



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

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599

NOTICE OF ACCEPTANCE (NOA)

www.miamidade.gov/economy

Rolling Shield Inc.
9875 N.W. 79th Avenue
Hialeah Gardens, FL 33016

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 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. 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 High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Series 40 mm and 55 mm End Retainer Roll-Down Shutters – L.M.I.

APPROVAL DOCUMENT: Drawing No. 172-2020, titled "40mm & 55mm End Retainer Roll-Down Shutter" prepared by V. M. Engineering, Inc., dated 09/24/2020, sheets 1 through 11 of 11, signed and sealed by Morgan Villanueva, P.E., on 09/24/2020 bearing the Miami-Dade County Product Control Revision stamp with the Notice of Acceptance number and the expiration date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

LIMITATIONS:

1. Roll-down Mechanism is NOT part of this approval & must be certified by independent testing agency.
2. Minimum separation from interior storm bar to existing glass shall be as shown on sheet 11 of 11.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state, the following statement: "Miami-Dade County Product Control Approved", and NOA number, per TAS-201, TAS-202, and TAS-203, 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 # 20-0124.04 and consists of this page 1 and evidence submitted pages E-1 and E-2 as well as approval document mentioned above.

The submitted documentation was reviewed by **Helmy A. Makar, P.E., M.S.**



Helmy A. Makar
01/14/2021

NOA No. 20-0929.18
Expiration Date: 03/05/2025
Approval Date: 01/14/2021

Rolling Shield Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 20-0124.04

A. DRAWINGS

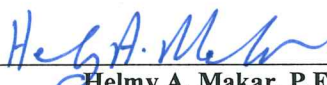
1. *Drawing No. 20-2019, titled "40mm & 55mm End Retainer Roll-Down Shutter" prepared by V. M. Engineering, Inc., dated 01/02/2020, sheets 1 through 11 of 11, signed and sealed by Morgan Villanueva, P.E., on 02/11/2020.*

B. TESTS

1. Test report on: 1) Uniform Static Air Pressure Test per PA 202,
2) Large Missile Impact Test per PA 201
3) Cyclic Wind Pressure Test per PA 203
along with marked-up drawings and installation diagram of Series 40 mm, of Aluminum Roll-Down Shutters, prepared by Fenestration Testing Laboratory, Inc., Test Report # **FTL 5539** dated 03/14/08, signed and sealed by Carlos S. Rionda, P. E.
2. Test report on: 1) Uniform Static Air Pressure Test per PA 202,
2) Large Missile Impact Test per PA 201
3) Cyclic Wind Pressure Test per PA 203
along with marked-up drawings and installation diagram of Series 55 mm, of Aluminum Roll-Down Shutters, prepared by Fenestration Testing Laboratory, Inc., Test Report # **FTL 5565** dated 03/14/08, signed and sealed by Carlos S. Rionda, P. E.
3. Test report on: 1) Uniform Static Air Pressure Test per PA 202,
2) Large Missile Impact Test per PA 201
3) Cyclic Wind Pressure Test per PA 203
along with marked-up drawings and installation diagram of Series 40 mm, of Aluminum Roll-Down Shutters, prepared by Fenestration Testing Laboratory, Inc., Test Report # **FTL 10615** dated 06/12/19, signed and sealed by Idalmis Ortega, P. E.
4. Test report on: 1) Uniform Static Air Pressure Test per PA 202,
2) Large Missile Impact Test per PA 201
3) Cyclic Wind Pressure Test per PA 203
along with marked-up drawings and installation diagram of Series 55 mm, of Aluminum Roll-Down Shutters, prepared by Fenestration Testing Laboratory, Inc., Test Report # **FTL 10616** dated 07/26/19, signed and sealed by Idalmis Ortega, P. E.

C. CALCULATIONS

1. *Comparative analysis for slats; storm bars, headers, tracks, mullions and anchors, using rational analysis dated 02/11/2020, prepared by V. M. Engineering, Inc., signed and sealed by Morgan Villanueva, P.E., on 02/11/2020.*



Helmy A. Makar, P.E., M.S.
Product Control Section Supervisor
NOA No. 20-0929.18
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NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

D. QUALITY ASSURANCE

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

E. MATERIAL CERTIFICATIONS

1. *None.*

F. STATEMENTS

1. *Statement Letter of product compliance to FBC, 2017, prepared by V. M. Engineering, Inc., dated 02/11/2020, signed and sealed by Morgan Villanueva, P.E.*

2. NEW EVIDENCE SUBMITTED

A. DRAWINGS

1. *Drawing No. 172-2020, titled "40mm & 55mm End Retainer Roll-Down Shutter" prepared by V. M. Engineering, Inc., dated 09/24/2020, sheets 1 through 11 of 11, signed and sealed by Morgan Villanueva, P.E., on 09/24/2020.*

B. TESTS

1. *None.*

C. CALCULATIONS

1. *None.*

D. QUALITY ASSURANCE

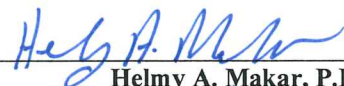
1. *By Miami- Dade County Department of Regulatory and Economic Resources (RER).*

E. MATERIAL CERTIFICATIONS

1. *None.*

G. STATEMENTS

1. *Statement Letter of product compliance to FBC, 2020, prepared by V. M. Engineering, Inc., dated 09/24/2020, signed and sealed by Morgan Villanueva, P.E.*



Helmy A. Makar, P.E., M.S.
Product Control Section Supervisor
NOA No. 20-0929.18
Expiration Date: 03/05/2025
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GENERAL NOTES:

THIS END RETAINERS (ROLL-UP SHUTTER) HAS BEEN VERIFIED IN ACCORDANCE WITH SECTIONS 1609 & 1626 OF THE FLORIDA BUILDING CODE EDITION 2020, AS PER TAS 201-94, TAS 202-94 & TAS 203-94 OF THE TEST PROTOCOLS FOR HIGH-VELOCITY HURRICANES ZONES, AS SHOWN ON THE TEST RESULTS PERFORMED BY A FENESTRATION TESTING LABORATORY INC, LABS NUMBER 5539 (40mm), LAB NUMBER 5565 (55mm), LAB NO. 10615 (40mm) AND 10616 (55mm).

THE DESIGN LOADS COMPLY WITH SECTION 1620 OF THE FLORIDA BUILDING CODE EDITION 2020, THE WIND PRESSURES SHOWN IN THE TABLES ON SHEETS 11 AND 12 IN THIS DOCUMENTS ARE AS PER FBC 2020 EDITION (ALLOWABLE SERVICE DESIGN), TO OBTAIN THE EQUIVALENT ULTIMATE WIND PRESSURES, DIVIDE THE WIND PRESSURES SHOWN BY 0.6 FACTOR (ULTIMATE FACTOR DESIGN). IN ORDER TO VERIFY THAT ANCHORS ON THIS PRODUCT APPROVAL DOCUMENTS, AS TESTED, WERE NOT OVERSTRESSED, A 33% INCREASE IN ALLOWABLE STRESS FOR WIND LOADS WAS NOT USED IN THEIR ANALYSIS, AND IN THE LABORATORY THE TEST LOAD WAS 50% MORE OF DESIGN LOAD.

THE 40mm & 55 mm END RETAINER ROLL-DOWN SHUTTER IS ADEQUATE FOR IMPACT AND FATIGUE RESISTANCE AS SHOWN IN THE TEST RESULTS FROM LABORATORY.

THE 40mm & 55 mm END RETAINER ROLL-DOWN SHUTTER SYSTEM MAY BE INSTALLED AT HIGH VELOCITY HURRICANE ZONES (H.V.H.Z.)"

1. THE 40mm & 55 mm END RETAINER ROLL-DOWN SHUTTER MAXIMUM ALLOWABLE SERVICE DESIGN LOAD IS +55 psf, -70 psf. ULTIMATE DESIGN LOAD +91.6 psf, 125.0 psf

3. ALL ALUMINUM EXTRUSIONS SHALL BE MADE OF ALLOYS AND TEMPER, AS INDICATED ON SHEET 2 & 3 OF THIS DRAWING. THE THICKNESS OF ALL EXTRUSIONS SHALL BE AS SHOWN ON THIS DRAWING WITH STANDARD TOLERANCES IN ACCORDANCE WITH THE "ALUMINUM DESIGN MANUAL 2017 EDITION".

4. ALL SCREWS TO BE STAINLESS STEEL 304 OR 316 AISI SERIES OR CORROSION RESISTANT COATED CARBON STEEL AS PER DIN 50018 WITH 50 ksi YIELD POINT AND 90 ksi TENSILE STRENGTH.

5. BOLTS TO BE ALUMINUM ASSOCIATION 2024-T4 ALLOY AND TEMPER, ASTM A-307 GALVANIZED STEEL OR AISI 304 SERIES STAINLESS STEEL, WITH 36 ksi MINIMUM YIELD POINT.

6. ANCHORS TO WALL FOR SIDE RAILS CONNECTION AND CONNECTION BOX SHALL BE AS FOLLOWS:
TO EXISTING POURED CONCRETE (3000 psi Min.):
- 1/4" Ø TAPCON ANCHORS, AS MANUFACTURED BY ITW BUILDEX.
- 5/16" Ø TAPCON XL, AS MANUFACTURED BY ITW BUILDEX.

TO EXISTING CONCRETE BLOCK (FILL CELLS WITH GROUT).
- 1/4" Ø TAPCON ANCHORS, AS PER MANUFACTURED BY ITW BUILDEX.
- 5/16" Ø TAPCON XL, AS PER MANUFACTURED BY ITW BUILDEX.

NOTES:

6.1) MINIMUM EMBEDMENT OF ANCHORS INTO POURED CONCRETE IS 1 3/4". EMBEDMENT IS IN CONCRETE ONLY, NOT OTHER DIFFERENT MATERIAL.

6.2) IF ANY DECORATIVE MATERIAL IS ON THE WALL, ANCHORS SHALL BE LONG ENOUGH TO REACH THE REQUIRED EMBEDMENT INTO THE CONCRETE (1 3/4").

(6.3) ANCHORS SHALL BE INSTALLED FOLLOWING ALL OF THE RECOMMENDATIONS AND SPECIFICATIONS OF THE ANCHOR'S MANUFACTURER.

(6.4) ANCHORS REQUIRED FOR MULLION CONNECTIONS SHALL BE AS SPECIFIED ON APPLICABLE SECTIONS SHOWN ON SHEET 7. POWER BOLT ANCHORS TO BE AS MANUFACTURER BY POWERS FASTENING, INC.

7. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SOUNDNESS OF THE STRUCTURE WHERE END RETAINER IS TO BE ATTACHED TO INSURE PROPER ANCHORAGE. THE END RETAINER SHALL ONLY BE ATTACHED TO POURED CONCRETE OR GROUT FILLED CONCRETE BLOCK.

8. INSTALLER SHALL SEAL/CAULK ALL SHUTTER COMPONENT EDGES WHICH REMAIN IN CONTINUOUS CONTACT WITH THE BUILDING TO PREVENT WIND/RAIN INTRUSION.

9. END RETAINER MECHANISM NOT PART OF THIS APPROVAL, BUT SHALL BE CERTIFIED BY AN INDEPENDENT TESTING AGENCY.

10. END RETAINER INSTALLATION SHALL COMPLY WITH SPECS INDICATED IN THIS DRAWING PLUS ANY BUILDING AND ZONING REGULATIONS PROVIDED BY THE JURISDICTION WHERE PERMIT IS APPLIED TO.

11. THIS FLORIDA APPROVAL DOCUMENTS PREPARED BY THE ENGINEER OF RECORD IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT; i.e. WHERE THE SITE CONDITIONS DEVIATE FROM THE FLORIDA APPROVAL DOCUMENTS. CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION INCLUDING LIFE SAFETY OF THIS PRODUCT, BASED ON THIS FLORIDA APPROVAL DOCUMENTS PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT. CONSTRUCTION SAFETY AT SITE IS THE CONTRACTOR'S RESPONSIBILITY.

THIS FLORIDA APPROVAL DOCUMENTS WILL BE CONSIDERED INVALID IF ALTERED BY ANY MEANS.

SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A FLORIDA REGISTERED ENGINEER OR ARCHITECT WHICH WILL BECOME THE ENGINEER OF RECORD (E.O.R.) FOR THE PROJECT AND WHO WILL BE RESPONSIBLE FOR THE PROPER USE OF THE FLORIDA APPROVAL DOCUMENTS ENGINEER OF RECORD, ACTING AS A DELEGATED ENGINEER TO THE FLORIDA APPROVAL DOCUMENTS ENGINEER, SHALL SUBMIT TO THIS LATTER THE SITE SPECIFIC DRAWINGS FOR REVIEW.

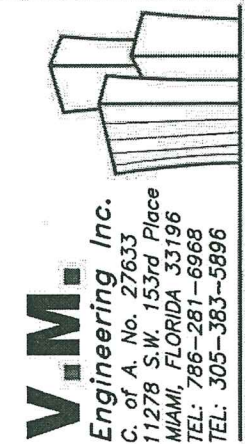
THIS FLORIDA APPROVAL DOCUMENTS SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.

12. THESE FLORIDA APPROVAL DOCUMENTS IN COMPLY WITH CHAPTER 61G15-36 OF THE FLORIDA ADMINISTRATION CODE.

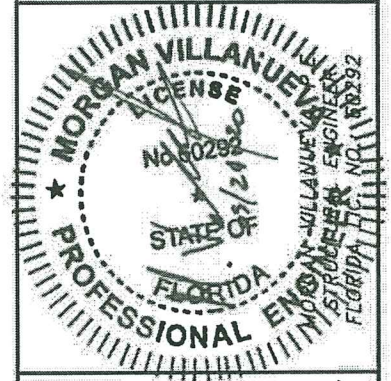
13. AN ORIGINAL SIGNED AND SEALED COMPANY LETTER FROM ROLLINGSHIELD INC. IS REQUIRED, PROVING THAT THE 40mm & 55mm END RETAINER ROLL-DOWN SHUTTER WAS PURCHASED FROM THEM IN ORDER FOR THIS NOA TO BE VALID ON ANY JOB.

14. A LABEL SHALL BE PLACED FOR EVERY OPENING BY THE MANUFACTURER AND SHALL BE EXPOSED ON THE SIDE RAILS,
LABEL SHALL READ:
40mm & 55mm END RETAINER ROLL-DOWN SHUTTER.
ROLLINGSHIELD INC.
MIAMI, FLORIDA
MIAMI-DADE COUNTY PRODUCT CONTROL APPROVED.
N.O.A No. ____-____-____ "TO BE DETERMINATE"

40mm & 55mm END RETAINER ROLL-DOWN SHUTTER		ROLLINGSHIELD INC. PHONE (305) 436-6661 FAX (305) 436-5523 9875 NW 79th AVE Hialeah Gardens, FL 33016 www.rollingshield.com	
		REV. No	DATE
1	RENEWAL AS PER FBC 2020	09-24-2020	
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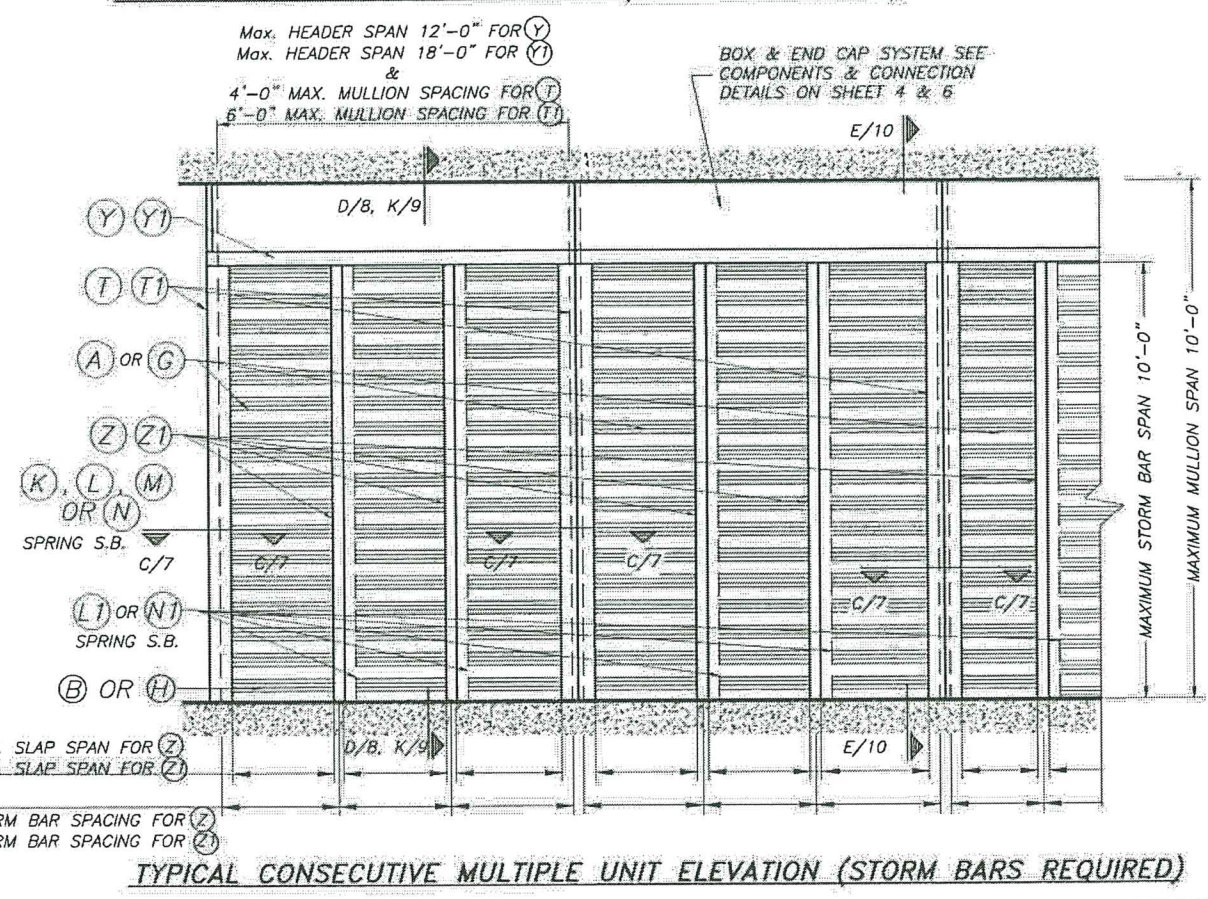
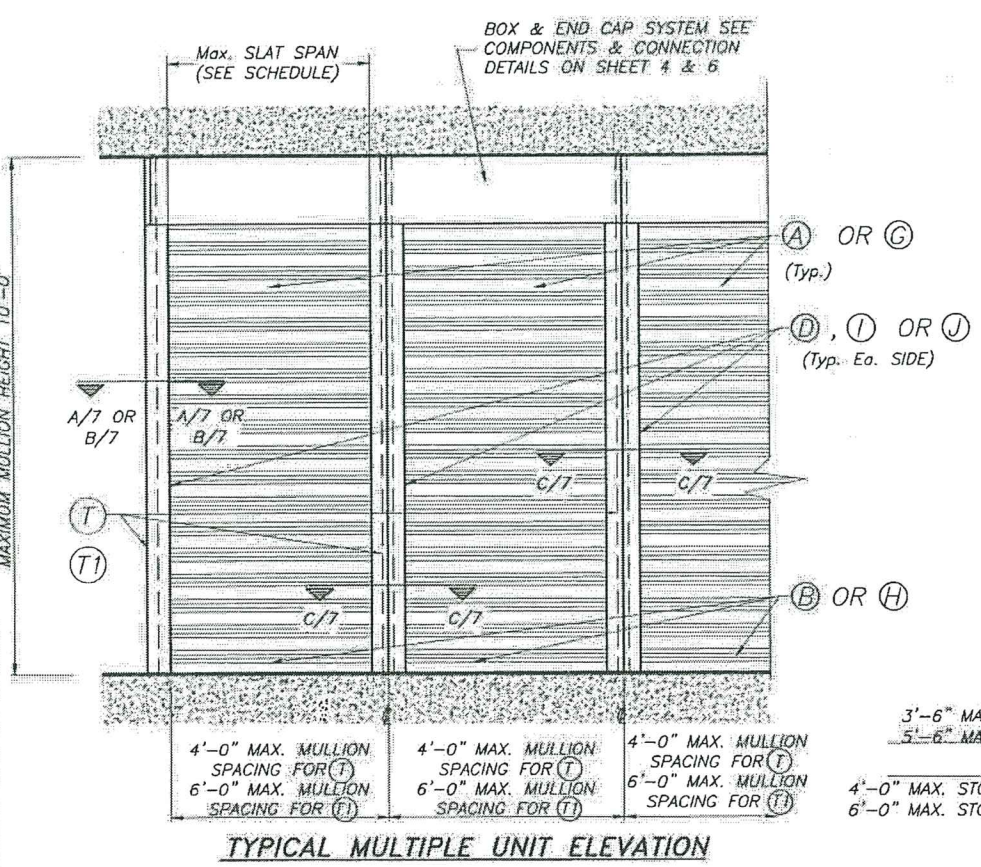
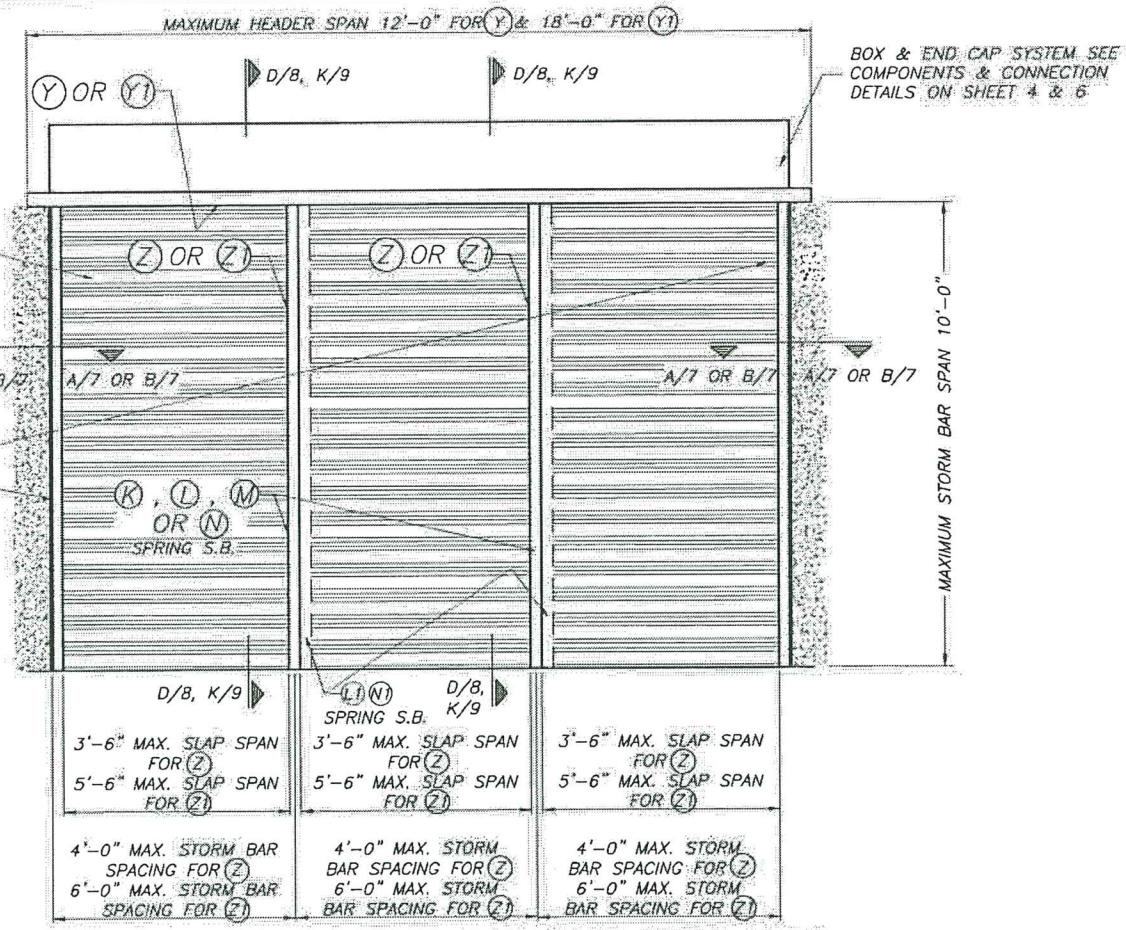
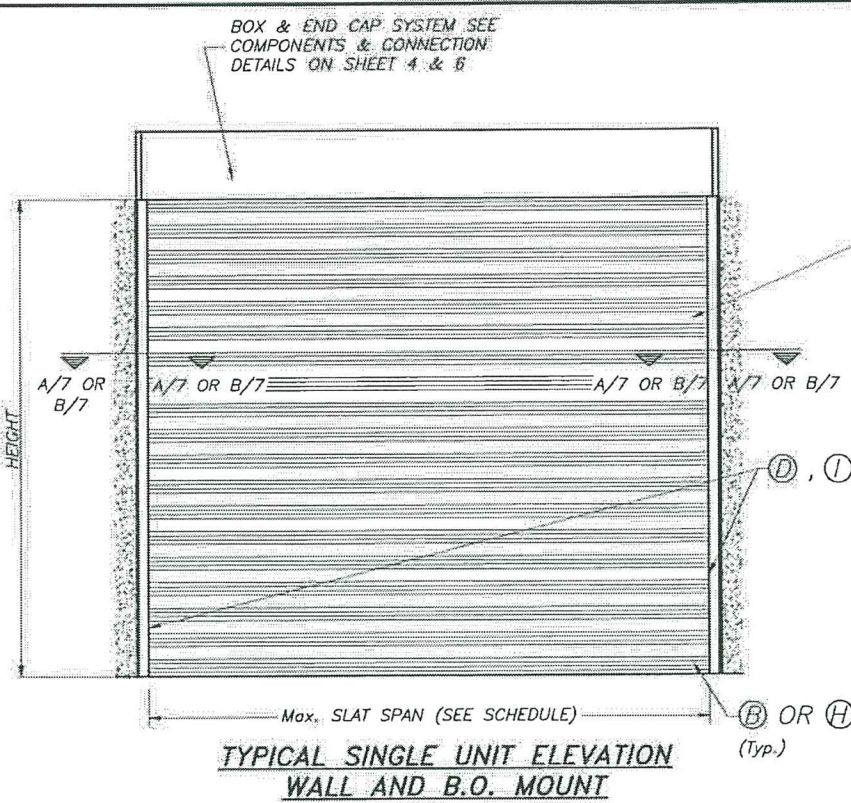
V.M. Engineering Inc.
C. of A. No. 27633
11278 S.W. 153rd Place
MIAMI, FLORIDA 33196
TEL: 786-281-6968
TEL: 305-383-5806



PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 20-0929.18
Expiration Date 03/05/2025
By Heidi A. Mah
Miami Dade Product Control

MIAMI-DADE COUNTY

SCALE: N.T.S.
DATE: 09-24-2020
F.B.C.
(High Velocity Hurricane Zone)
DWG No: 172-2020
SHEET 1 OF 11

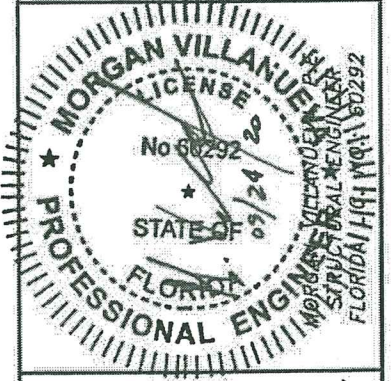


40mm & 55mm END RETAINER ROLL-DOWN SHUTTER

ROLLINGSIELD INC.
PHONE (305) 436-6661 FAX (305) 436-5523
8875 NW 79th AVE
Hialeah Gardens, FL 33016
www.rollingsield.com

REV. No	DESCRIPTION	DATE
1	RENEWAL AS PER FBC 2020 09-24-2020	
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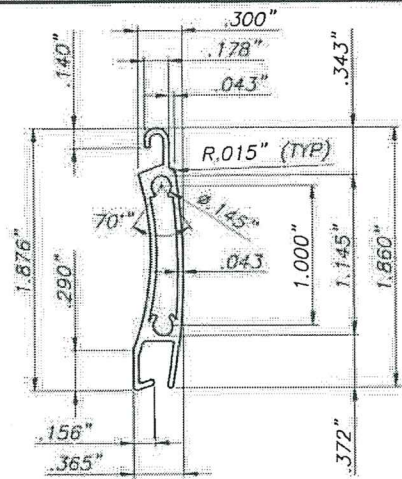
V.M. Engineering Inc.
C. of A. No. 27633
11278 S.W. 153rd Place
MIAMI, FLORIDA 33196
TEL: 786-281-6968
TEL: 305-383-5896



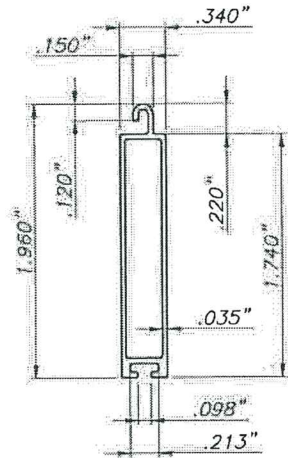
PRODUCT REVISED as complying with the Florida Building Code
Acceptance No 20-0929.18
Expiration Date 03/05/2025
By *Heidy A. Miller*
Miami Code Product Control

MIAMI - DADE COUNTY

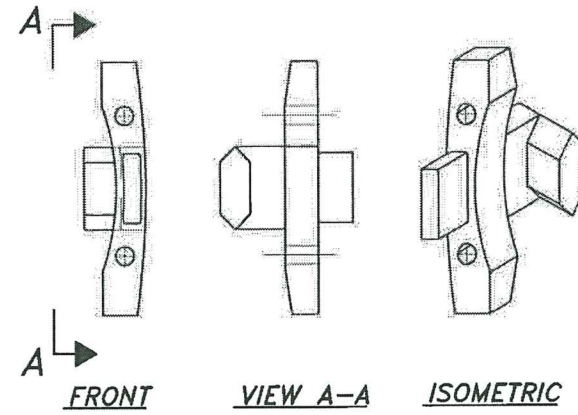
SCALE:	N.T.S.
DATE:	09-24-2020
	F.B.C. (High Velocity Hurricane Zone)
DWG No:	172-2020
SHEET	2 OF 11



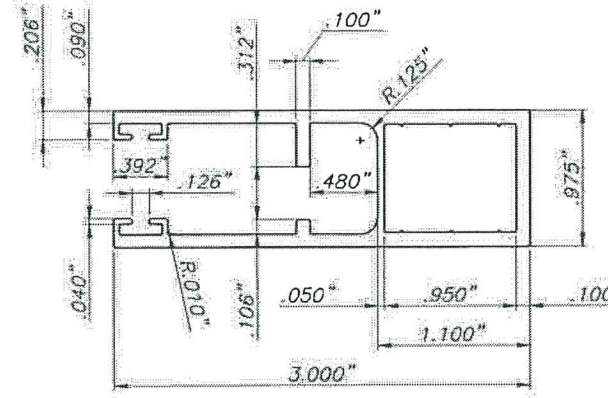
(A) TYPE 1 SLAT:
EXTRUDED ALUMINUM
40mm SLAT



(B) TYPE 2 SLAT:
EXTRUDED ALUMINUM
BOTTOM 40mm SLAT

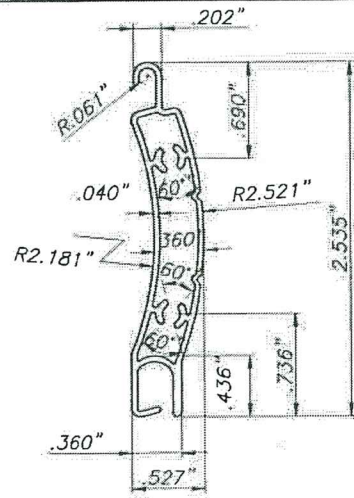


(C) NYLON END RETAINER CAP
ONE AT EACH END OF EVERY OTHER
SLAT, EACH FASTENED WITH TWO No.
8 BY 1 1/4" PAN HEAD S.D.S
FOR 40MM SLAT

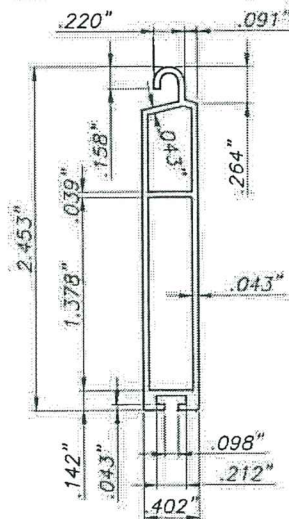


(D) SIDE RAIL TYPE 1
EXTRUDED ALUMINUM
FOR 40mm SLAT

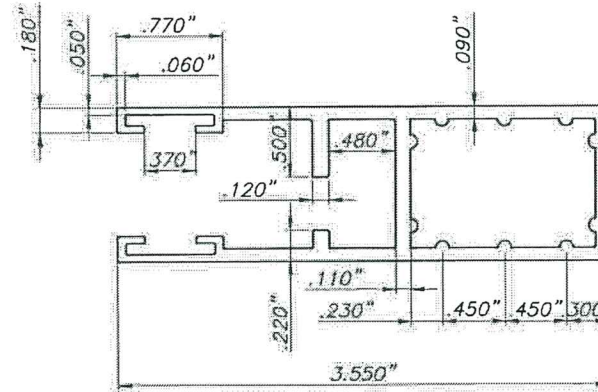
**COMPONENTS
FOR 40mm**



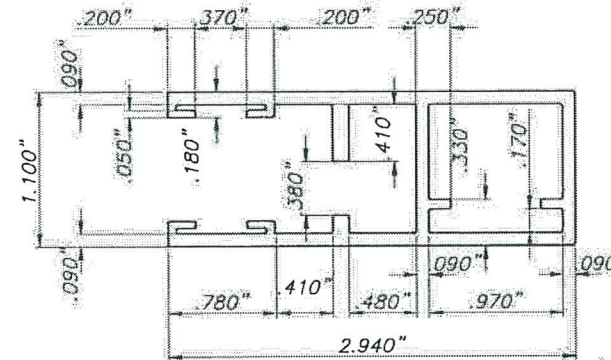
(G) TYPE 3 SLAT
EXTRUDED ALUMINUM
55mm SLAT



(H) TYPE 3 SLAT:
EXTRUDED ALUMINUM
BOTTOM 55mm SLAT

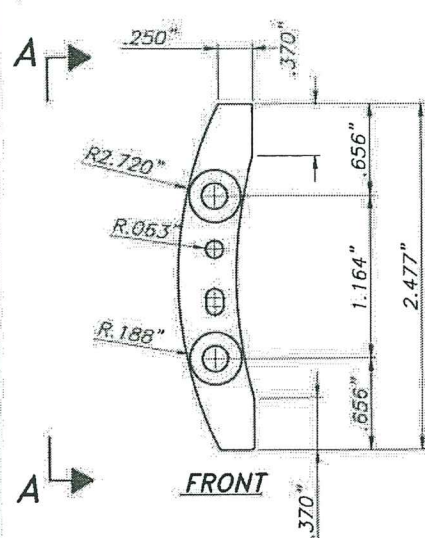


(I) SIDE RAIL TYPE 2
EXTRUDED ALUMINUM
SIDE RAIL 55mm SLAT

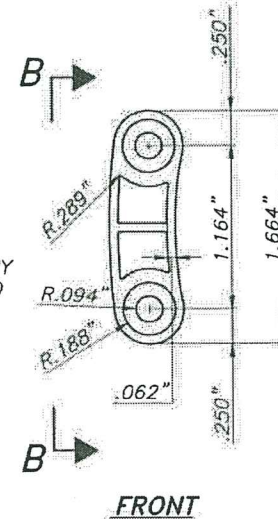
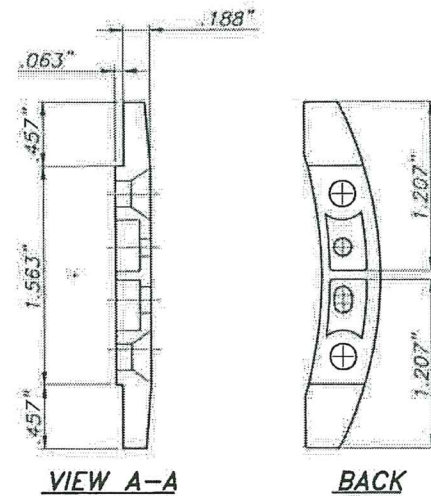


(J) SIDE RAIL TYPE 3
EXTRUDED ALUMINUM
SIDE RAIL 55mm SLAT

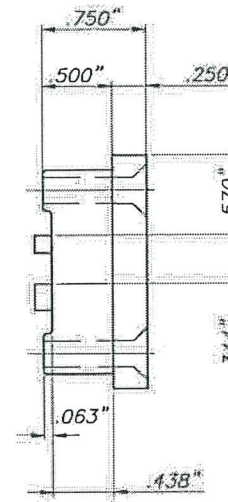
**COMPONENTS
FOR 55mm**



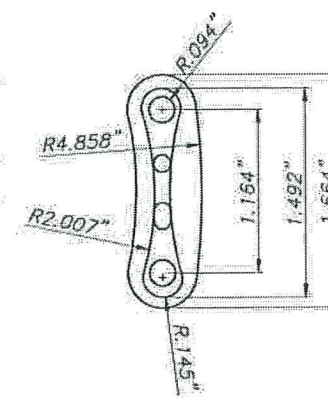
(K) NYLON END RETAINER CAP
TWO NYLON RETAINER CLIPS FORMING
ONE PIECE, ONE AT EACH END OF EVERY
OTHER SLAT, EACH FASTENED WITH TWO
No. 6 BY 2" PAN HEAD S.D.S
FOR 55MM SLAT



FRONT



VIEW B-B

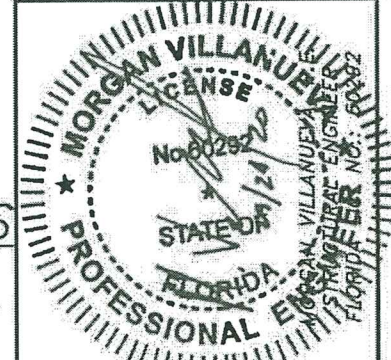
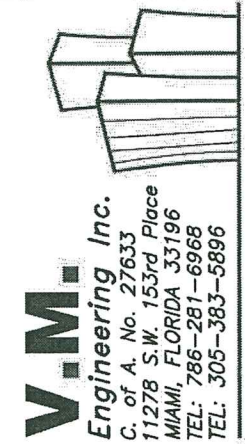


BACK

**40mm & 55mm END RETAINER
ROLL-DOWN SHUTTER**

ROLLINGSHIELD INC.
PHONE (305) 436-6661 FAX (305) 436-5523
9875 NW 79th AVE
Hialeah Gardens, FL 33016
www.rollingshield.com

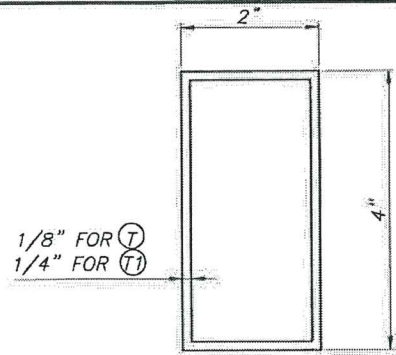
REV. No	DESCRIPTION	DATE
1	RENEWAL AS PER FBC 2020 09-24-2020	
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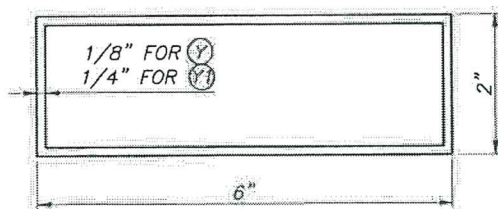
PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 20-0929.18
Expiration Date 03/05/2025
By *[Signature]*
Miami Code Product Control

MIAMI-DADE COUNTY

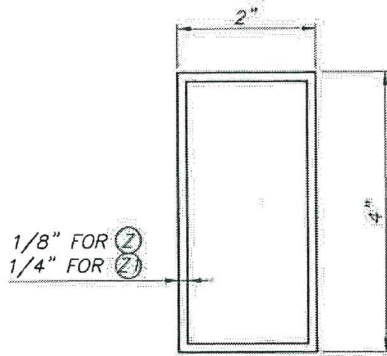
SCALE:	N.T.S.
DATE:	09-24-2020
F.B.C. (High Velocity Hurricane Zone)	
DWG No:	172-2020
SHEET	3 OF 11



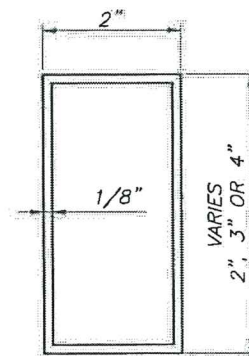
- (T) 2"x4"x1/8" ALUM. MULLION
 - (T1) 2"x4"x1/4" ALUM. MULLION
- EXTRUDED ALUMINUM



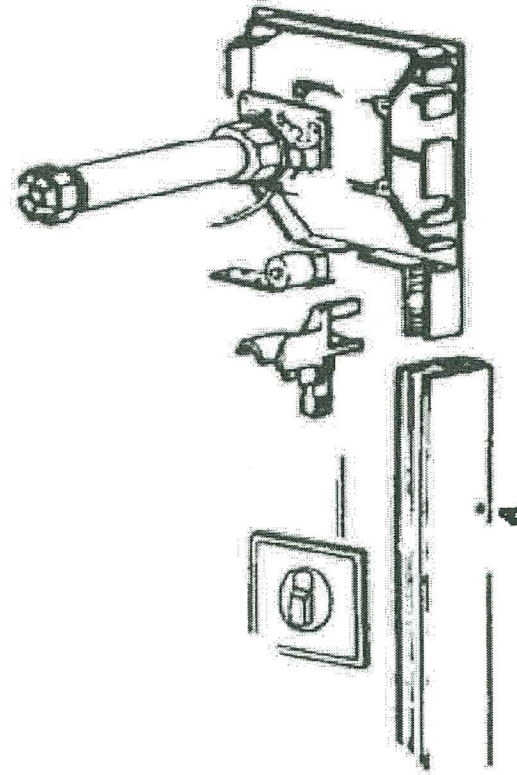
- (Y) 2"x6"x1/8" ALUM. HEADER
 - (Y1) 2"x6"x1/4" ALUM. HEADER
- EXTRUDED ALUMINUM



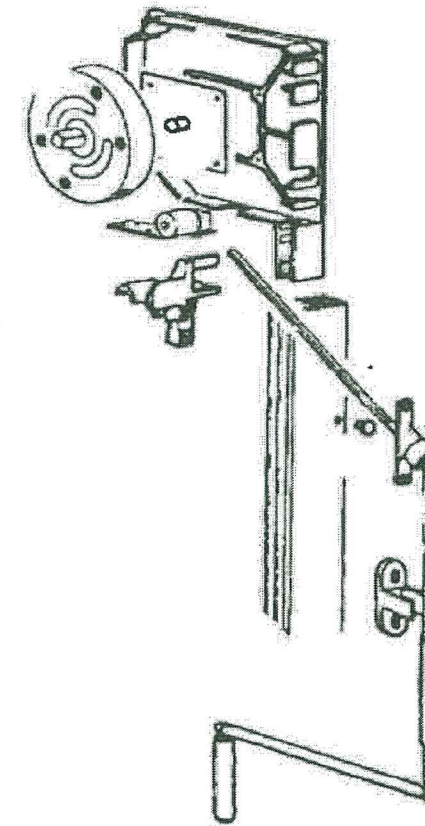
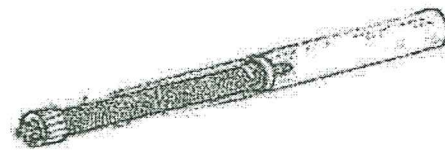
- (Z) 2"x4"x1/8" ALUM. STORM BAR
 - (Z1) 2"x4"x1/4" ALUM. STORM BAR
- EXTRUDED ALUMINUM



- (X) 2"x4"x1/8" ALUM. B.O. TUBE
- EXTRUDED ALUMINUM



MOTORIZED ROLL-UP SHUTTER SYSTEM



HAND CRANK ROLL-UP SHUTTER SYSTEM

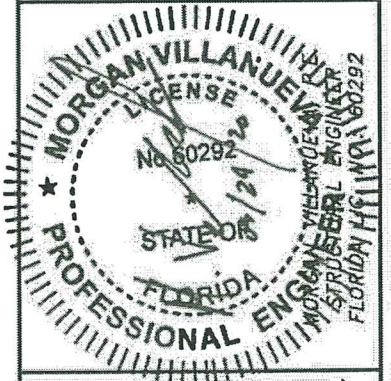
ALTERNATE ROLL-UP SHUTTER LIFTING MECHANISMS

40mm & 55mm END RETAINER
ROLL-DOWN SHUTTER

ROLLINGSIELD INC.
PHONE (305) 436-6661 FAX (305) 436-5523
9875 NW 79th AVE
Hialeah Gardens, FL 33016
www.rollingsield.com

REV. No	DESCRIPTION	DATE
1	RENEWAL AS PER FBC 2020	09-24-2020
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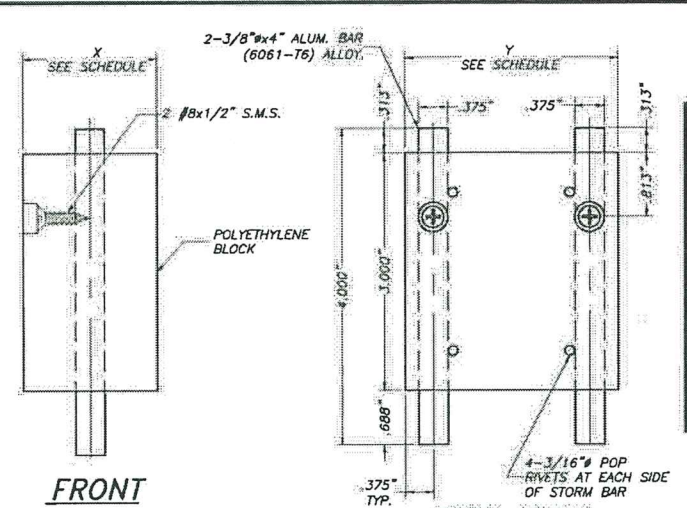
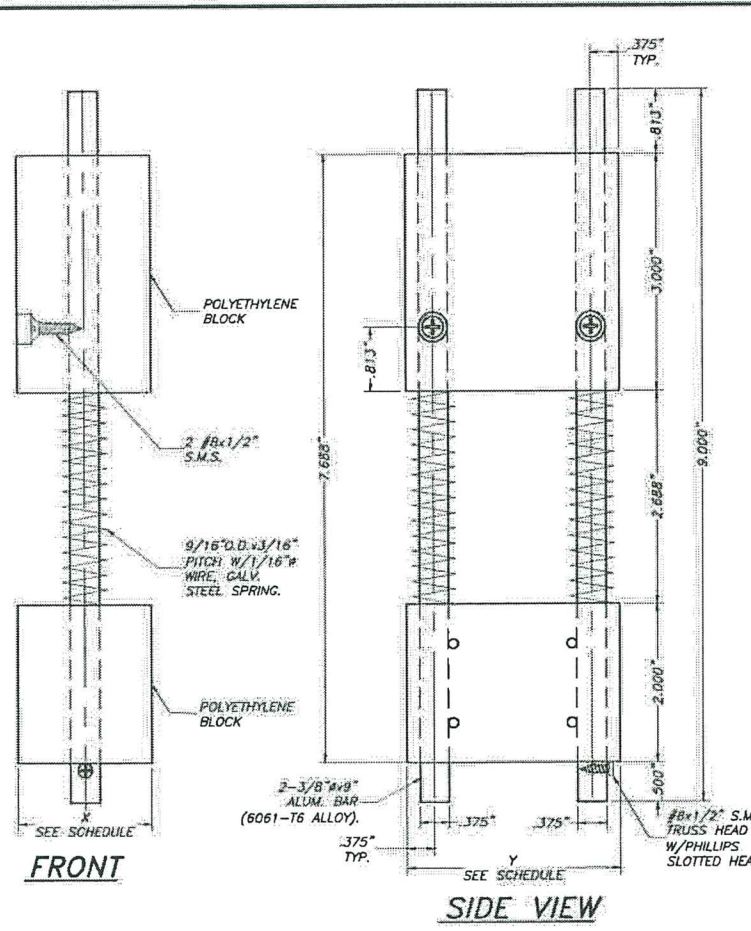
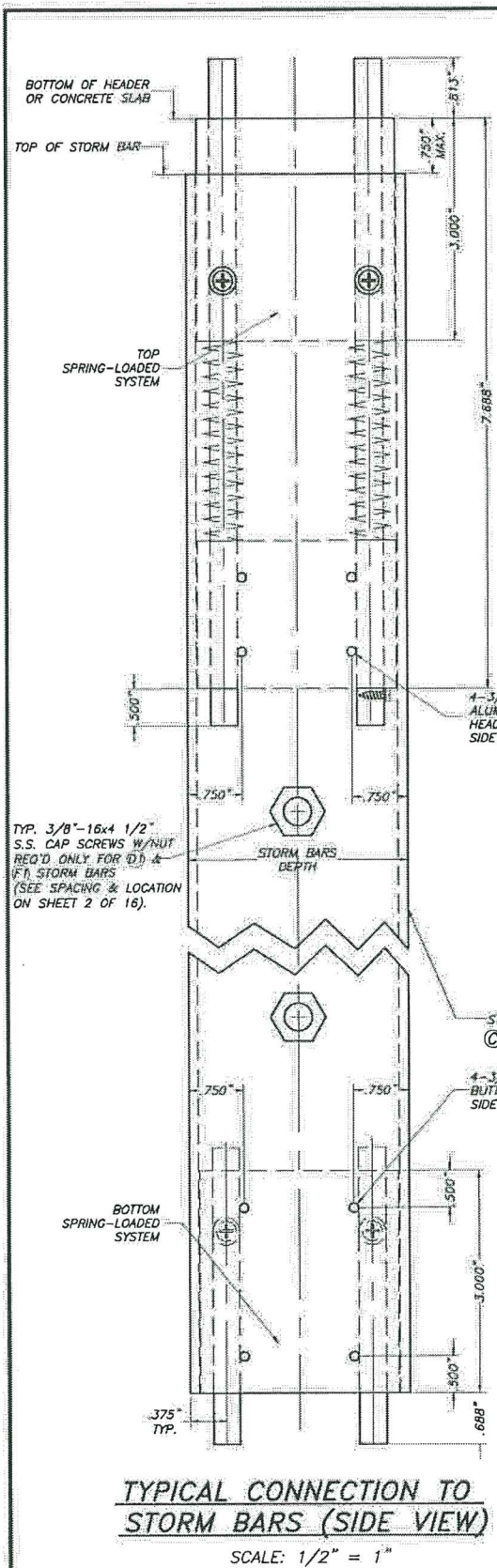
V.M. Engineering Inc.
C. of A. No. 27633
11278 S.W. 153rd Place
MIAMI, FLORIDA 33196
TEL: 786-281-6968
TEL: 305-383-5896



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Expiration Date 03/05/2025
By *Heidi A. Miller*
Miami Dade Product Control

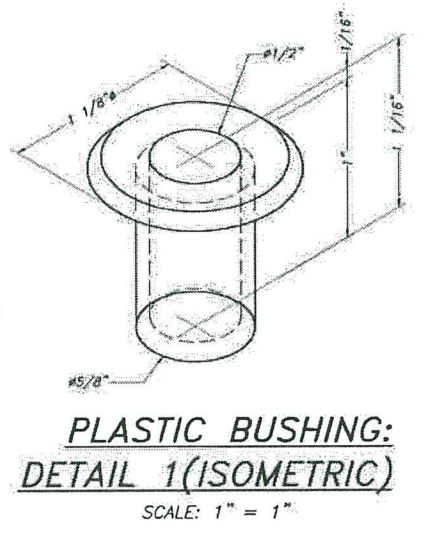
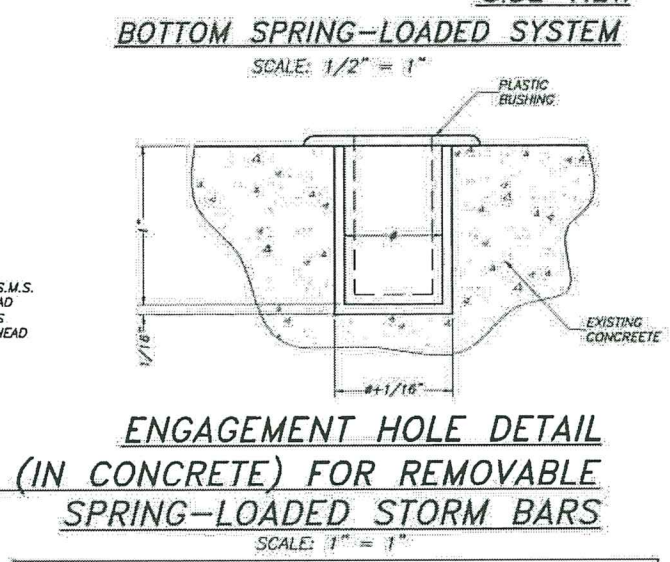
MIAMI-DADE COUNTY

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DATE: 09-24-2020
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(High Velocity Hurricane Zone)
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SHEET 4 OF 11



X, Y DIMENSIONS FOR A GIVEN TYPE OF STORM BAR

STORM BAR TYPE	X(in)	Y(in)
(K)	1 19/32"	1 19/32"
(L)	1 23/32"	2 23/32"
(M)	1 23/32"	3 23/32"
(N)	1 15/32"	3 15/32"
(LI)	1 23/32"	2 23/32"
(NI)	1 15/32"	3 15/32"



NOTES:

- (1) ENGAGEMENT HOLE DRILLED IN CONCRETE SHALL BE 5/8" x 1" DEEP, W/ 1/16" MAX. TOLERANCE IN BOTH DIAMETER & DEPTH.
- (2) ENGAGEMENT HOLE DRILLED IN CONCRETE SHALL BE PERMANENTLY PROTECTED BY FITTING PLASTIC BUSHING (SEE DETAIL 1) INTO HOLE. IT SHALL BE THE RESPONSIBILITY OF SHUTTERS'S OWNER TO PERMANENTLY KEEP BUSHING FREE OF DUST & MOLD BY REMOVING IT FROM ENGAGEMENT HOLE, CLEANING IT AND REPOSITIONING IT INTO HOLE AS INDICATED ON ABOVE DETAIL.

TYPICAL SPRING-LOADED SYSTEM FOR REMOVABLE STORM BARS AS ALTERNATE TO THE USE OF CALK-IN ANCHORS

40mm & 55mm END RETAINER ROLL-DOWN SHUTTER

ROLLINGSHIELD INC.
PHONE (305) 436-6661 FAX (305) 436-5623
8875 NW 79th AVE
Hialeah Gardens, FL 33016
www.rollingshield.com

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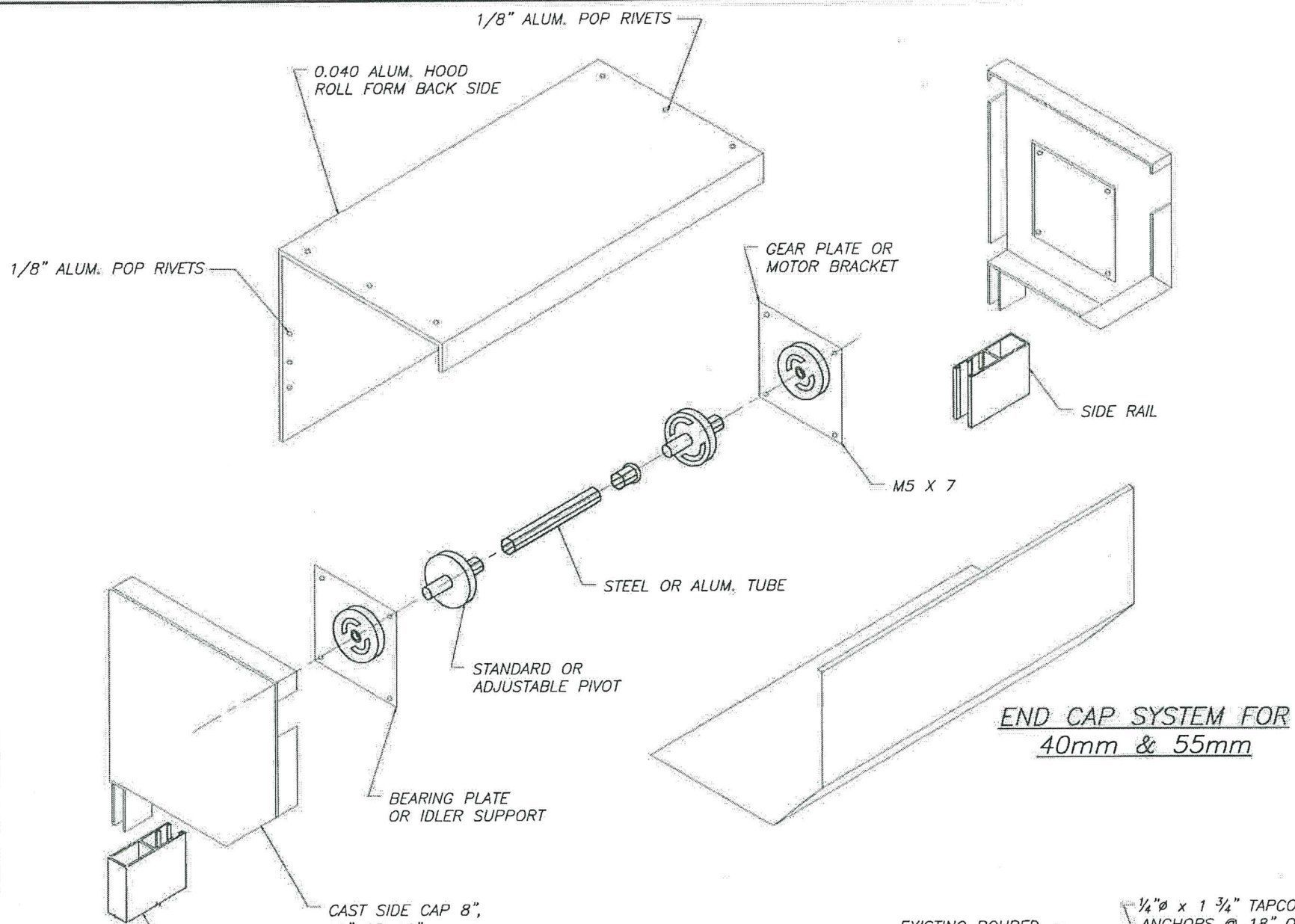
V.M. Engineering Inc.
C. of A. No. 27633
11278 S.W. 153rd Place
MIAMI, FLORIDA 33196
TEL: 786-281-6968
TEL: 305-383-5896

MORGAN VILLANUEVA
LICENSE No. 0020240
STATE OF FLORIDA
PROFESSIONAL ENGINEER
MORGAN VILLANUEVA ENGINEERING
STRIPHER ENGINEERING
FLORIDA THE NO. 1

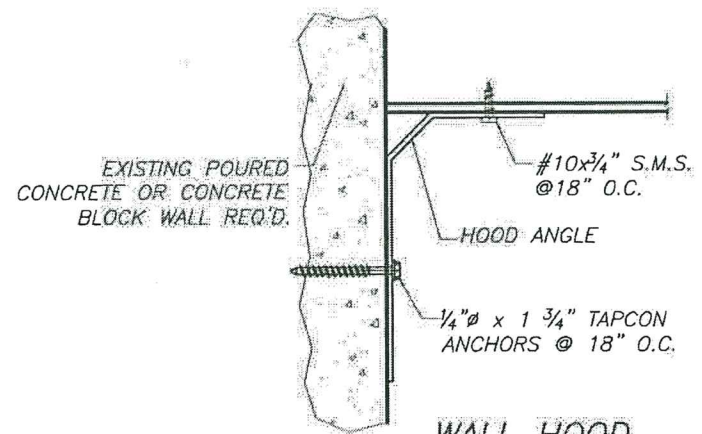
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By *Heidi A. Miller*
Miami Trade Product Control

MIAMI-DADE COUNTY

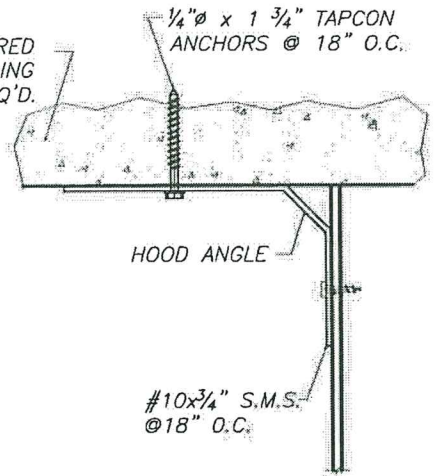
SCALE: N.T.S.
DATE: 09-24-2020
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(High Velocity Hurricane Zone)
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SHEET 5 OF 11



**END CAP SYSTEM FOR
40mm & 55mm**

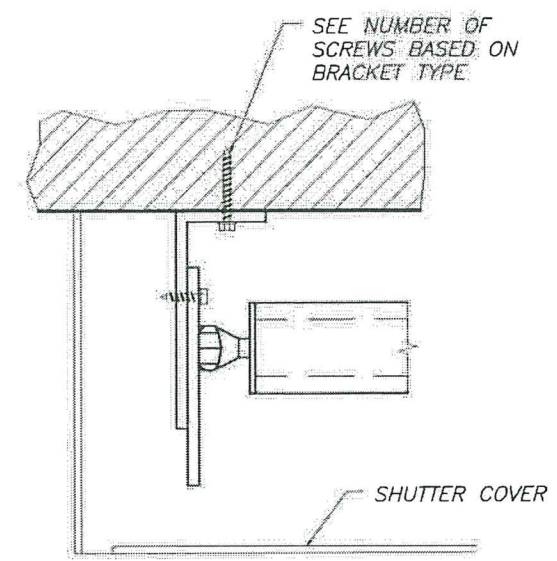


**WALL HOOD
ATTACHMENT**



**CEILING HOOD
ATTACHMENT**

CUSTOM HOOD ATTACHMENT DETAIL



WALL INSTALLATION

BRACKET SYSTEM

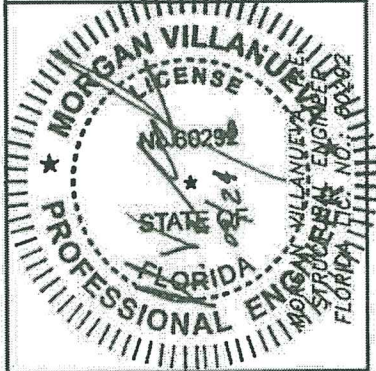
- UP TO 100 LBS SHUTTER WEIGHT
MIN. 2 ANCHORS 1/4"Ø x 1 3/4"
TAPCON OR 3 S.D.S. 1/4"Ø x 1"
- UP TO 200 LBS SHUTTER WEIGHT
MIN. 3 ANCHORS 5/16"Ø x 2 1/4"
TAPCON OR 4 S.D.S. 1/4"Ø x 1"
- UP TO 350 LBS SHUTTER WEIGHT
MIN. 4 ANCHORS 5/16"Ø x 2 1/4"
TAPCON OR 6 S.D.S. 1/4"Ø x 1"

**40mm & 55mm END RETAINER
ROLL-DOWN SHUTTER**

ROLLINGSHIELD INC.
PHONE (305) 436-6661 FAX (305) 436-5523
9875 NW 79th AVE
Hialeah Gardens, FL 33016
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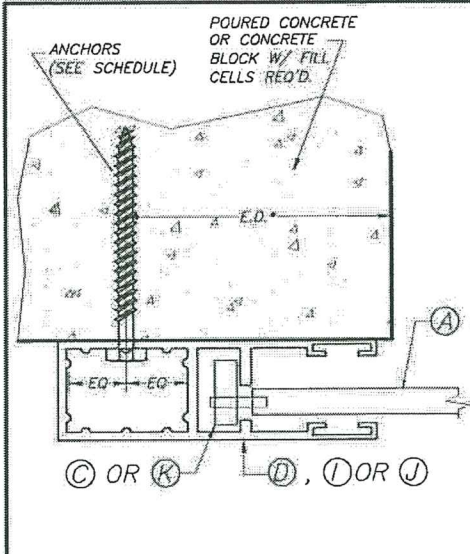
V.M. Engineering Inc.
C. of A. No. 27633
11278 S.W. 153rd Place
MIAMI, FLORIDA 33196
TEL: 786-281-6968
TEL: 305-383-5896



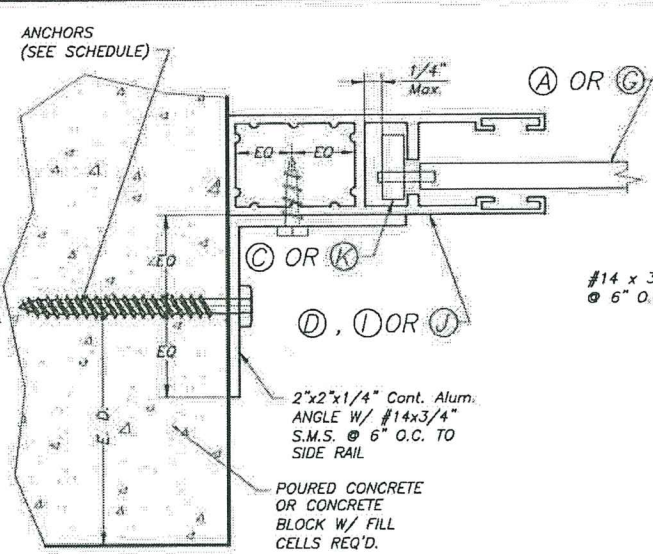
PRODUCT REVISED
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Building Code
Acceptance No **20-0929.18**
Expiration Date **03/05/2025**
By *[Signature]*
Miami Dade Product Control

MIAMI-DADE COUNTY

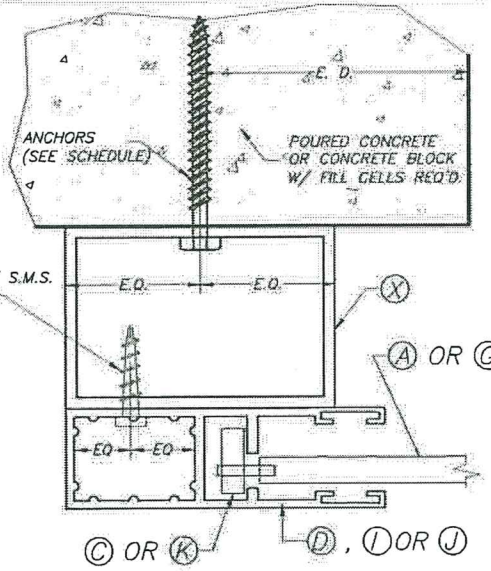
SCALE: N.T.S.
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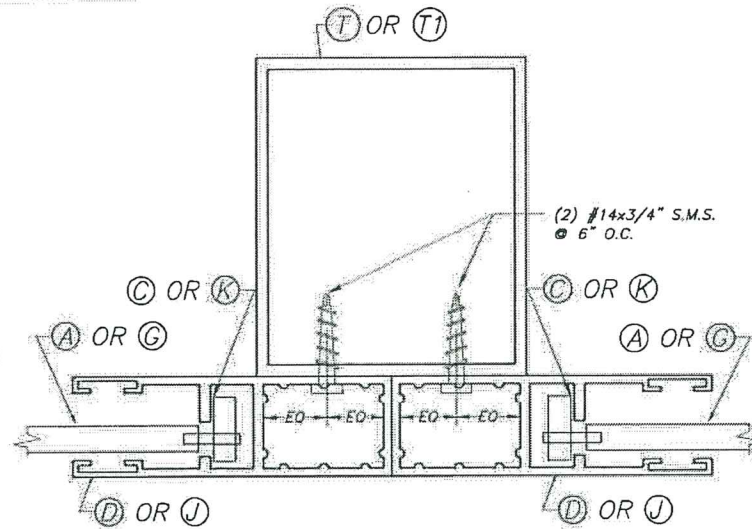
SECTION A-A : WALL MOUNT



SECTION A-A: INSIDE MOUNT



SECTION B-B: BUILD-OUT MOUNT



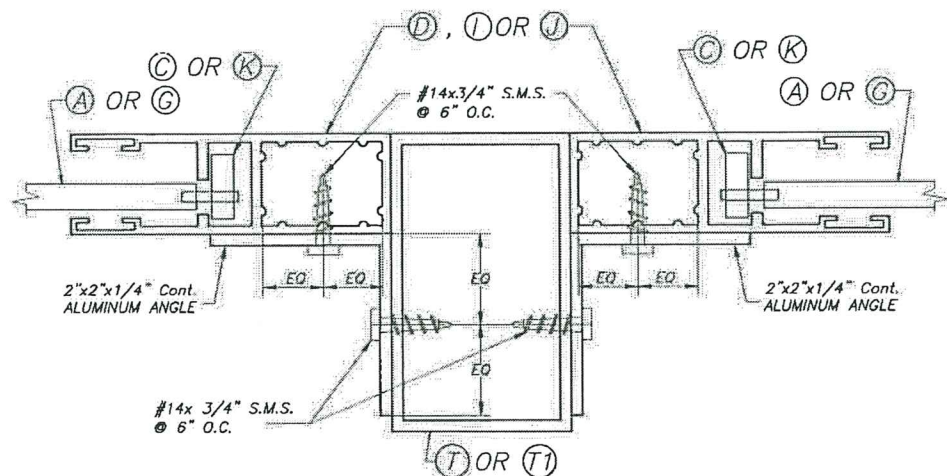
SECTION C-C: MULLION MOUNT FACE MOUNT

SIDE RAIL ANCHOR SCHEDULE MAXIMUM ALLOWABLE SERVICE DESIGN PRESSURE RATING "W" (p.s.f.) AND CORRESPONDING MAXIMUM ANCHOR SPACING (in) * FOR SIDE RAILS (D), (I) & (J) CONNECTIONS TO CONCRETE BLOCK OR POURED CONCRETE (USE NEGATIVE PRESSURE VALUES AS PER ASCE 7-16)

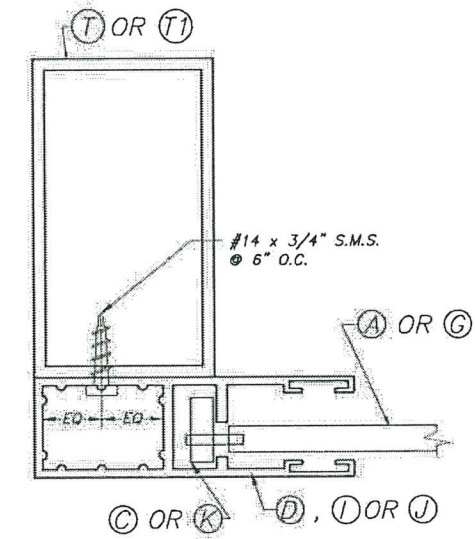
MAXIMUM ALLOWABLE DESIGN LOAD "W" (p.s.f.)	SIDE RAIL (D) USE ONLY #14 S.M.S. TAPCONS ANCHORS W/ 1 3/4" MIN. EMBEDMENT FOR MIN. E.D. SEE NOTES BELOW FOR 40mm SLAT ONLY			SIDE RAIL (I) USE ONLY #14 S.M.S. TAPCONS ANCHORS W/ 1 3/4" MIN. EMBEDMENT FOR MIN. E.D. SEE NOTES BELOW FOR 55mm SLAT ONLY			SIDE RAIL (J) USE ONLY #14 S.M.S. TAPCONS ANCHORS W/ 1 3/4" MIN. EMBEDMENT FOR MIN. E.D. SEE NOTES BELOW FOR 55mm SLAT ONLY		
	WALL MOUNT	INSIDE MOUNT	BUILD-OUT MOUNT	WALL MOUNT	INSIDE MOUNT	BUILD-OUT MOUNT	WALL MOUNT	INSIDE MOUNT	BUILD-OUT MOUNT
70 OR LESS	6"	6"	6"	6"	6"	6"	6"	6"	6"

MAXIMUM ANCHOR SPACING FOR TAPCON, MAXI-SET TAPCONS OR CRETE-FLEX SS4 ARE VALID FOR 3 1/2" EDGE DISTANCE. FOR EDGE DISTANCE LESS THAN 3 1/2" REDUCE ANCHOR SPACING BY MULTIPLYING SPACING GIVEN ON SCHEDULE BY THE BELLOW FACTORS. THE MINIMUM ANCHOR SPACING FOR TAPCON, MAXI-SET TAPCONS OR CRETE-FLEX SS4 IS 3" O.C.

EXISTING E. D.	FACTOR
3"	.90
2 1/2"	.75
2"	.50



SECTION C-C: MULLION MOUNT (INSIDE MOUNT)



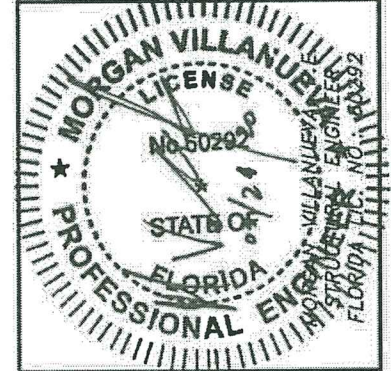
SECTION C-C: MULLION MOUNT (FACE MOUNT)

40mm & 55mm END RETAINER ROLL-DOWN SHUTTER

ROLLINGSIELD INC.
 PHONE (305) 436-6661 FAX (305) 436-5523
 9875 NW 79th AVE
 Hialeah Gardens, FL 33016
 www.rollingsield.com

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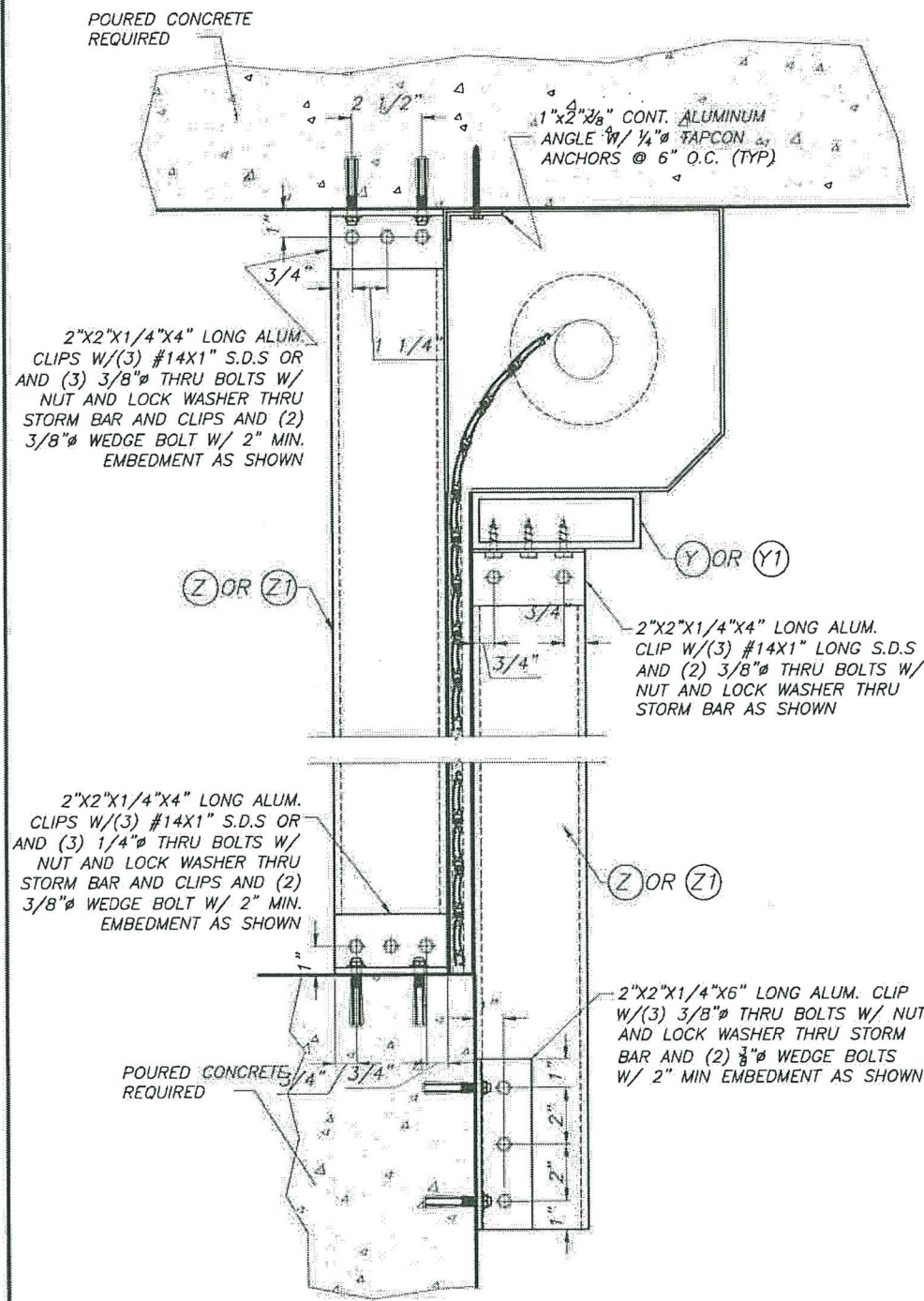
V.M. Engineering Inc.
 C. of A. No. 27633
 11278 S.W. 153rd Place
 MIAMI, FLORIDA 33196
 TEL: 786-281-6968
 TEL: 305-383-5896



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 By *Helga P. Miller*
 Miami Dade Product Control

MIAMI-DADE COUNTY

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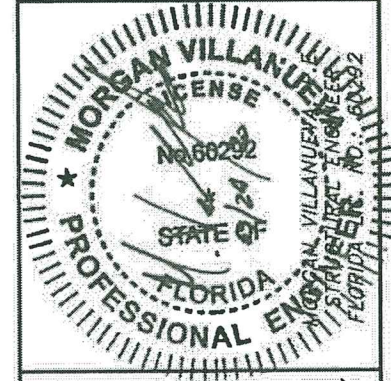
SECTION D-D

40mm & 55mm END RETAINER ROLL-DOWN SHUTTER

ROLLINGSHIELD INC.
PHONE (305) 436-6661 FAX (305) 436-5523
8875 NW 79th AVE
Hialeah Gardens, FL 33016
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By *Heidi D. Nish*
Miami Dade Product Control

MIAMI-DADE COUNTY

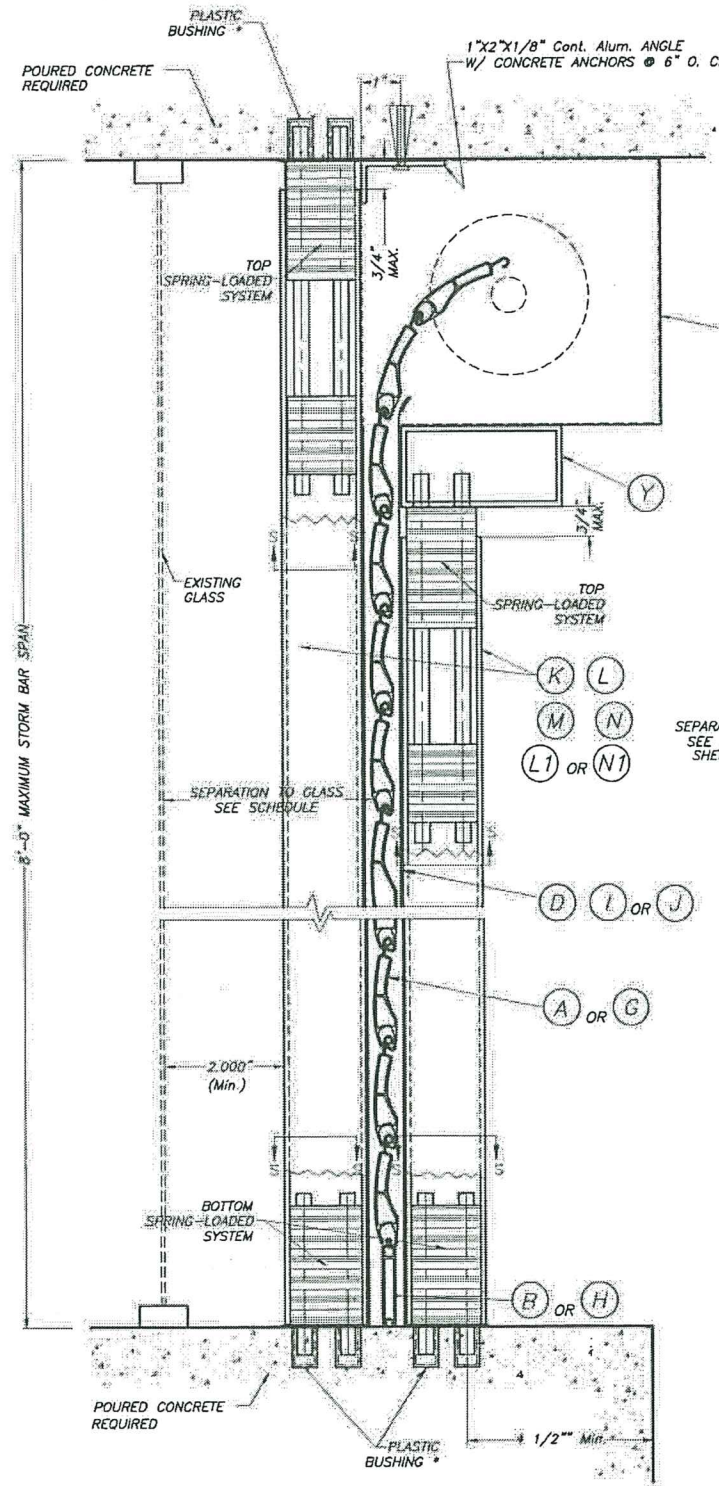
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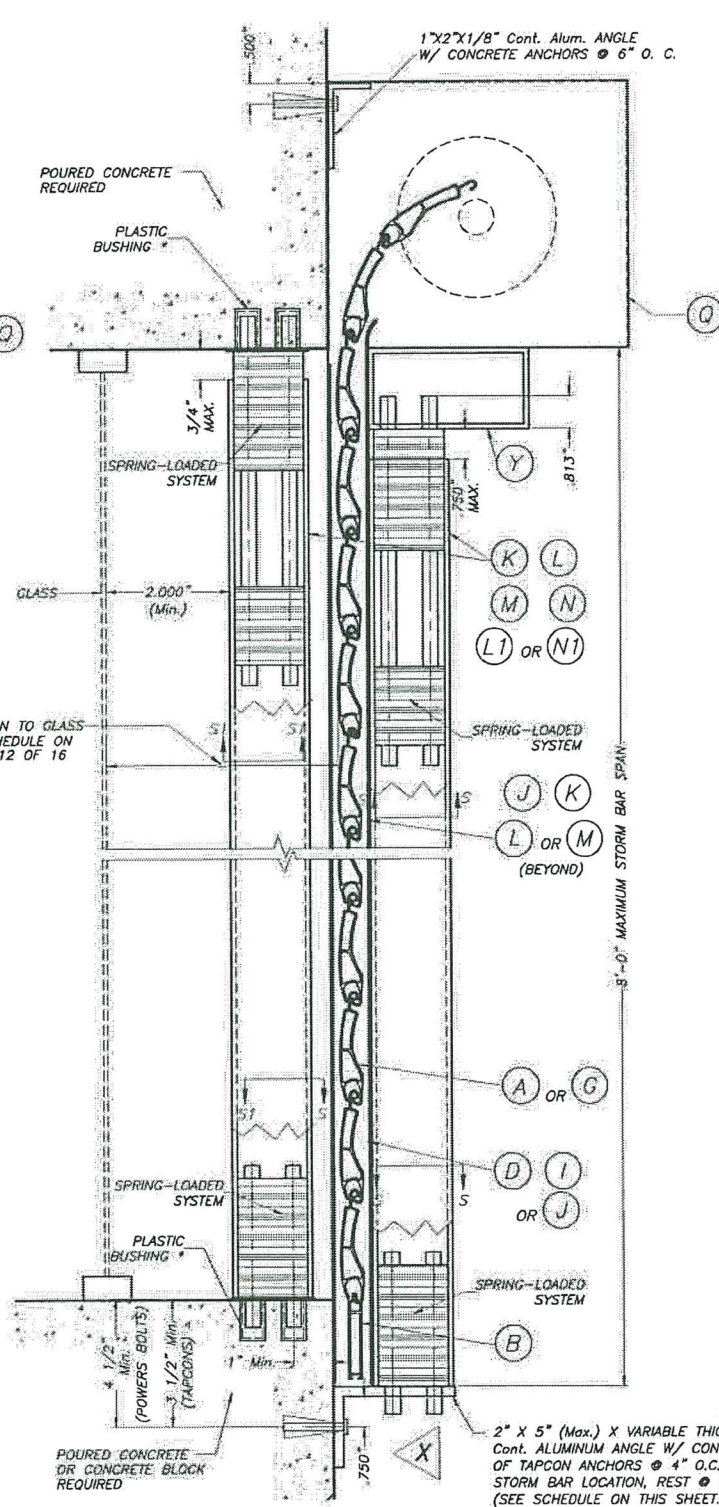
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(High Velocity Hurricane Zone)

DWG No: 172-2020

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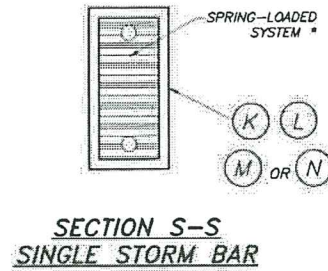
**CEILING & FLOOR MOUNTING INSTALLATION
W/REMOVABLE STORM BARS W/SPRING-LOADED SYSTEM***



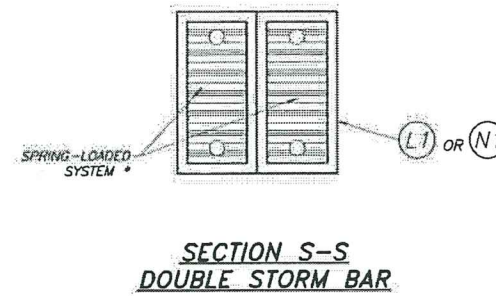
**WALL MOUNTING INSTALLATION
W/REMOVABLE STORM BARS W/SPRING-LOADED SYSTEM***

SECTIONS K - K

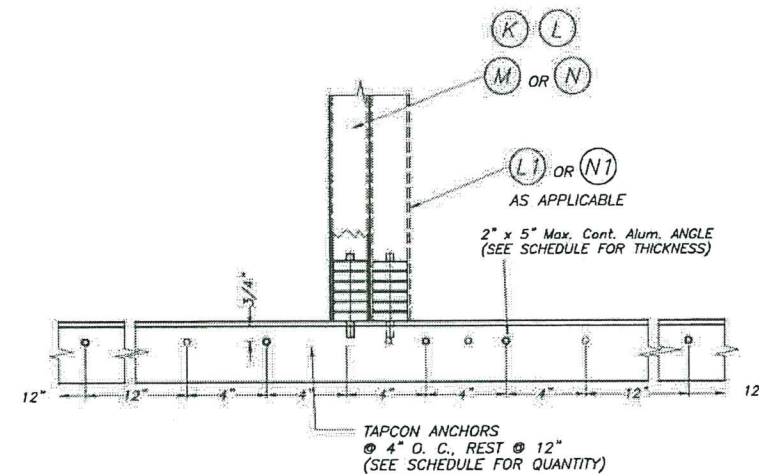
* SEE SHEET 9 OF 16 FOR SPECS. & DETAILS.



**SECTION S-S
SINGLE STORM BAR**



**SECTION S-S
DOUBLE STORM BAR**



ELEVATION X

ANCHOR & ANGLE SCHEDULE FOR ELEVATION X			
MAX. ALLOABLE DESIGN LOAD (psf)	ANCHOR TYPE & QUANTITY	ANGLE THICKNESS	STORM BAR TYPE
70.0 OR LESS **	(6) 1/4" TAPCONS	1/8"	(K) (L) (M) (N) (L1) (N1)

** W/ 4'-0" Max. SLAT SPAN & 8'-0" MAX. STORM BAR SPAN

40mm & 55mm END RETAINER ROLL-DOWN SHUTTER

ROLLINGSHIELD INC.
 PHONE (305) 436-6661 FAX (305) 436-5523
 5875 NW 79th AVE
 Hialeah Gardens, FL 33016
 www.rollingshield.com

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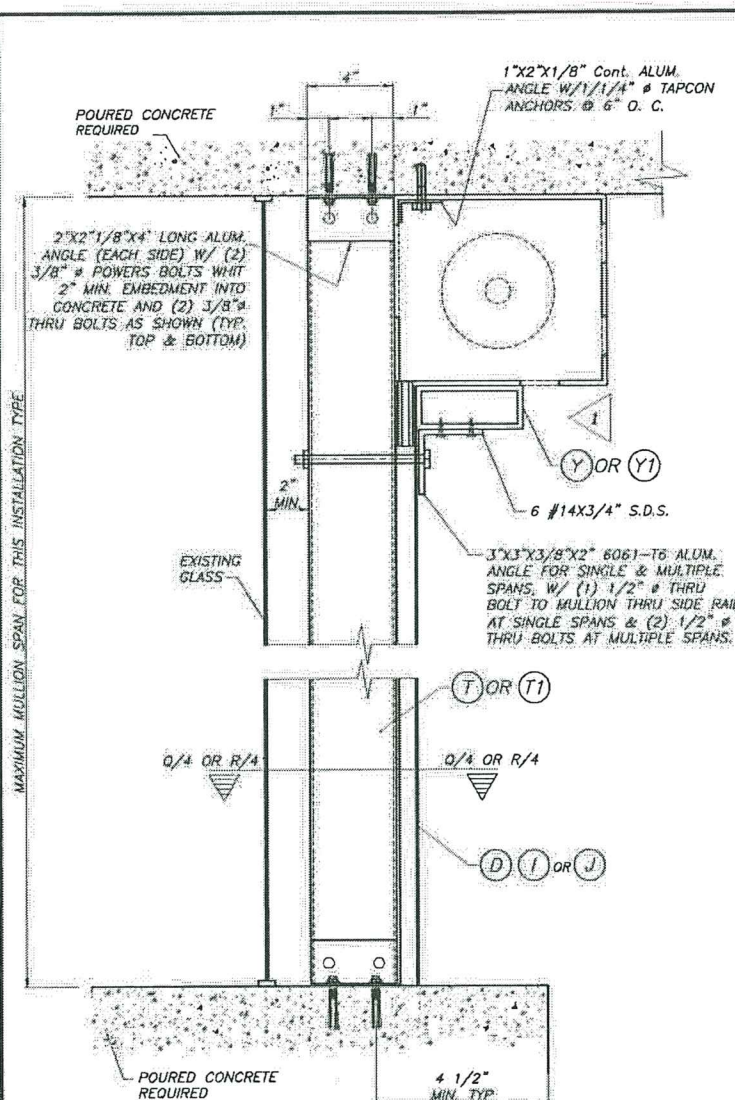
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 TEL: 786-281-6968
 TEL: 305-383-5896

MORGAN VILLANUEVA
 LICENSE No. 00292
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER
 STRUCUTURAL ENGINEER
 MORGAN VILLANUEVA, P.E.
 FLORIDA 11111

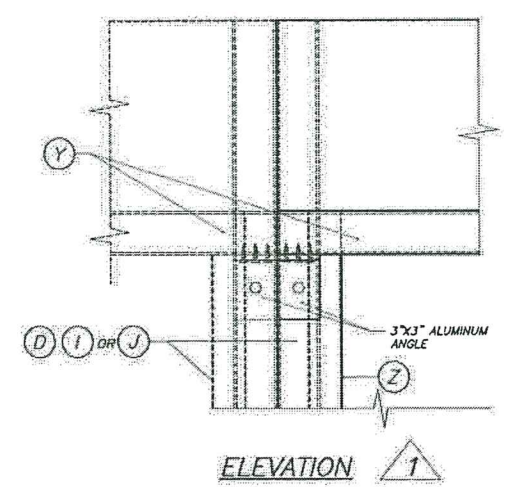
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 Miami Dade Product Control

MIAMI-DADE COUNTY

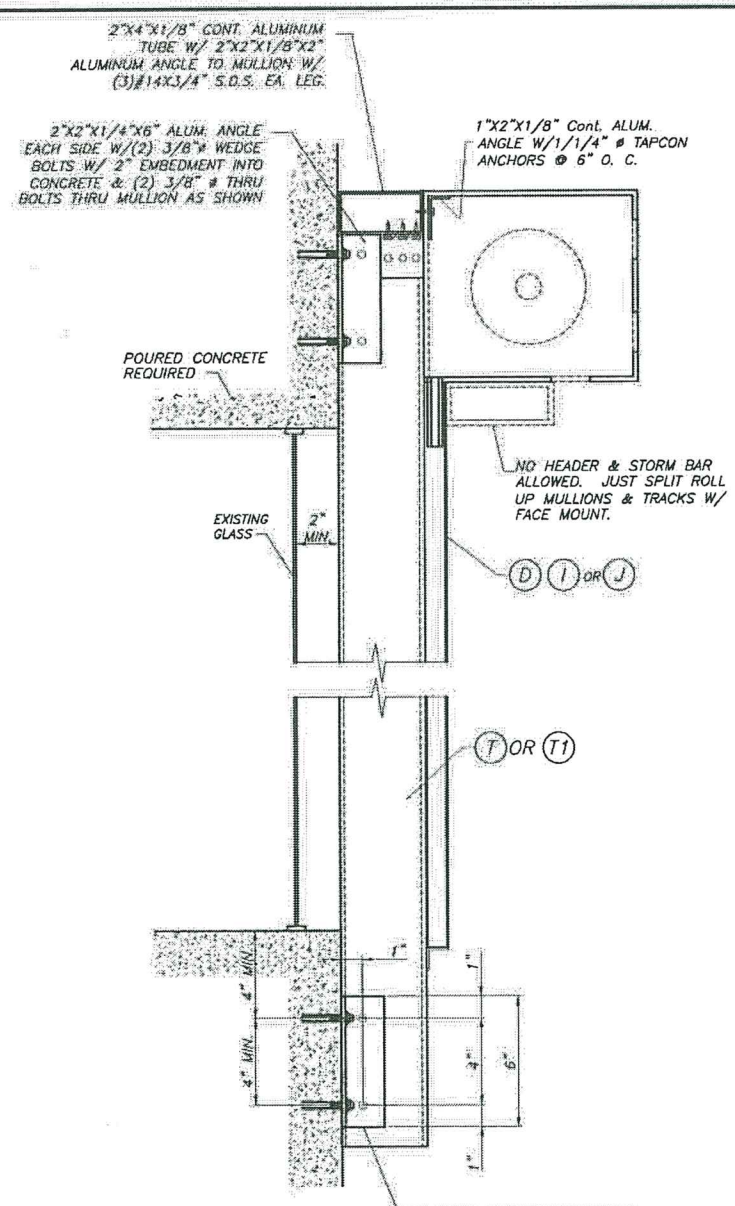
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MULLION CONNECTION
SECTION E-E
FLOOR/CEILING MOUNTING:
SECTION W OR W/O HEADER

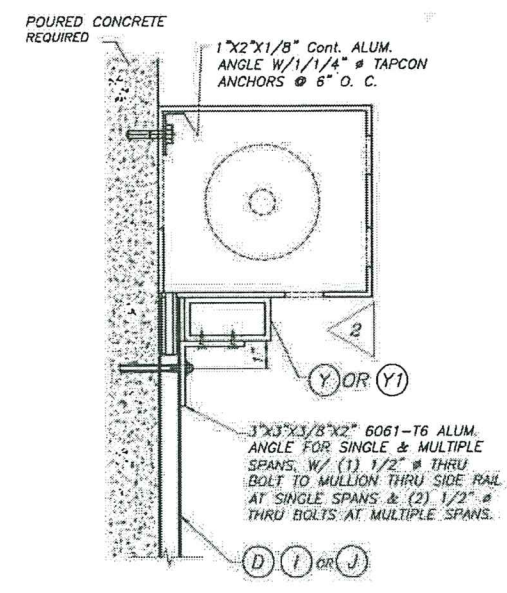


ELEVATION 1

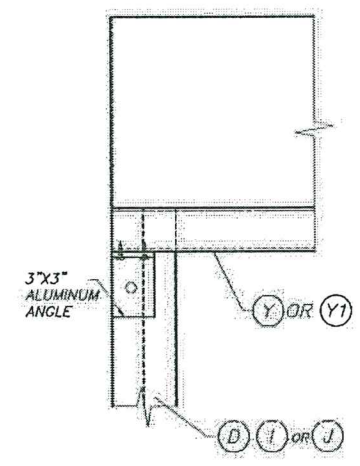


MULLION CONNECTION
SECTION E-E
WALL MOUNTING : MULLION CONNECTION
AT TOP & BOTTOM

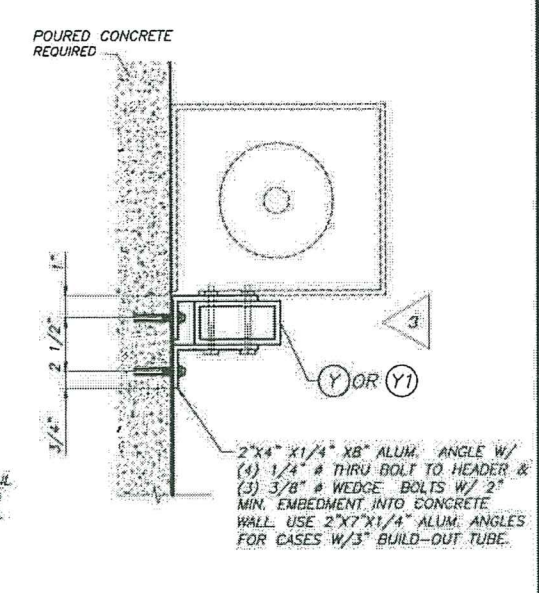
NOTE 1:
EXISTING WALL MAY BE POURED CONCRETE OR CONCRETE BLOCK
FOR DESIGN LOADS UP TO 150.0 psf AND SHALL BE POURED
CONCRETE OR CONCRETE FILLED BLOCKS FOR GREATER LOADS.



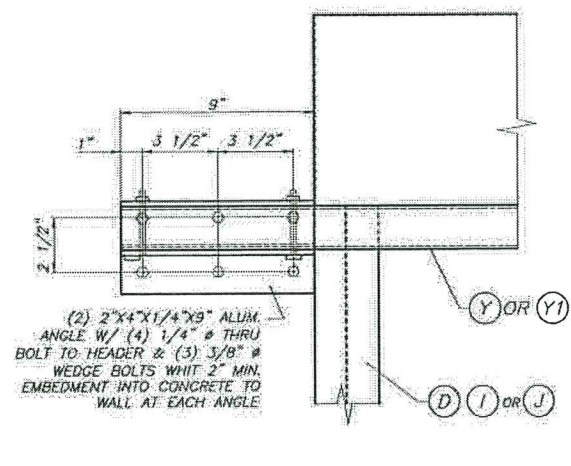
HEADER CONNECTION
WALL MOUNTING:
SECTION F1-F1



ELEVATION 2



HEADER CONNECTION
WALL MOUNTING:
SECTION F2-F2



ELEVATION 3

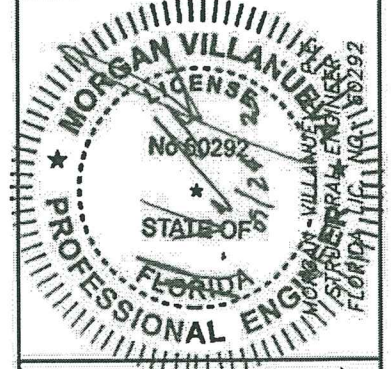
TYPICAL HEADER CONNECTION AT ENDS:
SECTIONS F-F

**40mm & 55mm END RETAINER
ROLL-DOWN SHUTTER**

ROLLINGSIELD INC.
PHONE (305) 436-6661 FAX (305) 436-5523
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Miami Dade Product Control

MIAMI-DADE COUNTY

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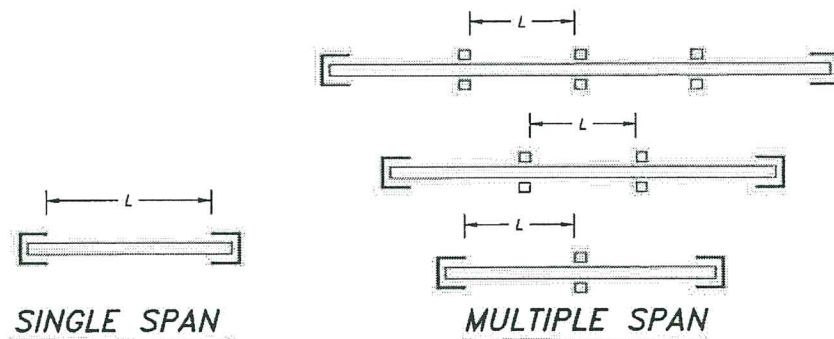
MAXIMUM NEGATIVE ULTIMATE DESIGN WIND PRESSURE RATING "W" (p.s.f.) AND CORRESPONDING MAXIMUM SLAT SPAN "L" FOR 40mm & 55mm SLATS

(USE NEGATIVE PRESSURE VALUES AS PER ASCE 7-16)

SLAT TYPE	Max. ALLOABLE DESIGN LOAD "W" (p.s.f.)	MAXIMUM SLAT SPAN	MINIMUM SEPARATION TO GLASS (in)
40mm	70 OR LESS	11'-6"	10.00
55mm	70 OR LESS	19'- 3 1/2"	17.85

NOTE: TO OBTAIN ULTIMATE PRESSURE DIVIDE THE ALLOWABLE SERVICE WIND PRESSURE BY 0.6 FACTOR

- * SPANS VALID FOR EVERY INSTALLATION LOCATED AT ANY ELEVATION OF BUILDING MEASURED AT BOTTOM OF SHUTTER. MINIMUM SEPARATION TO GLASS FOR SINGLE AND MULTIPLE UNITS SHALL BE MEASURED FROM BACK OF SLAT TO GLASS.
- ** MINIMUM SEPARATION TO GLASS FOR SHUTTERS INSTALLED WITHIN THE FIRST 30'-0" ELEVATION OF BUILDING AND MAXIMUM SPAN. SEE TABLE 1 FOR Min. SEPARATION TO GLASS FOR SPANS LESS THAN THE Max. ALLOWED.
- *** MINIMUM SEPARATION TO GLASS FOR SHUTTERS INSTALLED ABOVE 30'-0" ELEVATION OF BUILDING, MEASURED AT BOTTOM OF SHUTTER.



SPAN LAYOUT

SPRING LOADED STORM BAR

MAXIMUM DESIGN PRESSURE RATING "W" (p.s.f.) AND CORRESPONDING MAXIMUM SPAN "L" FOR A GIVEN TYPE OF STORM BAR AND STORM BAR SPACING.

(USE NEGATIVE PRESSURE VALUES AS PER ASCE 7-16)

MAX. SPAN FOR STORM BARS W/SPRING-LOADED SYSTEM

MAXIMUM ALLOWABLE DESIGN LOAD "W" (p.s.f.)	TYPE 1 STORM BAR 2" x 2" x .188"		TYPE 2 STORM BAR 2" x 3" x .125"		TYPE 3 STORM BAR 2" x 4" x .125"		TYPE 4 STORM BAR 2" x 4" x .250"		TYPE 5 STORM BAR (2) 2" x 3" x .125"		TYPE 6 STORM BAR (2) 2" x 4" x .250"	
	STORM BAR SPACING		STORM BAR SPACING		STORM BAR SPACING		STORM BAR SPACING		STORM BAR SPACING		STORM BAR SPACING	
	< 3'-0"	3' TO 4'	< 3'-0"	3' TO 4'	< 3'-0"	3' TO 4'	< 3'-0"	3' TO 4'	< 3'-0"	3' TO 4'	< 3'-0"	3' TO 4'
40	4'-5"	3'-4"	8'-0"	6'-0"	10'-0"	7'-9"	10'-4"	7'-9"	10'-3"	9'-6"	14'-1"	12'-1"
45	3'-11"	3'-0"	7'-1"	5'-4"	9'-2"	6'-11"	9'-2"	6'-11"	9'-11"	8'-11"	13'-8"	10'-8"
50	3'-7"	2'-8"	6'-5"	4'-10"	8'-3"	6'-2"	8'-3"	6'-2"	9'-8"	8'-0"	12'-10"	9'-8"
55	3'-3"	2'-5"	5'-10"	4'-4"	7'-6"	5'-8"	7'-6"	5'-8"	9'-5"	7'-3"	11'-8"	8'-9"
60	3'-0"	2'-3"	5'-4"	4'-0"	6'-11"	5'-2"	6'-11"	5'-2"	8'-11"	6'-8"	10'-8"	8'-0"
65	2'-9"	2'-1"	4'-11"	3'-8"	6'-4"	4'-9"	6'-4"	4'-9"	8'-2"	6'-2"	9'-11"	7'-5"
70	2'-6"	1'-11"	4'-7"	3'-5"	5'-11"	4'-5"	5'-11"	4'-5"	7'-7"	5'-9"	9'-2"	6'-11"

* STORM BAR SPACING SHALL BE SUCH THAT MAXIMUM SLAT SPAN SHALL NOT BE EXCEEDED.

40mm & 55mm END RETAINER
ROLL-DOWN SHUTTER

ROLLINGSHIELD INC.
PHONE (305) 436-6661 FAX (305) 436-5523
9875 NW 79th AVE
Hialeah Gardens, FL 33016
www.rollingshield.com

REV. No	DESCRIPTION	DATE
1	RENEWAL AS PER FBC 2020	09-24-2020
2		
3		
4		
5		

V.M. Engineering Inc.
C. of A. No. 27633
11278 S.W. 153rd Place
MIAMI, FLORIDA 33196
TEL: 786-281-6968
TEL: 305-383-5896

PRODUCT REVISED as complying with the Florida Building Code
Acceptance No 20-0929-18
Expiration Date 03/05/2025
By He J.A. Mohr
Miami Trade Product Control

MIAMI-DADE COUNTY

SCALE: N.T.S.
DATE: 09-24-2020
F.B.C.
(High Velocity Hurricane Zone)
DWG No: 172-2020
SHEET 11 OF 11