

# Nest 960

## Secondary Dwelling

The design for the Nest 960 strikes a balance between affordability, functionality and aesthetic appeal. The traditional, low-slung shape and attractive, yet low-key exterior will make it complementary to any neighbourhood - and a valuable addition to the property.

While the exterior of the home is traditional in appearance, the interior is distinctly modern, with a flexible semi open floor-plan and a warm, bright aesthetic. Optional features and material choices can accommodate various budgets and requirements.

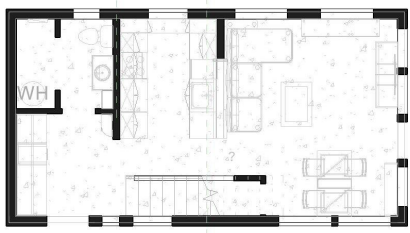
**Overall Dimensions**  
 Building Footprint = 480 sq.ft.  
 Total Interior Area = 960 sq.ft.  
 Total Height = 22' 10"  
 Footprint = 16' x 30'

North  
 Okanagan  
 Housing  
 Design  
 Competition

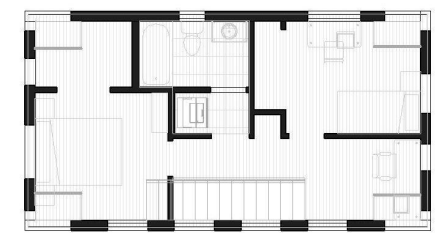
- Fire-resistant Asphalt Roof Shingles
- Low-slung Gable-Roof with Shed Dormers to reduce visual Height of Building
- Windows designed for Energy Performance and Privacy
- Rough-sawn Cedar Fascia and Belly-Board
- Timber Elements and Wood Cladding to emphasize Entry Area
- Covered Outdoor area for Garbage, Recycling, Bikes, Toys, etc.



- Engineered Roof Trusses
- Traditional House Shape with 'Contemporary Detailing (minimal Trim)
- High-Performance Walls with Continuous Exterior Insulation
- Cement Board Siding
- Engineered I-Joist Floor @ Upper Level
- Building Dimensions maximize Yield of standard Building Materials
- Private Outdoor Living Area with partial Roof Coverage
- Slab-On-Grade @ Main Floor



Main Level: Kitchen, Living, Dining, Entry, Powder-Room, Mechanical Room



Upper Level: 2 Bedrooms, Den, Bath & Laundry

**Affordability:**  
 -Conventional, low-cost Building Systems (Roof Trusses, Slab-on-Grade, I-Joists, etc.)  
 -Simple, rectangular geometry.  
 -Low-cost, low-maintenance Materials  
 -Centralized Plumbing  
 -Building Dimensions maximize Yield of standard Building Materials

**Materials:**  
 Exterior Cladding:  
 -Cement Board Siding  
 -1" Fir T&G (@ Entry)  
 Timber: #1 D.Fir  
 Ext.Trim: Rough Sawn-Cedar  
 Windows: Vinyl, Double-Glazed  
 Ext.Doors: Foam-Filled Fibreglass  
 Soffit: 1" D.Fir T&G

**Flooring:**  
 -Down: Polished Concrete  
 -Up: Pre-Finished Bamboo  
 -Bath: Ceramic Tile  
 Walls: Painted Drywall  
 Int.Doors: Hollow-Core, Flat Panel

**Mechanical Systems:**  
 Heating / Cooling: 27000 BTU Cold-Climate Heat Pump w. (3) ductless Mini Splits (Backup electric baseboards)  
 Air-Exchange: Ductless (in wall) HRV System  
 Hot Water: 40 gal Electric H/W Tank  
 Electrical: 100 amp Panel

**Sustainable Features:**  
 -High-Performance Envelope with 2" continuous outboard insulation  
 -FSC-Certified Kitchen Cabinets (IKEA)  
 -Bamboo Flooring  
 -Low Energy Use Heating System  
 -Low Ratio of Glazing to Wall Area

Nest 960  
 Anywhere, BC

Design Board

Issue Date  
 03/18/23

Issued For:  
 Review

Drawn by: Author  
 Checked by: Checker

Plot Date  
 2023-03-18 8:18:12 AM

P01  
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# Nest 960 – Secondary Dwelling

## Nest 960

Offers an easy, straightforward and cost-effective way to help you add a beautiful and functional secondary dwelling to your property.

Whether it is intended as a rental property or a home for your family-members, the Nest 960 will complement your neighbourhood and add equity to your property.



## Nest 960 - Design for living

The charming, traditional exterior will appeal to neighbours and occupant alike. A bright, modern interior with efficient layout creates a cozy and functional home for a couple or a small family.

## Nest 960 - Design for Construction

Utilizing modern building systems, durable materials and smart design, the Nest 960 is easy and cost effective to construct and finish. The construction documents (which even include a data-rich 3D model) will ease both the permitting and the construction process.



# Nest 960 – Secondary Dwelling

## Design Synopsis

I arrived at my final design for the Nest 960 by addressing the numerous requirements and constraints – then finding a balance between the various factors. In this case those factors include regulatory constraints, common construction practices and the various criteria presented by the contest terms of reference. As is often the case, not all design-criteria can be fully satisfied, as they are often conflicting. For instance affordability may need to be compromised to achieve good design, sustainability or high-performance goals and vice versa.

Since there is no actual client in this scenario to help make those ‘compromising’ decisions, I imagined myself as that client – a homeowner wanting to add an affordable secondary dwelling to their property that will be appreciated by both neighbours and occupants, as well as adding value to the property and the community. The section below shows how I approached and addressed each of the provided criteria for the design.

## Contest Criteria

### 1. Design

Aesthetic/Massing: In researching the existing housing stock, I found a varied mix of older homes with steeper roof-pitches and newer (1960’s and 70’s) homes with larger footprints and lower roof-pitches. In order to respond to the existing homes – and to visually reduce the tall appearance of a small-footprint, two-story home – I chose a traditional, steep gable roof with large shed dormers. The roof-shape, overall-aesthetic and muted colour-palette blend the Nest 960 into the existing neighbourhood, even though this two-story secondary dwelling may often be taller than the low-slung (partially in-ground) main house on the property.

Function/Layout: The function, layout and interior aesthetic of the home responds to modern lifestyles and preferences, while the exterior of the home is traditional in appearance. The layout starts with covered outdoor storage for garbage, recycling, bikes, tools and leisure gear and continues inside with a flexible semi-open plan. A den could be used for a home office, play area or guest-nook and a walk-in closet in the master bedroom provides ample storage for clothes and a taste of luxury. Durable, light-coloured finishes and simple detailing make for a bright, uncluttered and low-maintenance interior with enough storage for all the necessities of modern life for couples and small families alike.

### 2. Good Home / Good Neighbour

As mentioned above, the ‘easy-on-the eyes’ and un-assuming exterior appeals to the neighbours, occupants and passersby, while the bright, clean interior is a calm, well-organized refuge for the inhabitants.

Most windows are placed high in the walls to provide privacy while bringing in plenty of daylight. Additional fenestration is placed on the side of the main living area, where another dwelling is least likely to be located.

# Nest 960 – Secondary Dwelling

## 3. Affordability

While affordability is of course a major consideration, I deviated from a ‘lowest-common denominator’ approach in favour of design that provides long-term appeal and equity. Within that framework, I chose methods, materials and details that allow for efficient, cost-effective construction and long-term operation/maintenance:

- Conventional, low-cost construction methods and common materials:
  - Pre-engineered roof trusses and I-joist floor system
  - Slab on grade concrete on main floor (structural and finished floor combined)
  - Vinyl windows
  - Asphalt roofing shingles
- Simple, rectangular geometry with building dimensions maximize yield of standard building materials.
- High-performance envelope with extra insulation for energy savings and improved comfort.
- Energy efficient (ductless) heat-pump for primary heating and cooling.
- All plumbing is centralized in one area of the building.
- Durable and affordable finishes will require minimal maintenance and repair.
- Attractive and functional design increases occupant’s appreciation and care of the home (lower long-term maintenance cost).
- Some features (patio roof, covered storage area, real-wood cladding and trim, extra insulation) could be removed or substituted for additional cost-savings.

## 4. Flexibility and Longevity

The traditional, timeless exterior aesthetic is complementary to all neighbourhoods in the region and will continue to be an asset to the property and the community. The building can be rotated or mirrored to suit the particular site conditions and access. On long, skinny lots, it could also be rotated 90 degrees. The patio roof and covered outdoor area can be removed or reduced in size for narrower lots.

## 5. Eco-Design

While some eco-design features are built into the design, others are optional depending on the owner’s preferences and budget:

- The base design features a high-efficiency heating/cooling system and a low glazing-to-wall ratio resulting in a very energy-efficient home.
- The high-performance envelope with 2” of rigid external insulation (rock-wool or insulated, foil-faced sheathing) is highly recommended, but optional. Some building departments will accept insulated sheathing to take the place of plywood or OSB sheathing, defraying some of the cost of the extra insulation.
- The home-owner is encouraged to opt for other sustainable or low-carbon materials such as:
  - Renewable bamboo flooring
  - FSC wood products
  - Blow-in cellulose insulation in stud cavities.
  - Low-carbon concrete (where available)
  - Low VOC finishes
- The physical and aesthetic longevity of the design will contribute to a long life cycle.

**Laura Frank**

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**From:** [REDACTED]  
**Sent:** Tuesday, April 11, 2023 2:36 PM  
**To:** Laura Frank  
**Subject:** Re: North Okanagan Housing Design Competition

**\*\*\* External Email - Use Caution \*\*\***

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Hi Laura

I did a high-level estimate of the construction cost for my design. There are of course always site-related variations in the cost, but I estimate the square foot cost of my design to be in the \$ 240 -\$ 260 range. Please let me know if you require any additional information.

Regards,

[REDACTED]

[REDACTED]



North  
Okanagan  
Housing  
Design  
Competition



Nest 960  
Anywhere, BC

Exterior Renderings

Issue Date  
03/18/23

Issued For:  
Review

Drawn by Author	Checked by Checker
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Plot Date  
2023-03-18 8:11:17  
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North  
Okanagan  
Housing  
Design  
Competition



Nest 960  
Anywhere, BC

Interior Renderings

Issue Date  
03/18/23

Issued For:  
Review

Drawn by  
Author

Checked by  
Checker

Plot Date  
2023-03-18 8:11:18  
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