

Manufacturers:

Greenheck Fan Corporation, PO Box 410, 400 Ross Ave, Schofield, WI 54476

The Airolite Company, LLC, PO Box 410, 400 Ross Ave, Schofield, WI 54476

Product Lines:

Greenheck Louver Models EHH-601D and ESD-635D (both w/ and w/o VCD-40 Damper), and equivalent nameplate Airolite Louver Models SCH601MD and K6746MD (both w/ and w/o VCD-40 Damper), respectfully.

Compliance Method: The above products have been evaluated for compliance with the requirements of the Florida Department of Community Affairs for Statewide Acceptance per Rule 61G20-3 of the FL Administrative Code and comply with the 8th Edition (2023) Florida Building Code.

Product Description: Aluminum louvers with fixed blades and butt-type frame corner construction with 6063-T5 blade/frame material. The EHH-601D & SCH601MD jams use 6005-T5 alloy. Optional damper has butt-type frame construction with 6063-T5 blade/frame material. Optional sleeve frame setup uses a sleeve of 5052-H32 material.

Performance Summary (for entire product line): Tested design pressure was +/- 150 PSF. Allowable Stress Design (ASD) design pressures of 90, 105, 130, and 150 PSF correlate to maximum section widths of 72", 61.5", 49.5", and 43" respectfully. Products passed AMCA Standard 540-08 at Enhanced Missile impact Level E (80 fps impact speed), except ESD-635D and K6746MD (both w/ and w/o VCD-40 Damper) when thinner 0.08" thick blade is chosen which passed AMCA Standard 540-08 at Basic Missile impact Level D (50 fps impact speed). All Products passed TAS 201-94, TAS 202-94, and TAS 203-94. All products with VCD-40 passed AMCA 550-15 (Rev 9-18) or AMCA 550-22 with the damper in the closed position. Products can be used inside and outside of the HVHZ and are impact resistant.

Performance Standards:

1. AMCA Standard 540-08, Test Method for Louvers Impacted by Wind Borne Debris.
2. AMCA Standard 550-15 (Rev 9-18) or 550-22, Test Method for High Velocity Wind Driven Rain Resistant Louvers.
3. FBC TAS 201-94, Impact Test Procedures.
4. FBC TAS 202-94, Criteria for Testing Impact & Non-Impact Resistant Building Envelope Components Using Uniform Static Air Pressure.
5. FBC TAS 203-94, Criteria for Testing Products Subject to Cyclic Wind Pressure Loading.

Supporting Technical Documents:

1. Approval Documents:
 - a. NOA 24-0904.01 for EHH-601D (w/ and w/o VCD-40 Damper), approved on 10/10/2024
 - b. NOA 24-0904.02 for SCH601MD (w/ and w/o VCD-40 Damper), approved on 10/10/2024
 - c. NOA 24-0930.04 for ESD-635D (w/ and w/o VCD-40 Damper), approved on 11/14/2024
 - d. NOA 24-0930.05 for K6746MD (w/ and w/o VCD-40 Damper), approved on 11/14/2024
2. Listing Documents:
 - a. EHH-601D
 - i. Listing Appendix # 413, dated 11/14/2024
 1. AMCA 540, Enhanced Impact, Missile Level E, 80 fps
 - ii. With VCD-40 damper, Listing Appendix # 414, dated 11/14/2024
 1. AMCA 540, Enhanced Impact, Missile Level E, 80 fps
 2. AMCA 550, with fully closed VCD-40 damper

- b. SCH601MD
 - i. Listing Appendix # 141, dated 11/14/2024
 - 1. AMCA 540, Enhanced Impact, Missile Level E, 80 fps
 - ii. With VCD-40 damper, Listing Appendix # 142, dated 11/14/2024
 - 1. AMCA 540, Enhanced Impact, Missile Level E, 80 fps
 - 2. AMCA 550, with fully closed VCD-40 damper
 - c. ESD-635D
 - i. With 0.08" blade, Listing Appendix # 421, dated 03/05/2020
 - 1. AMCA 540, Basic Impact, Missile Level D, 50 fps
 - ii. With 0.08" blade & VCD-40 damper, Appendix # 463, dated 05/13/2020
 - 1. AMCA 540, Basic Impact, Missile Level D, 50 fps
 - 2. AMCA 550, with fully closed VCD-40 damper
 - iii. With 0.125" blade, Listing Appendix # 420, dated 03/05/2020
 - 1. AMCA 540, Enhanced Impact, Missile Level E, 80 fps
 - iv. With 0.125" blade & VCD-40 damper, Appendix # 464, dated 05/21/2020
 - 1. AMCA 540, Enhanced Impact, Missile Level E, 80 fps
 - 2. AMCA 550, with fully closed VCD-40 damper
 - d. K6746MD
 - i. With 0.08" blade, Listing Appendix # 129, dated 04/10/2019
 - 1. AMCA 540, Basic Impact, Missile Level D, 50 fps
 - ii. With 0.08" blade & VCD-40 damper, Appendix # 160, dated 06/02/2020
 - 1. AMCA 540, Basic Impact, Missile Level D, 50 fps
 - 2. AMCA 550, with fully closed VCD-40 damper
 - iii. With 0.125" blade, Listing Appendix # 128, dated 04/10/2019
 - 1. AMCA 540, Enhanced Impact, Missile Level E, 80 fps
 - 2. AMCA 550, with fully closed VCD-40 damper
 - iv. With 0.125" blade & VCD-40 damper, Appendix # 161, dated 06/02/2020
 - 1. AMCA 540, Enhanced Impact, Missile Level E, 80 fps
 - 2. AMCA 550, with fully closed VCD-40 damper
3. Test Reports:
- a. 74301.01-602-18, EHH-601D and SCH601MD, signed and sealed on 09/6/2007 by Joseph A. Reed, P.E., Architectural Testing Inc., Schofield, WI
 - i. FBC TAS 201-94, FBC TAS 202-94, and FBC TAS 203-94
 - b. 74297.01-602-18, ESD-635D and K6746MD, signed and sealed on 09/28/2007 by Joseph A. Reed, P.E., Architectural Testing Inc., Schofield, WI
 - c. FBC TAS 201-94, FBC TAS 202-94, and FBC TAS 203-94
 - d. B7037.01-602-44, EHH-601D, ESD-635D, SCH601MD, and K6746MD, signed and sealed on 05/18/2012 by Shawn G. Collins, P.E., Architectural Testing Inc., Schofield, WI
 - i. AMCA Standard 540-08
 - e. QCT22-6667.01, EHH-601D and SCH601MD, signed and sealed on 06/22/2022 by Arlen Fisher, P.E., Quast Consulting & Testing Inc., Mosinee, WI
 - i. FBC TAS-201-94, and FBC TAS-203-94
 - f. QCT22-6667.02, ESD-635D and K6746MD, signed and sealed on 06/22/2022 by Arlen Fisher, P.E., Quast Consulting & Testing Inc., Mosinee, WI
 - i. FBC TAS-201-94, and FBC TAS-203-94
 - g. QCT23-7159.01, EHH-601D and SCH601MD, signed and sealed on 01/28/2023 by Brian Sasman, P.E., Quast Consulting & Testing Inc., Mosinee, WI
 - i. AMCA 550-22
 - h. QCT20-5720.02, ESD-635D and K6746MD, signed and sealed on 04/13/2020 by Arlen Fisher, P.E., Quast Consulting & Testing Inc., Mosinee, WI
 - i. AMCA 550-15 (Rev 9-18)

Engineering Evaluation Report

Report FL #: 10088 for Greenheck models EHH-601D & ESD-635D (both w/ and w/o VCD-40 Damper)

Report FL #: 10093 for Airolite models SCH601MD & K6746MD (both w/ and w/o VCD-40 Damper)

Limits and Conditions Use:

1. Limits/Conditions are as per in above approval and listing documents.
2. All products have a Maximum Design Pressure of +/- 150 PSF Allowable Stress Design (ASD).
3. All products have a Maximum Panel Size of 72" wide x 144" high w/o the VCD-40 damper and 36" wide by 144" high with the VCD-40 damper.
4. Allowable Stress Design (ASD) pressures of 90, 105, 130, and 150 PSF correlate to maximum section widths of 72", 61.5", 49.5", and 43" respectfully.
5. All products are rated to be used inside and outside of the HVHZ.
6. All products are impact resistant for Basic Impact Missile Level D (50 fps). All but 0.08" thick blade setups of ESD-635D and K6746MD products are resistant for Enhanced Impact Missile Level E (80 fps).
7. All products have 6063-T5 blade/frame alloy, except the EHH-601D and SCH601MD jams which use 6005-T5 alloy. Sleeve of optional sleeve frame setup uses 5052-H32 alloy.
8. All products, with the VCD-40 Damper in the closed position, may be installed in a location where the room behind the louver is not designed to drain water penetrating into the room and the room will house non-water resistant/proof equipment, components, and/or supplies.
9. Both the sleeved mount setup and the non-sleeved (a.k.a. continuous angle, a.k.a. channel frame) mount setup are approved for installation into cracked concrete per ACI-318.

Installation:

Products must be installed in accordance with the above approval documents (attached).

Certification of Independence:

Rice Engineering Inc. and Wayne K Helmila, P.E. do not have and will not acquire a financial interest in any company manufacturing or distributing the products for which this report is being issued. Rice Engineering Inc. and Wayne K Helmila, P.E., do not have and will not acquire a financial interest in any other entity involved in the approval process of the above-listed products.

Statement of Standard Equivalency:

EHH-601D, ESD-635D, SCH601MD, and K6746MD: The requirements of AMCA 540-08 meet or exceed the requirements of ANSI/AMCA 540-13 for the purpose of evaluating the above referenced product testing for Basic as well as Enhanced Missile Impact per the 8th Edition (2023) Florida Building Code.

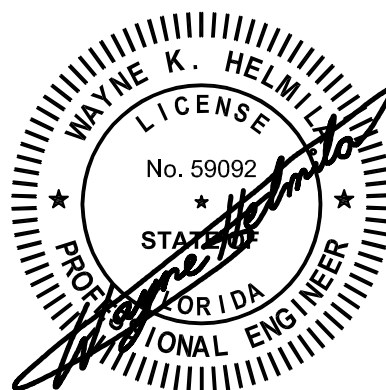
EHH-601D and SCH601MD: The requirements of AMCA 550-22 meet or exceed the requirements of ANSI/AMCA 550-15 (Rev 9-18) for the purpose of evaluating the above referenced product testing for High Velocity Wind Driven Rain Resistant Louvers per the 8th Edition (2023) Florida Building Code.

Evaluation Report By and PE Stamp:

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



12/04/2024
COA: 9090

Wayne K Helmila

Digitally signed by Wayne K Helmila
DN: cn=Wayne K Helmila,
dnQualifier=A01410C000018CDB8F4AFB001A652B,
o=Wayne K Helmila, c=US
Date: 2024.12.04 13:59:07 -0600



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

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/economy

Greenheck Fan Corporation
P.O. Box 410
Schofield, WI 54476

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 EHH-601D Aluminum Louver with and without VCD-40 Damper

APPROVAL DOCUMENT: Drawing No. **EHH-601D**, titled "EHH-601D Louver", sheets 1 through 35 of 35, dated 08/09/2017, prepared by Greenheck Fan Corporation, signed and sealed by Wayne K. Helmila, P.E. on 09/27/2024, 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, Schofield, WI or Shelby, NC, model/series, and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

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 **renews and revises NOA # 23-1013.09** and consists of this page 1 and evidence pages E-1, E-2 and E-3, as well as approval document mentioned above.

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



10/15/24

NOA No. 24-0904.01
Expiration Date: November 1, 2029
Approval Date: October 10, 2024
Page 1

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS NOAs

A. DRAWINGS “Submitted under NOA # 10-0921.10”

1. Drawing No. **EGH-601D**, titled “EGH-601D Louver”, sheets 1 through 21 of 21, dated 08/25/2010, prepared by Greenheck Fan Corporation, signed and sealed by L. David Rice, P.E.

B. TESTS “Submitted under NOA # 08-0229.06”

1. Test report on Wind Driven Rain Resistance per FBC, TAS 100(A)-95, prepared by Architectural Testing, Inc., Test Report No. **79201.01-109-18**, dated 02/05/2008, signed and sealed by Michael D. Stremmel, P.E.

“Submitted under NOA # 07-0925.02”

2. 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 marked-up drawings and installation diagram of Series/Model EGH-601D, fixed aluminum louvers, prepared by Architectural Testing, Inc., Test Report No. **74301.01-602-18**, dated 09/04/2007, signed and sealed by Joseph A. Reed, P.E.
3. Test report on Standard Test Methods for Tensile Testing of Metallic Materials, per ASTM E8-03, prepared by Architectural Testing, Inc., Test Report No. **74301.02-602-18**, dated 09/12/2007, signed and sealed by Joseph A. Reed, P.E.

C. CALCULATIONS “Submitted under NOA # 10-0921.10”

1. Structural calculations, prepared by Rice Engineering, dated 09/03/2010, signed and sealed by L. David Rice, 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 # 16-0201.03”

1. Statement letter of code conformance to the 5th edition (2014) FBC issued by Rice Engineering, dated 01/11/2016, signed and sealed by L. David Rice, P.E.
2. Statement letter of code conformance to 2010 FBC issued by Rice Engineering, dated 11/06/2012, signed and sealed by L. David Rice, P.E. **“Submitted under NOA # 12-0830.08”**
3. Statement letters of conformance and no financial interest issued by Rice Engineering, dated 09/03/2010, signed and sealed by L. David Rice, P.E. **“Submitted under NOA # 10-0921.10”**



Carlos M. Utrera, P.E.
Product Control Examiner
NOA No. 24-0904.01
Expiration Date: November 1, 2029
Approval Date: October 10, 2024

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

2. EVIDENCE SUBMITTED UNDER NOA # 17-0919.05 AND # 22-0816.10

A. DRAWINGS

1. Drawing No. **EGH-601D**, titled “EGH-601D Louver”, sheets 1 through 21 of 21, dated 08/09/2017, prepared by Greenheck Fan Corporation, signed and sealed by Wayne K. Helmila, P.E.

B. TESTS

1. None.

C. CALCULATIONS

1. None.

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 7th Edition (2020) of the FBC, issued by Rice Engineering, dated 10/14/2021, signed and sealed by Wayne K. Helmila, P.E.
2. Testing contract email issued by Eric Jehn from Quast Consulting and Testing, Inc., and dated 08/11/2022.
3. Statement letter of code conformance to the 6th Edition (2017) FBC issued by Rice Engineering, dated 08/30/2017, signed and sealed by Wayne K. Helmila, P.E.
4. Statement letters of no financial interest issued by Rice Engineering, dated 08/30/2017, signed and sealed by Wayne K. Helmila, P.E.



Carlos M. Utrera, P.E.
Product Control Examiner
NOA No. 24-0904.01
Expiration Date: November 1, 2029
Approval Date: October 10, 2024

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

3. NEW EVIDENCE SUBMITTED

A. DRAWINGS

1. Drawing No. **EGH-601D**, titled "EGH-601D Louver", sheets 1 through 35 of 35, dated 08/09/2017, prepared by Greenheck Fan Corporation, signed and sealed by Wayne K. Helmila, P.E. on 09/27/2024.

B. TESTS

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 marked-up drawings and installation diagram of Model EGH-601D/SCH601MD, fixed aluminum louver, prepared by Quast Consulting & Testing, Inc., Test Report No. **QCT22-6667.01**, dated 06/16/2022, signed and sealed by Arlen Fisher, P.E.
2. Test report on Wind Driven Rain Resistance per ANSI/AMCA 550-22, prepared by Quast Consulting & Testing, Inc., Test Report No. **QCT23-7159**, dated 12/19/2023, signed and sealed by Brian M. Sasman, P.E.

C. CALCULATIONS

1. Louver calculations, prepared by Rice Engineering, dated 09/27/2024, 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

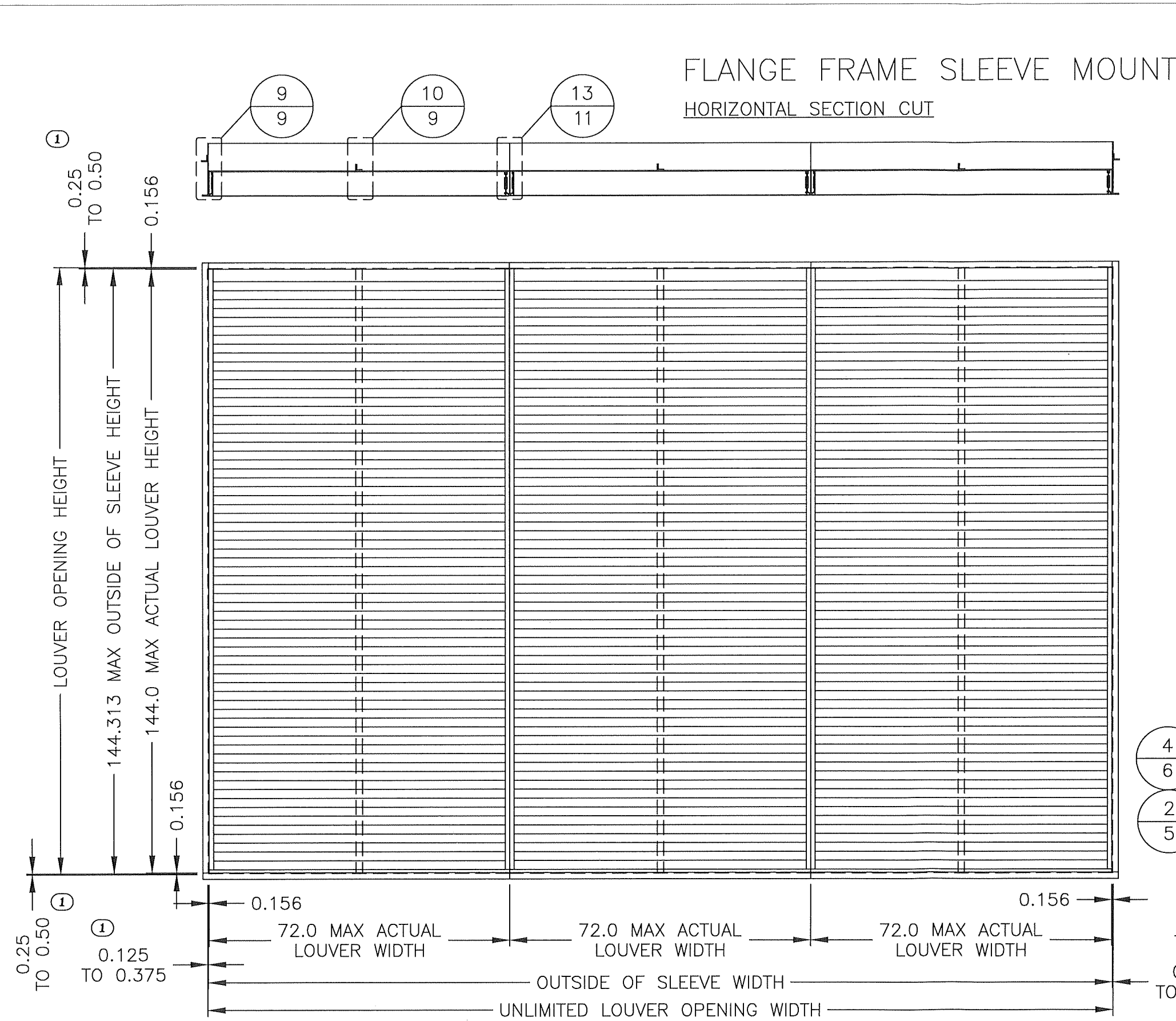
1. None.

F. STATEMENTS

1. Statement letter of code conformance to the 8th Edition (2023) of the FBC and of no financial interest, issued by Rice Engineering, dated 08/19/2024, signed and sealed by Wayne K. Helmila, P.E.



Carlos M. Utrera, P.E.
Product Control Examiner
NOA No. 24-0904.01
Expiration Date: November 1, 2029
Approval Date: October 10, 2024



DESIGN PRESSURE RATING

+/- 150 PSF	MAX SINGLE SECTION SIZE 43 x 144
+/- 130 PSF	49.5 x 144
+/- 105 PSF	61.5 x 144
+/- 90 PSF	72 x 144

DETAIL #
1 ON PAGE

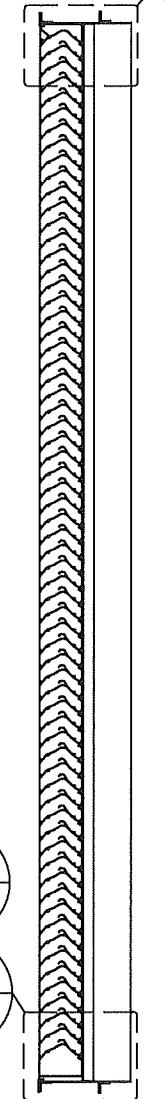
DATE 8/9/2017

DRAWN BY MES

SCALE

SHEET NO. 1 OF 35

CAD DRAWING NO. EHH-601D



GREENHECK
P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410

TITLE
EHH-601D LOUVER
FLANGE FRAME SLEEVE MOUNT
ELEVATION
H≤144"

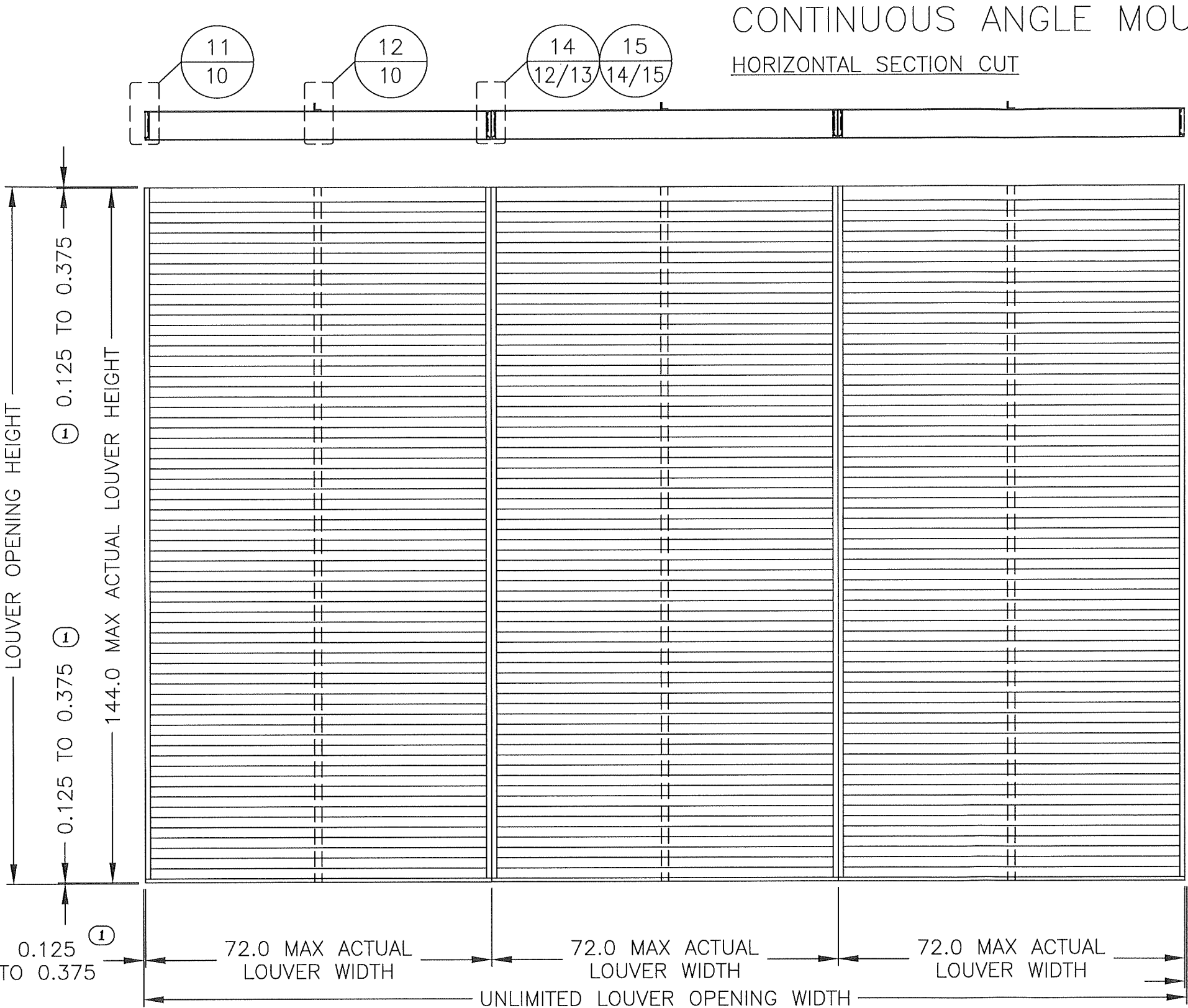
SEP 27 2024
RICE
ENGINEERING
105 School Creek Trail
Luxemburg, WI 54217
Phone: (920) 617-1042
Fax: (920) 617-1100
www.rice-inc.com
Florida Firm No: F-01000005061
Certificate of Authorization: #9090
Wayne K. Helmila
Registration No: 59092

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

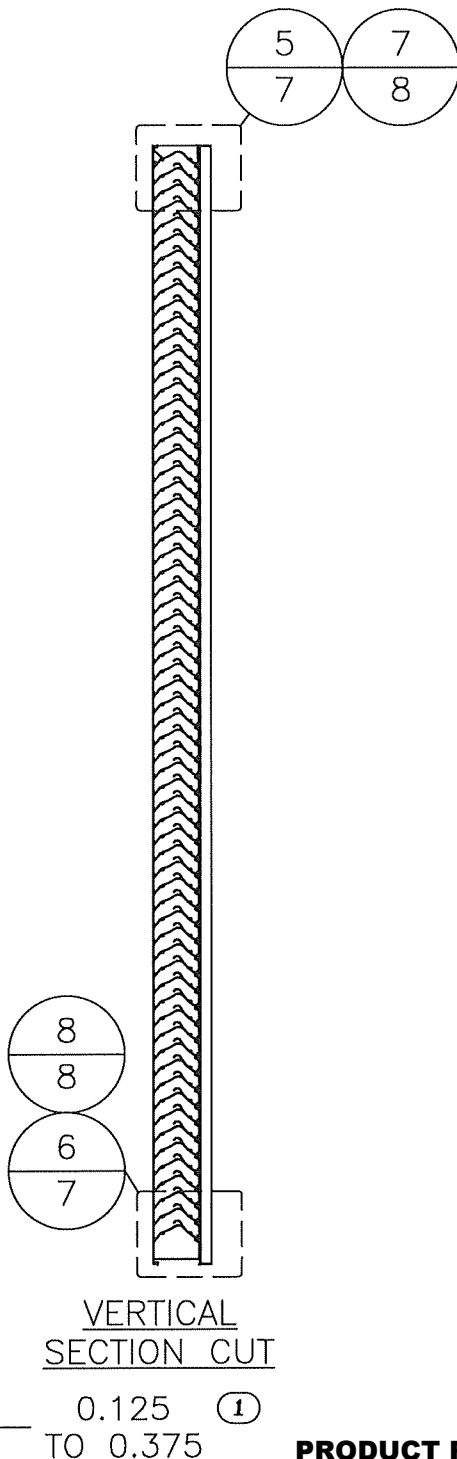
PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 24-0904.01
Expiration Date 11/01/2029

By *[Signature]*
Miami-Dade Product Control

REV 01: 8/1/24, UPDATED TITLE BLOCK & DETAIL TITLES ON ALL PAGES AS NEEDED, UPDATED DETAIL CALLOUT PAGE NUMBERS AS NEEDED ON ALL PAGES, ADDED PRESSURE BOX, ADDED DETAIL CALLOUT NOTES, & REMOVED "TYP" FROM EDGE GAP X4.



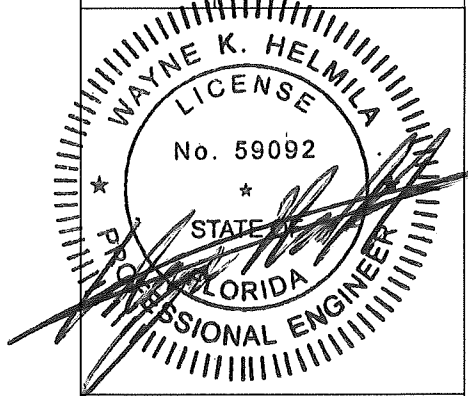
CONTINUOUS ANGLE MOUNT
HORIZONTAL SECTION CUT

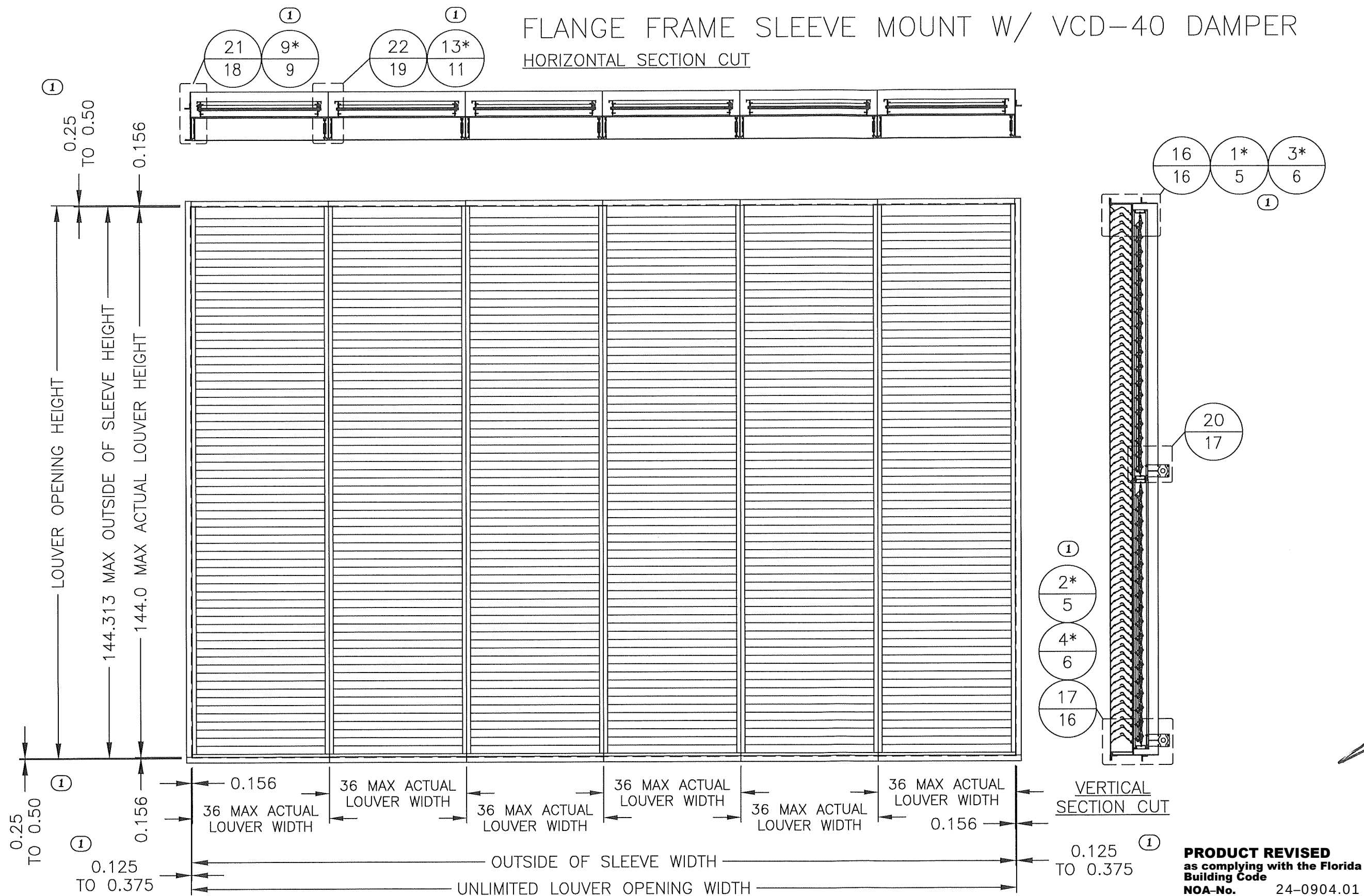


VERTICAL
SECTION CUT

REV 01: 8/1/24, REMOVED "TYP" FROM EDGE GAP X4.

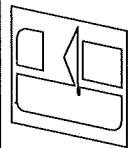
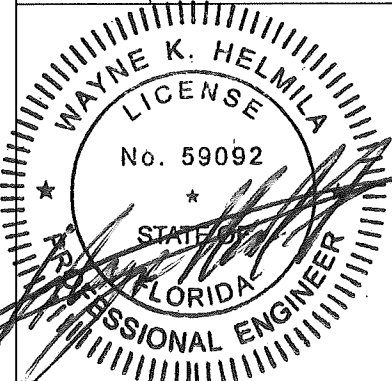
PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. 24-0904.01
Expiration Date 11/01/2029
By *[Signature]*
Miami-Dade Product Control

 P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410	DRAWN BY MES	DATE 8/9/2017
	SCALE	
TITLE EHH-601D LOUVER CONTINUOUS ANGLE MOUNT ELEVATION H≤144"	SHEET NO. 2 OF 35	
	CAD DRAWING NO. EHH-601D	
		
SEP 27 2024 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		

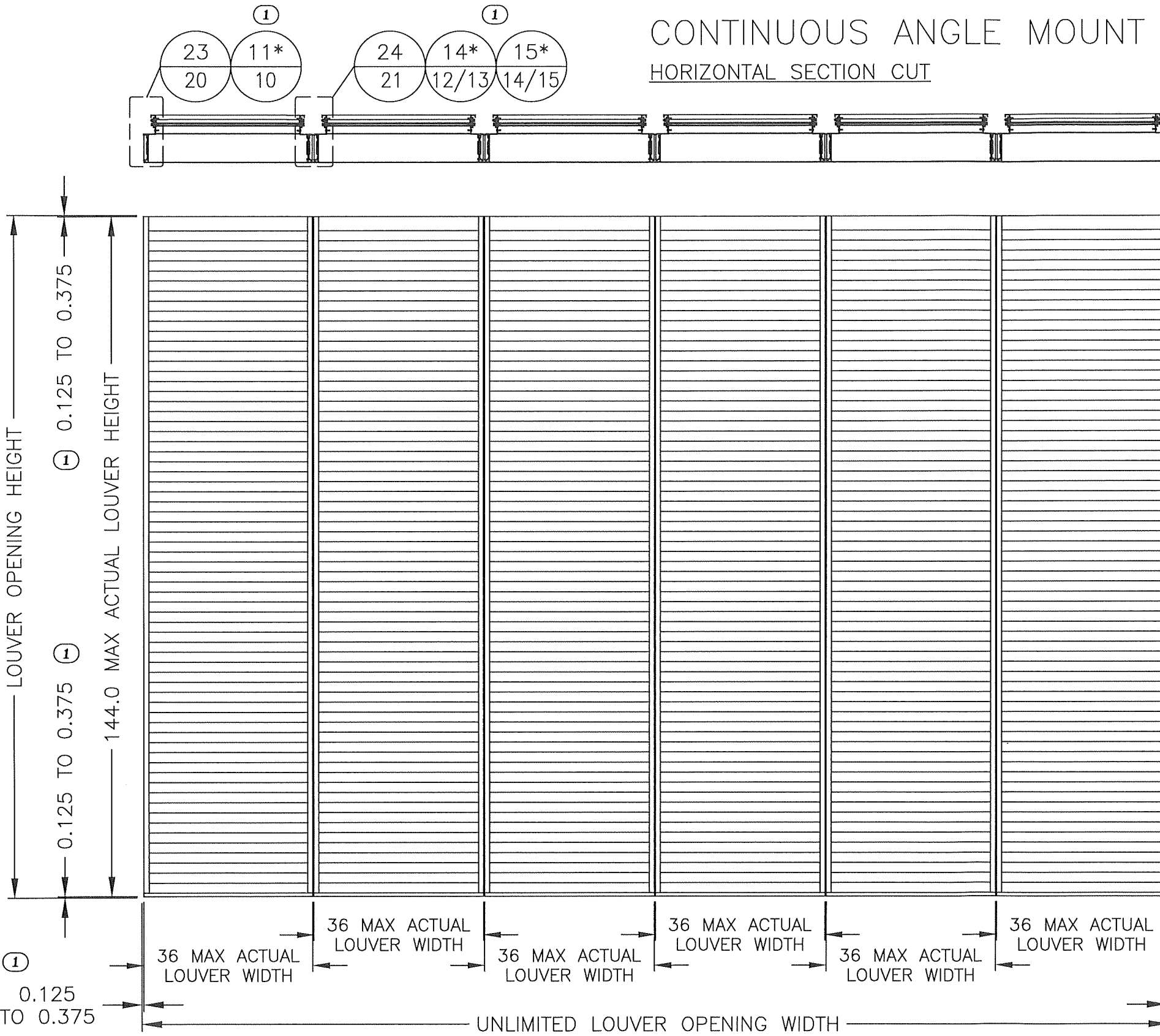


① * NON-DAMPER SPECIFIC DETAIL WHICH PROVIDES ADDITIONAL SPECIFICS.

REV 01: 8/1/24, REMOVED "TYP" FROM EDGE GAP X4, ADDED DETAIL CALLOUTS 1/2/3/4/9/13, & ADDED ASTERISK NOTE.

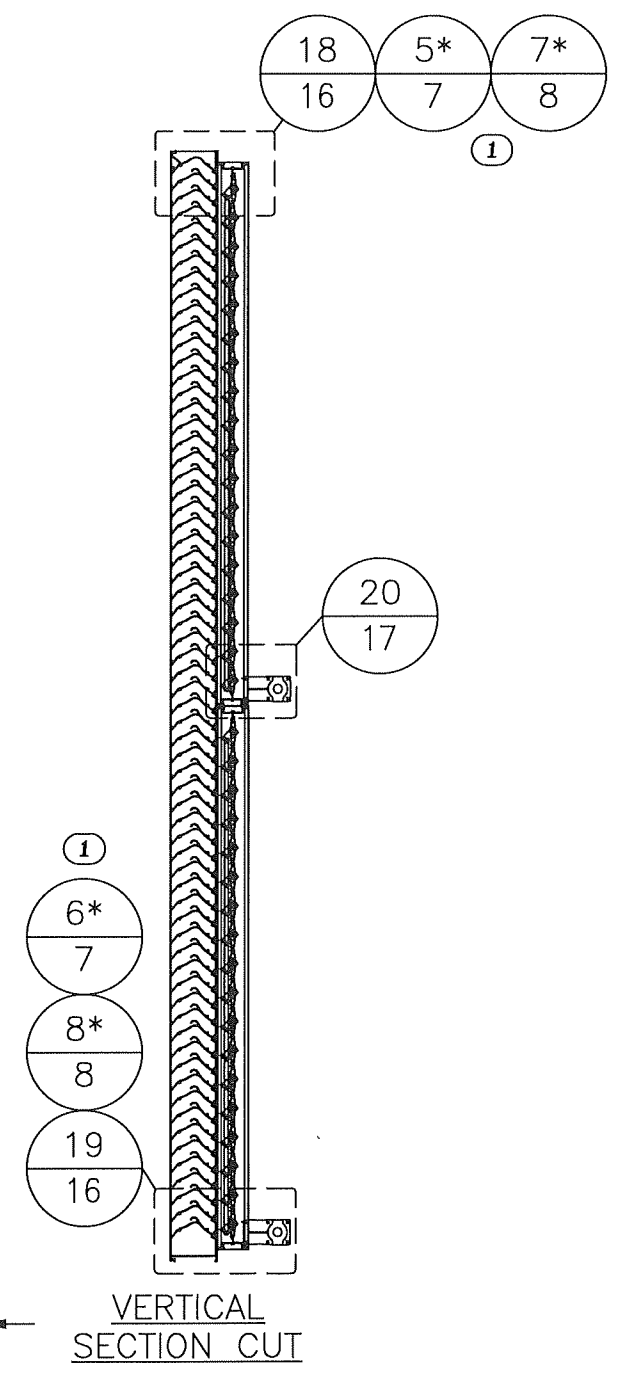
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	SCALE	SHEET NO. 3 OF 35
TITLE EHH-601D LOUVER W/VCD-40 FLANGE FRAME SLEEVE MOUNT ELEVATION H≤144"		
		
SEP 27 2024 RICE ENGINEERING 105 School Creek Trail Luxemburg, WI 54217 Phone: (920) 617-1042 Fax: (920) 617-1100 www.rice-inc.com Florida Firm No: F-01000005061 Certificate of Authorization: #9090 Wayne K. Helmila Registration No: 59092		

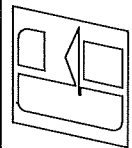
PRODUCT REVISED
 as complying with the Florida
 Building Code
 NOA-No. 24-0904.01
 Expiration Date 11/01/2029
 By 
 Miami-Dade Product Control

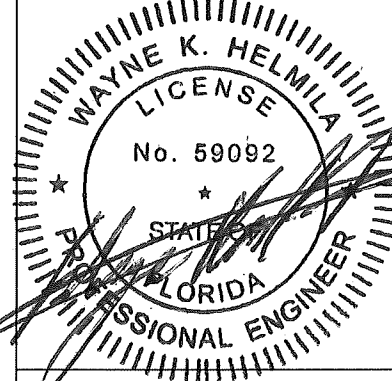


① * NON-DAMPER SPECIFIC DETAIL WHICH PROVIDES ADDITIONAL SPECIFICS.

CONTINUOUS ANGLE MOUNT W/ VCD-40 DAMPER HORIZONTAL SECTION CUT



 GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410	DRAWN BY MES	DATE 8/9/2017
	SCALE	SHEET NO. 4 OF 35
TITLE EGH-601D LOUVER W/VCD-40 CONTINUOUS ANGLE MOUNT ELEVATION H≤144"		
CAD DRAWING NO. EGH-601D		



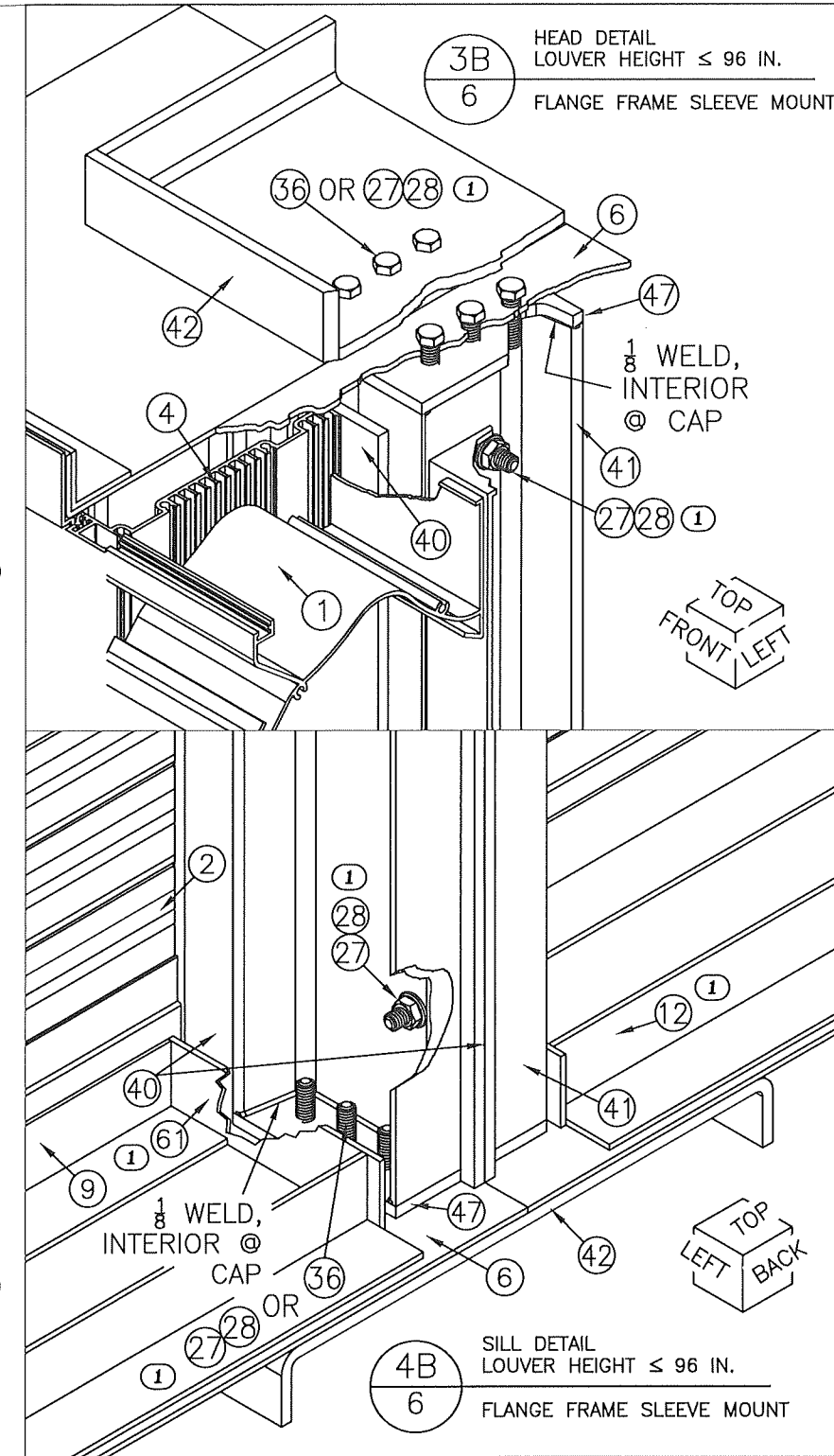
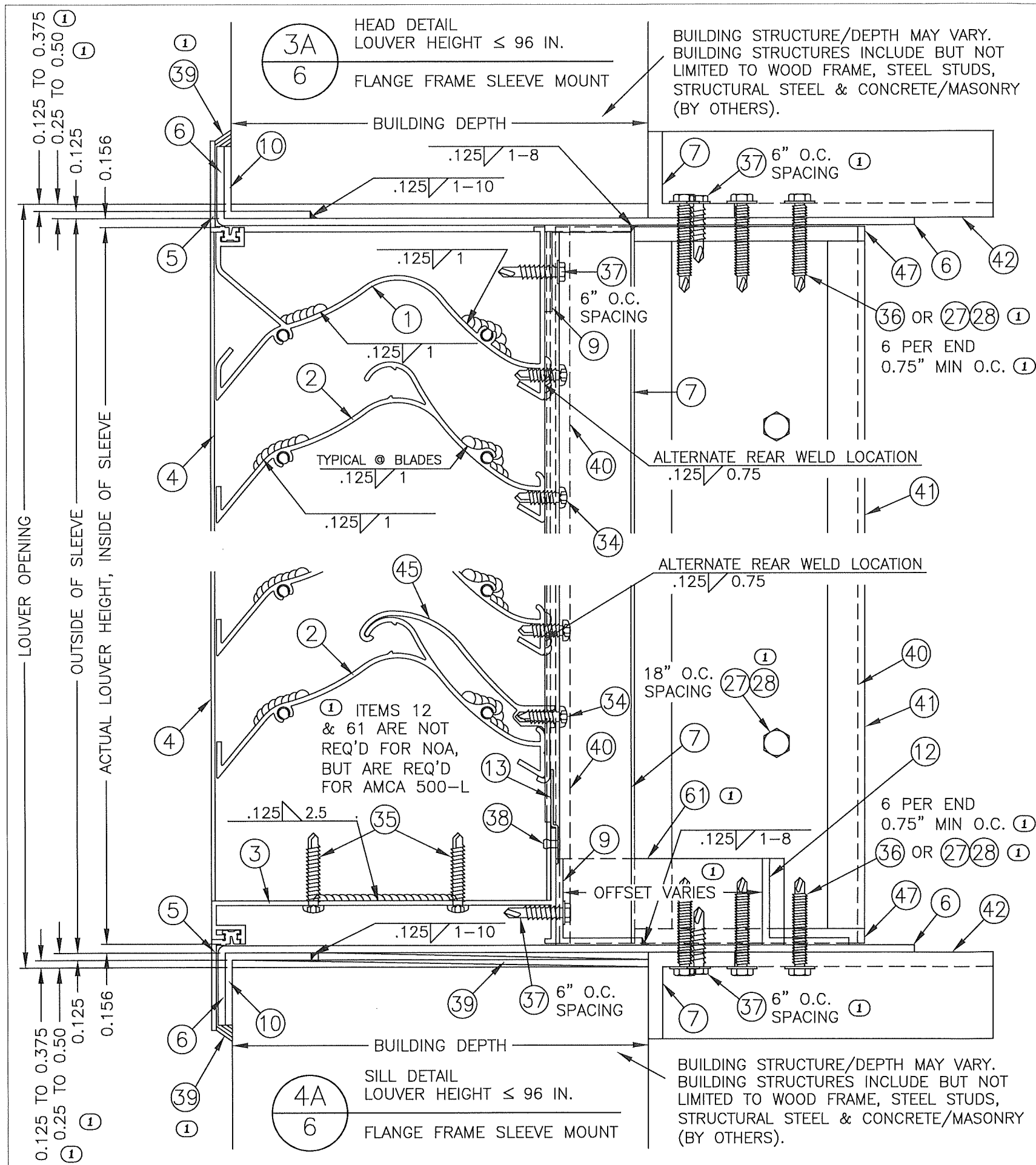
SEP 27 2024

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. 24-0904.01
Expiration Date 11/01/2029
By 
Miami-Dade Product Control



REV 01: 8/1/24, REMOVED "TYP" FROM EDGE GAP X4, ADDED ITEM 39 X2, ADDED MIN O.C. FOR ITEM 36 X2, ADDED ITEM 27 & 28 OPTION X4, ADDED ITEM 37 X2, ADDED CALLOUT FOR ITEM 28 X3, ADDED ITEM 12 OFFSET, ADDED ITEM 1A & 61 NOTE, ADDED ITEM 12 TO 4B & ADDED ITEM 61 TO 4A & 4B.

GREENHECK
P.O. BOX 410 SCHOFIELD,
WISCONSIN 54476-0410

DRAWN BY: MES
DATE: 8/9/2017
SCALE:
SHEET NO.: 6 OF 35
TITLE: EHH-601D LOUVER
FLANGE FRAME SLEEVE MOUNT
HEAD & SILL DETAILS
H≤96"

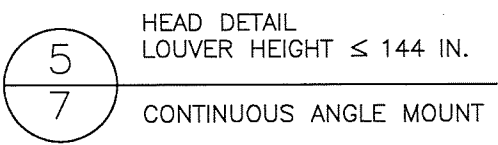
WAYNE K. HELMILA
LICENSE
No. 59092
STATE OF FLORIDA
PROFESSIONAL ENGINEER

SEP 27 2024

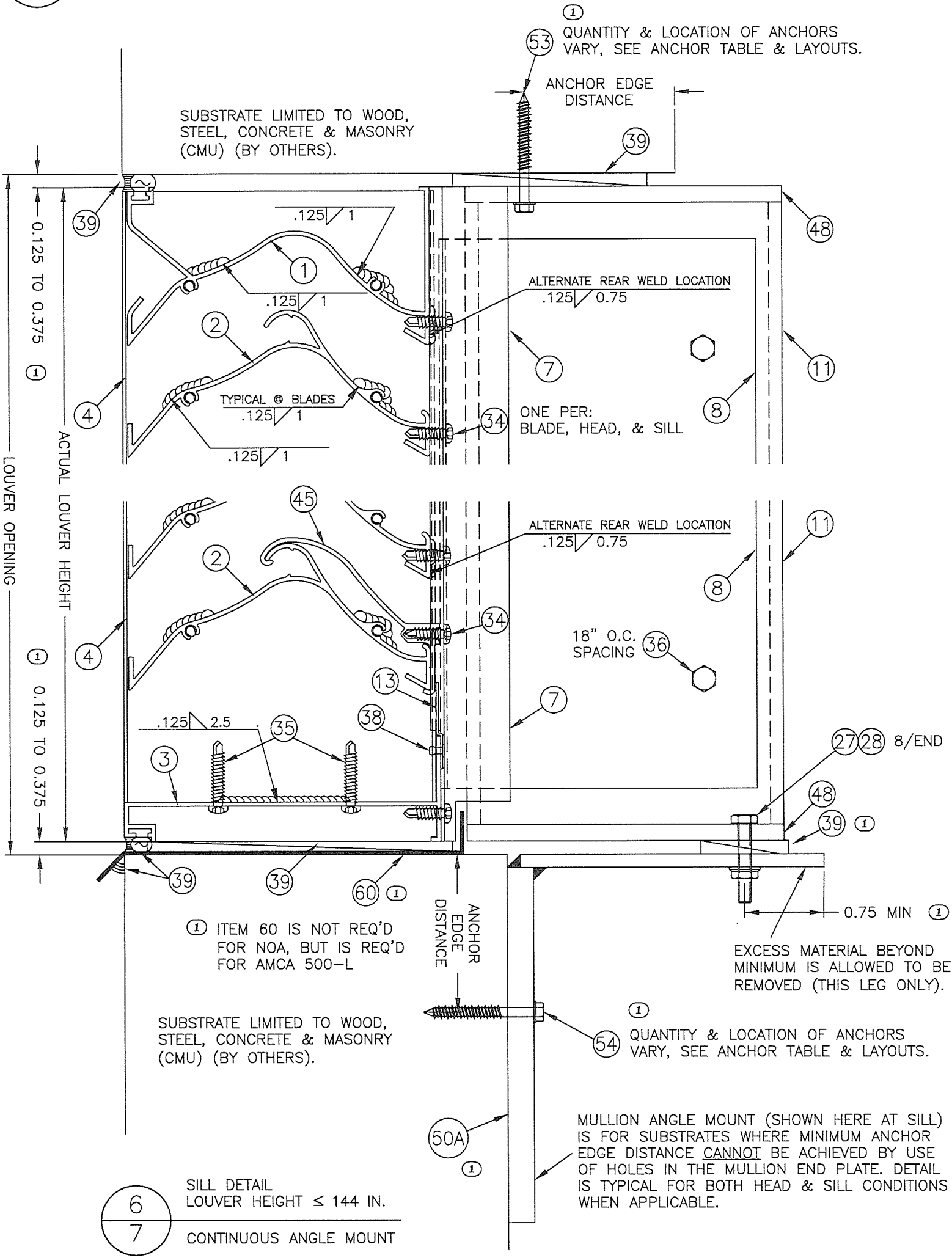
RICE
ENGINEERING
105 School Creek Trail
Luxemburg, WI 54217
Phone: (920) 617-1042
Fax: (920) 617-1100
www.rice-inc.com
Florida Firm No: F-0100005061
Certificate of Authorization: #9090
Wayne K. Helmila
Registration No: 59092

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. 24-0904.01
Expiration Date 11/01/2029
By: [Signature]
Miami-Dade Product Control

REV 01: 8/1/24, MOVED DETAILS 7 & 8 TO A NEW PAGE, ADDED ITEM 39, ADDED MIN OFFSET, UPDATED ANCHOR NOTE X2, UPDATED ITEM 50 CALLOUT & LAYOUT, REMOVED "TYP" FROM EDGE GAP X2, & ADDED ITEM 60 WITH NOTE.

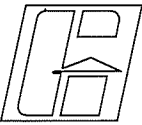


MULLION DIRECT MOUNT (SHOWN HERE AT HEAD) IS FOR SUBSTRATES WHERE MINIMUM ANCHOR EDGE DISTANCE CAN BE ACHIEVED BY USE OF HOLES IN THE MULLION END PLATE. DETAIL IS TYPICAL FOR BOTH HEAD & SILL CONDITIONS WHEN APPLICABLE.



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Expiration Date 11/01/2029

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GREENHECK
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WISCONSIN 54476-0410

TITLE

EHH-601D LOUVER
CONTINUOUS ANGLE MOUNT
HEAD & SILL DETAILS
H≤144"

DRAWN BY
MES

DATE
8/9/2017

SCALE

SHEET NO.

7 OF 35

CAD DRAWING NO.

EHH-601D

RICE

SEP 27 2024

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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

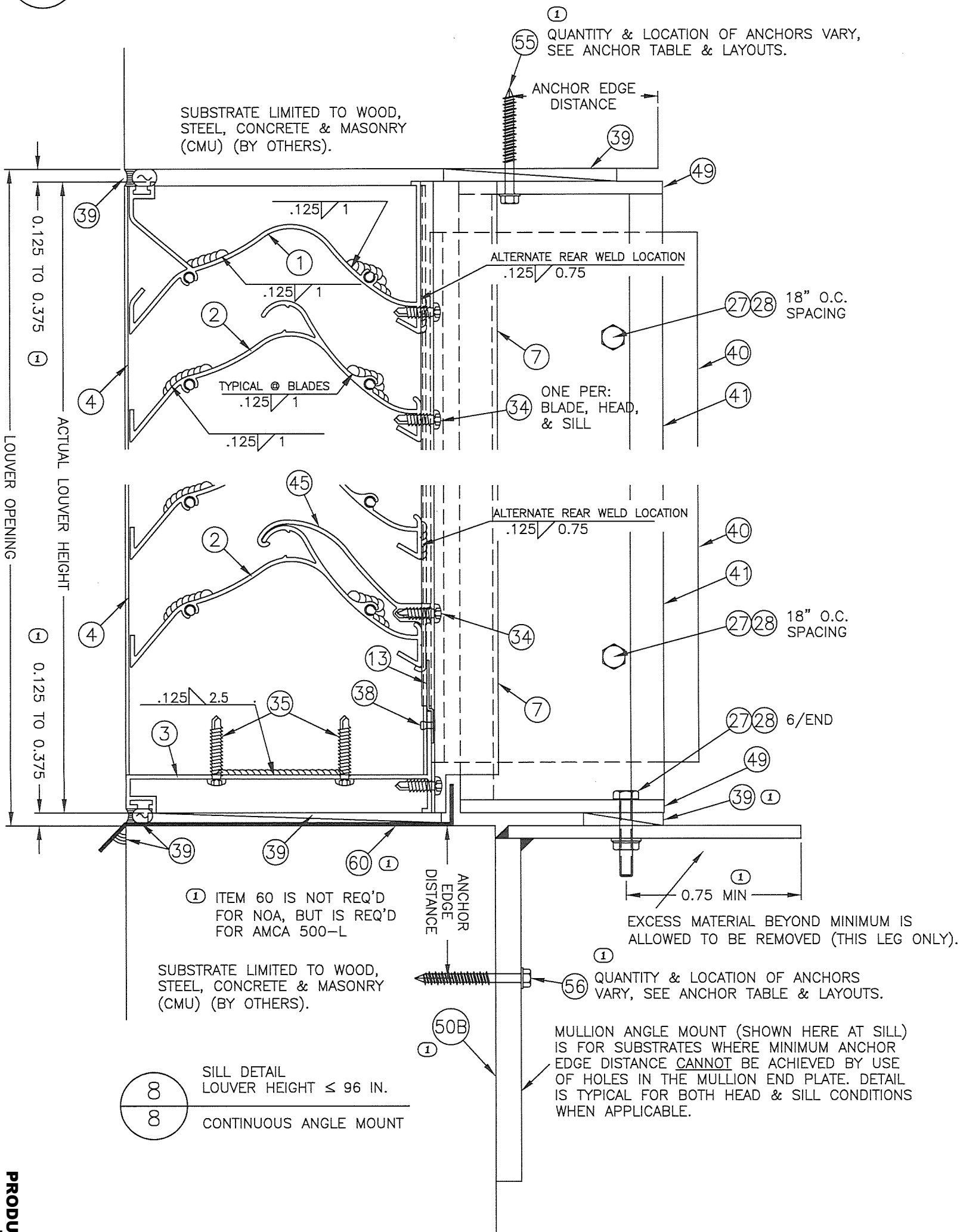
Certificate of Authorization: #9090

Wayne K. Helmila

Registration No: 59092

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

7
8
HEAD DETAIL
LOUVER HEIGHT ≤ 96 IN.
CONTINUOUS ANGLE MOUNT



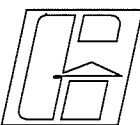
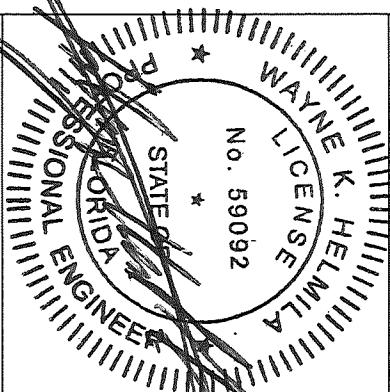
REV 01: 8/1/24, MOVED DETAILS 7 & 8 TO THIS NEW PAGE, ADDED ITEM 39, ADDED MIN OFFSET, UPDATED ANCHOR NOTE X2, UPDATED ITEM 50 CALLOUT & LAYOUT, REMOVED "TYP" FROM EDGE GAP X2, & ADDED ITEM 60 WITH NOTE.

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. 24-0904.01
Expiration Date 11/01/2029
By *[Signature]*
Miami-Dade Product Control

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Luxemburg, WI 54217
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Wayne K. Helmilla
Registration No: 59092



GREENHECK
P.O. BOX 410 SCHOFIELD,
WISCONSIN 54476-0410

TITLE

EHH-601D LOUVER
CONTINUOUS ANGLE MOUNT
HEAD & SILL DETAILS
H $\leq$ 96"

DRAWN BY
MES

DATE
8/9/2017

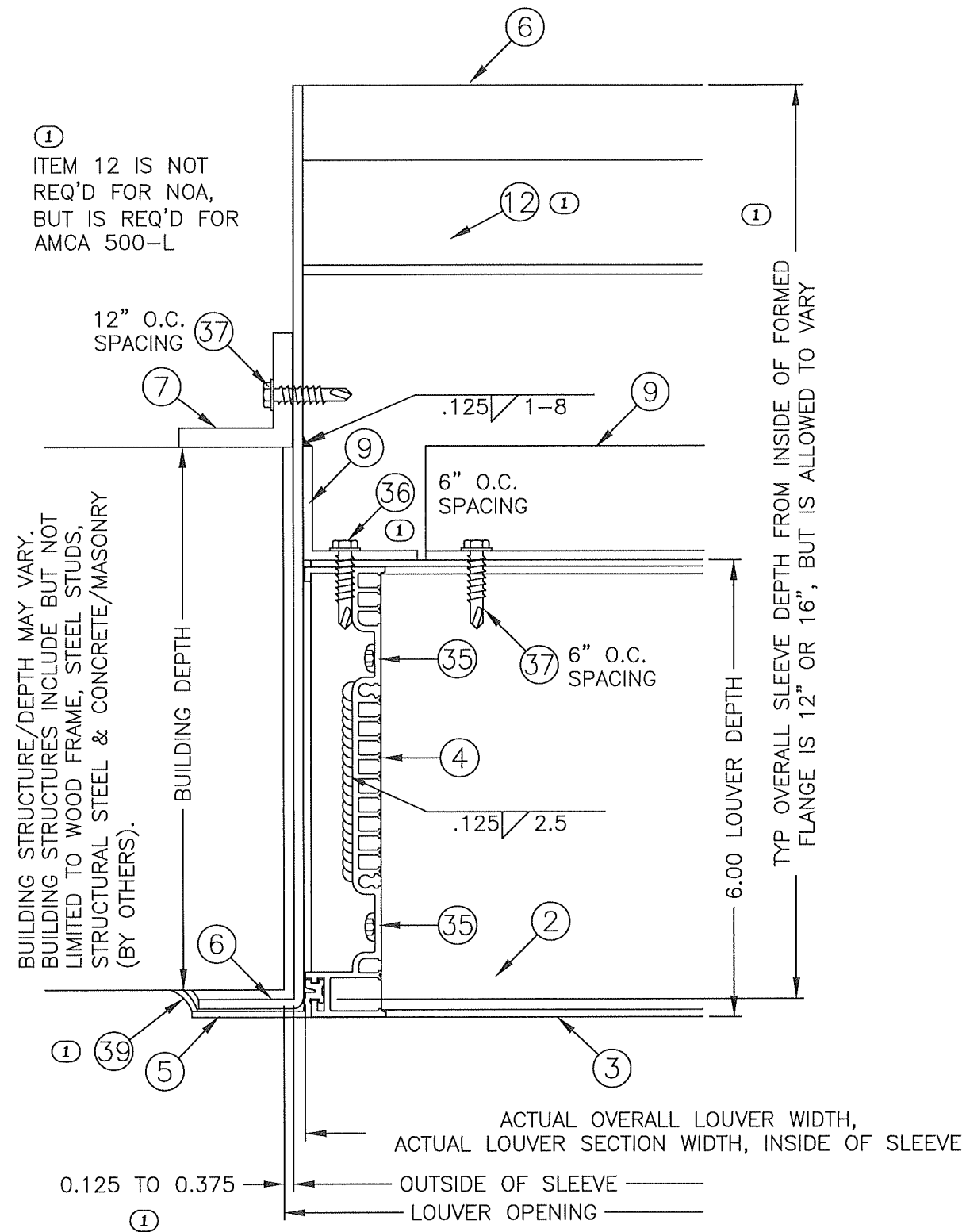
SCALE

SHEET NO.

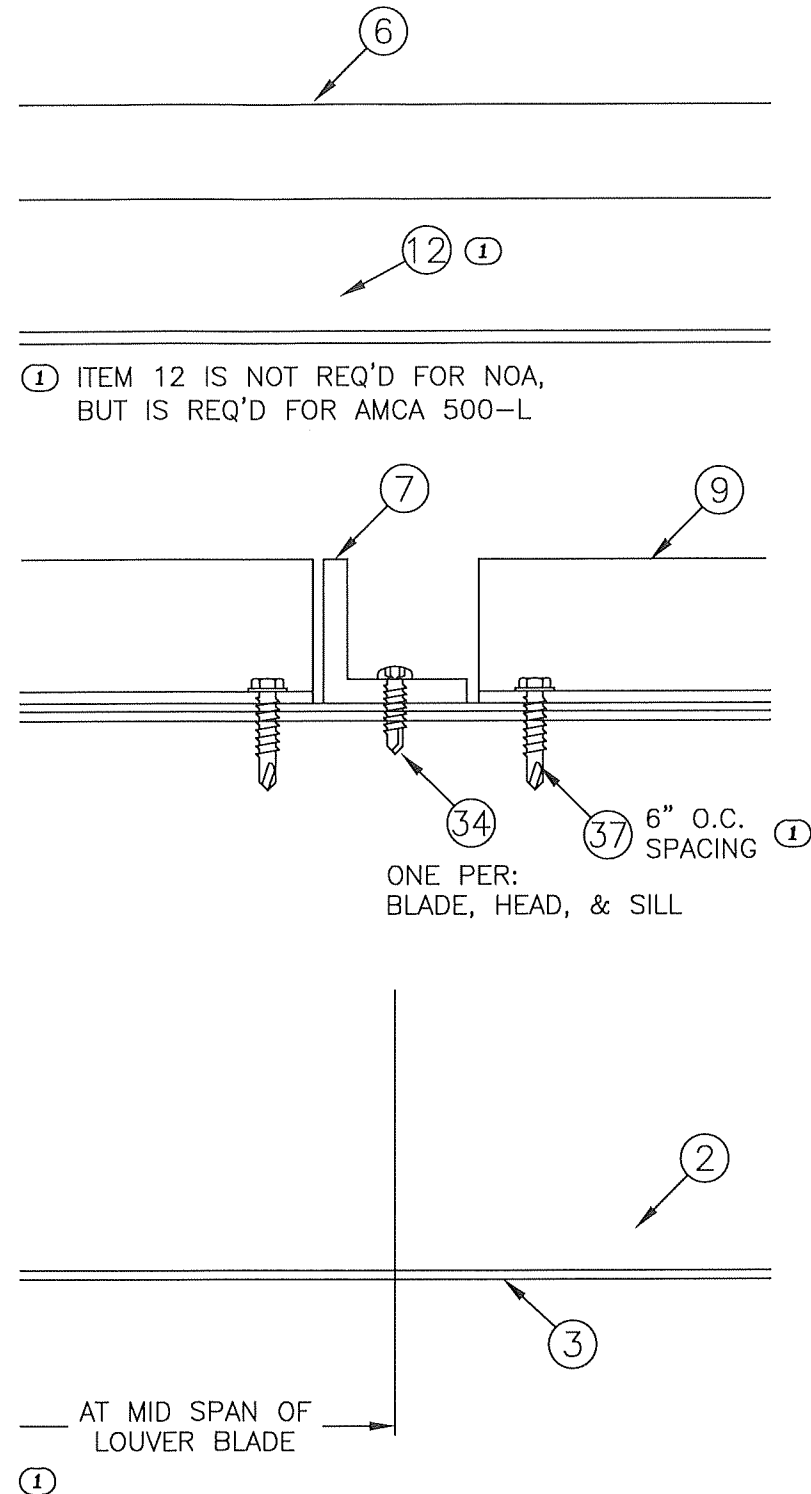
8 OF 35

CAD DRAWING NO.

EHH-601D

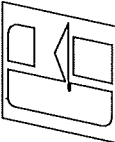
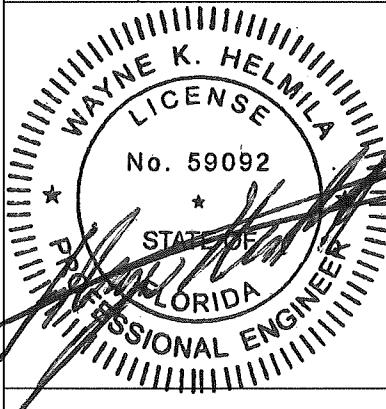


9
9
JAMB DETAIL
LOUVER HEIGHT ≤ 144 IN.
FLANGE FRAME SLEEVE MOUNT



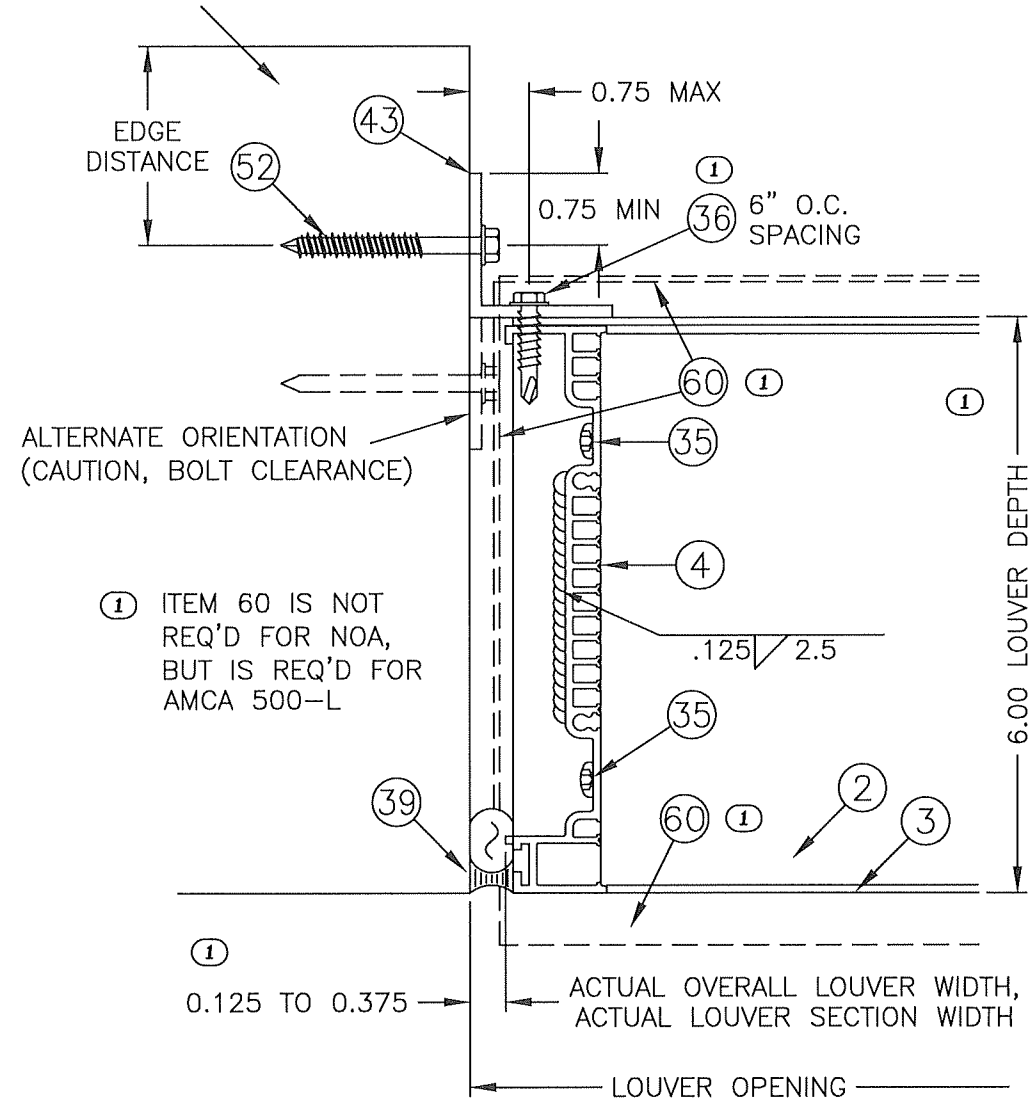
10
9
SUPPORT DETAIL
SECTION WIDTH > 36 IN.
LOUVER HEIGHT ≤ 144 IN.
FLANGE FRAME SLEEVE MOUNT

PRODUCT REVISED
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Building Code
NOA-No. 24-0904.01
Expiration Date 11/01/2029
By *[Signature]*
Miami-Dade Product Control

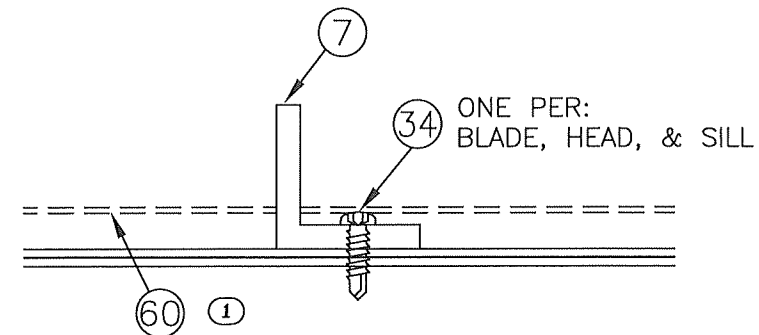
 GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410	DRAWN BY MES	DATE 8/9/2017
	SCALE	
TITLE EHH-601D LOUVER FLANGE FRAME SLEEVE MOUNT JAMB & SUPPORT DETAILS H≤144"	SHEET NO. 9 OF 35	
	CAD DRAWING NO. EHH-601D	
		
SEP 27 2024		
RICE		
ENGINEERING		
105 School Creek Trail Luxemburg, WI 54217 Phone: (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		

REV 01: 8/1/24, WAS PAGE 8, ADDED SLEEVE & LOUVER DEPTH DIMS, REPLACED ITEM 37 WITH ITEM 36, ADDED ON CENTER, ADDED ITEM 39, ADDED ITEM 12 X2 & ITS NOTE X2, ADDED MID SPAN DIM, & REMOVED "TYP" FROM EDGE GAP.

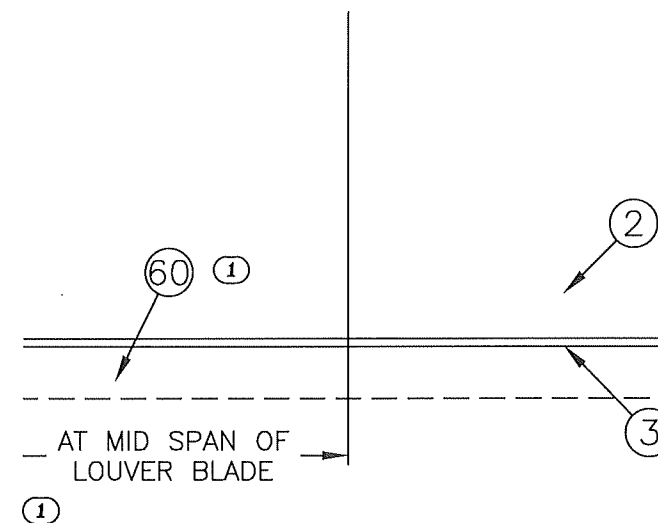
SUBSTRATE LIMITED TO WOOD,
STEEL, CONCRETE & MASONRY
(CMU) (BY OTHERS).



11
10 JAMB DETAIL
LOUVER HEIGHT ≤ 144 IN.
CONTINUOUS ANGLE MOUNT

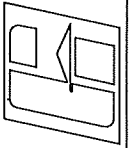
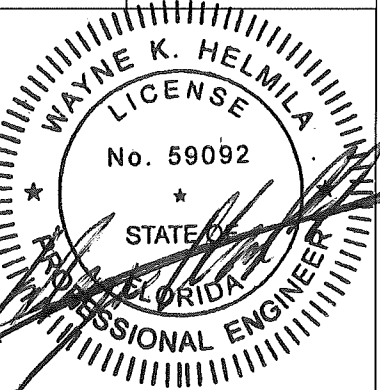


① ITEM 60 IS NOT REQ'D FOR NOA,
BUT IS REQ'D FOR AMCA 500-L



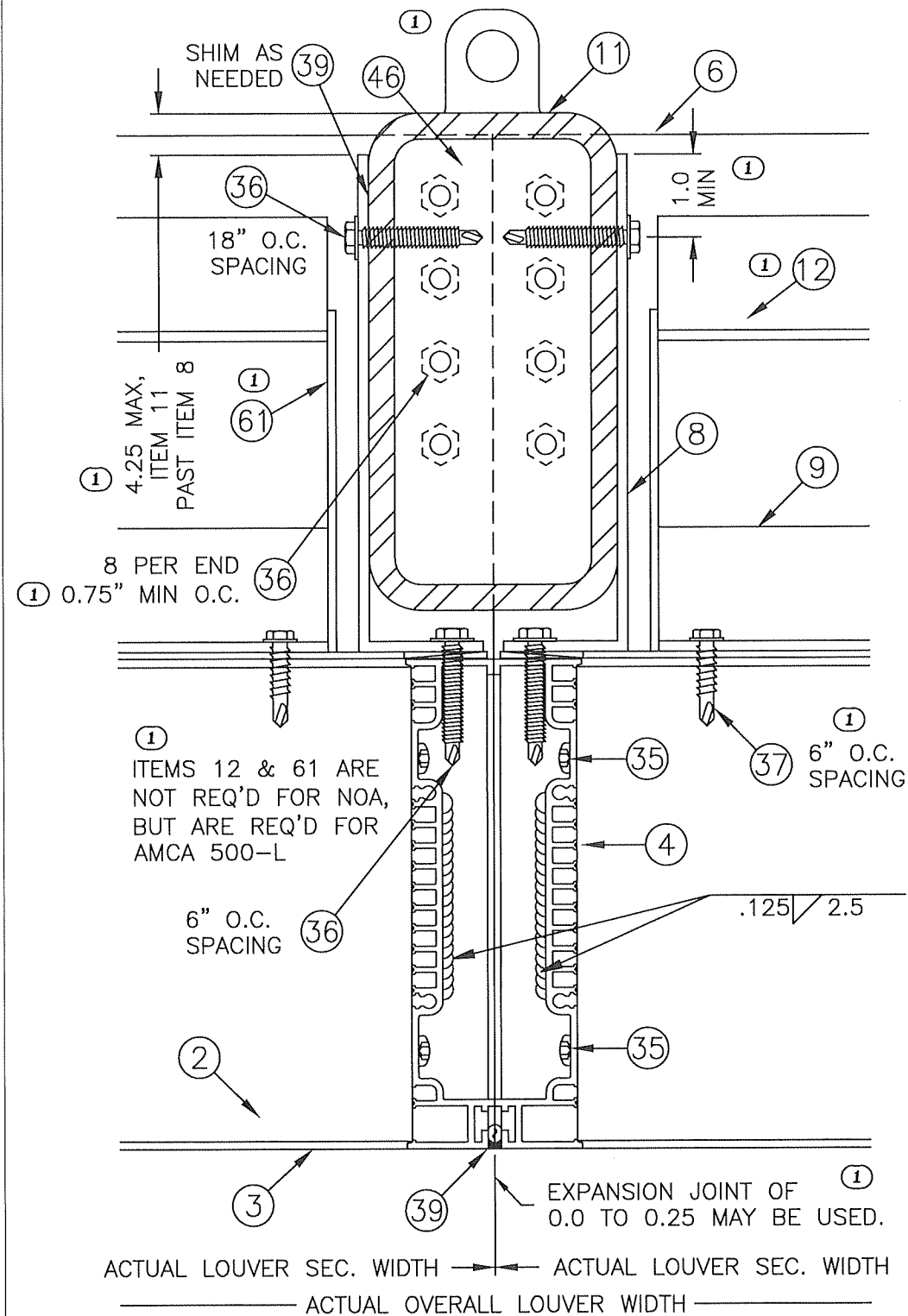
12
10 SUPPORT DETAIL
LOUVER HEIGHT ≤ 144 IN.
CONTINUOUS ANGLE MOUNT

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. 24-0904.01
Expiration Date 11/01/2029
By *[Signature]*
Miami-Dade Product Control

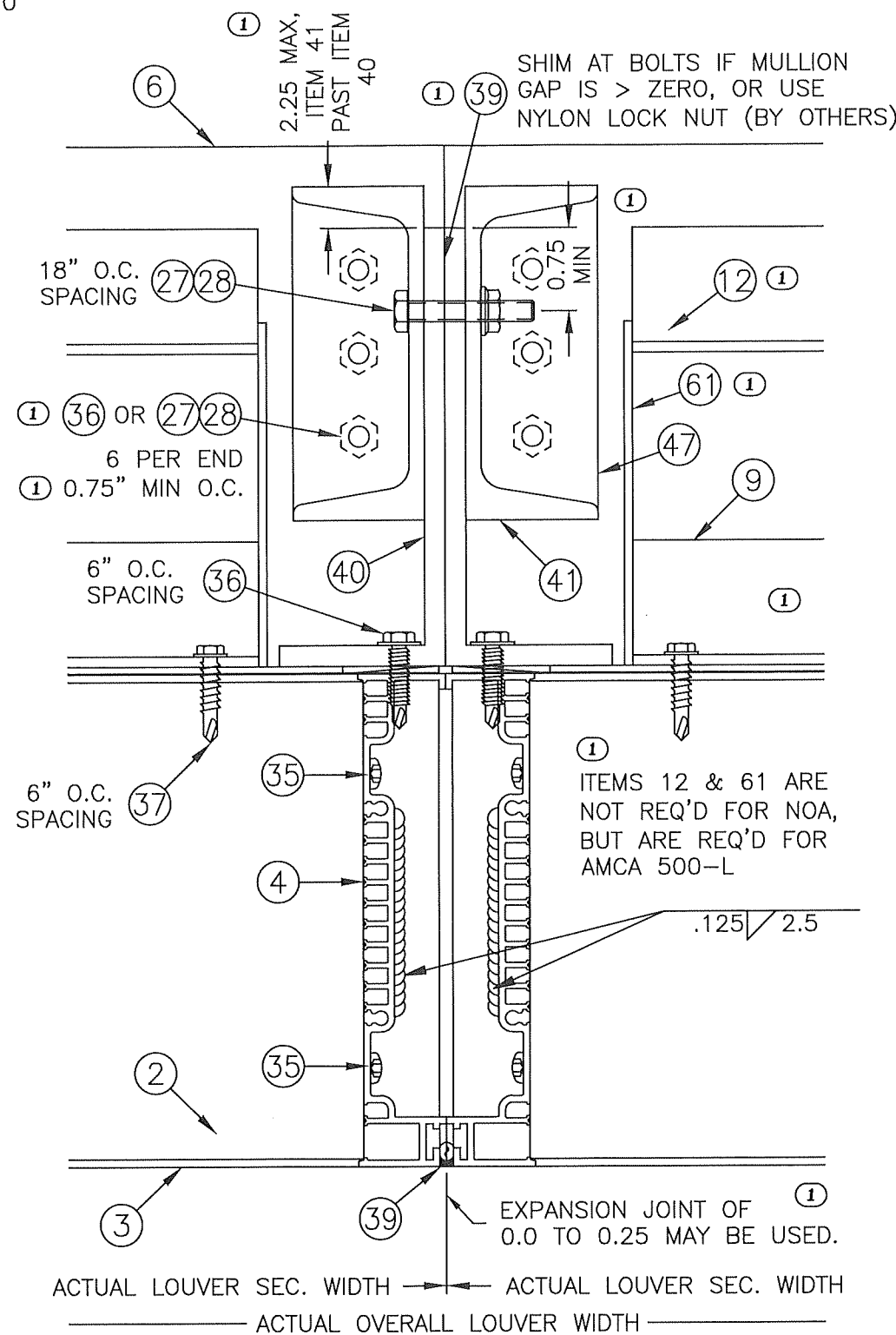
DRAWN BY MES	DATE 8/9/2017	SCALE	SHEET NO. 10 OF 35	CAD DRAWING NO. EHH-601D
GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410 				
TITLE EHH-601D LOUVER CONTINUOUS ANGLE MOUNT JAMB & SUPPORT DETAILS H≤144"				
				
SEP 27 2024 RICE ENGINEERING 105 School Creek Trail Luxemburg, WI 54217 Phone: (920) 617-1042 Fax: (920) 617-1100 www.rice-inc.com Florida Firm No: F-0100005061 Certificate of Authorization: #9090 Wayne K. Helmila Registration No: 59092				

REV 01: 8/1/24, WAS PAGE 9, REPLACED ITEM 37 WITH ITEM 36, ADDED
DEPTH DIM, REMOVED "TYP" FROM EDGE GAP, ADDED ITEM 60 X4 & ITS
NOTE X2, ADDED MID SPAN DIM, & UPDATED DETAIL 12 TITLE TO 144 IN.

6005-T5 6.0"



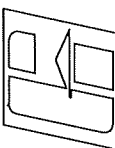
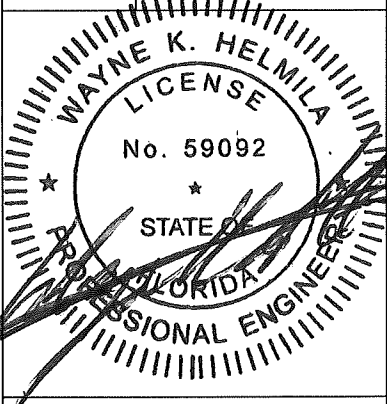
13A
11
MULLION DETAIL
LOUVER HEIGHT ≤ 144 IN.
FLANGE FRAME SLEEVE MOUNT



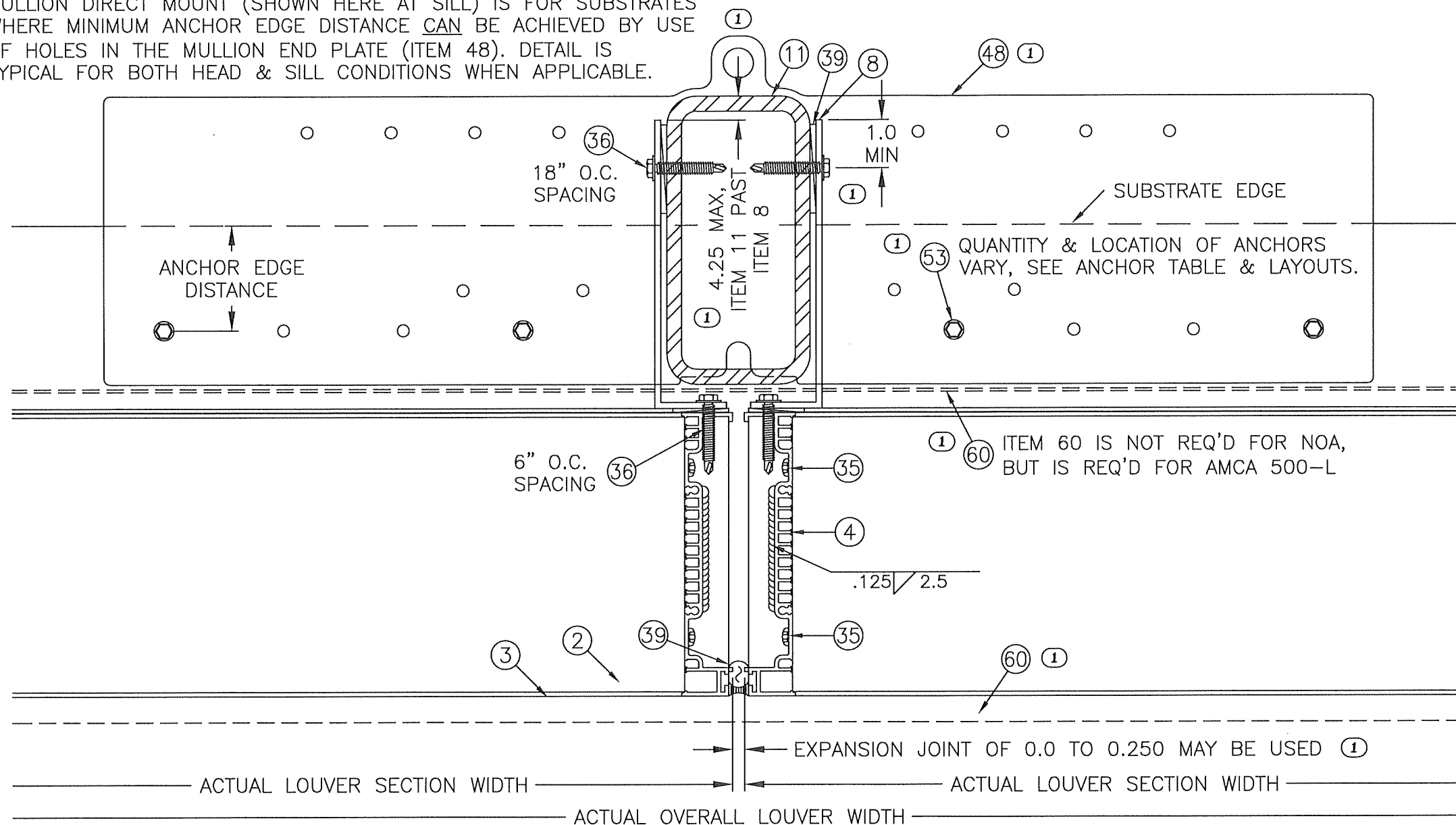
13B
11
MULLION DETAIL
LOUVER HEIGHT ≤ 96 IN.
FLANGE FRAME SLEEVE MOUNT

REV 01: 8/1/24, WAS PAGE 10, ADDED LIFTING LUG, REDEFINED ITEM 11 & 41 MAX OFFSETS, ADDED 0.75 & 1.0 MIN OFFSETS, ADDED ITEM 39 CALLOUT, ADDED ON CENTERS OF 6" X1 & 0.75" X2, ADDED ITEM 9 & ETC. TO DETAIL 13B, ADDED ITEM 12 WITH NOTE X2, ADDED ITEM 36 OPTION, ADDED ITEM 61 X4 & ITS CALLOUT X2, & REWORDED MULLION GAP NOTE X2.

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. 24-0904.01
Expiration Date 11/01/2029
By *[Signature]*
Miami-Dade Product Control

 GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410	DRAWN BY MES	DATE 8/9/2017
	SCALE	
	SHEET NO. 11 OF 35	
TITLE EHH-601D LOUVER FLANGE FRAME SLEEVE MOUNT MULLION DETAILS H≤144" & H≤96"	CAD DRAWING NO. EHH-601D	
		
SEP 27 2024 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 DIRECT MOUNT (SHOWN HERE AT SILL) IS FOR SUBSTRATES WHERE MINIMUM ANCHOR EDGE DISTANCE CAN BE ACHIEVED BY USE OF HOLES IN THE MULLION END PLATE (ITEM 48). DETAIL IS TYPICAL FOR BOTH HEAD & SILL CONDITIONS WHEN APPLICABLE.



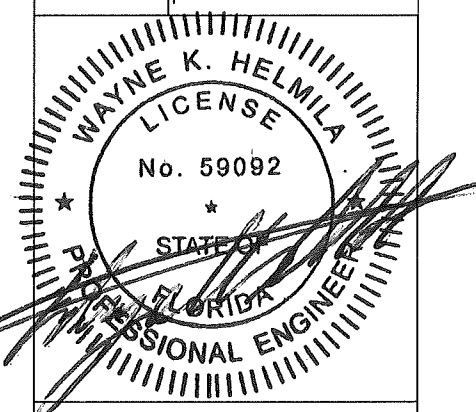
14A
12
MULLION DETAIL, W/ END PLATE MOUNTING
LOUVER HEIGHT ≤ 144 IN.
CONTINUOUS ANGLE MOUNT

REV 01: 8/1/24, WAS PAGE 11, MOVED DETAIL 14B TO A NEW PAGE, ADDED LIFTING LUG, REPLACED ITEM 48 WITH UPDATED DESIGN, REDEFINED ITEM 11 MAX OFFSET, ADDED 1.0 MIN OFFSET, UPDATED ANCHOR REFERENCE NOTE, REWORDED MULLION GAP NOTE, & ADDED ITEM 60 X2 & ITS NOTE X1.

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. 24-0904.01
Expiration Date 11/01/2029
By *[Signature]*
Miami-Dade Product Control

DRAWN BY MES
SCALE
DATE 8/9/2017
SHEET NO. 12 OF 35
CAD DRAWING NO. EHH-601D

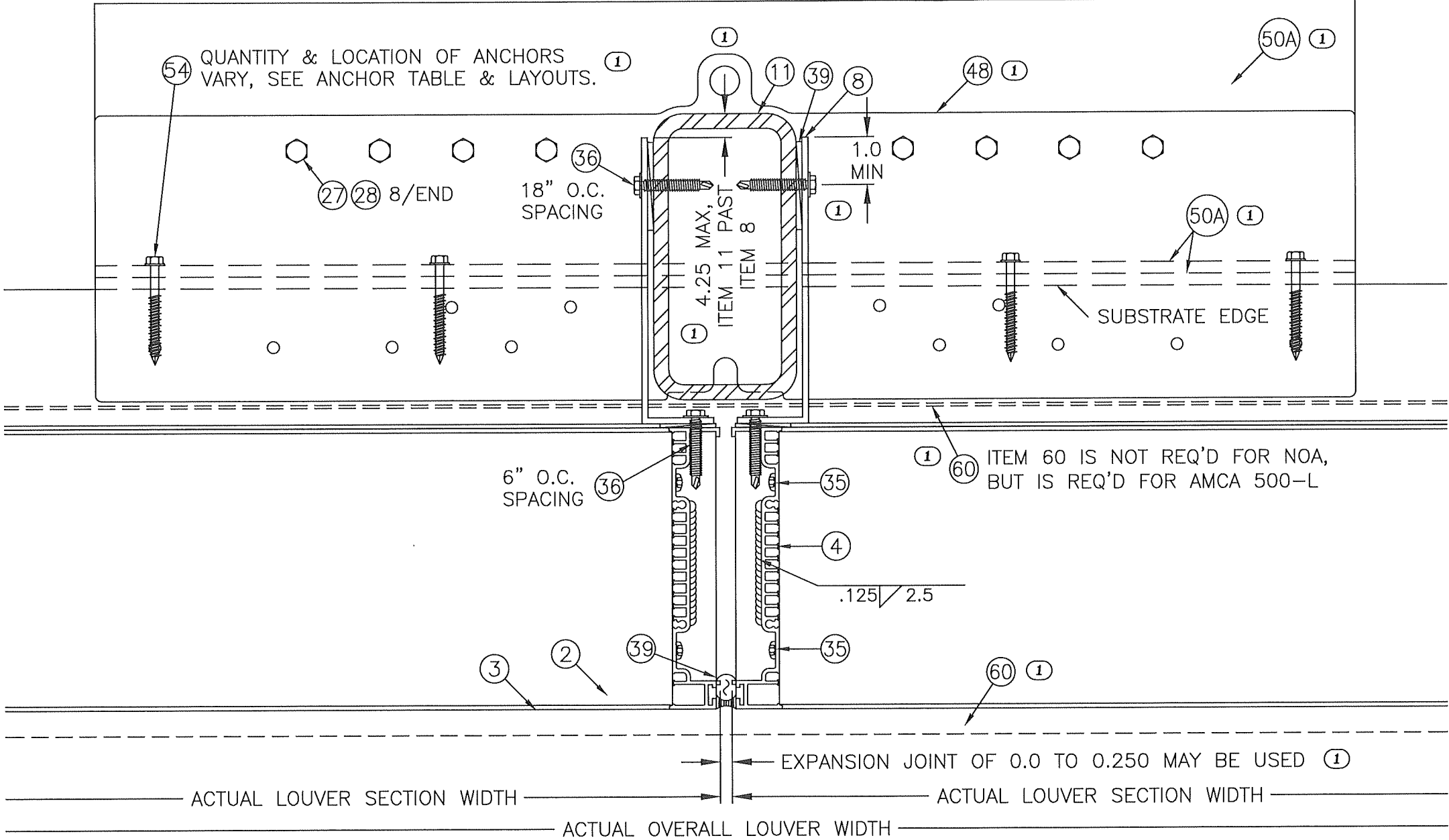
GREENHECK
P.O. BOX 410 SCHOFIELD,
WISCONSIN 54476-0410
TITLE
EHH-601D LOUVER
CONTINUOUS ANGLE MOUNT
MULLION DETAILS WITH END
PLATE MOUNTING, HS144"



SEP 27 2024
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 DIRECT MOUNT (SHOWN HERE AT SILL) IS FOR SUBSTRATES WHERE MINIMUM ANCHOR
EDGE DISTANCE CANNOT BE ACHIEVED BY USE OF HOLES IN THE MULLION END PLATE (ITEM 48).
DETAIL IS TYPICAL FOR BOTH HEAD & SILL CONDITIONS WHEN APPLICABLE.



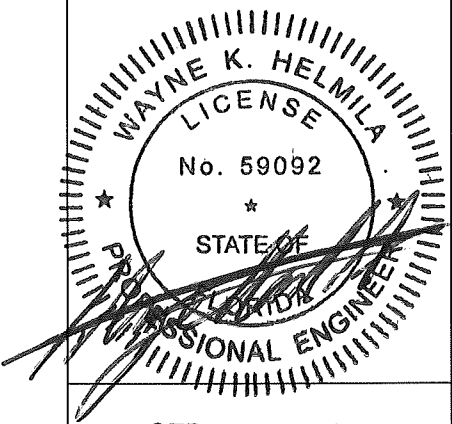
14B MULLION DETAIL, W/ MULLION ANGLE MOUNTING
LOUVER HEIGHT $\leq$ 144 IN.
13 CONTINUOUS ANGLE MOUNT

REV 01: 8/1/24, MOVED DETAIL 14B TO THIS NEW PAGE, ADDED LIFTING
LUG, REPLACED ITEMS 48 & 50A WITH UPDATED DESIGNS, REDEFINED ITEM
11 OFFSET, ADDED 1.0 MIN OFFSET, UPDATED ANCHOR REFERENCE NOTE,
REWORDED MULLION GAP NOTE, & ADDED ITEM 60 X2 & ITS NOTE X1.

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Building Code
NOA-No. 24-0904.01
Expiration Date 11/01/2029
By *[Signature]*
Miami-Dade Product Control

DRAWN BY MES
DATE 8/9/2017
SCALE
SHEET NO. 13 OF 35
CAD DRAWING NO. EHH-601D

GREENHECK
P.O. BOX 410 SCHOFIELD,
WISCONSIN 54476-0410
TITLE EHH-601D LOUVER
CONTINUOUS ANGLE MOUNT
MULLION DETAILS WITH MULLION
ANGLE MOUNTING, HS144"



SEP 27 2024

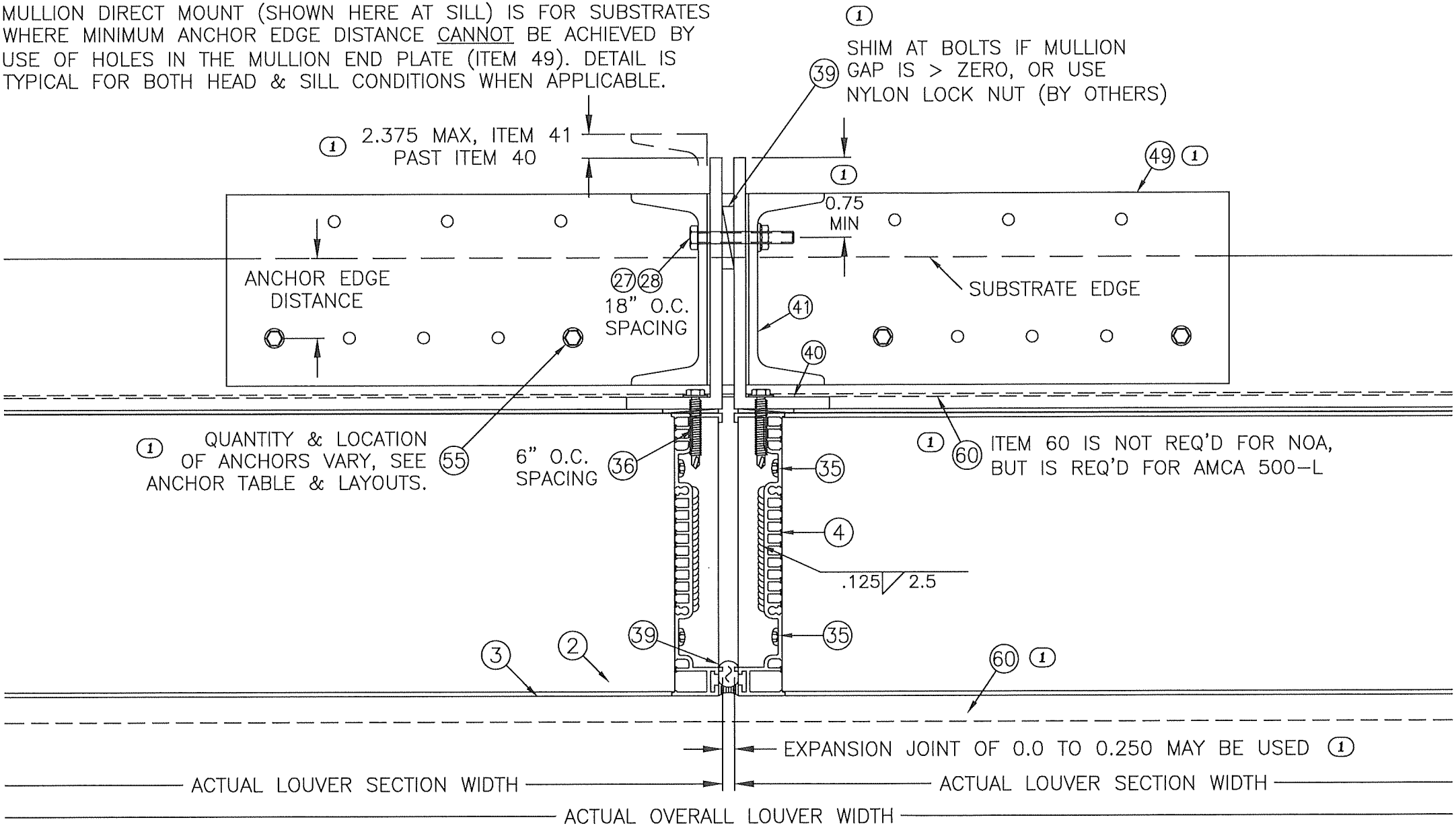
RICE

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Luxemburg, WI 54217
Phone: (920) 617-1042
Fax: (920) 617-1100
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Florida Firm No: F-01000005061
Certificate of Authorization: #9090
Wayne K. Helmla
Registration No: 59092

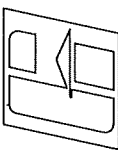
MULLION DIRECT MOUNT (SHOWN HERE AT SILL) IS FOR SUBSTRATES WHERE MINIMUM ANCHOR EDGE DISTANCE CANNOT BE ACHIEVED BY USE OF HOLES IN THE MULLION END PLATE (ITEM 49). DETAIL IS TYPICAL FOR BOTH HEAD & SILL CONDITIONS WHEN APPLICABLE.

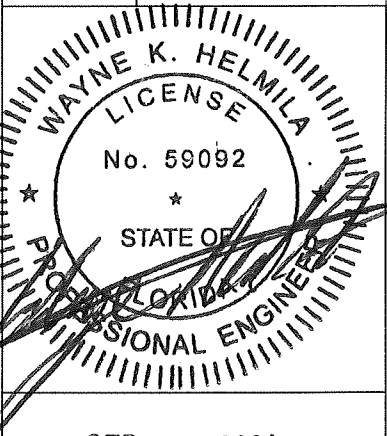


15A
14
MULLION DETAIL, W/ END PLATE MOUNTING
LOUVER HEIGHT ≤ 96 IN.
CONTINUOUS ANGLE MOUNT

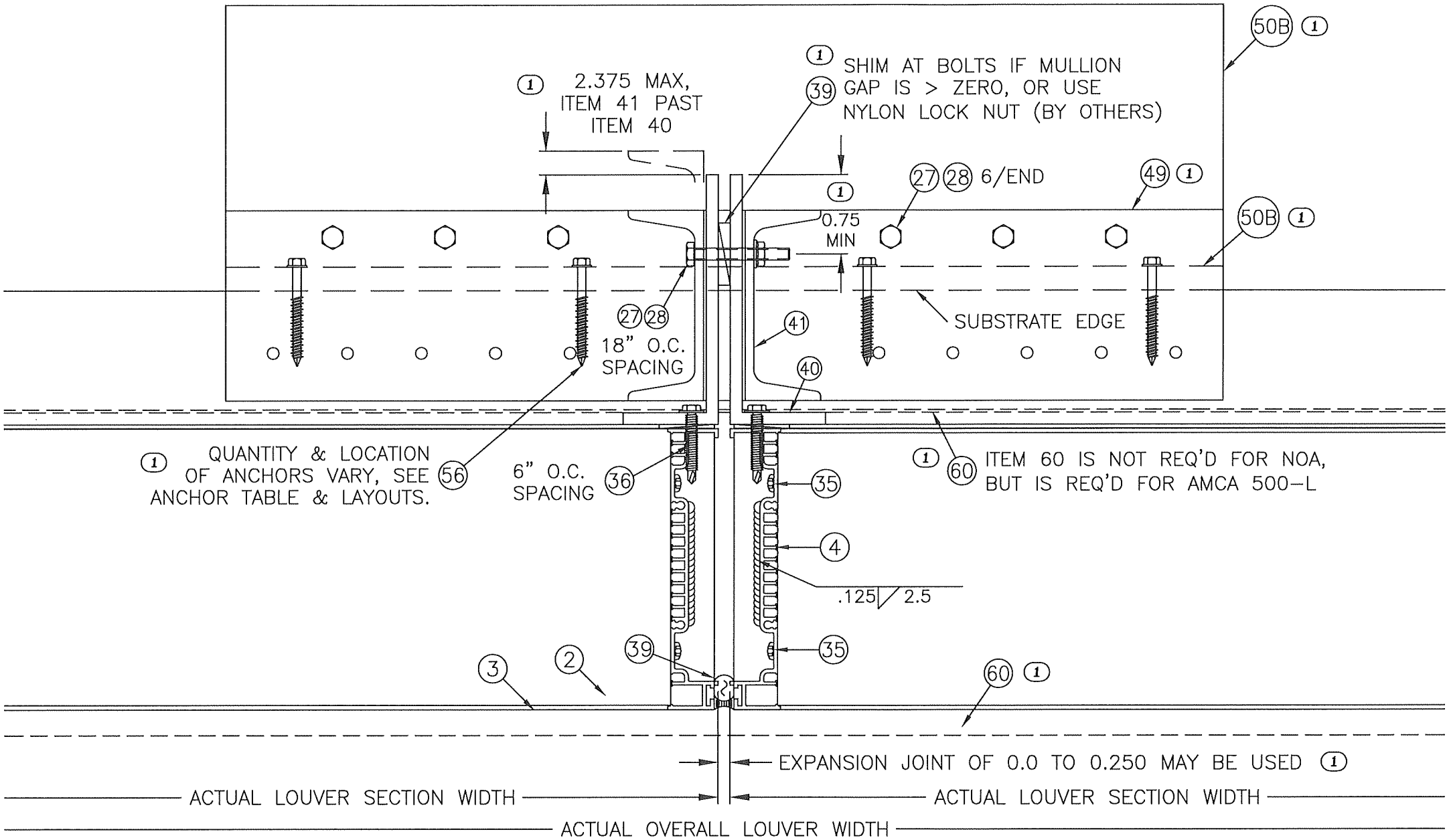
REV 01: 8/1/24, WAS PAGE 12, MOVED DETAIL 15B TO A NEW PAGE, REPLACED ITEM 49 WITH UPDATED DESIGN, REDEFINED ITEM 41 MAX OFFSET, ADDED 0.75 MIN OFFSET, ADDED ITEM 39 & NOTE, UPDATED ANCHOR REFERENCE NOTE, REWORDED MULLION GAP NOTE, & ADDED ITEM 60 X2 & ITS NOTE X1.

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. 24-0904.01
Expiration Date 11/01/2029
By *[Signature]*
Miami-Dade Product Control

 GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410	DRAWN BY MES	DATE 8/9/2017
	SCALE	
TITLE EHH-601D LOUVER CONTINUOUS ANGLE MOUNT MULLION DETAILS WITH MULLION END PLATE MOUNTING, HS96"	SHEET NO. 14 OF 35	
	CAD DRAWING NO. EHH-601D	


SEP 27 2024 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

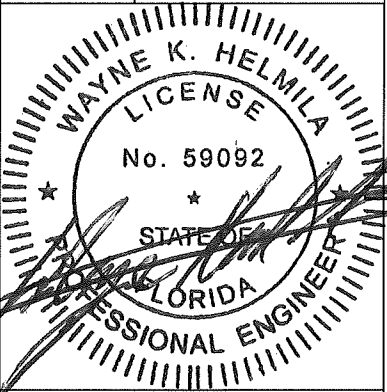
MULLION DIRECT MOUNT (SHOWN HERE AT SILL) IS FOR SUBSTRATES WHERE MINIMUM ANCHOR
EDGE DISTANCE CANNOT BE ACHIEVED BY USE OF HOLES IN THE MULLION END PLATE (ITEM 49).
DETAIL IS TYPICAL FOR BOTH HEAD & SILL CONDITIONS WHEN APPLICABLE.

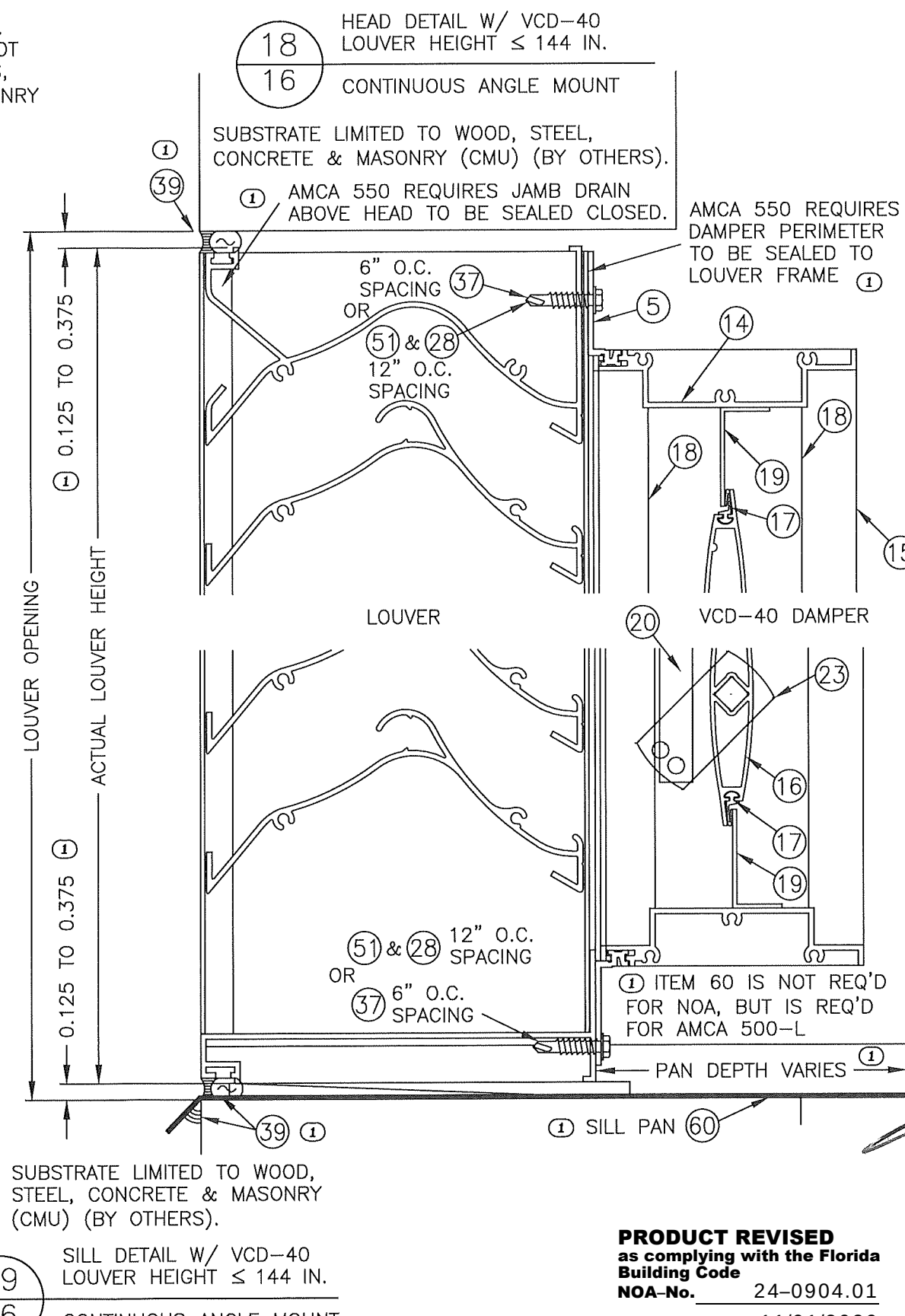
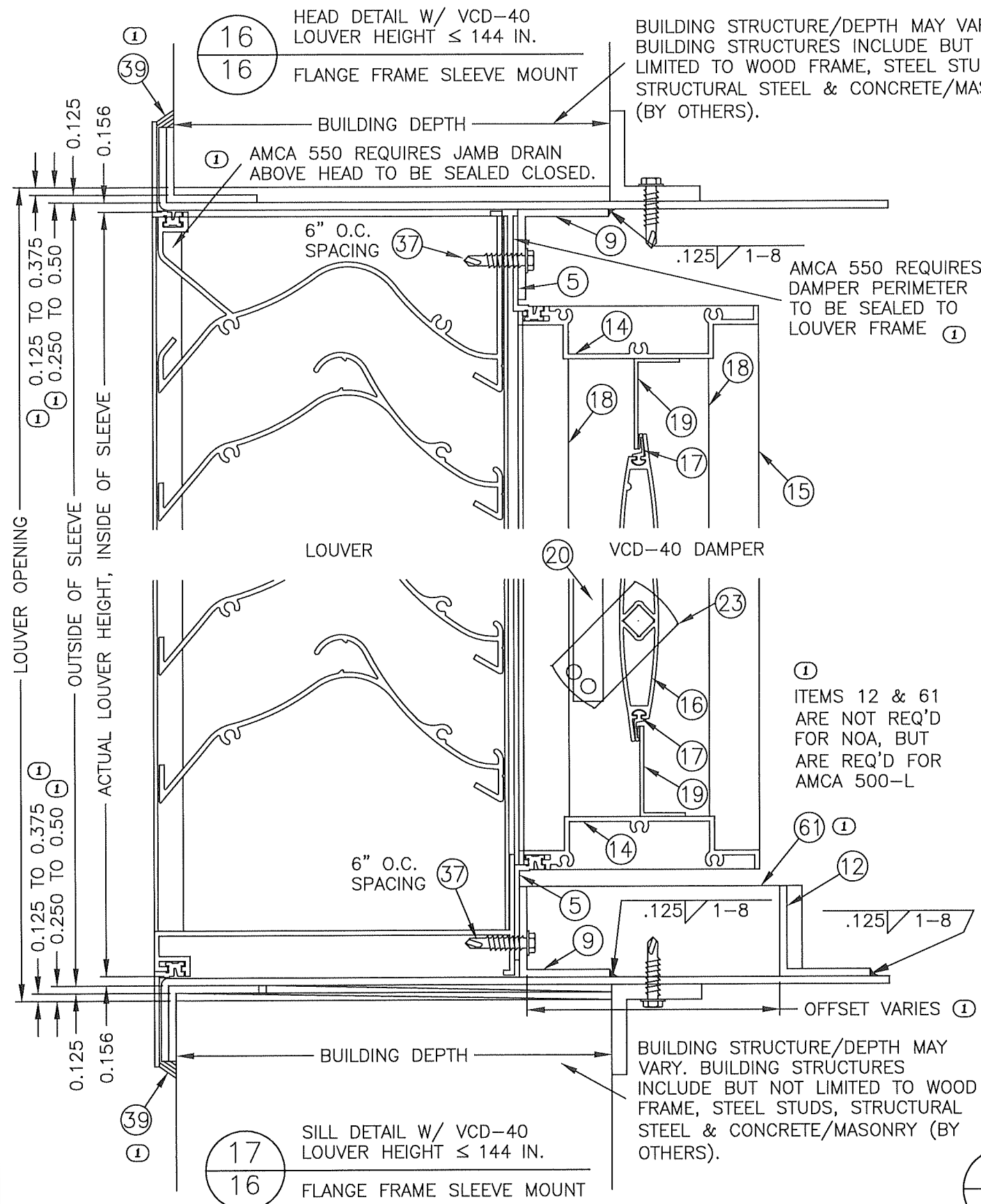


15B
15
MULLION DETAIL, W/ MULLION ANGLE MOUNTING
LOUVER HEIGHT ≤ 96 IN.
CONTINUOUS ANGLE MOUNT

REV 01: 8/1/24, MOVED DETAIL 15B TO THIS NEW PAGE, REPLACED ITEMS
49 & 50B WITH UPDATED DESIGNS, REDEFINED ITEM 41 MAX OFFSET, ADDED
0.75 MIN OFFSET, ADDED ITEM 39 & NOTE, UPDATED ANCHOR REFERENCE
NOTE, REWORDED MULLION GAP NOTE, & ADDED ITEM 60 X2 & ITS NOTE X1.

PRODUCT REVISED
as complying with the Florida
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NOA-No. 24-0904.01
Expiration Date 11/01/2029
By 
Miami-Dade Product Control

DRAWN BY MES	DATE 8/9/2017	SHEET NO. 15 OF 35	CAD DRAWING NO. EHH-601D
	SCALE		
GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410		TITLE EHH-601D LOUVER CONTINUOUS ANGLE MOUNT MULLION DETAILS WITH MULLION ANGLE MOUNTING, H≤96"	
			
SEP 27 2024 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. Helmla Registration No: 59092			

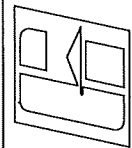


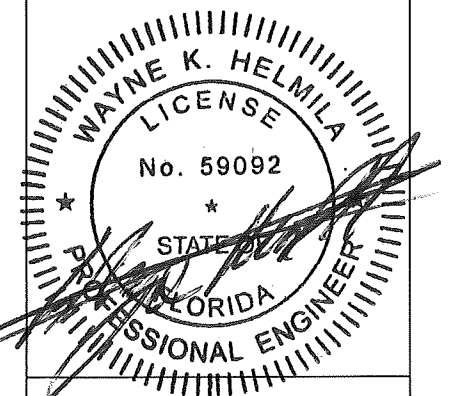
REV 01: 8/1/24, WAS PAGE 13, REMOVED "TYP" FROM EDGE GAP X6, ADDED ITEM 39 X4, ADDED AMCA 550 NOTE X4, ADDED ITEM 12/61 NOTE, ADDED ITEM 61 & ITS OFFSET, REMOVED ITEM 44 & ITS FASTENERS, ADDED ITEM 60 NOTE, & ADDED ITEM 60 & ITS OFFSET.

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. 24-0904.01

Expiration Date 11/01/2029

By 
Miami-Dade Product Control

DRAWN BY MES	DATE 8/9/2017	 GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410	SCALE	SHEET NO. 16 OF 35	TITLE EHH-601D LOUVER W/VCD-40 FLANGE FRAME SLEEVE MOUNT & CONTINUOUS ANGLE MOUNT HEAD & SILL DETAILS, HS144"
CAD DRAWING NO. EHH-601D					

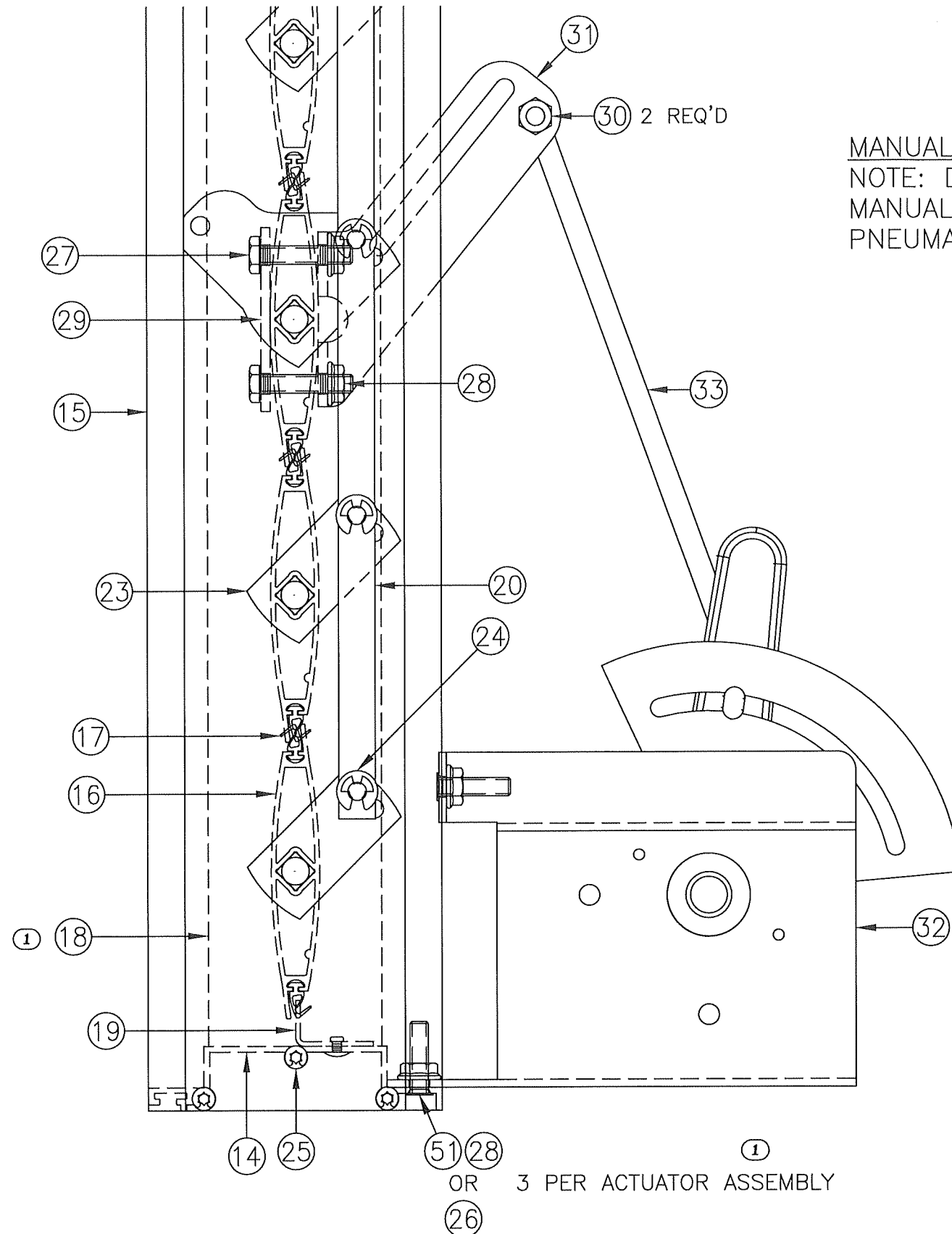


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www.rice-inc.com

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



MANUAL QUADRANT ACTUATOR SHOWN
 NOTE: DAMPER MAY BE OPERATED BY
 MANUAL QUADRANT, AN ELECTRIC OR
 PNEUMATIC ACTUATOR.

20
17

VCD-40 DAMPER & ACTUATOR DETAIL
 LOUVER HEIGHT ≤ 144 IN.

FLANGE FRAME SLEEVE MOUNT,
 & CONTINUOUS ANGLE MOUNT

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 Expiration Date 11/01/2029
 By *[Signature]*
 Miami-Dade Product Control

DRAWN BY	MES	DATE	8/9/2017
SCALE			
SHEET NO.	17 OF 35		
CAD DRAWING NO.	EHH-601D		

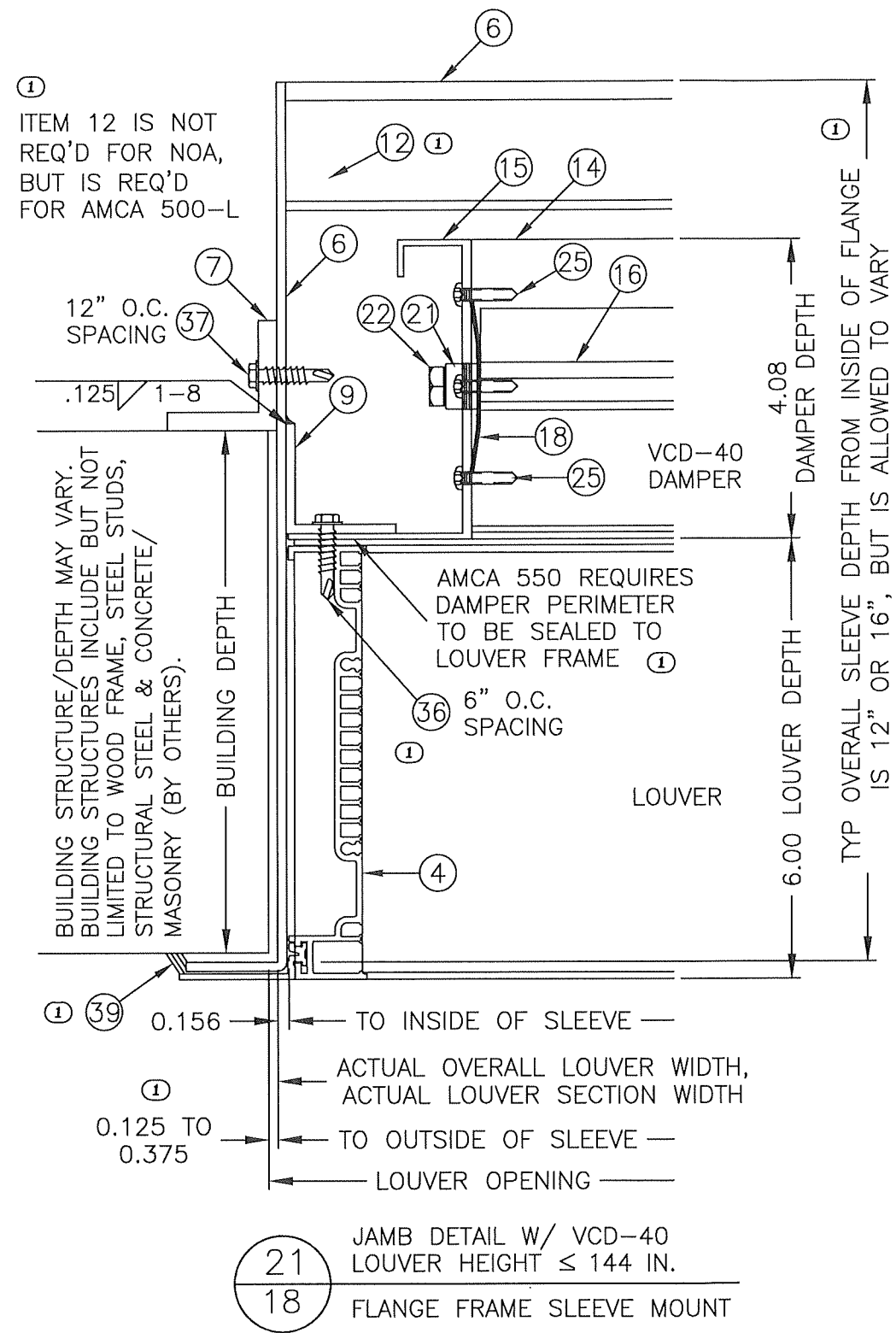
GREENHECK
 P.O. BOX 410 SCHOFIELD,
 WISCONSIN 54476-0410

TITLE
 VCD-40 DAMPER
 FLANGE FRAME SLEEVE MOUNT
 & CONTINUOUS ANGLE MOUNT
 DAMPER & ACTUATOR, HS144"



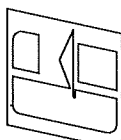
SEP 27 2024
RICE
 ENGINEERING
 105 School Creek Trail
 Luxemburg, WI 54217
 Phone: (920) 617-1042
 Fax: (920) 617-1100
 www.rice-inc.com
 Florida Firm No: F-01000005061
 Certificate of Authorization: #9090
 Wayne K. Helmila
 Registration No: 59092

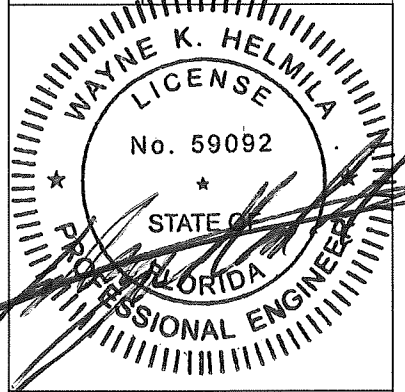
REV 01: 8/1/24, WAS PAGE 15, MOVED DETAILS 22A&B TO A NEW PAGE, REPLACED ITEM 37 WITH ITEM 36, ADDED SLEEVE DEPTH DIM, ADDED ITEM 39, REMOVED "TYP" FROM EDGE GAP, ADDED ITEM 12 WITH NOTE, & ADDED AMCA 550 NOTE.

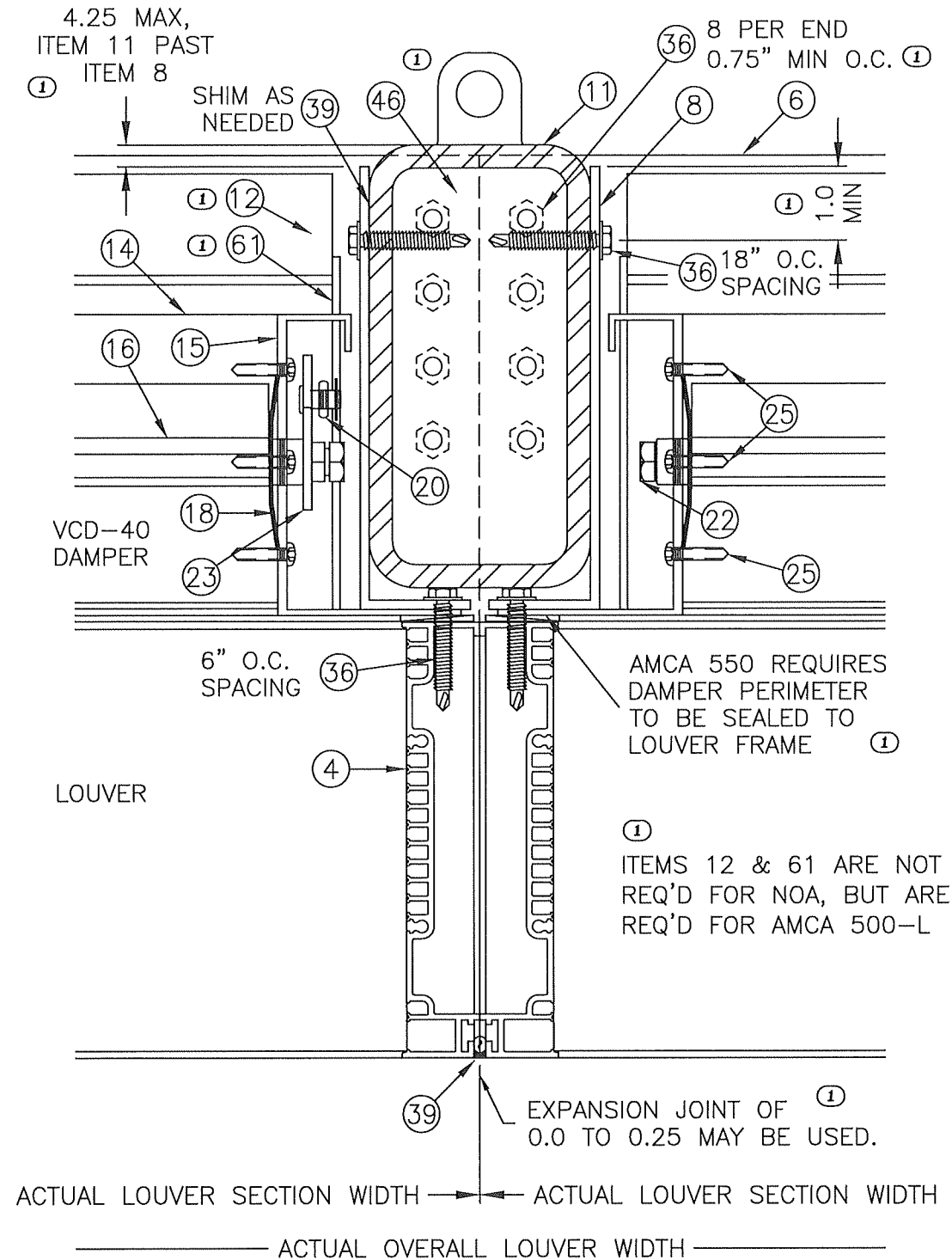


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By 
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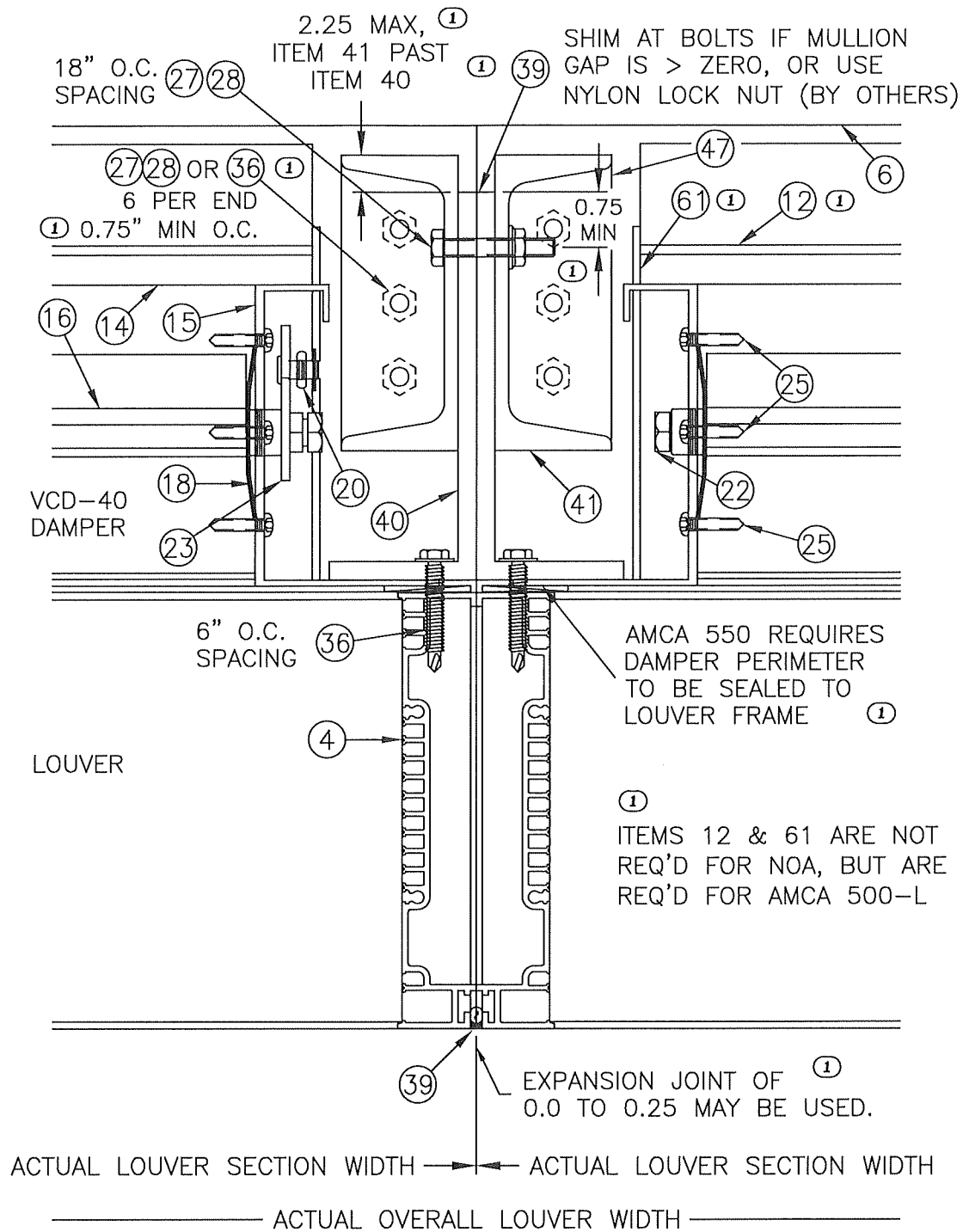
SEP 27 2024
RICE
ENGINEERING
105 School Creek Trail
Luxemburg, WI 54217
Phone: (920) 617-1042
Fax: (920) 617-1100
www.rice-inc.com
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Certificate of Authorization: #9090
Wayne K. Helmila
Registration No: 59092

	GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410		DRAWN BY	DATE
			MES	8/9/2017
			SCALE	
			SHEET NO.	
TITLE		18 OF 35		
EHH-601D LOUVER W/VCD-40		CAD DRAWING NO. EHH-601D		
FLANGE FRAME SLEEVE MOUNT				
JAMB DETAILS				
H≤144"				





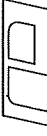
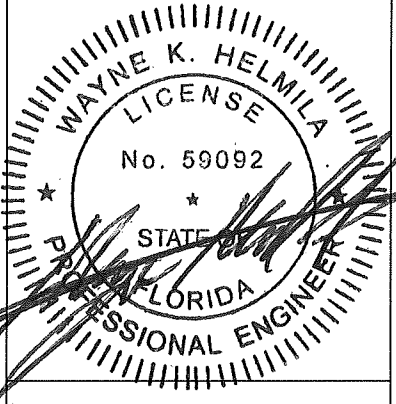
22A
19 MULLION DETAIL W/ VCD-40
LOUVER HEIGHT ≤ 144 IN.
FLANGE FRAME SLEEVE MOUNT

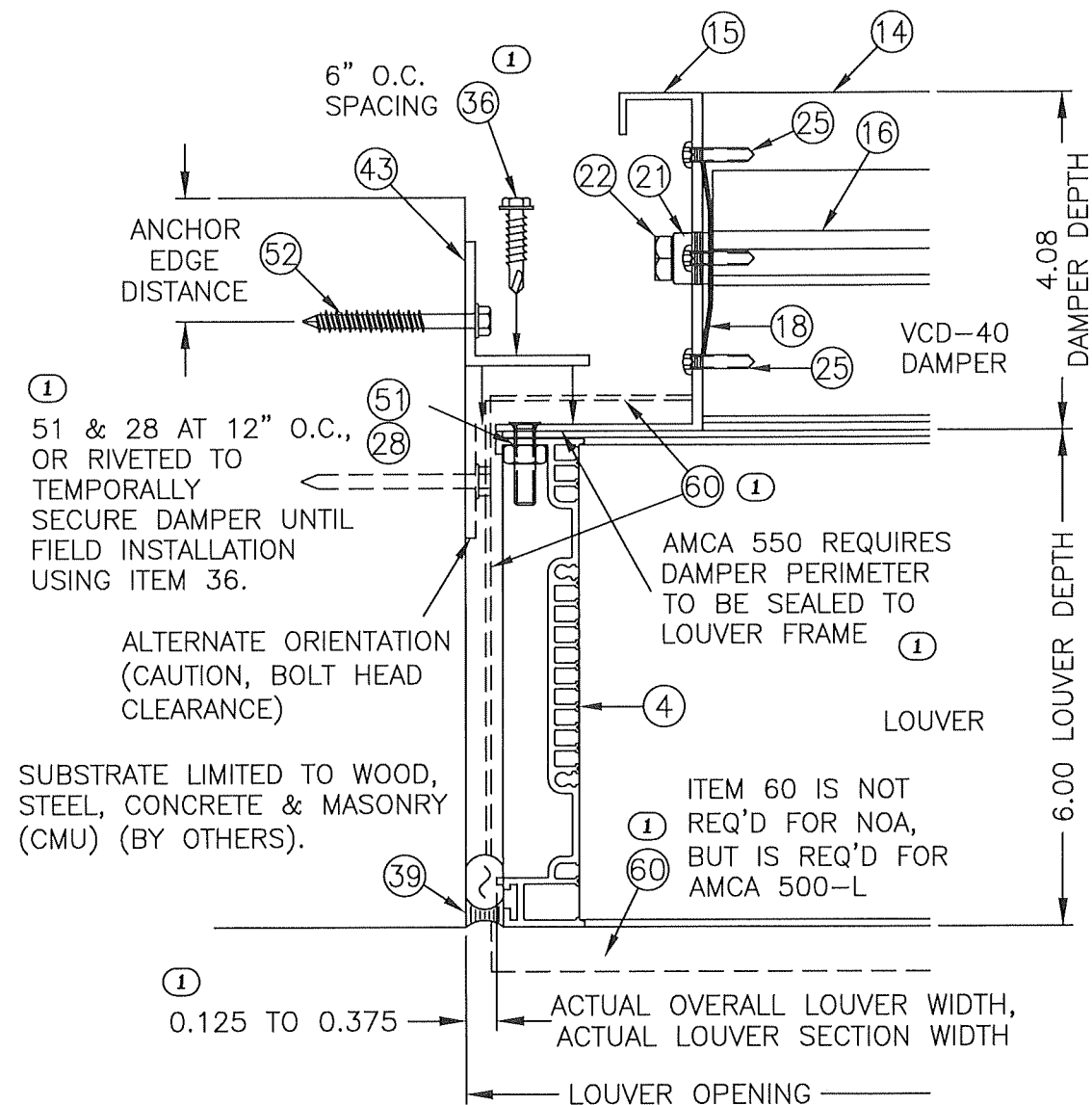


22B
19 MULLION DETAIL W/ VCD-40
LOUVER HEIGHT ≤ 96 IN.
FLANGE FRAME SLEEVE MOUNT

REV 01: 8/1/24, MOVED ITEMS 22A&B TO THIS NEW PAGE, REDEFINED ITEM 11 & 41 OFFSETS, ADDED 1.0 & 0.75 MIN OFFSETS, ADDED LUG TO ITEM 11, ADDED ITEM 39 CALLOUT & NOTE, ADDED MIN O.C. FOR ITEM 36 X2, REWORDED MULLION GAP NOTE X2, ADDED ITEM 12 WITH NOTE X2, ADDED ITEM 36 OPTION, ADDED ITEM 61 X4 & ITS CALLOUT X2, & ADDED AMCA 550 NOTE X2.

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		SCALE	
TITLE EHH-601D LOUVER W/VCD-40 FLANGE FRAME SLEEVE MOUNT MULLION DETAIL HS144" & HS96"		SHEET NO. 19 OF 35	
		CAD DRAWING NO. EHH-601D	
SEP 27 2024 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			



23
20 JAMB DETAIL W/ VCD-40
LOUVER HEIGHT ≤ 144 IN.
CONTINUOUS ANGLE MOUNT

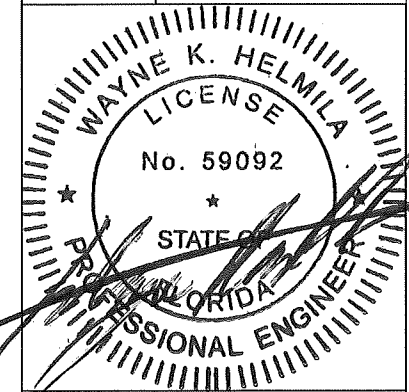
REV 01: 8/1/24, WAS PAGE 16, MOVED DETAILS 24A&B TO A NEW PAGE, REPLACED ITEM 37 WITH ITEM 36, ADDED DAMPER RIVET ATTACHMENT NOTE, REMOVED "TYP" FROM EDGE GAP, ADDED ITEM 60 X2 & ITS NOTE, & ADDED AMCA 550 NOTE.

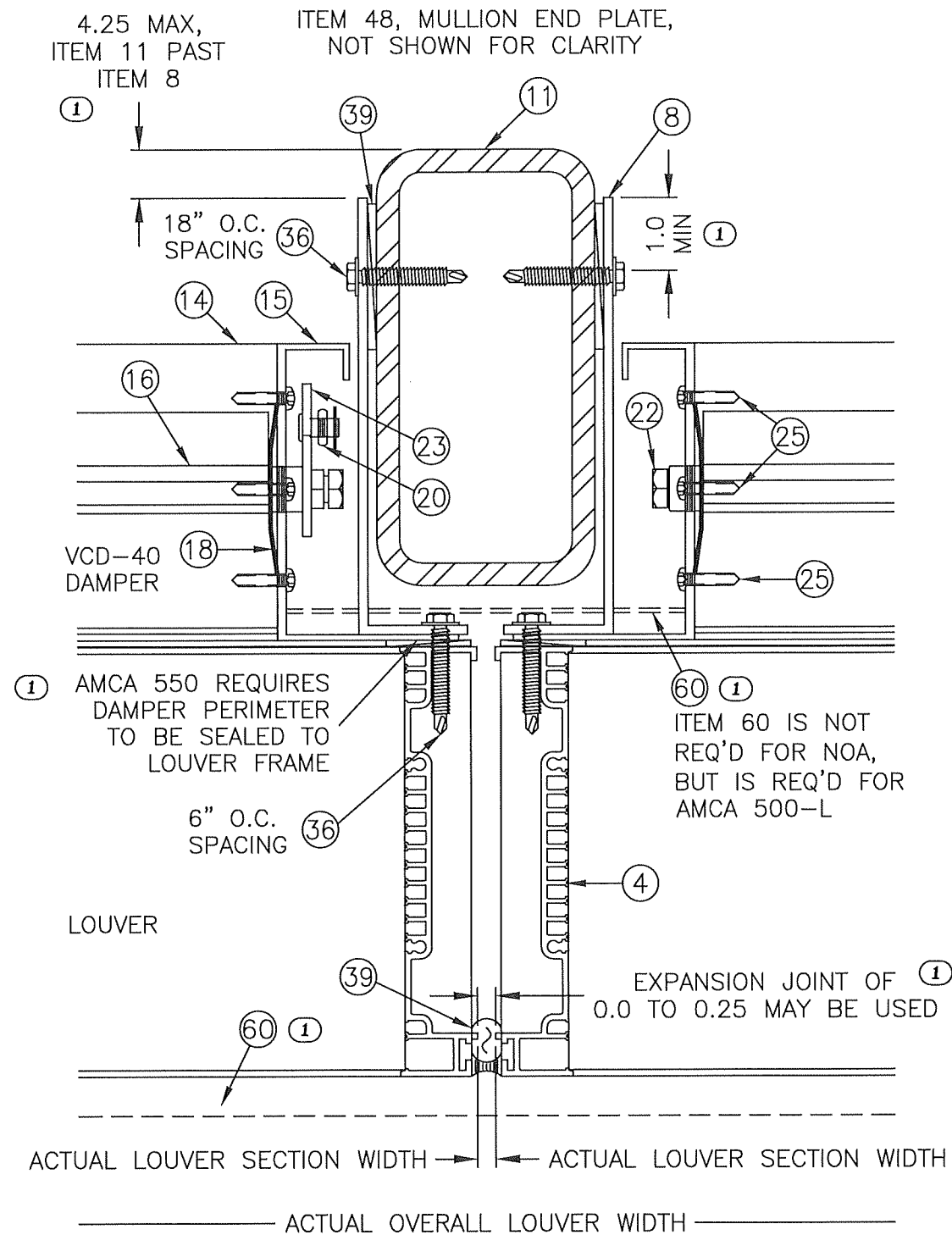
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Expiration Date 11/01/2029
By *[Signature]*
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Certificate of Authorization: #9092
Wayne K. Helmila
Registration No: 59092

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SCALE			
SHEET NO.	20 OF 35		
CAD DRAWING NO.	EGH-601D		

GREENHECK
P.O. BOX 410 SCHOFIELD,
WISCONSIN 54476-0410
TITLE
EGH-601D LOUVER W/VCD-40
CONTINUOUS ANGLE MOUNT
JAMB DETAILS
H≤144"



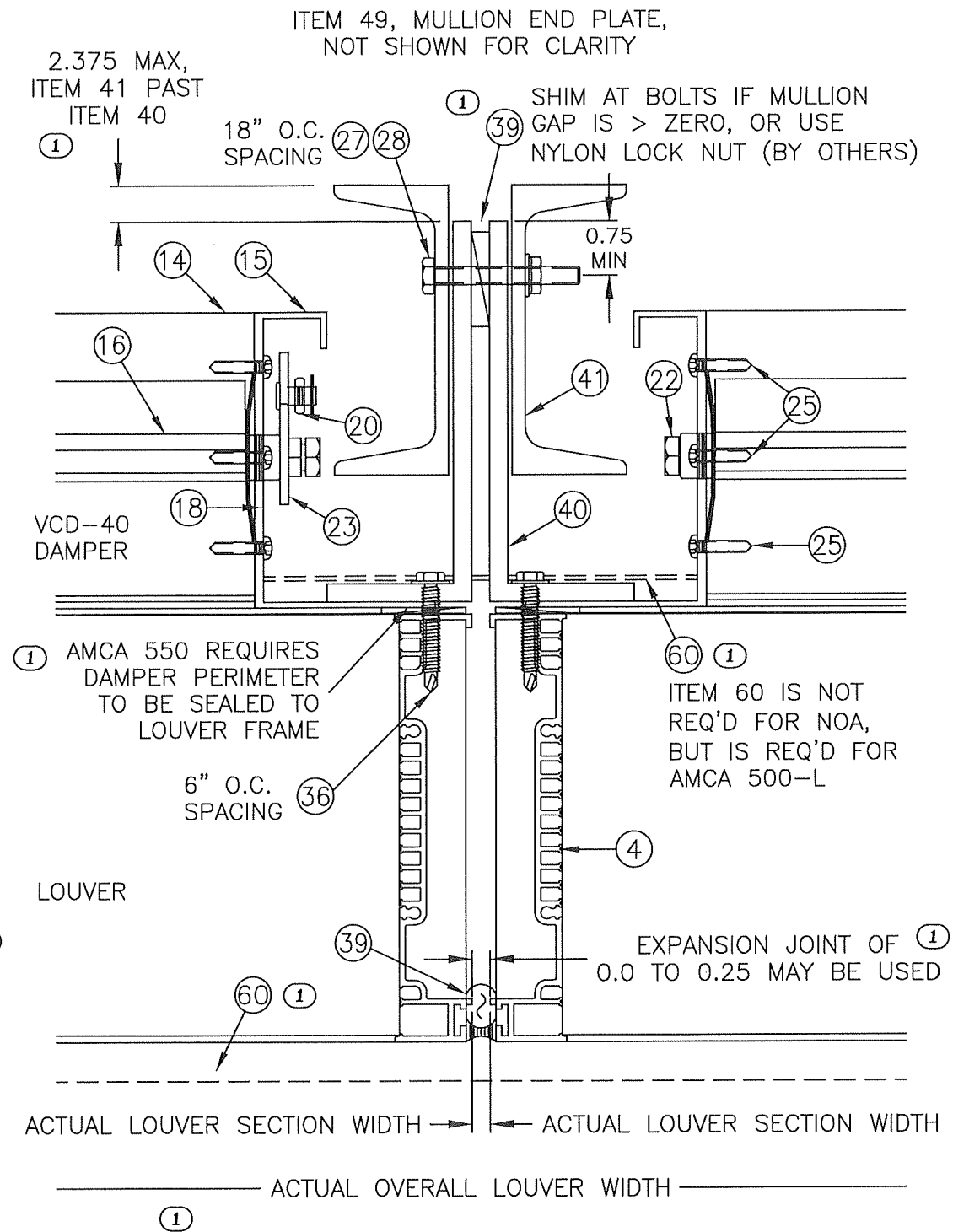


24A
21

MULLION DETAIL W/ VCD-40
LOUVER HEIGHT ≤ 144 IN.

CONTINUOUS ANGLE MOUNT

REV 01: 8/1/24, MOVED DETAIL 24A&B TO THIS NEW PAGE, REDEFINED
ITEM 11 & 41 MAX OFFSETS, ADDED 1.0 & 0.75 MIN OFFSETS,
REWORDED MULLION GAP NOTE X2, ADDED ITEM 39 & NOTE, ADDED
ITEM 60 X4 & ITS NOTE X2, & ADDED AMCA 550 NOTE X2.



24B
21

MULLION DETAIL W/ VCD-40
LOUVER HEIGHT ≤ 96 IN.

CONTINUOUS ANGLE MOUNT

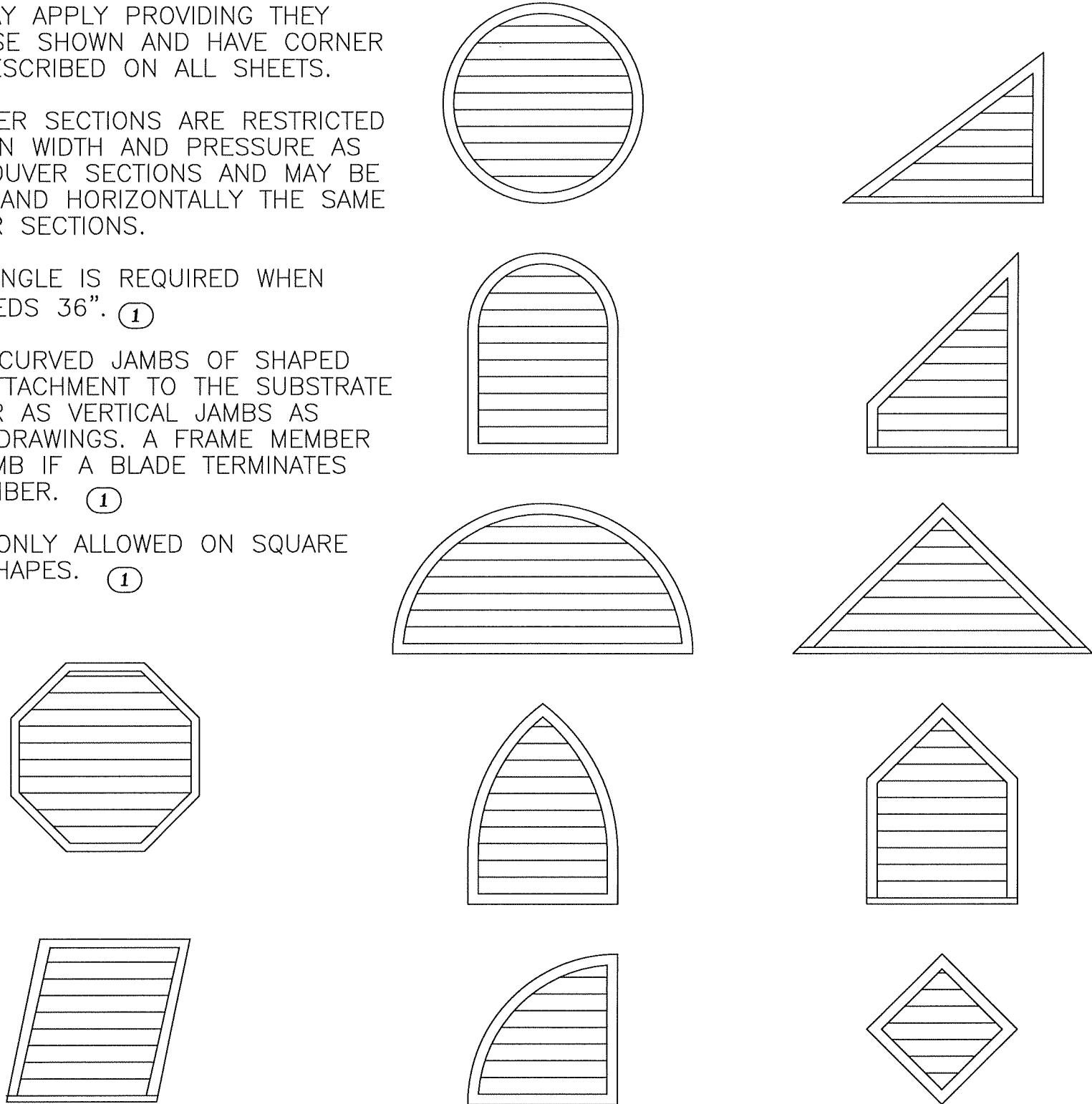
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NOA-No. 24-0904.01
Expiration Date 11/01/2029
By *[Signature]*
Miami-Dade Product Control

DATE 8/9/2017	DRAWN BY MES	SCALE	SHEET NO. 21 OF 35	CAD DRAWING NO. EHH-601D
GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410				
TITLE EHH-601D LOUVER W/VCD-40 CONTINUOUS ANGLE MOUNT MULLION DETAILS HS144" & HS96"				
SEP 27 2024 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 SECTIONS ARE RESTRICTED TO THE SAME SECTION WIDTH AND PRESSURE AS THE RECTANGULAR LOUVER SECTIONS AND MAY BE STACKED VERTICALLY AND HORIZONTALLY THE SAME AS THE RECTANGULAR SECTIONS.
3. BLADE SUPPORT ANGLE IS REQUIRED WHEN SECTION WIDTH EXCEEDS 36". ①
4. ALL SLOPED AND CURVED JAMBS OF SHAPED SECTIONS REQUIRE ATTACHMENT TO THE SUBSTRATE IN THE SAME MANNER AS VERTICAL JAMBS AS SPECIFIED IN THESE DRAWINGS. A FRAME MEMBER IS CONSIDERED A JAMB IF A BLADE TERMINATES INTO THE FRAME MEMBER. ①
5. VCD-40 DAMPER ONLY ALLOWED ON SQUARE AND RECTANGULAR SHAPES. ①

EXAMPLE SHAPES, OTHERS AVAILABLE ①

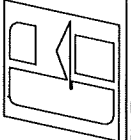


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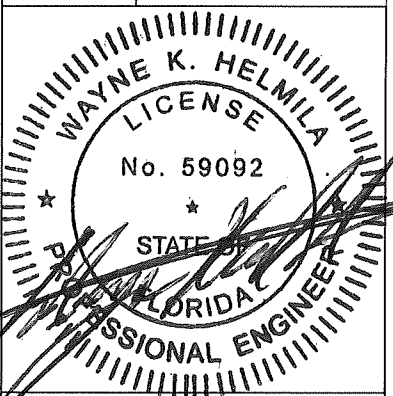
DRAWN BY	MES	DATE	8/9/2017
SCALE			
SHEET NO.	22 OF 35		
CAD DRAWING NO.	EHH-601D		



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WISCONSIN 54476-0410

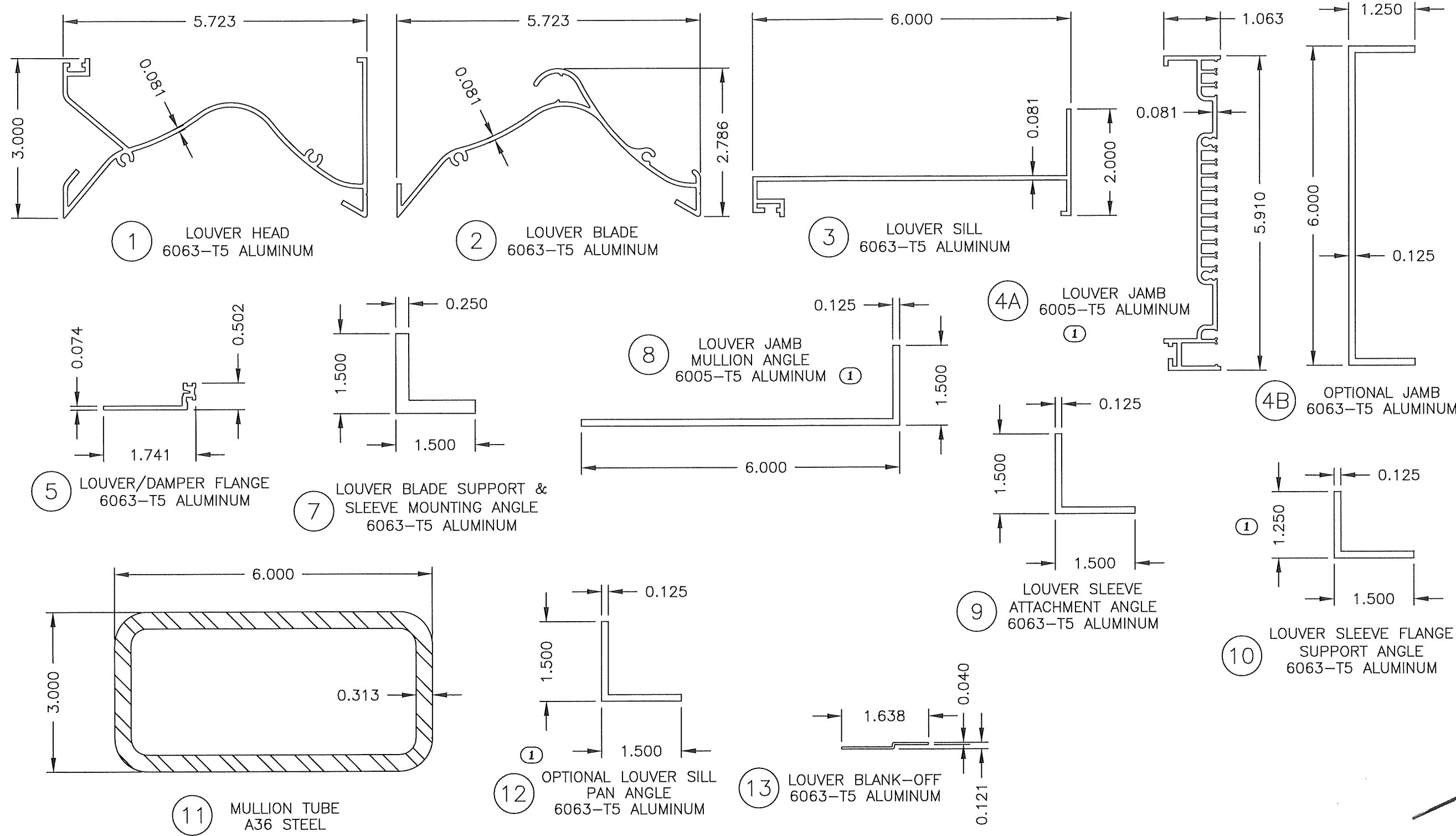


TITLE
EHH-601D LOUVER
FLANGE FRAME SLEEVE MOUNT
& CONTINUOUS ANGLE MOUNT
AVAILABLE SHAPES, H≤144"



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Wayne K. Helmila
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	SCALE	SHEET NO. 23 OF 35
TITLE EGH-601D LOUVER FLANGE FRAME SLEEVE MOUNT & CONTINUOUS ANGLE MOUNT PART PROFILES		
SEP 27 2024 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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 By
Miami-Dade Product Control

REV 01: 8/1/24, WAS PAGE 19, UPDATED ALLOY OF ITEMS 4A & 8,
 CORRECTED LENGTH OF ITEM 10, & ADDED OPTIONAL TO ITEM 12.

14 DAMPER HEAD/SILL
6063-T5 ALUMINUM

15 DAMPER JAMB
6063-T5 ALUMINUM

16 DAMPER BLADE
6063-T5 ALUMINUM

17 DAMPER BLADE SEAL
MATERIAL VARIES

18 DAMPER JAMB SEAL
0.007 SS

19 DAMPER TOP/BOTTOM
CLOSURE
ALUMINUM

20 DAMPER LINKAGE BAR
MATERIAL VARIES

21 DAMPER AXLE BUSHING 0.445 LONG
MATERIAL VARIES

22 NON-DRIVE DAMPER AXLE ASSEMBLY
MATERIAL VARIES

23 DRIVE-SIDE DAMPER AXLE ASSEMBLY
MATERIAL VARIES

42 MULLION SLEEVE BRACKET
SLEEVE MOUNT
5052-H32 ALUMINUM

40 LOUVER JAMB
MULLION ANGLE
6063-T5 ALUMINUM

41 LOUVER JAMB
MULLION CHANNEL
6061-T6 ALUMINUM

43 LOUVER JAMB
ATTACHMENT ANGLE
6063-T5 ALUMINUM

45 OPTIONAL BLADE
SUPPORT BRACKET
6063-T5 ALUMINUM

GREENHECK

P.O. BOX 410 SCHOFIELD,
WISCONSIN 54476-0410

DATE
8/9/2017

SCALE

SHEET NO.

24 OF 35

CAD DRAWING NO.
EHH-601D

TITLE

EHH-601D LOUVER
FLANGE FRAME SLEEVE MOUNT
& CONTINUOUS ANGLE MOUNT
PART PROFILES

SEP 27 2024

RICE

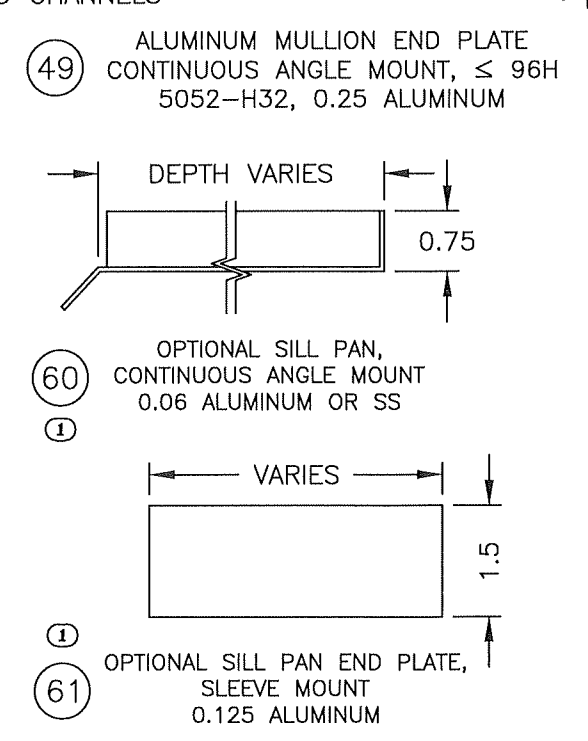
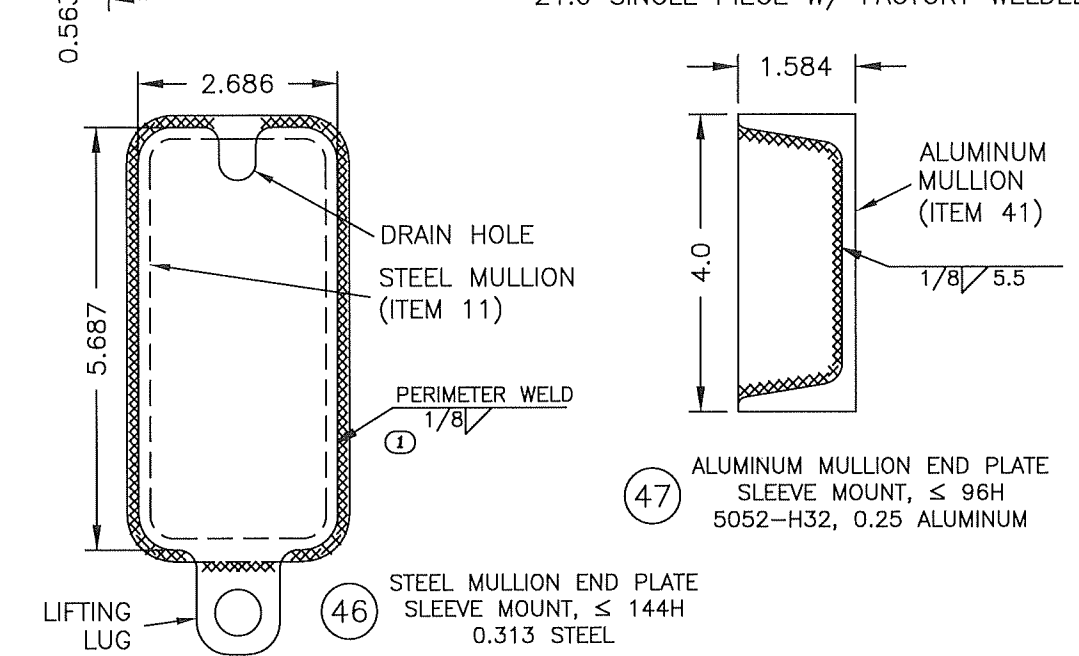
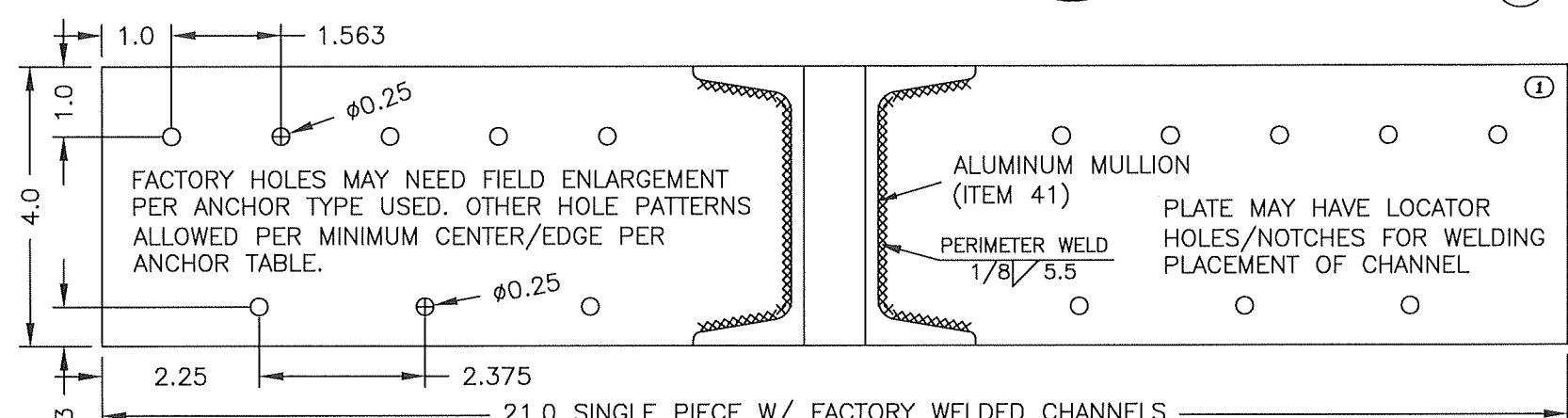
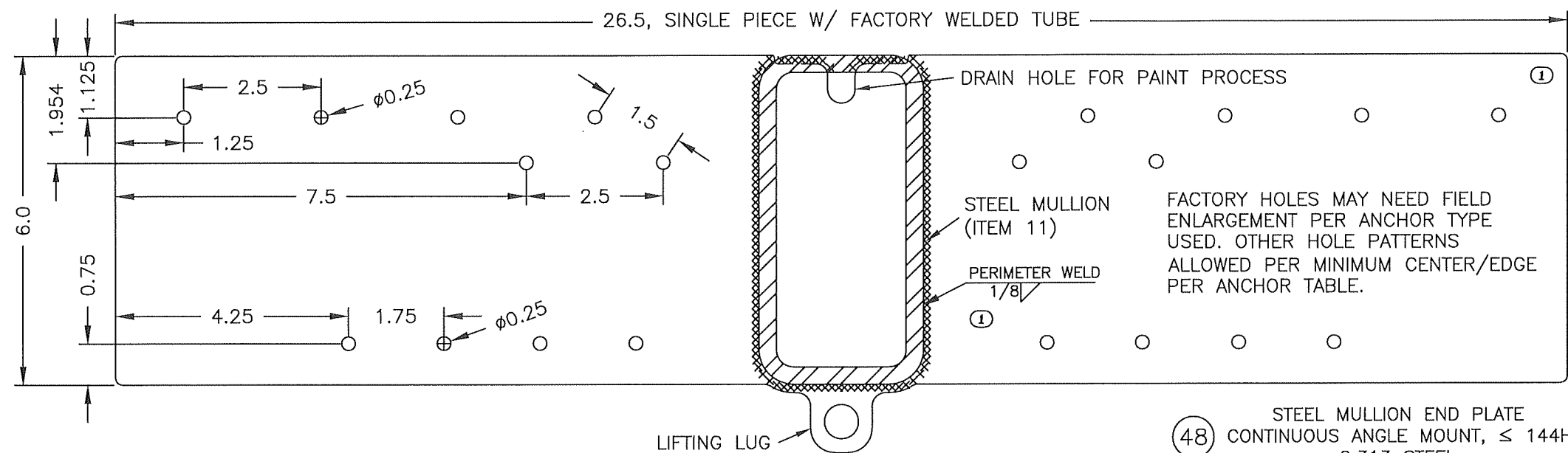
ENGINEERING

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

Florida Firm No: F-01000005061
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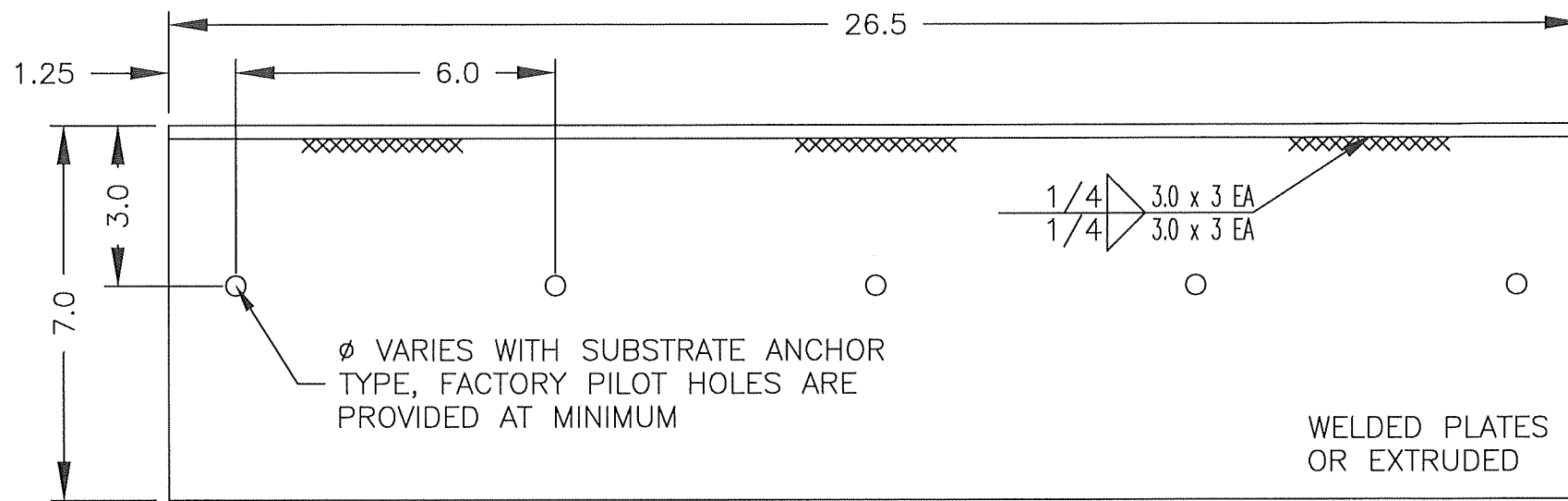


REV 01: 8/1/24, WAS PAGE 21, CORRECTED WELD SIZE OF ITEMS 46 & 48, UPDATED PROFILE & HOLE LAYOUTS OF ITEMS 48 & 49, MOVED ITEM 50 TO NEW PAGES, REMOVED STEEL ANGLE OPTIONS, & ADDED ITEMS 60 & 61.

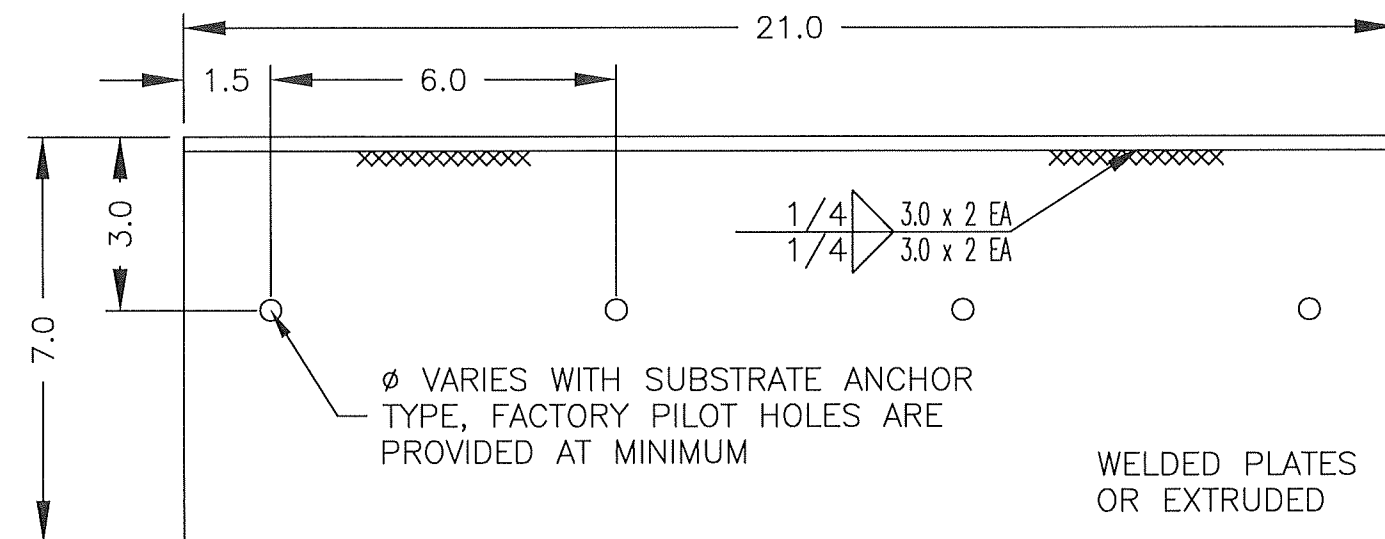
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NOA-No. 24-0904.01
Expiration Date 11/01/2029
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Miami-Dade Product Control

GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410 TITLE EHH-601D LOUVER FLANGE FRAME SLEEVE MOUNT & CONTINUOUS ANGLE MOUNT PART PROFILES	DRAWN BY MES	DATE 8/9/2017	SHEET NO. 25 OF 35 CAD DRAWING NO. EHH-601D
	SCALE	SCALE	

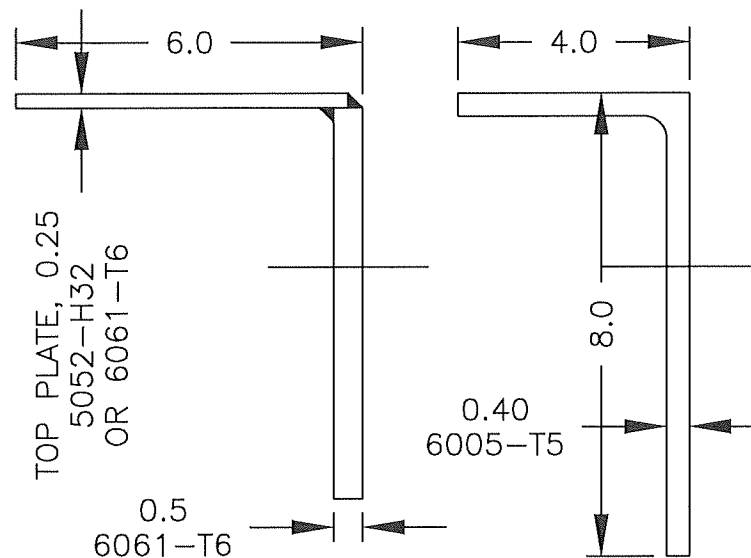
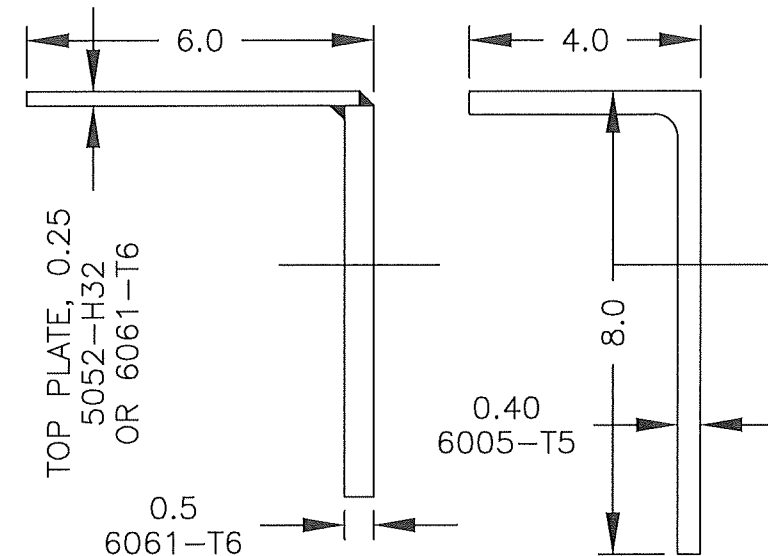
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www.rice-inc.com
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Certificate of Authorization: #9090
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Registration No: 59092



① 50A1 MULLION MOUNTING ANGLE FOR CONCRETE
CONTINUOUS ANGLE MOUNT, $\leq 144H$
5052-H32/6005-T5/6061-T6, 0.25/0.40/0.5 ALUMINUM



① 50B1 MULLION MOUNTING ANGLE FOR CONCRETE
CONTINUOUS ANGLE MOUNT, $\leq 96H$
5052-H32/6005-T5/6061-T6, 0.25/0.40/0.5 ALUMINUM

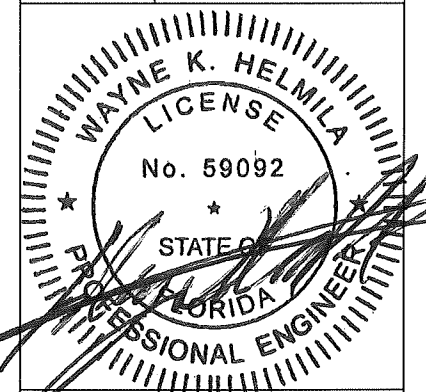


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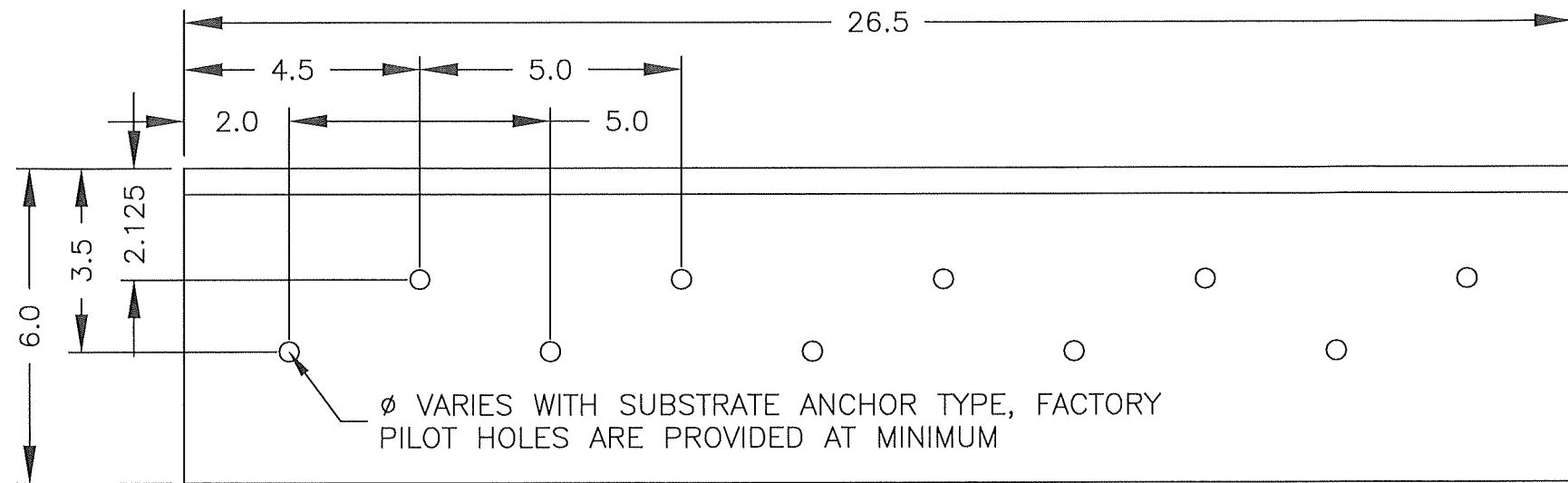
DRAWN BY MES	DATE 8/9/2017	 P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410 	SCALE	SHEET NO.	26 OF 35	CAD DRAWING NO.	EHH-601D



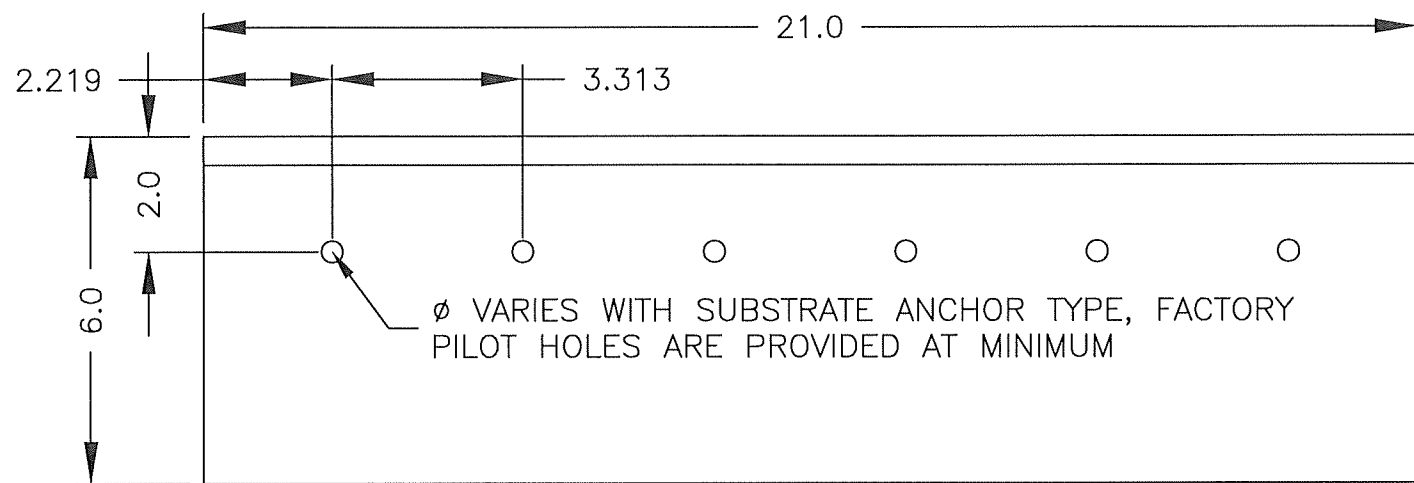
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www.rice-inc.com
Florida Firm No: F-01000005061
Certificate of Authorization: #9090
Wayne K. Helmila
Registration No: 59092

REV 01: 8/1/24, MOVED ITEM 50 TO THIS NEW PAGE & SPLIT IT INTO SIX
ITEMS WITH 50A1/B1 ON THIS PAGE & ITEMS 50A2/B2 & 50A3/B3 ON
ANOTHER NEW PAGE, UPDATED HOLE PATTERNS & LENGTH OF ITEMS 50A1/B1.



① **50A2** MULLION MOUNTING ANGLE FOR STEEL & WOOD
CONTINUOUS ANGLE MOUNT, ≤ 144H
6061-T6, 0.5 ALUMINUM

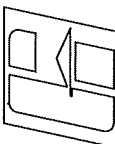


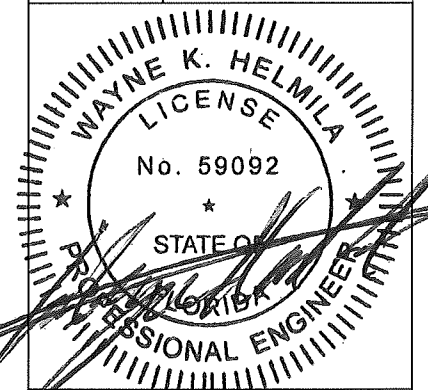
① **50B2** MULLION MOUNTING ANGLE FOR STEEL & WOOD
CONTINUOUS ANGLE MOUNT, ≤ 96H
6061-T6, 0.5 ALUMINUM

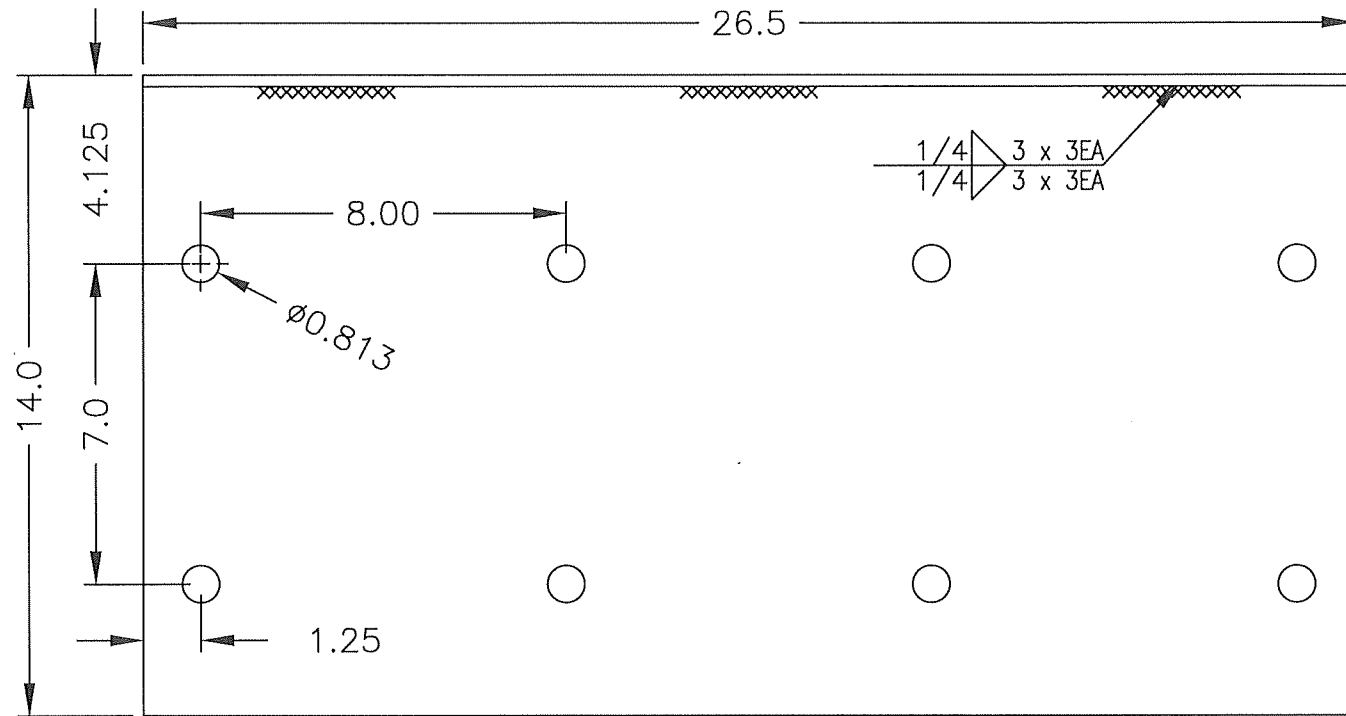
REV 01: 8/1/24, MOVED ITEM 50 TO THIS NEW PAGE & SPLIT IT INTO SIX ITEMS WITH 50A2/B2 ON THIS PAGE & ITEMS 50A1/B1 & 50A3/B3 ON OTHER PAGES, UPDATED HOLE PATTERNS & LENGTH OF ITEMS 50A2/B2.

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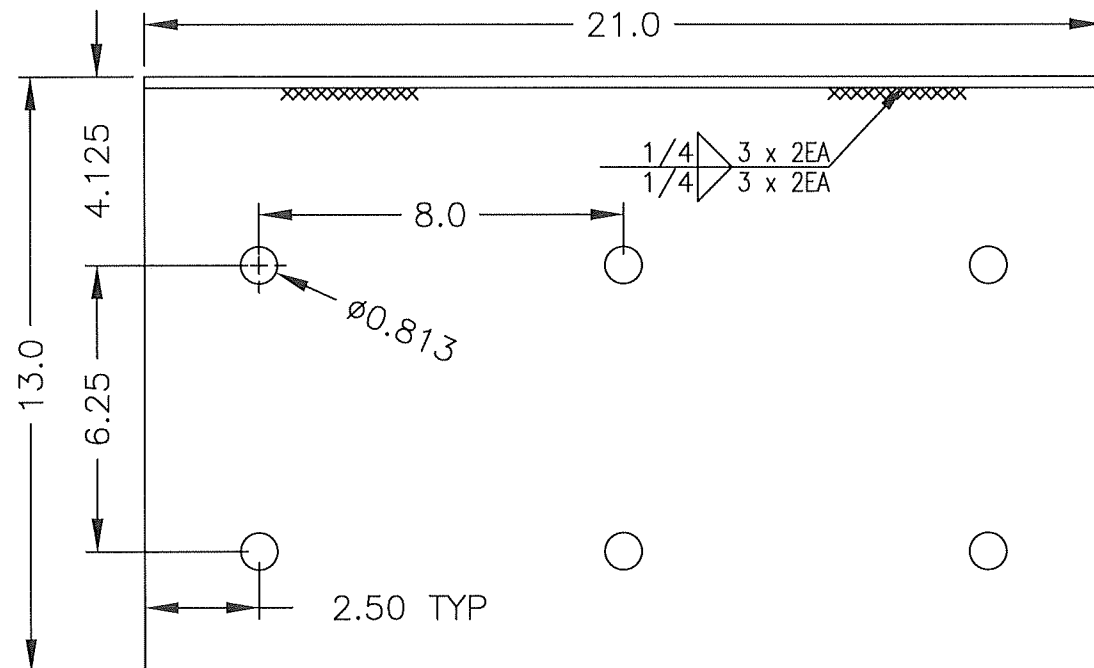
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www.rice-inc.com
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Certificate of Authorization: #9090
Wayne K. Helmila
Registration No: 59092

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	SCALE		
	SHEET NO.		27 OF 35
TITLE EHH-601D LOUVER CONTINUOUS ANGLE MOUNT MULLION ANGLE, STEEL/WOOD PART PROFILES		CAD DRAWING NO. EHH-601D	

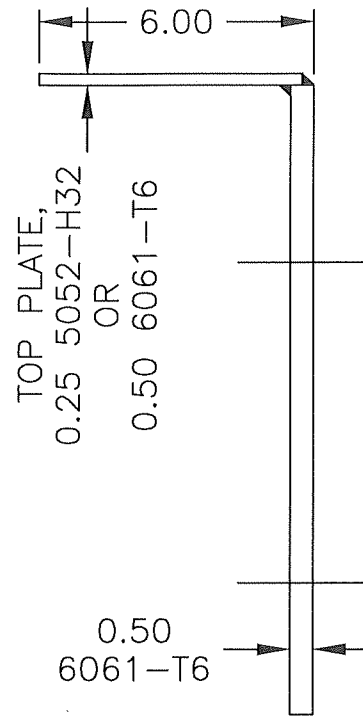
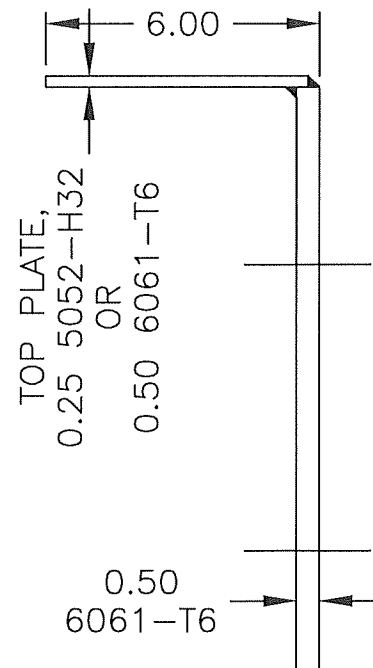




① 50A3 MULLION MOUNTING ANGLE FOR GROUT FILLED CMU
CONTINUOUS ANGLE MOUNT, $\leq 144H$
5052-H32 &/OR 6061-T6, 0.25 &/OR 0.5 ALUMINUM

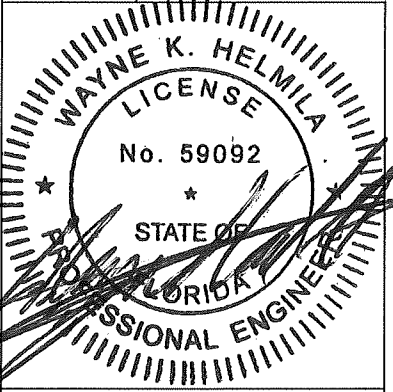


① 50B3 MULLION MOUNTING ANGLE FOR GROUT FILLED CMU
CONTINUOUS ANGLE MOUNT, $\leq 96H$
5052-H32 &/OR 6061-T6, 0.25 &/OR 0.5 ALUMINUM

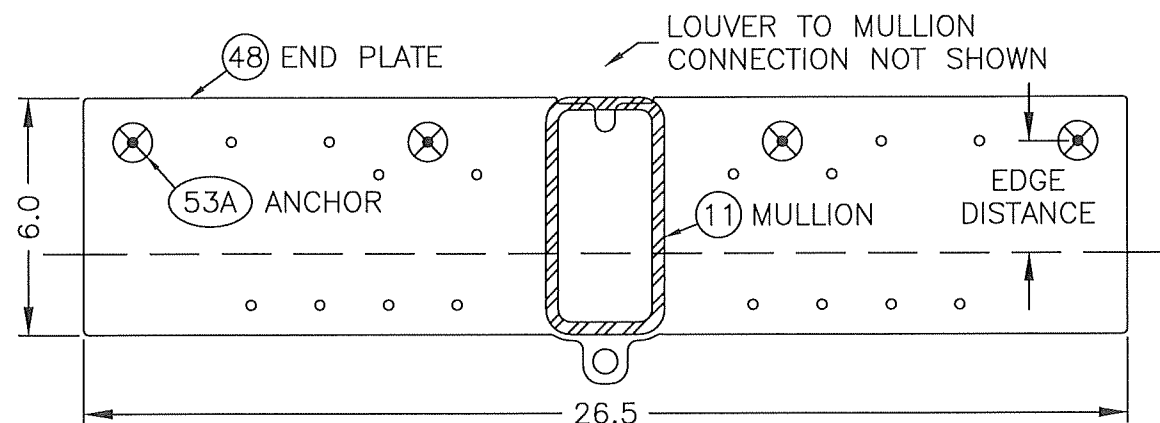


REV 01: 8/1/24, MOVED ITEM 50 TO THIS NEW PAGE & SPLIT IT INTO SIX ITEMS WITH 50A3/B3 ON THIS PAGE
& ITEMS 50A1/B1 & 50A2/B2 ON OTHER PAGES, UPDATED HOLE PATTERNS & LENGTH OF ITEMS 50A3/B3.

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By *R. Hines*
Miami-Dade Product Control

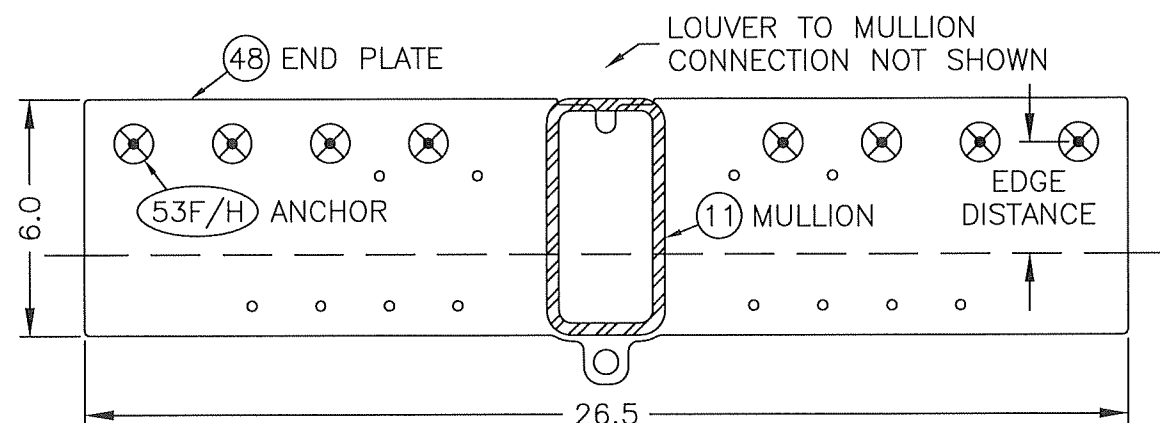
 P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410	DRAWN BY MES	DATE 8/9/2017
	SCALE	SHEET NO. 28 OF 35
TITLE EHH-601D LOUVER CONTINUOUS ANGLE MOUNT MULLION ANGLE, GROUT FILLED CMU PART PROFILES		
		
SEP 27 2024 RICE ENGINEERING 105 School Creek Trail Luxemburg, WI 54217 Phone: (920) 617-1042 Fax: (920) 617-1100 www.rice-inc.com Florida Firm No: F-01000005061 Certificate of Authorization: #9090 Wayne K. Helmila Registration No: 59092		
CAD DRAWING NO. EHH-601D		

HEIGHT & SUBSTRATE: ≤ 144 IN. & CRACKED CONCRETE, 6.0 THICK
MOUNTING: CONTINUOUS ANGLE, MULLION END PLATE



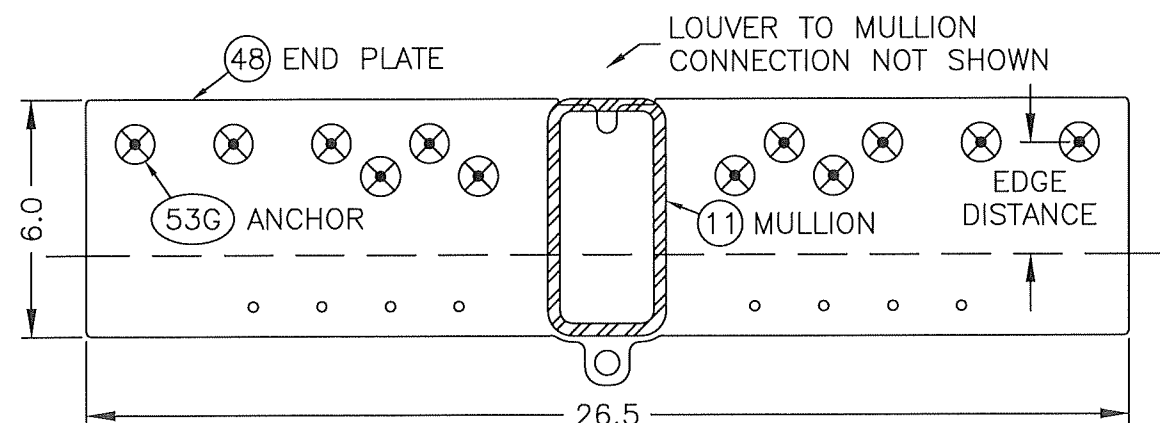
ANCHOR 53A: 5/8 ϕ HILTI KWIK BOLT TZ2, 300 SS, 4 EA

HEIGHT & SUBSTRATE: ≤ 144 IN. & STEEL, 0.125 THICK
MOUNTING: CONTINUOUS ANGLE, MULLION END PLATE



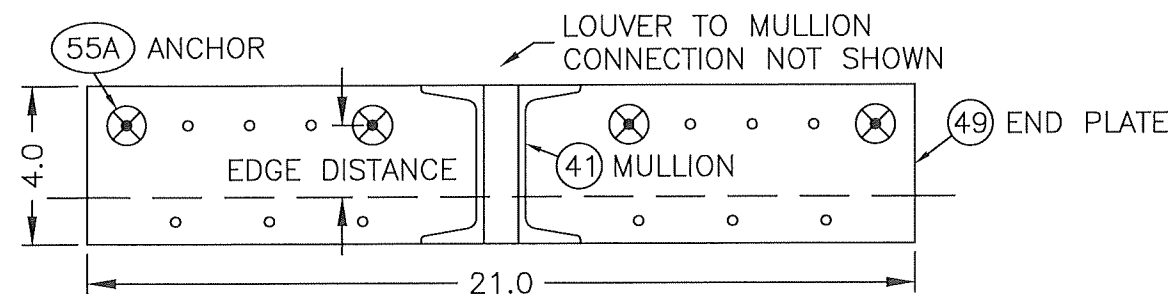
ANCHOR 53F: 1/4-14 (OR 20) SCREW (INCLUDES ELCO BI-FLEX)
OR 1/4-20 BOLT, 300 SS, 8 EA (SHOWN)
ANCHOR 53H: 5/16-18 BOLT, 300 SS, 6 EA

HEIGHT & SUBSTRATE: ≤ 144 IN. & WOOD, 3.0 THICK
MOUNTING: CONTINUOUS ANGLE, MULLION END PLATE



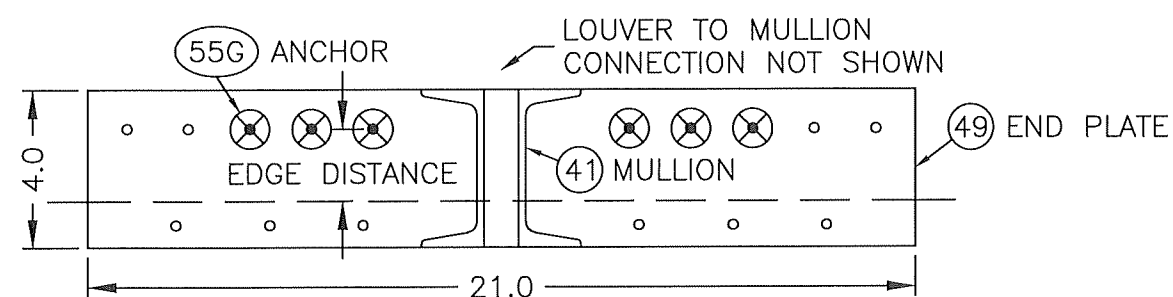
ANCHOR 53G: 3/8 ϕ LAG SCREW, 300 SS, 12 EA

HEIGHT & SUBSTRATE: ≤ 96 & CRACKED CONCRETE, 5.0 THICK
MOUNTING: CONTINUOUS ANGLE, MULLION END PLATE



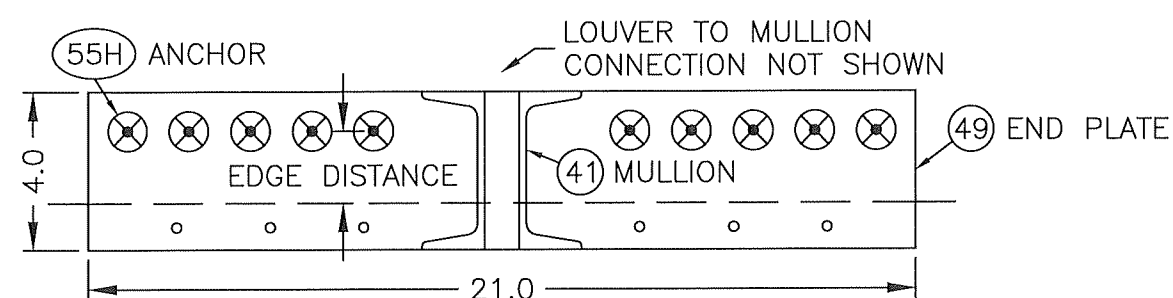
ANCHOR 55A: 1/2 ϕ HILTI KWIK BOLT TZ2, 300 SS, 4 EA

HEIGHT & SUBSTRATE: ≤ 96 IN. & STEEL, 0.125 THICK
MOUNTING: CONTINUOUS ANGLE, MULLION END PLATE



ANCHOR 55G: 1/4-14 (OR 20) SCREW (INCLUDES ELCO BI-FLEX)
OR 1/4-20 BOLT, 300 SS, 6 EA

HEIGHT & SUBSTRATE: ≤ 96 IN. & WOOD, 3.0 THICK
MOUNTING: CONTINUOUS ANGLE, MULLION END PLATE

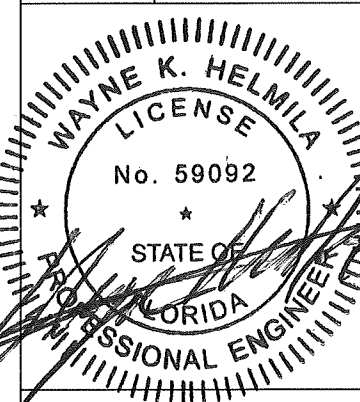


ANCHOR 55H: 3/8 ϕ LAG SCREW, 300 SS, 10 EA

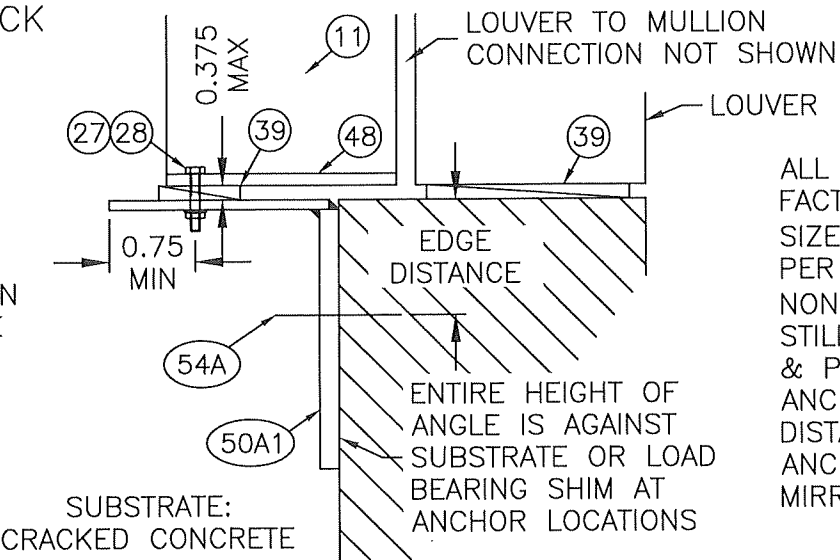
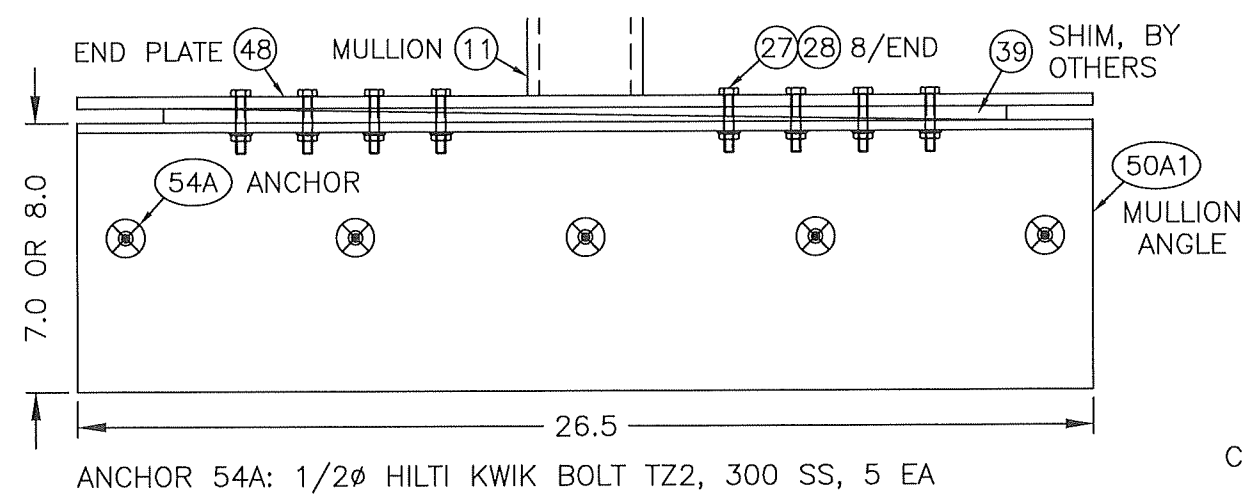
ALL ITEMS THIS PAGE:
FACTORY PROVIDES PILOT OR
FULL SIZE HOLES AT REQ'D
LOCATIONS PER SELECTED
SUBSTRATE, AND NON-REQ'D
PILOT HOLES MAY STILL BE
PRESENT. OTHER HOLES &
PATTERNS CAN BE USED IF
ANCHOR ON-CENTER & EDGE
DISTANCE REQUIREMENTS ARE
MET. ANCHOR PATTERS SHALL
BE MIRRORED WHEN POSSIBLE.

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as complying with the Florida
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NOA-No. 24-0904.01
Expiration Date 11/01/2029
By *[Signature]*
Miami-Dade Product Control

REV 01: 8/1/24, NEW PAGE TO SHOW VARIOUS SUBSTRATE ANCHOR LAYOUTS.

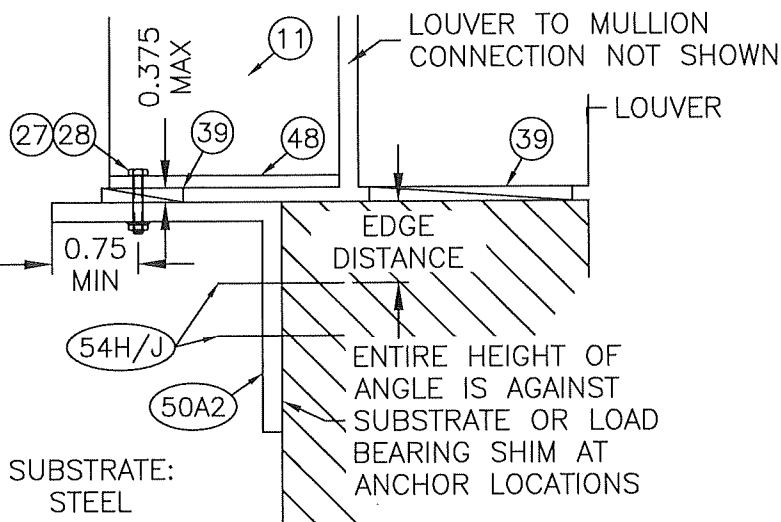
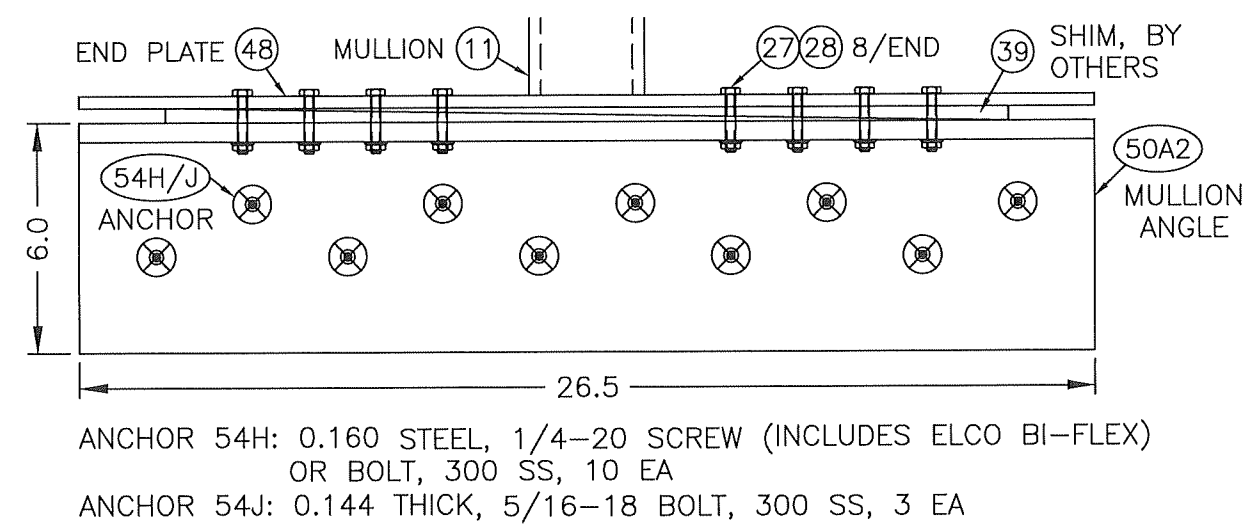
DRAWN BY MES	DATE 8/9/2017	SHEET NO. 29 OF 35	CAD DRAWING NO. EHH-601D
SCALE			
GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410		TITLE EHH-601D LOUVER CONTINUOUS ANGLE MOUNT MULLION END PLATE LAYOUTS HS144" & HS96"	
			
SEP 27 2024 RICE ENGINEERING 105 School Creek Trail Luxemburg, WI 54217 Phone: (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			

HEIGHT & SUBSTRATE: ≤ 144 IN. & CRACKED CONCRETE, 6.0 THICK
MOUNTING: CONTINUOUS ANGLE MOUNT, MULLION MOUNTING ANGLE

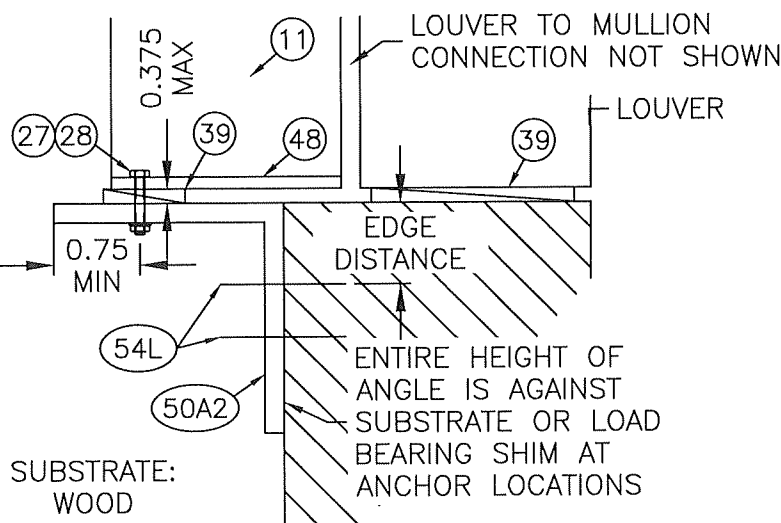
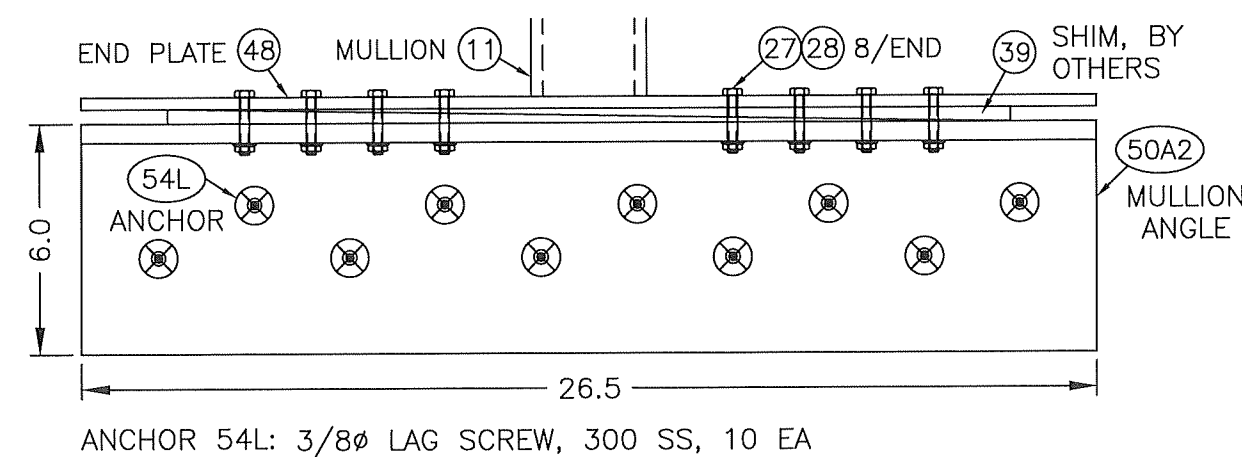


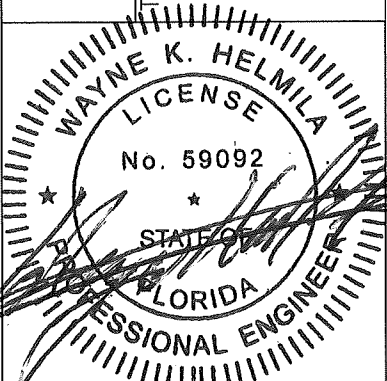
ALL ITEMS THIS PAGE:
FACTORY PROVIDES PILOT OR FULL
SIZE HOLES AT REQ'D LOCATIONS
PER SELECTED SUBSTRATE, AND
NON-REQ'D PILOT HOLES MAY
STILL BE PRESENT. OTHER HOLES
& PATTERNS CAN BE USED IF
ANCHOR ON-CENTER & EDGE
DISTANCE REQUIREMENTS ARE MET.
ANCHOR PATTERS SHALL BE
MIRRORED WHEN POSSIBLE.

HEIGHT & SUBSTRATE: ≤ 144 IN. & STEEL, 0.188 & 0.144 THICK
MOUNTING: CONTINUOUS ANGLE MOUNT, MULLION MOUNTING ANGLE



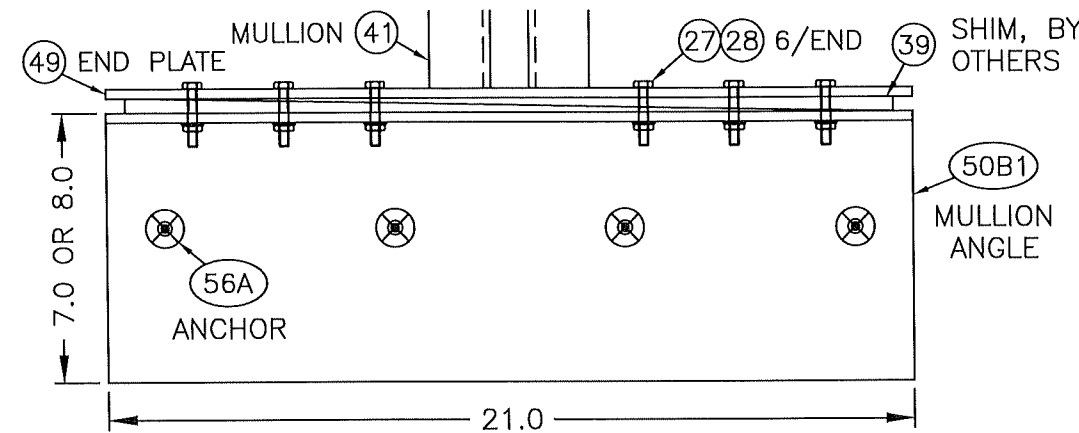
HEIGHT & SUBSTRATE: ≤ 144 IN. & WOOD, 3.0 THICK
MOUNTING: CONTINUOUS ANGLE MOUNT, MULLION MOUNTING ANGLE



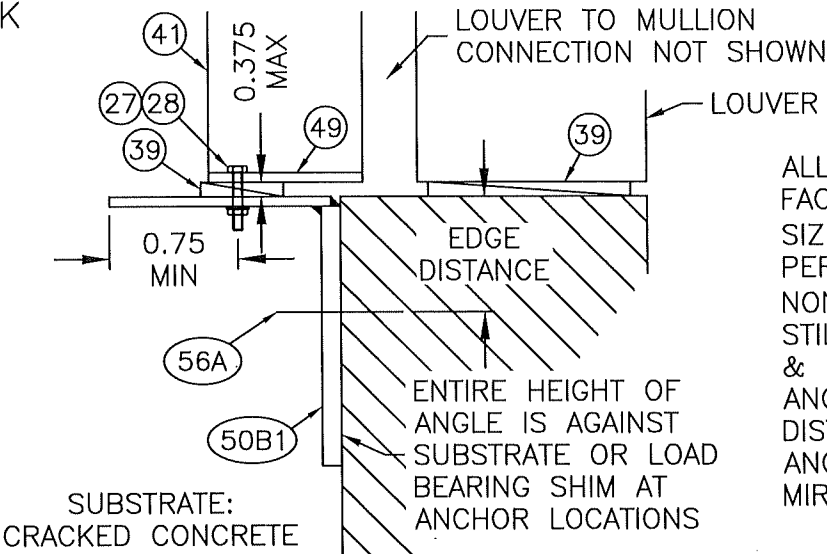
GREENHECK P.O. BOX 410 WISCONSIN 54476-0410	DRAWN BY MES	DATE 8/9/2017
	SCALE	SHEET NO. 30 OF 35
TITLE EHH-601D LOUVER CONTINUOUS ANGLE MOUNT MULLION MTC. ANGLE LAYOUTS H≤144"		CAD DRAWING NO. EHH-601D
		
SEP 27 2024 RICE ENGINEERING 105 School Creek Trail Luxemburg, WI 54217 Phone: (920) 617-1042 Fax: (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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Expiration Date 11/01/2029
By 
Miami-Dade Product Control

HEIGHT & SUBSTRATE: ≤ 96 IN. & CRACKED CONCRETE, 5.0 THICK
MOUNTING: CONTINUOUS ANGLE MOUNT, MULLION MOUNTING ANGLE

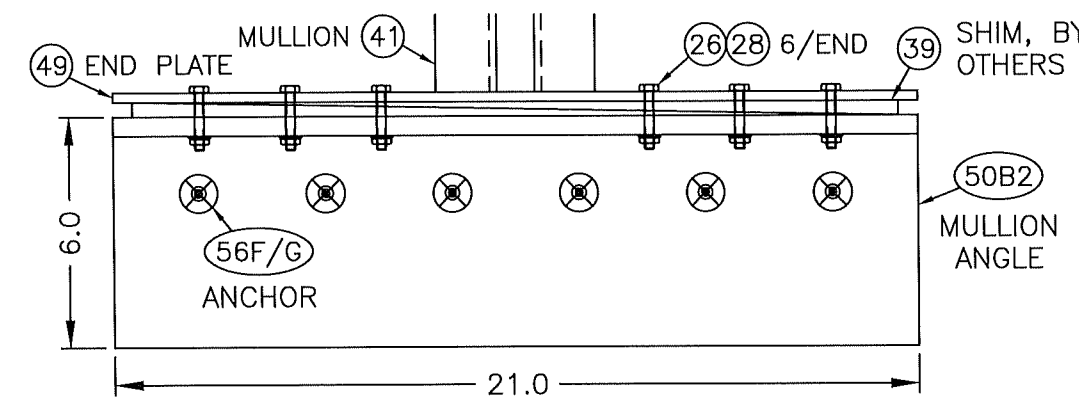


ANCHOR 56A: 1/2Ø HILTI KWIK BOLT TZ2, 300 SS, 4 EA

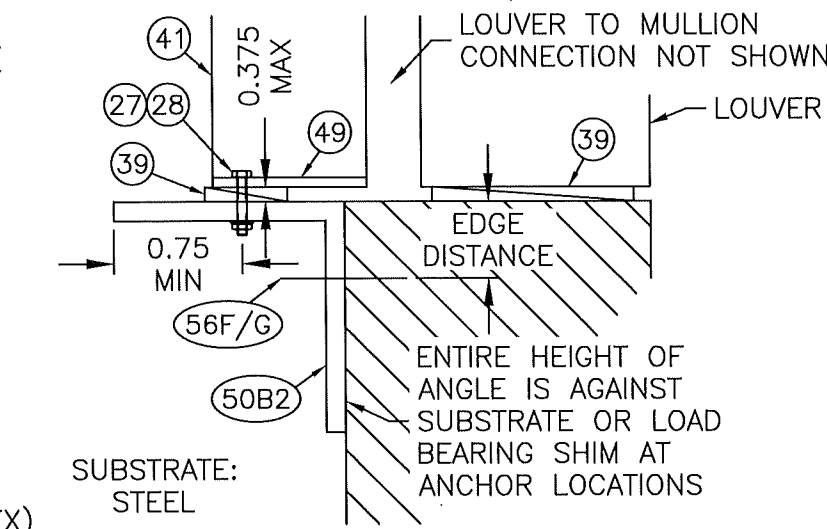


ALL ITEMS THIS PAGE:
FACTORY PROVIDES PILOT OR FULL
SIZE HOLES AT REQ'D LOCATIONS
PER SELECTED SUBSTRATE, AND
NON-REQ'D PILOT HOLES MAY
& PATTERNS CAN BE USED IF
ANCHOR ON-CENTER & EDGE
DISTANCE REQUIREMENTS ARE MET.
ANCHOR PATTERS SHALL BE
MIRRORED WHEN POSSIBLE.

HEIGHT & SUBSTRATE: ≤ 96 IN. & STEEL, 0.160 & 0.125 THICK
MOUNTING: CONTINUOUS ANGLE MOUNT, MULLION MOUNTING ANGLE



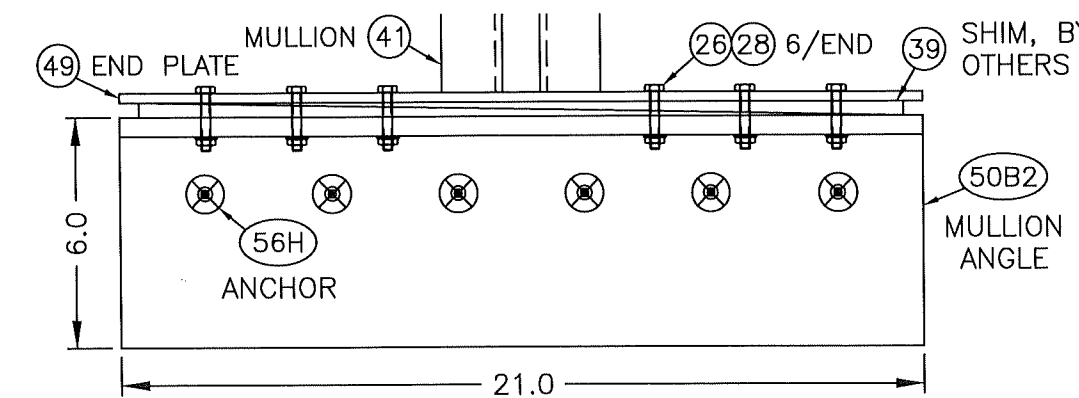
ANCHOR 56F: 0.160 STEEL, 1/4-20 SCREW (INCLUDES ELCO BI-FLEX)
OR BOLT, 300 SS, 6 EA
ANCHOR 56G: 0.125 STEEL, 5/16-18 BOLT, 300 SS, 2 EA



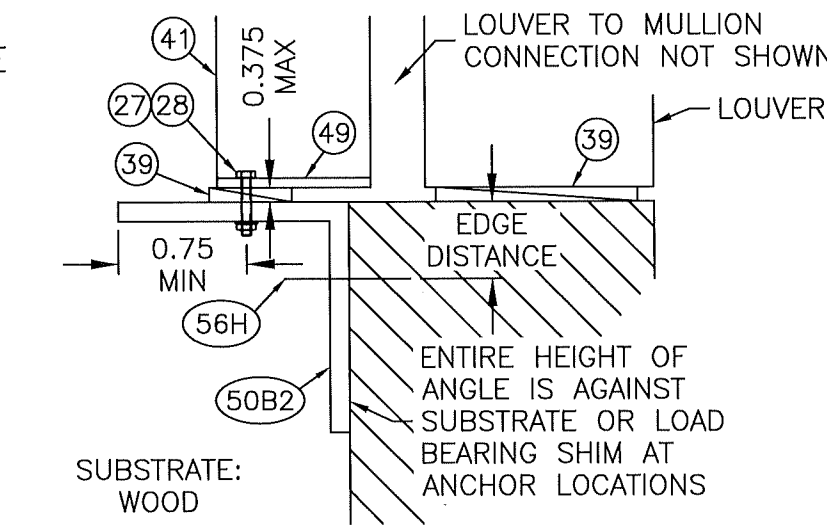
PRODUCT REVISED
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NOA-No. 24-0904.01
Expiration Date 11/01/2029

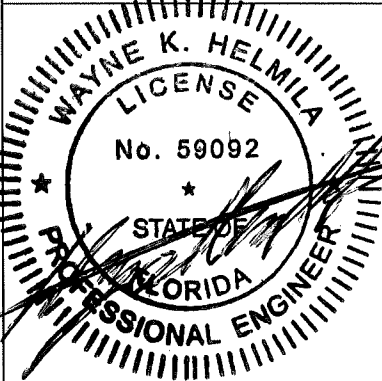
By *[Signature]*
Miami-Dade Product Control

HEIGHT & SUBSTRATE: ≤ 96 IN. & WOOD, 3.0 THICK
MOUNTING: CONTINUOUS ANGLE MOUNT, MULLION MOUNTING ANGLE

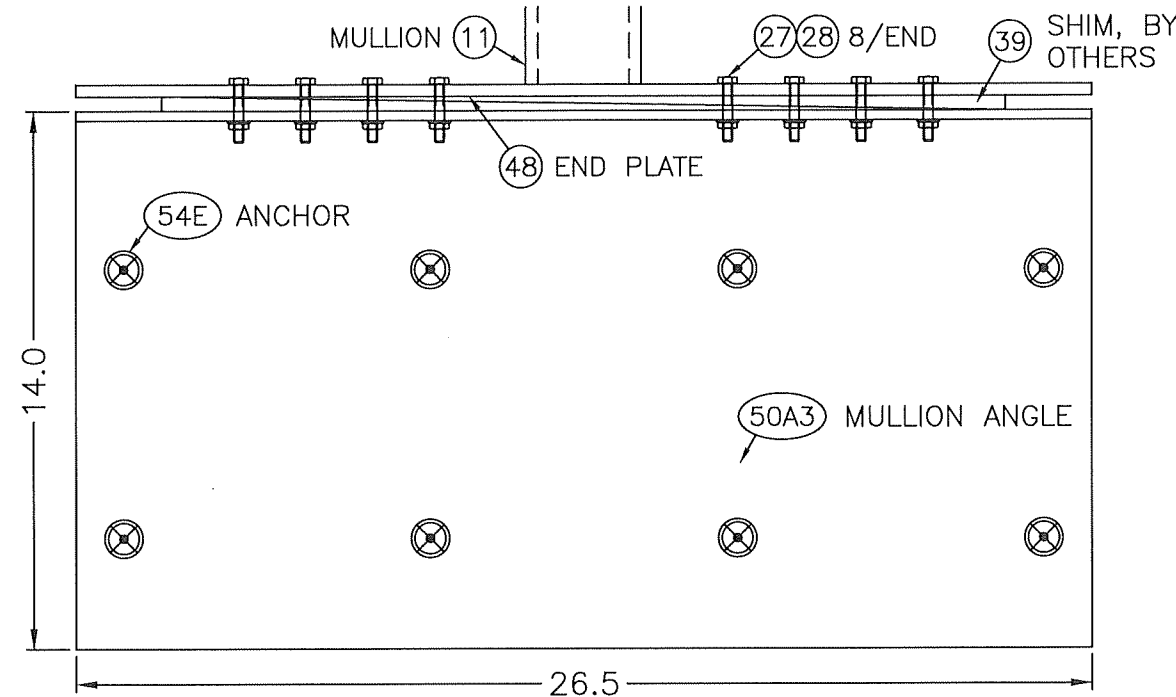


ANCHOR 56H: 3/8Ø LAG SCREW, 300 SS, 6 EA

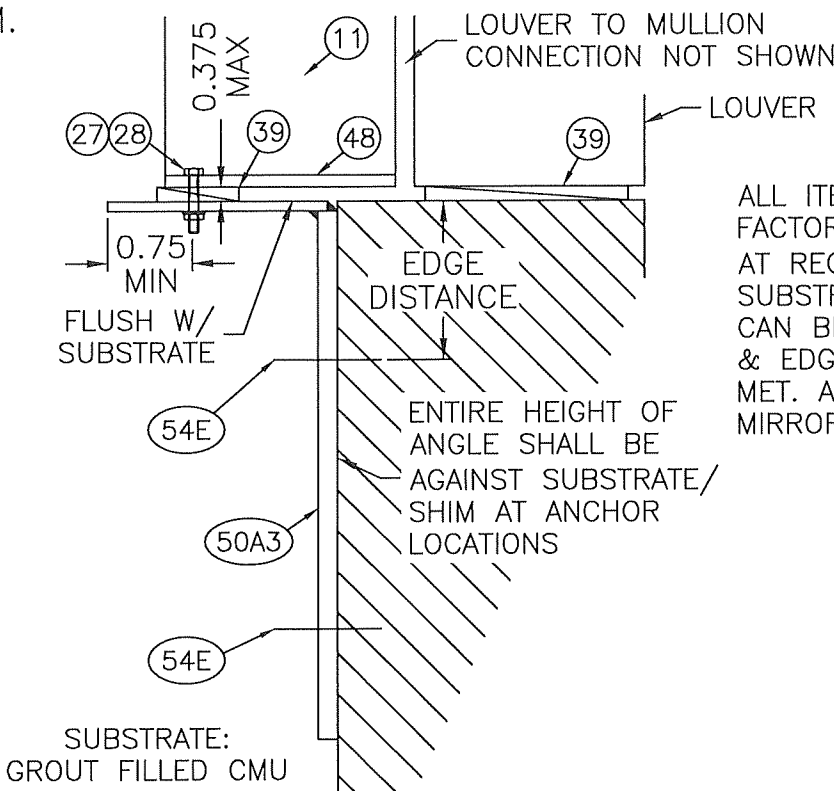


DRAWN BY MES	DATE 8/9/2017	SHEET NO. 31 OF 35	CAD DRAWING NO. EHH-601D
	SCALE		
GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410		TITLE EHH-601D LOUVER CONTINUOUS ANGLE MOUNT MULLION MTG. ANGLE LAYOUTS H≤96"	
 SEP 27 2024 RICE ENGINEERING 105 School Creek Trail Luxemburg, WI 54217 Phone: (920) 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			

HEIGHT & SUBSTRATE: ≤ 144 IN. & GROUT FILLED CMU, 8.0 NOM.
MOUNTING: CONTINUOUS ANGLE MOUNT, MULLION MOUNTING ANGLE

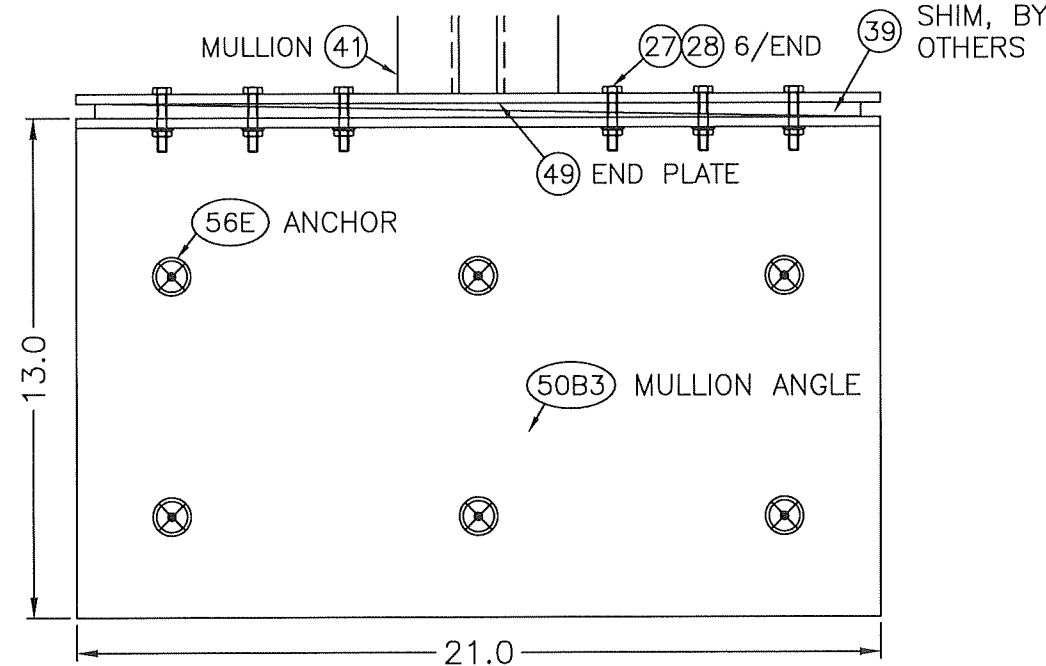


ANCHOR 54E: HILTI HY-100 EPOXY & 5/8Ø THREADED ROD, 300 SS, 8 EA

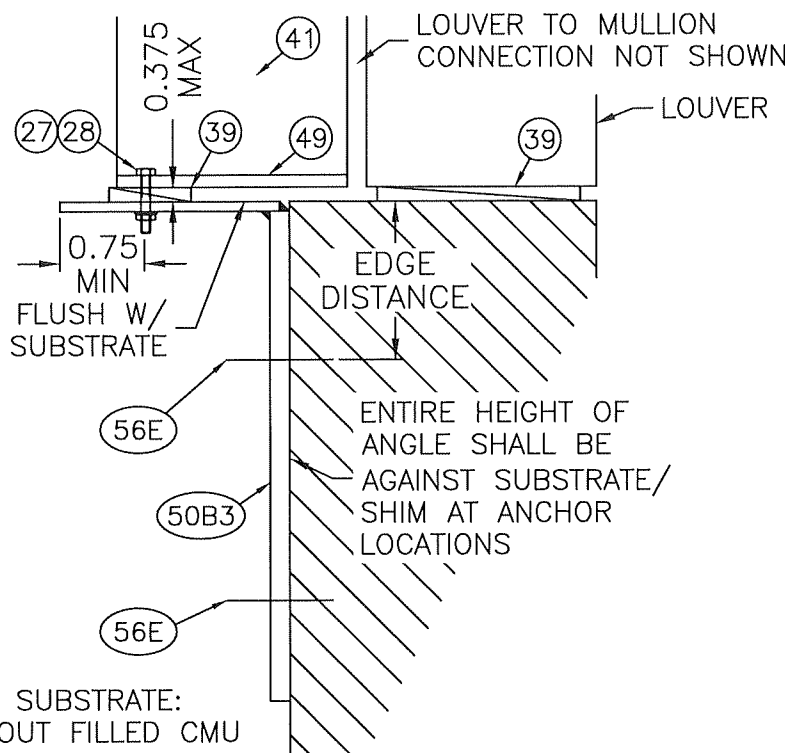


ALL ITEMS THIS PAGE:
FACTORY PROVIDES FULL SIZE HOLES
AT REQ'D LOCATIONS PER SELECTED
SUBSTRATE. OTHER HOLE PATTERNS
CAN BE USED IF ANCHOR ON-CENTER
& EDGE DISTANCE REQUIREMENTS ARE
MET. ANCHOR PATTERS SHALL BE
MIRRORED WHEN POSSIBLE.

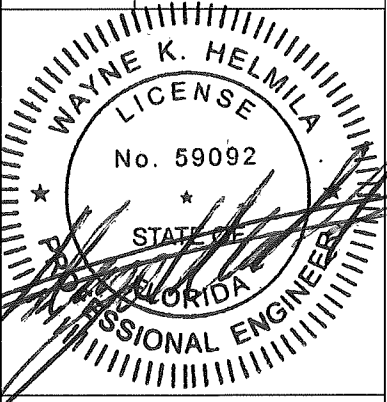
HEIGHT & SUBSTRATE: ≤ 96 IN. & GROUT FILLED CMU, 8.0 NOM.
MOUNTING: CONTINUOUS ANGLE MOUNT, MULLION MOUNTING ANGLE



ANCHOR 56E: W/ HILTI HY-100 EPOXY & 5/8Ø THREAD ROD, 300 SS, 6 EA



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Expiration Date 11/01/2029
By *[Signature]*
Miami-Dade Product Control

GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410	DRAWN BY MES	DATE 8/9/2017
	SCALE	
SHEET NO. 32 OF 35		CAD DRAWING NO. EHH-601D
TITLE EHH-601D LOUVER CONTINUOUS ANGLE MOUNT MULLION MTG. ANGLE LAYOUTS H≤144" & H≤96"		
		
SEP 27 2024 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. Helmilla Registration No: 59092		

① SUBSTRATE ANCHOR TABLE												
ITEM 52: JAMB PERIMETER ANGLE ANCHOR, HEIGHT ≤ 144												
ITEM	CRACKED CONCRETE	G.F. CMU	STEEL	WOOD	MIN VALUE	MIN (1) THICKNESS	ANCHOR TYPE	DIA. Ø	# REQ'D	CENTERS	MIN EMBED.	SUBSTRATE MIN EDGE (3)
52A	X				3 KSI	4.0	HILTI KWIK HUS EZ (KH-EZ), 300 SS	3/8	VARIES	6.0 MIN/MAX	2.5 NOM.	1.5
52E		X			1.5 KSI	3.0	DEWALT AGGRE-GATOR, 300 SS	1/4	VARIES	3.0 MIN 6.0 MAX	2.0 NOM.	2.0
52F			X		A36	0.125	BOLT OR SCREW, 300 SS, INCLUDES ELCO BI-FLEX	1/4-20	VARIES	6.0 MAX	0.125	0.75
52H			X		A36	0.125	BOLT, 300 SS	5/16-18	VARIES	6.0 MAX	0.125	0.75
52G				X	SG 0.42	3.0	LAG, MIN 3.0 LONG, MIN 2.0 L. THREADS (EXCL. TIP), 300 SS	3/8	VARIES	2.0 MIN 6.0 MAX	2.375	1.5
ITEM 53: MULLION END PLATE ANCHOR, HEIGHT ≤ 144												
ITEM	CRACKED CONCRETE	G.F. CMU	STEEL	WOOD	MIN VALUE	MIN (1) THICKNESS	ANCHOR TYPE	DIA. Ø	# REQ'D	MIN CENTERS	MIN EMBED.	SUBSTRATE MIN EDGE (3)
53A	X				3 KSI	6.0	HILTI KWIK BOLT TZ2, 300 SS	5/8	4/END	7.5 & 9.0	3.25 NOM.	4.0
53F			X		A36	0.125	BOLT OR SCREW, 300 SS, INCLUDES ELCO BI-FLEX	1/4-14 1/4-20	8/END	1.0	0.125	0.5
53H			X		A36	0.125	BOLT, 300 SS	5/16-18	6/END	1.5	0.125	0.5
53G				X	SG 0.42	3.0	LAG, MIN 3.0 LONG, MIN 2.0 L. THREADS (EXCL. TIP), 300 SS	3/8	12/END	1.5	2.375	1.75
ITEM 54: MULLION ANGLE MOUNT ANCHOR, HEIGHT ≤ 144												
ITEM	CRACKED CONCRETE	G.F. CMU	STEEL	WOOD	MIN VALUE	MIN (1)(2) THICKNESS	ANCHOR TYPE	DIA. Ø	# REQ'D	MIN CENTERS	MIN EMBED.	SUBSTRATE MIN EDGE (3)
54A	X				3 KSI	6.0	HILTI KWIK BOLT TZ2 (KB-TZ2), 300 SS	1/2	5/ANG.	6.0	3.0 NOM.	3.0 EDGE 1 4.0 EDGE 2
54E		X			2 KSI GROUT	8.0 NOM.	HILTI HIT-HY 100 EPOXY & THREADED ROD, 300 SS	5/8	8/ANG.	8.0 HOR. 7.0 VER.	5.625 ACT.	4.125
54H			X		A36	0.188	BOLT OR SCREW, 300 SS, INCLUDES ELCO BI-FLEX	1/4-20	10/ANG.	1.0	0.188	0.5
54J			X		A36	0.144	BOLT, 300 SS	5/16-18	3/ANG.	1.0	0.144	0.75
54L				X	SG 0.42	3.0	LAG, MIN 3.5 LONG, MIN 2.25 L. THREADS (EXCL. TIP), 300 SS	3/8	10/ANG.	2.0	2.875	2.0
ITEM 55: MULLION END PLATE ANCHOR, HEIGHT ≤ 96												
ITEM	CRACKED CONCRETE	G.F. CMU	STEEL	WOOD	MIN VALUE	MIN (1) THICKNESS	ANCHOR TYPE	DIA. Ø	# REQ'D	MIN CENTERS	MIN EMBED.	SUBSTRATE MIN EDGE (3)
55A	X				3 KSI	5.0	HILTI KWIK BOLT TZ2, 300 SS	1/2	4/END	6.25 & 6.5	3.0 NOM.	2.5 EDGE 1 3.25 EDGE 2
55G			X		A36	0.125	BOLT OR SCREW, 300 SS, INCLUDES ELCO BI-FLEX	1/4-14 1/4-20	6/END	1.0	0.125	0.5
55H				X	SG 0.42	3.0	LAG, MIN 3.0 LONG, MIN 2.0 L. THREADS (EXCL. TIP), 300 SS	3/8	10/END	1.5	2.375	1.75
ITEM 56: MULLION ANGLE MOUNT ANCHOR, HEIGHT ≤ 96												
ITEM	CRACKED CONCRETE	G.F. CMU	STEEL	WOOD	MIN VALUE	MIN (1)(2) THICKNESS	ANCHOR TYPE	DIA. Ø	# REQ'D	MIN CENTERS	MIN EMBED.	SUBSTRATE MIN EDGE (3)
56A	X				3 KSI	5.0	HILTI KWIK BOLT TZ2, 300 SS	1/2	4/ANG.	6.0	2.5 NOM.	3.0 EDGE 1 4.0 EDGE 2
56E		X			2 KSI GROUT	8.0 NOM.	HILTI HIT-HY 100 EPOXY & THREADED ROD, 300 SS	5/8	6/ANG.	8.0 HOR. 6.25 VER.	5.625 ACT.	4.125
56F			X		A36	0.160	BOLT OR SCREW, 300 SS, INCLUDES ELCO BI-FLEX	1/4-20	6/ANG.	1.0	0.16	0.5
56G			X		A36	0.125	BOLT, 300 SS	5/16-18	6/ANG.	1.0	0.125	0.75
56H				X	SG 0.42	3.0	LAG, MIN 3.5 LONG, MIN 2.25 L. THREADS (EXCL. TIP), 300 SS	3/8	6/ANG.	2.0	2.875	2.0
NOTES: (1) IN DIRECTION OF ANCHOR PENETRATION. (2) SUBSTRATE THICKNESS IS ONE PORTION OF OVERALL WALL DEPTH. (3) EDGE 1 IS CLOSEST TO ANCHOR, AND EDGE 2 IS OPPOSITE EDGE 1. IF EDGE # NOT SPECIFIED, THEN MIN VALUE IS SAME TO BOTH EDGES.												

REV 01: 8/1/24, MOVED ANCHOR TABLE TO THIS NEW PAGE, REMOVED ALL POWERS WEDGE BOLT & ALL SCOTS TAPCON ANCHORS, ADDED CRACKED TO CONCRETE COLUMN, ADDED G.F. TO CMU COLUMN, ADDED MIN THICKNESS COLUMN, REMOVED GROUP CENTER COLUMN, UPDATED ALL CONCRETE TO 3 KSI, UPDATED GROUT TO 2 KSI FOR ITEMS 54E & 56E, UPDATED ALL STEEL TO A36, ALLOY ADDED TO ALL ANCHORS, ALL CONCRETE ANCHORS ARE NOW HILTI KWIK HUS EZ OR HILTI KWIK BOLT TZ2, ALL CMU ANCHORS ARE NOW DEWALT AGGRE-GATOR OR HILTI HY-100 EPOXY & THREADED ROD, ALL LAG SCREWS HAVE MIN LENGTH SPECIFIED, ADDED ELCO BI-FLEX TO ITEMS 52F & 53F & 54H & 55G & 56F, ADDED THREAD VALUES TO ALL BOLT & SCREW ANCHORS, REMOVED ITEMS 52B/C/D & 53B/C/D/E & 54B/C/D/F/G/I/K & 55B/C/D/E/F & 56B/C/D/I, ADDED ITEMS 52H & 53H, UPDATED DIAMETER OF ITEMS 53A & 54A/E & 55A & 56A/E/G, UPDATED THE NUMBER REQ'D OF ITEMS 53A/G & 54A/E/H/J/L & 55A & 56E/F/H, UPDATED CENTERS OF ITEMS 52E/G & 53A & 54A/E/L & 55A & 56A/E/H, UPDATED EMBEDMENT OF ITEMS 52A/E & 53A & 54A/E/J & 55A & 56A/E/F, UPDATED SUBSTRATE EDGE OF ITEMS 52A/E/F & 53A & 54A/E/J/L & 55A & 56A/E/G/H, REMOVED OLD ASTERISK & CRACKED CONCRETE NOTES, & ADDED NOTES 1/2/3.

DRAWN BY
MES

DATE
8/9/2017

SCALE

SHEET NO.

GREENHECK

P.O. BOX 410
SCHOFIELD,
WISCONSIN 54476-0410

EE

TITLE

EHH-601D LOUVER
CONTINUOUS ANGLE MOUNT
SUBSTRATE ANCHOR TABLE
H≤144" & H≤96"

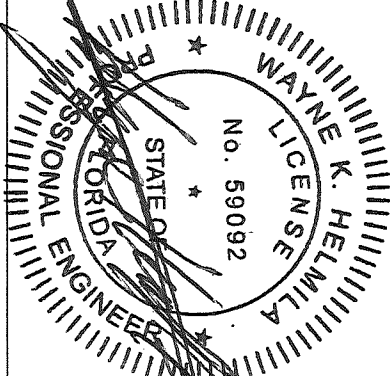
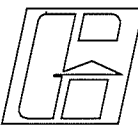
WAYNE K. HELMILA
LICENSE
No. 59092
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

SEP 27 2024
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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By 
Miami-Dade Product Control

ITEM	DESCRIPTION	MATERIAL	NOTES
1	LOUVER HEAD	6063-T5 ALUM.	
2	LOUVER BLADE	6063-T5 ALUM.	2.125 MAX SPACING
3	LOUVER SILL	6063-T5 ALUM.	
4	LOUVER JAMB	6005-T5 ALUM.	①
5	LOUVER/DAMPER FLANGE	6063-T5 ALUM.	
6	FORMED SLEEVE, 0.125 THICK	5052-H32 ALUM.	1.25 FLANGE, 12" & 16" DEPTH IS TYP BUT CAN VARY ①
7A	1.5 x 1.5 x 1/4 ANGLE	6063-T5 ALUM.	BLADE SUPPORT ANGLE
7B			AT HEAD/SILL/JAMBS OF SLEEVE ①
8	1.5 x 6 x 1/8 ANGLE	6005-T5 ALUM.	JAMB MULLION ANGLE ①
9	1.5 x 1.5 x 1/8 ANGLE, MIN SIZE	6063-T5 ALUM.	AT HEAD/SILL/JAMBS OF LOUVER
10	1.25 x 1.5 x 1/8 ANGLE	6063-T5 ALUM.	AT HEAD/SILL OF SLEEVE FLANGE①
11	3 x 6 x 5/16 TUBE	A36 STEEL	SHIP LOOSE, COATED STEEL ①
12	1.5 x 1.5 x 1/8 ANGLE	6063-T5 ALUM.	OPTIONAL, AS BACK OF SILL PAN ①
13	LOUVER BLANK OFF	6063-T5 ALUM.	IF REQUIRED, SPANS SILL OPENING
14	DAMPER HEAD/SILL	6063-T5 ALUM.	
15	DAMPER JAMB	6063-T5 ALUM.	
16	DAMPER BLADE	6063-T5 ALUM.	3.75 MAX SPACING
17	DAMPER BLADE SEAL	SILICONE/RUBBER	MATERIAL VARIES
18	DAMPER JAMB SEAL	SS	SS = STAINLESS STEEL ①
19	DAMPER TOP/BOTTOM CLOSURE	ALUMINUM	
20	DAMPER LINKAGE BAR	SS OR ZP	ZP = ZINC PLATED OR GALV. ①
21	DAMPER AXLE BUSHING	DELRIN OR BRONZE	①
22A	NON-DRIVE SIDE, DAMPER AXLE ASSEMBLY	ZP STEEL & DELRIN	ZP STEEL PIN W/DELRIN BUSHING
22B		ZP STEEL & BRONZE	ZP STEEL PIN W/BRONZE BUSHING
22D		SS & DELRIN	SS PIN W/ DELRIN BUSHING
22E		SS & BRONZE	SS PIN W/ BRONZE BUSHING
23	DRIVE SIDE, DAMPER AXLE ASSEMBLY	SS OR ZP	①
24	1/4 DIA. E-CLIP	SS OR ZP	①
25	#8 x 0.75 SCREW	SS	
26	1/4 OR #14 x 0.75 SCREW	SS OR ZP	①
27	1/4-20 BOLT, LENGTH VARIES	SS, ZP	ZP ONLY FOR WITH ITEM 31, ONE LONG BOLT CAN REPLACE MIRRORED PAIRS OF ITEM 36 AT MULLIONS ①
28	1/4-20 NUT	SS, ZP	
29	REINFORCING STRAP	SS	OPTIONAL
30	1/4-20 BALL SWIVEL	ZP	
31	DAMPER BLADE DRIVE LEVER	SS OR ZP	①
32	DAMPER MANUAL QUADRANT ACTUATOR	VARIES	OTHER STYLES/TYPES ALLOWED ①
33	5/16Ø LINKAGE ROD	SS OR ZP	①
34	#10 x 0.75 SCREW	300 SS	①
35	#10 x 1.25 SCREW	300 SS	①
36	1/4-14 OR -20 ELCO BI-FLEX SCREW	300 SS & COATED STEEL	ITEM 36 CAN REPLACE 37, ITEMS ①
37	1/4Ø SCREW	300 SERIES SS	27/28 CAN REPLACE PAIRS OF 36 AT MULLION OR REPLACE 36 OR 37
38	1/8Ø BLIND RIVET	ALUMINUM	
39A	DEAD LOAD SHIM, OR OTHER SUPPORT	VARIES	NOT BY MANUFACTURER, SEALANT AS NEEDED ①
39B	SEALANT & OPTIONAL BACKER ROD		
40	2 x 5.25 x 0.25 MULLION ANGLE	6063-T5 ALUM.	AT MULLION OF LOUVER/SLEEVE ①
41	4-INCH MULLION CHANNEL	6061-T6 ALUM.	AT MULLION OF LOUVER/SLEEVE ①
42	MULLION SLEEVE BRACKET	5052-H32 ALUM.	
43	1.5 x 1.5 x 1/8 ANGLE	6063-T5 ALUM.	MIN SIZE, JAMB ATTACHMENT ANGLE
44	SILL DAM	ALUMINUM	OPTIONAL ①
45	BLADE SUPPORT BRACKET, OPTIONAL	6063-T5 ALUM.	INSTEAD OF SCREW INTO BLADE ①
46	STEEL MULLION END PLATE, ≤ 144H	COATED STEEL	FACTORY WELDED TO MULLION, 46/47 FOR SLEEVE MOUNT, 48/49 FOR CONTINUOUS ANGLE MOUNT ①
47	ALUMINUM MULLION END PLATE, ≤ 96H	5052-H32 ALUM.	
48	STEEL MULLION END PLATE, ≤ 144H	COATED STEEL	
49	ALUMINUM MULLION END PLATE, ≤ 96H	5052-H32 ALUM.	
50A1	MULLION MTG. ANG., ≤ 144H, CONCRETE	A1/B1: 5052-H32 &/OR 6061-T6 A2/B2: 6061-T6 A3/B3: 5052-H32 &/OR 6061-T6	IF NEEDED DUE TO WALL DEPTH, 50A1/B1 FOR CONCRETE, 50A2/B2 FOR STEEL & WOOD, 50A3/B3 FOR GROUT FILLED CMU ①
50A2	MULLION MTG. ANG., ≤ 144H, STL. & WD.		
50A3	MULLION MTG. ANG., ≤ 144H, G.F. CMU		
50B1	MULLION MTG. ANG., ≤ 96H, CONCRETE		
50B2	MULLION MTG. ANG., ≤ 96H, STL. & WD.		
50B3	MULLION MTG. ANG., ≤ 96H, G.F. CMU		
51	1/4Ø x 0.5 MIN THREAD STUD	SS OR PLATED	
60	0.06 SILL PAN	SS OR ALUM.	OPTIONAL FOR NOA ①
61	SILL PAN END	ALUMINUM	OPTIONAL FOR NOA ①

REV 01: 8/1/24, WAS PAGE 18, MOVED ANCHOR TABLE AND GENERAL NOTES TO NEW PAGES, CONDENSED SIMILAR ITEMS INTO A SINGLE ROW FOR #20/21/23/24/31, REMOVED #21C & #22C/F, ADDED #60/61, UPDATED ALLOY OF #4/8, ADDED DIMS TO #6, UPDATED LENGTH OF #10, ADDED INFO TO #11/18/20/39, ADDED COATED STEEL TO #11/46/48, ADDED OPTIONAL TO #12/44, ADDED 1/4" OPTION TO #26, CLARIFIED USE OF ZP ON #27/28, ADDED REPLACEMENT OPTION TO #27/28, CLARIFIED USE OF OTHER ACTUATORS ON #32, ADDED SS TO #33, ADDED 300 TO THE SS OF #34-37, ITEM 36 IS NOW A SPECIFIC SCREW TYPE, REMOVED SCREW LENGTHS FROM AND ADDED OPTIONS TO #36/37, CORRECTED #40/41 TO SAY MULLION, ADDED NOTE TO #45, ADDED HEIGHTS & NOTES TO #46-49, & ITEM 50 NOW 6 ROWS WITH UPDATED NAMES/ALLOYS/NOTES.

SEP 27 2024 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		 GREENHECK P.O.BOX 410 SCHOFIELD, WISCONSIN 54476-0410	DRAWN BY MES	DATE 8/9/2017
		TITLE	SCALE	
		SHEET NO. 34 OF 35		
		CAD DRAWING NO. EHH-601D		
EHH-601D LOUVER FLANGE FRAME SLEEVE MOUNT & CONTINUOUS ANGLE MOUNT PART LIST, H≤144" & H≤96"				

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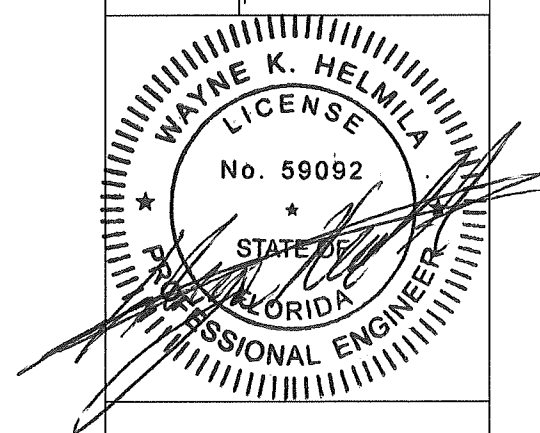
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DRAWN BY
MES

EHH-601D LOUVER
 FLANGE FRAME SLEEVE MOUNT
 & CONTINUOUS ANGLE MOUNT
 NOTES, H≤144" & H≤96"

CAD DRAWING NO.

EHH-601D



SEP 27 2024

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REV 01: 8/1/24, MOVED NOTES TO THIS NEW PAGE, ADDED NO SILL PAN & REPLACED TAS-100A WITH AMCA 550 IN NOTE 2, UPDATED ALLOWABLE PRESSURE BASED ON SECTION SIZE TO NOTE 3, ADDED TABLE OF ALLOWABLE PRESSURE BASED ON SECTION SIZE, ADDED CRACKED TO CONCRETE IN NOTE 8, CLARIFIED THE ALLOWANCE OF OTHER ACTUATORS/ETC IN NOTE 12, & ADDED LAST TWO SENTENCES TO NOTE 14.