction Teams were formed.

Then:

The footings and foundations were then designed for each lot and homes.

New and innovative foundations were incorporated : Quad –lock system. Cost saving.

- Insulating factor for radiant flooring heating system.
- Insulation factor for conditioned crawl spaces (1/2 basements).
- Insulating factor for habitable spaces.
- Insulation factor for services coming in and from .



Materials for construction

Standard plywood.



Innovative heating system is the principle heating system.

Radiant concrete flooring.

Mold prevention:

- It was discovered through mold investigations ; inconsistent sources of heat is one of the principle causes of mould formation in the west coast.
- This system will also eliminate the use of wood burning appliances.
- Minimize the use and cost of fossil fuels.
- Heat recovery ventilators (HRV) recirculate the air.

Portion of supply lines



- The projections above are plumbing supply lines and drainage
- The red horizontal lines are heating lines.
- Floor is insulated with 2 layer styro foam (R12)
- 6 mil vapor barrier
- Reinforced 32 mpa concrete

Concrete Pour

- The concrete pour is critical and continuous .



Gypsum board – M2 tech board

The exterior stud and joist spaces are properly fitted with product Roxall insulation, this product is mold resistant.

The application of the insulation is flush to the outside stud and 6 mil. vapor barrier is a perfect seal. All edges of poly are caulked, tape and all rips taped.

The electrical boxes have sealed foam insulators to minimize air infiltration and moisture ingress at that specific location.

All exterior walls, kitchens and bathrooms are enclosed mold resistant drywall and compound also mold resistant.



All bathrooms, laundry room and kitchens were completed with Mold resistant drywall and mold resistant compound mud

One piece hy-tech tub and shower units.

Impervious flooring materials.

Each bathroom is equipped with fan ,which is directly vented to the exterior

Each bathroom also equipped with operable window.

The interior doors are undercut up to $\frac{3}{4}$ of inch for air circulation in bathrooms and bedrooms.



Building Science. Rain screen application

The simple building envelope application.

Installing a ¼ bug screen to base plate and one on top plate and new innovative flashing details.

This allows to :

- Creates air space between the siding and building.
- If wind driven rain penetrates the siding , the moisture will drain out between cavities.
- The application prevents wind driven rain from saturating the plywood and building paper.
- This process will significantly improve the life expectancy of the home by not allowing moisture to penetrate the building substrates.



Rain screen and insulation factors

The rain screen is completed to underside the roof line/ soffit line.

Beneath the roof line is a cavity that is created by the truss installation.

This space is now insulated with styro foam to minimize the full ingress of cold air.

This removes any opportunity of thermal activity/ bridging and transfer at roofline and in attic spaces.

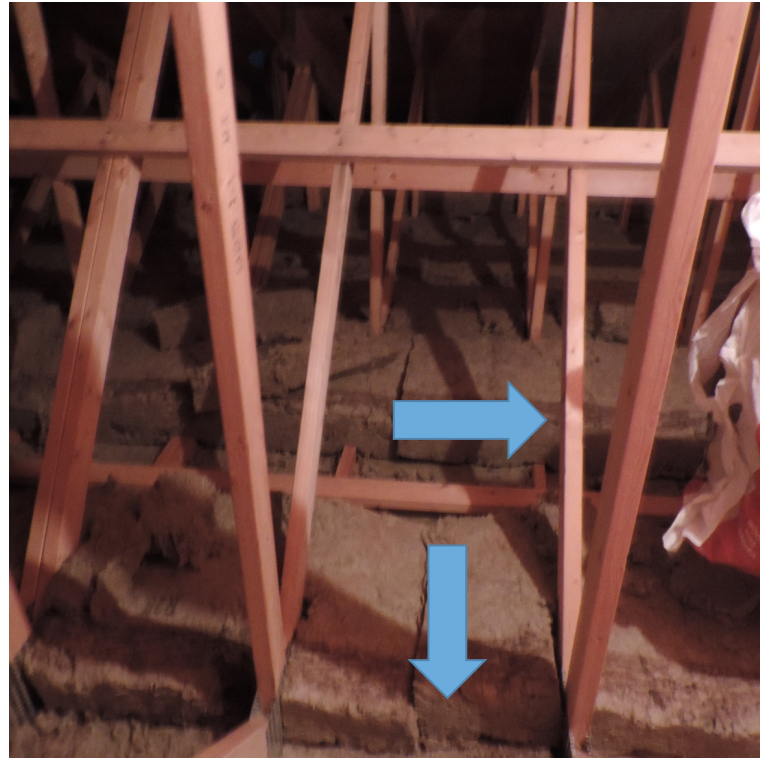
Styro foam insulation also on the lower portion of the gable end. This install minimizes cold joints at expansion joints.



Roxall attic space R 52

The application of insulation is applied in two directions.

This application will remove the opportunity for thermal activity, thermal heat transfers from hot to cold and visa versa. Cold attic space to warm habitable space.



Windows

Double paned sealed and operable.

Sliders allow infiltration of moisture and ingress of air when under pressure.



Lighting

LED light are now incorporated into housing.

The cost associated is insignificant for home compared to exchanging light bulbs.



Heat pump

The home is equipped with forced air furnace.

The install of heat pump assist the forced air system.

Larger overhangs to min. wind/ rain washing of buildings.



Construction Crew

An experienced carpenter /building inspector.

Nuxalk Red Seal Carpenter's and newly found apprentices working together .

A team that is open minded and willing to learn and move forward in their personal lives.

The proper tools to construct .

Theses are the key building blocks required to construct homes for the nation.



What are we doing differently : Networking and working collaboratively with agencies .

2015

- Created new Building Specification Booklet for West coast.
- Construct newly designed homes beyond min standards criteria of N.B.Codes of Canada.
- New building science and building technology concepts were adopted for construction.
- Invested and developed our own construction team.
- Created a home that suits social, economical and cultural needs.
- Created new housing policy booklets. (rental and individual)
- Standardized construction : i.e. size of decks, patterns and one size windows and doors.
- Training and building our community assets with machinery and gravel.
- Invest on specialty equipment: own concrete batch plant.
- Train homeowners about home , functions , their role and responsibilities for maintenance and repairs.
- Removing wood burning appliances.

1986

- Construct homes to min. standard criteria. NBC
- Did not educate the tenants about homes.
- To save funds in the construction process used substandard materials such as: orient strand board (used for exterior plywood for roofs) and melamine for cabinets and vanities
- Constructed homes with vinyl siding.
- Used principally wood burning appliances.
- Believed in Architect engineers and consultants.