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

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

NOTICE OF ACCEPTANCE (NOA)

Construction Specialties, Inc.
3 Werner Way
Lebanon, NJ 08833

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 DC-4174 Aluminum Louver

APPROVAL DOCUMENT: Drawing No. **RD-1140**, titled "DC-4174 Submittal Drawings", sheets 1 through 22 of 22, dated 12/03/2010, with revision 5 dated 10/14/2024, prepared by Construction Specialties, Inc., signed and sealed by Wayne K. Helmila, P.E., bearing the Miami-Dade County Product Control renewal 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, city, state, 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 NOA # 24-1206.04** and consists of this page 1 and evidence pages E-1, E-2, E-3 and E-4, as well as approval document mentioned above.

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

MIAMI-DADE COUNTY APPROVED

04/24/26

NOA No. 26-0330.05
Expiration Date: June 16, 2027
Approval Date: April 30, 2026

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. Evidence submitted under previous NOAs

A. DRAWINGS *"Submitted under NOA # 16-0418.10"*

1. Drawing No. **RD-1140**, titled "DC-4174 Submittal Drawings", sheets 1 through 14 of 14, dated 12/03/2010, with revision 2 dated 03/10/2016, prepared by Construction Specialties, Inc., signed and sealed by Wayne K. Helmila, P.E.

B. TESTS *"Submitted under NOA # 11-0218.04"*

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 DC-4174 Aluminum Louvers, prepared by Architectural Testing, Inc, Test Report No. **A4375.01-109-18**, dated 02/04/2011, signed and sealed by Michael D. Stremmel, P.E.

C. CALCULATIONS

1. Model DC-4174 Louver calculations prepared by Rice Engineering, dated 04/06/2016, signed and sealed by Wayne K. Helmila, P.E.

"Submitted under NOA # 11-0218.04"

2. Model DC-4174 Louver calculations prepared by Rice Engineering, dated 02/15/2011, 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

1. Statement letter of code conformance to 5th edition (2014) FBC issued Rice Engineering, dated 04/04/2016, signed and sealed by Wayne K. Helmila, P.E.

2. Statement letter of no financial interest issued by Rice Engineering, dated 04/04/2016, signed and sealed by Wayne K. Helmila, P.E.

"Submitted under NOA # 11-1212.07"

3. Statement letter of code conformance to 2007 and 2010 FBC issued Rice Engineering, dated 12/06/2011, signed and sealed by L. David Rice, P.E.

Carlos M. Utrera, P.E.
Product Control Examiner
NOA No. 26-0330.05
Expiration Date: June 16, 2027
Approval Date: April 30, 2026

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

2. Evidence submitted under NOA # 18-0117.07

A. DRAWINGS

1. Drawing No. **RD-1140**, titled "DC-4174 Submittal Drawings", sheets 1 through 14 of 14, dated 12/03/2010, with revision 3 dated 11/20/2017, prepared by Construction Specialties, Inc., signed and sealed by Wayne K. Helmila, P.E.

B. TESTS

1. None.

C. CALCULATIONS

1. Model DC-4174 Louver calculations prepared by Rice Engineering, dated 03/07/2018, 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 6th edition (2017) FBC issued Rice Engineering, dated 11/29/2017, signed and sealed by Wayne K. Helmila, P.E.

2. Statement letter of no financial interest issued by Rice Engineering, dated 01/20/2018, signed and sealed by Wayne K. Helmila, P.E.

Carlos M. Utrera, P.E.
Product Control Examiner
NOA No. 26-0330.05
Expiration Date: June 16, 2027
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NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

3. Evidence submitted under NOA # 20-1222.14

A. DRAWINGS

1. Drawing No. **RD-1140**, titled "DC-4174 Submittal Drawings", sheets 1 through 14 of 14, dated 12/03/2010, with revision 4 dated 04/12/2021, prepared by Construction Specialties, Inc., 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 7th edition (2020) of the FBC issued Rice Engineering, dated 11/04/2020, signed and sealed by Wayne K. Helmila, P.E.

2. Statement letter of no financial interest issued by Rice Engineering, dated 11/04/2020, signed and sealed by Wayne K. Helmila, P.E.

Carlos M. Utrera, P.E.
Product Control Examiner
NOA No. 26-0330.05
Expiration Date: June 16, 2027
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NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

4. Evidence submitted NOA # 24-1206.04 and new

A. DRAWINGS

1. Drawing No. **RD-1140**, titled "DC-4174 Submittal Drawings", sheets 1 through 22 of 22, dated 12/03/2010, with revision 5 dated 10/14/2024, prepared by Construction Specialties, Inc., signed and sealed by Wayne K. Helmila, P.E.

B. TESTS

1. None.

C. CALCULATIONS

1. Model **DC-4174** Louver calculations prepared by Rice Engineering, dated 11/12/2024, 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. Verification testing letter, issued by Intertek, dated 02/18/2026, signed by Timothy J. McGill.

2. Statement letter of code conformance to 8th edition (2023) of the FBC issued Rice Engineering, dated 11/12/2024, signed and sealed by Wayne K. Helmila, P.E.

3. Statement letter of no financial interest issued by Rice Engineering, dated 11/12/2024, signed and sealed by Wayne K. Helmila, P.E.

Carlos M. Utrera, P.E.
Product Control Examiner
NOA No. 26-0330.05
Expiration Date: June 16, 2027
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Phone: (920) 617-1042
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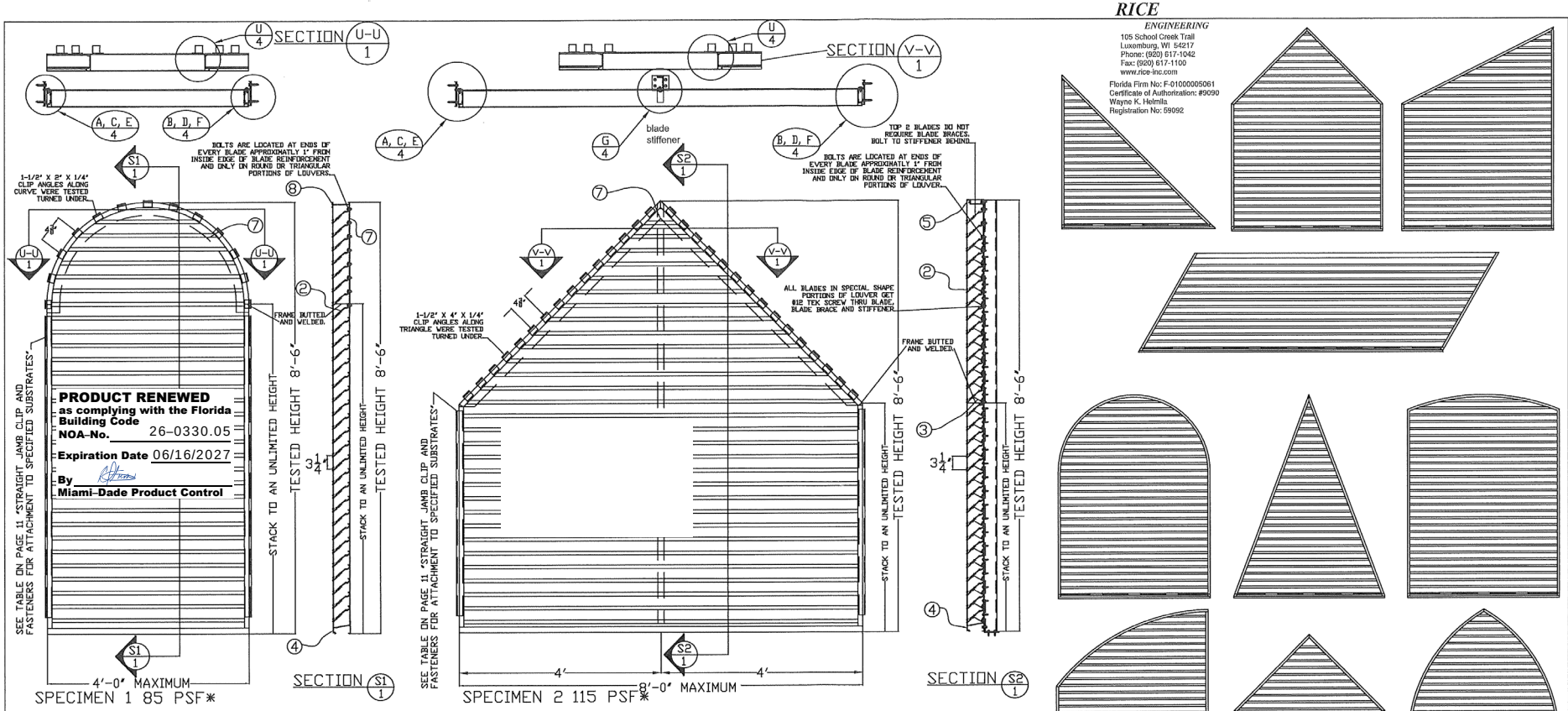
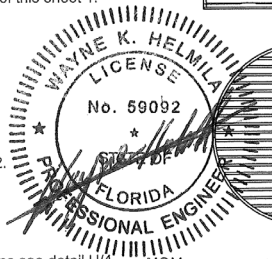
www.rice-inc.com
Florida Firm No: F-01000005061
Certificate of Authorization: #9090
Wayne K. Helmila
Registration No: 59092



*WINDLOADS SPECIFIED ARE FOR TESTING PURPOSES ONLY. SEE TABLE 4 ON SHEET 21 FOR MAXIMUM BLADE LENGTH AND STIFFENER SPACING ACCORDING TO DESIGN WIND LOAD FOR ALL APPLICATIONS.

1) It shall be the responsibility the Structural Engineer of Record to verify the capacity of the structure to support the loads imposed by the louvers.
2) These louvers have been designed according to the Florida Building Code and the Aluminum Design Manual. They are tested in accordance with Dade County protocols TAS 201, TAS 202 and TAS 203.
3) All fasteners shall be stainless steel - 300 Series, condition CW, Fy=65 ksi, Fu = 110 ksi minimum, except the fasteners specified in notes 12, 13 and 14 of this sheet 1.
4) Panel widths and heights are limited as shown in elevations and details.
5) The louver 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 waterproof or water resistant equipment, components or supplies.
6) Jamb clip spacing may not exceed maximum shown in elevations. Each clip and fastener used must be detailed on the drawing and verified on the NOA.
7) Separation of unpainted aluminum and dissimilar materials to be maintained by the installer.
8) This louver system has been tested, analyzed and approved for design pressures not to exceed 170 PSF and is "Large Missile Impact Resistant".
9) See sheet 21 of 22 for blade span table.
10) Mullion louvers may be stacked horizontally for an unlimited distance as long as recommended blade and mullion spans are maintained
11) Louvers without mullions may be stacked to an unlimited height as long as recommended blade spans are maintained. See stack detail on sheet 2 of 22. No head/sill is required at stack condition
12) At the sill, the jamb is miter cut and butted into the sloped sill and held with two SS Num 10 X $\frac{3}{4}$" self tapping screws. The joint is sealed with foam tape.
13) The head extrusion is square cut and butted into the jamb or mullion and held with two SS number 10 X 1 inch self tapping screws
14) Blades are attached to vertical jambs with four Number 10 SS socket pan head screws see details pages 4 and 5
15) Blades are attached to shaped louvers with two $\frac{1}{8}$ fillet welds 1 inch long and with a $\frac{1}{4}$-20 nut and bolt through a reinforcement flange attached to the frame see detail U/4

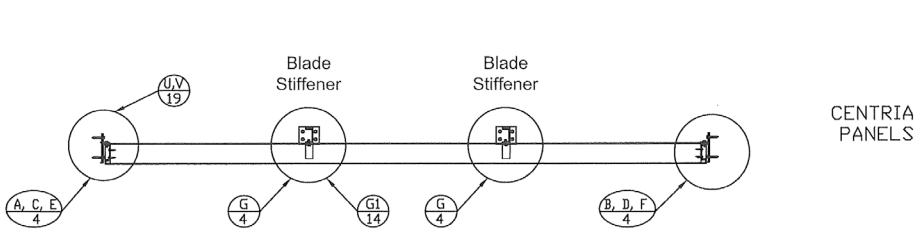


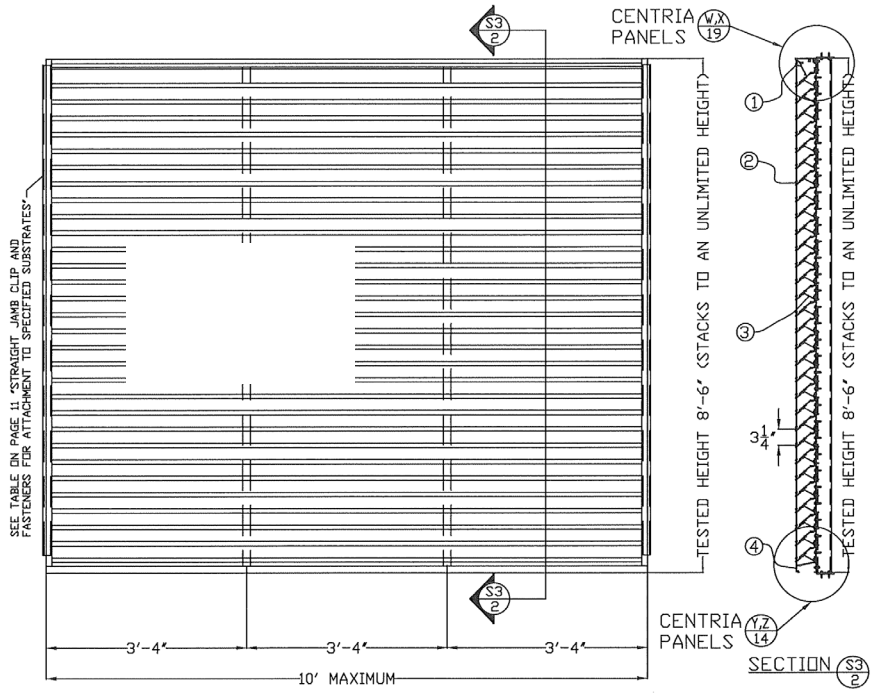
NOV 12 2024

SPECIAL SHAPES AVAILABLE

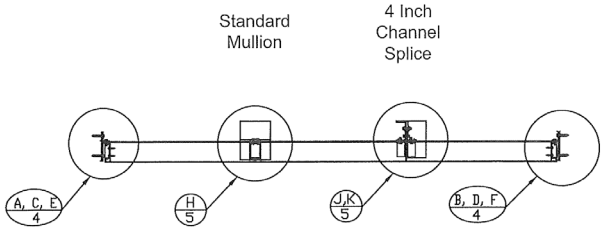
REVISION: 5 10-14-24
DATE: 12-03-10
SHEET: 1 OF 22
DRW NO : RD-1140
PROJECT: DC-4174
TITLE: SUBMITTAL DRAWINGS
SCALE: 3/4" = 1'-0"
DRW BY: R. GEIST

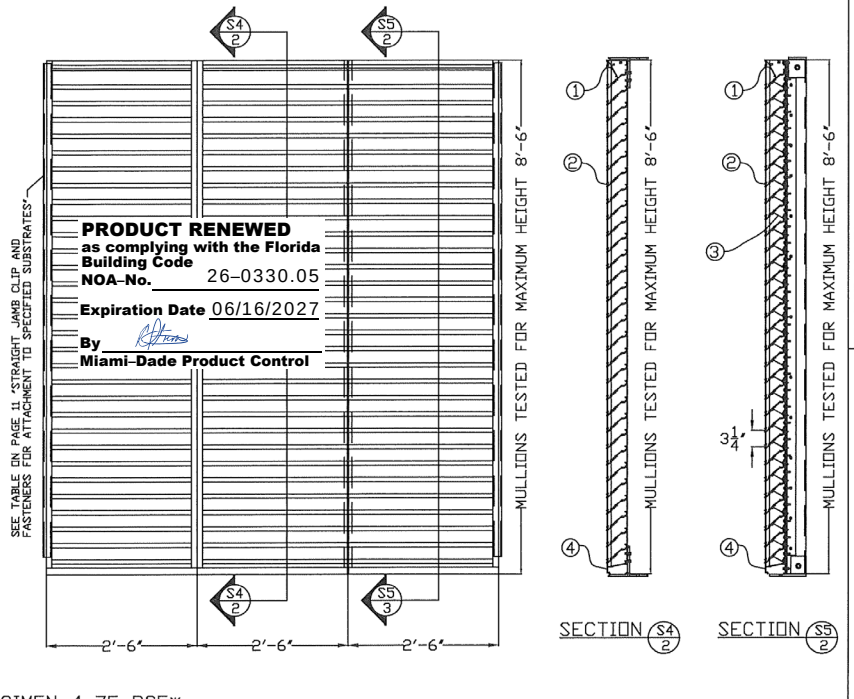
Construction Specialties
49 MEEKER AVENUE CRANFORD, NEW JERSEY
PHONE: 1-800-631-7379 / FAX: 908-272-5844





SPECIMEN 3 92 PSF*

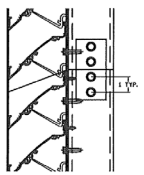


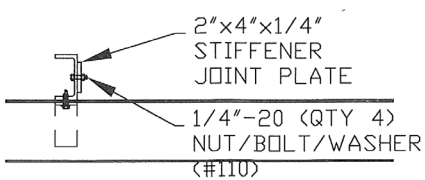


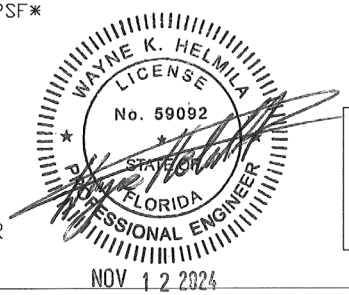
SPECIMEN 4 75 PSF*

*WINDLOADS SPECIFIED ARE FOR TESTING PURPOSES ONLY. SEE TABLES 1 AND 4 ON SHEET 21 FOR MAXIMUM BLADE LENGTH AND STIFFENER SPACING ACCORDING TO DESIGN WINDLOAD FOR ALL APPLICATIONS.

WHEN STACKING UNITS CONTAINING A BLADE STIFFENER, IT IS REQUIRED THAT THE 3" CHANNELS BE TIED TO EACH OTHER TO ACT AS ONE COLUMN. SEE DETAILS FOR STIFFENER JOINT PLATE.







NOV 12 2024

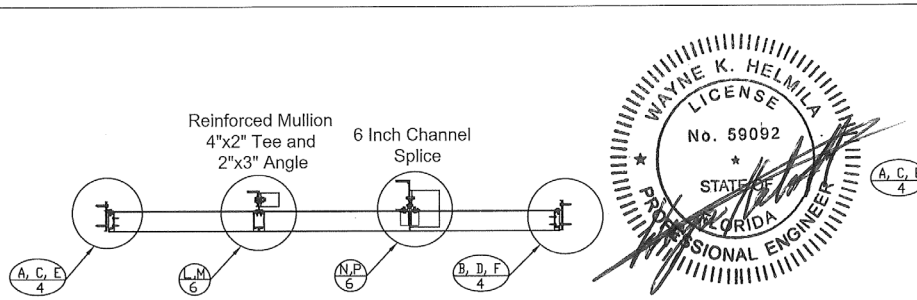
ALL CLIP ANGLES FOR LOUVER HEAD ATTACHMENTS SHOULD HAVE VERTICAL SLOTTED HOLES FOR THE APPROPRIATE SIZE FASTENERS. VERTICAL SLOTS SHOULD ALLOW FOR 3/4" VERTICAL EXPANSION, AND SLOTS SHOULD BE CENTERED IN SAME LOCATION AS STANDARD HOLE LOCATION.

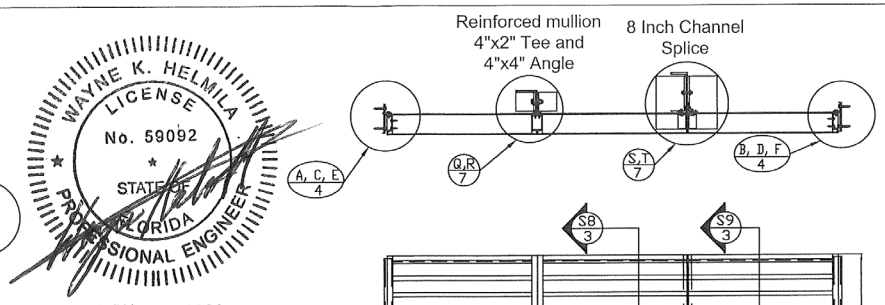
PRODUCT RENEWED
as complying with the Florida Building Code
NOA No. 26-0330.05
Expiration Date 06/16/2027
By
Miami-Dade Product Control

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

REVISION: 5	10-14-24
DATE: 12-03-10	
SHEET: 2 OF 22	
DRW NO : RD-1140	
PROJECT: DC-4174	
TITLE: SUBMITTAL DRAWINGS	
SCALE: 3/4" = 1'-0"	
DRW BY: R. GEIST	

Construction Specialties
49 MEEKER AVENUE, CRANFORD, NEW JERSEY
PHONE: 1-800-631-7379 / FAX: 908-272-5844





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

NOV 12 2024

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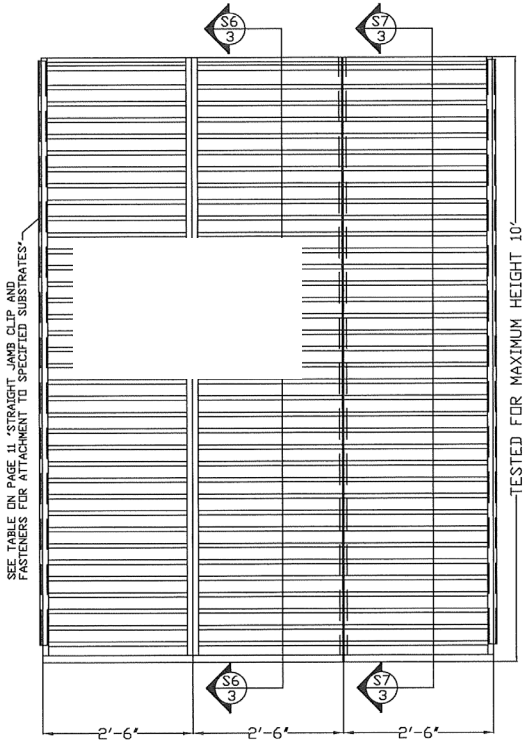
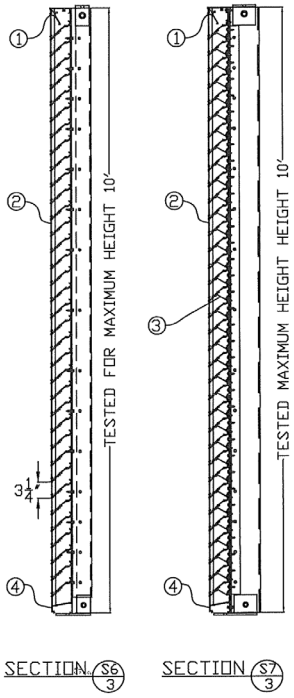
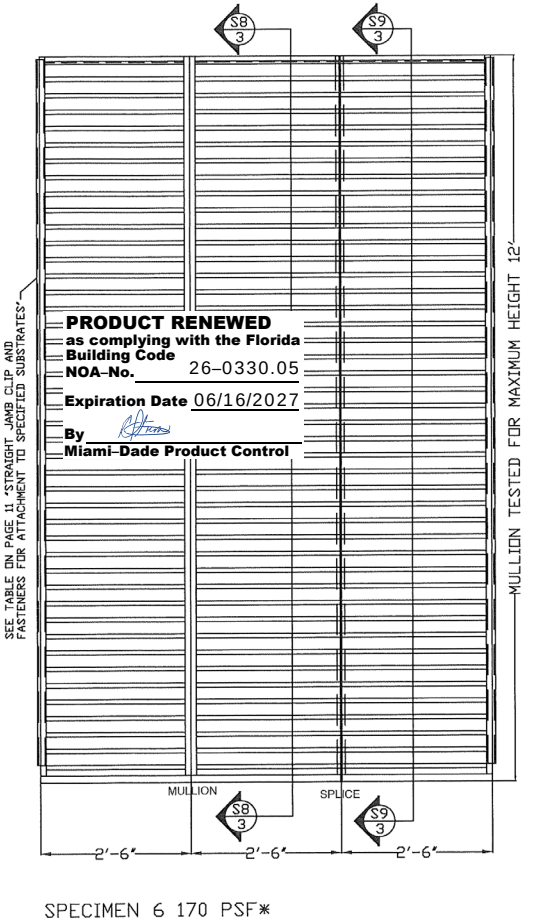


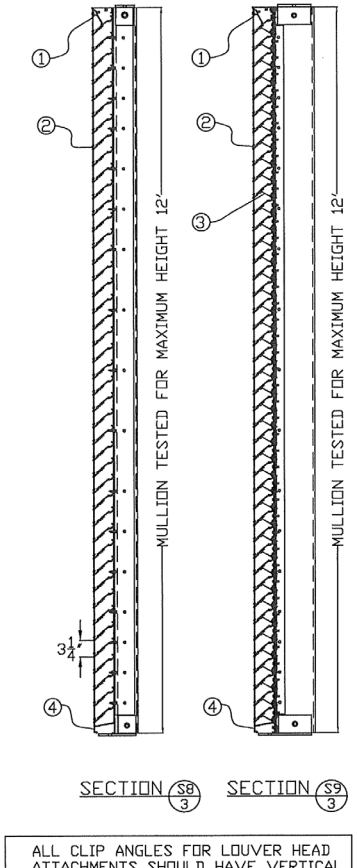


SPECIMEN 5 125 PSF*



PRODUCT RENEWED
as complying with the Florida Building Code
NOA-No. 26-0330.05
Expiration Date 06/16/2027
By
Miami-Dade Product Control

SPECIMEN 6 170 PSF*



ALL CLIP ANGLES FOR LOUVER HEAD ATTACHMENTS SHOULD HAVE VERTICAL SLOTTED HOLES FOR THE APPROPRIATE SIZE FASTENERS. VERTICAL SLOTS SHOULD ALLOW FOR 3/4" VERTICAL EXPANSION, AND SLOTS SHOULD BE CENTERED IN SAME LOCATION AS STANDARD HOLE LOCATION.

*WINDLOADS SPECIFIED ARE FOR TESTING PURPOSES ONLY.
SEE TABLES 2,3 AND 4 ON SHEET 21 FOR MAXIMUM BLADE LENGTH AND STIFFENER SPACING ACCORDING TO DESIGN WINDLOAD FOR ALL APPLICATIONS.

REVISION: 5	10-14-24
DATE: 12-03-10	
SHEET: 3 OF 22	
DRW NO : RD-1140	
PROJECT: DC-4174	
TITLE: SUBMITTAL DRAWINGS	
SCALE: 1/2" = 1'-0"	
DRW BY: R. GEIST	

Construction Specialties
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PRODUCT RENEWED
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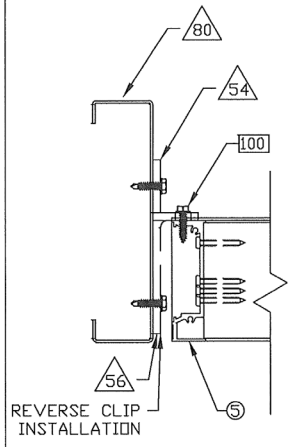
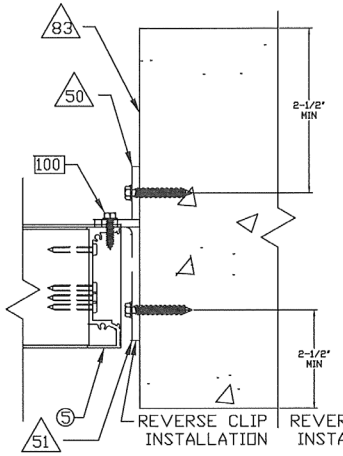
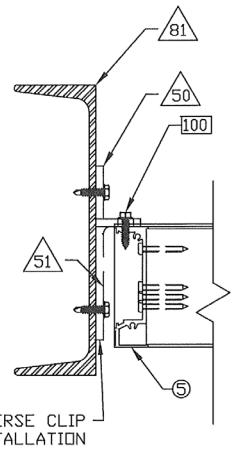


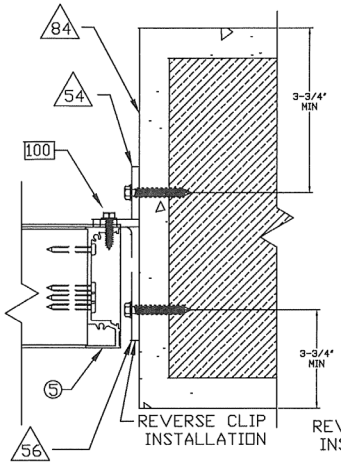
16 Ga MIN GALVANIZED STRUCTURAL STEEL STUD
Detail A/4
SCALE: NTS
SP-ALL



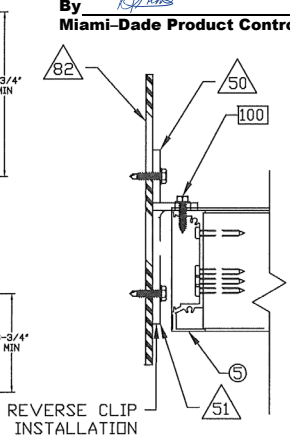
4000 PSI MIN CONCRETE
Detail B/4
SCALE: NTS
SP-ALL



3/16" MINIMUM STRUCTURAL STEEL
Detail C/4
SCALE: NTS
SP-ALL
ANY STEEL SHAPE ACCEPTABLE

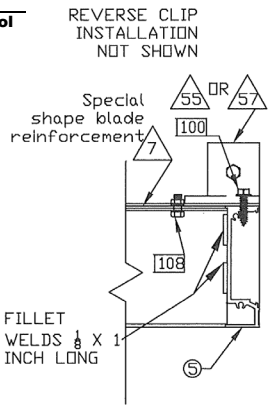


CONCRETE FILLED CMU
Detail D/4
SCALE: NTS
SP-ALL

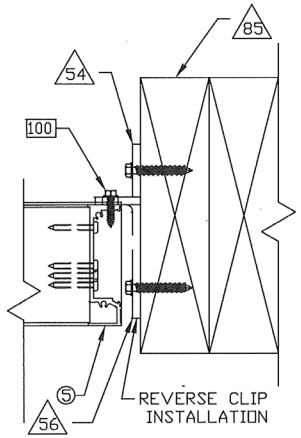


1/8" MINIMUM ALUMINUM
Detail E/4
SCALE: NTS
SP-ALL
ANY ALUMINUM SHAPE ACCEPTABLE

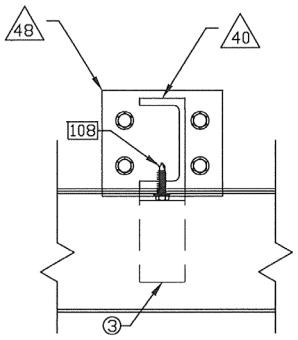
REVERSE CLIP INSTALLATION NOT SHOWN



SPECIAL SHAPE LOUVERS
Detail U/4
SCALE: NTS
SP-1 & 2

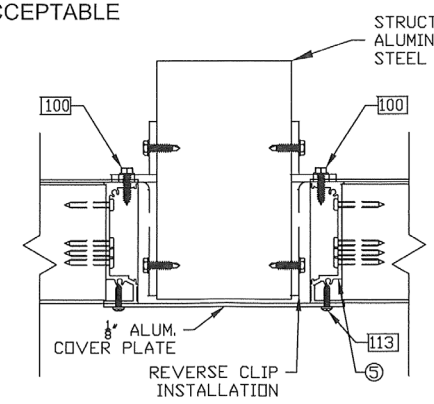


WOOD
G=0.42 MIN.
Detail F/4
SCALE: NTS
SP-ALL



Note: There is no connection between 48 and 40

Detail G/4
SCALE: NTS
SP-2 & 3



LOUVER JAMBS CAN SHARE ONE VERTICAL SUBSTRATE AND BE COVERED WITH FIELD INSTALLED ALUMINUM TRIM PLATE. VERTICAL SUBSTRATE DESIGNED AND SUPPLIED NOT BY CS. CLIP ANGLES TO MATCH SUBSTRATE REQUIREMENTS FOUND IN OTHER DETAILS ON THIS PAGE.

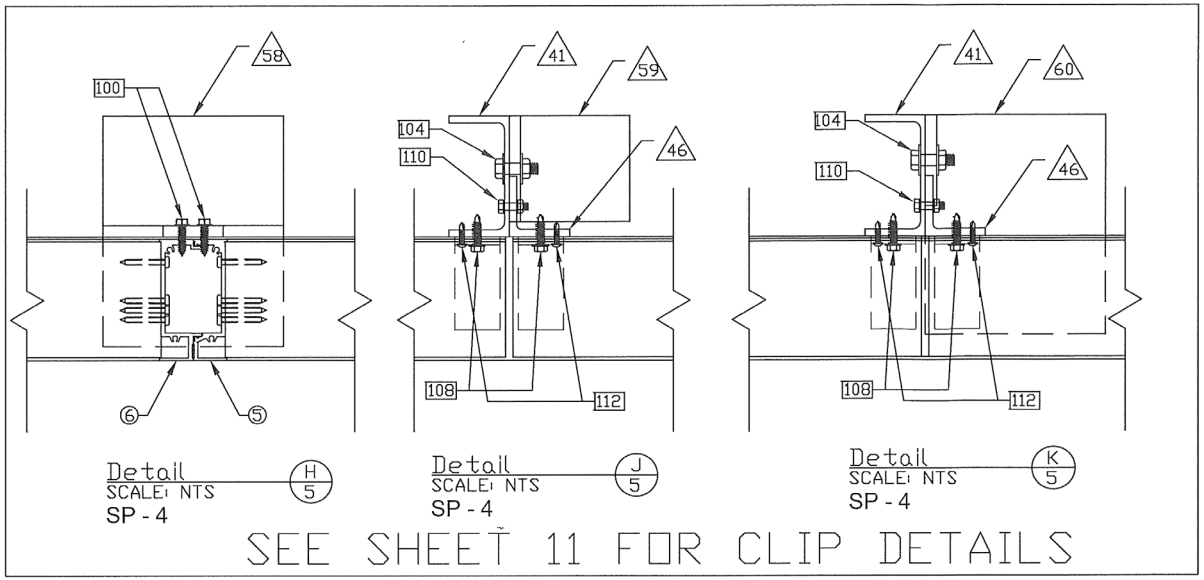
SEE SHEET 20 FOR CLIP DETAILS

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
NOV 12 2024

REVISION: 5 10-14-24
DATE: 12-03-10
SHEET: 4 OF 22
DRW NO: RD-1140
PROJECT: DC-4174
TITLE: SUBMITTAL DRAWINGS
SCALE: 1/2" = 1'-0"
DRW BY: R. GEIST

Construction Specialties
49 MEEKER AVENUE, CRANFORD, NEW JERSEY
PHONE: 1-800-631-7379 / FAX: 908-272-5844

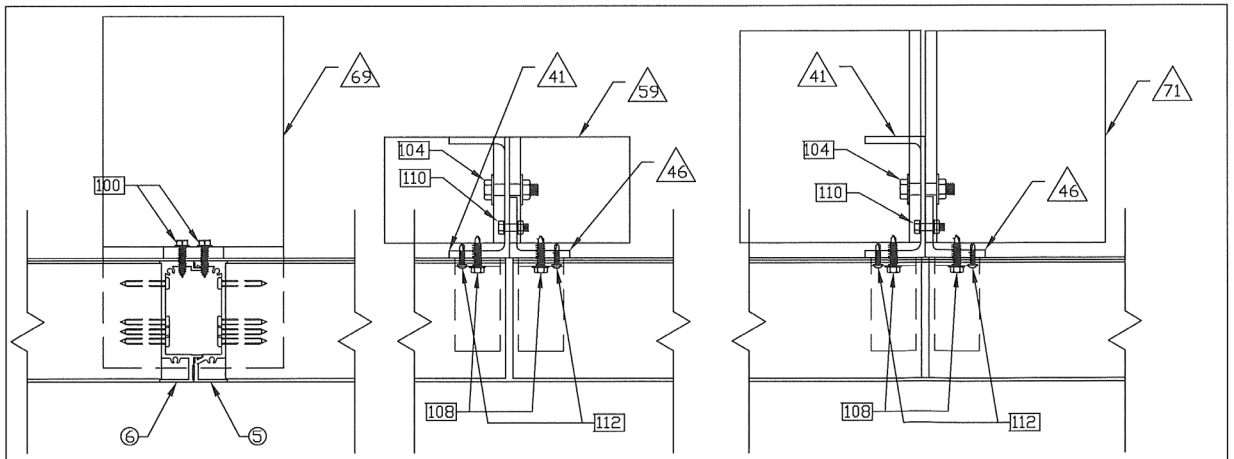


Detail H/5 SCALE: NTS
SP - 4

Detail J/5 SCALE: NTS
SP - 4

Detail K/5 SCALE: NTS
SP - 4

SEE SHEET 11 FOR CLIP DETAILS



Detail H/5 SIM SCALE: NTS
SP - 4 - CMU ONLY

Detail J/5 SIM SCALE: NTS
SP - 4 - CONCRETE ONLY

Detail K/5 SIM SCALE: NTS
SP - 4 - CMU ONLY

SEE SHEET 11, 12 & 13 FOR CLIP DETAILS

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

NOV 12 2024

PRODUCT RENEWED
as complying with the Florida Building Code
NOA-No. 26-0330.05
Expiration Date 06/16/2027
By
Miami-Dade Product Control

REVISION: 5	10-14-24
DATE: 12-03-10	
SHEET: 5 OF 22	
DRW NO : RD-1140	
PROJECT: DC-4174	
TITLE: SUBMITTAL DRAWINGS	
SCALE: 1/2" = 1'-0"	
DRW BY: R. GEIST	

Construction Specialties
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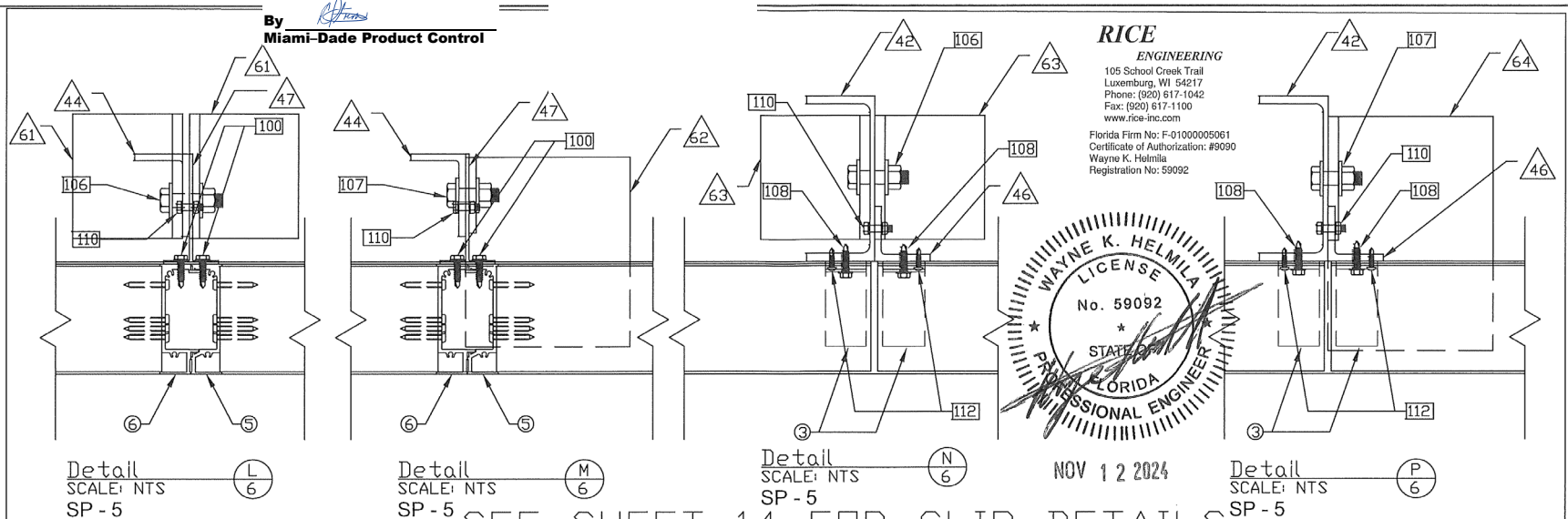
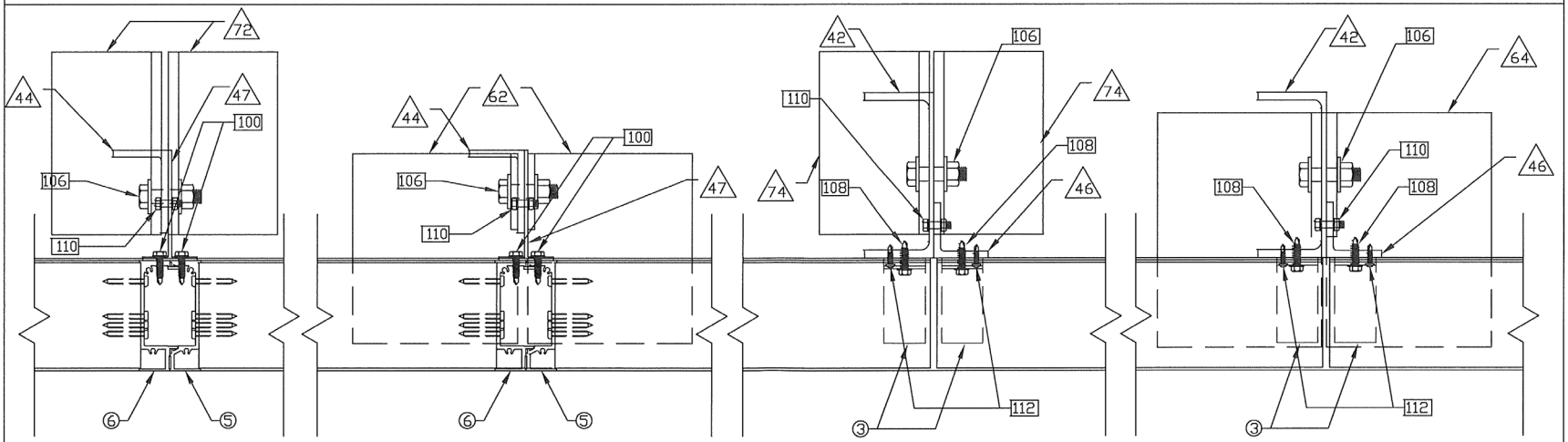
By _____
Miami–Dade Product Control



SEE SHEET 14 FOR CLIP DETAILS



SEE SHEET 14, 15 & 16 FOR CLIP DETAILS

RICE
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105 School Creek Trail
Luxemburg, WI 54217
Phone: (920) 617-1042
Fax: (920) 617-1100
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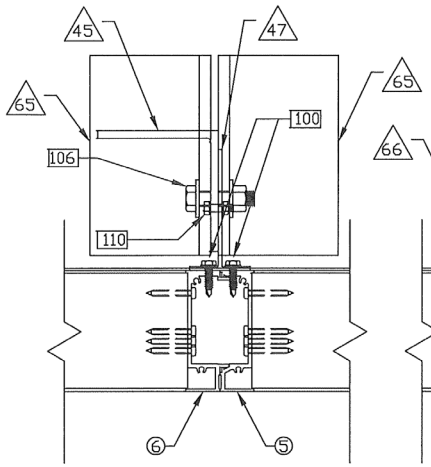
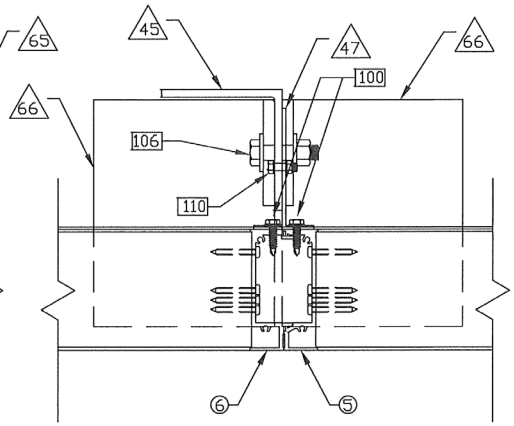
NOV 12 2024

PROJECT: DC-4174
TITLE: SUBMITTAL DRAWINGS
SCALE: 1/2" = 1'-0"
DRW BY: R. GEIST
REVISION: 5 10-14-24
DATE: 12-03-10
SHEET: 6 OF 22
DRW NO : RD-1140

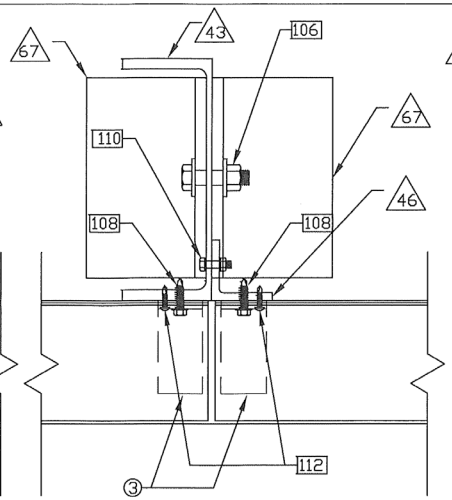
Construction Specialties
49 MEEKER AVENUE, CRANFORD, NEW JERSEY
PHONE: 1-800-631-7379 / FAX: 908-272-5844



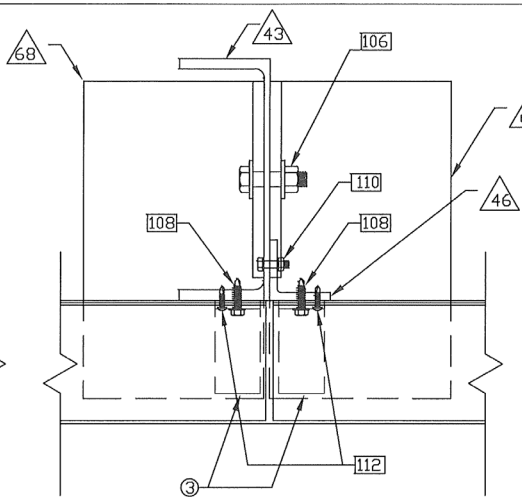
Detail Q/7
SCALE: NTS
SP - 6



Detail R/7
SCALE: NTS
SP - 6

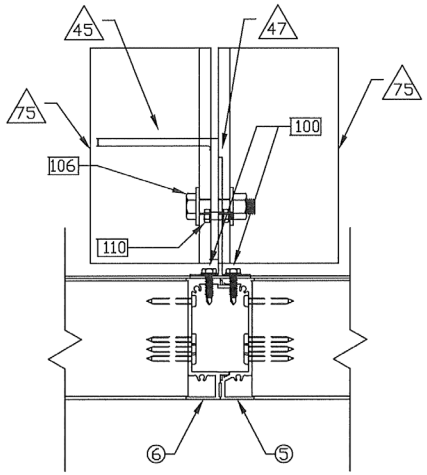


Detail S/7
SCALE: NTS
SP - 6

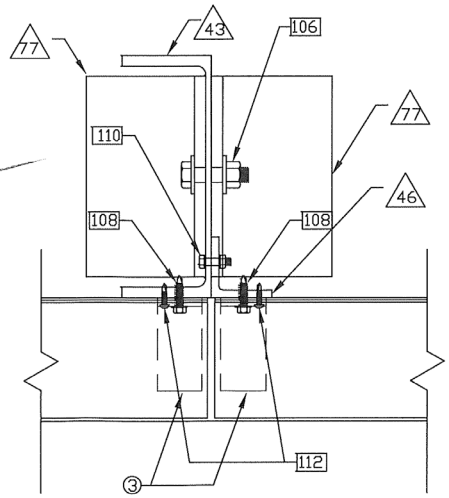


Detail T/7
SCALE: NTS
SP - 6

SEE SHEET 17 FOR CLIP DETAILS



Detail Q/7 SIM
SCALE: NTS
SP - 6 - CMU ONLY



Detail S/7
SCALE: NTS
SP - 6 - CMU ONLY

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

NOV 12 2024

PRODUCT RENEWED
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By
Miami-Dade Product Control

SEE SHEET 18 & 19
FOR CLIP DETAILS

RICE
ENGINEERING
105 School Creek Trail
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Phone: (920) 617-1042
Fax: (920) 617-1100
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Certificate of Authorization: #9090
Wayne K. Helmila
Registration No: 59092

PROJECT: DC-4174	REVISION: 5 10-14-24
TITLE: SUBMITTAL DRAWINGS	DATE: 12-03-10
SCALE: 1/2" = 1'-0"	SHEET: 7 OF 22
DRW BY: R. GEIST	DRW NO : RD-1140

Construction Specialties
49 MEEKER AVENUE, CRANFORD, NEW JERSEY
PHONE: 1-800-631-7379 / FAX: 908-272-5844

1	HEAD	6063-T6 ALUMINUM 0.070 THK
2	BLADE - STANDARD	6063-T6 ALUMINUM 0.070 THK
3	BLADE BRACE	6105-T5 ALUMINUM 0.121 THK
4	SILL	6063-T5 ALUMINUM 0.080 THK
5	STANDARD JAMB	6063-T6 ALUMINUM 0125 THK
6	STANDARD MULLION HALF	6063-T6 ALUMINUM 0.125 THK
7	SHAPE BLADE REINFORCEMENT	3"x0.080 TRIM TO MATCH SPECIAL SHAPE PROFILE 6063-T6 ALUMINUM
8	HEAD - FOR ROUND SHAPES	6063-T6 ALUMINUM 0.080 THK
9	CENTRIA HEAD	6063-T6 ALUMINUM 0.125 THK
10	CENTRIA 2" SILL	6063-T6 ALUMINUM 0.080 THK
11	CENTRIA JAMB	6063-T6 ALUMINUM 0.125 THK
12	CENTRIA 3" SILL	6063-T6 ALUMINUM 0.080 THK
13	CENTRIA 2" HEAD EXTENSION	6063-T6 ALUMINUM 0.125 THK AT BUILDING CONNECTION
14	CENTRIA 3" HEAD EXTENSION	6063-T6 ALUMINUM 0.125 THK AT BUILDING CONNECTION
15	CENTRIA 2" JAMB EXTENSION	6063-T6 ALUMINUM 0.078 THK
16	CENTRIA 3" JAMB EXTENSION	6063-T6 ALUMINUM 0.125 THK
40	3" AA CHANNEL	6061-T6 ALUMINUM
41	4" AA CHANNEL	6061-T6 ALUMINUM
42	6" AA CHANNEL	6061-T6 ALUMINUM
43	8" AA CHANNEL	6061-T6 ALUMINUM
44	CONTINUOUS MULLION ANGLE	2"x3"x1/4" ANGLE 6061-T6 ALUMINUM
45	CONTINUOUS MULLION ANGLE	4"x4"x1/4" ANGLE 6061-T6 ALUMINUM
46	BLADE BRACE CARRIER	2"x2"x1/4" ANGLE 6061-T6 ALUMINUM
47	2"x4"x1/8" MULLION TEE	6063-T6 ALUMINUM
48	3 1/2"x4"x1/4" SLIP PLATE	6063-T6 ALUMINUM
50	JAMB CLIP	2"x1-1/2"x1/4"x4-3/4" LG 6061-T6 ALUMINUM
51	JAMB CLIP	4"x1-1/2"x1/4"x4-3/4" LG 6061-T6 ALUMINUM
54	JAMB CLIP	2"x1-1/2"x1/4" CONTINUOUS ANGLE 6061-T6 ALUMINUM
55	JAMB CLIP	2"x1-1/2"x1/4"x2" LG 6061-T6 ALUMINUM
56	JAMB CLIP	4"x1-1/2"x1/4" CONTINUOUS ANGLE 6061-T6 ALUMINUM
57	JAMB CLIP	4"x1-1/2"x1/4"x2" LG 6061-T6 ALUMINUM
58	MULLION CLIP ANGLE	4" x 6" x 3/8" x 6" LG CLIP 6061-T6 ALUMINUM - 2 STANDARD MULLIONS
59	MULLION CLIP ANGLE	4" x 4" x 3/8" x 3 1/2" LG. CLIP 6061-T6 ALUMINUM - 4" CHANNEL SPLICE
60	MULLION CLIP ANGLE	4" x 4" x 3/8" x 7 1/4" LG. COPED CLIP 6061-T6 ALUMINUM - 4" CHANNEL SPLICE ALT.
61	MULLION CLIP ANGLE	4" x 4" x 3/8" x 4 1/2" LG. CLIP 6061-T6 ALUMINUM - 2"x4"x1/8" TEE/2"x3"x1/4" ANGLE MULLION
62	MULLION CLIP ANGLE	4" x 6" x 3/8" x 6 7/8" LG. COPED CLIP 6061-T6 ALUMINUM - 2"x4"x1/8" TEE/2"x3"x1/4" ANGLE MULLION ALT.
63	MULLION CLIP ANGLE	4" x 4" x 3/8" x 4 1/2" LG. CLIP 6061-T6 ALUMINUM - 6" CHANNEL SPLICE
64	MULLION CLIP ANGLE	4" x 6" x 3/8" x 8 1/2" LG. COPED CLIP 6061-T6 ALUMINUM - 6" CHANNEL SPLICE ALT.
65	MULLION CLIP ANGLE	4" x 4" x 3/8" x 6 5/8" LG. CLIP 6061-T6 ALUMINUM - 2"x4"x1/8" TEE/4"x4"x1/4" ANGLE MULLION
66	MULLION CLIP ANGLE	4" x 6" x 3/8" x 7 1/2" LG. COPED CLIP 6061-T6 ALUMINUM - 2"x4"x1/8" TEE/4"x4"x1/4" ANGLE MULLION ALT.
67	MULLION CLIP ANGLE	4" x 4" x 3/8" x 6 5/8" LG. CLIP 6061-T6 ALUMINUM - 8" CHANNEL SPLICE
68	MULLION CLIP ANGLE	4" x 6" x 3/8" x 10 1/2" LG. COPED CLIP 6061-T6 ALUMINUM - 8" CHANNEL SPLICE ALT.
69	MULLION CLIP ANGLE-CMU ONLY	6" x 8" x 5/8" x 6" LG CLIP 6061-T6 ALUMINUM - 2 STANDARD MULLIONS
70	MULLION CLIP ANGLE-CMU ONLY	4" x 8" x 5/8" x 16" LG CLIP 6061-T6 ALUMINUM - 2 STANDARD MULLIONS & 4" CHANNEL SPLICE
71	MULLION CLIP ANGLE-CMU ONLY	4" x 4" x 3/8" x 7" LG CLIP 6061-T6 ALUMINUM - 4" CHANNEL SPLICE
72	MULLION CLIP ANGLE-CMU ONLY	4" x 4" x 3/8" x 6-5/8" LG CLIP 6061-T6 ALUMINUM - 2"x4"x1/8" TEE/2"x3"x1/4" ANGLE MULLION
73	MULLION CLIP ANGLE-CMU ONLY	4" x 8" x 5/8" x 32" LG CLIP 6061-T6 ALUMINUM - 2"x4"x1/8" TEE/2"x3"x1/4" ANGLE MULLION & 6" CHANNEL SPLICE
74	MULLION CLIP ANGLE-CMU ONLY	4" x 4" x 3/8" x 6-5/8" LG CLIP 6061-T6 ALUMINUM - 6" CHANNEL SPLICE
75	MULLION CLIP ANGLE-CMU ONLY	4" x 4" x 3/8" x 7-1/8" LG CLIP 6061-T6 ALUMINUM - 2"x4"x1/8" TEE/4"x4"x1/4" ANGLE MULLION
76	MULLION CLIP ANGLE-CMU ONLY	4" x 12" x 32" LG CLIP, 1/2" THICK ALUMINUM (5052-H32) OR 3/8" THICK GALV. STEEL (A36) - 2"x4"x1/8" TEE/4"x4"x1/4" ANGLE MULLION & 8" CHANNEL SPLICE
77	MULLION CLIP ANGLE-CMU ONLY	4" x 4" x 3/8" x 6-5/8" LG CLIP 6061-T6 ALUMINUM - 8" CHANNEL SPLICE
80	STEEL STUD	16 GA MINIMUM GALVANIZED STRUCTURAL STEEL STUD, fY = 33 ksi min.
81	STRUCTURAL STEEL	3/16" THK MIN., A-36 MIN.
82	ALUMINUM PLATE	1/8" MINIMUM , 6063-T6 MIN.
83	CONCRETE	4000 PSI MIN. CRACKED CONCRETE
84	CMU	GROUT FILLED CONCRETE MASONRY UNIT, FILLED W/ 2000 PSI MIN. MORTAR, TYPE N.
85	WOOD	G = 0.42 MINIMUM (SPRUCE-PINE-FIR), MIN. THICKNESS MUST EXCEED APPROPRIATE FASTENER PER CLIP SCHEDULES
100	1/4-14 SCREW	THREAD FORMING OR SELF DRILL 300 SERIES S.S. CONDITION CW Fy=65 KSI, Fu-100KSI MIN. FOR ALUM. AND 16 GA STEEL STUD, SPACING DETERMINED BY CLIP LAYOUT
104	3/8" NUT AND BOLT	3/8 - 16 S.S. ALLOY GROUP 1, 2, OR 3 CONDITION CW WITH LOCK WASHER, FLAT WASHERS EACH SIDE
106	1/2" NUT AND BOLT	1/2 - 13 S.S. ALLOY GROUP 1, 2, OR 3 CONDITION CW WITH LOCK WASHER, FLAT WASHERS EACH SIDE
107	5/8" NUT AND BOLT	5/8 - 11 S.S. ALLOY GROUP 1, 2, OR 3 CONDITION CW WITH LOCK WASHER, FLAT WASHERS EACH SIDE
108	1/4-20 x 1" SCREW	STAINLESS STEEL THREAD CUTTING F POINT PILOT HOLE .226 - No 1 DRILL SPACED 3 1/4 INCHES
110	1/4-20 BOLT, NUT & WASHER	1/4-20 SS NUT, BOLT AND LOCKWASHER SPACING 3 1/2 INCHES
112	#12 SCREW	#12 x 1 1/2" S.S. SCREW ALLOY GROUP 1, 2, OR 3
113	#10 SCREW	#10 x 3/4" S.S. SCREW ALLOY GROUP 1, 2, OR 3

*ALL S.S. ANCHORS SPECIFIED ON THIS SHEET MUST BE PROVIDED AS SERIES 300 S.S.

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NOV 12 2024

REVISION: 5	10-14-24
DATE: 12-03-10	
SHEET: 8 OF 22	
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TITLE: SUBMITTAL DRAWINGS	
SCALE: 1/2" = 1'-0"	
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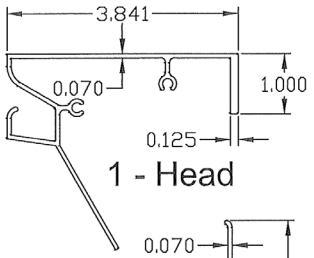
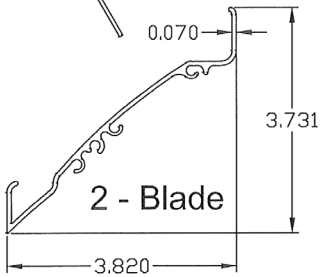
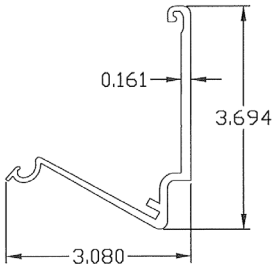


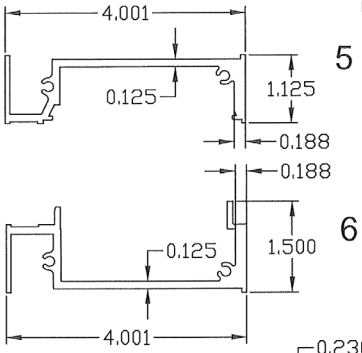
1 - Head



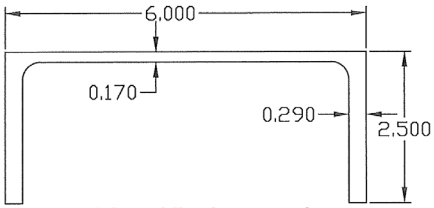
2 - Blade



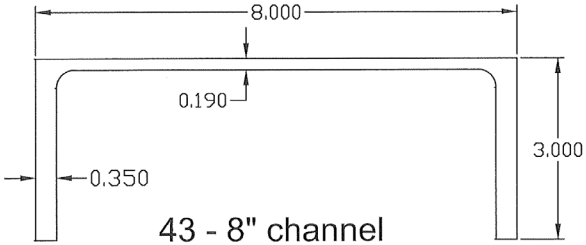
3 - Blade Brace



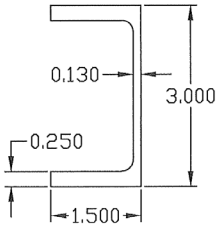
5 - Jamb
6 - Mullion



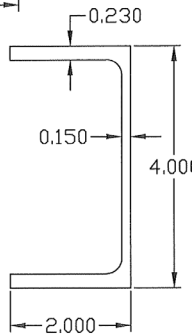
42 - 6" channel



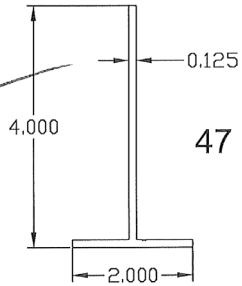
43 - 8" channel



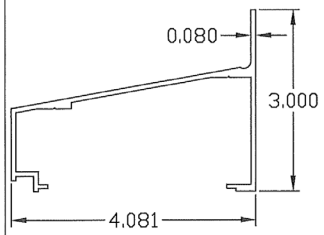
40 - 3" channel



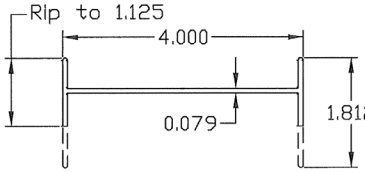
41 - 4" channel



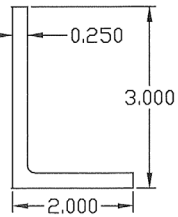
47 - Mullion Tee



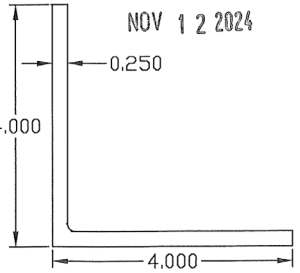
4 - Sill



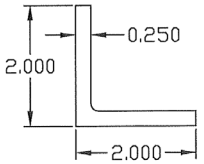
8 - Head for round shapes only



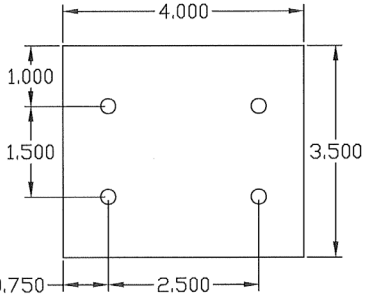
44 - Cont. mullion angle



45 - Cont. mullion angle



46 - Blade Brace Carrier



48 - Slip Plate

NOV 12 2024

REVISION: 5	10-14-24
DATE: 12-03-10	
SHEET: 9 OF 22	
DRW NO : RD-1140	
PROJECT: DC-4174	
TITLE: SUBMITTAL DRAWINGS	
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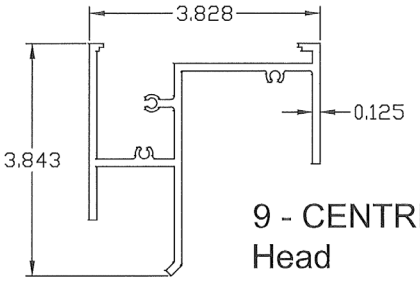
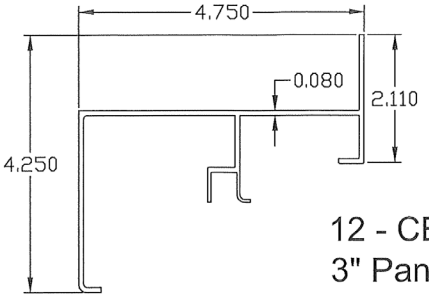
49 MEEKER AVENUE, CRANFORD, NEW JERSEY
PHONE: 1-800-631-7379 / FAX: 908-272-5844



9 - CENTRIA
Head



12 - CENTRIA
3" Panel Sill

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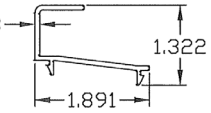
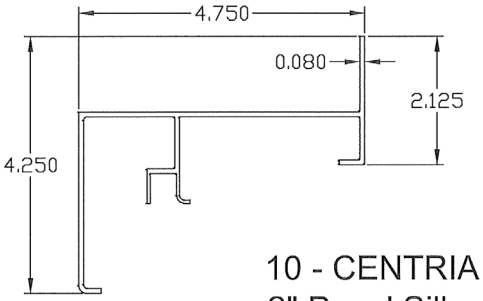
Florida Firm No: F-01000005061
Certificate of Authorization: #9090
Wayne K. Helmila
Registration No: 59092

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

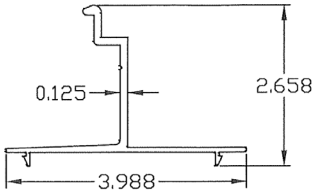
NOV 1 2 2024



15 - 2" CENTRIA
Panel Jamb Extension



10 - CENTRIA
2" Panel Sill



13 - CENTRIA Head
Extension 2" panel

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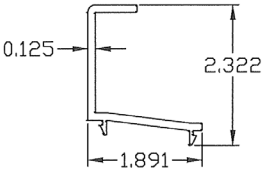
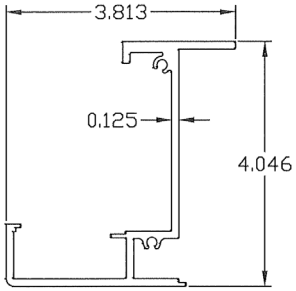
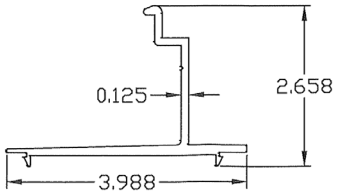
NOA-No. 26-0330.05
Expiration Date 06/16/2027
By
Miami-Dade Product Control



16 - 3" CENTRIA
Panel Jamb Extension



11- CENTRIA
Jamb



14 - CENTRIA Head
Extension 3" panel

PROJECT: DC-4174	REVISION: 5 10-14-24
TITLE: SUBMITTAL DRAWINGS	DATE: 12-03-10
SCALE: 1/2" = 1'-0"	SHEET: 10 OF 22
DRW BY: R. GEIST	DRW NO : RD-1140

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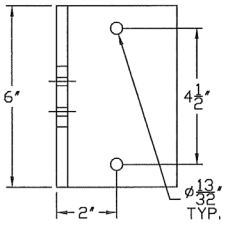
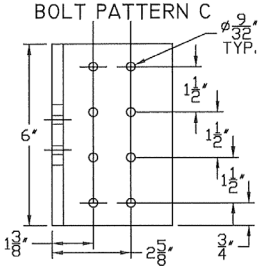
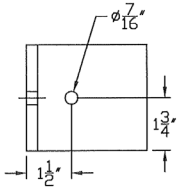
#58 CLIP ANGLE
BOLT PATTERN B



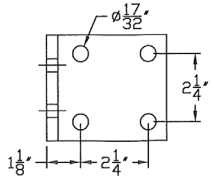
#58 CLIP ANGLE
BOLT PATTERN C



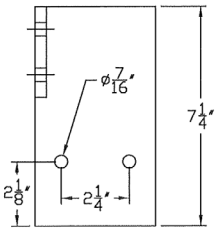
#59 CLIP ANGLE
BOLT PATTERN B
LEFT AND RIGHT
REQUIRED



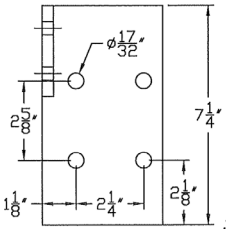
#59 CLIP ANGLE
BOLT PATTERN C



#60 CLIP ANGLE
BOLT PATTERN B



#60 CLIP ANGLE
BOLT PATTERN C



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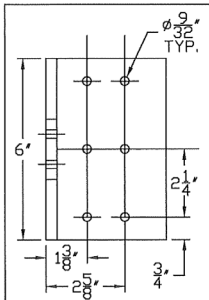
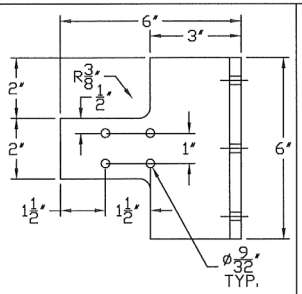
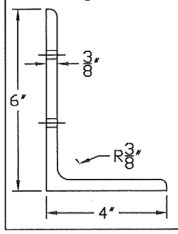
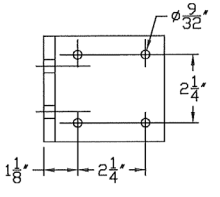
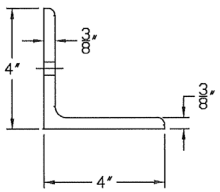


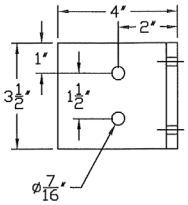




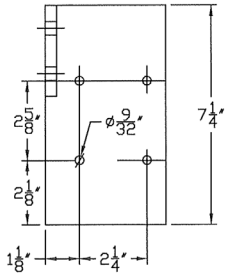
#58
CLIP ANGLE
BOLT PATTERN A

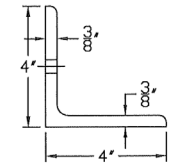


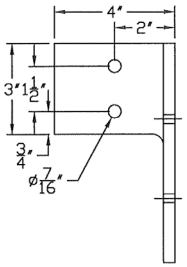




#59
CLIP ANGLE
BOLT PATTERN A







#60
CLIP ANGLE
BOLT PATTERN A

REVISION: 5	10-14-24
DATE: 12-03-10	
SHEET: 11 OF 22	
DRW NO : RD-1140	
PROJECT: DC-4174	
TITLE: SUBMITTAL DRAWINGS	
SCALE: 3" = 1'-0"	
DRW BY: R. GEIST	

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MULLION CLIP FASTENERS SPECIMEN 4

Clip ID Number	Number of clips required	Support	Wood	Cold formed steel, minimum 16 gauge	Structural steel - minimum 3/16	Aluminum Minimum 1/8"	Aluminum or Structural Steel - Tapped or with nuts and bolts minimum ¼" thick	4000 psi concrete *Assume: Min. 12" deep by 8" tall normal weight concrete
58	1 per connection	Standard mullion	1/4 S.S lag bolts embedded 2" with 1" edge distance. Bolt pattern A.	1/4 - 14 thread forming or self drilling S.S. screw min ⅜" edge distance. Bolt Pattern C.	1/4-20 thread forming or self drilling S.S. screw with ⅜" min edge distance. Bolt pattern A	1/4 - 14 thread forming or self drilling S.S. screw with ½" min edge distance. Bolt Pattern C.	3/8 - 16 plated Condition CW S.S. bolts. Bolt Pattern B.	⅜" Hilti KWIK Bolt TZ2 SS 304 with minimum edge distance of 4", embedment minimum of 2". Bolt pattern B
59	1 per connection typ. Left and right required for 4000 psi concrete	4 inch channel splice	1/2 S.S lag bolts embedded 3" with 1" edge distance. Bolt pattern C.	1/4 - 14 thread forming or self drilling S.S. screw min ⅜" edge distance. Bolt Pattern A.	1/4-20 thread forming or self drilling S.S. screw with ⅜" min edge distance. Bolt pattern A	1/4 - 14 thread forming or self drilling S.S. screw with ½" min edge distance. Bolt Pattern A.	1/4 - 20 plated Condition CW S.S. bolts. Bolt Pattern A.	⅜" Hilti KWIK HUS EZ SS 316 (1) per clip, with minimum edge distance of 4 ", embedment minimum of 2". Bolt pattern B
60	1 per connection	4 inch channel splice	1/2 S.S lag bolts embedded 3" with 1-1/2" edge distance. Bolt pattern C.	1/4 - 14 thread forming or self drilling S.S. screw min ⅜" edge distance. Bolt Pattern A.	1/4-20 thread forming or self drilling S.S. screw with ⅜" min edge distance. Bolt pattern A	1/4 - 14 thread forming or self drilling S.S. screw with ½" min edge distance. Bolt Pattern A.	1/4 - 20 plated Condition CW S.S. bolts. Bolt Pattern A.	⅜" Hilti KWIK HUS EZ SS 316 (2) per clip, with minimum edge distance of 4 ", embedment minimum of 2¾". Bolt pattern B

*ALL S.S. ANCHORS SPECIFIED IN THIS MULLION CLIP FASTENERS SPECIMEN 4 TABLE MUST BE PROVIDED AS SERIES 300 S.S.

ALL CLIP ANGLES FOR LOUVER HEAD ATTACHMENTS SHOULD HAVE VERTICAL SLOTTED HOLES FOR THE APPROPRIATE SIZE FASTENERS. VERTICAL SLOTS SHOULD ALLOW FOR 3/4" VERTICAL EXPANSION, AND SLOTS SHOULD BE CENTERED IN SAME LOCATION AS STANDARD HOLE LOCATION.

PRODUCT RENEWED
as complying with the Florida Building Code
NOA–No. 26–0330.05
Expiration Date 06/16/2027
By
Miami–Dade Product Control

PRODUCT RENEWED
as complying with the Florida Building Code
NOA-No. 26-0330.05

Expiration Date 06/16/2027

By _____
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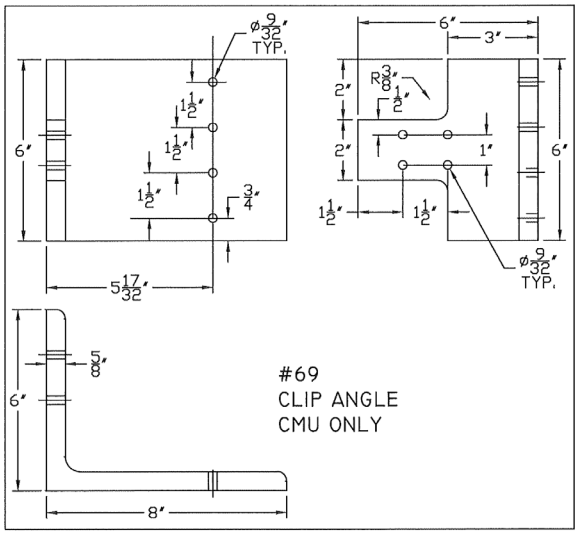
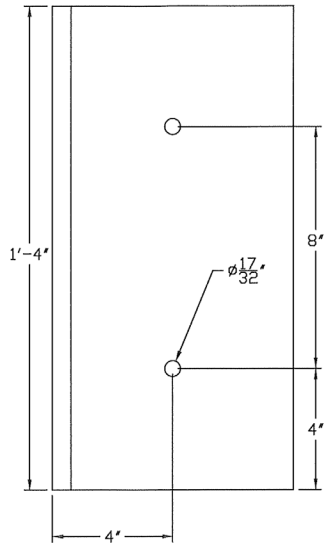
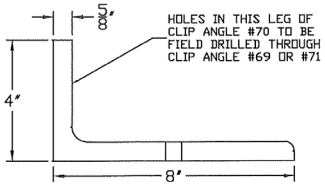
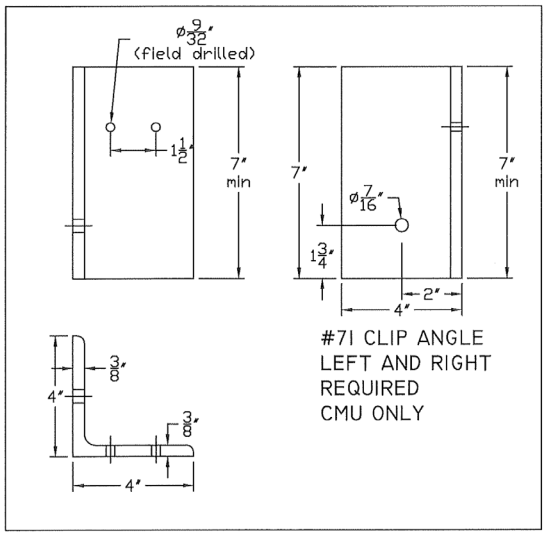


#69
CLIP ANGLE
CMU ONLY





#70
CLIP ANGLE
CMU ONLY

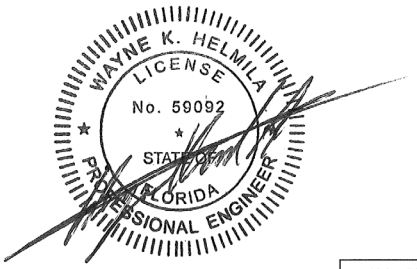


#71 CLIP ANGLE
LEFT AND RIGHT
REQUIRED
CMU ONLY

MULLION CLIP FASTENERS CMU SUBSTRATES ONLY

Clip ID Number	Number of clips required	Support	2000* PSI Grout filled CMU
69/70	1 per connection	Standard mullion	½ Hilti KWIK HUS EZ Carbon Steel space anchors with minimum edge distance of 4", embedment minimum of 4½". Seal anchors with Liquid Prosoco Flashing.
71/70	Left and right required	4 inch channel splice	½ Hilti KWIK HUS EZ Carbon Steel space anchors with minimum edge distance of 4", embedment minimum of 4½". Seal anchors with Liquid Prosoco Flashing.

SEE SHEET 13 FOR INSTALLATION LOCATION OF ANCHORS INTO CMU WALLS



NOV 1 2 2024

ALL CLIP ANGLES FOR LOUVER HEAD ATTACHMENTS SHOULD HAVE VERTICAL SLOTTED HOLES FOR THE APPROPRIATE SIZE FASTENERS. VERTICAL SLOTS SHOULD ALLOW FOR 3/4" VERTICAL EXPANSION, AND SLOTS SHOULD BE CENTERED IN SAME LOCATION AS STANDARD HOLE LOCATION.

REVISION: 5 10-14-24
DATE: 12-03-10
SHEET: 12 OF 22
DRW NO : RD-1140
PROJECT: DC-4174
TITLE: SUBMITTAL DRAWINGS
SCALE: 3" = 1'-0"
DRW BY: R. GEIST

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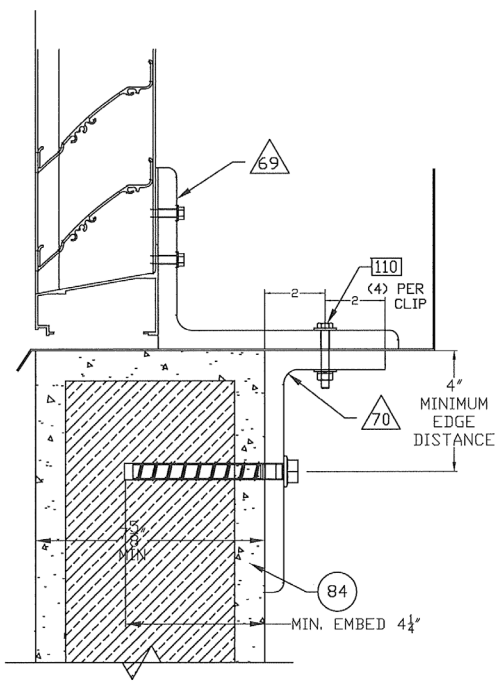
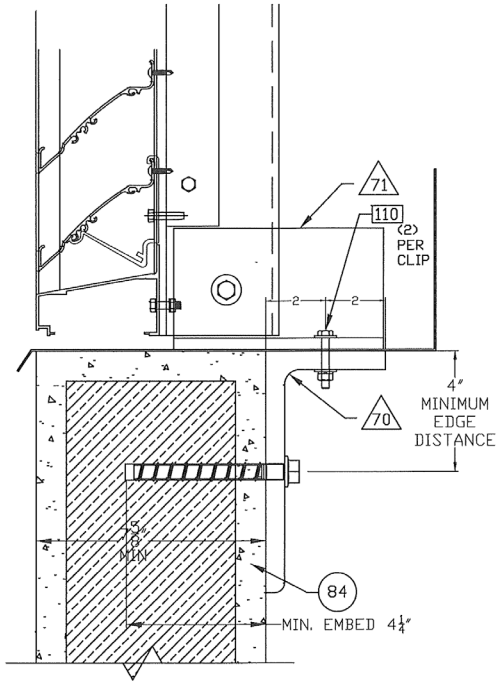
Detail H/5 SIM
SCALE: NTS
SP - 4 - CMU ONLY



Detail K/5 SIM
SCALE: NTS
SP - 4 - CMU ONLY



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NOA-No. 26-0330.05
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WAYNE K. HELMILA LICENSE No. 59092 STATE OF FLORIDA PROFESSIONAL ENGINEER
NOV 12 2024

FOR ALL CMU HEAD/SILL CONNECTIONS, CMU ANCHORS INSTALLED ON 8" O.C. IN CENTER OF CELLS HORIZONTALLY, THEREFORE ALL CLIPS MOUNTING TO BACK OF CMU CAN BE OFFSET CENTER OF LOUVER MULLION BY 4" IN EITHER DIRECTION TO ACCOMODATE THIS REQUIREMENT. HORIZONTAL LEG OF CMU ANGLES TO BE FIELD DRILLED THROUGH EXISTING HOLES ON LOUVER ANGLES

THESE ATTACHMENT DETAILS WORK FOR BOTH HEAD AND SILL CONDITIONS.

ALL CLIP ANGLES FOR LOUVER HEAD ATTACHMENTS SHOULD HAVE VERTICAL SLOTTED HOLES FOR THE APPROPRIATE SIZE FASTENERS. VERTICAL SLOTS SHOULD ALLOW FOR 3/4" VERTICAL EXPANSION, AND SLOTS SHOULD BE CENTERED IN SAME LOCATION AS STANDARD HOLE LOCATION.

REVISION: 5 10-14-24
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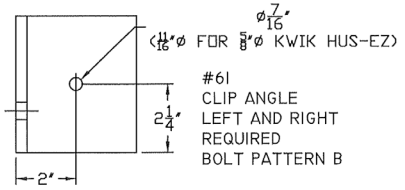
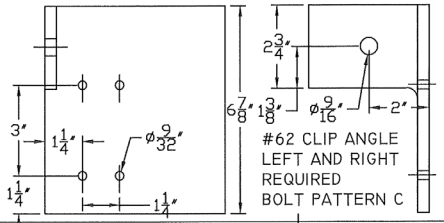
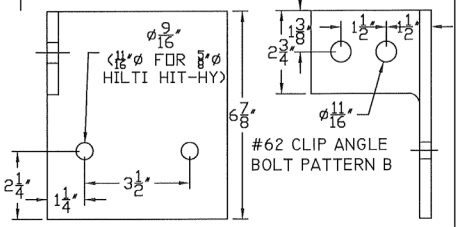


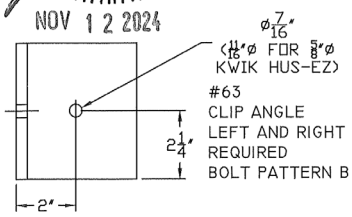
#61
CLIP ANGLE
LEFT AND RIGHT
REQUIRED
BOLT PATTERN B



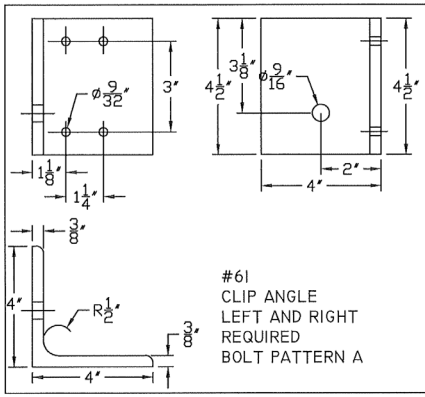
#62 CLIP ANGLE
LEFT AND RIGHT
REQUIRED
BOLT PATTERN C



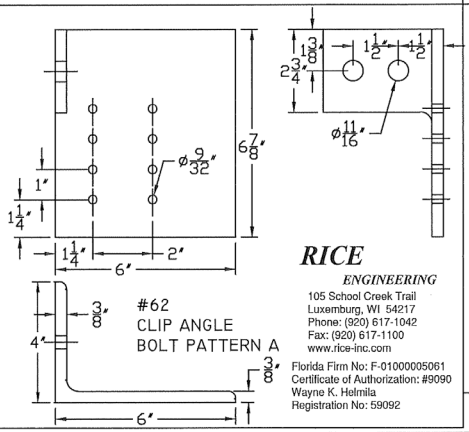
#62 CLIP ANGLE
BOLT PATTERN B



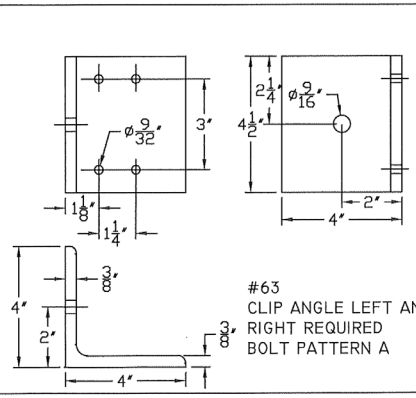
#63
CLIP ANGLE
LEFT AND RIGHT
REQUIRED
BOLT PATTERN B



#61
CLIP ANGLE
LEFT AND RIGHT
REQUIRED
BOLT PATTERN A



#62
CLIP ANGLE
BOLT PATTERN A



#63
CLIP ANGLE LEFT AND
RIGHT REQUIRED
BOLT PATTERN A

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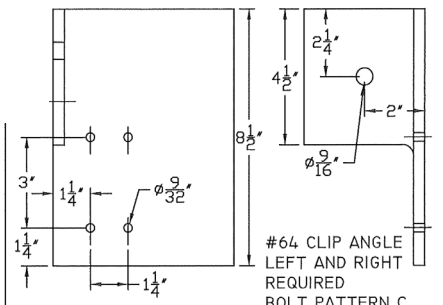
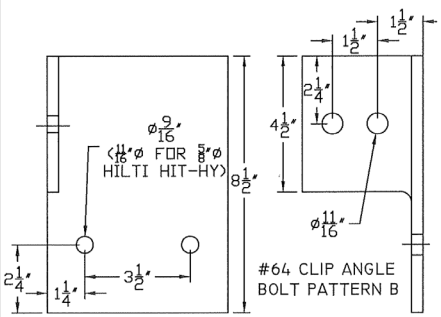
WAYNE K. HELMILA LICENSE No. 59092 STATE OF FLORIDA PROFESSIONAL ENGINEER

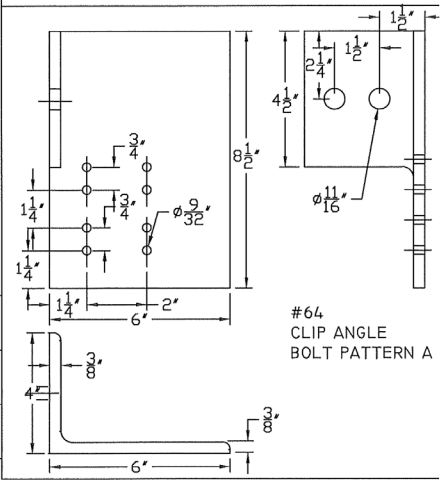
NOV 12 2024



#64 CLIP ANGLE
LEFT AND RIGHT
REQUIRED
BOLT PATTERN C



#64 CLIP ANGLE
BOLT PATTERN B



#64
CLIP ANGLE
BOLT PATTERN A

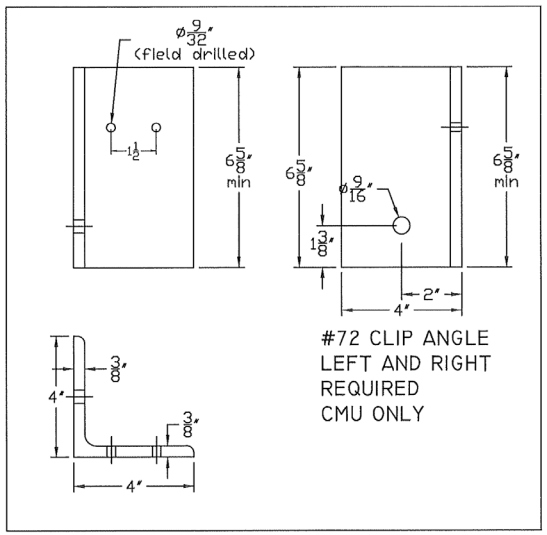
MULLION CLIP FASTENERS SPECIMEN 5

Clip ID Number	Number of clips required	Support	Wood	Cold formed steel, minimum 16 gauge	Structural steel - minimum 3/16 thick	Aluminum Minimum 1/8"	1/2: Aluminum or Structural Steel - Tapped or with nuts and bolts	4000 psi concrete *Assume: Min. 12" deep by 8" tall normal weight concrete
				Bolt pattern A	Bolt pattern A	Bolt pattern A	Bolt pattern B	Bolt pattern B
61	left and right required	4x2 Tee & 2 X 3 X 1/4 angle reinforced mullion	1/4 S.S. lag bolts embedded 2" with 1 1/2" min edge distance. Bolt Pattern A	1/4 - 14 self drilling S.S. screw with 3/8" min edge distance	1/4-20 thread forming or self drilling S.S. screw with 3/8" min edge distance.	1/4 - 14 thread forming or self drilling S.S. screw with 1/2" min edge distance	3/8 - 16 plated Condition CW S.S. bolts.	3/8" Hilti KWIK HUS-EZ SS 316 with minimum edge distance of 4", embedment minimum of 3 1/4".
62	1 per connection typ left and right required for wood	4x2 Tee & 2 X 3 X 1/4 angle reinforced mullion	1/4 S.S. lag bolts embedded 2" with 1" min edge distance. Bolt Pattern C	1/4 - 14 self drilling S.S. screw with 3/8" min edge distance	1/4-20 thread forming or self drilling S.S. screw with 3/8" min edge distance.	1/4 - 14 thread forming or self drilling S.S. screw with 1/2" min edge distance	1/2 -13 plated Condition CW S.S. bolts	3/8" Hilti HIT-HY V3+HAS-R SS 304/316 anchor with minimum edge distance of 4 1/2", embedment minimum of 5 1/4".
63	left and right required	6 inch channel splice	1/4 S.S. lag bolts embedded 2" with 1 1/2" min edge distance. Bolt Pattern A	1/4 - 14 self drilling S.S. screw with 3/8" min edge distance	1/4-20 thread forming or self drilling S.S. screw with 3/8" min edge distance.	1/4 - 14 thread forming or self drilling S.S. screw with 1/2" min edge distance	3/8 - 16 plated Condition CW S.S. bolts .	3/8" Hilti KWIK HUS-EZ SS 316 with minimum edge distance of 4", embedment minimum of 3 1/4".
64	1 per connection typ left and right required for wood	6 inch channel splice	1/4 S.S. lag bolts embedded 2" with 1" min edge distance Bolt Pattern C	1/4 - 14 self drilling S.S. screw with 3/8" min edge distance	1/4-20 thread forming or self drilling S.S. screw with 3/8" min edge distance	1/4 - 14 thread forming or self drilling S.S. screw with 1/2" min edge distance	1/2 -13 plated Condition CW S.S. bolts	3/8" Hilti KWIK Bolt TZ2 SS 304/316 with minimum edge distance of 4 1/2", embedment minimum of 4".

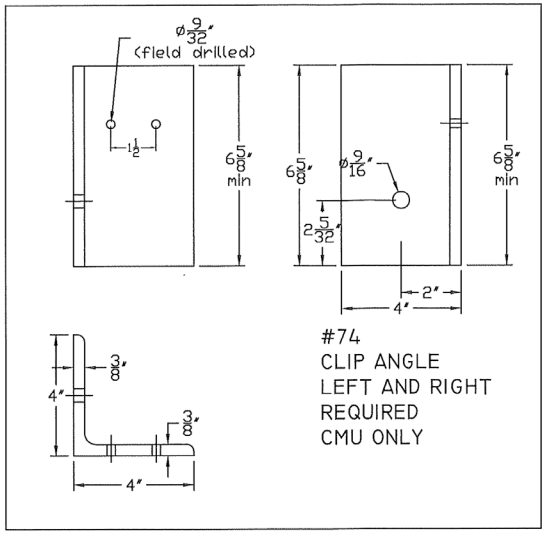
*ALL S.S. ANCHORS SPECIFIED IN THIS MULLION CLIP FASTENERS SPECIMEN 5 TABLE MUST BE PROVIDED AS SERIES 300 S.S.

REVISION: 5	10-14-24
DATE: 12-03-10	
SHEET: 14 OF 22	
DRW NO : RD-1140	
PROJECT: DC-4174	
TITLE: SUBMITTAL DRAWINGS	
SCALE: 3" = 1'-0"	
DRW BY: R. GEIST	

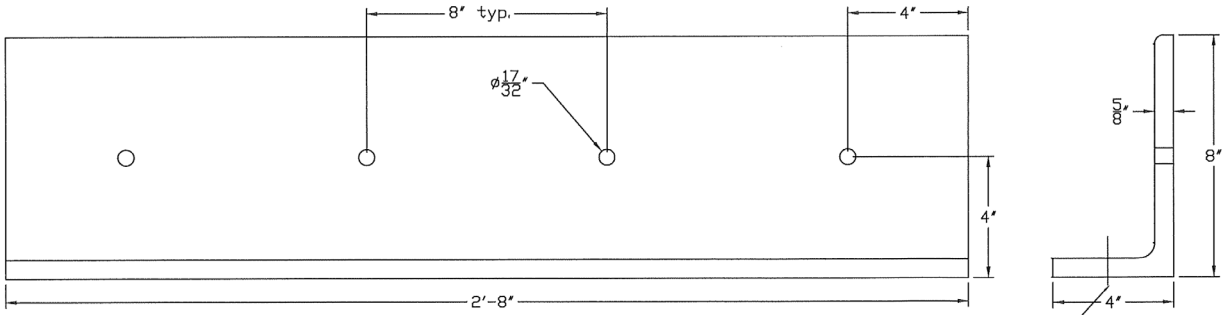
Construction Specialties™
49 MEEKER AVENUE, CRANFORD, NEW JERSEY
PHONE: 1-800-631-7379 / FAX: 908-272-5844



#72 CLIP ANGLE
LEFT AND RIGHT
REQUIRED
CMU ONLY



#74
CLIP ANGLE
LEFT AND RIGHT
REQUIRED
CMU ONLY



#73 CLIP ANGLE CMU ONLY

MULLION CLIP FASTENERS CMU SUBSTRATES ONLY			
Clip ID Number	Number of clips required	Support	2000* PSI Grout filled CMU
72/73	Left and right required	Reinforced Mullion 4"x2" Tee and 2"x3" Angle	½" Hilti KWIK HUS EZ Carbon Steel space anchors with minimum edge distance of 4", embedment minimum of 4 ½". Seal anchors with Liquid Prosoco Flashing.
74/73	Left and right required	6 inch channel splice	½" Hilti KWIK HUS EZ Carbon Steel space anchors with minimum edge distance of 4", embedment minimum of 4 ½". Seal anchors with Liquid Prosoco Flashing.

SEE SHEET 16 FOR INSTALLATION LOCATION OF ANCHORS INTO CMU WALLS

ALL CLIP ANGLES FOR LOUVER HEAD ATTACHMENTS SHOULD HAVE VERTICAL SLOTTED HOLES FOR THE APPROPRIATE SIZE FASTENERS. VERTICAL SLOTS SHOULD ALLOW FOR 3/4" VERTICAL EXPANSION, AND SLOTS SHOULD BE CENTERED IN SAME LOCATION AS STANDARD HOLE LOCATION.

PRODUCT RENEWED
as complying with the Florida Building Code
NOA-No. 26-0330.05
Expiration Date 06/16/2027
By
Miami-Dade Product Control

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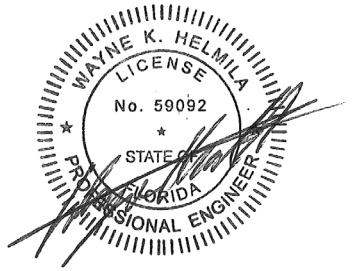
www.rice-inc.com
Florida Firm No: F-01000005061
Certificate of Authorization: #9090
Wayne K. Helmila
Registration No: 59092



NOV 12 2024

REVISION: 5	10-14-24
DATE: 12-03-10	
SHEET: 15 OF 22	
DRW NO : RD-1140	
PROJECT: DC-4174	
TITLE: SUBMITTAL DRAWINGS	
SCALE: 3" = 1'-0"	
DRW BY: R. GEIST	

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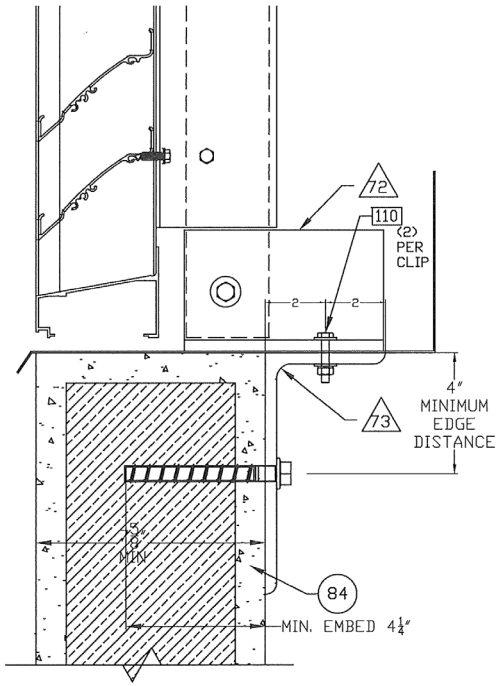
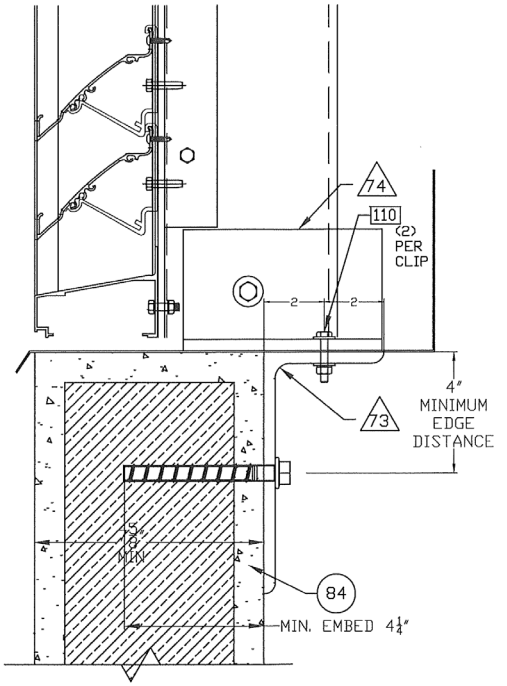
Detail L/6 SIM
SCALE: NTS
SP - 5 - CMU ONLY



Detail N/6 SIM
SCALE: NTS
SP - 5 - CMU ONLY



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NOV 1 2 2024

FOR ALL CMU HEAD/SILL CONNECTIONS, CMU ANCHORS INSTALLED ON 8" O.C. IN CENTER OF CELLS HORIZONTALLY, THEREFORE ALL CLIPS MOUNTING TO BACK OF CMU CAN BE OFFSET CENTER OF LOUVER MULLION BY 4" IN EITHER DIRECTION TO ACCOMODATE THIS REQUIREMENT. HORIZONTAL LEG OF CMU ANGLES TO BE FIELD DRILLED THROUGH EXISTING HOLES ON LOUVER ANGLES

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PROJECT: DC-4174	REVISION: 5 10-14-24
TITLE: SUBMITTAL DRAWINGS	DATE: 12-03-10
SCALE: 3" = 1'-0"	SHEET: 16 OF 22
DRW BY: R. GEIST	DRW NO : RD-1140

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PRODUCT RENEWED
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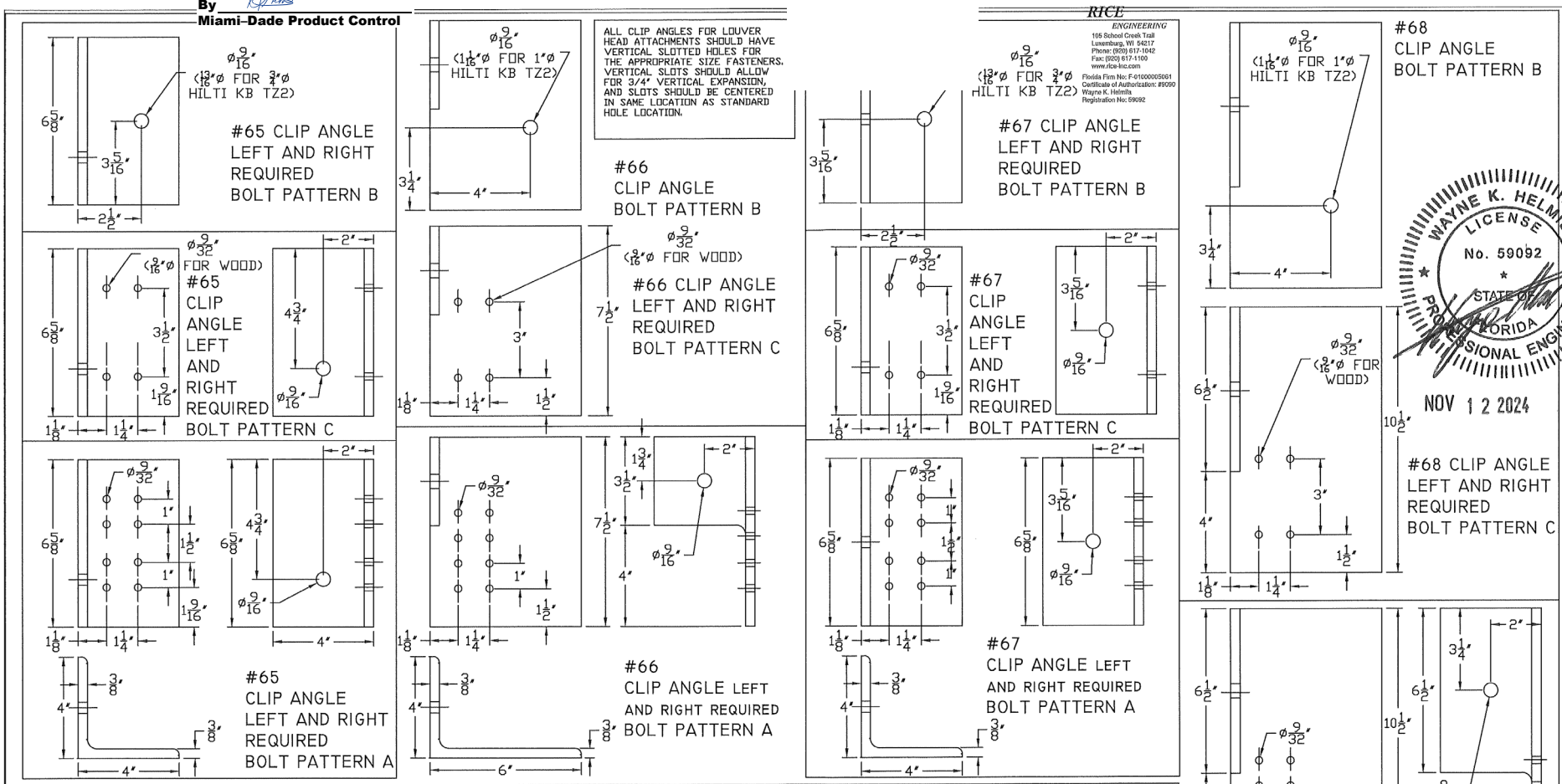

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NOV 12 2024

REVISION: 5	10-14-24
DATE: 12-03-10	
SHEET: 17 OF 22	
DRW NO : RD-1140	
PROJECT: DC-4174	
TITLE: SUBMITTAL DRAWINGS	
SCALE: 3" = 1'-0"	
DRW BY: R. GEIST	

MULLION CLIP FASTENERS SPECIMEN 6

Clip ID Number	Number of clips required	Support	Wood	Cold formed steel, minimum 16 gauge	Structural steel - minimum 3/16	Aluminum Minimum 1/8"	Aluminum or Structural Steel - Tapped or with nuts and bolts min ¼" thick	4000 psi concrete *Assume: Min. 12" deep by 8" tall normal weight concrete
			Bolt pattern C	Bolt pattern A	Bolt pattern C	Bolt pattern A	Bolt pattern B	Bolt pattern B
65	left and right required	4x2 Tee & 4 X 4 X 1/4 angle reinforced mullion	1/2 S.S lag bolts embedded 3" with 1¼" edge distance	¼ - 14 self drilling S.S. screw with ⅜" min edge distance	¼ - 20 self drilling S.S. screw with ⅜" min edge distance	1/4 - 14 self drilling S.S. screw with ½" min edge distance	1/2 - 13 plated Condition CW S.S. bolts	¾" Hilti KWIK Bolt TZ2 SS 304/316 with minimum edge distance of 4½", embedment minimum of 4½".
66	left and right required	4x2 Tee & 4 X 4 X 1/4 angle reinforced mullion	1/2 S.S lag bolts embedded 3" with 1¼" edge distance	¼ - 14 self drilling S.S. screw with ⅜" min edge distance	¼ - 20 self drilling S.S. screw with ⅜" min edge distance	1/4 - 14 self drilling S.S. screw with ½" min edge distance	1/2 - 13 plated Condition CW S.S. bolts	1" Hilti KWIK Bolt TZ2 SS 304/316 with minimum edge distance of 4½", embedment minimum of 4".
67	left and right required	8 inch channel splice	1/2 S.S lag bolts embedded 3" with 1¼" edge distance	¼ - 14 self drilling S.S. screw with ⅜" min edge distance	¼ - 20 self drilling S.S. screw with ⅜" min edge distance	1/4 - 14 self drilling S.S. screw with ½" min edge distance	1/2 - 13 plated Condition CW S.S. bolts	¾" Hilti KWIK Bolt TZ2 SS 304/316 with minimum edge distance of 4½", embedment minimum of 4½".
68	left and right required	8 inch channel splice	1/2 S.S lag bolts embedded 3" with 1¼" edge distance	¼ - 14 self drilling S.S. screw with ⅜" min edge distance	¼ - 20 self drilling S.S. screw with ⅜" min edge distance	1/4 - 14 self drilling S.S. screw with ½" min edge distance	1/2 - 13 plated Condition CW S.S. bolts	1" Hilti KWIK Bolt TZ2 SS 304/316 with minimum edge distance of 4½", embedment minimum of 4".

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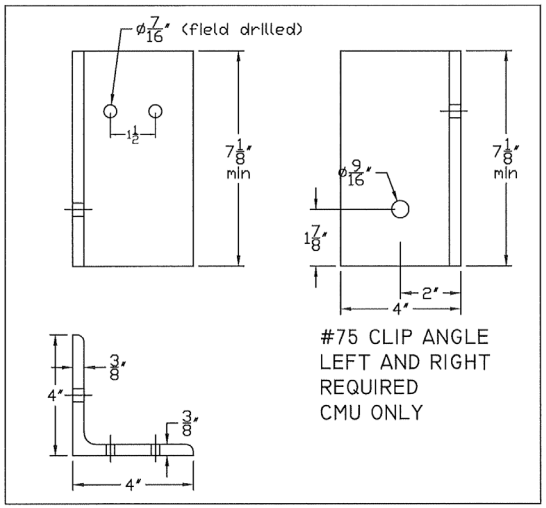
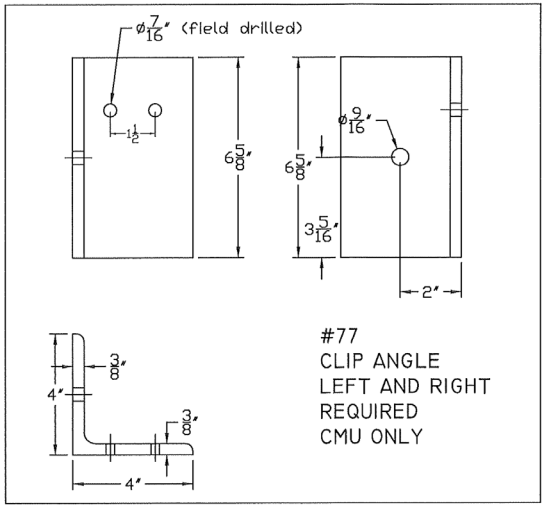
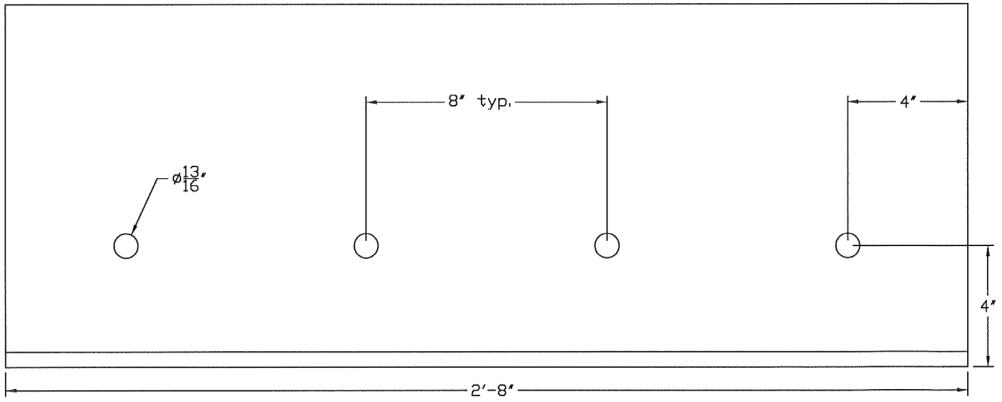
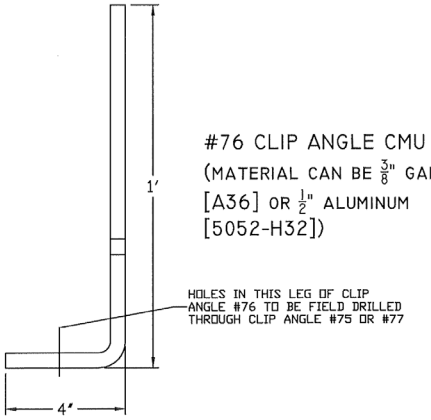


#75 CLIP ANGLE
LEFT AND RIGHT
REQUIRED
CMU ONLY



#77
CLIP ANGLE
LEFT AND RIGHT
REQUIRED
CMU ONLY





#76 CLIP ANGLE CMU ONLY
(MATERIAL CAN BE 3/8" GALV. STEEL [A36] OR 1/2" ALUMINUM [5052-H32])

MULLION CLIP FASTENERS CMU SUBSTRATES ONLY			
Clip ID Number	Number of clips required	Support	2000* PSI Grout filled CMU
75/76	Left and right required	Reinforced Mullion 4"x2" Tee and 4"x4" Angle	3/4" Hilti HIT-HY 100 Adhesive anchors with threaded carbon steel A36 rods. minimum edge distance of 4", embedment minimum of 6 3/4". Seal anchors with Liquid Prosoco Flashing.
77/76	Left and right required	8 inch channel splice	3/4" Hilti HIT-HY 100 Adhesive anchors with threaded carbon steel A36 rods. minimum edge distance of 4", embedment minimum of 6 3/4". Seal anchors with Liquid Prosoco Flashing.

SEE SHEET 19 FOR INSTALLATION LOCATION OF ANCHORS INTO CMU WALLS

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NOV 12 2024

REVISION: 5 10-14-24
DATE: 12-03-10
SHEET: 18 OF 22
DRW NO : RD-1140
PROJECT: DC-4174
TITLE: SUBMITTAL DRAWINGS
SCALE: 3" = 1'-0"
DRW BY: R. GEIST

Construction Specialties
49 MEEKER AVENUE, CRANFORD, NEW JERSEY
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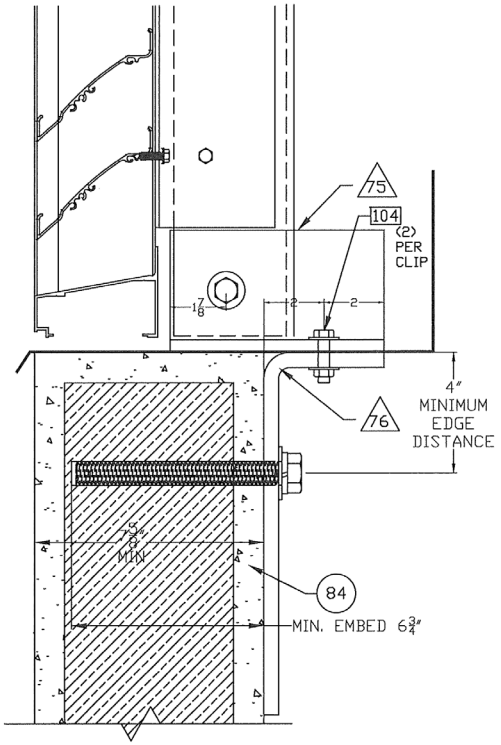
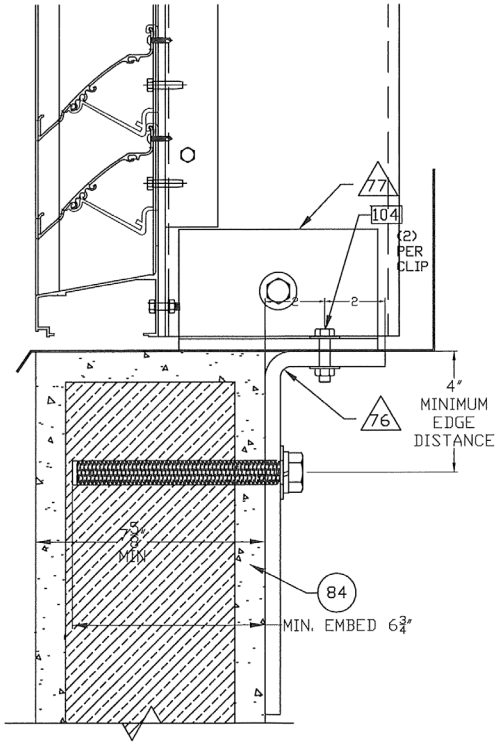
Detail Q/7 SIM
SCALE: NTS
SP - 6 - CMU ONLY



Detail S/7 SIM
SCALE: NTS
SP - 6 - CMU ONLY



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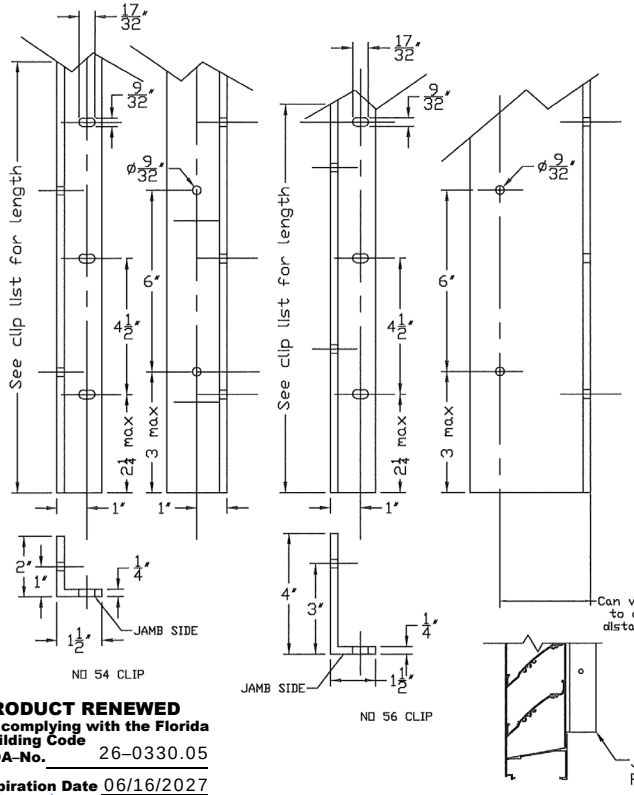

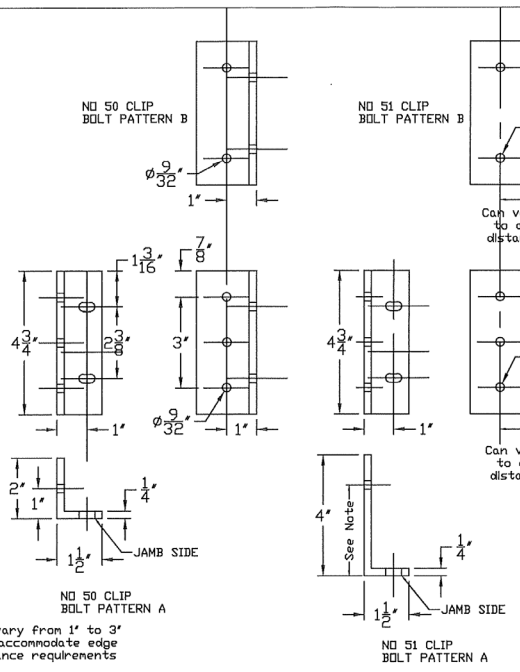

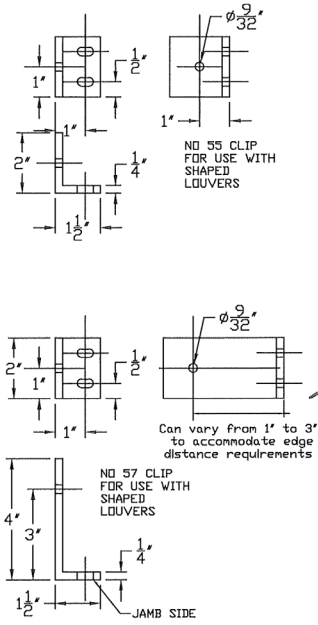

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STRAIGHT JAMB CLIP AND FASTENERS FOR ATTACHMENT TO SPECIFIED SUBSTRATES

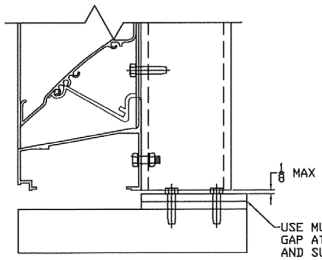
Clip ID Number	Wood	Cold formed steel - minimum 16 gauge	Structural steel - minimum 3/16	Aluminum - minimum 1/8"	Grout filled CMU 2000 PSI min.	4000 PSI Concrete
	Continuous Clip	Continuous Clip	Bolt pattern B	Bolt pattern B	Continuous Clip	Bolt pattern B
54 56	1/4 X 3 lag bolts S.S., 2" min. embed and 1-1/2" min edge distance	1/4-14 thread forming or self drilling S.S. screw			1/4"dia S.S. Hilti KWIK HUS-EZ SS 316 with 2-1/2 " inch min embed. and min. 3-3/4" min. edge distance	
50 Installed 12" on center 51 Installed 12 " on center			1/4-20 thread forming or self drilling S.S. screw. 1/4-20 SS bolt can be used with a nut & washer or by drilling and tapping the structural steel. Minimum $\frac{3}{8}$" edge distance	1/4-14 self threading or self drilling S.S. screw		For cracked concrete, use 1/4"dia S.S. Hilti KWIK HUS-EZ SS 316 with 1-1/2" min. embed and 2-1/2" min. edge distance. Clip angles 10" o.c. max.

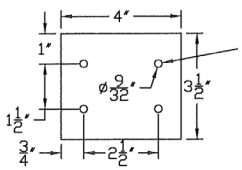
*ALL S.S. ANCHORS SPECIFIED IN THIS STRAIGHT JAMB CLIP AND FASTENERS TABLE MUST BE PROVIDED AS SERIES 300 S.S.

SHAPED LOUVER CLIP FASTENERS FOR ATTACHMENT TO BUILDINGS

Clip ID Number	Wood	Cold formed steel - minimum 16 gauge	Structural steel - minimum 3/16	Aluminum - minimum 1/8"	Grout filled CMU 2000 PSI min.	4000 PSI Concrete
55 57	1/4 X 3 lag bolts coated S.S., 2" min. embed. and 1-1/2" min edge distance. Clips on 4 3/8" centers.	1/4-14 thread forming or self drilling S.S. screw. Clips on 4 3/8" centers.	1/4 - 20 thread forming or self drilling S.S. screw or 1/4-20 S.S bolt. Clips on 6 " centers.	1/4 -14 thread forming or self drilling S.S. screw or 1/4-20 S.S. bolt. Clips on 4 3/8" centers.	1/4"dia S.S. Hilti KWIK HUS-EZ SS 316 with 2-1/2 " inch min embed. and min. 3-3/4" min. edge distance. Clip angles 6" o.c. max.	For cracked concrete, use 1/4"dia S.S. Hilti KWIK HUS-EZ SS 316 with 1-1/2" min. embed and 2-1/2" min. edge distance. Clip angles 5" o.c. max.

*ALL S.S. ANCHORS SPECIFIED IN THIS SHAPED LOUVER CLIP FASTENERS TABLE MUST BE PROVIDED AS SERIES 300 S.S.





SEE SCHEDULE ABOVE FOR REQUIRED FASTENERS USES SAME FASTENERS AS SHAPED LOUVER CLIPS

REVISION: 5	10-14-24
DATE: 12-03-10	
SHEET: 20 OF 22	
DRW NO : RD-1140	
PROJECT: DC-4174	
TITLE: SUBMITTAL DRAWINGS	
SCALE: 3" = 1'-0"	
DRW BY: R. GEIST	

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1) Determine the required mullion spacing and louver height either from structural or architectural considerations.

2) Starting with Mullion Table 1, under the job wind load go down through the tables until the required opening height is found. The heading at the top of the table will indicate the detail to be used for the mullion. The same tables apply to visible or hidden mullions (splices). Once the required height has been found for the job windload, move left along the row to find the corresponding mullion/splice distance. This will give you your section height and width. Proceed to step 3 for any additional "stiffener" supports required.

3) From table 4, read the panel horizontal span (mullion spacing from Step 2) and read the number of stiffeners required under the design wind load. It may be necessary to change the mullion spacing if the allowable blade span falls out side the table values, if so go back and repeat step 2.

4) It is possible to start with the stiffener tables to find a panel width (mullion spacing) , and then go to the mullion tables to verify the mullion or chanel, detail and allowable height.

Mullion Table 1

ALLOWABLE HEIGHT FOR STANDARD MULLION DETAIL H/4 AND 4 INCH CHANNEL DETAILS J/4 - K/4

Panel span (in.) - from jamb to mullion or mullion to mullion

Wind Load PSF	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
24	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.0	7.2	6.6	6.1	5.7	5.3	5.0	4.7
30	8.5	8.5	8.5	8.5	8.5	8.5	8.0	7.1	6.4	5.8	5.3	4.9	4.6	4.3	4.0	3.8
36	8.5	8.5	8.5	8.5	8.5	7.6	6.6	5.9	5.3	4.8	4.4	4.1	3.8	3.5	3.3	3.1
42	8.5	8.5	8.5	8.5	7.6	6.5	5.7	5.1	4.6	4.1	3.8	3.5	3.3	3.0	2.8	2.7
48	8.5	8.5	8.5	8.0	6.6	5.7	5.0	4.4	4.0	3.6	3.3	3.1	2.8	2.7	2.5	2.3
54	8.5	8.5	8.5	7.1	5.9	5.1	4.4	3.9	3.5	3.2	3.0	2.7	2.5	2.4	2.2	2.1
60	8.5	8.5	8.0	6.4	5.3	4.6	4.0	3.5	3.2	2.9	2.7	2.5	2.3	2.1	2.0	1.9
66	8.5	8.5	7.2	5.8	4.8	4.1	3.6	3.2	2.9	2.6	2.4	2.2	2.1	1.9	1.8	
72	8.5	8.5	6.6	5.3	4.4	3.8	3.3	3.0	2.7	2.4	2.2	2.0	1.9	1.8		
78	8.5	8.2	6.1	4.9	4.1	3.5	3.1	2.7	2.5	2.2	2.0	1.9	1.8			
84	8.5	7.6	5.7	4.6	3.8	3.3	2.8	2.5	2.3	2.1	1.9	1.8				
90	8.5	7.1	5.3	4.3	3.5	3.0	2.7	2.4	2.1	1.9	1.8					
96	8.5	6.6	5.0	4.0	3.3	2.8	2.5	2.2	2.0	1.8						
102	8.5	6.3	4.7	3.8	3.1	2.7	2.3	2.1	1.9							
108	8.5	5.9	4.4	3.5	3.0	2.5	2.2	2.0	1.8							
114	8.4	5.6	4.2	3.4	2.8	2.4	2.1	1.9								
120	8.0	5.3	4.0	3.2	2.7	2.3	2.0	1.8								

Mullion Table 2

ALLOWABLE HEIGHT FOR REINFORCED MULLION 4 X 2 TEE WITH 2 X 3 X $\frac{1}{4}$ ANGLE DETAILS L/5 - M/5 AND 6 INCH CHANNEL DETAILS N/5 - P/5

Panel span (in.) - from jamb to mullion or mullion to mullion

Wind Load PSF	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
24	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.8	9.2
30	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.6	8.9	8.3	7.8	7.4
36	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.5	8.7	8.0	7.4	6.9	6.5	6.1
42	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.9	8.9	8.1	7.4	6.9	6.4	6.0	5.6	5.3
48	10.0	10.0	10.0	10.0	10.0	10.0	9.8	8.7	7.8	7.1	6.5	6.0	5.6	5.2	4.9	4.6
54	10.0	10.0	10.0	10.0	10.0	9.9	8.7	7.7	6.9	6.3	5.8	5.3	5.0	4.6	4.3	4.1
60	10.0	10.0	10.0	10.0	10.0	8.9	7.8	6.9	6.3	5.7	5.2	4.8	4.5	4.2	3.9	3.7
66	10.0	10.0	10.0	10.0	9.5	8.1	7.1	6.3	5.7	5.2	4.7	4.4	4.1	3.8	3.6	
72	10.0	10.0	10.0	10.0	8.7	7.4	6.5	5.8	5.2	4.7	4.3	4.0	3.7	3.5		
78	10.0	10.0	10.0	9.6	8.0	6.9	6.0	5.3	4.8	4.4	4.0	3.7	3.4			
84	10.0	10.0	10.0	8.9	7.4	6.4	5.6	5.0	4.5	4.1	3.7	3.4				
90	10.0	10.0	10.0	8.3	6.9	6.0	5.2	4.6	4.2	3.8	3.5					
96	10.0	10.0	9.8	7.8	6.5	5.6	4.9	4.3	3.9	3.6						
102	10.0	10.0	9.2	7.4	6.1	5.3	4.6	4.1	3.7							
108	10.0	10.0	8.7	6.9	5.8	5.0	4.3	3.9	3.5							
114	10.0	10.0	8.2	6.6	5.5	4.7	4.1	3.7								
120	10.0	10.0	7.8	6.3	5.2	4.5	4.1	3.9	3.5							

Mullion Table 3

ALLOWABLE HEIGHT FOR REINFORCED MULLION 4 X 2 TEE WITH 4 X 4 X $\frac{1}{4}$ ANGLE DETAILS Q/5 - R/5 AND 8 INCH CHANNEL DETAILS S/5 - T/5

Panel span (in.) - from jamb to mullion or mullion to mullion

Wind Load PSF	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
24	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
30	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
36	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	11.3	10.6	10.0
42	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	11.2	10.4	9.7	9.1	8.6
48	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	11.6	10.6	9.8	9.1	8.5	8.0	7.5
54	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	11.3	10.3	9.4	8.7	8.1	7.6	7.1	6.7
60	12.0	12.0	12.0	12.0	12.0	12.0	12.0	11.3	10.2	9.3	8.5	7.8	7.3	6.8	6.4	6.0
66	12.0	12.0	12.0	12.0	12.0	12.0	11.6	10.3	9.3	8.4	7.7	7.1	6.6	6.2	5.8	
72	12.0	12.0	12.0	12.0	12.0	12.0	10.6	9.4	8.5	7.7	7.1	6.5	6.1	5.7		
78	12.0	12.0	12.0	12.0	12.0	11.2	9.8	8.7	7.8	7.1	6.5	6.0	5.6			
84	12.0	12.0	12.0	12.0	12.0	10.4	9.1	8.1	7.3	6.6	6.1	5.6				
90	12.0	12.0	12.0	12.0	11.3	9.7	8.5	7.6	6.8	6.2	5.7					
96	12.0	12.0	12.0	12.0	10.6	9.1	8.0	7.1	6.4	5.8						
102	12.0	12.0	12.0	12.0	10.0	8.6	7.5	6.7	6.0							
108	12.0	12.0	12.0	11.3	9.4	8.1	7.1	6.3	5.7							
114	12.0	12.0	12.0	10.7	8.9	7.7	6.7	6.0								
120	12.0	12.0	12.0	10.2	8.5	7.3	6.4	5.7								

Stiffeners Table 4

NUMBER OF STIFFENERS REQUIRED FOR EACH PANEL

Panel Horizontal Span (in.) From Jamb to Jamb, Jamb to mullion or mullion to mullion

Wind Load Pounds Per Square Foot	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
42	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
48	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
54	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1
60	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
66	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	
72	0	0	1	1	1	1	1	1	1	1	1	1	1	1		
78	0	0	1	1	1	1	1	1	1	1	1	1	1			
84	0	1	1	1	1	1	1	1	1	1	1	1				
90	0	1	1	1	1	1	1	1	1	1	1					
96	0	1	1	1	1	1	1	1	1	1						
102	1	1	1	1	1	1	1	1	1							
108	1	1	1	1	1	1	1	1	2							
114	1	1	1	1	1	1	1	2								
120	1	1	1	1	1	1	2	2								

NOTE: Comparative analysis may be used to find values that fall between the values shown in tables 1, 2 or 3.

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Miami–Dade Product Control

REVISION: 5 10-14-24
DATE: 12-03-10
SHEET: 21 OF 22
DRW NO : RD-1140
PROJECT: DC-4174
TITLE: SUBMITTAL DRAWINGS
SCALE: 3" = 1'-0"
DRW BY: R. GEIST

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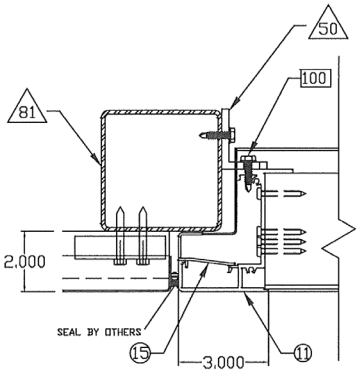
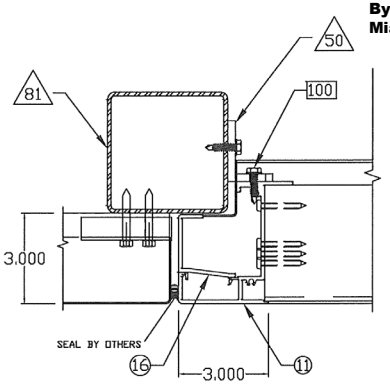


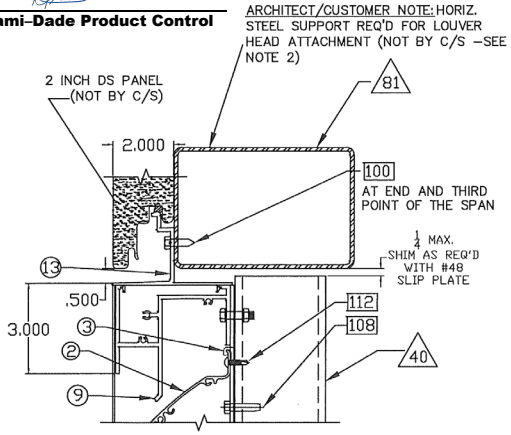
JAMB AND 2" PANEL INTERFACE

Detail U / 19
SCALE: NTS



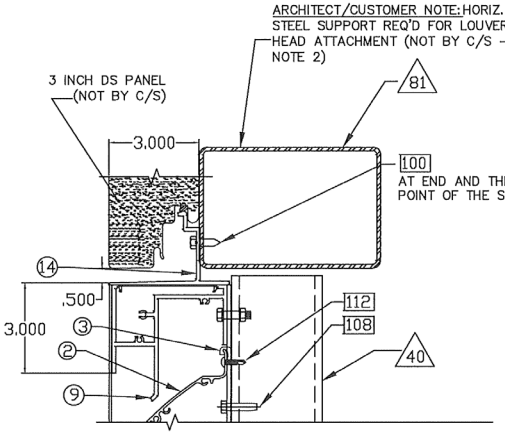
JAMB AND 3" PANEL INTERFACE

Detail V / 19
SCALE: NTS



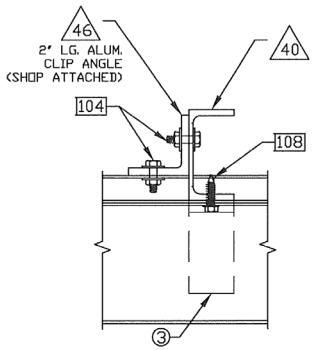
HEAD AND 2" PANEL INTERFACE - STIFFENER

Detail W / 19
SCALE: NTS

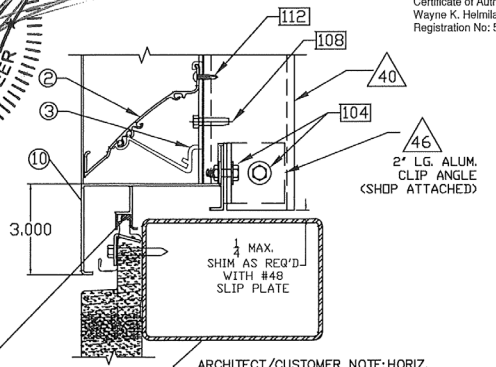


HEAD AND 3" PANEL INTERFACE - STIFFENER

Detail X / 19
SCALE: NTS

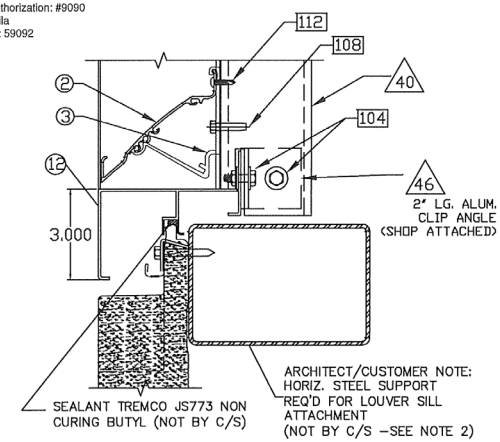


Detail G1 / 14
SCALE: NTS



SILL AND 2" PANEL INTERFACE - STIFFENER

Detail Y / 19
SCALE: NTS



SILL AND 3" PANEL INTERFACE - STIFFENER

Detail Z / 19
SCALE: NTS

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

NOV 12 2024

Note 1 - Alternate frame components for DC 4714 louvers to allow louver integration with CENTRIA horizontal panels in the Centria Formawall Dimension and Graphix systems.

Note 2 - Structural Supports may be 3/16" structural steel or Minimum 16 gauge galvanized cold formed steel

Note 3 - Blade span limitations for the CENTRIA systems is governed by table 4. The mullion and architectural splice configurations defined by tables 1, 2 & 3 and as shown in details H through T are not used with the CENTRIA systems.

REVISION: 5 10-14-24
DATE: 12-03-10
SHEET: 22 OF 22
DRW NO : RD-1140
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DRW BY: R. GEIST

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