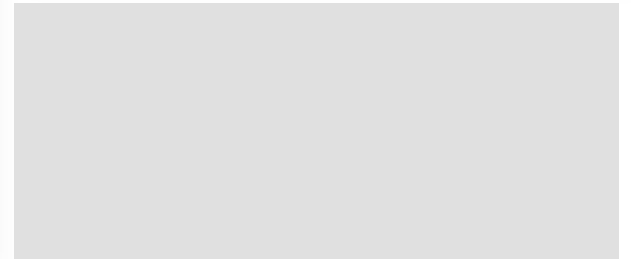
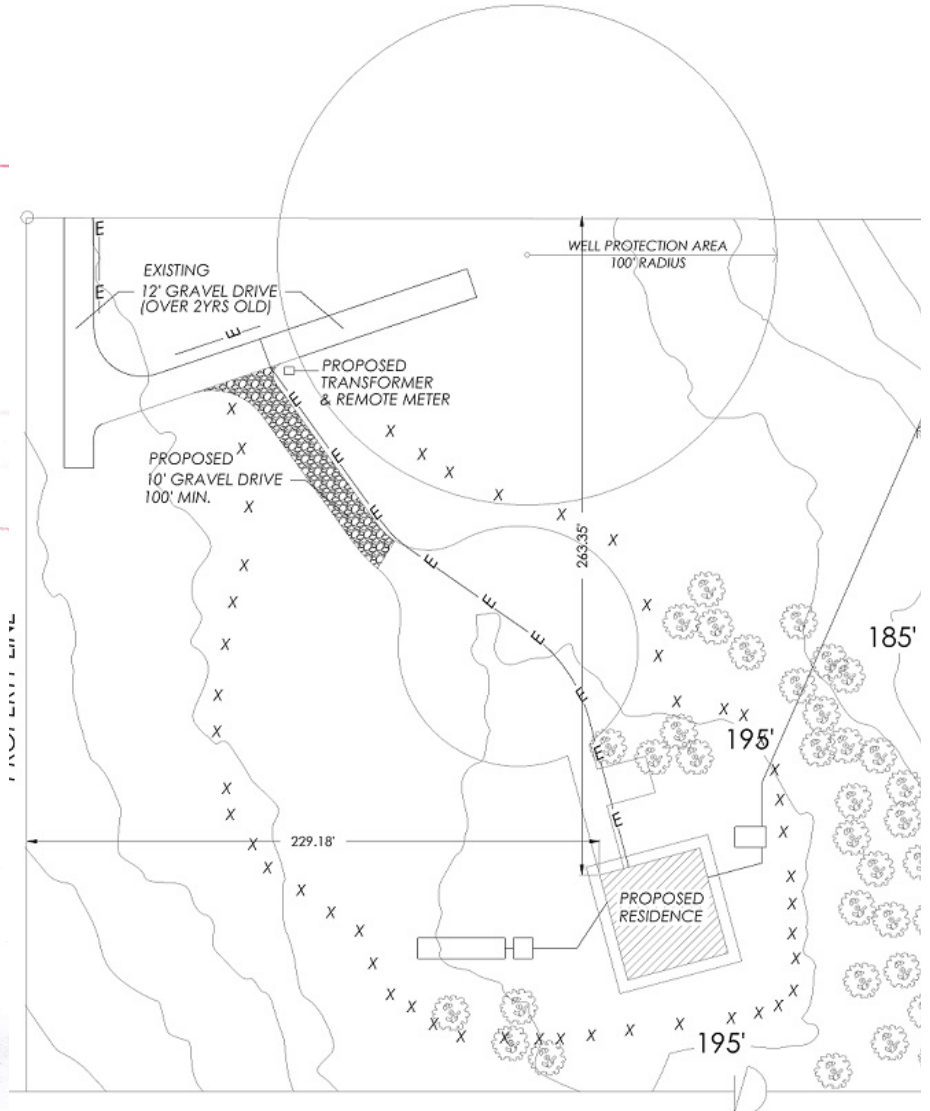
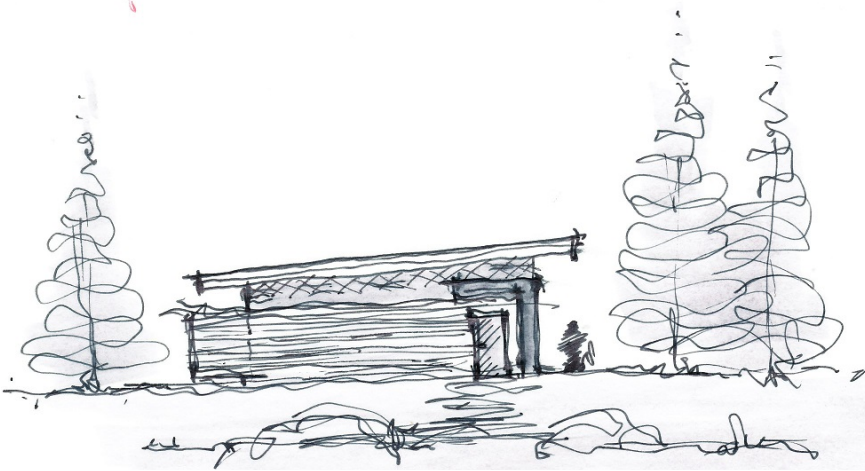
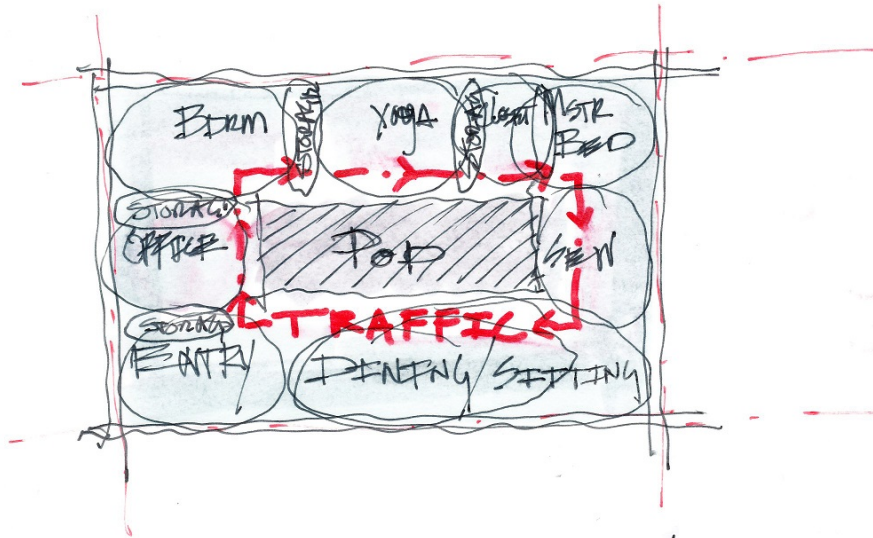


Island Passive House

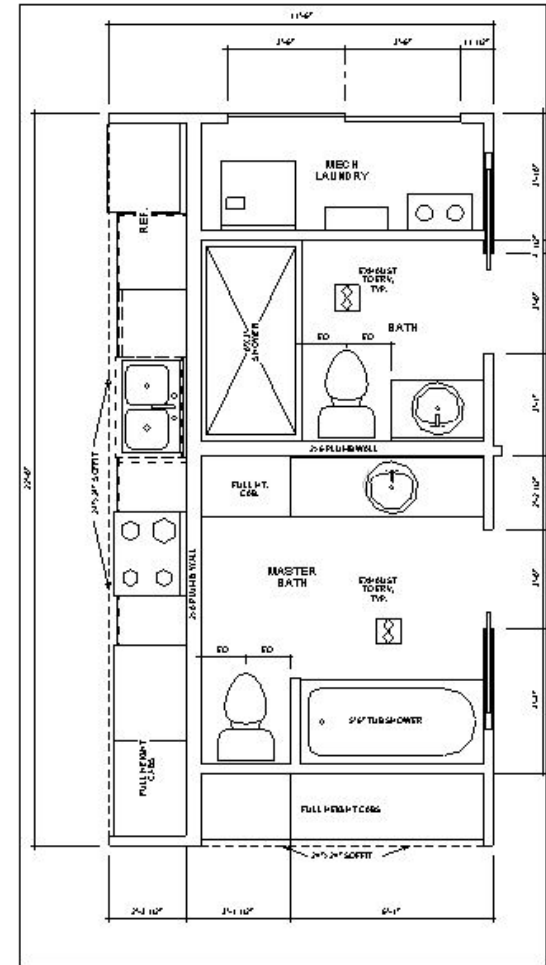
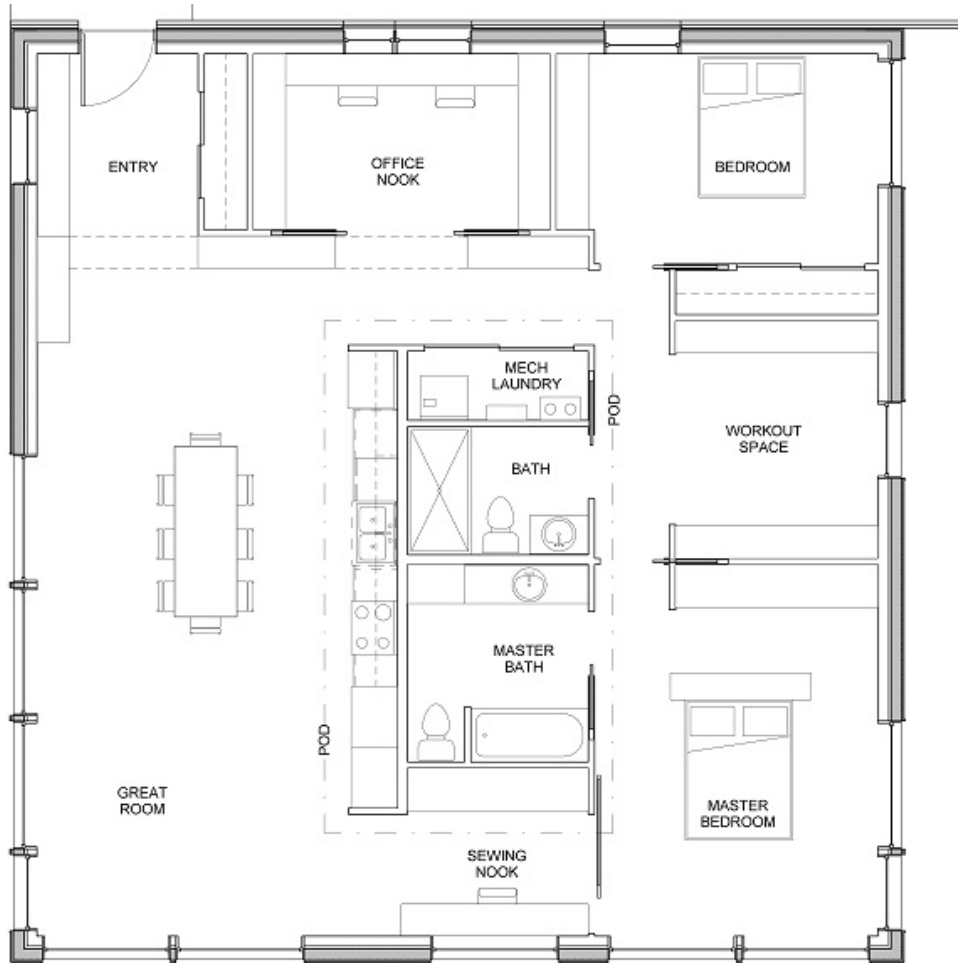
Shaw Island, San Juan Islands, Washington State



Balancing the aesthetics, energy performance, and programmatic needs of a project can be a challenge. Add prefabrication and a remote building site on a small island, and you have a rubiks cube of a Passive House.



1522 TFA, 34% Glazing (40% of walls are glass)



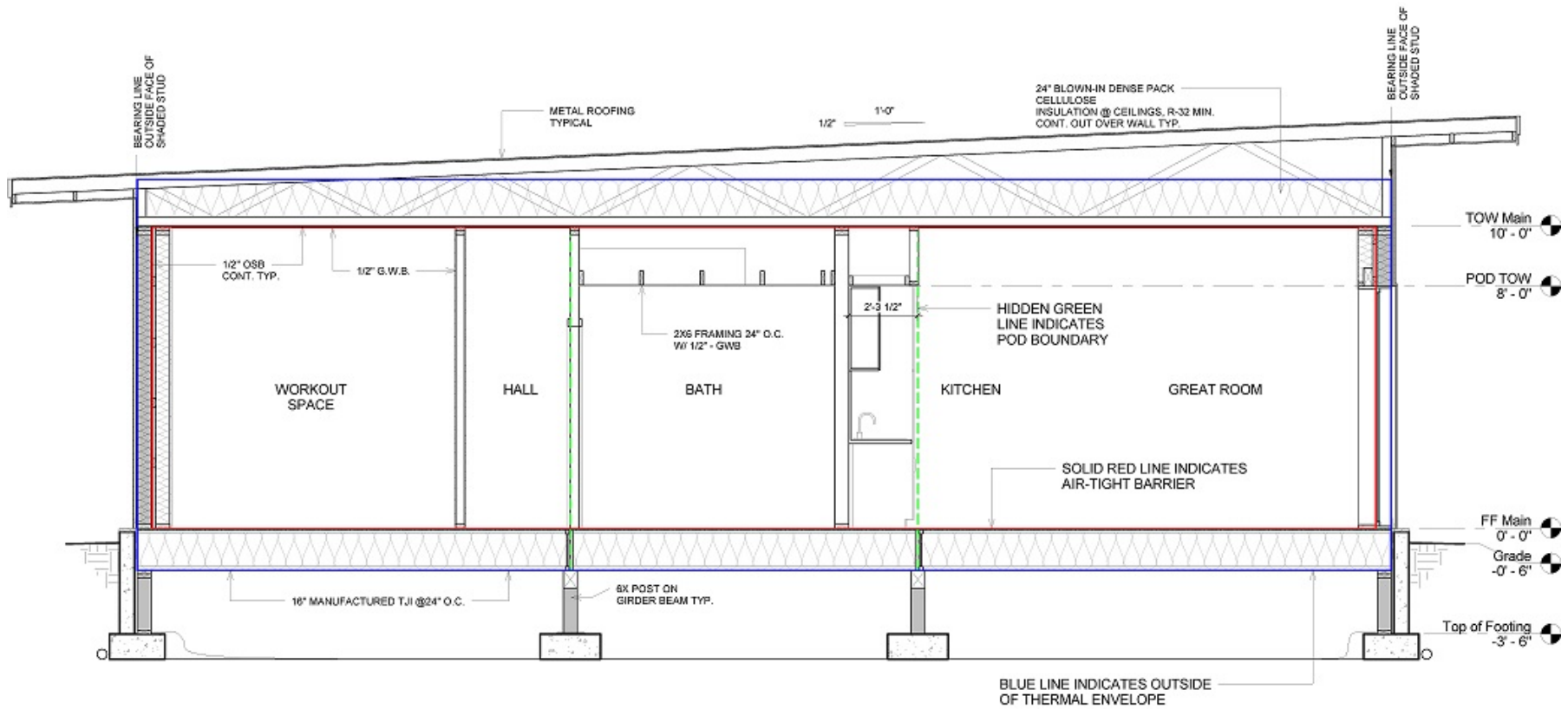
2 PRE-CONSTRUCTED POD FLOOR PLAN
1/2" = 1'-0"

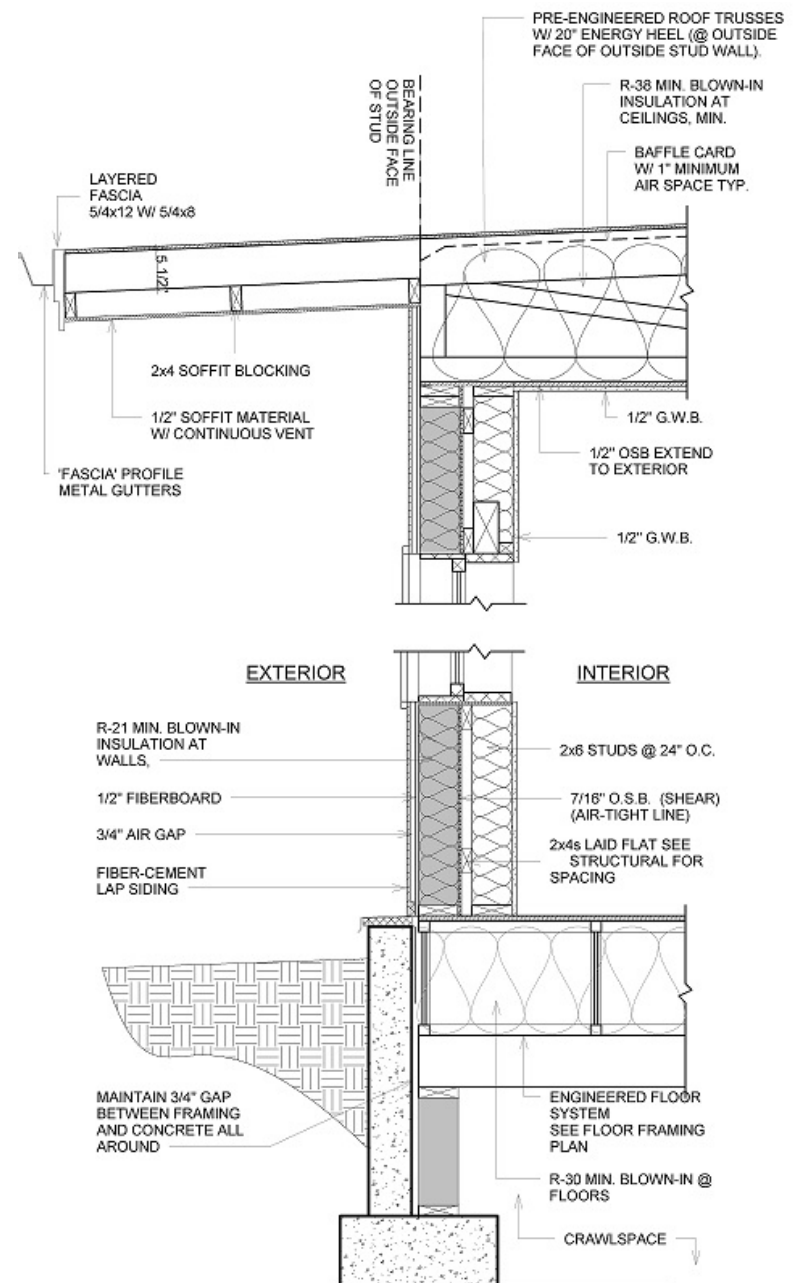
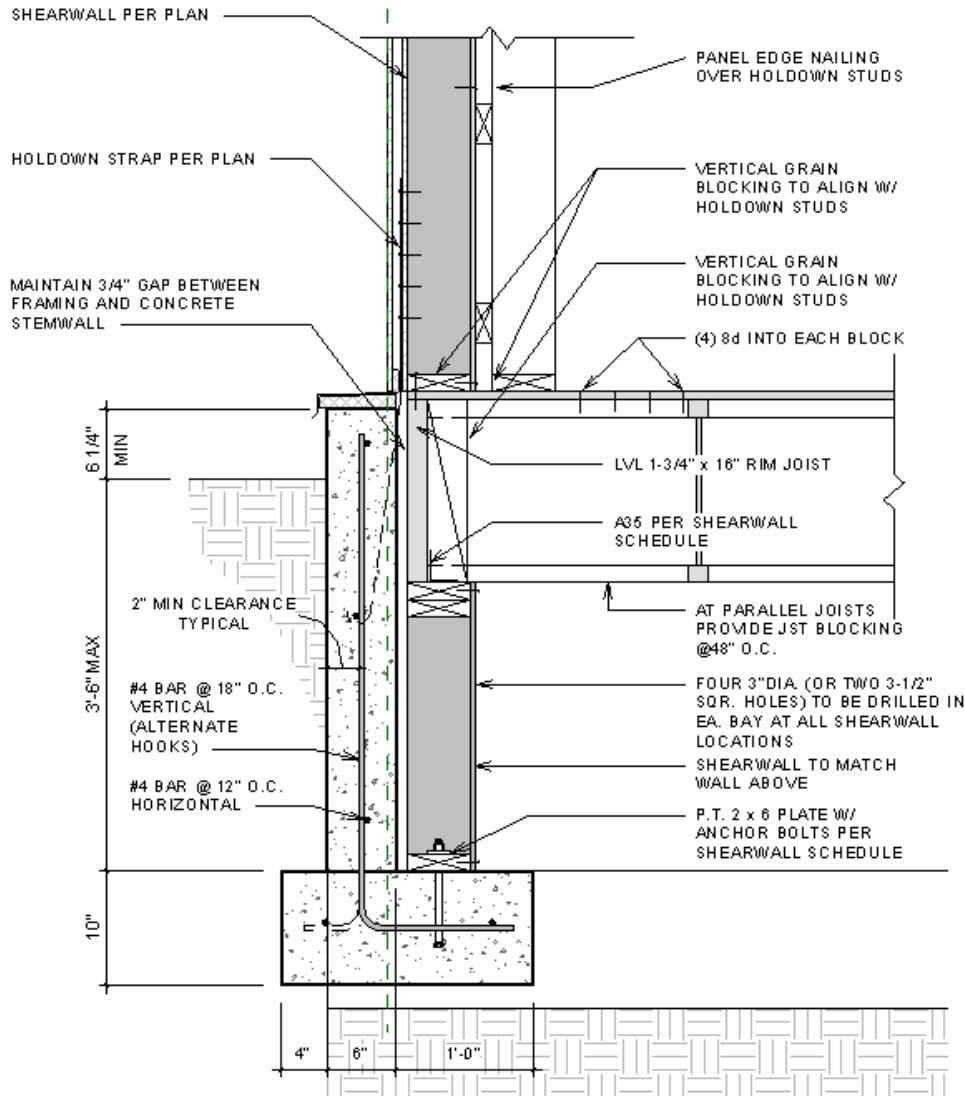


Passive House Specs

(Nerd Stuff)

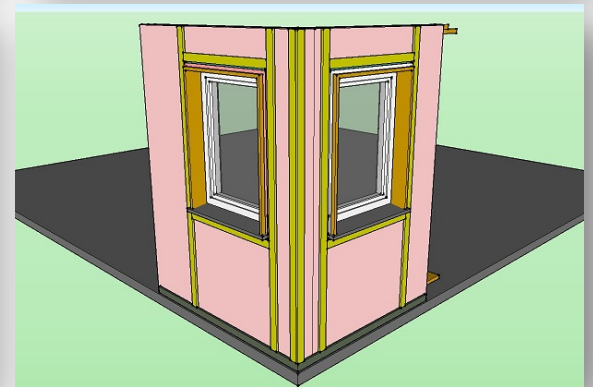
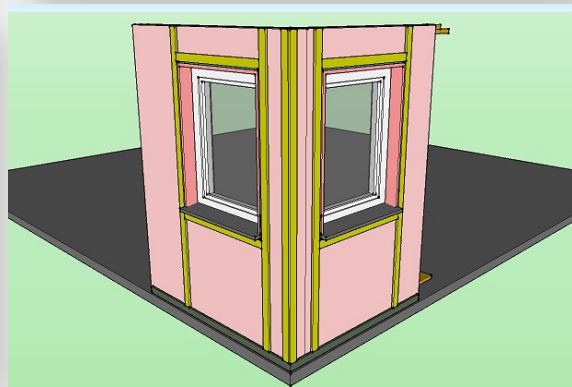
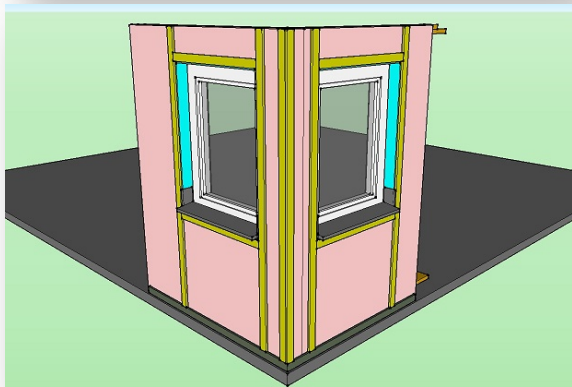
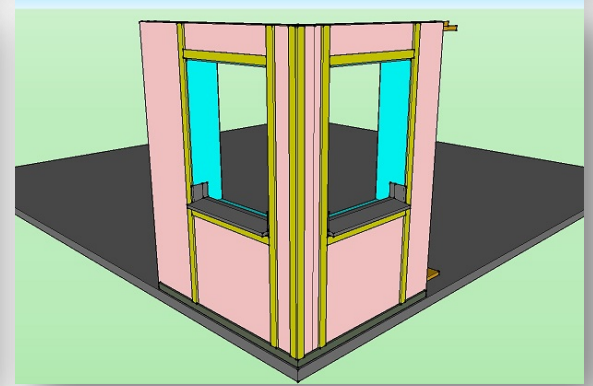
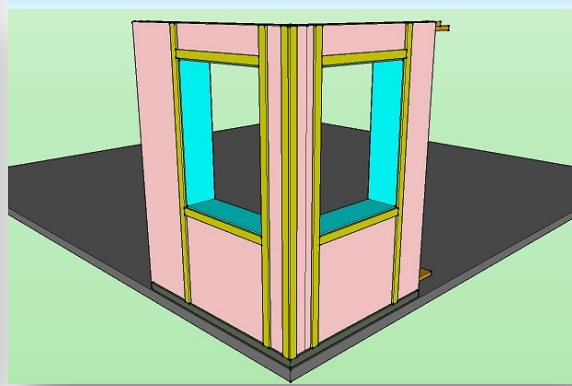
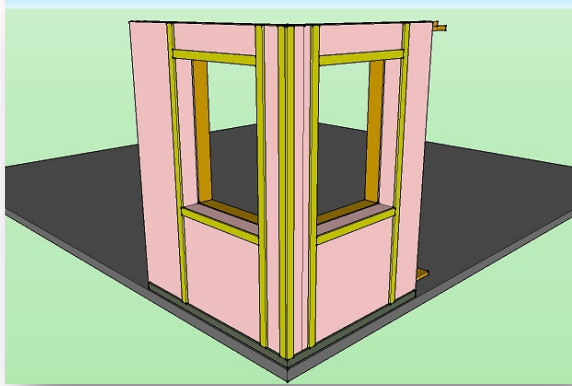
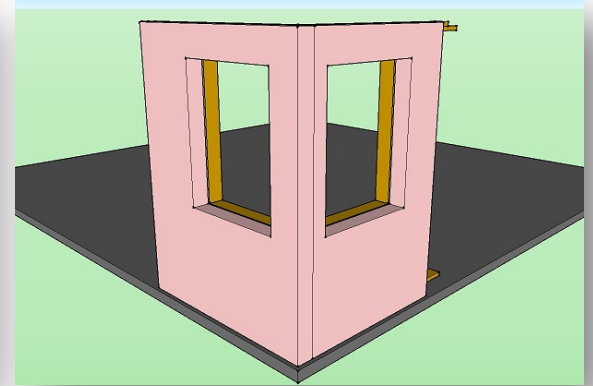
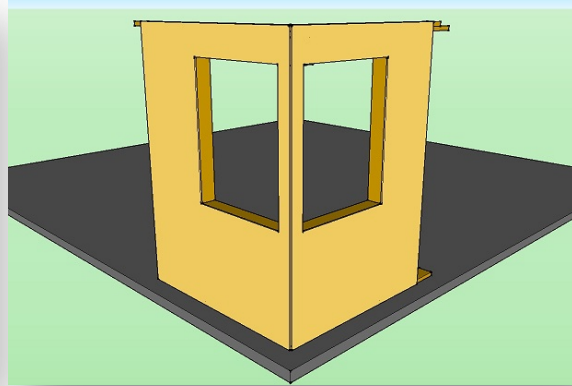
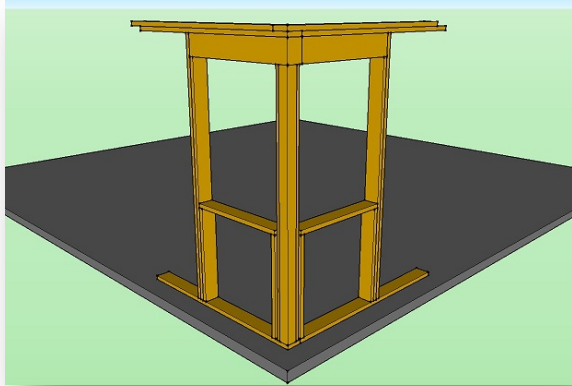
- R-56 floor I-joists
- R-48 dense pack fiberglass insulation, *Structures Direct* “Classic” prefab walls
- R-75 cellulose in trusses
- Zehnder Comfo Air 350 HRV
- Daikin Altherma heat pump (space heat and DHW) w/ Runtal radiators
- Zola windows, 0.15 U-value average (0.13 low and 0.19 high)
- Final Score of 0.55 @ ACH 50
- Approx. 5000 heating degree days



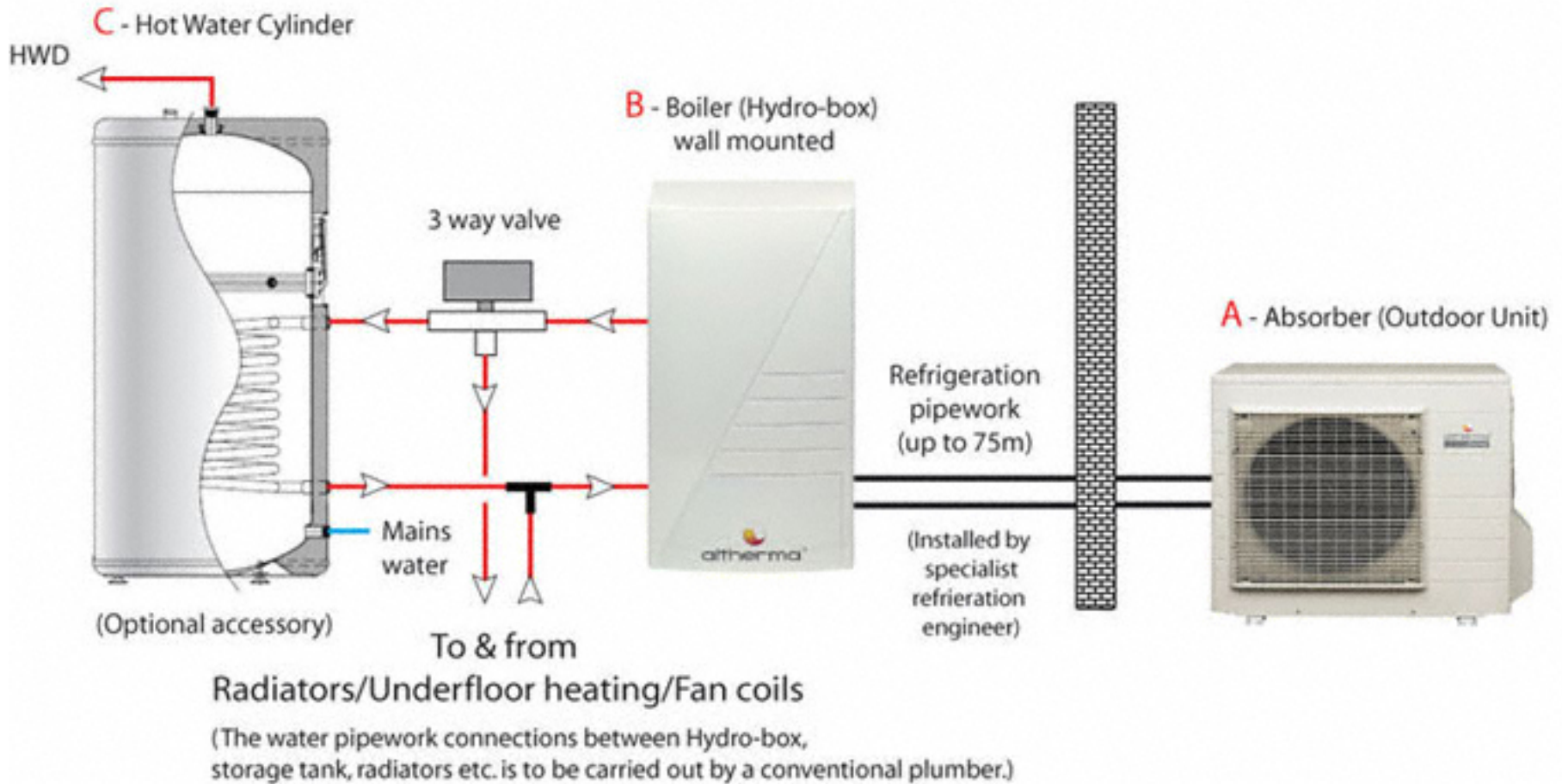


1
S-101 1" = 1'-0"

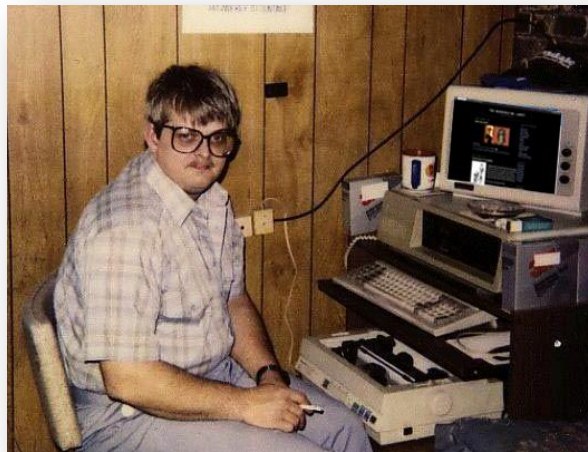
TYPICAL FOUNDATION DETAIL A



Altherma Split System - As Simple as ABC



| Energy Demands with Reference to the Treated Floor Area | | | | | |
|---|-------------|---------------------------------|------|--------------------------------------|------------|
| Treated Floor Area: | 1522 | ft ² | | | |
| | Applied: | Monthly Method | | PH Certificate: | Fulfilled? |
| Specific Space Heat Demand: | 3.61 | kBTU/(ft²·yr) | | 4.75 kBTU/(ft²·yr) | Yes |
| Pressurization Test Result: | 0.60 | ACH₅₀ | | 0.6 ACH ₅₀ | Yes |
| Specific Primary Energy Demand (DHW, Heating, Cooling, Auxiliary and Household Electricity): | 32.8 | kBTU/(ft²·yr) | | 38.0 kBTU/(ft ² ·yr) | Yes |
| Specific Primary Energy Demand (DHW, Heating and Auxiliary Electricity): | 21.7 | kBTU/(ft ² ·yr) | | | |
| Specific Primary Energy Demand Energy Conservation by Solar Electricity: | | kBTU/(ft ² ·yr) | | | |
| Heating Load: | 3.30 | BTU/(ft ² ·hr) | | | |
| Frequency of Overheating: | 0.00 | % | over | 77.0 °F | |
| Specific Useful Cooling Energy Demand: | | kBTU/(ft ² ·yr) | | 4.75 kBTU/(ft ² ·yr) | |
| Cooling Load: | 1.47 | BTU/(ft ² ·hr) | | | |

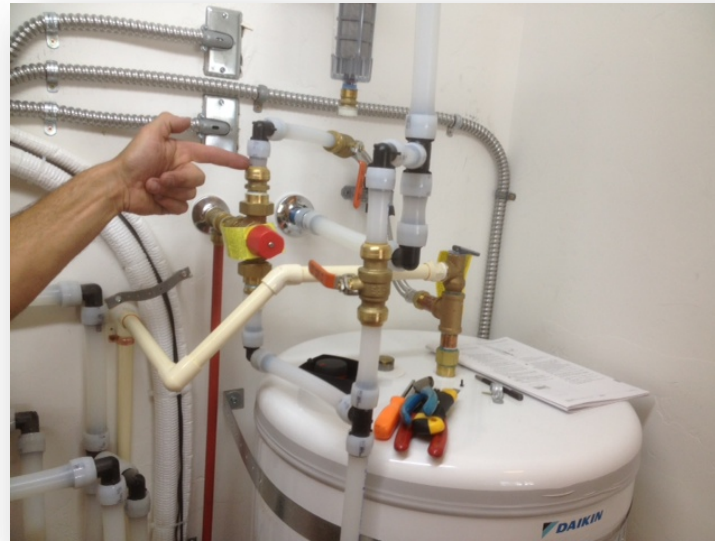












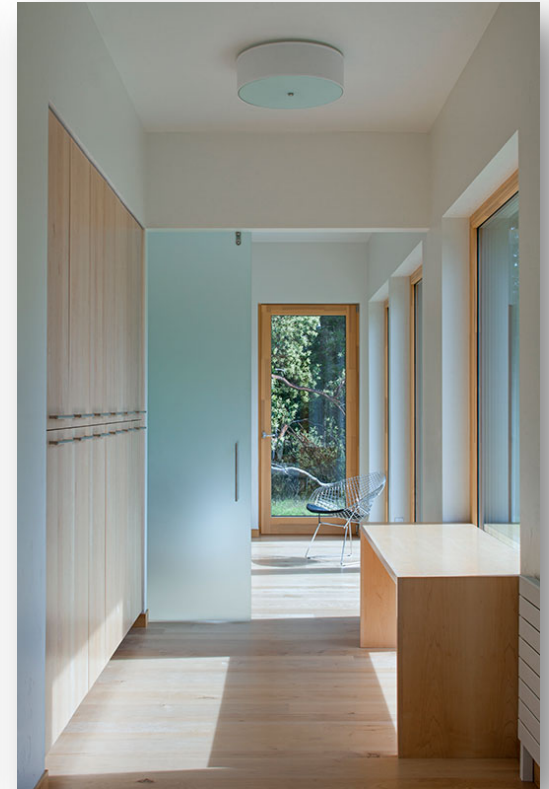
Finished Project

Photos courtesy of Art Gray Photography











Client Quote: "Living in this house is like living in the midst of a classical symphony. Every element of the house relates to every other element, to reinforce the feeling that we wanted in our house. It has both aesthetics and common sense in one package. Each time we come home, the minute we walk through the front door, we know we are in the place we would most like to be in the whole world."





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