

# PH Timber Frame Cottage

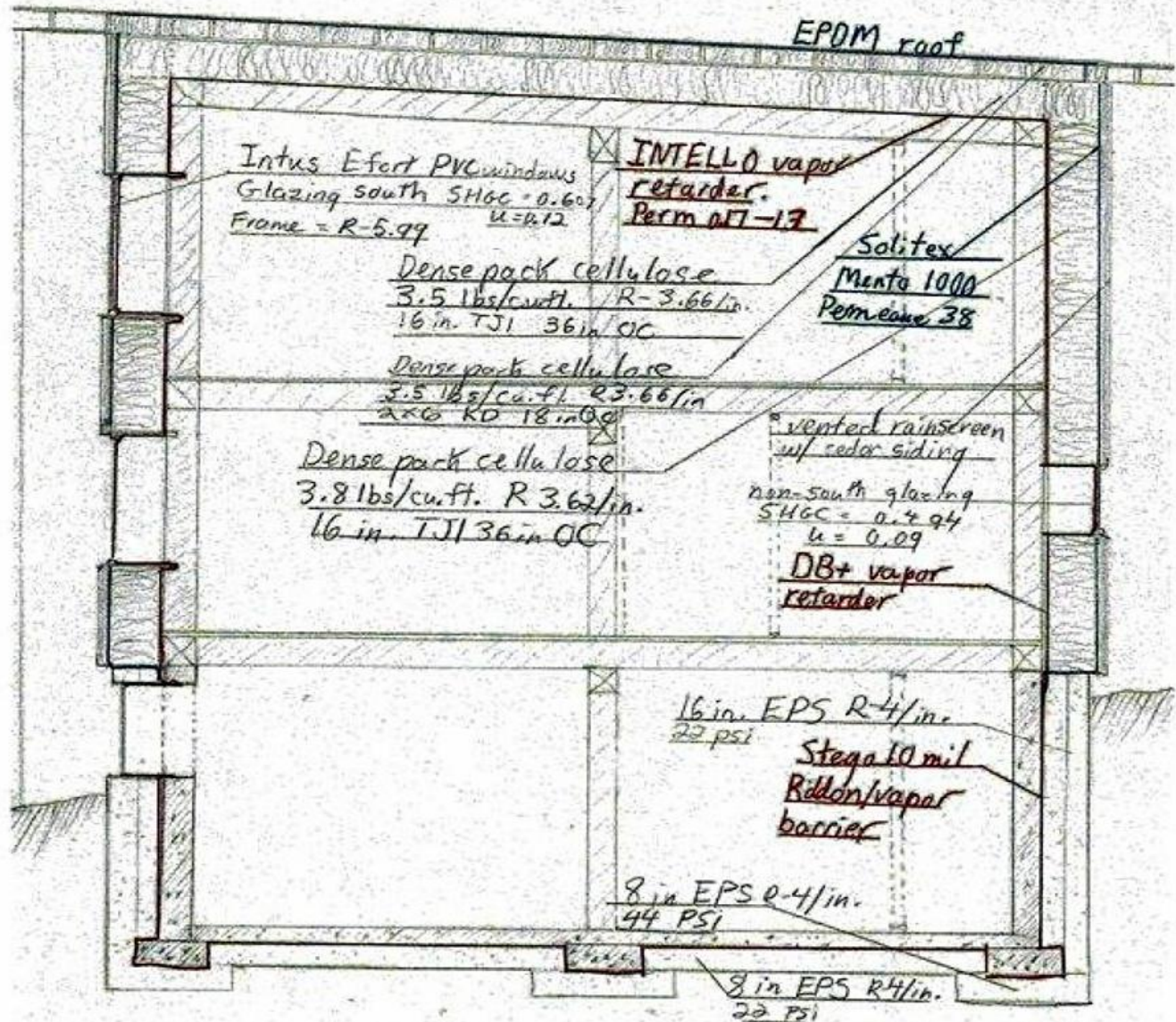
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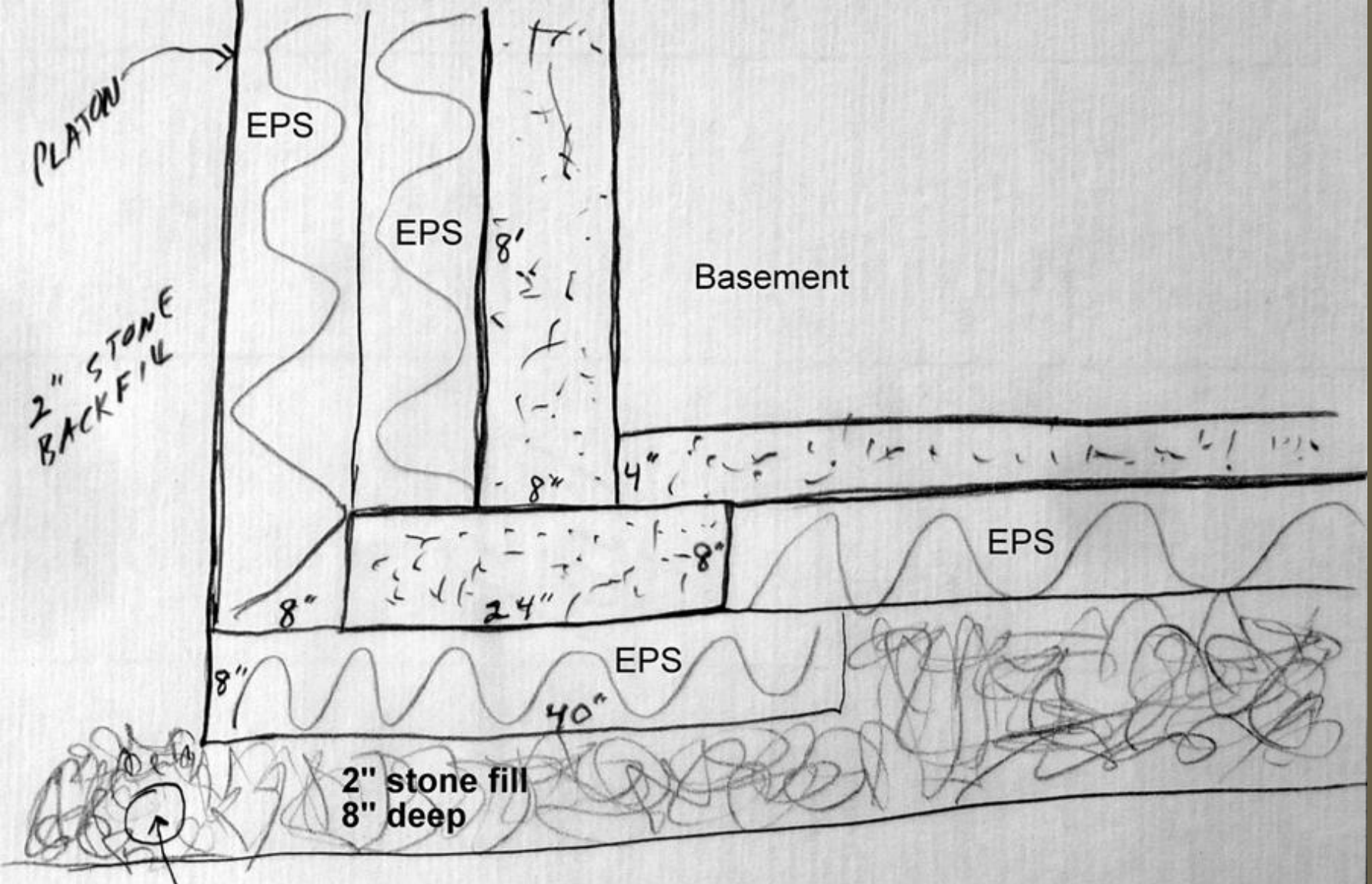
## Cellulose TJI Curtain Wall - 24 x 24 Timber Frame

**“ PH Buildings use 90% less energy than code built Buildings in the USA  
That’s almost 100% !!!! “**

# Thermal Envelope







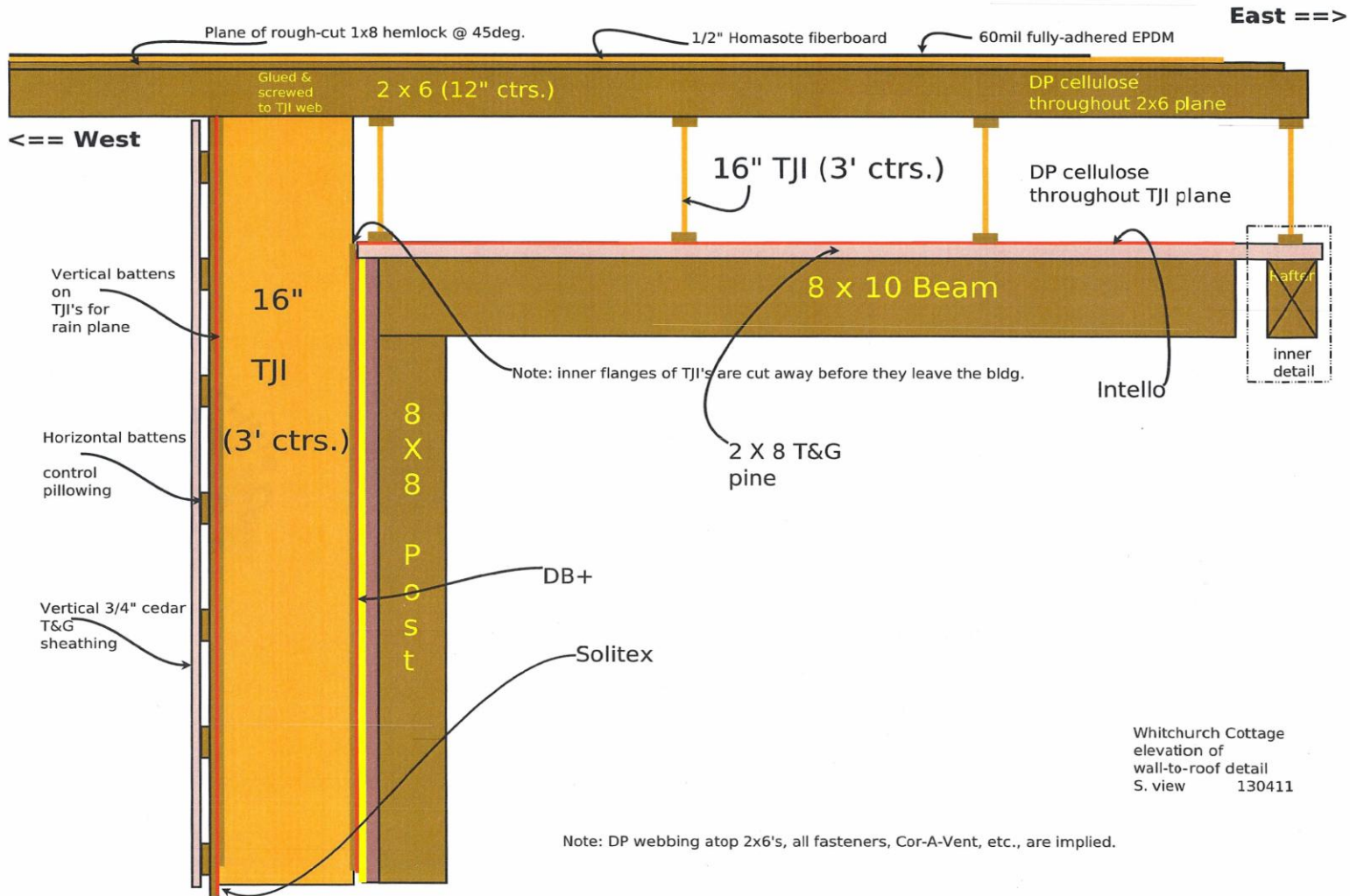
## Our first Foundation sketch

22 psi wall and slab  
44 psi for footings.

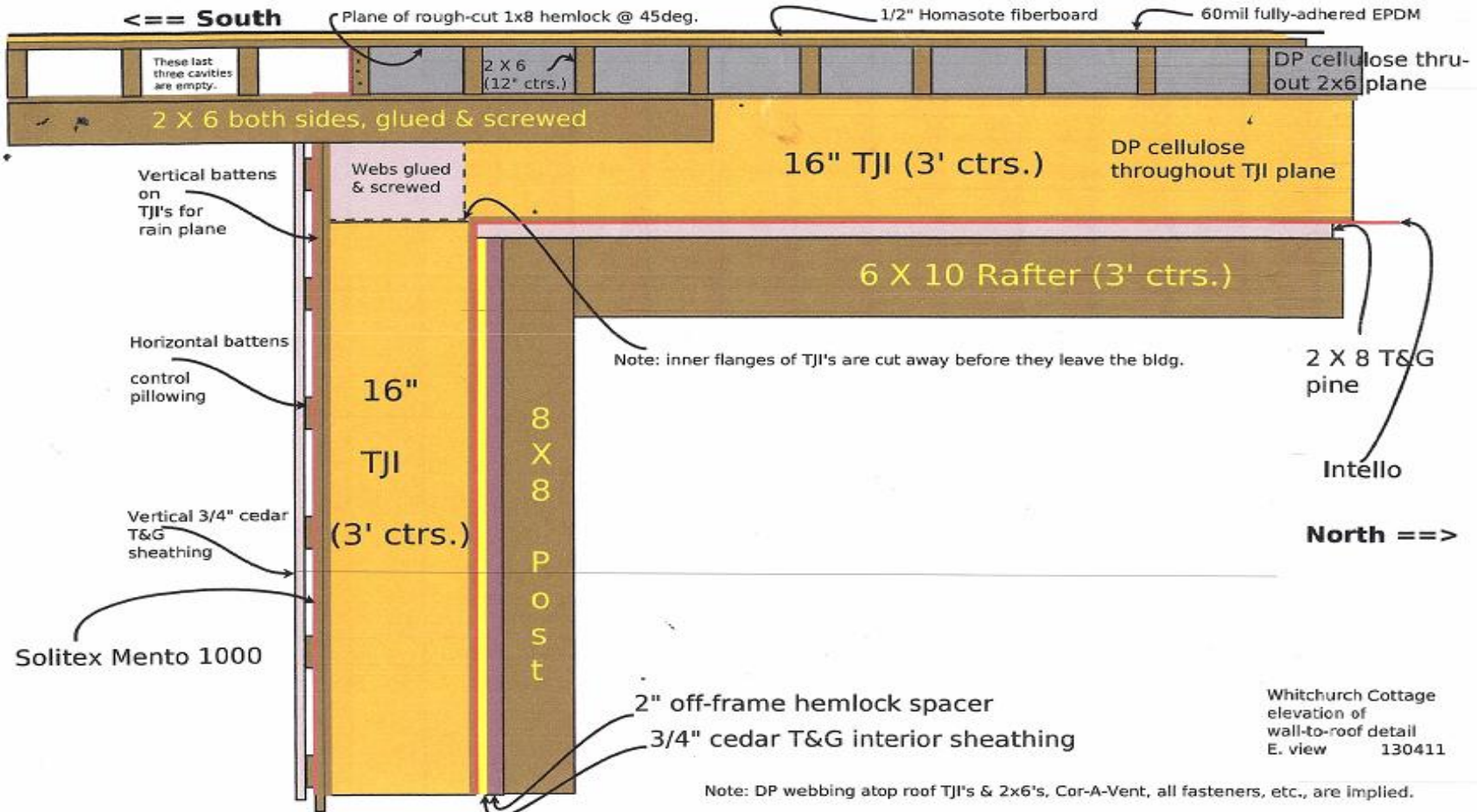




# East-West X-Section

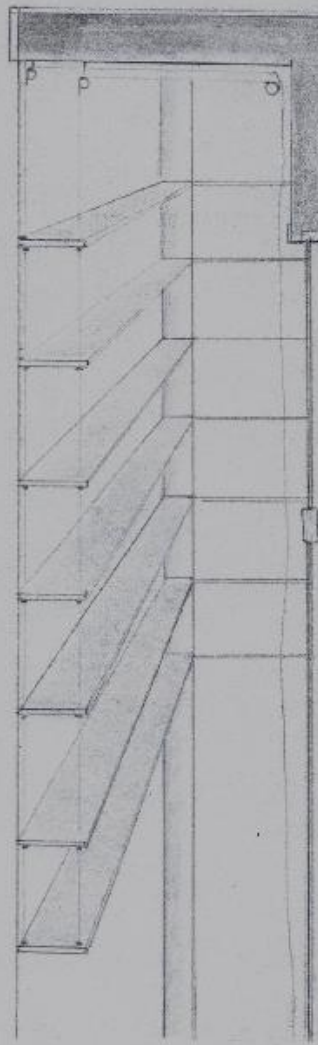


# North - South X-Section





Perspective looking west along south  
facade







# Foundation EPS







## Footer Foam Insulation

8" EPS 44 psi R 4.3/in and concrete R.07/in total R -35.9





## Air Barrier-Vapor/Radon Retarder

10 ml Stego Plastic sheeting .0254 Perms



## **Slab Insulation**

**8" EPS R4/in and concrete R.07/in Total R 34**





**Spray foam the foam !!**



**Footing AB Taping**





## **Slab AB- ATL Complete**

**With reinforced center pad for center post**





## Foundation Wall AB-ATL

Air seal taped to footer ATL and running up to Timber sill plate



## Foundation Wall Foam

R 36





**Foundation Insulation Complete**



# Timber Frame Raising







**Rafter Daisy Chain**



# Interior Paneling





## Wall Paneling

$\frac{3}{4}$  " KD - T&G White Cedar





## Window Buck

$\frac{3}{4}$ " Fir plywood

# Un-Vented 22" DP Cellulose Flat EDPM Roof Assembly R- 77







## **Ceiling Paneling –Joint and Seam sealer**

2 x 8 KD T&G Pine



## Ceiling Air Barrier-Vapor Control Layer

Highly Variable perm 0.17 Perm to 13.20 Perm





## Pressure Activated taping

Done with a "P A D "





## Predrill – Tape Air Seal Gasket

16 " TJI





## Acrylic Air Sealing caulk

A latex made of Natural latex ,Tree resin, casein, talc, cellulose and water with Long term elasticity combined with high strength and resistance to tension



**6" timber locks**

**16" OC**





## **Insul-web netting**

**Separates 2 x 6 upper cavity from TJI cavity below**



## Roof Deck

**KD Pine 5/4 x 10**





**South Eave**

**TJI overhang**



**East Eve**  
**2 x 6 overhang**





## **Pro Clima Solitex Mento 1000 WRB**

**Vapor open 38 perm , water closed over insulation envelope**



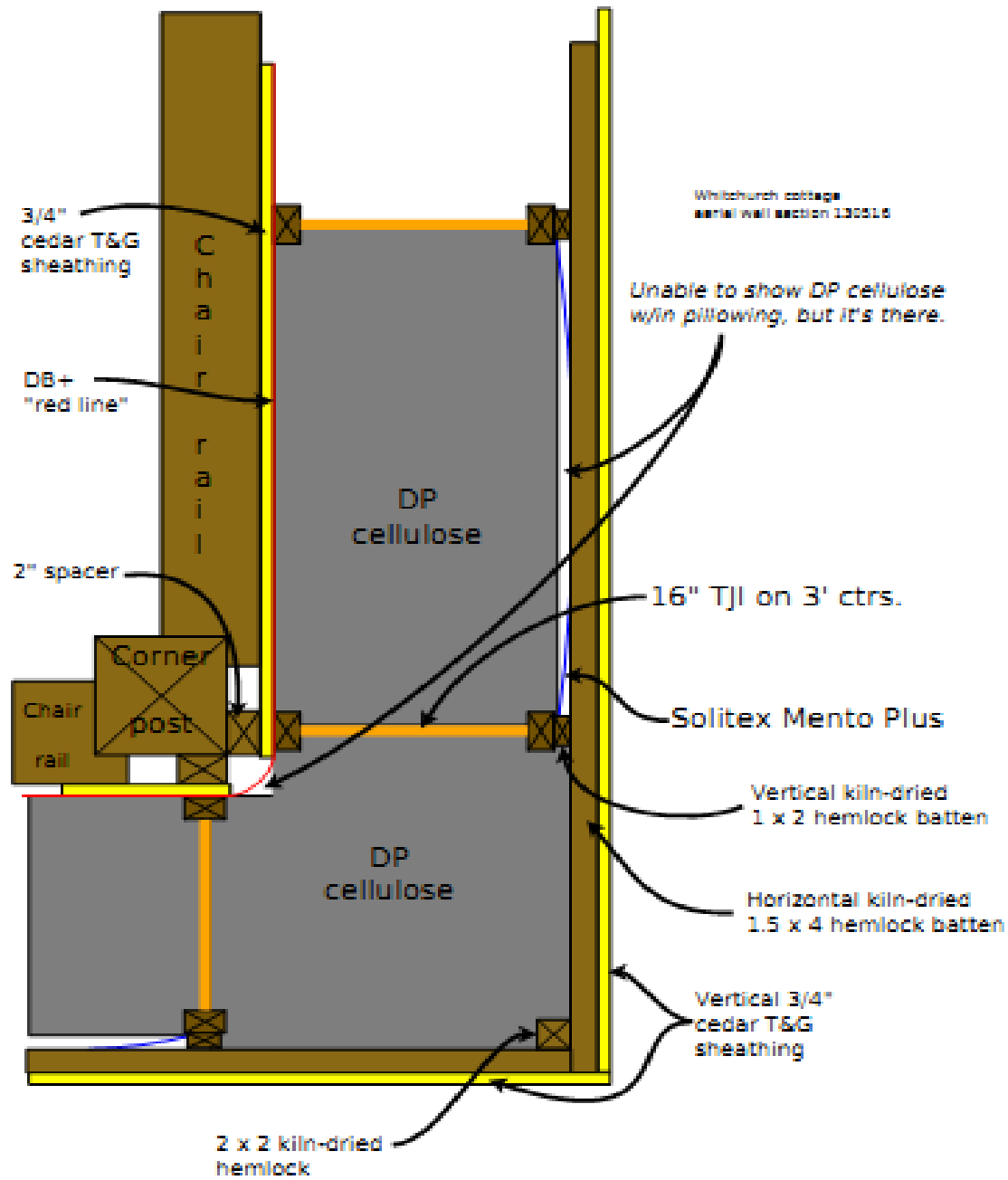
## **Water Management**

**Gravel Stop Drip Edge  
Water Shoot -- NW and NE corners**



# Wall Assembly R-56









## Window Bucks --Liquid Applied WRB

Water Resistant Barrier vapor open , Applied to outer 6" of Window bucks



## Jumping Air Barrier - Foundation to Wall

Pro Clima DA-S to jump air barrier from Stego along Sill plate to outside of wall paneling. 1.4 perm and flexible





**Completed connection**

**Foundation AB to Wall AB**



## Wall Air Barrier -Pro Clima DB+

Variable perm .8 perm to 5.5 perm , ATL Air Barrier and Vapor Control Layer  
VCL





**Working up the east wall**



**AB Air seal taped to window bucks**





**Treated Window Buck**



**Completed AB**





## First course of the WRB

Pro Clima Solitex Mento Plus is reinforced for DP Cellulose installs





## **Bottom attachment for each Wall TJI**

**Fastened to Timber sill plate through pre-drilled and air sealed block**





## Wall TJI Attachment

7" Head Locks --



**TJIs are 2 ft OC under window curtain wall assembly**





**TJI Completed**









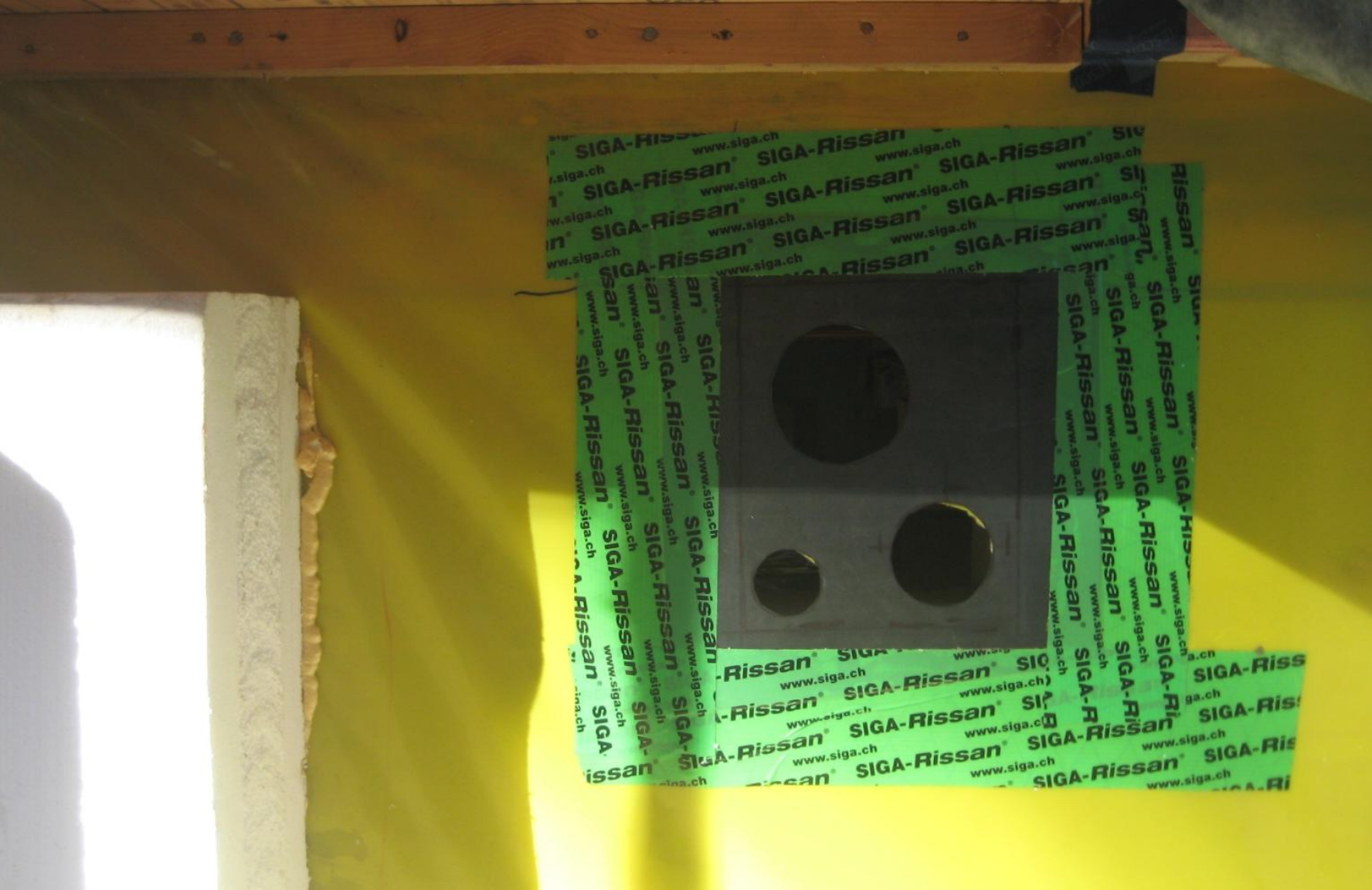
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# Duct and Utility Penetration Assemblies





EDPM custom roofing Gasket





**Gasket taping**



**EPS Foundation Insulation**





**CERV Supply and Exhaust Penetrations**



## **CERV Ducting 6" Schedule 35**

**Actual ducting not a chase.**



# Insulated Utility Chase and The Bridge/Skywalk





## Utility Chase - Super Insulated-Air tight

R 48 Top and Bottom and Sides





## **Completed Bridge / Skywalk**

**Exterior siding this spring !!**



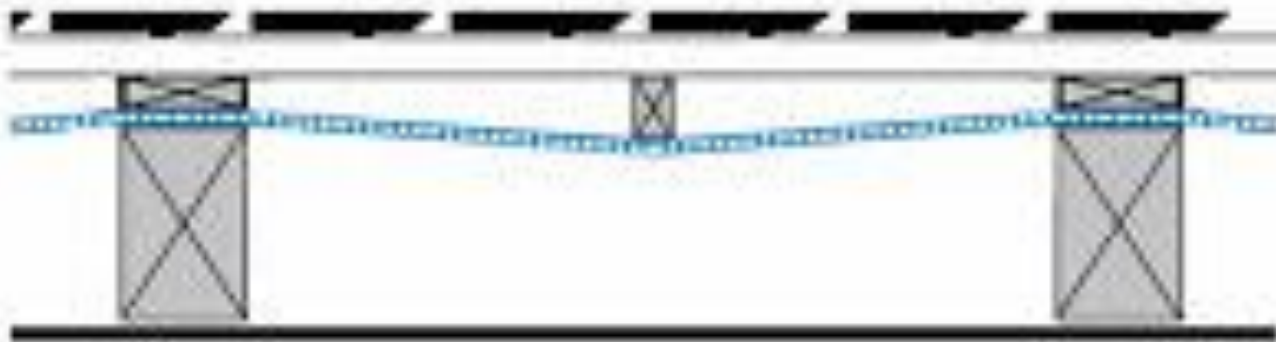


**Bridge view into Cottage**



# WRB / Vented Rain Plane





## Fly Batten detail

Holds back pillowing across a 3 ft wide cavity.





**Fly Battens and wall rain plane vent**



**Foundation Flashing**



# Pre DP Cellulose & Window Air Leakage Test





**Window Plastic under depressurization**





**2<sup>nd</sup> Floor**



## Blower Door -Air Leakage Test

.123 ACH50= 26 cfm@50 x 60

Volume 12,716 cuft



Cellulose DP - 460 bales

3.8 lbs/cuft.=5.75tons 8 day install





## **Cellulose DP 8 Day install**

**3.8 lbs /cu ft**

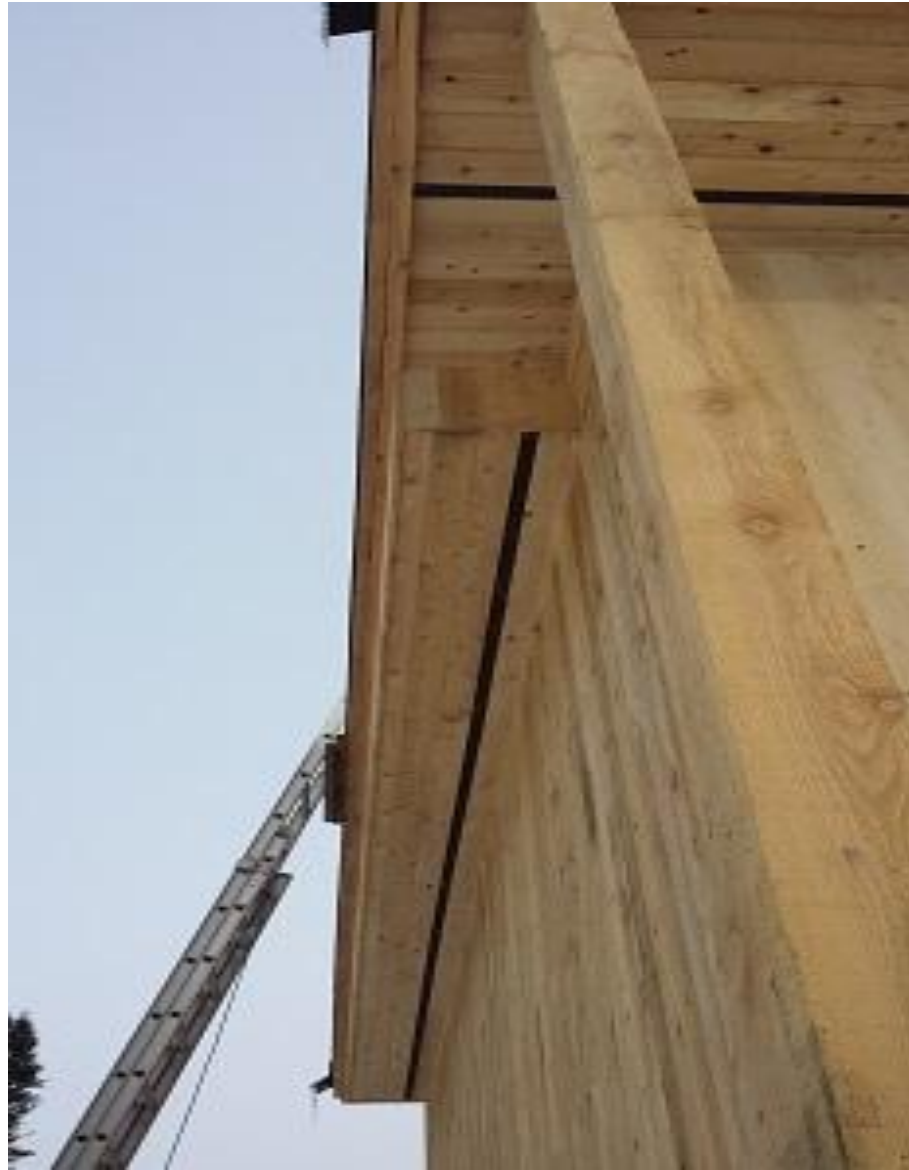
**We had a lot of time to think**



# Siding - Soffit/Wall Venting - Posts



# Soffit/Wall Venting





# Intus PH Window Delivery





## Window Curtain Wall Assembly

West 7 x 13 with outside corner mullion, SHGC .62 and U .11

South 14 x 13 joined to the South East, SHGC .62 and U .11

Smaller North & East Units

SHGC .49 and U .09





**Portland Glass Intus 7 x 10 Delivery**



**Handheld Vacuum Cups**





## **Metal Bracket Install**

# WRB Tape Exterior





# Air seal Tape Interior





**DP Cellulose Thermal Envelope Sensors and Moisture  
Meter Extensions  
3 ft x 16" roof cavity**



# North Wall



# Center Roof





# Center Roof Sensor Location



