



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

NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION

11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599

www.miamidade.gov/economy

Greenheck Fan Corporation
1110 Greenheck Drive (PO Box 410)
Schofield, WI 54476

SCOPE:

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

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

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

DESCRIPTION: Model ESS-502D Aluminum Louver

APPROVAL DOCUMENT: Drawing No. **ESS-502D**, titled "ESS-502D Louver", sheets 1 through 16 of 16, dated 04/27/2009, prepared by Greenheck Fan Corporation, signed and sealed by Chander P. Nangia, P.E. on 01/21/2019, bearing the Miami-Dade County Product Control revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, 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 **revises** NOA # **19-0205.06** and consists of this page 1 and evidence pages E-1, E-2 and E-3, as well as approval document mentioned above.

The submitted documentation was reviewed by **Ishaq I. Chanda, P.E.**



Ishaq I. Chanda

NOA No. 21-0526.09
Expiration Date: August 5, 2024
Approval Date: August 12, 2021
Page 1

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. Evidence submitted under previous NOA's
- A. **DRAWINGS “Submitted under NOA # 09-0519.14”**
 1. Drawing No. **ESS-502D**, titled “ESS-502D Louver”, sheets 1 through 16 of 16, dated 04/27/2009, prepared by Greenheck Fan Corporation, signed and sealed by Chander P. Nangia, P.E.
- B. **TESTS “Submitted under NOA # 09-0519.14”**
 1. Test report on 1) Uniform Static Air Pressure Test per FBC, TAS 202-94
2) Large Missile Impact Test per FBC, TAS 201-94,
3) Cyclic Wind Pressure Test per FBC, TAS 203-94,
along with marked-up drawings and installation diagram of Model ESS-502D fixed aluminum louvers, prepared by Architectural Testing, Inc., Test Report No. **89882.01-602-18**, dated 04/30/2009, signed and sealed by Joseph A. Reed, P.E.
- C. **CALCULATIONS “Submitted under NOA # 09-0519.14”**
 1. Structural load calculations prepared by Greenheck Fan Corporation, dated 04/14/2009, signed and sealed by Chander P. Nangia, P.E.
- D. **QUALITY ASSURANCE**
 1. Miami-Dade Department of Regulatory and Economic Resources (RER)
- E. **MATERIAL CERTIFICATIONS**
 1. None.
- F. **STATEMENTS “Submitted under NOA # 16-0201.08”**
 1. Statement letter of code compliance to the 5th edition (2014) FBC issued by Chander P. Nangia, P.E., dated 01/11/2016, signed and sealed by Chander P. Nangia, P.E.

“Submitted under NOA # 14-0624.16”
 2. Statement letter of code compliance to 2010 FBC issued by Chander P. Nangia, P.E., dated 06/19/2014, signed and sealed by Chander P. Nangia, P.E.

“Submitted under NOA # 09-0519.14”
 3. No financial interest letter issued by Chander P. Nangia, P.E., dated 04/27/2009, signed and sealed by Chander P. Nangia, P.E.

Ishaq I. Chanda

Ishaq I. Chanda, P.E.
Product Control Unit Supervisor
NOA No. 21-0526.09
Expiration Date: August 5, 2024
Approval Date: August 12, 2021

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

2. Evidence submitted under previous approval

A. DRAWINGS

1. Drawing No. **ESS-502D**, titled “ESS-502D Louver”, sheets 1 through 16 of 16, dated 04/27/2009, prepared by Greenheck Fan Corporation, signed and sealed by Chander P. Nangia, P.E. on 01/21/2019.

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 compliance to the 6th edition (2017) FBC and of no financial interest issued by Chander P. Nangia, P.E., dated 01/21/2019, signed and sealed by Chander P. Nangia, P.E.

Ishaq I. Chanda

Ishaq I. Chanda, P.E.
Product Control Unit Supervisor
NOA No. 21-0526.09
Expiration Date: August 5, 2024
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NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

3. New evidence submitted

A. DRAWINGS

2. Drawing No. **ESS-502D**, titled “ESS-502D Louver”, sheets 1 through 16 of 16, dated 04/27/2009, prepared by Greenheck Fan Corporation, signed and sealed by Chander P. Nangia, P.E. on 01/21/2019.

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 compliance to FBC 2020 (7th Edition) and of no financial interest issued by Chander P. Nangia, P.E., dated May 13, 2021, signed and sealed by Chander P. Nangia, P.E.

G. OTHER

1. This NOA revises NOA # **19-0205.06**, expiring 08/05/24.

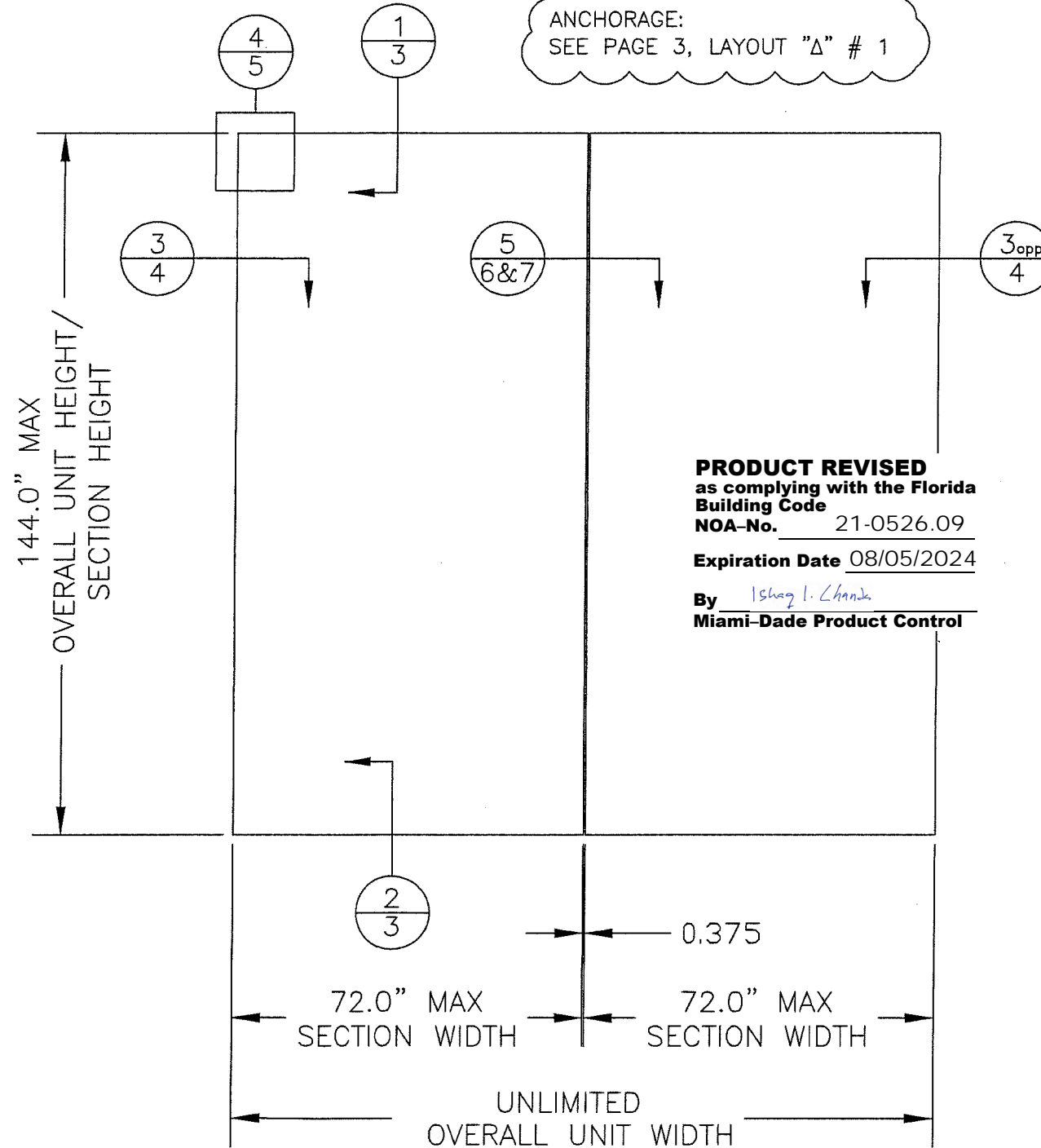
Ishaq I. Chanda

Ishaq I. Chanda, P.E.
Product Control Unit Supervisor
NOA No. 21-0526.09
Expiration Date: August 5, 2024
Approval Date: August 12, 2021

DETAIL #
PAGE #

DETAIL CALLOUT (TYPICAL)

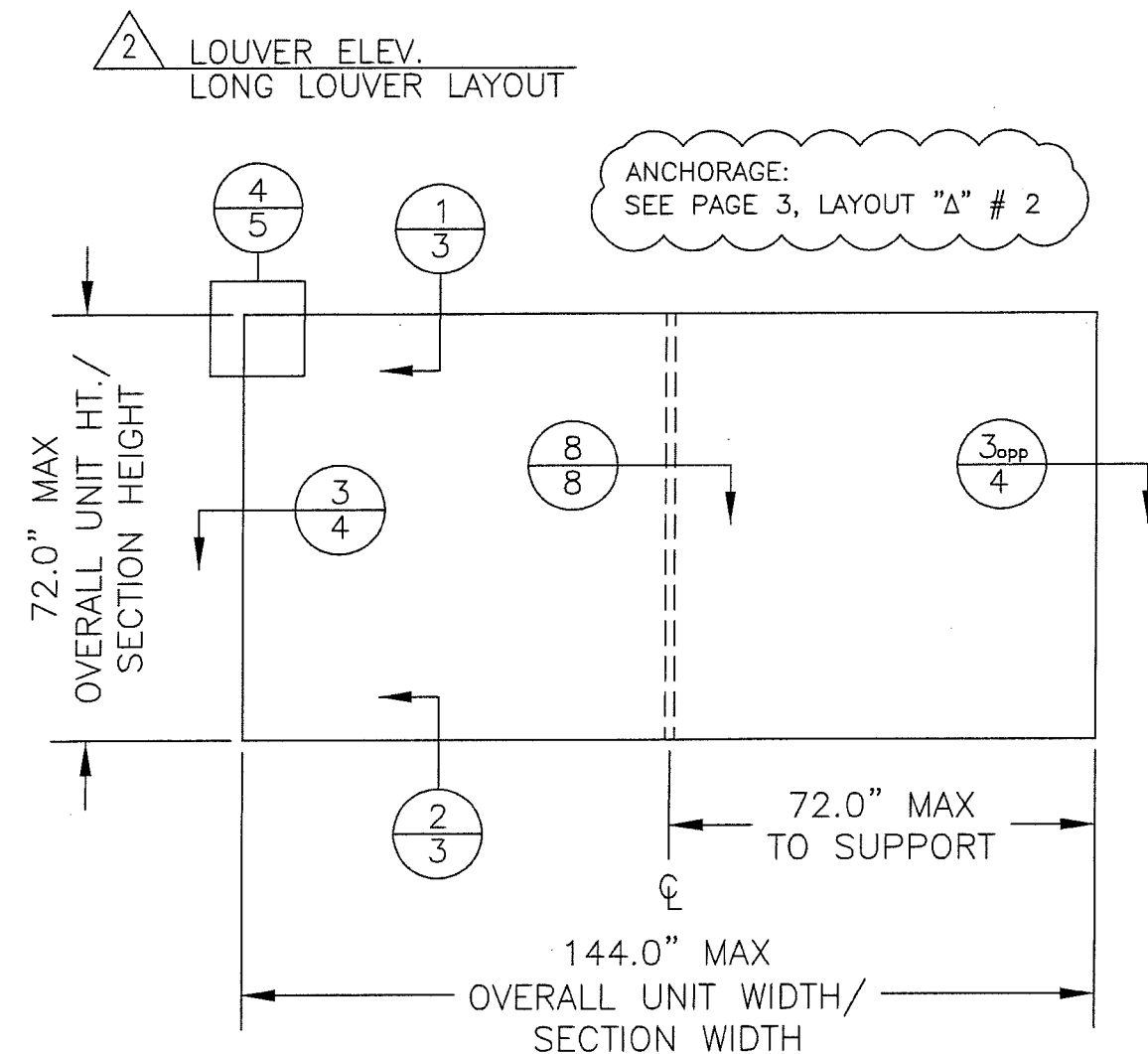
1 LOUVER ELEV.
SHORT LOUVER LAYOUT



NOTE: MULLION REQUIRED ONLY IF BOTH OF THE FOLLOWING ARE TRUE: OVERALL UNIT WIDTH IS >72", AND SECTION HEIGHT IS >72".

REV: 01, 1/11/19, ADDED ANCHORAGE NOTE

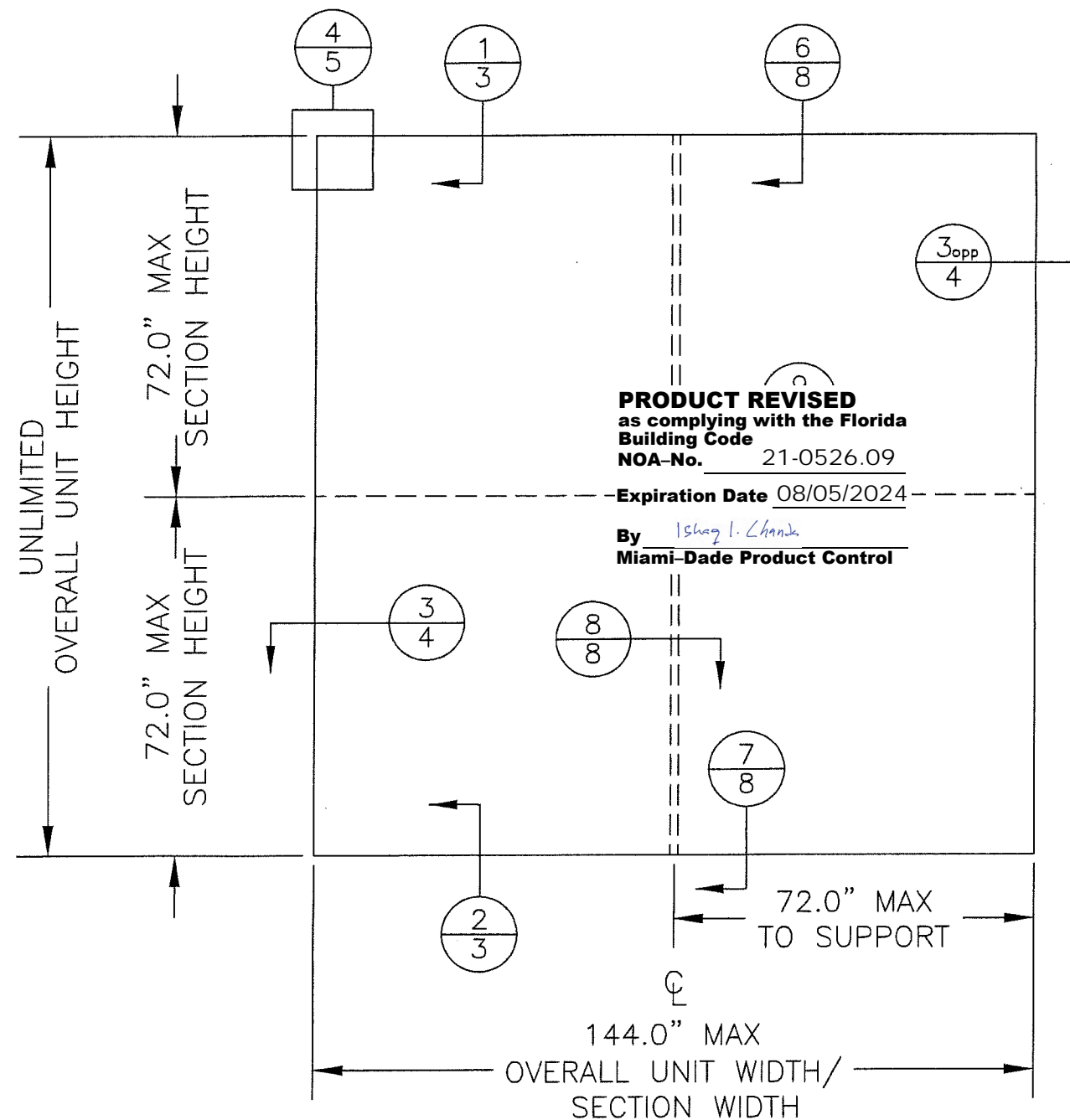
DRAWN BY M STEELE	DATE 4/27/09	SCALE 3/8":1'	SHEET NO. 1 OF 16	CAD DRAWING NO. ESS-502D
GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410		TITLE ESS-502D LOUVER		
CHANDER P. NANGIA LICENSE No. 21338 PROFESSIONAL ENGINEER STATE OF FLORIDA		SHORT LOUVER LAYOUT ELEVATION CONFIGURATION		
PRODUCT RENEWED as complying with the Florida Building Code NOA-No. 19-0205.06 Expiration Date 08/05/2024 By <i>[Signature]</i> Miami-Dade Product Control				
CHANDER P. NANGIA 7423 HOLLOW RIDGE DR. HOUSTON, TX 77095 FLORIDA PE # 21938				



NOTE: BLADE SUPPORT REQUIRED ONLY IF SECTION WIDTH IS >72".


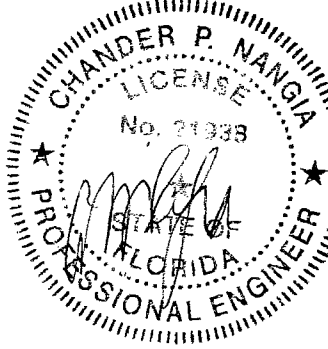

REV: 01, 1/11/19, ADDED ANCHORAGE NOTES

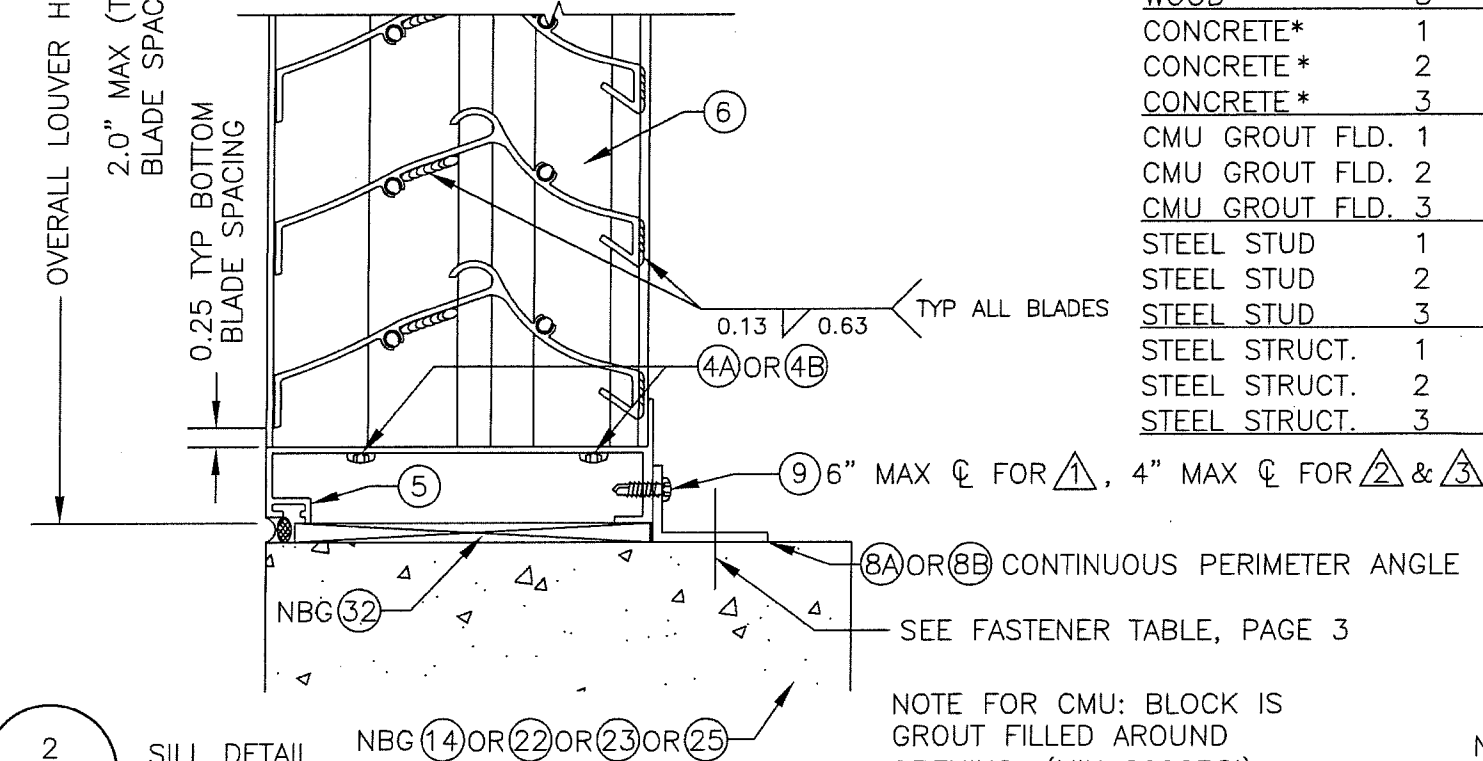
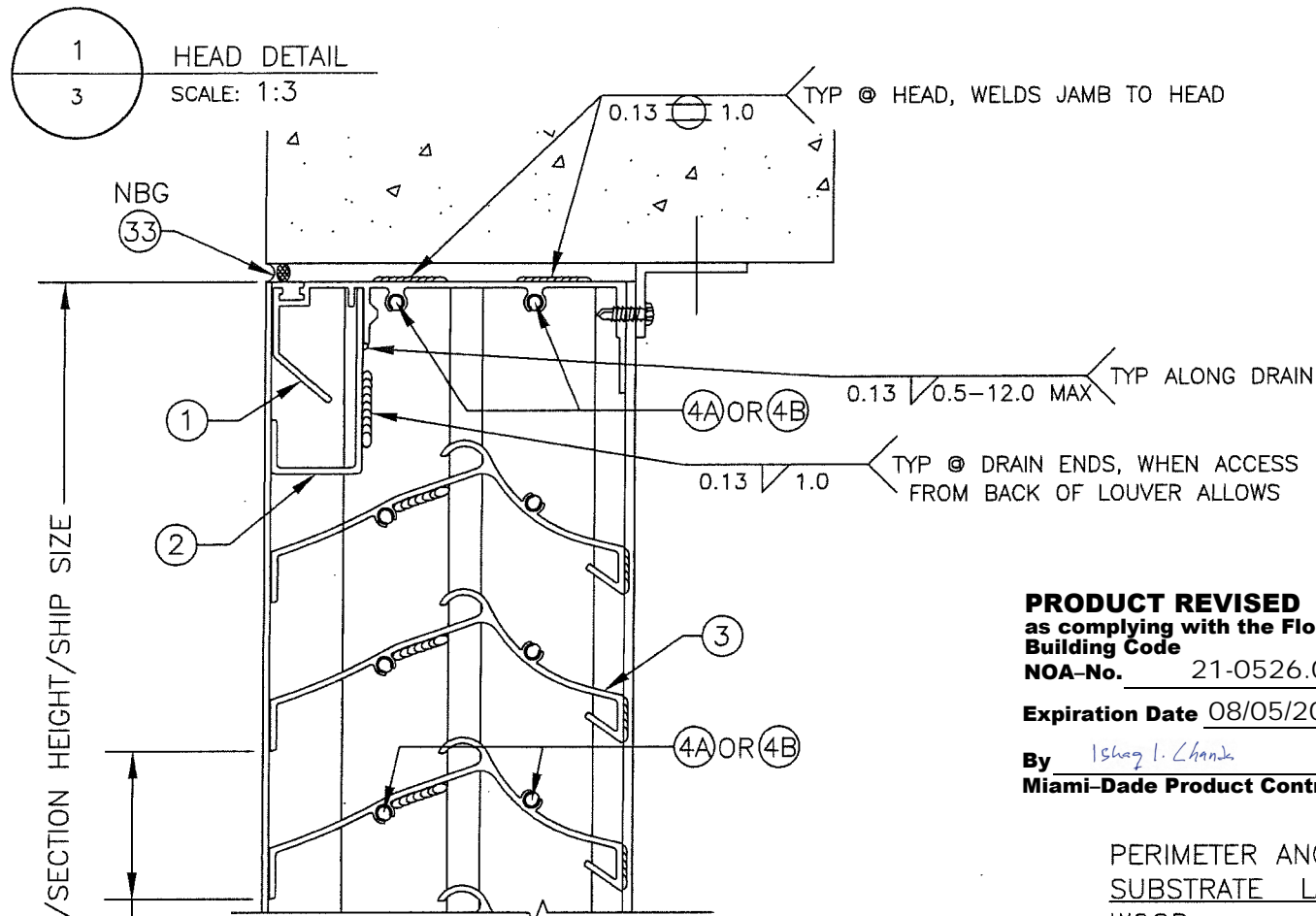
3 LOUVER ELEV.
LONG LOUVER LAYOUT, SPLICED JAMBS & BLADE SUPPORT



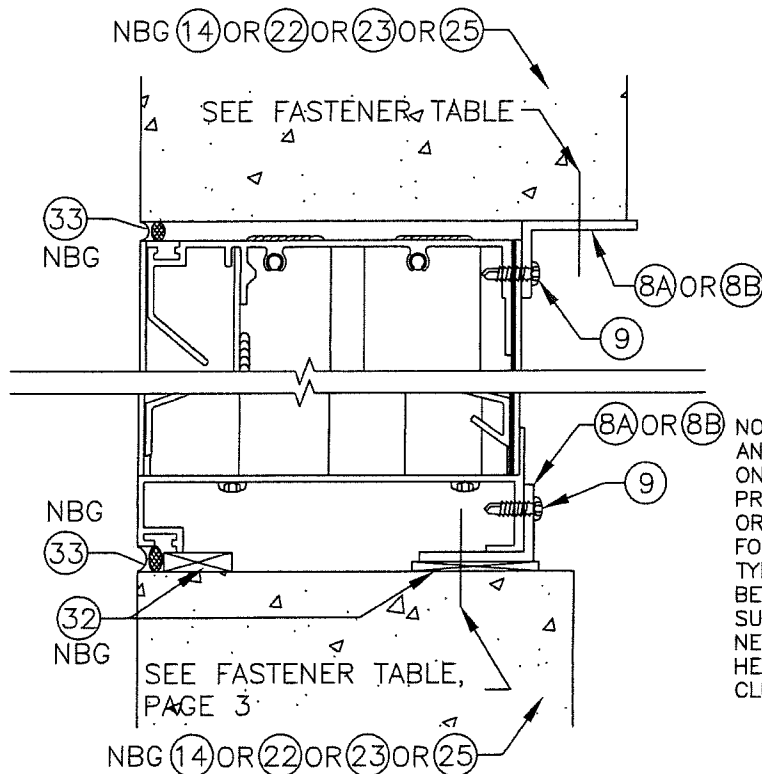
NOTE: BLADE SUPPORT REQUIRED ONLY IF SECTION WIDTH IS >72".

ANCHORAGE:
SEE PAGE 3, LAYOUT "Δ" # 3

 P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410	DRAWN BY M STEELE	DATE 4/27/09
	SCALE 3/8"=1'	SHEET NO. 2 OF 16
TITLE ESS-502D LOUVER		
LONG LOUVER LAYOUT ELEVATION CONFIGURATIONS		
		
PRODUCT RENEWED as complying with the Florida Building Code NOA-No. 19-0205.06 Expiration Date 08/05/2024 By  Miami-Dade Product Control		



OPTIONAL CONTINUOUS ANGLE CONFIGURATION,
FOR THIS PAGE ONLY



NOTE: CONTINUOUS PERIMETER ANGLE MAY BE POSITIONED ON JAMBS WITH ANGLE LEG PROJECTED TOWARD EXTERIOR OR INTERIOR OF WALL. VALID FOR ALL BUILDING SUBSTRATE TYPES. ADDITIONAL SPACING BETWEEN LOUVER AND SUBSTRATE MAY BE NECESSARY DUE TO FASTENER HEAD-LOUVER INSTALLATION CLEARANCE.

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. 21-0526.09
Expiration Date 08/05/2024
By Ishaq I. Chande
Miami-Dade Product Control

PERIMETER ANGLE SUBSTRATE FASTENER TABLE (FASTENERS NOT BY MANUFACTURER):

SUBSTRATE	LAYOUT "A"	MIN	FASTENER	SPACING & MIN EDGE DISTANCE
WOOD	1	G=0.55	27	9" O.C. MAX, 1.5" MIN WOOD EDGE DISTANCE
WOOD	2	G=0.55	27	4" O.C. MAX, 1.5" MIN WOOD EDGE DISTANCE
WOOD	3	G=0.55	27	4" O.C. MAX, 1.5" MIN WOOD EDGE DISTANCE
CONCRETE*	1	2000PSI	21	6" O.C. MAX, 1.5" MIN CONCRETE EDGE DISTANCE
CONCRETE *	2	2000PSI	21	3" O.C. MAX, 1.5" MIN CONCRETE EDGE DISTANCE
CONCRETE *	3	2000PSI	21	3" O.C. MAX, 1.5" MIN CONCRETE EDGE DISTANCE
CMU GROUT FLD.	1	2000PSI	21	6" O.C. MAX, 1.5" MIN CMU EDGE DISTANCE
CMU GROUT FLD.	2	2000PSI	21	3" O.C. MAX, 1.5" MIN CMU EDGE DISTANCE
CMU GROUT FLD.	3	2000PSI	21	3" O.C. MAX, 1.5" MIN CMU EDGE DISTANCE
STEEL STUD	1	14GA	24	6" O.C. MAX, 0.5" MIN STEEL EDGE DISTANCE
STEEL STUD	2	14GA	24	3" O.C. MAX, 0.5" MIN STEEL EDGE DISTANCE
STEEL STUD	3	14GA	24	3" O.C. MAX, 0.5" MIN STEEL EDGE DISTANCE
STEEL STRUCT.	1	0.375	24	6" O.C. MAX, 0.5" MIN STEEL EDGE DISTANCE
STEEL STRUCT.	2	0.375	24	3" O.C. MAX, 0.5" MIN STEEL EDGE DISTANCE
STEEL STRUCT.	3	0.375	24	3" O.C. MAX, 0.5" MIN STEEL EDGE DISTANCE

REFERENCES OF $\triangle 1$, $\triangle 2$, & $\triangle 3$,
RELATE TO THE ELEVATION
LAYOUT TYPE AS NOTED ON
PAGES 1 & 2.

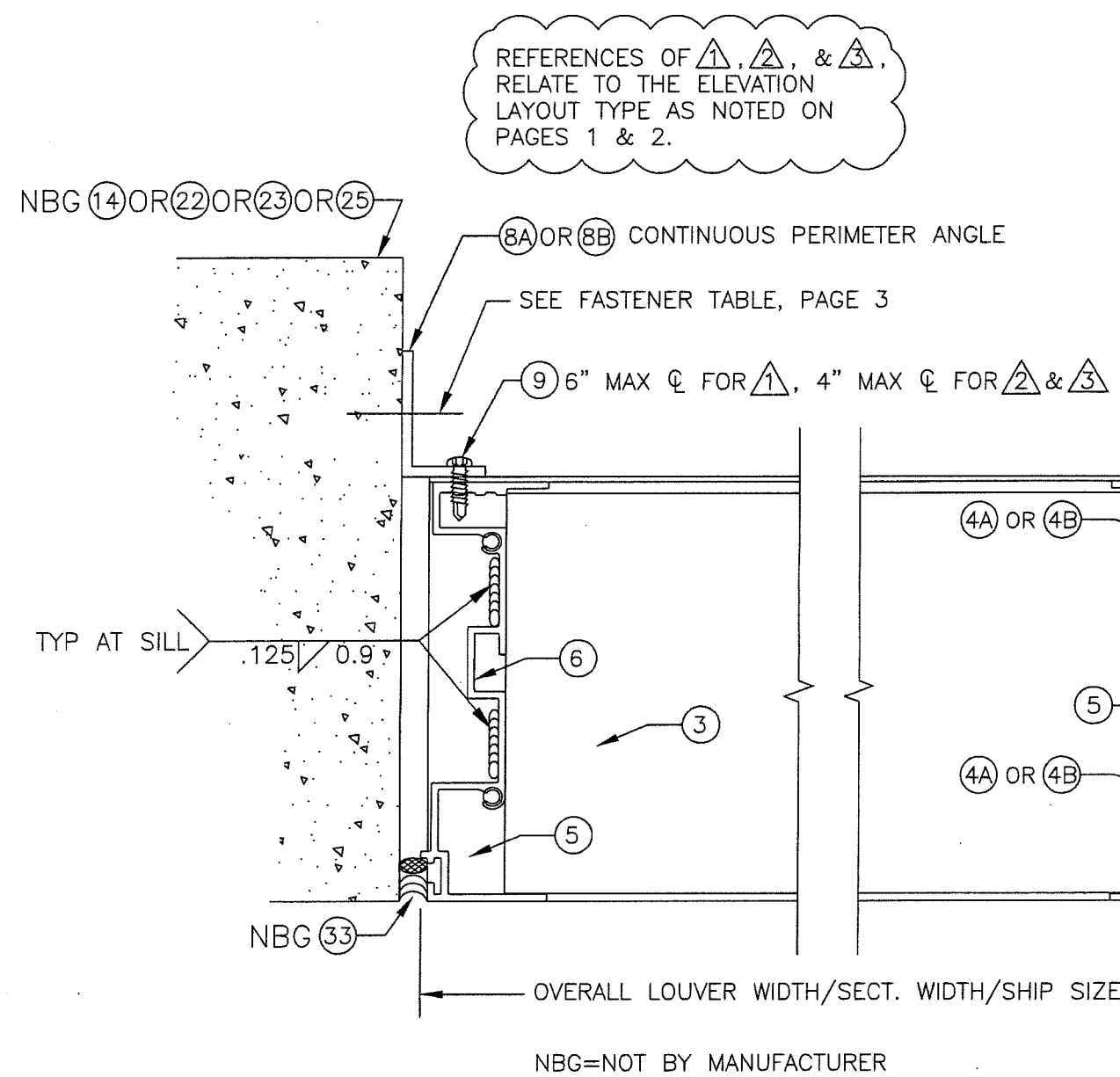
* PRODUCT HAS NOT BEEN
EVALUATED FOR INSTALLATION
INTO CRACKED CONCRETE
SUBSTRATE.

NOTE FOR CMU: BLOCK IS
GROUT FILLED AROUND
OPENING. (MIN 2000PSI)

NBG=NOT BY MANUFACTURER

REV: 01, 1/11/19, ADDED "A" CLARIFICATION, ITEM # 8A/8B SPELLING UPDATE, ADDED CRACKED CONCRETE NOTE

GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410	DRAWN BY M STEELE	DATE 4/27/09	SHEET NO. 3 OF 16	CAD DRAWING NO. ESS-502D
	SCALE 1:2.5	TITLE ESS-502D LOUVER		
DETAILS - HEAD/SILL				
<div style="text-align: center;"> </div>				
PRODUCT RENEWED as complying with the Florida Building Code NOA-No. 19-0205.06 Expiration Date 08/05/2024 By <u>Ishaq I. Chande</u> Miami-Dade Product Control				



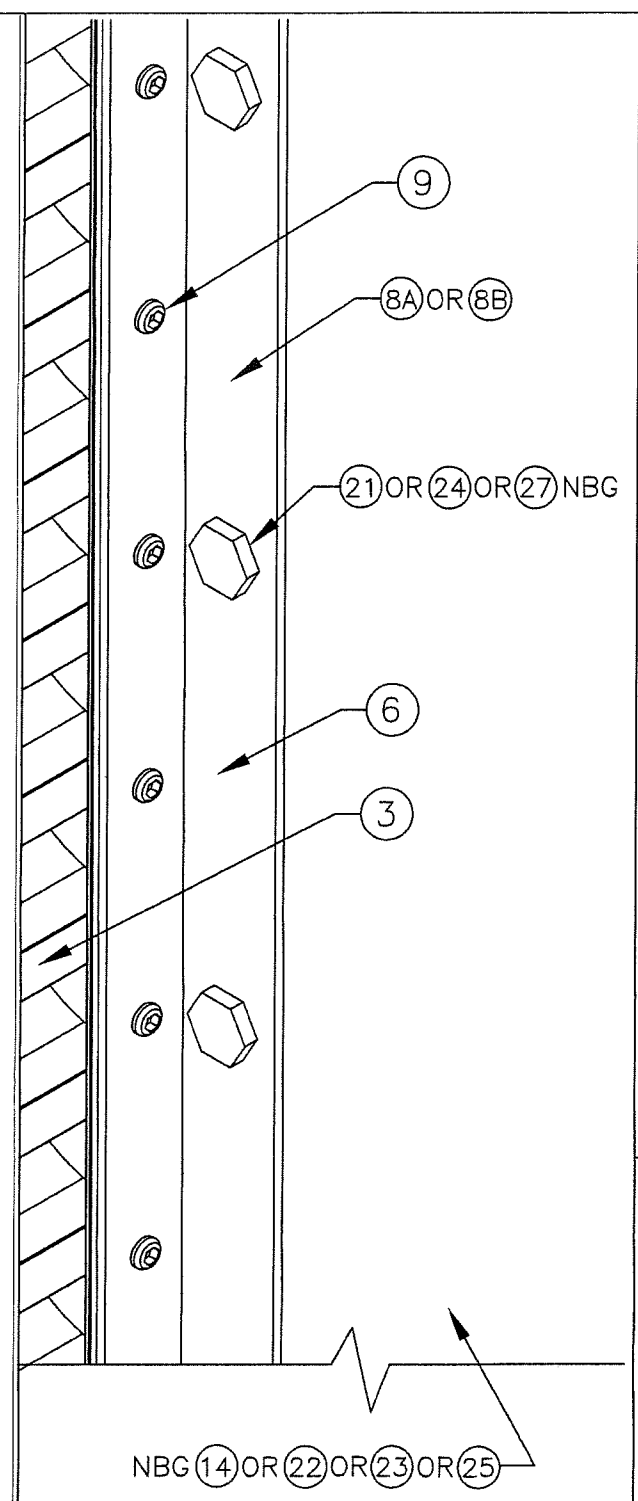
3 JAMB DETAIL
4 SCALE: 1:2
SEE "3 ISO" FOR ISOMETRIC DETAIL

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. 21-0526.09
Expiration Date 08/05/2024
By Isaac I. Chander
Miami-Dade Product Control

NOTE: CONTINUOUS PERIMETER ANGLE MAY BE POSITIONED ON JAMBS WITH ANGLE LEG PROJECTED TOWARD EXTERIOR OR INTERIOR OF WALL. VALID FOR ALL BUILDING SUBSTRATE TYPES. ADDITIONAL SPACING BETWEEN LOUVER AND SUBSTRATE MAY BE NECESSARY DUE TO FASTENER HEAD-LOUVER INSTALLATION CLEARANCE.

SEE FASTENER TABLE, PAGE 3

NOTE FOR CMU:
BLOCK IS GROUT FILLED AROUND OPENING. (MIN 2000PSI)



3 ISO JAMB DETAIL
4 SCALE: 1:2

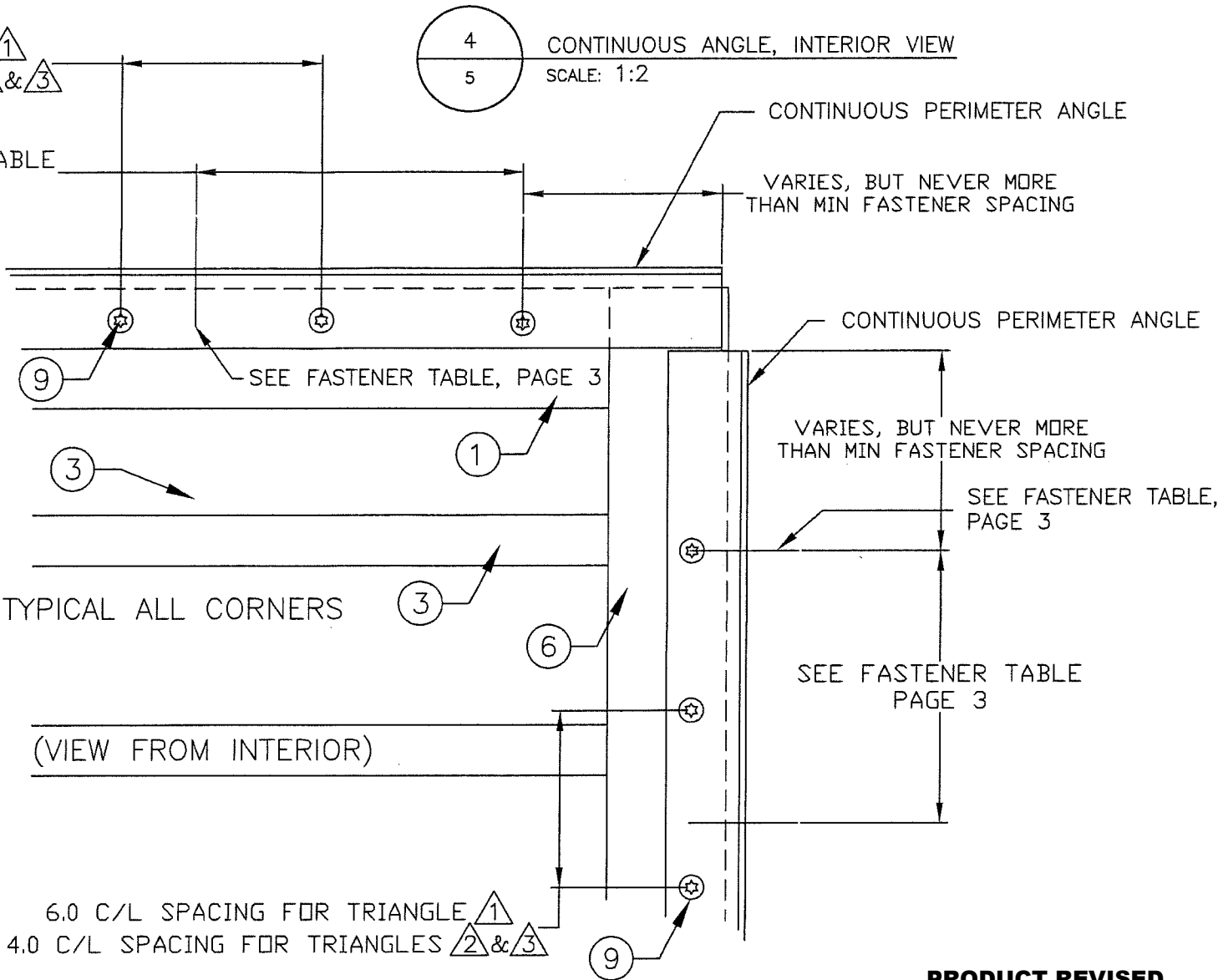
 P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410	DRAWN BY M STEELE	DATE 4/27/09
	SCALE 1:2	SHEET NO. 4 OF 16
TITLE ESS-502D LOUVER		
CAD DRAWING NO. ESS-502D		
<div style="text-align: center;"> </div>		
<p>PRODUCT RENEWED as complying with the Florida Building Code NOA-No. 19-0205.06 Expiration Date 08/05/2024 By <u>Isaac I. Chander</u> Miami-Dade Product Control</p>		

6.0 C/L SPACING FOR TRIANGLE 1
4.0 C/L SPACING FOR TRIANGLES 2 & 3

REFERENCES OF 1, 2, & 3,
RELATE TO THE ELEVATION
LAYOUT TYPE AS NOTED ON
PAGES 1 & 2.

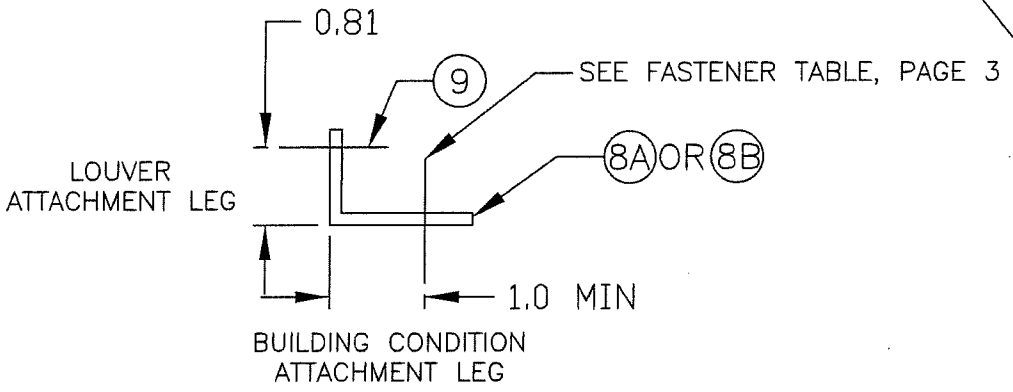
TRIANGLE 1 = MULLION UNIT
TRIANGLE 2 = LONG BLADE UNIT
TRIANGLE 3 = SPLICED UNIT

SEE FASTENER TABLE
PAGE 3



4 CONTINUOUS ANGLE, INTERIOR VIEW
5 SCALE: 1:2

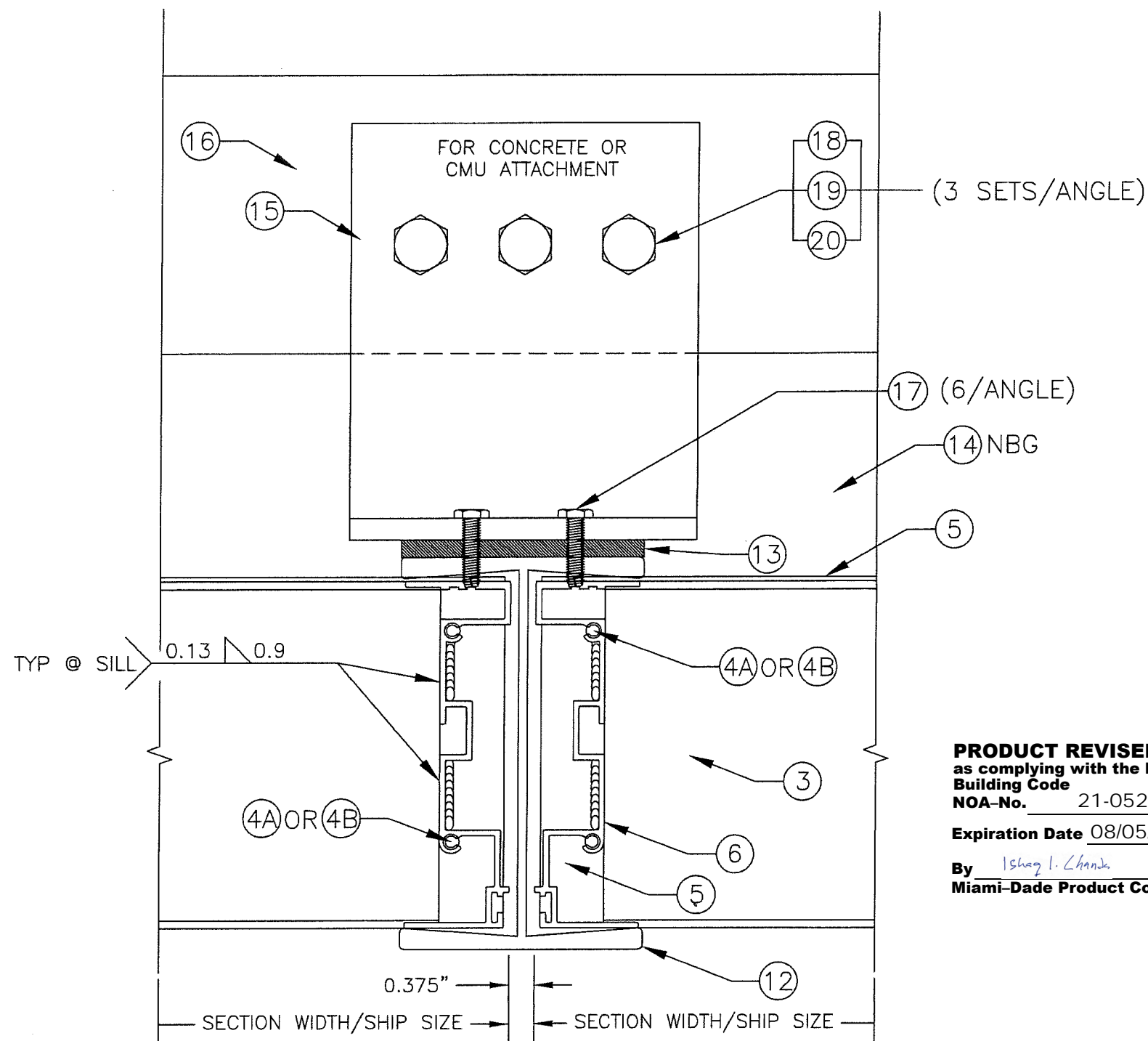
CONTINUOUS ANGLE
FASTENER DISTANCES



(BUILDING CONDITION NOT SHOWN)

PRODUCT REVISED
as complying with the Florida
Building Code
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Expiration Date 08/05/2024
By *Ishag I. Chank*
Miami-Dade Product Control

DRAWN BY M STEELE	DATE 4/27/09	SCALE 1:2	SHEET NO. 5 OF 16	CAD DRAWING NO. ESS-502D
GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410		TITLE ESS-502D LOUVER		
DETAILS - CONTINUOUS ANGLE				
<div><p>PRODUCT RENEWED as complying with the Florida Building Code NOA-No. 19-0205.06 Expiration Date 08/05/2024 By <i>[Signature]</i> Miami-Dade Product Control</p></div>				



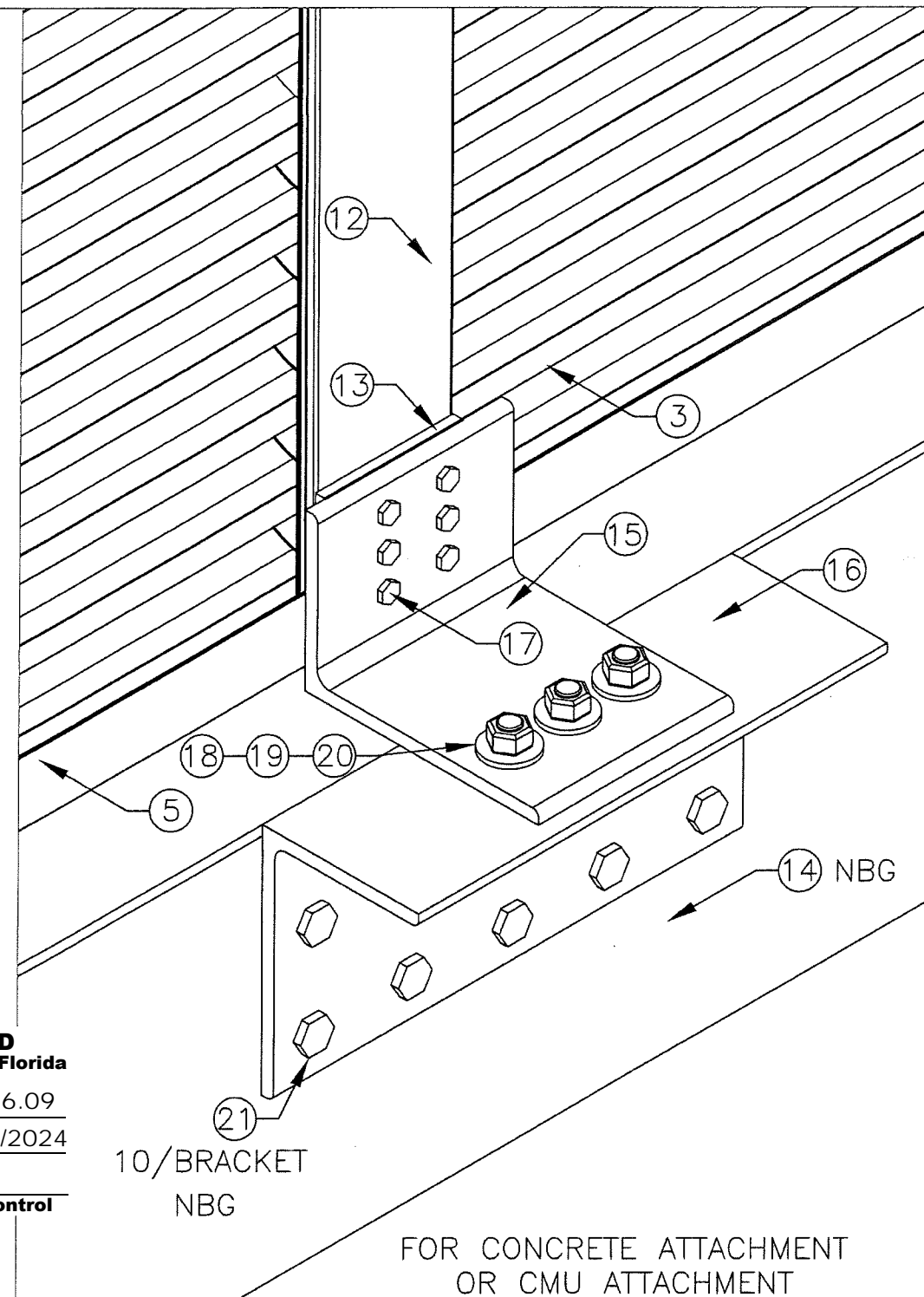
5A
6

"1" MULLION DETAIL
SCALE: 1:2
SEE "5 ISO" FOR ISOMETRIC DETAIL

NOTE: CONTINUOUS PERIMETER
ANGLE NOT SHOWN ON THIS PAGE.

NBG=NOT BY MANUFACTURER

PRODUCT REVISED
as complying with the Florida
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Expiration Date 08/05/2024
By Ishag I. Chande
Miami-Dade Product Control



5A ISO
6

ISOMETRIC (MULLION DETAIL)
(TYPICAL @HEAD AND SILL)
SCALE: 1:3

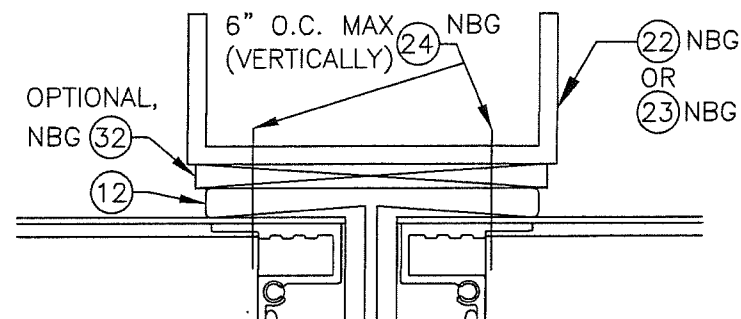
REV: 01, 1/11/19, ITEM #21 SPELLING UPDATE

GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410	DRAWN BY M STEELE	DATE 4/27/09
	SCALE VARIES	SHEET NO. 6 OF 16
TITLE ESS-502D LOUVER		
DETAILS - CMU & CONCRETE MULLION SUPPORT		
CAD DRAWING NO. ESS-502D		

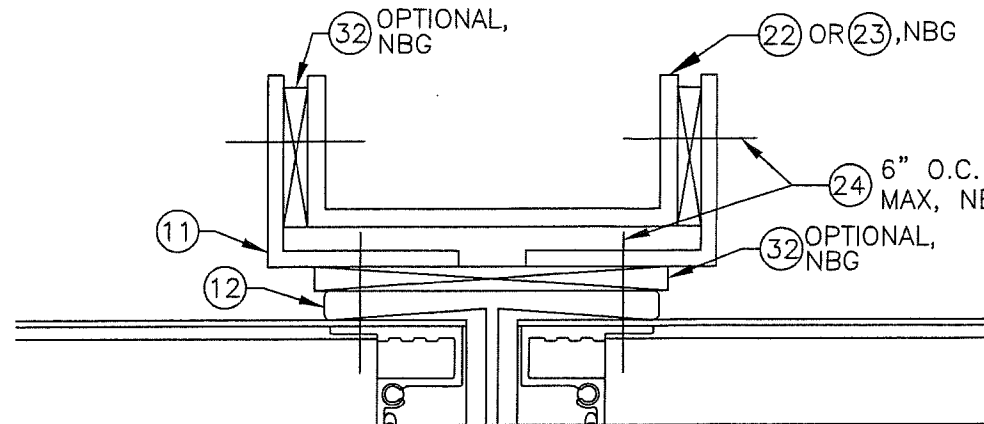
PRODUCT RENEWED
as complying with the Florida
Building Code
NOA-No. 19-0205.06
Expiration Date 08/05/2024
By Ishag I. Chande
Miami-Dade Product Control

5 B STEEL MULLION ATTACHMENT 1
SCALE: 1:2

FOR STRUCTURAL STEEL OR STEEL STUD ATTACHMENT
OPTION ONE



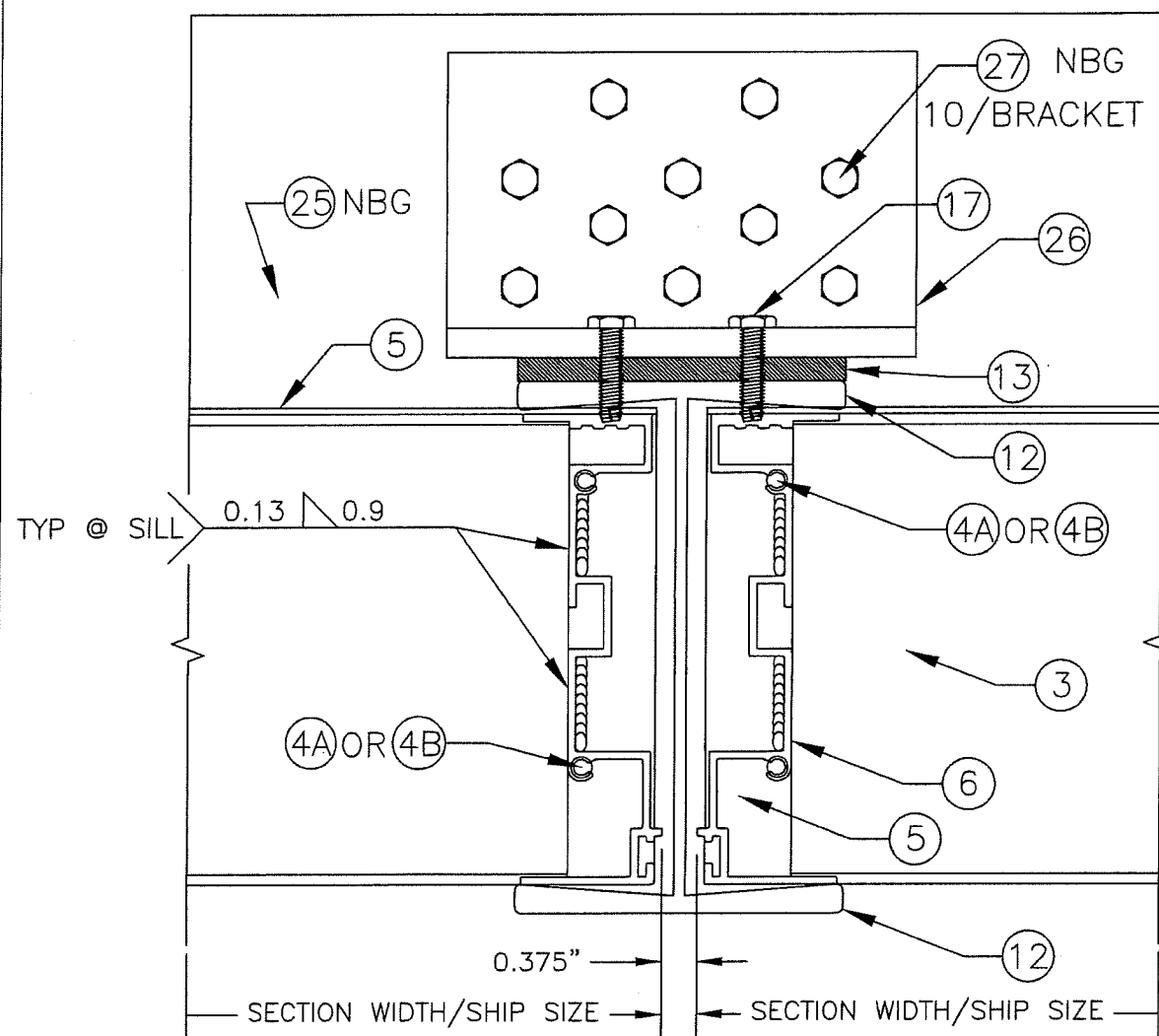
FOR STRUCTURAL STEEL OR STEEL STUD ATTACHMENT
OPTION TWO



5 C STEEL MULLION ATTACHMENT 2
SCALE: 1:2

NOTE: STRUCTURAL STEEL AND STEEL STUD MULLION SUPPORT TYPES (NOT BY GREENHECK) MUST BE CAPABLE OF WITHSTANDING ALL LOADS TRANSFERRED BY THE LOUVER SECTIONS AT THE TOP AND BOTTOM OF THE VERTICAL MULLION CONDITION(S). THE FORMULA TO DETERMINE THE TRANSFERRED POINT LOAD IN POUNDS IS (SECTION WIDTH FEET X SECTION HEIGHT FEET X 110 PSF)/2.

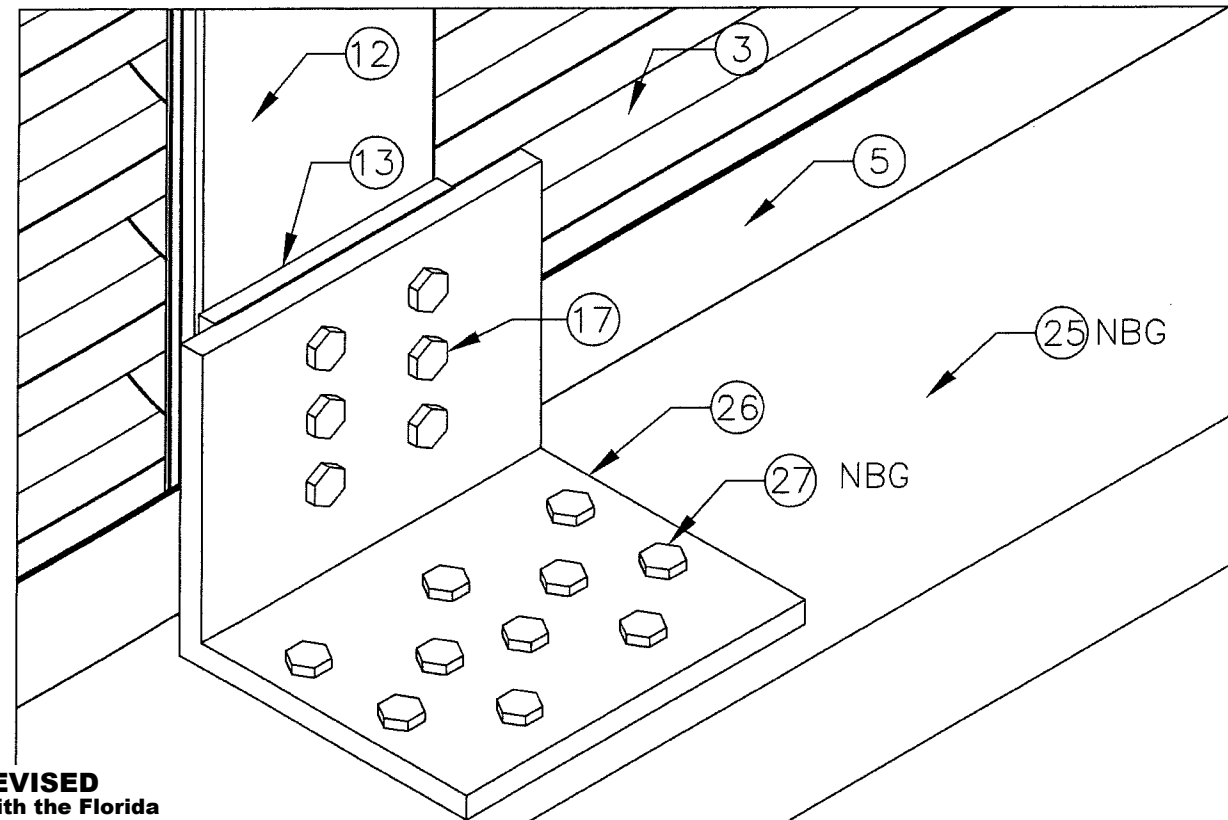
5 D WOOD MULLION ATTACHMENT
SCALE: 1:2
SEE "5 D ISO" FOR ISOMETRIC DETAIL



NOTE: CONTINUOUS PERIMETER
ANGLE NOT SHOWN ON THIS PAGE.

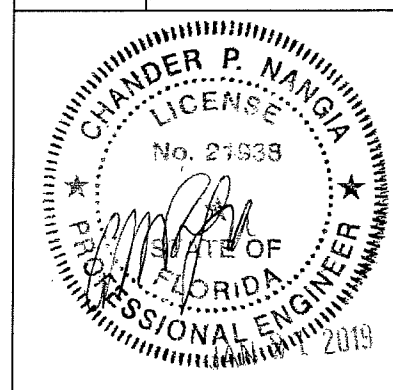
NBG=NOT BY MANUFACTURER

PRODUCT REVISED
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By Ishtag I. Chandra
Miami-Dade Product Control



5 D ISO WOOD MULLION ATTACHMENT
SCALE: 1:2

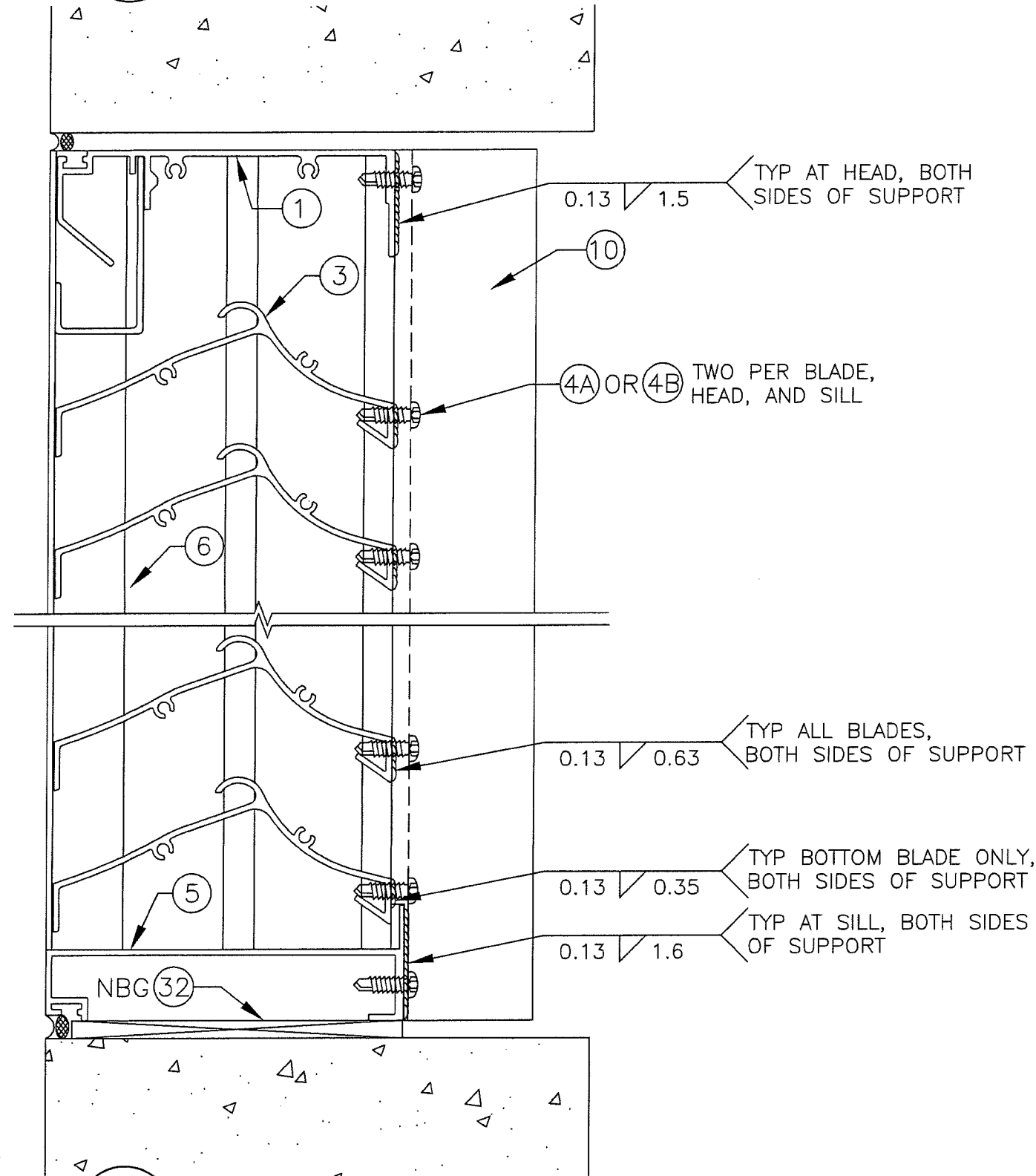
DRAWN BY M STEELE	DATE 4/27/09	SHEET NO. 7 OF 16	CAD DRAWING NO. ESS-502D
	SCALE 1:2		
GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410		TITLE ESS-502D LOUVER DETAILS - STEEL STUD, STRUCTURAL STEEL, & WOOD MULLION SUPPORT	



PRODUCT RENEWED
as complying with the Florida
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Expiration Date 08/05/2024
By [Signature]
Miami-Dade Product Control

6
8

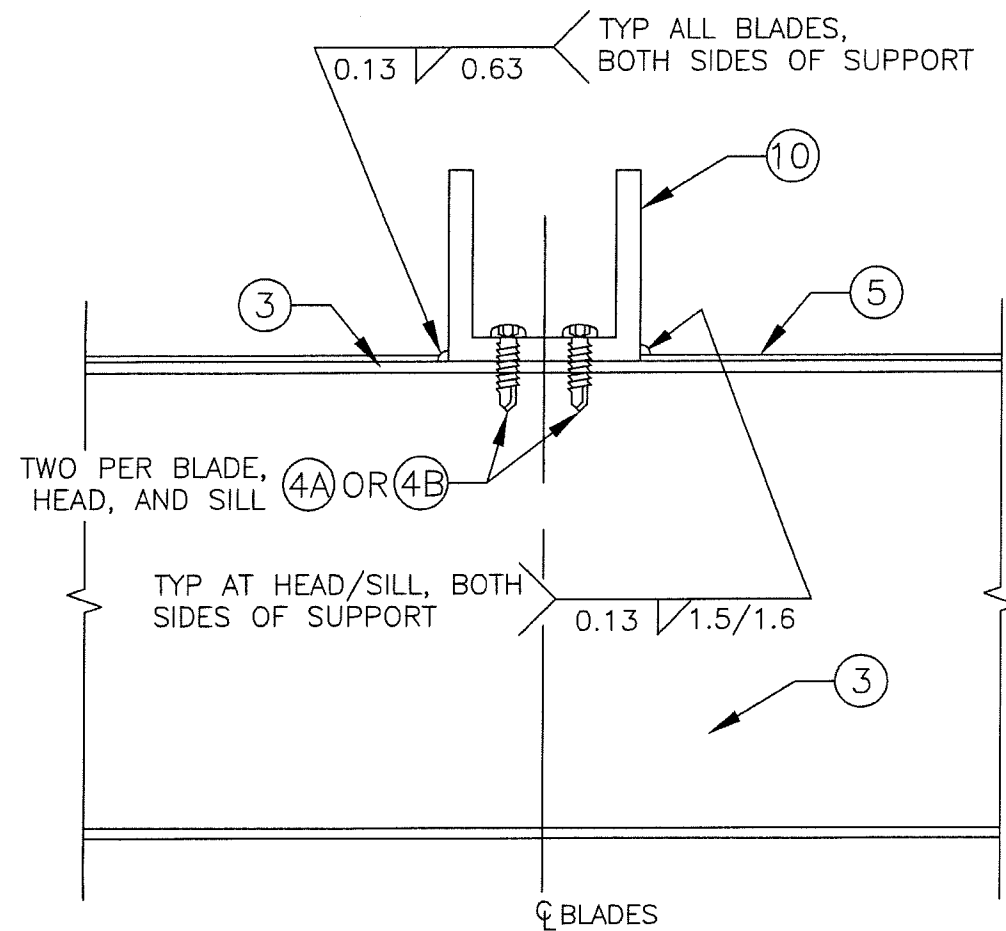
BLADE SUPPORT HEAD DETAIL (SECTIONS >72" WIDE) SIDE VIEW
SCALE: 1:2



7
8

BLADE SUPPORT SILL DETAIL (SECTIONS >72" WIDE) SIDE VIEW
SCALE: 1:2

NBG=NOT BY MANUFACTURER



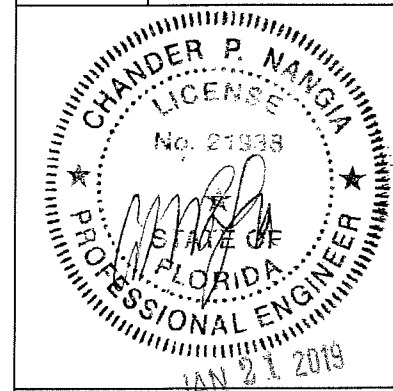
8
8

BLADE SUPPORT DETAIL (SECTIONS >72" WIDE) TOP VIEW
SCALE: 1:2

PRODUCT REVISED
as complying with the Florida
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Expiration Date 08/05/2024
By Ishag I. Chande
Miami-Dade Product Control

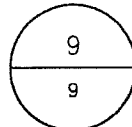
DRAWN BY M STEELE	DATE 4/27/09
SCALE 1:2	SHEET NO. 8 OF 16
CAD DRAWING NO. ESS-502D	

GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410	TITLE ESS-502D LOUVER
	DETAILS - BLADE SUPPORT

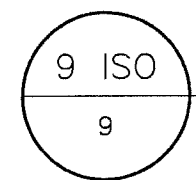
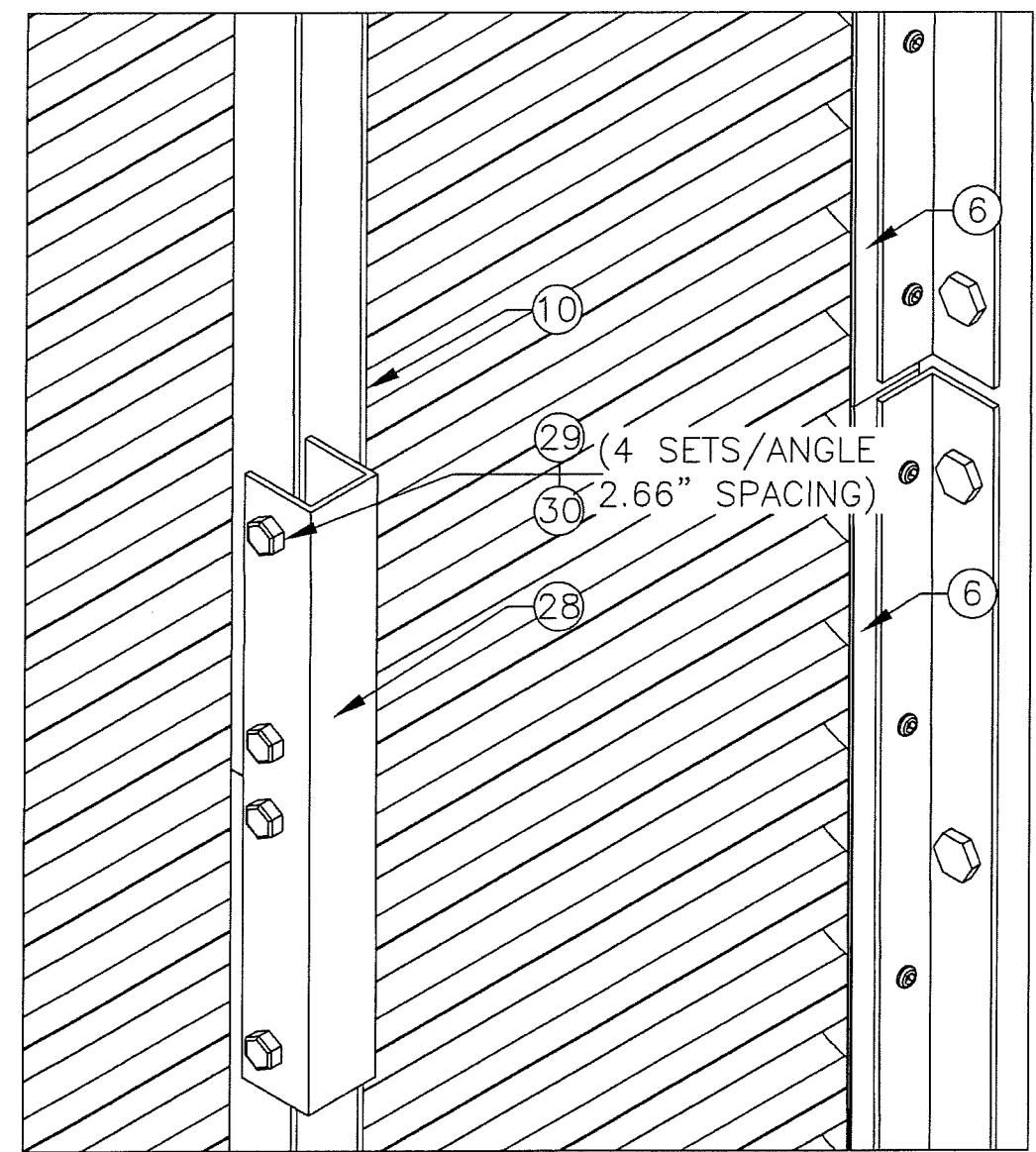
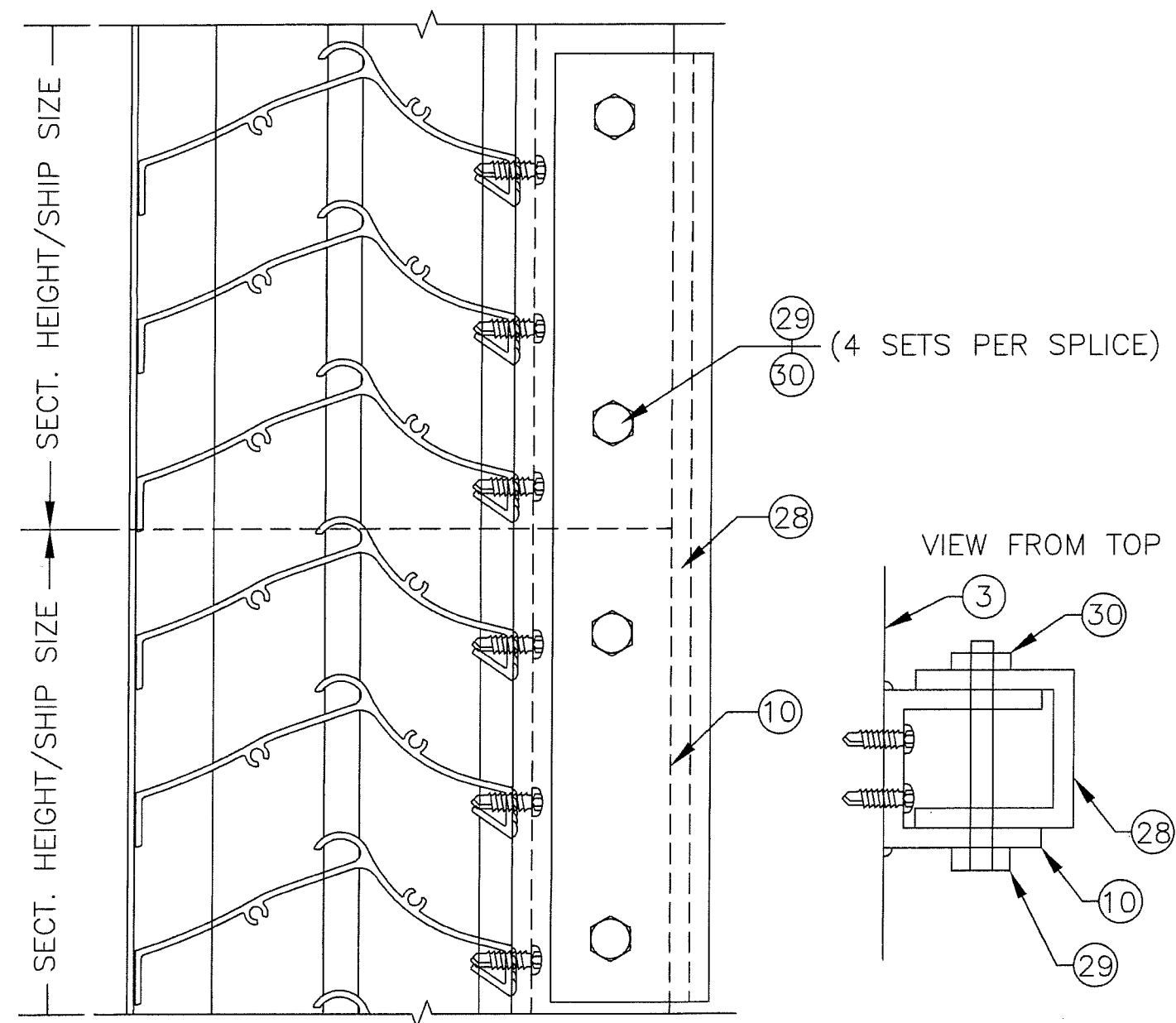


PRODUCT RENEWED
as complying with the Florida
Building Code
NOA-No. 19-0205.06
Expiration Date 08/05/2024
By [Signature]
Miami-Dade Product Control

REV: 01, 1/11/19, REMOVED LINE CROSSING OVER ITEM "4A OR 4B" CALLOUT

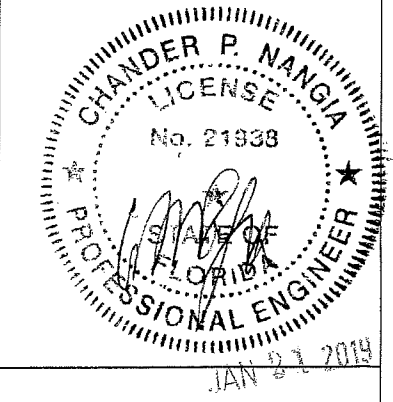


VERTICAL SPLICE/STACK DETAIL
SCALE: 1:2
SEE "9 ISO" FOR ISOMETRIC DETAIL



ISOMETRIC (SPLICE/STACK DETAIL)
SCALE: 1:3

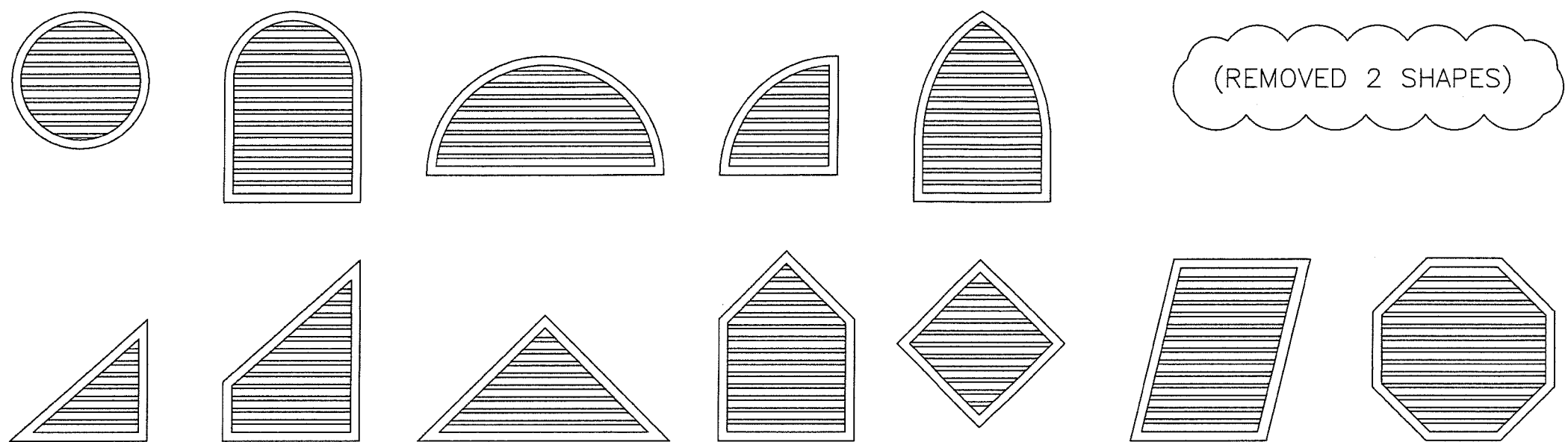
PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. 21-0526.09
Expiration Date 08/05/2024
By Ishag I. Chande
Miami-Dade Product Control



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Expiration Date 08/05/2024
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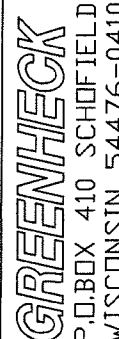
 GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410	DRAWN BY M STEELE	DATE 4/27/09
	SCALE VARIES	SHEET NO. 9 OF 16
TITLE ESS-502D LOUVER		CAD DRAWING NO. ESS-502D
DETAILS - SPLICED BLADE SUPPORT		

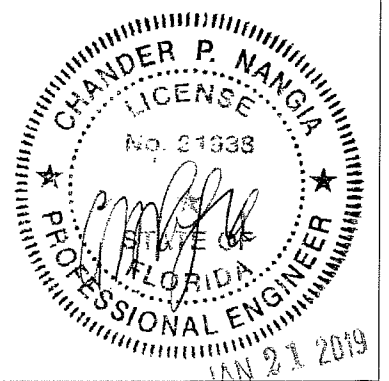
BELOW ARE THE SHAPE UNITS THAT THE NOA WILL ALLOW



NOTES:

- 1. OTHER SHAPES MAY APPLY PROVIDING THEY ARE SIMILAR TO THOSE SHOWN AND HAVE CONSTRUCTION AS DESCRIBED IN THIS PACKET.
- 2. ALL SHAPE LOUVERS ARE TO HAVE THE SAME WIDTH, HEIGHT, AND PRESSURE RESTRICTIONS AS RECTANGULAR LOUVERS, AND MAY BE SPLICED/STACKED VERTICALLY AND HORIZONTALLY (MULLED UNITS) IN THE SAME MANNER AS RECTANGULAR LOUVERS.
- 3. IF THE SHAPE LOUVER SECTION WIDTH EXCEEDS 72", A BLADE SUPPORT IS REQUIRED.
- 4. A MULLION REQUIRED FOR SHAPE LOUVERS ONLY IF BOTH OF THE FOLLOWING ARE TRUE: OVERALL UNIT WIDTH IS >72", AND SECTION HEIGHT IS >72".
- 5. FOLLOW THE SAME GUIDELINES AS NON-SHAPED UNITS FOR FASTENING OF SHAPE UNITS TO THE BUILDING CONDITION.

 P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410	DRAWN BY M STEELE	DATE 4/27/09
	SCALE 0.5":1'	SHEET NO. 10 OF 16
TITLE ESS-502D LOUVER		CAD DRAWING NO. ESS-502D
SHAPE STYLES, ELEVATION CONFIGURATIONS		



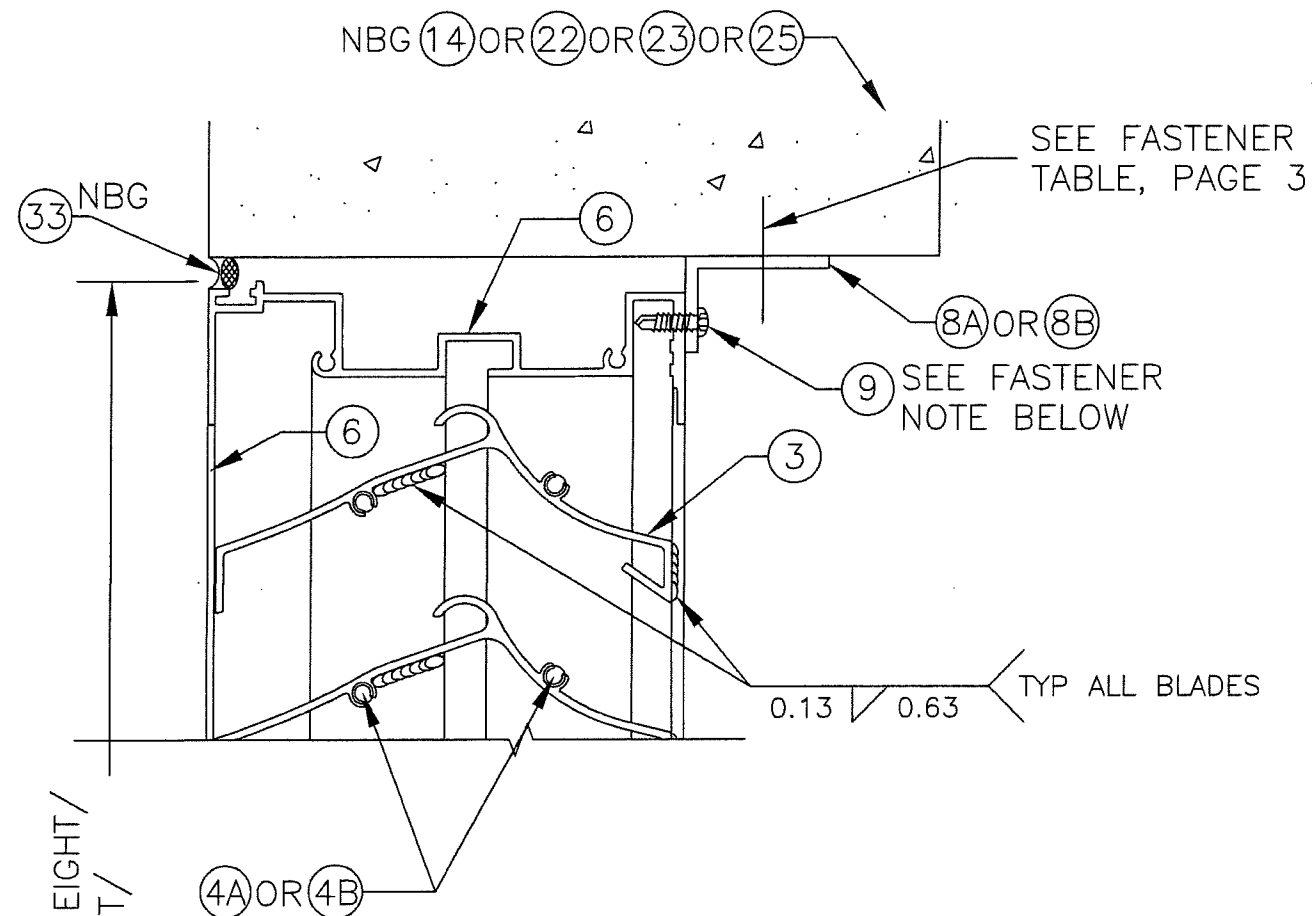
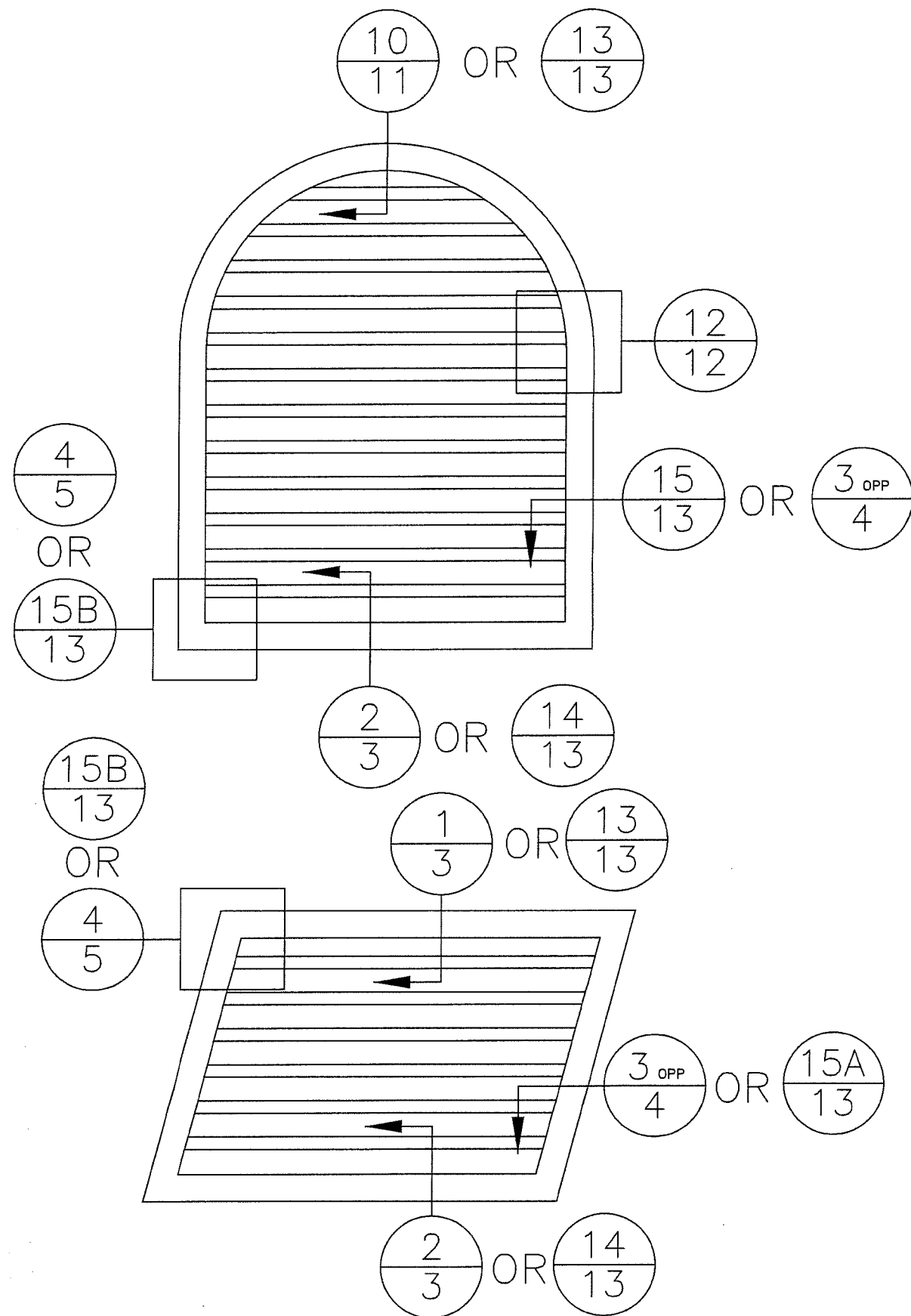
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as complying with the Florida
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NOA-No. 21-0526.09
Expiration Date 08/05/2024

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Miami-Dade Product Control

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Expiration Date 08/05/2024

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4 TYPICAL SHAPE LOUVER CALLOUTS



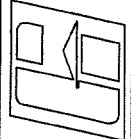
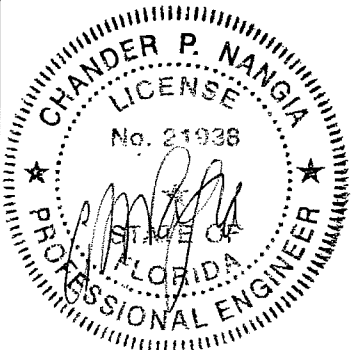
OVERALL LOUVER HEIGHT/
SECTION HEIGHT/
SHIP SIZE

FASTENER NOTES FOR (9):
6" MAX \varnothing FOR (1), 4" MAX \varnothing FOR (2) & (3)

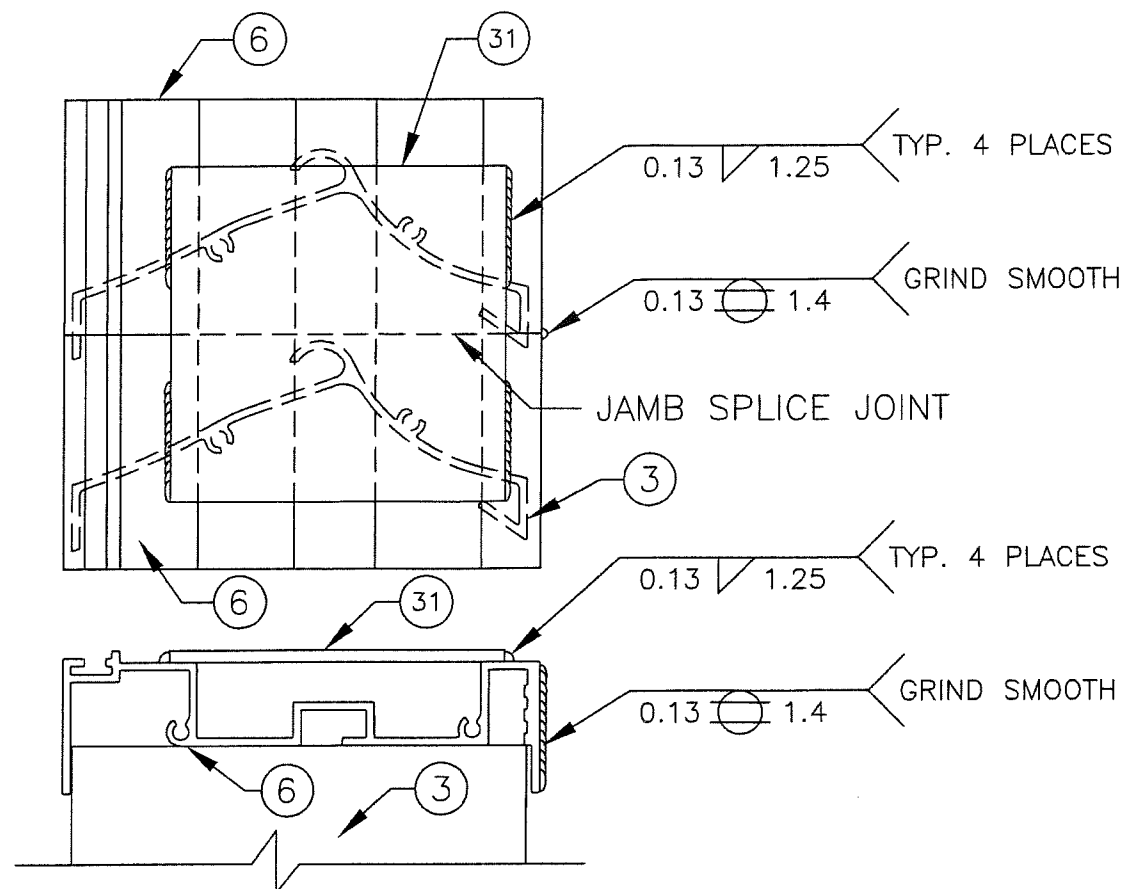
10/11 SHAPES HEAD DETAIL
SCALE: 1:2

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NBG=NOT BY MANUFACTURER

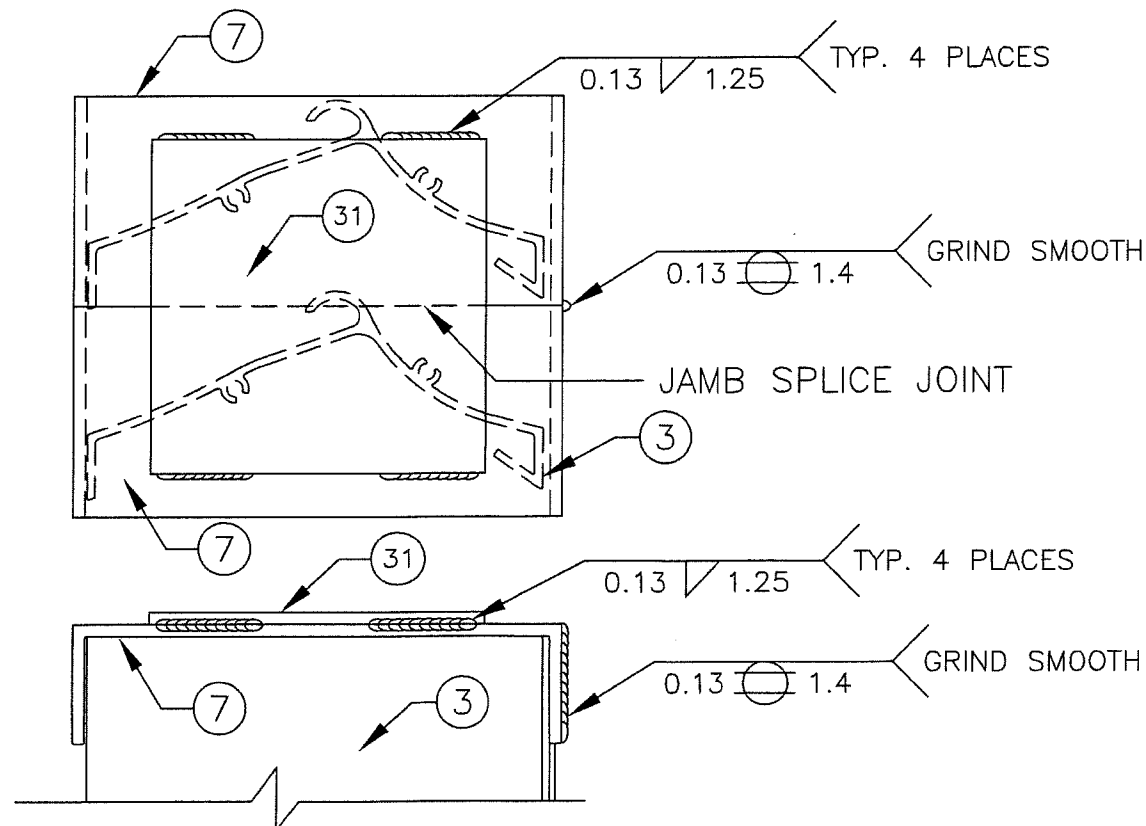
GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410 	DRAWN BY M STEELE	DATE 4/27/09	SHEET NO. 11 OF 16	CAD DRAWING NO. ESS-502D
	SCALE VARIES	TITLE ESS-502D LOUVER		
SHAPE ELEVATIONS, DETAILS - SHAPE				
<div style="text-align: center;">  <p>JAN 21 2014</p> </div>				
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12 A JAMB SPLICE DETAIL
SCALE: 1:2



THIS IS ONLY ON SHAPE UNITS WHEN A CURVED EXTRUDED JAMB MEETS A STRAIGHT JAMB (THIS IS NOT FOR A "SPliced" UNIT WHERE ONE LOUVER SIT ON TOP OF ANOTHER).

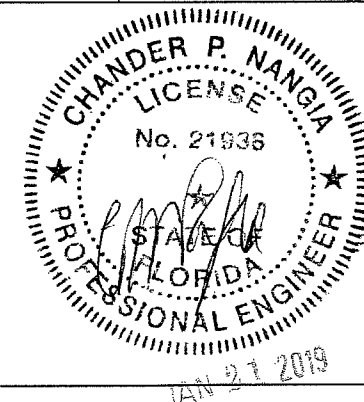
12 B CHANNEL JAMB SPLICE DETAIL
SCALE: 1:2



THIS IS ONLY ON SHAPE UNITS WHEN A CURVED C-CHANNEL JAMB MEETS A STRAIGHT JAMB (THIS IS NOT FOR A "SPliced" UNIT WHERE ONE LOUVER SIT ON TOP OF ANOTHER).

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NOA-No. 21-0526.09
Expiration Date 08/05/2024
By Ishag I. Chande
Miami-Dade Product Control

DRAWN BY M STEELE	DATE 4/27/09	SCALE 1:2	SHEET NO. 12 OF 16	CAD DRAWING NO. ESS-502D
GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410		TITLE ESS-502D LOUVER		
		SHAPE LOUVERS, DETAILS - SPICED JAMBS		

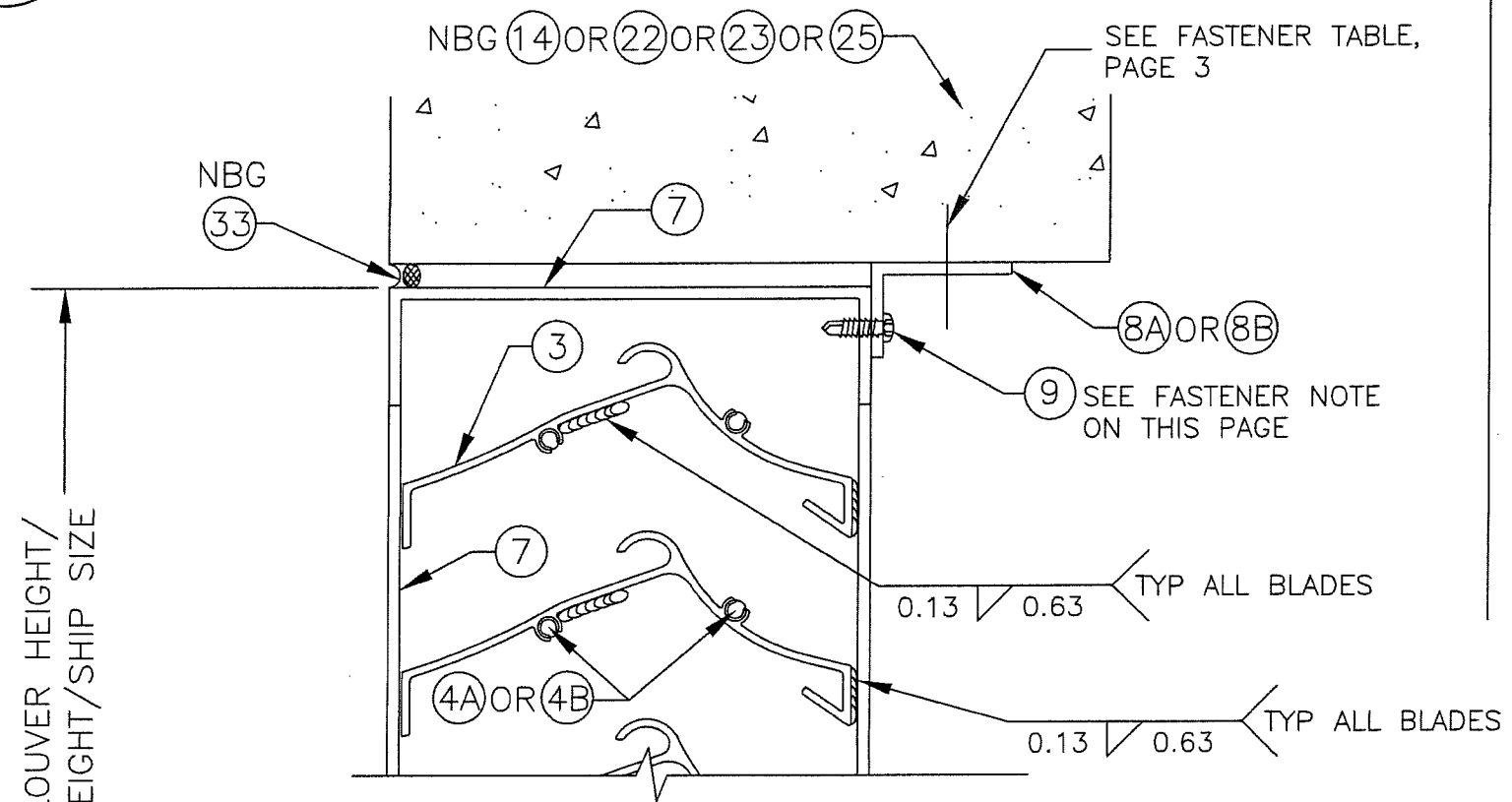


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Miami-Dade Product Control

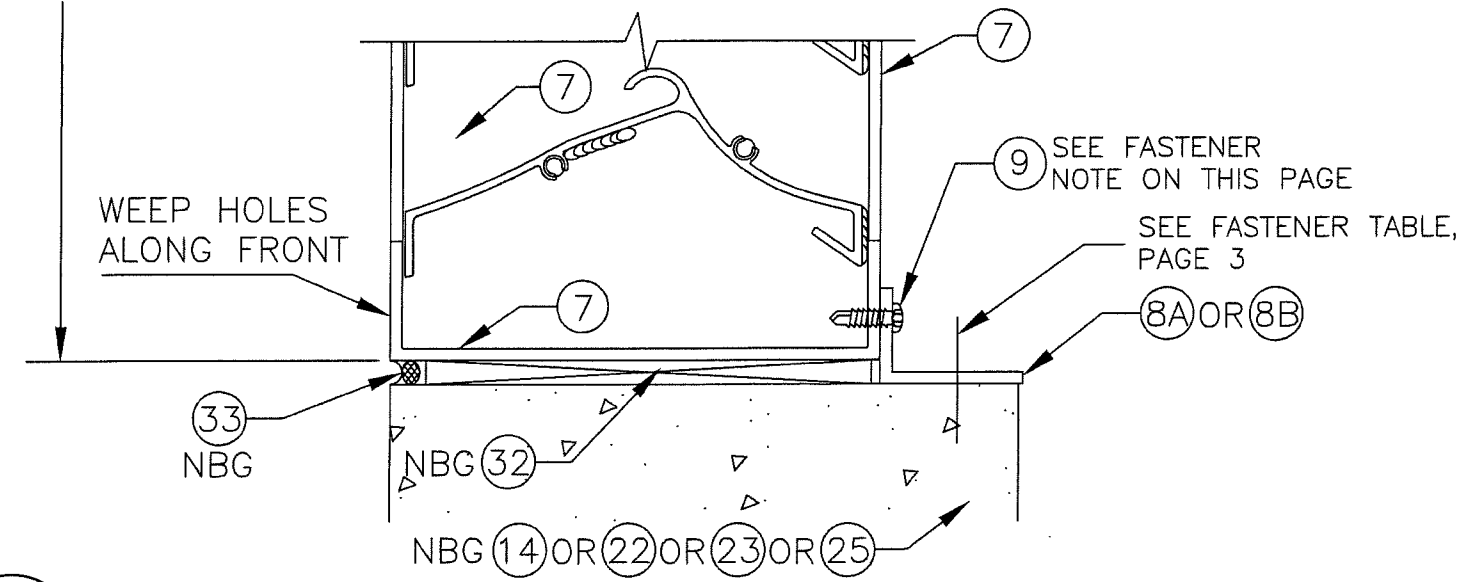
13
13

SHAPES HEAD DETAIL - CHANNEL FRAME
SCALE: 1:2

SETUP FOR OPTIONAL CHANNEL FRAME



FASTENER NOTES FOR (9):
6" MAX ϕ FOR (1), 4" MAX ϕ FOR (2) & (3)



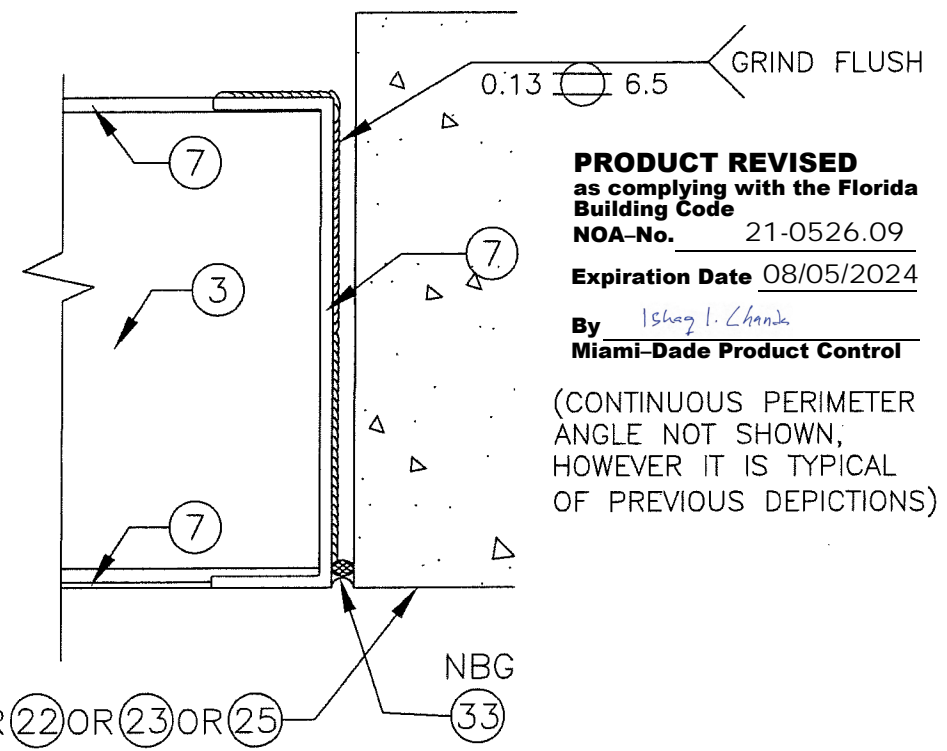
14
13

SHAPES SILL DETAIL - CHANNEL JAMB
SCALE: 1:2

NBG=NOT BY MANUFACTURER

15 A
13

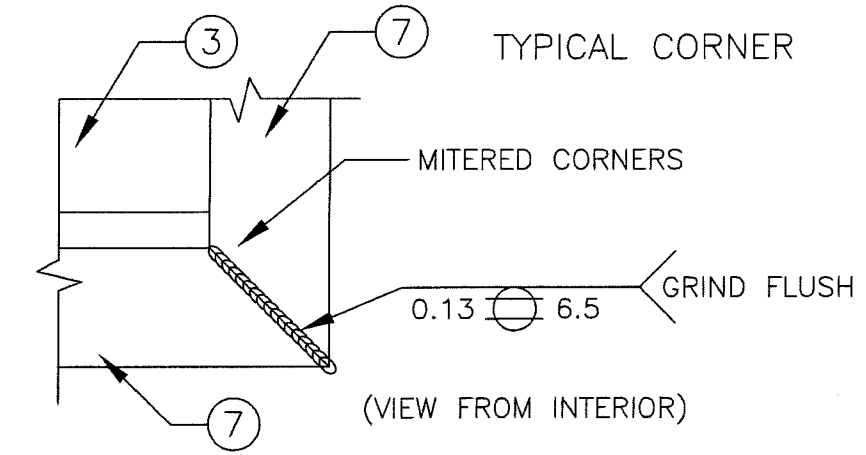
SHAPES CHANNEL JAMB DETAIL
SCALE: 1:2



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Miami-Dade Product Control
(CONTINUOUS PERIMETER
ANGLE NOT SHOWN,
HOWEVER IT IS TYPICAL
OF PREVIOUS DEPICTIONS)

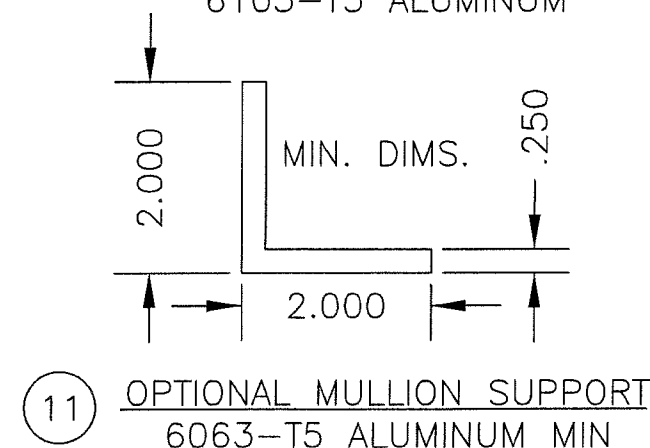
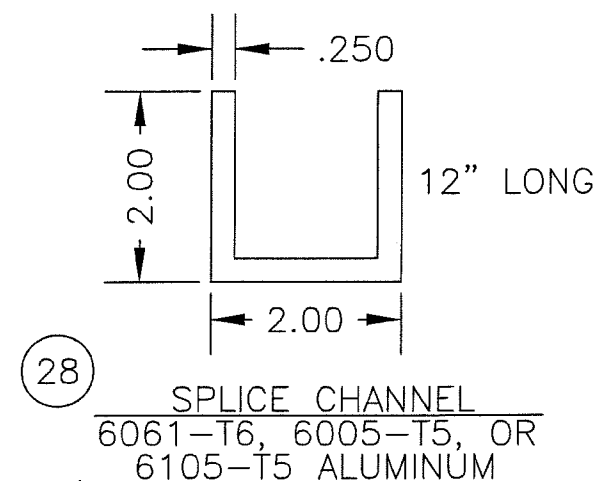
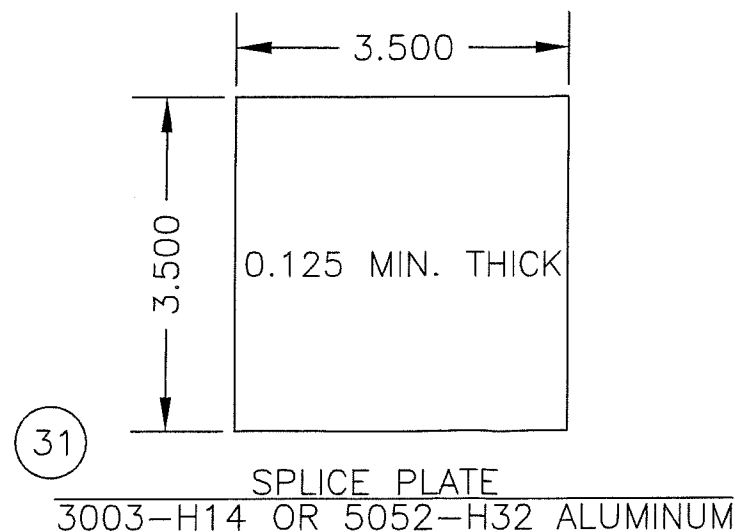
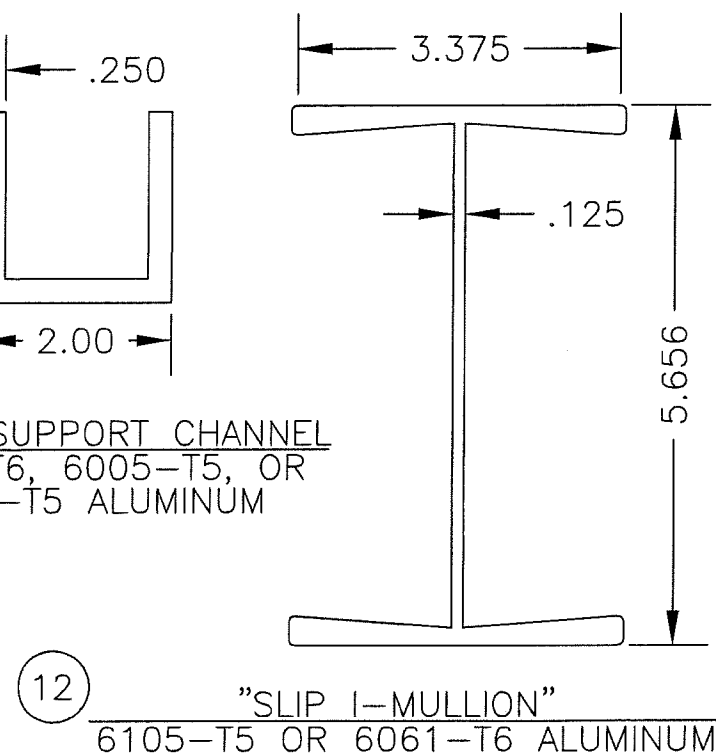
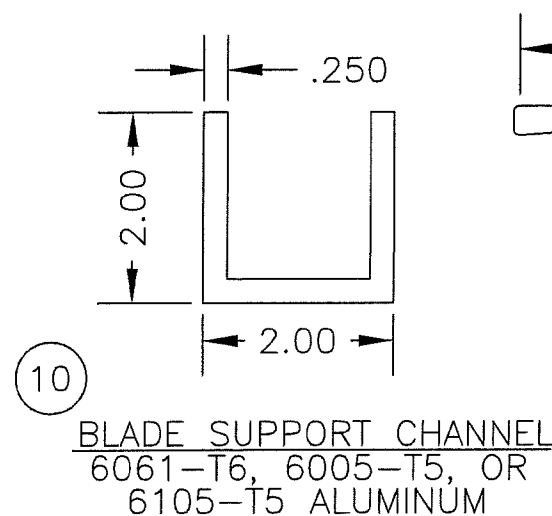
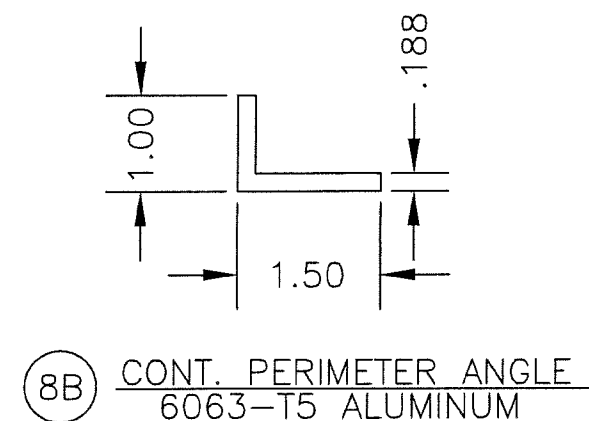
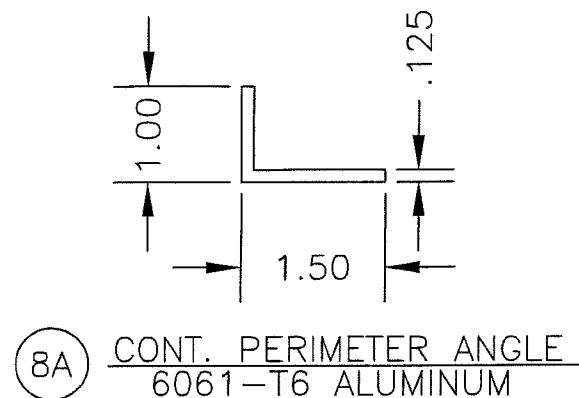
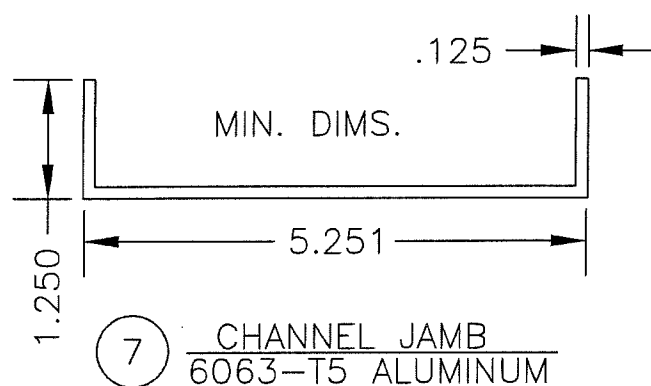
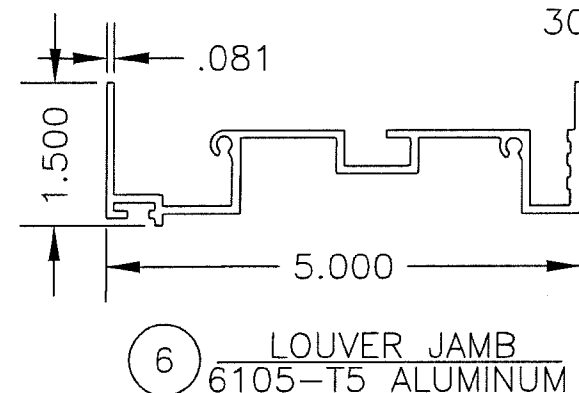
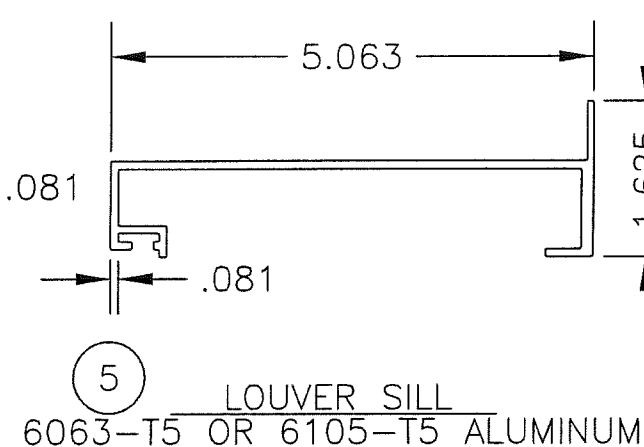
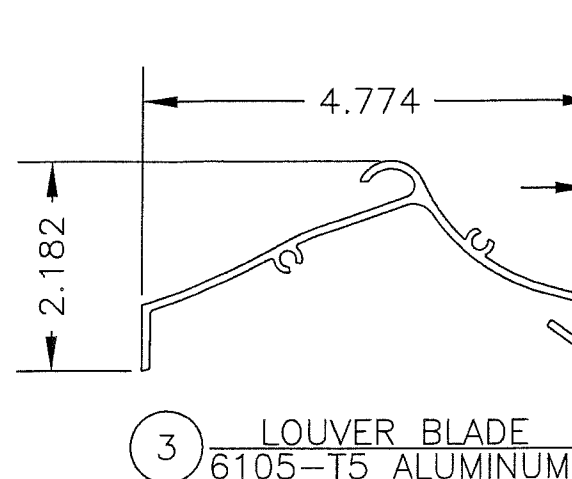
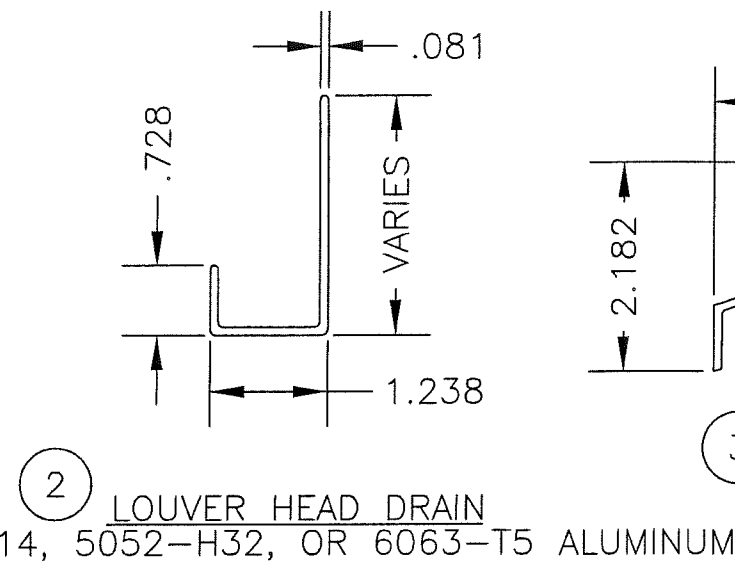
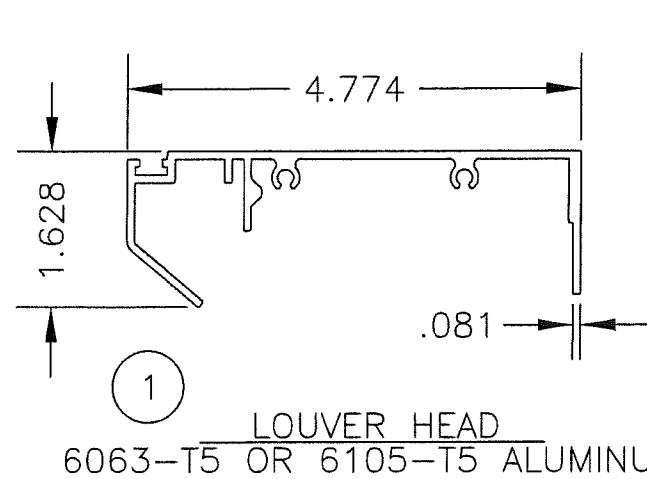
15 B
13

SHAPES SILL DETAIL - CHANNEL JAMB INTERIOR
SCALE: 1:2



REV: 01, 1/11/19, SPELLING UPDATE IN CONTINUOUS ANGLE NOTES

DRAWN BY M STEELE	DATE 4/27/09	SCALE 1:2	SHEET NO. 13 OF 16	CAD DRAWING NO. ESS-502D
GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410				
TITLE ESS-502D LOUVER SHAPE LOUVERS, DETAILS - CHANNEL FRAME				
<p>CHANDER P. NANGIA LICENSE No. 21938 STATE OF FLORIDA PROFESSIONAL ENGINEER</p>				
PRODUCT RENEWED as complying with the Florida Building Code NOA-No. 19-0205.06 Expiration Date 08/05/2024 By <i>Isaac I. Chandra</i> Miami-Dade Product Control				



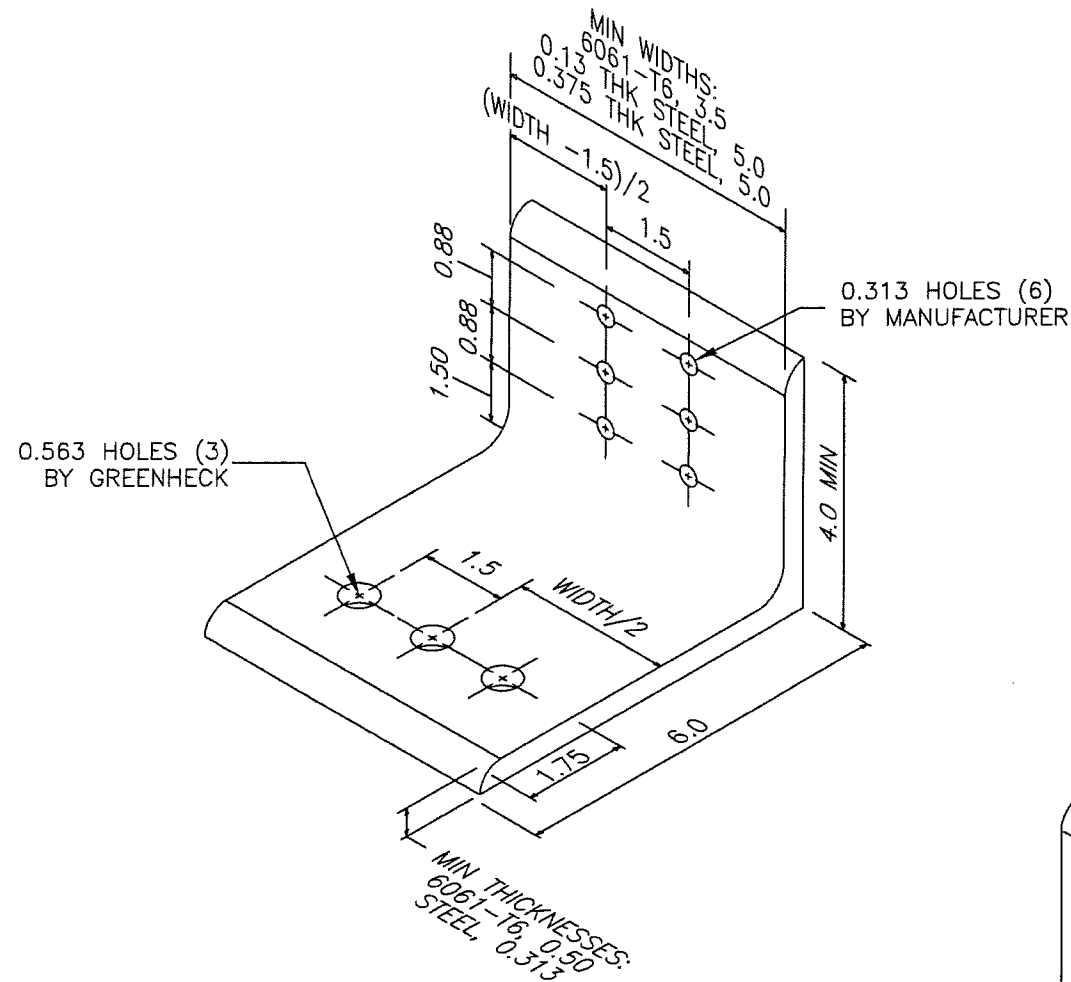
PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. 21-0526.09
Expiration Date 08/05/2024
By Ishag I. Chande
Miami-Dade Product Control

GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410	DRAWN BY M STEELE	DATE 4/27/09	SHEET NO. 14 OF 16	CAD DRAWING NO. ESS-502D
	SCALE 1:2	TITLE ESS-502D LOUVER		
DETAILS - PART DETAILS				

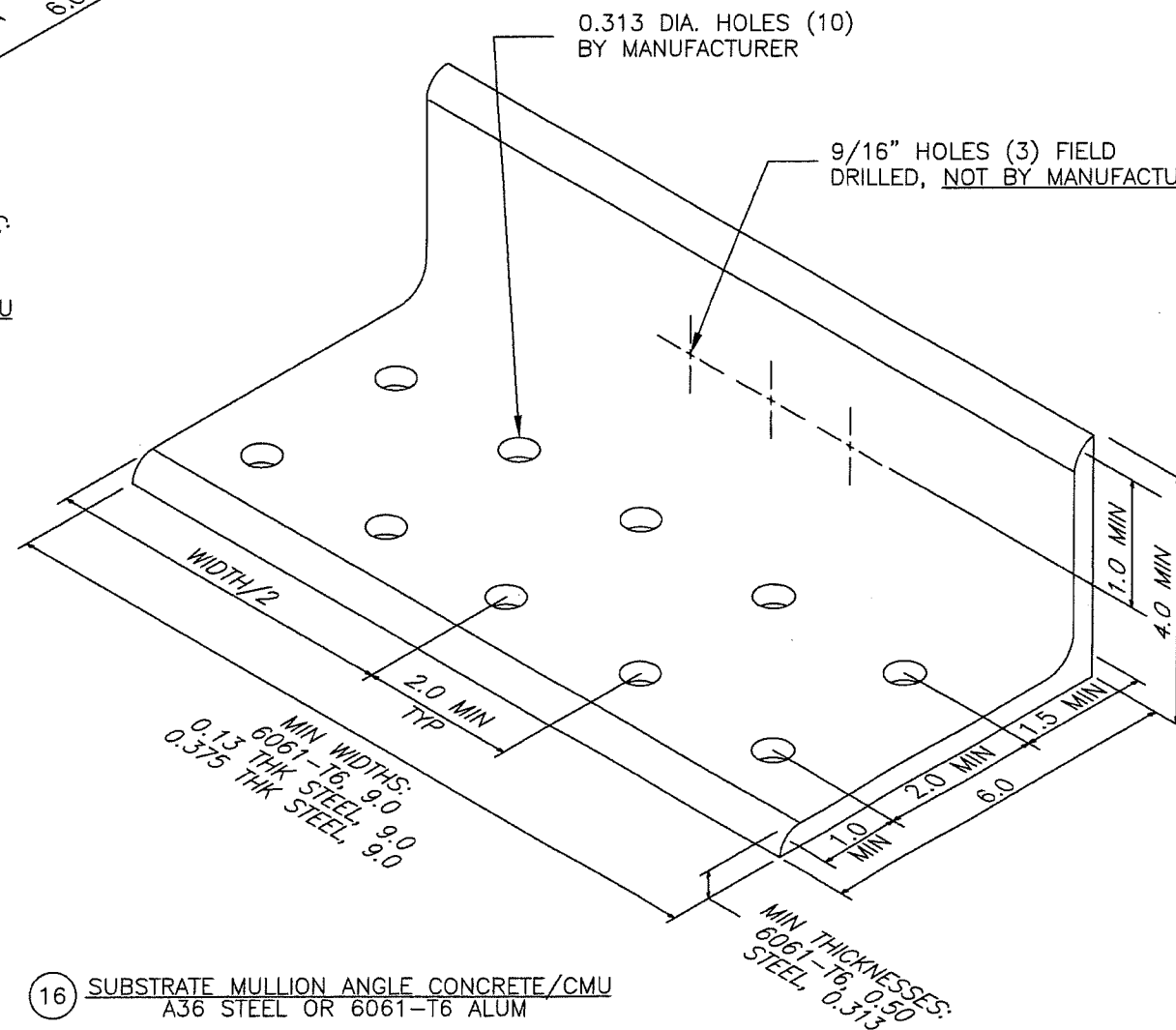
CHANDER P. NANGIA
LICENSE
No. 21838
STATE OF FLORIDA
PROFESSIONAL ENGINEER

JAN 27 2019

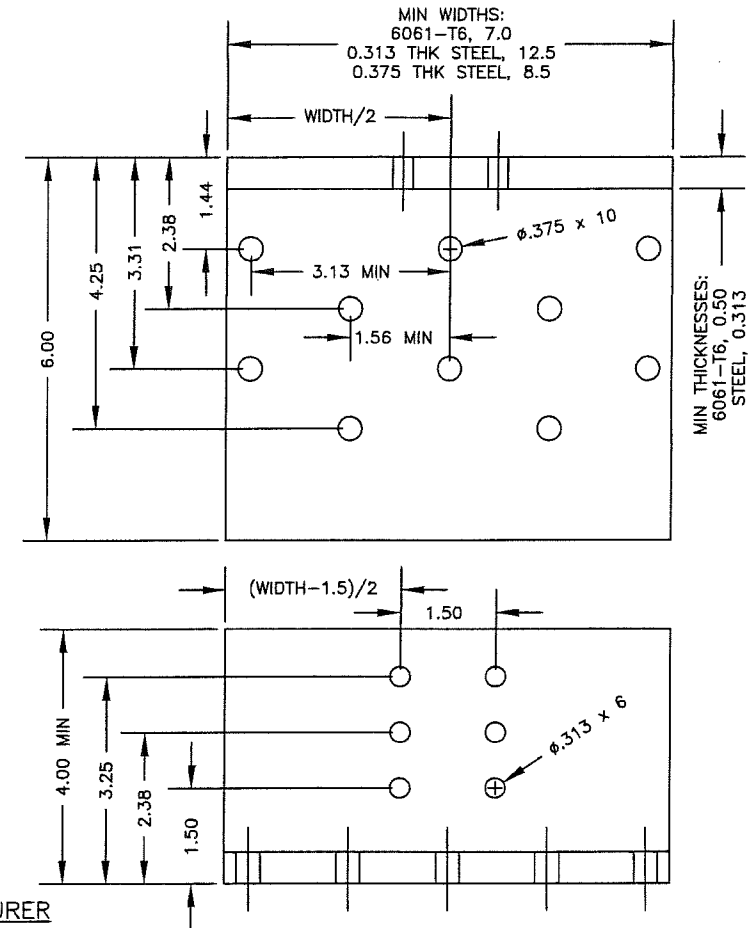
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15 LOUVER MULLION ANGLE CONCRETE/CMU
A36 STEEL OR 6061-T6 ALUM



16 SUBSTRATE MULLION ANGLE CONCRETE/CMU
A36 STEEL OR 6061-T6 ALUM



26 MULLION SUPPORT, WOOD
6061-T6 ALUMINUM,
OR A36 STEEL

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Expiration Date 08/05/2024
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 GREENHECK P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410	DRAWN BY M STEELE	DATE 4/27/09
	SCALE 1:2	SHEET NO. 15 OF 16
TITLE ESS-502D LOUVER		
DETAILS - PART DETAILS		
PRODUCT RENEWED as complying with the Florida Building Code NOA-No. 19-0205.06 Expiration Date 08/05/2024 By <u>[Signature]</u> Miami-Dade Product Control		

ITEM	DESCRIPTION	MATERIAL	NOTES
1	LOUVER HEAD	ALUM	
2	LOUVER HEAD DRAIN	ALUM	
3	LOUVER BLADE	ALUM	
4A	#10 x 0.5 MIN THREAD, SCREW, 7075-T6 ALUM	ALUM	USED ON ANODIZED UNITS
4B	#10 OR #12 x 0.5 MIN THREAD, SCREW, STAINLESS	SS	TYPICALLY USED
5	LOUVER SILL	ALUM	
6	LOUVER JAMB	ALUM	
7	OPTIONAL C-CHANNEL JAMB	ALUM	OPTIONAL FOR SHAPE UNITS
8A	CONTINUOUS MTG ANGLE, 1.0x1.5x0.125 MIN, 6061-T6	ALUM	
8B	CONTINUOUS MTG ANGLE, 1.0x1.5x0.188 MIN, 6063-T5	ALUM	
9	#10-24 OR #12-24 x 0.5 MIN THREAD, SCREW	SS	
10	BLADE SUPPORT CHANNEL, 2x2x2x0.25	ALUM	
11	OPTIONAL ADDITIONAL MULLION SUPPORT ANGLE	ALUM	OPTIONAL
12	SLIP "I" MULLION	ALUM	
13	GASKET, 3.5x4x0.25 MIN (BY MANUFACTURER)	VARIES	RUBBER/NEOPRENE LIKE
14	CONCRETE OR GROUT FILLED CMU, 2000 PSI MIN	VARIES	NOT BY MANUFACTURER
15	LOUVER MULLION ANGLE FOR CONCRETE/CMU	STEEL/ALUM	
16	SUBSTRATE MULLION ANGLE FOR CONCRETE/CMU	STEEL/ALUM	
17	0.25-20x1 MIN, SCREW (BY MANUFACTURER)	SS	
18	BOLT, 0.5-13x1 MIN (BY MANUFACTURER)	SS	
19	NUT, 0.5-13 MIN (BY MANUFACTURER)	SS	
20	WASHER, 0.5 MIN (BY MANUFACTURER)	SS	
21	0.25 DIA. ITW BUILDEX TAPCON w/ ADV. THREADFORM, 1.75 MIN EMBEDMENT	SS/STEEL	NOT BY MANUFACTURER
22	STRUCTURAL STEEL, 0.075 MIN THICKNESS	SS/STEEL	NOT BY MANUFACTURER
23	STEEL STUD, 14GA MIN	SS/STEEL	NOT BY MANUFACTURER
24	0.25 DIAMETER SCREW, MUST FULLY ENGAGE STEEL	SS/STEEL	NOT BY MANUFACTURER
25	WOOD SUBSTRATE, G=0.55 MIN DENSITY	WOOD	NOT BY MANUFACTURER
26	MULLION ANGLE FOR WOOD	STEEL/ALUM	
27	0.375 DIA. LAG SCREW, 3.0 MIN EMBEDMENT	SS/STEEL	NOT BY MANUFACTURER
28	SPLICE CHANNEL, 2x2x2x0.25, 12" LONG	ALUM	
29	BOLT, 0.313x2.5 MIN (BY MANUFACTURER)	SS	
30	NUT, 0.313(5X16) (BY MANUFACTURER)	SS	
31	SPLICE PLATE	ALUM	
32	SHIMS, OPTIONAL, AS REQUIRED, INCOMPRESSABLE	VARIES	NOT BY MANUFACTURER
33	SEALANT AND BACKER ROD	VARIES	NOT BY MANUFACTURER

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GENERAL NOTES:

1. IT SHALL BE THE RESPONSIBILITY OF THE PERMIT HOLDER TO VERIFY THE STRUCTURAL INTEGRITY OF THE EXISTING STRUCTURE TO SUPPORT THE LOADS IMPOSED BY THE PENTHOUSE ASSEMBLY.

2. THE ESS-502D HAS BEEN DESIGNED AND QUALIFIED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE (FBC) AND TEST PROTOCOLS TAS-201 (IMPACT), TAS-202 (UNIFORM STATIC PRESSURE), AND TAS-203 (CYCLIC FATIGUE) TO A MAXIMUM DESIGN LOAD OF +/- 110 PSF.

3. THE MAXIMUM UNSUPPORTED BLADE LENGTH SHALL NOT EXCEED 72" WITHOUT STIFFENER AND 144" WITH STIFFENER.

4. THE MAXIMUM OVERALL UNIT HEIGHT IS UNLIMITED BY MEANS OF STACKING AND USE OF SPLICED BLADE SUPPORTS. THE MAXIMUM OVERALL UNIT WIDTH IS UNLIMITED BY USE OF MULLIONS WITH A MAXIMUM SPACING OF 72".

5. LOUVER CONSTRUCTION: HEAD, SILL, JAMBS, AND BLADES ARE SQUARE CUT AT BOTH ENDS. BLADE SPACING IS 2" MAX. EACH JAMB IS SECURED TO THE SILL WITH (2) SCREWS AND WELDED. BLADES AND HEADS ARE SECURED TO JAMBS WITH (2) SCREWS AND WELDED.

6. ALL WOOD SUBSTRATE SHALL BE G = 0.55 DENSITY OR BETTER.

7. ALL STEEL STUD SUBSTRATE SHALL BE MIN. 14 GA. FY = 50 KSI.

8. ALL STRUCTURAL STEEL SUBSTRATE SHALL BE MIN. 0.075" THICK FY = 36 KSI.

9. ALL CONCRETE SUBSTRATE SHALL BE MIN. 2000 PSI.

10. CONCRETE MASONRY SHALL BE ASTM C90, TYPE II, MIN. 2000 PSI GROUT-FILLED.

11. THE LOUVER MANUFACTURER DOES NOT DETERMINE THE STRUCTURAL INTEGRITY OF THE SUBSTRATE STRUCTURE.


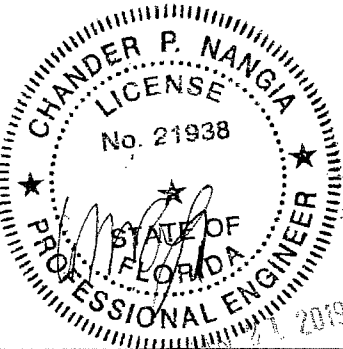

12. THE SYSTEM SHALL ONLY BE INSTALLED IN A LOCATION WHERE THE ENCLOSED AREA/ROOM BEHIND THE LOUVER IS DESIGNED TO DRAIN WATER PENETRATING INTO THE AREA/ROOM, AND THE AREA/ROOM WILL HOUSE WATER RESISTANT/PROOF EQUIPMENT, COMPONENTS, AND/OR SUPPLIES.

13. INSTALLER TO PROVIDE SEPARATION OF DISSIMILAR MATERIALS AS REQUIRED.

14. MATERIAL ALLOYS ON PAGE 14 ARE MINIMUMS.

15. PRODUCT HAS NOT BEEN EVALUATED FOR INSTALLATION INTO CRACKED CONCRETE SUBSTRATE.

REV: 01, 1/11/19, ADDED NOTES #14 & #15

DRAWN BY M STEELE	DATE 4/27/09	SCALE NA	SHEET NO. 16 OF 16	CAD DRAWING NO. ESS-502D
 P.O. BOX 410 SCHOFIELD, WISCONSIN 54476-0410		TITLE ESS-502D LOUVER		
		ITEMIZED PART LISTING & GENERAL NOTES		
PRODUCT RENEWED as complying with the Florida Building Code NOA-No. 19-0205.06 Expiration Date 08/05/2024 By  Miami-Dade Product Control				