



MIAMI-DADE COUNTY  
**PRODUCT CONTROL SECTION**  
 11805 SW 26 Street, Room 208  
 Miami, Florida 33175-2474  
 T (786) 315-2590 F (786) 315-2599  
[www.miamidade.gov/building](http://www.miamidade.gov/building)

DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)  
 BOARD AND CODE ADMINISTRATION DIVISION  
**NOTICE OF ACCEPTANCE (NOA)**

**Nailor Industries Inc.**  
**4714 Winfield Road**  
**Houston, TX 77039**

**SCOPE:** This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER-Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

**DESCRIPTION: Model 1605WDM Aluminum Louver w/ and w/o Damper – L.M.I.**

**APPROVAL DOCUMENT:** Drawing No. **1605WDM**, titled “1605WDM Louver w/ and w/o Damper”, sheets 1 through 21 of 21, dated 09/18/2017, with revision B dated 08/20/2024, prepared by manufacturer, signed and sealed by Wayne K. Helmila, P.E., bearing the Miami-Dade County Product Control revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

**MISSILE IMPACT RATING: Large and Small Missile Impact Resistant**

**LABELING:** Each unit shall bear a permanent label with the manufacturer's name or logo, Houston, TX, model/series, and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

**LIMITATION:** This system is to be installed in a location where the room behind the louver is designed to drain water penetrating into the room, and the room will house water resistant/waterproof equipment, components, or supplies.

**RENEWAL** of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

**TERMINATION** of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

**ADVERTISEMENT:** The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

**INSPECTION:** A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **revises NOA No. 23-0724.24** and consists of this page 1 and evidence pages E-1 and E-2, as well as approval document mentioned above.

The submitted documentation was reviewed by **Carlos M. Utrera, P.E.**



09/03/24

NOA No. 24-0516.05  
**Expiration Date: August 30, 2028**  
**Approval Date: September 12, 2024**  
 Page 1

**Nailor Industries Inc.**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**1. EVIDENCE SUBMITTED UNDER PREVIOUS NOA's**

**A. DRAWINGS “Submitted under NOA No. 18-0117.13”**

1. Drawing No. **1605WDM**, titled “1605WDM Louver w/ and w/o Damper”, sheets 1 through 21 of 21, dated 09/18/17, prepared by the manufacturer, signed and sealed by Wayne K. Helmila, P.E.

**B. TESTS “Submitted under NOA No. 18-0117.13”**

1. Test reports on: 1) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94  
2) Large Missile Impact Test per FBC, TAS 201-94  
3) Cyclic Wind Pressure Loading per FBC, TAS 203-94  
along with installation diagram of Model 1605WDM Louver System, prepared by Intertek, Test Report No. **H3539.01-801-18-R2**, dated 09/20/17 and revised on 05/24/18, signed and sealed by Tyler Westerling, P.E.
2. Test Report on Wind Driven Rain Resistance Test per TAS 100(A)-95 on a Model 1605 WDM Aluminum Louver with damper, prepared by Intertek, Test Report No. **H0223.04-801-18-R1**, dated 09/28/17 and revised on 11/21/17, signed and sealed by Tyler Westerling, P.E.
3. Test Report on High Velocity Wind Driven Rain Resistance Test per ANSI/AMCA 550-09 on a Model 1605WDM Aluminum Louver with damper, prepared by Intertek, Test Report No. **H0223.03-801-18-R1**, dated 09/28/17 and revised on 11/21/17, signed and sealed by Tyler Westerling, P.E.

**C. CALCULATIONS “Submitted under NOA No. 18-0117.13”**

1. Louver structural calculations dated 11/02/17, prepared by Rice Engineering, signed and sealed by Wayne K. Helmila, P.E.

**D. QUALITY ASSURANCE**

1. Miami-Dade Department of Regulatory and Economic Resources (RER).

**E. MATERIAL CERTIFICATIONS**

1. None.

**F. STATEMENTS “Submitted under NOA No. 18-0117.13”**

1. Statement letter of code conformance to the FBC 6<sup>th</sup> Edition (2017) issued by Rice Engineering, dated 04/16/18, signed and sealed by Wayne K. Helmila, P.E.
2. Statement letter of no financial interest issued by Rice Engineering, dated 04/16/18, signed and sealed by Wayne K. Helmila, P.E.



---

**Carlos M. Utrera, P.E.**  
**Product Control Examiner**  
**NOA No. 24-0516.05**  
**Expiration Date: August 30, 2028**  
**Approval Date: September 12, 2024**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**2. EVIDENCE SUBMITTED UNDER NOA # 21-0630.11 AND NEW**

**A. DRAWINGS**

1. Drawing No. **1605WDM**, titled “1605WDM Louver w/ and w/o Damper”, sheets 1 through 21 of 21, dated 09/18/2017, with revision B dated 08/20/2024, prepared by the manufacturer, signed and sealed by Wayne K. Helmila, P.E.

**B. TESTS**

1. None.

**C. CALCULATIONS**

1. Louver calculations, prepared by Rice Engineering, dated 08/14/2024, signed and sealed by Wayne K. Helmila, P.E.

**D. QUALITY ASSURANCE**

1. Miami-Dade Department of Regulatory and Economic Resources (RER).

**E. MATERIAL CERTIFICATIONS**

1. None.

**F. STATEMENTS**

1. Statement letter of code conformance to the 8<sup>th</sup> edition (2023) of the FBC, issued by Rice Engineering, dated 08/20/2024, signed and sealed by Wayne K. Helmila, P.E.
2. Statement letter of no financial interest, issued by Rice Engineering, dated 08/20/2024, signed and sealed by Wayne K. Helmila, P.E.

*“Submitted under NOA # 21-0630.11”*

3. Statement letter of code conformance to the 7<sup>th</sup> edition (2020) FBC, issued by Rice Engineering, dated 05/19/21, signed and sealed by Wayne K. Helmila, P.E.



---

**Carlos M. Utrera, P.E.**  
**Product Control Examiner**  
**NOA No. 24-0516.05**  
**Expiration Date: August 30, 2028**  
**Approval Date: September 12, 2024**

**DRAWING INDEX:**

1. INDEX TO DRAWING AND NOTES.
2. 1605WDM LOUVER- FLANGE FRAME SLEEVE MOUNT
3. 1605WDM LOUVER- CONTINUOUS ANGLE MOUNT
4. 1605WDM / DAMPER- FLANGE FRAME SLEEVE MOUNT
5. 1605WDM / DAMPER- CONTINUOUS ANGLE MOUNT
6. 1605WDM LOUVER- FLANGE FRAME SLEEVE MOUNT HEAD & SILL DETAIL
7. 1605WDM LOUVER- CONTINUOUS ANGLE MOUNT & CMU MULLION ANGLE- HEAD & SILL DETAIL.
8. 1605WDM LOUVER- BLADE SUPPORT DETAIL.
9. 1605WDM LOUVER- FLANGE FRAME SLEEVE MOUNT JAMB & BLADE BRACE DETAIL
10. 1605WDM LOUVER- CONTINUOUS ANGLE MOUNT JAMB & BLADE BRACE DETAIL
11. 1605WDM LOUVER- FLANGE FRAME SLEEVE MOUNT MULLION DETAIL
12. 1605WDM LOUVER- FLANGE FRAME SLEEVE MOUNT 72" BLADE MULLION DETAIL
13. 1605WDM LOUVER- CONTINUOUS ANGLE MOUNT MULLION DETAIL.
14. 1605WDM LOUVER- CONTINUOUS ANGLE MOUNT 72" BLADE MULLION DETAIL
15. 1605WDM LOUVER / DAMPER FLANGE FRAME W/ SLEEVE & CONTINUOUS ANGLE HEAD & SILL DETAIL
16. 1605WDM LOUVER-CONTINUOUS ANGLE MOUNT CMU MULLION ANGLE -HEAD & SILL DETAIL
17. 1605WDM LOUVER / DAMPER- FLANGE FRAME SLEEVE MOUNT JAMB AND MULLION DETAIL
18. 1605WDM LOUVER / DAMPER - FLANGE FRAME SLEEVE MOUNT 36" BLADE MULLION DETAIL
19. 1605WDM LOUVER / DAMPER CONTINUOUS ANGLE MOUNT JAMB AND MULLION DETAIL
20. 1605WDM LOUVER / DAMPER - CONTINUOUS ANGLE MOUNT 36" BLADE MULLION DETAIL
21. 1605WDM LOUVER W/ AND W/O DAMPER- SLEEVE / CONTINUOUS MOUNT PART PROFILES.
22. 1605WDM LOUVER W/ AND W/O DAMPER- SLEEVE / CONTINUOUS MOUNT PART PROFILES CONT.
23. 22" MULLION ANGLES BACK OF WALL MOUNT
24. 30" MULLION ANGLE - 22" MULLION ANGLES BACK OF THE WALL MOUNT
25. 16" MULLION ANGLES- BACK OF THE WALL MOUNTS
26. 30" CMU MULLION ANGLE- BACK OF THE WALL
27. 1605WDM LOUVER W/ AND W/O DAMPER AVAILABLE SHAPES
28. 1605WDM LOUVER W/ AND W/O DAMPER- SLEEVE / CONTINUOUS MOUNT BILL OF MATERIAL.
29. 1605WDM LOUVER W/ AND W/O DAMPER SLEEVE FASTENER SCHEDULE.
30. 1605WDM LOUVER W/ AND W/O DAMPER SLEEVE GENERAL NOTES

**NOTES:**

- 1) THE 1605WDM HAS BEEN TESTED IN ACCORDANCE WITH THE MIAMI-DADE COUNTY PROTOCOLS TAS-201, 202, & 203 FOR LARGE MISSILE IMPACT, UNIFORM PRESSURE AND CYCLIC WIND PRESSURE.
- 2) THIS LOUVER SYSTEM IS APPROVED FOR APPLICATIONS WITH DESIGN PRESSURES OF +/- 150 PSF OR LESS
- 3) THIS LOUVER SYSTEM IS NON-BEARING AND IS NOT DESIGNED TO WITHSTAND BUILDING DEAD LOADS.
- 4) LOUVER ANCHORS ARE REVIEWED FOR ATTACHMENT INTO STEEL, CONCRETE, MASONRY, OR TIMBER SUBSTRUCTURE. MINIMUM EDGE DISTANCE AND EMBEDMENT REQUIREMENTS ARE SHOWN. NAILOR IND. DOES NOT DETERMINE THE STRUCTURE INTEGRITY OF THE SUBSTRUCTURE.
- 5) MAXIMUM SINGLE SECTION SIZE : 72" WIDE X 120" HIGH.
- 6) MAXIMUM ASSEMBLED LOUVER SIZE UNLIMITED WIDE X 120" HIGH. MAX. MULLION SPACING IS 72".
- 7) SECTIONS OR ASSEMBLIES MAY BE STACKED VERTICALLY PROVIDING A SUITABLE STRUCTURAL SUPPORT IS DESIGNED AND INSTALLED BY OTHERS TO SUPPORT ALL LOADS TRANSFERRED FROM THE LOUVER.

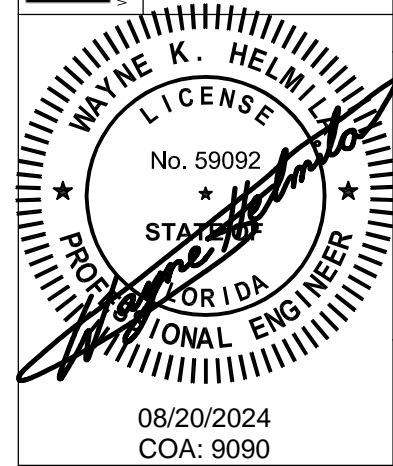
**TESTS PERFORMED:**

TAS100 A WIND DRIVEN RAIN RESISTANCE W/ DAMPER  
 TAS-201 LARGE MISSILE IMPACT  
 TAS-202 UNIFORM STATIC AIR PRESSURE TEST  
 TAS-203 CYCLIC WIND PRESUSRE TEST  
 DESIGN PRESSURE RATING 150 PSF

CHK BY: Mastourian	SCALE: NTS	SHEET: 1 OF 30	REV B
DWN BY: fcortinas	DATE: 9/18/2017		
		DWG. NO.	<b>1605WDM</b>

**Nailor Industries Inc.**  
 4714 Winfield Road Houston, TX 77039  
 TEL: 281-590-1172 FAX: 281-590-3086  
 www.nailor.com

TITLE:  
**1605WDM LOUVER  
 W/ AND W/O DAMPER  
 INDEX**

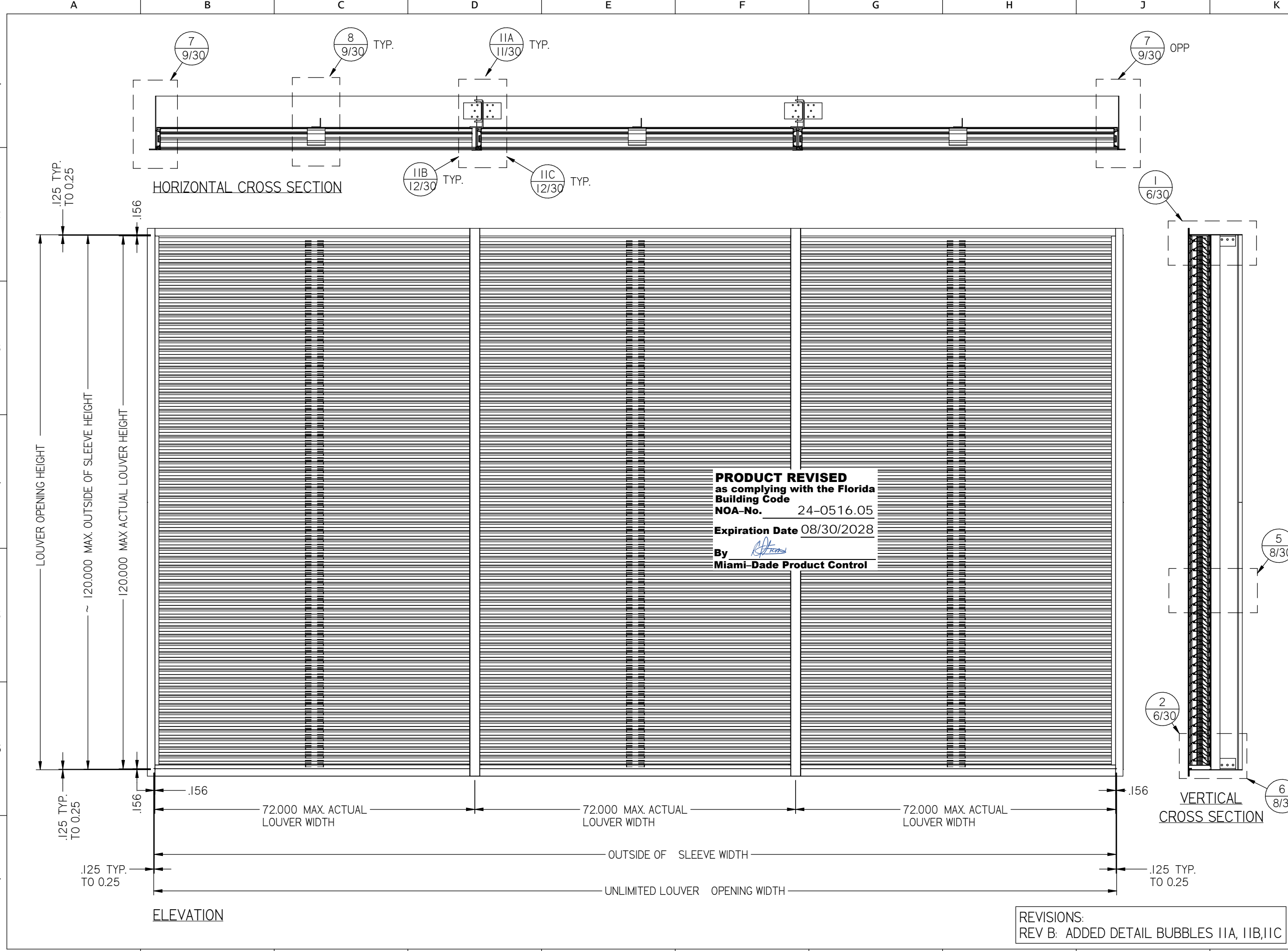


08/20/2024  
 COA: 9090

**PRODUCT REVISED**  
 as complying with the Florida Building Code  
 NOA-No. 24-0516.05  
 Expiration Date 08/30/2028  
 By *[Signature]*  
 Miami-Dade Product Control

**RICE**  
**ENGINEERING**  
 105 School Creek Trail  
 Luxemburg, WI 54217  
 Phone: (920) 617-1042  
 Fax: (920) 617-1100  
 www.rice-inc.com  
 Florida Firm No: F-01000005061  
 Certificate of Authorization: #9090  
 Wayne K. Helmila  
 Registration No: 59092

REVISIONS:  
 REV B: UPDATED DRAWING INDEX

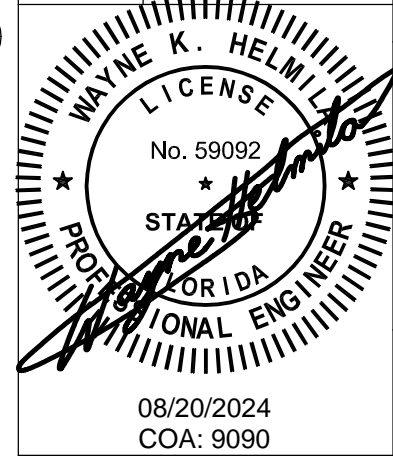


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 NOA-No. 24-0516.05  
 Expiration Date 08/30/2028  
 By *RH*  
 Miami-Dade Product Control

DWN BY: f cortinas	CHK BY: Mastourian
DATE: 9/18/2017	SCALE: NTS
SHEET: 2 OF 30	
DWG. NO.	REV B
<b>1605WDM</b>	

**Nailor Industries Inc.**  
 4714 Winfield Road Houston, TX 77039  
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 www.nailor.com

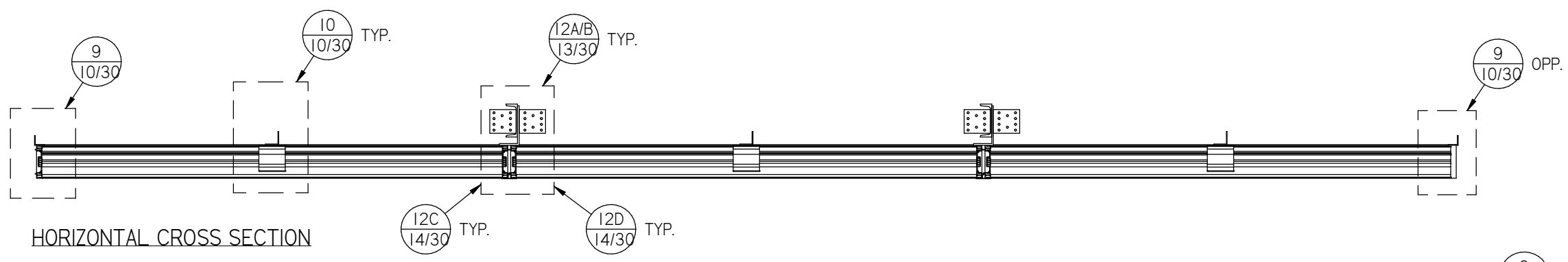
TITLE:  
**1605WDM LOUVER  
 FLANGE FRAME  
 SLEEVE MOUNT**



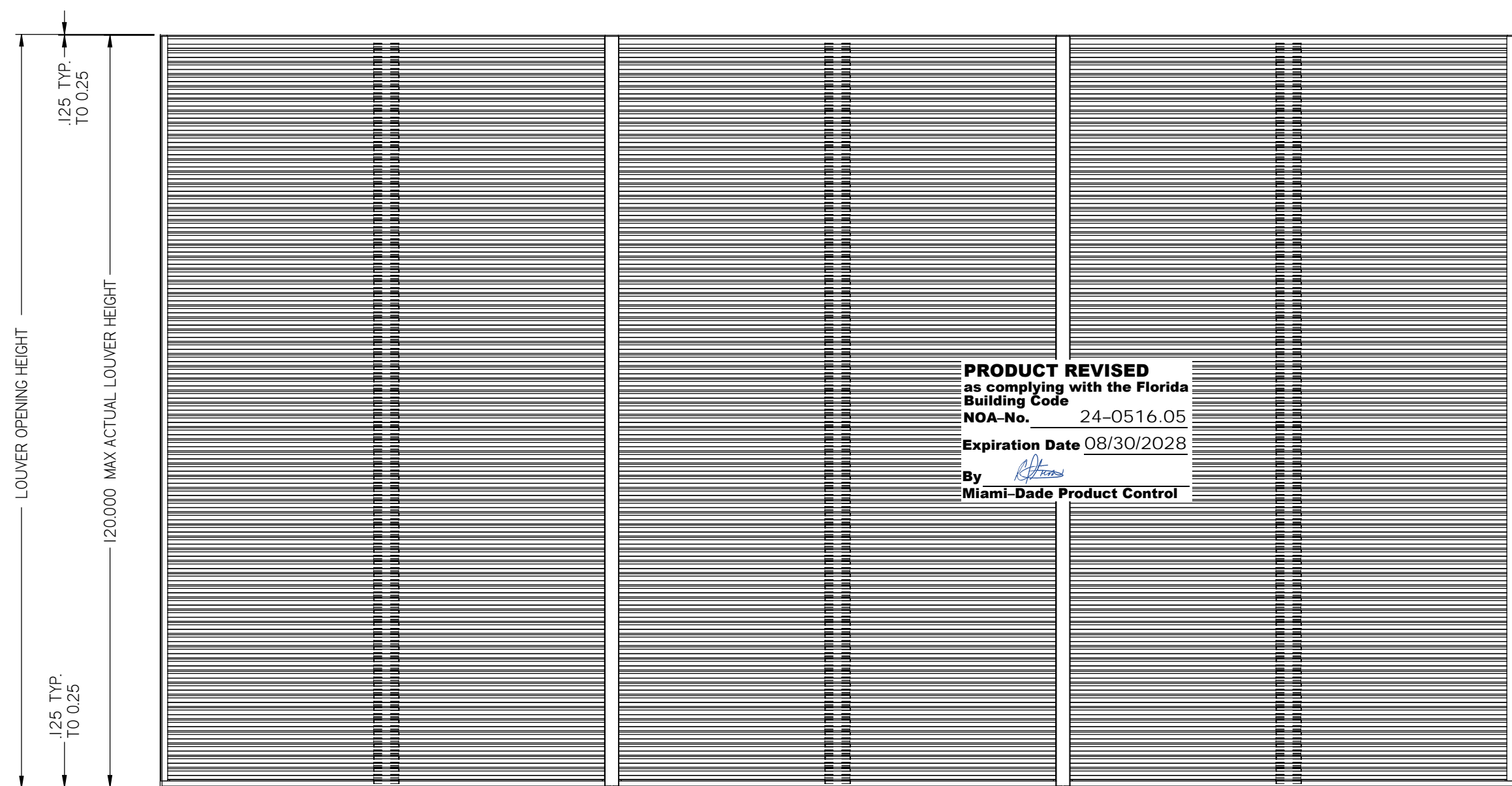
**RICE ENGINEERING**  
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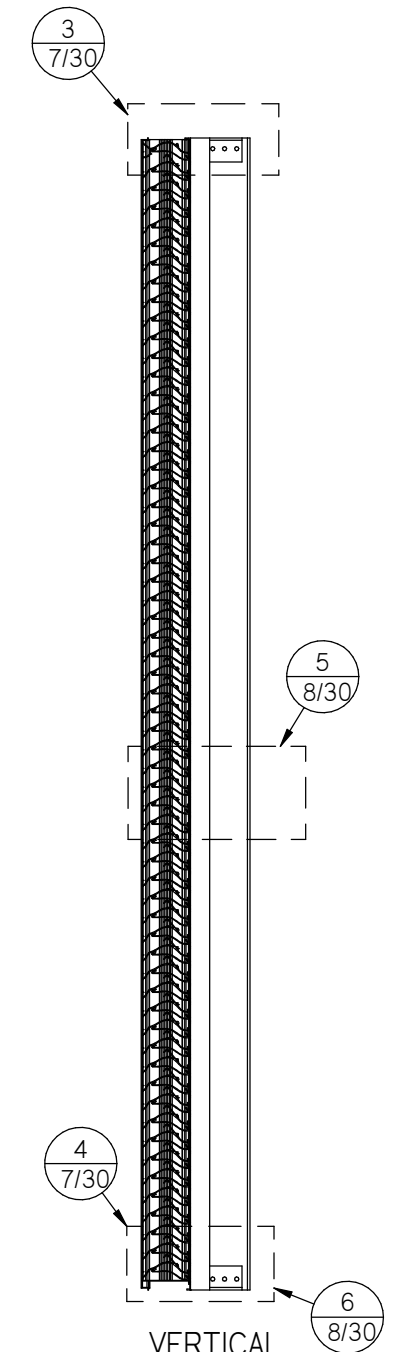
REVISIONS:  
 REV B: ADDED DETAIL BUBBLES 11A, 11B, 11C



HORIZONTAL CROSS SECTION



ELEVATION



VERTICAL CROSS SECTION

**PRODUCT REVISED**  
 as complying with the Florida Building Code  
 NOA-No. 24-0516.05  
 Expiration Date 08/30/2028  
 By *[Signature]*  
 Miami-Dade Product Control

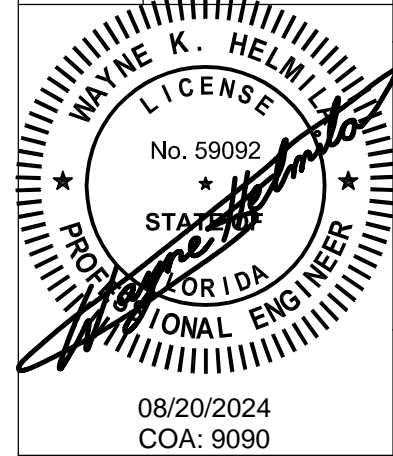
FOR THIS ELEVATION WHERE THE LOUVER BLADES ARE SPANNING 72" THE CMU WALL ANCHORS ARE ADEQUATE FOR A MAXIMUM DESIGN PRESSURE IS +/- 80 PSF. SEE ALSO NOTE ON SHEET 26 OF 30

REVISIONS:  
 REV B: ADDED DETAIL BUBBLES 12A/B, 12C, 12D

DWN BY: f cortinas	CHK BY: Mastourian
DATE: 9/18/2017	SCALE: NTS
SHEET: 3 OF 30	
DWG. NO.	REV B
<b>1605WDM</b>	

**Nailor Industries Inc.**  
 4714 Winfield Road Houston, TX 77039  
 TEL: 281-590-1172 FAX: 281-590-3086  
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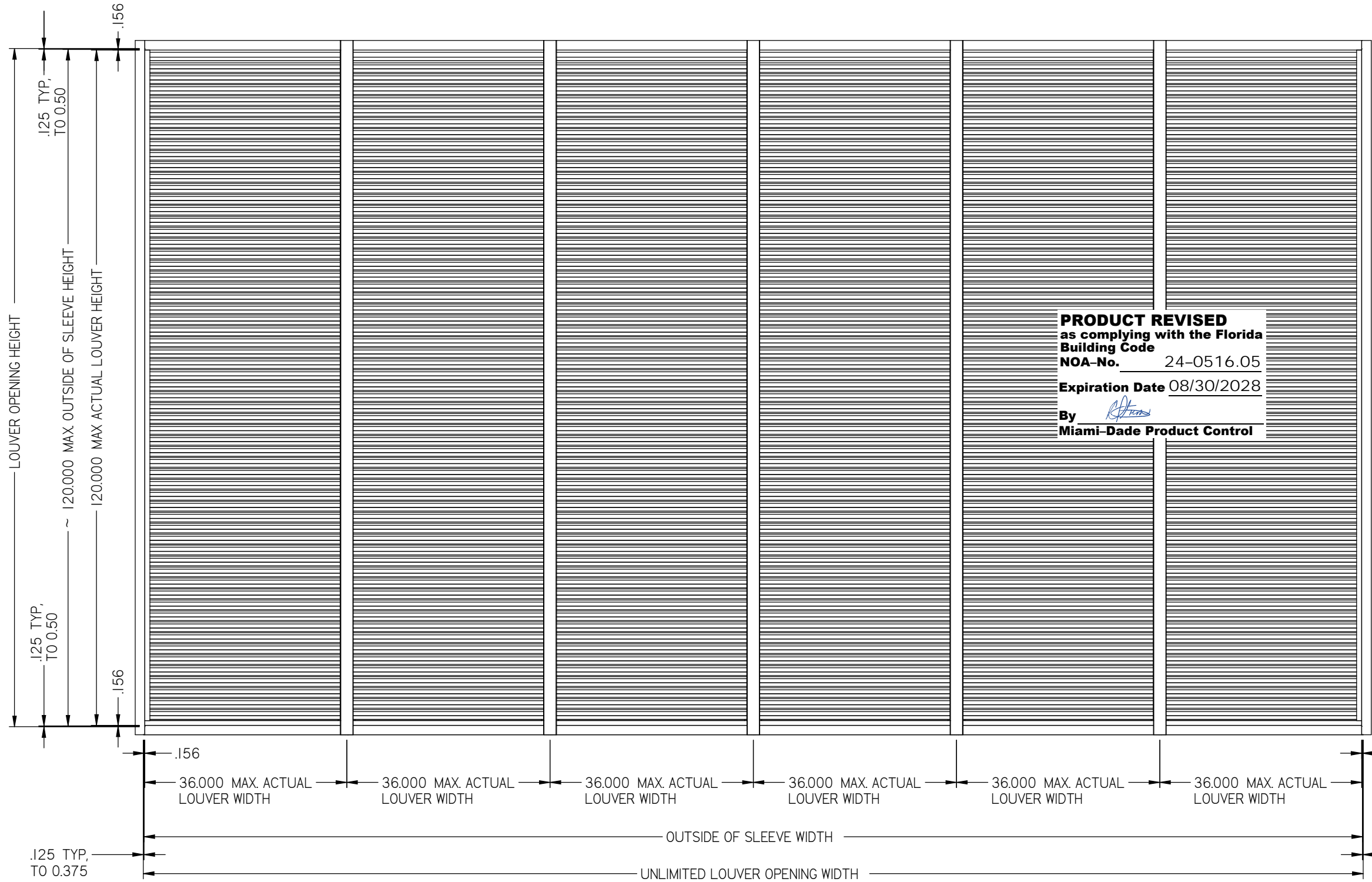
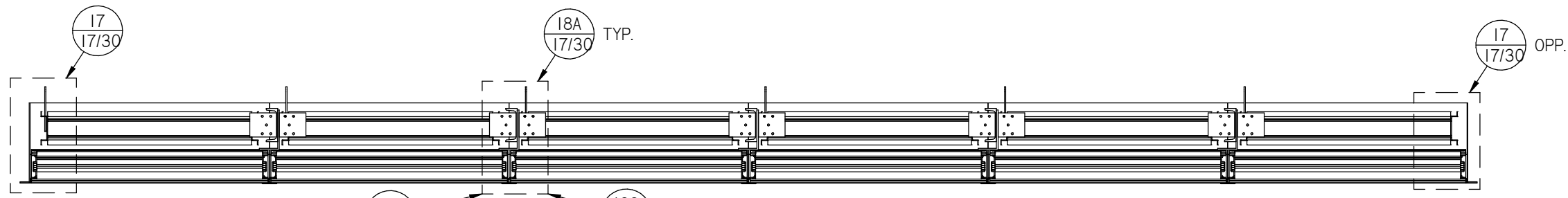
TITLE:  
**1605WDM LOUVER  
 COUNTINOUS ANGLE MOUNT**



**RICE ENGINEERING**  
 105 School Creek Trail  
 Luxemburg, WI 54217  
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 Fax: (920) 617-1100  
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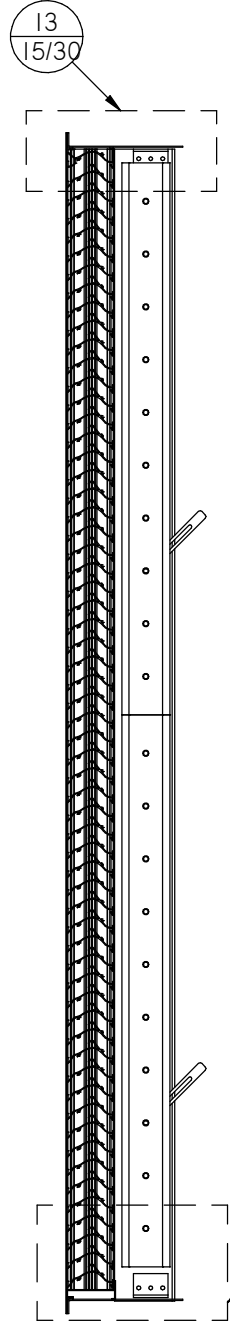
Florida Firm No: F-01000005061  
 Certificate of Authorization: #9090  
 Wayne K. Helmila  
 Registration No: 59092

HORIZONTAL CROSS SECTION



ELEVATION

VERTICAL CROSS SECTION



**PRODUCT REVISED**  
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 Expiration Date 08/30/2028  
 By *[Signature]*  
 Miami-Dade Product Control

REVISIONS:  
 REV B: ADDED DETAIL BUBBLES 18A, 18B, 18C

DWN BY: f cortinas	CHK BY: Mastourian
DATE: 9/18/2017	SCALE: NTS
SHEET: 4 OF 30	
DWG. NO.	REV B
<b>1605WDM</b>	

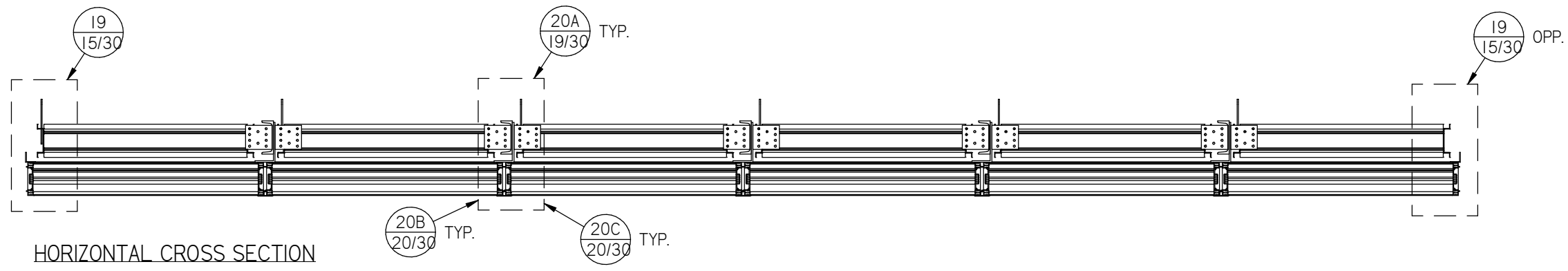
**Nailor Industries Inc.**  
 4714 Winfield Road Houston, TX 77039  
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 www.nailor.com

**1605WDM / DAMPER**  
**FLANGE FRAME**  
**SLEEVE MOUNT**

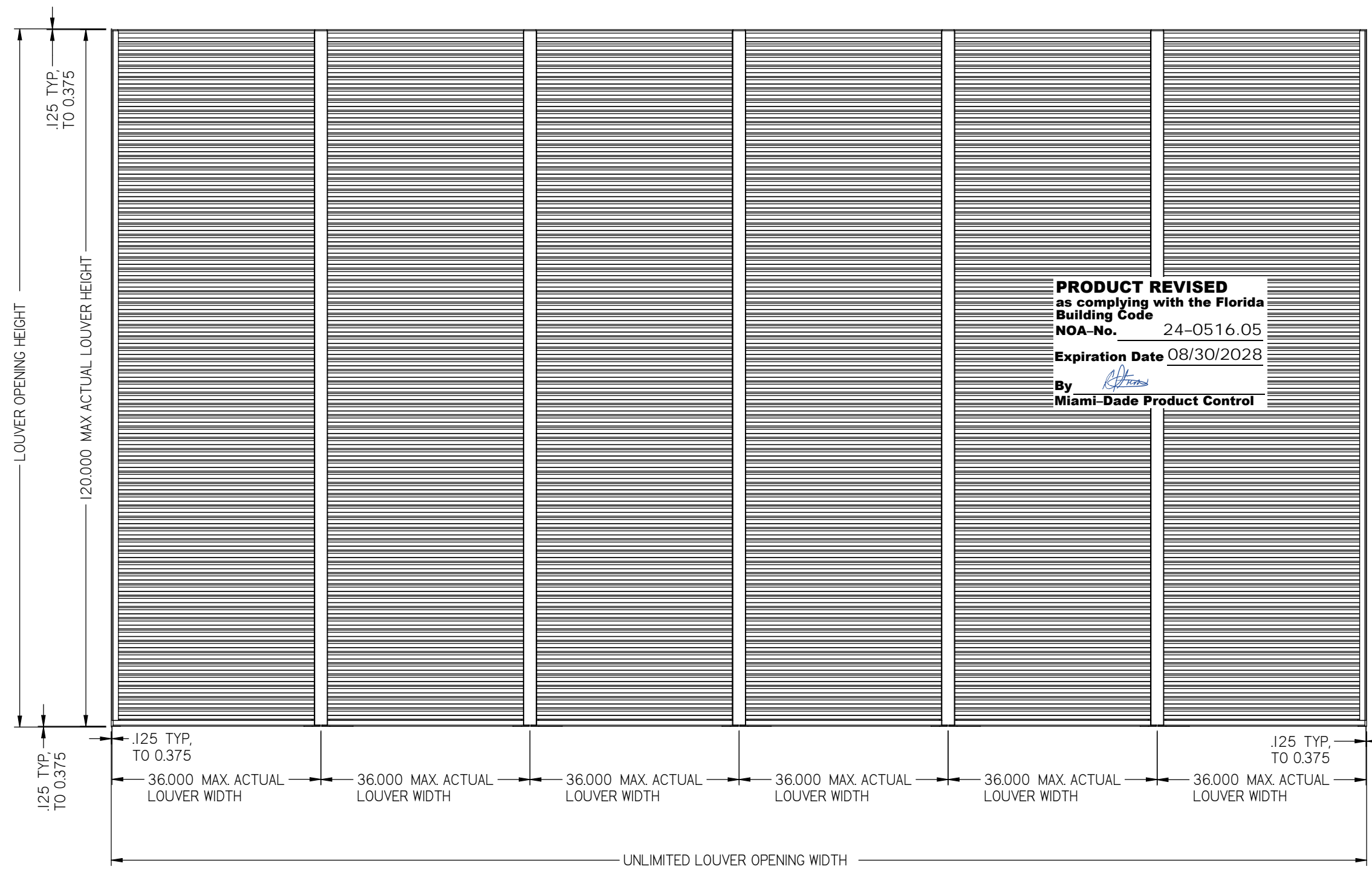
WAYNE K. HELMILA  
 LICENSE  
 No. 59092  
 STATE OF FLORIDA  
 PROFESSIONAL ENGINEER

08/20/2024  
 COA: 9090

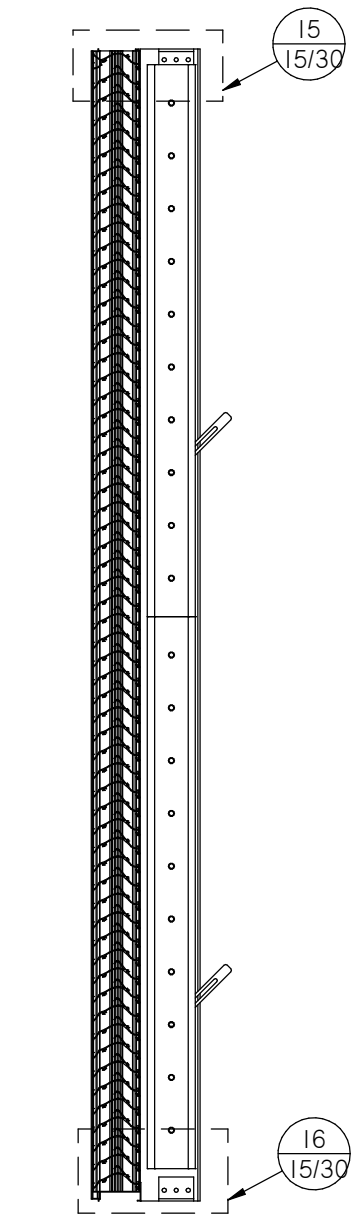
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HORIZONTAL CROSS SECTION



ELEVATION



VERTICAL CROSS SECTION

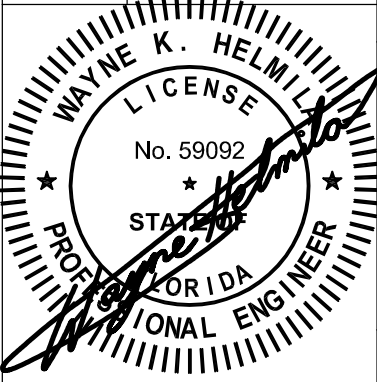
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 By *[Signature]*  
 Miami-Dade Product Control

REVISIONS:  
 REV B: ADDED DETAIL BUBBLES 20A, 20B, 20C

DWN BY: fcoirtinas	CHK BY: Mastourian
DATE: 9/18/2017	SCALE: NTS
SHEET: 5 OF 30	
DWG. NO.	REV B
<b>1605WDM</b>	

**Nailor Industries Inc.**  
 4714 Winfield Road Houston, TX 77039  
 TEL: 281-590-1172 FAX: 281-590-3086  
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TITLE:  
**1605WDM / DAMPER  
 CONTINUOUS ANGLE MOUNT**

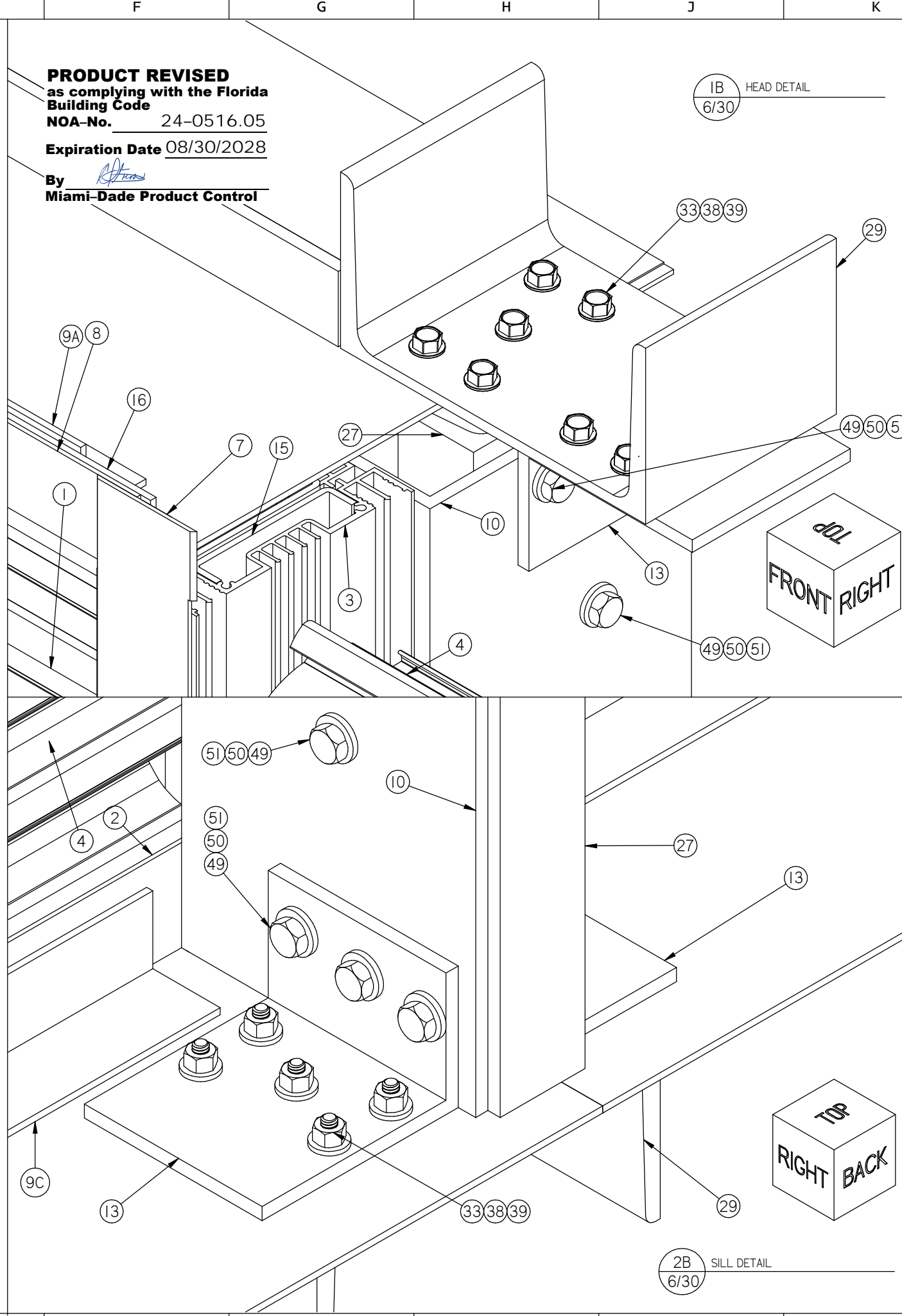
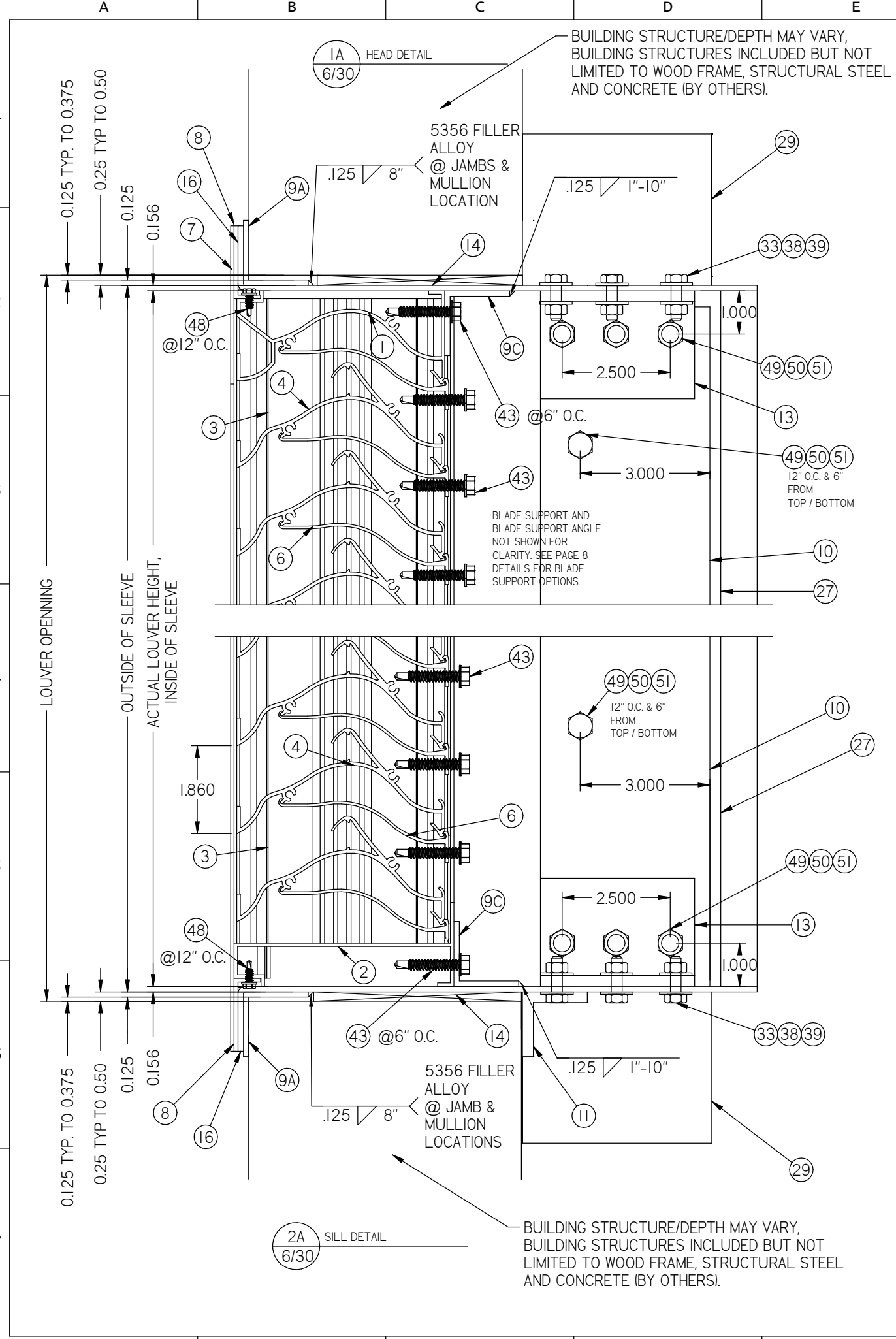


08/20/2024  
 COA: 9090

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 ENGINEERING

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CHK BY: Mastourian  
 DWN BY: f cortinas  
 DATE: 9/18/2017  
 SCALE: NTS  
 SHEET: 6 OF 30  
 DWG. NO. 1605WDM  
 REV B

**Nailor Industries Inc.**  
 4714 Winfield Road Houston, TX 77039  
 TEL: 281-590-1172 FAX: 281-590-3086  
 www.nailor.com  
 TITLE: 1605WDM LOUVER  
 FLANGE FRAME  
 SLEEVE MOUNT  
 HEAD & SILL DETAIL

WAYNE K. HELMILA  
 LICENSE  
 No. 59092  
 STATE OF  
 FLORIDA  
 PROFESSIONAL ENGINEER  
 08/20/2024  
 COA: 9090

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 Registration No: 59092

MULLION ANGLE DIRECT MOUNT (SHOWN HERE AT HEAD) IS FOR SUBSTRATES WHERE MINIMUM FASTENER EDGE DISTANCE CAN BE ACHIEVED BY USE OF HOLES IN THE MULLION END CAP. DETAIL IS TYPICAL FOR BOTH HEAD AND SILL CONDITIONS WHEN APPLICABLE.

3 HEAD DETAIL  
7/30

SUBSTRATE LIMITED TO WOOD, STEEL, CONCRETE (BY OTHERS).

REFER TO FASTENER TABLE SHEET 29 OF 30

FASTENER EDGE DISTANCE

EMBEDMENT

12A 12B 12C

1.000

2.500

49 50 51

27

10

3.000

49 50 51

12" O.C. & 6" FROM TOP / BOTTOM

BLADE SUPPORT AND BLADE SUPPORT ANGLE NOT SHOWN FOR CLARITY. SEE PAGE 8 DETAILS FOR BLADE SUPPORT OPTIONS.

10

27

49 50 51

12" O.C. & 6" FROM TOP / BOTTOM

3.000

13

49 50 51

33 38 39

1.000

SUBSTRATE LIMITED TO WOOD, STEEL, CONCRETE,

4 SILL DETAIL  
7/30

REFER TO FASTENER TABLE 3 SHEET 29 OF 30

MULLION ANGLE BACK OF WALL MOUNT (SHOWN HERE AT SILL) IS FOR SUBSTRATES WHERE MINIMUM FASTENER EDGE DISTANCE CANNOT BE ACHIEVED BY USE OF HOLES IN THE MULLION END CAP. DETAIL IS TYPICAL FOR BOTH HEAD AND SILL CONDITIONS WHEN APPLICABLE.

EXCESS MATERIAL BEYOND FASTENER EDGE DISTANCE IS ALLOWED TO BE REMOVED (THIS LEG ONLY).

30A THRU 30E  
31A THRU 31C

**PRODUCT REVISED**  
as complying with the Florida Building Code  
NOA-No. 24-0516.05  
Expiration Date 08/30/2028  
By *[Signature]*  
Miami-Dade Product Control

4 SILL DETAIL  
7/30

SUBSTRATE LIMITED TO: CMU ONLY

4.000

12.000

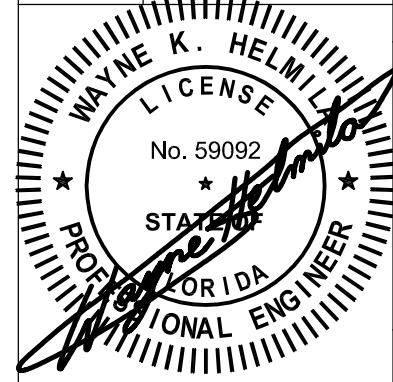
EXCESS MATERIAL BEYOND FASTENER EDGE DISTANCE IS ALLOWED TO BE REMOVED (THIS LEG ONLY).

REFER TO FASTENER TABLE 3 (SHEET 29 OF 25)

MULLION ANGLE BACK OF WALL MOUNT (SHOWN HERE AT SILL) IS FOR SUBSTRATES WHERE MINIMUM FASTENER EDGE DISTANCE CANNOT BE ACHIEVED BY USE OF HOLES IN THE MULLION END CAP. DETAIL IS TYPICAL FOR BOTH HEAD AND SILL CONDITIONS WHEN APPLICABLE.

REVISIONS:  
REV B: ADDED CMU MULLION ANGLE DETAIL

**Nailor Industries Inc.**  
4714 Winfield Road Houston, TX 77039  
TEL: 281-590-1172 FAX: 281-590-3086  
www.nailor.com



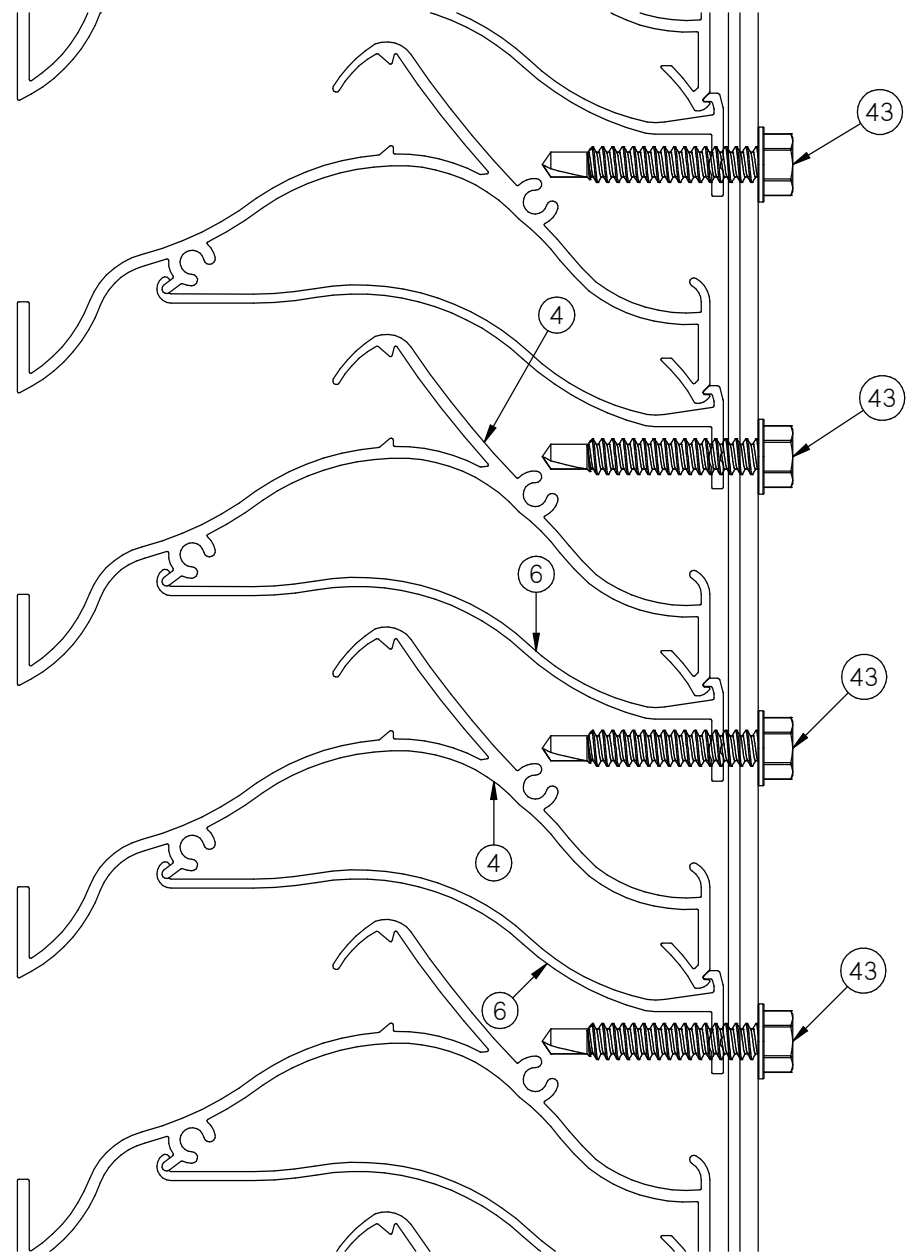
**RICE ENGINEERING**  
105 School Creek Trail  
Luxemburg, WI 54217  
Phone: (920) 617-1042  
Fax: (920) 617-1100  
www.rice-inc.com  
Florida Firm No: F-01000005061  
Certificate of Authorization: #9090  
Wayne K. Helmila  
Registration No: 59092

DWN BY: f cortinas  
DATE: 9/18/2017  
CHK BY: Mastourian  
SCALE: NTS

TITLE:  
1605WDM LOUVER CONTINUOUS ANGLE MOUNT AND CMU MULLION ANGLE HEAD & SILL DETAILS

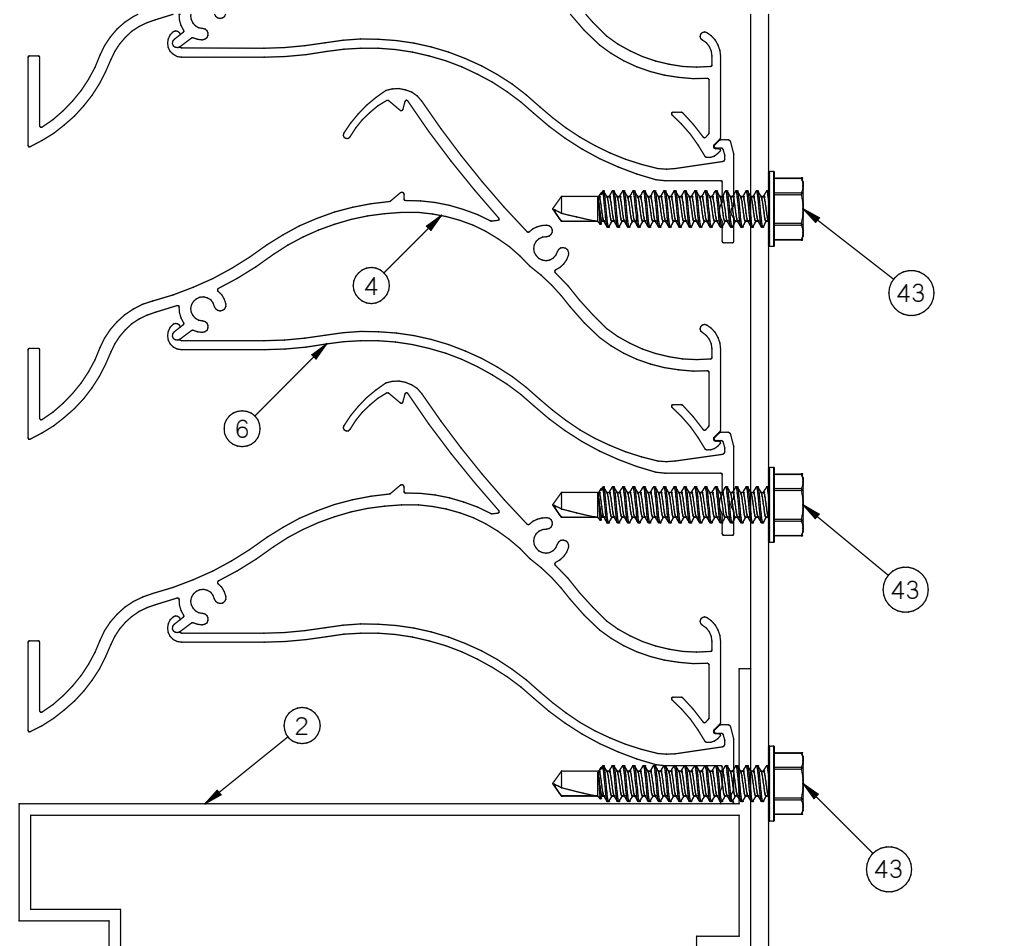
SHEET: 7 OF 30

DWG. NO. 1605WDM  
REV B



5 BLADE SUPPORT DETAIL  
8/30

NOTE: THE BLADE SUPPORT ANGLE (ITEM 10 IS NOT SHOWN IN THE DETAILS IN ORDER TO IMPROVE CLARITY. THE BLADE SUPPORT ANGLE IS ATTACHED TO THE BLADE SUPPORT BRACE (ITEM 6). BLADE SUPPORT BRACE6 (SHOWN) IS ANY OF THE DRAWINGS FOR DETAIL 6.



6 BOTTOM BLADE SUPPORT DETAIL  
8/30

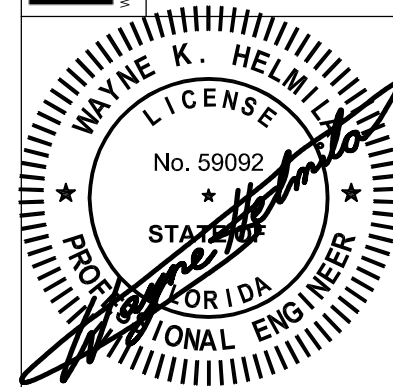
**PRODUCT REVISED**  
as complying with the Florida Building Code  
**NOA-No.** 24-0516.05  
**Expiration Date** 08/30/2028  
**By** *[Signature]*  
**Miami-Dade Product Control**

DWN BY: f cortinas  
CHK BY: Mastourian  
DATE: 9/18/2017  
SCALE: NTS

SHEET: 8 OF 30  
DWG. NO. 1605WDM  
REV B

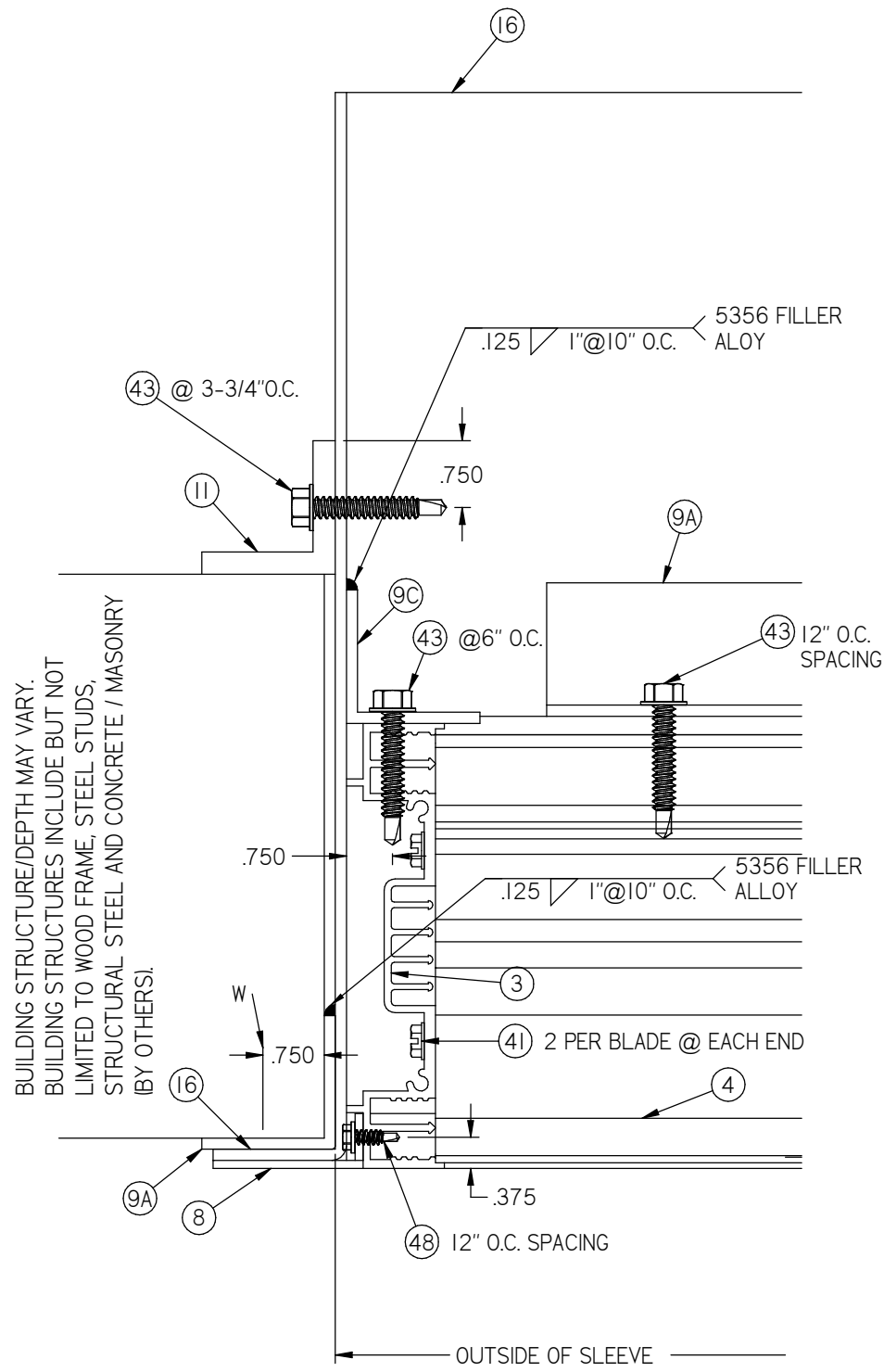
**Nailor Industries Inc.**  
4714 Winfield Road Houston, TX 77039  
TEL: 281-590-1172 FAX: 281-590-3086  
www.nailor.com

TITLE:  
1605WDM LOUVER  
BLADE SUPPORT DETAIL

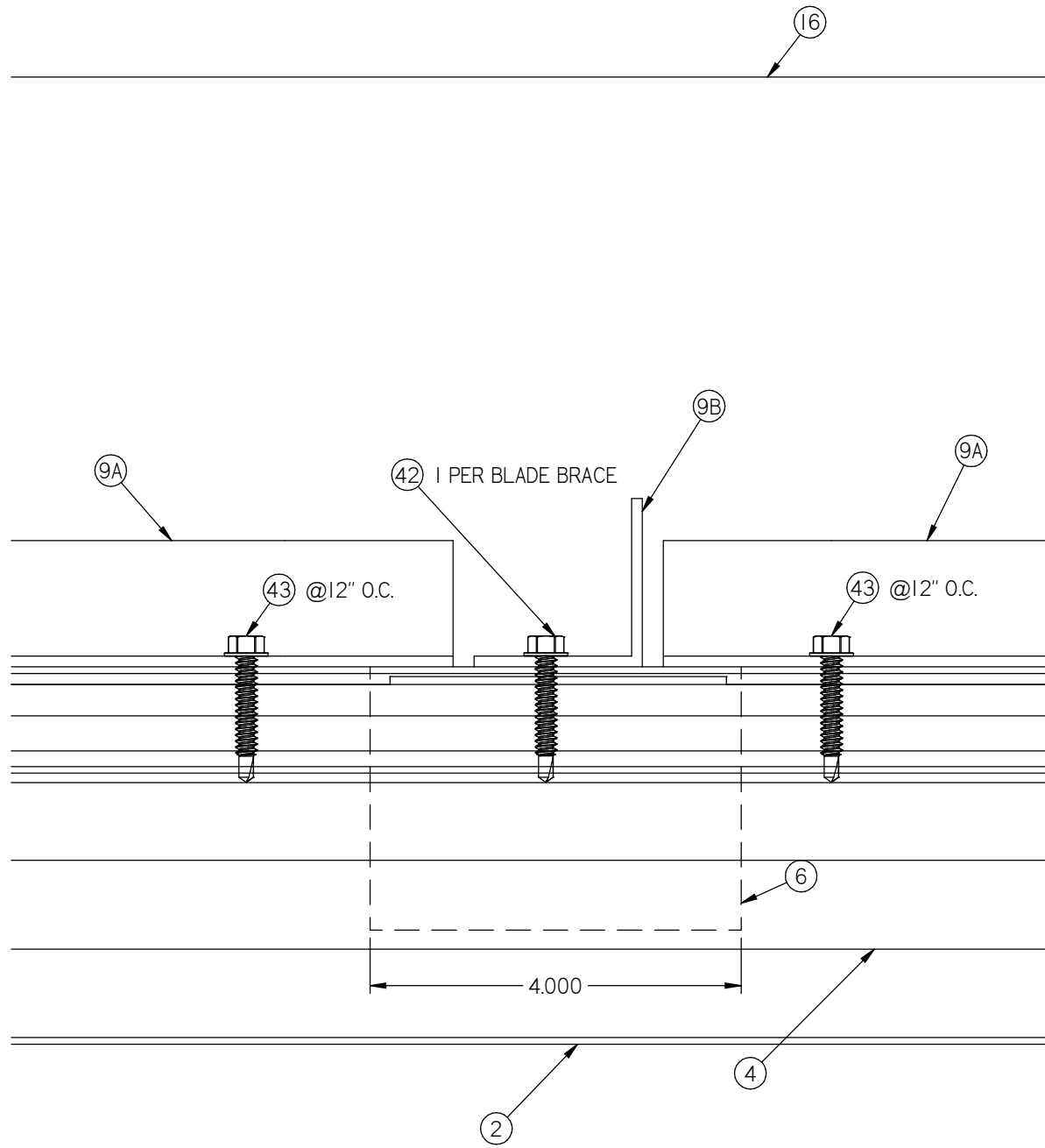


08/20/2024  
COA: 9090

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Certificate of Authorization: #9090  
Wayne K. Helmila  
Registration No: 59092



7 JAMB DETAIL  
9/30



8 SUPPORT DETAIL  
9/30

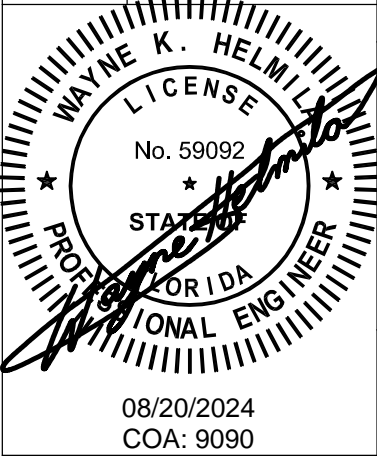
BUILDING STRUCTURE/DEPTH MAY VARY.  
BUILDING STRUCTURES INCLUDE BUT NOT  
LIMITED TO WOOD FRAME, STEEL STUDS,  
STRUCTURAL STEEL AND CONCRETE / MASONRY  
(BY OTHERS).

**PRODUCT REVISED**  
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NOA-No. 24-0516.05  
Expiration Date 08/30/2028  
By *[Signature]*  
Miami-Dade Product Control

DWN BY: fcortinas	CHK BY: Mastourian
DATE: 9/18/2017	SCALE: NTS
SHEET: 9 OF 30	
DWG. NO.	REV B
<b>1605WDM</b>	

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TITLE:  
**1605WDM LOUVER  
FLANGE FRAME SLEEVE MOUNT  
JAMB & BLADE BRACE DETAIL**



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Florida Firm No: F-01000005061  
Certificate of Authorization: #9090  
Wayne K. Helmila  
Registration No: 59092

A B C D E F G H J K L

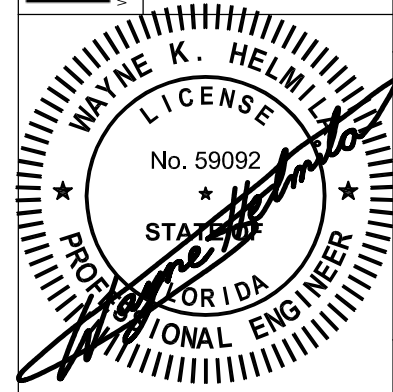
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 NOA-No. 24-0516.05  
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DWN BY: fcoirtinas  
 DATE: 9/18/2017  
 CHK BY: Mastourian  
 SCALE: NTS  
 SHEET: 10 OF 30  
 DWG. NO. 1605WDM  
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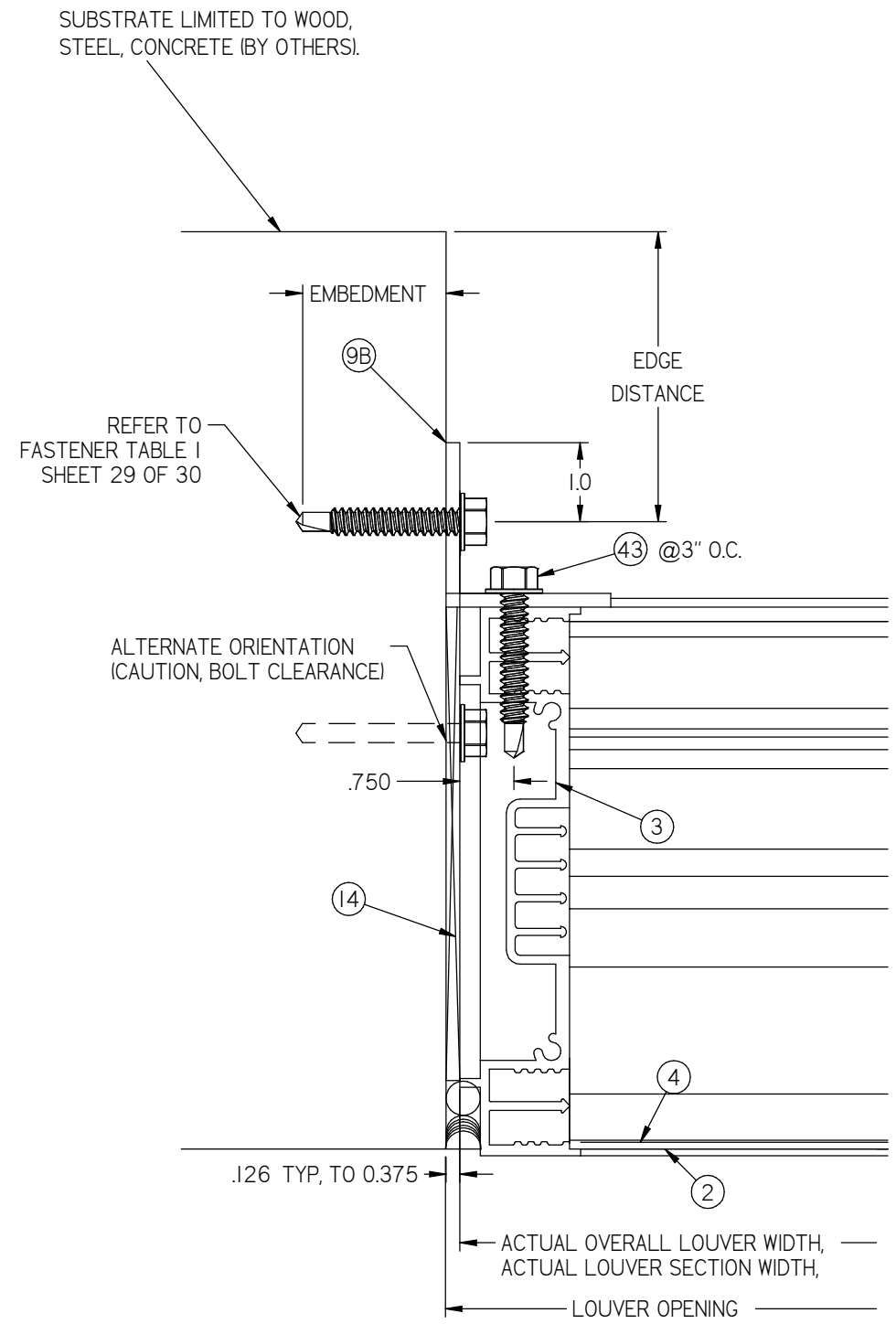
TITLE:  
 1605WDM LOUVER  
 COUNTINOUS ANGLE MOUNT  
 JAMB DETAIL



08/20/2024  
 COA: 9090

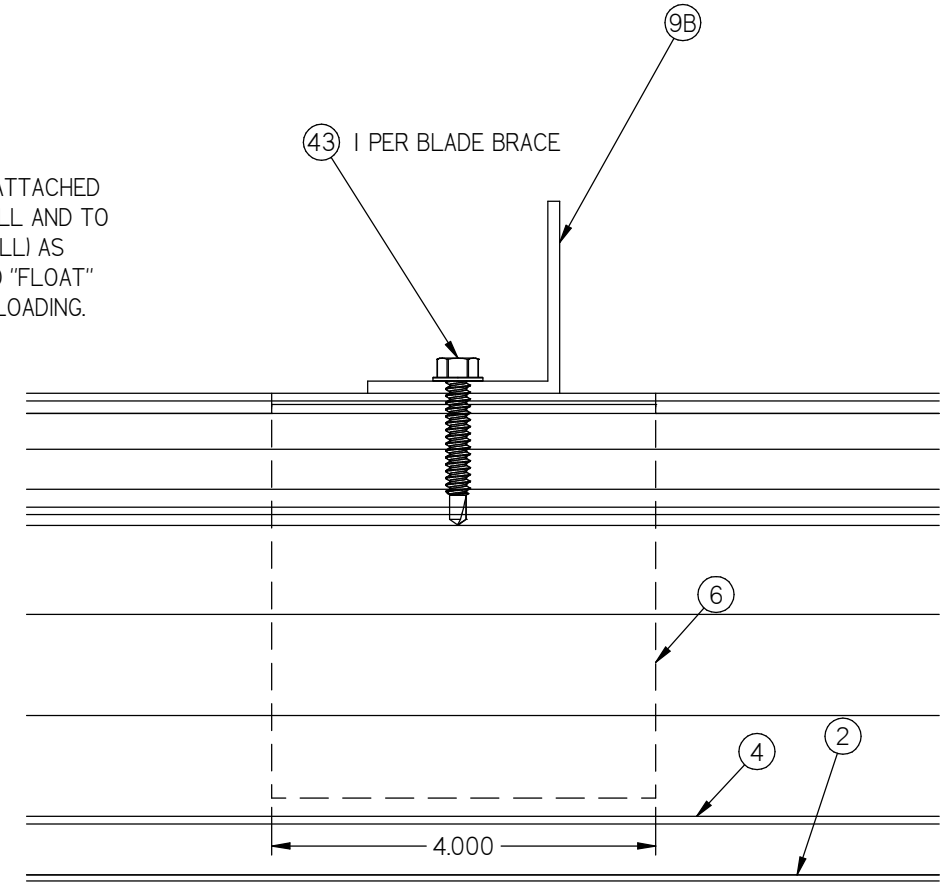
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 Wayne K. Helmila  
 Registration No: 59092



9 JAMB DETAIL  
 10/30

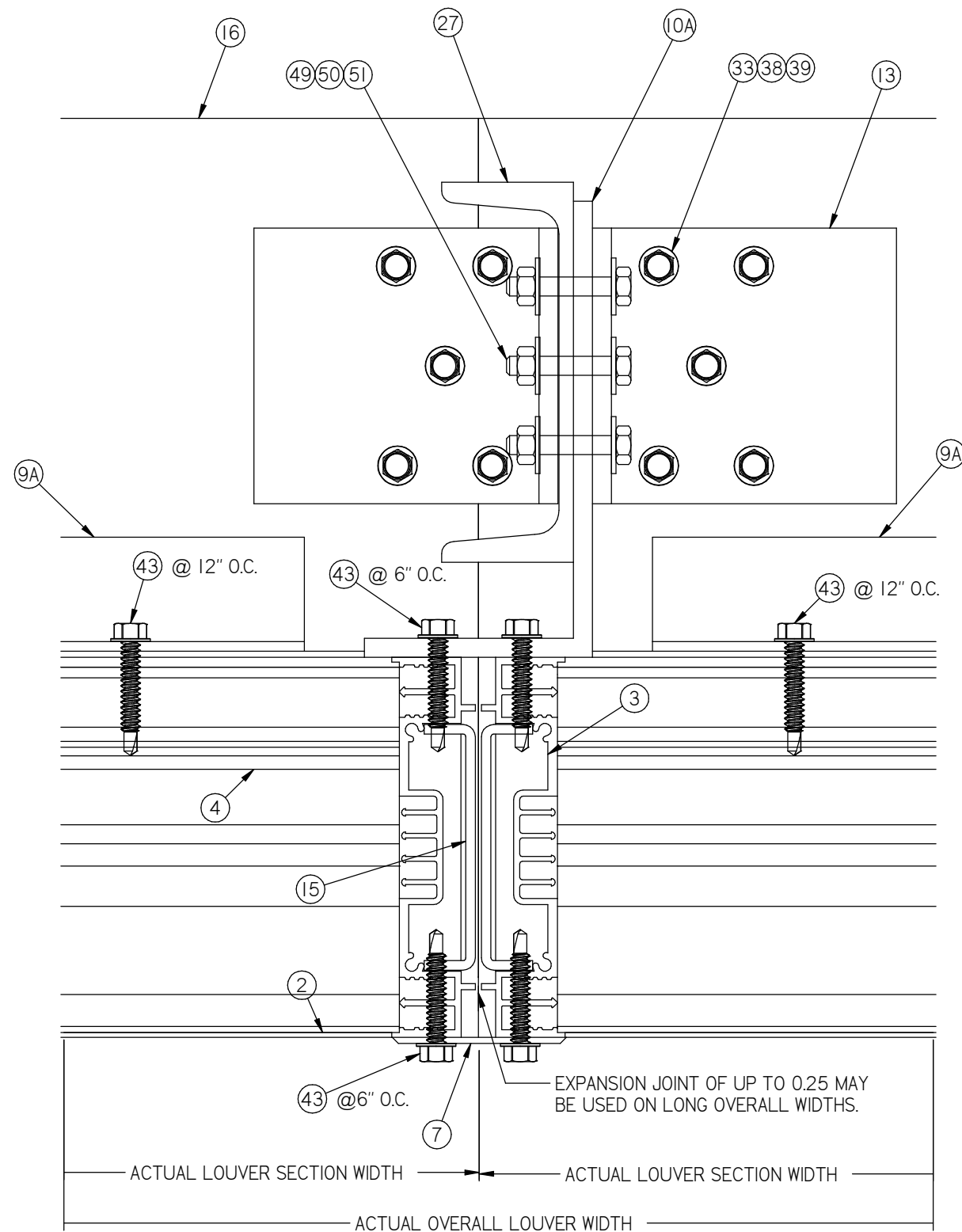
SUPPORT NOT ATTACHED  
 AT HEAD AND SILL AND TO  
 SUBSTRATE (WALL) AS  
 TO ALLOW IT TO "FLOAT"  
 DURING BLADE LOADING.



10 SUPPORT DETAIL  
 10/30

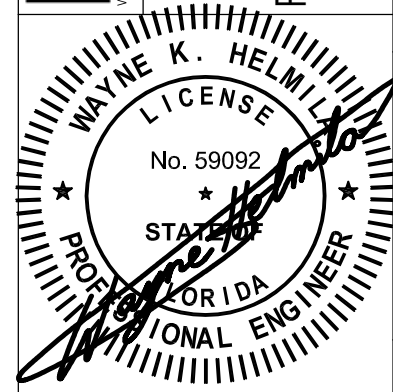
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11A MULLION DETAIL  
 11/30 72" BLADE SLEEVE MOUNT  
 C6X8.2 STEEL CHANNEL  
 AND ALUM 6X3X1/4" ANGLE

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 as complying with the Florida  
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 NOA-No. 24-0516.05  
 Expiration Date 08/30/2028  
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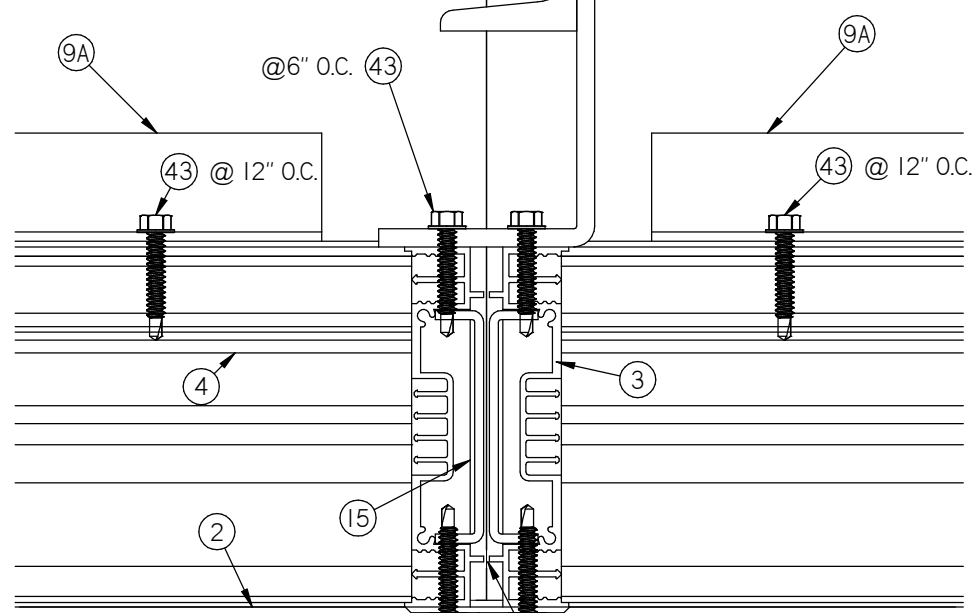
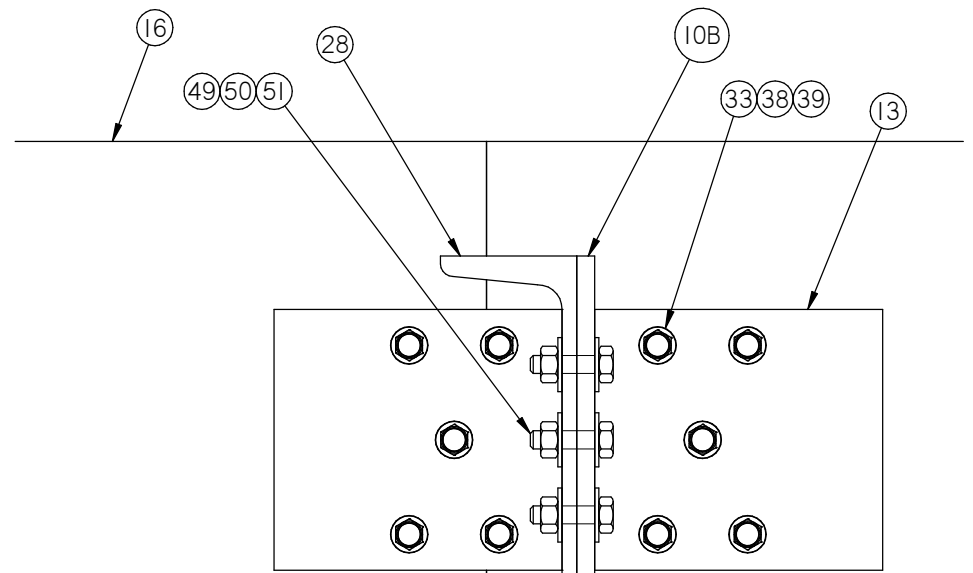
08/20/2024  
 COA: 9090

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 Fax: (920) 617-1100  
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 Certificate of Authorization: #9090  
 Wayne K. Helmila  
 Registration No: 59092

DWN BY: f cortinas  
 DATE: 9/18/2017  
 CHK BY: MASTOURIAN  
 SCALE: NTS  
 SHEET: 11 OF 30  
 DWG. NO. 1605WDM  
 REV B

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 4714 Winfield Road Houston, TX 77039  
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 TITLE:  
 1605WDM LOUVER  
 FLANGE FRAME SLEEVE MOUNT  
 72" BLADE MULLION DETAIL



EXPANSION JOINT OF UP TO 0.25 MAY BE USED ON LONG OVERALL WIDTHS.

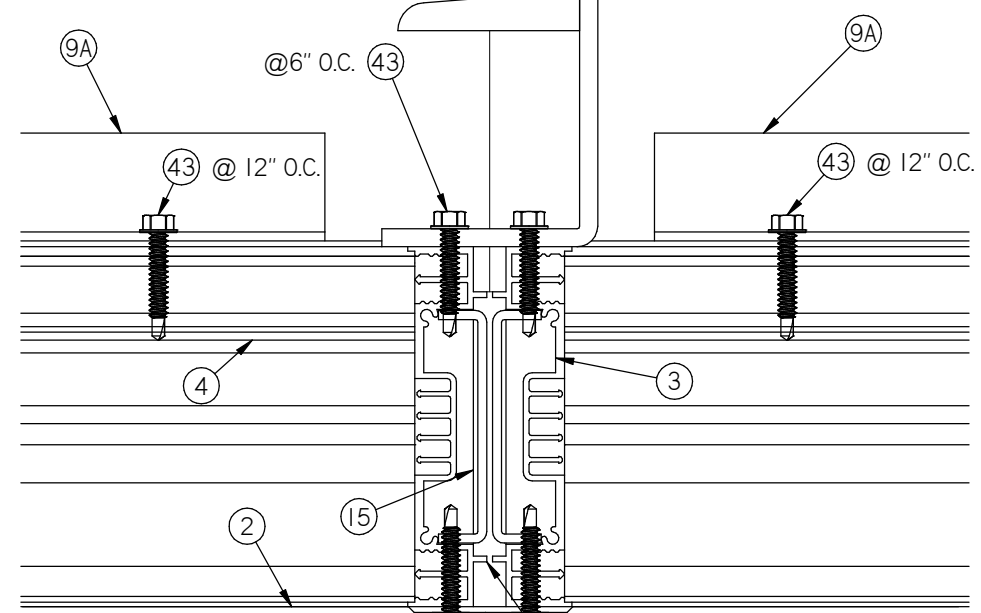
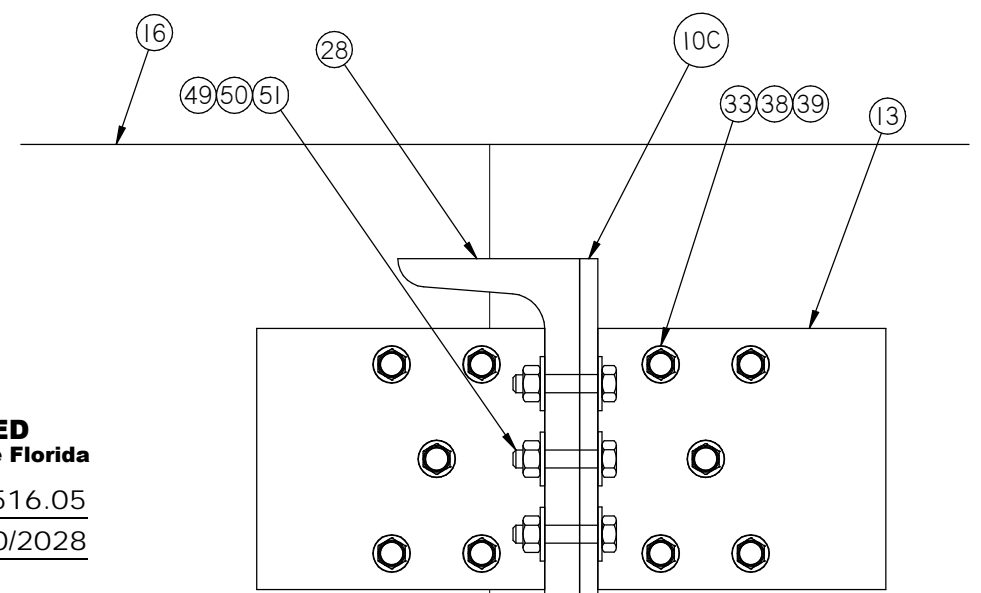
— ACTUAL LOUVER SECTION WIDTH —

— ACTUAL LOUVER SECTION WIDTH —

— ACTUAL OVERALL LOUVER WIDTH —

11B MULLION DETAIL  
12/30 72" BLADE SLEEVE MOUNT  
C8X18.75 STEEL CHANNEL  
AND ALUM 9X3X1/4" ANGLE

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as complying with the Florida  
Building Code  
NOA-No. 24-0516.05  
Expiration Date 08/30/2028  
By *[Signature]*  
Miami-Dade Product Control



EXPANSION JOINT OF UP TO 0.25 MAY BE USED ON LONG OVERALL WIDTHS.

— ACTUAL LOUVER SECTION WIDTH —

— ACTUAL LOUVER SECTION WIDTH —

— ACTUAL OVERALL LOUVER WIDTH —

11C MULLION DETAIL  
12/30 72" BLADE SLEEVE MOUNT  
C8X18.75 STEEL CHANNEL  
AND ALUM 11X3X1/4" ANGLE

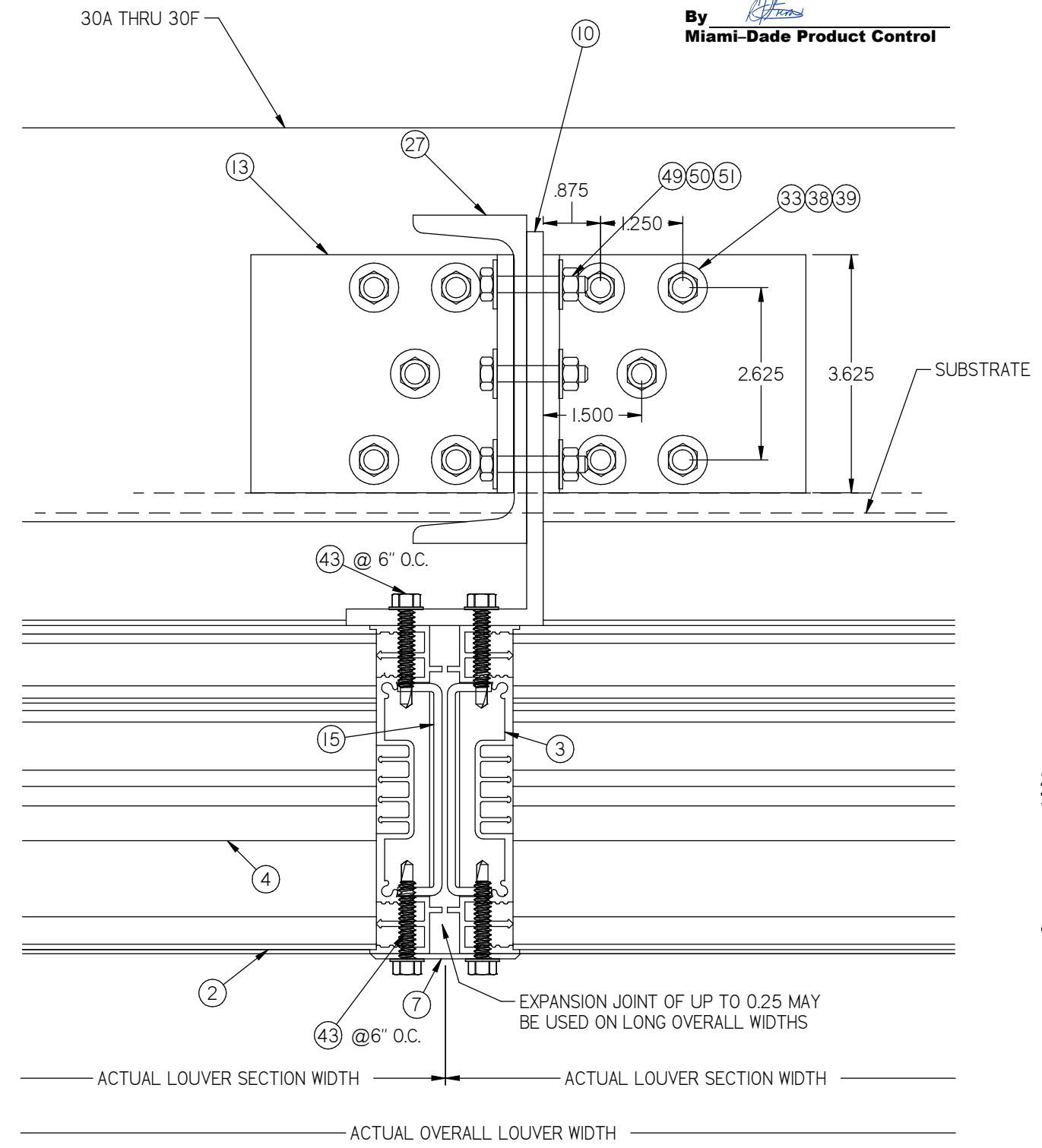
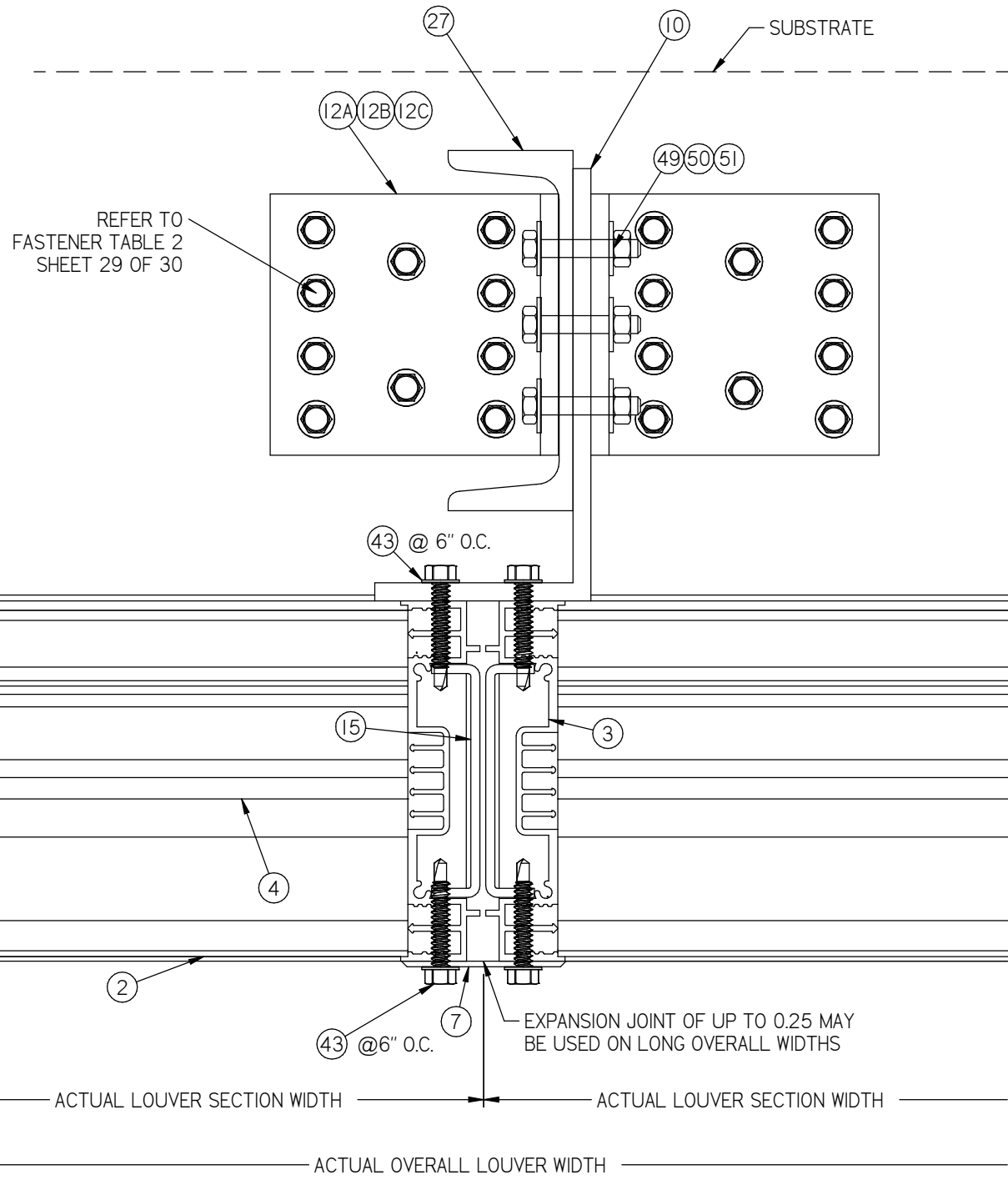
REVISIONS:  
REV B: ADDED PAGE DETAIL 11B, 11C

DWN BY: fcortinas	CHK BY: Mastourian	SCALE: NTS	SHEET: 12 OF 30	REV B
DATE: 9/18/2017				
<b>Nailor Industries Inc.</b> 4714 Winfield Road Houston, TX 77039 TEL: 281-590-1172 FAX: 281-590-3086 www.nailor.com		TITLE: <b>1605WDM LOUVER</b> <b>FLANGE FRAME SLEEVE MOUNT</b> <b>72" BLADE MULLION DETAIL</b>		
		08/20/2024 COA: 9090		
<b>RICE ENGINEERING</b> 105 School Creek Trail Luxemburg, WI 54217 Phone: (920) 617-1042 Fax: (920) 617-1100 www.rice-inc.com Florida Firm No: F-01000005061 Certificate of Authorization: #9090 Wayne K. Helmila Registration No: 59092				

A B C D E F G H J K L

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**PRODUCT REVISED**  
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 NOA-No. 24-0516.05  
 Expiration Date 08/30/2028  
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 Miami-Dade Product Control



MULLION ANGLE DIRECT MOUNT (SHOWN HERE AT HEAD) IS FOR SUBSTRATES WHERE MINIMUM FASTENER EDGE DISTANCE CAN BE ACHIEVED BY USE OF HOLES IN THE MULLION END CAP. DETAIL IS TYPICAL FOR BOTH HEAD AND SILL CONDITIONS WHEN APPLICABLE.

12A  
13/30  
MULLION DETAIL  
72" BLADE DIRECT CHANNEL  
C8 X 18.75 STEEL CHANNEL  
ALUM L6 X 3 X 1/4

MULLION ANGLE BACK OF WALL MOUNT (SHOWN HERE AT SILL) IS FOR SUBSTRATES WHERE MINIMUM FASTENER EDGE DISTANCE CANNOT BE ACHIEVED BY USE OF HOLES IN THE MULLION END CAP. DETAIL IS TYPICAL FOR BOTH HEAD AND SILL CONDITIONS WHEN APPLICABLE.

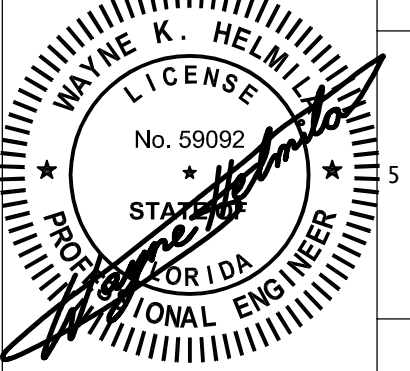
12B  
13/30  
MULLION DETAIL  
72" BLADE BACK OF WALL  
MOUNT C8 X 18.75 STEEL  
CHANNEL ALUM L6 X 3 X 1/4

REVISIONS:  
REV B: RENUMBERED PAGE

DWN BY: f cortinas	CHK BY: Mastourian	SCALE: NTS	SHEET: 13 OF 30	REV B
DATE: 9/18/2017				
DWC. NO. 1605WDM				

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TITLE:  
 1605WDM LOUVER  
 COUNTINOUS ANGLE MOUNT  
 72" BLADE MULLION DETAIL



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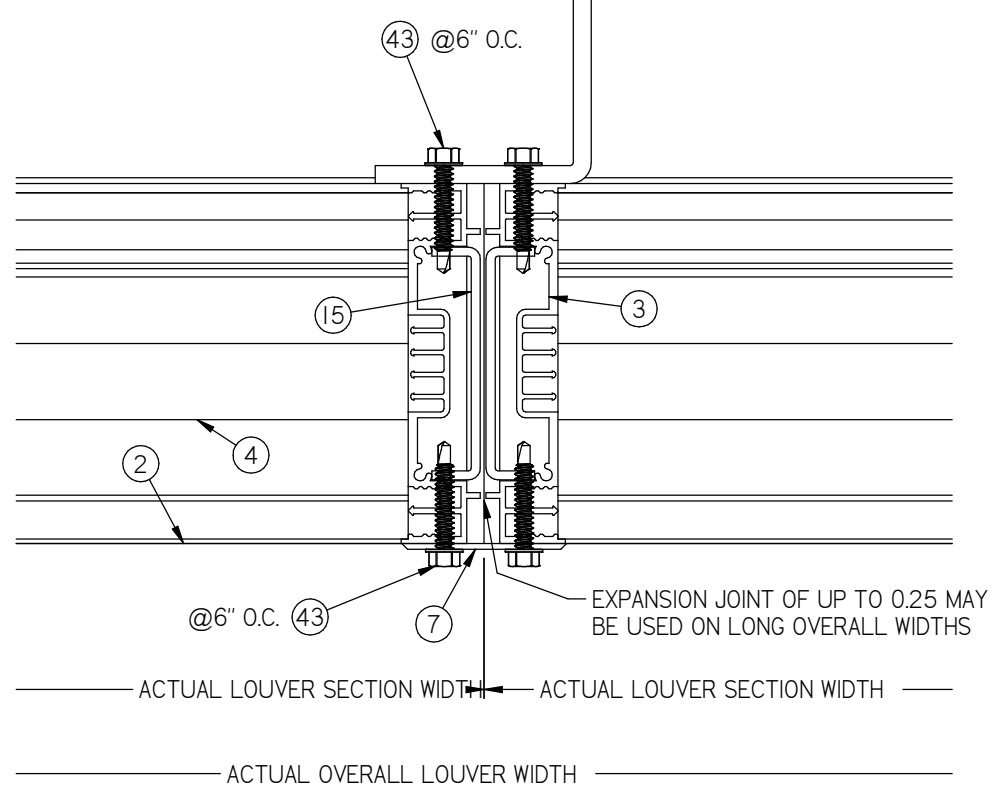
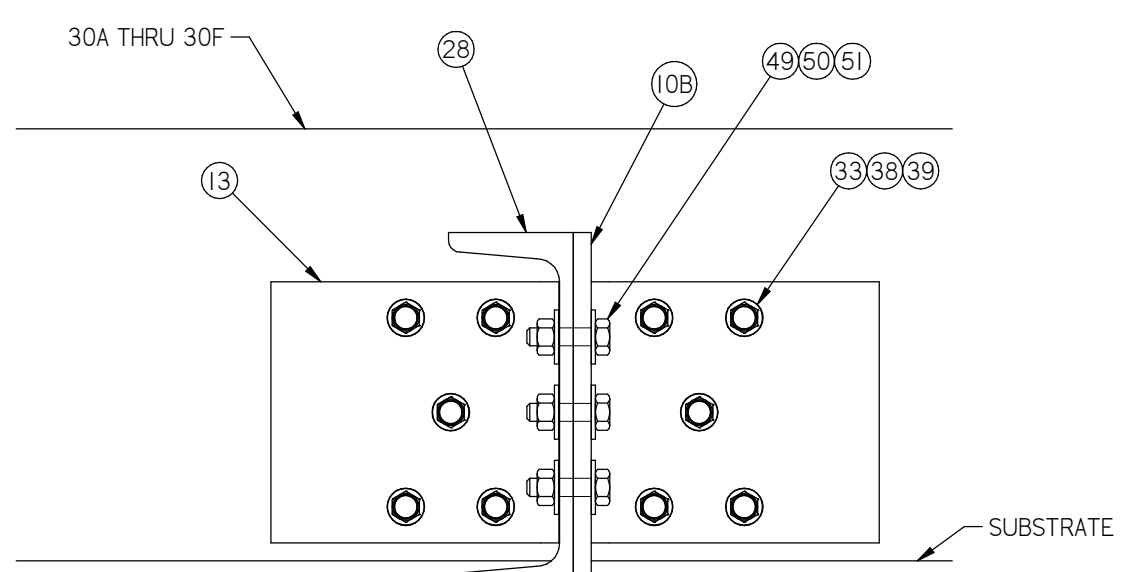
Florida Firm No: F-01000005061  
 Certificate of Authorization: #9090  
 Wayne K. Helmila  
 Registration No: 59092

A B C D E F G H J K L

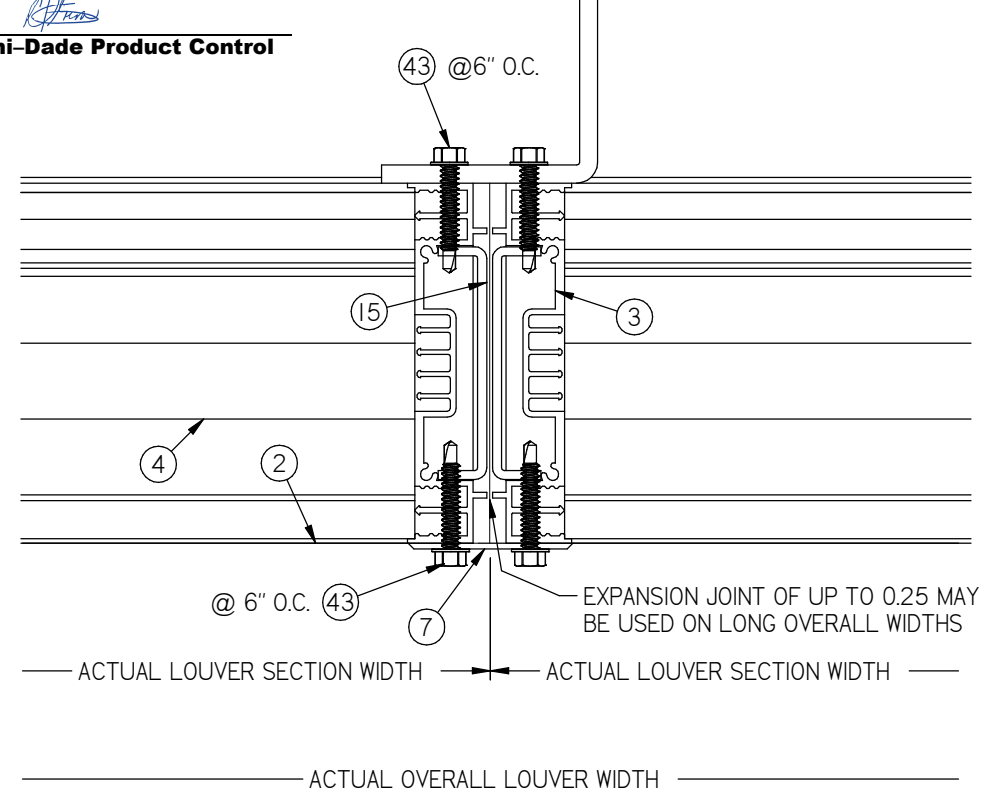
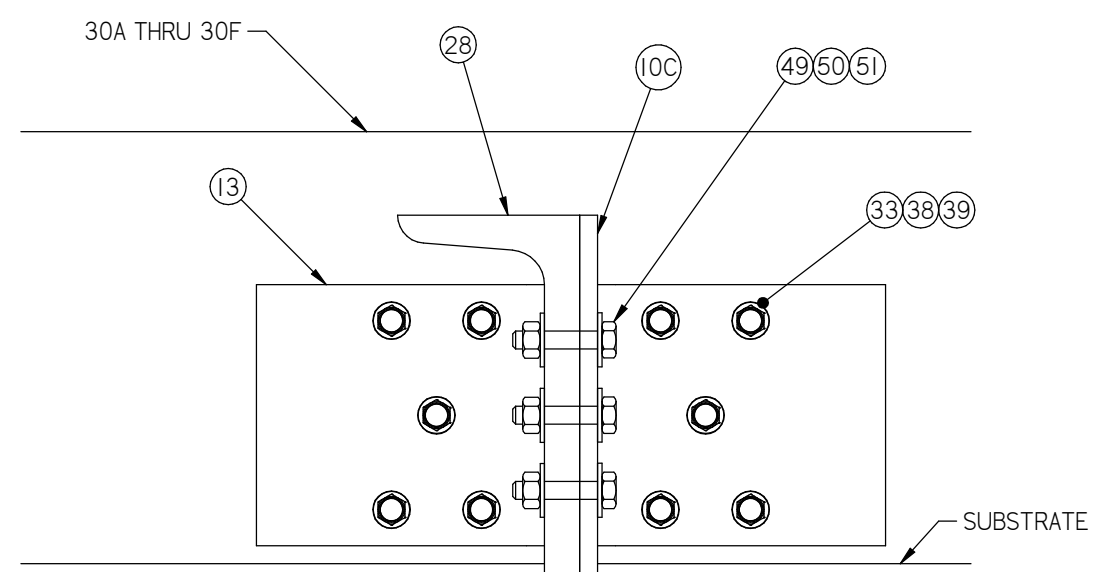


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12C MULLION DETAIL  
14/30 72" BLADE BACK OF WALL  
C8X18.75 STEEL CHANNEL  
AND ALUM 9X3X1/4" ANGLE



12D MULLION DETAIL  
14/30 72" BLADE BACK OF WALL  
C8X18.75 STEEL CHANNEL  
AND ALUM 11X3X1/4" ANGLE

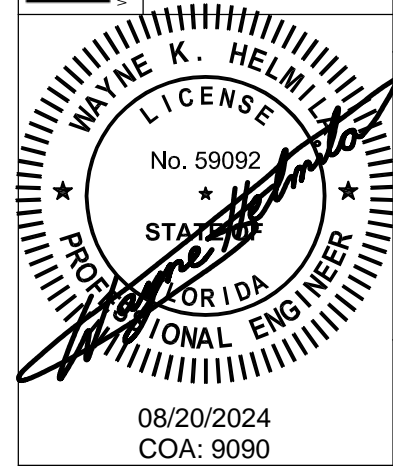
**PRODUCT REVISED**  
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Building Code  
NOA-No. 24-0516.05  
Expiration Date 08/30/2028  
By *[Signature]*  
Miami-Dade Product Control

REVISIONS:  
REV B: ADDED PAGE DETAIL 12C, 12D

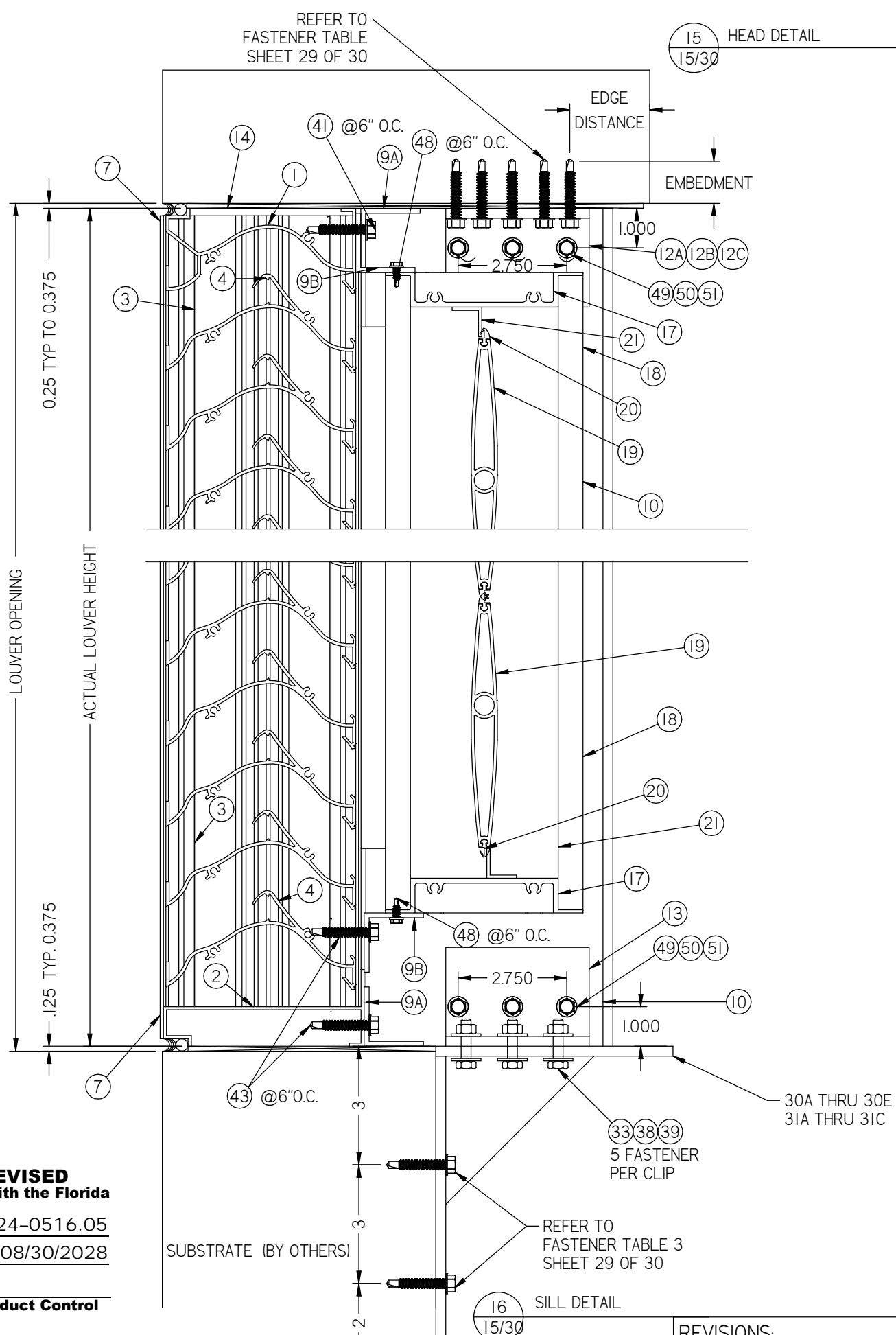
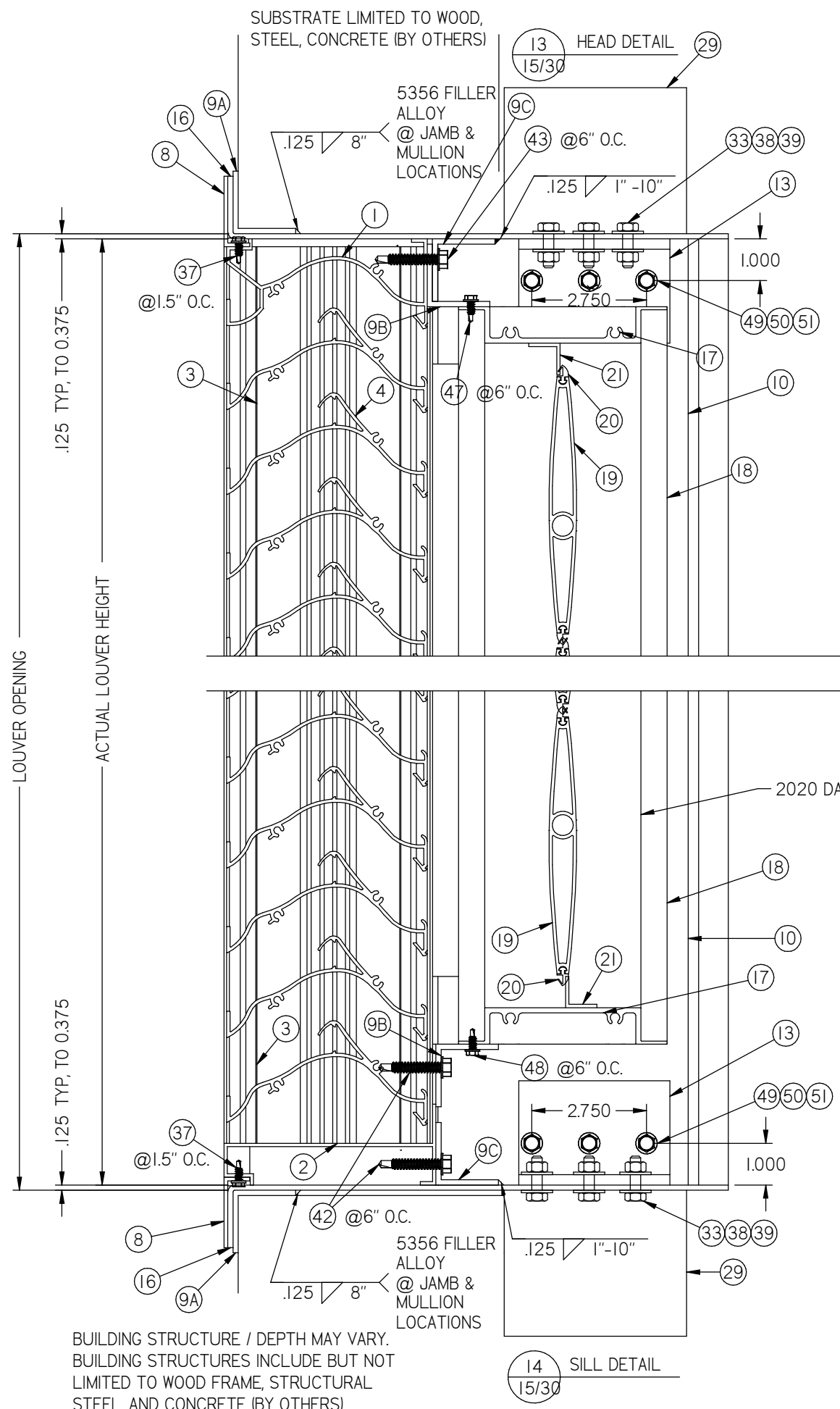
DWN BY: f cortinas	CHK BY: Mastourian
DATE: 9/18/2017	SCALE: NTS
SHEET: 14 OF 30	
DWG. NO.	REV B
<b>1605WDM</b>	

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TITLE:  
**1605WDM LOUVER  
CONTINUOUS ANGLE MOUNT  
72" BLADE MULLION DETAIL**



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Certificate of Authorization: #9090  
Wayne K. Helmila  
Registration No: 59092



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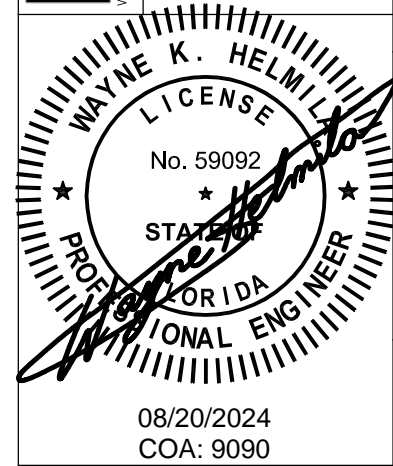
BUILDING STRUCTURE / DEPTH MAY VARY.  
 BUILDING STRUCTURES INCLUDE BUT NOT  
 LIMITED TO WOOD FRAME, STRUCTURAL  
 STEEL, AND CONCRETE (BY OTHERS).

REVISIONS:  
 REV B: RENUMBERED PAGE

DWN BY: f cortinas	CHK BY: Mastourian
DATE: 9/18/2017	SCALE: NTS
SHEET: 15 OF 30	
DWG. NO.	REV B
<b>1605WDM</b>	

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TITLE:  
**1605WDM LOUVER / DAMPER**  
 FLANGE FRAME W/SLEEVE  
 CONTINUOUS ANGLE MOUNT  
 HEAD & SILL DETAIL

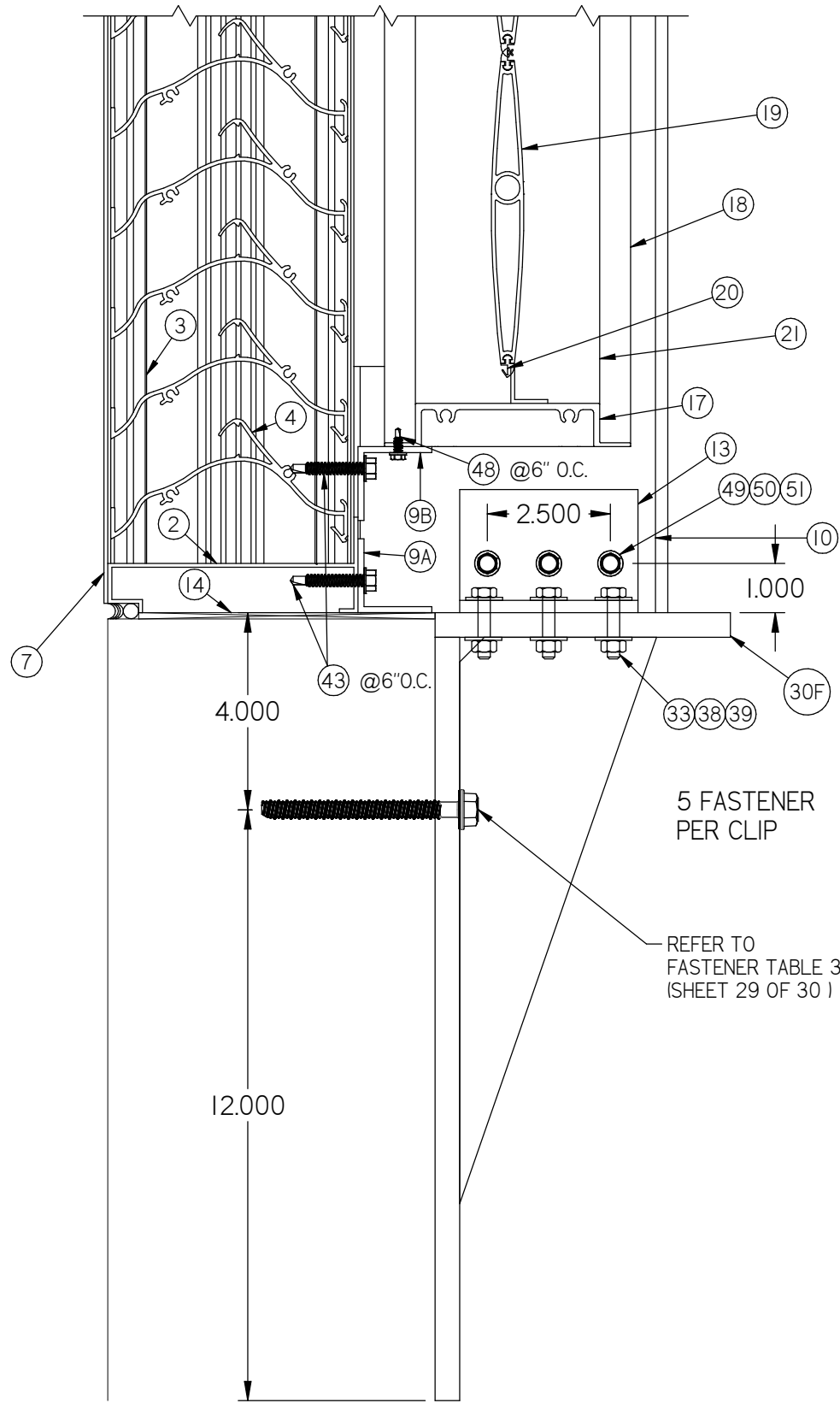


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Florida Firm No: F-01000005061  
 Certificate of Authorization: #9090  
 Wayne K. Helmila  
 Registration No: 59092

SUBSTRATE LIMITED TO:  
CMU ONLY

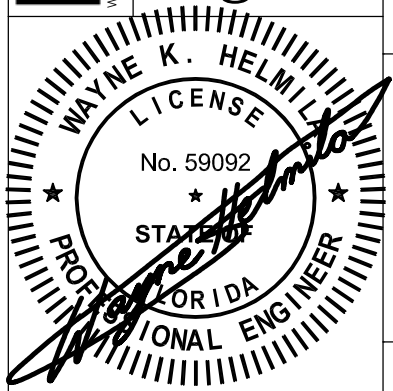


5 FASTENER  
PER CLIP

REFER TO  
FASTENER TABLE 3  
(SHEET 29 OF 30)

16 SILL DETAIL  
16/30

**PRODUCT REVISED**  
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Registration No: 59092

REVISIONS:  
REV B: ADDED PAGE CMU MULLION ANGLE DETAIL

DWN BY: fcortinas  
DATE: 9/18/2017

CHK BY: Mastourian  
SCALE: NTS

SHEET: 16 OF 30

DWG. NO. 1605WDM  
REV B

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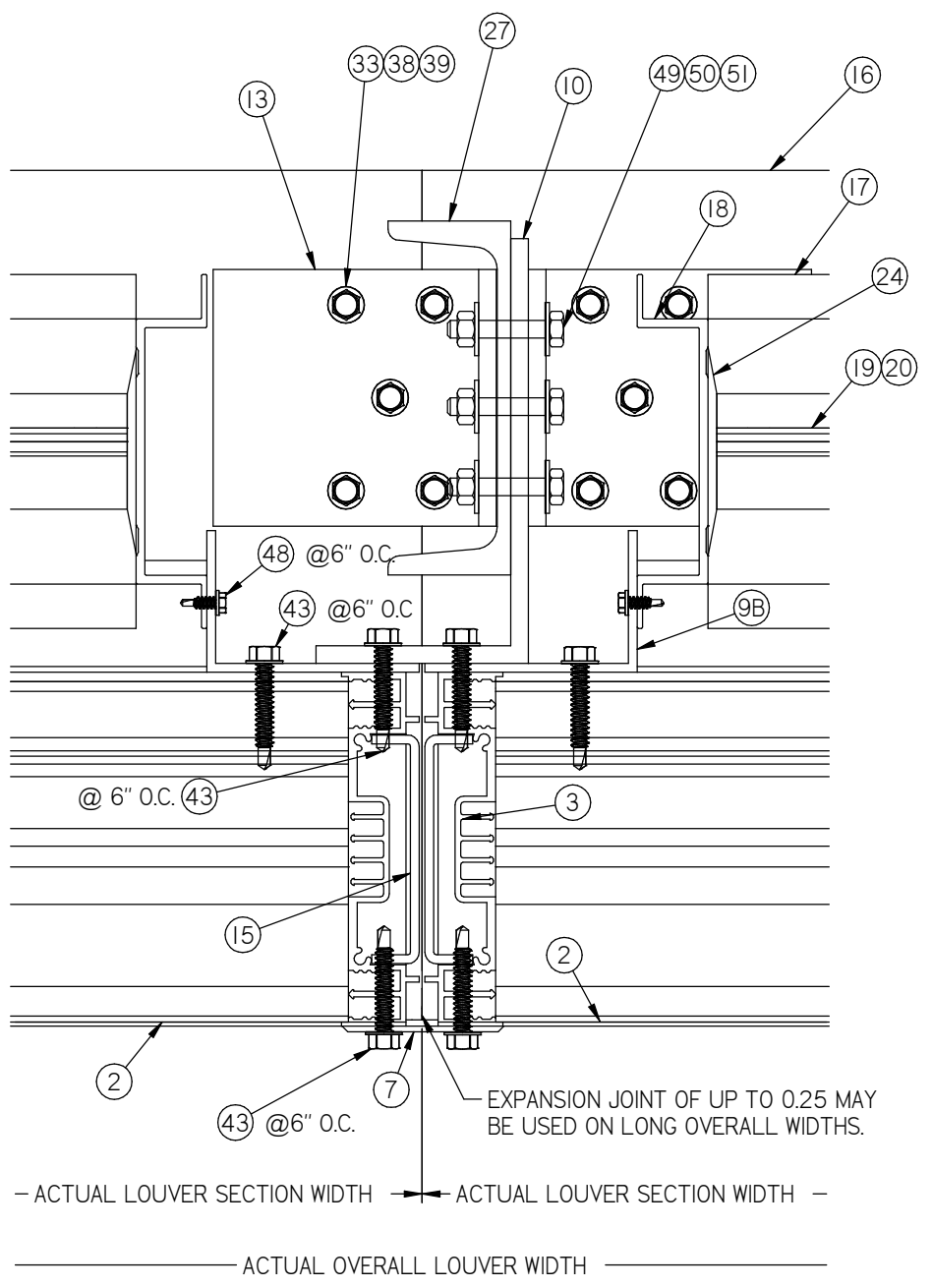
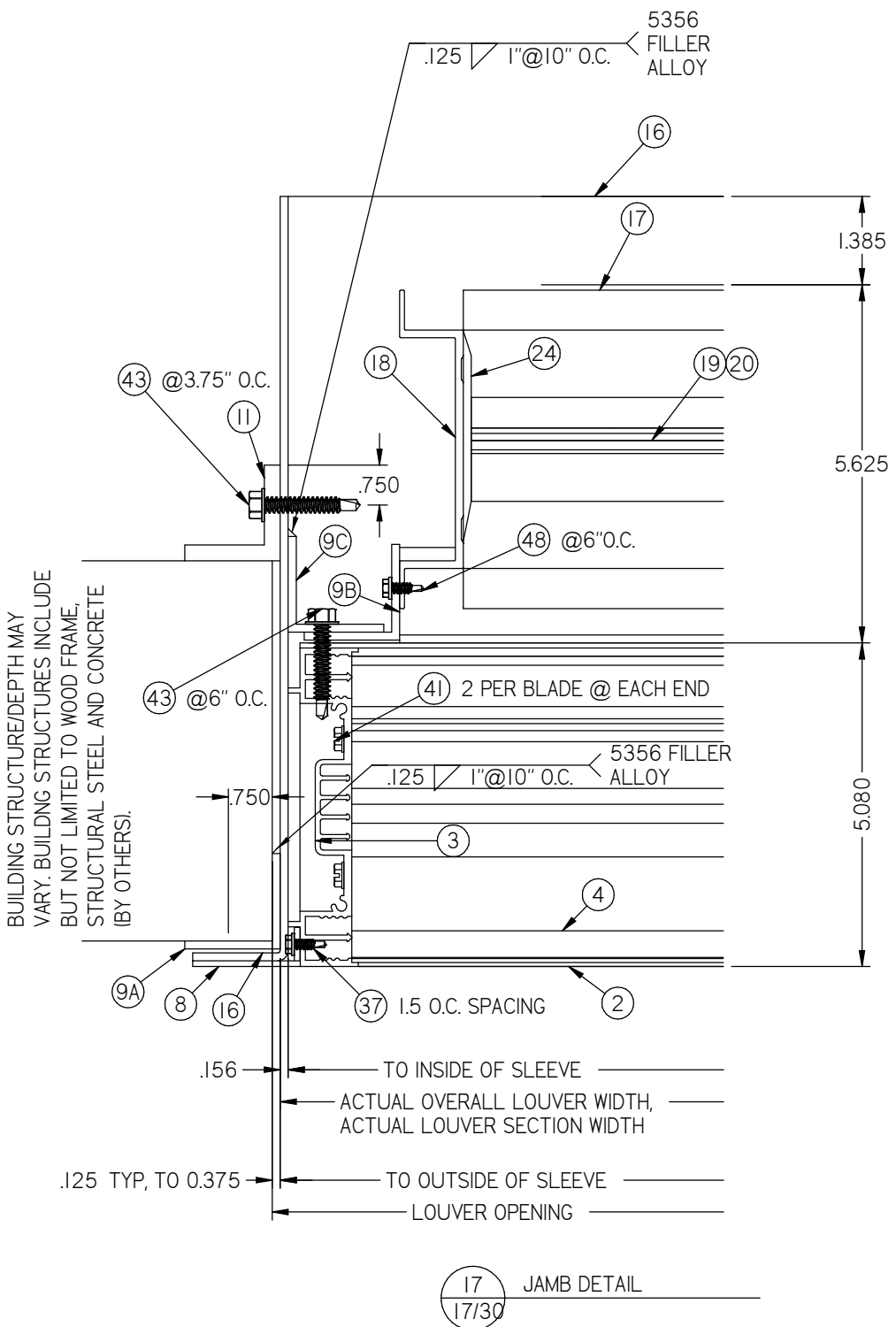
TITLE: 1605WDM LOUVER  
CONTINUOUS ANGLE MOUNT  
CMU MULLION ANGLE  
HEAD & SILL DETAILS

A B C D E F G H J K L

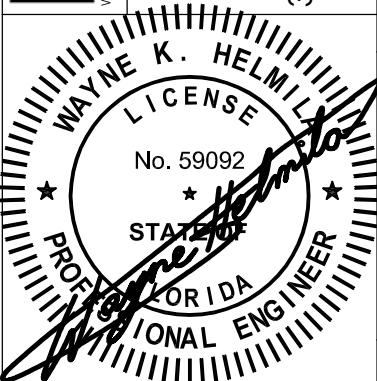
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 DATE: 9/18/2017  
 CHK BY: Mastourian  
 SCALE: NTS  
 SHEET: 17 OF 30  
 DWG. NO. 1605WDM  
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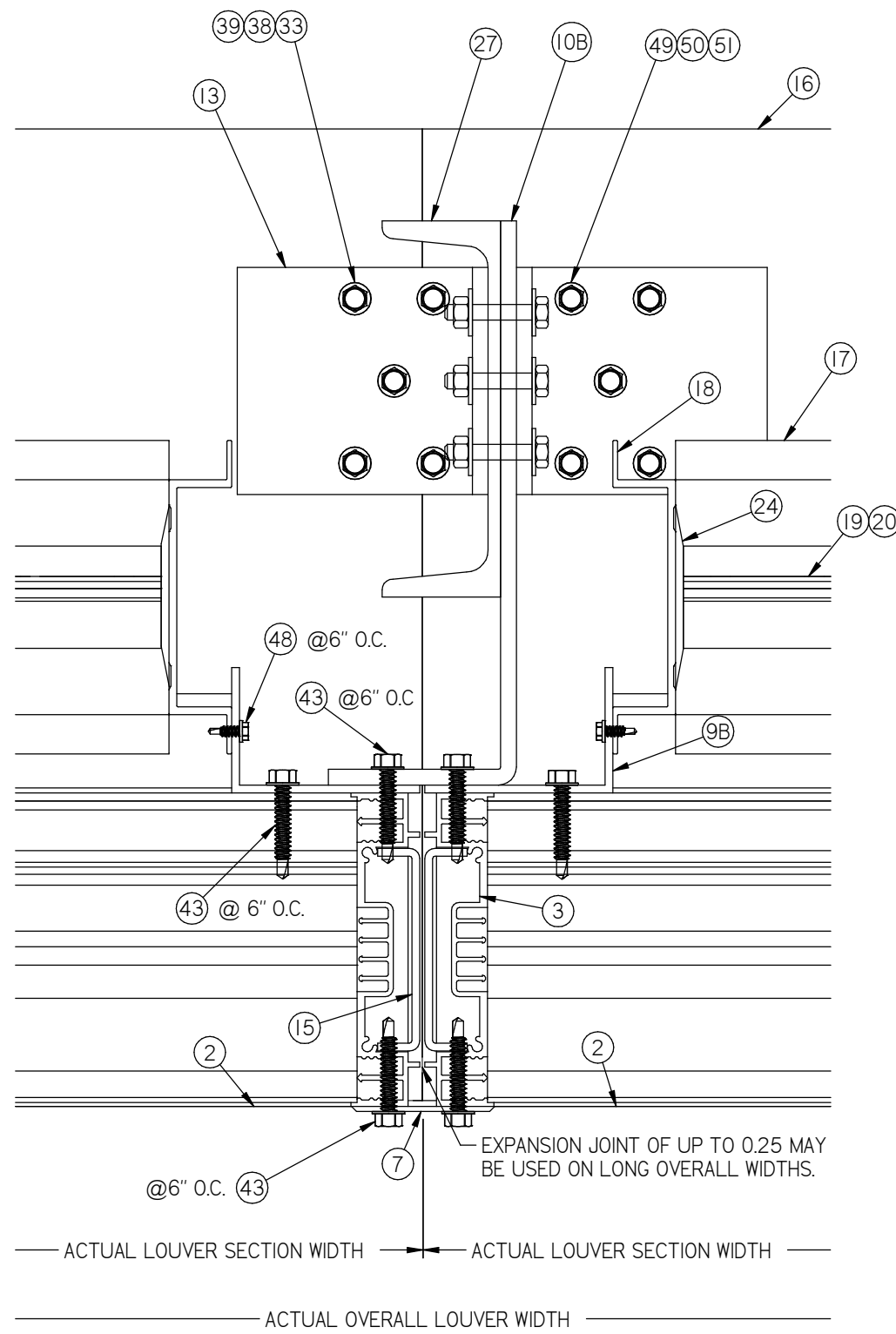


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 Florida Firm No: F-01000005061  
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 Wayne K. Helmila  
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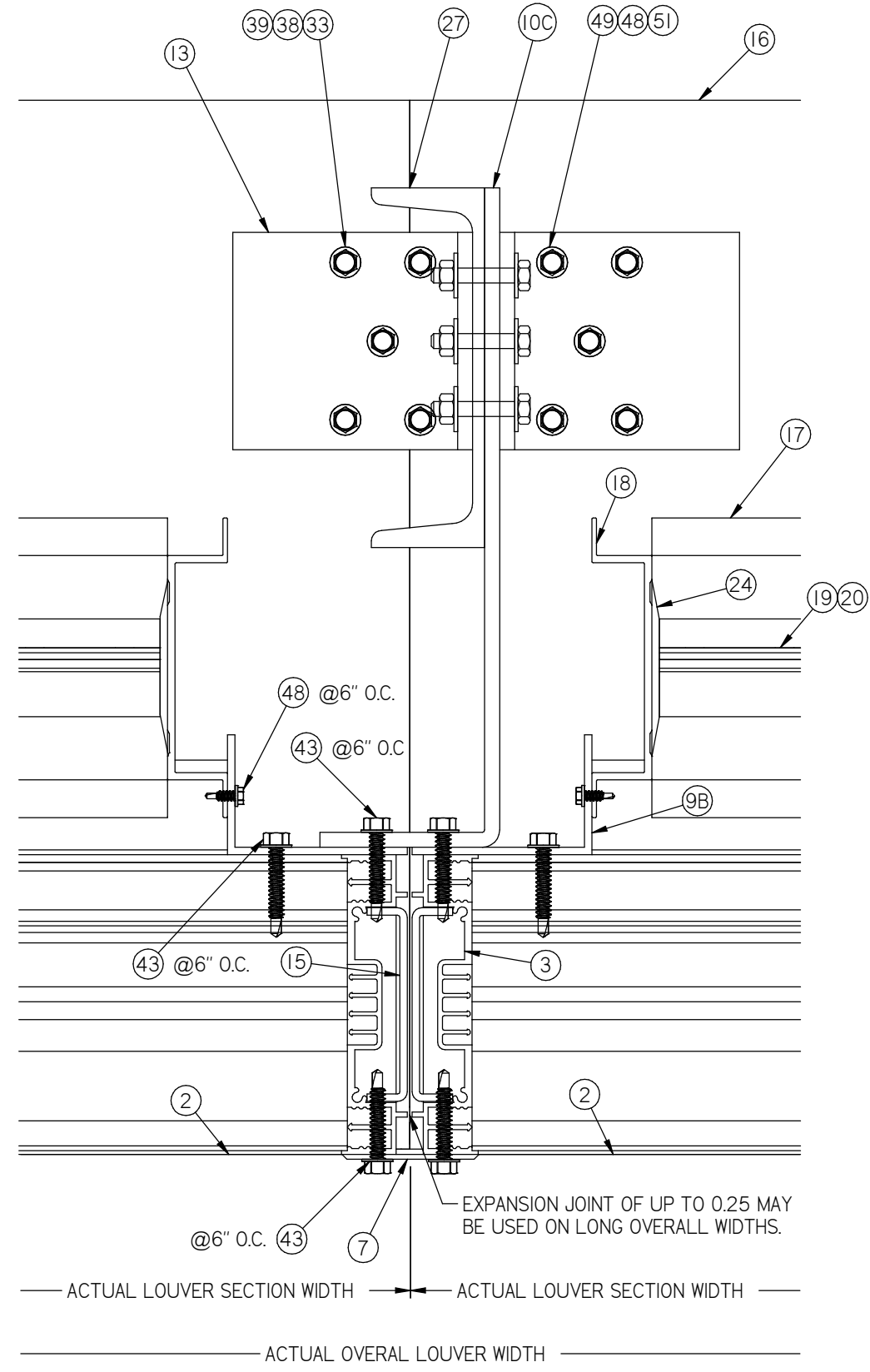
REVISIONS:  
 REV B: RENUMBERED PAGE

A B C D E F G H J K L



18B MULLION DETAIL  
18/30 36" BLADE SLEEVE MOUNT  
C6X8.2 STEEL CHANNEL  
AND ALUM 9X3X1/4" ANGLE

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Building Code  
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By *[Signature]*  
Miami-Dade Product Control



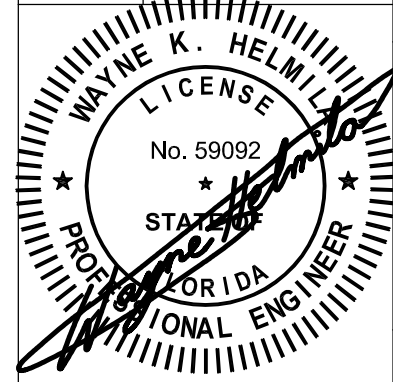
18C MULLION DETAIL  
18/30 36" BLADE SLEEVE MOUNT  
C6X8.2 STEEL CHANNEL  
AND ALUM 11X3X1/4" ANGLE

REVISIONS:  
REV B: ADDED PAGE MULLION DETAILS

DWN BY: f cortinas	CHK BY: Mastourian
DATE: 9/18/2017	SCALE: NTS
SHEET: 18 OF 30	
DWG. NO.	REV B
1605WDM	

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TEL: 281-590-1172 FAX: 281-590-3086  
www.nailor.com

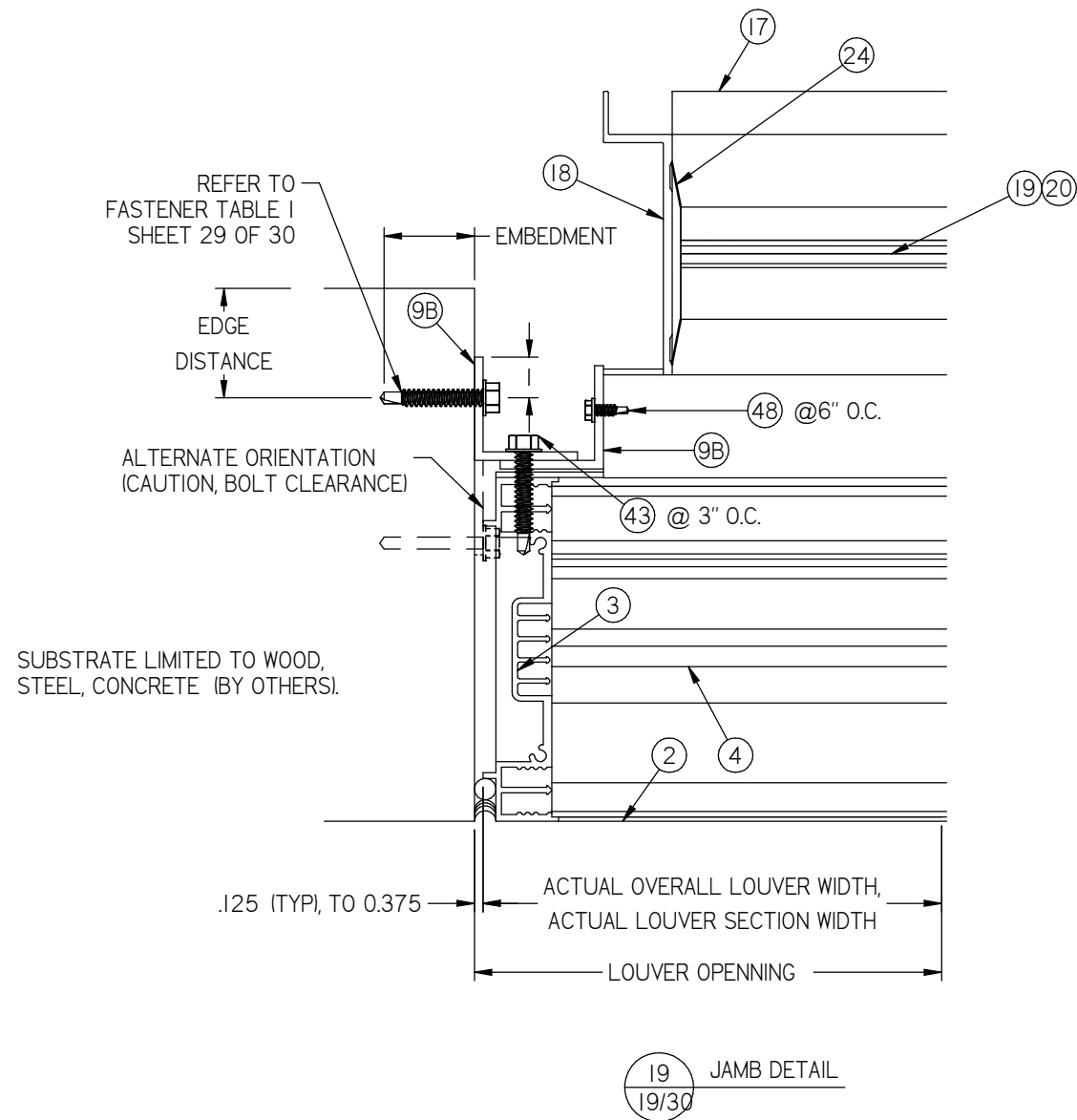
TITLE:  
1605WDM LOUVER / DAMPER  
FLANGE FRAME SLEEVE MOUNT  
36" BLADE MULLION DETAIL



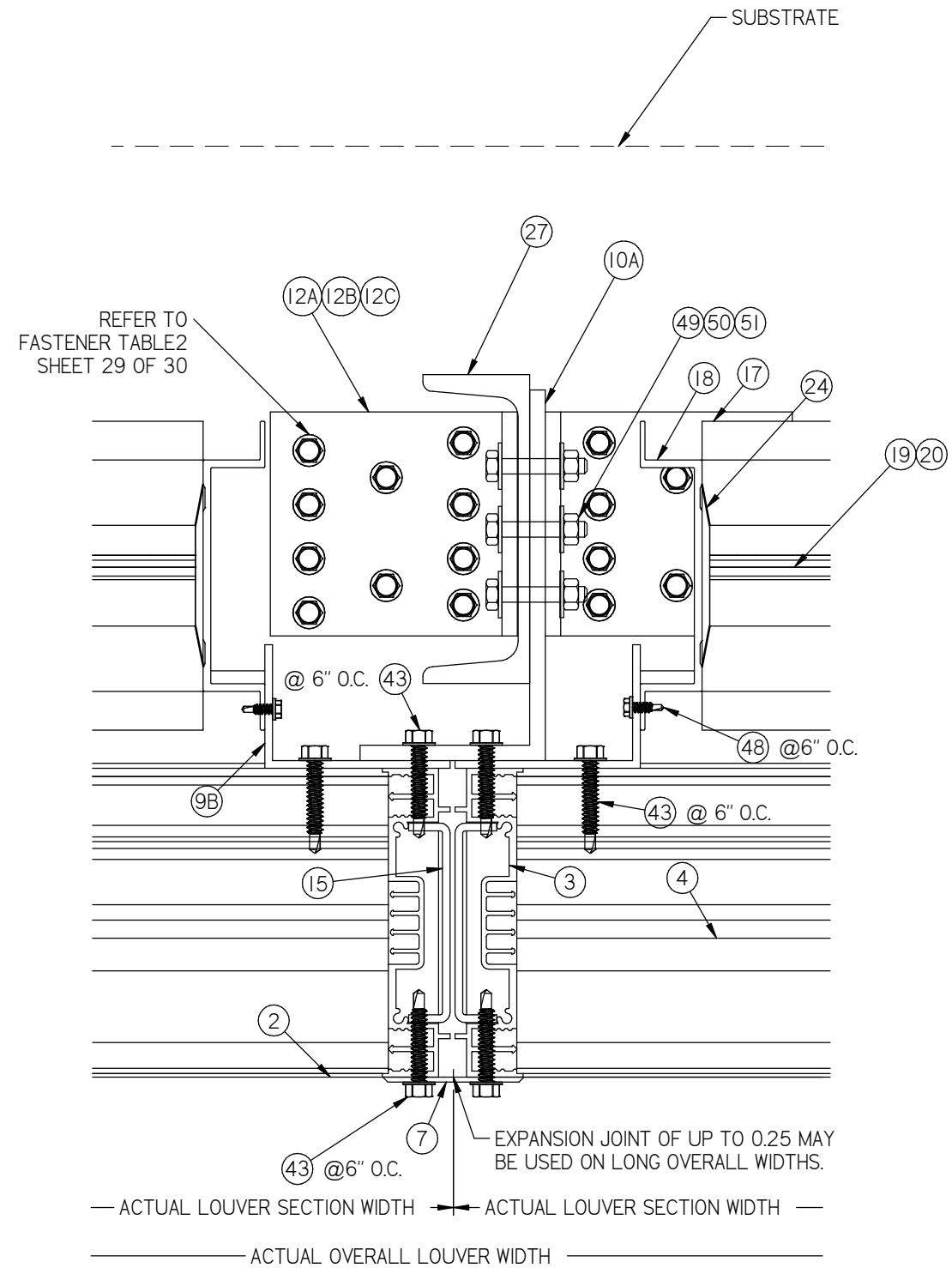
08/20/2024  
COA: 9090

**RICE**  
ENGINEERING  
105 School Creek Trail  
Luxemburg, WI 54217  
Phone: (920) 617-1042  
Fax: (920) 617-1100  
www.rice-inc.com  
Florida Firm No: F-01000005061  
Certificate of Authorization: #9090  
Wayne K. Helmila  
Registration No: 59092

**PRODUCT REVISED**  
 as complying with the Florida  
 Building Code  
 NOA-No. 24-0516.05  
 Expiration Date 08/30/2028  
 By *[Signature]*  
 Miami-Dade Product Control



19 JAMB DETAIL  
19/30

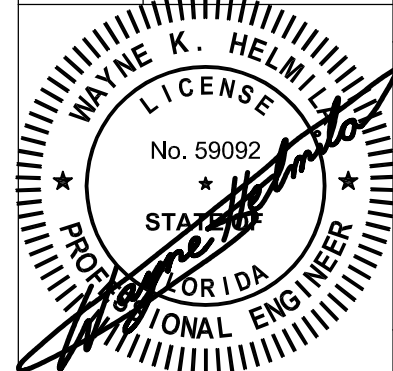


20A MULLION ANGLE DIRECT MOUNT DETAIL  
19/30

REVISIONS:  
 REV B: RENUMBERED PAGE

DWN BY: fcoirtinas  
 DATE: 9/18/2017  
 CHK BY: Mastourian  
 SCALE: NTS  
 SHEET: 19 OF 30  
 DWG. NO. 1605WDM  
 REV B

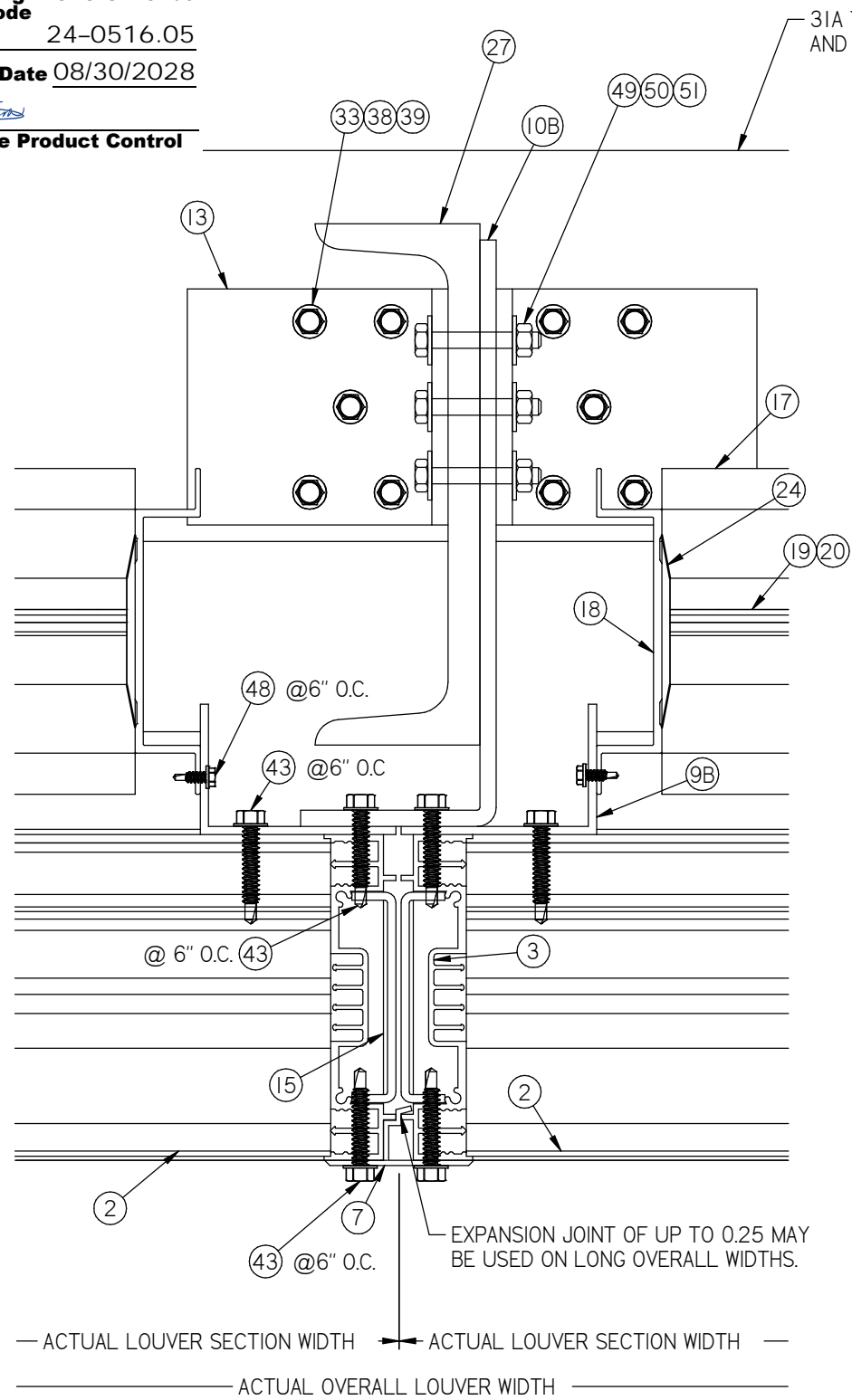
**Nailor Industries Inc.**  
 4714 Winfield Road Houston, TX 77039  
 TEL: 281-590-1172 FAX: 281-590-3086  
 www.nailor.com  
 TITLE:  
 1605WDM LOUVER / DAMPER  
 CONTINUOUS ANGLE MOUNT  
 JAMB AND MULLION DETAIL



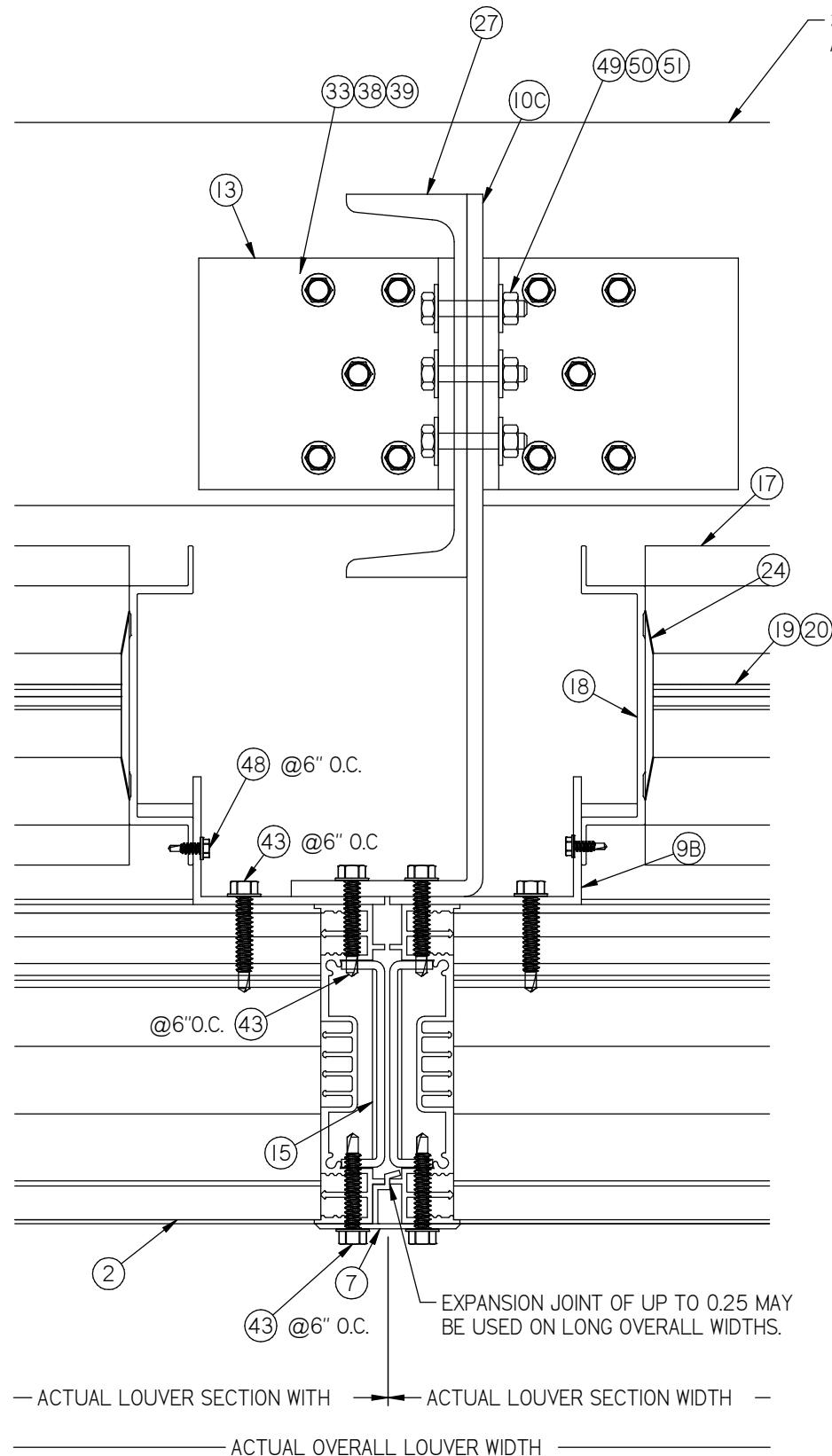
08/20/2024  
 COA: 9090

**RICE ENGINEERING**  
 105 School Creek Trail  
 Luxemburg, WI 54217  
 Phone: (920) 617-1042  
 Fax: (920) 617-1100  
 www.rice-inc.com  
 Florida Firm No: F-01000005061  
 Certificate of Authorization: #9090  
 Wayne K. Helmila  
 Registration No: 59092

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20B MULLION DETAIL  
 20/30 36" BLADE BACK OF WALL MOUNT  
 C6X8.2 STEEL CHANNEL  
 AND ALUM 9X3X1/4" ANGLE



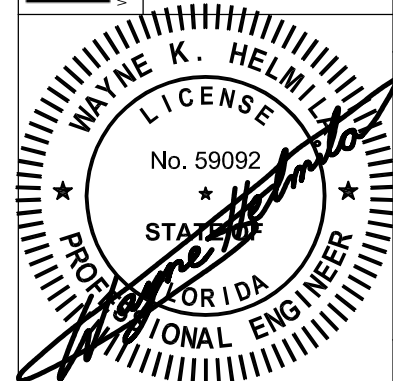
20C MULLION DETAIL  
 20/30 36" BLADE BACK OF WALL MOUNT  
 C6X8.2 STEEL CHANNEL  
 AND ALUM 11X3X1/4" ANGLE

REVISIONS:  
 REV B: ADDED PAGE MULLION DETAILS

DWN BY: fcortinas  
 DATE: 9/18/2017  
 CHK BY: Mastourian  
 SCALE: NTS  
 SHEET: 20 OF 30  
 DWG. NO. 1605WDM  
 REV B

**Nailor Industries Inc.**  
 4714 Winfield Road Houston, TX 77039  
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 www.nailor.com

TITLE:  
 1605WDM LOUVER / DAMPER  
 CONTINUOUS ANGLE MOUNT  
 36" BLADE MULLION DETAIL

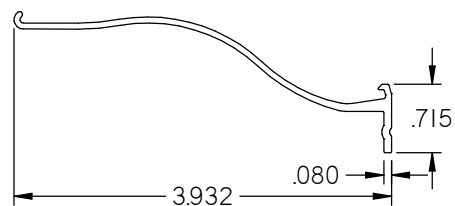
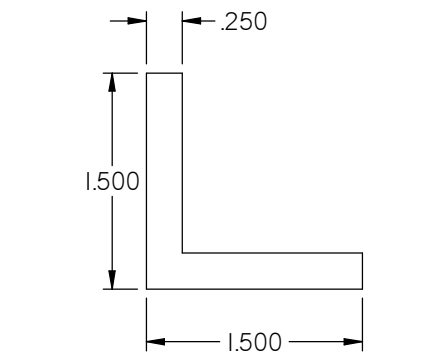
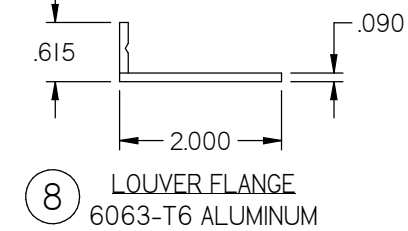
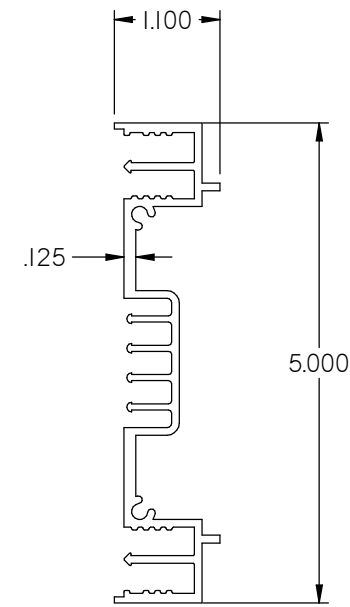
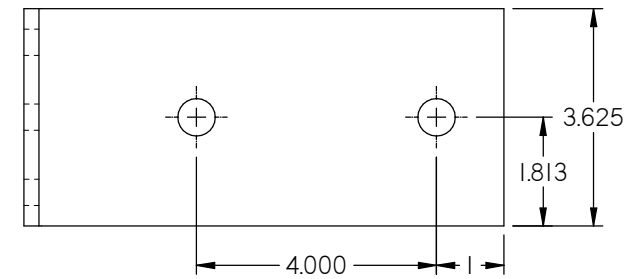
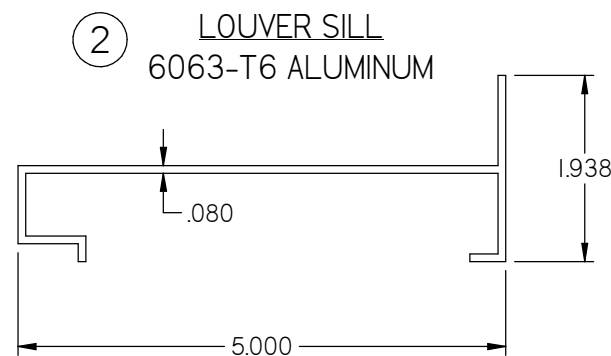
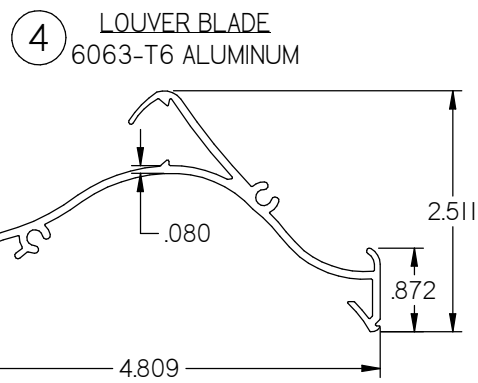
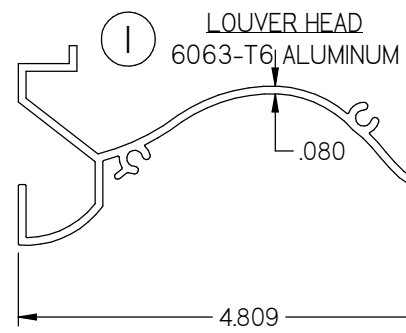


08/20/2024  
 COA: 9090

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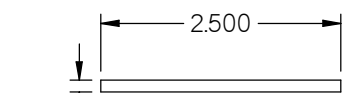
105 School Creek Trail  
 Luxemburg, WI 54217  
 Phone: (920) 617-1042  
 Fax: (920) 617-1100  
 www.rice-inc.com

Florida Firm No: F-01000005061  
 Certificate of Authorization: #9090  
 Wayne K. Helmila  
 Registration No: 59092

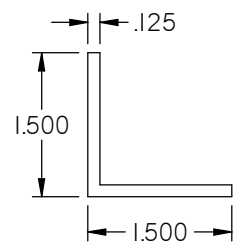


11 LOUVER SLEEVE MOUNT ANGLE  
6063-T6 ALUMINUM

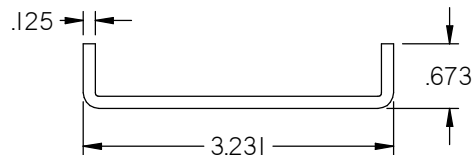
3 LOUVER JAMB  
6063-T6 ALUMINUM



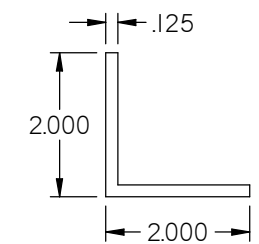
7 MULLION BAR COVER  
6063-T6 ALUMINUM



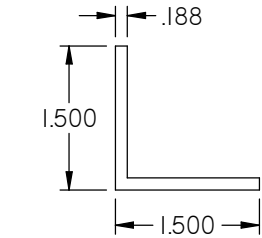
9A LOUVER SLEEVE ATTACHMENT ANGLE (CONT.)  
6063-T6 ALUMINUM



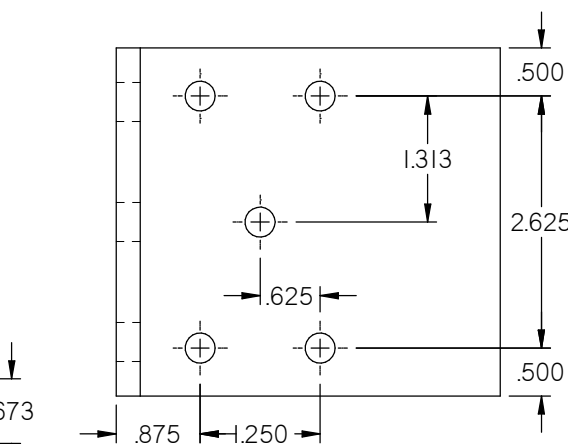
15 MULLION STIFFENER ALUM.  
6063-T6 ALUMINUM



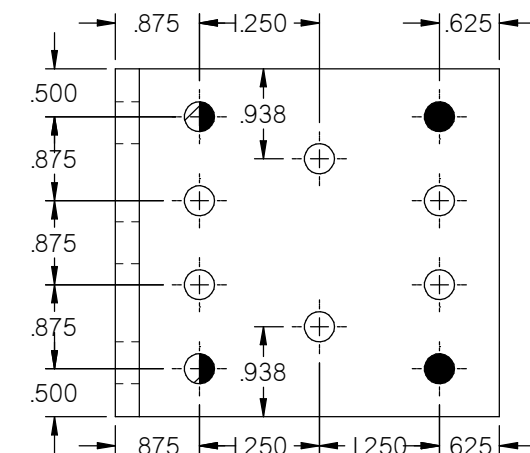
9B LOUVER SLEEVE ATTACHMENT ANGLE (CONT.)  
6063-T6 ALUMINUM



9C LOUVER SLEEVE ATTACHMENT ANGLE (CONT.)  
6063-T6 ALUMINUM

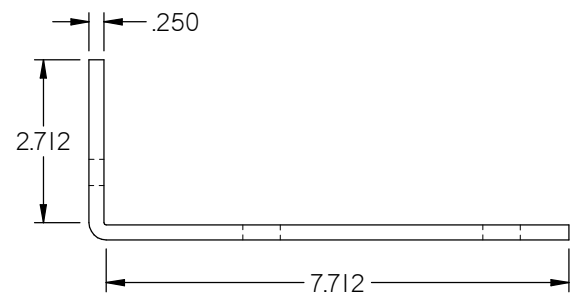


13 SLEEVE ATTACHMENT ANGLE  
4.00X 2.50 X 0.25 X 3.625 LONG  
6061-T6 ALUM. ANGLE  
FOR (5) 1/4" DIA SS 18-8 CAP SCREW

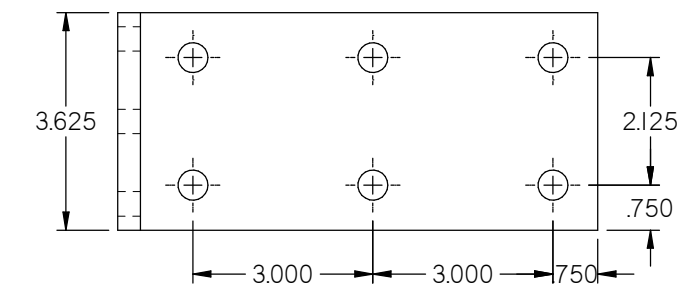


**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. 24-0516.05  
Expiration Date 08/30/2028  
By *[Signature]*  
Miami-Dade Product Control

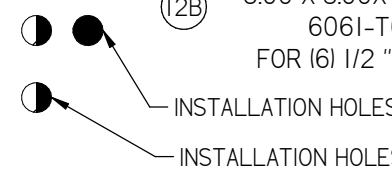
12A MULLION MOUNTING ANGLE  
4.00 X 2.50 X 0.25 X 3.625 LONG  
6061-T6 ALUM. ANGLE  
FOR (10) 1/4" DIA SS LAG SCREW  
FOR (4) 1/4" DIA SS BI-FLEX SCREWS  
FOR (2) 5/16" DIA DRILL-FLEX SCREWS



12C MULLION MOUNTING ANGLE  
3.00 X 8.00X 0.375 X 3.625 LONG  
6061-T6 ALUM. ANGLE  
FOR (2) 5/8" HILTI KWIK BOLT T22 SS 304 ANCHOR



12B MULLION MOUNTING ANGLE  
3.00 X 8.00X 0.375 X 3.625 LONG  
6061-T6 ALUM. ANGLE  
FOR (6) 1/2" DIA SS. LAG SCREW

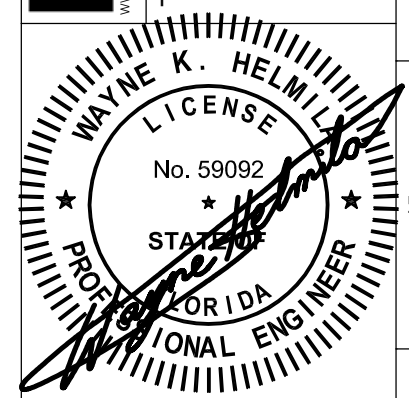


REVISIONS:  
REV B: RENUMBERED PAGE  
REMOVED ITEM# 10

DWN BY: f cortinas	CHK BY: Mastourian
DATE: 9/18/2017	SCALE: NTS
SHEET: 21 OF 30	
DWG. NO.	REV B
<b>1605WDM</b>	

**Nailor Industries Inc.**  
4714 Winfield Road Houston, TX 77039  
TEL: 281-590-1172 FAX: 281-590-3086  
www.nailor.com

TITLE:  
1605WDM LOUVER,  
W/ AND W/O DAMPER  
SLEEVE/CONTINUOUS MOUNT  
PART PROFILES



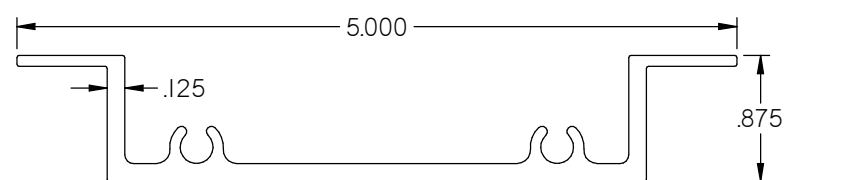
08/20/2024  
COA: 9090

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ENGINEERING

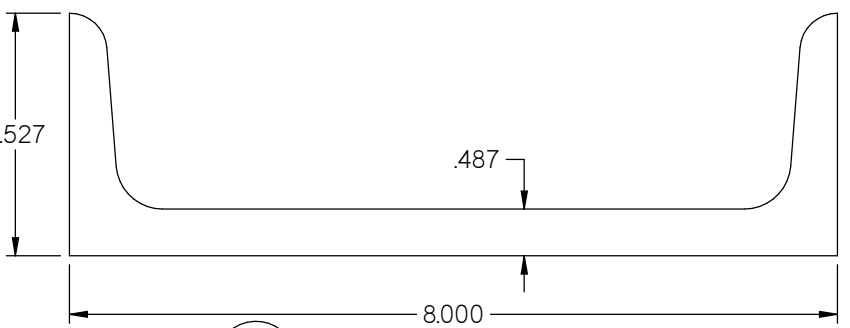
105 School Creek Trail  
Luxemburg, WI 54217  
Phone: (920) 617-1042  
Fax: (920) 617-1100  
www.rice-inc.com

Florida Firm No: F-01000005061  
Certificate of Authorization: #9090  
Wayne K. Helmila  
Registration No: 59092

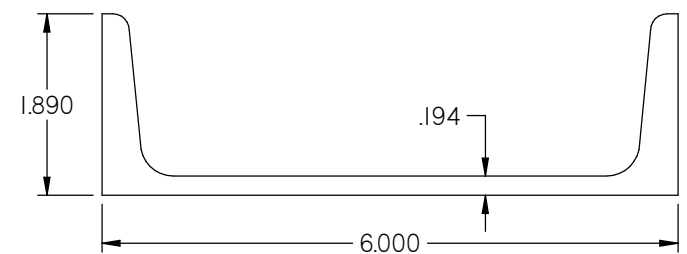




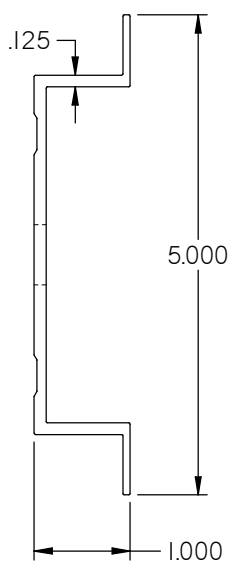
17 DAMPER HEAD/SILL  
6063-T6 ALUMINUM



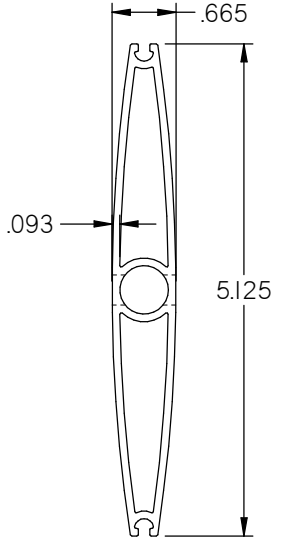
27B LOUVER BRACE  
SUPPORT CHANNEL  
C8X18.75 ASTM A36 STEEL CHANNEL



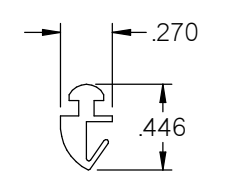
27A LOUVER BRACE  
SUPPORT CHANNEL  
C6X8.2 ASTM A36 STEEL CHANNEL



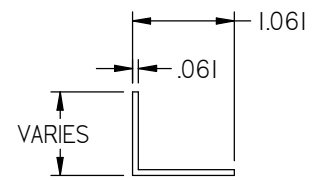
18 DAMPER JAMB  
6063-T6 ALUMINUM



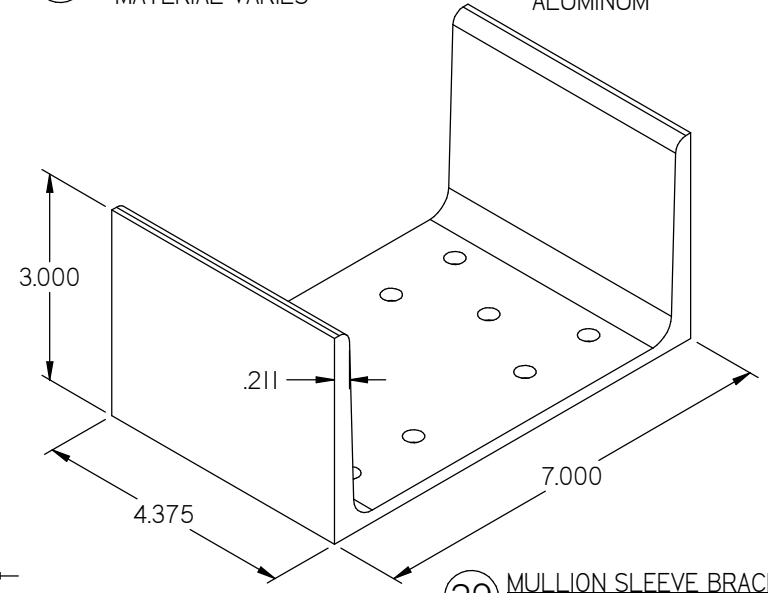
19 DAMPER BLADE  
6063-T6 ALUMINUM



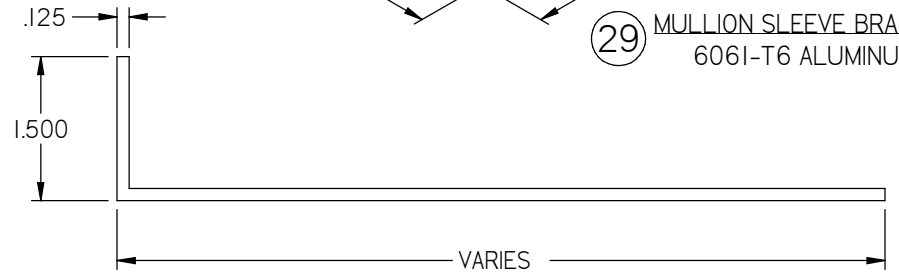
20 DAMPER BLADE SEAL  
MATERIAL VARIES



21 DAMPER TOP/BOTTOM  
CLOSER  
ALUMINUM



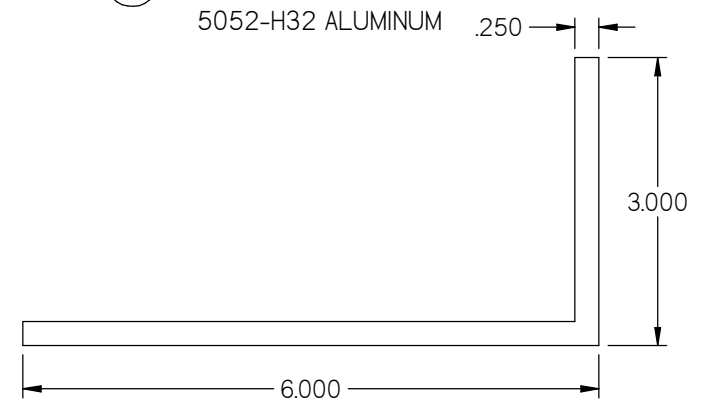
29 MULLION SLEEVE BRACKET  
6061-T6 ALUMINUM



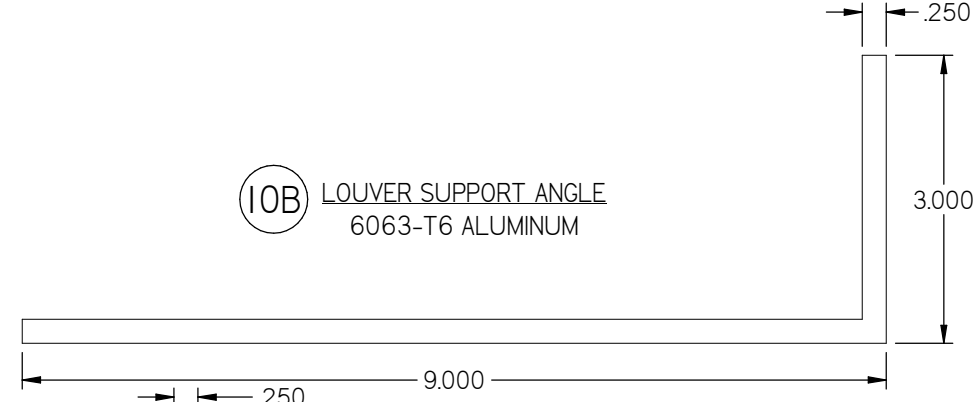
16 FORMED SLEEVE ALUM.  
5052-H32 ALUMINUM

**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. 24-0516.05  
Expiration Date 08/30/2028  
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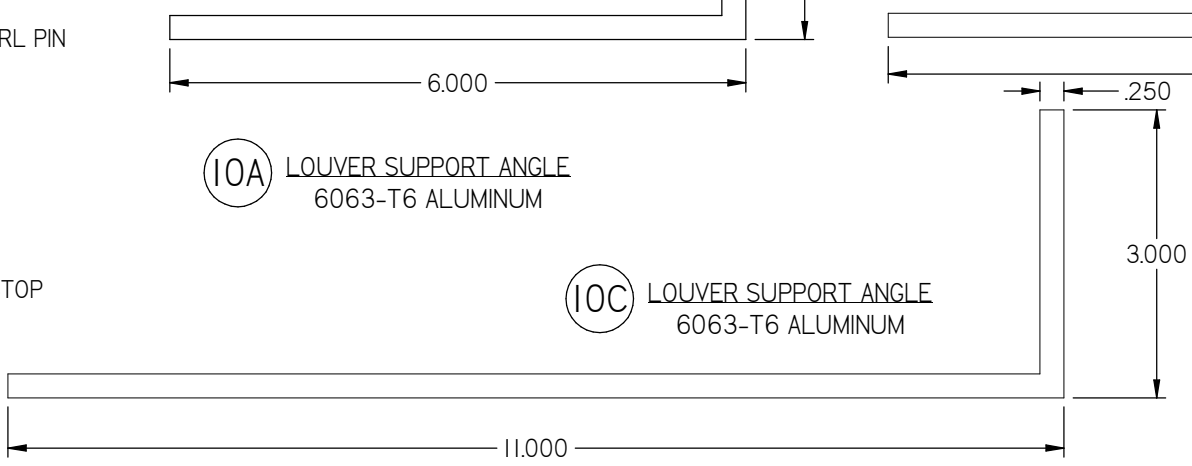
14 ALUMNUM SUPPORT SHIM  
1/4" THICK  
5052-H32 ALUMINUM



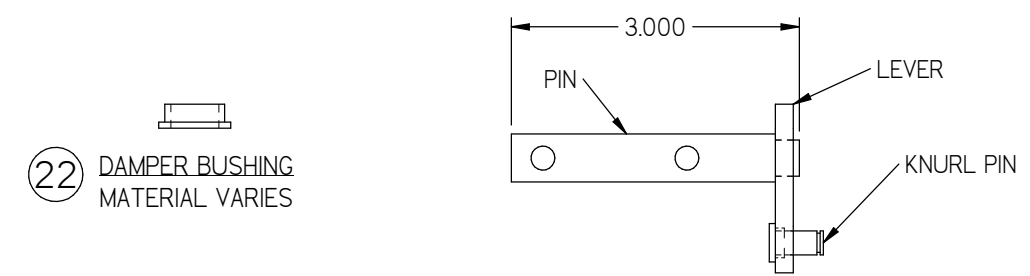
10A LOUVER SUPPORT ANGLE  
6063-T6 ALUMINUM



10B LOUVER SUPPORT ANGLE  
6063-T6 ALUMINUM



10C LOUVER SUPPORT ANGLE  
6063-T6 ALUMINUM

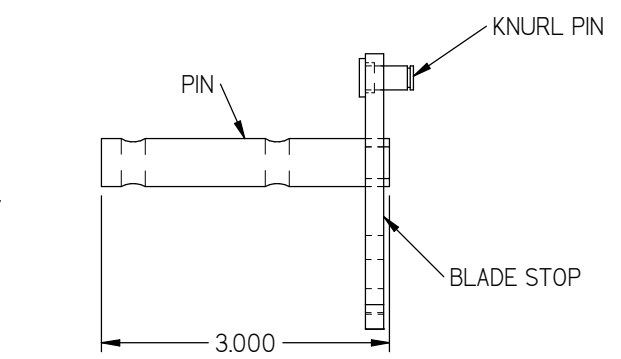


22 DAMPER BUSHING  
MATERIAL VARIES

25 NON DRIVE DAMPER AXEL ASM  
MATERIAL VARIES

23 DAMPER LINKAGE BAR  
MATERIAL VARIES

24 DAMPER JAMB SEAL  
STAINLESS STEEL



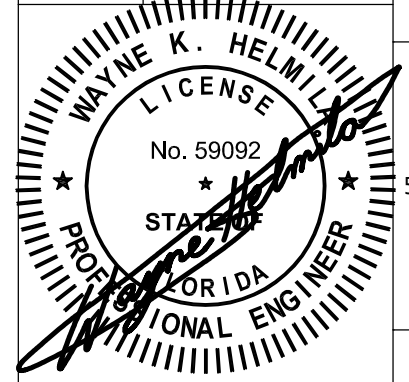
26 DRIVE SIDE DAMPER AXLE ASM  
MATERIAL VARIES

REVISIONS:  
REV B: RENUMBERED PAGE,  
ADDED ITEM # 10A, 10B, 10C, 27B  
RENUMBERED 27A WAS 27  
REMOVED ITEM# 30

DWN BY: f cortinas	CHK BY: Mastourian	SCALE: NTS
DATE: 9/18/2017		
SHEET: 22 OF 30		
DWG. NO.	1605WDM	

**Nailor Industries Inc.**  
4714 Winfield Road Houston, TX 77039  
TEL: 281-590-1172 FAX: 281-590-3086  
www.nailor.com

TITLE:  
1605WDM LOUVER  
W/ AND W/O DAMPER  
SLEEVE/CONTINUOUS MOUNT  
PART PROFILES CONT.



08/20/2024  
COA: 9090

**RICE**  
ENGINEERING

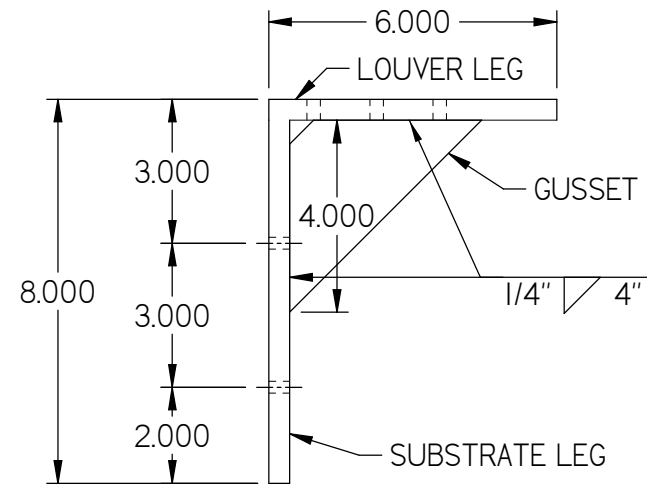
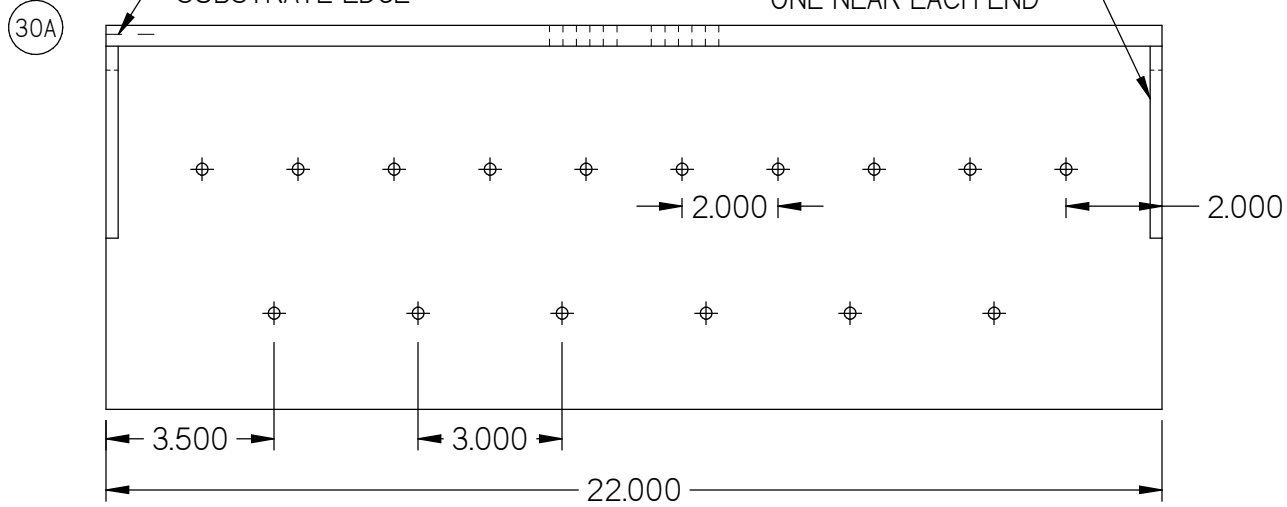
105 School Creek Trail  
Luxemburg, WI 54217  
Phone: (920) 617-1042  
Fax: (920) 617-1100  
www.rice-inc.com

Florida Firm No: F-01000005061  
Certificate of Authorization: #9090  
Wayne K. Helmila  
Registration No: 59092

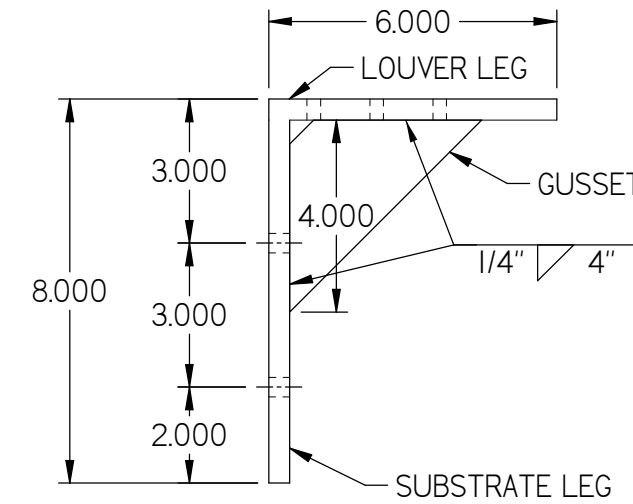
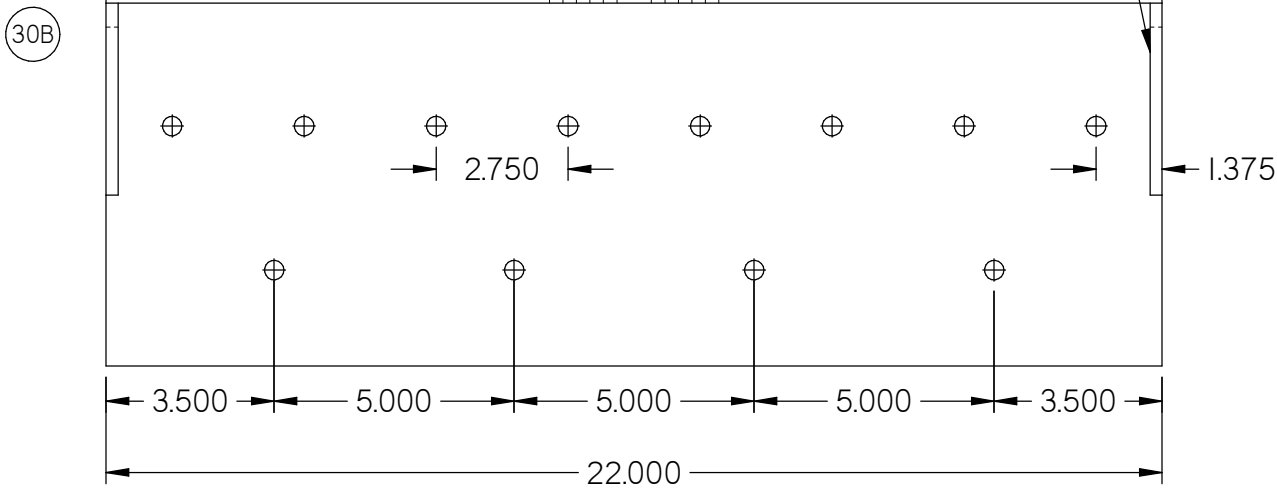
MULLION MOUNTING BRACKET  
FOR MULLION ANGLE BACK OF WALL MOUNT  
ASTM A36

L8X6"X7/16" STEEL ANGLE X 22" LONG  
( A36 OR BETTER ) TYPICAL  
w/ ( 2 ) 1/4" X4" GUSSET PLATES WELDED TO EACH END

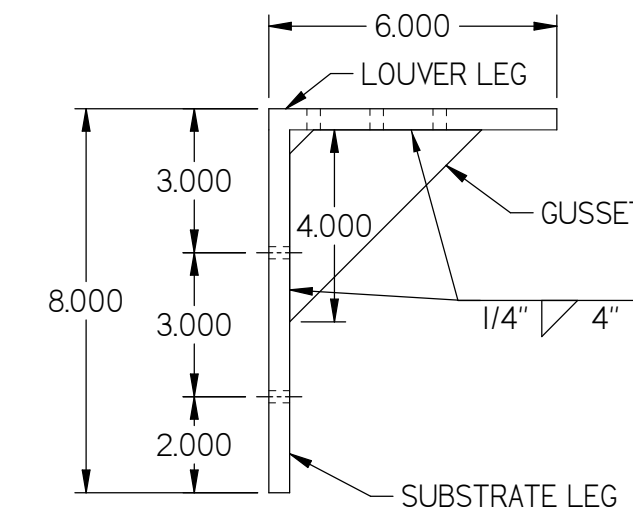
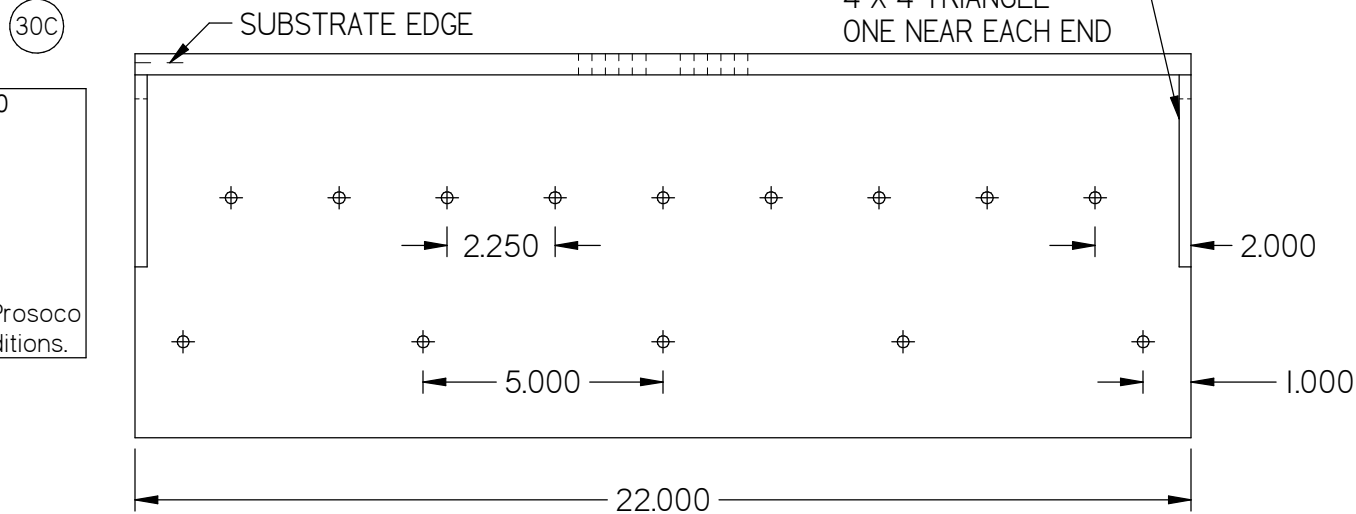
GUSSET SUPPORT  
4 X 4 TRIANGLE  
ONE NEAR EACH END



GUSSET SUPPORT  
4 X 4 TRIANGLE  
ONE NEAR EACH END



GUSSET SUPPORT  
4 X 4 TRIANGLE  
ONE NEAR EACH END



REVISIONS:  
REV B: RENUMBERED PAGE, UPDATED BRACKETS

1/4" DIA LAG SCREWS ANCHORS:  
USE (16) 1/4" DIA X 6" LONG  
STANDARD HEX S.S. SERIES 300  
LAG SCREW  
3-11/32" FULL THREAD ENGAGEMENT  
1" MIN. EDGE/END DISTANCE  
SPACING AS SHOWN  
ASSUME: SPRUCE/PINE/FIR, SG=0.42

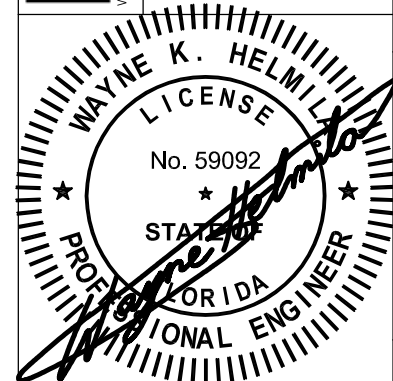
**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. 24-0516.05  
Expiration Date 08/30/2028  
By *[Signature]*  
Miami-Dade Product Control

3/8" DIA. LAG SCREWS ANCHORS:  
USE (12) 3/8" DIA X 6 LONG  
STANDARD HEX S.S. SERIES 300  
LAG SCREW  
3-9/32" FULL THREAD ENGAGEMENT  
1-1/2" MIN. EDGE/END DISTANCE  
SPACING AS SHOWN  
ASSUME: SPRUCE/PINE/FIR, SG=0.42

1/4"-20 DIA S.S. ELCO BI-FLEX  
AND DRIL FLEX ANCHORS:  
USE (14) 1/4" DIA S.S. SERIES 300  
ELCO DRIL-FLEX OR  
ELCO DRIL-FLEX FASTENERS  
FULL THREAD ENGAGEMENT  
1" MIN. EDGE/END DISTANCE  
SPACING AS SHOWN  
ASSUME: 1/4" STEEL (A-36)  
Seal Dril-Flex Fasteners with Liquid Prosoco  
Flashing if exposed to Exterior Conditions.

CHK BY: Mastourian  
DWN BY: fcortinas  
DATE: 9/18/2017  
SCALE: NTS  
SHEET: 23 OF 30  
DWG. NO. 1605WDM

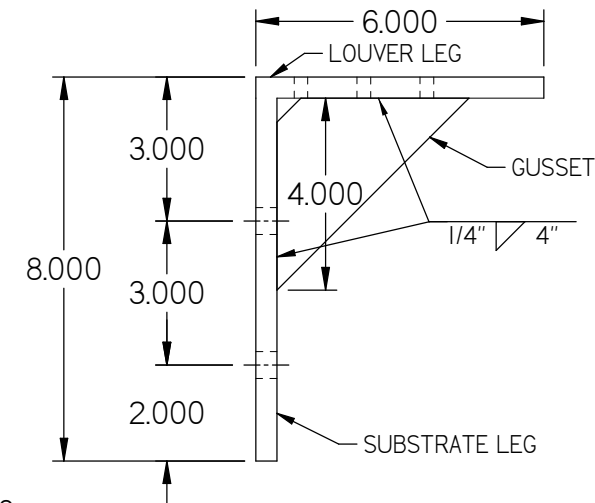
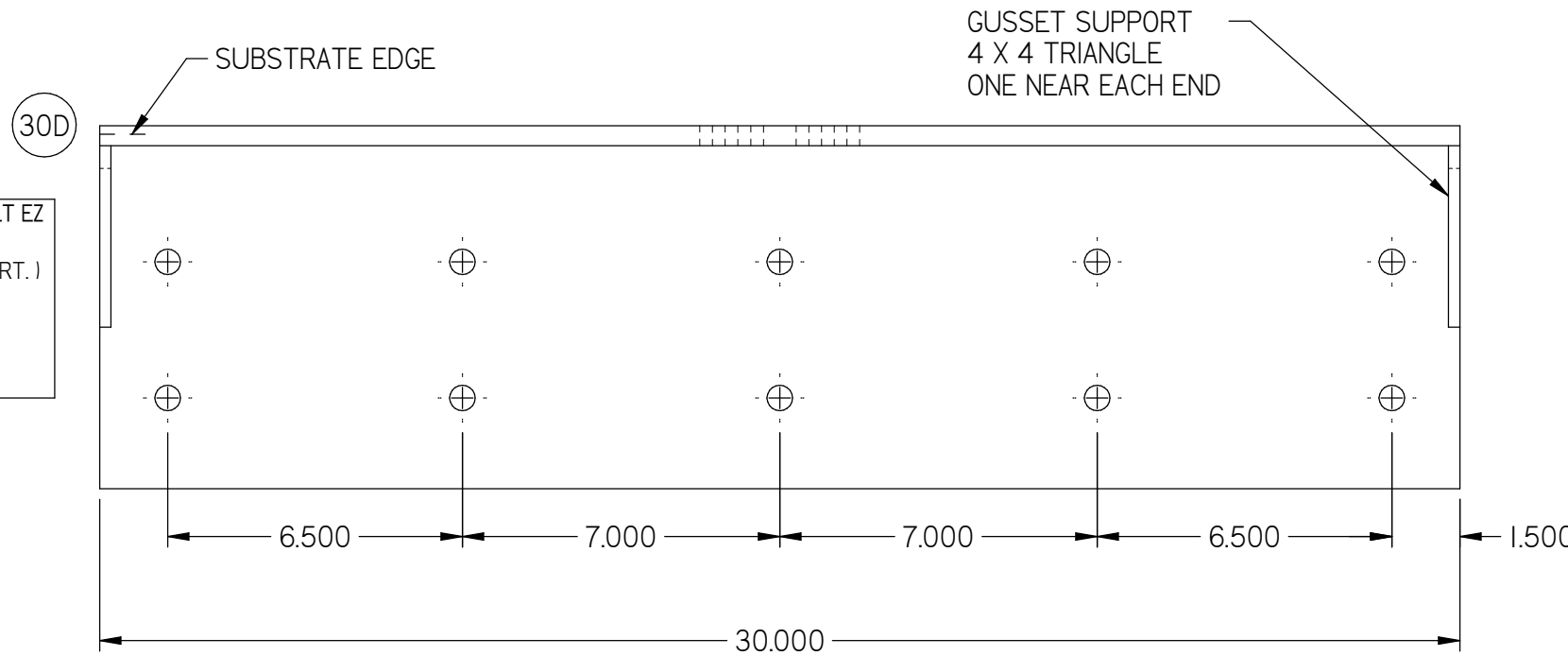
Nailor Industries Inc.  
4714 Winfield Road Houston, TX 77039  
TEL: 281-590-1172 FAX: 281-590-3086  
www.nailor.com  
TITLE: 22" MULLION ANGLES  
BACK OF THE WALL MOUNT



08/20/2024  
COA: 9090  
**RICE**  
ENGINEERING  
105 School Creek Trail  
Luxemburg, WI 54217  
Phone: (920) 617-1042  
Fax: (920) 617-1100  
www.rice-inc.com  
Florida Firm No: F-01000005061  
Certificate of Authorization: #9090  
Wayne K. Helmila  
Registration No: 59092

MULLION MOUNTING BRACKET  
FOR MULLION ANGLE BACK OF WALL MOUNT  
ASTM A36

L8X6"X7/16" STEEL ANGLE X MIN 30" LONG  
AS SHOWN ( A36 OR BETTER ) TYPICAL  
w/ ( 2 ) 1/4" X4" GUSSET PLATES WELDED TO EACH END

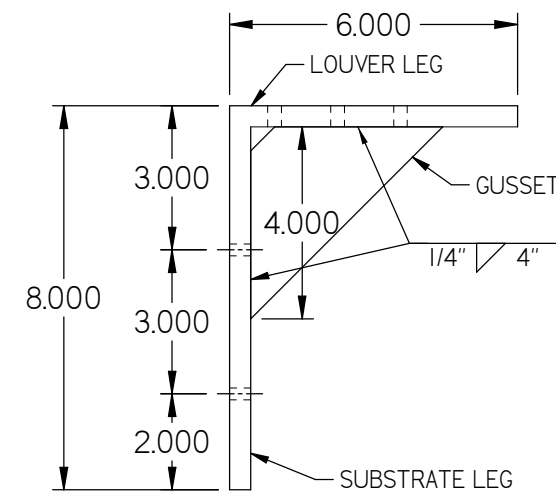
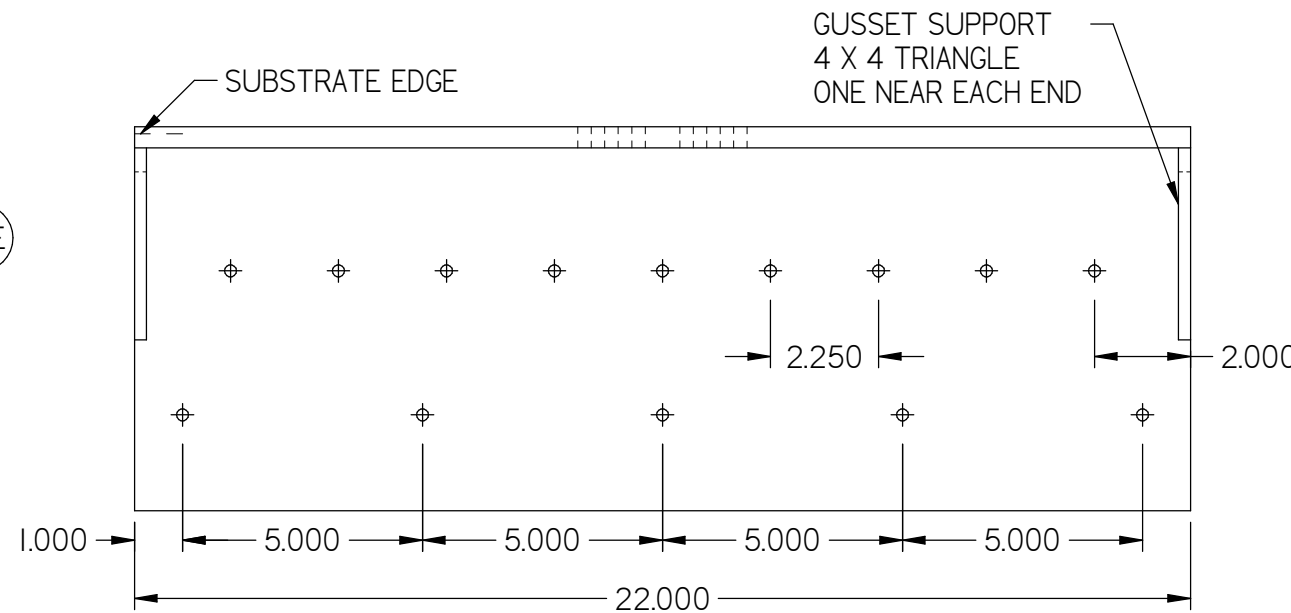


**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. 24-0516.05  
Expiration Date 08/30/2028  
By *[Signature]*  
Miami-Dade Product Control

1/2" DIA S.S. SERIES 300 HILTI KWIK BOLT EZ  
USE (10) 1/2" DIA. S.S. SERIES 300 HILTI KWIK BOLT EZ  
4-1/4" EMBEDMENT  
SPACING AS SHOWN ( HORIZ. ) / 3" SPACING ( VERT. )  
3" MIN. EDGE DISTANCE  
4" MIN. END DISTANCE  
SPACING AS SHOWN  
ASSUME FC' = 4000 PSI CRACKED CONCRETE

30D

GUSSET SUPPORT  
4 X 4 TRIANGLE  
ONE NEAR EACH END



L8X6"X7/16" STEEL ANGLE X 22" LONG  
( A36 OR BETTER ) TYPICAL  
w/ ( 2 ) 1/4" X4" GUSSET PLATES WELDED TO EACH END

5/16-24 DIA. S.S. ELCO DRIL-FLEX ANCHOR  
USE (12) 5/16" DIA. S.S. ELCO DRIL-FLEX  
FULL THREAD ENGAGEMENT  
1" MIN. EDGE/END DISTANCE  
SPACING AS SHOWN  
ASSUME: 1/4" STEEL (A36)  
Seal Dril-Flex Fasteners with Liquid Prosoco  
Flashing if exposed to Exterior Conditions.

30E

REVISIONS:  
REV B: ADDED PAGE,  
ADDED 30" BRACKET  
ADDED 22" BRACKET

CHK BY: Mastourian  
DWN BY: fcortinas  
DATE: 9/18/2017  
SCALE: NTS  
SHEET: 24 OF 30  
DWG. NO. 1605WDM  
REV B

**Nailor Industries Inc.**  
4714 Winfield Road Houston, TX 77039  
TEL: 281-590-1172 FAX: 281-590-3086  
www.nailor.com  
TITLE:  
30" MULLION ANGLE  
22" MULLION ANGLE  
BACK OF THE WALL MOUNT

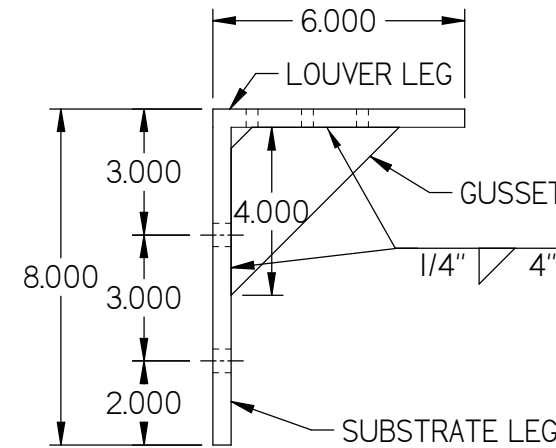
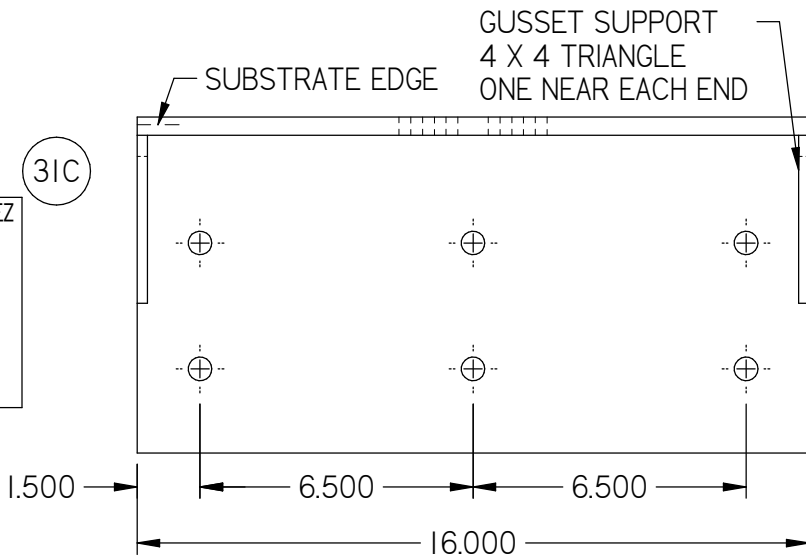
WAYNE K. HELMILA  
LICENSE  
No. 59092  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER  
08/20/2024  
COA: 9090

**RICE ENGINEERING**  
105 School Creek Trail  
Luxemburg, WI 54217  
Phone: (920) 617-1042  
Fax: (920) 617-1100  
www.rice-inc.com  
Florida Firm No: F-01000005061  
Certificate of Authorization: #9090  
Wayne K. Helmila  
Registration No: 59092

MULLION MOUNTING BRACKET  
FOR MULLION ANGLE BACK OF WALL MOUNT  
ASTM A36

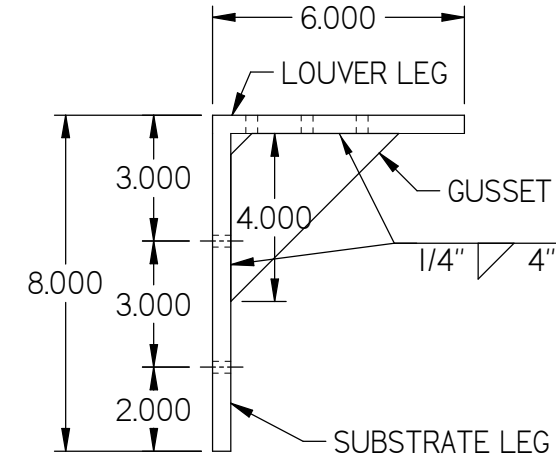
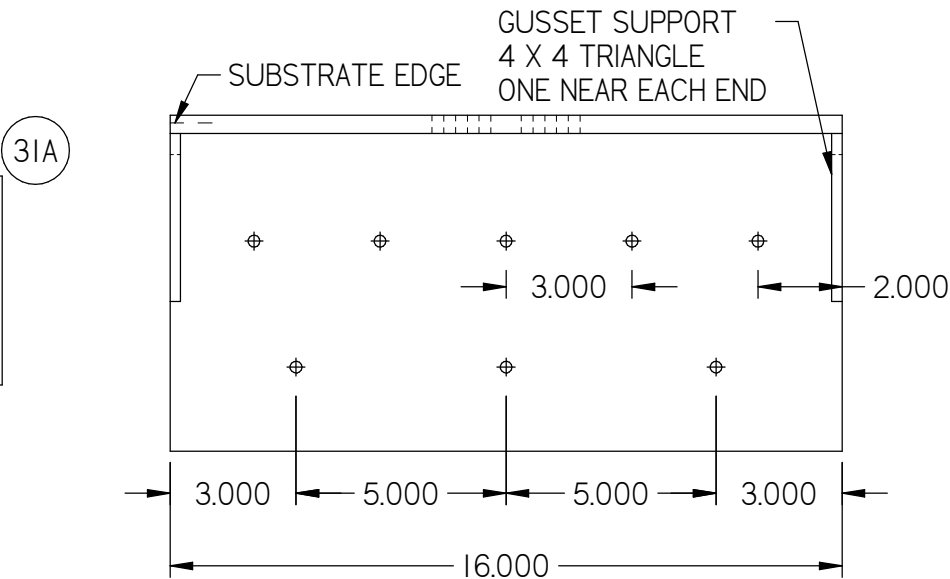
L8X6"X7/16" STEEL ANGLE  
X 16" LONG AS SHOWN ( A36 OR BETTER )  
w/ ( 2 ) 1/4" X4" GUSSET PLATES WELDED TO EACH END

1/2" DIA S.S. HILTI KWIK BOLT EZ  
USE ( 6 ) 1/2" DIA S.S. SERIES 300 HILTI KWIK BOLT EZ  
3-5/8" EMBEDMENT  
6.5" SPACING ( HORIZ. ) / 3" SPACING ( VERT. )  
3" MIN. EDGE DISTANCE  
4" MIN. END DISTANCE  
SPACING AS SHOWN  
ASSUME FC' = 4000 PSI CRACKED CONCRETE



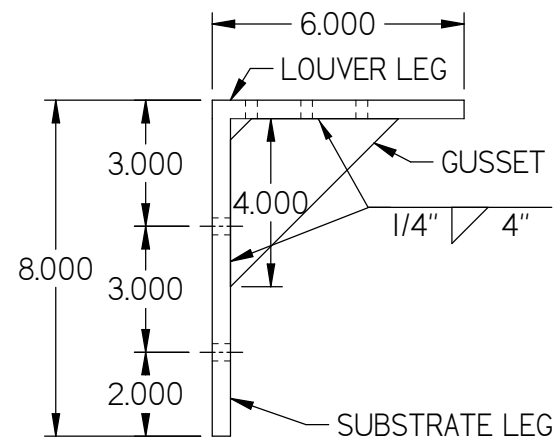
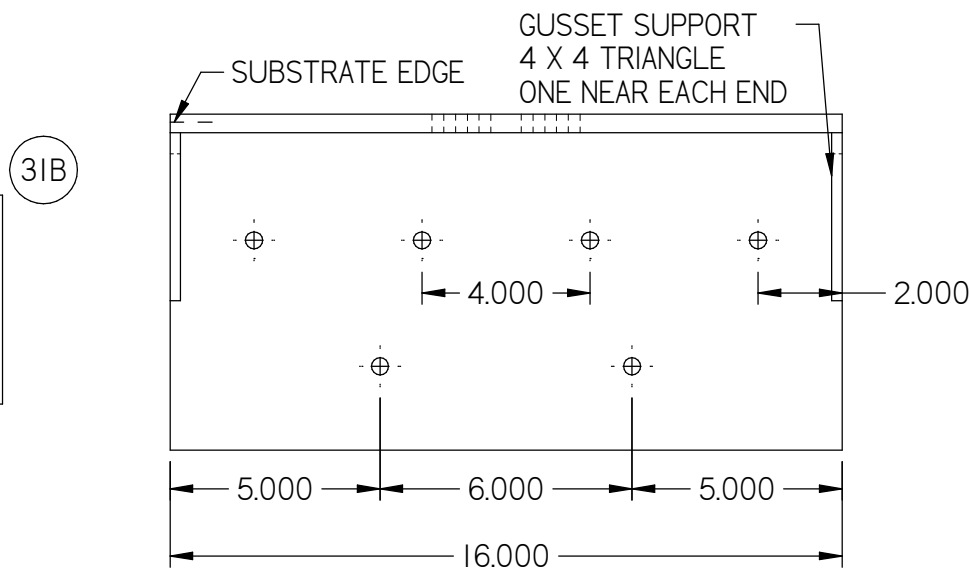
**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. 24-0516.05  
Expiration Date 08/30/2028  
By *[Signature]*  
Miami-Dade Product Control

1/4" DIA LAG SCREWS ANCHORS  
USE (8) 1/4" DIA. X 6" LONG  
STANDARD HEX S.S. SERIES 300  
LAG SCREW  
3-11/32" FULL THREAD EMBEDMENT  
1" MIN. EDGE / END DISTANCE  
SPACING AS SHOWN  
ASSUME= SPRUCE / PINE / FIR, SG= 0.42



31A 1/4-20 DIA S.S. ELCO BI-FLEX AND DRIL FLEX ANCHOR  
USE (8) 1/4" DIA. S.S. SERIES 300  
ELCO BI-FLEX OR  
ELCO DRIL-FLEX FASTENERS  
FULL THREAD EMBEDMENT  
1" MIN. EDGE / END DISTANCE  
SPACING AS SHOWN  
ASSUME: 1/4" STEEL ( A-36 )  
Seal Dril-Flex Fasteners with Liquid Prosoco  
Flashing if exposed to Exterior Conditions.

3/8" DIA LAG SCREWS ANCHORS  
USE ( 6 ) 3/8" DIA. X 6" LONG  
STANDARD HEX S.S. SERIES 300  
LAG SCREW  
3-9/32" FULL THREAD EMBEDMENT  
1-1/2" MIN. EDGE / END DISTANCE  
SPACING AS SHOWN  
ASSUME: SPRUCE / PINE / FIR, SG= 0.42

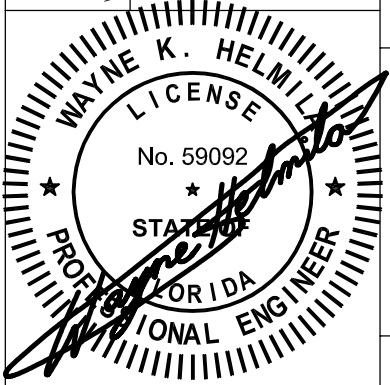


31B 5/16-24 DIA DRIL-FLEX ANCHORS  
USE ( 6 ) 5/16" DIA.  
ELCO DRIL-FLEX FASTENERS  
FULL THREAD EMBEDMENT  
1" MIN. EDGE / END DISTANCE  
SPACING AS SHOWN  
ASSUME: 1/4" STEEL ( A-36 )  
Seal Dril-Flex Fasteners with Liquid Prosoco  
Flashing if exposed to Exterior Conditions.

REVISIONS:  
REV B: ADDED PAGE,  
ADDED 16" BRACKET

CHK BY: Mastourian  
DWN BY: f cortinas  
DATE: 9/18/2017  
SCALE: NTS

**Nailor Industries Inc.**  
4714 Winfield Road Houston, TX 77039  
TEL: 281-590-1172 FAX: 281-590-3086  
www.nailor.com



08/20/2024  
COA: 9090

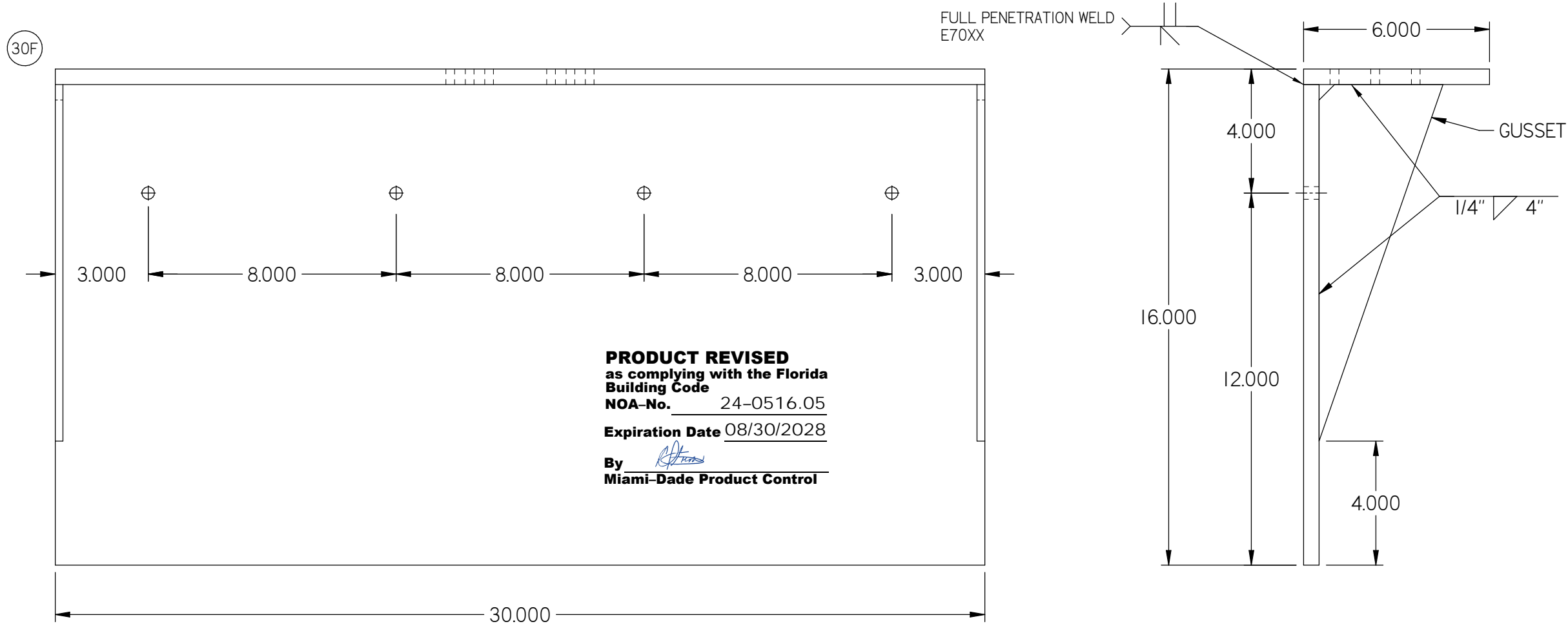
**RICE**  
ENGINEERING  
105 School Creek Trail  
Luxemburg, WI 54217  
Phone: (920) 617-1042  
Fax: (920) 617-1100  
www.rice-inc.com  
Florida Firm No: F-01000005061  
Certificate of Authorization: #9090  
Wayne K. Helmila  
Registration No: 59092

TITLE:  
16" MULLION ANGLES  
BACK OF THE WALL MOUNT

SHEET: 25 OF 30  
DWG. NO. 1605WDM  
REV B

MULLION MOUNTING BRACKET  
FOR MULLION ANGLE BACK OF WALL MOUNT  
ASTM A36

USE 16" X 6" 1/2" STEEL PLATE ANGLE  
AT 30" LONG AS SHOWN ( A36 OR BETTER )  
WELD 1/2" STEEL PLATE ANGLE TOGETHER WITH FULL  
PENETRATION BEVEL GROOVE WELD.  
( 2 ) 1/4" X 4" GUSSET PLATES AT 12" LONG WELDED TO  
EACH END  
WELD 1/4" GUSSET PLATES WITH FILLET WELDS.



**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. 24-0516.05  
Expiration Date 08/30/2028  
By *[Signature]*  
Miami-Dade Product Control

NOTE:  
THESE 3/8" DIA HILTI HUS-EZ CMU ANCHORS  
ARE ADEQUATE FOR DESIGN PRESSURE UP TO  
150 PSF FOR 36" BLADE LOUVERS.  
  
FOR LOUVER BLADES SPANNING 72" ( SEE THE  
ELEVATION SHOWN ON SHEET 3 OF 30 ) THE  
MAXIMUM DESIGN PRESSURE IS +/- 80 PSF

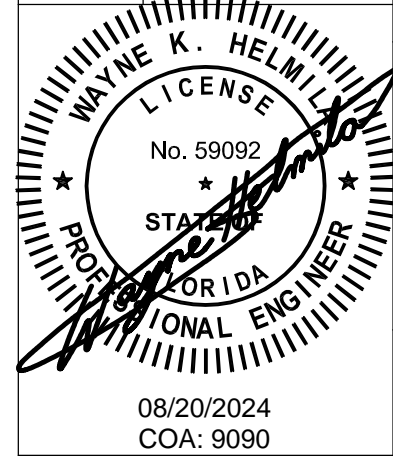
USE (4) 3/8" DIA HILTI KWIK-HUS-EZ SCEW ANCHORS  
3-1/4" EMBEDMENT  
8" SPACING AS SHOWN. LOCATE ( 1 ) FASTENER IN THE CENTER OF EACH  
MASONRY CELL. BRACKET CAN BE INSTALLED 4" LEFT OR RIGHT OF MULLION  
CENTERLINE SO ANCHORS CAN BE INSTALLED AT CENTER OF MASONRY CELLS.  
4" MIN. EDGE DISTANCE  
4" MIN END DISTANCE  
ASSUME GROUT FILLED MASONRY fm'= 2000 psi (DESIGN BY OTHERS)  
SEAL FASTENERS WITH LIQUID PROSOCO FLASHING AT EXTERIOR CONDITIONS.

REVISIONS:  
REV B: ADDED PAGE,  
ADDED 30" CMU ONLY BRACKET

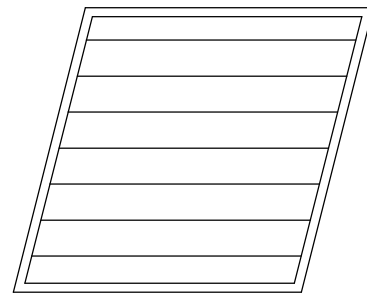
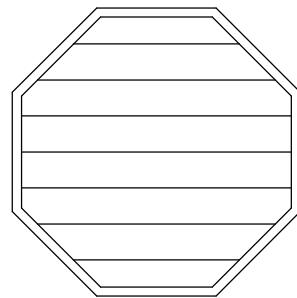
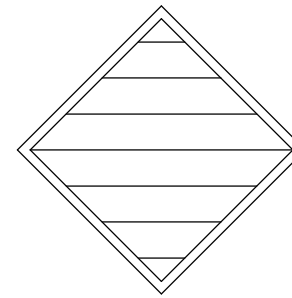
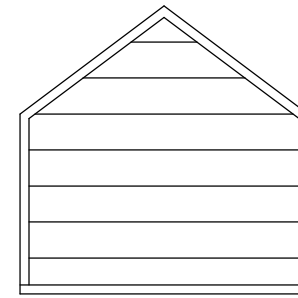
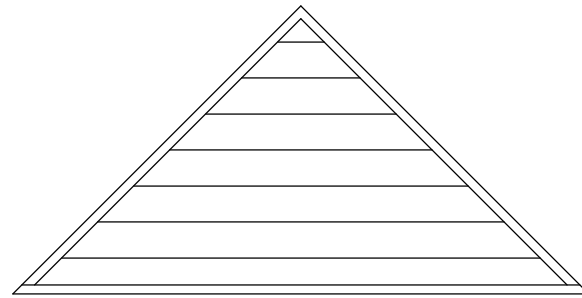
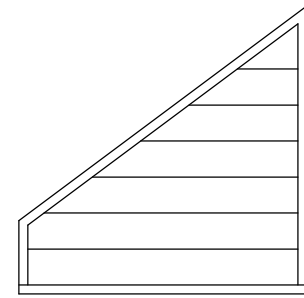
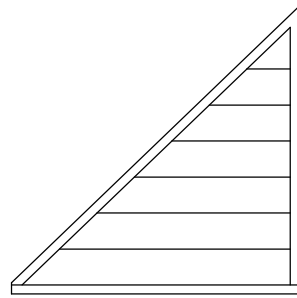
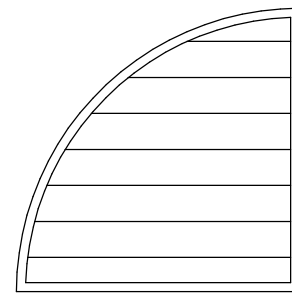
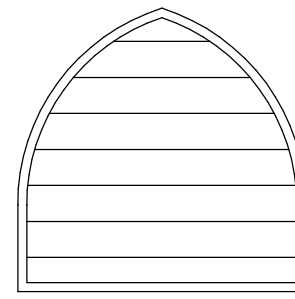
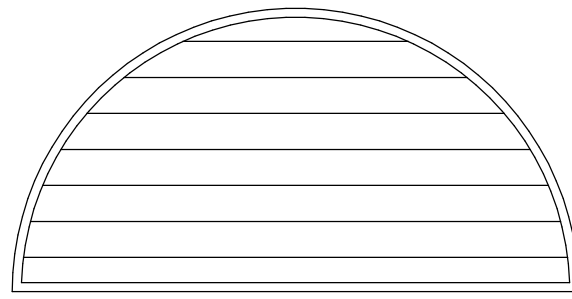
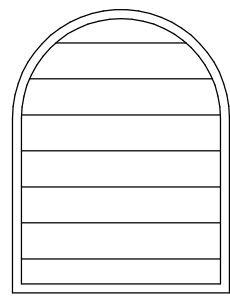
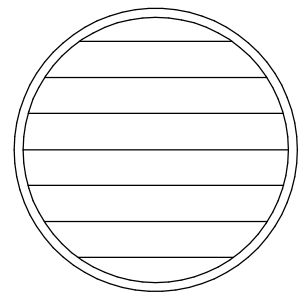
DWN BY: f cortinas	CHK BY: Mastourian
DATE: 9/18/2017	SCALE: NTS
SHEET: 26 OF 30	
DWG. NO.	REV B
<b>1605WDM</b>	

**Nailor Industries Inc.**  
4714 Winfield Road Houston, TX 77039  
TEL: 281-590-1172 FAX: 281-590-3086  
www.nailor.com

TITLE:  
30" CMU MULLION ANGLES  
BACK OF THE WALL MOUNT



**RICE**  
ENGINEERING  
105 School Creek Trail  
Luxemburg, WI 54217  
Phone: (920) 617-1042  
Fax: (920) 617-1100  
www.rice-inc.com  
Florida Firm No: F-01000005061  
Certificate of Authorization: #9090  
Wayne K. Helmila  
Registration No: 59092



NOTES:

1. OTHER SHAPES MAY APPLY PROVIDING THEY ARE SIMILAR TO THOSE SHOWN AND HAVE CORNER CONSTRUCTION AS DESCRIBED ON ALL SHEETS.

2. ALL SHAPED LOUVER PANELS ARE RESTRICTED TO THE SAME PANEL WIDTH AND PRESSURE AS THE RECTANGULAR LOUVER PANELS AND BE STACKED VERTICALLY AND HORIZONTALLY THE SAME AS THE RECTANGULAR PANELS.

3. WHEN SECTION EXCEED 36" IN LENGTH BLADE SUPPORT ANGLES AND BRACKETS ARE REQUIRED.

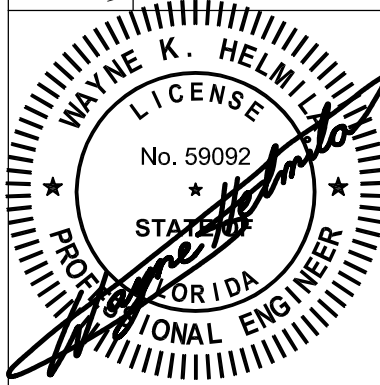
4. USE CONTINUOUS ANGLES TO ANCHOR OTHER LOUVER SHAPES TO BUILDING SUBSTRATE. SEE ANCHOR SCHEDULE FOR SUBSTRATE-SPECIFIC LIMITATIONS.

**PRODUCT REVISED**  
as complying with the Florida Building Code  
NOA-No. 24-0516.05  
Expiration Date 08/30/2028  
By *[Signature]*  
Miami-Dade Product Control

REVISIONS:  
REV B: RENUMBERED PAGE

DWN BY: f cortinas  
DATE: 9/18/2017  
CHK BY: Mastourian  
SCALE: NTS

**Nailor Industries Inc.**  
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ENGINEERING

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www.rice-inc.com  
Florida Firm No: F-01000005061  
Certificate of Authorization: #9090  
Wayne K. Helmila  
Registration No: 59092

TITLE:  
**1605WDM LOUVER  
W/ AND W/O DAMPER  
AVAILABLE SHAPES**

SHEET: 27 OF 30

DWG. NO. **1605WDM**

A		B		C		D		E		F		G		H		J		K		L	
BILL OF MATERIAL																					
ITEM	INTERNAL ID	DESCRIPTION				MATERIAL				NOTES											
1	1	C6-201	LOUVER HEAD				6063-T6 ALUMINIUM														
2	2	C6-119	LOUVER SILL				6063-T6 ALUMINIUM														
3	3	C6-199	LOUVER JAMB				6063-T6 ALUMINIUM														
4	4	C6-200	LOUVER BLADE				6063-T6 ALUMINIUM														
5	5	-	-				-														
6	6	C6-202	LOUVER BLADE BRACE				6063-T6 ALUMINIUM														
7	7	C6-179	MULLION BAR COVER				6063-T6 ALUMINIUM														
8	8	C6-169	LOUVER FLANGE				6063-T6 ALUMINIUM														
9A	9A	C6-176	1 1/2 X 1 1/2 X 1/8 ANGLE CONT.				6063-T6 ALUMINIUM				USED AT HEAD/SILL/JAMB, OF LOUVER AND SLEEVE										
9B	9B	C6-160	2 X 2 X 1/8 ANGLE CONT.				6063-T6 ALUMINIUM				USED AS ATTACHMENT ANGLE										
9C	9C		1 1/2 X 1 1/2 X 3/16 ANGLE CONT.				6063-T6 ALUMINIUM				USED AT HEAD/SILL/JAMB, OF LOUVER AND SLEEVE										
10A	10A	C6-161B	6 X 3 X 1/4 ANGLE				6061-T6 ALUMINIUM				USED AT BLADE SUPPORT AND JAMB SUPPORT										
10B	10B		9 X 3 X 1/4 ANGLE				6063-T6 ALUMINIUM				USED AT BLADE SUPPORT AND JAMB SUPPORT										
10C	10C		11 X 3 X 1/4 ANGLE				6063-T6 ALUMINIUM				USED AT BLADE SUPPORT AND JAMB SUPPORT										
11	11		1 1/2 X 1 1/2 X 1/4 ANGLE				6063-T6 ALUMINIUM				USED AT HEAD/SILL/JAMB OF SLEEVE										
12A	12A		4 X 2 1/2 X 1/4 X 3.625 LONG ANGLE				6061-T6 ALUMINIUM				USED AT HEAD/ SILL OF MULLION ATTACHMENT										
12B	12B		3.00 X 8.00 X .375 X 3.625 LONG				6061-T6 ALUMINIUM				FOR 1/2" DIA SS LAG SCREW										
12C	12C		3.00 X 8.00 X .375 X 3.625 LONG				6061-T6 ALUMINIUM				FOR 5/8" HILTI KWIK BOLT TZ SS 304 ANCHOR										
13	13		4 X 2 1/2 X 1/4 X 3.625 LONG ANGLE				6061-T6 ALUMINIUM				USED AT HEAD/ SILL OF LOUVER SLEEVE ATTACHMENT										
14	14		6 X 4 X 1/4 ALUMINIM SUPPORT SHIM				5052-H3 ALUMINIUM				USED AT SILL FOR SUPPORT ANGLE										
15	15		MULLION STIFFENER ALUM				6063-T6 ALUMINIUM				1/8 FORMED ALUM CHANNEL USED AT MULLION										
16	16		FORMED SLEEVE				5052-H32 ALUMINIUM				1/8 FORMED SLEEVE - DEPTH VARIES										
17	17	B2-610	DAMPER HEAD/SILL				6063-T6 ALUMINIUM														
18	18	B2-609	DAMPER JAMB				6063-T6 ALUMINIUM														
19	19	B2-527	DAMPER BLADE				6063-T6 ALUMINIUM														
20	20		DAMPER BLADE SEAL				SILICONE / RUBBER TYPE				MATERIAL VARIES										
21	21		DAMPER TOP/BOTTOM CLOSURE				ALUMINIUM														
22	22		DAMPER BUSHING				BRONZE / SS														
23	23		DAMPER LINKAGE BAR				STAINLESS														
24	24		DAMPER JAMB SEAL				STAINLESS														
25	25		NON DRIVE DAMPER AXEL ASM				STAINLESS														
26	26		DRIVE SIDE DAMPER AXLE ASM				STAINLESS														
27	27		C6X8.2 STEEL CHANNEL								USED AL MULLION										
28	28		CBX18.75 STEEL CHANNEL								USED AT MULLION										
29	29		7" X 21" ALUMINIUM SLEEVE BRACKET				6061-T6				MULLION SLEEVE BRACKET										
30	30	ABC,DEF	MULLION MOUNTING ANGLE BRACKET				ASTM A-36				MULLION MOUNTING										
31	31	ABC	MULLION MOUNTING ANGLE BRACKET				ASTM A-36				16" MOUNTING ANGLE										
32	32	C6-180	SCREW,MTL,10-24X1,HEX																		
33	33	C6-181	1/4 NYLON INSERT LOCKNUT																		
34	34	C6-182	1/4-20x2-1/2 HEX CAP SCREW				STAINLESS														
35	35	C6-183	WASHER,BONDED,10X1/2				STAINLESS				300 SERIES, SS COND. CW FY - 65 KSI										
36	36	C6-184	SCREW,MTL,12-24-1-1/4,HEX								300 SERIES, SS COND. CW FY - 65 KSI										
37	37	C6-185	1/4-20x1 HEX SCREW				STAINLESS				300 SERIES, SS COND. CW FY - 65 KSI										
38	38	C6-186	1/4 COMM L FLAT WASHER								300 SERIES, SS COND. CW FY - 65 KSI										
39	39	C6-187	1/4-20x1 HEX CAP SCREW 18-8				STAINLESS														
40	40	C6-188	SCREW, MTL, HEX, 8-32 X 1								300 SERIES, SS COND. CW FY - 65 KSI										
41	41	C6-189	SCREW, METAL, HW, 10-24 X 1-1/2								300 SERIES, SS COND. CW FY - 65 KSI										
42	42	C6-192	SCREW, MTL, HEX, 8 X 1-1/2				STAINLESS				300 SERIES, SS COND. CW FY - 65 KSI										
43	43	C6-193	SCREW, METAL, HEX, 14 X 1-1/2				STAINLESS				300 SERIES, SS COND. CW FY - 65 KSI										
44	44	C6-194	SCREW, METAL, HEX, 12 X 1-1/2				STAINLESS				300 SERIES, SS COND. CW FY - 65 KSI										
45	45	C6-195	1/4-20 X 1 1/4 HEX CAP SCREW 18-8				STAINLESS														
46	46	C6-196	1/4-20 FIN. HEX NUT 18-8				STAINLESS														
47	47	C6-197	1/4 LOCKWASHER 18-8				STAINLESS														
48	48	C6-198	SCREW, MTL, HEX, 8 X 3/4				STAINLESS				300 SERIES, SS COND. CW FY - 65 KSI										
49	49		3/8"-16 X 2 18-6 HEX HEAD BOLT				STAINLESS				300 SERIES, SS COND. CW FY - 65 KSI										
50	50		3/8-16 HEX LOCK NUT				STAINLESS				300 SERIES, SS COND. CW FY - 65 KSI										
51	51		3/8-FLAT WASHER				STAINLESS				300 SERIES, SS COND. CW FY - 65 KSI										

CHK BY: Mastourian  
DWN BY: f cortinas  
SCALE: NTS  
DATE: 9/18/2017  
SHEET: 28 OF 30  
DWC. NO. 1605WDM

**Nailor Industries Inc.**  
4714 Winfield Road Houston, TX 77039  
TEL: 281-590-1172 FAX: 281-590-3086  
www.nailor.com

TITLE: 1605WDM LOUVER W/ AND W/O DAMPER SLEEVE / CONTINUOUS MOUNT BILL OF MATERIAL



08/20/2024  
COA: 9090

**RICE ENGINEERING**  
105 School Creek Trail  
Luxemburg, WI 54217  
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Registration No: 59092

REVISIONS:  
REV B: RENUMBERED PAGE  
ADDED ITEM #: 10A, 10B, 10C, 28

\*EMBEDMENT DEPTH IS EQUAL TO OVERALL LENGTH FOR ALL FASTENERS. IF SHIMS ARE USED, FASTENER LENGTH MUST BE INCREASED BY THICKNESS OF SHIMS

LOUVER MODEL 1605WDM FASTENER SCHEDULE

JAMB ANGLE MOUNT FASTENER, WIDTH <= 72 INCHES (TABLE 1)

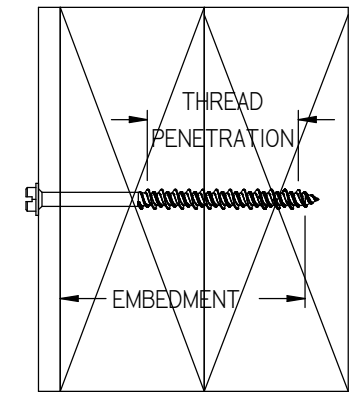
WOOD	STEEL STUD	STEEL	CONCRETE	CMU	MIN.	FASTENER TYPE	DIAMETER	# Rqd	O.C. SPACING	EDGE	END	EMBEDMENT
X					SG 0.42	LAG SCREW (300 SERIES SS- COND. CW- Fy = 65ksi)	1/4"	1	3"	2"		1-5/8"
X					SG 0.42	LAG SCREW (300 SERIES SS- COND. CW- Fy = 65ksi)	3/8"	1	5"	2"		1-5/8"
	X				16 Ga.	ELCO BI-FLEX DRILLING SCREWS (300 SERIES SS- COND. CW- Fy= 65ksi)	1/4"	1	4-1/2"	2"		3 THREADS BEYOND SUBSTRATE
		X			A-36	ELCO BI-FLEX DRILLING SCREWS (300 SERIES SS- COND. CW- Fy= 65ksi)	1/4"	1	13-1/2"	2"		1/4"
			X		A-36	ELCO DRILL-FLEX DRILLING SCREWS ( COND. CW- Fy= 65ksi) SEALED w/ PROSOCO SEALANT	5/16"	1	16"	2"		1/4"
			X-CRACKED 6" DEEP		4ksi	HILTI KWIK HUS-EZ SS316 ANCHOR**	1/4"	1	7"	4"		2"
			X-CRACKED 6" DEEP		4ksi	HILTI KWIK HUS-EZ SS316 ANCHOR**	3/8"	1	12"	4"		2"
				X	2ksi	HILTI KWIKI HUS-EZ SS316 ANCHOR	3/8"	1	12"	4"		3-1/4"
				X	2ksi	DEWALT GALVANIZED SCREW-BOLT+ ANCHOR	3/8"	1	4-1/2"	1-1/2"	1-1/2"	3-1/4"

MULLION ANGLE DIRECT MOUNT FASTENERS, HEIGHT <= 120 INCHES (TABLE 2)

WOOD	STEEL STUD	STEEL	CONCRETE	CMU	MIN.	FASTENER TYPE	DIAMETER	# Rqd / CLIP	O.C. SPACING	EDGE	END	EMBEDMENT
X					SG 0.42	LAG SCREW (300 SERIES SS- COND. CW- Fy = 65ksi)	1/4"	10	1-1/4" X 7/8"	2"		2-5/8"
X					SG 0.42	LAG SCREW (300 SERIES SS- COND. CW- Fy = 65ksi)	1/2"	6	2-1/8" X 3"	2"		2"
		X			A-36	ELCO BI-FLEX DRILLING SCREWS (300 SERIES SS- COND. CW- Fy= 65ksi)	1/4"	4	2-1/2" X 1-5/16"	2"		1/4"
			X		A-36	ELCO DRILL-FLEX DRILLING SCREWS ( COND. CW- Fy= 65ksi) SEALED w/ PROSOCO SEALANT	5/16"	2	2-5/8"	2"		1/4"
			X-CRACKED 10" DEEP		4ksi	HILTI KWIK BOLT TZ2 SS 304 ANCHOR*	5/8"	2	4"	7"	8"	4"

MULLION ANGLE MOUNT BACK OF WALL FASTENERS, HEIGHT <= 120 INCHES (TABLE 3)

WOOD	BRACKET TYPE	STEEL	CONCRETE	CMU	MIN.	FASTENER TYPE	DIAMETER	# Rqd	O.C. SPACING	EDGE	END	EMBEDMENT
X	30A				SG 0.42	LAG SCREW (300 SERIES SS- COND. CW- Fy = 65ksi)	1/4"	16	VARIES	1"	1"	3-11/32"
X	31A				SG 0.42	LAG SCREW (300 SERIES SS- COND. CW- Fy = 65ksi)	1/4"	8	VARIES	1"	1"	3-11/32"
X	30B				SG 0.42	LAG SCREW (300 SERIES SS- COND. CW- Fy = 65ksi)	3/8"	12	VARIES	1-1/2"	1-1/2"	3-9/32"
X	31B				SG 0.42	LAG SCREW (300 SERIES SS- COND. CW- Fy = 65ksi)	3/8"	6	VARIES	1-1/2"	1-1/2"	3-9/32"
	30C	X			A-36	ELCO BI-FLEX OR ELCO DRILL-FLEX DRILLING SCREWS (300 SERIES SS) SEAL DRILL-FLEX w/ PROSOCO SEALANT	1/4"	14	VARIES	1"	1"	1/4"
	31A	X			A-36	ELCO BI-FLEX OR ELCO DRILL-FLEX DRILLING SCREWS (300 SERIES SS) SEAL DRILL-FLEX w/ PROSOCO SEALANT	1/4"	8	VARIES	1"	1"	1/4"
	30E	X			A-36	ELCO DRILL-FLEX DRILLING SCREWS ( COND. CW - Fy = 65ksi ) SEALED w/ PROSOCO SEALANT	5/16"	12	VARIES	1"	1"	1/4"
	31B	X			A-36	ELCO DRILL-FLEX DRILLING SCREWS ( COND. CW - Fy = 65ksi ) SEALED w/ PROSOCO SEALANT	5/16"	6	VARIES	1"	1"	1/4"
	30D		X-CRACKED 8" DEEP		4ksi	HILTI KWIK BOLT EZ SS 316 ANCHOR **	1/2"	10	VARIES	3"	4"	4-1/4"
	31C		X-CRACKED 8" DEEP		4ksi	HILTI KWIK BOLT EZ SS 304 ANCHOR **	1/2"	6	VARIES	3"	4"	3-5/8"
	30F			X	2ksi	HILTI KWIK-HUS-EZ SCREW ANCHORS	3/8"	4	8	4"	4"	3-1/4"

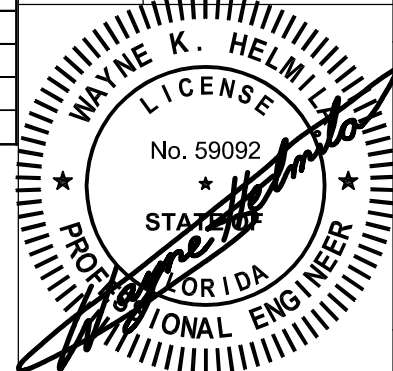


**PRODUCT REVISED**  
 as complying with the Florida  
 Building Code  
 NOA-No. 24-0516.05  
 Expiration Date 08/30/2028  
 By *[Signature]*  
 Miami-Dade Product Control

REVISIONS:  
 REV B: RENUMBERED PAGE  
 UPDATED FASTENER TABLES  
 REMOVED GENERAL NOTES

DWN BY: fcoirtinas  
 DATE: 9/18/2017  
 CHK BY: Mastourian  
 SCALE: NTS  
 SHEET: 29 OF 30  
 DWG. NO. 1605WDM

**Nailor Industries Inc.**  
 4714 Winfield Road Houston, TX 77039  
 TEL: 281-590-1172 FAX: 281-590-3086  
 www.nailor.com  
 TITLE: 1605WDM LOUVER  
 W/ AND W/O DAMPER SLEEVE  
 FASTENER TABLES



08/20/2024  
 COA: 9090  
**RICE**  
 ENGINEERING  
 105 School Creek Trail  
 Luxemburg, WI 54217  
 Phone: (920) 617-1042  
 Fax: (920) 617-1100  
 www.rice-inc.com  
 Florida Firm No: F-01000005061  
 Certificate of Authorization: #9090  
 Wayne K. Helmila  
 Registration No: 59092



**GENERAL NOTES:**

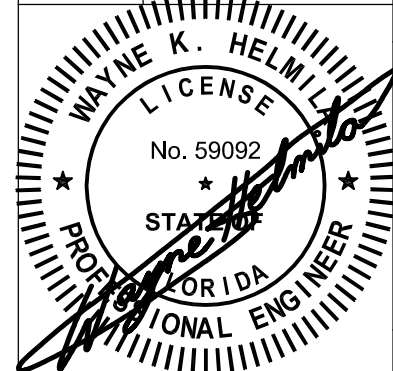
1. IT SHALL BE THE RESPONSIBILITY OF THE ENGINEER OF RECORD TO VERIFY THE STRUCTURAL INTEGRITY OF THE EXISTING STRUCTURE TO SUPPORT THE LOADS IMPOSED BY THE LOUVER(S).
2. THE 1605WDM WITH AND WITHOUT 2020 DAMPER HAVE BEEN DESIGNED AND TESTED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE (FBC) AND TEST PROTOCOLS tas 100 A (WIND DRIVEN RAIN), TAS-201 (IMPACT), TAS-202 (UNIFORM STATIC PRESSURE), AND TAS-203 (CYCLIC FATIGUE).
3. MAXIMUM SINGLE SECTION SIZE IS 72" WIDE X 120" HIGH.
4. MAXIMUM ASSEMBLED LOUVER SIZE IS UNLIMITED WIDE X 120" HIGH.
5. SECTIONS OR ASSEMBLIES MAY BE STACKED VERTICALLY PROVIDING A SUITABLE STRUCTURAL SUPPORT IS DESIGNED AND INSTALLED BY OTHERS TO SUPPORT ALL LOADS TRANSFERRED FROM THE LOUVER.
6. CMU SHALL BE ASTM C90, TYPE II, 2,000 MIN PSI GROUT-FILLED, STEEL STUDS TO BE 16 GA. FY= 50ksi MIN.
7. THE SLEEVE MOUNT STYLE LOUVER UTILIZES AN ANCHORLESS INSTALLATION METHOD THAT DOES NOT REQUIRE THE USE OF FASTENERS INTO THE SUBSTRATE. IT MAY BE INSTALLED IN ANY SUBSTRATE THAT WILL WITHSTAND THE LOADS TRANSFERRED TO IT BY THE LOUVER. NAILOR IND. DOES NOT DETERMINE THE STRUCTURAL INTEGRITY OF THE SUBSTRATE STRUCTURE.
8. THE CONTINUOUS ANGLE MOUNT STYLE UTILIZES A CONTINUOUS JAMB ANGLE THAT IS ATTACHED TO THE SUBSTRATE BY FASTENERS. IT MAY BE INSTALLED IN CONCRETE, CMU, STEEL, OR WOOD ACCORDING TO THE FASTENER SCHEDULE. NAILOR IND. DOES NOT DETERMINE THE STRUCTURAL INTEGRITY OF THE SUBSTRATE STRUCTURE.
9. LOUVER ASSEMBLY IS QUALIFIED FOR A MAXIMUM DESIGN LOAD OF +/- 150 PSF, WITH THE EXCEPTION OF THE GROUT FILLED CMU BACK OF WALL MOUNTING BRACKET ANCHORS FOR THE 72" BLADES WHERE THE MAXIMUM DESIGN LOAD IS +/- 80 PSF.
10. LOUVER ASSEMBLY WITH AND WITHOUT 2020 DAMPER SHALL ONLY BE INSTALLED IN A LOCATION WHERE THE ROOM BEHIND THE LOUVER IS DESIGNED TO DRAIN WATER PENETRATING INTO THE ROOM AND THE ROOM WILL HOUSE WATER RESISTANT / WATER PROOF EQUIPMENT, COMPONENTS, AND / OR SUPPLIES.
11. INSTALLER TO PROVIDE SEPERATION OF DISSIMILAR MATERIALS AS REQUIRED.
12. THE DAMPER MAY BE OPERATED BY A MANUAL QUADRANT OR BY AN ELECTRIC OR PNEUMATIC ACTUATOR, THE DAMPER'S ACTUATOR IS NOT PART OF THIS APPROVAL, BUT SHALL BE CERTIFIED BY AN INDEPENDENT TESTING AGENCY.
13. FRAME CONSTRUCTION, HEAD AND SILL ARE SQUARE CUT, JAMBS ARE SQUARE CUT @ HEAD AND SILL. CORNERS ARE SECURED WITH (2) #10-24 x 1 1/2 HW, BLADES ARE SECURED TO JAMBS WITH (2) #10-24 X 1 1/2 HW, @ EACH END.
14. STEEL / STAINLESS-STEEL/ ALUMINIUM PARTS MAY BE MADE OUT OF ALTERNATE ALLOY THAT HAS EQUAL OR GREATER YIELD STRENGTH.
15. BLADE SUPPORT ANGLE AND BLADE SUPPORT BRACE ONLY REQUIRED WHEN ACTUAL LOUVER SECTION WIDTH IS GREATER THAN 36 INCHES.
16. THREAD PENETRATION LENGTH SIGNIFIES THE REQUIRED LENGTH OF THE THREADED PORTION OF THE FASTENER INTO THE WOOD SUBSTRATE PROVIDING FULL CONTACT WITH WOOD. LAG SCREW TIO CANNOT BE CONSIDERED PART OF THE TREADED PORTION OF THE SCREW. LAG SCREWS ARE NOT TO BE INSTALLED AT WOOD JOINTS / SPLICES WHERE THE LAG SCREW COULD FALL BETWEEN MEMBERS.  
NOTE ENGINEER OF RECORD (EOR) IS RESPONSIBLE FOR DETERMINING IF CONCRETE IS TO BE CONSIDERED CRACKED OR UNCRACKED.

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**Nailor Industries Inc.**  
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1605WDM LOUVER  
WI AND W/O DAMPER SLEEVE  
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Wayne K. Helmila  
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