

# INSIDE THE STEP 4 HOME

Projects that point to the future of B.C. home performance

## CASE STUDY: Ewert Residence, Township of Langley



**Project size:**  
7,040 square feet  
**Build cost:**  
\$2,066,637 or \$294/sq ft  
**Climate zone 4**

*Style and efficiency come together in this Step 4 home. With strict attention to detail and smart use of readily-available materials, the builder increased efficiency with minimal cost premium.*

**2% above**  
cost to build to the  
existing energy efficiency  
requirements of the  
BC Building Code.

**Energy Advisor**  
**Stan Jang**  
Provided advice that maximized efficiency and minimized build costs

Two of the many strategies used to boost performance include:

### MIND YOUR MACHINES

A high efficiency natural gas furnace (94% AFUE) provides heating for the main house and basement. This system is complimented by an integrated air source heat pump (8.26 HSPF/16.3 SEER) that provides a climate friendly heating and cooling alternative. The heating and cooling in the suite is provided by a ductless air source heat pump. Two tankless on-demand natural gas water heating systems provide abundant hot water.

### MINIMIZE THERMAL BRIDGES

Clay Construction's insulation strategy for this home was designed to minimize heat loss and thermal bridging. Exterior rigid insulation was used on the exterior walls, reducing thermal bridging at the studs and joints. Insulated Concrete Forms with extra exterior rigid insulation was used on the foundation walls. Spray foam was applied to all interior walls and the underside of the roof to provide conditioned attic space for mechanical ventilation, additional storage space, and to minimize thermal bridging through ceiling joists.

*A home that meets Step Code requirements will not only be energy efficient but will also be more comfortable, healthier, quieter and durable.*

*- Larry Clay, builder*



**Township of**  
**Langley**  
Est. 1873



Questions? Please contact [greenbuildings@tol.ca](mailto:greenbuildings@tol.ca)