CHANGES
MUST Be Approved Prior
To Performing Work

Subject To Field Inspection

BASIC PERMIT PACKAGE
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WITH IRC 2015
KITSAP COUNTY BUILDING DEPARTMENT

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Reviewed for code compliance
with IRC 2015
Kitsap County Building Department
jbowling@co.kitsap.wa.us
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Residential Energy Code Worksheet

KITSAP COUNTY

Department of Community Development

The Residential Energy Code Worksheet is a tool to help you plan your energy code needs for new or remodeled homes, to ensure compliance with code requirements. More resources, and a copy of the energy code, optional worksheets and glazing forms can be found here.

This document will cover the following features:

- **Heating, Ventilation and Air Conditioning (HVAC):** Requirements for efficiency of heating and cooling equipment for your house.
- **Building Envelope:** Requirements and options for roofs, walls, windows- these control heat loss and leakage.
- **Water Heating:** Equipment efficiency and controls

NOTE: All of the details of your energy plan must be clearly shown on your construction plans in order for application to be approved.

Email
scott@fergusoncolehomes.com

Is this an addition to an existing structure?
No

Heating Ventilation and Air Conditioning Requirements

All options for whole house ventilation shall provide outdoor air at a continuous rate of not less than the Airflow Rate shown below. This is automatically calculated in accordance with Tables M1507.3.3(1) & 1507.3.3(2) based on square footage of structure and number of bedrooms.

Select Proposed Heating Sytem, be sure to show on plans.
Forced Air System: Use air as the heat transfer medium, relying on ductwork and vents to distribute.

Select Prescriptive Whole House Ventilation	Select Square Footage of Structure	Number of Bedrooms
Integrated with Forced Air System (Ducted Furnace Option)	1,501 - 3,000	2-3

Exception: The whole house mechanical ventilation system is permitted to operate intermittently where the system has control that enables operation for not less than 25% of

each 4 hour segment. The ventilation rate below is multiplied by the run time factor in accordance with Table 1507.3.3(2) to determine required fan size.

Required Airflow CFM (Label on Plans):

Required Airflow CFM (Label on Plans)
60

Please note:

Exhaust fans are required in any room where water vapor, or cooking odor is produced, i.e.; kitchen, bathroom, powder room, laundry room, indoor swimming pool, spa, etc. See Table M1507.4 for the minimum exhaust fan sizes. Minimum source specific ventilation- your proposed system shall not be less.

Table M1507.4

CFM=Cubic Feet per min.	Laundry rooms or Bathrooms	Kitchens
Intermittently Operating	50 cfm	100 cfm
Continuous Operation	20 cfm	25 cfm

Required Energy Credits

Conditioned Floor Area
1,500 - 5,000 Square Feet

Minimum Required Energy Credits
3.5

Total Energy Credits Selected Below

Options to Meet Minimum Required Energy Credits

There are five categories below, you may select any combination to reach the minimum credit amount. All selected options must be shown on the construction plans. As the number of credits increase, your home becomes more energy efficient. You may elect to exceed the required number of credits.

Key Terms:

R-Value = Thermal Resistance, time rate of heat flow through a body.

U-Factor = Thermal Transmittance, heat transmission (air to air) through a building component, equal to the time rate of heat flow per unit area and unit temperature.

Fenestration = Fenestration windows and other products with glass and non-glass glazing materials.

Glazing = Glass part of windows

Would you like to see options for water heating?
Yes

Water Heating Options

EFFICIENT WATER HEATING 5a:

Select This Option	Credits
No	.5

All showerhead and kitchen sink faucets installed in the house shall be rated at 1.75 GPM or less. All other lavatory faucets shall be rated at 1.0 GPM or less.*

To qualify to claim this credit, the building permit drawings shall:

- Show all fixtures: showerheads, kitchen sink faucets, and other lavatory faucets.
- Label the maximum flow rates for all showerheads, kitchen sink faucets, and other lavatory faucets.

***Plumbing Fixtures Flow Ratings.** Low flow plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following requirements:

1. Residential bathroom lavatory sink faucets: Maximum flow rate - 3.8 L/min (1.0 gal/min) when tested in accordance with ASME A112.18.1/CSA B125.1.
2. Residential kitchen faucets: Maximum flow rate - 6.6 L/min (1.75 gal/min) when tested in accordance with ASME A112.18.1/CSA B125.1.
3. Residential showerheads: Maximum flow rate - 6.6 L/min (1.75 gal/min) when tested in accordance with ASME A112.18.1/CSA B125.1

EFFICIENT WATER HEATING 5b:

Select This Option	Credits
No	1

Select one of the following Water heating systems:

- Gas, propane or oil water heater with a minimum EF of 0.74
- Water heater heated by ground source heat pump meeting the requirements of Option 3c

To qualify to claim this credit, the building permit drawings shall:

- Show water heating system in the applicable location
- Label water heater equipment type
- Label with the minimum equipment efficiency #, (example EF 0.74)

EFFICIENT WATER HEATING 5c:

Select This Option	Credits
Yes	1.5

Water heating system shall include one of the following:

- Gas, propane or oil water heater with a minimum EF of 0.91
- **OR** Solar water heating supplementing a minimum standard water heater. Solar water heating will provide a rated minimum savings of 85 therms or 2000 kWh based on the Solar Rating and Certification Corporation (SRCC) Annual Performance of OG-300 Certified Solar Water Heating Systems.
- **OR** Electric heat pump water heater with a minimum EF of 2.0 and meeting the standards of NEES's Northern Climate Specifications for Heat Pump Water Heaters.
- **OR** Water heater heated by ground source heat pump meeting the requirement of Option 3c.

To qualify to claim this credit, the building permit drawings shall:

- Show water heating system in the applicable location
- Label water heater equipment type
- Label with the minimum equipment efficiency #, (example EF 0.91)

EFFICIENT WATER HEATING 5d:

Select This Option	Credits
No	.5

A drain water heat recovery unit(s) shall be installed, which captures waste water heat from all the showers, and has a minimum efficiency of 40% if installed for equal flow or a minimum efficiency of 52% if installed for unequal flow. Such units shall be rated in accordance CSA B55.1 and be so labeled.

To qualify to claim this credit, the building permit drawings shall:

- Show a plumbing diagram in the applicable location
- Specify the drain water heat recovery units and the plumbing layout needed to install
- Labels or other documentation shall be provided

demonstrating that the unit complies with the standard.

Would you like to see options for HVAC?
Yes

HVAC Equipment

HIGH EFFICENCY HVAC EQUIPMENT 3a:*

Select This Option	Credits
No	1

Gas, propane or oil-fired furnace with a minimum AFUE of 94%

To qualify to claim this credit, the building permit drawings shall:

- Show location of HVAC equipment in the applicable location.
- Label the AFUE on/near equipment

HIGH EFFICENCY HVAC EQUIPMENT 3b:*

Select This Option	Credits
Yes	1

Air-source heat pump with a minimum HSPF of 9.0

To qualify to claim this credit, the building permit drawings shall:

- Show location of HVAC equipment in the applicable location
- Label the HSPF on/near equipment

HIGH EFFICENCY HVAC EQUIPMENT 3c:*

Select This Option	Credits
No	1.5

- Closed-loop ground source heat pump; with a minimum COP of 3.3
- **OR** Open-loop water source heat pump with a maximum pumping hydraulic head of 150 feet and a minimum COP of 3.6.

To qualify to claim this credit, the building permit drawings shall:

- Show location of HVAC equipment in the applicable location
- Label the COP on/near equipment
- Include on site plan

HIGH EFFICENCY HVAC EQUIPMENT 3d:*

Select This Option	Credits
No	1

DUCTLESS SPLIT SYSTEM HEAT PUMPS, ZONAL CONTROL:

In homes where the primary space heating system is zonal electric heating, a ductless heat pump system shall be installed and provide heating to at least one zone of the housing unit.

To qualify to claim this credit, the building permit drawings shall:

- Show location of HVAC equipment in the applicable location

HIGH EFFICENCY HVAC DISTRIBUTION SYSTEM 4a:

Select This Option	Credits
Yes	1

- All heating and cooling system components shall be installed inside the conditioned space.
- All combustion equipment shall be direct vent or sealed combustion.

Locating system components in conditioned crawl spaces is not permitted under this option. Electric resistant heat is not permitted under this option direct combustion heating equipment with AFUE less than 80% is not permitted with this option.

To qualify to claim this credit, the building permit drawings shall:

- Show location of HVAC equipment in the applicable location

*Projects may only include credit from one space heating option, 3a, 3b, 3c or 3d. When a housing unit has two pieces of equipment (i.e., two furnaces) both must meet the standard to receive the credit.

Would you like to see options for whole house air leakage control and efficiency?
No

Would you like to see options for Building Envelope (windows, walls, and floors) energy credits?
No

***Would You Like to See Table 402.1.1?**
No

Would you like to see Renewable Energy credits?
No

Summary of Energy Credit Options

Minimum Required Energy Credits	Total Energy Credits Selected
3.5	3.5