Testing Evaluation Laboratories, Inc.

2002 Wood Court Suite 1 – Plant City, FL 33563
Phone: 813-754-9887

TEST RESULTS

Report No: TEL 01991012
Test Dates: January 16. 2014 through March 18, 2014
Report Date: March 21, 2014

Dade Lab Certification Number: 11-1213.01
Test Notification Number: TEL 13-012

Issued to:

Fleetwood Windows and Doors
One Fleetwood Way
Corona, CA 92879

Project Summary: Testing Evaluation Laboratories, Inc. (TEL) was contracted by Fleetwood Windows and Doors to perform tests on the 3300 Glacier Sliding Glass Door 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:	**3300 Glacier Sliding Glass Door**
Type:	**Aluminum Sliding Glass Doors**
Overall Size:	**240.00" x 120.00" – Specimens 1, 3, 4 and 5 - OXXO** **180.00" x 120.00" – Specimens 2 and 6 - OXO** **180.00" x 120.00" – Specimens 7 and 8 - OOX**
Daylight Opening:	**54.75 " x 112.75" – Specimens 1, 3, 4 and 5 (End Panels)** **54.63 " x 112.75" – Specimens 1, 3, 4 and 5 (Center Panels)** **55.06" x 112.75" – Specimens 2 and 6 (All Panels)** **55.06" x 112.75" – Specimens 7 and 8 (All Panels)**
Glazing Detail:	**Laminated Monolithic Glass – (Specimens 1, 3, 4 and 5)** **Insulated Laminated Glass – (Specimens 2, 6, 7 and 8)** **(See attached drawing for 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 #L-7112, #L-7113. and #L-7114

SEQUENCE OF TESTS PERFORMED:

STRUCTURAL TESTS (TAS 202)

Specimen 1 – 240.0" x 120.0" Aluminum Sliding Glass Door (OXXO)

Design Pressure **Positive 40.0** **Negative 40.0**

Air Infiltration (ASTM E283-04)	Pressure 1.57 PSF	SCFM/Ft^2 0.262	Result Pass

Structural Loads (ASTM E330-02)

Range	Time (sec)	Load (psf)
Half Test Positive	30	20.00
Design Positive	30	40.00
Half Test Negative	30	20.00
Design Negative	30	40.00

Water Infiltration (ASTM E331-00) Utilizing 2.0" Sill	Pressure 6.00 PSF	Time 15.0 Min.	Result Pass
Water Infiltration (ASTM E331-00) Utilizing 3.0" Sill	Pressure 8.25 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	30.00				
Test Positive	30	60.00	1	1.452"	0.000"	0.464"
			2	0.692"	0.027"	0.464"
Half Proof Negative	10	30.00				
Test Negative	30	90.00	1	1.328"	0.016"	0.464"
			2	0.795"	0.053"	0.464"

Deflection Locations:

Deflection/Set for Location 1 measured at center of meeting stiles – Inactive/Active panels and Location 2 measured at center of meeting stiles at latch.

Forced Entry

ASTM F842	Type "A: Assembly	Passed

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.

Jarrett Wright and James Hayhurst, Test Technicians

SEQUENCE OF TESTS PERFORMED:

STRUCTURAL TESTS (TAS 202)

Specimen 2 – 180.0" x 120.0" Aluminum Sliding Glass Door (OXO)

Design Pressure **Positive 40.0** **Negative 40.0**

Air Infiltration (ASTM E283-04)	Pressure	SCFM/Ft^2	Result
	1.57 PSF	0.207	Pass

Structural Loads (ASTM E330-02)

Range	Time (sec)	Load (psf)
Half Test Positive	30	20.00
Design Positive	30	40.00
Half Test Negative	30	20.00
Design Negative	30	40.00

Water Infiltration (ASTM E331-00) Utilizing 2.0" Sill	Pressure	Time	Result
	6.00 PSF	15.0 Min.	Pass
Water Infiltration (ASTM E331-00) Utilizing 3.0" Sill	Pressure	Time	Result
	8.25 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	30.00				
Test Positive	30	60.00	1	1.624"	0.051"	0.464"
			2	2.147"	0.106"	0.464"
Half Proof Negative	10	30.00				
Test Negative	30	90.00	1	1.894"	0.057"	0.464"
			2	2.058"	0.090"	0.464"

Deflection Locations:

Deflection/Set for Location 1 measured at center of meeting stiles at latch and Location 2 Measured at center of meeting stiles, Inactive/Active panels.

Forced Entry

ASTM F842 Type "A: Assembly Passed

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.

Jarrett Wright and James Hayhurst, Test Technicians

SEQUENCE OF TESTS PERFORMED:

STRUCTURAL TESTS (TAS 202)

Specimen 7 – 180.0" x 120.0" Aluminum Sliding Glass Door (OOX)

Design Pressure **Positive 35.0** **Negative 35.0**

Structural Loads (ASTM E330-02)

Range	Time (sec)	Load (psf)
Half Test Positive	30	17.50
Design Positive	30	35.00
Half Test Negative	30	17.50
Design Negative	30	35.00

Structural Loads (ASTM E330-02)

Range	Time (sec)	Load (psf)	Location	Deflection	Set	Allowable (Set)
Half Proof Positive	10	26.25				
Test Positive	30	52.50	1	1.850"	0.179"	0.474"
			2	1.726"	0.039"	0.472"
Half Proof Negative	10	26.25				
Test Negative	30	52.50	1	1.843"	0.083"	0.474"
			2	1.483"	0.017"	0.472"

Deflection Locations:

Deflection/Set for Location 1 measured at center of meeting stiles at latch and Location 2 Measured at center of meeting stiles, Inactive/Inactive panels.

Forced Entry

ASTM F842 Type "A: Assembly Passed

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.

Jarrett Wright and James Hayhurst, Test Technicians

IMPACT AND CYCLING TESTS (TAS 201/203)

Specimen 3 – 240.0" x 120.0" Aluminum Sliding Glass Door (OXXO)

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, 1 oz	8'-1/4"	17'1"

Impact Location	Results	X - Measurement	Y - Measurement	Speed
1	Pass	132.0"	11.0"	49.7 fps
2	Pass	154.0"	61.0"	50.1 fps
3	Pass	211.0"	60.5"	50.1 fps
4	Pass	190.0"	10.5"	49.9 fps
5	Pass	182.0"	60.0"	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 +50.0 psf / -50.0 psf**

Positive % of Test Load	Positive Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
20% to 50%	10.0 to 25.0	3500	2.46
0% to 60%	0.0 to 30.0	300	2.49
50% to 80%	25.0 to 40.0	600	1.92
30% to 100%*	15.0 to 50.0	100	2.86

Negative % of Test Load	Negative Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
30% to 100%*	15.0 to 50.0	50	2.51
50% to 80%	25.0 to 40.0	1050	1.81
0% to 60%	0.0 to 30.0	50	2.25
20% to 50%	10.0 to 25.0	3350	1.95

*Panel deflected 2.75" from original plane at 100% Positive load and 4.00" 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 4 – 240.0" x 120.0" Aluminum Sliding Glass Door (OXXO)

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, 1 oz	8'-1/4"	17'1"

Impact Location	Results	X - Measurement	Y - Measurement	Speed
1	Pass	132.0"	10.5"	49.9 fps
2	Pass	153.75"	61.0"	49.8 fps
3	Pass	211.25"	61.0"	50.0 fps
4	Pass	190.0"	11.0"	49.9 fps
5	Pass	181.75"	60.0"	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 +50.0 psf / -50.0 psf**

Positive % of Test Load	Positive Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
20% to 50%	10.0 to 25.0	3500	2.35
0% to 60%	0.0 to 30.0	300	2.24
50% to 80%	25.0 to 40.0	600	2.05
30% to 100%*	15.0 to 50.0	100	2.78

Negative % of Test Load	Negative Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
30% to 100%*	15.0 to 50.0	50	3.00
50% to 80%	25.0 to 40.0	1050	2.06
0% to 60%	0.0 to 30.0	50	2.72
20% to 50%	10.0 to 25.0	3350	2.22

*Panel deflected 2.75" from original plane at 100% Positive load and 4.13" 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 Zammitt

IMPACT AND CYCLING TESTS (TAS 201/203)

Specimen 5 – 240.0" x 120.0" Aluminum Sliding Glass Door (OXXO)

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, 1 oz	8'-1/4"	17'1"

Impact Location	Results	X - Measurement	Y - Measurement	Speed
1	Pass	120.50"	54.00"	49.7 fps
2	Pass	154.00"	61.00"	50.1 fps
3	Pass	175.00"	110.00"	49.8 fps
4	Pass	182.00"	62.00"	50.0 fps
5	Pass	210.00"	62.00"	50.1 fps
6	Pass	232.00"	110.00"	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 +50.0 psf / -50.0 psf**

Positive % of Test Load	Positive Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
20% to 50%	10.0 to 25.0	3500	2.44
0% to 60%	0.0 to 30.0	300	2.44
50% to 80%	25.0 to 40.0	600	2.25
30% to 100%*	15.0 to 50.0	100	2.47

Negative % of Test Load	Negative Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
30% to 100%*	15.0 to 50.0	50	2.52
50% to 80%	25.0 to 40.0	1050	2.16
0% to 60%	0.0 to 30.0	50	2.15
20% to 50%	10.0 to 25.0	3350	1.80

*Panel deflected 2.63" from original plane at 100% Positive load and 3.38" 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 Zammitt

IMPACT AND CYCLING TESTS (TAS 201/203)

Specimen 6 – 180.0" x 120.0" Aluminum Sliding Glass Door (OXO)

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	111.00"	10.00"	50.0 fps
2	Pass	94.00"	61.00"	49.8 fps
3	Pass	121.00"	60.00"	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 +50.0 psf / -50.0 psf**

Positive % of Test Load	Positive Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
20% to 50%	10.0 to 25.0	3500	2.22
0% to 60%	0.0 to 30.0	300	2.15
50% to 80%	25.0 to 40.0	600	2.31
30% to 100%*	15.0 to 50.0	100	2.78

Negative % of Test Load	Negative Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
30% to 100%*	15.0 to 50.0	50	2.93
50% to 80%	25.0 to 40.0	1050	2.52
0% to 60%	0.0 to 30.0	50	2.79
20% to 50%	10.0 to 25.0	3350	2.28
*Panel deflected 3.00" from original plane at 100% Positive load and 4.25" 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 Zammitt

IMPACT AND CYCLING TESTS (TAS 201/203)

Specimen 8 – 180.0" x 120.0" Aluminum Sliding Glass Door (OOX)

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, 3 oz	8'-0"	17'0"

Impact Location	Results	X - Measurement	Y - Measurement	Speed
1	Pass	59.00"	60.00"	50.1 fps
2	Pass	168.00"	11.00"	50.1 fps
3	Pass	146.00"	62.00"	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 +35.0 psf / -35.0 psf**

Positive % of Test Load	Positive Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
20% to 50%	7.0 to 17.5	3500	1.76
0% to 60%	0.0 to 21.0	300	2.64
50% to 80%	17.5 to 28.0	600	1.28
30% to 100%*	10.5 to 35.0	100	2.51

Negative % of Test Load	Negative Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
30% to 100%*	10.5 to 35.0	50	2.37
50% to 80%	17.5 to 28.0	1050	1.42
0% to 60%	0.0 to 21.0	50	2.49
20% to 50%	7.0 to 17.5	3350	1.72

*Panel deflected 2.13" from original plane at 100% Positive load and 2.50" 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 Zammitt

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 3/21/2014

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

TABLE OF CONTENTS	
SHEET #	**DESCRIPTION**
1	Table of contents
2	Test elevation
3	Horizontal cross sections
4	Vertical cross sections
5	Sill meeting stile block details
6	Frame anchoring
7	Components
8	Components and glazing detail
9	Bill of materials

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted - TEL # 01994
Date 3/21/14 Verified by [illegible]

PRODUCT: FLEETWOOD GLACIER 3300 (OXXO)

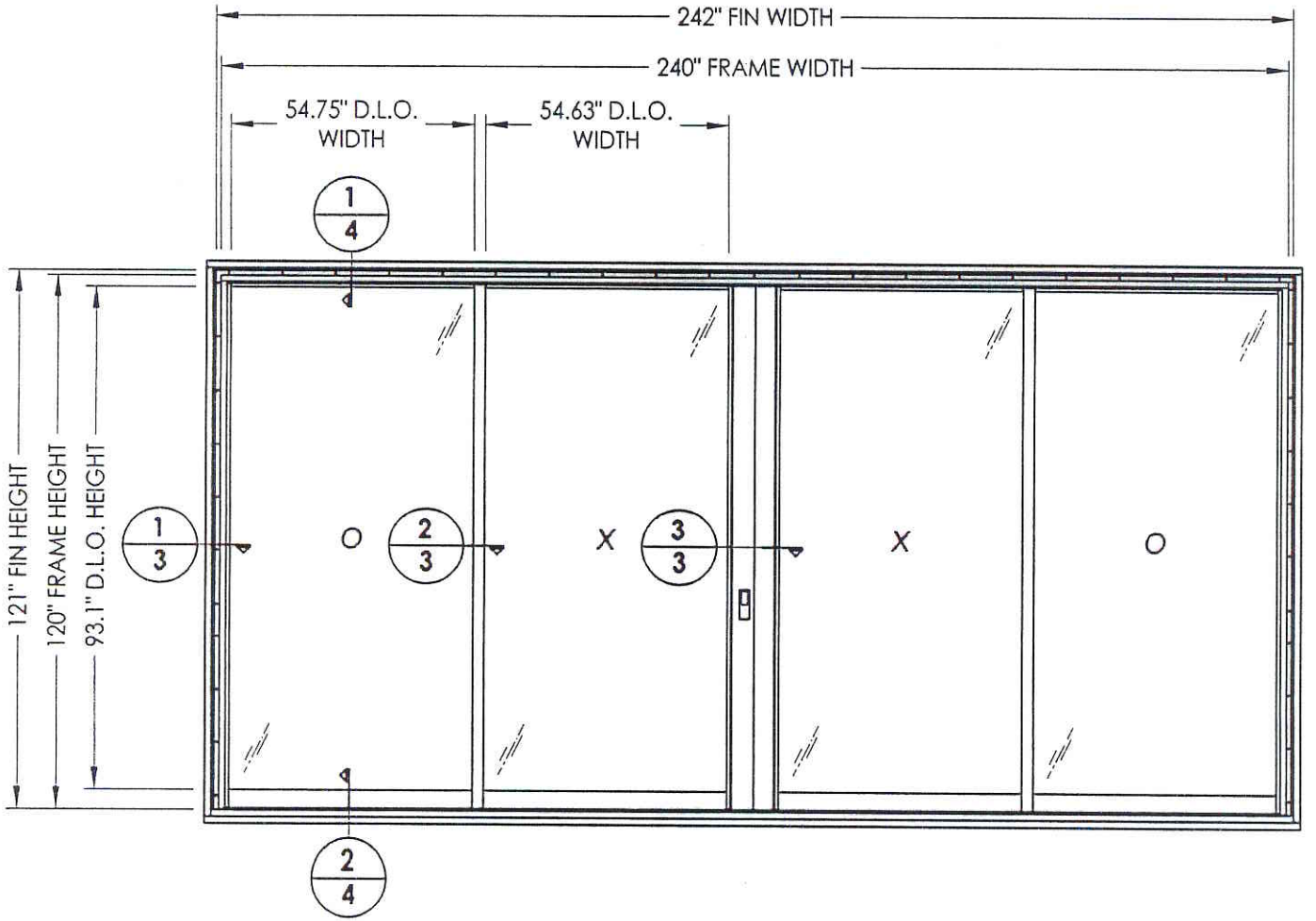
PART OR ASSEMBLY: TABLE OF CONTENTS

NO.	DATE	BY

REVISIONS

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 1/21/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7113
SHEET 1 OF 9



Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted, TEL #0199.1912
Date 3/11/14 Verified by [illegible]

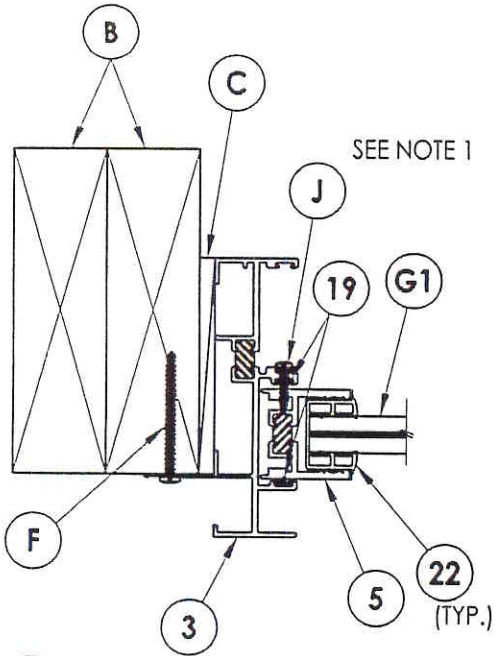
PRODUCT: FLEETWOOD GLACIER 3300 (OXXO)

PART OR ASSEMBLY: TEST ELEVATION

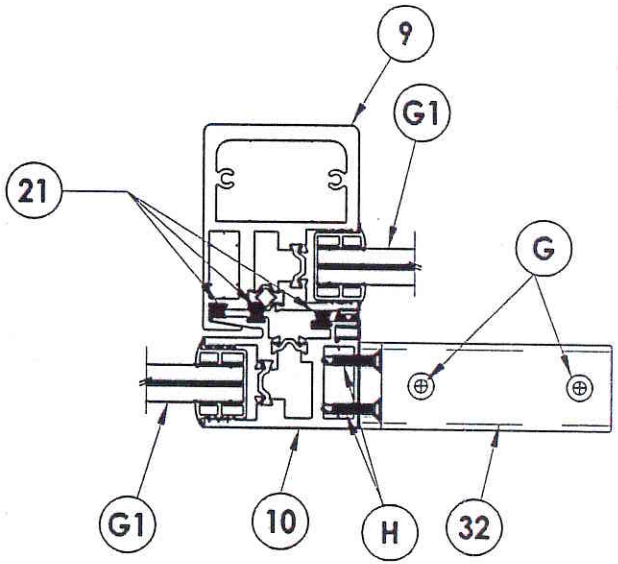
NO.	DATE	REVISIONS	BY

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 1/21/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7113
SHEET 2 OF 9



1/3 HORIZONTAL CROSS SECTION



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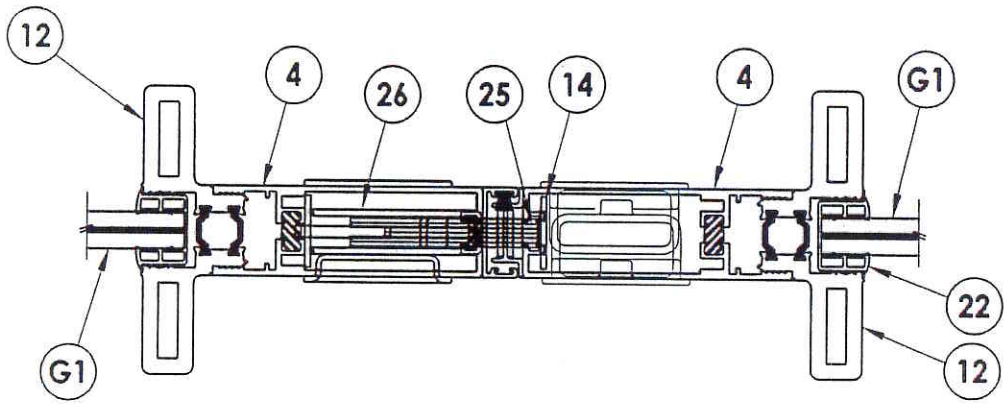


3/3 HORIZONTAL CROSS SECTION

NOTE:
1. Item #J located six inches from each end then 12" o.c.

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviation Noted / TEL # 0199.01a
Date 3/11/14 Verified by

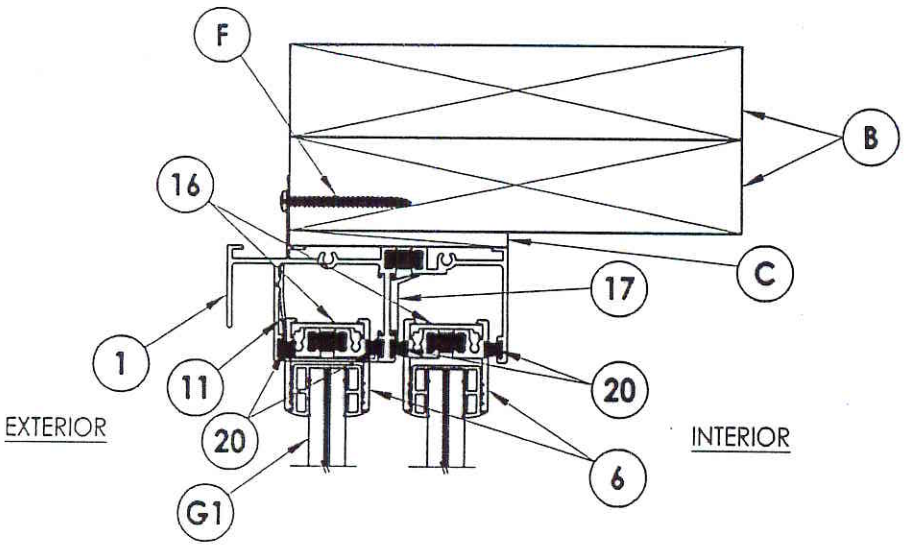
PRODUCT: FLEETWOOD GLACIER 3300 (OXXO)

PART OR ASSEMBLY: HORIZONTAL CROSS SECTIONS

NO.	DATE	BY	REVISIONS

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 1/21/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7113
SHEET 3 OF 9



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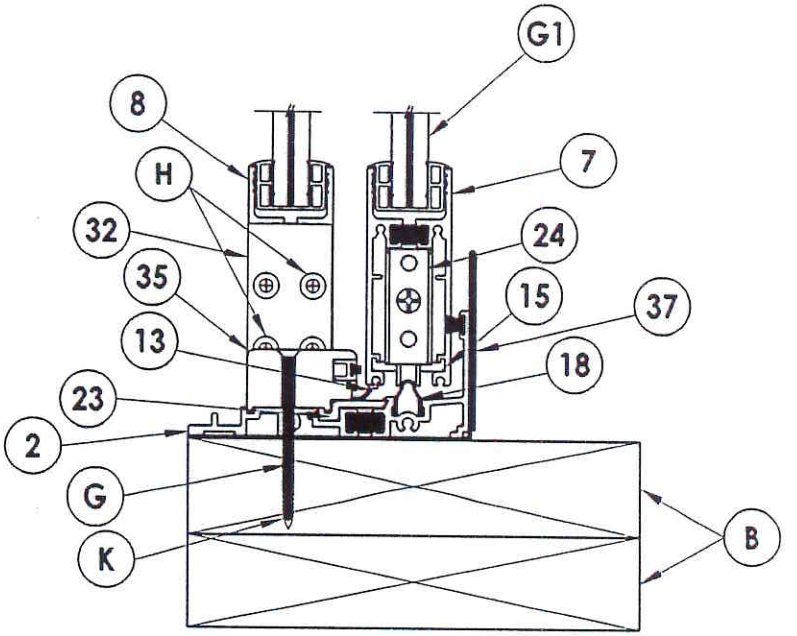


2/4 VERTICAL CROSS SECTION

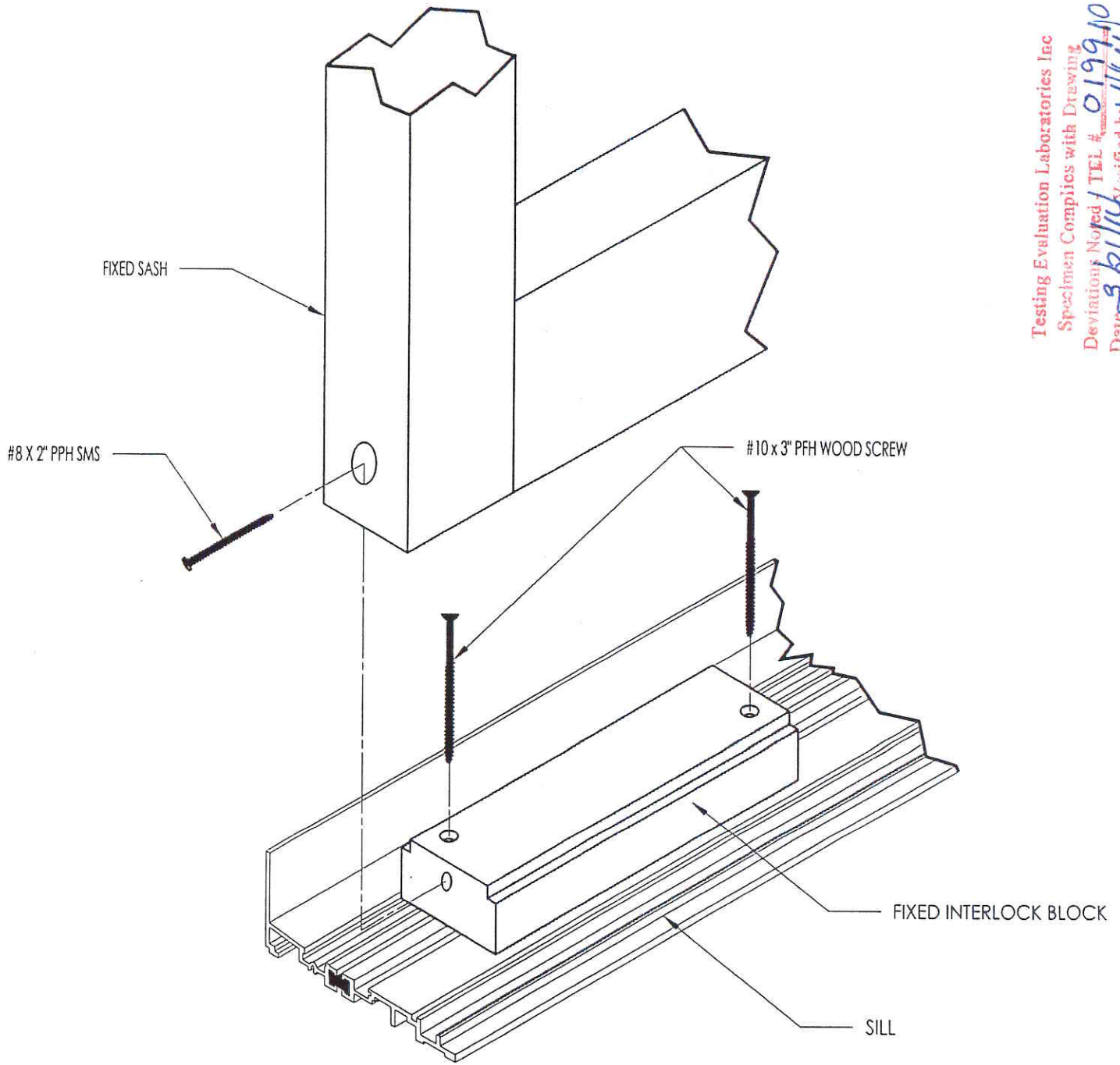
PRODUCT: FLEETWOOD GLACIER 3300 (OXXO)

PART OR ASSEMBLY: VERTICAL CROSS SECTIONS

NO.	DATE	BY	REVISIONS

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 1/21/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7113
SHEET 4 OF 9



Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted / TEL # 01994013
Date 3/21/14 Verified by

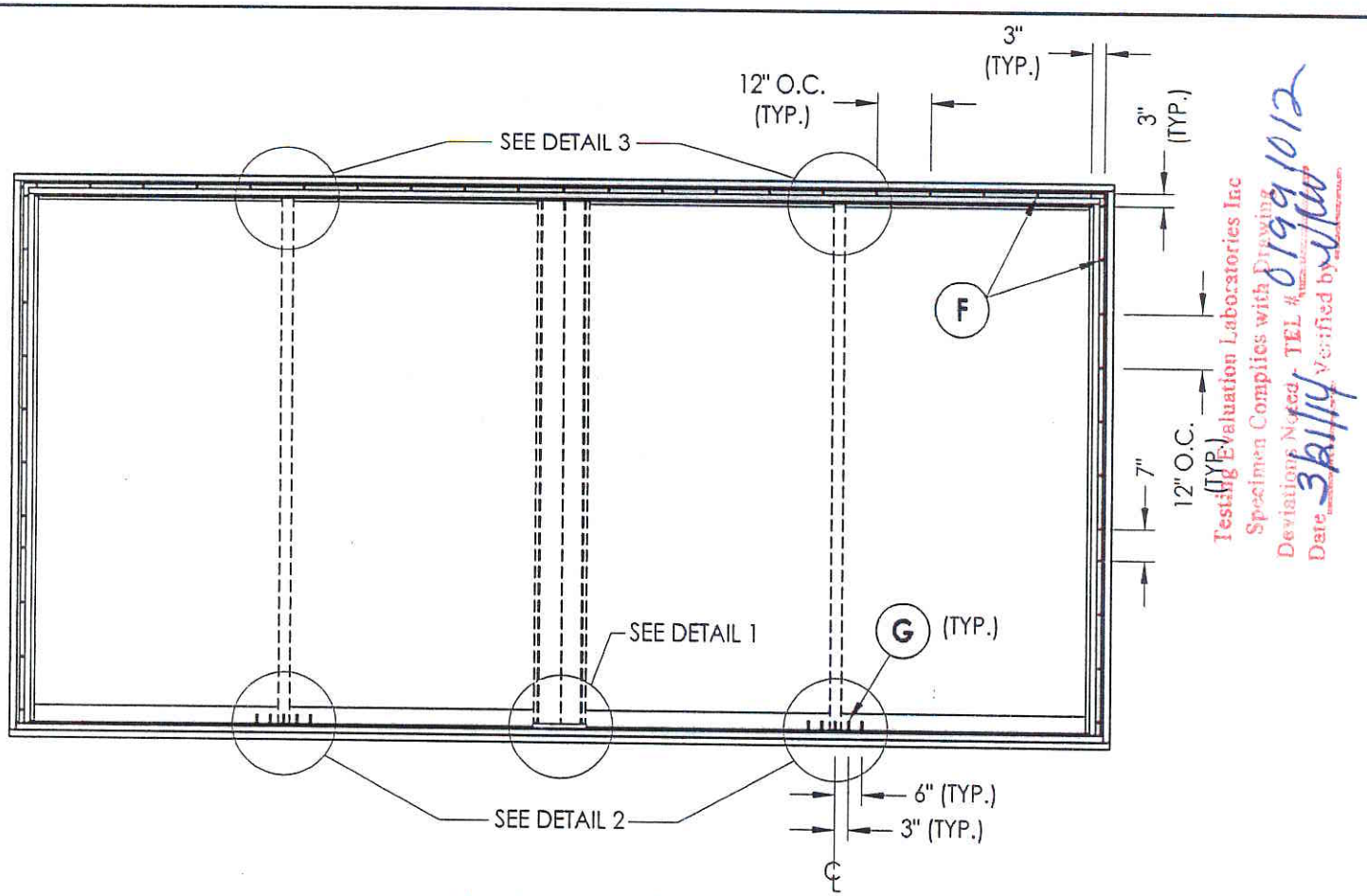
PRODUCT: FLEETWOOD GLACIER 3300 (OXXO)

PART OR ASSEMBLY: SILL MEETING STILE BLOCK DETAILS

NO.	DATE	BY	REVISIONS

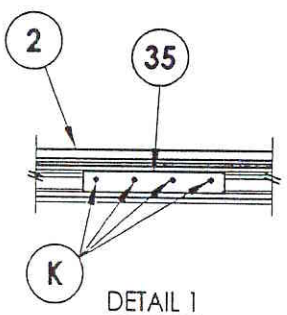
RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 1/21/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7113
SHEET 5 OF 9

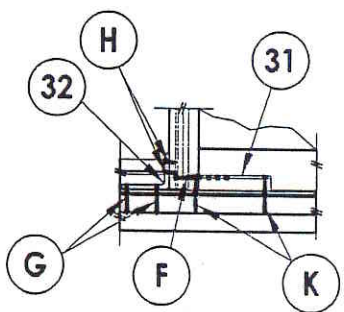


Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted TEL # 0199.1012
Date 3/11/14 Verified by

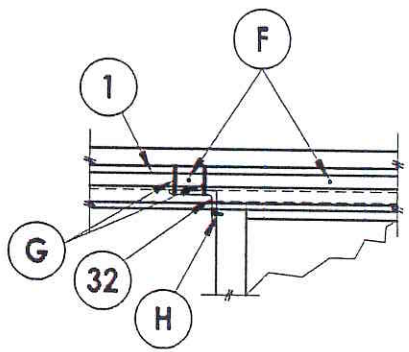
FRAME ANCHORING
2X buck construction



DETAIL 1



DETAIL 2



DETAIL 3

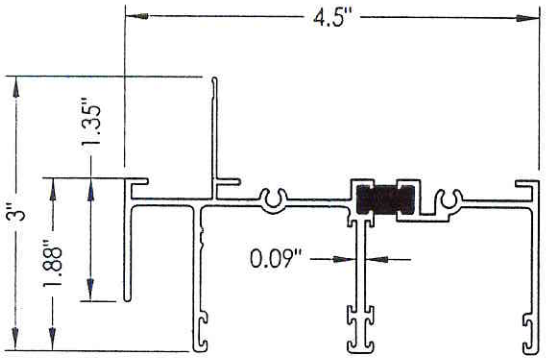
PRODUCT: FLEETWOOD GLACIER 3300 (OXXO)

PART OR ASSEMBLY: FRAME ANCHORING

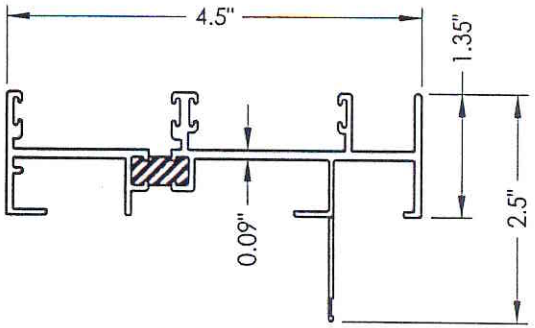
NO.	DATE	BY	REVISIONS

RW BUILDING CONSULTANTS, INC.
813.659.9197

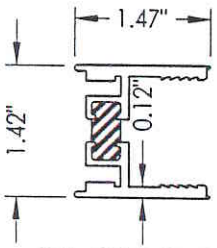
DATE: 1/21/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7113
SHEET 6 OF 9



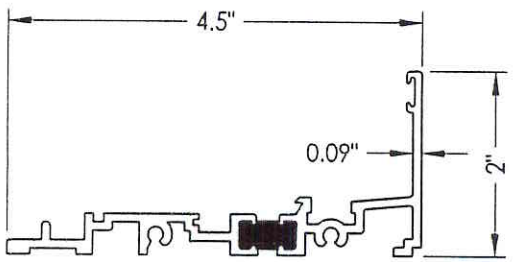
1 HEAD W/ NIAL FIN



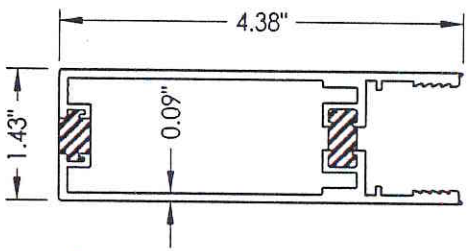
3 JAMB W/ NIAL FIN



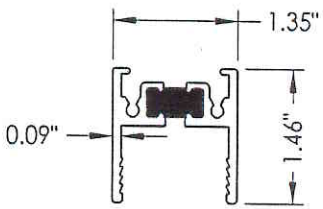
5 FIXED STILE



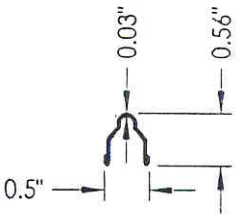
2 SILL



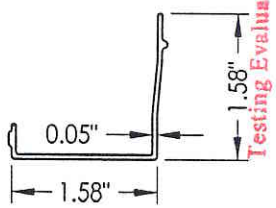
4 LOCK STILE



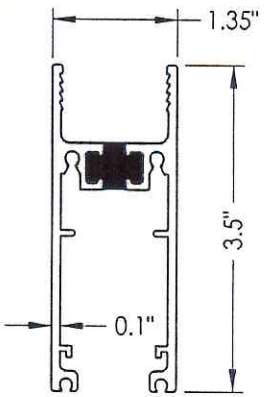
6 TOP RAIL



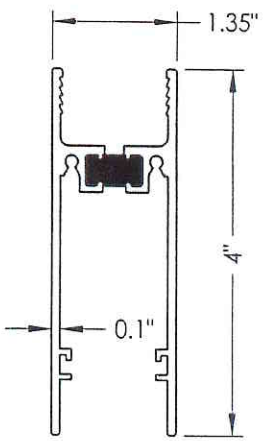
18 TRACK



11 HEAD CHANNEL FILLER



7 SLIDING BOTTOM RAIL



8 FIXED BOTTOM RAIL

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted TEL # 0199.1013
Date 3/31/14 Certified by JMW

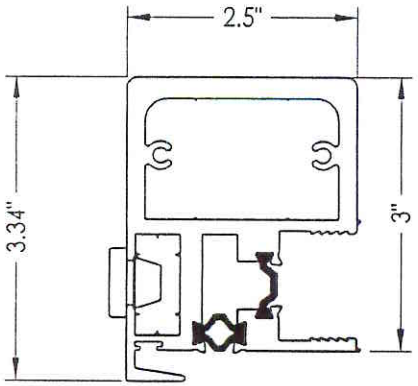
PRODUCT: FLEETWOOD GLACIER 3300 (OXXO)

PART OR ASSEMBLY: COMPONENTS

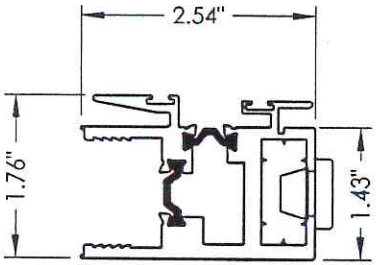
NO.	DATE	BY
REVISIONS		

RW BUILDING CONSULTANTS, INC.
813.659.9197

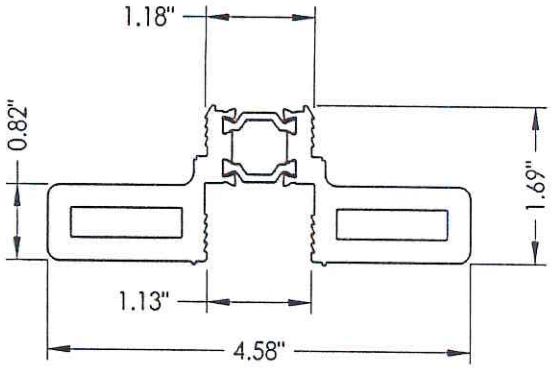
DATE: 2/24/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7113
SHEET 7 OF 9



9 HP INTERLOCK

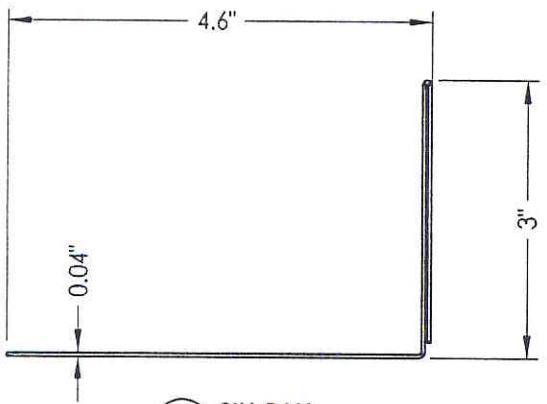


10 FIXED INTERLOCK

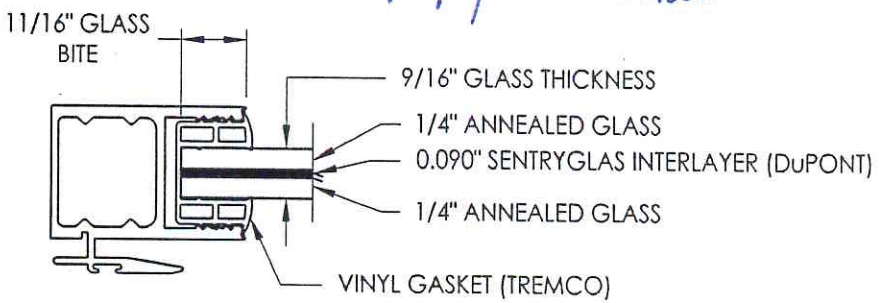


12 HP THERMAL ADAPTOR - DOUBLE WING

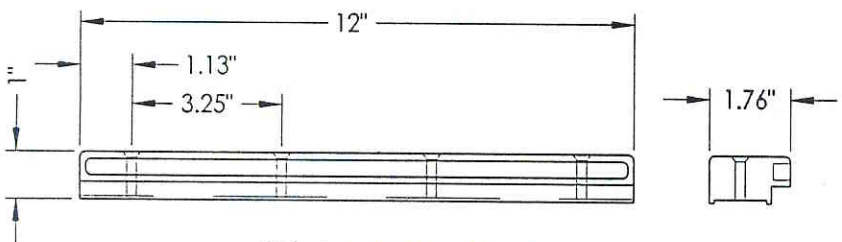
Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted - TEL # 0199.1012
Date 3/21/14 Verified by JLW



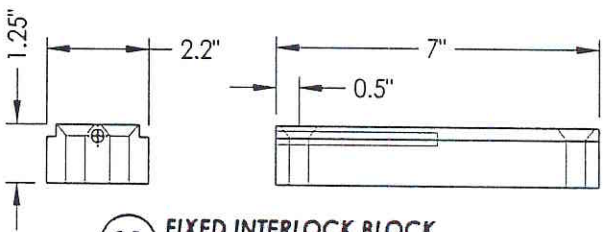
37 SILL PAN



G1 GLAZING DETAIL



35 SILL MEETING STILE BLOCK



31 FIXED INTERLOCK BLOCK

PRODUCT: FLEETWOOD GLACIER 3300 (OXXO)

PART OR ASSEMBLY: COMPONENTS AND GLAZING DETAIL

NO.	DATE	BY
REVISIONS		

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 2/24/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7113
SHEET 8 OF 9

BILL OF MATERIALS

ITEM #	DESCRIPTION	MATERIAL
B	2X BUCK SG >= 0.42	WOOD
C	1/4" MAX. SHIM SPACE	-
F	#10 X 2" PPH SMS	STEEL
G	#10 X 2-1/2" PPH SMS	STEEL
H	#10 X 1" PFH SMS	STEEL
J	#8 X 3/4" PPH SELF-DRILLING SMS	STEEL
K	#10 X 3" PFH WS	STEEL
L	1/4-20 X 1/2" MACHINE SCREW	STEEL
1	HEAD W/ NAIL FIN	6063-T6 ALUM
2	SILL	6063-T6 ALUM
3	JAMB W/ NAIL FIN	6063-T6 ALUM
4	LOCK STILE	6063-T6 ALUM
5	FIXED STILE	6063-T6 ALUM
6	TOP RAIL	6063-T6 ALUM
7	SLIDING BOTTOM RAIL	6063-T6 ALUM
8	FIXED BOTTOM RAIL	6063-T6 ALUM
9	HP INTERLOCK	6063-T6 ALUM
10	FIXED INTERLOCK	6063-T6 ALUM
11	HEAD CLOSER	6063-T6 ALUM
12	HP THERMAL ADAPTOR - DOUBLE WING	6063-T6 ALUM
13	SLIDING BOTTOM RAIL WEATHERSTRIP	-
14	LOCK STILE SPREADER	6063-T6 ALUM
15	BOTTOM RAIL SPREADER	6063-T6 ALUM
16	TOP RAIL ISOLATOR	6063-T6 ALUM
17	ISOLATOR	6063-T6 ALUM
18	S.S. TRACK	SS
19	2 FINGER VINYL	-
20	SMALL FINSEAL	-
21	LARGE FINSEAL	-
22	GLAZING VINYL 1" SCR-900, 80 DUROMETER	-
23	SILL ISOLATOR	6063-T6 ALUM
24	ROLLER ASSEMBLY	6063-T6 ALUM
25	STRIKE PLATE ASSY.(JAMB)	6063-T6 ALUM
26	LATCH ASSY.(JAMB)	6063-T6 ALUM
31	FIXED INTERLOCK BLOCK	6063-T6 ALUM
32	3" X 4" L-BRACKET	6063-T6 ALUM
35	SILL MEETING STILE BLOCK	6063-T6 ALUM
37	SILL PAN	-

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted/ TEL # 0199.1012
Date 3/11/14 Verified by

PRODUCT: FLEETWOOD GLACIER 3300 (OXXO)

PART OR ASSEMBLY: BILL OF MATERIALS

NO.	DATE	BY	REVISIONS

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 2/24/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7113
SHEET 9 OF 9

TABLE OF CONTENTS	
SHEET #	**DESCRIPTION**
1	Table of contents
2	Test elevation
3	Horizontal cross sections
4	Vertical cross sections
5	Sill meeting stile block details
6	Frame anchoring
7	Components
8	Components and glazing detail
9	Bill of materials

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted / TEL # 01991013
Date 3/31/14 Certified by

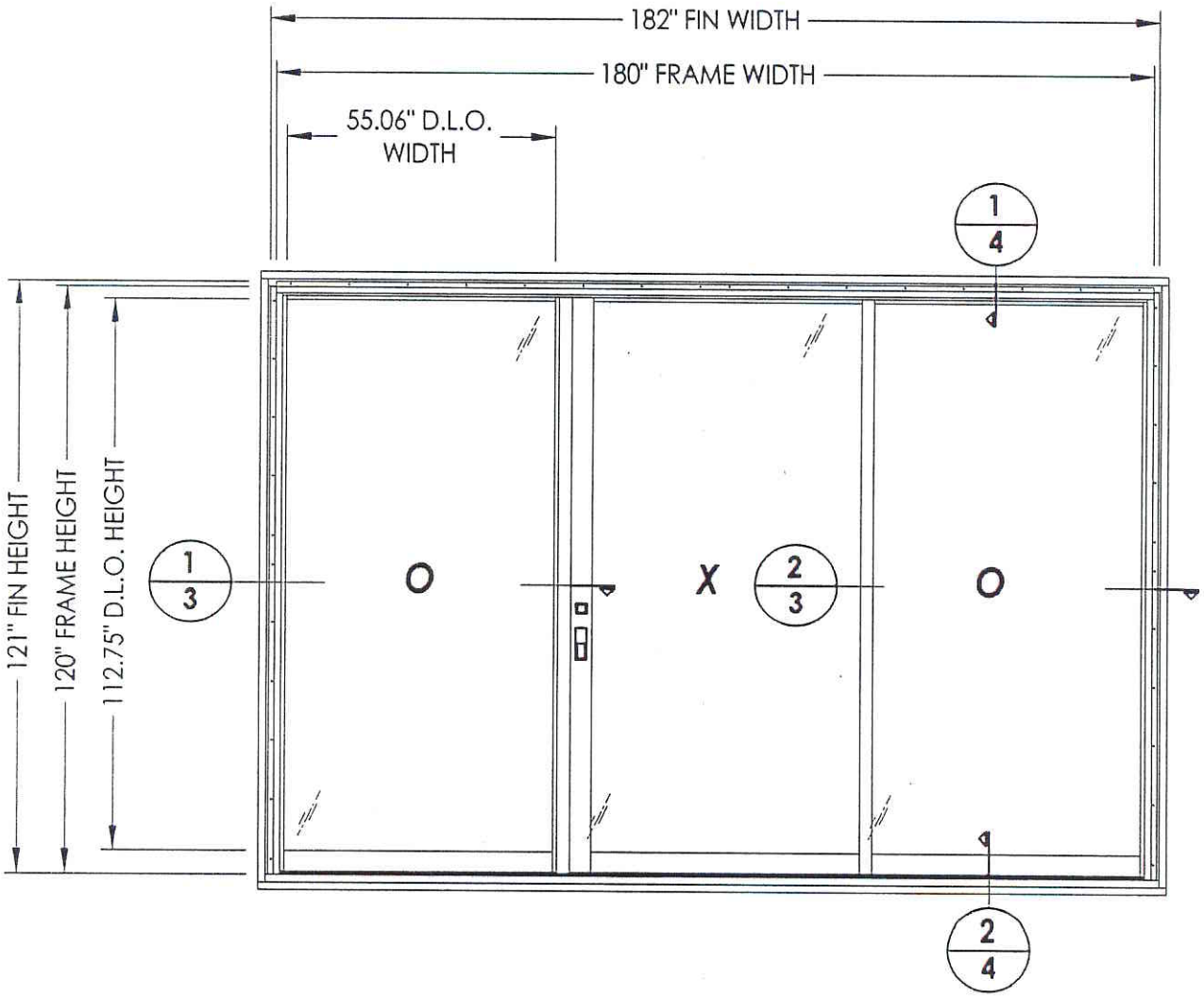
PRODUCT: FLEETWOOD GLACIER 3300 (OXO)

PART OR ASSEMBLY: TABLE OF CONTENTS

NO.	DATE	BY	REVISIONS

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 2/24/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7114
SHEET 1 OF 9



Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted TEL # 0199-12
Date 3/11/14 Certified by

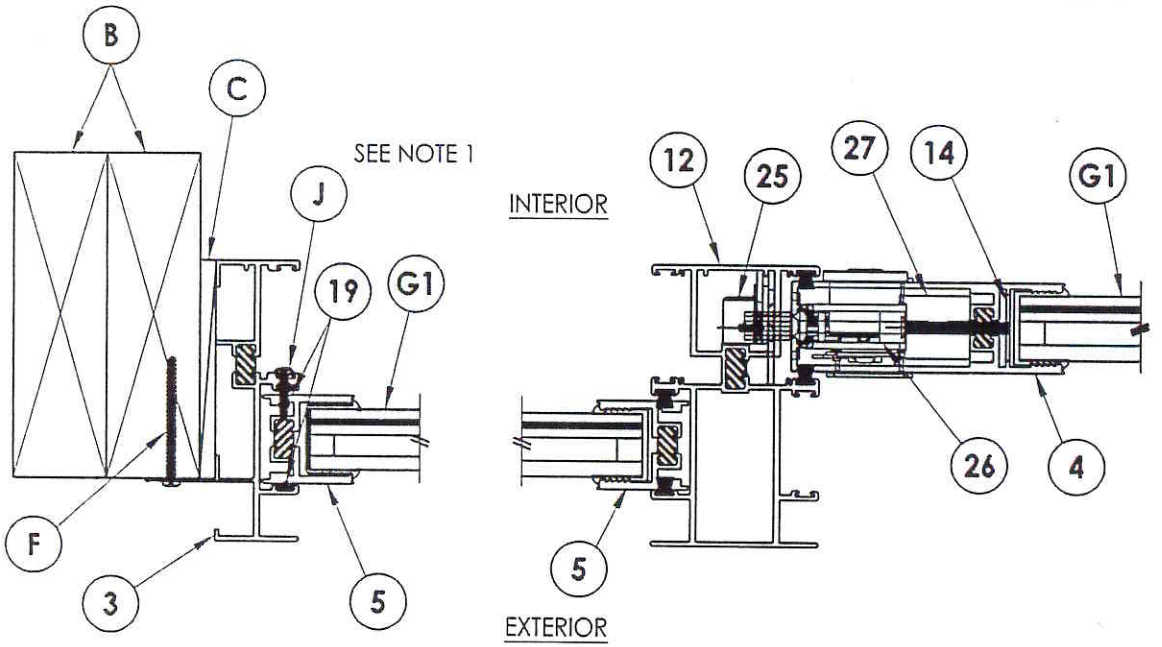
PRODUCT: FLEETWOOD GLACIER 3300 (OXO)

PART OR ASSEMBLY: TEST ELEVATION

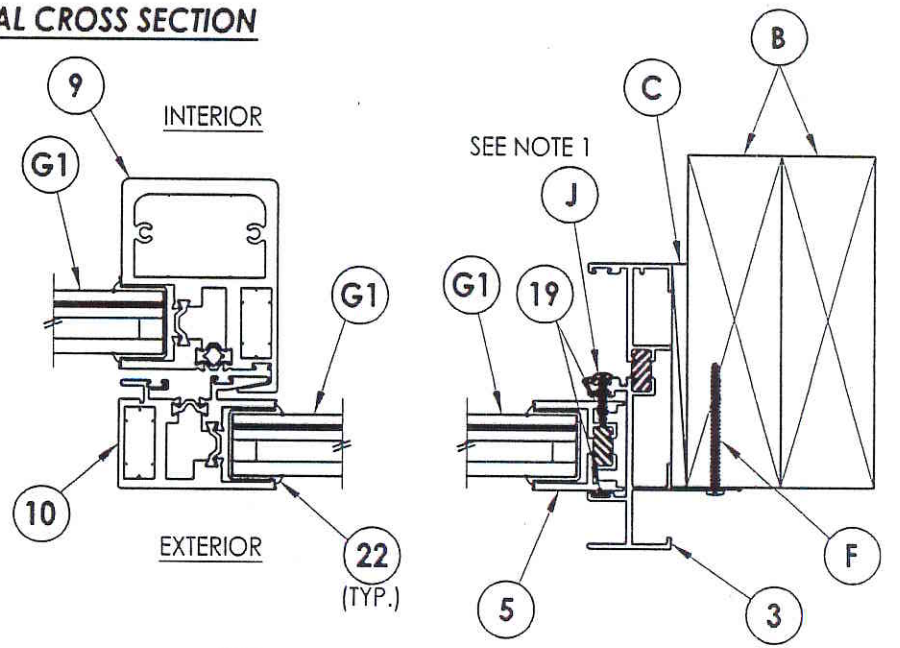
NO.	DATE	REVISIONS	BY

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 2/24/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7114
SHEET 2 OF 9



1/3 **HORIZONTAL CROSS SECTION**



2/3 **HORIZONTAL CROSS SECTION**

NOTE:
1. Item #J located six inches from each end then 12" o.c.

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted TEL # 01991012
Date 3/21/14 Verified by

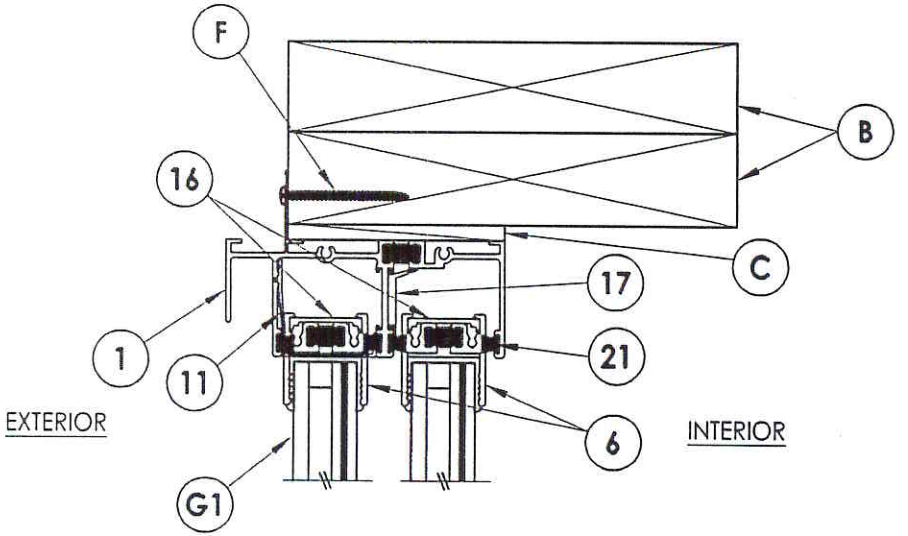
PRODUCT: FLEETWOOD GLACIER 3300 (OXO)

PART OR ASSEMBLY: HORIZONTAL CROSS SECTIONS

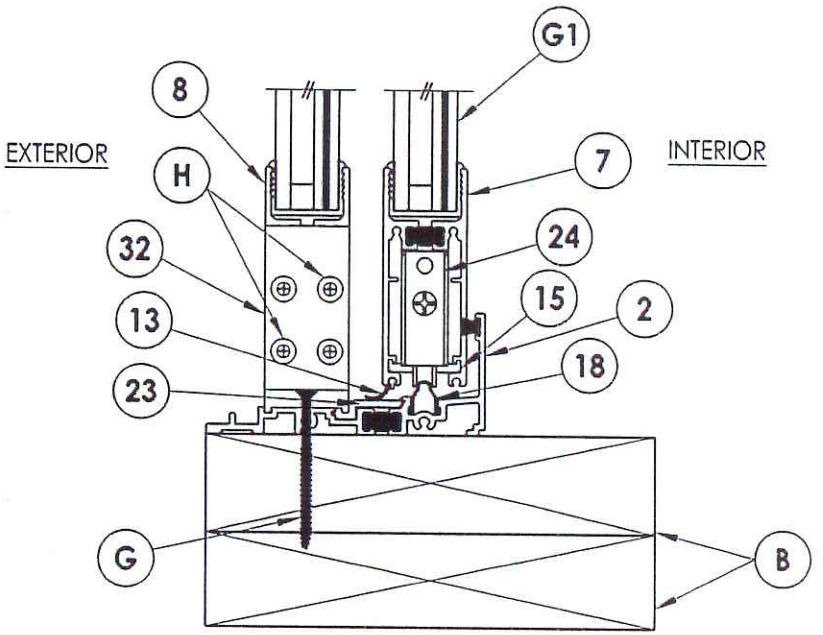
NO.	DATE	REVISIONS	BY

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 2/24/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7114
SHEET 3 OF 9



1/4 VERTICAL CROSS SECTION



2/4 VERTICAL CROSS SECTION

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted TEL # 01991913
Date 3/31/14 Certified by

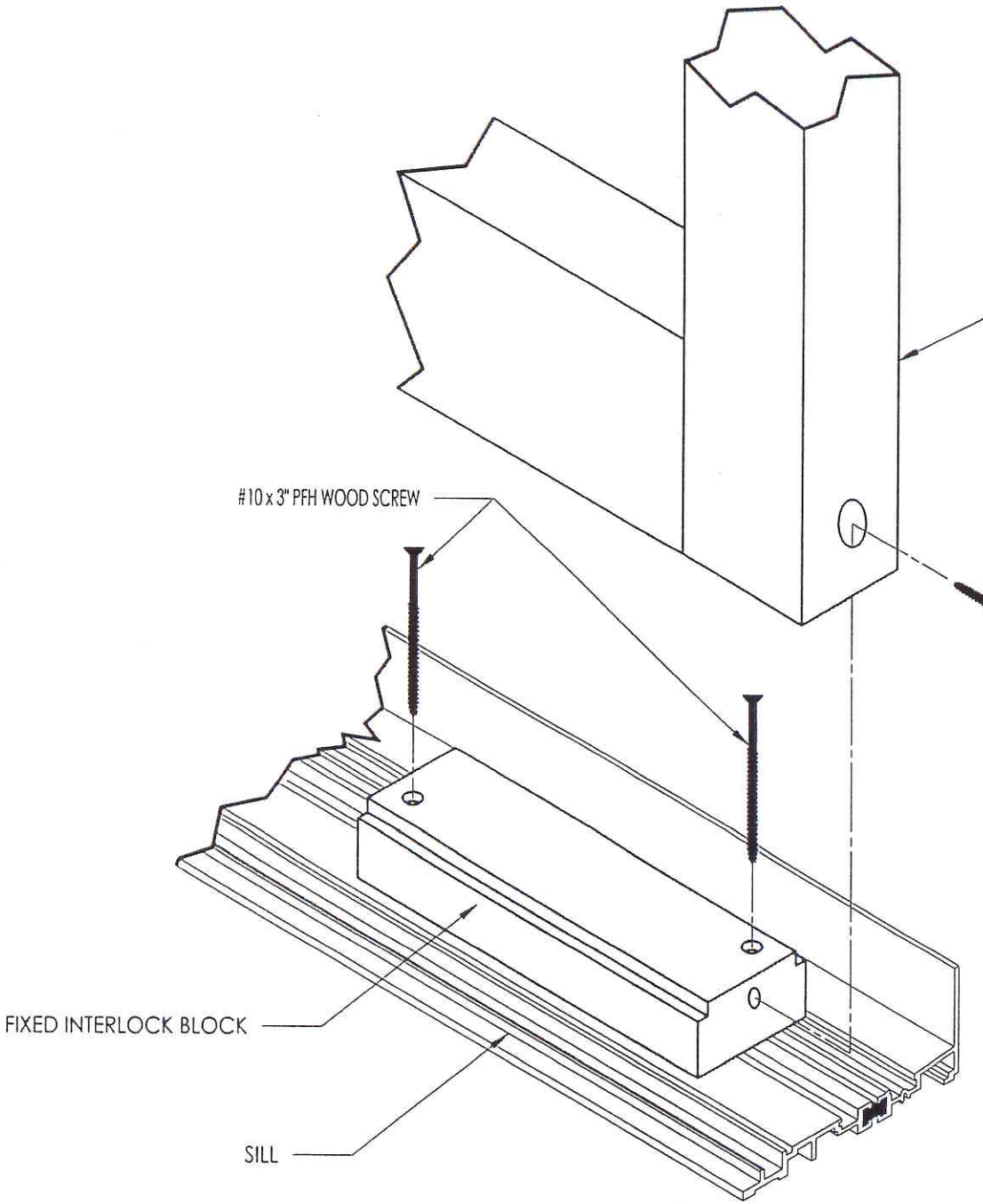
PRODUCT: FLEETWOOD GLACIER 3300 (OXO)

PART OR ASSEMBLY: VERTICAL CROSS SECTIONS

NO.	DATE	REVISIONS	BY

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 2/24/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7114
SHEET 4 OF 9



Testing Evaluation Laboratories Inc
Specimen Complies with Drawings
Deviations Noted TEL # 0199.1012
Date 3/3/14 Verified by

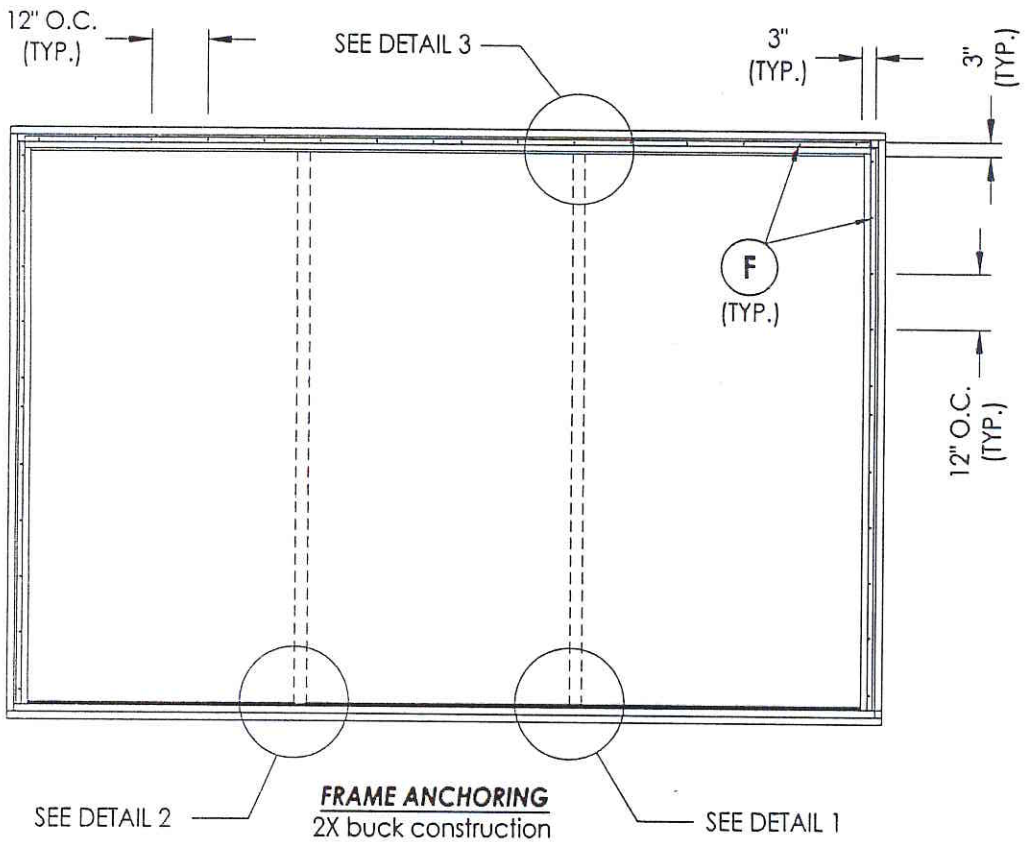
PRODUCT: FLEETWOOD GLACIER 3300 (OXO)

PART OR ASSEMBLY: SILL MEETING STILE BLOCK DETAILS

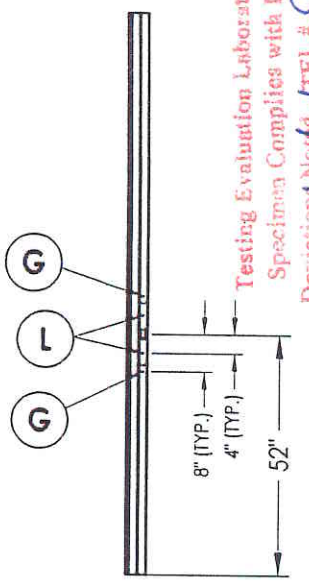
NO.	DATE	BY	REVISIONS

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 2/24/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7114
SHEET 5 OF 9

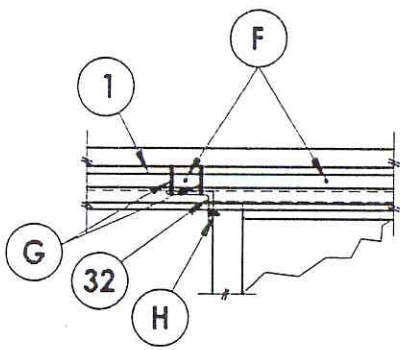


FRAME ANCHORING
2X buck construction

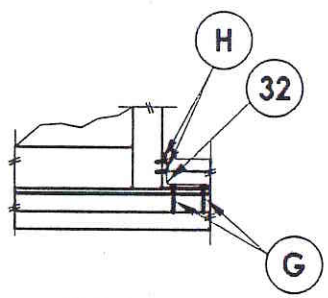


LOCK JAMB

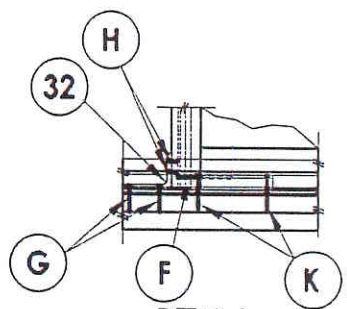
Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviation Noted TEL # 0199 10/13
Date 3/21/14 Certified by



DETAIL 3



DETAIL 2



DETAIL 1

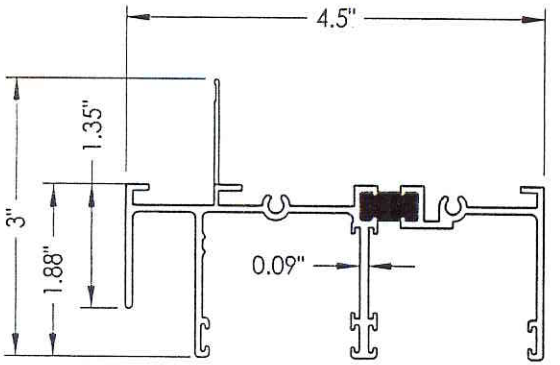
PRODUCT: FLEETWOOD GLACIER 3300 (OXO)

PART OR ASSEMBLY: FRAME ANCHORING

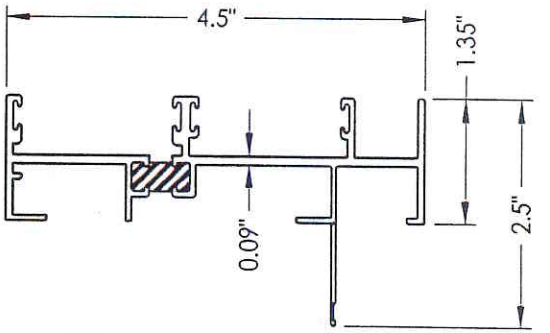
NO.	DATE	REVISIONS	BY

RW BUILDING CONSULTANTS, INC.
813.659.9197

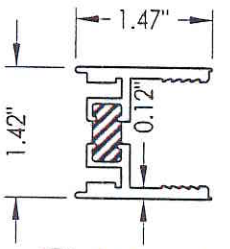
DATE: 2/24/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7114
SHEET 6 OF 9



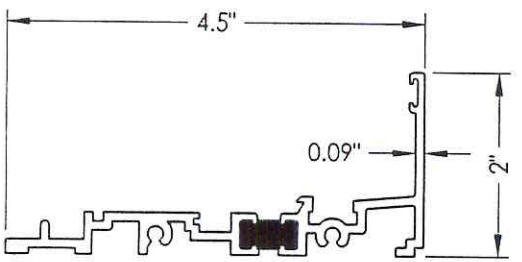
1 HEAD W/ NAIL FIN



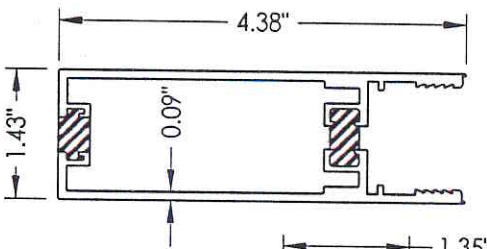
3 JAMB W/ NAIL FIN



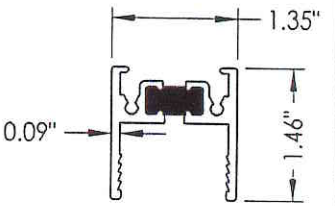
5 FIXED STILE



2 SILL

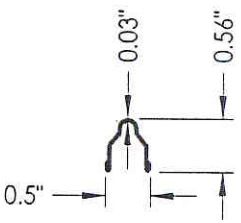


4 LOCK STILE

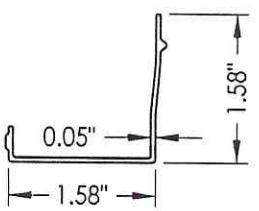


6 TOP RAIL

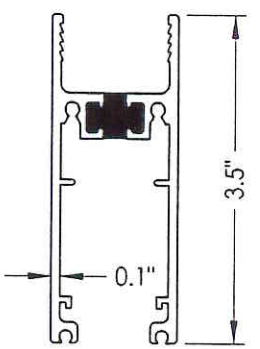
Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted / TEL # 0199012
Date 3/21/14 Verified by JTW



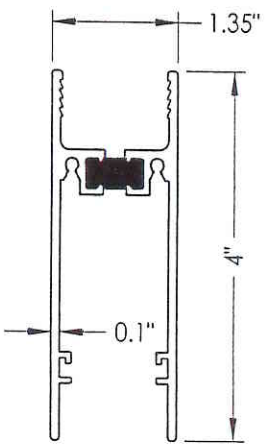
18 TRACK



11 HEAD CHANNEL FILLER



7 SLIDING BOTTOM RAIL



8 FIXED BOTTOM RAIL

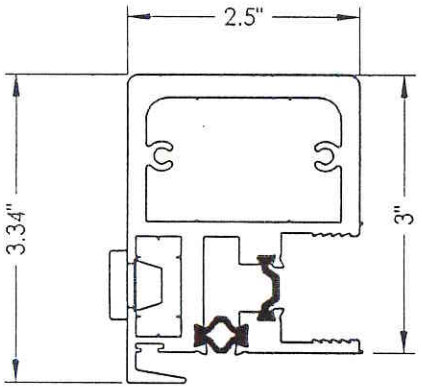
PRODUCT: FLEETWOOD GLACIER 3300 (OXO)

PART OR ASSEMBLY: COMPONENTS

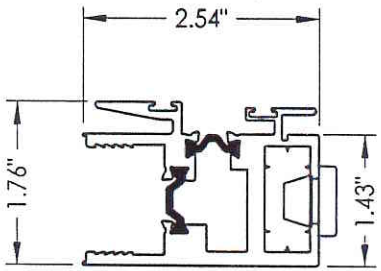
NO.	DATE	REVISIONS	BY

RW BUILDING CONSULTANTS, INC.
813.659.9197

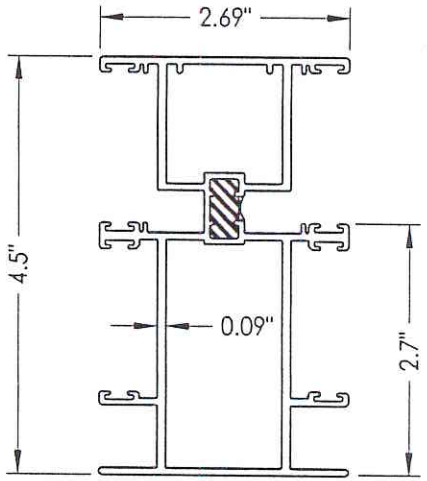
DATE: 2/24/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7114
SHEET 7 OF 9



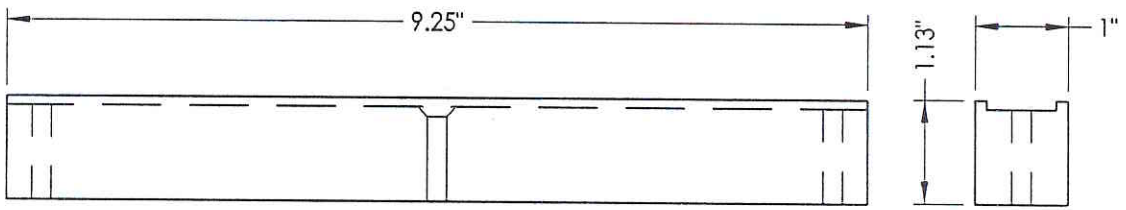
9 **HP INTERLOCK**



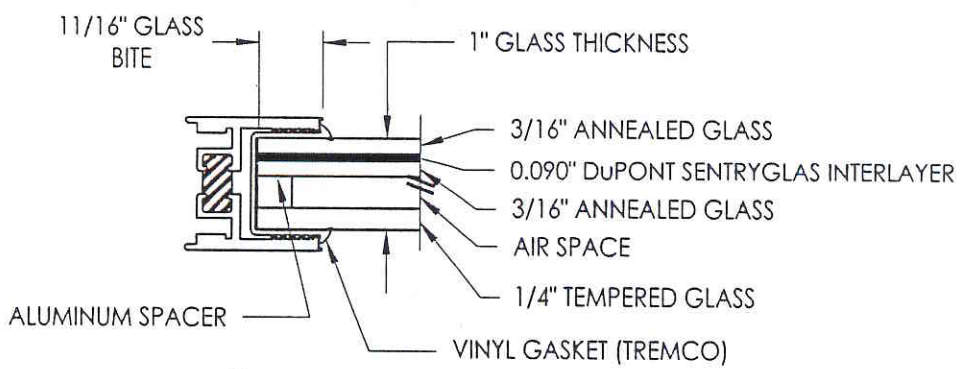
10 **FIXED INTERLOCK**



12 **FALL JAMB**



27 **SPACER**
Archetype Narrow Latch



G1 **GLAZING DETAIL**

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted - TEL # 0199012
Date 3/4/14 Verified by

PRODUCT: FLEETWOOD GLACIER 3300 (OXO)

PART OR ASSEMBLY: COMPONENTS AND GLAZING DETAIL

NO.	DATE	REVISIONS	BY

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 2/24/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7114
SHEET 8 OF 9

BILL OF MATERIALS

ITEM #	DESCRIPTION	MATERIAL
B	2X BUCK SG >= 0.42	WOOD
C	1/4" MAX. SHIM SPACE	-
F	#10 X 2" PPH SMS	STEEL
G	#10 X 2-1/2" PPH SMS	STEEL
H	#10 X 1" PFH SMS	STEEL
J	#8 X 3/4" PPH SELF-DRILLING SMS	STEEL
K	#10 X 3" PFH WS	STEEL
L	1/4-20 - 1/2" MACHINE SCREW	STEEL
1	HEAD W/ NAIL FIN	6063-T6 ALUM
2	SILL	6063-T6 ALUM
3	JAMB W/ NAIL FIN	6063-T6 ALUM
4	LOCK STILE	6063-T6 ALUM
5	FIXED STILE	6063-T6 ALUM
6	TOP RAIL	6063-T6 ALUM
7	SLIDING BOTTOM RAIL	6063-T6 ALUM
8	FIXED BOTTOM RAIL	6063-T6 ALUM
9	HP INTERLOCK	6063-T6 ALUM
10	FIXED INTERLOCK	6063-T6 ALUM
11	HEAD CLOSER	6063-T6 ALUM
12	FALL JAMB	6063-T6 ALUM
13	SLIDING BOTTOM RAIL WEATHER STRIP	-
14	LOCK STILE SPREADER	6063-T6 ALUM
15	BOTTOM RAIL SPREADER	6063-T6 ALUM
16	TOP RAIL ISOLATOR	6063-T6 ALUM
17	ISOLATOR	6063-T6 ALUM
18	S.S. TRACK	SS
19	2 FINGER VINYL	-
20	SMALL FINSEAL	-
21	LARGE FINSEAL	-
22	GLAZING VINYL 1" SCR-900, 80 DUROMETER	-
23	SILL ISOLATOR	6063-T6 ALUM
24	ROLLER ASSEMBLY	-
25	STRIKE PLATE ASSY.(JAMB)	-
26	LATCH ASSY.(JAMB)(Archetype Narrow Latch)	-
27	SPACER (ARCHETYPE NARROW LATCH)	-
32	3" X 4" L-BRACKETT	6063-T6 ALUM

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted - TEL # 0199.01
Date 3/21/14 Verified by

PRODUCT: FLEETWOOD GLACIER 3300 (OXO)

PART OR ASSEMBLY: BILL OF MATERIALS

NO.	DATE	BY	REVISIONS

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 2/24/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7114
SHEET 9 OF 9

TABLE OF CONTENTS	
SHEET #	**DESCRIPTION**
1	Table of contents
2	Test elevation
3	Horizontal cross sections
4	Vertical cross sections
5	Sill meeting stile block details
6	Frame anchoring
7	Components
8	Components and glazing detail
9	Bill of materials

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted - TEL # 01991012
Date 3/31/14 Verified by [signature]

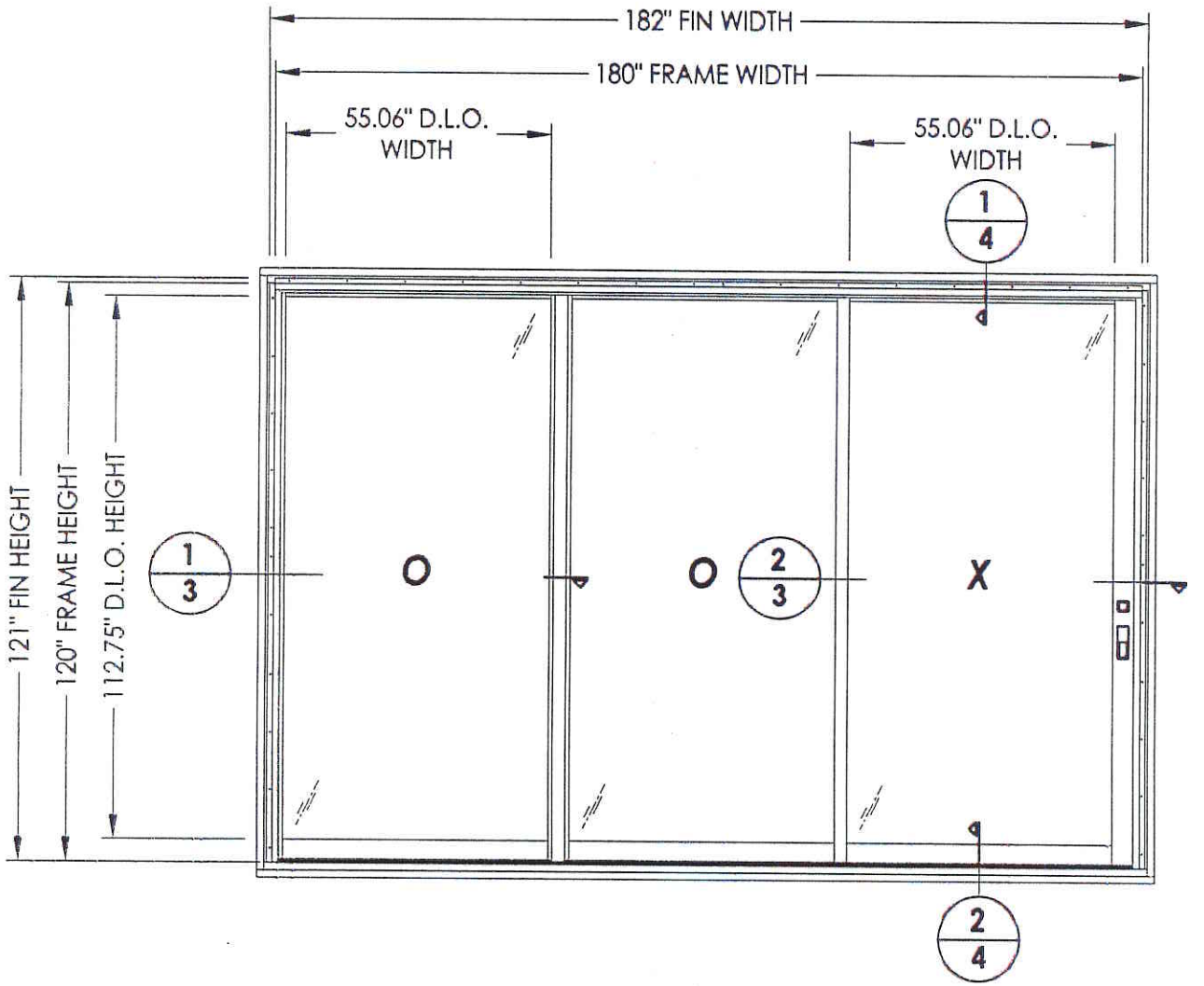
PRODUCT: FLEETWOOD GLACIER 3300 (OOX)

PART OR ASSEMBLY: TABLE OF CONTENTS

NO.	DATE	BY	REVISIONS

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 2/24/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7112
SHEET 1 OF 9



Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted - TEL #0199192
Date 3/21/14 Verified by [illegible]

PRODUCT: FLEETWOOD GLACIER 3300 (OOX)

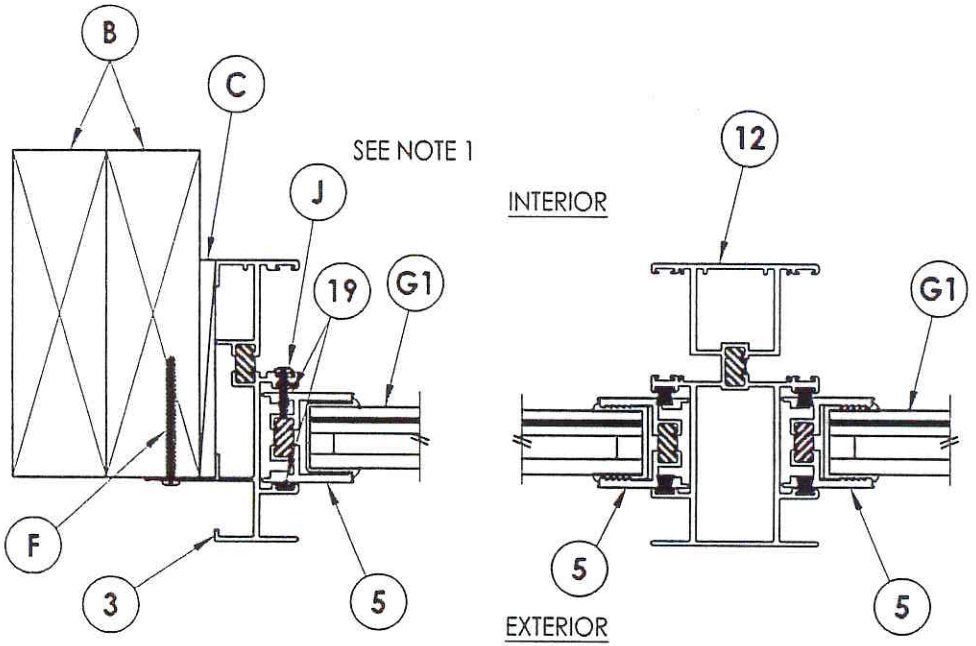
PART OR ASSEMBLY: TEST ELEVATION

NO.	DATE	BY	REVISIONS

RW BUILDING CONSULTANTS, INC.
813.659.9197

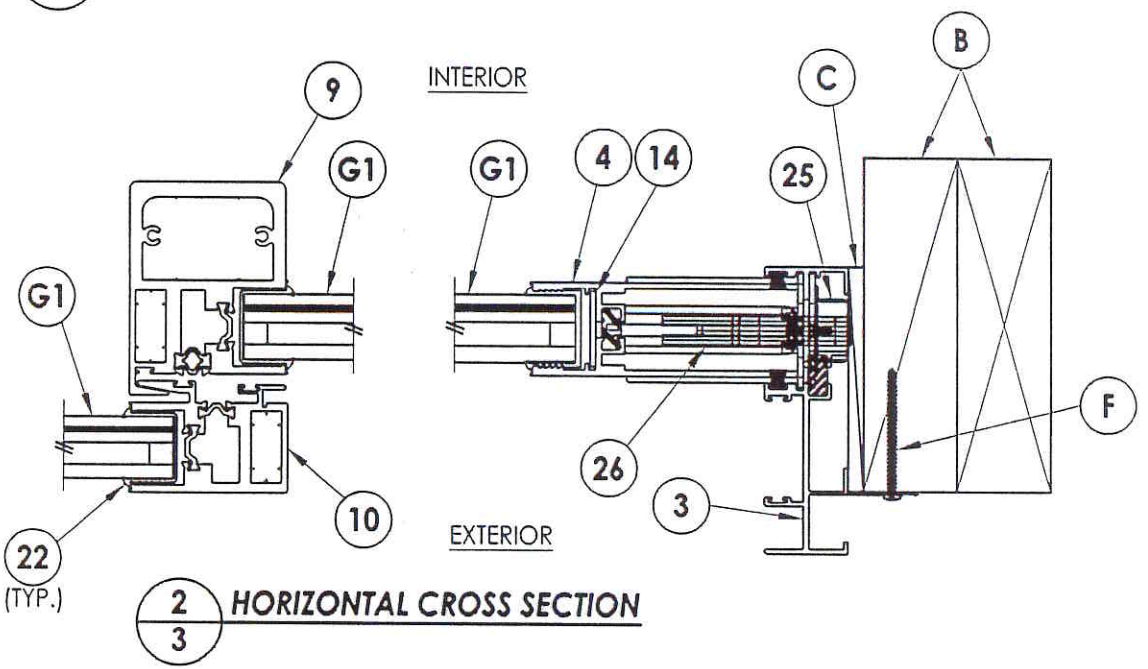
DATE: 2/24/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7112
SHEET 2 OF 9

NOTE:
1. Item #J located six inches from each end then 12" o.c.



1/3 **HORIZONTAL CROSS SECTION**

Testing Evaluation Laboratories Inc
Specimen Complies with Drawings
Deviations Noted TEL # 0199.1013
Date 3/31/14 Certified by



2/3 **HORIZONTAL CROSS SECTION**

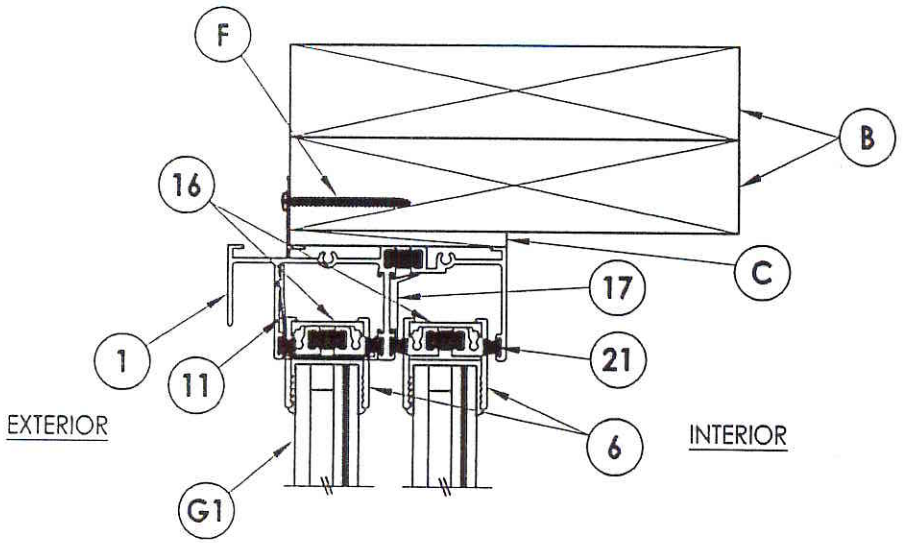
PRODUCT: FLEETWOOD GLACIER 3300 (00X)

PART OR ASSEMBLY: HORIZONTAL CROSS SECTIONS

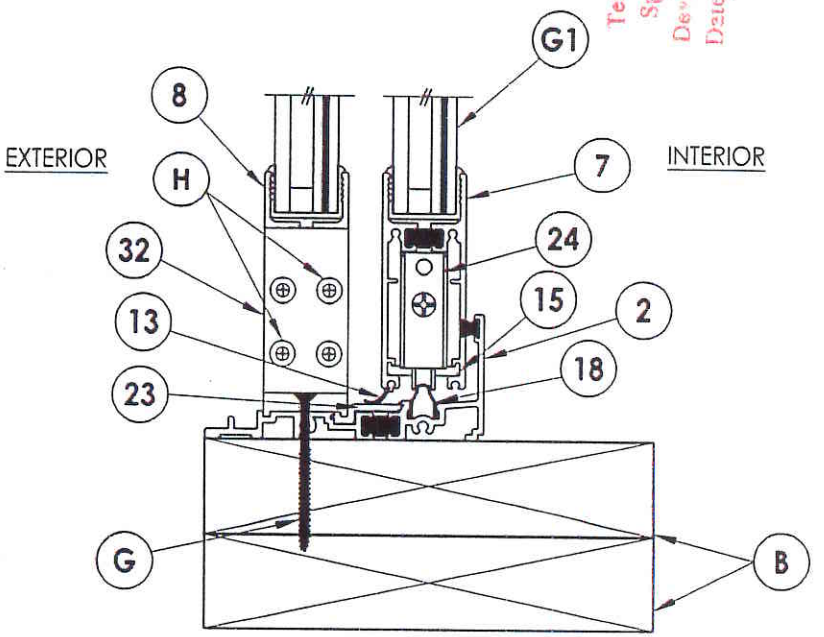
NO.	DATE	REVISIONS	BY

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 2/24/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7112
SHEET 3 OF 9



1/4 VERTICAL CROSS SECTION



2/4 VERTICAL CROSS SECTION

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted TEL # 0199102
Date 3/21/14 Verified by

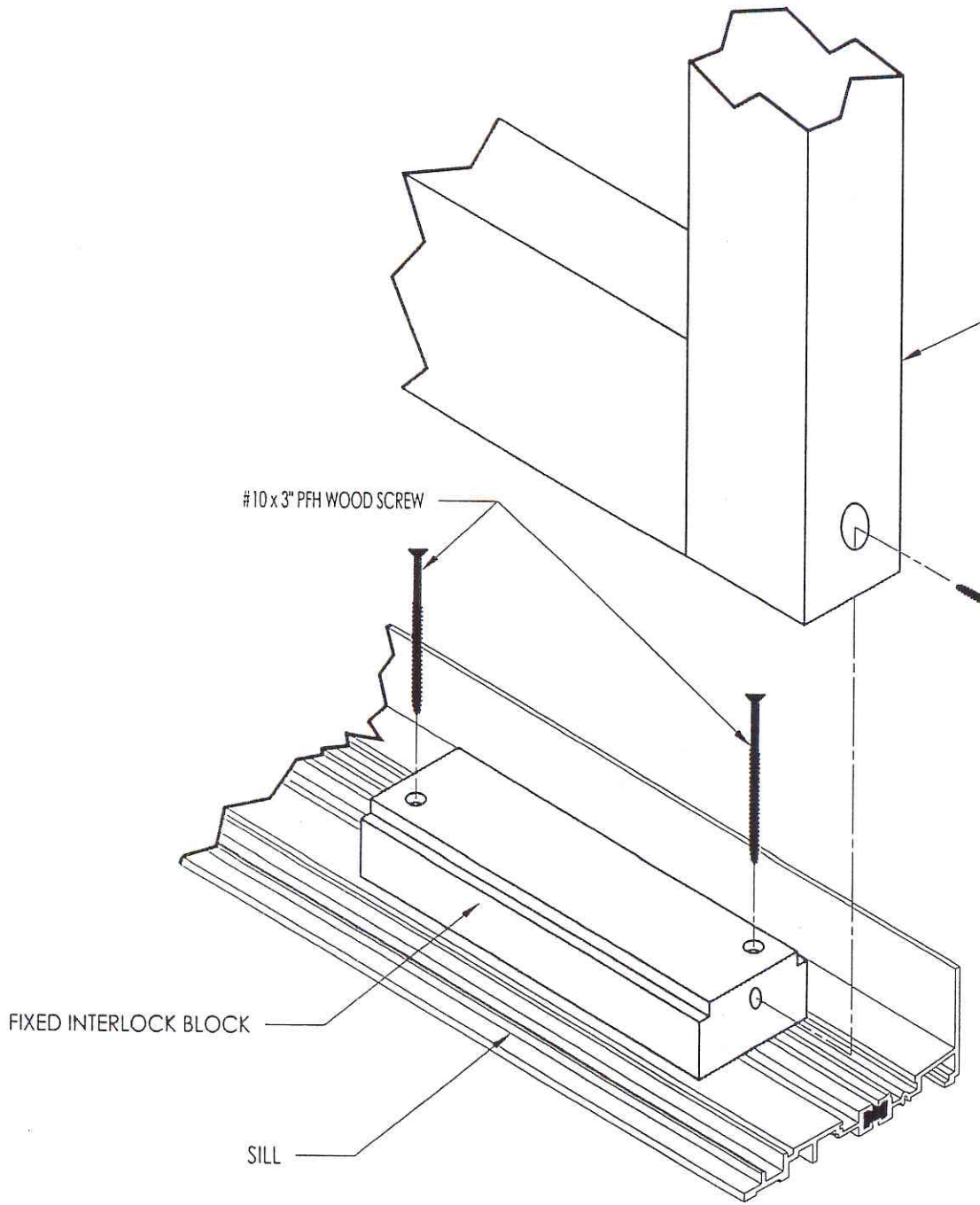
PRODUCT: FLEETWOOD GLACIER 3300 (00X)

PART OR ASSEMBLY: VERTICAL CROSS SECTIONS

NO.	DATE	REVISIONS	BY

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 2/24/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7112
SHEET 4 OF 9



Testing Evaluation Laboratories Inc
Specimen Complies with Drawings
Deviations Noted TEL #6199 10/3
Date 3/31/14 Certified by

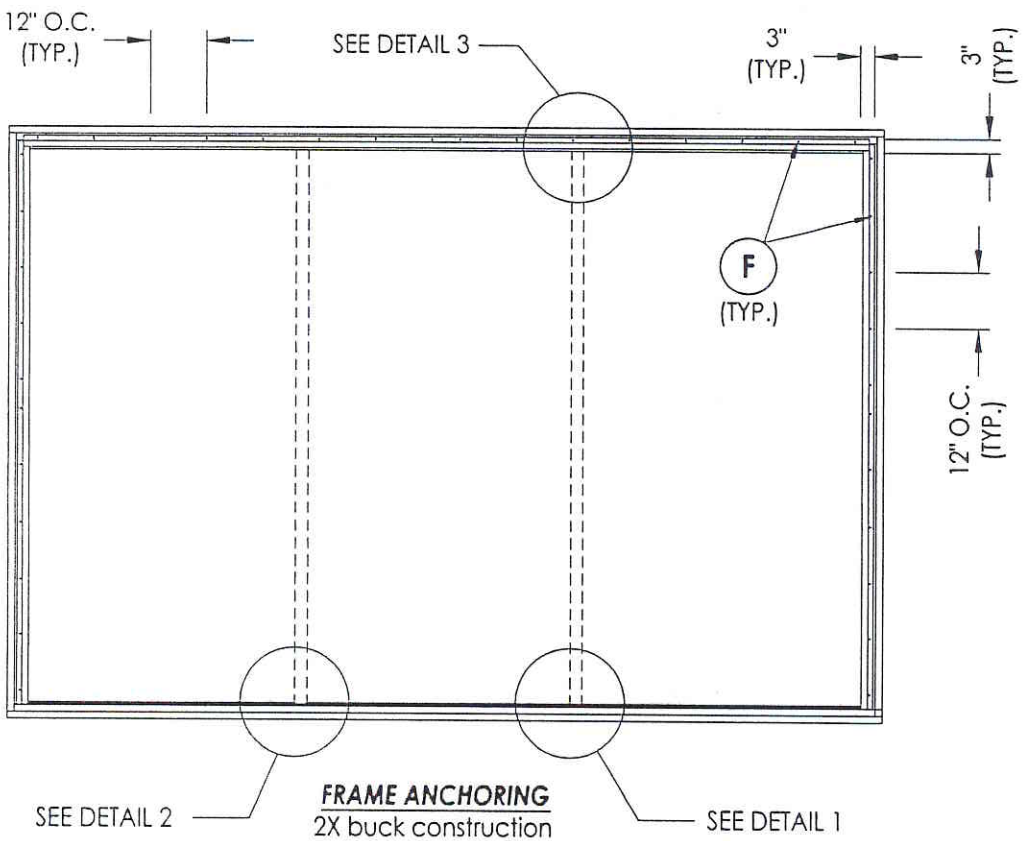
PRODUCT: FLEETWOOD GLACIER 3300 (OOX)

PART OR ASSEMBLY: SILL MEETING STILE BLOCK DETAILS

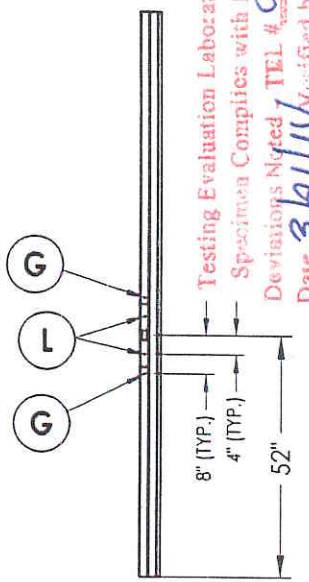
NO.	DATE	BY	REVISIONS

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 2/24/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7112
SHEET 5 OF 9

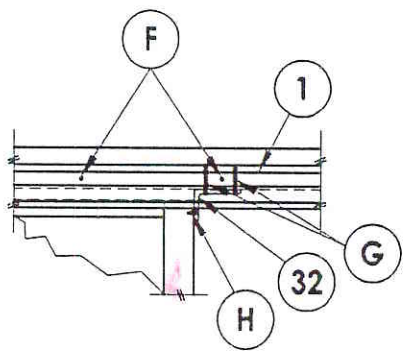


FRAME ANCHORING
2X buck construction

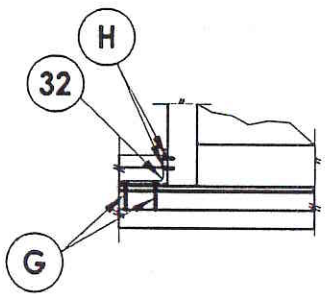


LOCK JAMB

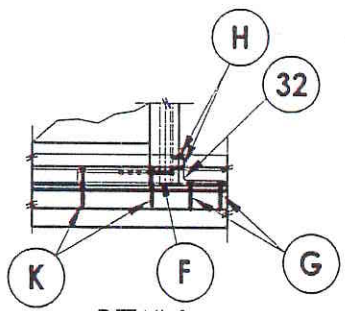
Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted TEL # 0199.1012
Date 3/31/14 Verified by



DETAIL 3



DETAIL 2



DETAIL 1

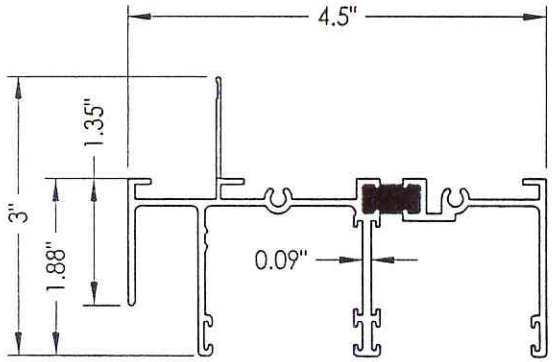
PRODUCT: FLEETWOOD GLACIER 3300 (00X)

PART OR ASSEMBLY: FRAME ANCHORING

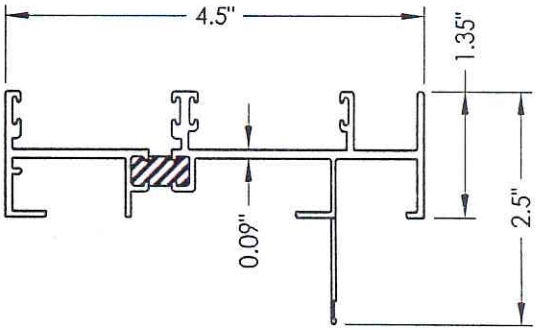
NO.	DATE	BY
	REVISIONS	

RW BUILDING CONSULTANTS, INC.
813.659.9197

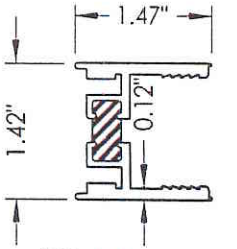
DATE: 2/24/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7112
SHEET 6 OF 9



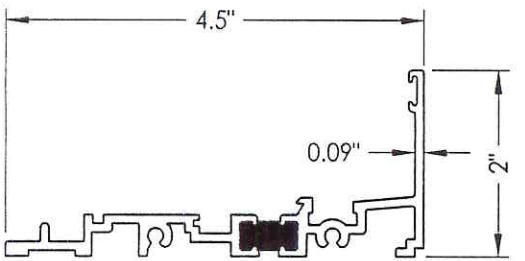
1 HEAD W/ NAIL FIN



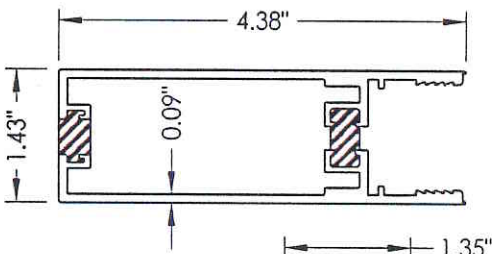
3 JAMB W/ NAIL FIN



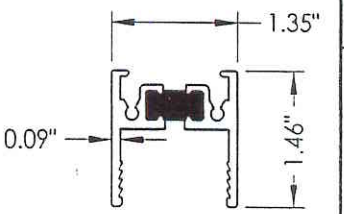
5 FIXED STILE



2 SILL

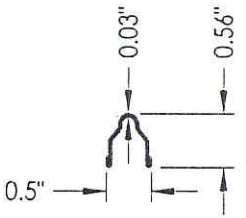


4 LOCK STILE

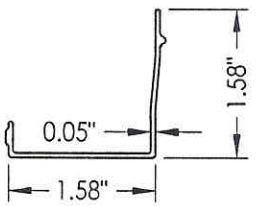


6 TOP RAIL

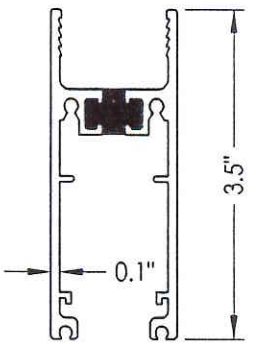
Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted - TEL # 01991012
Date 3/21/14 Verified by



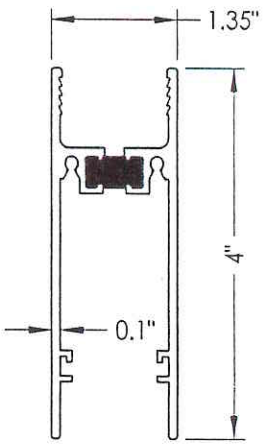
18 TRACK



11 HEAD CHANNEL FILLER



7 SLIDING BOTTOM RAIL



8 FIXED BOTTOM RAIL

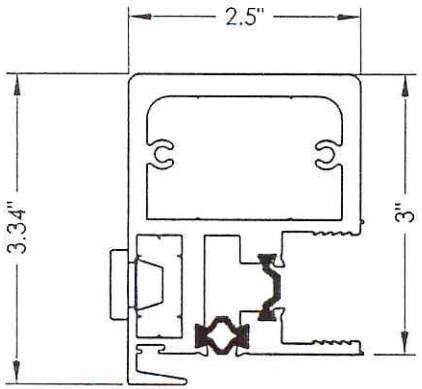
PRODUCT: FLEETWOOD GLACIER 3300 (00X)

PART OR ASSEMBLY: COMPONENTS

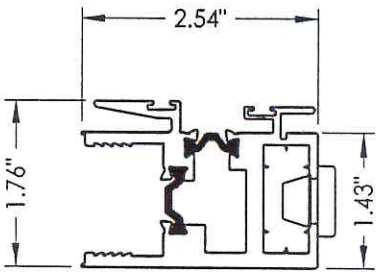
NO.	DATE	BY
REVISIONS		

RW BUILDING CONSULTANTS, INC.
813.659.9197

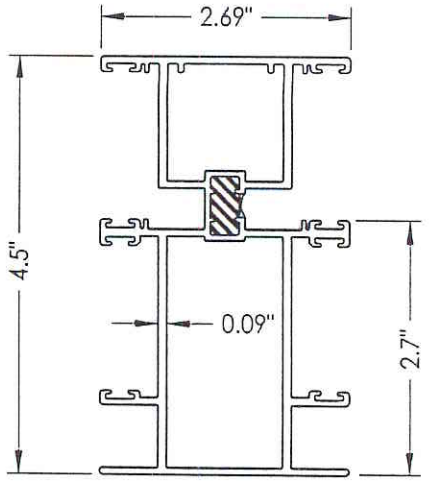
DATE: 2/24/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7112
SHEET 7 OF 9



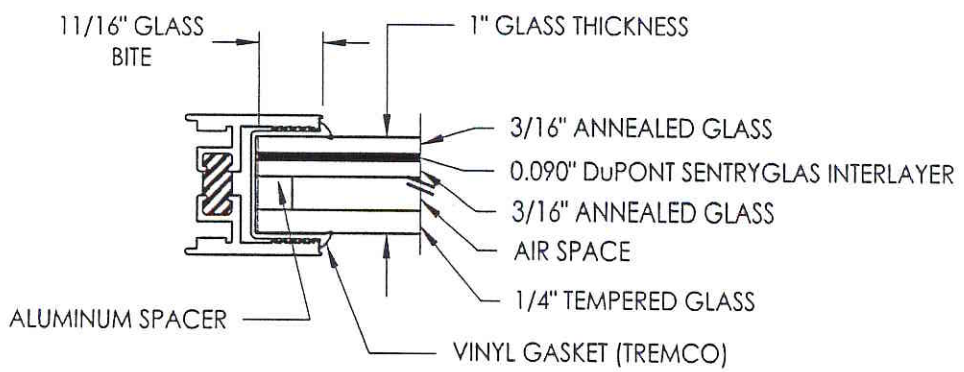
9 HP INTERLOCK



10 FIXED INTERLOCK



12 FALL JAMB



G1 GLAZING DETAIL

Testing Evaluation Laboratories Inc
Specimen Complies with Drawings
Deviations Noted - TEL # 0199.13
Date 3/31/14 Verified by

PRODUCT: FLEETWOOD GLACIER 3300 (00X)

PART OR ASSEMBLY: COMPONENTS AND GLAZING DETAIL

NO.	DATE	REVISIONS	BY

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 2/24/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7112
SHEET 8 OF 9

BILL OF MATERIALS

ITEM #	DESCRIPTION	MATERIAL
B	2X BUCK SG >= 0.42	WOOD
C	1/4" MAX. SHIM SPACE	-
F	#10 X 2" PPH SMS	STEEL
G	#10 X 2-1/2" PPH SMS	STEEL
H	#10 X 1" PFH SMS	STEEL
J	#8 X 3/4" PPH SELF-DRILLING SMS	STEEL
K	#10 X 3" PFH WS	STEEL
L	1/4-20 - 1/2" MACHINE SCREW	STEEL
1	HEAD W/ NAIL FIN	6063-T6 ALUM
2	SILL	6063-T6 ALUM
3	JAMB W/ NAIL FIN	6063-T6 ALUM
4	LOCK STILE	6063-T6 ALUM
5	FIXED STILE	6063-T6 ALUM
6	TOP RAIL	6063-T6 ALUM
7	SLIDING BOTTOM RAIL	6063-T6 ALUM
8	FIXED BOTTOM RAIL	6063-T6 ALUM
9	HP INTERLOCK	6063-T6 ALUM
10	FIXED INTERLOCK	6063-T6 ALUM
11	HEAD CLOSER	6063-T6 ALUM
12	FALL JAMB	6063-T6 ALUM
13	SLIDING BOTTOM RAIL WEATHER STRIP	-
14	LOCK STILE SPREADER	6063-T6 ALUM
15	BOTTOM RAIL SPREADER	6063-T6 ALUM
16	TOP RAIL ISOLATOR	6063-T6 ALUM
17	ISOLATOR	6063-T6 ALUM
18	S.S. TRACK	SS
19	2 FINGER VINYL	-
20	SMALL FINSEAL	-
21	LARGE FINSEAL	-
22	GLAZING VINYL 1" SCR-900, 80 DUROMETER	-
23	SILL ISOLATOR	6063-T6 ALUM
24	ROLLER ASSEMBLY	-
25	STRIKE PLATE ASSY.(JAMB)	-
26	LATCH ASSY.(JAMB)	-
32	3" X 4" L-BRACKETT	6063-T6 ALUM

Testing Evaluation Laboratories Inc
Specimen Complies with Drawing
Deviations Noted TEL #0199102
Date 3/31/14 Verified by [illegible]

PRODUCT: FLEETWOOD GLACIER 3300 (OOX)

PART OR ASSEMBLY: BILL OF MATERIALS

NO.	DATE	BY	REVISIONS

RW BUILDING CONSULTANTS, INC.
813.659.9197

DATE: 2/24/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: L-7112
SHEET 9 OF 9