


Memorandum



Date: June 25, 2020

To: Gary Hartfield, Division Director
Internal Services Department
Small Business Development Division

 **From:** Leo Gomez, Assistant Director
FOR Miami-Dade Public Library System

Subject: Recommendation for Construction Contract Services for the North Dade Regional Library Impact Resistant Windows and Storefront – Contract No. ND-18838-20 / Project 18838-20

MDPLS respectfully requests that the Division of Small Business Development (SBD) review and evaluate for measures Project No. 18838-20 – North Dade Regional Library Impact Resistant Windows and Storefront, which in part will receive federal grant funds.

North Dade Regional Library Impact Resistant Windows and Storefront: This project will seek reimbursement, in part or whole from federal funds through the FEMA Public Assistance Program, and as such, bidder must comply with all applicable Federal Law, Regulations, Executive Orders, FEMA policies, procedures and directives. The prospective bidder shall examine carefully the site conditions of the work and be satisfied as to all observable conditions. The scope of work consists of removing existing storefront doors and windows to replace with new impact resistant windows and doors. Removal of all windows and doors to be replaced, to include removal of electrical shutter system. Installation of new impact resistant doors and windows (Shop Drawings and NOA to be provided by CONTRACTOR for review and approval).

The construction cost estimate for the project is \$168,000 which in part will receive federal grant funds.

We appreciate your assistance, in order to proceed with the advertisement and subsequent bidding of the project. Should you have any questions, please feel free to contact Marlene Blanco at 305-375-5005 or Alice Arguelles at 305-375-5106.

cc: Marlene Blanco, Project Manager
Alice Arguelles, Construction Manager 3
Project File

DEPARTMENT INPUT
CONSTRUCTION CONTRACT/PROJECT MEASURE ANALYSIS AND RECOMMENDATION

Check applicable Ordinance(s): ☐ 90-143 Responsible Wage and Benefits ☐ 03-237 (formerly 03-1) Community Workforce Program

PROJECT INFORMATION See attachment ☒

Contract/Project/*Work Order No.: ND-18838-20

*Reference corresponding project number when submitting a work order

Contract/Project Title: Impact Resistant Storefront and Windowss

Description/Scope of Work: See Attached

Estimated Cost: \$168,000 **Funding Source:** Federal funds

Location of Project (street address or beginning and ending points) i.e. 12345 NE 23rd Ct or Starts at 135 St. ends at 145 St.
North Dade Regional Library, 2455 NW 183rd Street, Miami, FL 33056

PROJECT ANALYSIS FOR GOAL RECOMMENDATION (CWP) See attachment ☒

Engineer/Department or Agency's estimated required workforce for Project ☒ Work Order ☐:

Trade/Skills Required	Est. # of workforce required per trade	Est. # of total days to complete job
N/A		
N/A		
N/A		

Comments:..

PROJECT ANALYSIS FOR GOAL RECOMMENDATION (CSBE) See attachment ☒

Sub-Trade	Est. Cost	% of Item to Base Bid	Availability
SBE-Cons	\$	%	
SBE-G&S	\$	%	
	\$	%	

RECOMMENDATION

Set-Aside: Level 1 ☐ Level 2 ☐ Level 3 ☐ Trade Set-Aside ☐ Sub-Contractor Goal ☐ Workforce Goal ☐ No Measure ☒

Basis for Recommendation:Federal Grant Funds

Date submitted to DBD:06/25/2020

Contact Person:Marlene Blanco

Telephone No.:305-322-9165

NORTH DADE REGIONAL LIBRARY
2455 NW 183 STREET, MIAMI GARDENS
MIAMI-DADE COUNTY
BUILDING ENVELOPE STRUCTURAL EVALUATION REPORT
AUGUST/ 2019



BUILDING FRONT VIEW

Prepared By:

C. H. Perez & Associates Consulting Engineers, Inc.
9594 NW 41 Street, Suite 201
Doral, Florida 33178
(305)592-1070



This report contains information relating to a physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.07 (3) (a) and 119.071 (3) (b), Florida Statutes. Only cover page of this report may be inspected and copied.

**NORTH DADE REGIONAL LIBRARY
2455 NW 183 STREET, MIAMI GARDENS**

**Miami-Dade County, Florida
EDP Project: EPD-LB-PDM01**

**EVALUATION REPORT
Exterior Openings (Windows and Doors)
Wind Vulnerability Assessment**

**Jose A. Barrera, P.E.
FL Registration Number 39401**

AUGUST 2019

**CH Perez and Associates
9594 NW 41 Street
Suite 201
Doral, Florida 33178
(305) 592-1070**

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NORTH DADE REGIONAL LIBRARY. (Revised 05/08/2019)

2455 NW 183 Street, Miami Gardens, FL 33056

1.0 Project Description.

The North Dade Regional Library is located at 2455 NW 183 Street. Miami Gardens, FL. It is a 1-story building (area of 53,309 sq. ft.). Building construction consists of exterior walls of 8" CMU concrete blocks and precast concrete and reinforced concrete supporting members (tie columns, tie beams). Exterior fixed glazed windows and entrance door are located at the north, south, east and west exterior walls. The main usage of the building is as a Public Library and classified as assembly Group A-3 (FBC; 303.4).

1.1 Relevant Building Code.

Date of building construction circa 1976. Likely, structural design criterion used for this building at the time of construction would be the Standard Building Code, which as per Section 1205.1 Wind Loads, provides for "southern regions" a table depicting design horizontal loads for different "building height zones". No basic wind speed is given. Thus, it can be assumed with certainty that wind speed requirements at the time building was designed were not as stringer as current code standards.

Current code is the Florida Building Code, 6th Edition (2017), effective date December 31, 2017 for High Velocity Hurricane Zone, amended Section 1620; Risk Category II for Buildings and Structures in Miami-Dade County. The governing design wind loads are as per the guidelines set in ASCE7-10 with a 3-second gust ultimate wind speed of 180 mph. Below is a table showing wind design speed load of the current ASCE7-10 (FBC 2017), Vult = 180 mph. (See calculations in Appendix)

Component and Cladding (Exterior Openings)

ASCE 7-10; Vult = 180 mph	
Design Wind Speed (lbs/sf)	
Zone 4	Zone 5
-72.8	-89.6
+67.2	+67.2

2.0 Site Observation Assessment.

2.1 Exterior Openings.

2.1.1 Glazed Windows.

A visual site inspection was performed to the existing glazing windows and they were found to be in good condition. Overall, some minor to moderate defects or deterioration was observed; but not signs of overstressing was found at the glazed and/or adjacent components. Exterior opening protection was recorded during the inspection (i.e. shutters). See photo # 5. The shutters were installed in 1997.

No installed shutter system was recorded at the upper strip glazed windows. See photo #7.

2.1.2 Glazed Doors.

A visual site inspection was performed to the existing glazing exterior door and they were found to be in good condition. No signs of overstressing was found at the glazed and/or adjacent components. Exterior opening protection was recorded during the inspection (i.e. shutters). See photo # 3. The shutters were installed in 1997.

2.1.3 Roof covering.

Build-up Membrane Roofing System.

A visual inspection was performed and no defect nor deterioration was observed. A complete roofing covering replacement was installed in 2016-2017 (See photo Nos. 8 and 9) according to information provided by the Miami-Dade County Public Library System.

3.0 Wind vulnerability assessment.

3.1 Roof structure/covering condition.

As per building record drawings, dated August 16, 1976 and provided by the Miami-Dade County Public Library System Department, the building roof was built with a precast concrete deck with a lightweight concrete topping and a build-up roofing membrane as roof covering which was replaced as previously stated on years 2016-2017.

Roof system covering was verified and conforms to the FBC for existing buildings, Section 706.1.1.

No damage or deterioration was observed during a visual inspection and it can be assessed in good condition.

3.2 Framing around exterior doors/windows

Visual verification of the existence of reinforced concrete/grouted CMU framing around exterior openings was not feasible due to the nature of the type of structural element in question (concealed reinforcement).

Existing building records drawings shown concrete columns between some of the exterior glazing openings as well as concrete beams on top, but it cannot be conclusive that all opening framings are reinforced. Therefore, it is recommended to verify existence (or not) of reinforcing using non-destructive testing methods in order to assure the framing around existing opening is properly reinforced and provide such reinforcement accordingly before installing the new glazing doors and windows to the all exterior openings.

3.3 Attachment condition of roof units.

No A/C units or equipment were installed on the roof deck during the site inspection.

4.0 Conclusions.

Given the nature and design of the currently opening protection provided, it is imperative to mitigate any possible high-velocity wind damage, which may occur in this area, by upgrading the current building's openings (glazed windows and doors) to sustain the current wind velocity speed of 186 mph. This is the most effective way to ensure performance of the building envelope, provide protection, and the survival of this public facility so important to our community. Impact resistant systems provide immediate protection versus other protection systems (shutters) and allows valuable resources to be used elsewhere.

5.0 Recommendations/Proposed Remediation.

In order to mitigate any possible high-velocity wind damage, which may occur in this area, it is recommended the upgrading of the existing glazed openings to current wind speed requirements and furthermore, the impact resistance system complies with the wind-borne debris regions conditions as per FBC 2017; Section 1609.1.2, Protection of openings. The glazed system shall consist of a Miami-Dade County approved storm system with the appropriate Notice of Acceptance (N.O.A) as provided by Miami-Dade County Building Code Compliance Office, Product Control Division. All associated assemblies and/or components shall be installed as per the N.O.A and current FBC 2017.

It is also recommended to further investigate if all framing around exterior openings are either reinforced concrete or reinforced/grouted CMU and provide accordingly, before installing all new exterior glazing doors and windows.

6.0 Cost Estimates:

6.1 Exterior Openings: Windows and Doors.

7.0 Appendix:

7.1 Wind Load Calculations: ASCE7-10. C&C. 180 mph.

7.2 Photographs.

7.3 N.O.A.

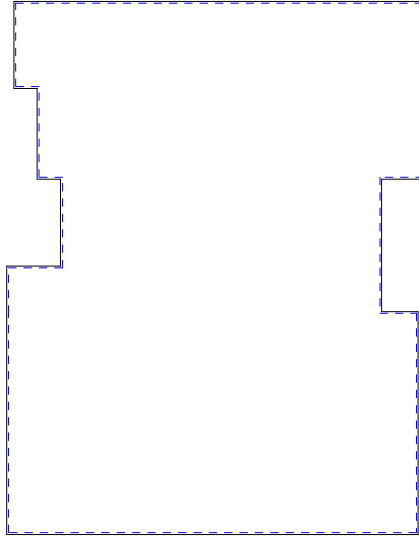
6.0 APPENDIX

6.1 Wind Load Calculations ASCE7-10 (180 mph).

6.2 Photographs.

6.3 N.O.A's

Project Name: North Dade Regional Library. Miami-Dade.



Location: 2455 NW 183 St. Miami Gardens, FL.33056

By: J. Barrera, P.E.

Start Date: 8/5/2019

Comments:

Local Information

Wind Dir.	Exposure
1	C
2	C
3	C
4	C

Basic Wind Speed: 180 mph

Topography: None

Optional Factors

This project uses load combinations
from ASCE 7.

Section - Main Section

Enclosure Classification: Enclosed

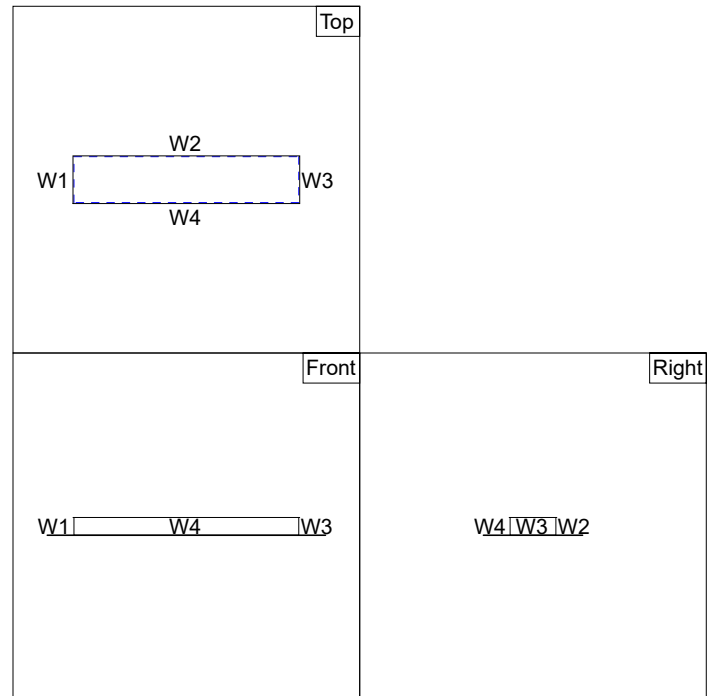
Wall	Length(ft)	Overhang(ft)
1	46.25	1.0
2	226.5	1.0
3	46.25	1.0
4	226.5	1.0

Eave Height: 18 ft

Parapet Height: 0 ft

Parapet Enclosure: Solid

Roof Shape: Flat



Section - 1

Enclosure Classification: Enclosed

Connected to: Main Section

Connected to wall: W4

Position on W4: 13 ft

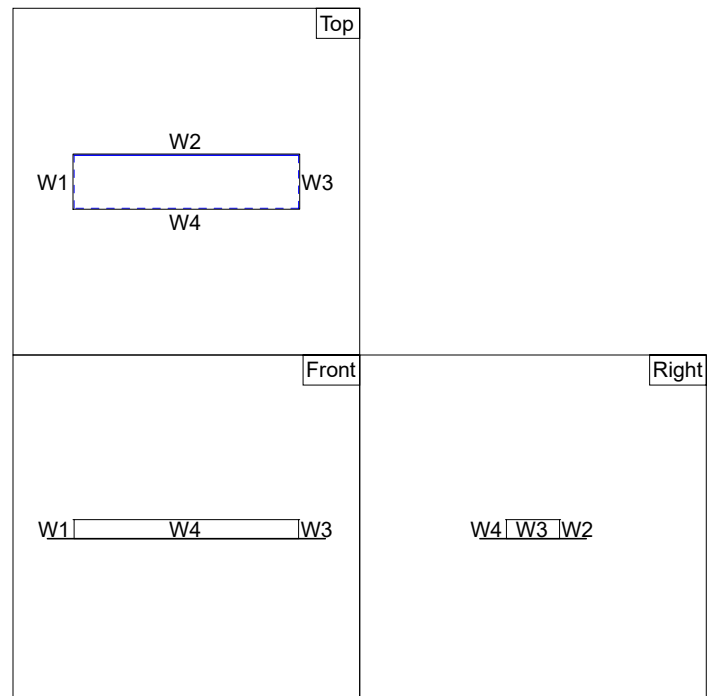
Wall	Length(ft)	Overhang(ft)
1	50.33	1.0
2	213.33	1.0
3	50.33	1.0
4	213.33	1.0

Eave Height: 18 ft

Parapet Height: 1.5 ft

Parapet Enclosure: Solid

Roof Shape: Flat



Section - 2

Enclosure Classification: Enclosed

Connected to: 1

Connected to wall: W4

Position on W4: 13 ft

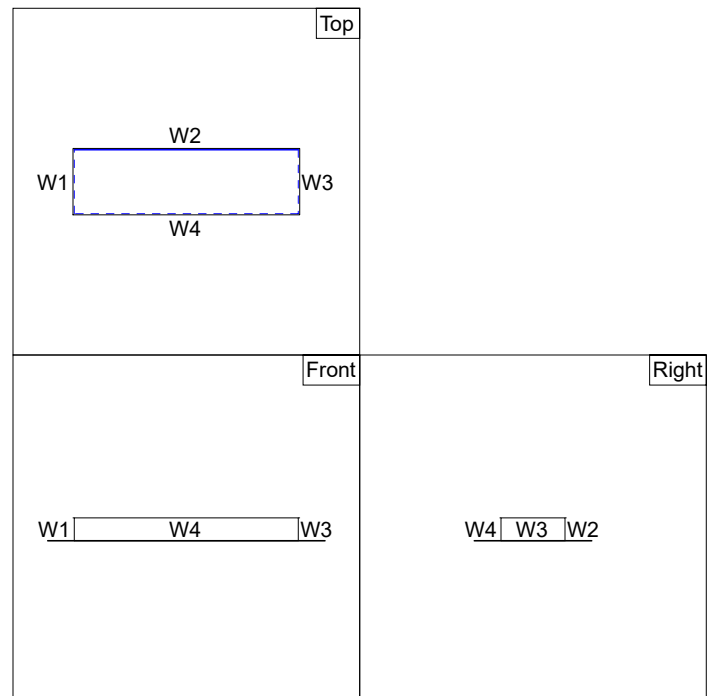
Wall	Length(ft)	Overhang(ft)
1	50.3	1.0
2	176.2	1.0
3	50.3	1.0
4	176.2	1.0

Eave Height: 18 ft

Parapet Height: 1.5 ft

Parapet Enclosure: Solid

Roof Shape: Flat



Section - 3

Enclosure Classification: Enclosed

Connected to: 2

Connected to wall: W4

Position on W4: -30 ft

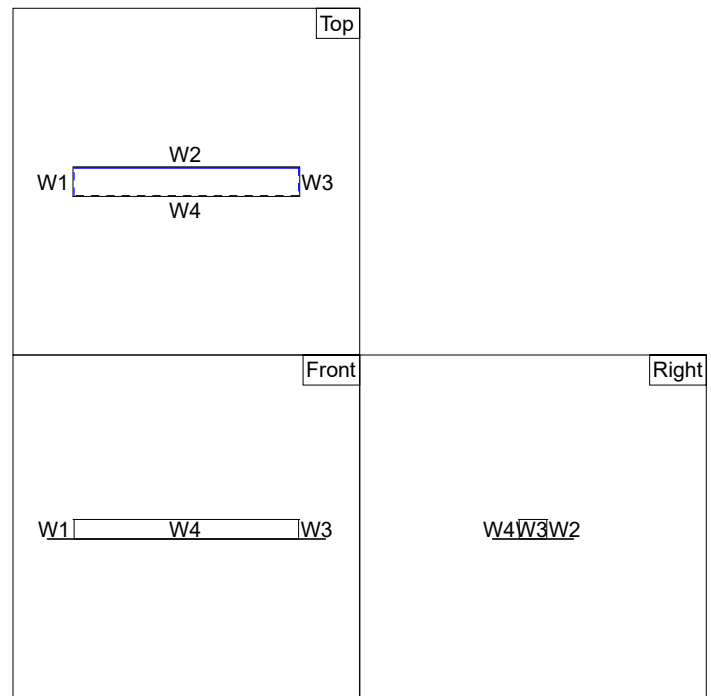
Wall	Length(ft)	Overhang(ft)
1	25.2	1.0
2	206.2	1.0
3	25.2	1.0
4	206.2	1.0

Eave Height: 18 ft

Parapet Height: 1.5 ft

Parapet Enclosure: Solid

Roof Shape: Flat



Section - 4

Enclosure Classification: Enclosed

Connected to: 3

Connected to wall: W4

Position on W4: 0 ft

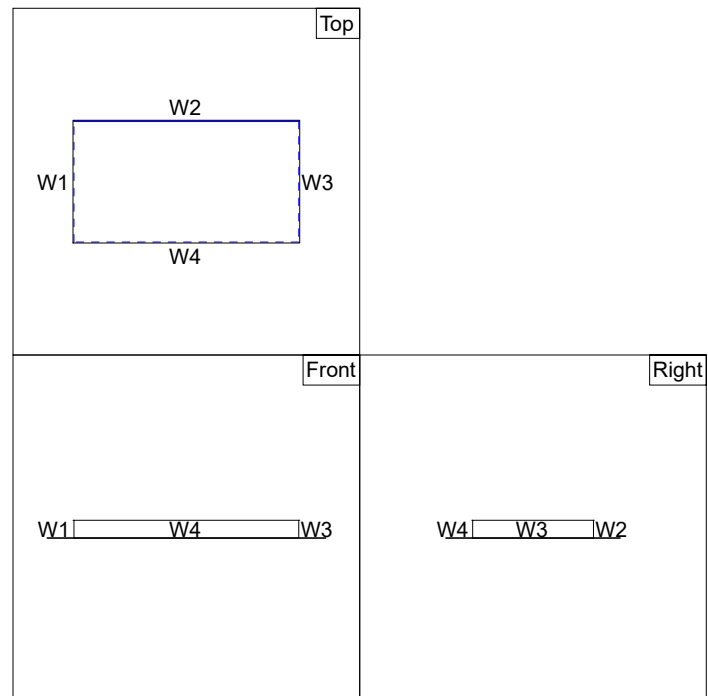
Wall	Length(ft)	Overhang(ft)
1	121.75	1.0
2	226.5	1.0
3	121.75	1.0
4	226.5	1.0

Eave Height: 18 ft

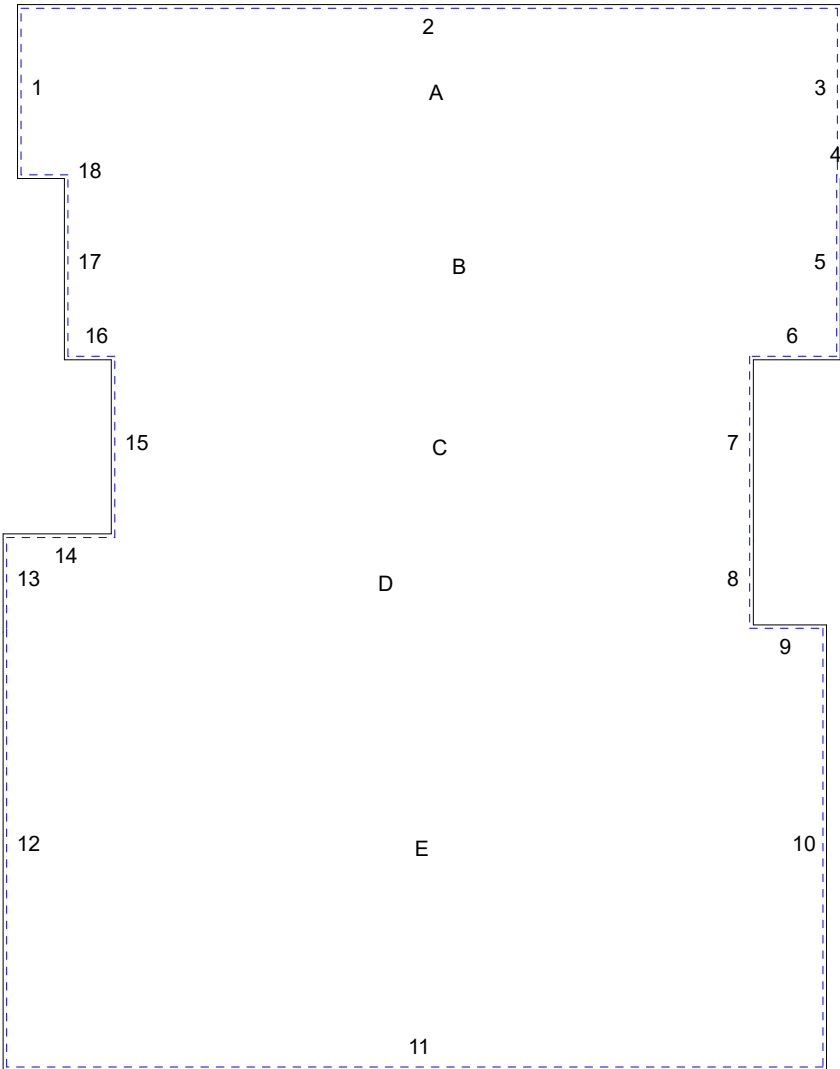
Parapet Height: 1.5 ft

Parapet Enclosure: Solid

Roof Shape: Flat



Composite Drawing



Components and Cladding Input

Component Description	Wall/Roof	Surface Label	Zone	Span(ft)	Width(ft)	Area(sqft)
Windows 4' x 1.7' E.	Wall	4	(All)			6.7
Windows 5' x 1.7' E.	Wall	4	(All)			8.4
Windows 6.5' x 5.3' E.	Wall	7	(All)			34.6
Windows 5.6' x 2.7' E.	Wall	7	(All)			14.8
Windows 8' x 2.7' E.	Wall	9	(All)			21.4
5 Windows' x 7.7' E.	Wall	4	(All)			38.4
Dbl. door 6' x 8' E.	Wall	9	(All)			48
Windows 4' x 1.7' S.	Wall	11	(All)			6.7
Windows 5' x 7.7' S.	Wall	11	(All)			38.4
Window 5' x 1.7' W.	Wall	12	(All)			8.4
Windows 3.1 x 4.1' W	Wall	12	(All)			12.8
Windows 4' x 1.7' W.	Wall	12	(All)			6.7
Windows 5' x 7.7' W.	Wall	12	(All)			38.4
Window 5' x 7.7' N.	Wall	2	(All)			38.4
Windows 4' x 1.7' N.	Wall	12	(All)			6.7
Windows 5' x 1.7' N.	Wall	12	(All)			8.4

Components and Cladding Output

Component Description	Surface	Zone	z(ft)	q(psf)	GCp	GCpi	ExtPres(psf)	Net w/ +GCpi (psf)	Net w/ -GCpi (psf)
Windows 4' x 1.7' E.	4	4	18.0	62.2	0.90	0.18	56.0	44.8	67.2
			18.0	62.2	-0.99		-61.6	-72.8	-50.4
		5	18.0	62.2	0.90		56.0	44.8	67.2
			18.0	62.2	-1.26		-78.4	-89.6	-67.2
Windows 5' x 1.7' E.	4	4	18.0	62.2	0.90	0.18	56.0	44.8	67.2
			18.0	62.2	-0.99		-61.6	-72.8	-50.4
		5	18.0	62.2	0.90		56.0	44.8	67.2
			18.0	62.2	-1.26		-78.4	-89.6	-67.2
Windows 6.5' x 5.3' E.	7	4	18.0	62.2	0.81	0.18	50.4	39.2	61.6
			18.0	62.2	-0.90		-56.0	-67.2	-44.8
		5	18.0	62.2	0.81		50.4	39.2	61.6
			18.0	62.2	-1.09		-67.8	-79.0	-56.6
Windows 5.6' x 2.7' E.	7	4	18.0	62.2	0.87	0.18	54.1	42.9	65.3
			18.0	62.2	-0.96		-59.7	-70.9	-48.5
		5	18.0	62.2	0.87		54.1	42.9	65.3
			18.0	62.2	-1.21		-75.3	-86.5	-64.1
Windows 8' x 2.7' E.	9	4	18.0	62.2	0.85	0.18	52.9	41.7	64.1
			18.0	62.2	-0.94		-58.5	-69.7	-47.3
		5	18.0	62.2	0.85		52.9	41.7	64.1
			18.0	62.2	-1.15		-71.5	-82.7	-60.3
5 Windows' x 7.7' E.	4	4	18.0	62.2	0.81	0.18	50.4	39.2	61.6
			18.0	62.2	-0.90		-56.0	-67.2	-44.8
		5	18.0	62.2	0.81		50.4	39.2	61.6
			18.0	62.2	-1.07		-66.6	-77.8	-55.4
Dbl. door 6' x 8' E.	9	4	18.0	62.2	0.79	0.18	49.1	37.9	60.3
			18.0	62.2	-0.88		-54.7	-65.9	-43.5
		5	18.0	62.2	0.79		49.1	37.9	60.3
			18.0	62.2	-1.04		-64.7	-75.9	-53.5
Windows 4' x 1.7' S.	11	4	18.0	62.2	0.90	0.18	56.0	44.8	67.2

Components and Cladding Output

Windows 4' x 1.7' S.	11	4	18.0	62.2	0.90	0.18	56.0	44.8	67.2
Component Description	Surface	Zone	z(ft)	q(psf)	GCp	GCpi	ExtPres(psf)	Net w/ +GCpi (psf)	Net w/ -GCpi (psf)
Windows 4' x 1.7' S.	11	4	18.0	62.2	-0.99	0.18	-61.6	-72.8	-50.4
		5	18.0	62.2	0.90		56.0	44.8	67.2
			18.0	62.2	-1.26		-78.4	-89.6	-67.2
Windows 5' x 7.7' S.	11	4	18.0	62.2	0.81	0.18	50.4	39.2	61.6
			18.0	62.2	-0.90		-56.0	-67.2	-44.8
		5	18.0	62.2	0.81		50.4	39.2	61.6
			18.0	62.2	-1.07		-66.6	-77.8	-55.4
Window 5' x 1.7' W.	12	4	18.0	62.2	0.90	0.18	56.0	44.8	67.2
			18.0	62.2	-0.99		-61.6	-72.8	-50.4
		5	18.0	62.2	0.90		56.0	44.8	67.2
			18.0	62.2	-1.26		-78.4	-89.6	-67.2
Windows 3.1 x 4.1' W	12	4	18.0	62.2	0.88	0.18	54.7	43.5	65.9
			18.0	62.2	-0.97		-60.3	-71.5	-49.1
		5	18.0	62.2	0.88		54.7	43.5	65.9
			18.0	62.2	-1.23		-76.5	-87.7	-65.3
Windows 4' x 1.7' W.	12	4	18.0	62.2	0.90	0.18	56.0	44.8	67.2
			18.0	62.2	-0.99		-61.6	-72.8	-50.4
		5	18.0	62.2	0.90		56.0	44.8	67.2
			18.0	62.2	-1.26		-78.4	-89.6	-67.2
Windows 5' x 7.7' W.	12	4	18.0	62.2	0.81	0.18	50.4	39.2	61.6
			18.0	62.2	-0.90		-56.0	-67.2	-44.8
		5	18.0	62.2	0.81		50.4	39.2	61.6
			18.0	62.2	-1.07		-66.6	-77.8	-55.4
Window 5' x 7.7' N.	2	4	18.0	62.2	0.81	0.18	50.4	39.2	61.6
			18.0	62.2	-0.90		-56.0	-67.2	-44.8
		5	18.0	62.2	0.81		50.4	39.2	61.6
			18.0	62.2	-1.07		-66.6	-77.8	-55.4
Windows 4' x 1.7' N.	12	4	18.0	62.2	0.90	0.18	56.0	44.8	67.2

Components and Cladding Output

Component Description	Surface	Zone	z(ft)	q(psf)	GCp	GCpi	ExtPres(psf)	Net w/ +GCpi (psf)	Net w/ -GCpi (psf)
Windows 4' x 1.7' N.	12	4	18.0	62.2	-0.99	0.18	-61.6	-72.8	-50.4
		5	18.0	62.2	0.90		56.0	44.8	67.2
			18.0	62.2	-1.26		-78.4	-89.6	-67.2
Windows 5' x 1.7' N.	12	4	18.0	62.2	0.90	0.18	56.0	44.8	67.2
			18.0	62.2	-0.99		-61.6	-72.8	-50.4
		5	18.0	62.2	0.90		56.0	44.8	67.2
			18.0	62.2	-1.26		-78.4	-89.6	-67.2



Photograph No.1: North façade. (Looking east to west).



Photograph No.2: South façade (SW corner)



Photograph No.3: East façade. Main Entrance with installed shutter system.



Photograph No. 4: West façade.



Photograph No.5: North façade showing installed shutters to the lower glazed openings.



Photograph No. 6: North façade showing installed shutters to the lower glazed openings.



Photograph No.7: West façade showing no shutters at the upper strip glazed openings.



Photograph No. 8: Roof condition. Looking east.



Photograph No. 9: Roof condition. Looking north



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
T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/economy

Trulite Glass & Aluminum Solutions, LLC
403 Westpark Court, Suite 201
Peachtree City, GA 30269

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: Series "3000R-Resistor" Aluminum Storefront/Window Wall System – L.M.I.

APPROVAL DOCUMENT: Drawing No. AD18-17, titled "Resistor 3000R Aluminum Storefront Wall - LMI", sheets 1 through 14 of 14, dated 12/11/17, prepared by MCY Engineering, Inc., signed and sealed by Yiping Wang, P.E., bearing the Miami-Dade County Product Control Approval stamp with the Notice of Acceptance number and approval 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 and renews as a spinoff of NOA No. 17-1017.16** and consists of this page 1 and evidence pages E-1, E-2, E-3 and E-4, as well as approval document mentioned above.

The submitted documentation was reviewed by **Manuel Perez, P.E.**



YP
4/24/19

NOA No. 19-0415.04
Expiration Date: March 18, 2024
Approval Date: May 02, 2019
Page 1

Trulite Glass & Aluminum Solutions, LLC

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS NOA's

A. DRAWINGS

1. Manufacturer's die drawings and sections.
(Submitted under NOA No. 03-1211.08)
2. Drawing No **AD11-20**, Sheets 1 through 11 of 11, titled "Resistor 3000 Aluminum Storefront Wall - LMP", dated 09/22/11, with revision #3 dated 09/20/17, prepared by MCY Engineering, Inc., signed and sealed by Yiping Wang, P.E.

B. TESTS

1. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94
2) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94
3) Water Resistance Test, per FBC, TAS 202-94
4) Large Missile Impact Test per FBC, TAS 201-94
5) Cyclic Wind Pressure Loading per FBC, TAS 203-94
6) Forced Entry Test, per FBC 2411 3.2.1, TAS 202-94
along with marked-up drawings and installation diagram of a series 3000/L-3000 aluminum window wall system, prepared by Fenestration Testing Laboratory, Inc., Test Report No. **FTL-5893**, dated 04/02/09, signed and sealed by Michael R. Wenzel, P.E.
(Submitted under NOA# 09-1110.03)
2. Test reports on: 1) Large Missile Impact Test per FBC, TAS 201-94
2) Cyclic Wind Pressure Loading per FBC, TAS 203-94
along with marked-up drawings and installation diagram of a series 3000/L-3000 aluminum window wall system, prepared by Fenestration Testing Laboratory, Inc., Test Report No. **FTL-5416**, dated 11/15/07, signed and sealed by Michael Wenzel, P.E.
(Submitted under NOA# 09-0122.06)
3. Test reports on Safety Glazing Materials per ANSI Z97.1-1984 and CPSC 16 CFR 1201 of a series 3000/L-3000 aluminum window wall system, prepared by Fenestration Testing Laboratory, Inc., Test Report No. **FTL-5421**, dated 10/18/07, signed and sealed by Michael Wenzel, P.E.
(Submitted under NOA# 09-0122.06)
4. Test reports 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 Loading per FBC, TAS 203-94
along with marked-up drawings and installation diagram of an aluminum storefront system, prepared by Fenestration Testing Laboratory, Test Report No. **FTL-3398**, dated 12/10/03, signed and sealed by Edmundo J. Largaespada, P.E.
(Submitted under NOA# 03-1211.08)



Manuel Perez, P.E.
Product Control Examiner
NOA No. 19-0415.04

Expiration Date: March 18, 2024

Approval Date: May 02, 2019

Trulite Glass & Aluminum Solutions, LLC

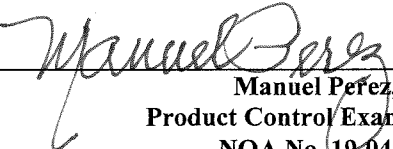
NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

B. TESTS (CONTINUED)

5. Test reports 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 Loading per FBC, TAS 203-94
along with marked-up drawings and installation diagram of an aluminum window wall system, prepared by Fenestration Testing Laboratory, Inc. Test Report No. **FTL-3363**, dated 04/24/03, signed and sealed by Edmundo J. Largaespada, P.E.
(Submitted under NOA# 03-1211.08)
6. Test reports on: 1) Large Missile Impact Test PA 201-94
2) Cyclic Loading Test, per SFBC PA 203-94
along with marked-up drawings and installation diagram of an aluminum window wall system, prepared by Fenestration Testing Laboratory, Inc. Test Report No. **FTL-3326**, dated 01/09/02, signed and sealed by Luis Antonio Figueredo, P.E.
(Submitted under NOA# 03-1211.08)
7. Test reports on: 1) Air Infiltration Test, per SFBC, PA 202-94
2) Uniform Static Air Pressure Test, Loading per SFBC, PA 202-94
3) Water Resistance Test, per SFBC, PA 202-94
4) Large Missile Impact Test per SFBC, PA 201-94
5) Cyclic Wind Pressure Loading per SFBC, PA 203-94
along with marked-up drawings and installation diagram of an aluminum window wall system, prepared by Fenestration Testing Laboratory, Inc. Test Report No. **FTL-1010**, dated 10/25/94, signed and sealed by Yamil Gerardo Kuri, P.E.
(Submitted under NOA# 03-1211.08)
8. Test reports on: 1) Air Infiltration Test, per SFBC, PA 202-94
2) Uniform Static Air Pressure Test, Loading per SFBC, PA 202-94
3) Water Resistance Test, per SFBC, PA 202-94
along with marked-up drawings and installation diagram of an aluminum window wall system, prepared by Fenestration Testing Laboratory, Inc. Test Report No. **FTL-2221**, dated Dec. 9, 1998, signed and sealed by Gilbert Diamond, P.E.
(Submitted under NOA# 03-1211.08)

C. CALCULATIONS

1. Anchor verification calculations and structural analysis, complying with **FBC 5th Edition (2014)**, dated 06/05/15, prepared by MCY Engineering, Inc., signed and sealed by Yiping Wang, P.E.
(Submitted under NOA# 15-0619.01)
2. Glazing complies with **ASTM E1300-09**


Manuel Perez, P.E.
Product Control Examiner
NOA No. 19-0415.04

Expiration Date: March 18, 2024

Approval Date: May 02, 2019

Trulite Glass & Aluminum Solutions, LLC

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

D. QUALITY ASSURANCE

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

E. MATERIAL CERTIFICATIONS

1. Notice of Acceptance No. **17-0712.05** issued to **Eastman Chemical Company (MA)** for their “**Saflex Clear and Color Glass Interlayers**” dated 09/07/17, expiring on 05/21/21.
2. Notice of Acceptance No. **17-0712.04** issued to **Eastman Chemical Company (MA)** for their “**Saflex HP Clear or Color Glass Interlayers**” dated 09/07/17, expiring on 04/14/18.
3. Notice of Acceptance No. **17-0808.02** issued to **Kuraray America, Inc.** for their “**SentryGlas® (Clear and White) Glass Interlayers**” dated 12/28/17, expiring on 07/04/23.

F. STATEMENTS

1. Statement letter of conformance, complying with **FBC 5th Edition (2014)**, with **FBC 6th Edition (2017)**, and of no financial interest, dated September 29, 2017, issued by MCY Engineering, Inc., signed and sealed by Yiping Wang, P.E.

G. OTHERS

1. Notice of Acceptance No. **15-0619.01**, issued to Trulite Glass & Aluminum Solutions, LLC for their Series “3000 Resistor” Aluminum Storefront / Window Wall System - L.M.I., approved on 12/24/15 and expiring on 03/18/19.

2. NEW EVIDENCE SUBMITTED

A. DRAWINGS

1. Drawing No **AD18-17**, titled “Resistor 3000R Aluminum Storefront Wall - LMI”, sheets 1 through 14 of 14, dated 12/11/17, prepared by MCY Engineering, Inc., signed and sealed by Yiping Wang, P.E.

B. TESTS

1. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94
2) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94
3) Water Resistance Test, per FBC, TAS 202-94
4) Large Missile Impact Test per FBC, TAS 201-94
5) Cyclic Wind Pressure Loading per FBC, TAS 203-94
6) Drop Load Test, per CPCS 16 CFR 1201 (Cat 11) and ANSI Z97.1 (400 foot-pound impact)


Manuel Perez, P.E.
Product Control Examiner

NOA No. 19-0415.04

Expiration Date: March 18, 2024

Approval Date: May 02, 2019

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

B. TESTS (CONTINUED)

along with marked-up drawings and installation diagram of a series 3000R aluminum window wall system, prepared by Fenestration Testing Laboratory, Inc., Test Report No. **FTL-9683**, dated 12/13/17, signed and sealed by Idalmis Ortega, P.E.

C. CALCULATIONS

1. Anchor verification calculations and structural analysis, complying with **FBC 6th Edition (2017)**, dated 12/04/18, prepared by MCY Engineering, Inc., signed and sealed by Yiping Wang, P.E.

D. QUALITY ASSURANCE

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

E. MATERIAL CERTIFICATIONS

1. Notice of Acceptance No. **17-0712.05** issued to **Eastman Chemical Company (MA)** for their "**Saflex Clear and Color Glass Interlayers**" dated 09/07/17, expiring on 05/21/21.
2. Notice of Acceptance No. **18-0301.05** issued to **Eastman Chemical Company (MA)** for their "**Saflex HP Clear or Color Glass Interlayers**" dated 05/10/18, expiring on 04/14/23.
3. Notice of Acceptance No. **17-0808.02** issued to **Kuraray America, Inc.** for their "**SentryGlas® (Clear and White) Glass Interlayers**" dated 12/28/17, expiring on 07/04/23.

F. STATEMENTS

1. Statement letter of conformance, complying with **FBC 6th Edition (2017)**, dated December 4, 2018, issued by MCY Engineering, Inc., signed and sealed by Yiping Wang, P.E.
2. Statement letter of no financial interest with the lab, dated December 4, 2018, issued by MCY Engineering, Inc., signed and sealed by Yiping Wang, P.E.
3. Proposal No. **17-0233** issued by the Product Control Section, dated April 21, 2017, signed by Manuel Perez, P.E.

G. OTHERS

1. Notice of Acceptance No. **17-1017.16**, issued to Trulite Glass & Aluminum Solutions, LLC for their Series "3000 Resistor" Aluminum Storefront / Window Wall System - L.M.I., approved on 01/25/18 and expiring on 03/18/19.


Manuel Perez, P.E.
Product Control Examiner
NOA No. 19-0415.04

Expiration Date: March 18, 2024
Approval Date: May 02, 2019

SERIES 3000R ALUMINUM WINDOW WALL SYSTEM INSIDE GLAZED
LARGE MISSILE IMPACT (L.M.I.)

GENERAL NOTES:

- THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 6TH EDITION FLORIDA BUILDING CODE (2017) INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).
- WINDOW WALL RATED FOR LARGE AND SMALL MISSILE IMPACT. IMPACT SHUTTERS ARE NOT REQUIRED.
- ANCHORS SHALL BE AS LISTED, SPACED AS SHOWN ON DETAILS. ANCHORS EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.
- ANCHORING OR LOADING CONDITIONS NOT SHOWN IN THESE DETAILS ARE NOT PART OF THIS APPROVAL.
- MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE 6TH EDITION FLORIDA BUILDING CODE (2017) SECTION AS APPLICABLE.
- METAL STRUCTURES NOT BY TRULITE GLASS AND ALUMINUS SOLUTIONS TO BE DESIGNED TO SUPPORT THE LOADS IMPOSED BY THIS GLAZING SYSTEM AND TO TRANSFER SUCH LOADS TO THE BUILDING MAIN STRUCTURE.
- ULTIMATE LOAD OBTAINED FROM ASCE 7-10, MULTIPLY BY 0.6 SHALL BE LESS THAN OR EQUAL TO MAX. DESIGN LOAD IN THIS DOCUMENT. THE DESIGN LOADS SHOWN IN THIS DOCUMENT ARE ALLOWABLE DESIGN LOADS.

USE CHARTS AS FOLLOWS.

- STEP 1: DETERMINE DESIGN WIND LOAD REQUIREMENTS BASED ON WIND VELOCITY, BLDG. HEIGHT, WIND ZONE USING APPLICABLE ASCE 7-10 STANDARD.
- STEP 2: SEE GLASS OPTIONS ON SHEET 3. SEE CHARTS ON SHEET 4 & 5 FOR DESIGN LOAD CAPACITY OF DESIRED GLASS SIZE BASED ON APPLICABLE WIND DURATION.
- STEP 3: CHECK MULLION AND JAMB CAPACITY FOR A GIVEN SPACING AND HEIGHT USING CHARTS ON SHEET 6 THROUGH 7. THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.
- STEP 4: SEE SHEET 10 FOR ANCHOR OPTIONS. USING CHART ON SHEETS 8 THROUGH 9 SELECT ANCHOR OPTION WITH DESIGN RATING MORE THAN DESIGN LOAD SPECIFIED IN STEP 1 ABOVE.
- STEP 5: THE LOWEST VALUE RESULTING FROM STEPS 2, 3 AND 4 SHALL APPLY TO ENTIRE SYSTEM.

PRODUCT COMPLIES WITH REQUIREMENTS OF ANSI Z97.1.



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PEACHTREE CITY, GA 30269
p. 800-432-8132

PRODUCT:

Resistor
3000R ALUMINUM
STOREFRONT WALL-LMI



REVN	DATE/REMARKS

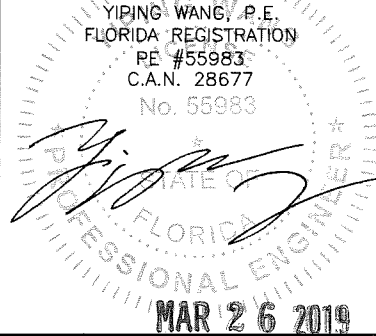
ENGINEER:



MCY ENGINEERING, INC.
GLAZING CONSULTANT

8501 SW 124TH AVE. STE. 205
MIAMI, FL 33183
P: (786) 360-2786
Email: MCY@MCYEngineering.com
www.MCYEngineering.com

STAMP:



PRODUCT CONTROL APPROVAL:

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 19-0415-04
Expiration Date March 18, 2024
By: [Signature]
Miami Date Product Control

DRAWN: YIN	DRAWING No:
DATE: 12-11-17	1 OF 14
DWG: AD18-17	



Resistor
3000R ALUMINUM
STOREFRONT WALL-LMI



Resistor
PRODUCT SERIES

REV#	DATE/REMARKS



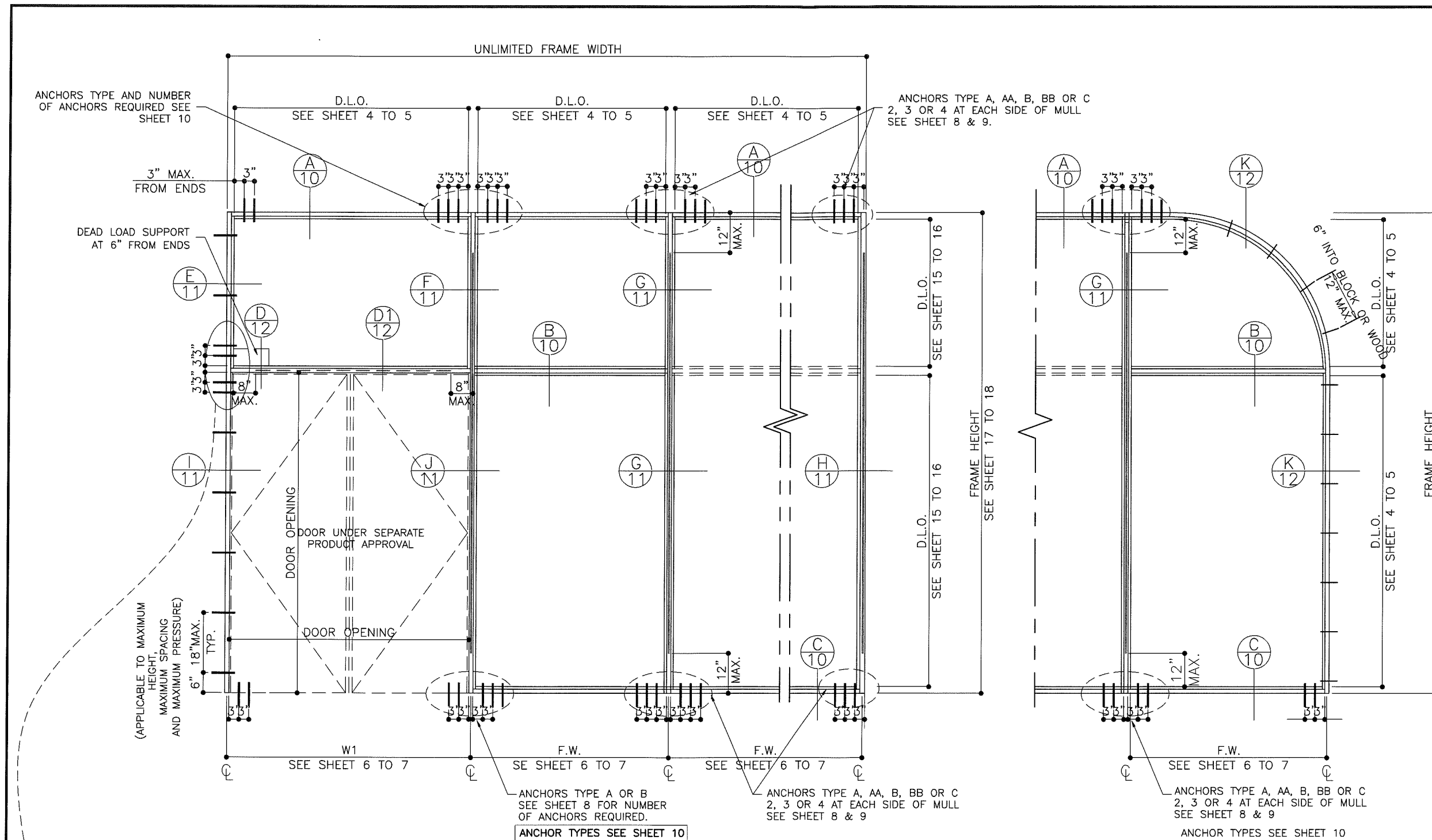
8501 SW 124TH AVE. STE. 205
MIAMI, FL 33183
P: (786) 360-2786
Email: MCY@MCYEngineering.com
www.MCYEngineering.com

YIPING WANG, P.E.
FLORIDA REGISTRATION
PE #55983
C.A.N. 28677

MAR 26 2019

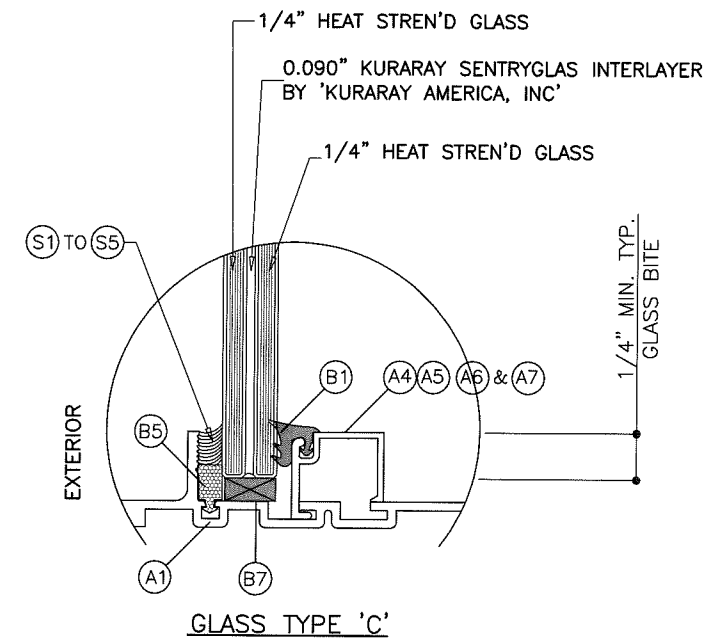
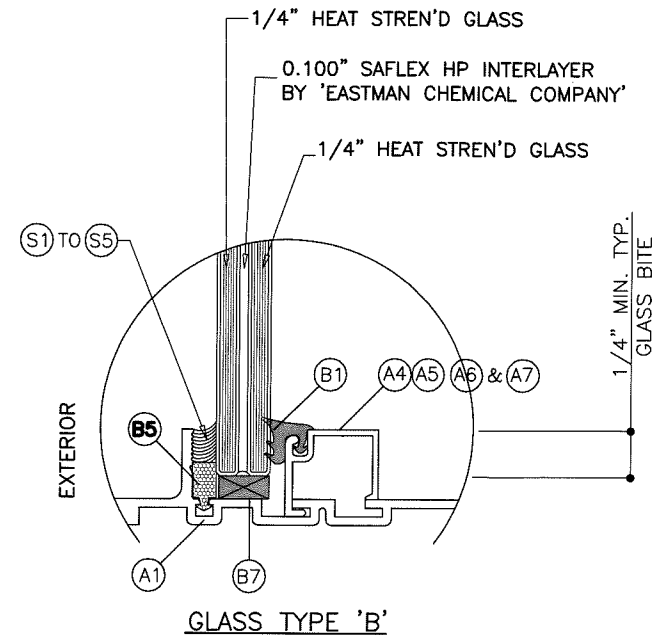
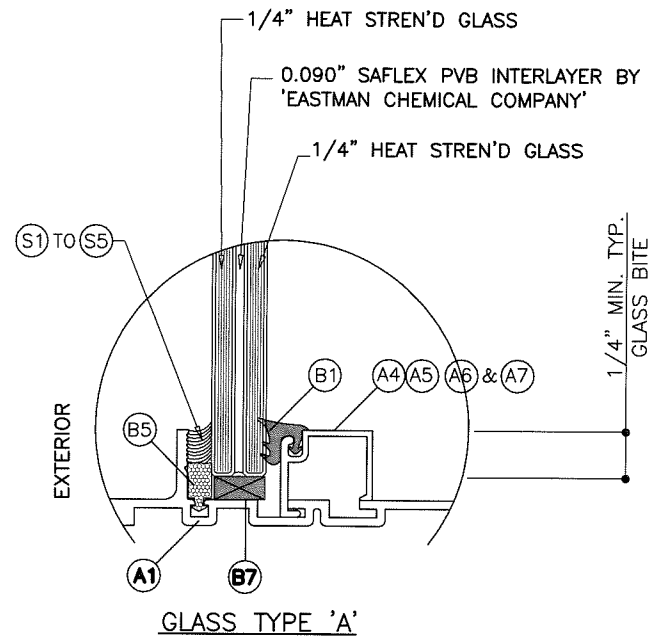
PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 19-0415.04
Expiration Date March 18, 2024
By Manuel Perez
Miami-Dade Product Control

DRAWN: YIN	DRAWING No: 2 OF 14
DATE: 12-11-17	
DWG: AD18-17	

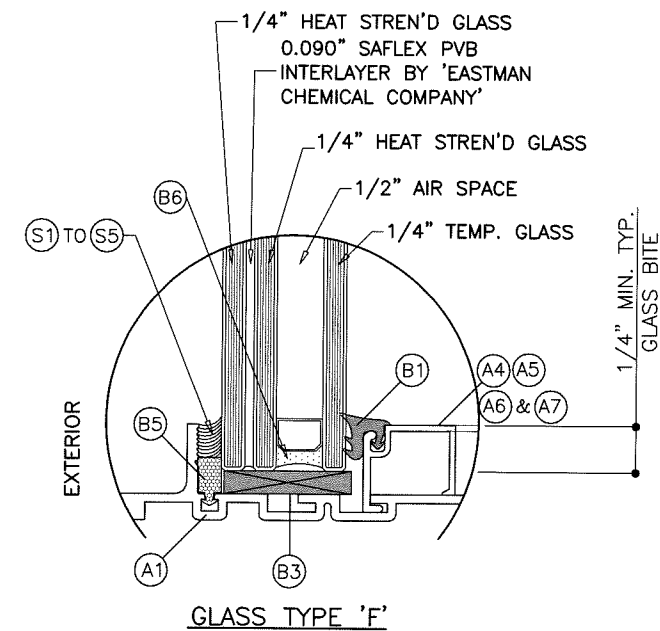
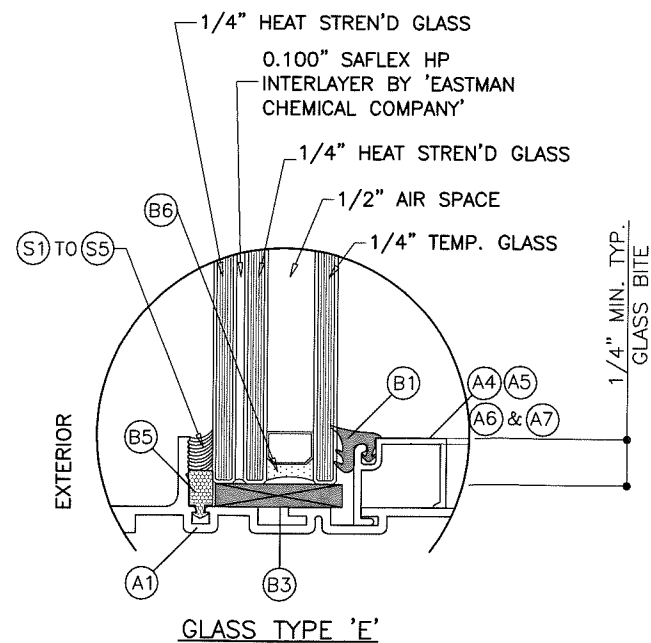
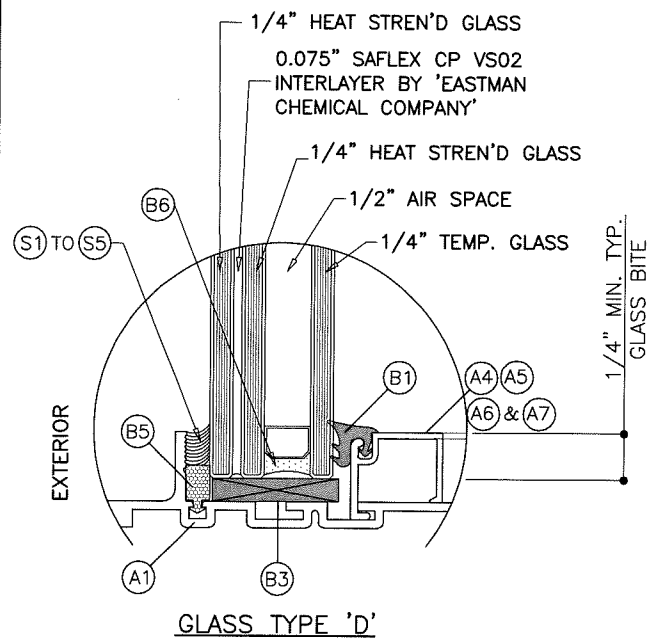


TYPICAL EXTERIOR ELEVATION

ANCHOR TYPE	SUBSTRATE	NO. ANCHORS REQUIRED AT TRANSOM MULLION END
AA	WOOD	5
A	BLOCK	5
A	CONCRETE	4
BB	WOOD	4
B	BLOCK	5
B	CONCRETE	3
C	METAL	3



9/16" LAMINATED GLASS OPTIONS



1-5/16" INSULATED LAMINATED GLASS OPTIONS

SILICONE SEALANT OPTIONS:
 (S1) DOWSIL 995
 (S2) GE SCS2000
 (S3) TREMCO PROGLAZE SSG
 (S4) DOWSIL 795
 (S5) TREMCO SPECTREM 2

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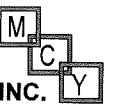
PRODUCT:

Resistor
3000R ALUMINUM
 STOREFRONT WALL-LMI

Resistor
 PRODUCT SERIES

REVN	DATE/REMARKS

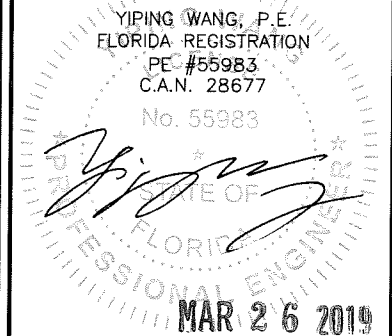
ENGINEER:



MCY ENGINEERING, INC.
 GLAZING CONSULTANT

8501 SW 124TH AVE. STE. 205
 MIAMI, FL 33183
 P: (786) 360-2786
 Email: MCY@MCYEngineering.com
www.MCYEngineering.com

STAMP:



PRODUCT CONTROL APPROVAL:

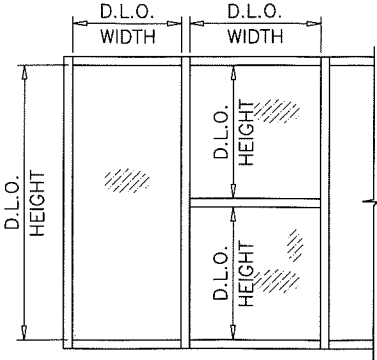
PRODUCT REVISED
 as complying with the Florida
 Building Code
 Acceptance No. 19-0415.04
 Expiration Date March 18, 2024
 By *Manuel Serrano*
 Miami Dade Product Control

DRAWN: YIN	DRAWING No:
DATE: 12-11-17	3 OF 14
DWG: AD18-17	

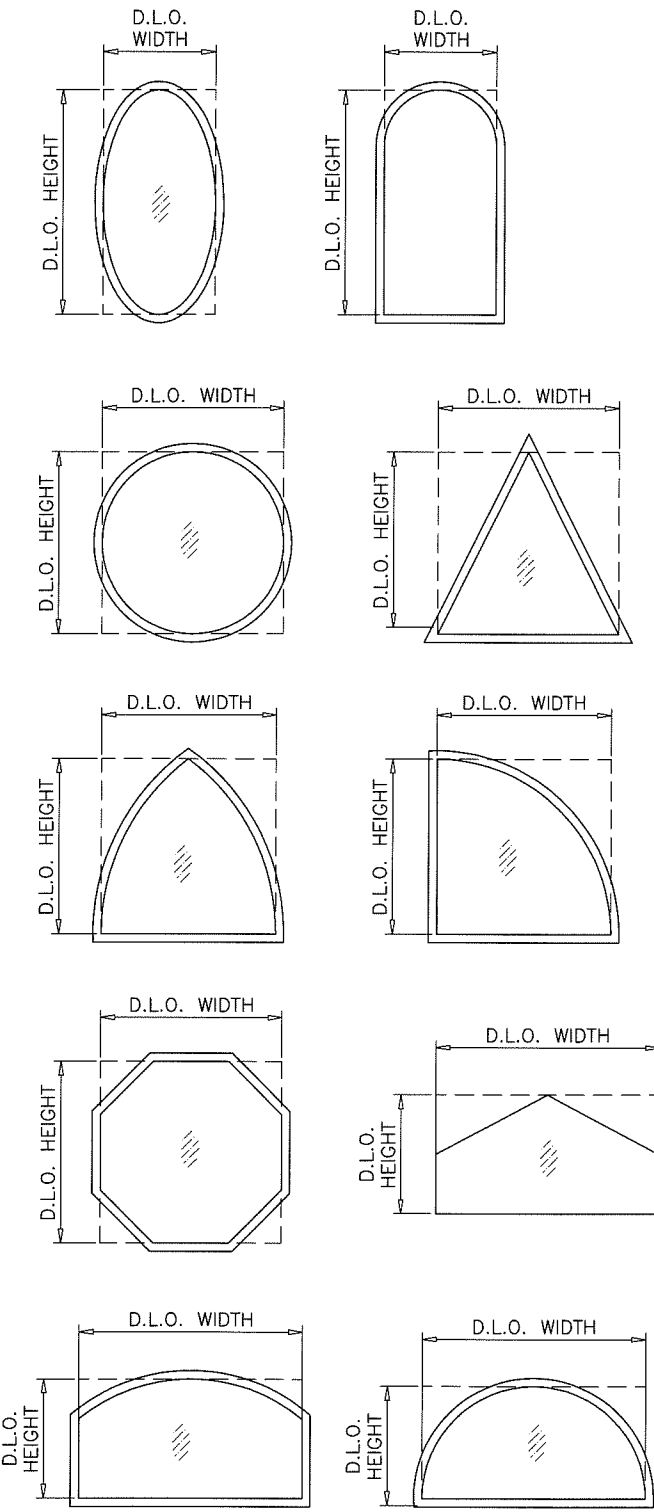
DESIGN LOAD CAPACITY - PSF							
NOMINAL DIMS.		GLASS TYPE 'D'		GLASS TYPE 'E'		GLASS TYPE 'F'	
D.L.O. WIDTH	D.L.O. HEIGHT	EXT. (+)	INT. (-)	EXT. (+)	INT. (-)	EXT. (+)	INT. (-)
36"	80"	85.0	105.0	65.0	80.0	60.0	75.0
39"		85.0	105.0	65.0	80.0	60.0	75.0
42"		85.0	105.0	65.0	80.0	60.0	75.0
45"		85.0	105.0	65.0	80.0	60.0	75.0
48"		85.0	105.0	65.0	80.0	60.0	75.0
51"		85.0	105.0	65.0	80.0	60.0	75.0
54"		85.0	105.0	65.0	80.0	-	-
57"		85.0	105.0	65.0	80.0	-	-
60"		85.0	105.0	65.0	80.0	-	-
63"		85.0	105.0	65.0	80.0	-	-
66"		85.0	105.0	-	-	-	-
69"		85.0	105.0	-	-	-	-
72"		85.0	105.0	-	-	-	-
36"	86"	85.0	105.0	65.0	80.0	60.0	75.0
39"		85.0	105.0	65.0	80.0	60.0	75.0
42"		85.0	105.0	65.0	80.0	60.0	75.0
45"		85.0	105.0	65.0	80.0	60.0	75.0
48"		85.0	105.0	65.0	80.0	60.0	75.0
51"		85.0	105.0	65.0	80.0	60.0	75.0
54"		85.0	105.0	65.0	80.0	-	-
57"		85.0	105.0	65.0	80.0	-	-
60"		85.0	105.0	65.0	80.0	-	-
63"		85.0	105.0	-	-	-	-
66"		85.0	105.0	-	-	-	-
69"		85.0	105.0	-	-	-	-
72"		85.0	105.0	-	-	-	-
36"	92"	85.0	105.0	65.0	80.0	60.0	75.0
39"		85.0	105.0	65.0	80.0	60.0	75.0
42"		85.0	105.0	65.0	80.0	60.0	75.0
45"		85.0	105.0	65.0	80.0	60.0	75.0
48"		85.0	105.0	65.0	80.0	-	-
51"		85.0	105.0	65.0	80.0	-	-
54"		85.0	105.0	65.0	80.0	-	-
57.25"		85.0	105.0	65.0	80.0	-	-
60"		85.0	105.0	-	-	-	-
63"		85.0	105.0	-	-	-	-
66"		85.0	105.0	-	-	-	-
36"	98"	85.0	105.0	65.0	80.0	60.0	75.0
39"		85.0	105.0	65.0	80.0	60.0	75.0
42"		85.0	105.0	65.0	80.0	60.0	75.0
45"		85.0	105.0	65.0	80.0	-	-
48"		85.0	105.0	65.0	80.0	-	-
51"		85.0	105.0	65.0	80.0	-	-
54"		85.0	105.0	-	-	-	-
57"		85.0	105.0	-	-	-	-
60"		85.0	105.0	-	-	-	-
63"		85.0	105.0	-	-	-	-
66"		85.0	105.0	-	-	-	-

NOTE:
GLASS CAPACITIES ON THIS SHEET ARE
BASED ON ASTM E1300-09 (3 SEC. GUSTS)

DESIGN LOAD CAPACITY - PSF							
NOMINAL DIMS.		GLASS TYPE 'D'		GLASS TYPE 'E'		GLASS TYPE 'F'	
D.L.O. WIDTH	D.L.O. HEIGHT	EXT. (+)	INT. (-)	EXT. (+)	INT. (-)	EXT. (+)	INT. (-)
36"	104"	85.0	105.0	65.0	80.0	60.0	75.0
39"		85.0	105.0	65.0	80.0	60.0	75.0
42"		85.0	105.0	65.0	80.0	-	-
45"		85.0	105.0	65.0	80.0	-	-
48"		85.0	105.0	65.0	80.0	-	-
51"		85.0	105.0	-	-	-	-
54"		85.0	105.0	-	-	-	-
36"	110"	85.0	105.0	65.0	80.0	60.0	75.0
39"		85.0	105.0	65.0	80.0	-	-
42"		85.0	105.0	65.0	80.0	-	-
45"		85.0	105.0	-	-	-	-
48"		85.0	105.0	-	-	-	-
51"		85.0	105.0	-	-	-	-
54"		85.0	105.0	-	-	-	-
36"	116"	85.0	105.0	65.0	80.0	60.0	75.0
39"		85.0	105.0	65.0	80.0	-	-
42"		85.0	105.0	65.0	80.0	-	-
45"		85.0	105.0	65.0	80.0	-	-
48"		85.0	105.0	-	-	-	-
51"		85.0	105.0	-	-	-	-
54"		85.0	105.0	-	-	-	-
36"	122"	85.0	105.0	65.0	80.0	-	-
39"		85.0	105.0	65.0	80.0	-	-
42"		85.0	105.0	65.0	80.0	-	-
45"		85.0	105.0	-	-	-	-
48"		85.0	105.0	-	-	-	-
52.5"		85.0	105.0	-	-	-	-
36"	128"	85.0	105.0	65.0	80.0	-	-
39"		85.0	105.0	65.0	80.0	-	-
42"		85.0	105.0	-	-	-	-
45"		85.0	105.0	-	-	-	-
48"		85.0	105.0	-	-	-	-
36"	134"	85.0	105.0	65.0	80.0	-	-
39"		85.0	105.0	65.0	80.0	-	-
42"		85.0	105.0	-	-	-	-
45"		85.0	105.0	-	-	-	-
48"		85.0	105.0	-	-	-	-
36"	140"	85.0	105.0	65.0	80.0	-	-
39"		85.0	105.0	-	-	-	-
42"		85.0	105.0	-	-	-	-
45.5"		85.0	105.0	-	-	-	-



ALLOWABLE LOADS FOR ALTERNATE SHAPES AS SHOWN ABOVE OR SIMILAR CAN BE
VERIFIED BY INSCRIBING PICTURE WINDOW SHAPE WITHIN SQUARE OR RECTANGLE AS
SHOWN IN DOTTED LINES AND OBTAINING ALLOWABLE LOADS FROM THOSE SHAPES.
SINGLE LITES MAY BE INSTALLED VERTICALLY AS SHOWN ABOVE OR HORIZONTALLY.





GLASS & ALUMINUM SOLUTIONS™

http://www.trulite.com

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PEACHTREE CITY, GA 30269
p. 800-432-8132

PRODUCT:

Resistor
3000R ALUMINUM
STOREFRONT WALL-LMI

Resistor
PRODUCT SERIES

REVN	DATE/REMARKS

ENGINEER:



MCY ENGINEERING, INC.
GLAZING CONSULTANT

8501 SW 124TH AVE. STE. 205
MIAMI, FL 33183
P: (786) 360-2786
Email: MCY@MCYEngineering.com
www.MCYEngineering.com

STAMP:



YIPING WANG, P.E.
FLORIDA REGISTRATION
PE #55983
C.A.N. - 28677

MAR 26 2019

PRODUCT CONTROL APPROVAL:

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 18-0415.04
Expiration Date March 18, 2024
By 
Miami Dade Product Control

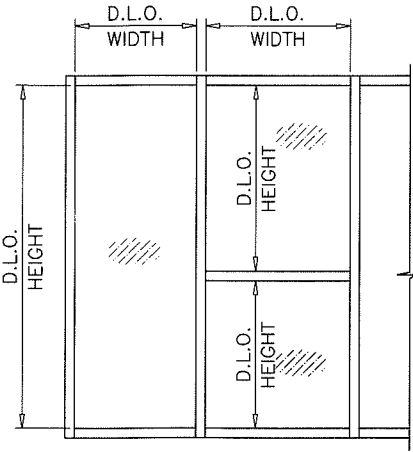
DRAWN: YIN	DRAWING No:
DATE: 12-11-17	4 OF 14
DWG: AD18-17	

DESIGN LOAD CAPACITY — PSF				
NOMINAL DIMS.		GLASS TYPE 'A'	GLASS TYPE 'B'	GLASS TYPE 'C'
D.L.O. WIDTH	D.L.O. HEIGHT	EXT. (+) INT. (—)	EXT. (+) INT. (—)	EXT. (+) INT. (—)
36"	87"	87.0	100.0	100.0
39"		87.0	100.0	100.0
42"		87.0	100.0	100.0
45"		87.0	100.0	100.0
48"		87.0	100.0	100.0
51"		87.0	100.0	100.0
54"		87.0	100.0	100.0
57"		87.0	100.0	100.0
60"		87.0	100.0	100.0
63"		87.0	100.0	100.0
66"		87.0	100.0	100.0
69"		87.0	100.0	100.0
72"		87.0	100.0	100.0
36"	90"	87.0	100.0	100.0
39"		87.0	100.0	100.0
42"		87.0	100.0	100.0
45"		87.0	100.0	100.0
48"		87.0	100.0	100.0
51"		87.0	100.0	100.0
54"		87.0	100.0	100.0
57"		87.0	100.0	100.0
60"		87.0	100.0	100.0
63"		87.0	100.0	100.0
66"		87.0	100.0	100.0
69"		87.0	100.0	100.0
72"		87.0	100.0	100.0
36"	93"	87.0	100.0	100.0
39"		87.0	100.0	100.0
42"		87.0	100.0	100.0
45"		87.0	100.0	100.0
48"		87.0	100.0	100.0
51"		87.0	100.0	100.0
54"		87.0	100.0	100.0
57"		87.0	100.0	100.0
60"		87.0	100.0	100.0
63"		87.0	100.0	100.0
66"		87.0	100.0	100.0
69"		87.0	100.0	100.0
72"		87.0	100.0	—
36"	96"	87.0	100.0	100.0
39"		87.0	100.0	100.0
42"		87.0	100.0	100.0
45"		87.0	100.0	100.0
48"		87.0	100.0	100.0
51"		87.0	100.0	100.0
54"		87.0	100.0	100.0
57"		87.0	100.0	100.0
60"		87.0	100.0	100.0
63"		87.0	100.0	100.0
66"		87.0	100.0	100.0
69"		87.0	100.0	—

DESIGN LOAD CAPACITY — PSF				
NOMINAL DIMS.		GLASS TYPE 'A'	GLASS TYPE 'B'	GLASS TYPE 'C'
D.L.O. WIDTH	D.L.O. HEIGHT	EXT. (+) INT. (—)	EXT. (+) INT. (—)	EXT. (+) INT. (—)
36"	99"	87.0	100.0	100.0
39"		87.0	100.0	100.0
42"		87.0	100.0	100.0
45"		87.0	100.0	100.0
48"		87.0	100.0	100.0
51"		87.0	100.0	100.0
54"		87.0	100.0	100.0
57"		87.0	100.0	100.0
60"		87.0	100.0	100.0
63"		87.0	100.0	100.0
66"		87.0	100.0	—
36"	102"	87.0	100.0	100.0
39"		87.0	100.0	100.0
42"		87.0	100.0	100.0
45"		87.0	100.0	100.0
48"		87.0	100.0	100.0
51"		87.0	100.0	100.0
54"		87.0	100.0	100.0
57"		87.0	100.0	100.0
60"		87.0	100.0	100.0
63"		87.0	100.0	100.0
66"		87.0	100.0	—
36"	105"	87.0	100.0	100.0
39"		87.0	100.0	100.0
42"		87.0	100.0	100.0
45"		87.0	100.0	100.0
48"		87.0	100.0	100.0
51"		87.0	100.0	100.0
54"		87.0	100.0	100.0
57"		87.0	100.0	100.0
60"		87.0	100.0	100.0
63"		87.0	100.0	100.0
36"	108"	87.0	100.0	100.0
39"		87.0	100.0	100.0
42"		87.0	100.0	100.0
45"		87.0	100.0	100.0
48"		87.0	100.0	100.0
51"		87.0	100.0	100.0
54"		87.0	100.0	100.0
57"		87.0	100.0	100.0
60"		87.0	100.0	100.0
63"		87.0	100.0	—
36"	111"	87.0	100.0	100.0
39"		87.0	100.0	100.0
42"		87.0	100.0	100.0
45"		87.0	100.0	100.0
48"		87.0	100.0	100.0
51"		87.0	100.0	100.0
54"		87.0	100.0	100.0
57"		87.0	100.0	100.0
60"		87.0	100.0	100.0
63"		87.0	100.0	—

DESIGN LOAD CAPACITY — PSF				
NOMINAL DIMS.		GLASS TYPE 'A'	GLASS TYPE 'B'	GLASS TYPE 'C'
D.L.O. WIDTH	D.L.O. HEIGHT	EXT. (+) INT. (—)	EXT. (+) INT. (—)	EXT. (+) INT. (—)
36"	114"	87.0	100.0	100.0
39"		87.0	100.0	100.0
42"		87.0	100.0	100.0
45"		87.0	100.0	100.0
48"		87.0	100.0	100.0
51"		87.0	100.0	100.0
54"		87.0	100.0	100.0
57"		87.0	100.0	97.9
36"	117"	87.0	100.0	100.0
39"		87.0	100.0	100.0
42"		87.0	100.0	100.0
45"		87.0	100.0	100.0
48"		87.0	100.0	100.0
51"		87.0	100.0	100.0
54"		87.0	100.0	100.0
57"		87.0	100.0	—
36"	120"	87.0	100.0	100.0
39"		87.0	100.0	100.0
42"		87.0	100.0	100.0
45"		87.0	100.0	100.0
48"		87.0	100.0	100.0
51"		87.0	100.0	100.0
54"		87.0	98.5	98.5

NOTE:
GLASS CAPACITIES ON THIS SHEET ARE
BASED ON ASTM E1300-09 (3 SEC. GUSTS)



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p. 800-432-8132

PRODUCT:

Resistor
3000R ALUMINUM
STOREFRONT WALL-LMI



REVN	DATE/REMARKS

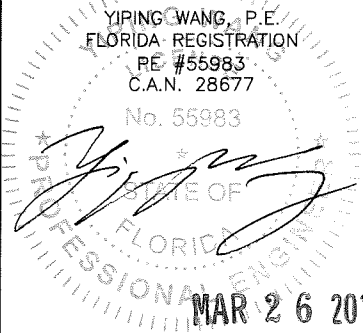
ENGINEER:



MCY ENGINEERING, INC.
GLAZING CONSULTANT

8501 SW 124TH AVE. STE. 205
MIAMI, FL 33183
P: (786) 360-2786
Email: MCY@MCYEngineering.com
www.MCYEngineering.com

STAMP:



PRODUCT CONTROL APPROVAL:

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 19-0415-04
Expiration Date March 16, 2024
By *Manuel Prie*
Manual Date Product Control

DRAWN: YIN	DRAWING No:
DATE: 12-11-17	5 OF 14
DWG: AD18-17	

MULLION & JAMB W/REINF. LOAD CAPACITY - PSF			
NOMINAL DIMS.		WITHOUT REINFORCING	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)
24"	78"	65.0	80.0
30"		65.0	80.0
36"		65.0	80.0
42"		65.0	80.0
48"		65.0	80.0
54"		65.0	80.0
60"		65.0	74.0
66"		65.0	67.0
72"		62.0	62.0
24"	84"	65.0	80.0
30"		65.0	80.0
36"		65.0	80.0
42"		65.0	80.0
48"		65.0	80.0
54"		65.0	72.0
60"		65.0	65.0
66"		59.0	59.0
24"	90"	65.0	80.0
30"		65.0	80.0
36"		65.0	80.0
42"		65.0	80.0
48"		65.0	71.0
54"		63.0	63.0
60"		57.0	57.0
24"	96"	65.0	80.0
30"		65.0	80.0
36"		65.0	80.0
42"		65.0	71.0
48"		62.0	62.0
54"		55.0	55.0
60"		50.0	50.0

FRAME JAMB
DOOR MULLION

INTERMEDIATE
MULLION

	1x IN ⁴	Sx IN ³
3001R	4.0776	1.7355

	1x IN ⁴	Sx IN ³
3002R	4.2973	1.7729

3001R	4.0776	1.7355
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3002R	4.2973	1.7729
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WITHOUT REINFORCING

MULLION & JAMB W/O REINF. LOAD CAPACITY - PSF			
NOMINAL DIMS.		WITH REINFORCING	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)
24"	78"	85.0	105.0
30"		85.0	105.0
36"		85.0	105.0
42"		85.0	105.0
48"		85.0	105.0
54"		85.0	105.0
60"		85.0	104.0
66"		85.0	95.0
72"		85.0	87.0
24"	84"	85.0	105.0
30"		85.0	105.0
36"		85.0	105.0
42"		85.0	105.0
48"		85.0	105.0
54"		85.0	105.0
60"		85.0	97.0
66"		85.0	88.0
72"		81.0	81.0
24"	90"	85.0	105.0
30"		85.0	105.0
36"		85.0	105.0
42"		85.0	105.0
48"		85.0	105.0
54"		85.0	100.0
60"		85.0	90.0
66"		82.0	82.0
72"		75.0	75.0
24"	96"	85.0	105.0
30"		85.0	105.0
36"		85.0	105.0
42"		85.0	105.0
48"		85.0	105.0
54"		85.0	94.0
60"		85.0	85.0
66"		77.0	77.0
72"		71.0	71.0
24"	102"	85.0	105.0
30"		85.0	105.0
36"		85.0	105.0
42"		85.0	105.0
48"		85.0	100.0
54"		85.0	88.0
60"		80.0	80.0
66"		72.0	72.0

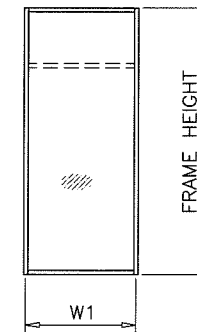
MULLION & JAMB W/O REINF. LOAD CAPACITY - PSF			
NOMINAL DIMS.		WITH REINFORCING	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)
24"	108"	85.0	105.0
30"		85.0	105.0
36"		85.0	105.0
42"		85.0	105.0
48"		85.0	94.0
54"		84.0	84.0
60"		75.0	75.0
24"	114"	85.0	105.0
30"		85.0	105.0
36"		85.0	105.0
42"		85.0	102.0
48"		85.0	89.0
54"		79.0	79.0
60"		71.0	71.0
24"	120"	85.0	105.0
30"		85.0	105.0
36"		85.0	105.0
42"		85.0	97.0
48"		83.0	85.0
54"		76.0	75.0
36"	126"	85.0	105.0
42"		85.0	90.0
48"		79.0	79.0
54"		70.0	70.0
36"	132"	85.0	96.0
42"		82.0	82.0
48"		72.0	72.0
36"	138"	85.0	87.0
42"		75.0	75.0
48"		66.0	66.0
36"	144"	78.0	78.0
42"		67.0	67.0
48"		58.0	58.0

FRAME JAMB		
	1x IN ⁴	Sx IN ³
3001R	4.0776	1.7355
3104	2.7136	1.4473
TOTAL	6.7912	

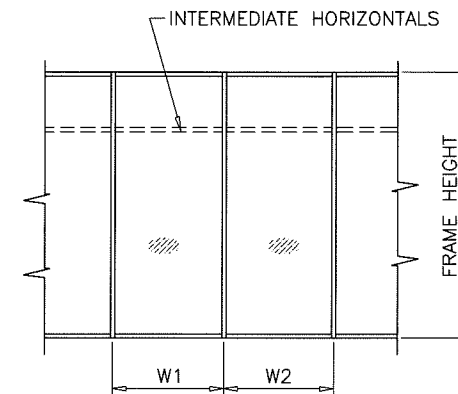
WITH ALUM. REINFORCING

INTERMEDIATE MULLION		
	1x IN ⁴	Sx IN ³
3002R	4.2973	1.7729
STL. BAR	9.6670	(IN ALUM.)
TOTAL	13.964	

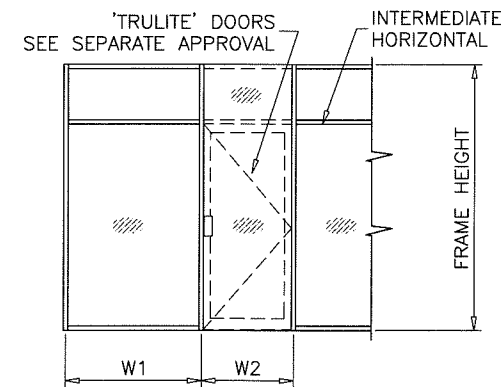
WITH STEEL REINFORCING



WIDTH (W) = W1 (JAMB)



WIDTH (W) = $\frac{W1 + W2}{2}$



WIDTH (W) = $\frac{W1 + W2}{2}$

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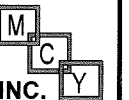
PRODUCT:

Resistor
3000R ALUMINUM
STOREFRONT WALL-LMI

Resistor
PRODUCT SERIES

REVN	DATE/REMARKS

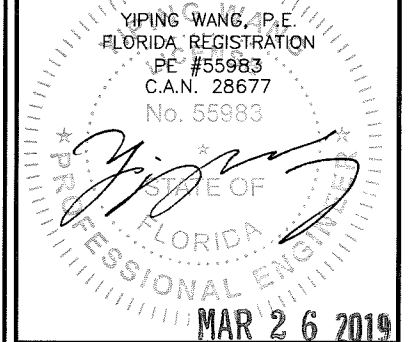
ENGINEER:



MCY ENGINEERING, INC.
GLAZING CONSULTANT

8501 SW 124TH AVE. STE. 205
MIAMI, FL 33183
P: (786) 360-2786
Email: MCY@MCYEngineering.com
www.MCYEngineering.com

STAMP:



PRODUCT CONTROL APPROVAL:

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 19-0415.04
Expiration Date March 18, 2024
By *Manuel Jerez*
Miami Code Product Control

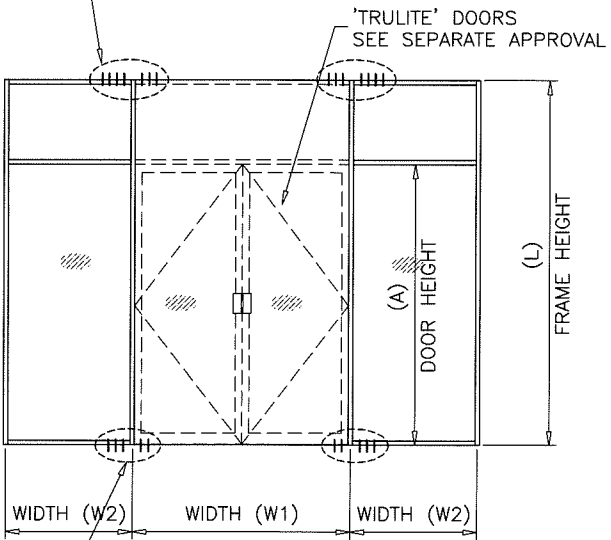
DRAWN: YIN	DRAWING No:
DATE: 12-11-17	6 OF 14
DWG: AD18-17	

MULLION LOAD CAPACITY — PSF AT DOUBLE DOOR WITH/WITHOUT TRANSOM					
NOMINAL DIMS.				WITH REINFORCING	
WIDTH (W1)	WIDTH (W2)	HEIGHT (A)	HEIGHT (L)	EXT.(+)	INT.(—)
72"	30"	84"	108"	60.0	75.0
	36"			60.0	73.0
	42"			60.0	69.0
	48"			60.0	65.0
	54"			60.0	62.0
	60"			59.0	59.0
72"	30"	84"	114"	60.0	75.0
	42"			60.0	66.0
	48"			60.0	62.0
	54"			59.0	59.0
	60"			56.0	56.0
72"	30"	84"	120"	60.0	72.0
	36"			60.0	67.0
	42"			60.0	63.0
	54"			57.0	57.0
	60"			54.0	54.0
72"	30"	84"	126"	60.0	69.0
	36"			60.0	65.0
	42"			60.0	61.0
	48"			58.0	58.0
	54"			54.0	54.0
	60"			51.0	51.0
72"	30"	84"	132"	60.0	67.0
	36"			60.0	62.0
	42"			58.0	58.0
	48"			55.0	55.0
	60"			49.0	49.0
72"	30"	84"	138"	60.0	62.0
	36"			59.0	59.0
	48"			52.0	52.0
	54"			49.0	49.0
	60"			46.0	46.0
72"	30"	84"	144"	56.0	56.0
	36"			53.0	53.0
	48"			47.0	47.0
	54"			45.0	45.0

MULLION LOAD CAPACITY — PSF AT DOUBLE DOOR WITH/WITHOUT TRANSOM					
NOMINAL DIMS.				WITH REINFORCING	
WIDTH (W1)	WIDTH (W2)	HEIGHT (A)	HEIGHT (L)	EXT.(+)	INT.(—)
72"	30"	90"	114"	60.0	73.0
	36"			60.0	69.0
	42"			60.0	65.0
	48"			60.0	61.0
	54"			58.0	58.0
	60"			55.0	55.0
72"	30"	90"	120"	60.0	70.0
	36"			60.0	66.0
	42"			60.0	62.0
	48"			59.0	59.0
	54"			56.0	56.0
72"	30"	90"	126"	60.0	68.0
	36"			60.0	64.0
	42"			60.0	60.0
	48"			57.0	57.0
	54"			54.0	54.0
72"	30"	90"	132"	60.0	66.0
	36"			60.0	62.0
	42"			58.0	58.0
	48"			56.0	56.0
	54"			52.0	52.0
72"	30"	90"	138"	60.0	64.0
	36"			60.0	60.0
	42"			56.0	56.0
	48"			52.0	52.0
	54"			49.0	49.0
72"	30"	90"	144"	58.0	58.0
	36"			54.0	54.0
	42"			52.0	52.0
	48"			49.0	49.0
	54"			46.0	46.0

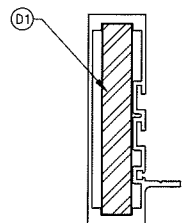
MULLION LOAD CAPACITY — PSF AT DOUBLE DOOR WITH/WITHOUT TRANSOM					
NOMINAL DIMS.				WITH REINFORCING	
WIDTH (W1)	WIDTH (W2)	HEIGHT (A)	HEIGHT (L)	EXT.(+)	INT.(—)
72"	30"	96"	120"	60.0	69.0
	36"			60.0	65.0
	42"			60.0	61.0
	48"			58.0	58.0
	54"			55.0	55.0
	60"			52.0	52.0
72"	30"	96"	126"	60.0	67.0
	36"			60.0	63.0
	42"			59.0	59.0
	48"			56.0	56.0
	54"			53.0	53.0
72"	30"	96"	132"	60.0	65.0
	36"			60.0	61.0
	42"			57.0	57.0
	48"			54.0	54.0
	54"			51.0	51.0
72"	30"	96"	138"	60.0	63.0
	36"			59.0	59.0
	42"			55.0	55.0
	48"			52.0	52.0
	54"			49.0	49.0
72"	30"	96"	144"	60.0	60.0
	36"			56.0	56.0
	42"			53.0	53.0
	48"			50.0	50.0
	54"			48.0	48.0

ANCHORS TYPE	MAX. SHIM	TOTAL NO. OF ANCHORS AT DOOR MULLION HEAD	
		AT FIX. LITE	AT DOOR
AA	3/8"	4	4
BB	3/8"	3	3
A	3/8"	3	3
A	1/4"	2	3
B	3/8"	2	3
C	1/4"	2	3



ANCHORS TYPE	MAX. SHIM	TOTAL NO. OF ANCHORS AT DOOR MULLION HEAD	
		AT FIX. LITE	AT DOOR
A	3/8"	3	2
B	3/8"	3	2

ANCHOR TYPE SEE SHEET 10



DOOR MULLION		
1x IN^4	Sx IN^3	
3001R	4.0776	1.7355
STL. BAR	9.6670	(IN ALUM.)
TOTAL	13.7446	

Trulite
GLASS & ALUMINUM SOLUTIONS™

http://www.trulite.com

403 WESTPARK COURT, Suite 201
PEACHTREE CITY, GA 30269
p. 800-432-8132

PRODUCT:

Resistor
3000R ALUMINUM
STOREFRONT WALL-LMI

Resistor
PRODUCT SERIES

REVN	DATE/REMARKS

ENGINEER:

MCY ENGINEERING, INC.
GLAZING CONSULTANT

8501 SW 124TH AVE. STE. 205
MIAMI, FL 33183
P: (786) 360-2786
Email: MCY@MCYEngineering.com
www.MCYEngineering.com

STAMP:

YIPING WANG, P.E.
FLORIDA REGISTRATION
PE #55983
C.A.N. 28677
No. 55983
MAR 26 2019

PRODUCT CONTROL APPROVAL:

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 19-0415-04
Expiration Date March 18, 2024
By *Manuel Perez*
Miami Dade Product Control

DRAWN: YIN

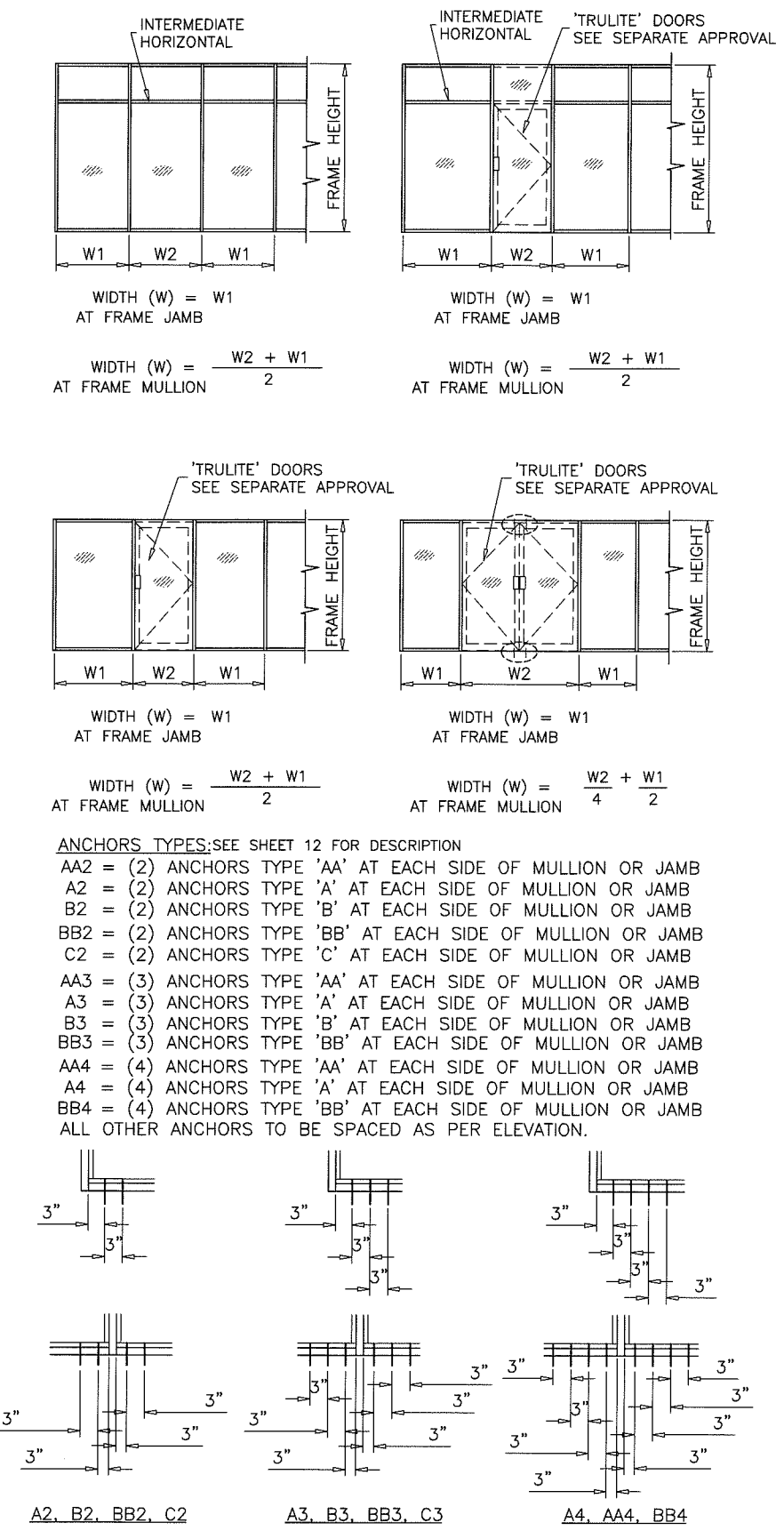
DRAWING No:

DATE: 12-11-17

7 OF 14

DWG: AD18-17

ANCHOR LOAD CAPACITY – PSF EXT.(+) & INT.(–)															
NOMINAL DIMS.		3/8" SHIM			3/8" SHIM			3/8" SHIM			1/4" SHIM		3/8" SHIM		1/4"SHIM
		ANCHOR TYPE 'AA'			ANCHOR TYPE 'BB'			ANCHOR TYPE 'A'			ANCHOR TYPE 'A'		ANCHOR TYPE 'B'		TYPE 'C'
WIDTH (W)	FRAME HEIGHT	'AA2'	'AA3'	'AA4'	'BB2'	'BB3'	'BB4'	'A2'	'A3'	'A4'	'A2'	'A3'	'B2'	'B3'	'C2'
36"	78"	81.2	105.0	105.0	96.4	105.0	105.0	102.2	105.0	105.0	105.0	105.0	105.0	105.0	105.0
42"		69.6	104.4	105.0	82.6	105.0	105.0	87.6	105.0	105.0	105.0	105.0	105.0	105.0	105.0
48"		60.9	91.4	105.0	72.3	105.0	105.0	76.6	105.0	105.0	95.1	105.0	105.0	105.0	105.0
54"		54.2	81.2	105.0	64.3	96.4	105.0	68.1	102.2	105.0	84.5	105.0	100.6	105.0	105.0
60"		48.7	73.1	97.5	57.8	86.8	105.0	61.3	91.9	105.0	76.1	105.0	90.6	105.0	105.0
66"		44.3	66.5	88.6	52.6	78.9	105.0	55.7	83.6	105.0	69.1	103.7	82.3	105.0	102.5
72"		40.6	60.9	81.2	48.2	72.3	96.4	51.1	76.6	102.2	63.4	95.1	75.5	105.0	93.9
36"	84"	75.4	105.0	105.0	89.5	105.0	105.0	94.9	105.0	105.0	105.0	105.0	105.0	105.0	105.0
42"		64.7	97.0	105.0	76.7	105.0	105.0	81.3	105.0	105.0	100.9	105.0	105.0	105.0	105.0
48"		56.6	84.9	105.0	67.1	100.7	105.0	71.1	105.0	105.0	88.3	105.0	105.0	105.0	105.0
54"		50.3	75.4	100.6	59.7	89.5	105.0	63.2	94.9	105.0	78.5	105.0	93.5	105.0	105.0
60"		45.3	67.9	90.5	53.7	80.6	105.0	56.9	84.4	105.0	70.6	105.0	84.1	105.0	104.7
66"		41.1	61.7	83.3	48.8	73.2	97.7	51.7	77.6	103.5	64.2	96.3	76.5	105.0	95.2
72"		37.7	56.6	75.4	44.8	67.1	89.5	47.4	71.1	94.9	58.9	88.3	70.1	105.0	87.2
36"	90"	70.4	105.0	105.0	83.6	105.0	105.0	88.5	105.0	105.0	105.0	105.0	105.0	105.0	105.0
42"		60.3	90.5	105.0	71.6	105.0	105.0	75.9	105.0	105.0	94.2	105.0	105.0	105.0	105.0
48"		52.8	79.2	105.0	62.7	94.0	105.0	66.4	99.6	105.0	82.4	105.0	98.1	105.0	105.0
54"		46.9	70.4	93.9	55.7	83.6	105.0	59.0	88.5	105.0	73.2	105.0	87.2	105.0	105.0
60"		42.2	63.4	84.5	50.1	75.2	100.3	53.1	79.7	105.0	65.9	98.9	78.5	105.0	97.7
66"		38.4	57.6	76.8	45.6	68.4	91.2	48.3	72.4	96.6	59.9	89.9	71.4	105.0	88.8
72"		35.2	52.8	70.4	41.8	62.7	83.6	44.3	66.4	88.5	54.9	82.4	65.4	98.1	81.4
36"	96"	60.0	99.0	105.0	78.3	105.0	105.0	83.0	105.0	105.0	103.0	105.0	105.0	105.0	105.0
42"		56.6	84.9	105.0	67.1	100.7	105.0	71.1	105.0	105.0	88.3	105.0	105.0	105.0	105.0
48"		49.5	74.3	99.0	58.8	88.1	105.0	62.3	93.4	105.0	77.3	105.0	92.0	105.0	105.0
54"		44.0	66.0	88.0	52.2	78.3	104.4	55.3	83.0	105.0	68.7	103.0	81.8	105.0	101.8
60"		39.6	59.4	79.2	47.0	70.5	94.0	49.8	74.7	99.6	61.8	92.7	73.6	105.0	91.6
66"		36.0	54.0	72.0	42.7	64.1	85.1	45.3	67.9	90.5	56.2	84.3	66.9	100.4	83.3
72"		33.0	49.5	66.0	39.2	58.8	78.3	41.5	62.3	83.0	51.5	77.3	61.3	92.0	76.3
36"	102"	62.1	93.2	105.0	73.7	105.0	105.0	78.1	105.0	105.0	96.9	105.0	105.0	105.0	105.0
42"		53.2	79.9	105.0	63.2	94.8	105.0	67.0	100.4	105.0	83.1	105.0	99.0	105.0	105.0
48"		46.6	69.9	93.2	55.3	82.9	105.0	58.9	87.9	105.0	72.7	105.0	86.6	105.0	105.0
54"		41.4	62.1	82.8	49.2	73.7	98.3	52.1	78.1	104.2	64.6	96.9	77.0	105.0	95.8
60"		37.3	55.9	74.5	44.2	66.4	88.5	46.9	70.3	93.7	58.2	87.2	69.3	103.9	86.2
66"		33.9	50.8	67.8	40.2	60.3	80.4	42.6	63.9	85.2	52.9	79.3	63.0	94.5	78.4
72"		30.5	46.4	63.4	36.8	55.9	76.0	39.2	59.5	81.8	49.5	75.9	60.1	90.6	74.0
36"	108"	58.7	88.0	105.0	69.6	104.4	105.0	73.8	105.0	105.0	91.6	105.0	105.0	105.0	105.0
42"		50.3	75.4	100.6	59.7	89.5	105.0	63.2	94.9	105.0	78.5	105.0	93.5	105.0	105.0
48"		44.0	66.0	88.0	52.2	78.3	104.4	55.3	83.0	105.0	68.7	103.0	81.8	105.0	101.8
54"		39.1	58.7	78.2	46.4	69.6	92.8	49.2	73.8	98.4	61.0	91.6	72.7	105.0	90.5
60"		35.2	52.8	70.4	41.8	62.7	83.6	44.3	66.4	88.5	54.9	82.4	65.4	98.1	81.4
36"	114"	55.6	83.4	105.0	66.0	98.9	105.0	69.9	104.8	105.0	86.7	105.0	103.3	105.0	105.0
42"		47.6	71.5	95.3	56.5	84.8	105.0	59.9	89.9	105.0	74.3	105.0	88.5	105.0	105.0
48"		41.7	62.5	83.4	49.5	74.2	98.9	52.4	78.6	104.8	65.1	97.6	77.5	105.0	96.4
54"		37.4	55.6	74.1	44.0	66.0	88.0	46.6	69.9	93.2	57.8	86.7	68.9	103.3	85.7
60"		33.3	50.0	66.7	39.6	59.4	79.2	41.9	62.9	83.9	52.0	78.1	62.0	93.0	77.1
36"	120"	52.8	79.2	105.0	62.7	94.0	105.0	66.4	99.6	105.0	82.4	105.0	98.1	105.0	105.0
42"		45.3	67.9	90.5	53.7	80.6	105.0	56.9	85.4	105.0	70.6	105.0	84.1	105.0	104.7
48"		39.6	59.4	79.2	47.0	70.5	94.0	49.8	74.7	99.6	61.8	92.7	73.6	105.0	91.6
54"		35.2	52.8	70.4	41.8	62.7	83.6	44.3	66.4	88.5	54.9	82.4	65.4	98.1	81.4



GLASS & ALUMINUM SOLUTIONS™

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PRODUCT:

Resistor

3000R ALUMINUM

STOREFRONT WALL-LMI

Resistor

PRODUCT SERIES

REVN	DATE/REMARKS

ENGINEER:

M

C

Y

MCY ENGINEERING, INC.
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FLORIDA REGISTRATION

PE #55983

C.A.N. 28677

No. 55983

STATE OF FLORIDA

PROFESSIONAL ENGINEER

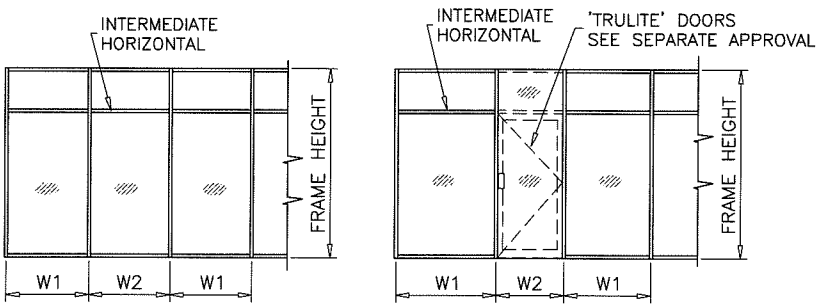
MAR 26 2019

PRODUCT CONTROL APPROVAL:

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 19-0415-04
Expiration Date March 18, 2024
By Manuel Perez
Miami Code Product Control

DRAWN: YIN	DRAWING No:
DATE: 12-11-17	8 OF 14
DWG: AD18-17	

ANCHOR LOAD CAPACITY – PSF EXT.(+) & INT.(–)															
NOMINAL DIMS.		3/8" SHIM			3/8" SHIM			3/8" SHIM			1/4" SHIM		3/8" SHIM		1/4"SHIM
		ANCHOR TYPE 'AA'			ANCHOR TYPE 'BB'			ANCHOR TYPE 'A'			ANCHOR TYPE 'A'		ANCHOR TYPE 'B'		TYPE 'C'
WIDTH (W)	FRAME HEIGHT	'AA2'	'AA3'	'AA4'	'BB2'	'BB3'	'BB4'	'A2'	'A3'	'A4'	'A2'	'A3'	'B2'	'B3'	'C2'
36"	126"	50.3	75.4	100.6	59.7	89.5	105.0	63.2	94.9	105.0	78.5	105.0	93.5	105.0	105.0
42"		43.1	64.7	86.2	51.2	76.7	102.3	54.2	81.3	105.0	67.3	100.9	80.1	105.0	99.7
48"		37.7	56.6	75.4	44.8	67.1	89.5	47.4	71.1	94.9	58.9	88.3	70.1	105.0	87.2
54"		33.5	50.3	67.0	39.8	59.7	79.6	42.2	63.2	84.3	52.3	78.5	62.3	93.5	77.5
36"	132"	48.0	72.0	96.0	57.0	85.5	105.0	60.4	90.5	105.0	74.9	105.0	89.2	105.0	105.0
42"		41.1	61.7	82.3	48.8	73.2	97.7	51.7	77.6	103.5	64.2	96.3	76.5	105.0	95.2
48"		36.0	54.0	72.0	42.7	64.1	85.5	45.3	67.9	90.5	56.21	84.3	66.9	100.4	83.3
36"	138"	45.9	68.9	91.8	54.5	81.7	105.0	57.7	86.6	105.0	71.7	105.0	85.3	105.0	105.0
42"		39.4	59.0	78.7	46.7	70.1	93.4	49.5	74.2	99.0	61.9	92.1	73.1	105.0	91.0
48"		34.4	51.7	68.9	40.9	61.3	81.7	43.3	65.0	86.6	53.7	80.6	64.0	96.0	79.7
36"	144"	44.0	66.0	88.0	52.2	78.3	104.4	55.3	83.0	105.0	68.7	103.0	81.8	105.0	101.8
42"		37.7	56.6	75.4	44.8	67.1	89.5	47.4	71.1	94.9	58.9	88.3	70.1	105.0	87.2
48"		33.0	49.5	66.0	39.2	58.8	78.3	41.5	62.3	83.0	51.5	77.3	61.3	92.0	76.3

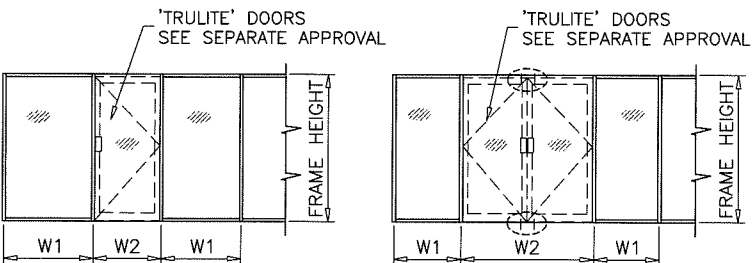


WIDTH (W) = W1
AT FRAME JAMB

WIDTH (W) = $\frac{W2 + W1}{2}$
AT FRAME MULLION

WIDTH (W) = W1
AT FRAME JAMB

WIDTH (W) = $\frac{W2 + W1}{2}$
AT FRAME MULLION



WIDTH (W) = W1
AT FRAME JAMB

WIDTH (W) = $\frac{W2 + W1}{2}$
AT FRAME MULLION

WIDTH (W) = W1
AT FRAME JAMB

WIDTH (W) = $\frac{W2 + W1}{4} + \frac{W1}{2}$
AT FRAME MULLION

ANCHORS TYPES:SEE SHEET 12 FOR DESCRIPTION

AA2 = (2) ANCHORS TYPE 'AA' AT EACH SIDE OF MULLION OR JAMB

A2 = (2) ANCHORS TYPE 'A' AT EACH SIDE OF MULLION OR JAMB

B2 = (2) ANCHORS TYPE 'B' AT EACH SIDE OF MULLION OR JAMB

BB2 = (2) ANCHORS TYPE 'BB' AT EACH SIDE OF MULLION OR JAMB

C2 = (2) ANCHORS TYPE 'C' AT EACH SIDE OF MULLION OR JAMB

AA3 = (3) ANCHORS TYPE 'AA' AT EACH SIDE OF MULLION OR JAMB

A3 = (3) ANCHORS TYPE 'A' AT EACH SIDE OF MULLION OR JAMB

B3 = (3) ANCHORS TYPE 'B' AT EACH SIDE OF MULLION OR JAMB

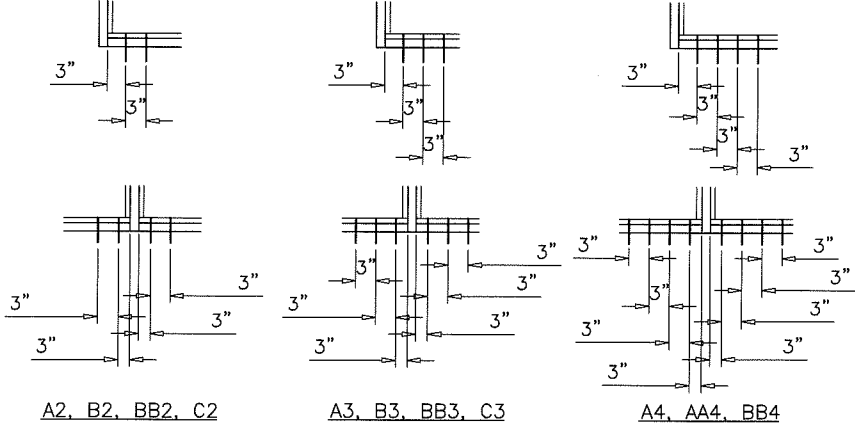
BB3 = (3) ANCHORS TYPE 'BB' AT EACH SIDE OF MULLION OR JAMB

AA4 = (4) ANCHORS TYPE 'AA' AT EACH SIDE OF MULLION OR JAMB

A4 = (4) ANCHORS TYPE 'A' AT EACH SIDE OF MULLION OR JAMB

BB4 = (4) ANCHORS TYPE 'BB' AT EACH SIDE OF MULLION OR JAMB

ALL OTHER ANCHORS TO BE SPACED AS PER ELEVATION.



A2, B2, BB2, C2 A3, B3, BB3, C3 A4, AA4, BB4

ANCHOR TYPE SEE SHEET 10

GLASS & ALUMINUM SOLUTIONS™

<http://www.trulite.com>

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PRODUCT:

Resistor

3000R ALUMINUM

STOREFRONT WALL-LMI

Resistor

PRODUCT SERIES

REVN	DATE/REMARKS

ENGINEER:

M

C

Y

MCY ENGINEERING, INC.

GLAZING CONSULTANT

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STAMP:

YIPING WANG, P.E.

FLORIDA REGISTRATION

PE #55983

C.A.N. 28677

MAR 26 2019

PRODUCT CONTROL APPROVAL:

PRODUCT REVISED

as complying with the Florida

Building Code

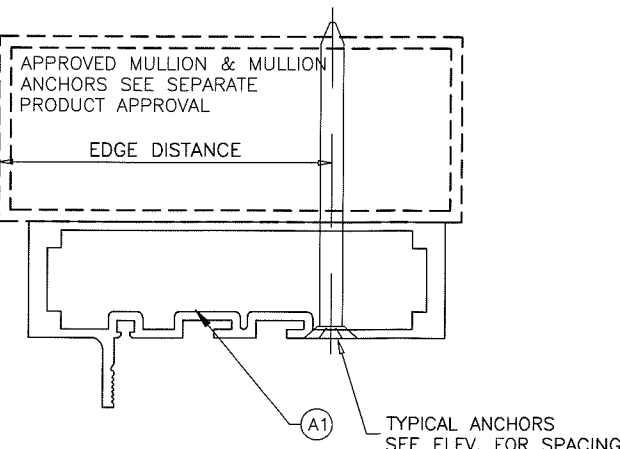
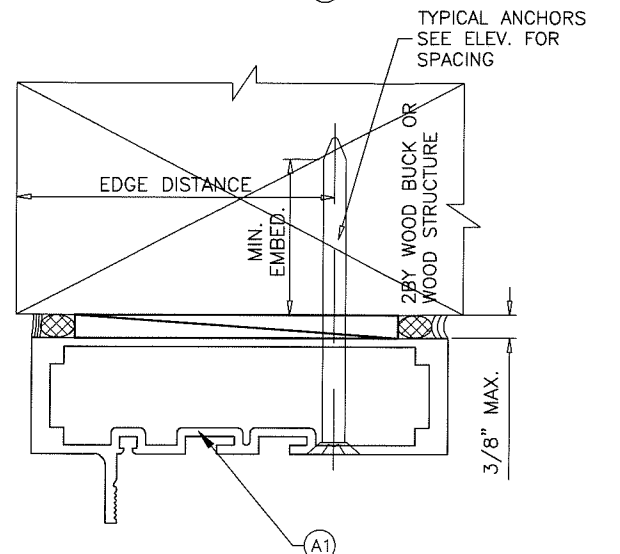
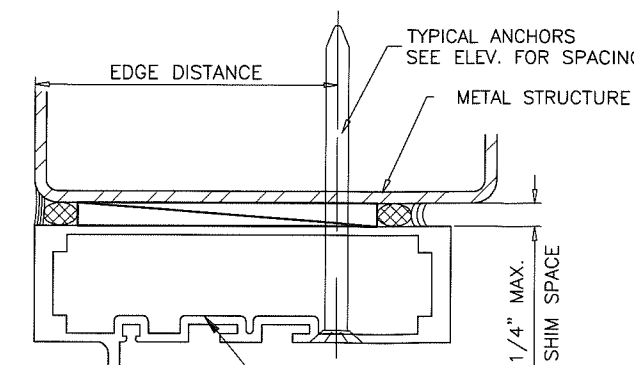
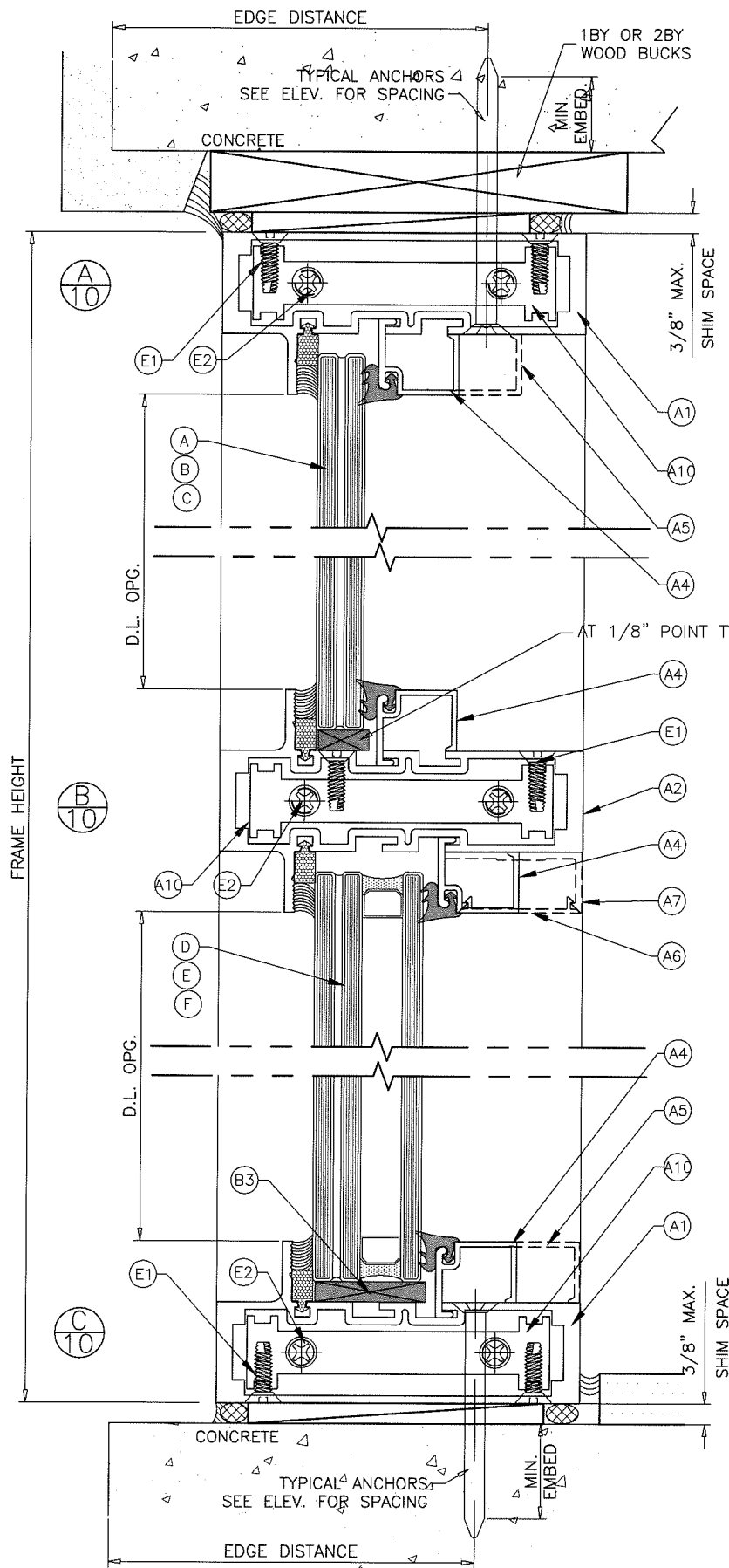
Acceptance No 19-0415-04

Expiration Date March 18, 2024

By

Miami/Dade Product Control

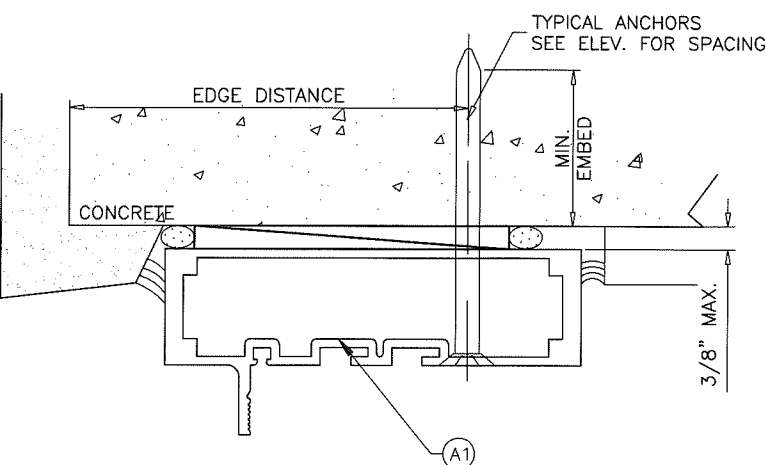
DRAWN: YIN	DRAWING No:
DATE: 12-11-17	9 OF 14
DWG: AD18-17	



TYPICAL EDGE DISTANCE

INTO CONCRETE AND MASONRY* = 2-1/2" MIN.
 INTO WOOD STRUCTURE = 1" MIN.
 INTO METAL STRUCTURE = 3/4" MIN.

CONCRETE f'c = 3000 PSI MIN.
 C-90 HOLLOW/FILLED BLOCK f'm = 2000 PSI MIN.



WOOD BUCKS AND METAL STRUCTURES NOT BY TRULITE. MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

- TYPICAL ANCHORS:**
 SEE ELEVATIONS FOR SPACING
- TYPE 'AA'** 1/4" DIA. TAPCON BY 'ITW' (Fu=120 KSI, Fy=92 KSI)
 INTO 2BY WOOD BUCKS OR WOOD STRUCTURES
 1-1/2" MIN. PENETRATION INTO WOOD
 THRU WOOD BUCKS INTO CONC. OR MASONRY*
 1-3/4" MIN. EMBED INTO MASONRY*
 1-3/4" MIN. EMBED INTO CONC.
- TYPE 'A'** 1/4" TAPCON BY 'ITW' (Fu=120 KSI, Fy=92 KSI)
 DIRECTLY INTO CONCRETE OR MASONRY*
 1-3/4" MIN. EMBED INTO CONCRETE OR MASONRY*
- TYPE 'BB'** 1/4" DIA. ULTRACON BY 'ELCO' (Fu=177 KSI, Fy=155 KSI)
 INTO 2BY WOOD BUCKS OR WOOD STRUCTURES
 1-1/2" MIN. PENETRATION INTO WOOD
 THRU WOOD BUCKS INTO CONC. OR MASONRY*
 1-3/4" MIN. EMBED INTO MASONRY*
 1-3/4" MIN. EMBED INTO CONC.
- TYPE 'B'** 1/4" DIA. ULTRACON BY 'ELCO' (Fu=177 KSI, Fy=155 KSI)
 DIRECTLY INTO CONCRETE OR MASONRY*
 1-3/4" MIN. EMBED INTO CONCRETE OR MASONRY*
- TYPE 'C'** #14 SMS (GRADE 2) (Fu=74 KSI, Fy=57 KSI)
 OR SELF DRILLING SCREWS (GRADE 5) (Fu=120 KSI, Fy=92 KSI)
 INTO MIAMI-DADE COUNTY APPROVED MULLIONS
 (1/8" THK. MIN.) INTO METAL STRUCTURE.
- STEEL : 12 GA. MIN. (Fy = 36 KSI MIN.)
 ALUMINUM : 1/8" THK. MIN. (6063-T5 MIN.)
 (STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

SEALANTS:
 FRAME CORNERS SEALED WITH DOWSIL 1199 OR EQUAL COMPATIBLE.

*MASONRY - GROUT FILLED CONCRETE BLOCK (f'c=2000 PSI MIN.)
 NOTE: MASONRY USED AT JAMB SUBSTRATE ONLY

Trulite
 GLASS & ALUMINUM SOLUTIONS™

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Resistor
 PRODUCT SERIES

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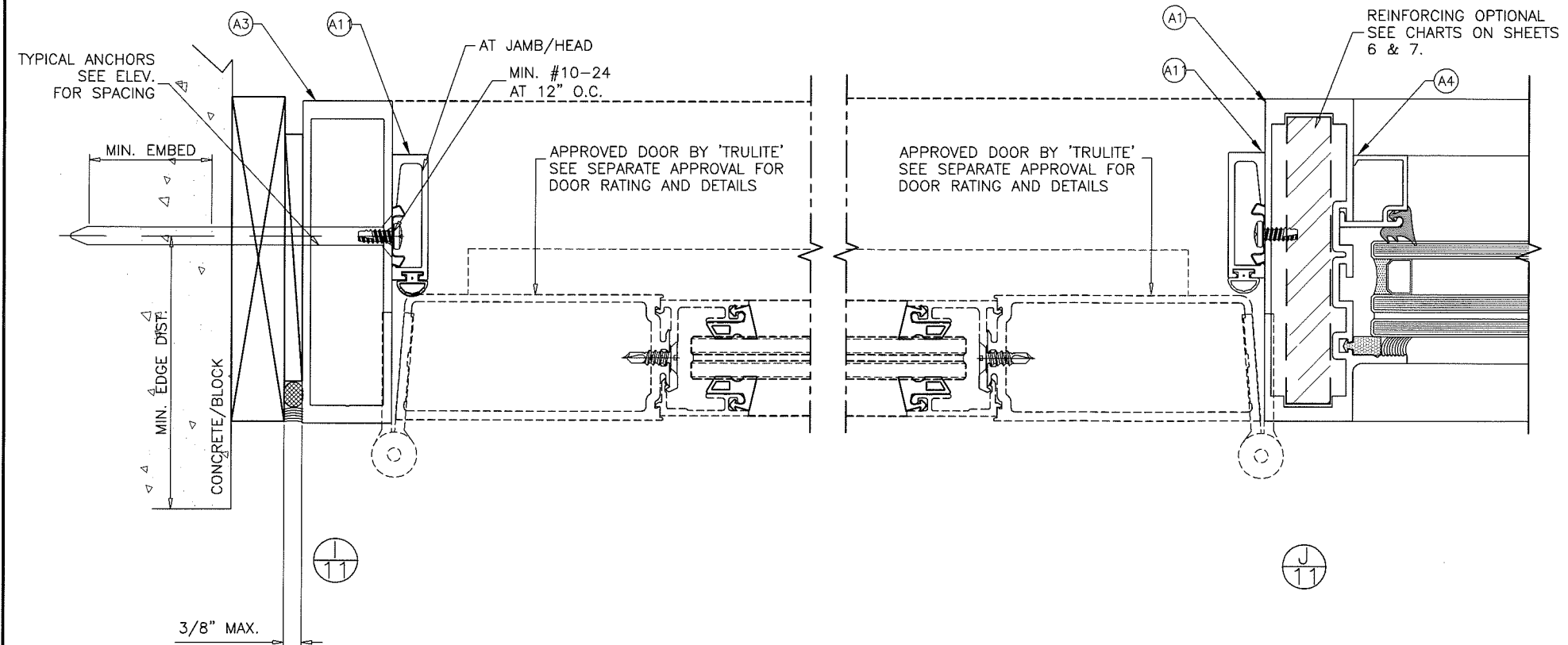
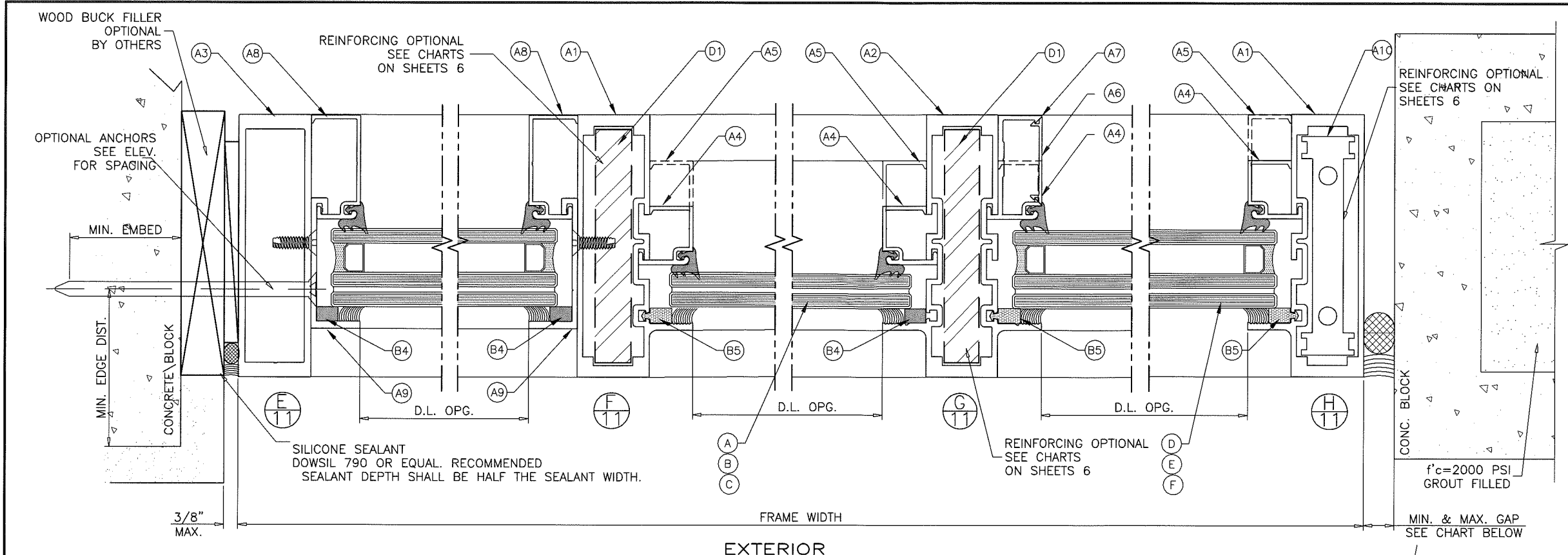
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 YIRONG WANG, P.E.
 FLORIDA REGISTRATION
 PE #55983
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 PROFESSIONAL ENGINEER
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 Miami Dade Product Control

DRAWN: YIN
 DATE: 12-11-17
 DWG: AD18-17

DRAWING No:
10 OF 14



MAX. FRAME HEIGHT	GAP	
	MIN.	MAX.
96"	1/2"	1"
108"	5/8"	1 1/2"
120"	1/2"	1-1/8"
144"	3/4"	1-1/8"

MAX. FRAME WIDTH	MAX. GAP AT EACH SIDE
30 FT.	1-1/8"
60 FT.	1-1/8"

ALTERNATE SEALANTS AT JAMB GAPS CAN BE DESIGNED BY ENGINEER OF RECORD BASED ON MANUFACTURER GUIDE LINES.

Trulite
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PRODUCT:
Resistor
3000R ALUMINUM
STOREFRONT WALL-LMI
Resistor
PRODUCT SERIES

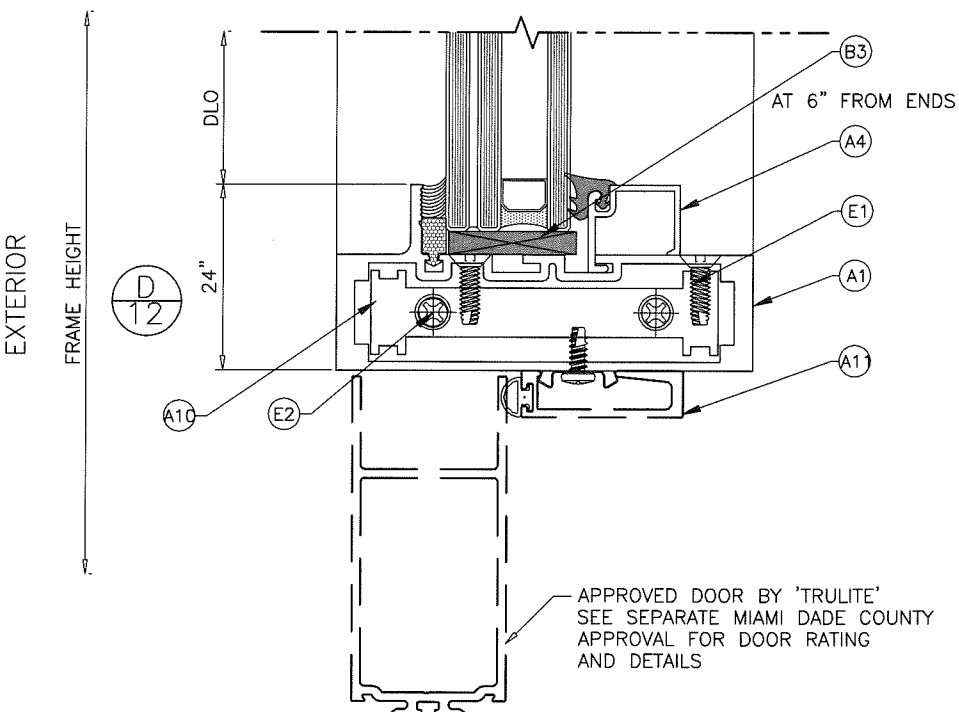
REV#	DATE/REMARKS

ENGINEER: **MCY ENGINEERING, INC.**
GLAZING CONSULTANT
8501 SW 124TH AVE. STE. 205
MIAMI, FL 33183
P: (786) 360-2786
Email: MCY@MCYEngineering.com
www.MCYEngineering.com

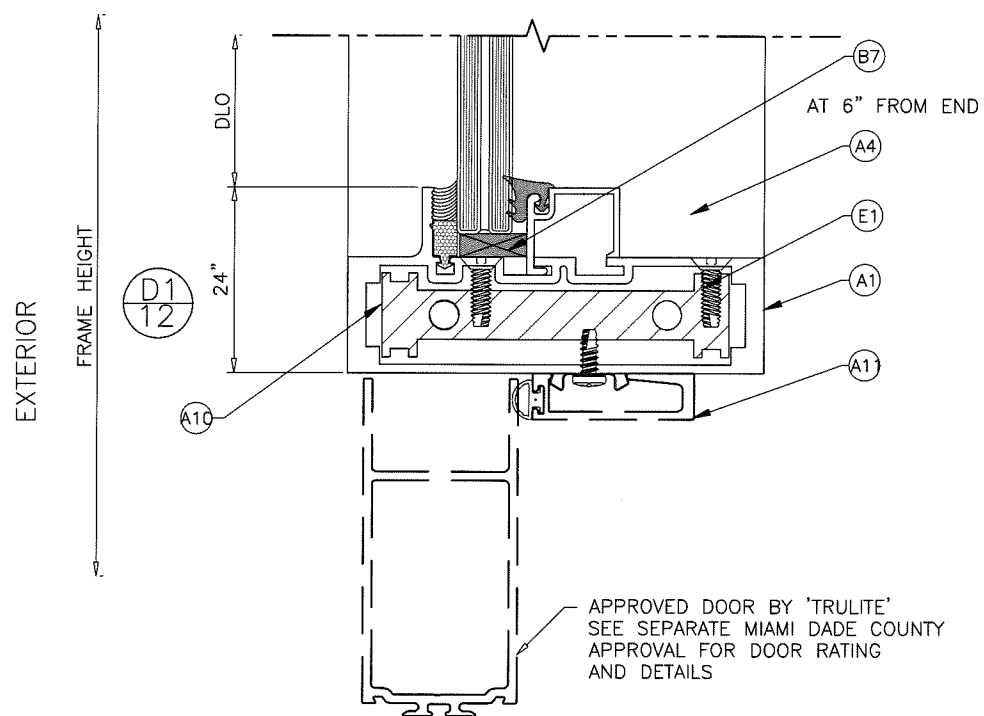
STAMP: **YIPING WANG, P.E.**
FLORIDA REGISTRATION
PE #55983
C.A.N. 28677
STATE OF FLORIDA
PROFESSIONAL ENGINEER
MAR 26 2019

PRODUCT CONTROL APPROVAL:
PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 19-0415.04
Expiration Date March 18, 2024
By *Manuel Perez*
Miami Dade Product Control

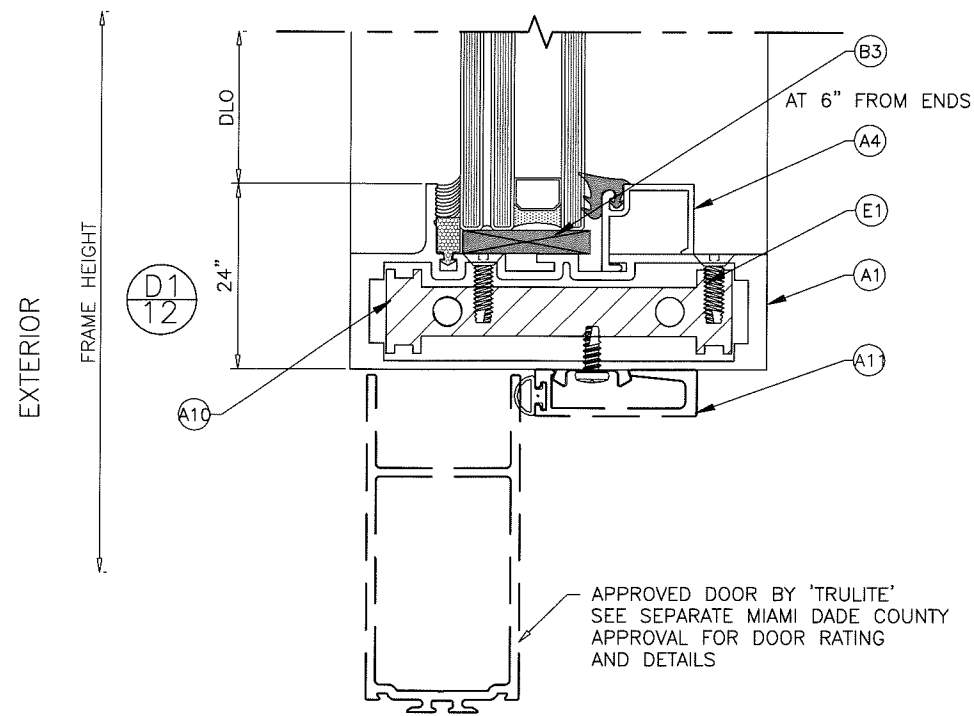
DRAWN: YIN
DATE: 12-11-17
DWG: AD18-17
DRAWING No:
11 OF 14



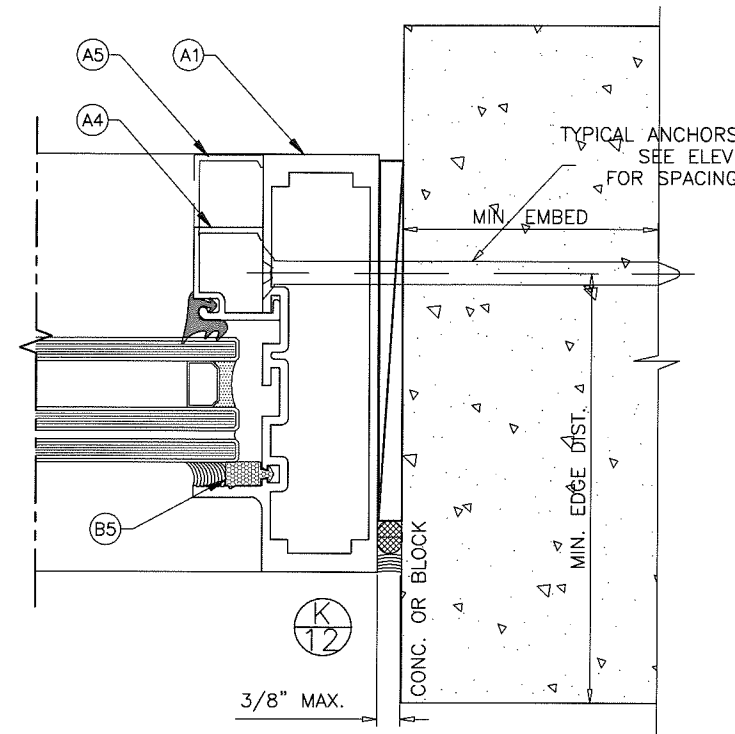
WITH INSULATED LAMINATED GLASS OPTION SHOWN



WITH LAMINATED GLASS OPTION SHOWN



WITH INSULATED LAMINATED GLASS OPTION SHOWN



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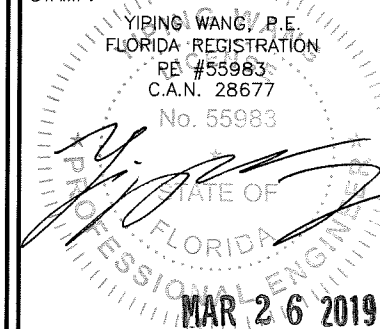
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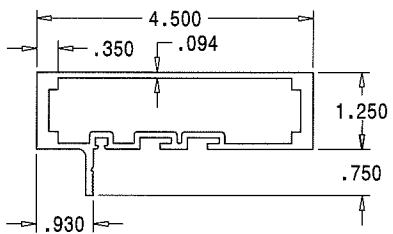
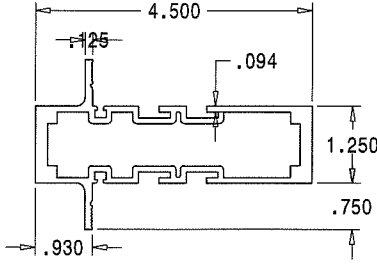
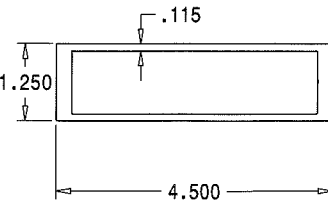
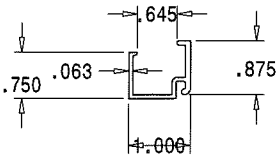
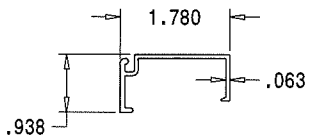
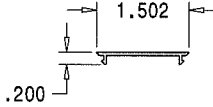
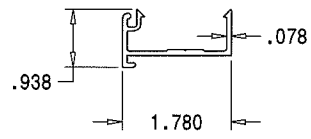
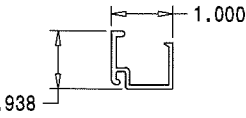
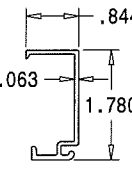
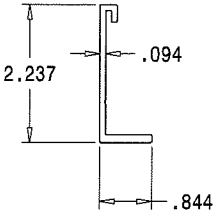
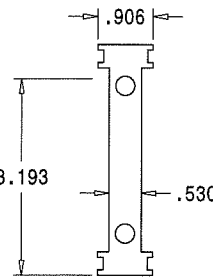
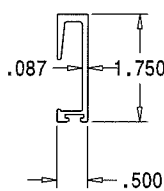


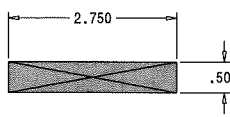


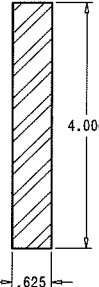



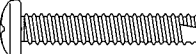

STAMP:



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Miami Dade Product Control

DRAWN: YIN	DRAWING No:
DATE: 12-11-17	12 OF 14
DWG: AD18-17	

				
A1.) 3001R HEAD /SILL /JAMB	A2.) 3002R INT. VERTICAL	A3.) 3000 DOOR JAMB	A4.) 3003 GLASS STOP	A5.) 3103 GLASS STOP
				
A6.) 3303 GLASS STOP (COVER) (OPTIONAL)	A7.) 3304 GLASS STOP (GUTTER) (OPTIONAL)	A13) 3003 GLASS STOP	A8.) 3109 GLASS STOP (OPTIONAL)	A9.) 3108 GLASS STOP
				
A10.) 3104 SHEAR CLIP / REINF.	A11.) 10029 DOOR STOP	B1.) RG-1 GLAZ. GASKET	B2.) RG-5 GLAZ. GASKET	
				
B3.) H62F SETTING BLOCK	B4.) V2108 VHB TAPE	B5.) RG-18 SPONGE GASKET	D1.) ST310-5/8" x 4" STEEL REINF.	
				
B6.) SPACER	D2.) 23501 SPRINGCLIP	E1.) 23163 #12-24 x 3/4" UC-PFH 23	E2.) 23233 1/4-20 x 1 1/2" PPH 23	E3.) 23097 #10-24 x 1/2" PPH 23



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REVN	DATE/REMARKS

ENGINEER:

M

C

Y

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GLAZING CONSULTANT

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DATE: 12-11-17	13 OF 14
DWG: AD18-17	

BILL OF MATERIAL			
PART #S	DESCRIPTION	MATERIAL	SUPPLIER/MANUF.
TRULITE			
A.FRAME EXTRUSIONS			
A1.) 3001R	HEAD/SILL/JAMB(1-1/4"X4-1/2")INSUL. GLASS	6063-T6	BONNELL
A2.) 3002R	INTERMEDIATE VERTICAL/HORIZONTAL	6063-T6	BONNELL
A3.) 3000	INTERMEDIATE VERTICAL/HORIZONTAL	6063-T6	BONNELL
A4.) 3003	GLASS STOP	6063-T6	BONNELL
A5.) 3103	GLASS STOP	6063-T6	BONNELL
A6.) 3303	GLASS STOP(COVER)	6063-T6	BONNELL
A7.) 3304	GLASS STOP(GUTTER)	6063-T6	BONNELL
A8.) 3109	GLASS STOP	6063-T6	BONNELL
A9.) 3108	GLASS STOP	6063-T6	BONNELL
A10.) 3104	SHEAR CLIP/REINFORCEMENT	6063-T6	BONNELL
A11.) 10029	DOOR STOP	6063-T6	BONNELL
A13.) 3003	GLASS STOP	6063-T6	BONNELL
B.GASKETS/SETTING BLOCKS			
B1.) RG-1	GLAZING GASKET	EPDM	TREMCO
B2.) RG-5	DOOR GASKET	EPDM	TREMCO
B3.) H62F	SETTING BLOCK	EPDM	GRP
B4.) V2108	GLAZING TAPE	EPDM	CAPITAL TAPE/SAINT GOBAIN
B5.) RG-18	0.236 X 0.375 SPONGE GASKET	EPDM	GRP
B6.) -	ALUMINUM SPACER	ALUMINUM	ALLMETAL
B7.) H62D	1/2" X 1/4" X 4" LG SETTING BLOCK	EPDM	GRP
C.STRUCTURAL SILICON SEALANTS			
S1.) DOWSIL 795	STRUCTURAL SEALANT		DOWSIL
S2.) DOWSIL 995	STRUCTURAL SEALANT		DOWSIL
S3.) PROGLAZE SSG	STRUCTURAL SEALANT		TREMCO
S4.) SPECTREM 2	STRUCTURAL SEALANT		TREMCO
S5.) SCS2000	STRUCTURAL SEALANT		GE
D.MISCELLANEOUS ITEMS			
D1.) ST310	5/8" X 4" A36 STEEL REINFORCEMENT		VARIES
D2.) 23501	SPRING CLIP		EVANS
E.FASTENERS/ANCHORS			
E1.) 23163	SHEAR CLIP SCREWS #12-24X3/4" PFH-23		ALLOY FASTENER
E2.) 23233	HORIZ. FRAME SCREWS 1/4-20X1 1/2" PPH-23		ALLOY FASTENER
E3.) 23097	DOOR STOP SCREWS #10-24X2" PPH-23		ALLOY FASTENER



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August 12, 2019

Mr. Wes Maul, Director
Florida Division of Emergency Management
2555 Shumard Oak Boulevard
Tallahassee, Florida 32399-2100

RE: North Dade Regional Library – Building Replacement Cost – Address: 2455 NW 183 Street, Miami Gardens, FL 33056.

Dear Mr. Maul,

This letter is to certify the estimated replacement cost of the reference building. Date of building construction is circa 1976. Likely, structural design criterion used for this building at the time of construction would be the Standard Building Code. The building construction primarily consists according with plans on records; of exterior walls of 8" concrete masonry units and reinforced concrete supporting elements, (tie beams tie columns and roof precast elements). Current estimate replacement cost (2018) for a similar building is of approximately \$736 per square foot. This is based on the correlation review of past Miami-Dade County Library construction cost and the attached replacement cost spreadsheet analysis.

Should you have any question regarding this matter, please feel free to contact us at 305-592-1070.

Respectfully,

Jose A. Barrera, P.E.
C.H. Perez & Associates, Consulting Engineer
for Miami-Dade Public Library System.



August 12, 2019

Mr. Wes Maul, Director
Florida Division of Emergency Management
2555 Shumard Oak Boulevard
Tallahassee, Florida 32399-2100

RE: CERTIFICATION LETTER.

North Dade Regional Library – Address: 2455 NW 183 Street, Miami Gardens, FL 33056.

Dear Mr. Maul,

This letter shall serve as Certification that after implementing all construction/retrofitting recommendations depicted in the Evaluation Report and dated August 2019, the referenced building will conform with the high velocity hurricane zone requirements of the 6th Edition of the Florida Building Code 2017 and FBCEB; Section 706.1.1; Existing Roofing.

Should you have any question regarding this matter, please feel free to contact us at 305-592-1070.

Respectfully,

Jose A. Barrera, P.E.
C.H. Perez & Associates, Consulting Engineer
for Miami-Dade Public Library System.