

how to improve your drawings to have better construction detailing

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ces for continuing professional education. as such, it does not include content that may be deemed or construed to be an approval or endorsement by the aia of any material of construction or any method or manner of handling, using, distributing, or dealing in any material or product.

questions related to specific materials, methods, and services will be addressed at the conclusion of this presentation.

Course description

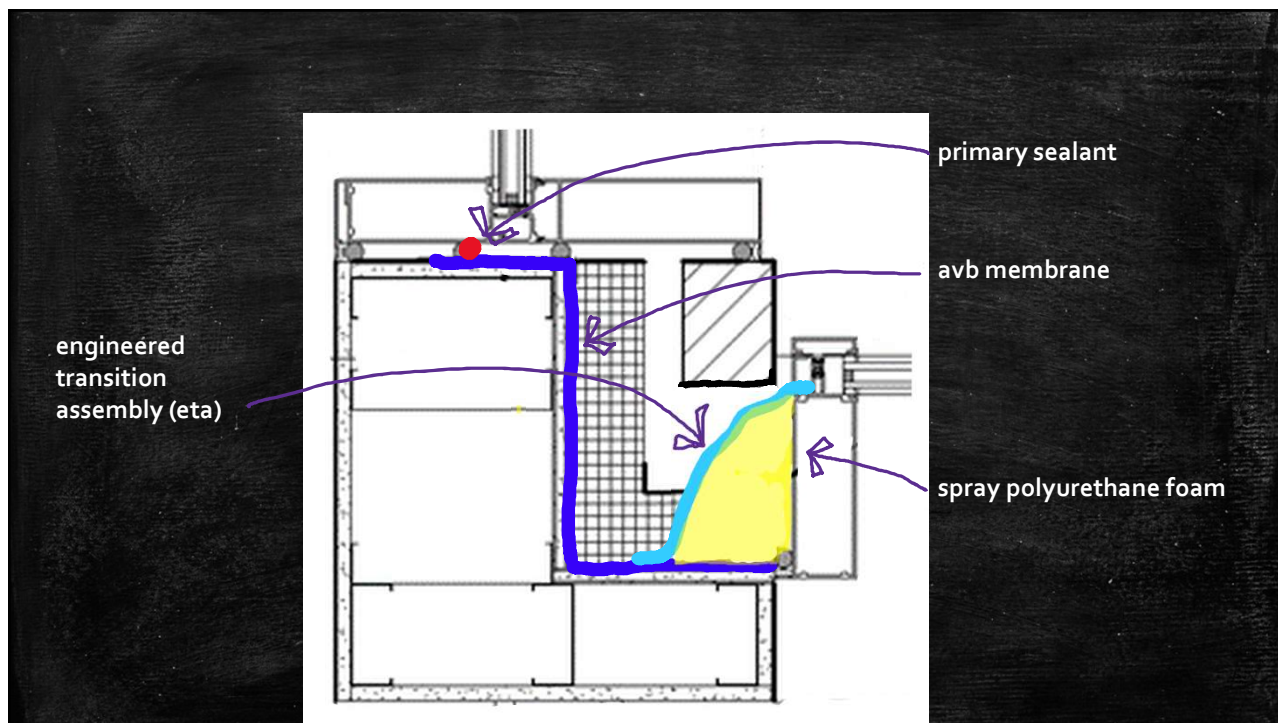
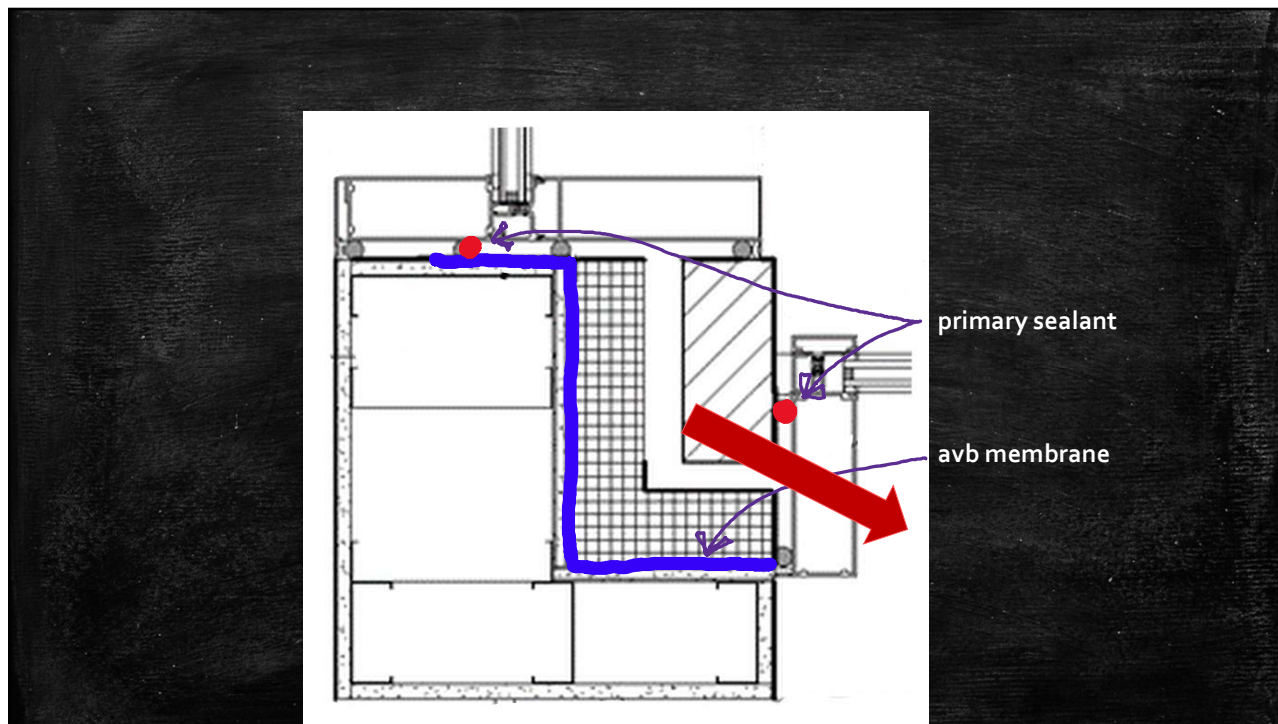
Understanding what is important to include on your Construction Documents is key to a successful bid and proper construction detailing. Taking lessons learned from hundreds of projects, we will identify what items should be included in the drawings to set clear expectations of what the contractor is to install and detail.

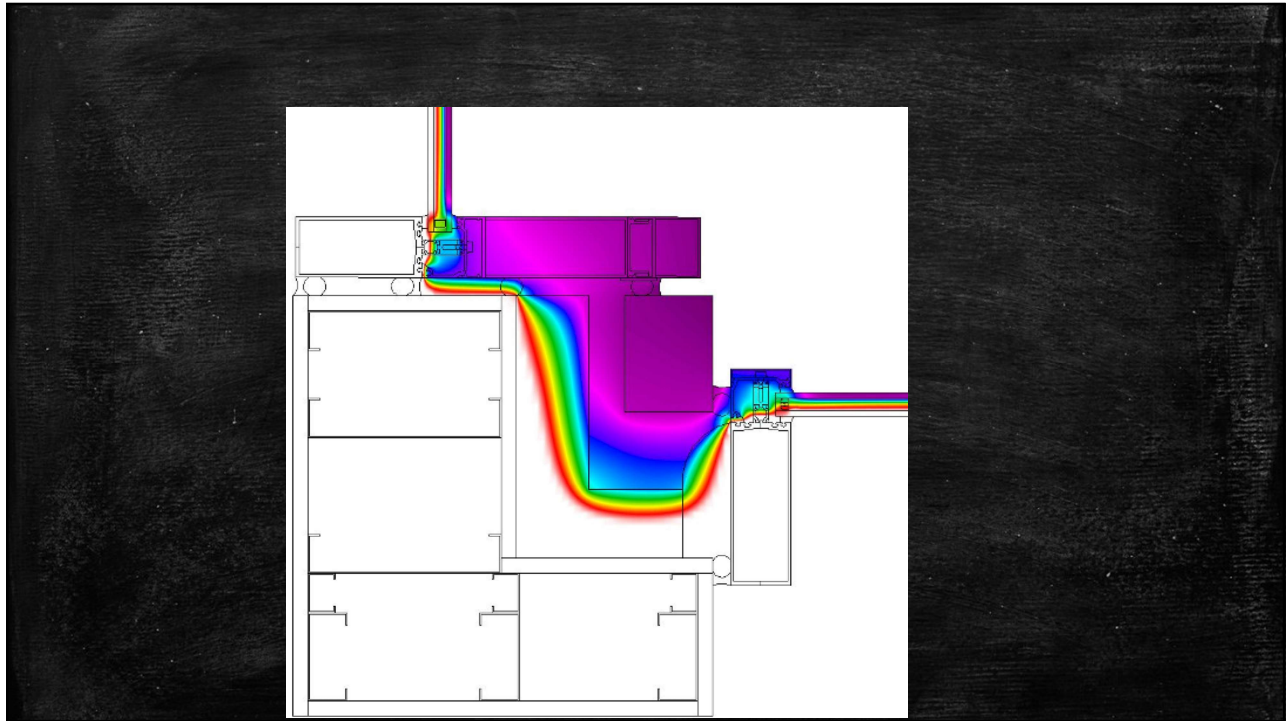
Learning objectives

1. Identify proper installation requirements for many different construction systems, from foundation to roof and everything in-between
2. Review best practices regarding installation and understand what to include on the construction documents
3. Recognize system installation transitions that will affect other trades of the building envelope and life safety
4. Apply what you have learned about critical transitions and system detailing to produce a better set of construction documents



**thermal break
location concern**





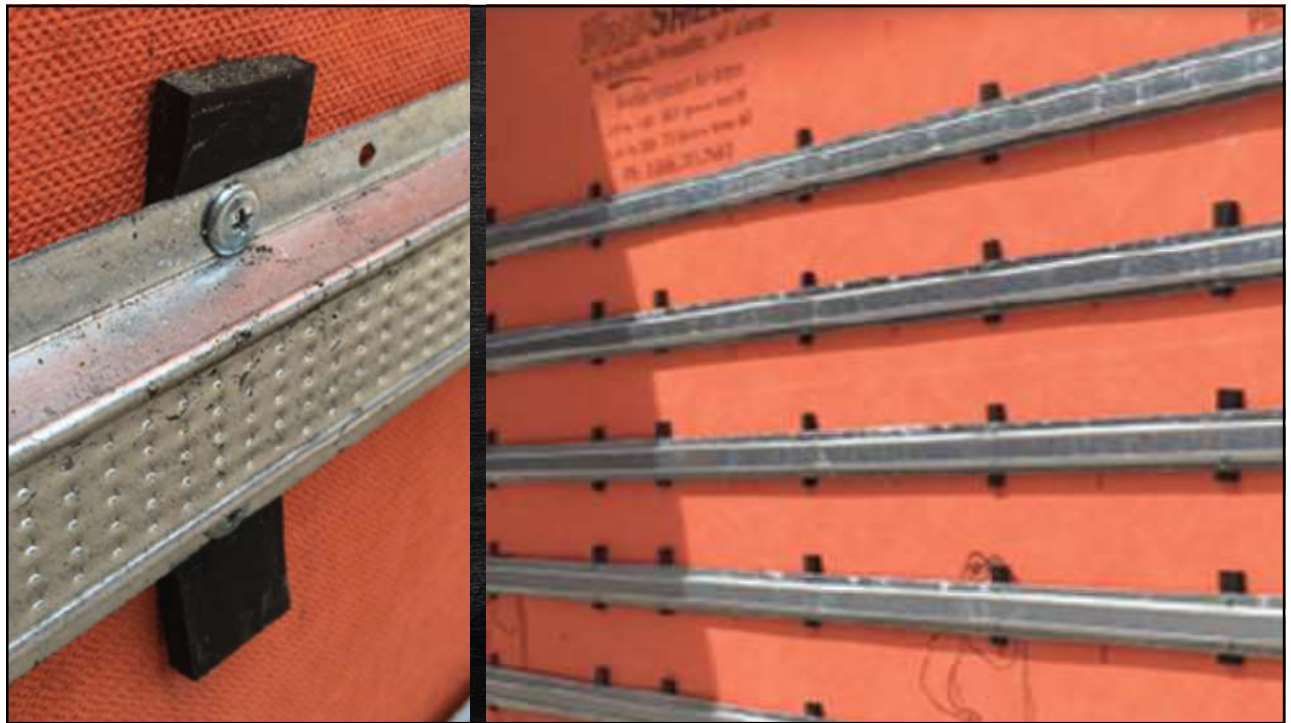
strapping at the
roof wall for
proper single ply
roofing containment



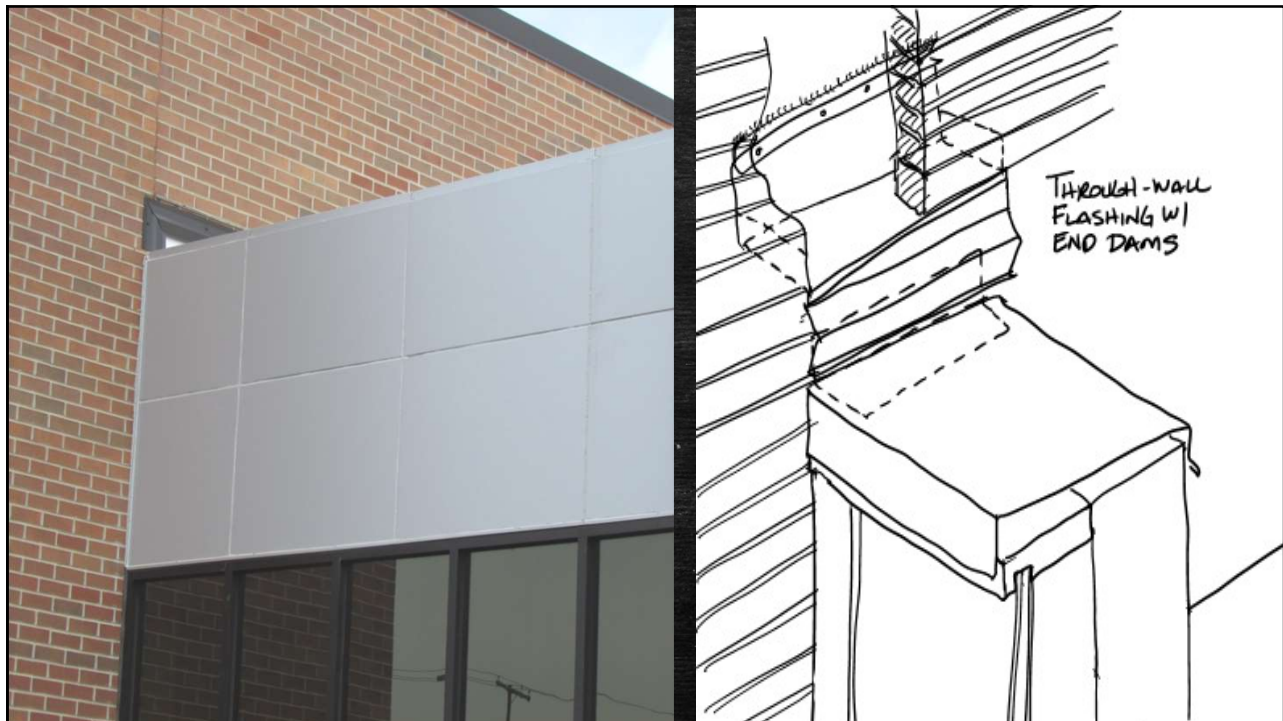




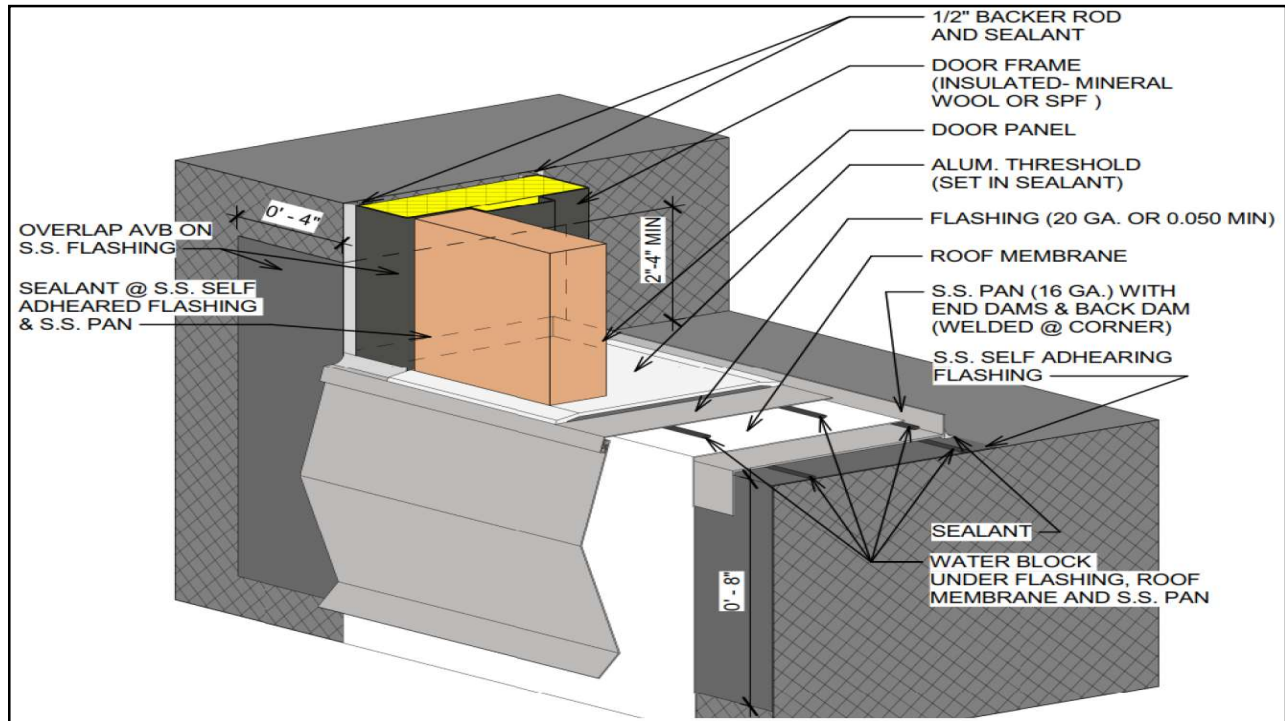
**air barrier and
horizontal battens**



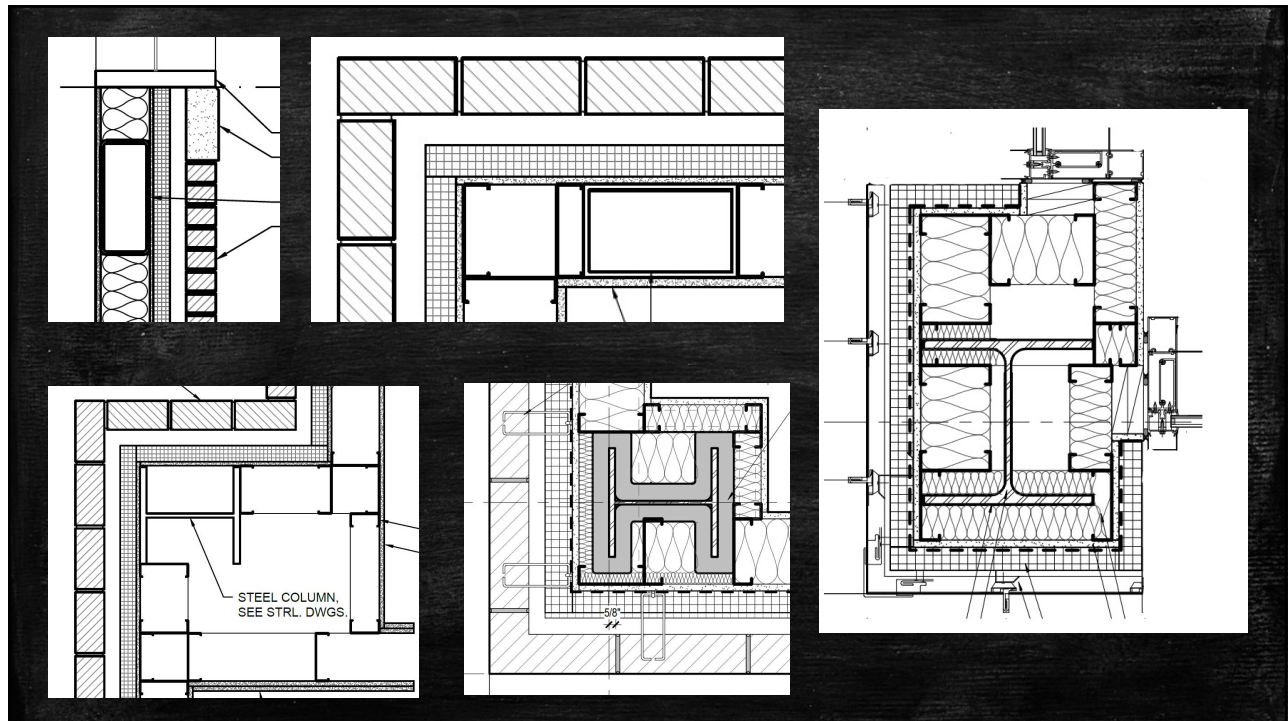
parapet and masonry walls

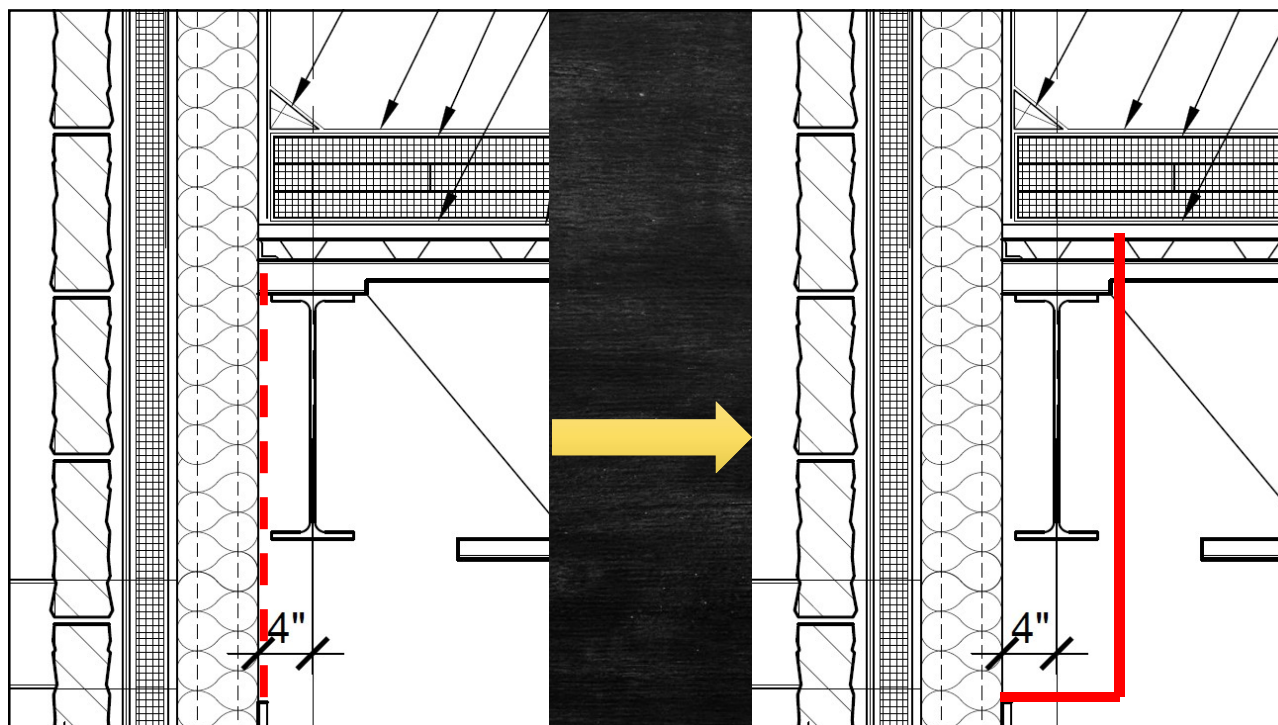
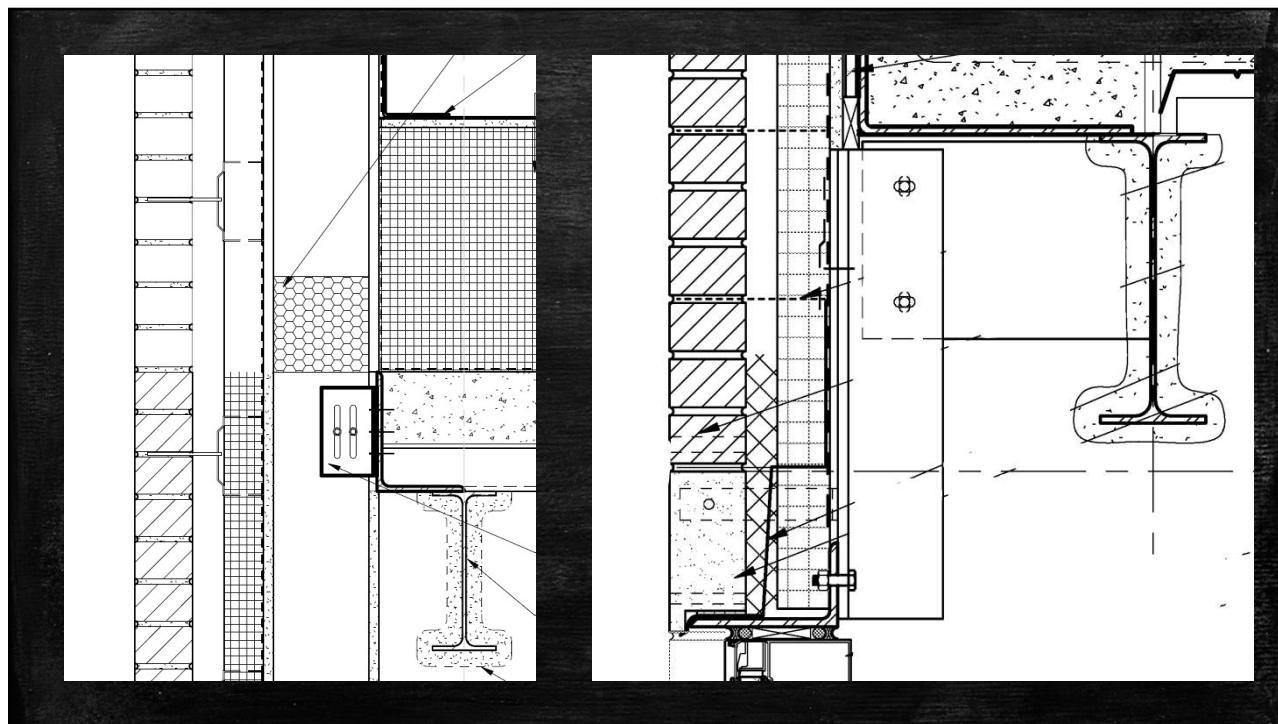






cfmf and structural steel -tolerance & constructability



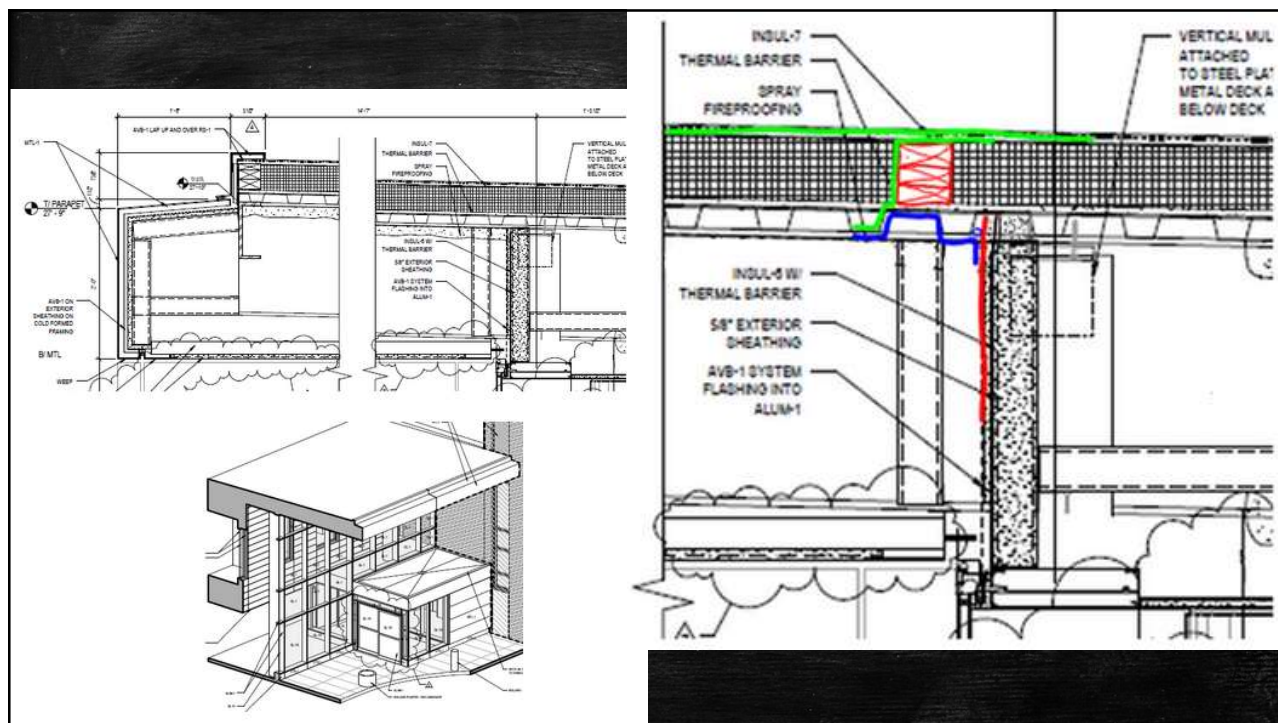


Metal panels as the avb



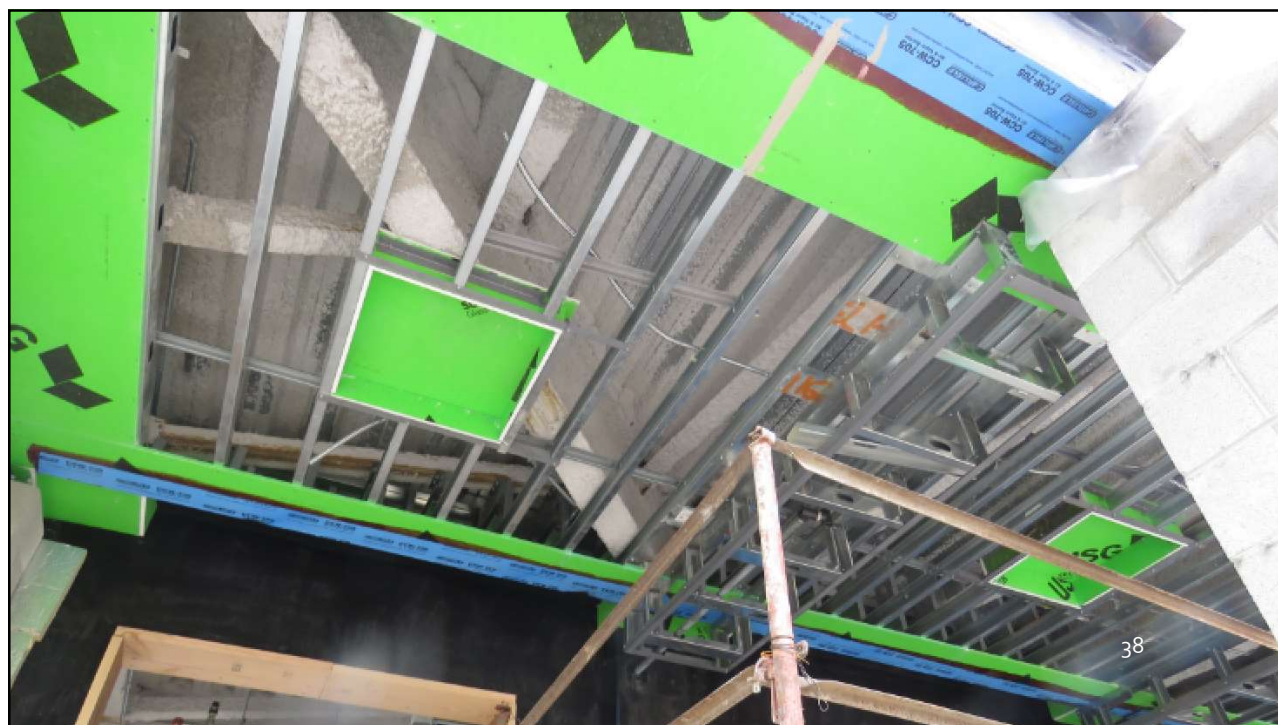


canopy and avb detailing





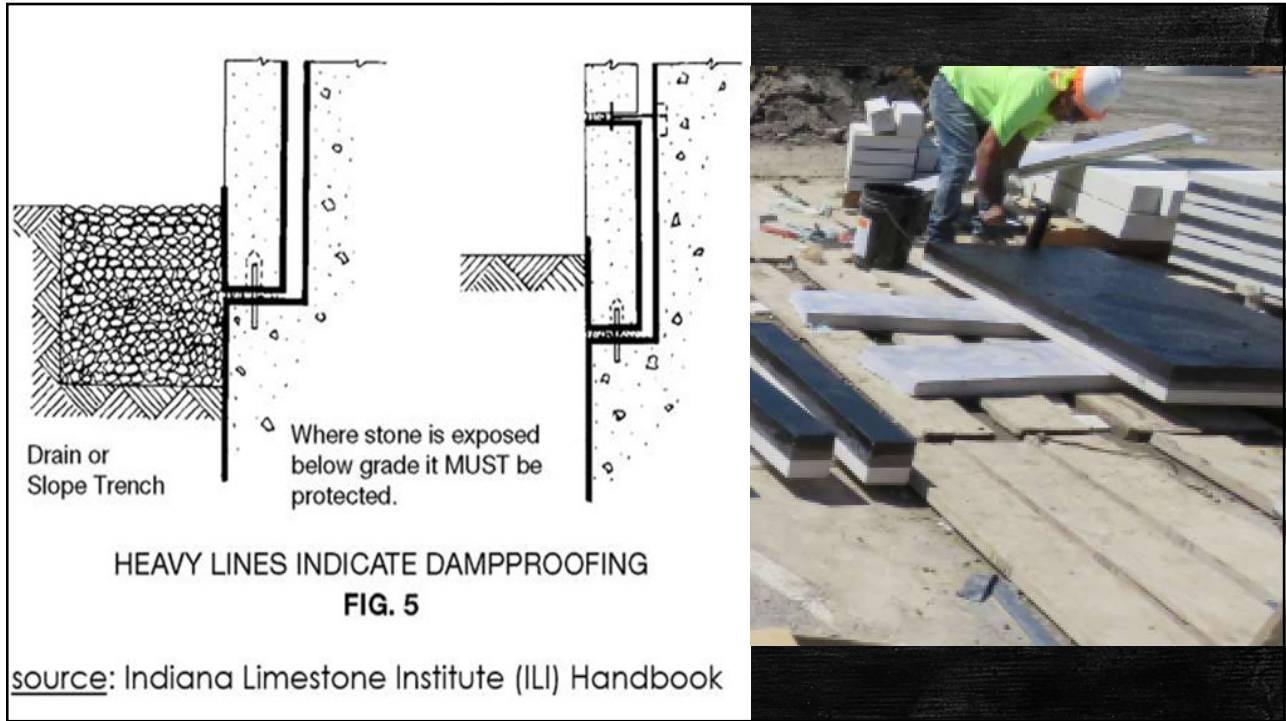
canopy with
fireproofing, avb,
and lights



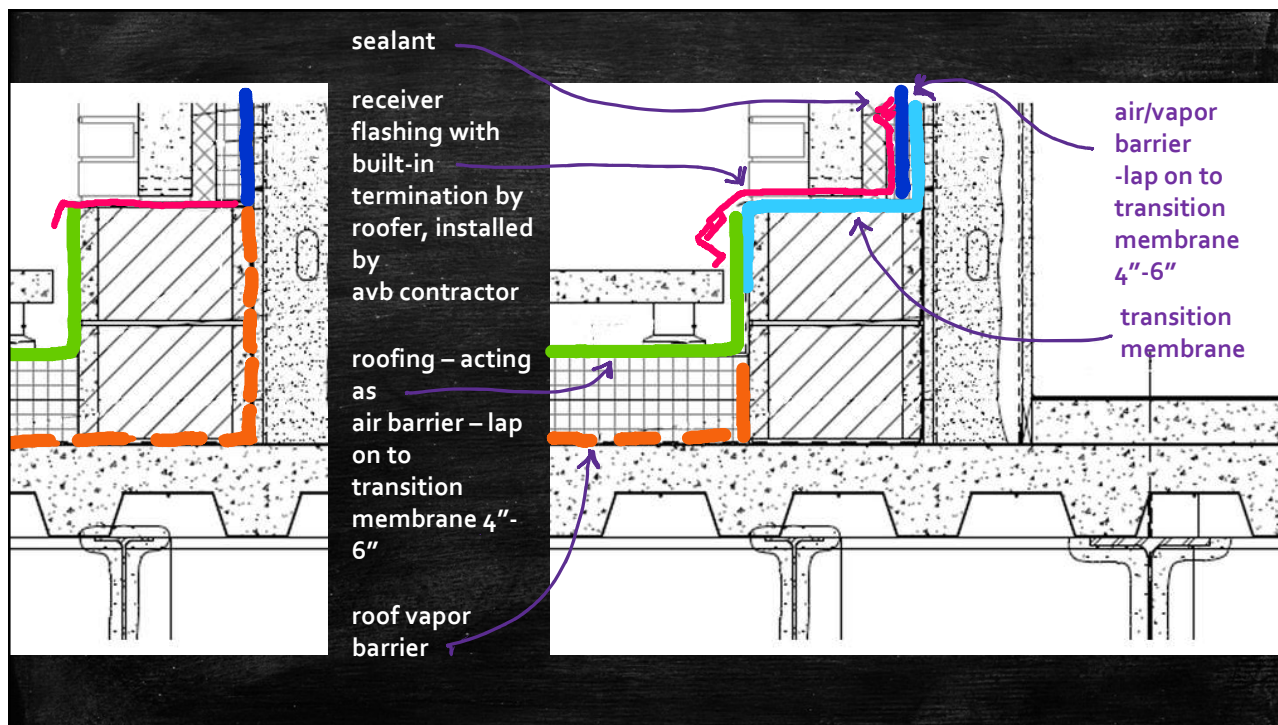
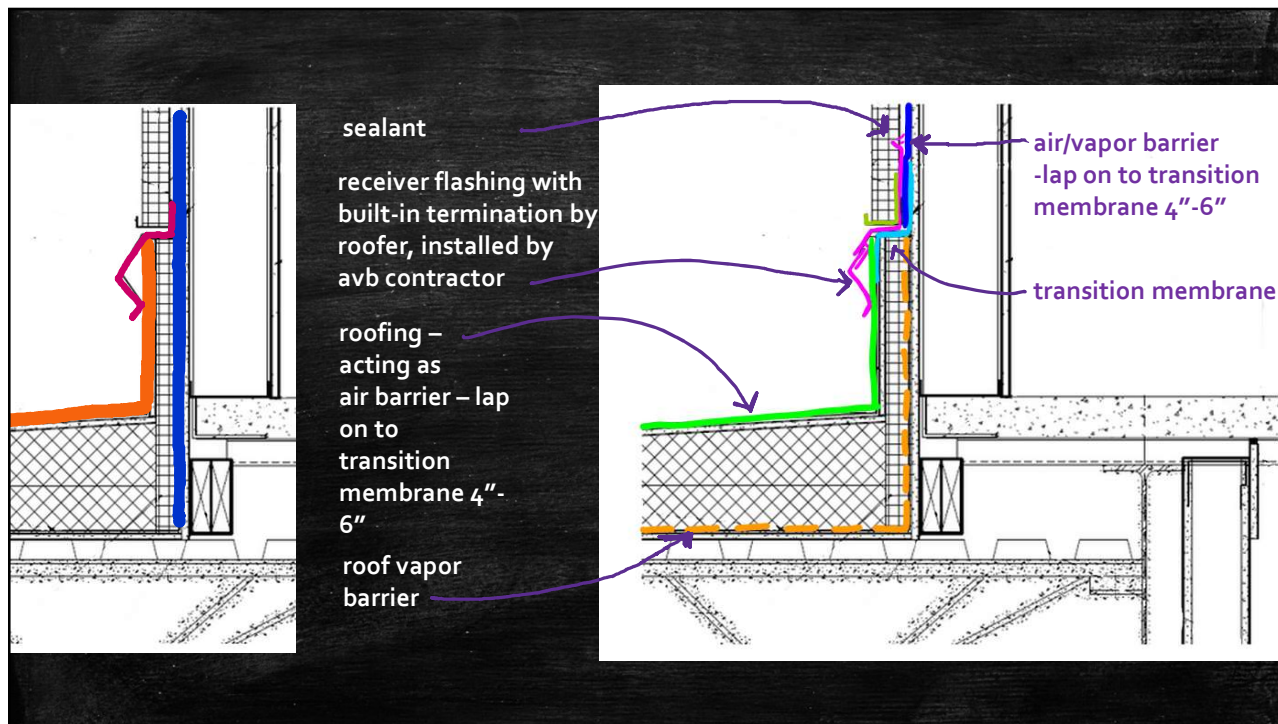


stone and grade concerns





roof to wall transitions



treated wood & galvanized metal

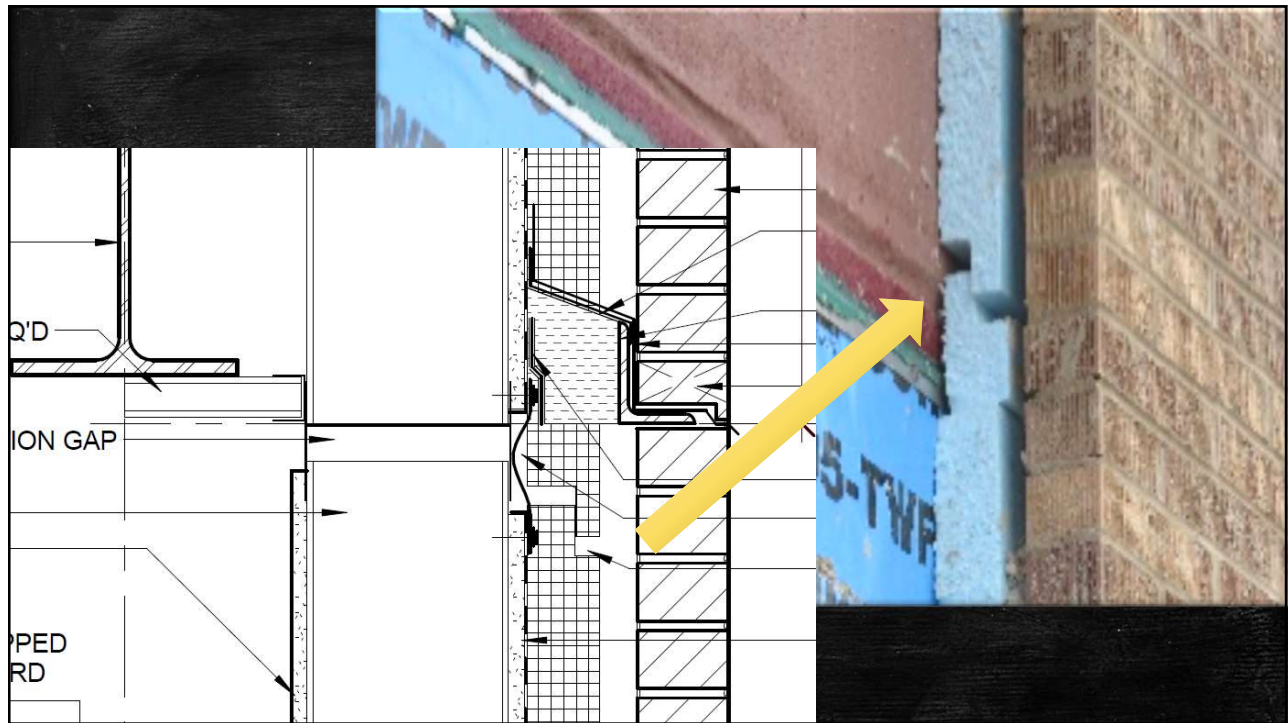


exterior treated wood, if
attached to galvanized
deck or cfmf...will need an
ice & watershield on the
metal

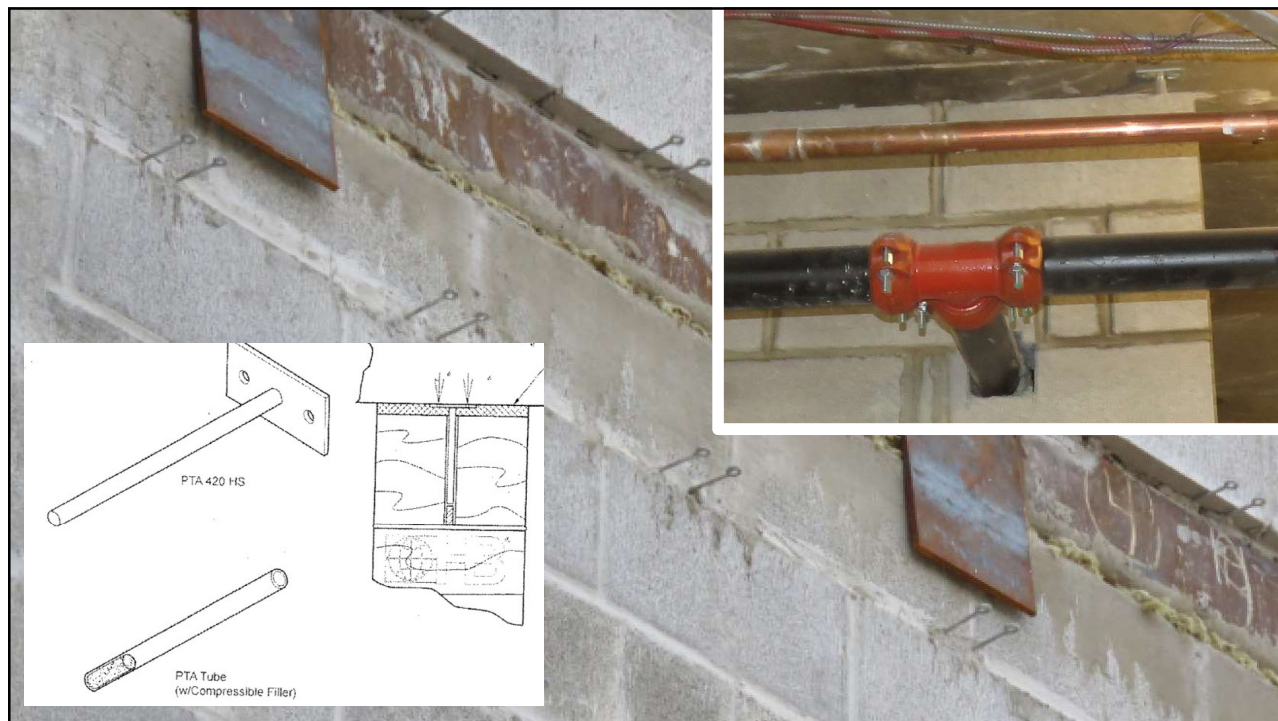
*most installations do not
need an exterior treated
wood...if they are being
covered and protected.*



exterior horizontal cj in insulation and veneer



cmu top of wall anchors



Stud gauge

Stud gauge has many variables, including: height, frequency, lateral loading, and other standard requirements...



Suggestive text:

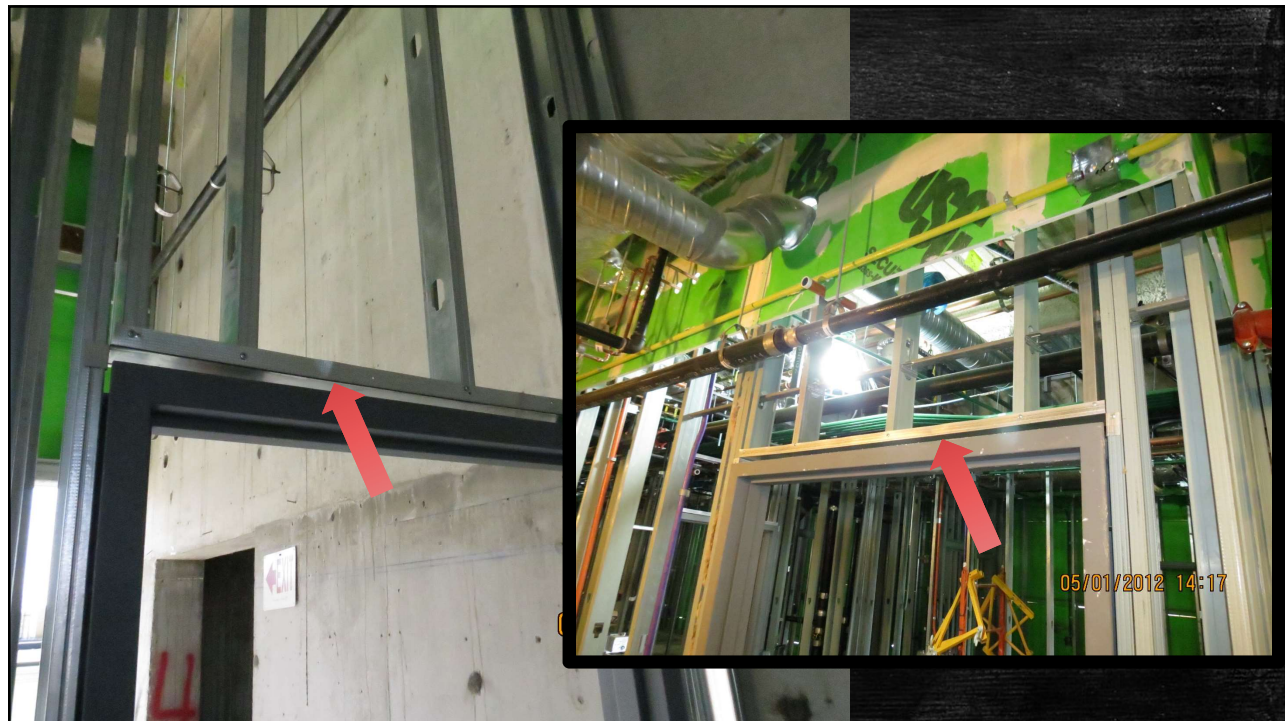
“Confirm the required stud gauge with the mfr limiting height tables”

tile walls and the
required stud per
TCNA/ANSI
108-11-4.2



*Studs shall be a min. 20ga-33 mil,
G60 material*

interior door headers - box beams





a box header typically is required for all openings greater than 36" and/or walls above greater than 36"...if you have a floor-to-floor height of 11', we have about 43" of drywall above the door opening, which generally will exceed the capacity of a 20ga bottom track

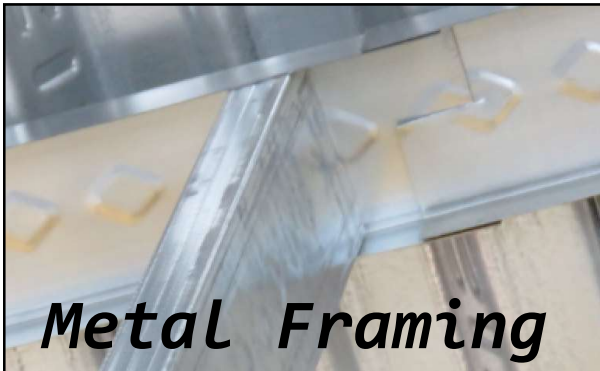
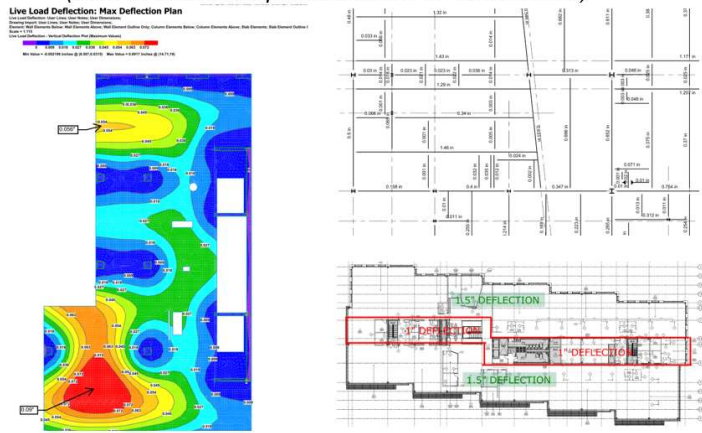
**live load
deflection**

Live Load Deflection affects many components in the building and has cost implications if not determined prior or during bidding.

The following is most likely affected (cost and possibly time):

- ✓ Head track size for typical partitions
- ✓ Head track size for fire rated walls
- ✓ Curtainwall detailing
- ✓ Precast detailing
- ✓ Air/vapor barrier detailing

Typical Live Load Deflection Plans given by the structural engineer:
(This is what to request in the RFI / Clarification)



Metal Framing



CMU

Deflection as it relates to the top track of partitions:

1/2" Deflection = 2" Head Track 3/4" = 2 1/2" 1" = 3" ...
1.25" or more = 4" head track, which is a special order and typically an 18ga minimum.

Top Track Calculation: 2 x Deflection + 1"

Obtaining the deflection prior or during bidding will reflect an actual cost for the top track, rather than an extra that we have all seen when we ask the question too late (such as in a Pre-Installation Meeting).

fire proofing and head of wall detailing

When installing this way, the top track just needs to be sized to accommodate proper deflection AND the specified thickness of the spray fireproofing
(2 x deflection + 1" + spray fireproofing thickness)

(2 x ¾") + 1" + 1" spray fireproofing = 3.5" Top Track Needed (which is a special order top track)

The drywall must be held off the bottom of the spray fireproofing the proper deflection distance in order not to damage the fireproofing when there is deflection...



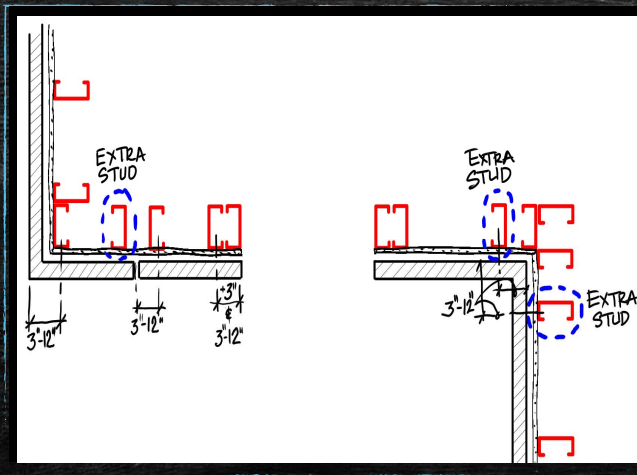
two ways to install top track on spray fireproofing:

1. on Z-Clips (recommended)
2. install a larger head track to accommodate the added thickness...

CFMF Stud placement and masonry

Use minimum 18ga, G90 material.

The design guideline is $L/600$ minimum.



Stud with-in 3"-12" of inside or outside corner.

Stud with-in 3"-12" of window or door opening.

Studs NOT closer than 3" for an anchor @ opening.

Stud with-in 3"-12" of either side of Masonry MJ.



This concludes The American Institute of Architects
Continuing Education Systems Course



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pepper quality app

QUALITY APP

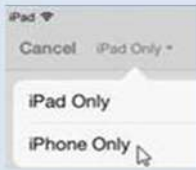
Bulletins and resources are just a tap away on your smart phone. Download the Quality App to access resources for Safety, Quality, LEED, and much more.

Go to any of these stores and create an account, then find it listed under "Pepper Quality". Once you open the file App, tap "Yes" to allow for push messages. Email Corey or Kathy Britton for the password.

Check the site often, as items are updated frequently.

[>>> iPhone App Store](#)
[>>> Google Play Store](#)
[>>> iPad App Store*](#)

*Choose "iPhone Only" tab in upper left corner after you search for the app.



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Pepper CONSTRUCTION Quality Technical Bulletin
Head-of-Wall Fire Joint—Part V
 10 March 2018

The "Part V" bulletin is a continuation of the "Part I" through "Part IV" bulletins, which address the general and specific requirements for the design and construction of head-of-wall fire joints. This bulletin provides detailed information on the design and construction of head-of-wall fire joints, including the use of fire-rated concrete, fire-rated masonry, and fire-rated steel. It also provides information on the testing and evaluation of head-of-wall fire joints.

System No. 100-2 (2018)
 Assembly: 100-2 (2018)
 Fire Rating: 2 hr
 Notes: 1. The fire rating of the assembly is based on the use of the materials and construction methods specified in this bulletin. 2. The fire rating of the assembly may vary based on the use of different materials and construction methods. 3. The fire rating of the assembly is based on the use of the materials and construction methods specified in this bulletin. 4. The fire rating of the assembly may vary based on the use of different materials and construction methods.

System No. 100-3 (2018)
 Assembly: 100-3 (2018)
 Fire Rating: 2 hr
 Notes: 1. The fire rating of the assembly is based on the use of the materials and construction methods specified in this bulletin. 2. The fire rating of the assembly may vary based on the use of different materials and construction methods. 3. The fire rating of the assembly is based on the use of the materials and construction methods specified in this bulletin. 4. The fire rating of the assembly may vary based on the use of different materials and construction methods.

System No. 100-4 (2018)
 Assembly: 100-4 (2018)
 Fire Rating: 2 hr
 Notes: 1. The fire rating of the assembly is based on the use of the materials and construction methods specified in this bulletin. 2. The fire rating of the assembly may vary based on the use of different materials and construction methods. 3. The fire rating of the assembly is based on the use of the materials and construction methods specified in this bulletin. 4. The fire rating of the assembly may vary based on the use of different materials and construction methods.

System No. 100-5 (2018)
 Assembly: 100-5 (2018)
 Fire Rating: 2 hr
 Notes: 1. The fire rating of the assembly is based on the use of the materials and construction methods specified in this bulletin. 2. The fire rating of the assembly may vary based on the use of different materials and construction methods. 3. The fire rating of the assembly is based on the use of the materials and construction methods specified in this bulletin. 4. The fire rating of the assembly may vary based on the use of different materials and construction methods.

US assigns the following ratings for testing joint systems:
 1. 100-2 (2018) 2 hr
 2. 100-3 (2018) 2 hr
 3. 100-4 (2018) 2 hr
 4. 100-5 (2018) 2 hr