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REQUEST FOR INFORMATION **DATE:** May 16, 2016 **NO.:** RFI-083

To: Cannon Design

Attn: Kelvin Patel

From: Paric Corporation

Requested By: Devin Gates

Project Name: Webster University Interdisciplinary Science Building Project No.: 15051

Subject: Curtain wall structural clarifications

Response Required By: May 23, 2016

Drawing / Spec Reference:

Information Requested:

JEI (curtainwall structural engineer) has reviewed the current contract drawings and needs direction due to the following concerns:

1. Detail 4/A0451 is currently drawn as a dead load connection to roof structure. Detail 5/A0453 is currently drawn as wind load connections to the third and fourth floor structure. There is currently stack joints drawn in between the third and fourth, and the fourth and roof. This is unstable, as the section of curtain wall running past the fourth floor line does not have its weight supported.

2. On the West face, the cantilevered portion of EGS-1, does not currently show dead load connection. It also shows the stack joint above the lateral load connection at the roof line. This is unstable as the weight is not currently accounted for. Also, all joints must be in between support points. We can't place a stack joint within a cantilevered member.

3. The current drawings create a differential movement issue. The weight of the EGS-1 on the West face will be at the third floor line or the roof line. Currently the portion of EGS-1 that extends down to the second floor line is supported at the second floor. These two portions of EGS-1 are separated with a single mullion. These must be supported at the same floor line to alleviate any racking due to differential movement.

4. The current drawings show a dead load connection at the roof, supporting 14' 10" of curtain wall. The anchors used to support the dead load, are connected to the roof spandrel beam. The curtain wall is 1' 10" away from the I-beam. This will place a large amount of torsion on the spandrel beam. Typically these beams are not designed to accommodate this type of loading.

PROVIDE WALL
SYSTEM WEIGHT
IN PSF FOR
DESIGN/REVIEW
VERIFICATION

ALL SPANDREL
BEAMS ARE
BRACED PER
9/S0003

Suggestion: JEI strongly recommends eliminating all stack joints and supporting the weight of EGS-1 only at floor line 3 along its entire length. This will eliminate all of the above concerns. This can

Answered By: _____

Date: _____



be accomplished with the proposed system depths, utilizing lateral load only connections at all other floor lines.

We would only need to accommodate building and thermal movement in (2) locations:

1. The roof line along the entirety of EGS-1.
2. The second floor line (only for the portion that extends below the third floor).

We would need to ensure that the weight of the system can be supported at the third floor line. This would need to be coordinated with the structural engineer of record.

Response:

ARCHITECT'S RESPONSE:

This information is provided as an interpretation of the Contract Documents for implementation. It is not an authorization for change to the Contract Sum or Contract Time. If this information results in a claim for a change to the Contract, the Contractor shall notify the [Construction Manager][Architect] of a change through the change process.

Response to Questions 1, 2, 3:

Attached drawings (Horizontal Movement Clarification) with markups add further clarification to design intent in the documents. If you have further questions we can have a discussion.

If areas of differential movement are encountered during manufacturer's engineering evaluation please clearly note by clouding or highlighting on the attached drawings for architect's review.

JYW/DMA
COMMENTS
IN BLUE

KRP/CD
COMMENTS IN
MAGENTA

Red lines denote location where system weight would be supported

IF ADDITIONAL WALL WEIGHT IS PROPOSED FOR THE ROOF BEAMS, A DESIGN REVIEW AND POTENTIAL ROOF BEAM REVISIONS MAY BE REQ'D

IS VERTICAL JOINT REQUIRED HERE, EACH SIDE, IF HUNG AT THE PROPOSED RED LINES?

Due to stack joint locations, 4th floor not supported as currently drawn.

Differential movement concerns with supporting the weight of these two portions at different floor lines.

6/A0452, 5/A0456 shows wind load connection. Weight of curtain wall not supported.

The stack joint is currently shown above the lateral load connection point, which is not possible, without anchor above it.

4 3D VIEW - NW CORNER

3 3D VIEW - NE CORNER

2 3D VIEW - SW CORNER

1 3D VIEW - SE CORNER

NOTE:
DRAWINGS ON THIS SHEET ARE
FOR ORIENTATION AND SPATIAL
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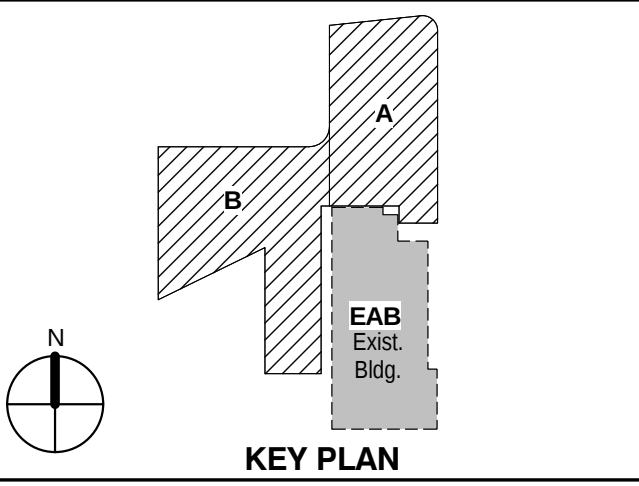
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Planning & Fire Protection
1400 S. 3rd Street, Suite 201
St. Louis, MO 63104
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ISSUED FOR CONSTRUCTION (BP1) 15 JAN 2016
No. Description Date



Drawing Title:

3D VIEWS

Project No.: 04561.01 Checked by:

A0300

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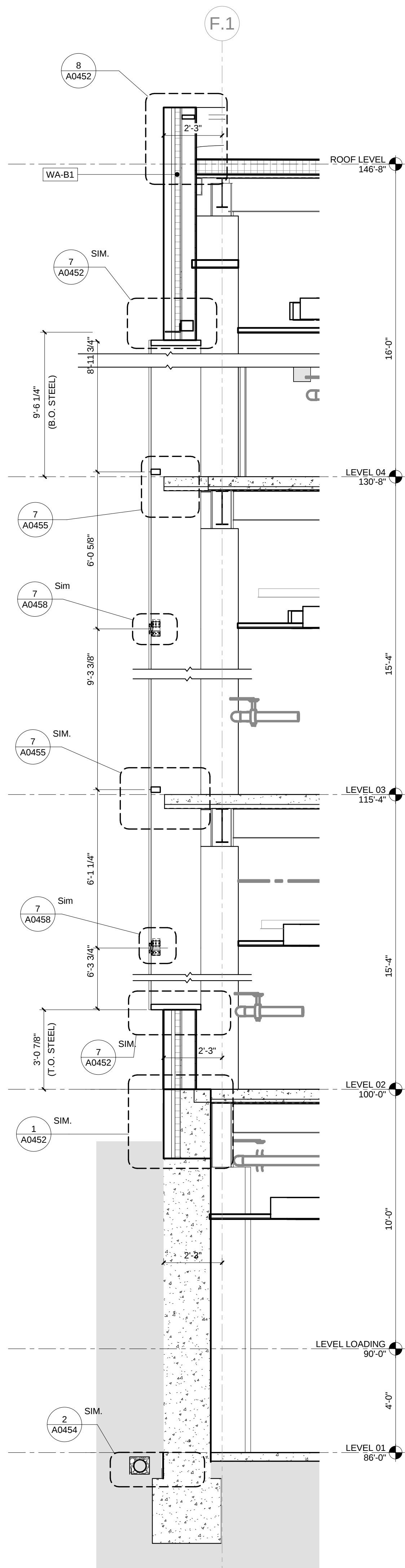
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WALL SECTIONS

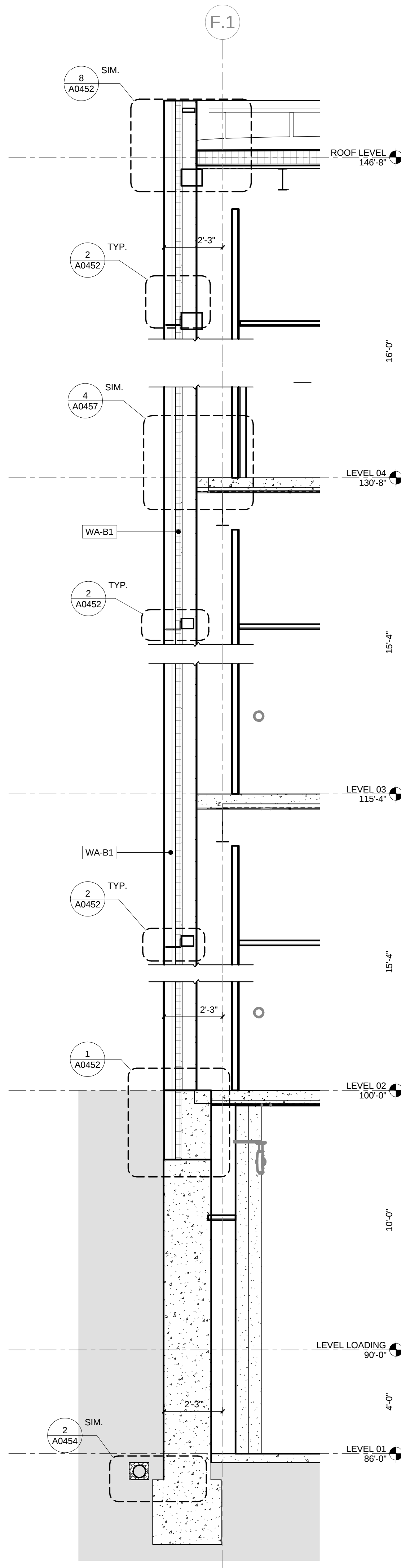
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A0402

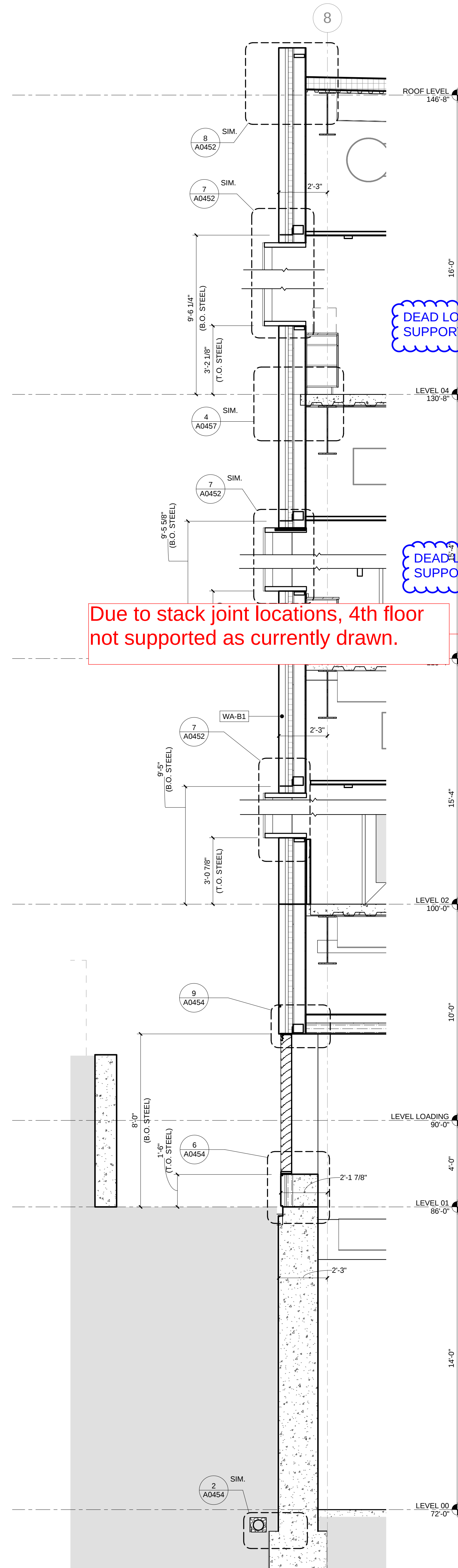
© Cannon Design 2015



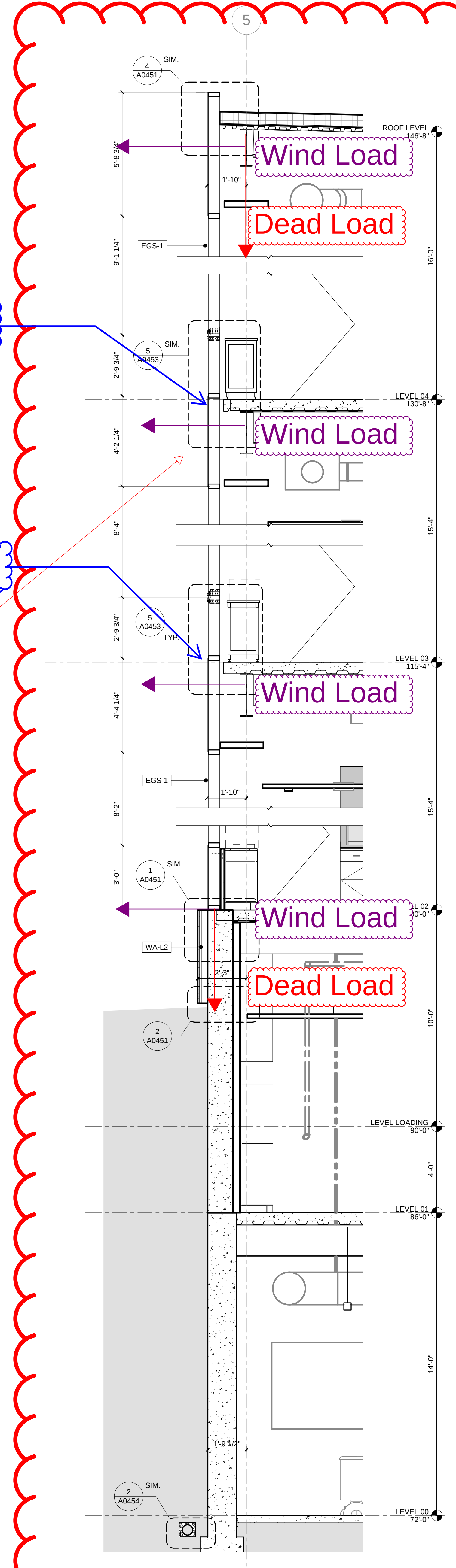
4 NORTH WALL SECTION E - WA-B1
3/8" = 1'-0"



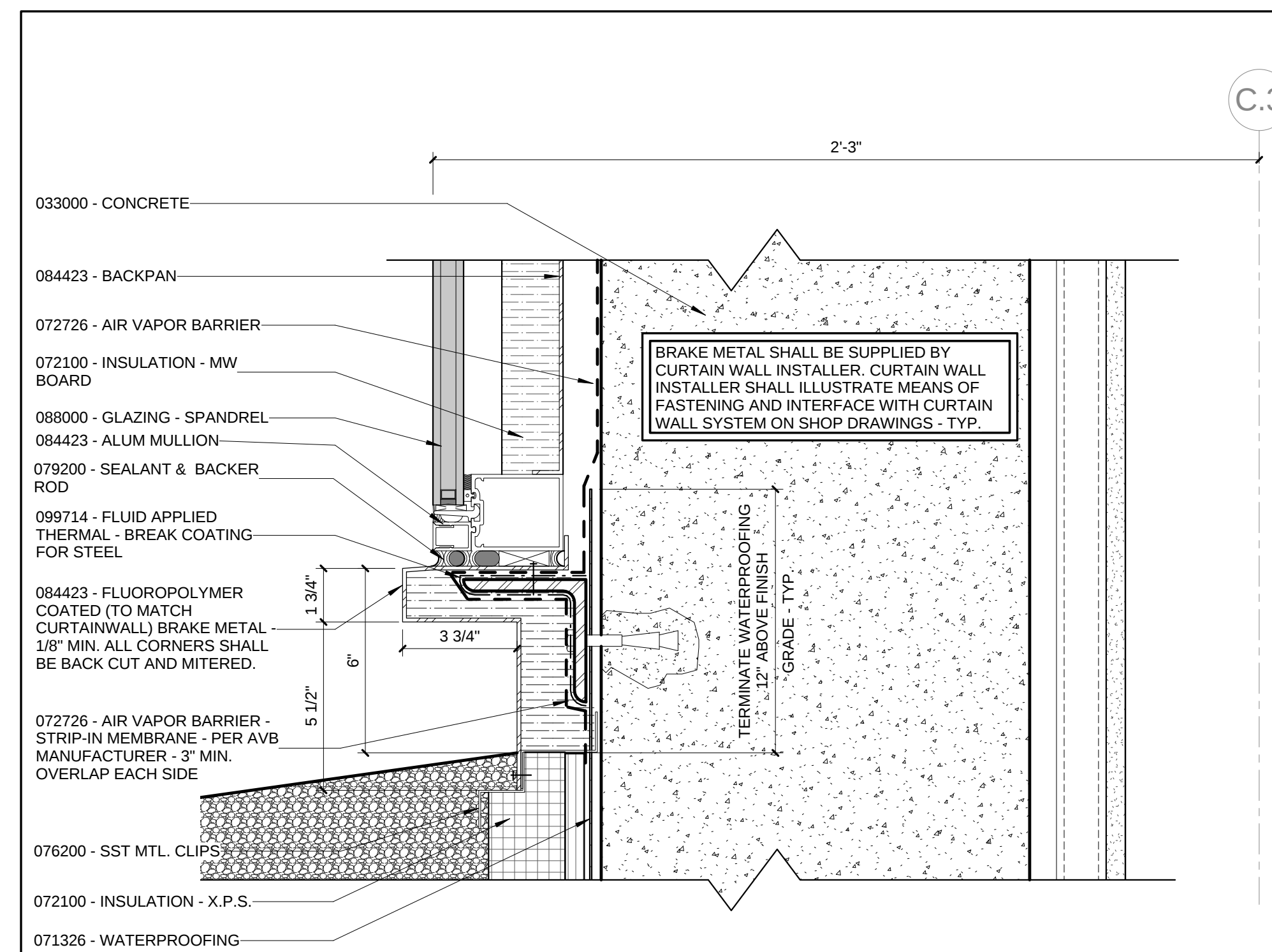
3 NORTH WALL SECTION D - WA-B1
3/8" = 1'-0"



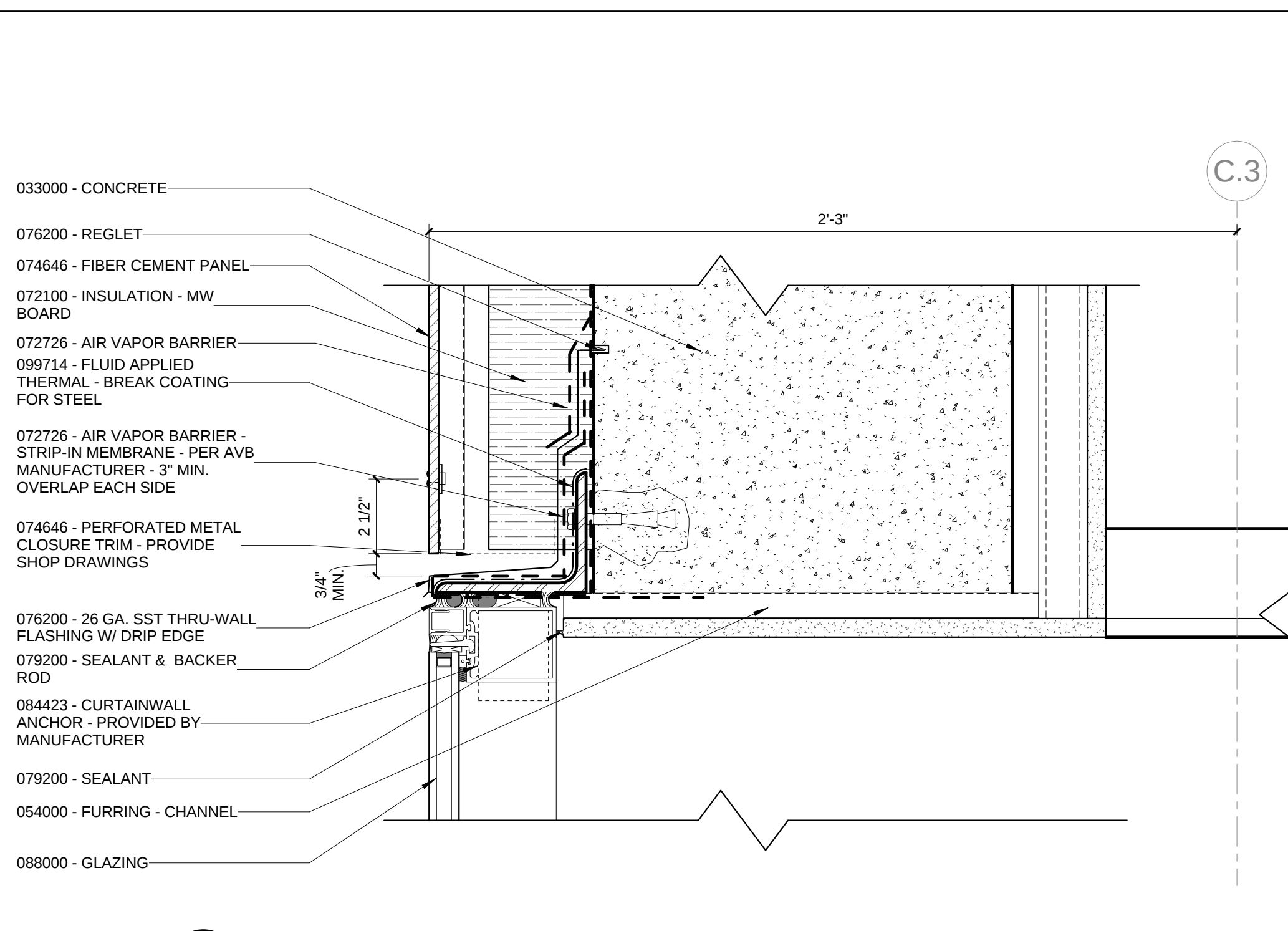
2 EAST WALL SECTION - WA-B1
3/8" = 1'-0"



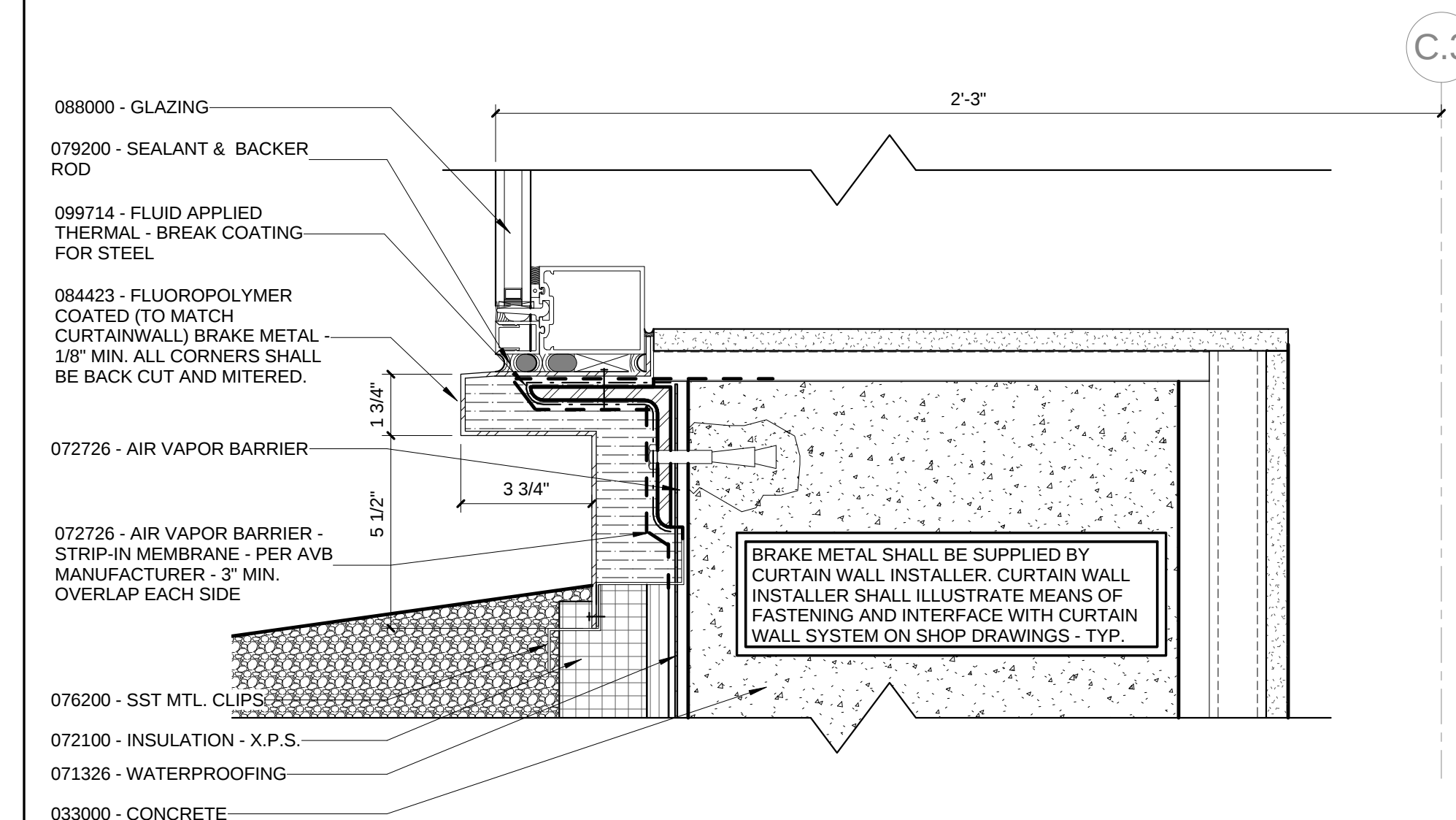
1 WEST WALL SECTION - SSG CURTAINWALL & WA-L2
3/8" = 1'-0"



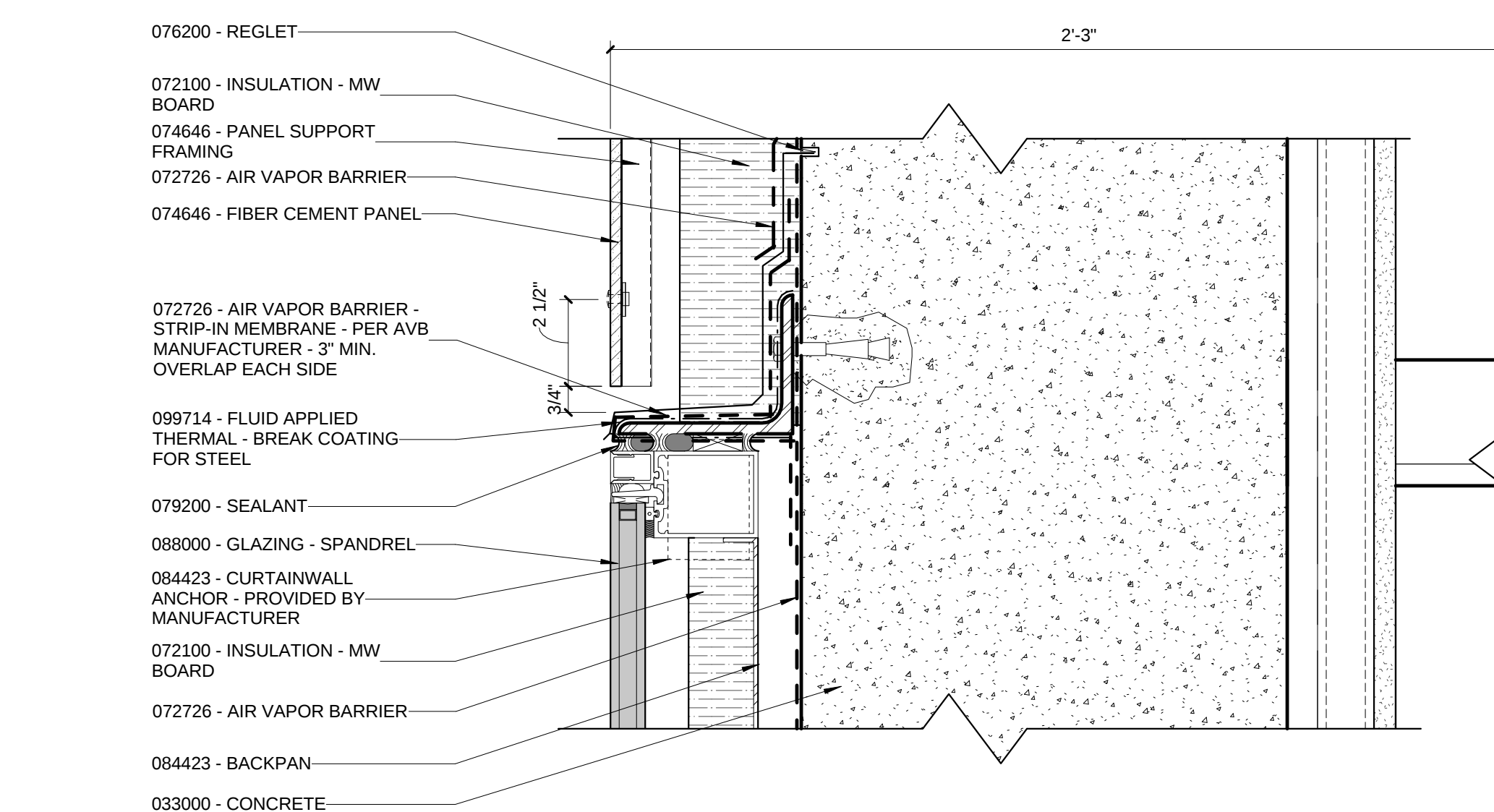
9 ENLARGED DETAIL - WA-L2 SILL @ SPANDREL GLAZING
3" = 1'-0"



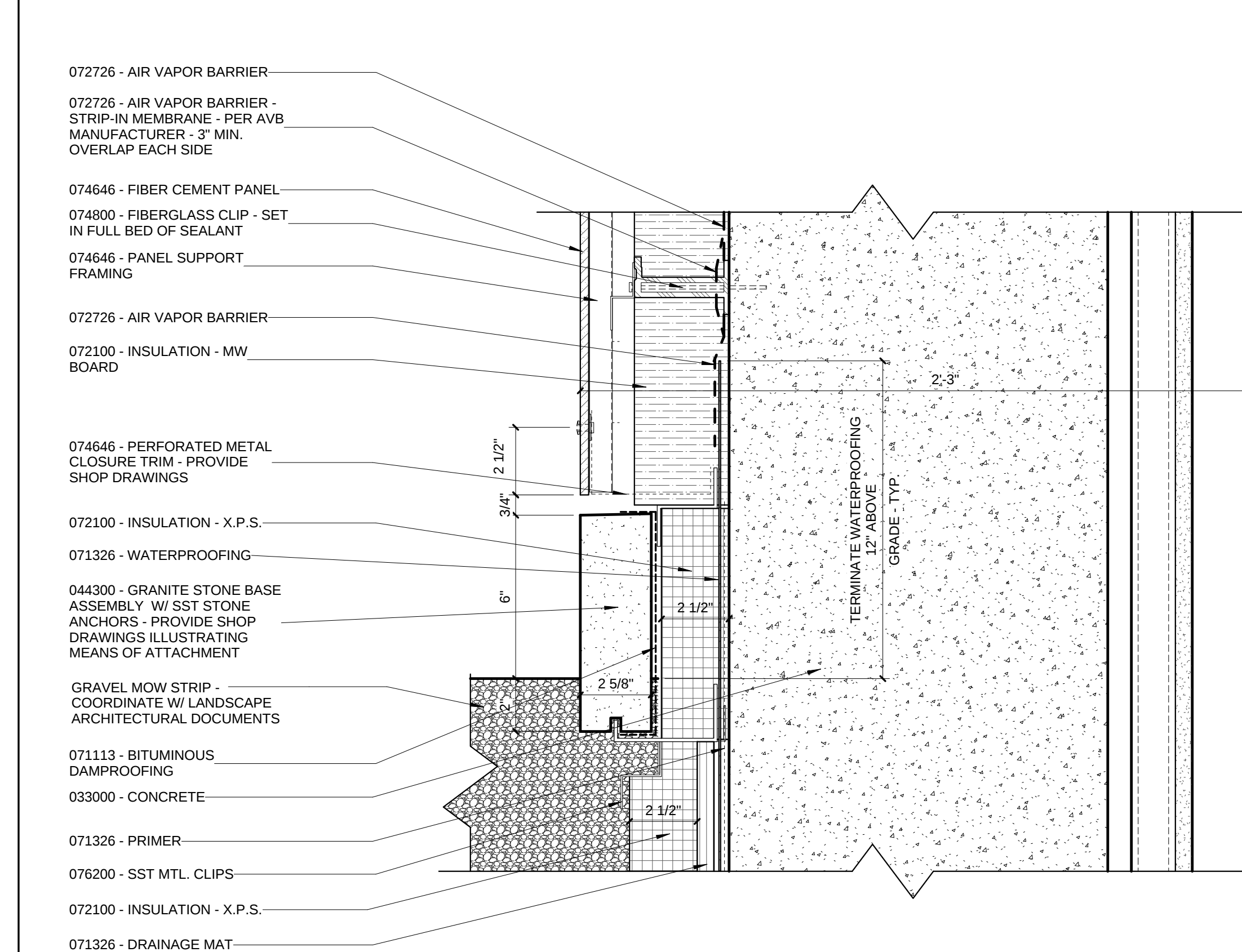
8 ENLARGED DETAIL - WA-L2 @ HEAD OF VISION GLAZING
3" = 1'-0"



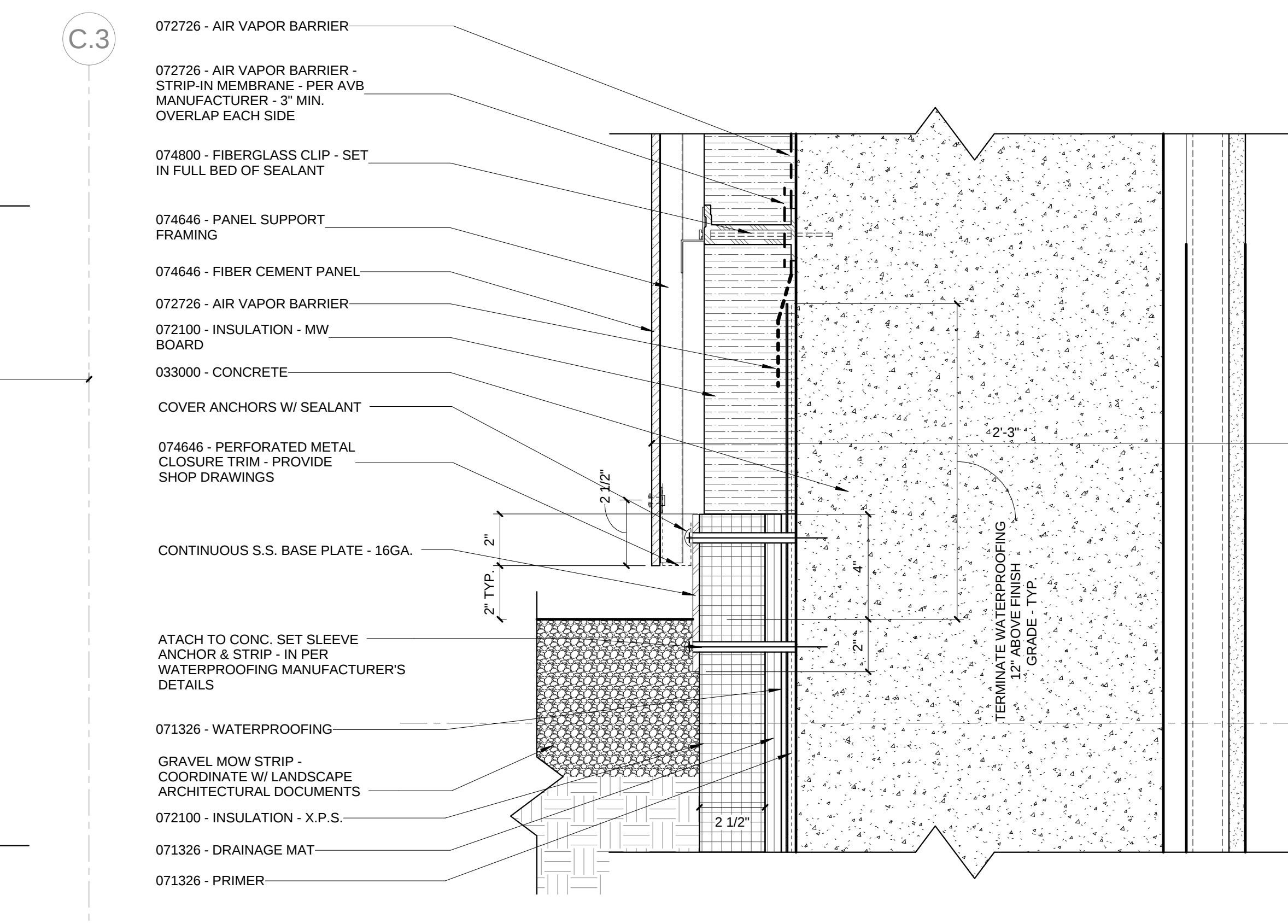
6 ENLARGED DETAIL - WA-L2 SILL @ VISION GLAZING
3" = 1'-0"



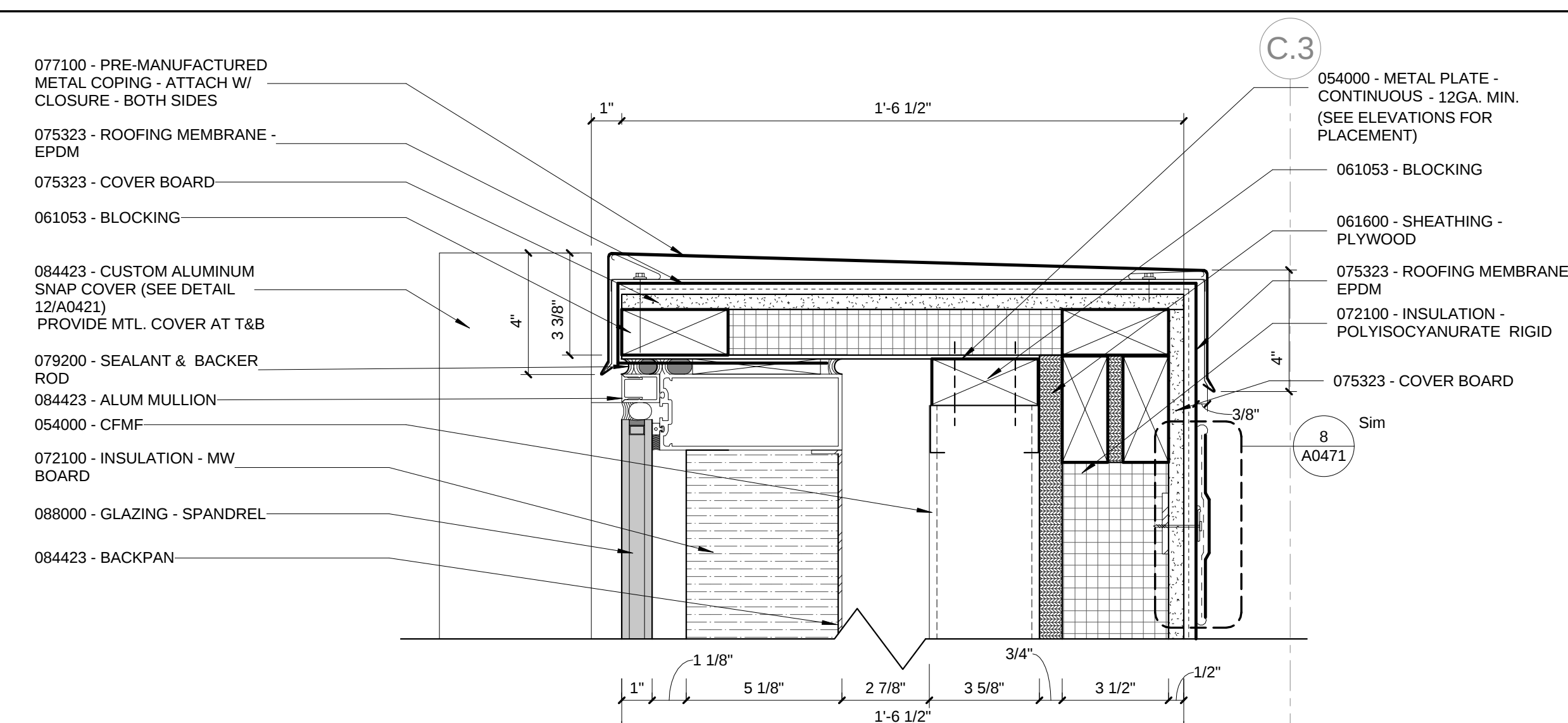
5 ENLARGED DETAIL - WA-L2 @ HEAD OF SPANDREL GLAZING
3" = 1'-0"



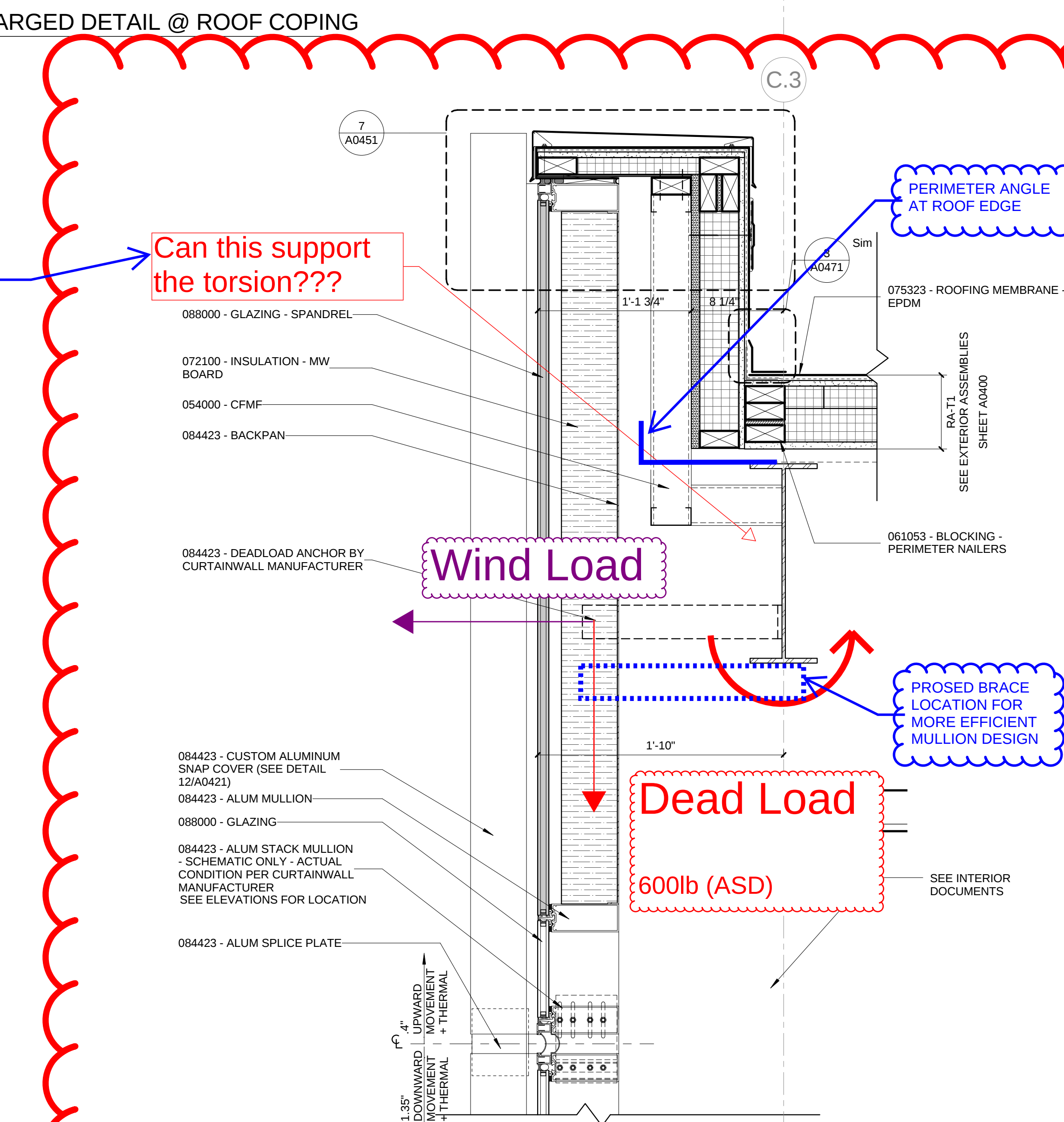
3 ENLARGED DETAIL - WA-L2 GRADE TERMINATION W/ GRANITE BASE
3" = 1'-0"



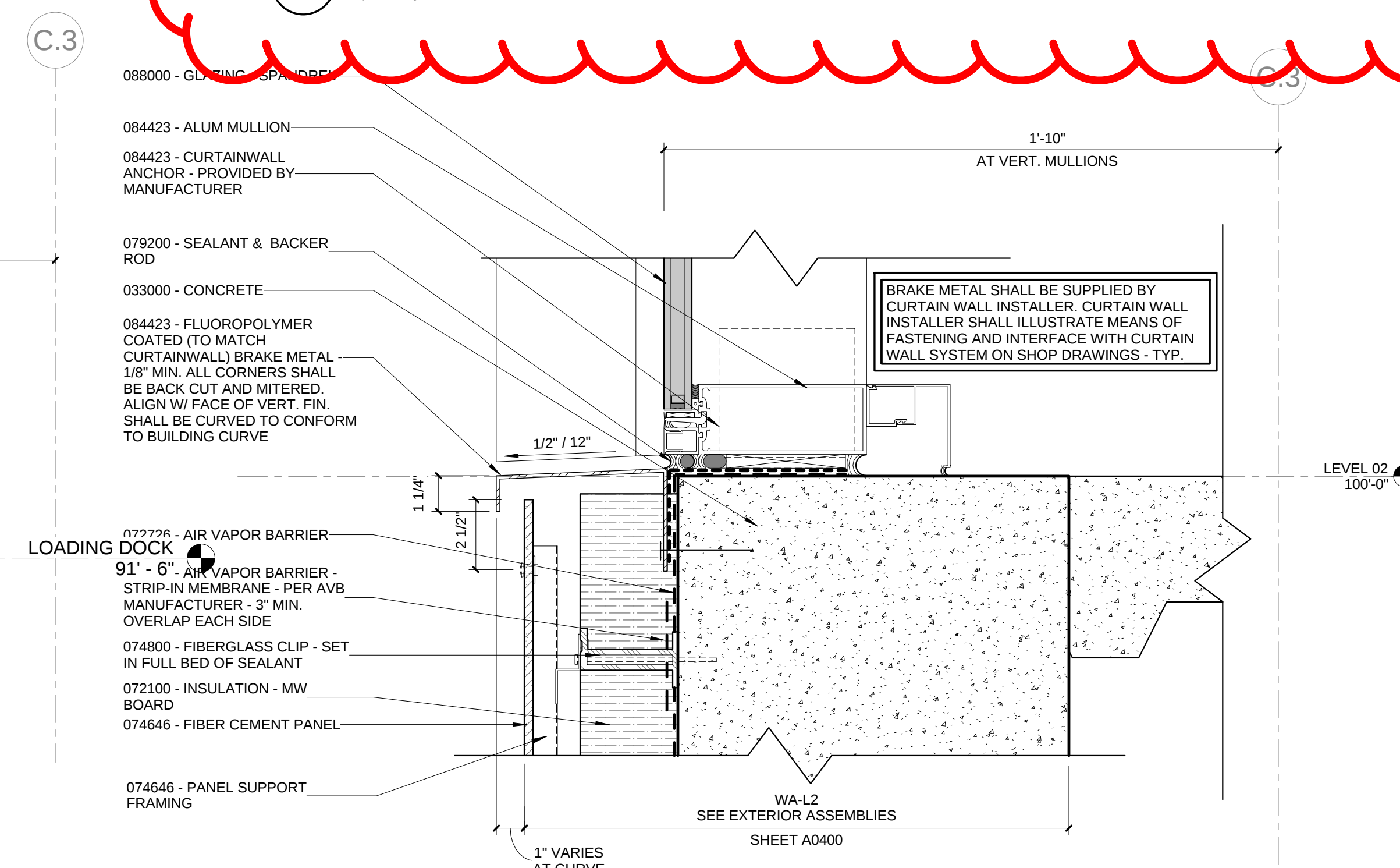
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3" = 1'-0"



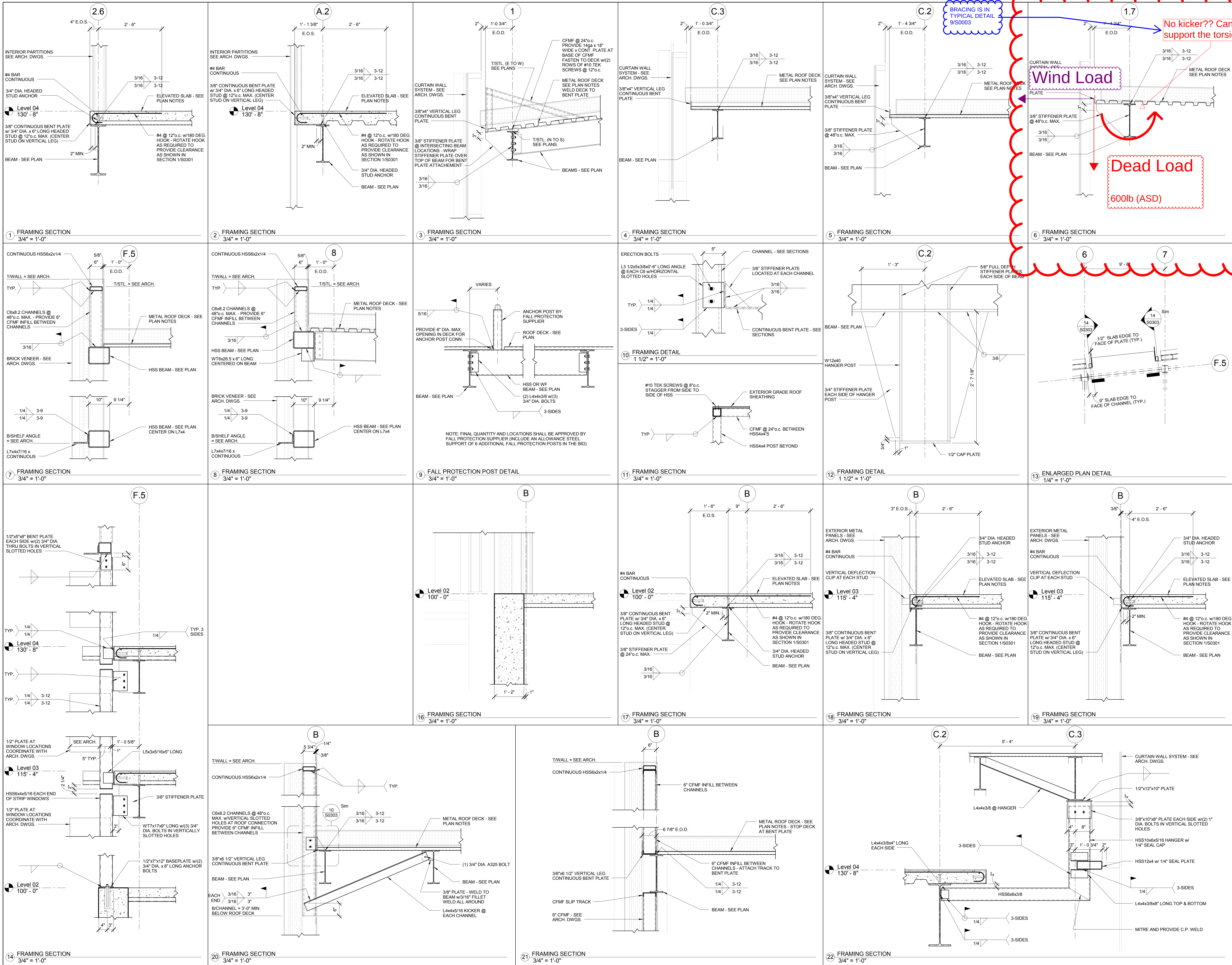
7 ENLARGED DETAIL @ ROOF COPING
3" = 1'-0"



4 ENLARGED DETAIL @ CURTAINWALL PARAPET
1 1/2" = 1'-0"

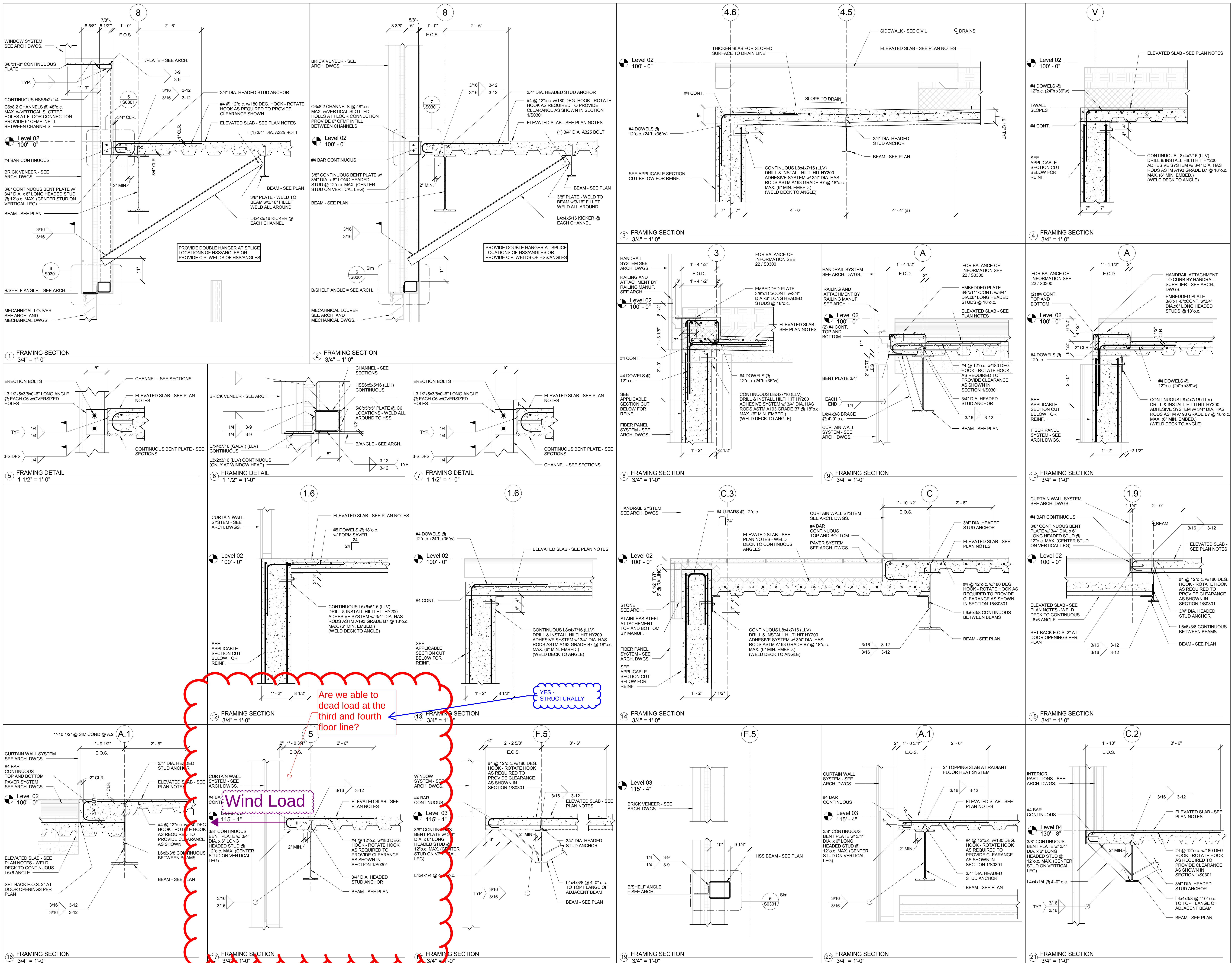


1 ENLARGED DETAIL @ SSG CURTAINWALL SILL & WA-L2
3" = 1'-0"





A0453



Are we able to
dead load at the
third and fourth
floor line?

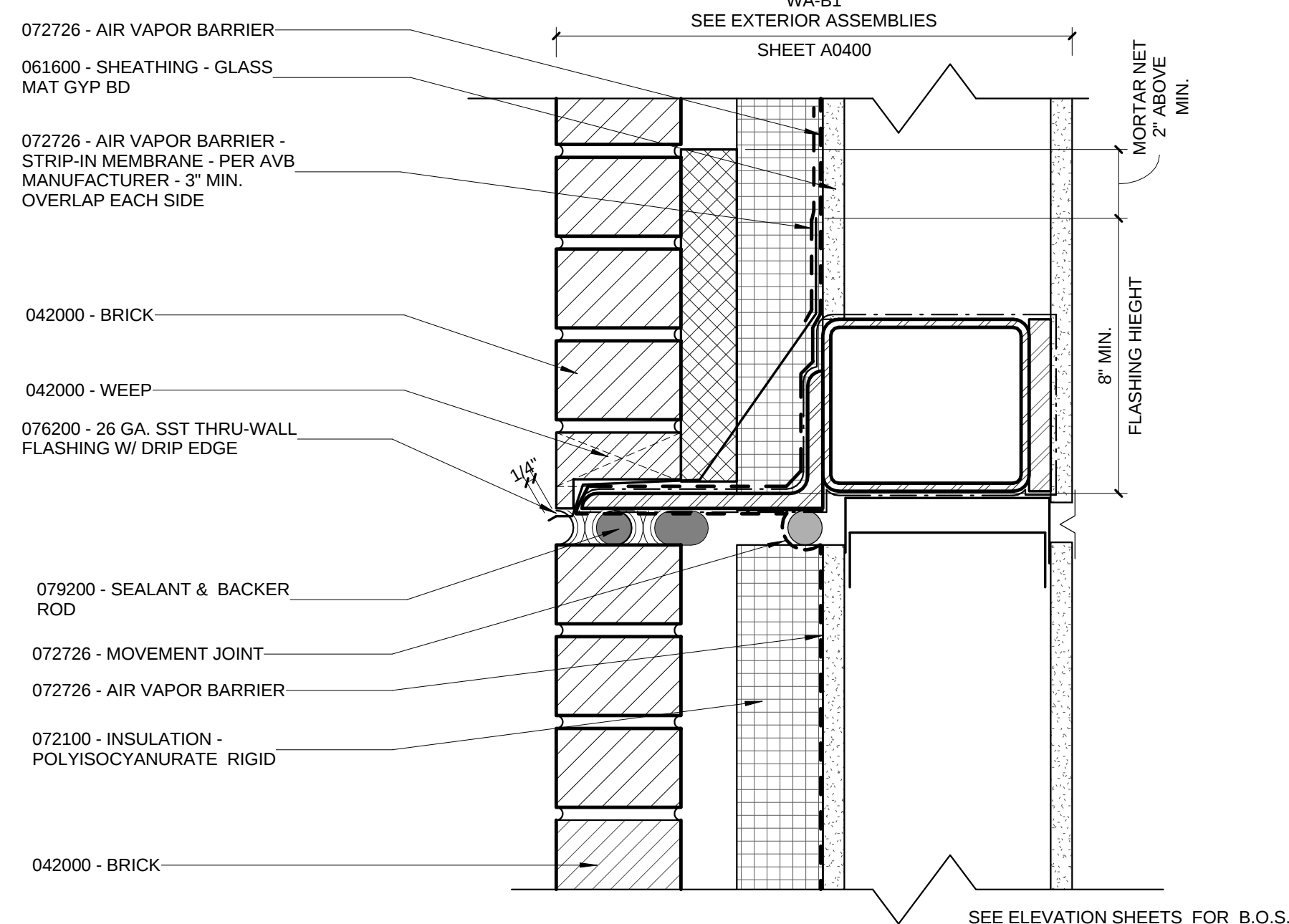
YES -
STRUCTURALLY

Wind Load



Wind Load

CONSIDER MOVING
BRACE UP TO
BOTTOM FLANGE

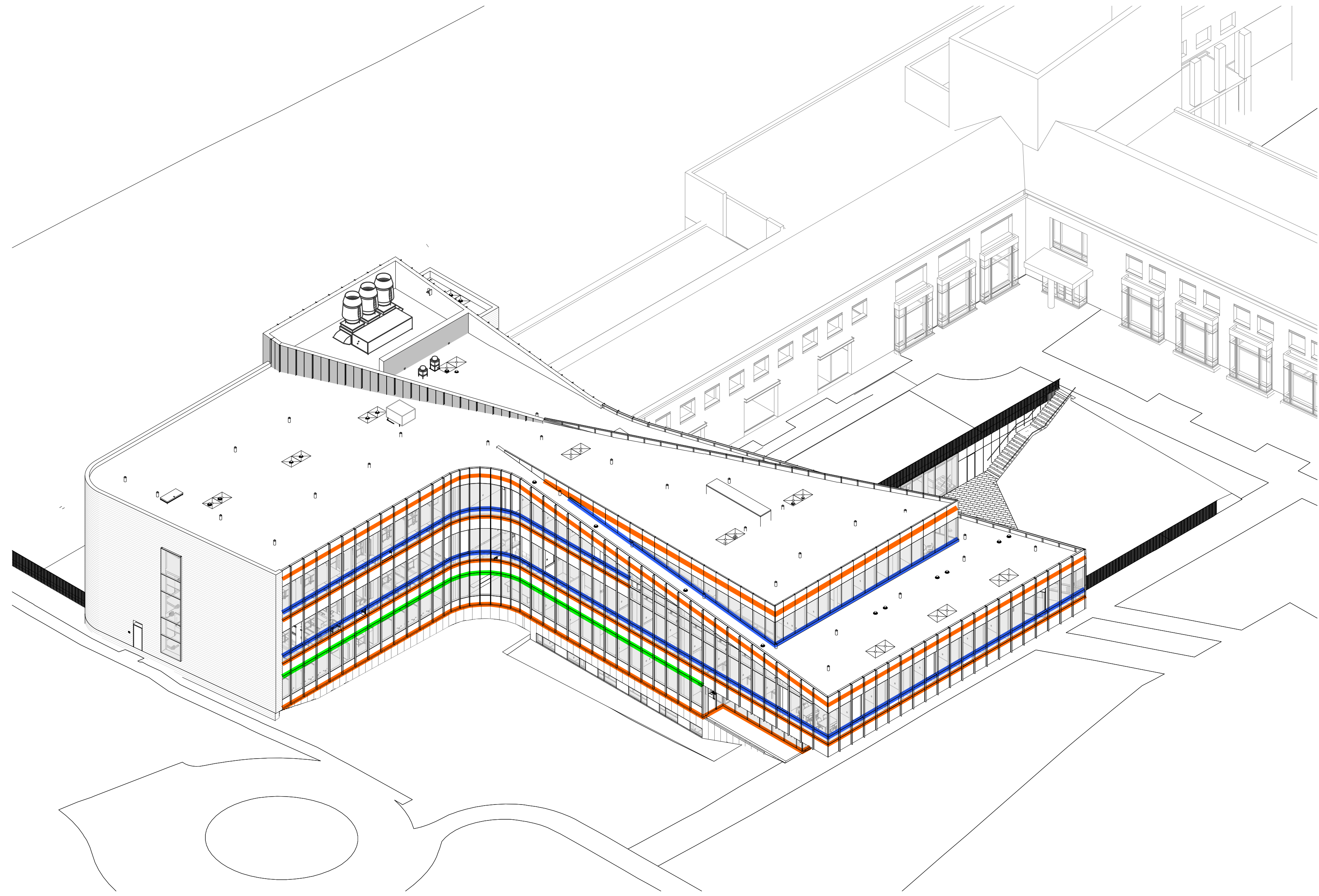


2 ENLARGED DETAIL - WA-B1 SHELF ANGLE
3" = 1'-0"

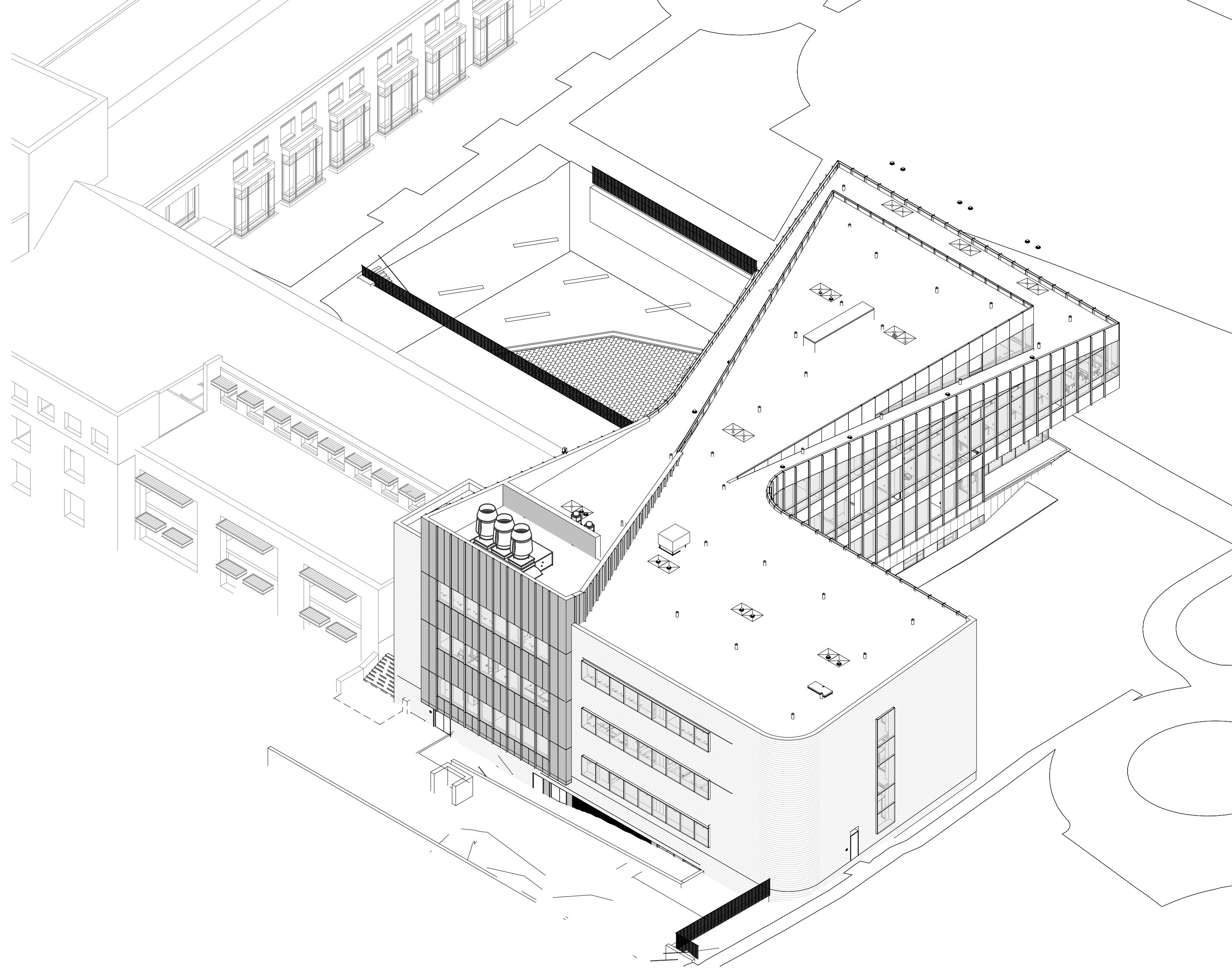




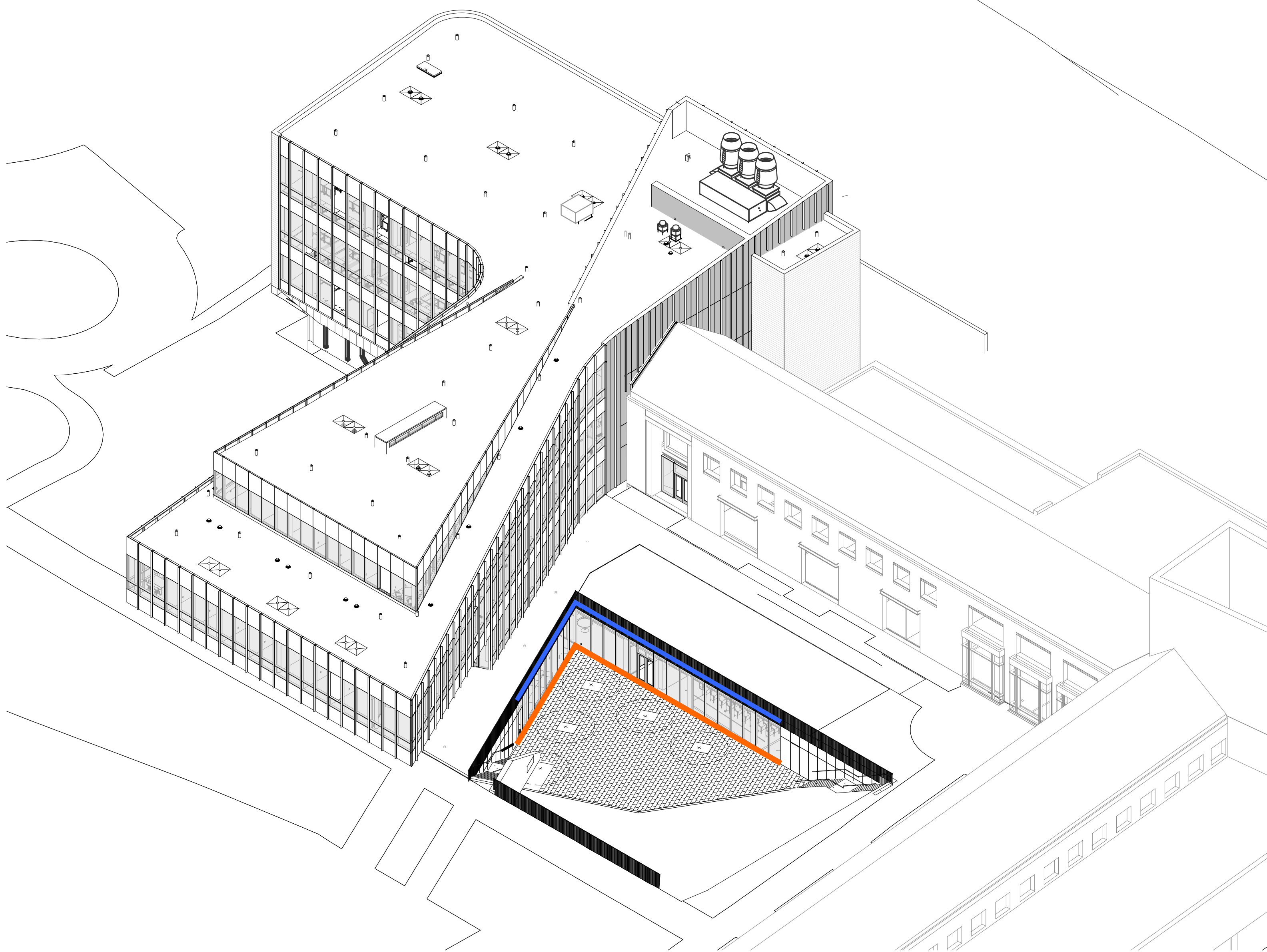
A0456



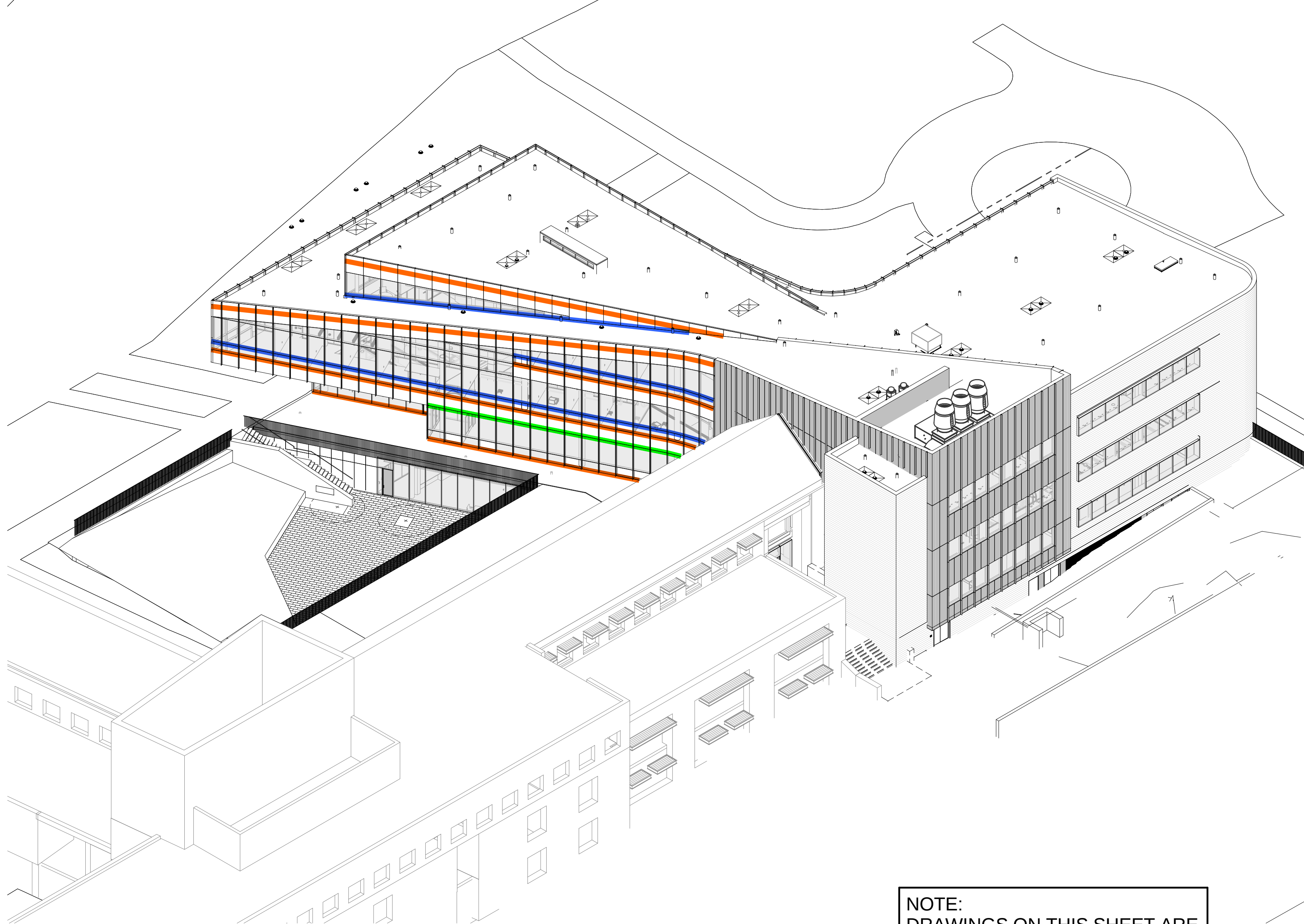
4 3D VIEW - NW CORNER



3 3D VIEW - NE CORNER



2 3D VIEW - SW CORNER



1 3D VIEW - SE CORNER

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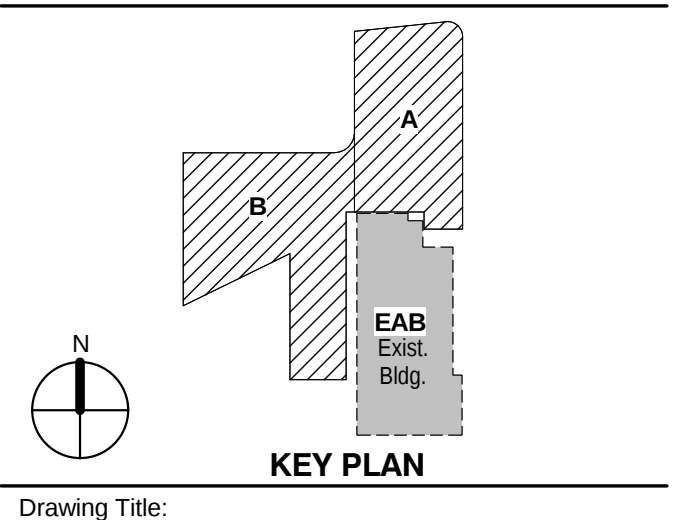
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Legend

- Dead Load Connection
- Horizontal Movement Joint
- Additional Horizontal Movement Joint may be needed

HORIZONTAL
MOVEMENT
CLARIFICATION
2016-06-03

ISSUED FOR CONSTRUCTION (BP1) 15 JAN 2016

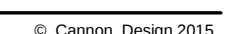


KEY PLAN

3D VIEWS

Project No.: 04561.01 Checked by:

A0300



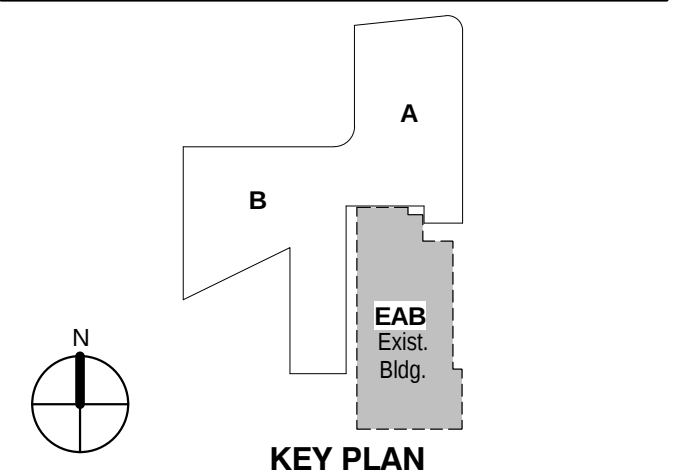
Legend

- Dead Load Connection
- Horizontal Movement Joint
- Additional Horizontal Movement Joint may be needed



HORIZONTAL
MOVEMENT
CLARIFICATION
2016-06-03

3	ADDENDUM 1-11	13 MAY 2016
2	ADDENDUM 1-7	16 MAR 2016
1	ADDENDUM 1-1	29 JAN 2016
ISSUED FOR CONSTRUCTION (BP1)		15 JAN 2016



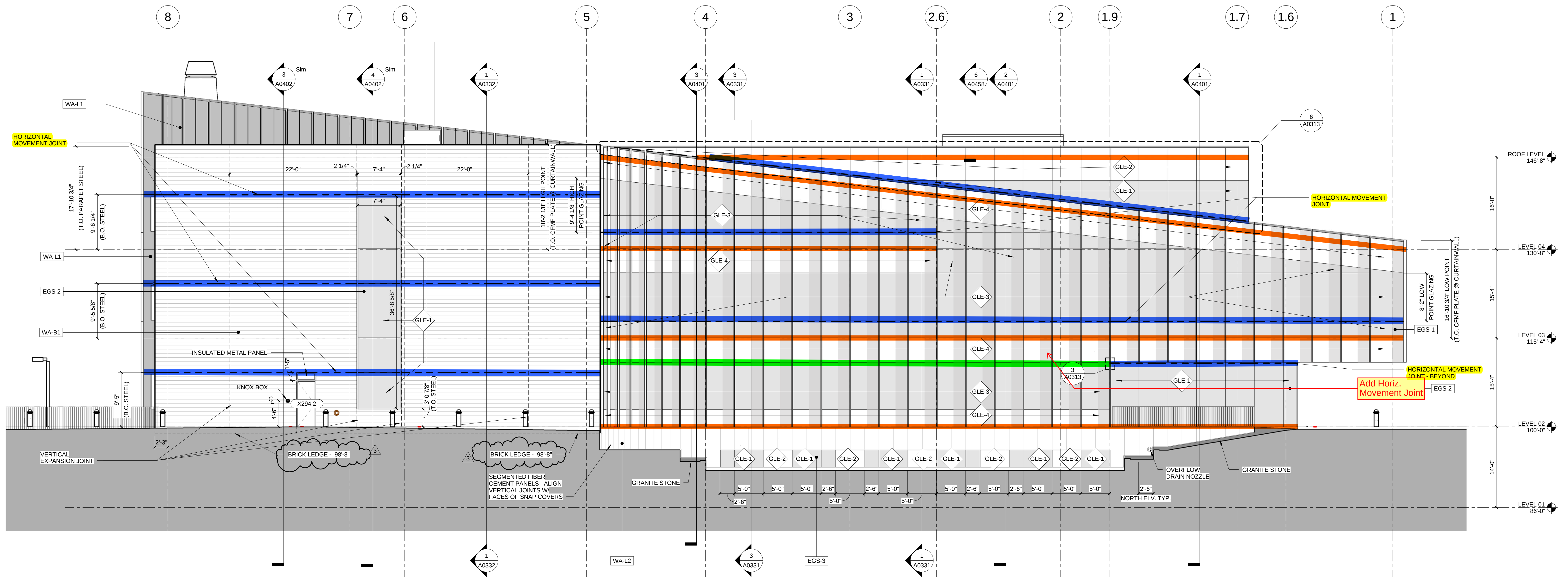
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EXTERIOR ELEVATIONS

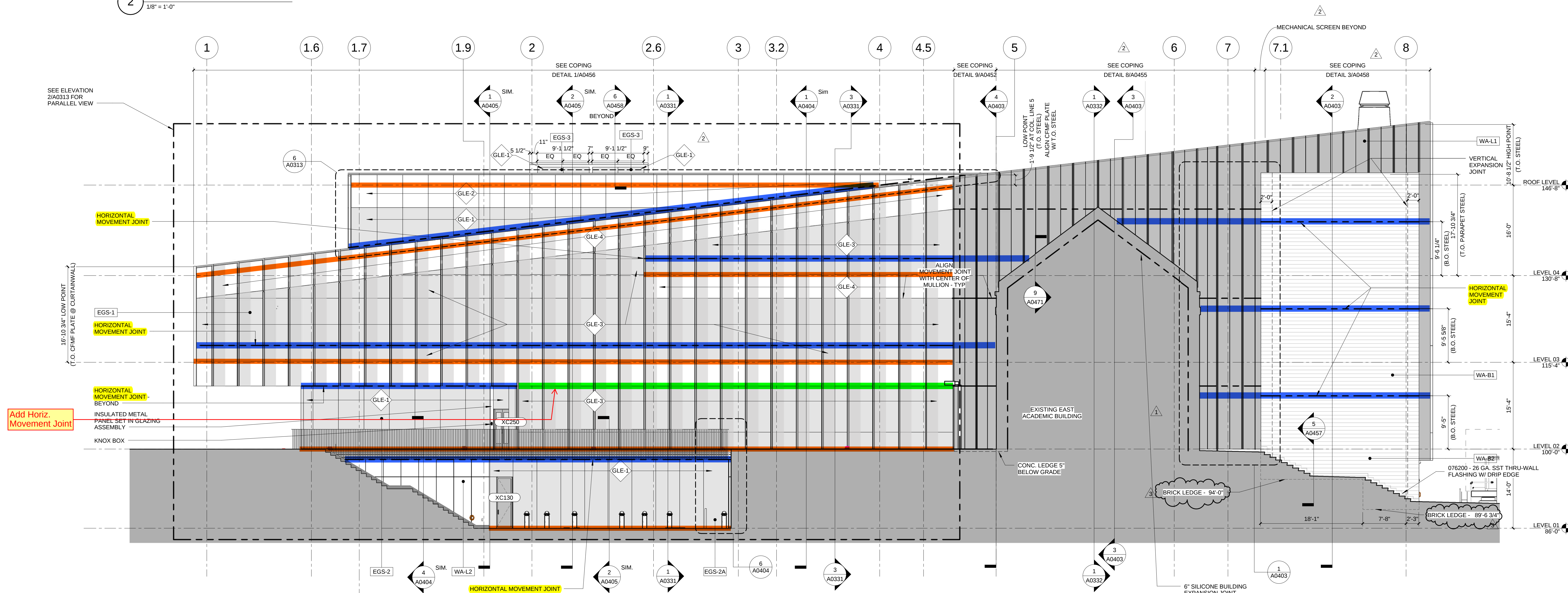
Project No.: 04561.01

Checked by:

A0312



2 NORTH ELEVATION
1/8" = 1'-0"



1 SOUTH ELEVATION
1/8" = 1'-0"

Legend

- Dead Load Connection
- Horizontal Movement Joint
- Additional Horizontal Movement Joint may be needed

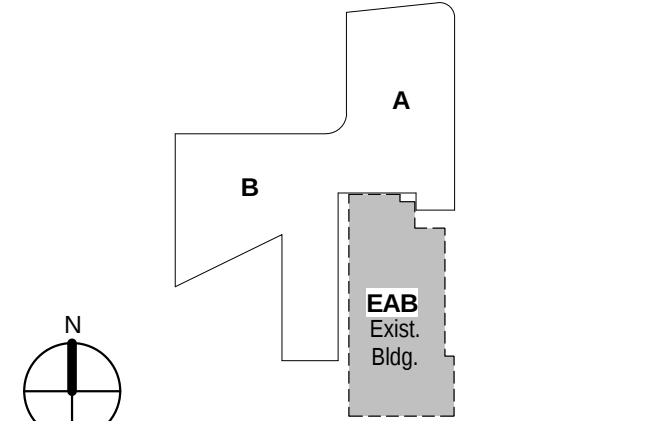


Kathy R. Williams
3.13.16

**HORIZONTAL
MOVEMENT
CLARIFICATION
2016-06-03**

3	ADDENDUM 1-11	13 MAY 2016
2	ADDENDUM 1-9	21 APR 2016
1	ADDENDUM 1-7	16 MAR 2016
ISSUED FOR CONSTRUCTION (BPI)		15 JAN 2016

No.	Description	Date
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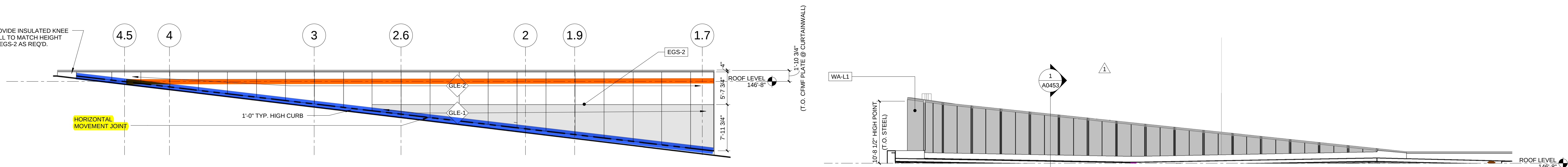
Drawing Title:

EXTERIOR ELEVATIONS

Project No.: 04561.01

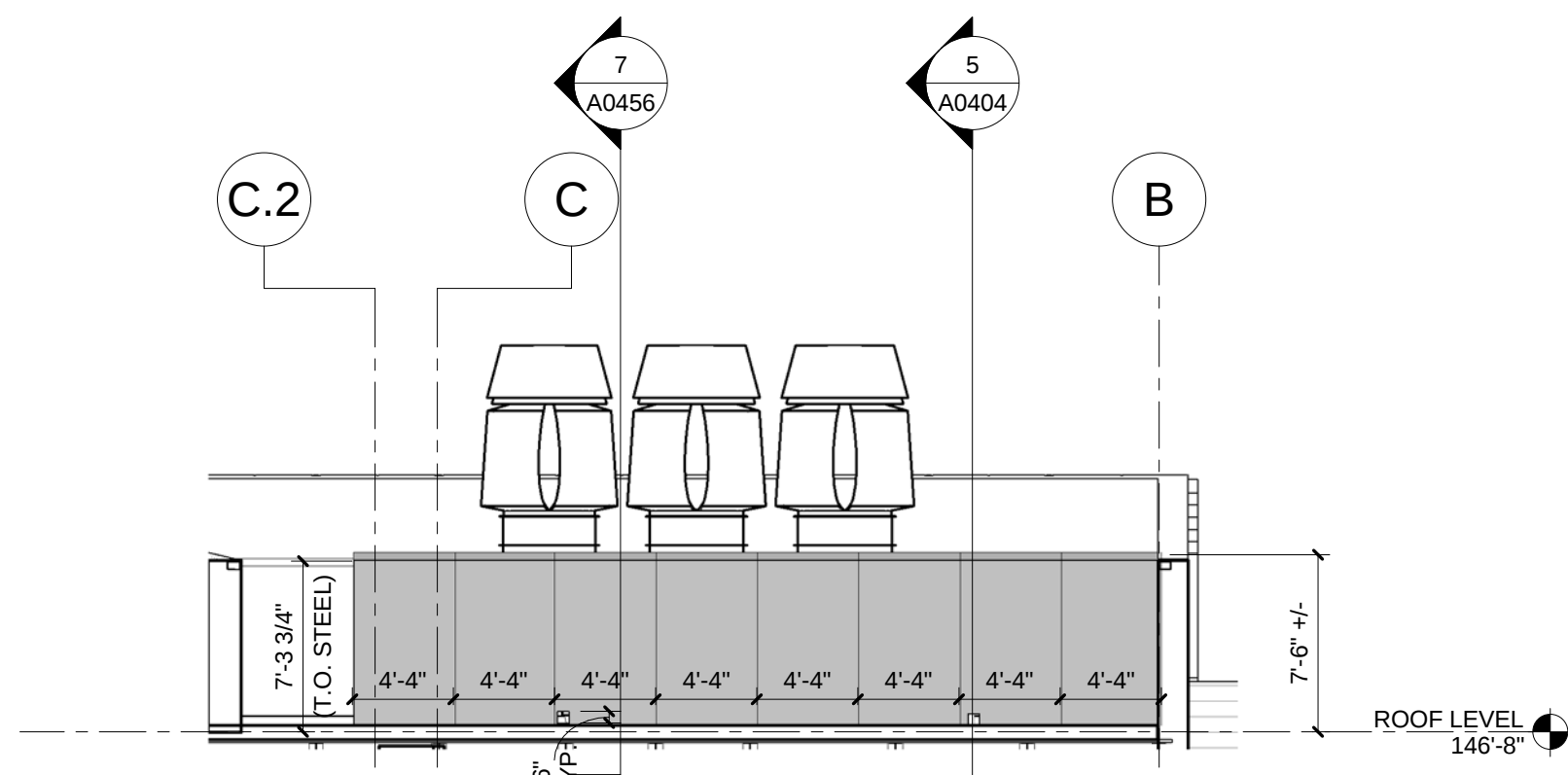
Checked by:

A0313

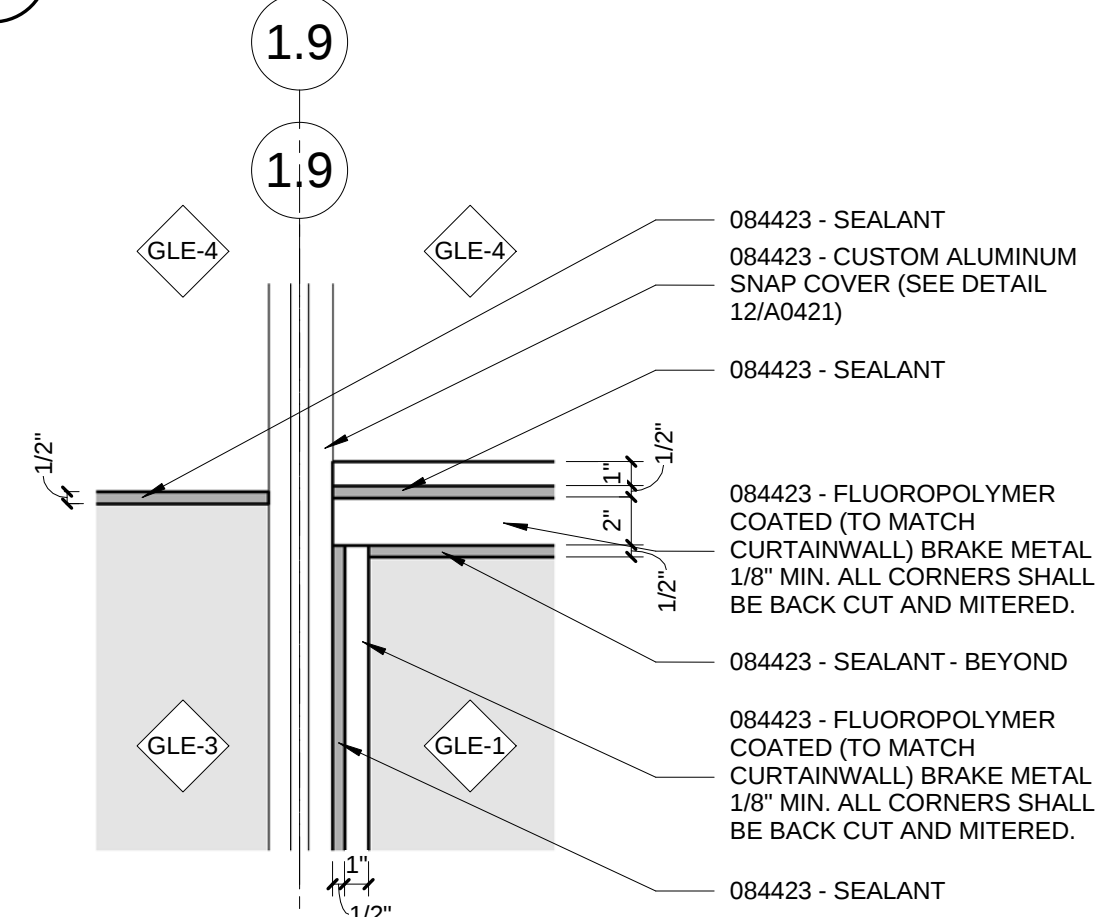


6 NORTH ELEVATION AT 4TH FLOOR CURTAINWALL
1/8" = 1'-0"

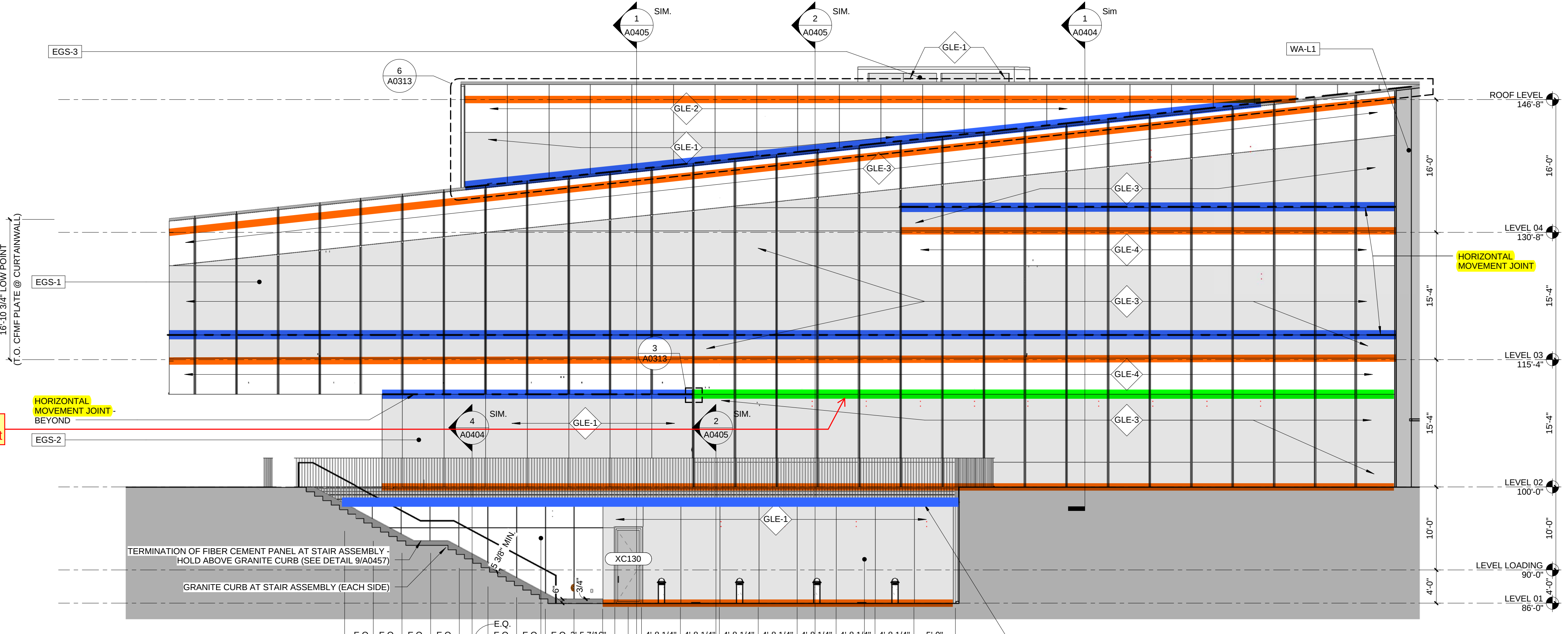
5 MECHANICAL SCREEN WALL
1/8" = 1'-0"



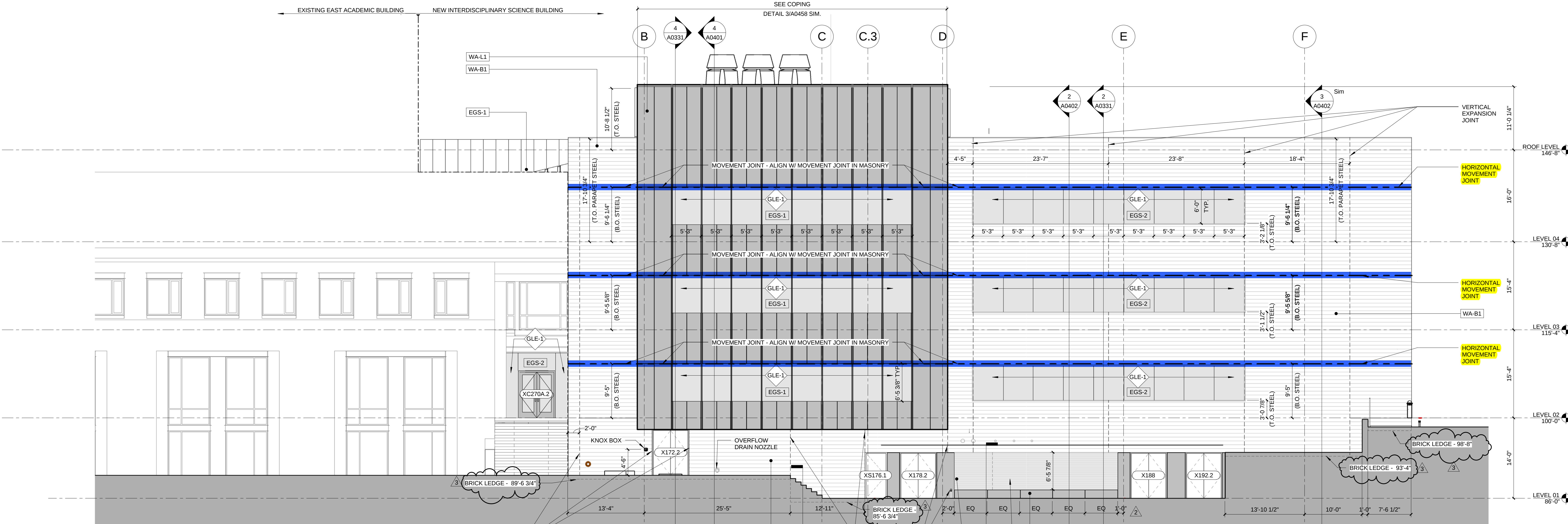
4 MECHANICAL SCREEN WALL
1/8" = 1'-0"



3 ENLARGED ELEVATION @ SOFFIT TERMINATION
1 1/2" = 1'-0"



2 SOUTH ELEVATION
1/8" = 1'-0"



1 EAST ELEVATION
1/8" = 1'-0"