Testing Evaluation Laboratories, Inc.
2002 Wood Court Suite 1 – Plant City, FL 33563
Phone: 813-754-9887

TEST RESULTS

Report No: TEL 01991006
Test Dates: January 13-20, 2014
Report Date: March 21, 2014

Dade Lab Certification Number: 11-1213.01
Test Notification Number: TEL 13-005

Issued to:

Fleetwood Windows and Doors
1 Fleetwood Way
Corona, CA 92879

Project Summary: Testing Evaluation Laboratories, Inc. (TEL) was contracted by Fleetwood Windows and Doors to perform tests on the Kona 3800 Fixed Windows at TEL's Plant City, FL test facility.

Test specimen descriptions and results are reported herein.

Test Specifications: **The test specimens were evaluated in accordance with the following:**

High Velocity Hurricane Zone Protocols TAS 202-94, TAS 201-94 and TAS 203-94

Test Specimen Description:

Series / Model:	**Kona 3800 Fixed Windows**
Type:	**Aluminum Fixed Windows**
Overall Size:	**60.00" x 120.00 – Specimens 1, 1a, 1b and 1c – (O) – Direct Mount** **50.00" x 144.00" – Specimens 2 and 2a – (O) – Fin Mount** **60.00" x 120.00" – Specimen 3 – (O) – Fin Mount** **96.00" x 120.00" – Specimens 4 and 4a– (O/O/O) – Direct Mount** **120.00" x 96.00" – Specimens 5 and 5a– (OOO) – Fin Mount**
Daylight Opening:	**57.10" x 117.10" – Specimens 1, 1a, 1b and 1c – (O)** **47.10" x 141.10" – Specimens 2 and 2a – (O)** **57.10" x 117.10" – Specimen 3 – (O)** **93.06" x 37.375" – Specimens 4 and 4a– (O/O/O) - Top/Bottom Panels** **93.06" x 37.50" – Specimens 4 and 4a– (O/O/O) – Center Panel** **37.375" x 93.06" – Specimens 5 and 5a– (OOO) - End panels** **37.50" x 93.06" – Specimens 5 and 5a– (OOO) - Center panel**

Test Specimen Description: Continued

Glazing Detail:	**See attached drawing numbers L-7030, L-7108 and L-7109 for glazing details.**
Frame Material:	**Aluminum**
Finish:	**Mill Finish**

For Tested Elevation, Vertical Cross Sections, Horizontal Cross Sections, Components, Frame Anchoring, Glazing Detail and Bill of Materials See Attached Drawing numbers L-7030, L-7108 and L-7109.

SEQUENCE OF TESTS PERFORMED:

STRUCTURAL TESTS (TAS 202)

Specimen 1 – 60.0" x 120.0" Aluminum Fixed Window (O) – Direct Mount

Design Pressure	**Positive 60.0**	**Negative 60.0**	
Air Infiltration (ASTM E283-04)	Pressure 1.57 PSF	SCFM/Ft^2 0.000	Result Pass
Air Infiltration (ASTM E283-04)	Pressure 6.24 PSF	SCFM/Ft^2 0.000	Result Pass

Structural Loads (ASTM E330-02)

Range	**Time (sec)**	**Load (psf)**
Half Test Positive	30	30.00
Design Positive	30	60.00
Half Test Negative	30	30.00
Design Negative	30	60.00

Water Infiltration (ASTM E331-00)	Pressure	Time	Result
	15.0 PSF	15.0 Min.	Pass

Note #1: Water Infiltration performed after Positive and Negative half and design loads.

Structural Loads (ASTM E330-02)

Range	**Time (sec)**	**Load (psf)**	**Location**	**Deflection**	**Set**	**Allowable (Set)**
Half Proof Positive	10	45.00				
Test Positive	30	90.00	1	0.035"	0.000"	0.048"
Half Proof Negative	10	45.00				
Test Negative	30	90.00	1	0.051"	0.005"	0.048"

Deflection Locations:

Location 1 – Center of Anchors

Forced Entry Passed – No Entry

Conclusion: TEL observed no signs of failure in any area of this test specimen during the Uniform Static Load Test. In addition, specimen met the permanent set requirements. Therefore, this specimen satisfies the uniform static load test requirements of TAS 202-94.

James Hayhurst, Test Technicians

SEQUENCE OF TESTS PERFORMED:

STRUCTURAL TESTS (TAS 202)

Specimen 2 – 50.0" x 144.0" Aluminum Fixed Window (O) – Fin Mount

Design Pressure **Positive 65.0** **Negative 65.0**

Air Infiltration (ASTM E283-04)	Pressure 1.57 PSF	SCFM/Ft^2 0.000	Result Pass
Air Infiltration (ASTM E283-04)	Pressure 6.24 PSF	SCFM/Ft^2 0.000	Result Pass

Structural Loads (ASTM E330-02)

Range	Time (sec)	Load (psf)
Half Test Positive	30	32.50
Design Positive	30	65.00
Half Test Negative	30	32.50
Design Negative	30	65.00

Water Infiltration (ASTM E331-00)	Pressure 15.0 PSF	Time 15.0 Min.	Result Pass

Note #1: Water Infiltration performed after Positive and Negative half and design loads.

Structural Loads (ASTM E330-02)

Range	Time (sec)	Load (psf)	Location	Deflection	Set	Allowable (Set)
Half Proof Positive	10	45.00				
Test Positive	30	90.00	1	0.005"	0.001"	0.048"
Half Proof Negative	10	45.00				
Test Negative	30	90.00	1	0.013"	0.007"	0.048"

Deflection Locations:

Location 1 – Center of Anchors

Forced Entry Passed – No Entry

Conclusion: TEL observed no signs of failure in any area of this test specimen during the Uniform Static Load Test. In addition, specimen met the permanent set requirements. Therefore, this specimen satisfies the uniform static load test requirements of TAS 202-94.

James Hayhurst, Test Technicians

SEQUENCE OF TESTS PERFORMED:

STRUCTURAL TESTS (TAS 202)

Specimen 3 – 60.0" x 120.0" Aluminum Fixed Window (O) – Fin Mount

Design Pressure	**Positive 60.0**	**Negative 60.0**

Air Infiltration (ASTM E283-04)	Pressure 1.57 PSF	SCFM/Ft^2 0.000	Result Pass
Air Infiltration (ASTM E283-04)	Pressure 6.24 PSF	SCFM/Ft^2 0.000	Result Pass

Structural Loads (ASTM E330-02)

Range	**Time (sec)**	**Load (psf)**
Half Test Positive	30	30.00
Design Positive	30	60.00
Half Test Negative	30	30.00
Design Negative	30	60.00

Water Infiltration (ASTM E331-00)	Pressure 15.0 PSF	Time 15.0 Min.	Result Pass

Note #1: Water Infiltration performed after Positive and Negative half and design loads.

Structural Loads (ASTM E330-02)

Range	**Time (sec)**	**Load (psf)**	**Location**	**Deflection**	**Set**	**Allowable (Set)**
Half Proof Positive	10	45.00				
Test Positive	30	90.00	1	0.006"	0.002"	0.048"
Half Proof Negative	10	45.00				
Test Negative	30	90.00	1	0.006"	0.001"	0.048"

Deflection Locations:

Location 1 – Center of Anchors

Forced Entry Passed – No Entry

Conclusion: TEL observed no signs of failure in any area of this test specimen during the Uniform Static Load Test. In addition, specimen met the permanent set requirements. Therefore, this specimen satisfies the uniform static load test requirements of TAS 202-94.

James Hayhurst, Test Technicians

SEQUENCE OF TESTS PERFORMED:

STRUCTURAL TESTS (TAS 202)

Specimen 5 – 96.0" x 120.0" Triple Mulled Aluminum Fixed Window (O/O/O)

Design Pressure **Positive 65.0** **Negative 65.0**

Structural Loads (ASTM E330-02)

Range	Time (sec)	Load (psf)	Location	Deflection	Allowable (Def)
Half Test Positive	30	32.50			
Design Positive	30	65.00	1	0.469"	0.517"
Half Test Negative	30	32.50			
Design Negative	30	65.00	1	0.445"	0.517"

Structural Loads (ASTM E330-02)

Range	Time (sec)	Load (psf)	Location	Deflection	Set	Allowable (Set)
Half Proof Positive	10	45.00				
Test Positive	30	90.00	1	0.688"	0.017"	0.372"
Half Proof Negative	10	45.00				
Test Negative	30	90.00	1	0.683"	0.005"	0.372"

Deflection Locations:

Location 1 – Center of Anchors

Conclusion: TEL observed no signs of failure in any area of this test specimen during the Uniform Static Load Test. In addition, specimen met the permanent set requirements. Therefore, this specimen satisfies the uniform static load test requirements of TAS 202-94.

James Hayhurst, Test Technicians

SEQUENCE OF TESTS PERFORMED:

STRUCTURAL TESTS (TAS 202)

Specimen 5 – 120.0" x 96.0" Triple Mulled Aluminum Fixed Window (OOO)

Design Pressure **Positive 65.0** **Negative 75.0**

Air Infiltration (ASTM E283-04)	Pressure 1.57 PSF	SCFM/Ft^2 0.000	Result Pass
Air Infiltration (ASTM E283-04)	Pressure 6.24 PSF	SCFM/Ft^2 0.000	Result Pass

Structural Loads (ASTM E330-02)

Range	Time (sec)	Load (psf)
Half Test Positive	30	32.50
Design Positive	30	65.00
Half Test Negative	30	37.50
Design Negative	30	75.00

Water Infiltration (ASTM E331-00)	Pressure 15.0 PSF	Time 15.0 Min.	Result Pass

Note #1: Water Infiltration performed after Positive and Negative half and design loads.

Structural Loads (ASTM E330-02)

Range	Time (sec)	Load (psf)	Location	Deflection	Set	Allowable (Set)
Half Proof Positive	10	48.75				
Test Positive	30	97.50	1	0.583"	0.002"	0.372"
Half Proof Negative	10	46.25				
Test Negative	30	112.50	1	0.610"	0.005"	0.372"

Deflection Locations:

Location 1 – Center of Anchors

Forced Entry Passed – No Entry

Conclusion: TEL observed no signs of failure in any area of this test specimen during the Uniform Static Load Test. In addition, specimen met the permanent set requirements. Therefore, this specimen satisfies the uniform static load test requirements of TAS 202-94.

James Hayhurst, Test Technicians

IMPACT AND CYCLING TESTS (TAS 201/203)

Specimen 1A – 60.0" x 120.0" Aluminum Fixed Window – (O)

TAS 201 and 203 – Large Missile Impact (2 x 4 Southern Yellow Pine)

Cond. Temp Of Specimen	Missile Level	Missile Weight	Missile Length	Muzzle Distance From Specimen
74°F	D	9.0 lbs, 3 oz.	8'-0"	17'0"

Impact Location	Results	X - Measurement	Y - Measurement	Speed
1	Pass	52.5"	111.0"	49.9 fps
2	Pass	30.0"	60.0"	50.2 fps

Orientation of Missile at Impact was within +/-5° of horizontal.
None of the impacts penetrated the specimens.
"X" measurement is from the left edge of test specimen.
"Y" measurement is from the bottom edge of test specimen.

TAS 201 and 203– Fatigue Load Cycling **Design Pressure +65.0 psf / -65.0 psf**

Positive % of Test Load	Positive Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
20% to 50%	13.0 to 32.5	3500	2.71
0% to 60%	0.0 to 39.0	300	2.98
50% to 80%	32.5 to 52.0	600	2.41
30% to 100%*	19.5 to 65.0	100	2.91

Negative % of Test Load	Negative Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
30% to 100%*	19.5 to 65.0	50	2.99
50% to 80%	32.5 to 52.0	1050	2.27
0% to 60%	0.0 to 39.0	50	2.98
20% to 50%	13.0 to 32.5	3350	2.90

*Panel deflected 1.25" from original plane at 100% Positive load and 3.13" from original plane at 100% Negative load. At the completion of cycles the door panel was operable. There were no tears in the film. In our opinion, the tape and film used to seal for air leakage did not influence the results of the test.

Jarrett Wright and James Hayhurst, Test Technicians Mfg Observers – Joe Zammit

IMPACT AND CYCLING TESTS (TAS 201/203)

Specimen 1B – 60.0" x 120.0" Aluminum Fixed Window – (O)

TAS 201 and 203 – Large Missile Impact (2 x 4 Southern Yellow Pine)

Cond. Temp Of Specimen	Missile Level	Missile Weight	Missile Length	Muzzle Distance From Specimen
74°F	D	9.0 lbs, 3 oz.	8'-0"	17'0"

Impact Location	Results	X - Measurement	Y - Measurement	Speed
1	Pass	30.0"	60.0"	49.9 fps
2	Pass	8.0"	8.0"	50.1 fps
Orientation of Missile at Impact was within +/-5° of horizontal. None of the impacts penetrated the specimens. "X" measurement is from the left edge of test specimen. "Y" measurement is from the bottom edge of test specimen.				

TAS 201 and 203– Fatigue Load Cycling **Design Pressure +65.0 psf / -65.0 psf**

Positive % of Test Load	Positive Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
20% to 50%	13.0 to 32.5	3500	2.84
0% to 60%	0.0 to 39.0	300	2.97
50% to 80%	32.5 to 52.0	600	2.99
30% to 100%*	19.5 to 65.0	100	2.89

Negative % of Test Load	Negative Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
30% to 100%*	19.5 to 65.0	50	2.99
50% to 80%	32.5 to 52.0	1050	2.51
0% to 60%	0.0 to 39.0	50	2.97
20% to 50%	13.0 to 32.5	3350	2.89
*Panel deflected 1.00" from original plane at 100% Positive load and 3.25" from original plane at 100% Negative load. At the completion of cycles the door panel was operable. There were no tears in the film. In our opinion, the tape and film used to seal for air leakage did not influence the results of the test.			

Jarrett Wright and James Hayhurst, Test Technicians Mfg. Observers – Joe Zammit

IMPACT AND CYCLING TESTS (TAS 201/203)

Specimen 1C – 60.0" x 120.0" Aluminum Fixed Window – (O)

TAS 201 and 203 – Large Missile Impact (2 x 4 Southern Yellow Pine)

Cond. Temp Of Specimen	Missile Level	Missile Weight	Missile Length	Muzzle Distance From Specimen
74°F	D	9.0 lbs, 3 oz.	8'-0"	17'0"

Impact Location	Results	X - Measurement	Y - Measurement	Speed
1	Pass	52.50"	111.00"	50.1 fps
2	Pass	30.00"	60.00"	50.0 fps
Orientation of Missile at Impact was within +/-5° of horizontal. None of the impacts penetrated the specimens. "X" measurement is from the left edge of test specimen. "Y" measurement is from the bottom edge of test specimen.				

TAS 201 and 203– Fatigue Load Cycling **Design Pressure +65.0 psf / -65.0 psf**

Positive % of Test Load	Positive Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
20% to 50%	13.0 to 32.5	3500	2.93
0% to 60%	0.0 to 39.0	300	2.99
50% to 80%	32.5 to 52.0	600	2.35
30% to 100%*	19.5 to 65.0	100	2.19

Negative % of Test Load	Negative Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
30% to 100%*	19.5 to 65.0	50	2.98
50% to 80%	32.5 to 52.0	1050	2.27
0% to 60%	0.0 to 39.0	50	2.99
20% to 50%	13.0 to 32.5	3350	2.58
*Panel deflected 1.06" from original plane at 100% Positive load and 3.75" from original plane at 100% Negative load. At the completion of cycles the door panel was operable. There were no tears in the film. In our opinion, the tape and film used to seal for air leakage did not influence the results of the test.			

Jarrett Wright and James Hayhurst, Test Technicians Mfg. Observers – Joe Zammit

IMPACT AND CYCLING TESTS (TAS 201/203)

Specimen 2A – 54.0" x 144.0" Aluminum Fixed Window – (O)

TAS 201 and 203 – Large Missile Impact (2 x 4 Southern Yellow Pine)

Cond. Temp Of Specimen	Missile Level	Missile Weight	Missile Length	Muzzle Distance From Specimen
75°F	D	9.0 lbs, 2 oz.	8'-1/4"	17'1"

Impact Location	Results	X - Measurement	Y - Measurement	Speed
1	Pass	24.00"	72.00"	50.1 fps
2	Pass	42.00"	9.00"	49.8 fps

Orientation of Missile at Impact was within +/-5° of horizontal.
None of the impacts penetrated the specimens.
"X" measurement is from the left edge of test specimen.
"Y" measurement is from the bottom edge of test specimen.

TAS 201 and 203– Fatigue Load Cycling **Design Pressure +65.0 psf / -65.0 psf**

Positive % of Test Load	Positive Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
20% to 50%	13.0 to 32.5	3500	2.40
0% to 60%	0.0 to 39.0	300	2.99
50% to 80%	32.5 to 52.0	600	2.14
30% to 100%*	19.5 to 65.0	100	3.00

Negative % of Test Load	Negative Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
30% to 100%*	19.5 to 65.0	50	2.99
50% to 80%	32.5 to 52.0	1050	2.08
0% to 60%	0.0 to 39.0	50	2.98
20% to 50%	13.0 to 32.5	3350	2.65

*Panel deflected 2.13" from original plane at 100% Positive load and 3.63" from original plane at 100% Negative load. At the completion of cycles the door panel was operable. There were no tears in the film. In our opinion, the tape and film used to seal for air leakage did not influence the results of the test.

Jarrett Wright and James Hayhurst, Test Technicians Mfg. Observers – Joe Zammit

IMPACT AND CYCLING TESTS (TAS 201/203)

Specimen 4A – 96.0" x 120.0" Triple Mulled Aluminum Fixed Window – (O/O/O)

TAS 201 and 203 – Large Missile Impact (2 x 4 Southern Yellow Pine)

Cond. Temp Of Specimen	Missile Level	Missile Weight	Missile Length	Muzzle Distance From Specimen
76°F	D	9.0 lbs, 3 oz.	8'-0"	17'1"

Impact Location	Results	X - Measurement	Y - Measurement	Speed
1	Pass	60.00"	48.00"	49.9 fps
2	Pass	80.00"	48.00"	50.1 fps
3	Pass	72.50"	8.00"	50.0 fps

Orientation of Missile at Impact was within +/-5° of horizontal.
None of the impacts penetrated the specimens.
"X" measurement is from the left edge of test specimen.
"Y" measurement is from the bottom edge of test specimen.

TAS 201 and 203– Fatigue Load Cycling Design Pressure +65.0 psf / -65.0 psf

Positive % of Test Load	Positive Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
20% to 50%	13.0 to 32.5	3500	2.64
0% to 60%	0.0 to 39.0	300	2.90
50% to 80%	32.5 to 52.0	600	2.00
30% to 100%*	19.5 to 65.0	100	2.98

Negative % of Test Load	Negative Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
30% to 100%*	19.5 to 65.0	50	3.00
50% to 80%	32.5 to 52.0	1050	1.87
0% to 60%	0.0 to 39.0	50	2.92
20% to 50%	13.0 to 32.5	3350	2.07

*Panel deflected 2.00" from original plane at 100% Positive load and 1.38" from original plane at 100% Negative load. At the completion of cycles the door panel was operable. There were no tears in the film. In our opinion, the tape and film used to seal for air leakage did not influence the results of the test.

Jarrett Wright and James Hayhurst, Test Technicians Mfg. Observers – Joe Zammit

IMPACT AND CYCLING TESTS (TAS 201/203)

Specimen 5A – 120.0" x 96.0" Triple Mulled Aluminum Fixed Window – (OOO)

TAS 201 and 203 – Large Missile Impact (2 x 4 Southern Yellow Pine)

Cond. Temp Of Specimen	Missile Level	Missile Weight	Missile Length	Muzzle Distance From Specimen
75°F	D	9.0 lbs, 2 oz.	8'-1/4"	17'1"

Impact Location	Results	X - Measurement	Y - Measurement	Speed
1	Pass	48.00"	80.00"	50.1 fps
2	Pass	48.00"	59.00"	49.7 fps
3	Pass	88.00"	72.00"	49.9 fps

Orientation of Missile at Impact was within +/-5° of horizontal.
None of the impacts penetrated the specimens.
"X" measurement is from the left edge of test specimen.
"Y" measurement is from the bottom edge of test specimen.

TAS 201 and 203– Fatigue Load Cycling **Design Pressure +65.0 psf / -65.0 psf**

Positive % of Test Load	Positive Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
20% to 50%	13.0 to 32.5	3500	2.72
0% to 60%	0.0 to 39.0	300	2.91
50% to 80%	32.5 to 52.0	600	2.90
30% to 100%*	19.5 to 65.0	100	2.99

Negative % of Test Load	Negative Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
30% to 100%*	19.5 to 65.0	50	3.00
50% to 80%	32.5 to 52.0	1050	2.17
0% to 60%	0.0 to 39.0	50	2.97
20% to 50%	13.0 to 32.5	3350	2.61

*Panel deflected 2.00" from original plane at 100% Positive load and 2.13" from original plane at 100% Negative load. At the completion of cycles the door panel was operable. There were no tears in the film. In our opinion, the tape and film used to seal for air leakage did not influence the results of the test.

Jarrett Wright and James Hayhurst, Test Technicians Mfg. Observers – Joe Zammit

Conditions, Terms, and General Notes Regarding These Tests

The product tested **Has Been** compared to the detailed drawing, bill of materials and fabrication information supplied by the client so named herein. Our analysis, which includes dimensional and component description comparisons, indicate the tested product and engineering information supplied by the client **"Are Equivalent".** The report and representative samples will be retained for four years from the date of initial test.

These test results were obtained by employing all requirements of the designated test methods with no Deviations unless explicitly noted in test report. The test results and specimen supplied for testing are in compliance with the reference.

The test results are specific to the product tested by this laboratory and of the sample supplied by the client named herein, and they relate to no other product either manufactured by the client, a fabricator of the client or of the client or of installed field performance.

This test report does not constitute certification of this product, but only that the above test results were obtained using the designated test methods and they indicate compliance with the performance requirements (paragraphs as listed) of the above referenced specifications.

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Limitation of liability: Due diligence was used in performing the tests and reporting the results. By acceptance of this report, this client agrees to hold harmless and indemnify Testing Evaluation Laboratories, Inc., its employees, sub-contractors, officers and owners against all claims and demands of any kind whatsoever, which arise out of or in any manner connected with the performance of work referred to herein.

Testing Evaluation Laboratories, Inc.

Vivian K. Wright,
President

William Shelton
4/16/2024
William B. Shelton, P.E.
Florida P.E. # 26686

Revision Log

Rev No.	Date	Page(s)	Revision(s)
0	3/21/2014	NA	Original Report Issue

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SHEET #	**DESCRIPTION**
1	Table of contents
2	Test elevation
3	Horizontal and vertical cross sections
4	Frame anchoring
5	Bill of materials, components and glazing detail

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted - TEL # 0199.1004
Date 3/21/14 Verified by JMW

PRODUCT: FLEETWOOD

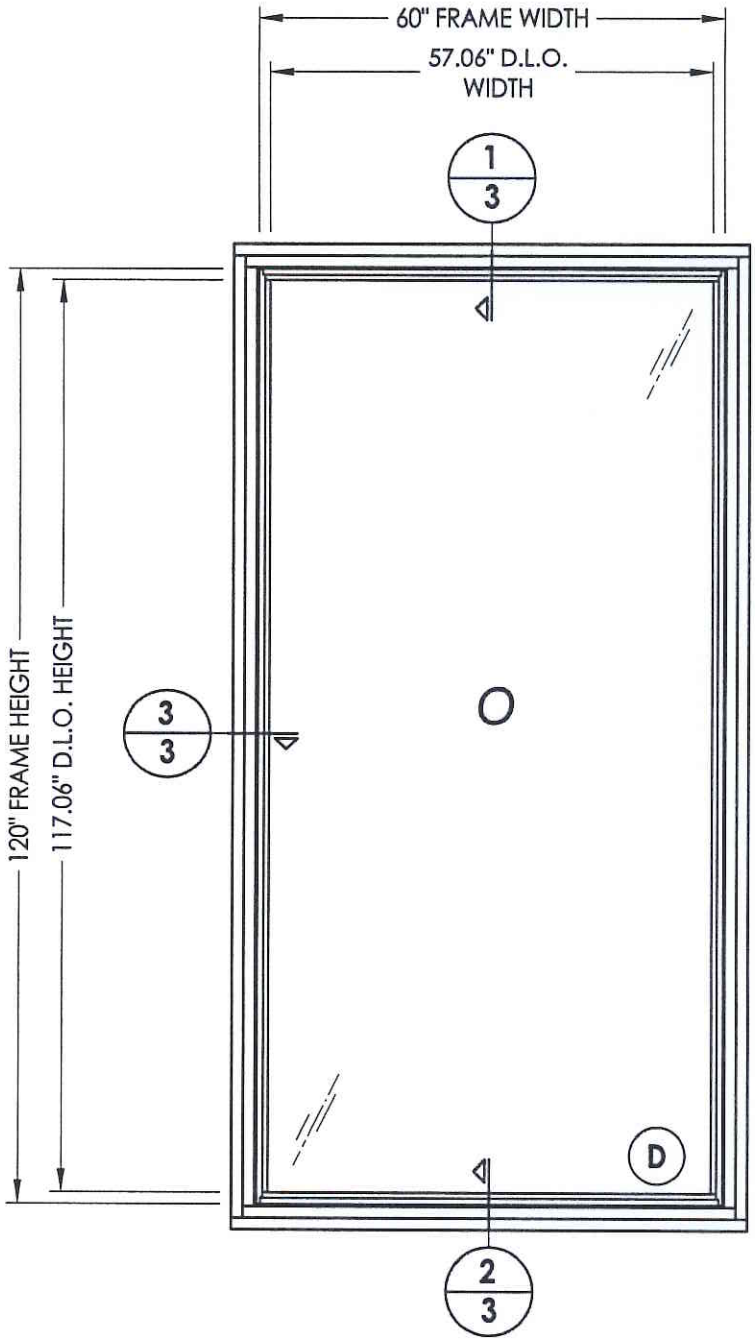
PART OR ASSEMBLY: TABLE OF CONTENTS

NO.	DATE	BY

REVISIONS

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 9/25/13
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7030
SHEET 1 OF 5



SPEC. #1, 1A, 1B, 1C

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted, TEL # 0199.1006
Date 3/21/14 Verified by

PRODUCT: FLEETWOOD

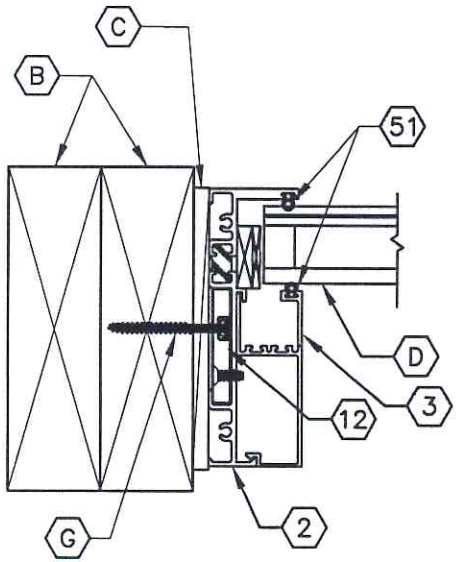
PART OR ASSEMBLY: TEST ELEVATIONS

NO.	DATE	BY

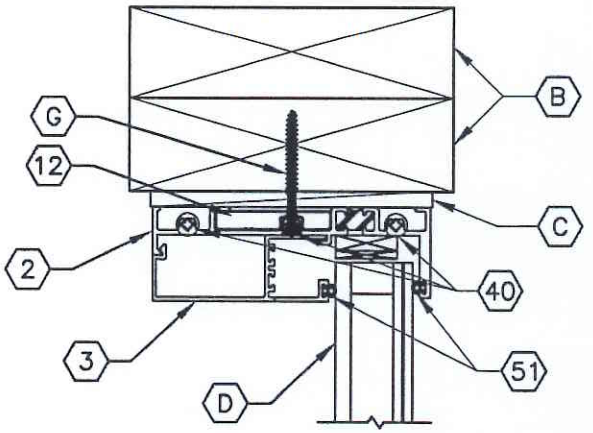
REVISIONS

RW BUILDING CONSULTANTS, INC.
813.659.9197

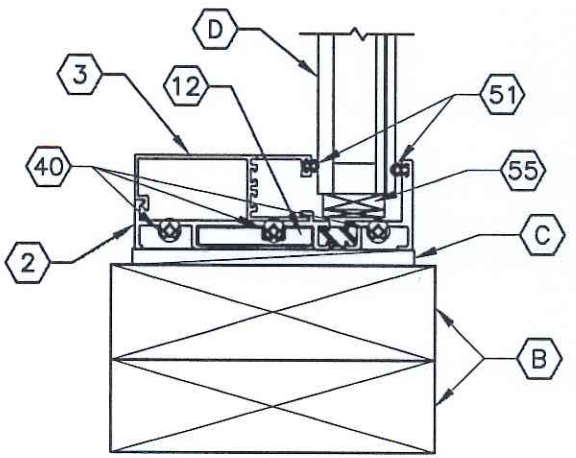
DATE: 9/25/13
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7030
SHEET 2 OF 5



3/3 HORIZONTAL CROSS SECTION



1/3 VERTICAL CROSS SECTION



2/3 VERTICAL CROSS SECTION

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviation Noted - TEL # 0199.1004
Date 3/21/14 Verified by [illegible]

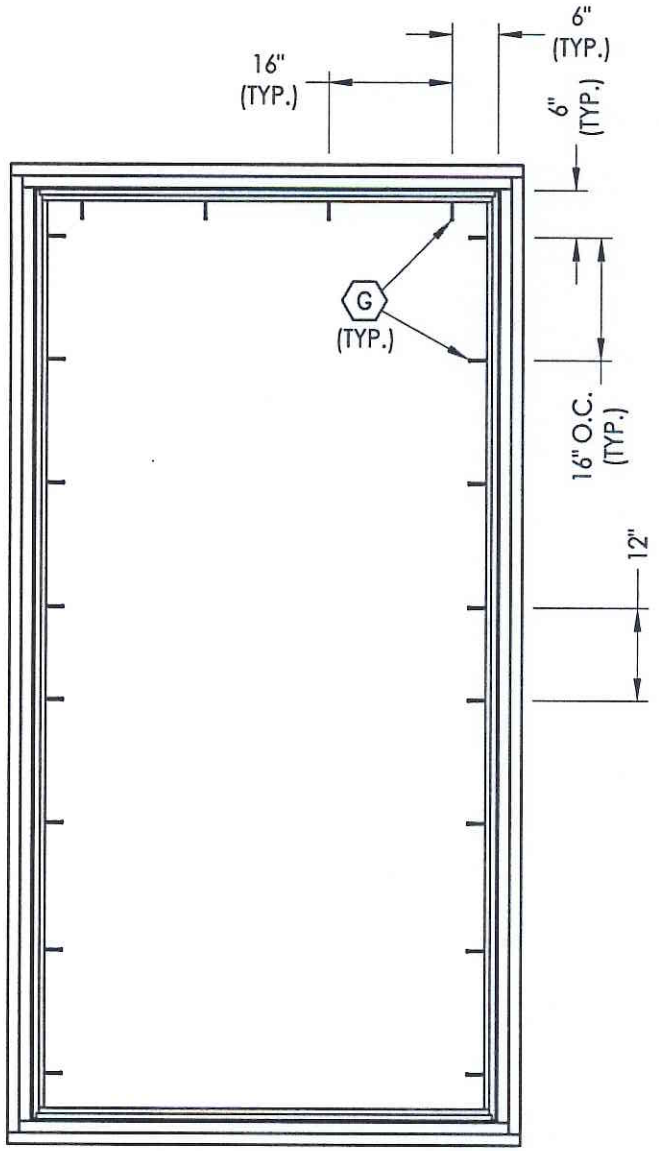
PRODUCT: FLEETWOOD

PART OR ASSEMBLY: VERTICAL AND HORIZONTAL CROSS SECTIONS

NO.	DATE	REVISIONS	BY

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 9/25/13
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7030
SHEET 3 OF 5



FRAME ANCHORING
2X buck construction

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted TEL # 01991006
Date 3/21/14 Certified by

PRODUCT: FLEETWOOD

PART OR ASSEMBLY: FRAME ANCHORING

NO.	DATE	REVISIONS	BY

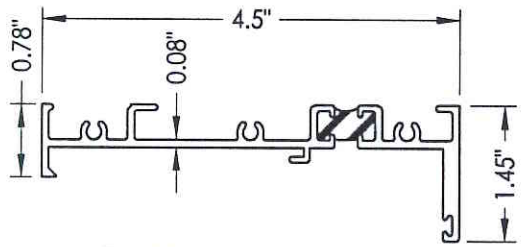
RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 9/25/13
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7030
SHEET 4 OF 5

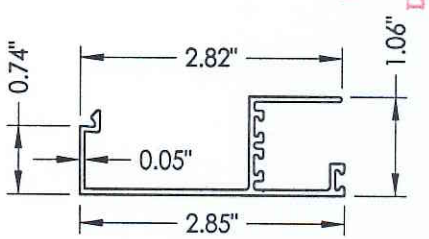
BILL OF MATERIALS

ITEM #	DESCRIPTION	MATERIAL
B	2X BUCK SG >= 0.55	WOOD
C	1/4" MAX. SHIM SPACE	-
G	#10 x 2" PFH WOOD SCREW	STEEL
2	KONA BLOCK FRAME	6063-T6 ALUM
3	GLASS STOP (1-1/4")	6063-T6 ALUM
12	SHEAR BLOCK	ALUM
40	#10 X 1" PPH SMS	STEEL
51	MINI BULB VINYL(EPDM 70 DUROMETER)-TREMCO	-
55	SETTING BLOCK	-

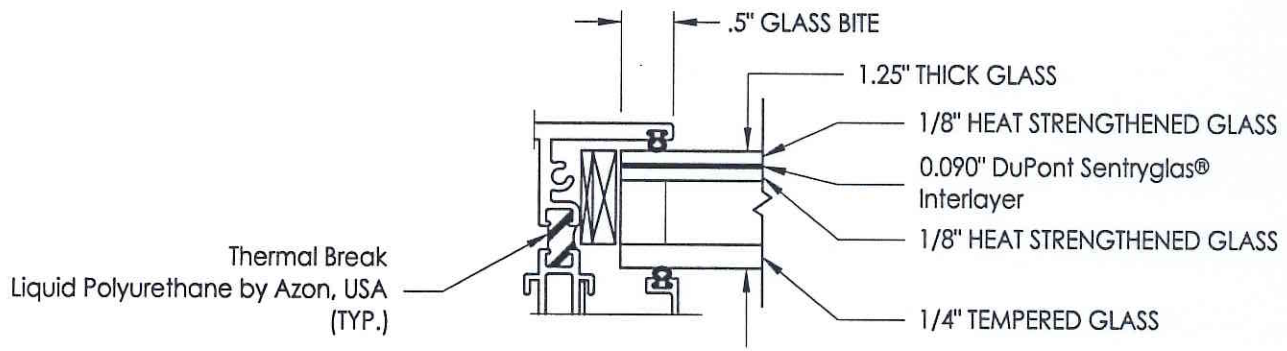
Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted TEL # 0199106
Date 3/21/14 Certified by [illegible]



2 KONA BLOCK FRAME



3 GLASS STOP 1-1/4"



D GLAZING DETAIL

PRODUCT: FLEETWOOD

PART OR ASSEMBLY: BILL OF MATERIALS, COMPONENTS AND GLAZING DETAIL

NO.	DATE	REVISIONS	BY

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 9/25/13
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7030
SHEET 5 OF 5

TABLE OF CONTENTS	
SHEET #	**DESCRIPTION**
1	Table of contents
2	Test elevation
3	Test elevation
4	Horizontal and vertical cross sections
5	Frame anchoring
6	Frame anchoring
7	Components and glazing detail
8	Bill of materials

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted TEL # 0199.1004
Date 3/21/14 Verified by [illegible]

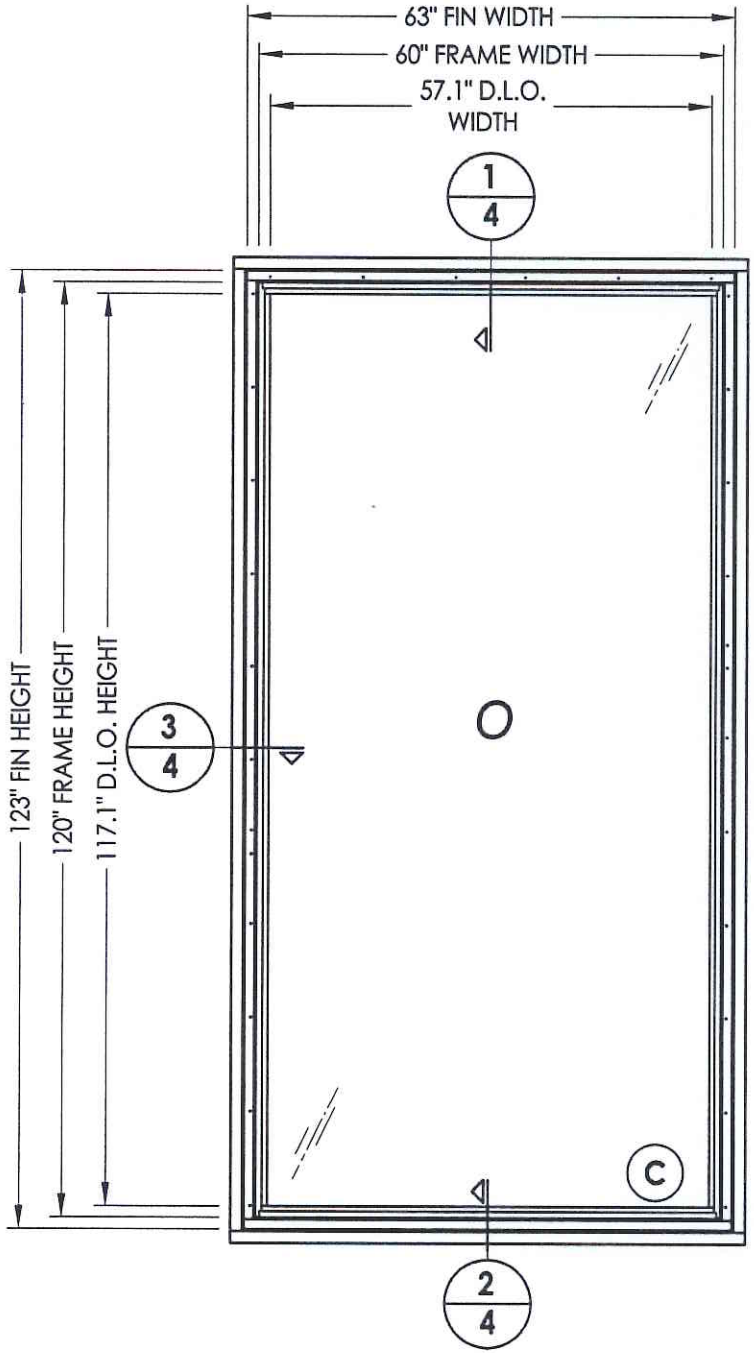
PRODUCT: FLEETWOOD

PART OR ASSEMBLY: TABLE OF CONTENTS

NO.	DATE	REVISIONS	BY

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 1/14/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7108
SHEET 1 OF 8



SPEC. #3

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviation Noted - TEL # 0199.004
Date 3/21/14 Certified by [signature]

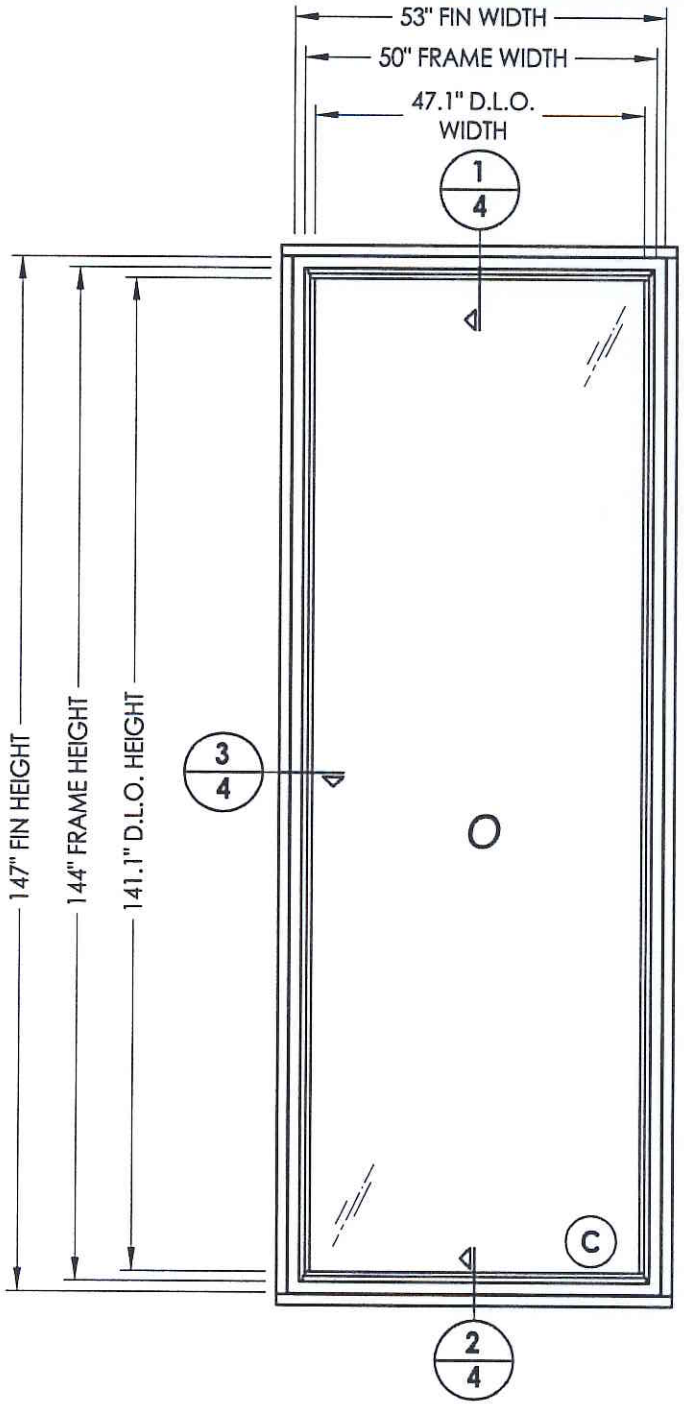
PRODUCT: FLEETWOOD

PART OR ASSEMBLY: TEST ELEVATIONS

NO.	DATE	BY	REVISIONS

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 1/14/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7108
SHEET 2 OF 8



SPEC. #2, 2A

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted - TEL # 01991006
Date 3/21/14 Verified by

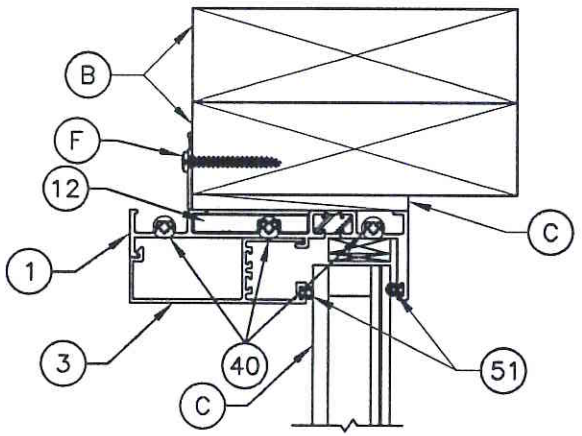
PRODUCT: FLEETWOOD

PART OR ASSEMBLY: TEST ELEVATION

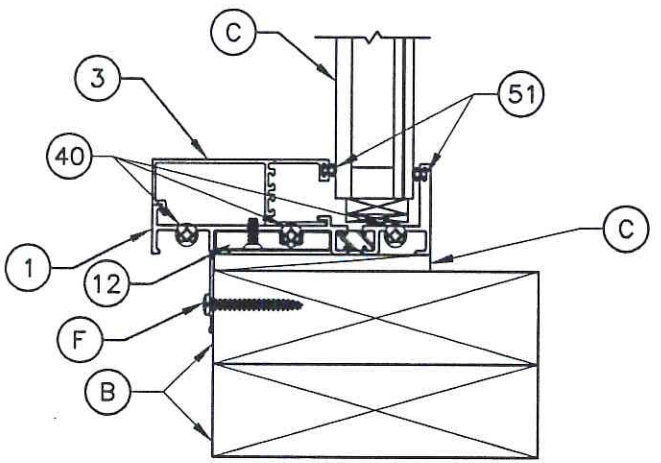
NO.	DATE	REVISIONS	BY

RW BUILDING CONSULTANTS, INC.
813.659.9197

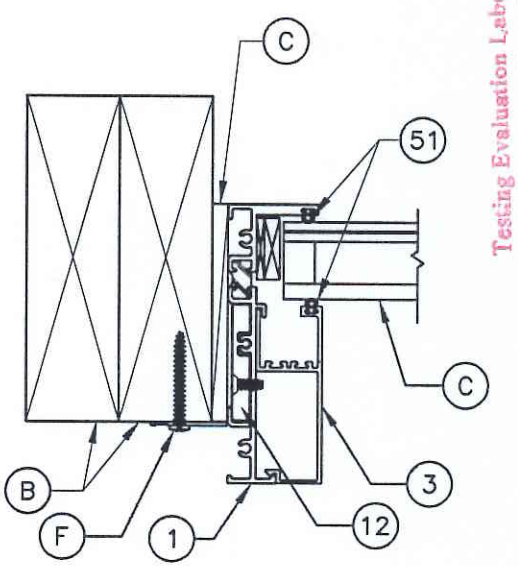
DATE: 1/14/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7108
SHEET 3 OF 8



1/4 VERTICAL CROSS SECTION



2/4 VERTICAL CROSS SECTION



3/4 HORIZONTAL CROSS SECTION

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted - TEL # 01991006
Date 3/21/14 Verified by

PRODUCT: FLEETWOOD

PART OR ASSEMBLY: VERTICAL AND HORIZONTAL CROSS SECTIONS

NO.	DATE	REVISIONS	BY

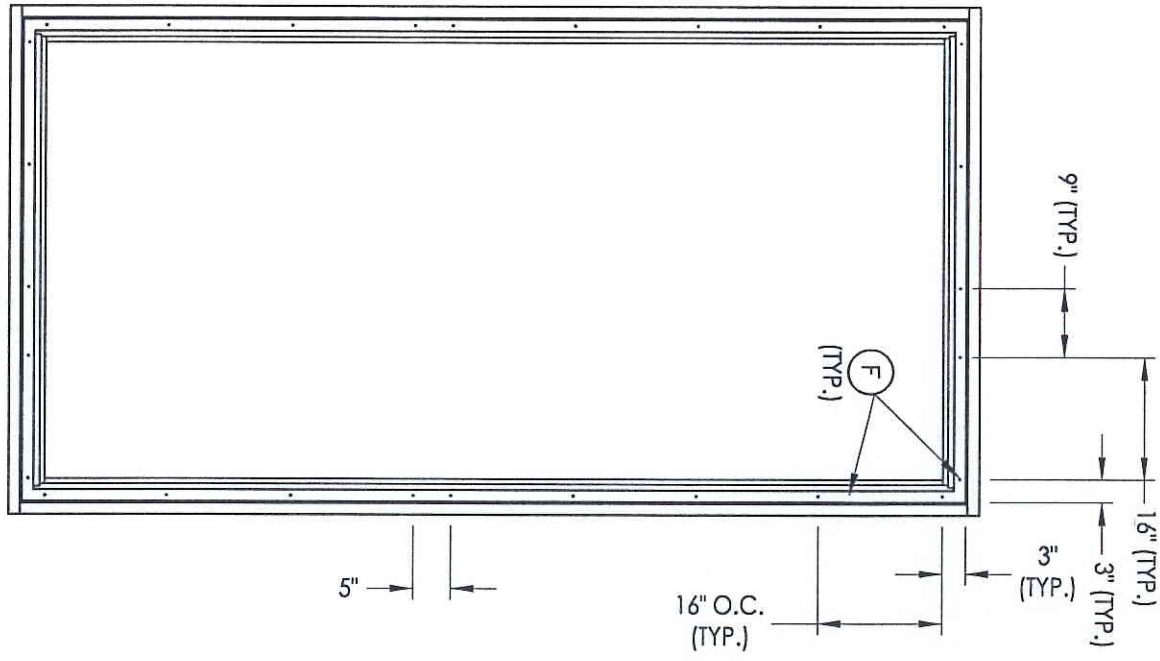
RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 1/14/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7108
SHEET 4 OF 8

R:\A - Projects\Project Folders\Proj 1701 - 1800\PF 1731\D. RWBC Drawings\L-7108.dwg

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted - TEL # 0199.1006
Date 3/21/14 Verified by

FRAME ANCHORING W/ FIN
2X buck construction



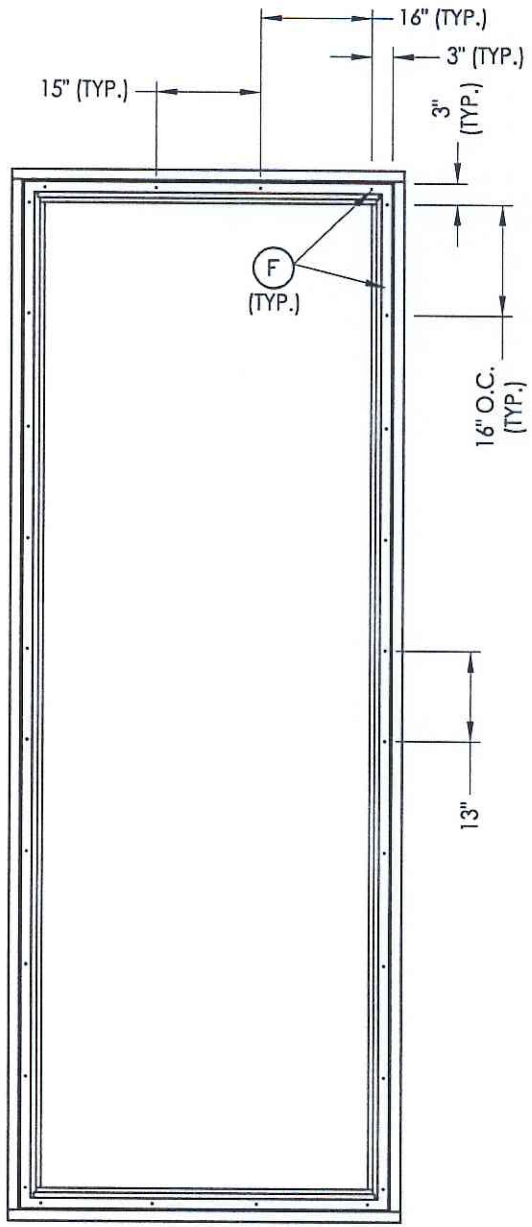
SHEET 5 OF 8	DRAWING NO.: L-7108	CHK. BY: LFS	DWG. BY: JK
SCALE: N.T.S.	DATE: 1/14/14	RW BUILDING CONSULTANTS, INC. 813.659.9197	

NO.	DATE		BY
REVISIONS			

PRODUCT: FLEETWOOD

PART OR ASSEMBLY: FRAME ANCHORING

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted. TEL # 8199004
Date 3/21/14 Verified by



FRAME ANCHORING W/ FIN
2X buck construction

PRODUCT: FLEETWOOD

PART OR ASSEMBLY: FRAME ANCHORING

NO.	DATE	BY
REVISIONS		

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 1/14/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7108
SHEET 6 OF 8

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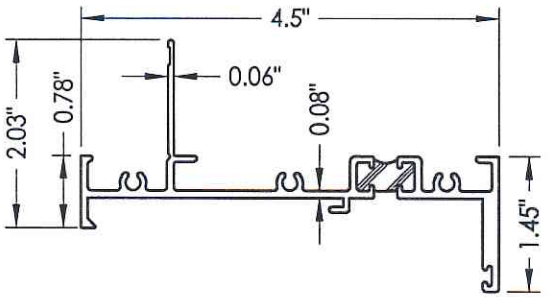
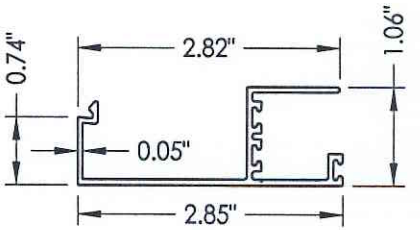
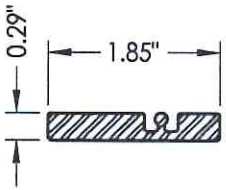


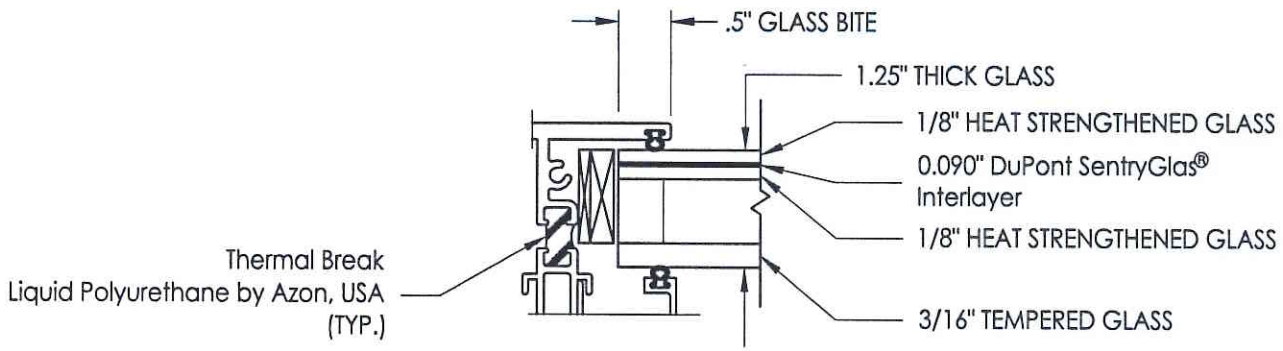
1 **KONA FIN FRAME**



3 **GLASS STOP 1-1/4"**



12 **SHEAR BLOCK**



C **GLAZING DETAIL**

PRODUCT: FLEETWOOD

PART OR ASSEMBLY: COMPONENTS AND GLAZING DETAILS

NO.	DATE	REVISIONS	BY

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 1/14/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7108
SHEET 7 OF 8

BILL OF MATERIALS		
ITEM #	DESCRIPTION	MATERIAL
B	2X BUCK SG >= 0.55	WOOD
C	1/4" MAX. SHIM SPACE	-
G	#10 x 2" PFH WOOD SCREW	STEEL
F	#10 x 1-1/2" PPH WOOD SCREW	STEEL
1	KONA FIN FRAME	6063-T6 ALUM
3	GLASS STOP (1-1/4")	6063-T6 ALUM
12	SHEAR BLOCK	ALUM
40	#10 X 1" PPH SMS	STEEL
51	MINI BULB VINYL(EPDM 70 DUROMETER)-TREMCO	-
55	SETTING BLOCK	-

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted TEL # 0199.1004
Date 2/21/14 Verified by [illegible]

PRODUCT: FLEETWOOD

PART OR ASSEMBLY: BILL OF MATERIALS

NO.	DATE	BY	REVISIONS

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 1/14/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7108
SHEET 8 OF 8

TABLE OF CONTENTS	
SHEET #	**DESCRIPTION**
1	Table of contents
2	Test elevation
3	Test elevation
4	Horizontal and vertical cross sections
5	Horizontal and vertical cross sections
6	Glazing details
7	Frame anchoring
8	Frame anchoring
9	Components
10	Bill of materials

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted - TEL # 0199.1056
Date 3/21/14 Verified by

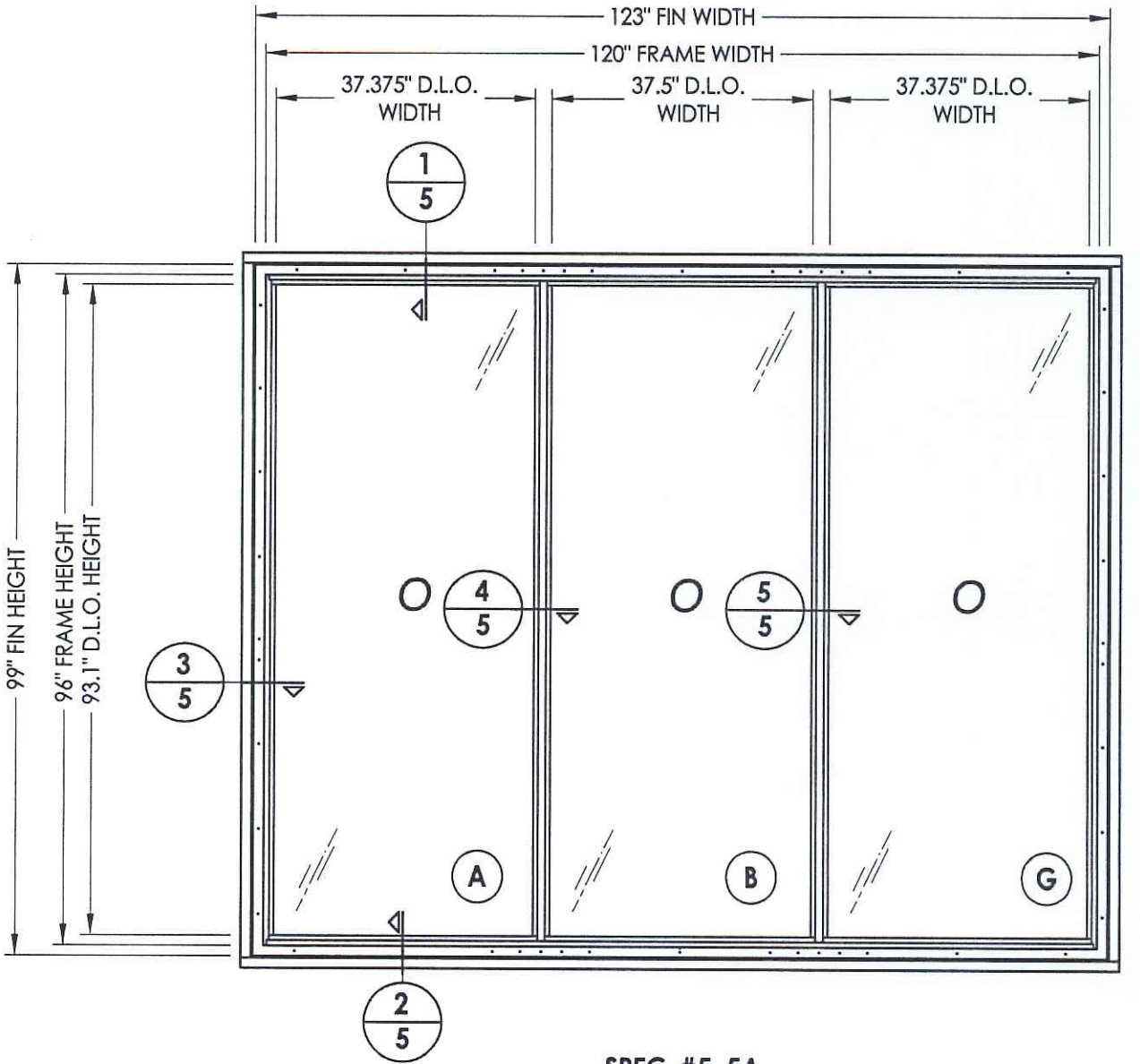
PRODUCT: FLEETWOOD

PART OR ASSEMBLY: TABLE OF CONTENTS

NO.	DATE	BY	REVISIONS

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 1/15/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7109
SHEET 1 OF 10



SPEC. #5, 5A

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted - TEL # 0199-1094
Date 3/21/14 Verified by

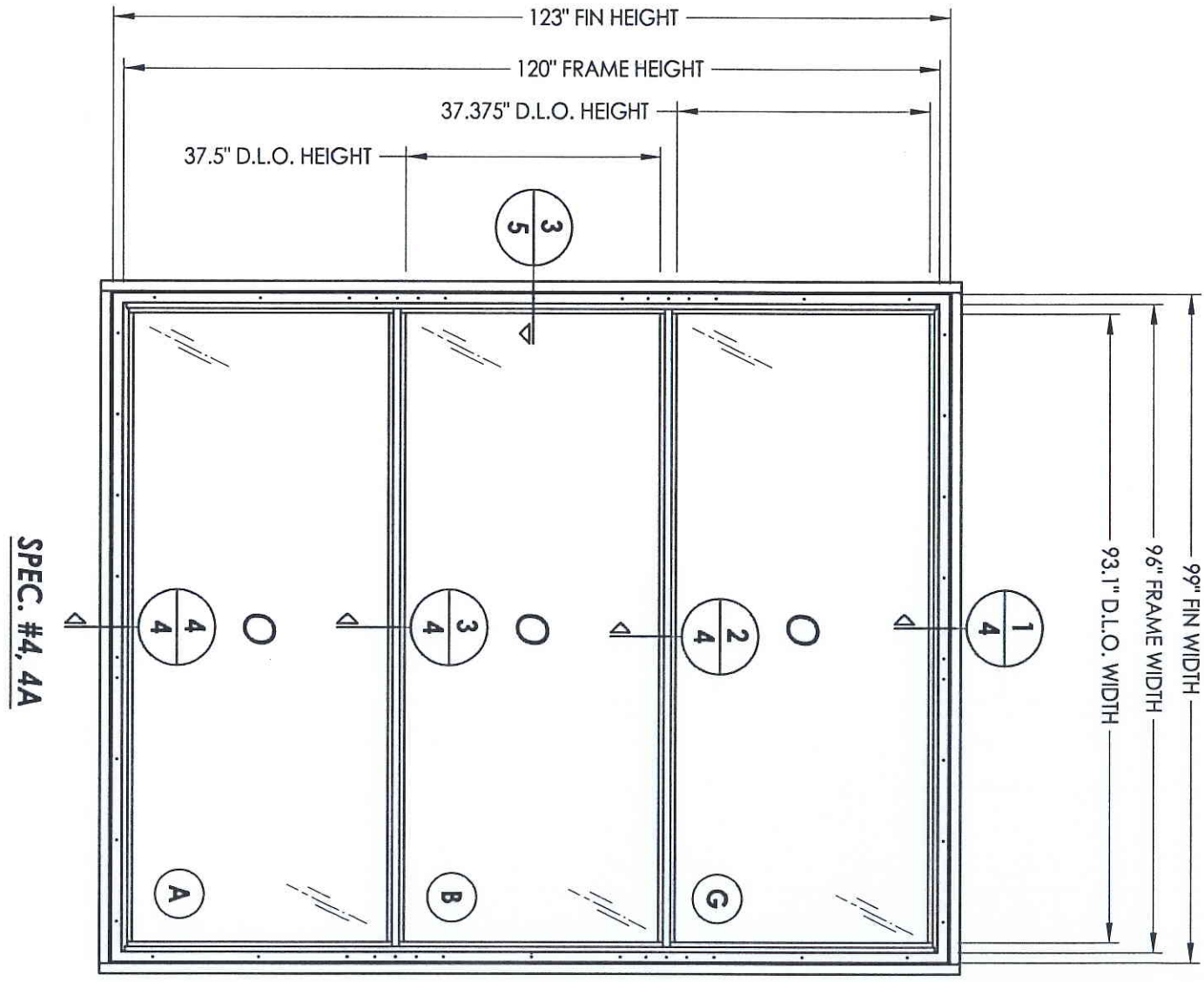
PRODUCT: FLEETWOOD

PART OR ASSEMBLY: TEST ELEVATION

NO.	DATE	REVISIONS	BY

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 1/15/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7109
SHEET 2 OF 10



SPEC. #4, 4A

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted - TEL # 0129 1004
Date 3/21/14 Verified by VLW

PRODUCT:	FLEETWOOD
PART OR ASSEMBLY:	TEST ELEVATION

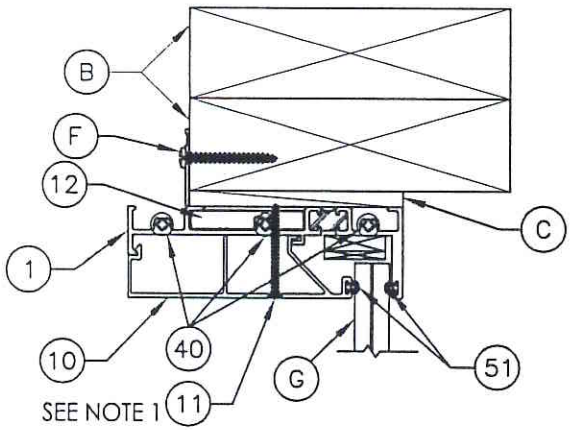
REVISIONS

NO.	DATE		BY

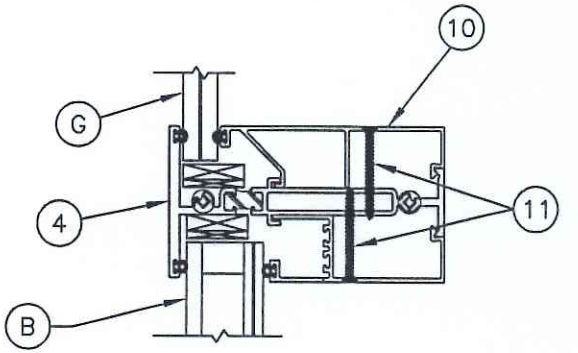
RW BUILDING CONSULTANTS, INC. 813.659.9197

DATE: 1/15/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7109
SHEET 3 OF 10

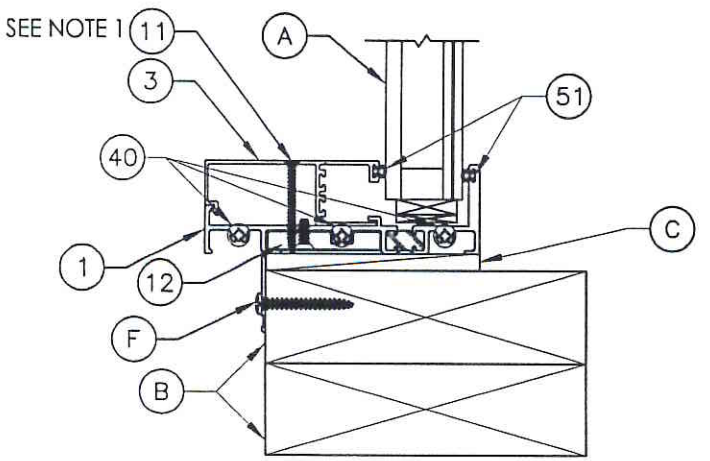
NOTE:
1. Item #11 located 6" from each end and one in center (3) total.



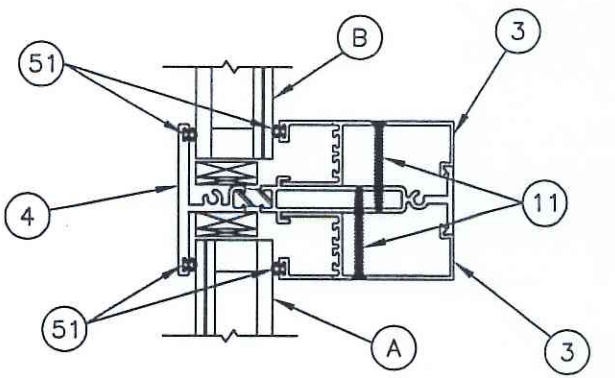
1/4 VERTICAL CROSS SECTION



2/4 HORIZONTAL CROSS SECTION



4/4 VERTICAL CROSS SECTION



3/4 HORIZONTAL CROSS SECTION

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted - TEL # 8199.1004
Date 3/21/14 Verified By

PRODUCT: FLEETWOOD

PART OR ASSEMBLY: VERTICAL AND HORIZONTAL CROSS SECTIONS

NO.	DATE	REVISIONS	BY

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 1/15/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7109
SHEET 4 OF 10

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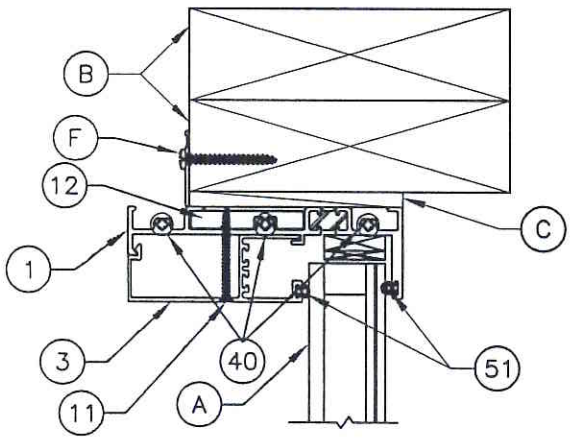
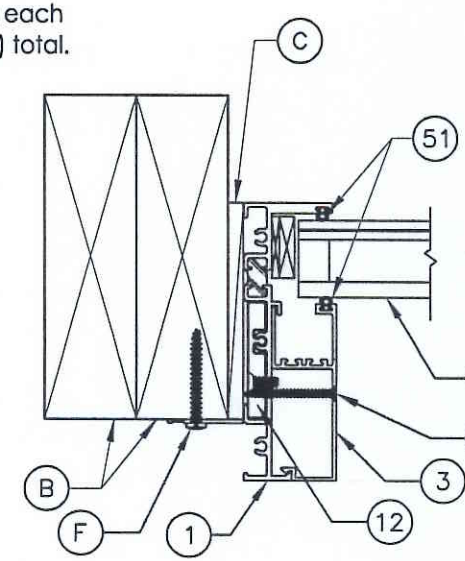
NOTE:
1. Item #11 located 6" from each end and one in center (3) total.

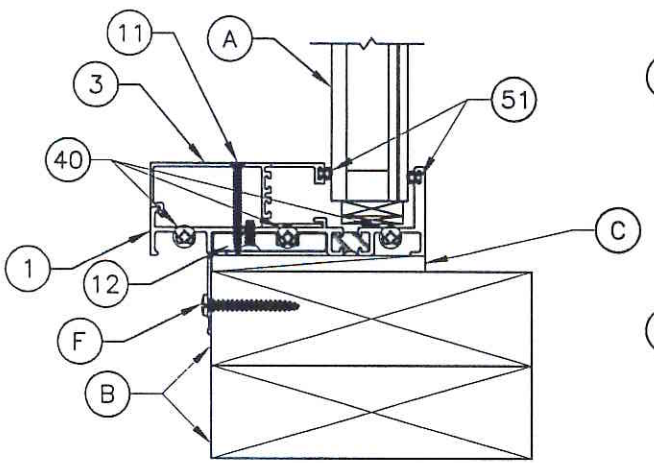
Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted - TEL # 0199.1004
Date 3/21/14 Verified by



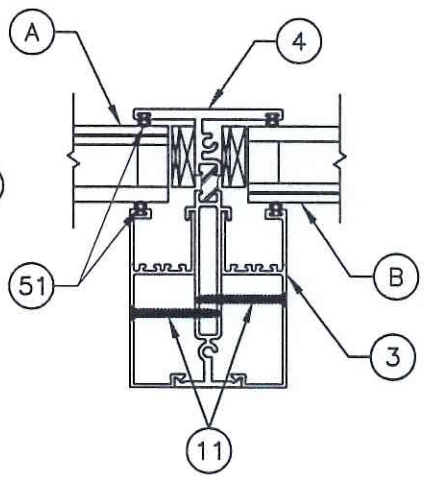
1/5 VERTICAL CROSS SECTION



3/5 HORIZONTAL CROSS SECTION



2/5 VERTICAL CROSS SECTION



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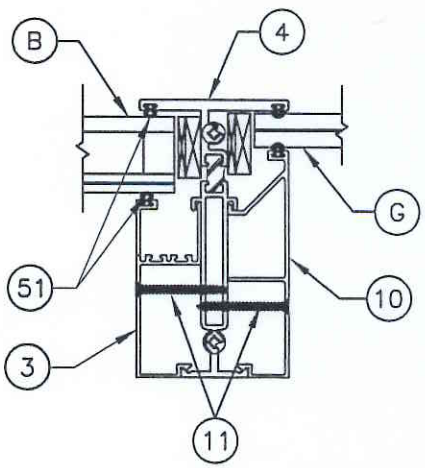

5/5 HORIZONTAL CROSS SECTION

PRODUCT: FLEETWOOD

PART OR ASSEMBLY: VERTICAL AND HORIZONTAL CROSS SECTIONS

NO.	DATE	REVISIONS	BY

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 1/15/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7109
SHEET 5 OF 10

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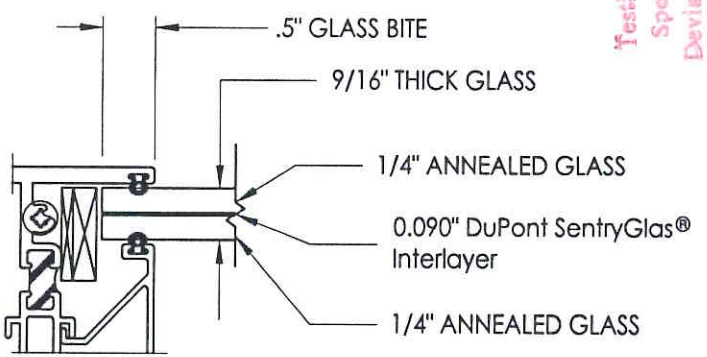
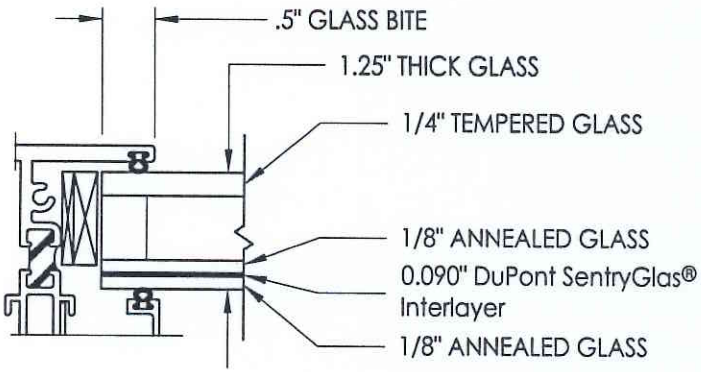
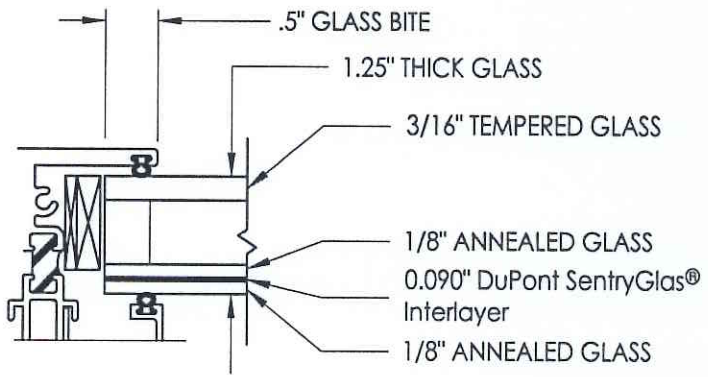


G GLAZING DETAIL



B GLAZING DETAIL



A GLAZING DETAIL

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviation Noted, TEL # 0199-1004
Date 3/21/14 Verified by

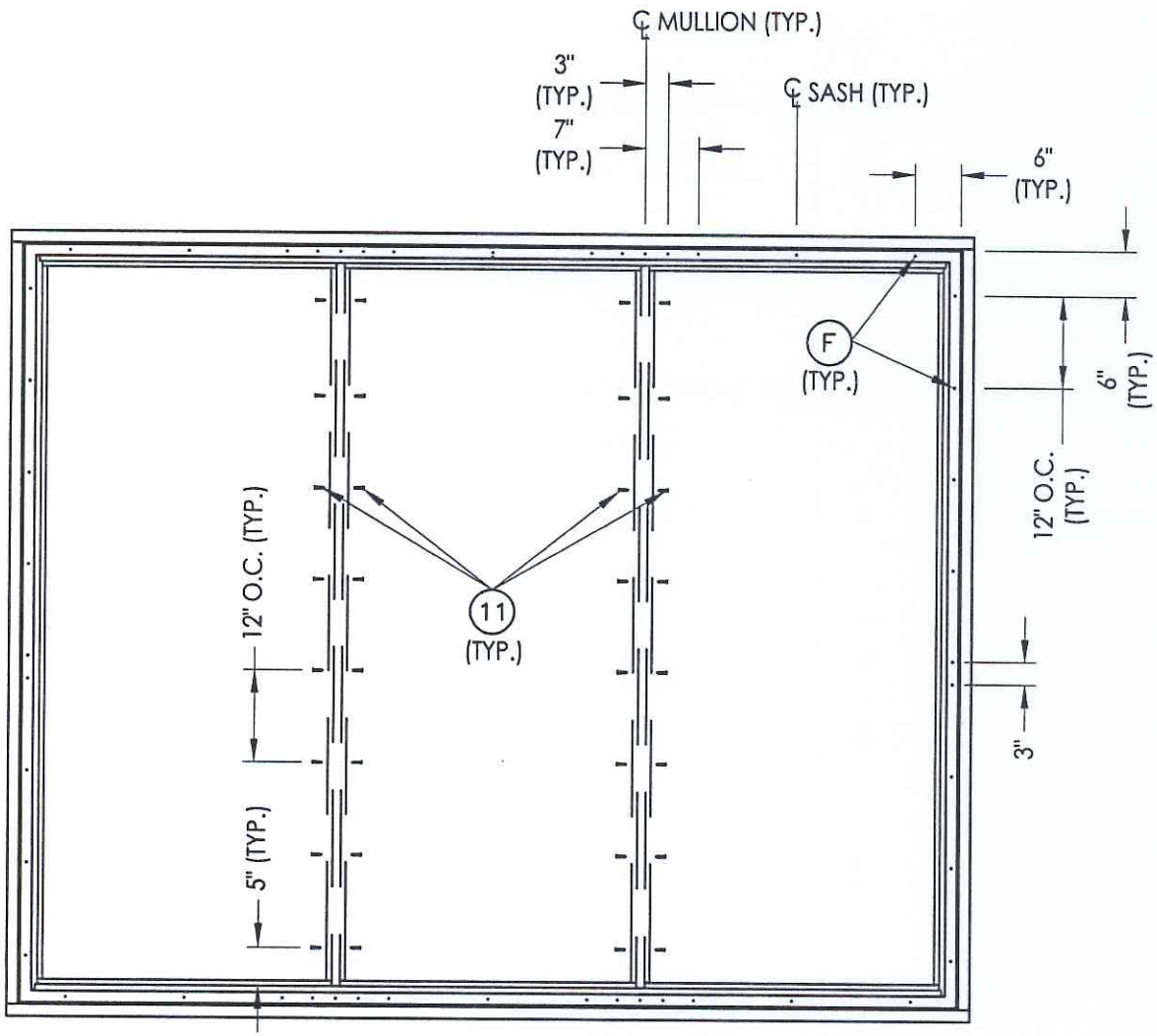
PRODUCT: FLEETWOOD

PART OR ASSEMBLY: GLAZING DETAILS

NO.	DATE	BY
REVISIONS		

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 1/15/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7109
SHEET 6 OF 10



FRAME ANCHORING W/ FIN
2X buck construction

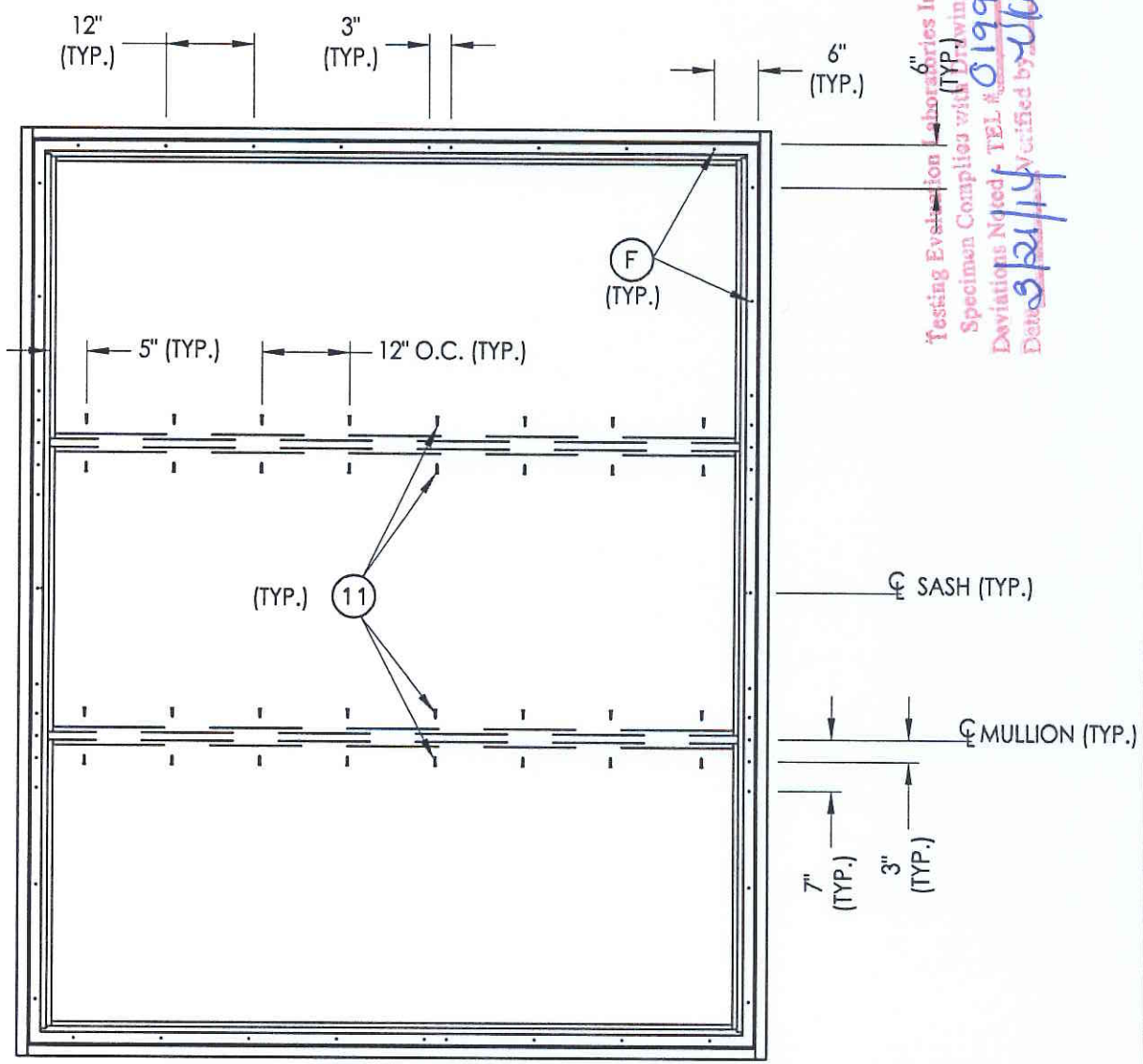
PRODUCT: FLEETWOOD

PART OR ASSEMBLY: FRAME ANCHORING

NO.	DATE	REVISIONS	BY

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 1/15/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7109
SHEET 7 OF 10



Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted TEL # 0199.1006
Date 3/24/14 Verified by

FRAME ANCHORING W/ FIN
2X buck construction

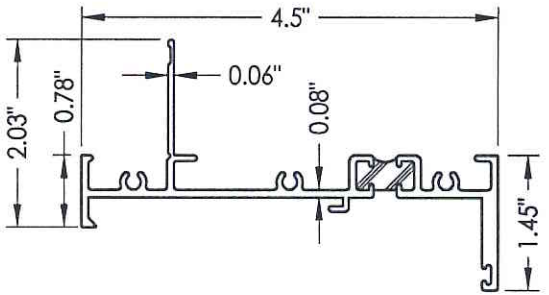
PRODUCT: FLEETWOOD

PART OR ASSEMBLY: FRAME ANCHORING

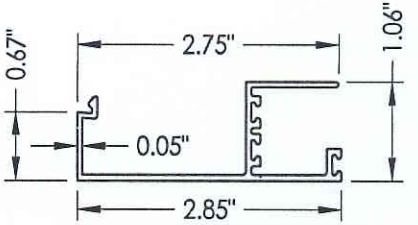
NO.	DATE	BY	REVISIONS

RW BUILDING CONSULTANTS, INC.
813.659.9197

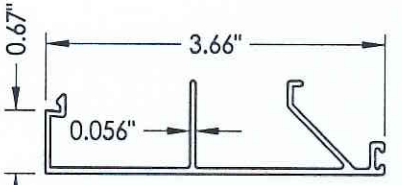
DATE: 1/15/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7109
SHEET 8 OF 10



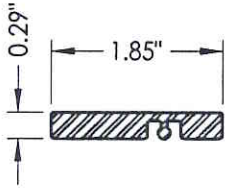
1 KONA FIN FRAME



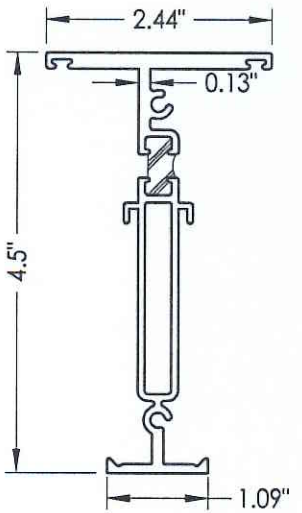
3 GLASS STOP 1-1/4"



10 GLASS STOP 9/16"



12 SHEAR BLOCK



4 MULLION

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted TEL # 0199.1014
Date 3/21/14 Certified by

PRODUCT: FLEETWOOD

PART OR ASSEMBLY: COMPONENTS AND GLAZING DETAILS

NO.	DATE	BY
REVISIONS		

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 1/15/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7109
SHEET 9 OF 10

BILL OF MATERIALS

ITEM #	DESCRIPTION	MATERIAL
B	2X BUCK SG >= 0.55	WOOD
C	1/4" MAX. SHIM SPACE	-
G	#10 x 2" PFH WOOD SCREW	STEEL
F	#10 x 1-1/2" PPH WOOD SCREW	STEEL
1	KONA FIN FRAME	6063-T6 ALUM
3	GLASS STOP (1-1/4")	6063-T6 ALUM
4	MULLION	6063-T6 ALUM
10	GLASS STOP (9/16")	6063-T6 ALUM
11	#8 x 1-1/2" PFH SMS	STEEL
12	SHEAR BLOCK	6061-T6 ALUM
40	#10 X 1" PPH SMS	STEEL
51	MINI BULB VINYL(EPDM 70 DUROMETER)-TREMCO	-
55	SETTING BLOCK	-

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted TEL # 0199.1006
Date 3/21/14 Verified by

PRODUCT: FLEETWOOD

PART OR ASSEMBLY: BILL OF MATERIALS

NO.	DATE	BY

REVISIONS

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 1/15/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7109
SHEET 10 OF 10