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CONFERENCE
& TRADE SHOW
MARCH 26-27
2019
NORFOLK
VA

AIR BARRIER EDUCATION TRACKS FOR
THE CONSTRUCTION INDUSTRY

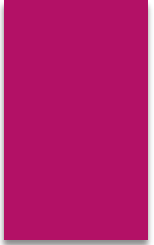
AVB Considerations in Prefab Construction



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director of quality
pepper construction

czussman@pepperconstruction.com





Air Barrier Association of America (ABAA) is a Registered Provider with The American Institute of Architects Continuing Education Systems. Credit earned on completion of this program will be reported to CES Records for AIA members. Certificates of Completion for non-AIA members are available on request.

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Course description

This presentations will discuss the top considerations when designing, constructing, and installing prefab cold formed metal stud panel construction with regard to air/vapor barrier systems. From initial design considerations of the AVB system to the final completion. The presentations will be based on several case studies which we will dive into what is needed to be discussed early in the initial planning stages, construction tolerances, installation techniques, travel and storage concerns, as well as installation tips to make sure that the installation as a whole is able to be properly detailed every step of the way.

Learning Objectives

- 1. Identify AVB considerations and properly choose a system that will work with the specific design challenges of the CFMF panels.*
- 2. Learn how to identify and prevent constructability issues during the design, detailing, and installation phases of the prefab CFMF panels.*
- 3. Be able to review the fabrication process and understand the AVB concerns and how to mitigate issues during the process.*
- 4. Apply the understanding of the prefabrication process and AVB installation concerns to the field during the site observation review.*

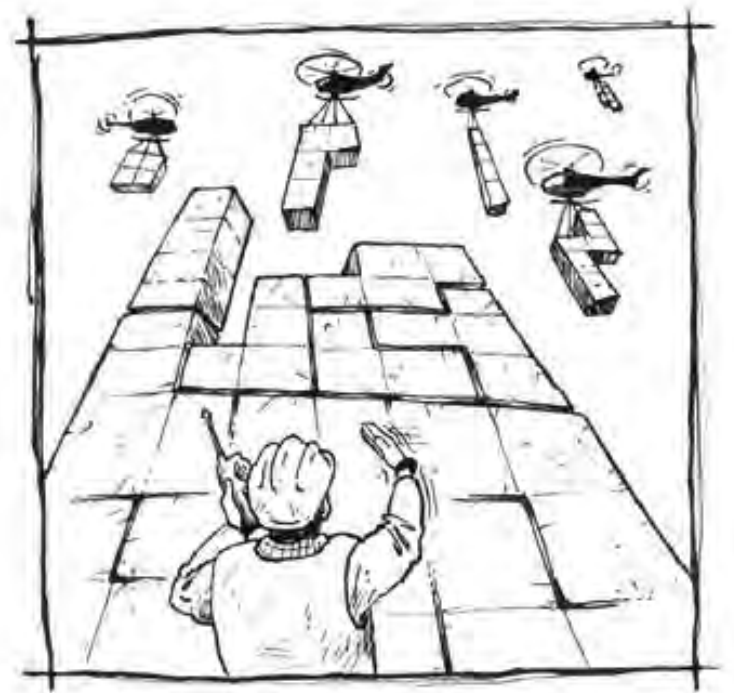


Reasons for Prefabrication

*Issues arise when
skills/knowledge diminish in
concert with downward
pressure on pricing*

Types of Prefabrication

1. *On Grade*
2. *Podium*
3. *Structural Steel Support*
4. *Modular*





07/30/2018 07:49







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Reasons for Prefabrication

- 1. Rushed Schedule*
- 2. Favorable climate conditions*
- 3. Possible QC benefits*
controlled environment
consistent quality benefits
- 4. Lack of Skilled Labor*
- 5. Possible cost benefits*
- 6. Potential safety benefits*





Factory Visits / Inspections





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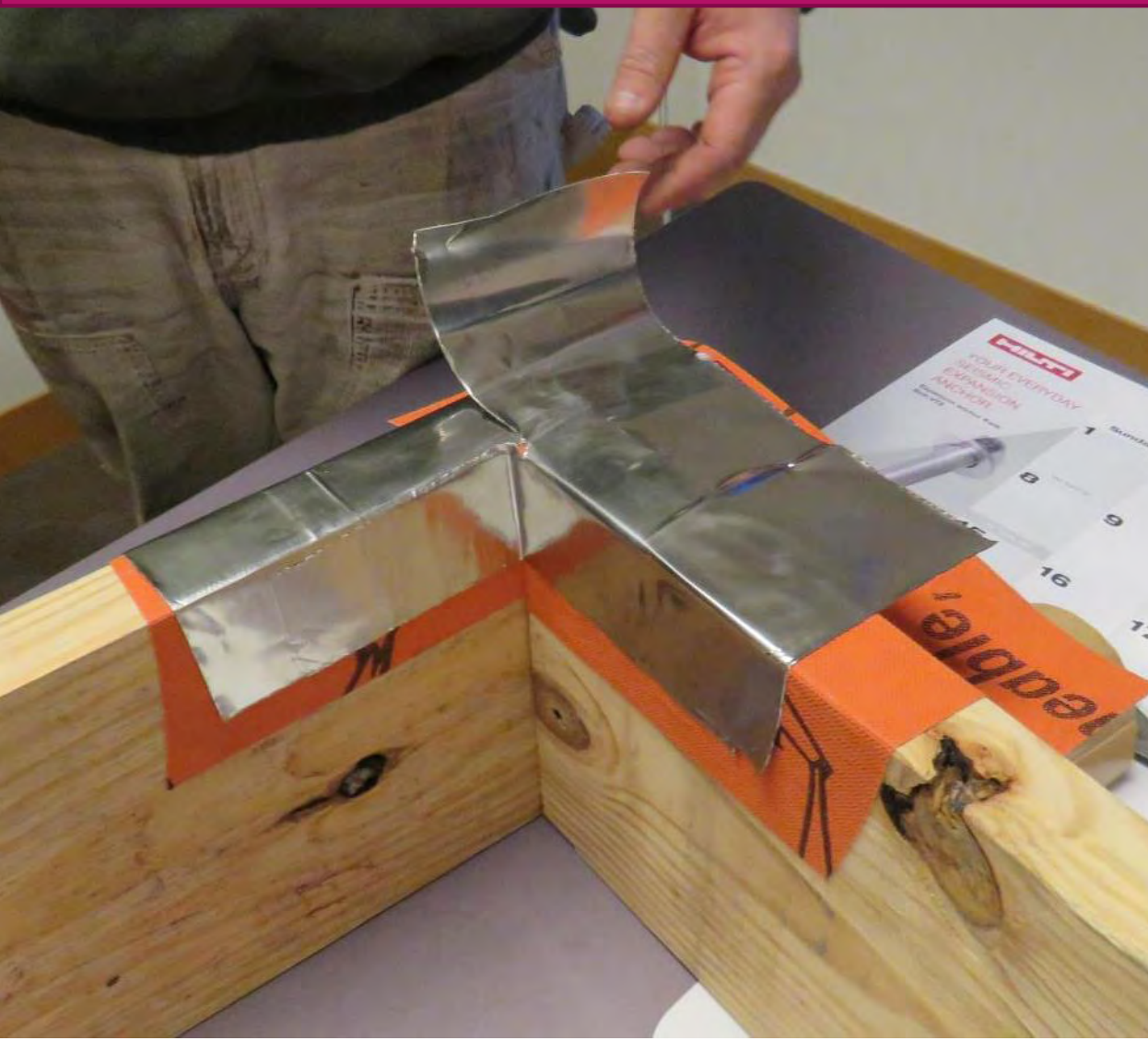
Mock-Up Detailing

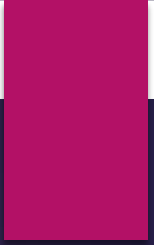


1st Shot

INRU-Wall-Fishing SA
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50ft/152mm x 15.24m
Roll/1.9 kg Per Roll







Storage at Fabrication Plant

EISEN PANEL 600S250 97

204
EISEN PANEL 600S250 97 50 KSI 660 OK 18

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DO NOT LOAD SINGLE COIL HERE



Transportation Rigging



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Unloading Concerns



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Storage On-Site



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3B



Safety Rail Concerns



PORT-A-JOHN

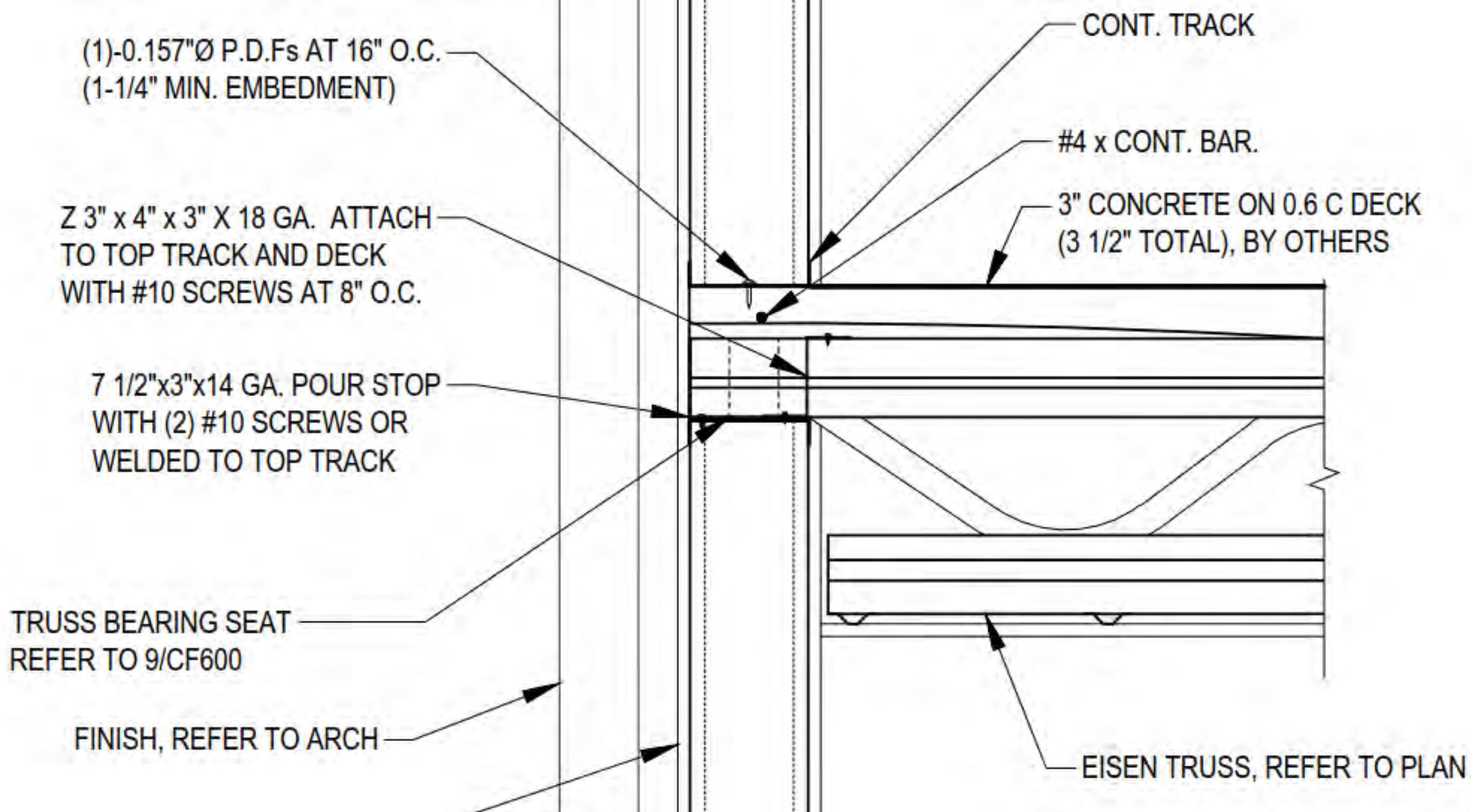
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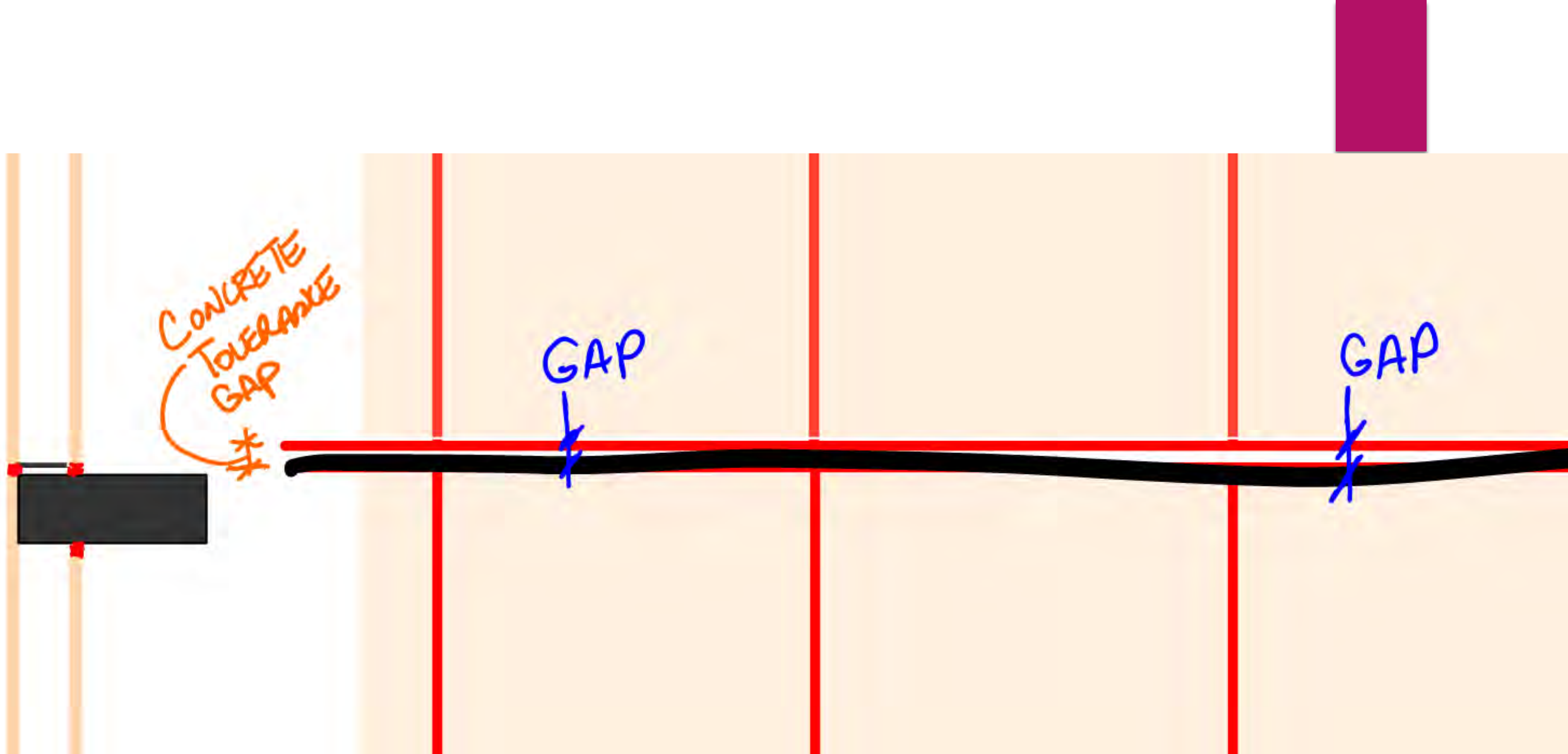


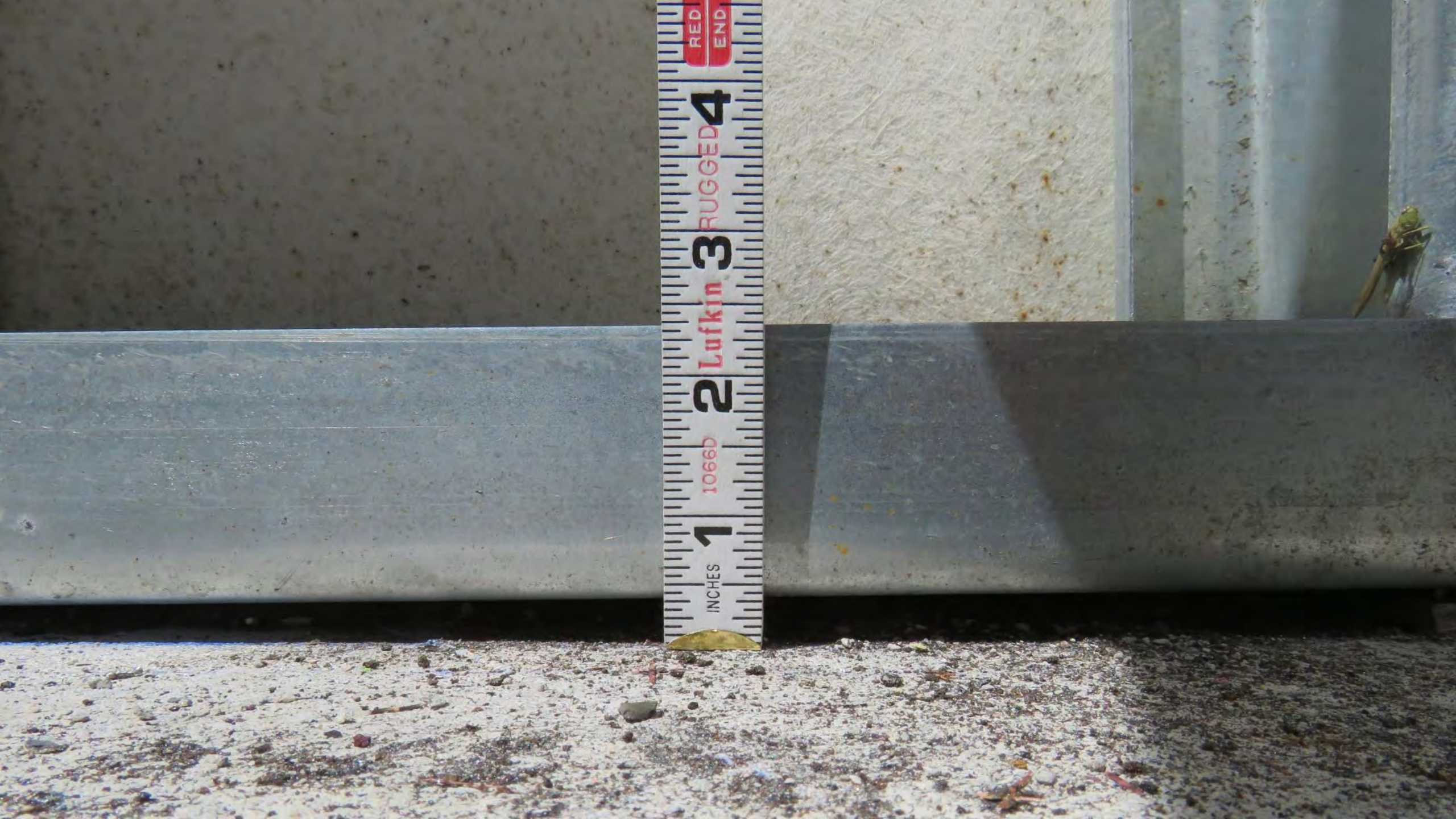
Detail Drawing Review – Floor Concerns

Concerns with Fire Rated Horizontal Joints

- ✓ Lower sheathing not in moderate contact with upper sheathing
- ✓ Concrete level issues
- ✓ Damage to thin pour stop during installation & transportation
- ✓ Air barrier must accommodate the fire rated joint installation







INCHES

1

1066D

2

Lufkin

3

RUGGED

4

RED
END

Concrete Foundation Wall Detailing





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2hr & 3hr
Rated Wall –
Multi-Layered
Drywall







AVB Install on Non-Prefab Components



Steel Columns





Construction Dust/Storage



05/29/2018 08:17

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Weather

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59" by 164"

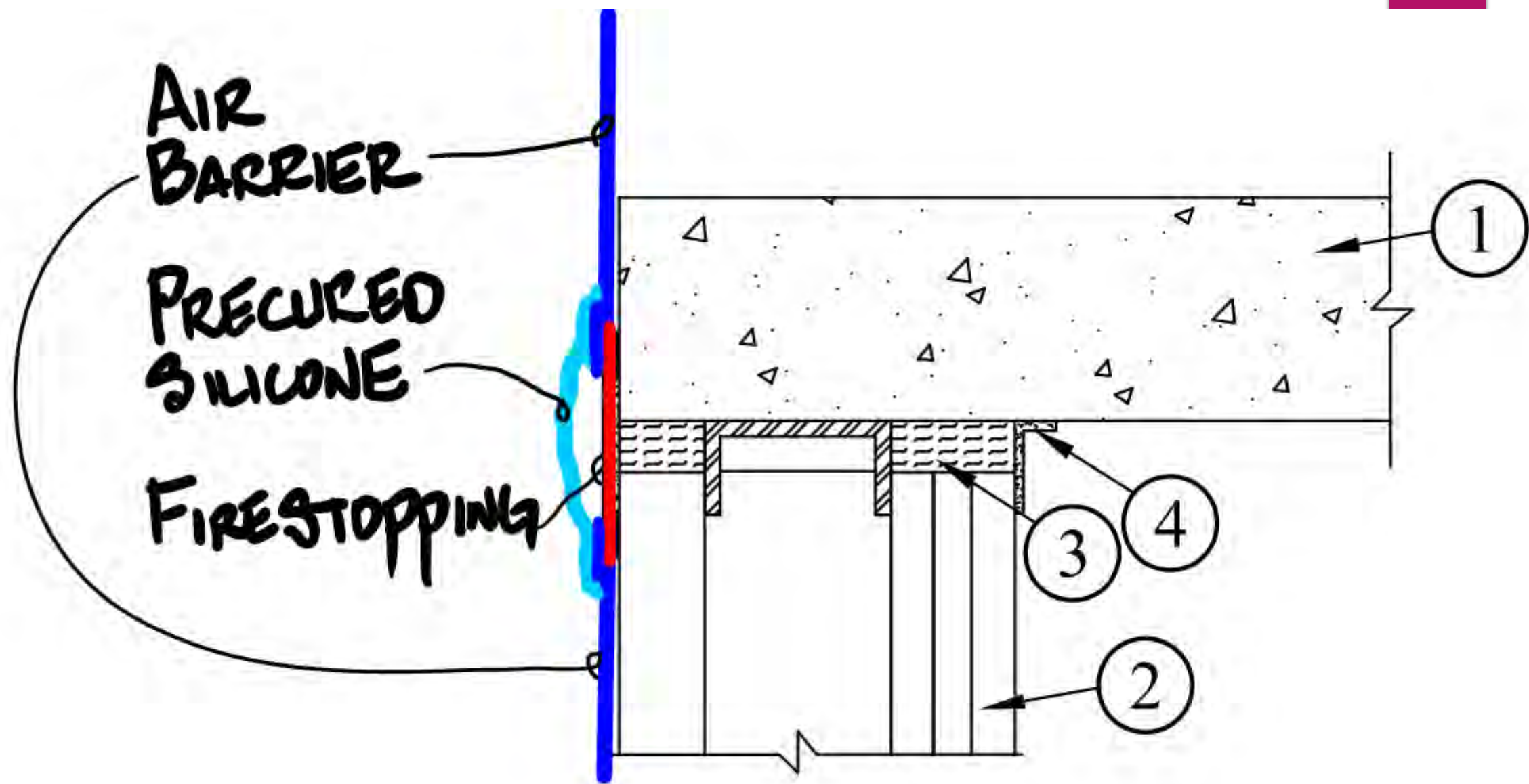


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AVB & Fire Stopping





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Fire Joints Vertical





03/12/2018 12:52

Fire Joints Horizontal



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Shelf Angle Detailing



09/24/2018 07:27

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Corner Detailing







4 – Corner Panel Detailing



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Improper initial Installation







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Window Openings







04/27/2018 13:32



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Meets ICC-ES AC-308 Water-Resistive Barrier & Air Barrier Material requirements. ICC-ES Evaluation Report ESR-2275/Satisfactory aux exigences de la norme
ICC-ES AC-308 pour les membranes résistives à l'eau et les pare-air. Rapport d'évaluation ESR-2275 de l'ICC-ES.

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SEND UP

A close-up photograph of a hand holding a blue, textured, rectangular object, possibly a piece of paper or a small book, against a light-colored, textured background. The hand is positioned on the right side of the frame, with fingers gripping the object. The object has a distinct blue border and a lighter blue, textured interior. The background is a light-colored, textured surface, possibly a wall or a piece of paper.

1. **ASSIGNMENT:** The student will be assigned to a group of 4-6 students and will be responsible for the following tasks:

2. **RESEARCH:** The student will be responsible for researching the following topics:

3. **PRESENTATION:** The student will be responsible for presenting the results of the research to the class.

4. **DEBATE:** The student will be responsible for participating in a class debate on the topic.

5. **WRITING:** The student will be responsible for writing a paper on the topic.

6. **REFLECTION:** The student will be responsible for reflecting on the experience and the results of the assignment.

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Hidden Damage



07/05/2018 10:56



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05/29/2018 08:31

Reasons for Prefabrication

\$10 Billion in construction defects a year

69% is moisture related to infiltration

53% faulty installation

19% faulty design

Reasons for Prefabrication

US Chamber of Commerce found commercial contractors turn to alternate construction solutions such as prefab and modularization to create:

- ✓ more efficient jobsites (89%)
- ✓ increase labor productivity (85%)
- ✓ direct cost savings (58%),
- ✓ provide a competitive advantage in the marketplace (51%).

We need to step it up

- ✓ Better Education
- ✓ Raise the Installation Bar
- ✓ Engage a Manufacturing Process More
- ✓ Provide step mock-ups

This concludes The American Institute of Architects Continuing Education Systems Course

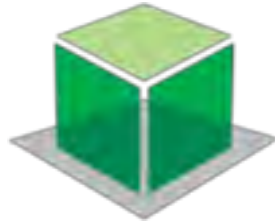


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