

HUDDLE TOGETHER FOR WARMTH



HISTORY
&
DESIGN

BAYSIDE PROJECT INFO

PORTLAND, ME

45 UNITS: STUDIO, 1 BR & 2 BR

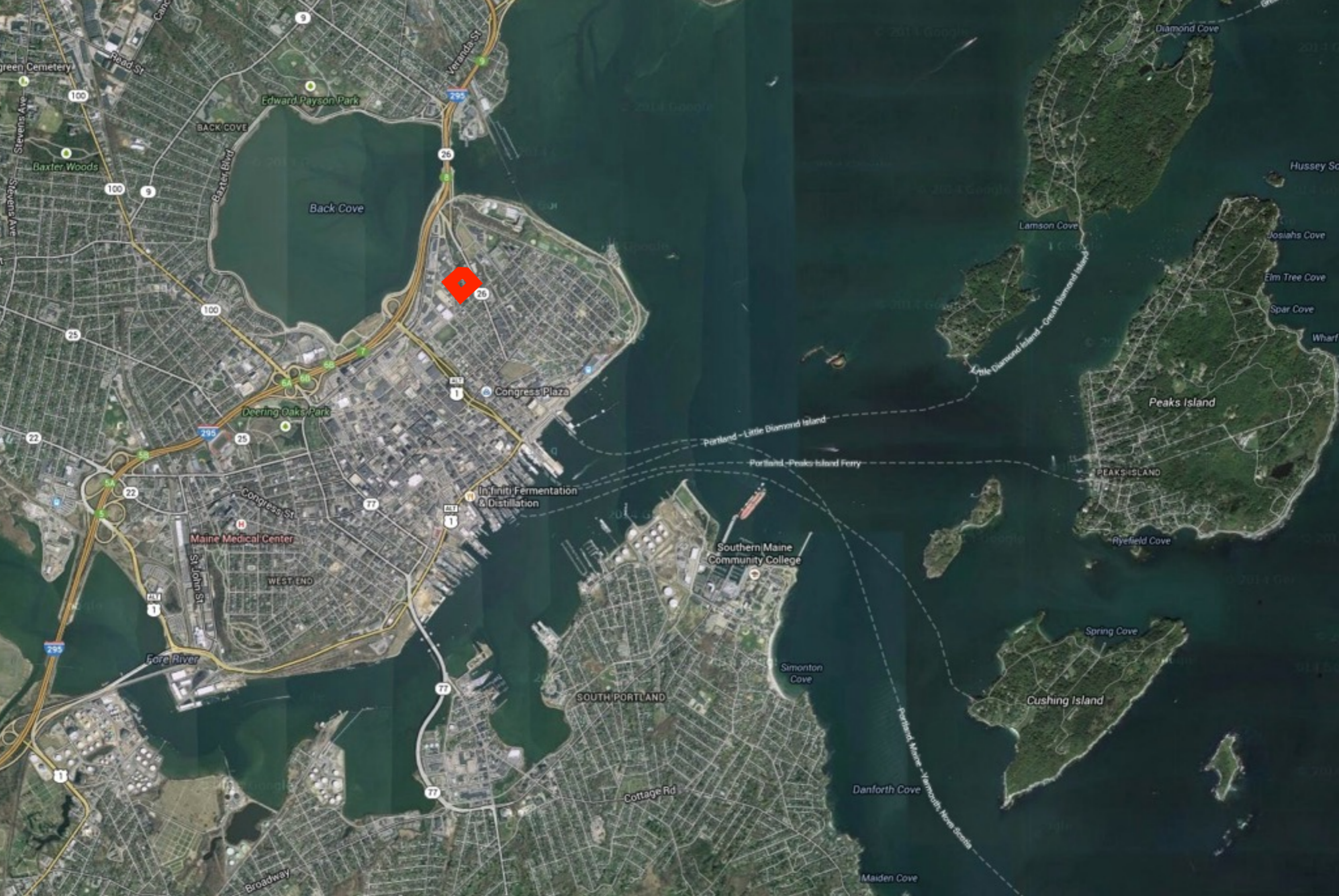
\$145 / SF

4 STORIES

TAX CREDIT SUBSIDIZED RENTAL

PORTLAND CLIMATE

HDD	7,300
DESIGN TEMP	4° F
JANUARY AV TEMP	20° F
JANUARY SOUTH RAD	35 kBTU
JULY AV TEMP	70° F



PORTLAND, MAINE



NEIGHBORHOOD VIEW







LOWERING THE COST OF HOUSING COMPETITION

buying real viagra without prescription

HOME

WINNING ENTRY: BAYSIDE ANCHOR

RUNNER UP: ACCDC TEAM

ABOUT THE COMPETITION



BAYSIDE ANCHOR

Team: Portland Housing Development Corporation

Avesta Housing

Wright-Ryan Construction

Kaplan Thompson Architects

Maine Affordable Housing Coalition

Location: Portland, Maine.

Total Built Area: 38,272 SQF.

2013



The **Deutsche Bank Americas Foundation** and **Enterprise Community Partners, Inc.** (Enterprise) have announced the winning proposals of the **Lowering the Cost of Housing Competition**, an effort to support and highlight new approaches to achieving high-quality, lower-cost affordable housing for diverse populations. The Bayside Anchor development program, of Portland, Maine, captured the top prize while the ACDDC team of Austin, Texas, was awarded a prize to further research its proposal.

Bayside Anchor has been awarded \$250,000 in program-related investment (PRI) for its prefab, 42-unit multifamily housing proposal. The judges were impressed by the design innovation and multitude of lowering cost approaches that will be deployed, as well as its potential replicability by other affordable housing developers. The Bayside Anchor has been designed to *Passivhaus* (ultra-low energy) standards and will include energy efficient measures such as solar photovoltaic panels on the roof and a courtyard for storm water management. These features, as well as ground floor community development space, will benefit low-income residents earning at or below 60 percent area median income (AMI).

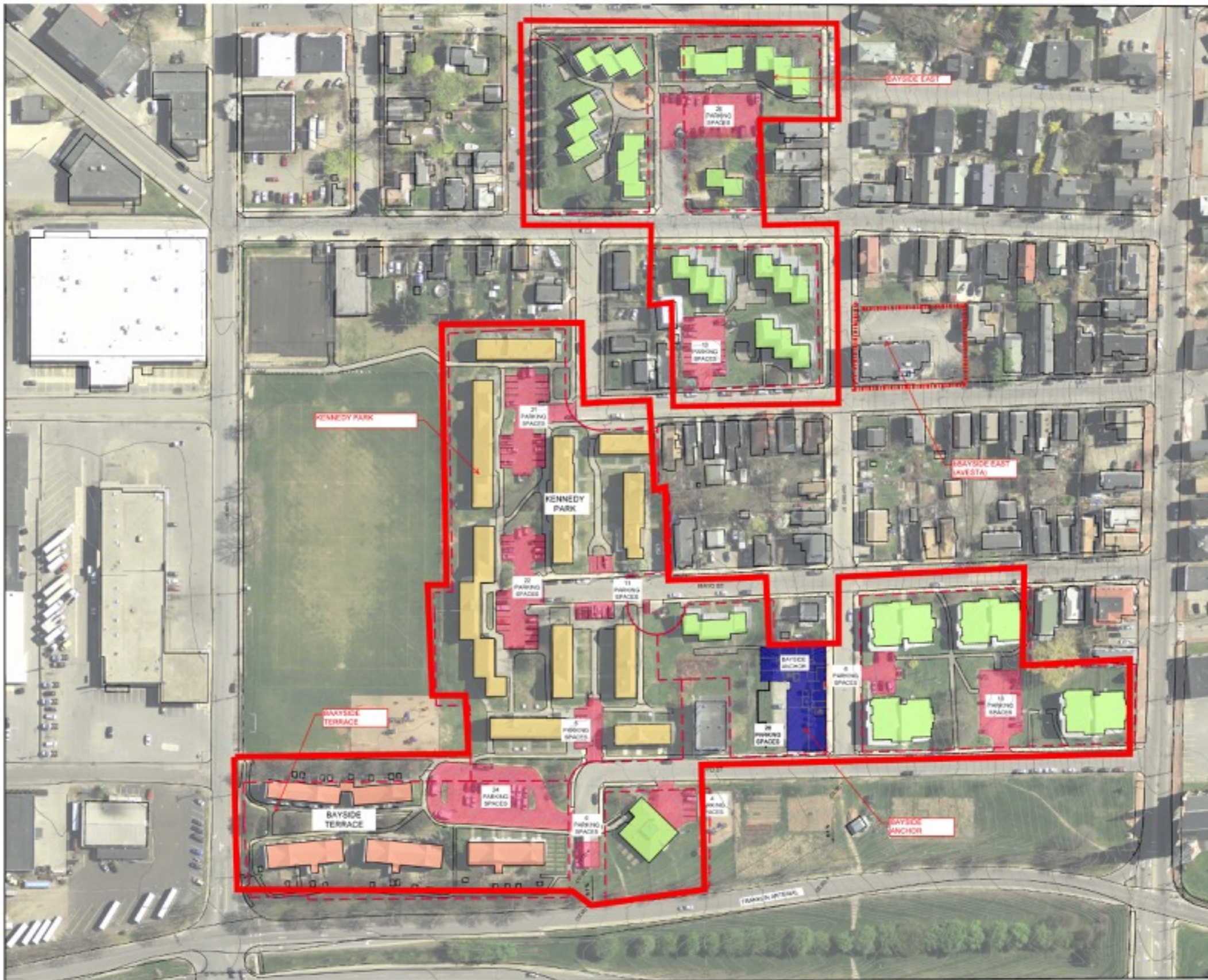
Bayside Anchor sponsor, Portland Housing Development Corporation (PHDC), was also awarded a \$25,000 prize to support work that will create a lifecycle underwriting tool that will enable developers, policy makers and financiers to better understand the implications of choices made during the development process. The Bayside team is comprised of Avesta Housing, Wright-Ryan Construction, Kaplan Thompson Architects, Maine Affordable Housing Coalition and PHDC, an affiliate of the Portland Housing Authority.

BAYSIDE ANCHOR





SITE PLAN



LEGEND

	EXISTING PARKING
	KENNEDY PARK
	BAYSIDE TERRACE
	BAYSIDE EAST
	BAYSIDE ANCHOR
	PHA LAND HOLDINGS

PARKING COUNT	EX. DU	PROP. DU	EXISTING PARKING	PROPOSED PARKING
KENNEDY PARK	45	45	50	60
BAYSIDE TERRACE	24	24	30	30
BAYSIDE EAST	86	86	67	67
BAYSIDE E. OVERFLOW	/	/	26	0
BAYSIDE ANCHOR	0	46	0	0

TOTAL	155	201	183	157
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Cars / Units			1.18	0.78
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* Does not include on street parking



BAYSIDE ANCHOR

PHA PARKING COUNT

OSFORD STREET, PORTLAND MAINE

DATE: JANUARY 10, 2014 BY: CARROLL ASSOCIATES



CAMPUS PARKING PLAN

UNIT MIX: GROUND FLOOR

Zone Category	Quantity
1 BR	4
EFFICIENCY	2
	6

UNIT MIX: TOTAL

Zone Category	Quantity
1 BR	34
2 BR	6
EFFICIENCY	5
	45

UNIT MIX: TOTAL BUILDING

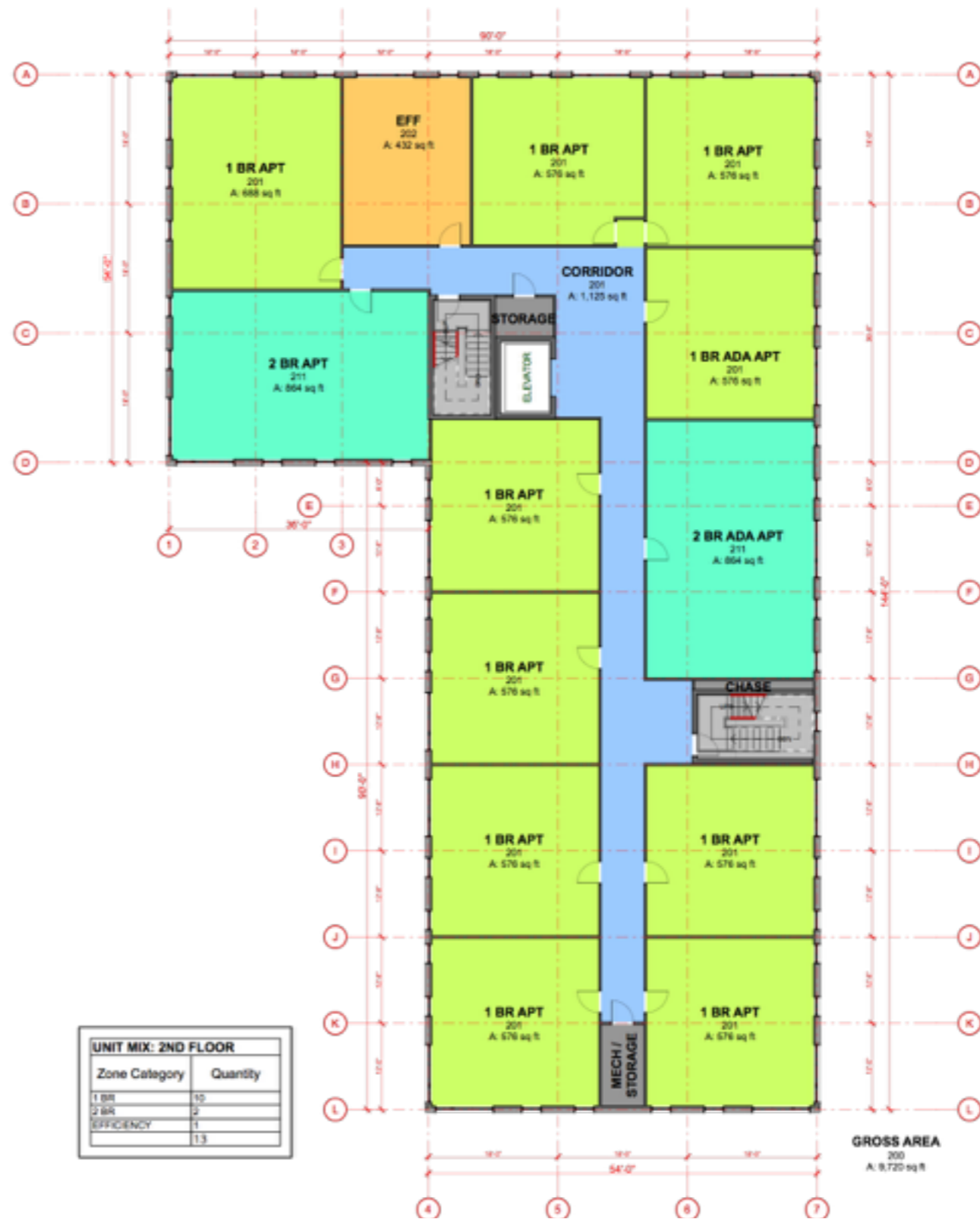
Floor (Story)	Zone Category	Quantity
1st FLOOR	1 BR	4
1st FLOOR	EFFICIENCY	2
2nd FLOOR	1 BR	10
2nd FLOOR	2 BR	2
2nd FLOOR	EFFICIENCY	1
3rd FLOOR	1 BR	10
3rd FLOOR	2 BR	2
3rd FLOOR	EFFICIENCY	1
4th FLOOR	1 BR	10
4th FLOOR	2 BR	2
4th FLOOR	EFFICIENCY	1
		45

GROUND FLOOR PROGRAM

ID	Zone Name	Area	Zone Category
100	GROSS AREA	9,902	GROSS AREA
101	LOBBY	778	CIRCULATION
102	COMMUNITY ROOM	413	COMMUNITY SERVICE FACILITY
103	OFFICE	69	COMMUNITY SERVICE FACILITY
104	LAUNDRY	205	UTILITY
105	TRASH	245	UTILITY
107	MAINT.	49	UTILITY
107	MECH	95	UTILITY
108	BIKE STOR.	280	UTILITY
109	ADA	58	UTILITY
109	ADA	58	UTILITY
111	EFFICIENCY	432	EFFICIENCY
111	EFFICIENCY ADA	432	EFFICIENCY
112	1 BR APT	540	1 BR
112	1 BR APT	576	1 BR
112	1 BR APT	576	1 BR
112	1 BR APT	576	1 BR
121	HEAD START	1,244	COMMUNITY SERVICE FACILITY
122	PHA NEIGHBORHOOD SERVICE HUB	1,244	COMMUNITY SERVICE FACILITY
123	COMMUNITY POLICE	260	COMMUNITY SERVICE FACILITY



GROUND FLOOR PLAN



UNIT MIX: 2ND FLOOR	
Zone Category	Quantity
1 BR	10
2 BR	2
EFFICIENCY	1
TOTAL	13

GROSS AREA
200
A: 9,720 sq ft

TYPICAL UPPER PLAN

4 STORIES

TYPE VA

1 HOUR UNIT TO UNIT

2 HOUR STAIRS

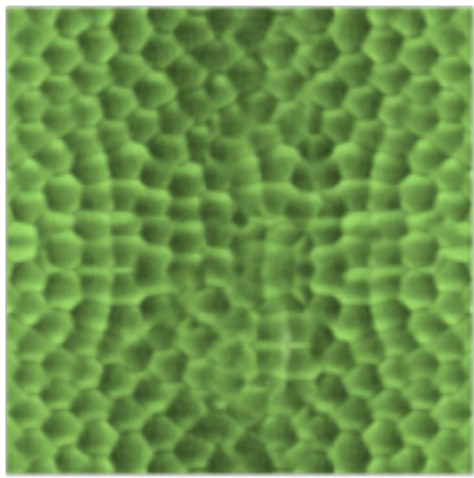




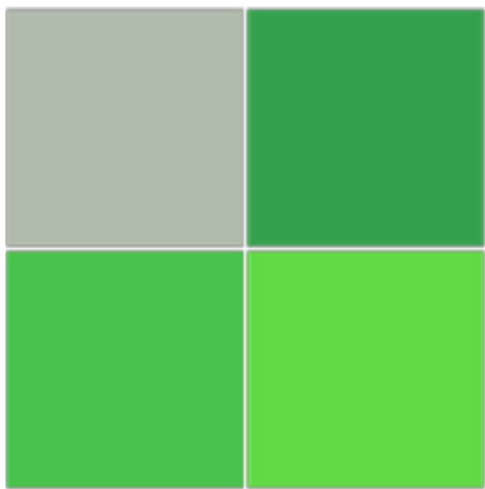
DESIGN THEMES



DESIGN THEMES



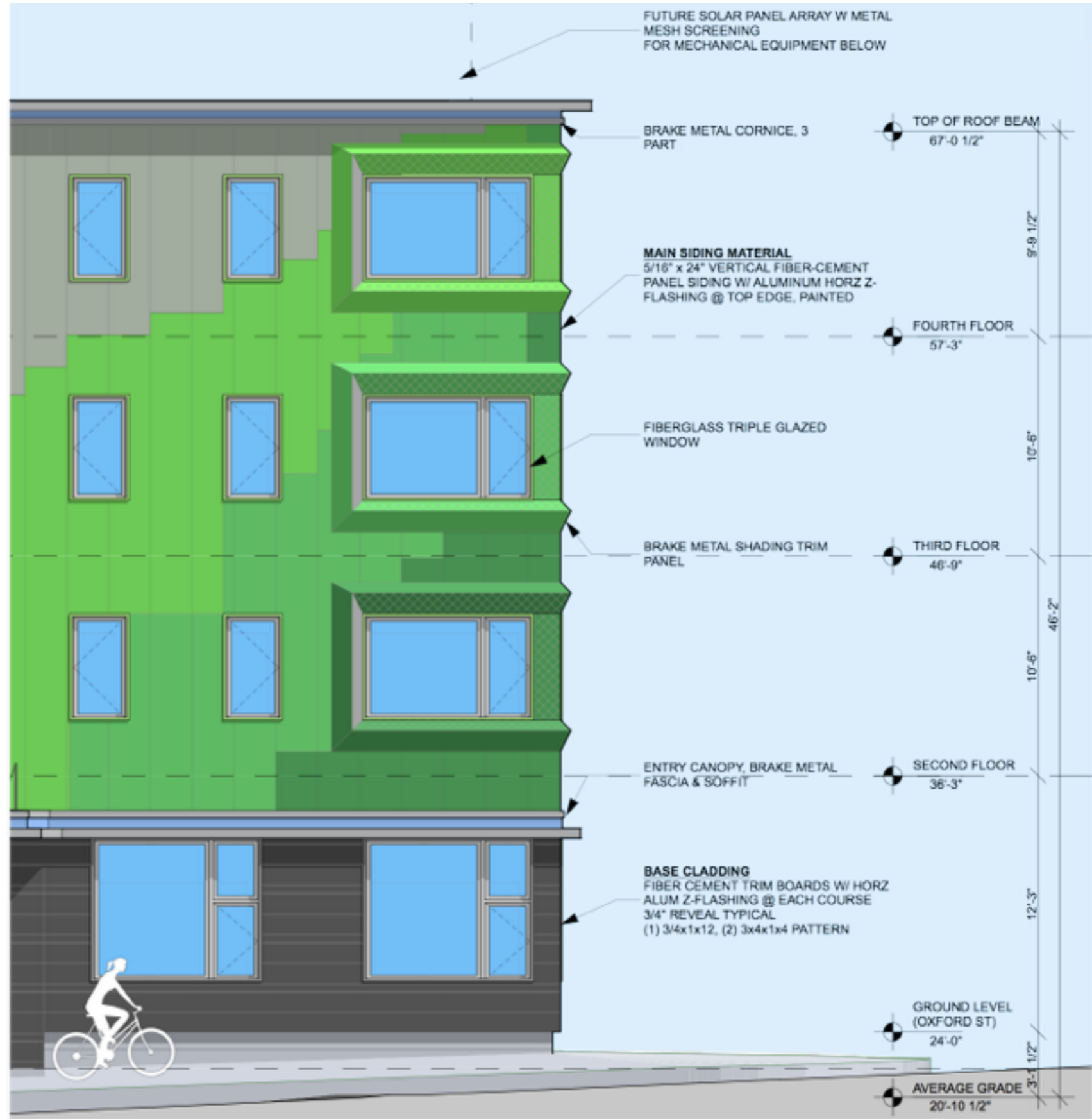
2 DECORATIVE METAL ACCENT PANELS



3 SMOOTH FIBER-CEMENT PANELS



4 FIBER-CEMENT BASE SIDING PATTERN



1 SW DETAIL ELEVATION SCALE 3/8" = 1'-0"

BUILDING ELEVATIONS



1 **SOUTHWEST ELEVATION**
 SCALE: 1/8" = 1'-0"



BUILDING ELEVATIONS



50% DOCUMENTS



90% DOCUMENTS



100% DOCUMENTS



100% DOCUMENTS

PASSIVE
HOUSE
&
PHIUS+

HEATING DEMAND

PASSIVE HOUSE

4.75 kBTU / SF / YEAR

PHIUS+ *(PORTLAND, ME)*

6.6 kBTU / SF / YEAR *(+ 39%)*

COOLING DEMAND

PASSIVE HOUSE

4.75 kBTU / SF / YEAR

PHIUS+ *(PORTLAND, ME)*

1.4 kBTU / SF / YEAR *(- 71%)*

PRIMARY ENERGY

PASSIVE HOUSE

38 kBTU / SF / YEAR

2.6 SOURCE ENERGY FACTOR

PHIUS+

OCCUPANCY x 6,200 kWh / YEAR

3.16 SOURCE ENERGY FACTOR

AIR TIGHTNESS

PASSIVE HOUSE

0.60 ACH50

PHIUS+

0.05 CFM50 / SF / ENCLOSURE

PEAK HEATING LOAD

PASSIVE HOUSE

3.17 BTU / SF / HOUR

PHIUS+ (*PORTLAND, ME*)

4.0 BTU / SF / HOUR

AREA MEASUREMENTS

GROSS AREA

37,815 SF

PASSIVE HOUSE: TFA

32,384 SF (- 15%)

PHIUS+: iCFA

34,925 SF (- 8%)

ENCLOSURE & VOLUME

THERMAL ENCLOSURE

35,659 SF

INTERIOR VOLUME

279,196 CU FT

MAX HEATING DEMAND

PASSIVE HOUSE

153,824 kBTU / YEAR

PHIUS+

230,505 kBTU / YEAR (+ 50%)

MAX COOLING DEMAND

PASSIVE HOUSE

153,824 kBTU / YEAR

PHIUS+

48,895 kBTU / YEAR (- 68%)

MAX PRIMARY DEMAND

PASSIVE HOUSE

1,230,592 kBTU / YEAR

PHIUS+ *(6,200 kWh / PERSON)*

1,925,130 kBTU / YEAR *(+ 56%)*

MAX PRIMARY DEMAND

PASSIVE HOUSE

1,230,592 kBTU / YEAR

PHIUS+ *(4,200 kWh / PERSON)*

1,304,121 kBTU / YEAR *(+ 6%)*

PV TO BE NET ZERO

PASSIVE HOUSE

107 kW

PHIUS+

137 kW (+ 30%)

CFM50 AT BLOWER DOOR

PASSIVE HOUSE

2,792 CFM50

PHIUS+

1,783 CFM50 (- 36%)

EUI

PASSIVE HOUSE

12.5 EUI

PHIUS+

16.1 EUI (+ 30%)

ARCH 2030: 2015 TARGET

18.2 EUI

COST TO OPERATE

PASSIVE HOUSE

\$20,806 / YEAR

PHIUS+

\$26,781 / YEAR

PHIUS+ METRICS

BAYSIDE ANCHOR

PHIUS+ SCENARIO

PEAK LOAD	130,156 BTU/HOUR	ANNUAL HEATING	3.80 kBTU/SF/YEAR
PRIMARY ENERGY	53.94 kBTU/SF/YEAR	ANNUAL COOLING	kBTU/SF/YEAR

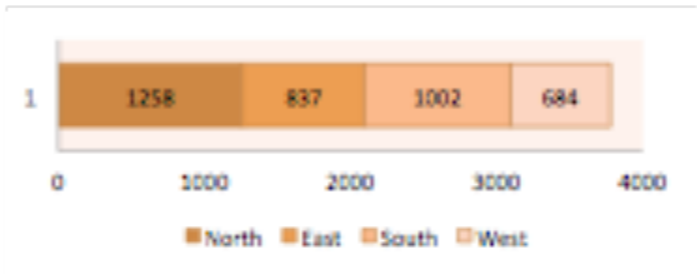
VENTILATION
76% % EFFICIENT

AIR TIGHTNESS
0.05 CFM50/SF/SHELL
0.35 ACH50

R-VALUES
33 WALLS
50 ROOF
57 SUSPENDED FLOORS
NA BASEMENT WALLS
16 SLABS

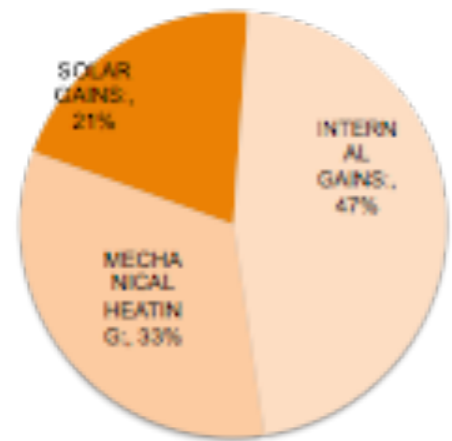
WINDOWS & DOORS
0.45 SHGC
0.13 GLAZING U-VALUE
0.25 FRAME U-VALUE
0.21 TOTAL U-VALUE

GLAZING % OF TFA

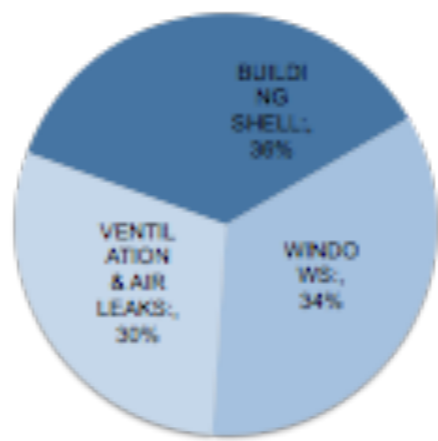


WINDOW ENERGY -53,905 kBTU/YEAR

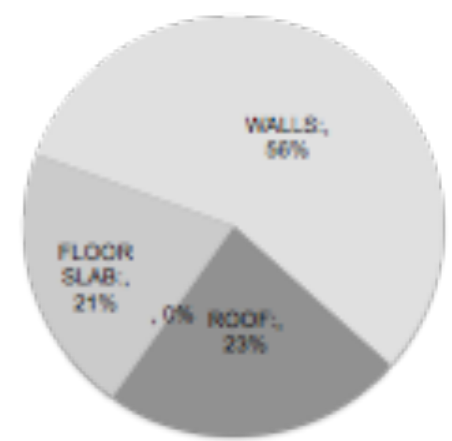
HEAT GAINS



HEAT LOSS



SHELL LOSSES



PASSIVE HOUSE METRICS

BAYSIDE ANCHOR
PASSIVE HOUSE SCENARIO

PEAK LOAD	131,810 BTU/HOUR	ANNUAL HEATING	6.97 kBTU/SF/YEAR
PRIMARY ENERGY	42.46 kBTU/SF/YEAR	ANNUAL COOLING	kBTU/SF/YEAR

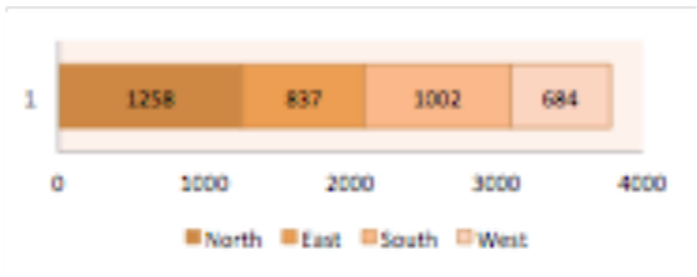
VENTILATION
76% % EFFICIENT

AIR TIGHTNESS
0.05 CFM50 / SF / SHELL
0.35 ACH50

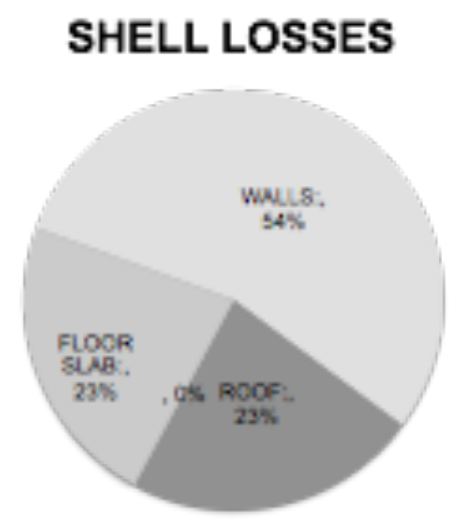
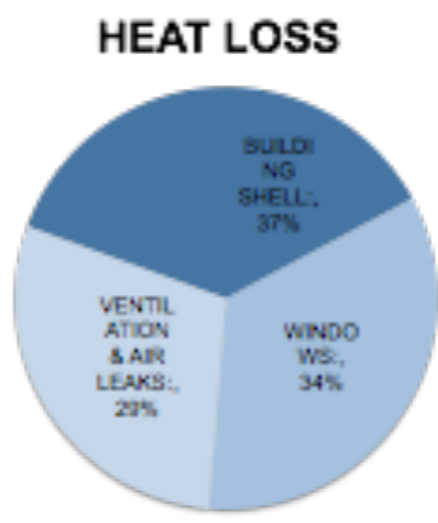
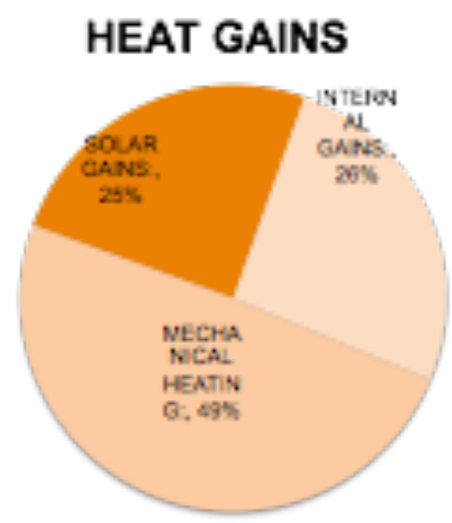
R-VALUES
33 WALLS
50 ROOF
57 SUSPENDED FLOORS
NA BASEMENT WALLS
16 SLABS

WINDOWS & DOORS
0.45 SHGC
0.13 GLAZING U-VALUE
0.25 FRAME U-VALUE
0.21 TOTAL U-VALUE

GLAZING % OF TFA



WINDOW ENERGY -53,905 kBTU/YEAR



PHIUS+ CERTIFICATION

ANNUAL HEATING

3.80 kBTU / SF / YEAR

PHIUS+ HEATING LIMIT

6.40 kBTU / SF / YEAR

HEATING LOAD

3.65 kBTU / SF / YEAR

PHIUS+ LOAD LIMIT

4.00 kBTU / SF / YEAR

PRIMARY ENERGY

53.9 BTU / HOUR

PHIUS+ PRIMARY LIMIT

54.01 kBTU / SF / YEAR

COOLING DEMAND

BTU / HOUR

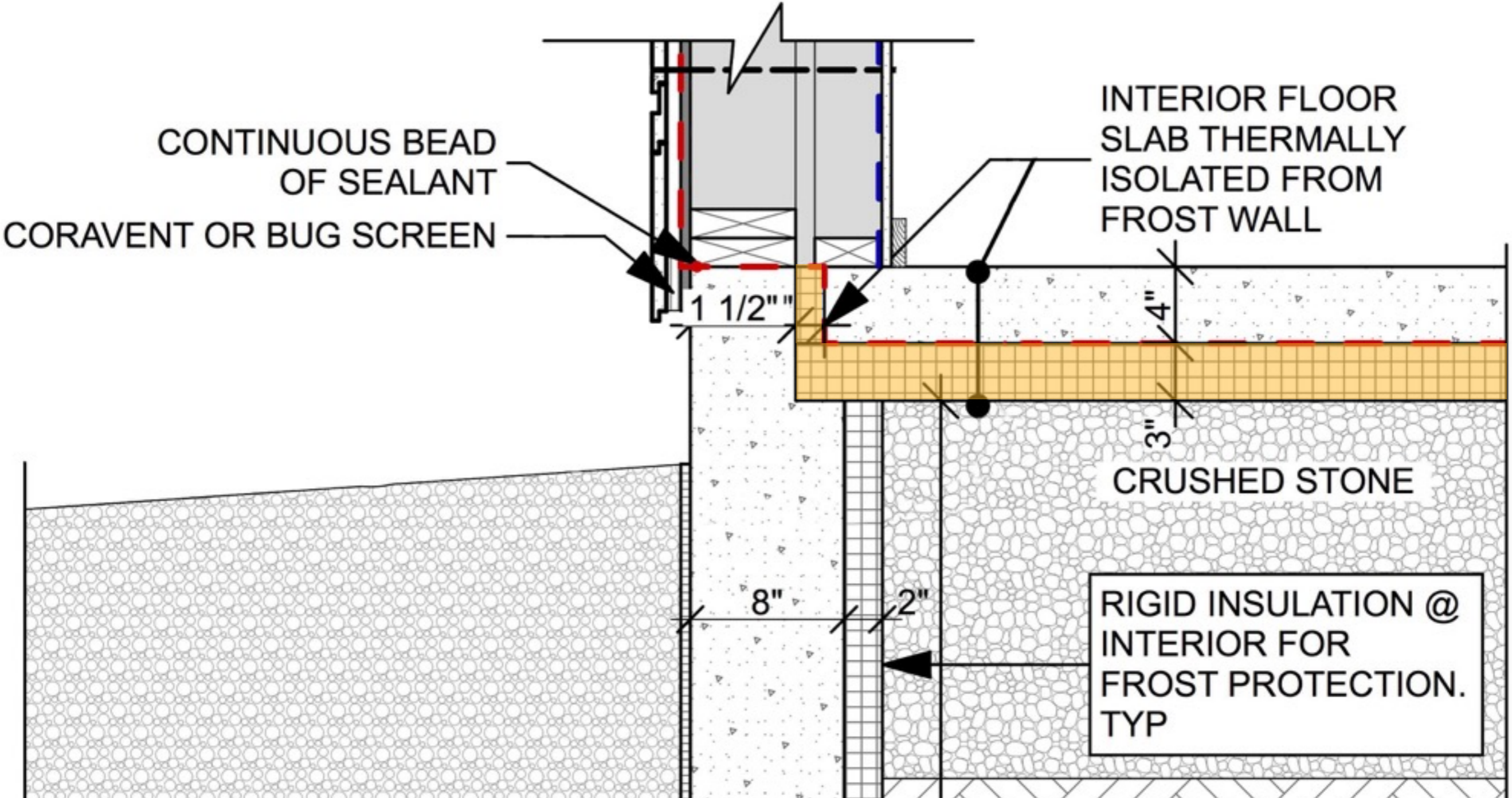
PHIUS+ COOLING LIMIT

3.80 kBTU / SF / YEAR

INSULATION

CONCRETE SLAB W 3" EPS

R - 13

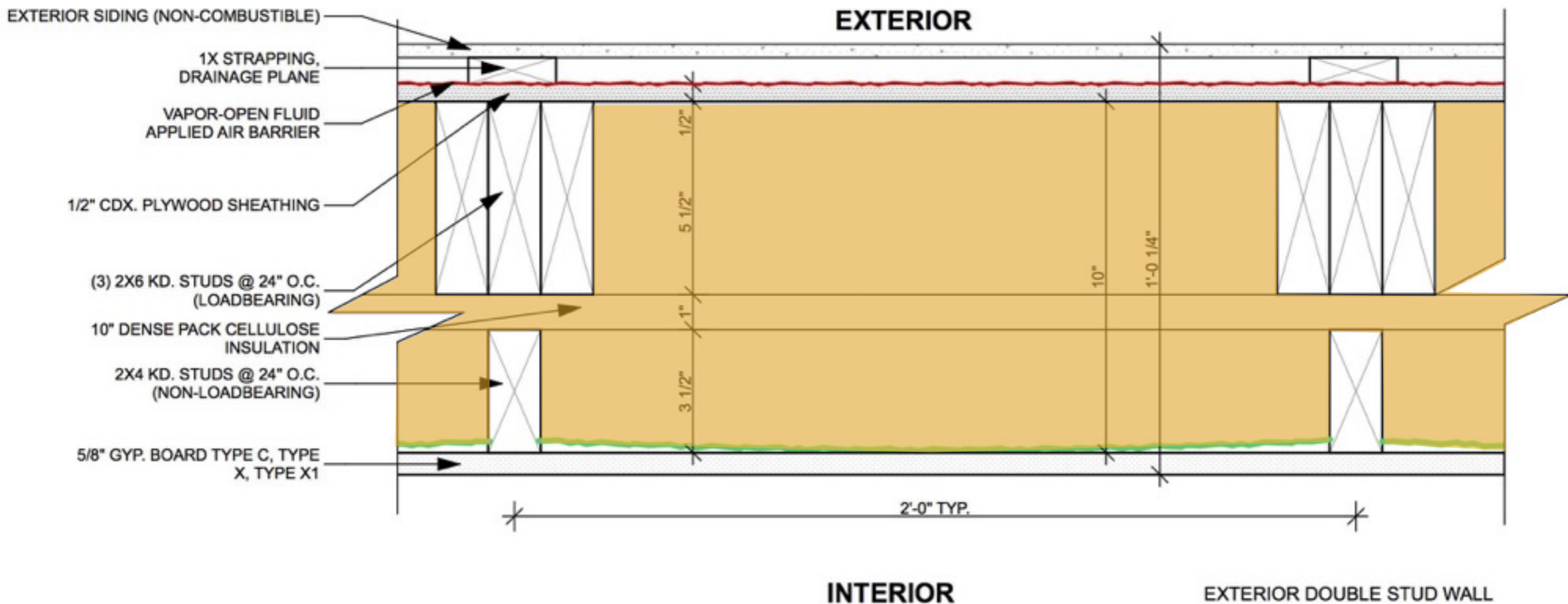






10" DOUBLE STUD WALL

R - 32.7



CDX PLYWOOD



VAPOR RETARDER

MEMBRAIN™
Continuous Air Barrier & Smart Vapor Retarder







M S-P-F
L No.2
B KD-HT
616 NLGA

PREMIUM

422842
182W1810

TWIN RIVERS

M S-P-F
L No.2
B KD-HT
616 NLGA

MEMBRAN

CertainTeed

MEMBRAN

CertainTeed

MEMBRAN

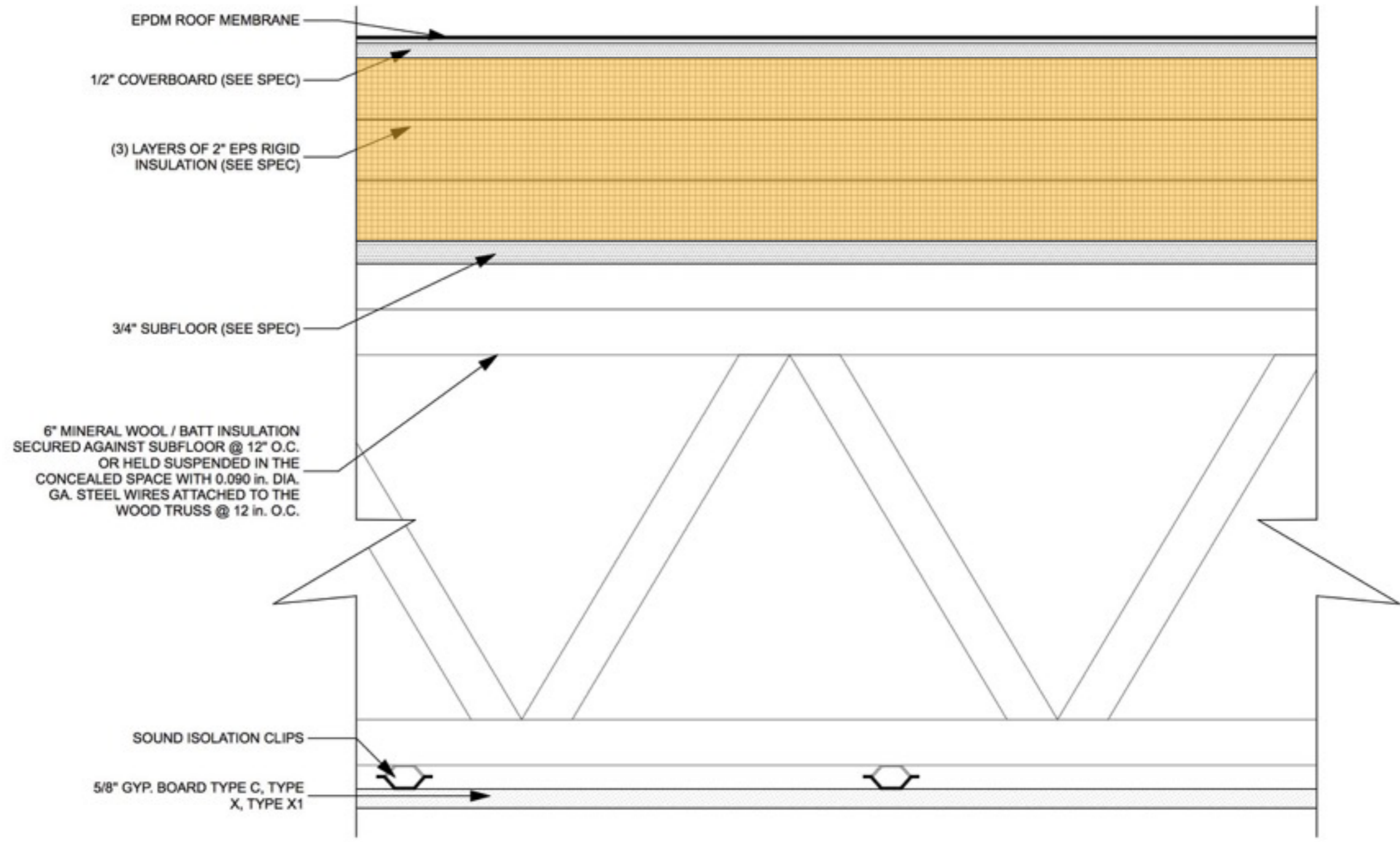
CertainTeed

MEM



8" POLY-ISO OVER TRUSS

R - 50









U Frame 0.25

U COG 0.13

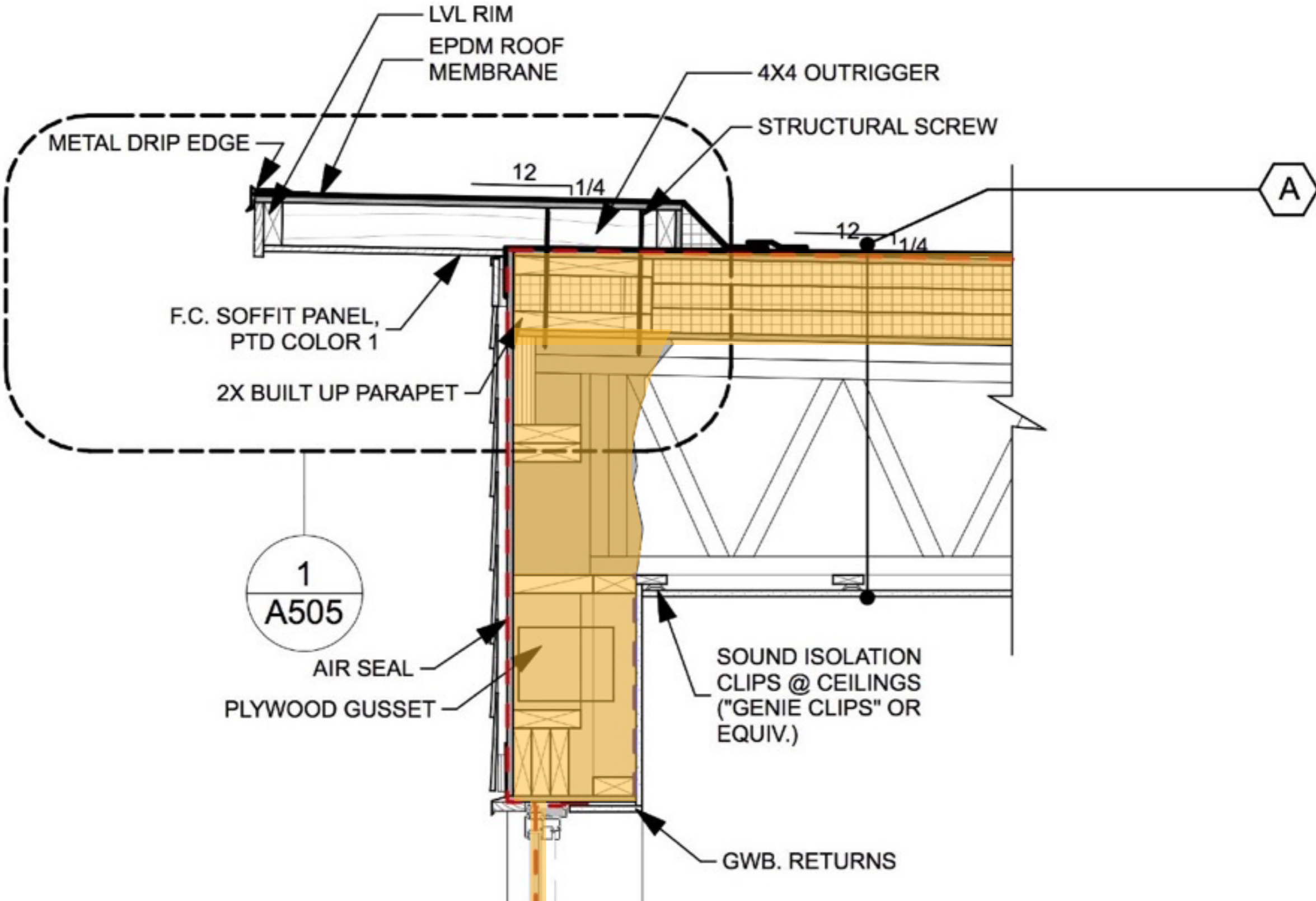
SHGC 45%

**GUARDIAN
Climaguard 8070**

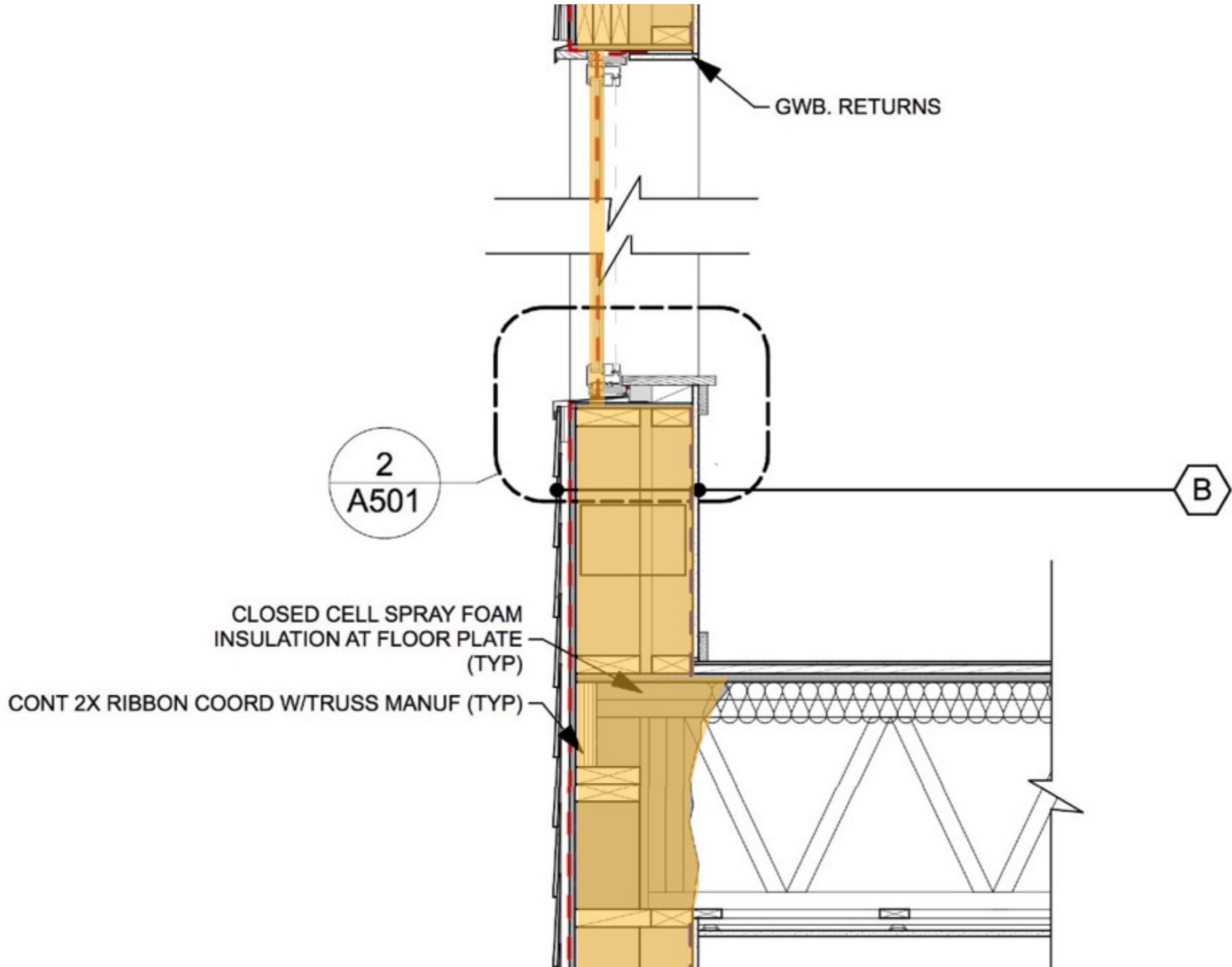




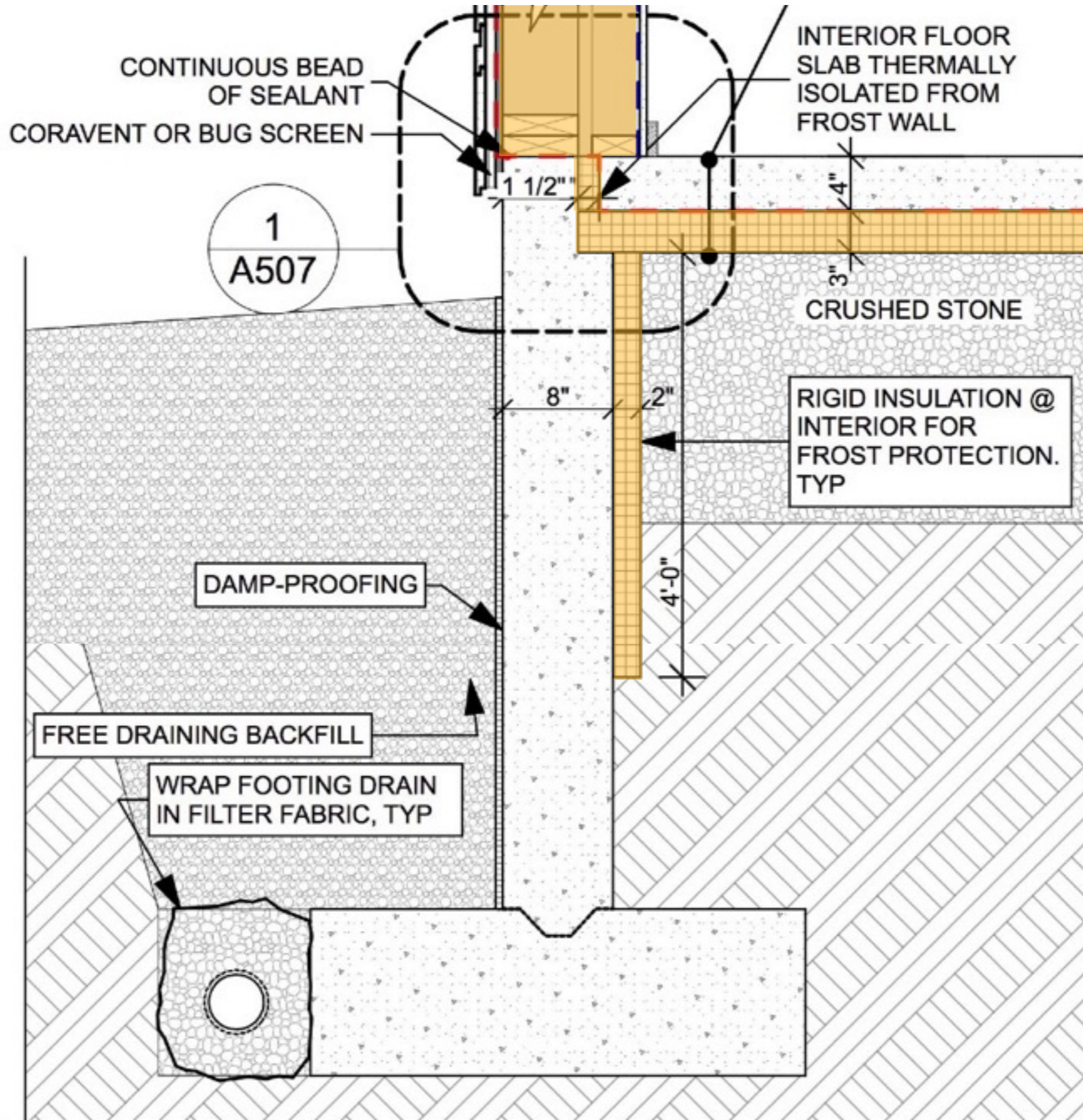
ROOF



WALL



FOUNDATION



STRUCTURAL LOADING

WOOD MUD SILL

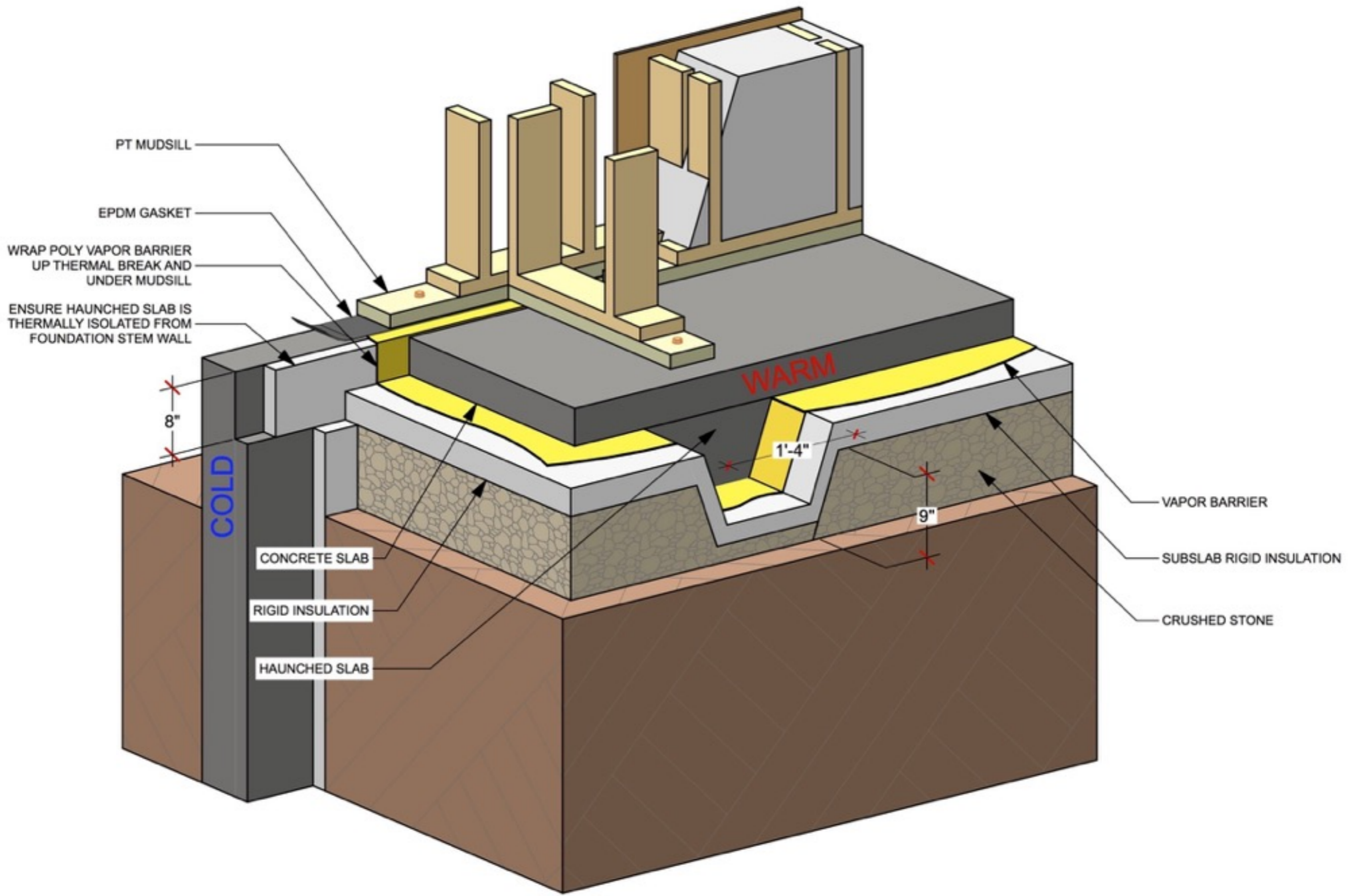
6,000 POUNDS PER STUD

250 PSI BEARING PRESSURE

STEEL COLUMN

50,000 POUNDS @ 11"x11"

425 PSI



PT MUDSILL

EPDM GASKET

WRAP POLY VAPOR BARRIER UP THERMAL BREAK AND UNDER MUDSILL

ENSURE HAUNCHED SLAB IS THERMALLY ISOLATED FROM FOUNDATION STEM WALL

8"

COLD

CONCRETE SLAB

RIGID INSULATION

HAUNCHED SLAB

WARM

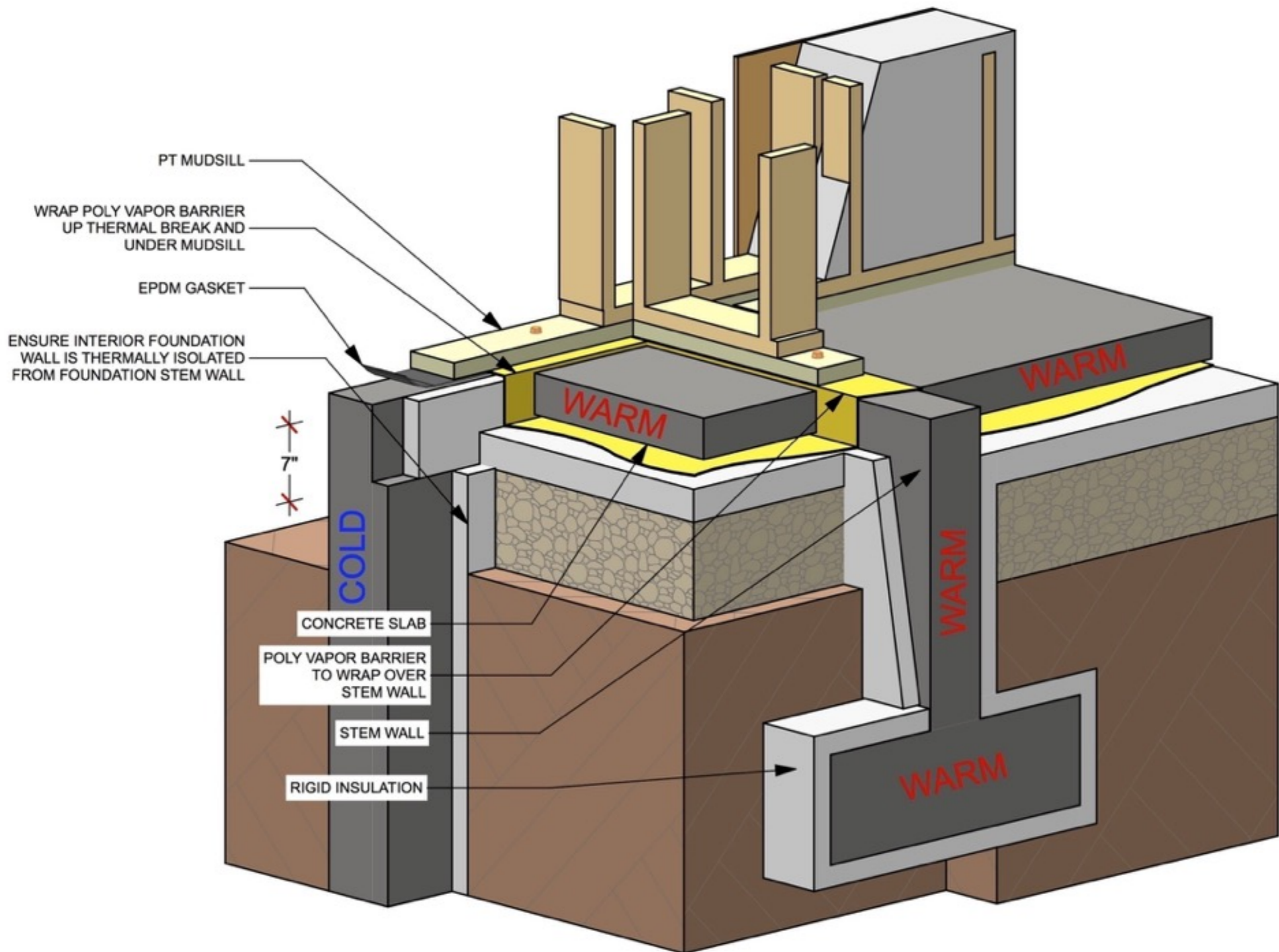
1'-4"

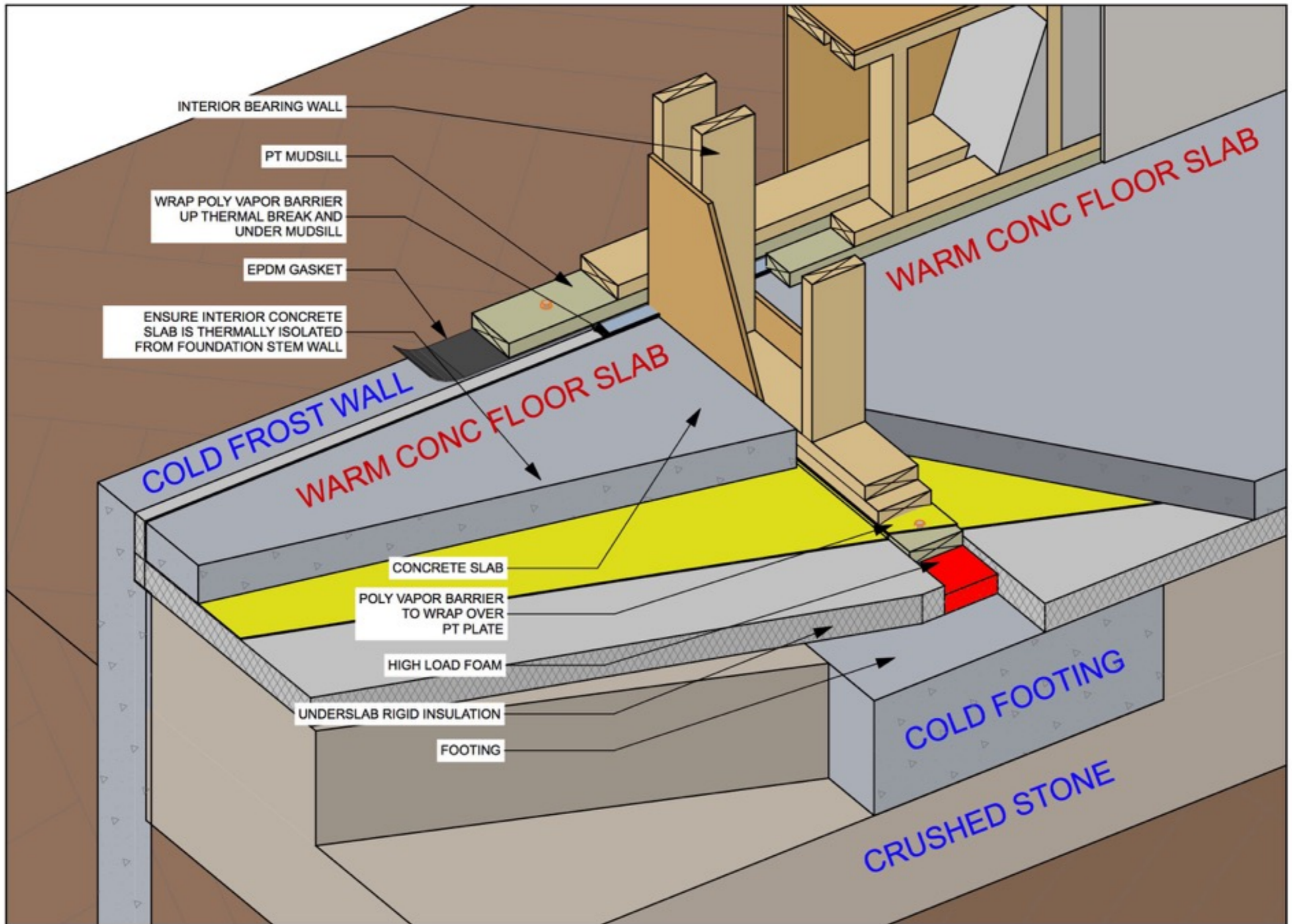
9"

VAPOR BARRIER

SUBSLAB RIGID INSULATION

CRUSHED STONE

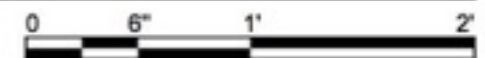




3

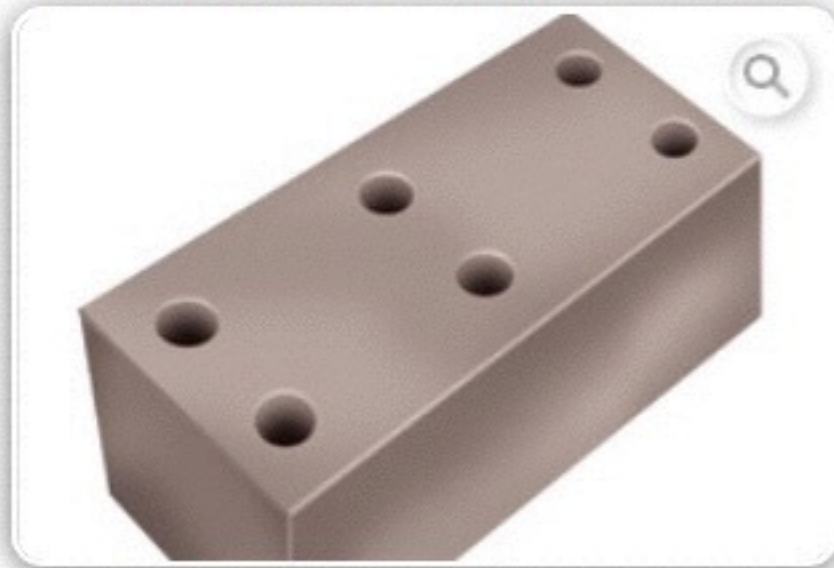
FOUNDATION DETAIL - 3D

SCALE: 1" = 1'-0"



STYROFOAM™ BRAND LT SERIES COLUMN-BEARING BLOCKS

Supplied cut-to-size, STYROFOAM™ Brand LT Series Column-Bearing Blocks are made of high-density, rigid polyurethane foam designed to support heavy structural loads while providing a thermal break between the building interior and the supporting soils below, reducing thermal bridging through the column and increasing energy efficiency of the building. Blocks are resistant to moisture and will not rot, dissolve or absorb water.



Made of high-density, rigid polyurethane foam designed to support heavy structural loads while providing a thermal break between building interior and supporting soils below to increase the building's energy efficiency.

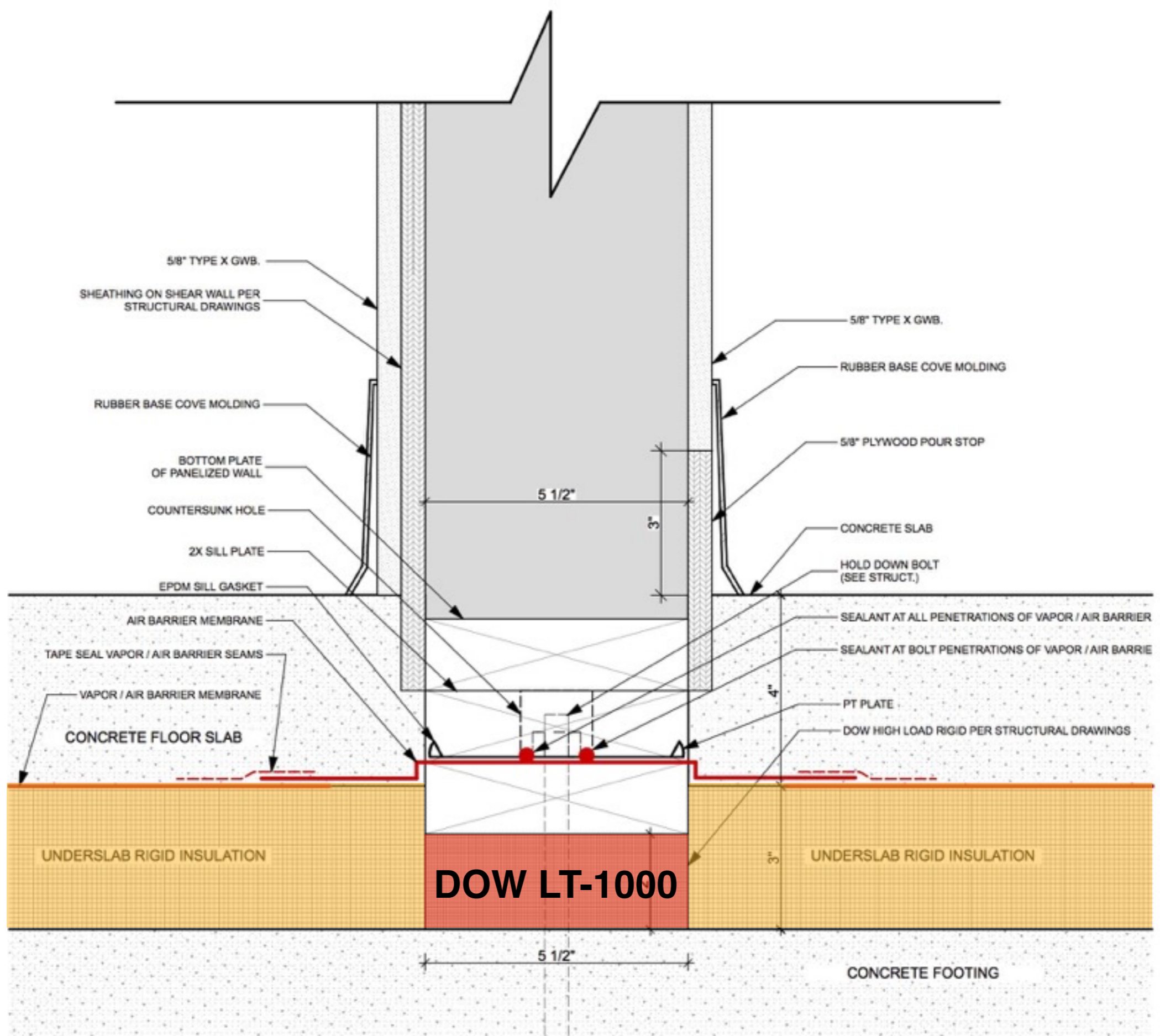
1,000 PSI

Used In

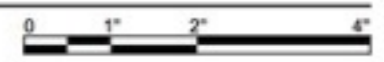
- Columns in commercial buildings

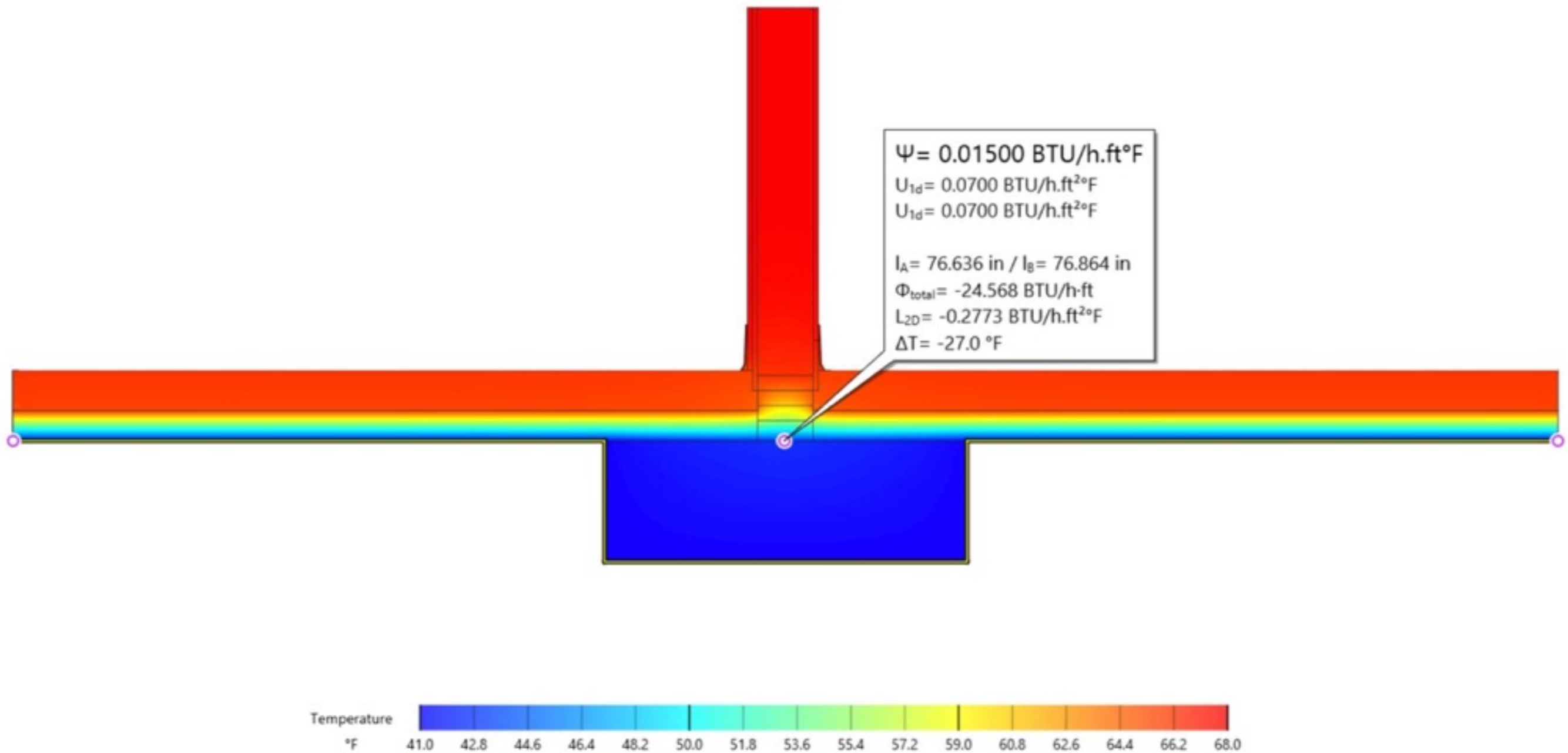
Product Advantages

- Contains an average of 20% pre-consumer recycled content certified by UL Environment Inc.
- Reduces thermal bridging through building column and increases energy efficiency;
- Resistant to moisture;
- Will not rot, dissolve or absorb water



2 INTERIOR FOUNDATION DETAIL
 SCALE: 6" = 1'-0"





PSI VALUE

0.015 BTU / HR • FT • °F

0.026 W / m K



SPI 501 NSI
UB CO. C19

A CHARLOTTE PIPE CO. US

DOOR

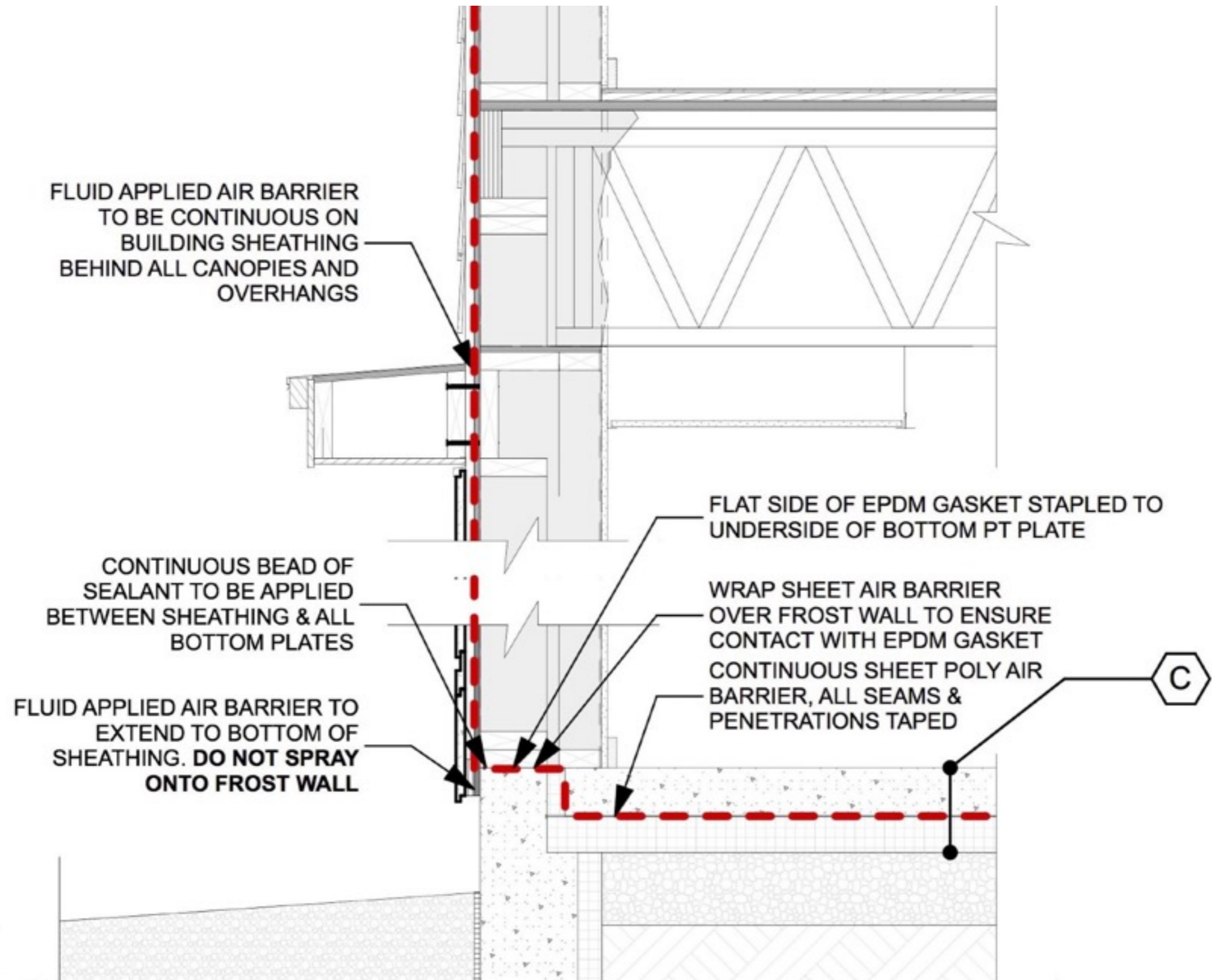






AIR BARRIER

WALL AIR BARRIER



AIR BARRIER

Dow Corning[®] DefendAir 200









NOISE ABATEMENT
SCHEDULED WORK
NOISE ABATEMENT
SCHEDULED WORK

NOISE ABATEMENT
SCHEDULED WORK

NOISE ABATEMENT
SCHEDULED WORK

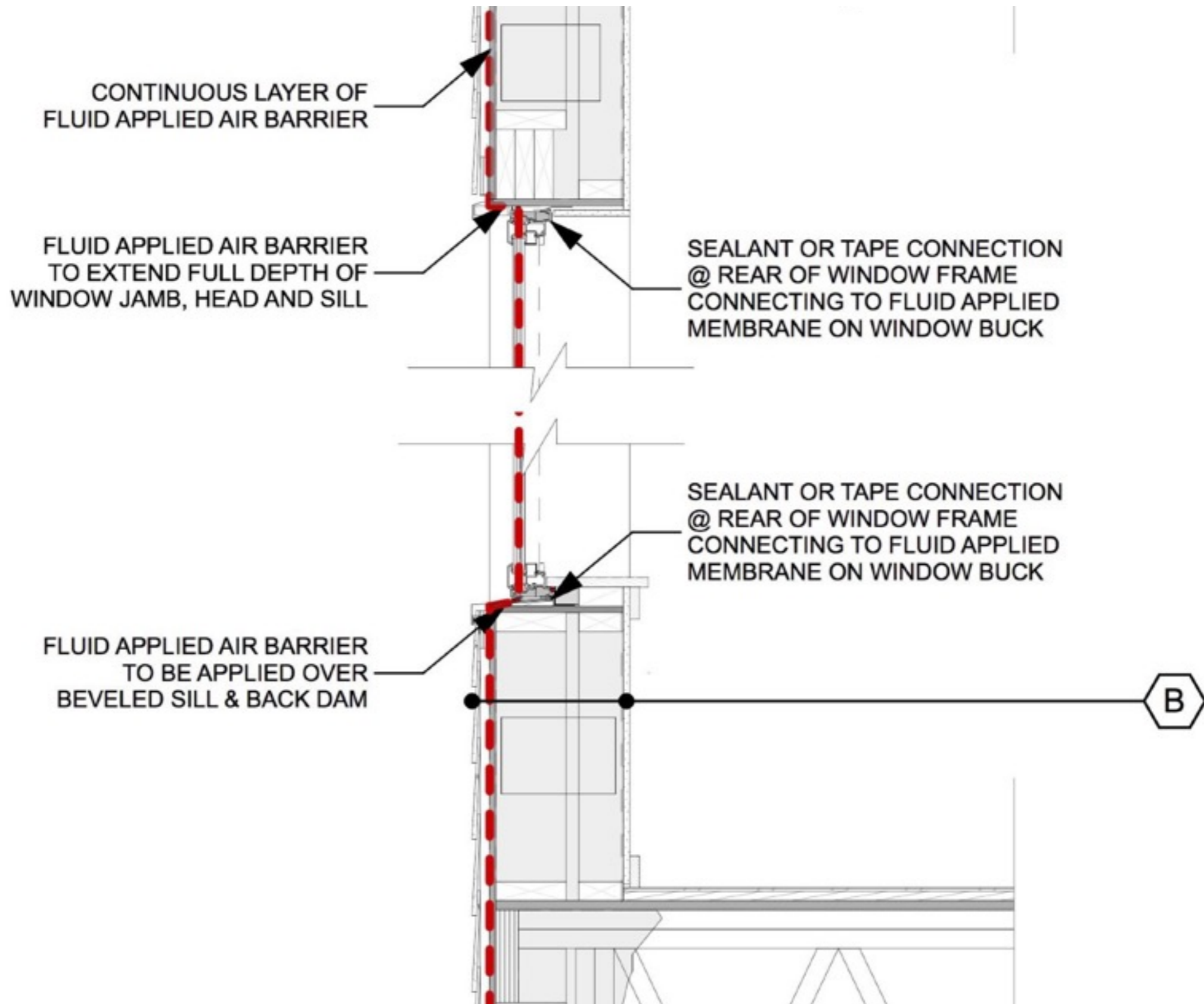


SLE
VAPOR BARRIER
VP

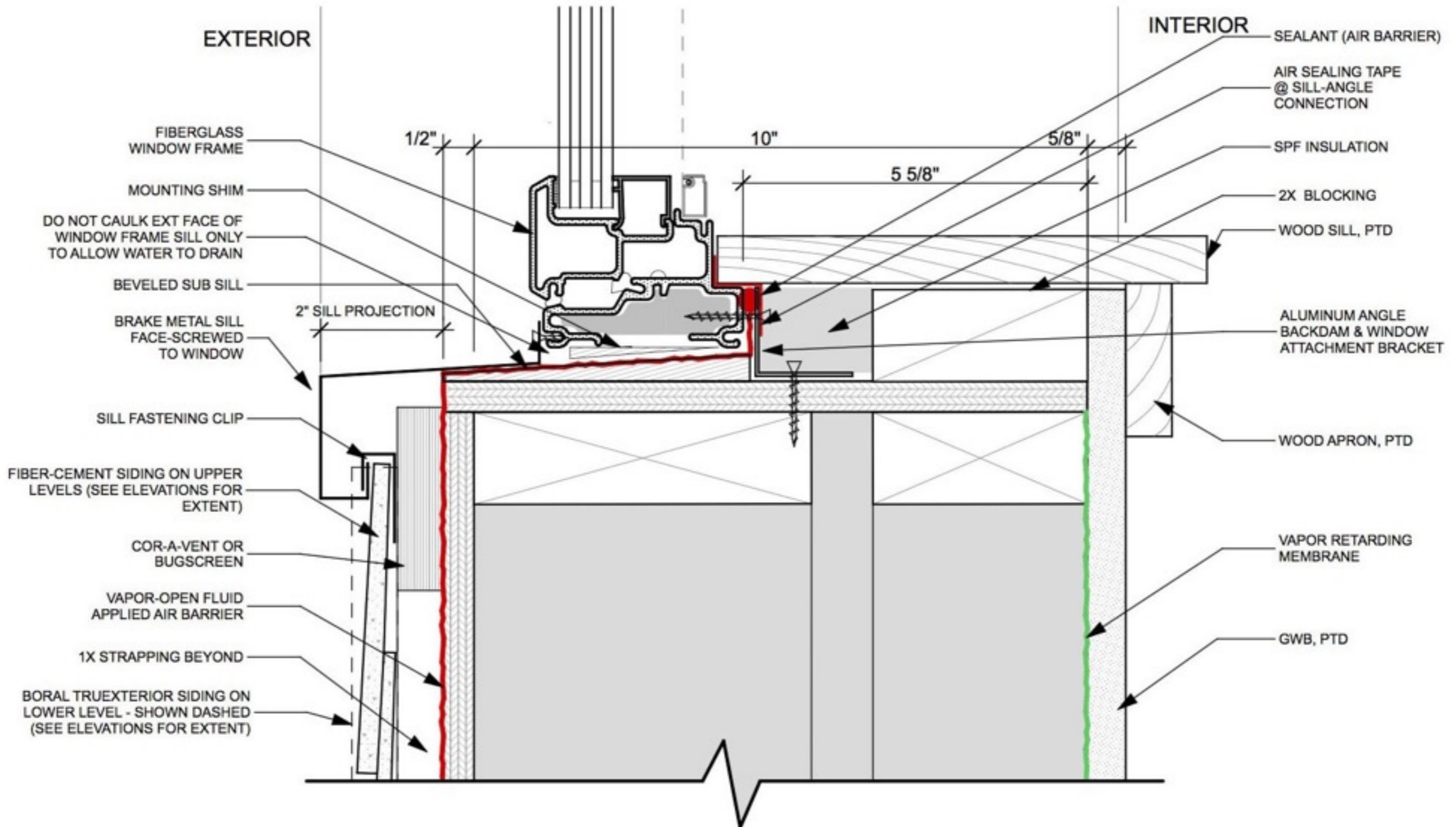
SLE
VAPOR BARRIER
VP

SLE
VAPOR BARRIER
VP

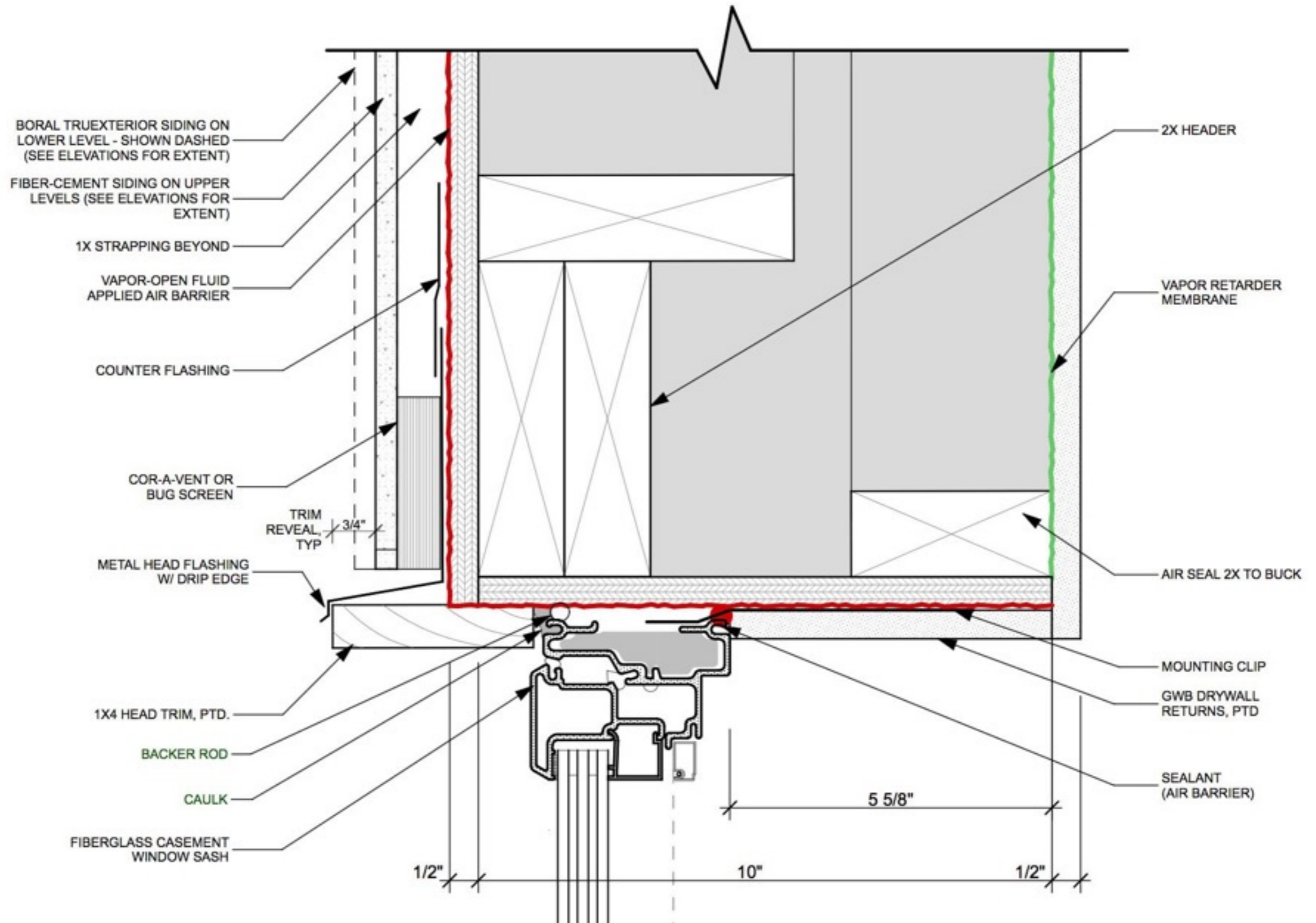
WINDOW AIR BARRIER



WINDOW SILL



WINDOW HEAD





NO LOADING
PER CITY ORDINANCE
SECTION 7-11
POLICE TAKE NOTICE

NO DRINKING OF
ALCOHOLIC
BEVERAGES

ST
ATERPROO





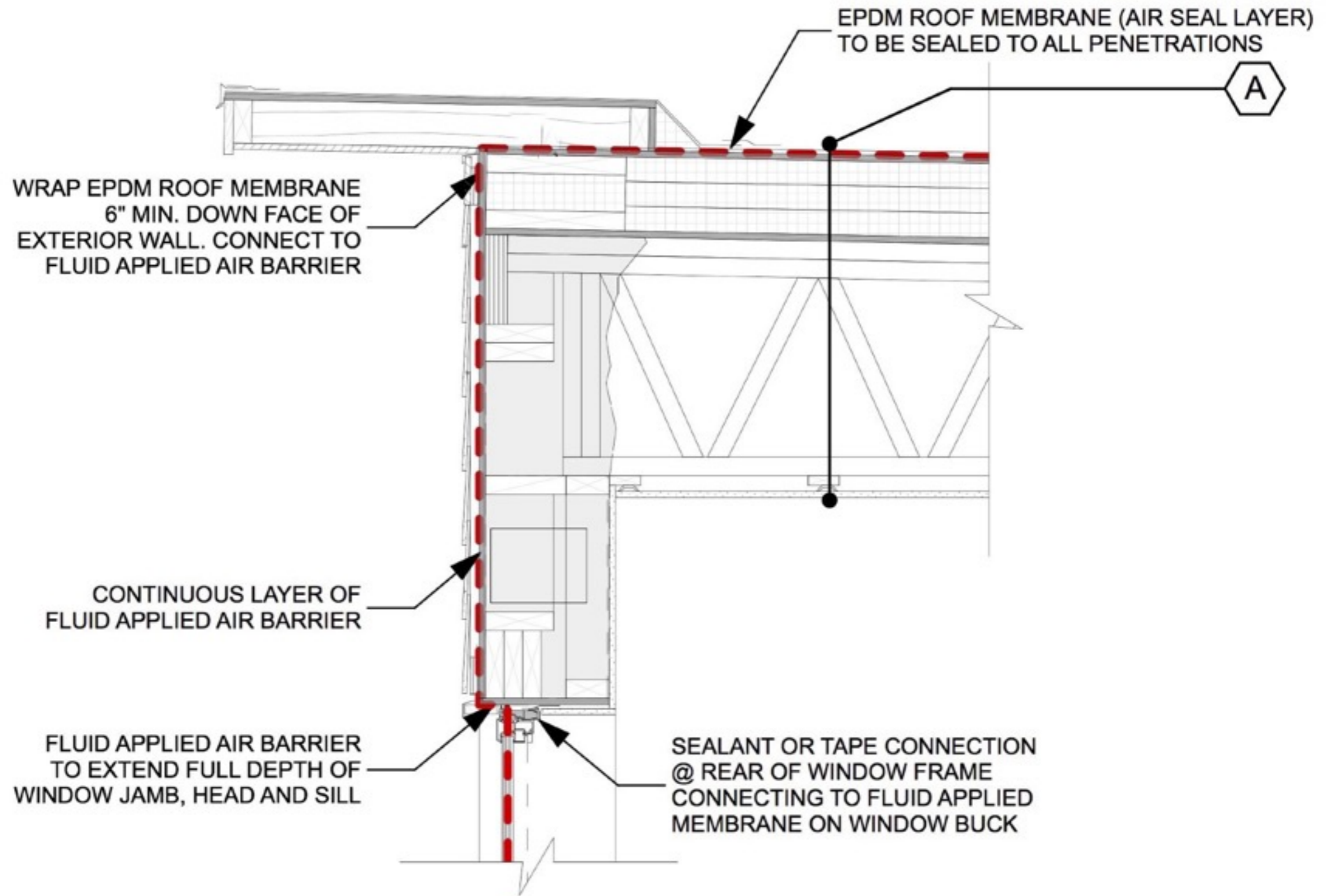


Kohltech
Windows & Entrance Systems

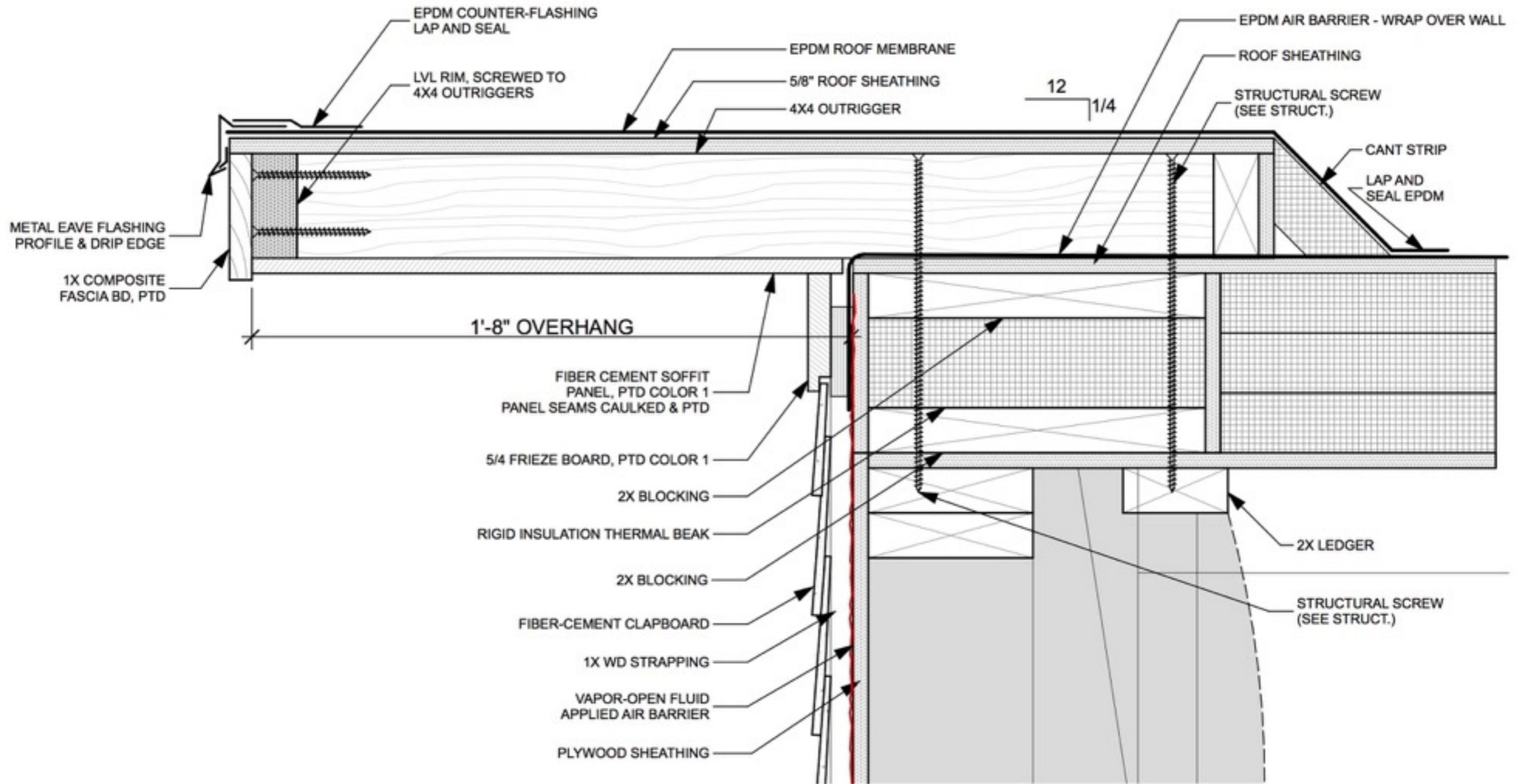




ROOF AIR BARRIER



CORNICE



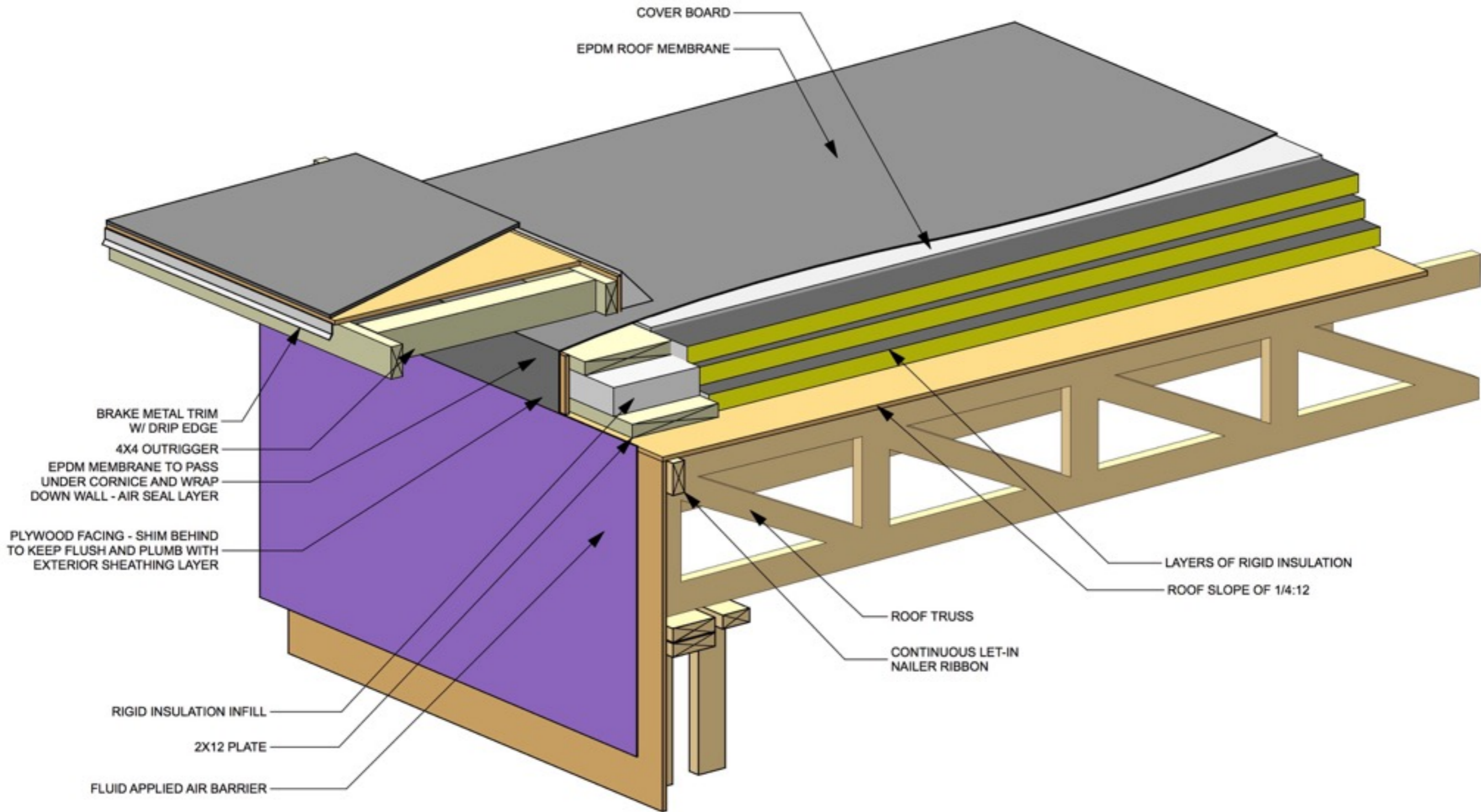
1

CORNICE DETAIL

SCALE: 3" = 1'-0"



CORNICE



5

CORNICE/ROOF DETAIL

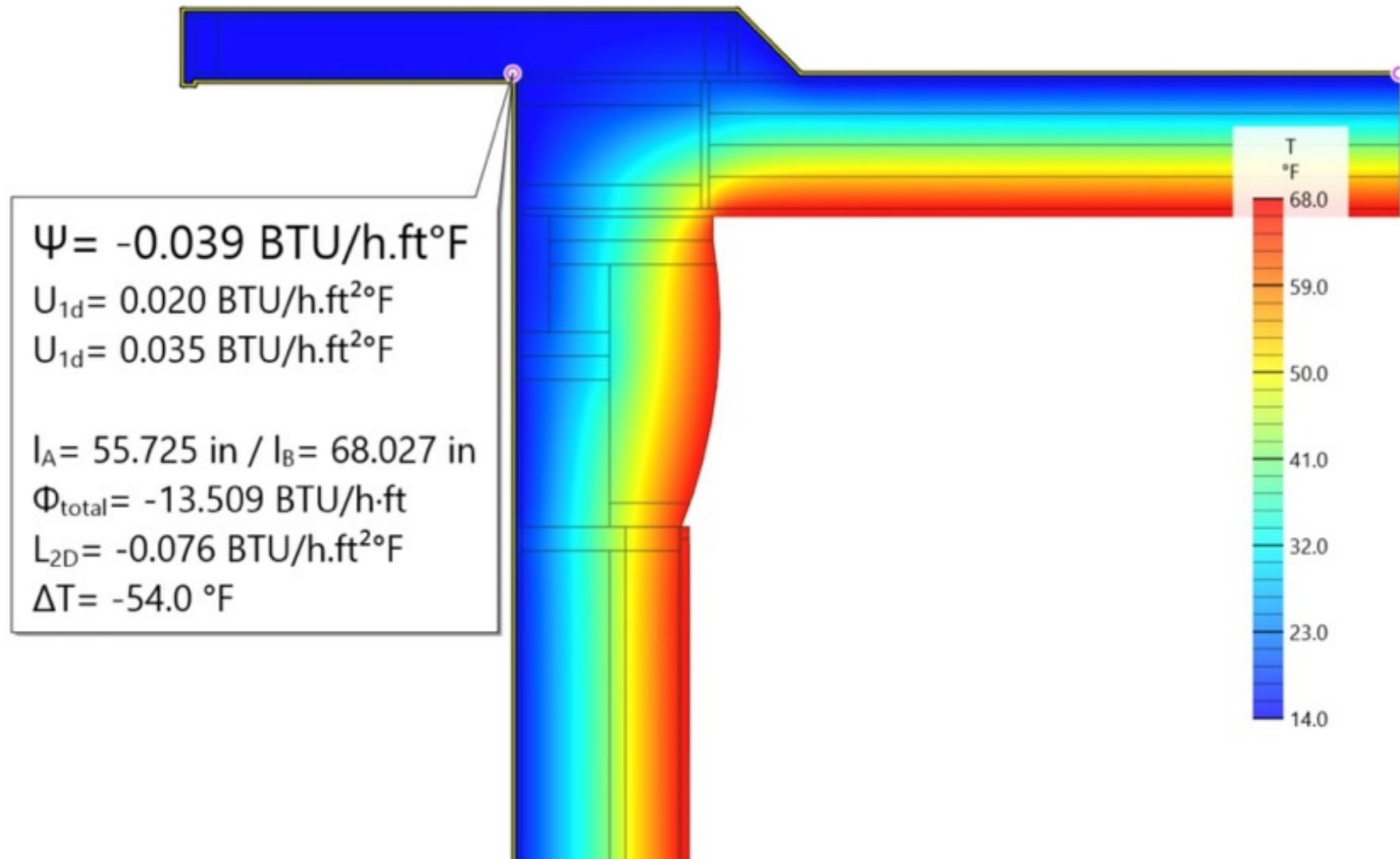
NOT TO SCALE



FIRE RESISTANT
CARI
COATINGS &
70

FIRE RESISTANT
CARI
COATINGS &
70





PSI VALUE

-0.039 BTU / HR • FT • °F

-0.067 W / m K



VENTILATION (AND HEAT)

ELECTRIC BASEBOARD

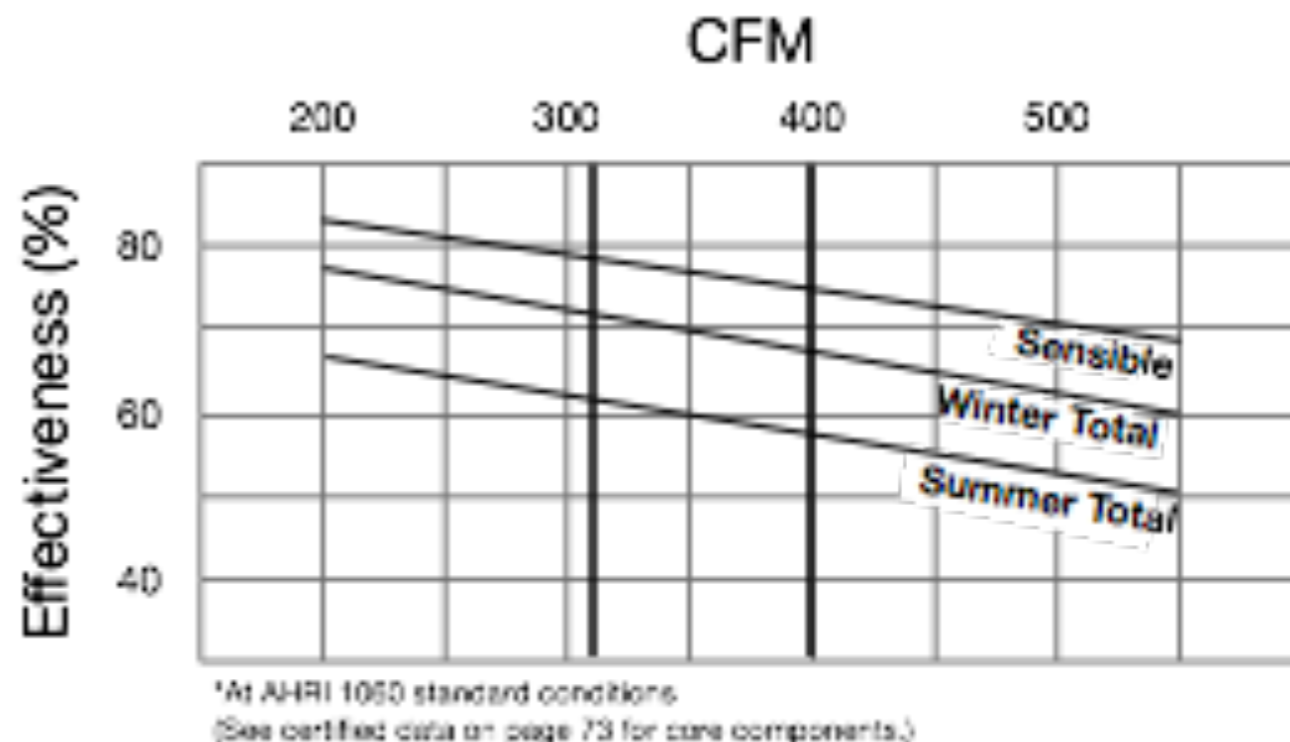


\$50

VENTILATION

RENEWAIRE EV450IN ECM

Indoor Unit with ECM Motor Option



.78 W/CFM

75%

HORIZONTAL DUCTED ERV

NO 2 HOUR SHAFTS

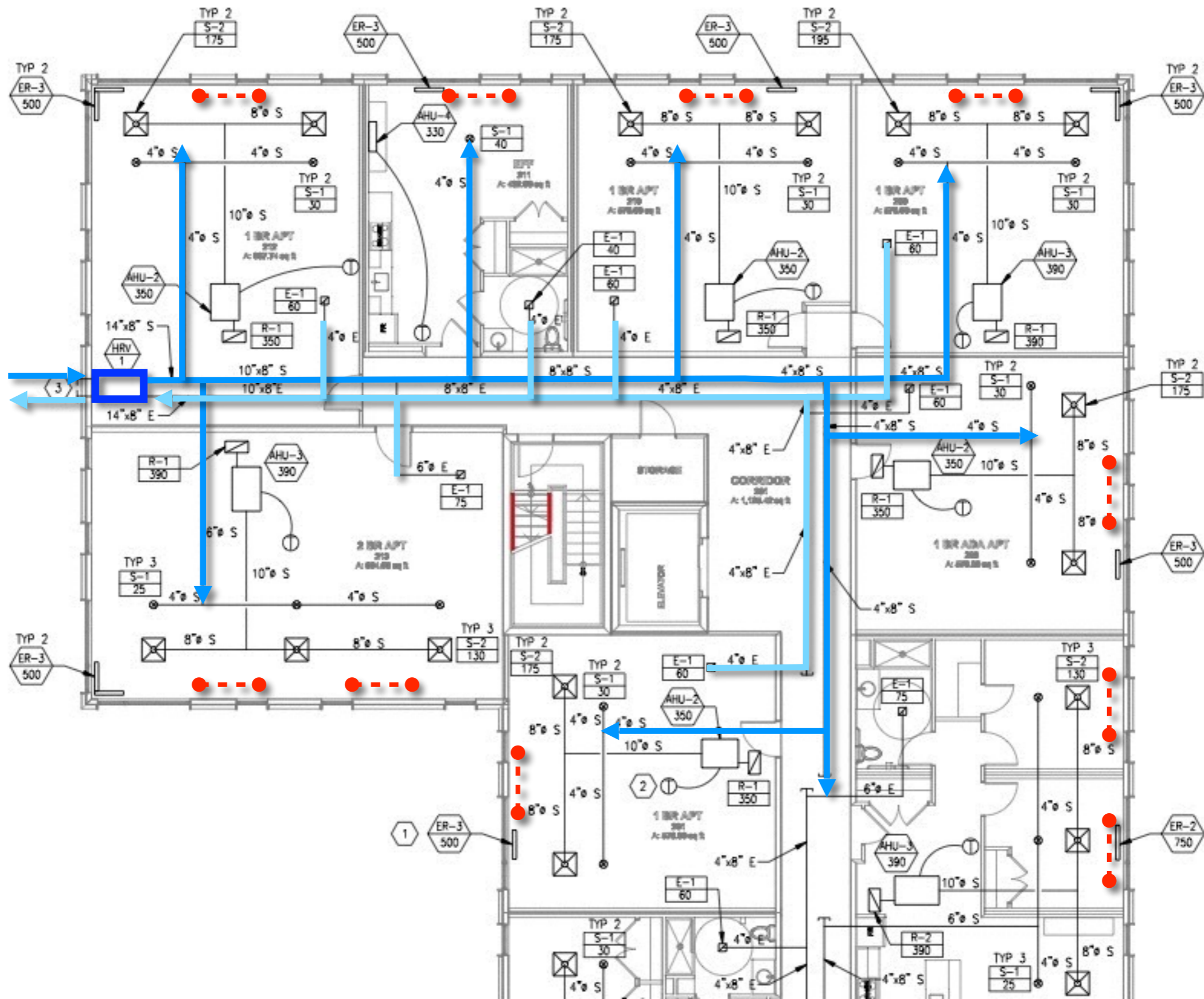
NO FIRE DAMPERS

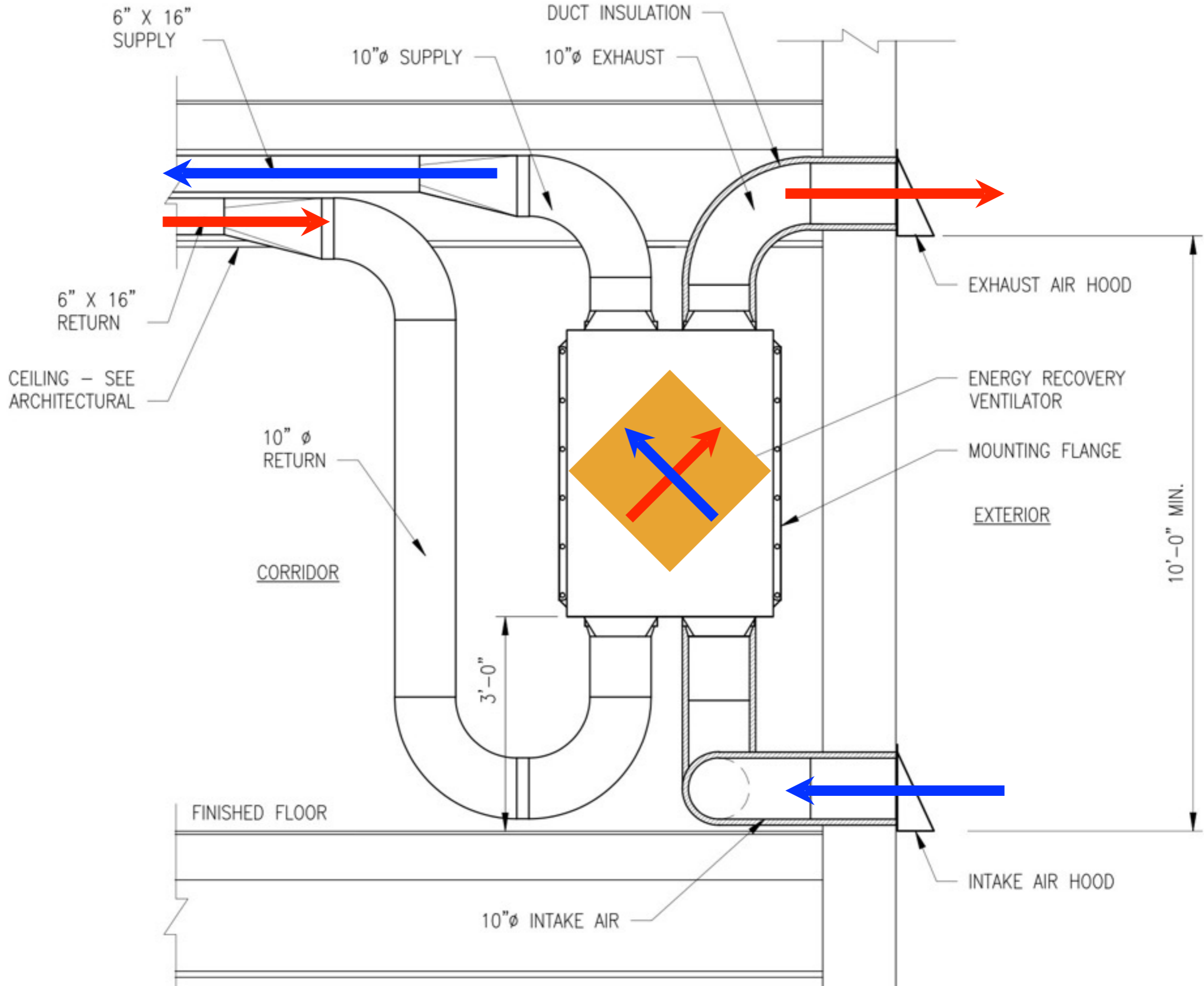
45 MINUTE CORRIDOR RATING

1 ERV PER 6 UNITS

SIDEWALL INTAKE & EXHAUST

HVAC DESIGN: UPPER FLOORS



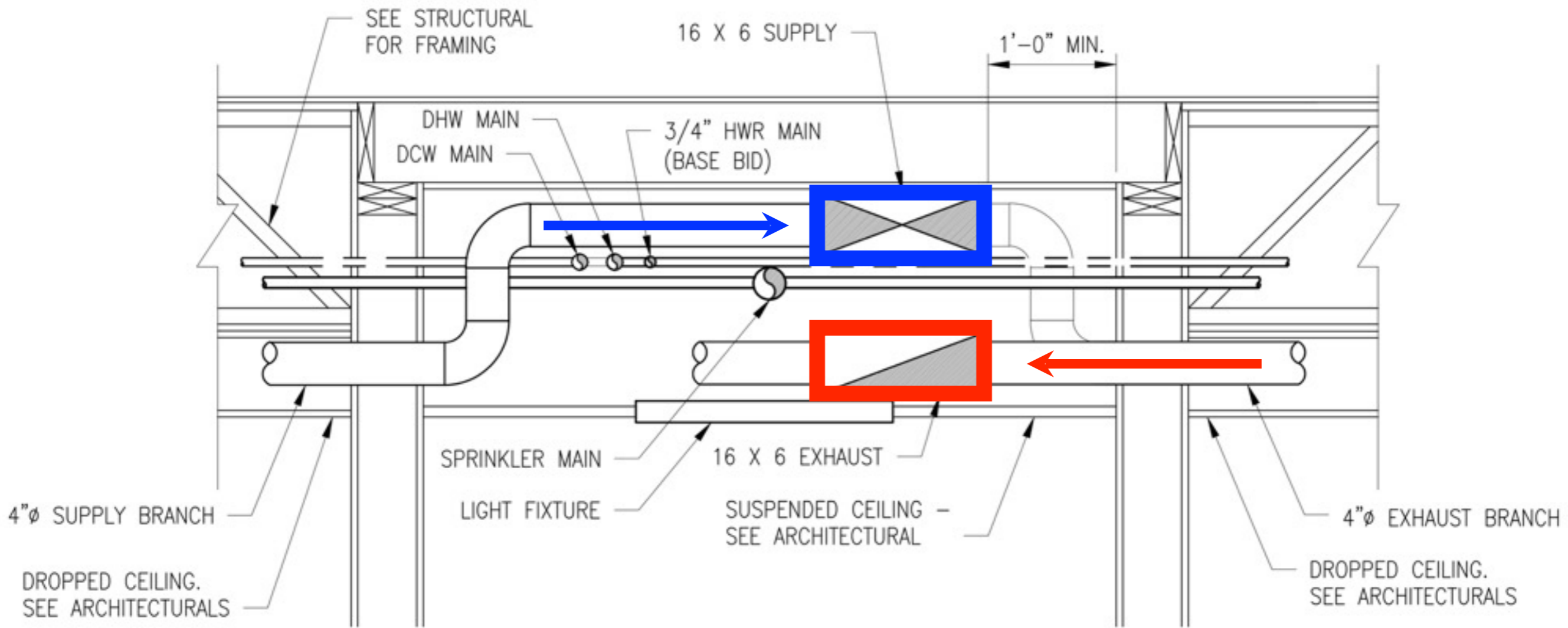






11'-0" SEPARATION





6
M500

SERVICE DETAIL AT CORRIDOR CEILINGS

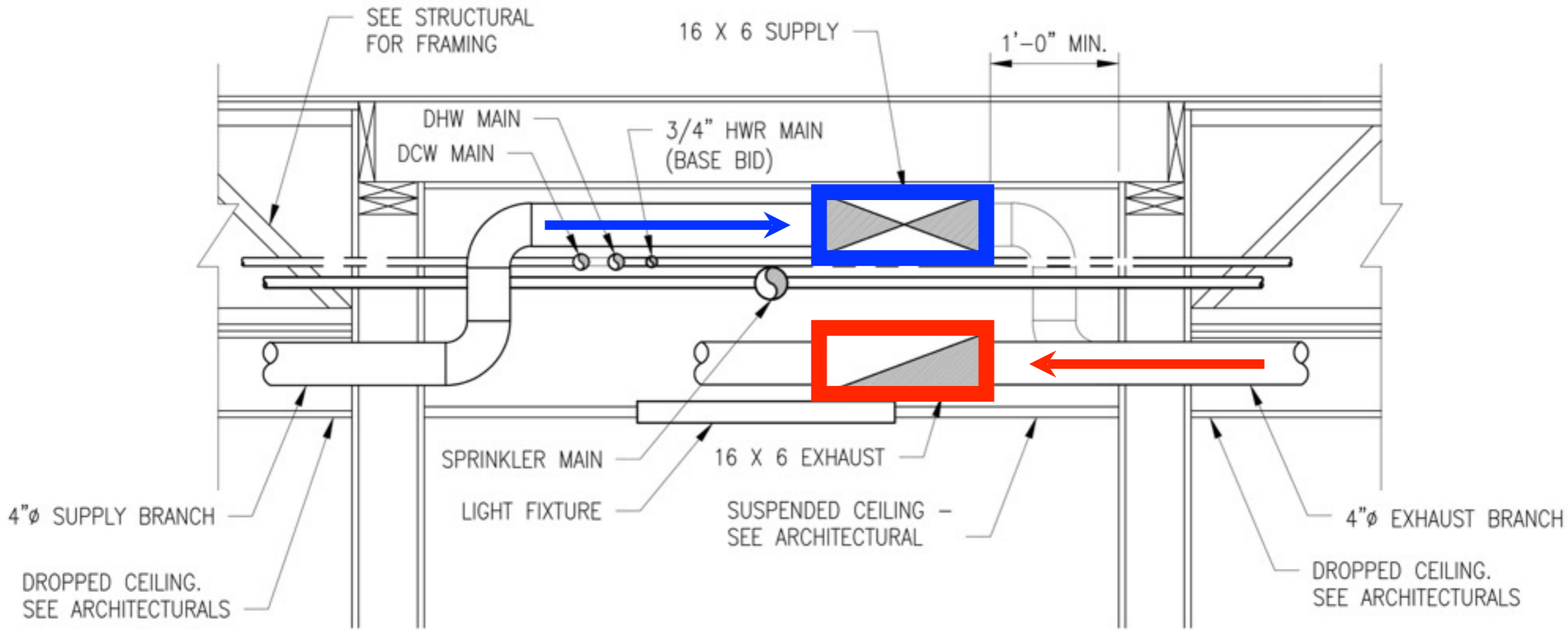
SCALE: 3/4" = 1'-0"



Sheathing

Diplom
6a

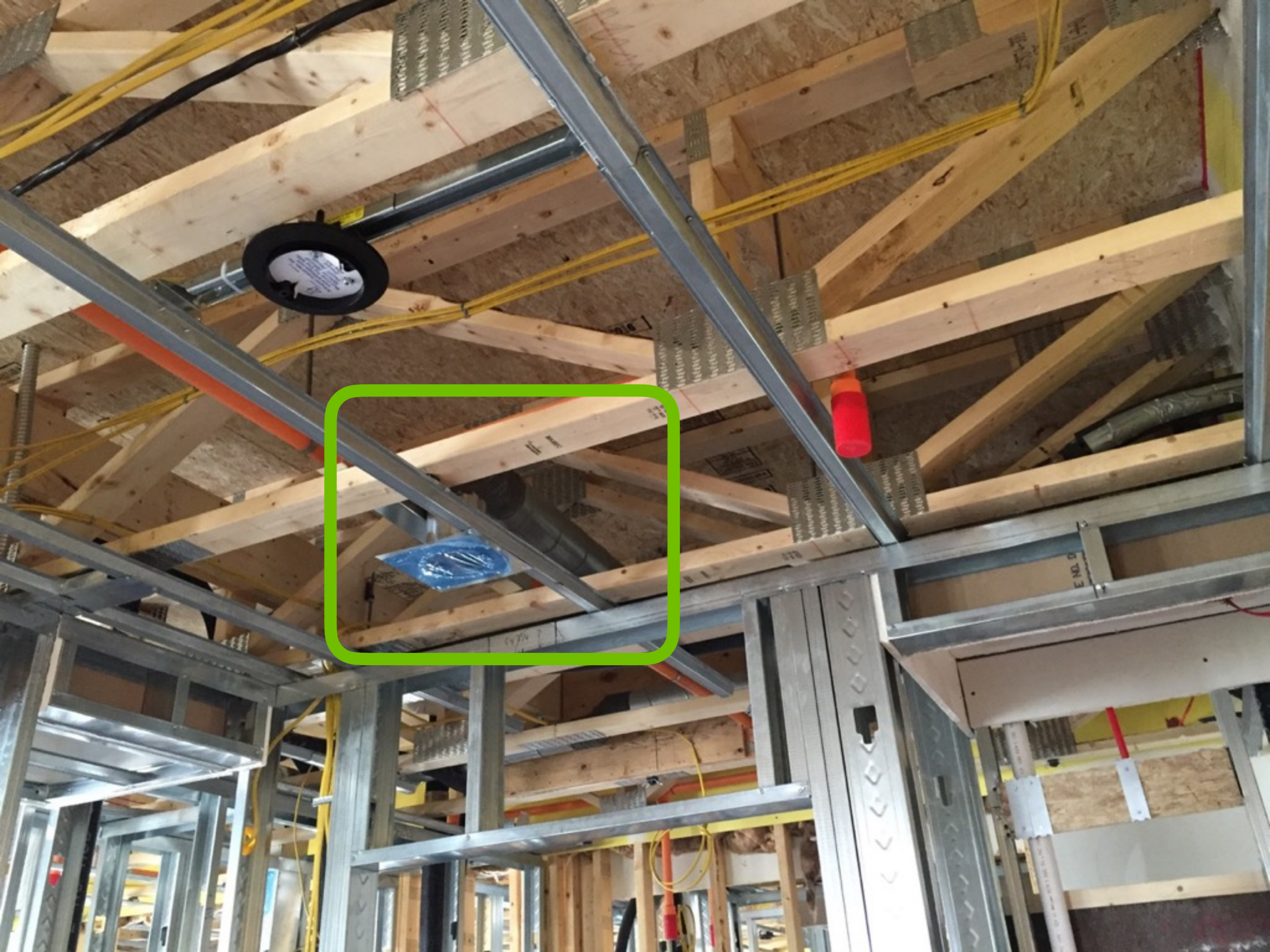
NOT FOR ROOFS



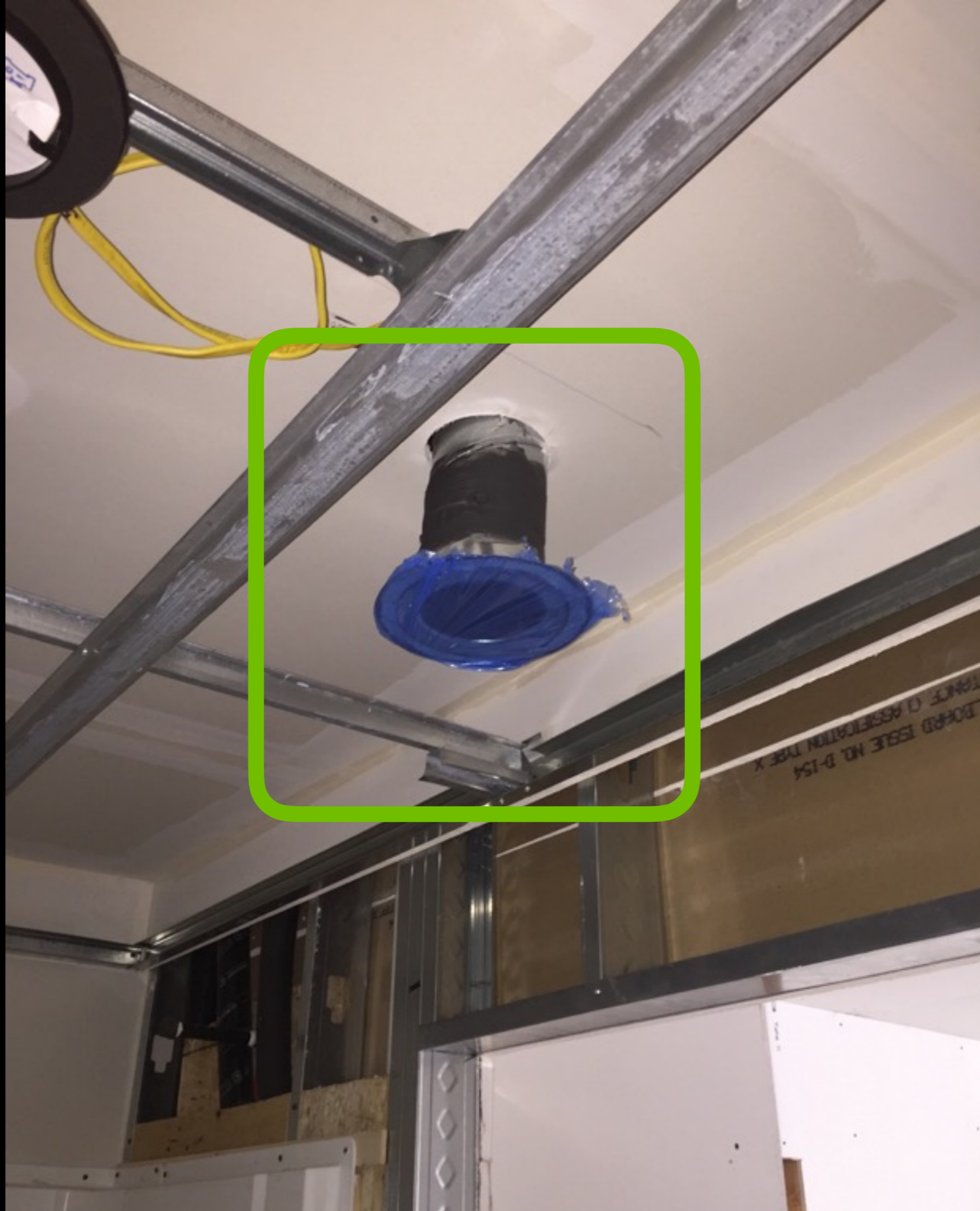
6
M500

SERVICE DETAIL AT CORRIDOR CEILINGS

SCALE: 3/4" = 1'-0"





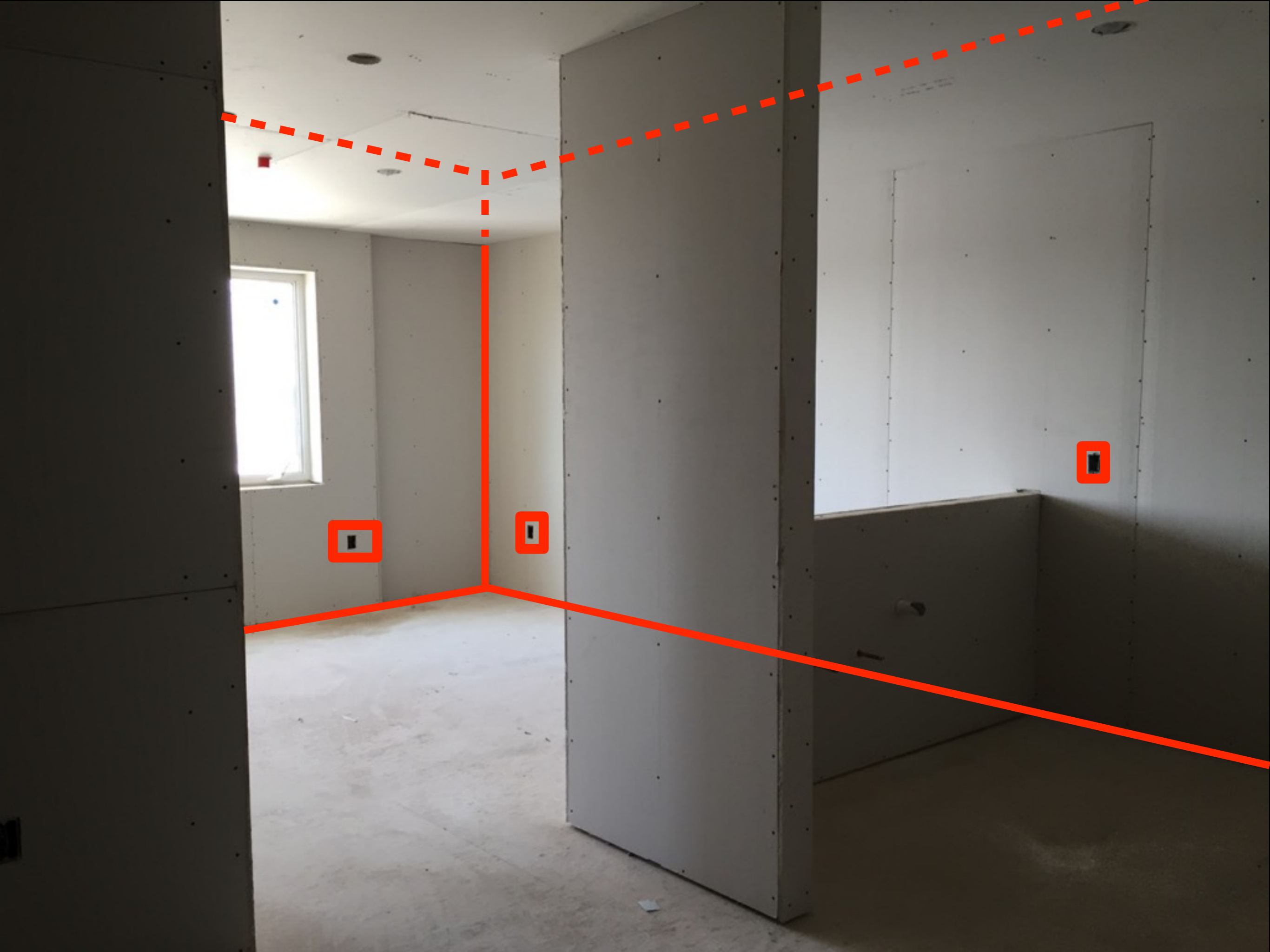


QA - QC

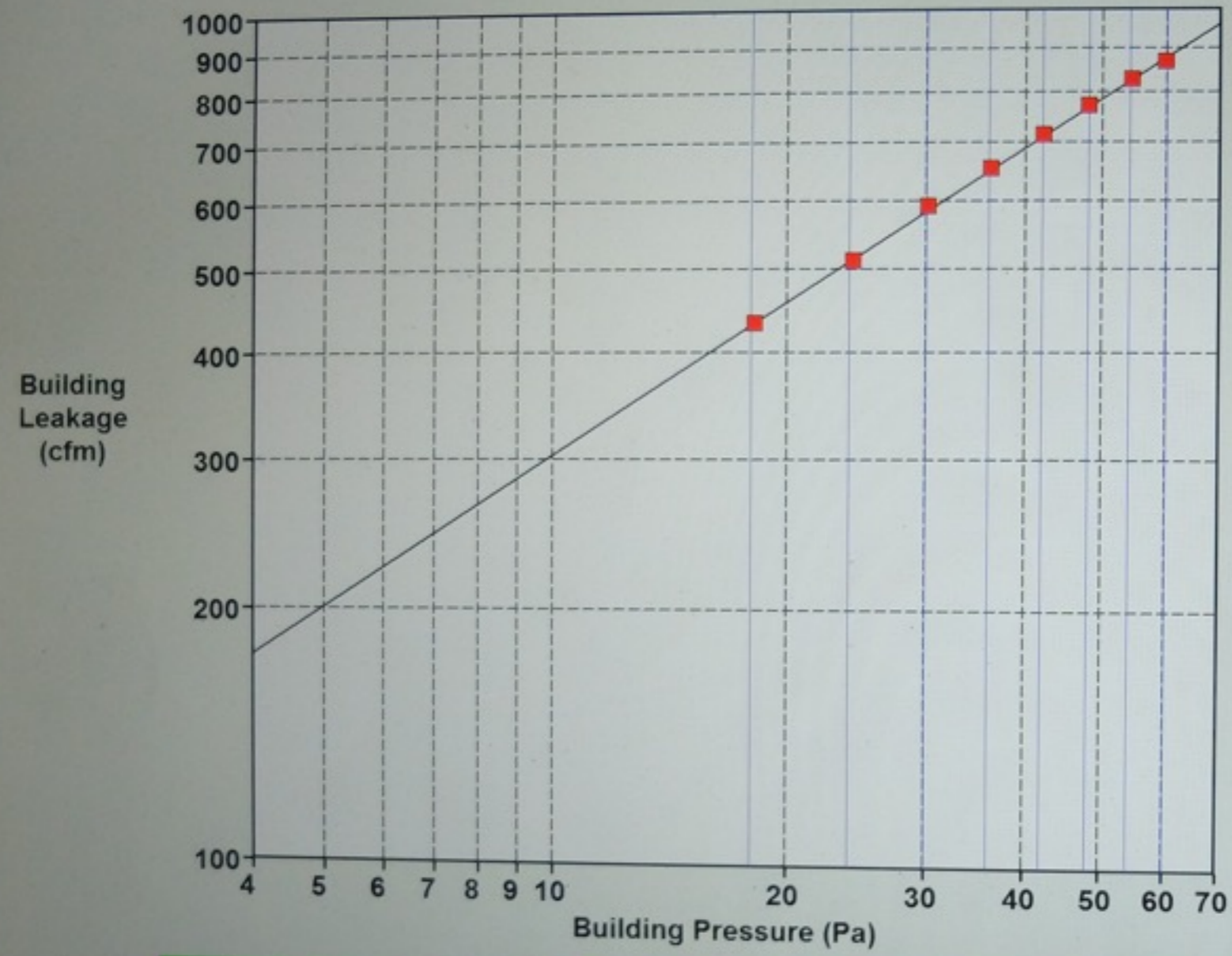
COMPARTMENTALIZATION











Status **Idle - Monitoring**

Data Box Info

Pressurization

Help

Duct Blaster B

Ring 1

Fan Speed

ACH50	
Flow (cfm)	Low
Fan Pressure (Pa)	-0.0
DG700 - 38152 Ch B	
Bldg Pressure (Pa)	-0.0
DG700 - 38152 Ch A	
Bldg Baseline (Pa)	
Completed Tests	1
Seconds	
# Samples	

Edit Environmental Data

Start Test

Pause

Cruise

Sample

Clear

Previous

Next

to Test Settings

to Test Results

PLUMBING





1561

brand
products
tion
MADE IN USA
ICC #ESR-1404
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PAPA.com for installation
instructions
Business Hours • Flashing
PAPA.com

ALMOST THERE











Boyd

W-17

W-R

W-R

Boyd



















