



**BUILDING CODE COMPLIANCE OFFICE (BCCO)  
PRODUCT CONTROL DIVISION**

**MIAMI-DADE COUNTY, FLORIDA  
METRO-DADE FLAGLER BUILDING  
140 WEST FLAGLER STREET, SUITE 1603  
MIAMI, FLORIDA 33130-1563  
(305) 375-2901 FAX (305) 375-2908**

**NOTICE OF ACCEPTANCE (NOA)**

**NCA Manufacturing, Inc.  
1036 South Jupiter Road.  
Garland TX 75042**

**SCOPE:** This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by Miami-Dade County Product Control Division and accepted by the Board of Rules and Appeals (BORA) 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 Division (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. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade county Product Control Division 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 High Velocity Hurricane Zone of the Florida Building Code.

**DESCRIPTION: MDH-4 Architectural & Non-Architectural Louver System.**

**APPROVAL DOCUMENT:** Drawing No.1196, titled "MDH-4 Architectural & Non-Architectural Louver System" dated 12/05/02 with no revisions , prepared by W.W. Schaefer Engineering & Consulting, PA, signed and sealed by W. W. Schaefer P.E., bearing the Miami-Dade County Product Control Renewal stamp with the NOA number and expiration date by the Miami-Dade County Product Control Division.

**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 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 # 02-1216.13 and consists of this page 1 as well as approval document mentioned above. The submitted documentation was reviewed by Candido R. Font PE.

9/18/03



**NOA No: 03-0611.06  
Expiration Date: July 27, 2008  
Approval Date: September 18, 2003  
Page 1**

**NCA Manufacturing, Inc.**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

(For File ONLY. Not part of NOA)

**A. DRAWINGS**

1. Drawing No. 1196, titled "MDH-4 Architectural & Non-Architectural Louver System" dated 12/05/02 with no revisions, prepared by W.W. Schaefer Engineering & Consulting, PA, signed and sealed by W. W. Schaefer PE.

**B. TESTS**

1. Test report on Large Missile Impact Resistant Test per PA 201, Air Pressure Test per PA 202 and Cyclic Pressure Test per PA 203 of "AUI EA-22 Architectural & Non-Architectural Fixed Louver", prepared by Hurricane Test Laboratory, Inc, report No. 0199-0518-99, dated 05/26/99 to 06/11/99, signed and sealed by V. J. Abraham PE.
2. Test report on Large Missile Impact Test per PA 201, Air Pressure Test per PA 202 and Cyclic Pressure Test per PA 203 of AUI EA-22 Architectural & Non-Architectural Fixed Louver", prepared by Hurricane Test Laboratory, Inc, report No. 0199-0615-99, dated 06/24/99, signed and sealed by V. J. Abraham, PE.

**C. CALCULATION**

1. Allowable Load Calculations, dated 11/12/99, pages 1 to 3 of 3, prepared by W. W. Schaefer Engineering & Consulting, PA, signed and sealed by W. W. Schaefer, PE.
2. Allowable Load Calculations, dated 04/14/00, pages 1 to 6 of 6, prepared by W. W. Schaefer Engineering & Consulting, PA, signed and sealed by W. W. Schaefer, PE.

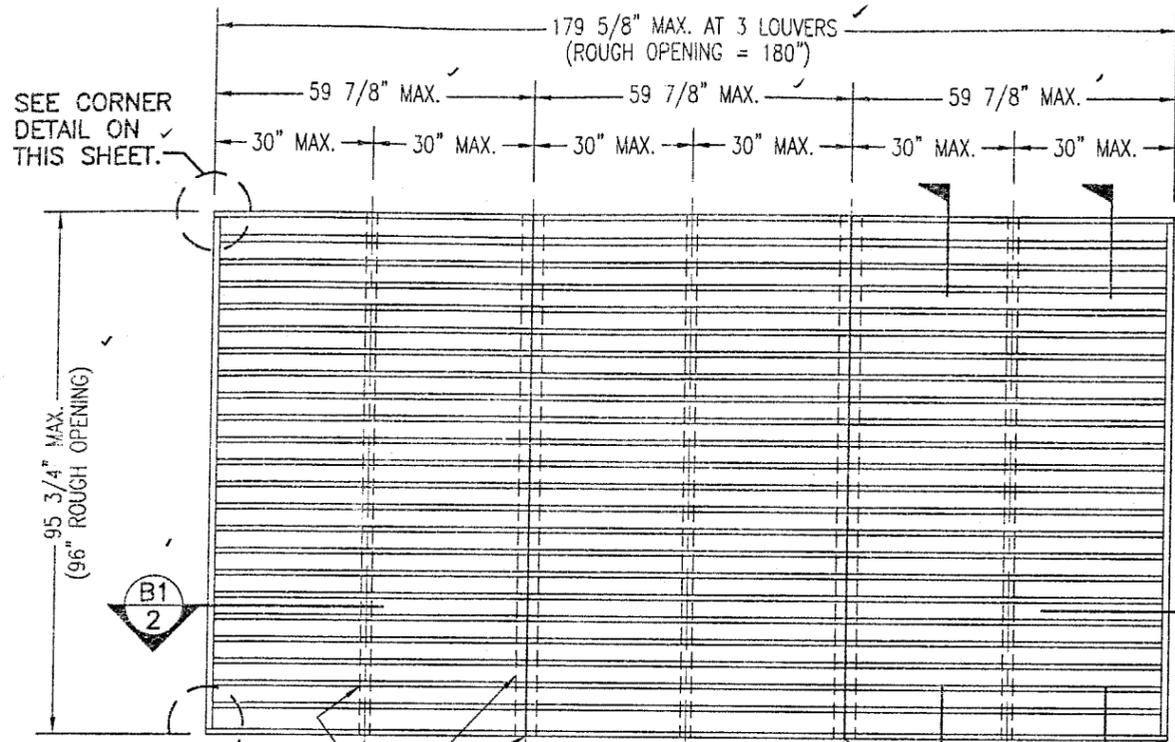
**D. STATEMENTS.**

1. Letter of Code Compliance issued by W. W. Schaefer, PE, on 11/15/99, signed and sealed by W. W. Schaefer, PE.
2. Test Compliance letter issued by Hurricane Test Laboratory Inc, on 12/08/99, signed and sealed by V. J. Abraham, PE.
3. No Financial Interest letter issued by W. W. Schaefer, PA, on 11/15/99 signed and sealed by W. W. Schaefer, PE.
4. No change letter issued by NCA Manufacturing, Inc. on 06/06/03 and signed by D. Carey.

**E. MATERIAL CERTIFICATION**

1. Tensile Test report on 4 inch louver, prepared by Q.C. Metallurgical, Inc, No. 9LM-2586, dated 12/27/99 signed and sealed by F. Grate, PE.

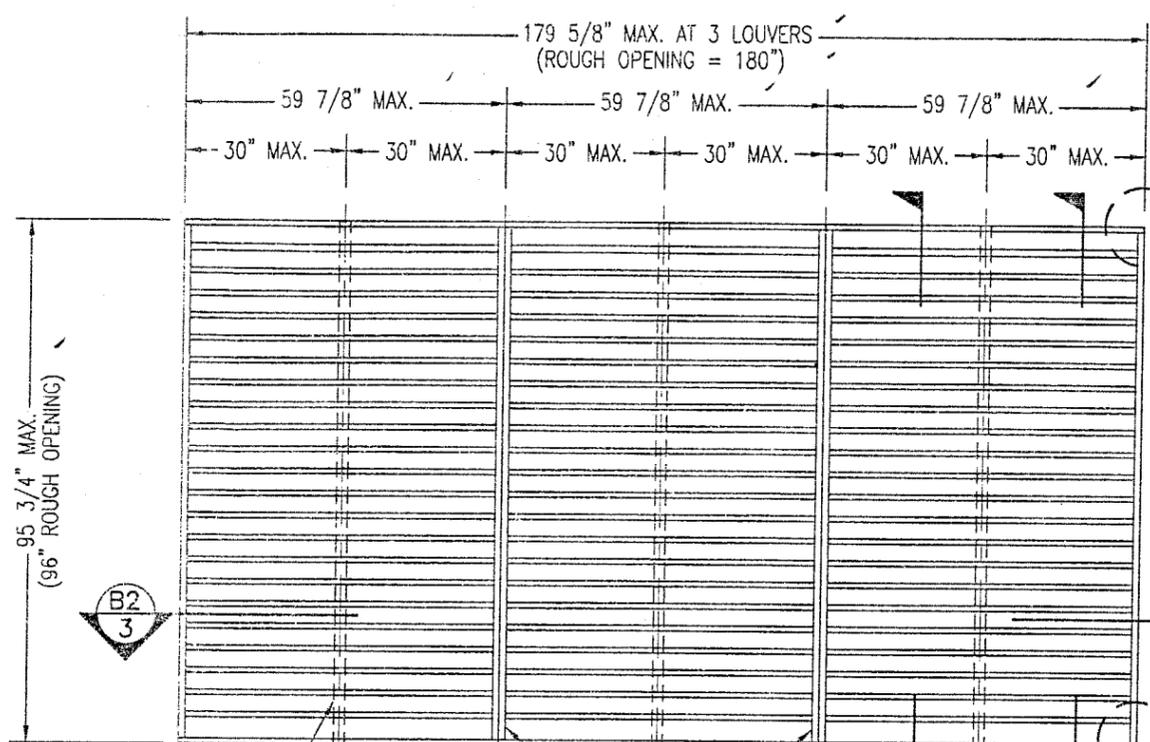
  
**Candido F. Font PE.**  
**Sr. Product Control Examiner**  
**NOA No 03-0611.06**  
**Expiration Date: July 27, 2008**  
**Approval: Date: September 18, 2003**



EXTERIOR ELEVATION  
ARCHITECTURAL 4" LOUVER

SCALE: 3/8"=1'-0"

NOTE: THIS LOUVER SYSTEM MAY CONSIST OF AN UNLIMITED NUMBER OF SECTIONS PROVIDING EACH SECTION DOES NOT EXCEED 59 7/8" X 95 3/4" IN SIZE.



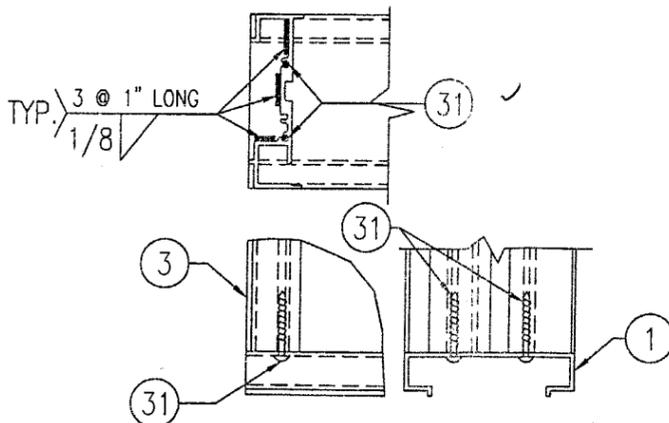
EXTERIOR ELEVATION  
NON-ARCHITECTURAL 4" LOUVER

SCALE: 3/8"=1'-0"

NOTE: THIS LOUVER SYSTEM MAY CONSIST OF AN UNLIMITED NUMBER OF SECTIONS PROVIDING EACH SECTION DOES NOT EXCEED 59 7/8" X 95 3/4" IN SIZE.

MAX. ALLOWABLE DESIGN WIND PRESSURE	
POSITIVE	NEGATIVE
150 PSF	150 PSF ✓

NOTE: SEE LOAD TABLE ON SHEET 7 FOR VARIATIONS OF PRESSURES WITH RESPECT TO PANEL WIDTH & CLIP SPACING.



CORNER DETAIL

15. THESE LOUVERS ARE TO BE INSTALLED IN LOCATIONS WHERE THE ROOM BEHIND THE LOUVER IS DESIGNED TO DRAIN WATER PENETRATING INTO THE ROOM, AND THE ROOM WILL HOUSE WATER RESISTANT/WATER PROOF EQUIPMENT COMPONENTS & SUPPLIES.

**GENERAL NOTES:**

1. MAXIMUM ALLOWABLE INDIVIDUAL PANEL SIZE = 59 7/8" X 95 3/4"
2. MAXIMUM ASSEMBLY SIZE = UNLIMITED WIDTH, UP TO 95 3/4" HEIGHT.
3. ASSEMBLIES/SECTIONS MAY BE STACKED VERTICALLY PROVIDING A STRUCTURAL SUPPORT IS DESIGNED AND INSTALLED BY OTHERS TO SUPPORT ALL LOADS TRANSFERRED FROM THE LOUVER ASSEMBLY.
4. MAXIMUM UNSUPPORTED BLADE LENGTH SHALL NOT EXCEED 30".
5. ALL FASTENERS SHALL BE PLATED STEEL OR 304 STAINLESS STEEL.
6. SEPARATION OF DISSIMILAR MATERIALS MUST BE MAINTAINED PER SECTION 2003.8.4 OF THE F.B.C. 2001
7. APPROVED TYPES OF OPENINGS: 3000 PSI CONCRETE/MASONRY, WOOD OR STEEL. SEE SHEETS 4 & 5 FOR ANCHORING DETAILS.
8. THESE LOUVER SYSTEMS HAVE BEEN TESTED, ANALYZED AND APPROVED FOR DESIGN PRESSURES NOT TO EXCEED THOSE SHOWN IN THE LOAD TABLE ON SHEET 7.
9. THIS SYSTEM HAS NOT BEEN TESTED FOR WATER INFILTRATION RESISTANCE AND IS NOT A WATER RESISTANT SYSTEM.
10. BUCKING, OPENINGS & BUCKING FASTENERS MUST BE DESIGNED & INSTALLED TO WITHSTAND WIND LOADS AS DETERMINED FOR EACH APPLICATION.
11. ALL HARDWARE & FASTENERS SHALL BE IN ACCORDANCE WITH THESE DRAWINGS & MAY NOT VARY UNLESS SPECIFICALLY MENTIONED ON THESE DRAWINGS.
12. THE DETAILS & SPECIFICATIONS HERE-IN REPRESENT THE PRODUCTS PROPOSED FOR IMPACT, CYCLIC & UNIFORM STATIC AIR PRESSURE TESTING IN CONFORMANCE WITH FLORIDA BUILDING CODE PROTOCOLS TAS-201, 202 & 203 FOR BOTH IMPACT & NON-IMPACT LOUVERS.
13. THESE LOUVER SYSTEMS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE (F.B.C.).
14. THIS PRODUCT HAS BEEN TESTED IN ACCORDANCE WITH FLORIDA BUILDING CODE PROTOCOLS TAS-201, 202 & 203 FOR LARGE MISSILE IMPACT, STRUCTURAL & CYCLIC TESTING.

DRAWN BY: W.W.S.	CHECKED BY: W.W.S.
PLOT: 1-32	DATE: 12/05/02
NO.	REVISION DESCRIPTION

DRAWING TITLE: MDH-4 ARCHITECTURAL & NON-ARCHITECTURAL LOUVER SYSTEM

MANUFACTURER: NCA MANUFACTURING, INC.  
1036 SOUTH JUPITER ROAD  
GARLAND, TX 75042  
972-276-5002

CONSULTANTS: W. W. SCHAEFER ENGINEERING & CONSULTING, P.A.  
600 SANDTREE DRIVE, SUITE 203B  
PALM BEACH GARDENS, FL 33403  
PHONE: 561-775-4902 FAX: 561-775-4903

PRODUCT RENEWED as complying with the Florida Building Code  
Approval No. 03-0611.06  
Expiration Date 07/27/08

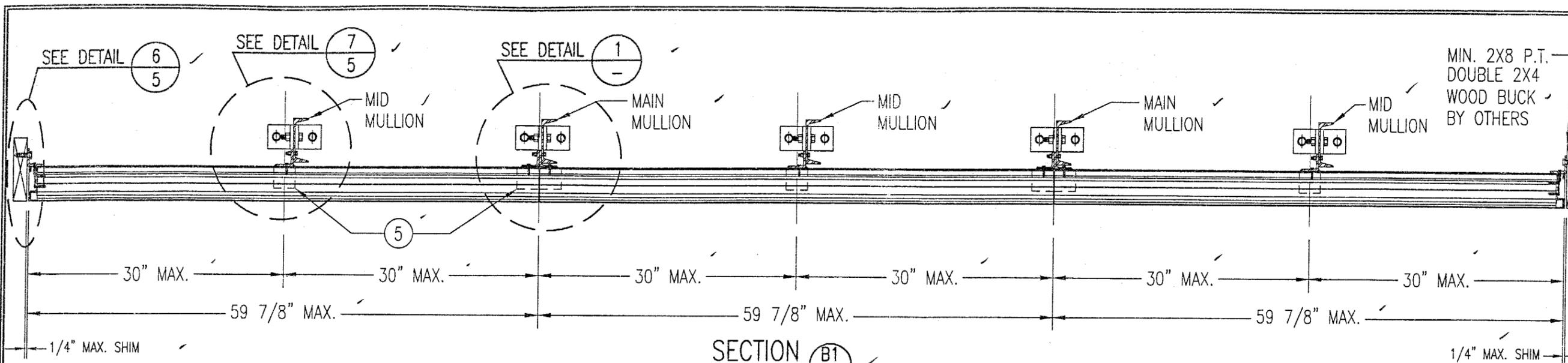
By: [Signature]  
Miami Dade Product Control Division

Approved as complying with the Florida Building Code  
Date 01/16/03  
NOA# 02-1216.13  
Miami Dade Product Control Division  
By: [Signature]

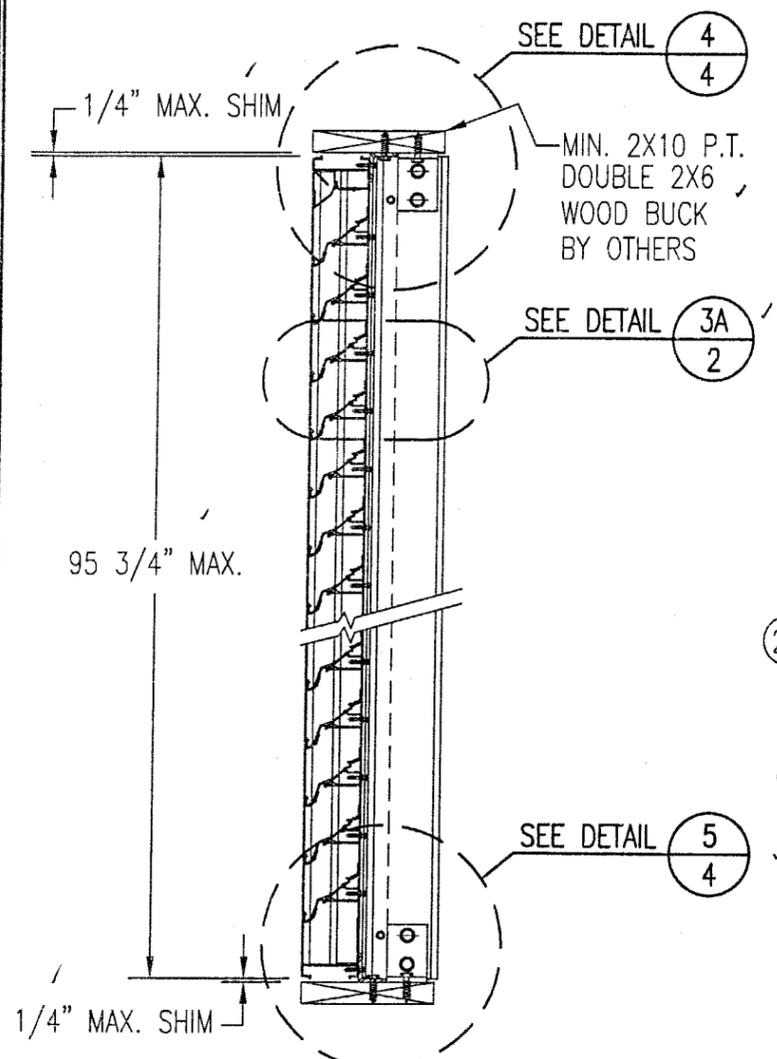
CERTIFICATION  
DEC 09 2002

WARREN W. SCHAEFER, P.E.  
P.E. NO. 44135

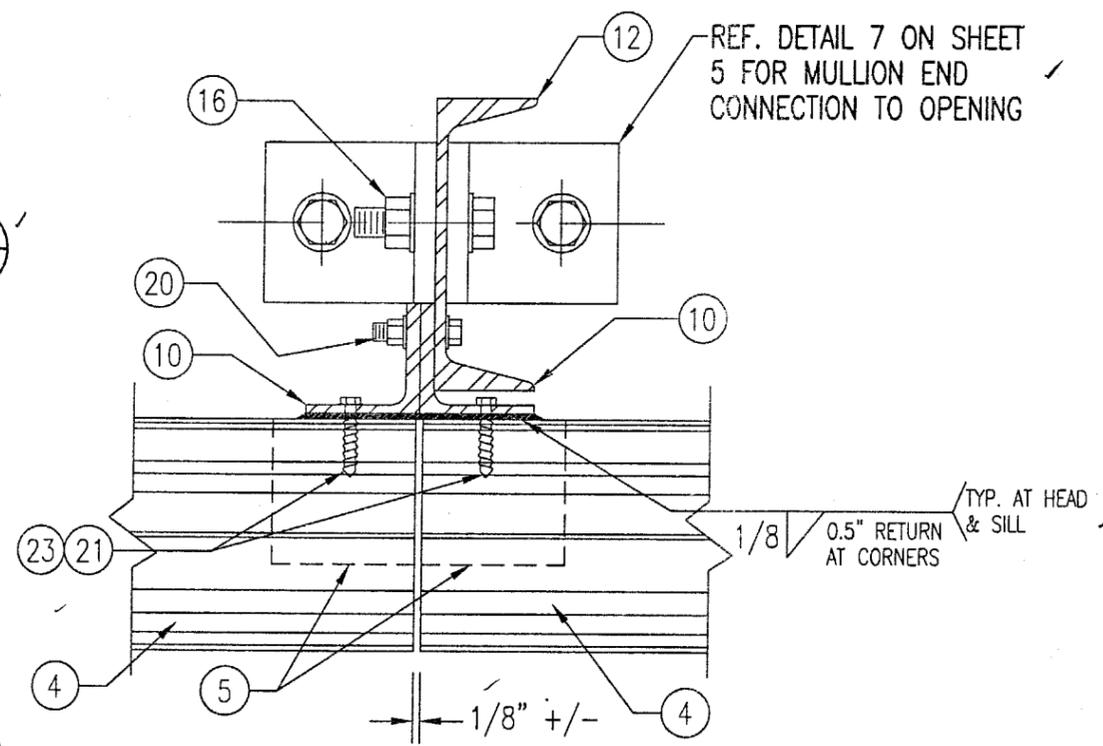
DRAWING NO. 1196  
REV. SHEET NO. 1 OF 7



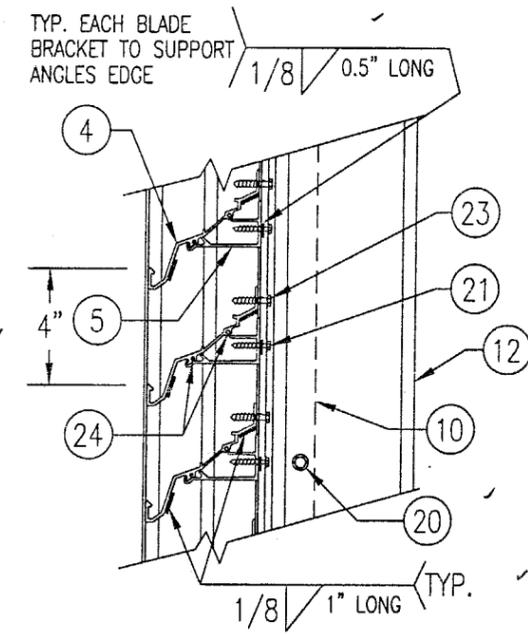
**SECTION B1**  
SCALE: 1"=1'-0"  
ARCHITECTURAL LOUVER



**SECTION A1**  
SCALE: 1"=1'-0"  
ARCHITECTURAL LOUVER



**DETAIL 1**  
SCALE: 1/3 FULL  
ARCHITECTURAL LOUVER



**DETAIL 3A**  
SCALE: 2"=1'-0"  
TYP. AT ALL MULLIONS THIS SHEET

DRAWN BY: W.W.S.	CHECKED BY: W.W.S.
PLOT: 1=12	DATE: 12/05/02
NO.	REVISION DESCRIPTION

**DRAWING TITLE**  
MDH-4 ARCHITECTURAL & NON-ARCHITECTURAL LOUVER SYSTEM

**MANUFACTURER**  
NCA MANUFACTURING, INC.  
1036 SOUTH JUPITER ROAD  
GARLAND, TX 75042  
972-276-5002

**CONSULTANTS**  
W. W. SCHAEFER ENGINEERING & CONSULTING, P.A.  
600 SANDTREE DRIVE, SUITE 203B  
PALM BEACH GARDENS, FL 33403  
PHONE: 561-775-4902 FAX: 561-775-4903

**DATE**  
DEC 09 2002

**APPROVAL**  
WARREN W. SCHAEFER, P.E.  
P.E. NO. 44135

**DRAWING NO.**  
1196

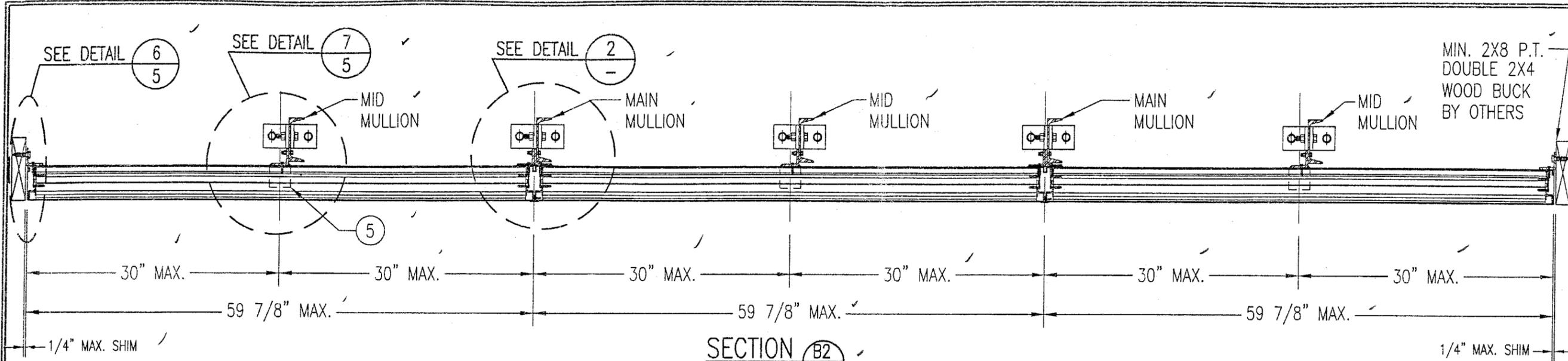
**REV.**

**SHEET NO.**  
2 OF 7

**PRODUCT RENEWED**  
as complying with the Florida Building Code  
Building Code  
Acceptance No. 03-0611.06  
Expiration Date 07/27/08

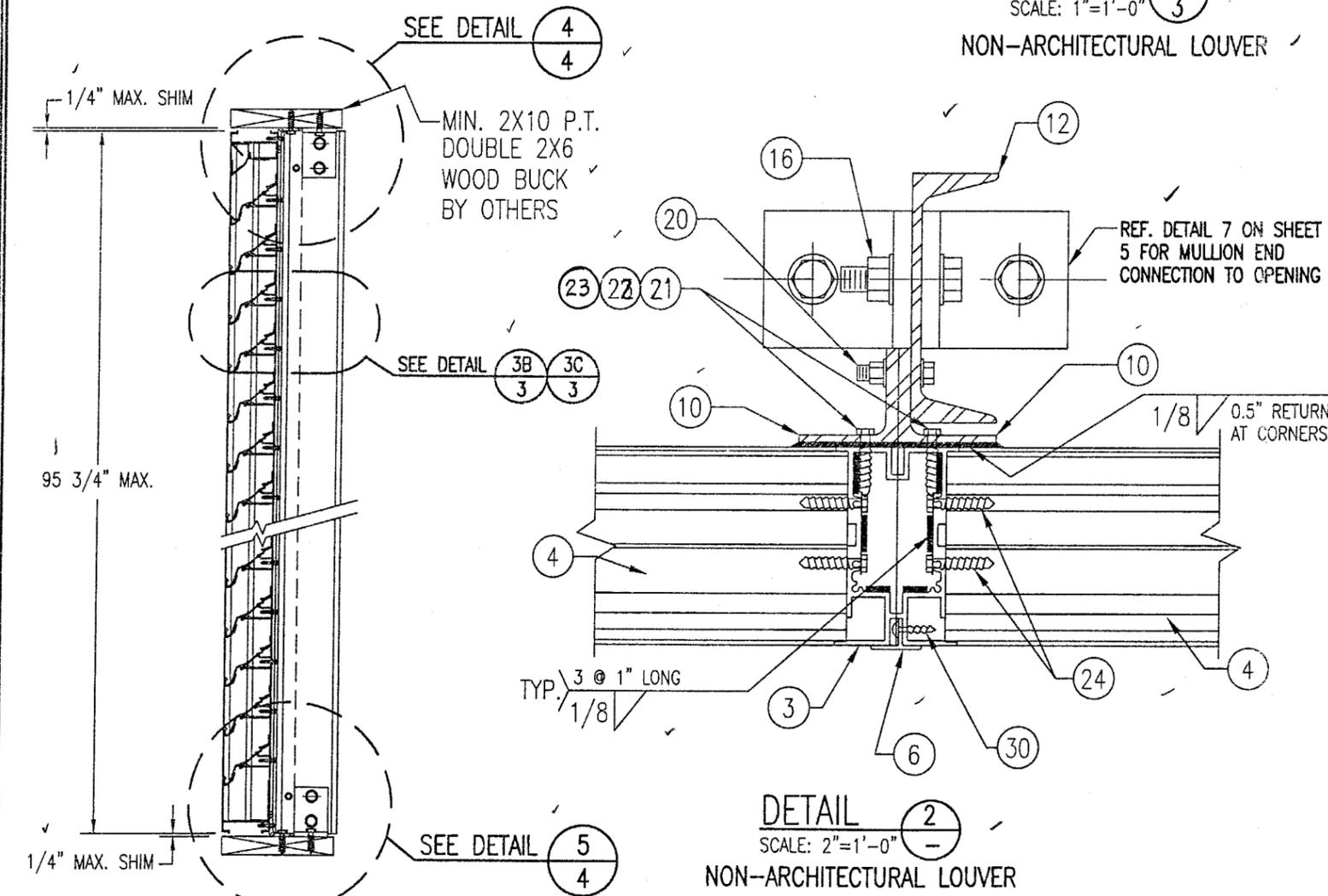
**Approved as complying with the Florida Building Code**  
Date 01/16/03  
NOAH 02-1216.13  
Miami Dade Product Control Division

By: [Signature]  
Miami Dade Product Control Division



SECTION **B2**  
SCALE: 1"=1'-0"  
3

NON-ARCHITECTURAL LOUVER

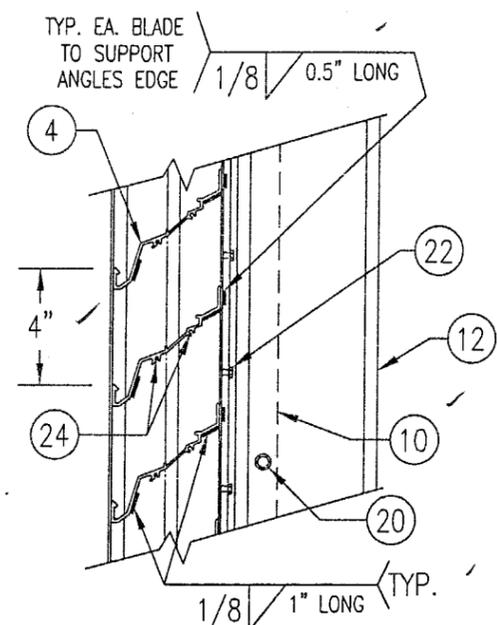


SECTION **A2**  
SCALE: 1"=1'-0"  
3

NON-ARCHITECTURAL LOUVER

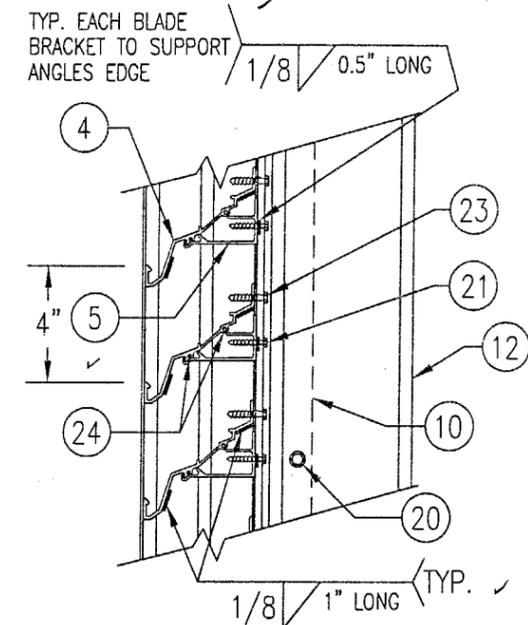
DETAIL **2**  
SCALE: 2"=1'-0"  
-

NON-ARCHITECTURAL LOUVER  
NOTE: SIDE JAMBS ARE ADDITIONALLY FASTENED TO THE SILL & HEAD WITH 2 NO. 7 X 1" SMS THROUGH SILL & INTO JAMB SPLINES.



DETAIL **3B**  
SCALE: 2"=1'-0"  
3

TYP. AT MAIN MULLIONS THIS SHEET



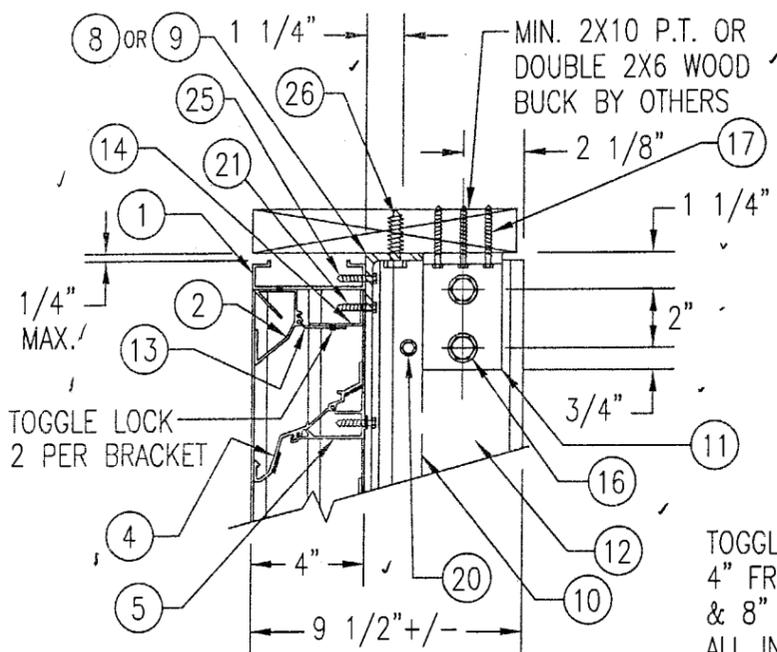
DETAIL **3C**  
SCALE: 2"=1'-0"  
3

TYP. AT ALL MID-SPAN MULLIONS THIS SHEET

DRAWN BY: W.W.S.	CHECKED BY: W.W.S.
PLOT: 1-12	DATE: 12/05/02
NO.	REVISION DESCRIPTION
BY	DATE
MDH-4 ARCHITECTURAL & NON-ARCHITECTURAL LOUVER SYSTEM MANUFACTURER <b>NCA MANUFACTURING, INC.</b> 1036 SOUTH JUPITER ROAD GARLAND, TX 75042 972-276-5002	
CONSULTANTS <b>W. W. SCHAEFER ENGINEERING &amp; CONSULTING, P.A.</b> 600 SANDTREE DRIVE, SUITE 203B PALM BEACH GARDENS, FL 33403 PHONE: 561-775-4902 FAX: 561-775-4903	
CERTIFICATION <b>DEC 09 2002</b> WARREN W. SCHAEFER, P.E. P.E. NO. 44135	
DRAWING NO. 1196	REV.
SHEET NO. 3 OF 7	

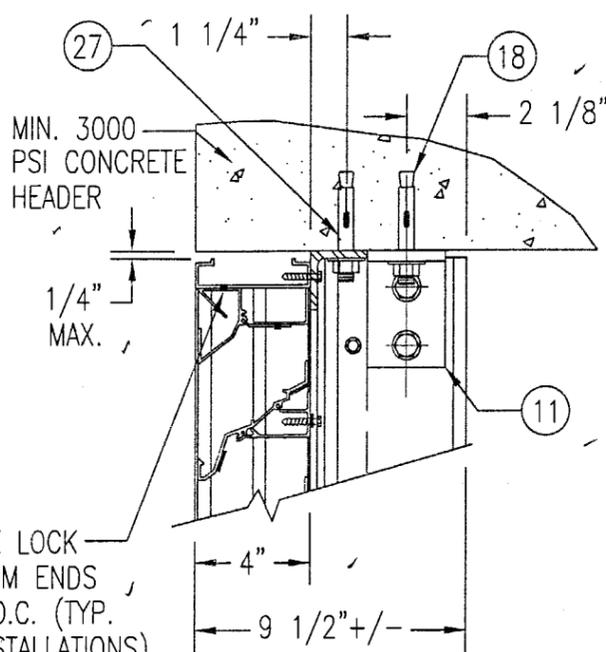
PRODUCT RENEWED  
as complying with the Florida Building Code  
Acceptance No. 03-0611.06  
Expiration Date 07/27/08  
By [Signature]  
Miami Dade Product Control Division

Approved as complying with the Florida Building Code  
Date 01/16/03  
NOA# 021216.13  
Miami Dade Product Control Division  
By [Signature]



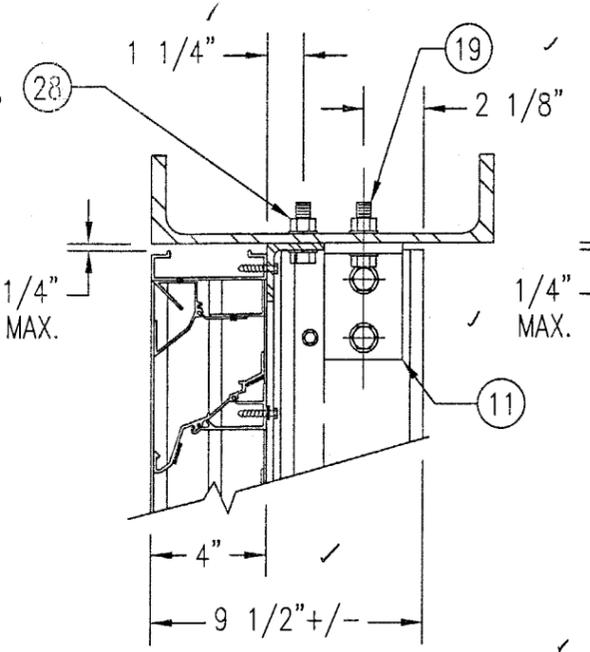
**WOOD FRAMED OPENING**

SEE "DETAIL 3A & 3B" FOR LOUVER BLADE DETAILS



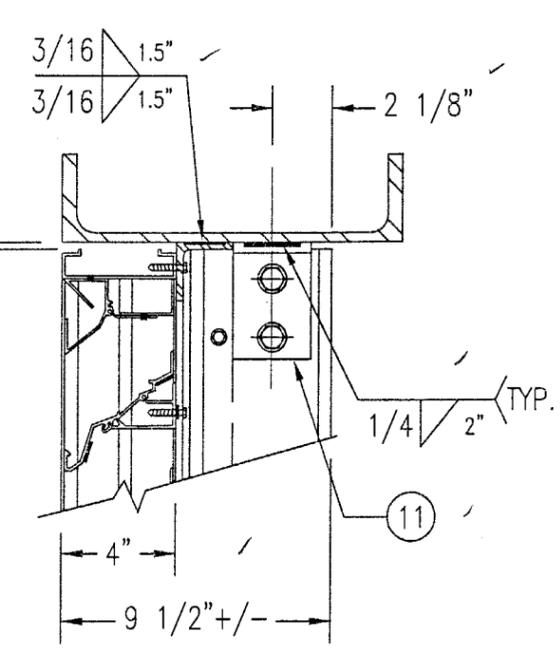
**CONCRETE HEAD**

SEE "WOOD OPENING" FOR DETAIL NOT SHOWN (MASONRY ACCEPTABLE AT SIDES ONLY AND MAY NOT BE USED AT HEAD OR SILL)



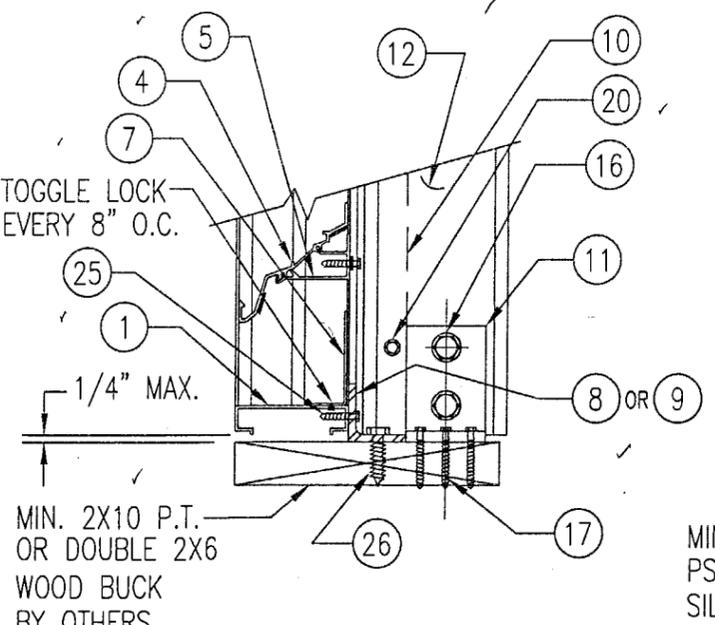
**STEEL FRAME OPENING (BOLTED)**

SEE "WOOD OPENING" FOR DETAIL NOT SHOWN



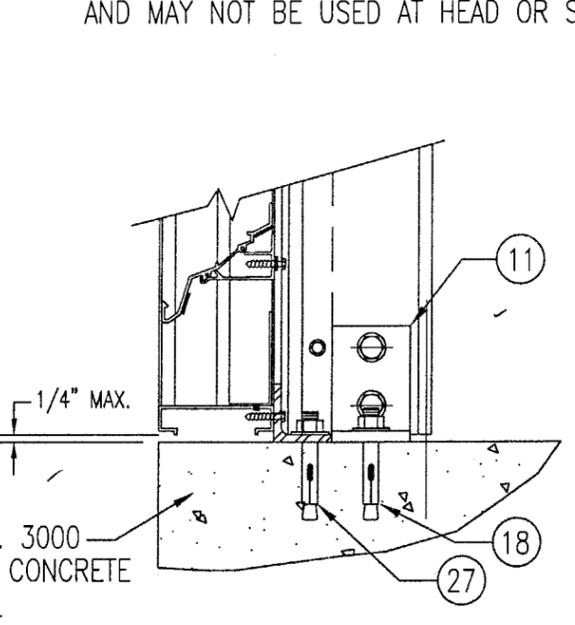
**STEEL FRAME OPENING (WELDED)**

SEE "WOOD OPENING" FOR DETAIL NOT SHOWN



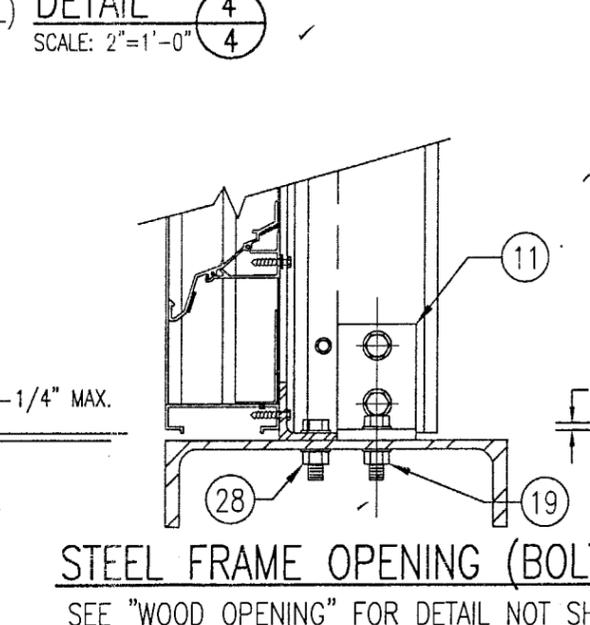
**WOOD FRAMED OPENING**

SEE "DETAIL 3A & 3B" FOR LOUVER BLADE DETAILS



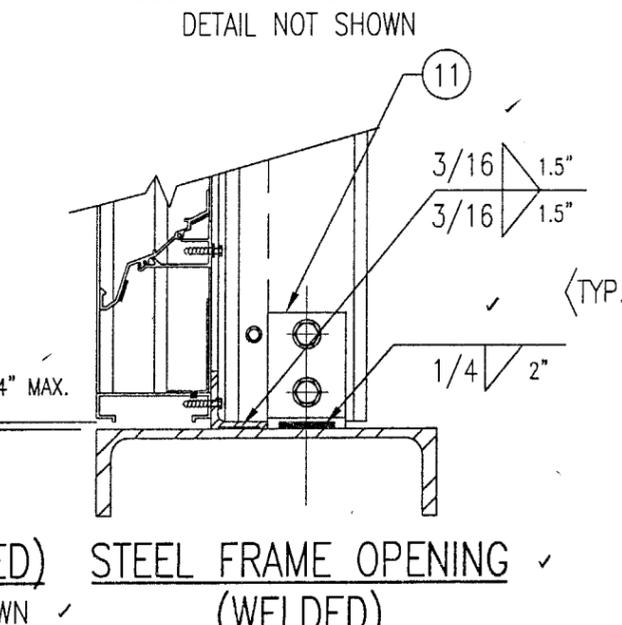
**CONCRETE SILL**

SEE "WOOD OPENING" FOR DETAIL NOT SHOWN (MASONRY ACCEPTABLE AT SIDES ONLY AND MAY NOT BE USED AT HEAD OR SILL)



**STEEL FRAME OPENING (BOLTED)**

SEE "WOOD OPENING" FOR DETAIL NOT SHOWN



**STEEL FRAME OPENING (WELDED)**

SEE "WOOD OPENING" FOR DETAIL NOT SHOWN

**DETAIL 4**  
SCALE: 2"=1'-0"

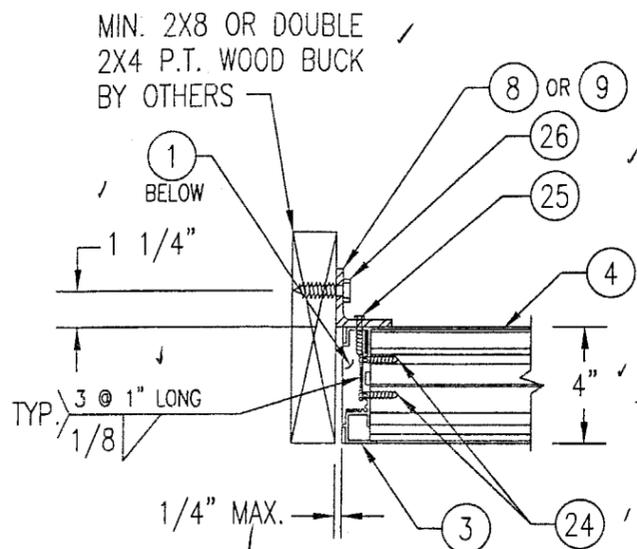
**DETAIL 5**  
SCALE: 2"=1'-0"

MASONRY MAY ONLY BE USED AT SIDES OF LOUVER PANELS & MAY NOT BE USED AT THE HEAD OR SILL.

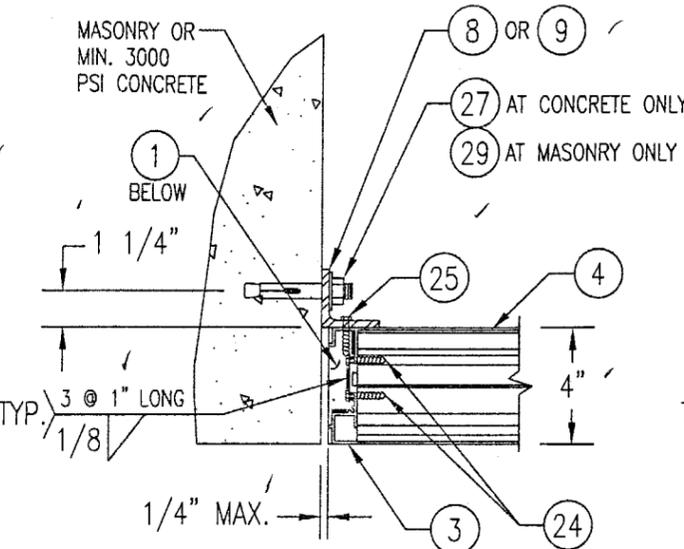
**PRODUCT RENEWED**  
in compliance with the Florida Building Code  
Approval No. 03-0611.06  
Expiration Date 07/27/08  
By Miami Dade Product Control Division

Approved as complying with the Florida Building Code  
Date 01/16/03  
NOA# 0241216.13  
Miami Dade Product Control Division

DRAWN BY: W.W.S.		CHECKED BY: W.W.S.	
PLOT: 1=6		DATE: 12/05/02	
NO.	REVISION DESCRIPTION	BY	DATE
DRAWING TITLE: MDH-4 ARCHITECTURAL & NON-ARCHITECTURAL LOUVER SYSTEM			
CONSULTANTS: W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. 600 SANDTREE DRIVE, SUITE 203B PALM BEACH GARDENS, FL 33403 PHONE: 561-775-4902 FAX: 561-775-4903			
MANUFACTURER: NCA MANUFACTURING, INC. 1036 SOUTH JUPITER ROAD GARLAND, TX 75042 972-276-5002			
CERTIFICATION: DEC 09 2002		WARREN W. SCHAEFER, P.E. P.E. NO. 44135	
DRAWING NO. 1196	REV.	SHEET NO. 4 OF 7	

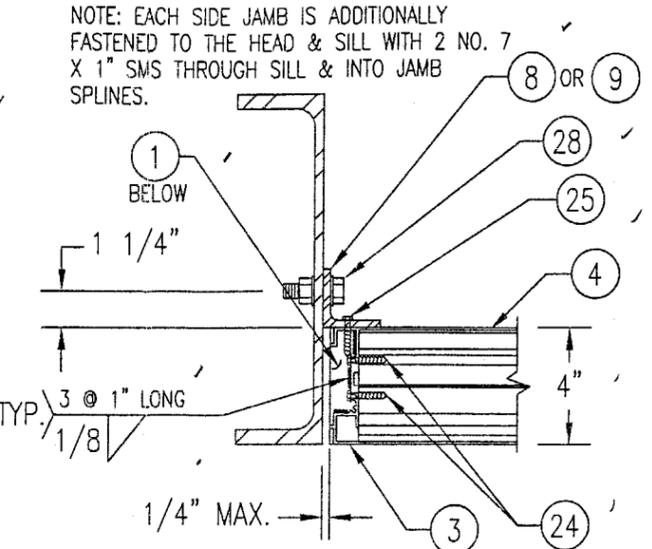


**WOOD FRAMED OPENING**



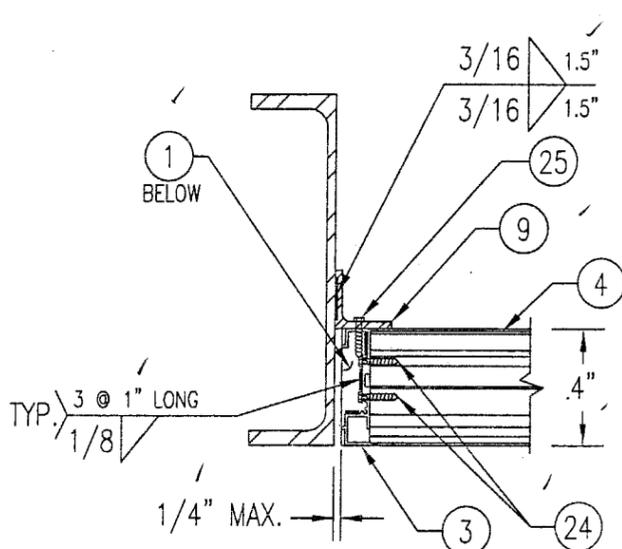
**CONCRETE/MASONRY OPENING**

(MASONRY ACCEPTABLE AT SIDES ONLY AND MAY NOT BE USED AT HEAD OR SILL)

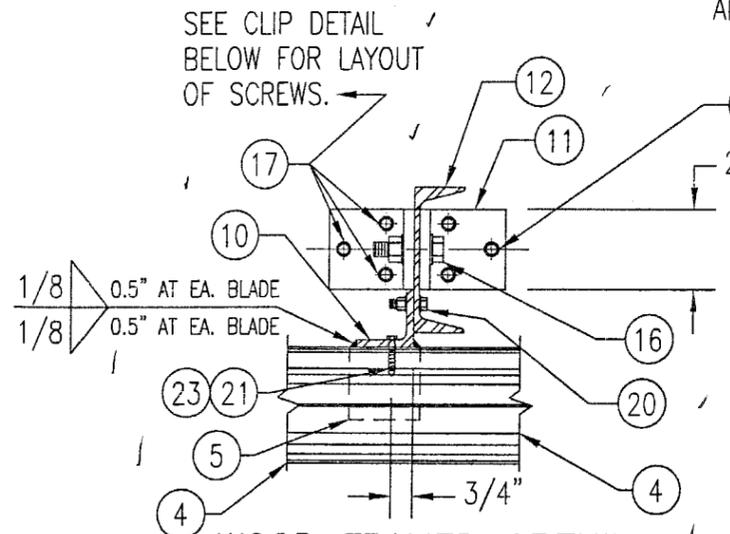


**STEEL FRAME OPENING (BOLTED)**

NOTE: EACH SIDE JAMB IS ADDITIONALLY FASTENED TO THE HEAD & SILL WITH 2 NO. 7 X 1\"/>

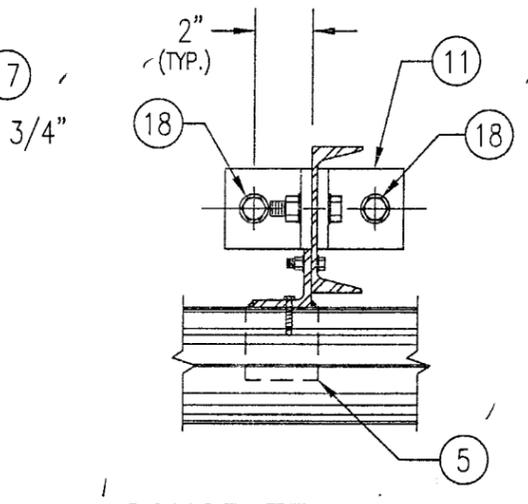


**STEEL FRAME OPENING (WELDED)**



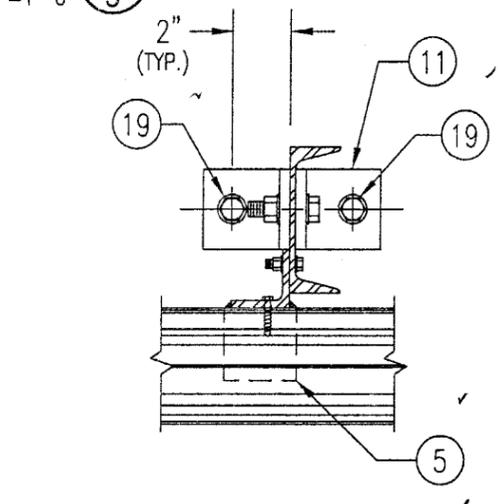
**WOOD FRAMED OPENING**

SEE CLIP DETAIL BELOW FOR LAYOUT OF SCREWS.



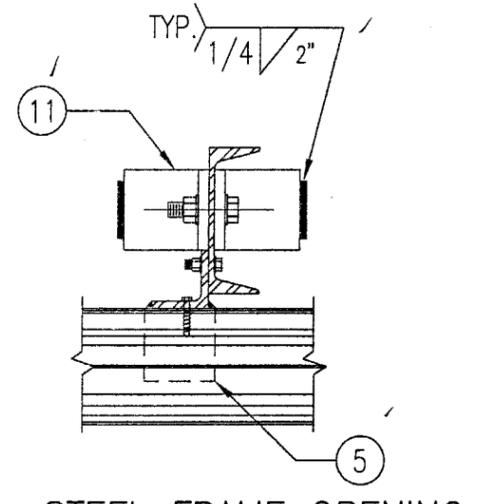
**CONCRETE SILL & HEAD**

SEE "WOOD OPENING" FOR DETAIL NOT SHOWN (MASONRY ACCEPTABLE AT SIDES ONLY AND MAY NOT BE USED AT HEAD OR SILL)



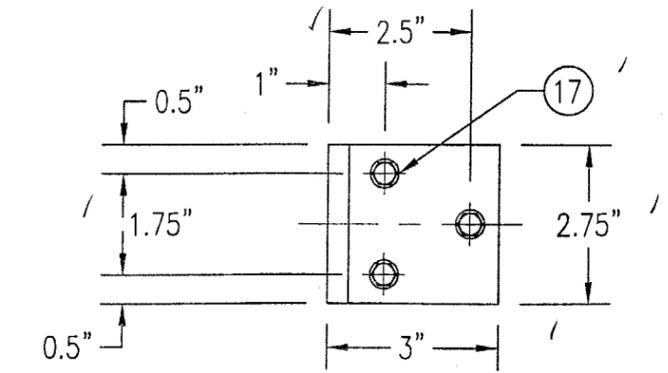
**STEEL FRAME OPENING (BOLTED)**

SEE "WOOD OPENING" FOR DETAIL NOT SHOWN



**STEEL FRAME OPENING (WELDED)**

SEE "WOOD OPENING" FOR DETAIL NOT SHOWN



**MULLION CLIP DETAIL @ WOOD INSTALLATION**

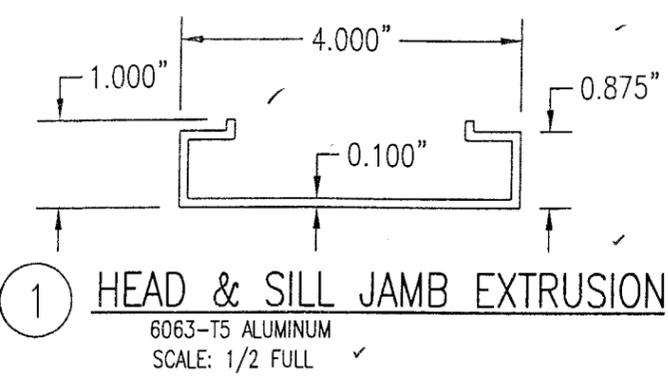
MASONRY MAY ONLY BE USED AT SIDES OF LOUVER PANELS & MAY NOT BE USED AT THE HEAD OR SILL.

DETAIL 7/5 SCALE: 2"=1'-0"

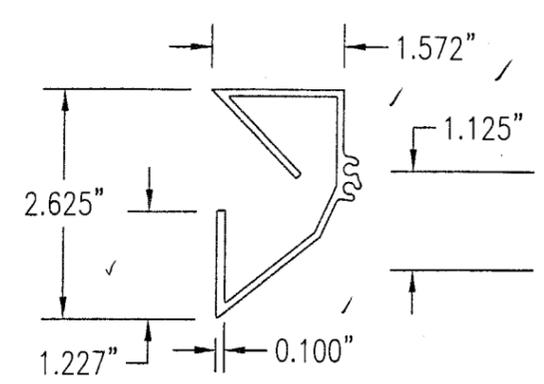
PRODUCT RENEWED as complying with the Florida Building Code  
 Acceptance No. 03-0611.06  
 Expiration Date 07/27/08  
 By: [Signature] Miami Dade Product Control Division

Approved as complying with the Florida Building Code  
 Date 01/16/03  
 NOA# 02-1216.13  
 Miami Dade Product Control Division  
 By: [Signature]

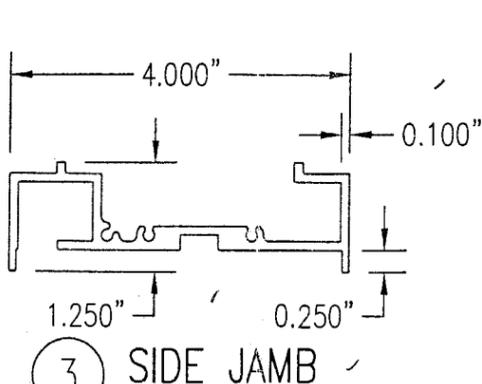
DRAWN BY: W.W.S.	CHECKED BY: W.W.S.	PLOT: 1=6	DATE: 12/05/02
DRAWING TITLE MDH-4 ARCHITECTURAL & NON-ARCHITECTURAL LOUVER SYSTEM			
CONSULTANTS W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. 600 SANDTREE DRIVE, SUITE 203B PALM BEACH GARDENS, FL 33403 PHONE: 561-775-4902 FAX: 561-775-4903			
MANUFACTURER NCA MANUFACTURING, INC. 1036 SOUTH JUPIITER ROAD GARLAND, TX 75042 972-276-5002			
CERTIFICATION DEC 09 2002	WARREN W. SCHAEFER, P.E. P.E. NO. 44135		
DRAWING NO. 1196	REV.		
SHEET NO. 5 OF 7			



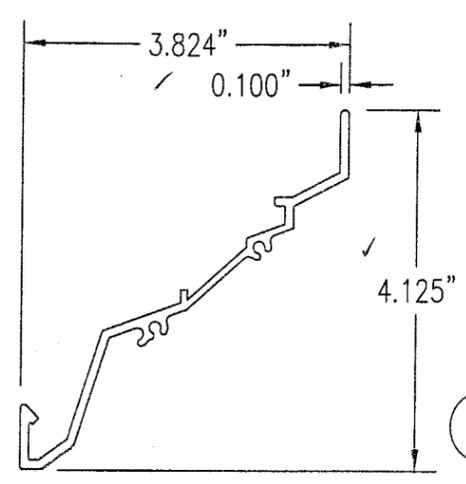
1 HEAD & SILL JAMB EXTRUSION  
6063-T5 ALUMINUM  
SCALE: 1/2 FULL



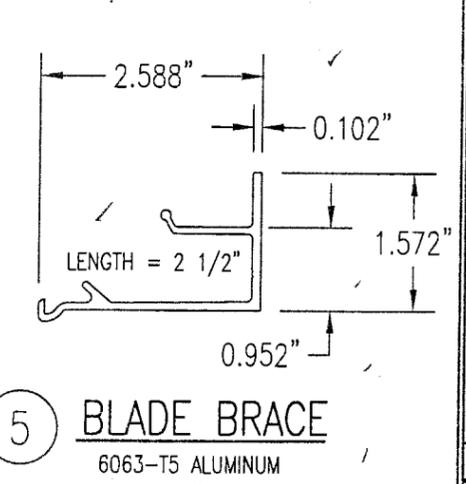
2 PARTIAL BLADE  
6063-T5 ALUMINUM  
SCALE: 1/2 FULL



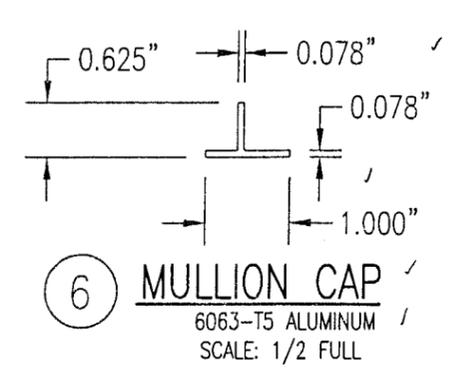
3 SIDE JAMB  
6063-T5 ALUMINUM  
SCALE: 1/2 FULL



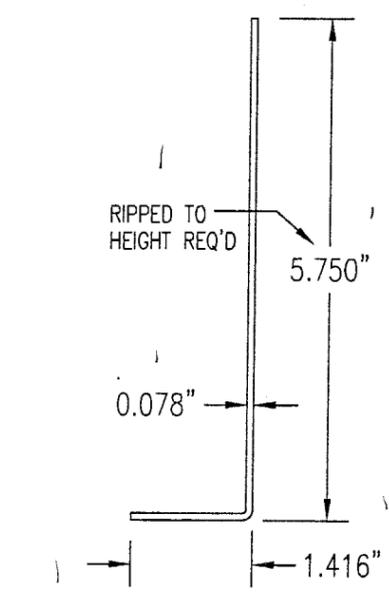
4 LOUVER BLADE  
6063-T5 ALUMINUM  
SCALE: 1/2 FULL



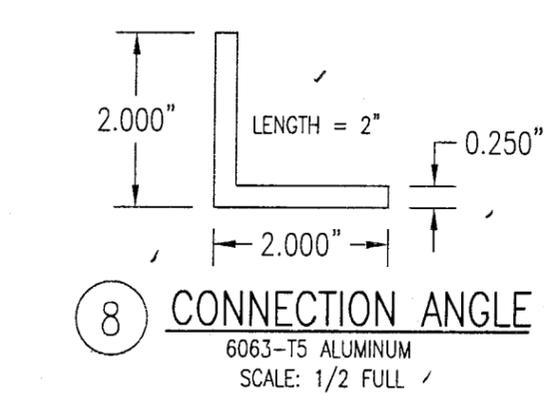
5 BLADE BRACE  
6063-T5 ALUMINUM  
SCALE: 1/2 FULL



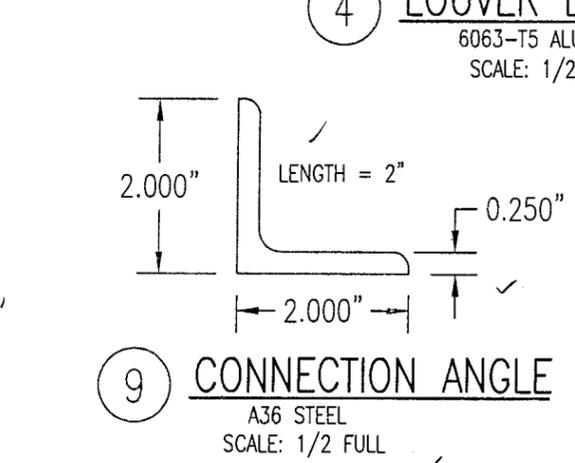
6 MULLION CAP  
6063-T5 ALUMINUM  
SCALE: 1/2 FULL



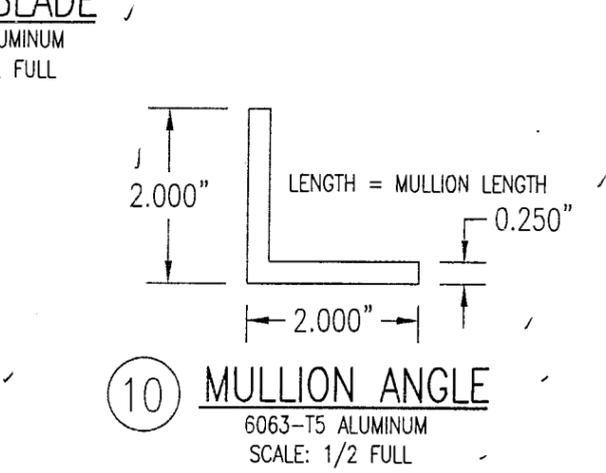
7 SILL ANGLE  
6063-T5 ALUMINUM  
SCALE: 1/2 FULL



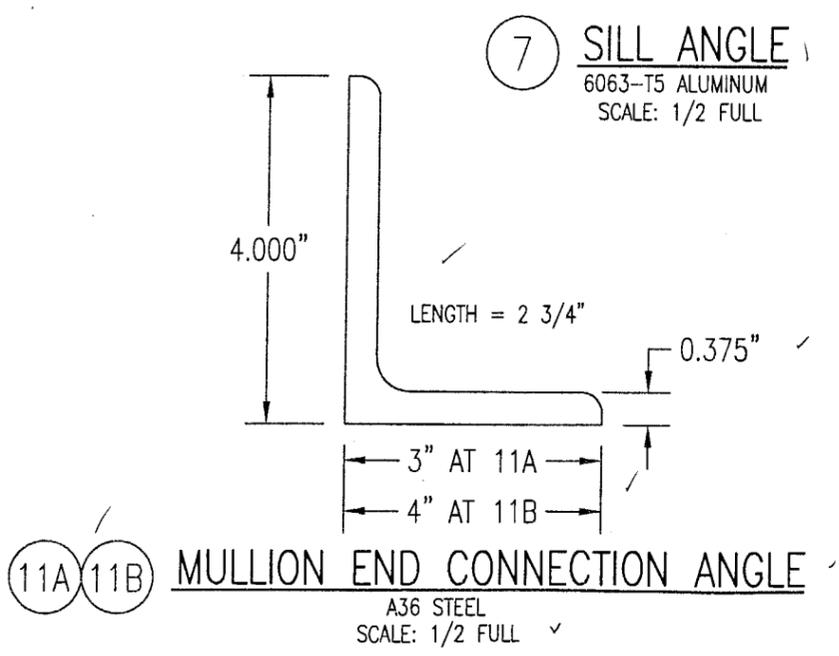
8 CONNECTION ANGLE  
6063-T5 ALUMINUM  
SCALE: 1/2 FULL



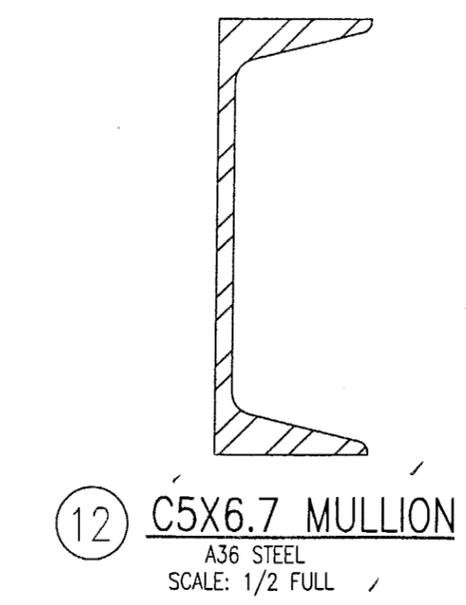
9 CONNECTION ANGLE  
A36 STEEL  
SCALE: 1/2 FULL



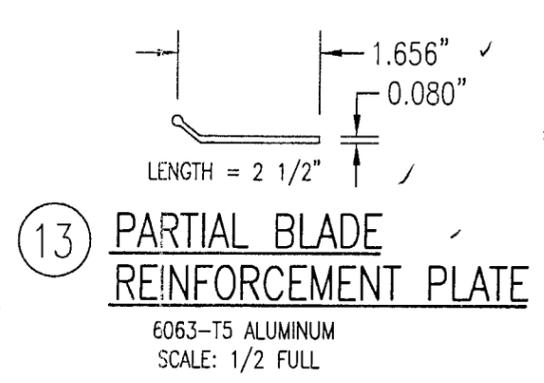
10 MULLION ANGLE  
6063-T5 ALUMINUM  
SCALE: 1/2 FULL



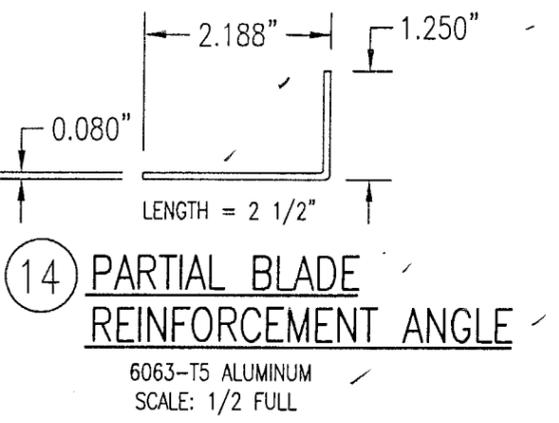
11A 11B MULLION END CONNECTION ANGLE  
A36 STEEL  
SCALE: 1/2 FULL



12 C5X6.7 MULLION  
A36 STEEL  
SCALE: 1/2 FULL



13 PARTIAL BLADE REINFORCEMENT PLATE  
6063-T5 ALUMINUM  
SCALE: 1/2 FULL



14 PARTIAL BLADE REINFORCEMENT ANGLE  
6063-T5 ALUMINUM  
SCALE: 1/2 FULL

PRODUCT RENEWED  
as complying with the Florida Building Code  
Acceptance No. 03-0611.06  
Date 01/16/03  
Expiration Date 07/27/08  
NOA# 02-1216.13  
Approved as complying with the Florida Building Code  
Date 01/16/03  
NOA# 02-1216.13  
By Miami Dade Product Control Division  
By

DRAWN BY: W.W.S.	CHECKED BY: W.W.S.
PLOT: 1=2	DATE: 12/05/02
DATE	BY
REVISION DESCRIPTION	NO.
DRAWING TITLE MDH-4 ARCHITECTURAL & NON-ARCHITECTURAL LOUVER SYSTEM	
CONSULTANTS W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. 600 SANDTREE DRIVE, SUITE 203B PALM BEACH GARDENS, FL 33403 PHONE: 561-775-4902 FAX: 561-775-4903	
MANUFACTURER NCA MANUFACTURING, INC. 1036 SOUTH JUPITER ROAD GARLAND, TX 75042 972-276-5002	
CERTIFICATION DEC 09 2002	WARREN W. SCHAEFER, P.E. P.E. NO. 44135
DRAWING NO. 1196	REV.
SHEET NO. 6 OF 7	

**ALLOWABLE WIND PRESSURE VS. JAMB CLIP SPACING AND PANEL WIDTH**

PANEL WIDTH (INCHES)	CLIP SPACING (INCHES)	ALLOWABLE PRESSURE WITH MID SPAN MULLION (PSF)	ALLOWABLE PRESSURE WITHOUT MID SPAN MULLION (PSF)
16 ✓	8	150	150
	12	150	150
	16	150	140
	20	150	105
	24 ✓	150 ✓	70 ✓
20 ✓	8	150	150
	12	150	140
	16	150	112
	20	150	84
	24 ✓	150 ✓	56 ✓
24 ✓	8	150	140
	12	150	117
	16	150	93
	20	150	70
	24 ✓	125 ✓	47 ✓
28 ✓	8	150	82
	12	150	68
	16	150	54
	20	150	41
	24 ✓	107 ✓	27 ✓
30 ✓	8	150	62
	12	150	52
	16	150	41
	20	140	31 ✓
	24 ✓	93 ✓	-
36 ✓	8	150	-
	12	150	-
	16	150	-
	20	125	-
	24 ✓	83 ✓	-
42 ✓	8	150	-
	12	150	-
	16	142	-
	20	107	-
	24 ✓	71 ✓	-
48 ✓	8	150	-
	12	150	-
	16	125	-
	20	93	-
	24 ✓	62 ✓	-
54 ✓	8	150	-
	12	138	-
	16	111	-
	20	83	-
	24 ✓	55 ✓	-
60 ✓	8	150	-
	12	125	-
	16	100	-
	20	75	-
	24 ✓	50 ✓	-

**MATERIAL LIST**

NO.	DESCRIPTION	NOTES/SPECIFICATIONS
PARTS/EXTRUSIONS		
1	HEAD & SILL FRAME ✓	6063-T5 ALUMINUM ✓
2	PARTIAL BLADE & HEAD ✓	6063-T5 ALUMINUM ✓
3	SIDE JAMB FRAME ✓	6063-T5 ALUMINUM ✓
4	LOUVER BLADE ✓	6063-T5 ALUMINUM ✓
5	BLADE SUPPORT BRACKET (2 1/2" LONG) ✓	6063-T5 ALUMINUM ✓
6	MULLION CAP ✓	6063-T5 ALUMINUM; FULL LENGTH OF MULLION JAMBS ✓
7	SILL ANGLE ✓	6063-T5 ALUMINUM; FULL WIDTH OF PANEL ✓
8	L2X2X1/4 JAMB CONNECTION ANGLE 2" LONG ✓	6063-T5 ALUMINUM; WITHIN 4" OF JAMB ENDS & SPACED PER LOAD TABLE ON SHT. 2 ✓
9	L2X2X1/4 OPTIONAL JAMB CONNECTION ANGLE 2" LONG ✓	A36 STEEL; WITHIN 4" OF JAMB ENDS & SPACED PER LOAD TABLE ON SHT. 2 ✓
10	L2X2X1/4 CONTINUOUS MULLION CONNECTION ANGLE ✓	6063-T5 ALUMINUM; FULL LENGTH OF CHANNEL MULLION ✓
11	L4X3X3/8 MULLION END CONNECTION ANGLE 2 3/4" LONG ✓	A36 STEEL; 2 PER MULLION END ✓
12	C5X6.7 MULLION ✓	A36 STEEL; FULL HEIGHT OF PANELS ✓
13	PARTIAL BLADE REINFORCEMENT PLATE (2 1/2" LONG) ✓	6063-T5 ALUMINUM ✓
14	PARTIAL BLADE REINFORCEMENT ANGLE (2 1/2" LONG) ✓	6063-T5 ALUMINUM ✓
15	OPEN ✓	
FASTENERS		
16	1/2" X 2" A307 HEX HEAD PLATED STEEL OR S/STL BOLT ✓	WITH FLAT WASHERS, LOCK WASHER & NUT; 2 PER MULLION END ✓
17	NO. 14 S.S. SMS SCREWS ✓	3 PER MULLION END CLIP WITH MIN. 1 1/2" WOOD EMBED ✓
18	5/8" X 2 1/4" SLEEVE ANCHOR WITH FLAT WASHER ✓	USA KINGPIN ANCHOR; 1 PER CHANNEL END CONNECTION ANGLE INTO CONCRETE ONLY ✓
19	1/2" X 2" A307 HEX HEAD PLATED STEEL OR S/STL BOLT ✓	WITH FLAT WASHERS, LOCK WASHER & NUT; 1 PER CHANNEL END CONNECTION ANGLE INTO STEEL FRAME ✓
20	5/16-18 UNC X 1 1/2" HEX HEAD STEEL OR S/STL BOLT ✓	WITH FLAT WASHER, LOCK WASHER & NUT; WITHIN 4" OF MULLION ENDS & MAX. 8" O.C. ✓
21	NO. 8 X 3/4" SMS SCREW ✓	1 AT EACH LOUVER BLADE SUPPORT BRACKET AT ARCHITECTURAL MAIN MULLIONS & ALL MID-SPAN MULLIONS ✓
22	NO. 14 X 1 1/4" HILTI TEK SCREW ✓	WITHIN 3/4" OF MULLION ENDS & MAX. 4" O.C. INTO FRAME ✓
23	NO. 14 X 1" SMS SCREW ✓	1 AT EACH LOUVER BLADE AT ALL ARCHITECTURAL MAIN MULLIONS & ALL MID-SPAN MULLIONS ✓
24	NO. 7 X 1" SMS SCREW ✓	2 PER EACH LOUVER BLADE END THROUGH JAMB & INTO BLADE SPLINES ✓
25	NO. 14 X 1 1/4" HILTI TEK SCREW ✓	2 PER EACH HEAD, SILL & SIDE JAMB CONNECTION ANGLE ✓
26	1/2" X 2" LAG SCREW WITH FLAT WASHER ✓	1 PER EACH HEAD, SILL & SIDE JAMB CONNECTION ANGLE INTO WOOD FRAME ✓
27	5/8" X 2 1/4" SLEEVE ANCHOR WITH FLAT WASHER ✓	USA KINGPIN ANCHOR; 1 PER EACH HEAD, SILL & SIDE JAMB CONNECTION ANGLE INTO CONCRETE ONLY ✓
28	1/2" X 2" HEX HEAD A307 PLATED STEEL OR S/STL BOLT ✓	WITH FLAT WASHERS, LOCK WASHER & NUT; 1 PER EA. JAMB CONNECTION ANGLE INTO STEEL FRAME ✓
29	3/8" X 1 7/8" SLEEVE ANCHOR WITH FLAT WASHER ✓	RED HEAD DYNABOLT WITH MIN 1 1/2" BLOCK/CONCRETE EMBED (1 PER FRAME SUPPORT CLIP) ✓
30	NO. 8 X 1/2" SMS SCREW ✓	WITHIN 2" OF MULLION ENDS & MAX. 12" O.C. (MULLION CAP TO MULLION) ✓
31	NO. 7 X 1" SMS SCREWS ✓	2 PER FRAME CORNER THROUGH SILL/HEAD FRAME & INTO JAMB SPLINES ✓

**PRESSURE TABLE NOTES:**

1. WHEN THE PANEL WIDTH IS 30" OR LESS, NO MID SPAN MULLION IS REQUIRED PROVIDING COMPLIANCE WITH THE TABLE.
2. ALL PRESSURES IN THIS TABLE ARE FOR BOTH POSITIVE & NEGATIVE WIND PRESSURE.

**PRODUCT RENEWED**  
 as complying with the Florida Building Code  
 Accepted By: 03-0611.06  
 Expiration Date: 07/27/08  
 By: [Signature]  
 Miami Dade Product Control Division

Approved as complying with the Florida Building Code  
 Date: 01/16/03  
 NOAH 02-1216.13  
 Miami Dade Product Control Division  
 By: [Signature]

DRAWN BY: W.W.S.	CHECKED BY: W.W.S.
PLOT: 1=1	DATE: 12/05/02
DATE	BY
REVISION DESCRIPTION	NO.
MDH-4 ARCHITECTURAL & NON-ARCHITECTURAL LOUVER SYSTEM MANUFACTURER <b>NCA MANUFACTURING, INC.</b> 1036 SOUTH JUPITER ROAD GARLAND, TX 75042 972-276-5002	
CONSULTANTS <b>W. W. SCHAEFER ENGINEERING &amp; CONSULTING, P.A.</b> 600 SANDTREE DRIVE, SUITE 203B PALM BEACH GARDENS, FL 33403 PHONE: 561-775-4902 FAX: 561-775-4903	
DRAWING TITLE CERTIFICATION <b>DEC 09 2002</b> WARREN W. SCHAEFER, P.E. P.E. NO. 44135	
DRAWING NO. 1196	REV.
SHEET NO. 7	OF 7