



SMITH-EMERY LABORATORIES

An Independent Commercial Testing Laboratory, Established 1904

781 East Washington Boulevard
Los Angeles, California 90021

Phone (213) 749-3411
Fax (213) 741-8626

November 22, 2014

Toro Glass Wall Inc
300 Edgeley Boulevard, Concord
Ontario, Canada L4K-3Y3

Attn.: Carlo Iannessa

Project: TGW Series PMU PO 3493-MOK-TGW

Subject: Performance Testing

Mr. Iannessa,

At your request, Smith-Emery Laboratories has provided testing at the above mentioned project. The accompanying report number CW14-633 presents a description of the tests performed, the results of our testing, and our conclusions.

We appreciate this opportunity to be of service to you. If you have any questions regarding this report, please do not hesitate to contact us at your convenience.

Respectfully Submitted,
SMITH-EMERY LABORATORIES, INC.

Dana Nelson
Curtain/Window Wall Manager
Attachment: Report No.CW14-633
cc: File



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EVALUATION OF

Toro Glass Wall PMU Mockup

PREPARED FOR

Toro Glass Wall Inc
300 Edgeley Boulevard, Concord
Ontario, Canada L4K-3Y3

TESTING LOCATION

SMITH-EMERY LABORATORIES
781 E WASHINGTON BLVD
LOS ANGELES, CA 90021

PROJECT NUMBER:

42409-3

REPORT NUMBER:

CW14-633

REPORT DATE:

NOVEMBER 22, 2014

TEST COMPLETION DATE

NOVEMBER 19, 2014



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1.00 INTRODUCTION

1.01 Purpose

The purpose of our testing was to evaluate the installed conditions of the test specimen.

1.02 Scope of Testing

The general scope of this testing program included the following:

- Perform testing in accordance with the ASTM and AAMA specifications.
- Preparation of this report providing descriptions and results of the above testing and our conclusions.

1.03 Specimen Description

TORO Glass Wall Unitized Curtain Wall System See attached drawings provided by TGW



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Weather conditions: Sunny with temps ranging from (22.7 c) 73 F to (26.6 c) 80 F degrees.

2.00 Final Test Results and Finding.

Tests Performed	Results.
OPERATE VENT ASSEMBLY.	Pass.
2. PRELOAD	Pass.
3. AIR INFILTRATION TEST	Pass.
4. WATER PENETRATION UNDER STATIC PRESSURE	Pass.
5. WATER PENETRATION UNDER DYNAMIC PRESSURE	Pass.
6. STRUCTURAL TEST AT 50% & 100% OF INWARD DESIGN PRESSURE.	Pass.
7. STRUCTURAL TEST AT 50% & 100% OF OUTWARD DESIGN PRESSURE	Pass.
8. AIR INFILTRATION TEST.	Pass.
9. WATER PENETRATION UNDER STATIC PRESSURE.	Pass.
10. SEISMIC HORIZONTAL DISPLACEMENT PARALLEL.	Pass.
11. AIR INFILTRATION TEST.	Pass.
12. WATER PENETRATION UNDER STATIC PRESSURE.	Pass.
13. WATER PENETRATION UNDER DYNAMIC PRESSURE.	Pass.
14. STRUCTURAL TEST AT 75%, & 150% OF INWARD DESIGN PRESSURE.	Pass.
15. STRUCTURAL TEST AT 75%, & 150% OF OUTWARD DESIGN PRESSURE.	Pass.
16. SEISMIC HORIZONTAL DISPLACEMENT PARALLEL 1.5 X DESIGN.	Pass.

3. AIR INFILTRATION TEST

19.3 c 66.9 F 28% H 9:00 am

Fixed Area allowable 78.44 cubic m/hr 46.17 CFM



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Total measured 8.66 cubic m/hr 5.1 CFM
Operable vent allowable 4.84 cubic m/hr 2.85 CFM
Total measured .339 cubic m/hr 0.2 CFM

6. STRUCTURAL TEST AT 50% & 100% OF INWARD DESIGN PRESSURE.

	Allowable	Net deflection measured
Glass adjacent to corner		20.32 mm 0.800"
Typical glass		20.06 mm 0.790"
Corner mullion	19.05 mm 0.750"	13.46 mm 0.530"
Typical mullion	19.05 mm 0.750"	14.22 mm 0.560"
Typical horizontal mullion	7.92 mm 0.312"	1.52 mm 0.060"

7. STRUCTURAL TEST AT 50% & 100% OF OUTWARD DESIGN PRESSURE

	Allowable	Net deflection measured
Glass adjacent to corner		20.32 mm 0.800"
Typical glass		20.82 mm 0.820"
Corner mullion	19.05 mm 0.750"	10.66 mm 0.420"
Typical mullion	19.05 mm 0.750"	3.46 mm 0.530"
Typical horizontal mullion	7.92 mm 0.312"	.127 mm 0.005"

8. AIR INFILTRATION TEST

Fixed Area allowable 78.44 cubic m/hr 46.17 CFM
Operable vent allowable 4.84 cubic m/hr 2.85 CFM
Total measured for total mockup 7.64 cubic m/hr 4.5 CFM

11. AIR INFILTRATION TEST

Fixed Area allowable 78.44 cubic m/hr 46.17 CFM
Operable vent allowable 4.84 cubic m/hr 2.85 CFM
Total measured for total mockup 7.64 cubic m/hr 4.5 CFM

14. STRUCTURAL TEST AT 75%, & 150% OF INWARD DESIGN PRESSURE

	Allowable	Net deflection measured
Corner mullion	3.17 mm 0.125"	.508 mm 0.020"
Typical mullion	3.17 mm 0.125"	.33 mm 0.013"
Typical horizontal	1.57 mm 0.062"	.127 mm 0.005"

15. STRUCTURAL TEST AT 75%, & 150% OF OUTWARD DESIGN PRESSURE

	Allowable	Net deflection measured
Corner mullion	3.17 mm 0.125"	.508 mm 0.020"
Typical mullion	3.17 mm 0.125"	.33 mm 0.013"



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Typical horizontal 1.57 mm 0.062" .050 mm 0.002"

2.01 TEST WITNESS LIST

Name	Company
Carlo Lannessa	TGW
Zygmunt Zuchelkowski	Toro Aluminum
Jacob Sliwinski	TGW
John Barkovich	Toro Aluminum
Dana Nelson	SEL
Juan Silva	SEL

2.02 Test Methods

Description of test methods performed

1. OPERATE VENT ASSEMBLY.

TEST PROCEDURE

Unlock and completely open and close and lock perform this 5 times on each.

ACCEPTANCE CRITERIA:

Perform a visual inspection of all components note any findings.

2. PRELOAD

(Ref.: ASTM E330)

TEST PROCEDURE

Preload at 50% of the inward design wind pressure 1436.4 pa 30.0 PSF.

ACCEPTANCE CRITERIA:

Visually inspect the assembly for any detrimental affects.

3. AIR INFILTRATION TEST

(Ref: ASTM E 283)

TEST PROCEDURE

Cover and seal the mockup completely with polyethylene sheeting while leaving the chamber uncovered. Develop a positive differential pressure of 298.7 pa 6.24 PSF on the chamber. Record the airflow required to maintain this pressure. This number represents the airflow through the chamber. Remove the sheeting and reestablish the positive pressure of 298.7 pa 6.24 PSF. Record the airflow required to maintain this pressure. This number is the airflow through the mockup and chamber. The difference between the two-recorded airflows is the airflow through the mockup.

ACCEPTANCE CRITERIA:

.1019 cubic m/hr 0.06 CFM per square foot of exterior surface, exclusive of any operating window and



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door areas. Mockup area $\times .06 = S.F.$.509 cubic m/hr 0.3CFM/ft² for any vent assembly.

4. WATER PENETRATION UNDER STATIC PRESSURE

(Ref. ASTM E 331)

TEST PROCEDURE

Establish a positive test pressure of 718.2 pa 15.0 PSF on the mockup. Apply water to the exterior of the mockup at a rate of 5 gallons per hour per square foot for a period of fifteen minutes while maintaining the differential pressure of 718.2 pa 15.0 PSF. During this period, visually inspect the interior of the mockup for water penetration.

ACCEPTANCE CRITERIA:

There shall be no unacceptable water leakage, defined as follows:

The occurrence of condensation during water infiltration tests is acceptable. Other water leakage is acceptable only if all of the following conditions are satisfied: (a) the water is contained and drained to the exterior; (b) there would be no staining or other damage to any part of the completed building or its furnishings (c) No water beyond a plane parallel to the vertical plane intersecting the innermost projection of the test specimen.

5. WATER PENETRATION UNDER DYNAMIC PRESSURE

(Ref.: AAMA 501.1)

TEST PROCEDURE

Apply an air stream equivalent to a static differential air pressure of 718.2 pas 15.0 PSF (123.9 km/h 77 mph, 152.8 km/h 95 mph and 180.2 km/h 112 mph) to the mockup. Apply water to the mockup at a rate of five gallons per hour per square foot for a period of fifteen minutes. During this period visually inspect the interior of the mockup for water penetration.

ACCEPTANCE CRITERIA:

There shall be no unacceptable water leakage, defined as follows:

The occurrence of condensation during water infiltration tests is acceptable. Other water leakage is acceptable only if all of the following conditions are satisfied: (a) the water is contained and drained to the exterior; (b) there would be no staining or other damage to any part of the completed building or its furnishings; (c) No water beyond a plane parallel to the vertical plane intersecting the innermost projection of the test specimen.

6. STRUCTURAL TEST AT 50% & 100% OF INWARD DESIGN PRESSURE

(Ref.: ASTM E330)

TEST PROCEDURE

Apply positive pressure to the mockup of 1436.4 pa 30.0 PSF and hold for 10 seconds. Release the pressure difference across the mockup. After a recovery period of not less than 1 minute or more than 5 minutes at zero loads, record initial readings. Increase positive pressure to 2872.8 pa 60.0 PSF and hold for 10 seconds. Record deflection readings. Reduce pressure to zero. After a recovery period of not less than 1 minute nor more than 5 minutes zero load measuring devices.

ACCEPTANCE CRITERIA:

Net deflection of any framing members shall not exceed $L/175$ of the clear span or 19.05 mm 3/4"



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whichever is less for spans less than 4114.8 mm 13'-6" For spans over 4114.8 mm 13'-6" Net deflection of any framing members shall not exceed $L/240 + 6.95 \text{ mm } \frac{1}{4}"$ of the clear span.

7. STRUCTURAL TEST AT 50% & 100% OF OUTWARD DESIGN PRESSURE (Ref.: ASTM E330)

TEST PROCEDURE

Apply negative pressure to the mockup of 1436.4 pa 30.0 PSF and hold for 10 seconds. Release the pressure difference across the mockup. After a recovery period of not less than 1 minute nor more than 5 minutes at zero load, record initial readings. Increase negative pressure to 2872.8 pa 60.0 PSF and hold for 10 seconds. Record deflection readings. Reduce pressure to zero. After a recovery period of not less than 1 minute nor more than 5 minutes zero load measuring devices.

ACCEPTANCE CRITERIA:

Same as procedure (6)

8. AIR INFILTRATION TEST (Ref: ASTM E 283)

TEST PROCEDURE

Cover and seal the mockup completely with polyethylene sheeting while leaving the chamber uncovered. Develop a positive differential pressure of 298.7 pa 6.24 PSF on the chamber. Record the airflow required to maintain this pressure. This number represents the airflow through the chamber. Remove the sheeting and reestablish the positive pressure of 298.7 pa 6.24 PSF. Record the airflow required to maintain this pressure. This number is the airflow through the mockup and chamber. The difference between the two-recorded airflows is the airflow through the mockup.

ACCEPTANCE CRITERIA:

.1019 cubic m/hr 0.06 CFM per square foot of exterior surface, exclusive of any operating window and door areas. Mockup area $\times .06 = S.F.$.509 cubic m/hr 0.3CFM/ft² for any vent assembly.

9. WATER PENETRATION UNDER STATIC PRESSURE (Ref. ASTM E 331)

TEST PROCEDURE

Establish a positive test pressure of 718.2 pa 15.0 PSF on the mockup. Apply water to the exterior of the mockup at a rate of 5 gallons per hour per square foot for a period of fifteen minutes while maintaining the differential pressure of 718.2 pa 15.0 PSF. During this period, visually inspect the interior of the mockup for water penetration.

ACCEPTANCE CRITERIA:

There shall be no unacceptable water leakage, defined as follows:

The occurrence of condensation during water infiltration tests is acceptable. Other water leakage is acceptable only if all of the following conditions are satisfied: (a) the water is contained and drained to the exterior; (b) there would be no staining or other damage to any part of the completed building or its furnishings (c) No water beyond a plane parallel to the vertical plane intersecting the innermost projection of the test specimen.



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10. SEISMIC HORIZONTAL DISPLACEMENT PARALLEL AT 63.5 mm 2.5".

(Ref AAMA 501.4)

TEST PROCEDURE

Using a hydraulic system the intermediate floor level will be moved to the left of center and then to the right of center this shall be repeated for three cycles.

ACCEPTANCE CRITERIA

Project specifications shall state detailed pass/fail criteria for façade systems if not provided Refer to AAMA 501.4 section 11.0 for applicable performance level based on occupancy level groups I, II, and III. The system shall remain water tight without repair no structural damage or disengagement of trim or snap on members glazing gaskets or sealant, no breakage of glass shall occur.

11. AIR INFILTRATION TEST

(Ref: ASTM E 283)

TEST PROCEDURE

Cover and seal the mockup completely with polyethylene sheeting while leaving the chamber uncovered. Develop a positive differential pressure of 298.7 pa 6.24 PSF on the chamber. Record the airflow required to maintain this pressure. This number represents the airflow through the chamber. Remove the sheeting and reestablish the positive pressure of 298.7 pa 6.24 PSF. Record the airflow required to maintain this pressure. This number is the airflow through the mockup and chamber. The difference between the two-recorded airflows is the airflow through the mockup.

ACCEPTANCE CRITERIA:

.1019 cubic m/hr 0.06 CFM per square foot of exterior surface, exclusive of any operating window and door areas. Mockup area x .06 = S.F. .509 cubic m/hr 0.3CFM/ft² for any vent assembly.

12. WATER PENETRATION UNDER STATIC PRESSURE

(Ref. ASTM E 331)

TEST PROCEDURE

Establish a positive test pressure of 718.2 pa 15.0 PSF on the mockup. Apply water to the exterior of the mockup at a rate of 5 gallons per hour per square foot for a period of fifteen minutes while maintaining the differential pressure of 718.2 pa 15.0 PSF. During this period, visually inspect the interior of the mockup for water penetration.

ACCEPTANCE CRITERIA:

There shall be no unacceptable water leakage, defined as follows:

The occurrence of condensation during water infiltration tests is acceptable. Other water leakage is acceptable only if all of the following conditions are satisfied: (a) the water is contained and drained to the exterior; (b) there would be no staining or other damage to any part of the completed building or its furnishings (c) No water beyond a plane parallel to the vertical plane intersecting the innermost projection of the test specimen.

13. WATER PENETRATION UNDER DYNAMIC PRESSURE

(Ref.: AAMA 501.1)



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TEST PROCEDURE

Apply an air stream equivalent to a static differential air pressure of 718.2 pa 15.0 PSF 123.9 km/h (77mph) to the mockup. Apply water to the mockup at a rate of five gallons per hour per square foot for a period of fifteen minutes. During this period visually inspect the interior of the mockup for water penetration.

ACCEPTANCE CRITERIA:

There shall be no unacceptable water leakage, defined as follows:

The occurrence of condensation during water infiltration tests is acceptable. Other water leakage is acceptable only if all of the following conditions are satisfied: (a) the water is contained and drained to the exterior; (b) there would be no staining or other damage to any part of the completed building or its furnishings; (c) No water beyond a plane parallel to the vertical plane intersecting the innermost projection of the test specimen.

14. STRUCTURAL TEST AT 75%, & 150% OF INWARD DESIGN PRESSURE (Ref. ASTM E 330)

TEST PROCEDURE

Apply positive pressure to the mockup of 2154.6 pa 45.0 PSF and hold for 10 seconds. Release the pressure difference across the mockup. After a recovery period of not less than 1 minute nor more than 5 minutes at zero load, record initial readings. Increase positive pressure to 4309.2 pa 90.0 PSF. Hold for 10 seconds. Reduce pressure to zero. After a recovery period of not less than 1 minute nor more than 5 minutes at zero load, record zero load readings to determine permanent deformation.

ACCEPTANCE CRITERIA:

Net permanent deflection of framing members shall not exceed $L/1000$ times the clear span. No permanent set to anchors of more than 1.58 mm 1/16".

15. STRUCTURAL TEST AT 75%, & 150% OF OUTWARD DESIGN PRESSURE (Ref. ASTM E 330)

TEST PROCEDURE

Apply negative pressure to the mockup of 2154.6 pa 45.0 PSF and hold for ten seconds. Release the pressure difference across the mockup. After a recovery period of not less than 1 minute nor more than 5 minutes at zero load, record initial readings. Increase negative pressure to 4309.2 pa 90.0 PSF hold for 10 seconds. Reduce pressure to zero. After a recovery period of not less than 1 minute nor more than 5 minutes at zero load, record zero load readings to determine permanent deformation.

ACCEPTANCE CRITERIA:

Same as procedure (14).

16. SEISMIC HORIZONTAL DISPLACEMENT PARALLEL 1.5 X DESIGN 109.7 mm 4.32" (Ref AAMA 501.4)

TEST PROCEDURE

Using a hydraulic system the intermediate floor level will be moved to the left of center and then to the



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right of center this shall be repeated for three cycles.

ACCEPTANCE CRITERIA

For all building occupancy types, a specimen subject to the 1.5 x design displacement test shall be considered passing if all of the glass is retained completely in the glazed opening with no glass fallout and no wall components fall off, unless otherwise specified.

3.00 CONCLUSIONS AND CLOSURE

3.01 CONCLUSIONS

We make no statement of compliance other than a pass fail result of the material tested or analyzed to any specification. Based on specific data and information contained in this report, our general understanding of the test methods and principals involved, and general experience in the materials testing field, it is our professional judgment that all of the tested assembly **meets** the requirements set forth in the testing specifications and documents.

3.02 CLOSURE

The findings in this report were prepared in accordance with generally accepted material engineering and testing principles and practices. No other warranty, either expressed or implied, is made. This report has been prepared for the above named client for the above named project. The use of this report for any other purpose shall be at the user's own discretion based on their own interpretation of the results contained within.

END OF REPORT

Respectfully Submitted,
SMITH EMERY LABORATORIES, INC.

Dana Nelson
Smith-Emery Laboratories



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ASTM E 283 Air infiltration

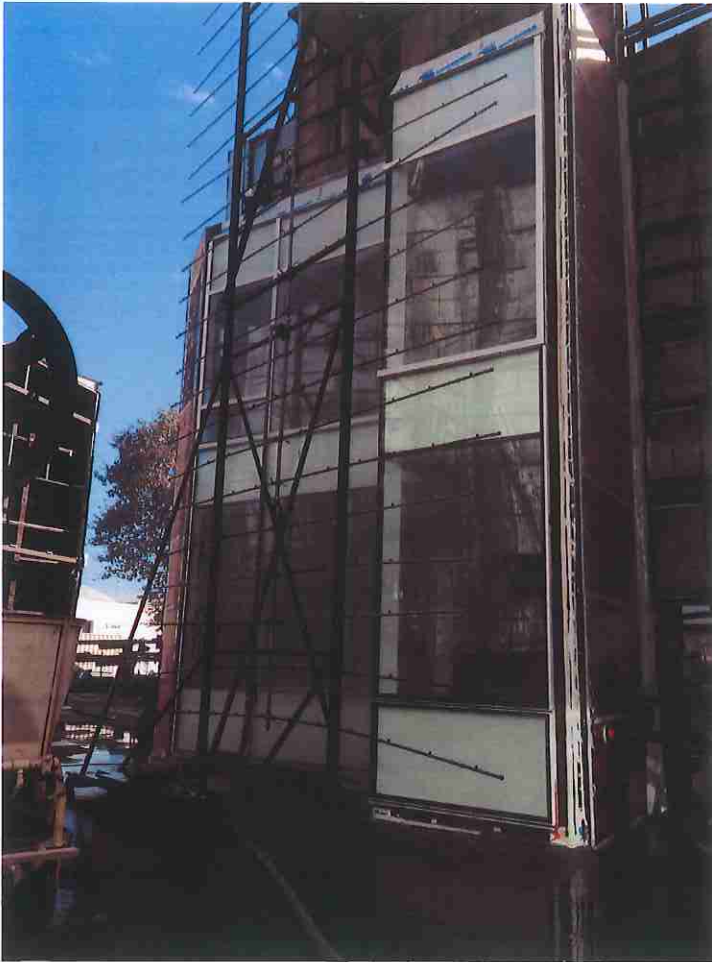


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ASTM E331 static water penetration



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AAMA 501.1 Dynamic Water Penetration

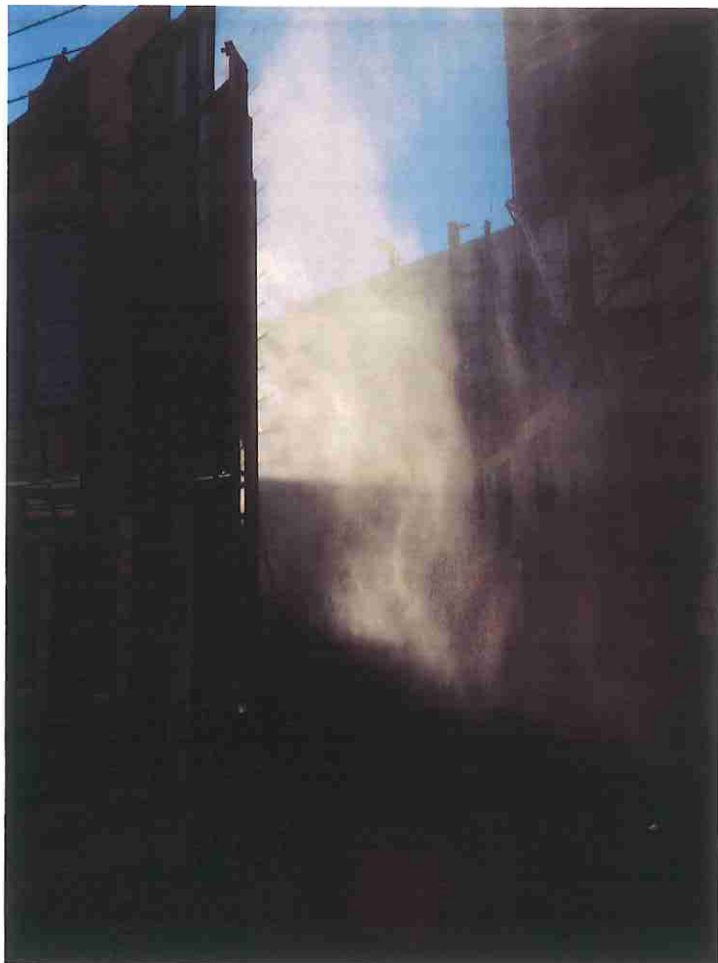


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AAMA 501.4 Seismic Displacement.

TORO GLASSWALL PERFORMANCE MOCKUP

MOCK UP DRAWINGS

MATERIAL SPECIFICATIONS:

EXTENSIONS: - ALUMINUM ALLOY: 6063-T6 FRAME MEMBERS, TRIMS, CAPS, ETC.

- ALUMINUM ALLOY: 6063-T6 ANCHORS, LIFTING LUG, ETC.

ALUMINUM SHEET: - PREPAINTED ALUMINUM SHEET (A33003-H14 ALLOY)

GASKETS:

VERTICAL AIR SEAL GASKET PEROXIDE CURE EPDM
TYPICAL MULTILIN 70 DUROMETER EPDM BLACK

VERTICAL AIR SEAL GASKET PEROXIDE CURE EPDM
INSIDE/OUTSIDE CORNER 70 DUROMETER EPDM BLACK

HORIZONTAL AIR SEAL GASKET PEROXIDE CURE EPDM
70 DUROMETER EPDM BLACK

EXTERIOR GLAZING GASKET PEROXIDE CURE EPDM
65 DUROMETER EPDM BLACK

EXTERIOR FIN GASKET PEROXIDE CURE EPDM
65 DUROMETER EPDM BLACK

INTERIOR GLAZING GASKET SILICONE GASKET
70 DUROMETER BLACK

EXTERIOR SWEET GASKET SILICONE GASKET
80 DUROMETER BLACK

EXTERIOR WEATHER SEAL GASKET SILICONE GASKET
80 DUROMETER BLACK

EXTERIOR WEATHER SEAL GASKET SILICONE GASKET
70 DUROMETER BLACK

SETTING BLOCKS

SILICONE RUBBER
80 DUROMETER BLACK

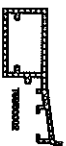
SIDE STAMP

SILICONE RUBBER
70 DUROMETER BLACK

PVC:



-ANTI FRICTION/NOISE ADAPTOR RIGID PVC BLACK



- VENT THERMAL SPACER

RIGID PVC BLACK

FINISHES:

- EXTERIOR COLOUR: UCFX 11164 BRIGHT WHITE

- INTERIOR COLOUR: DURACRON K1285 WHITE

BACKGANS:

- 22 GAUGE GALVANIZED STEEL, G90 GRADE

INSULATION:

- 100mm THK. ROXUL SEMI-RIGID INSULATION SECURED TO BACKGAIN WITH STEEL WELD PINS @ 150mm FROM ENDS AND EVERY 300mm CENTRES

SEALANTS:

- SHOP APPLIED STRUCTURAL GLAZING: DOW 963 855 BLACK SILICONE (2 PART)

- SHOP APPLIED FRAME JOINTERY SEALANT: DOW CW5 SILICONE

- SITE APPLIED SEALANT: DOW 756 BLACK SILICONE

BACKER ROD: - SHOP & SITE INSTALLED: SOF ROD BACKER ROD - SIZE AS REQUIRED

VISION GLASS: - 25mm OVERALL THICK SILICONE SEALED UNIT CONSISTING OF:
- 13mm ALUMINUM SPACER
- 6mm CLEAR HEAT STRENGTHENED INTERIOR LITE

SPANDREL GLASS: - 25mm OVERALL THICK SILICONE SEALED UNIT CONSISTING OF:
- 13mm ALUMINUM SPACER
- 6mm CLEAR HEAT STRENGTHENED INTERIOR LITE
- 6mm CLEAR HEAT STRENGTHENED EXTERIOR LITE
- SHADOW BOX MADE FROM 2.5mm FORMED ALUMINUM SHEET
- PAINTED DURACRON K1285 WHITE



THE TORO GROUP
CHICAGO, OHIO 43004, CANADA 43004
TEL: 419.233.8877 FAX: 419.233.8878

NO.	DESCRIPTION	DATE	BY
1			
2			
3			
4			
5			

APPROVED BY
TORO GLASSWALL INC.

ARCHITECT
DATE
PROJECT

PROJECT # TGW PERFORMANCE MOCKUP
DATE 03/11/2014
CHECKED BY
DESIGNED BY
DESIGNED TITLE COVER PAGE
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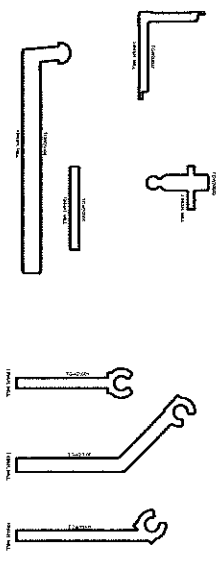
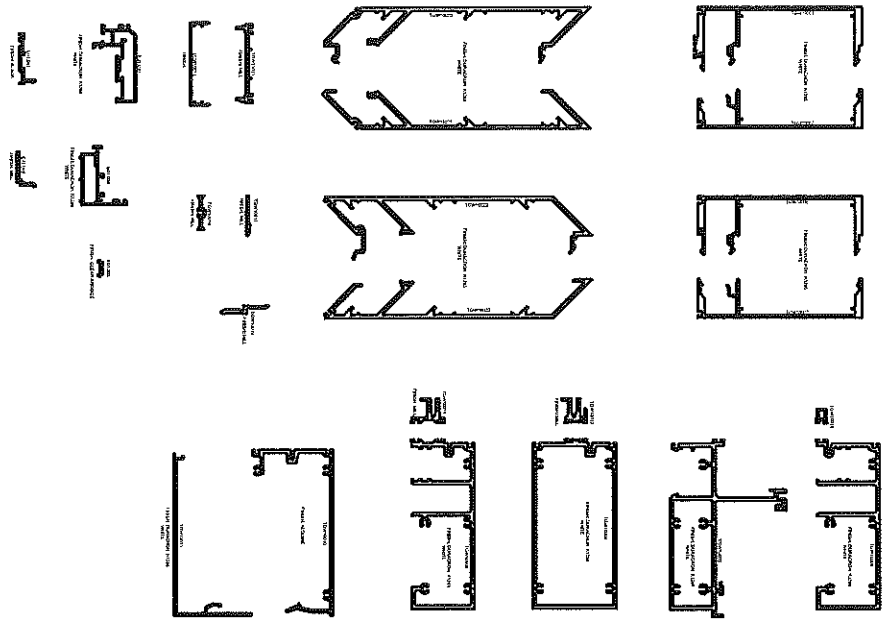
MUCOVER

TORO GLASSWALL PERFORMANCE MOCKUP

MOCK UP DRAWINGS

6063-T6 ALUMINUM ALLOY

6061-T6 ALUMINUM ALLOY



2015 TORO GLASSWALL
CORPORATION, 10000 LINDEN AVENUE
MILWAUKEE, WI 53222-1000

DESCRIPTION	DATE	BY

GENERAL NOTES

MATERIAL SPECIFICATIONS
TORO GLASSWALL INC.

PROJECT # _____

DATE _____

DESIGNED BY _____

DRAWN BY _____

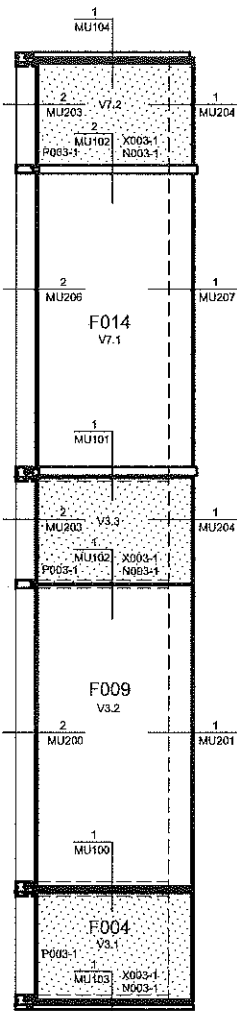
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ARCHITECT _____

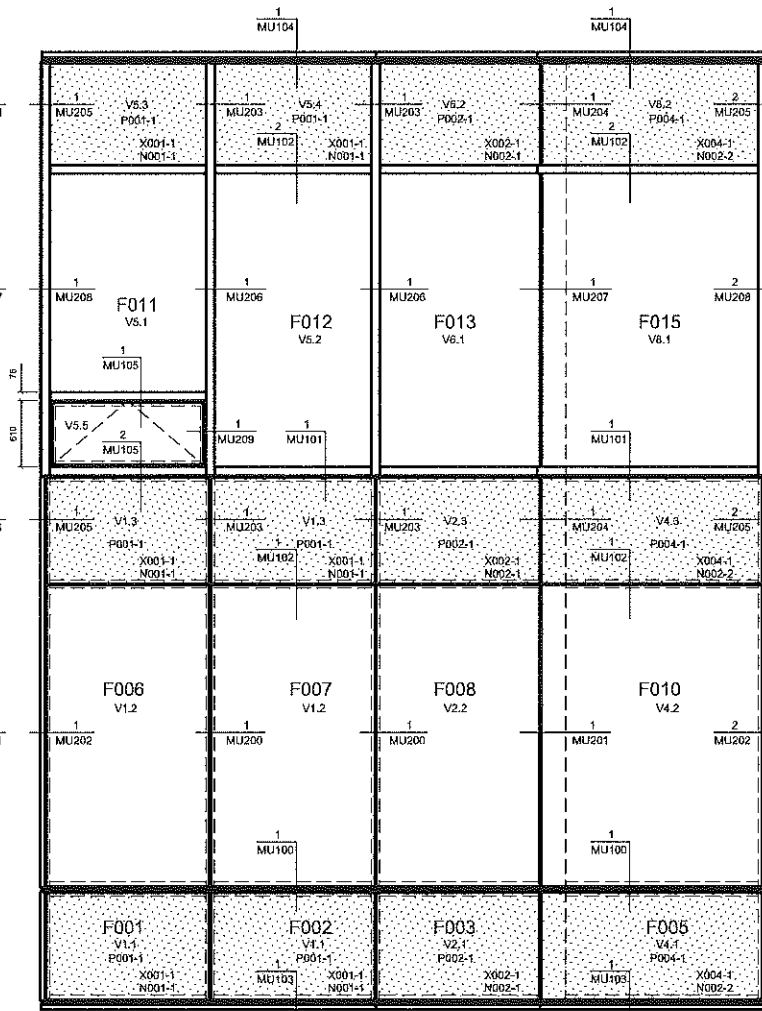
CONTRACTOR _____

PROJECT _____

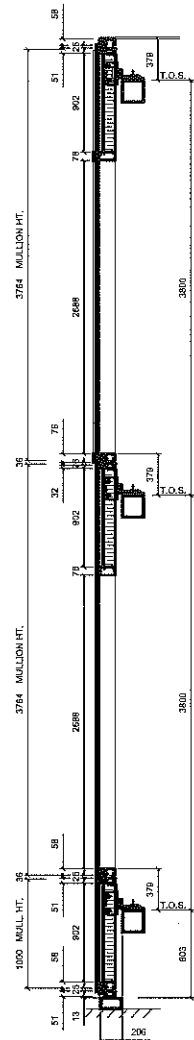
MUCOVER2



ELEVATION B

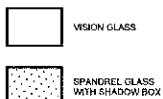
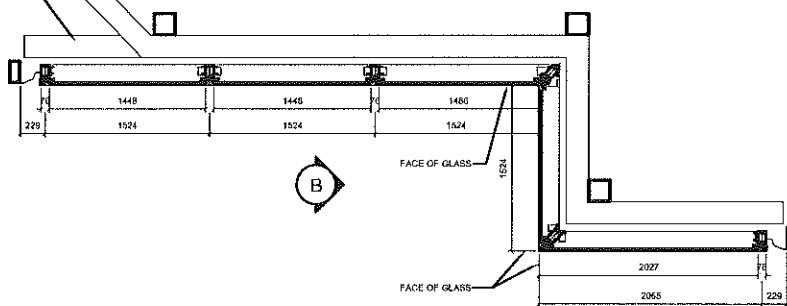


ELEVATION A

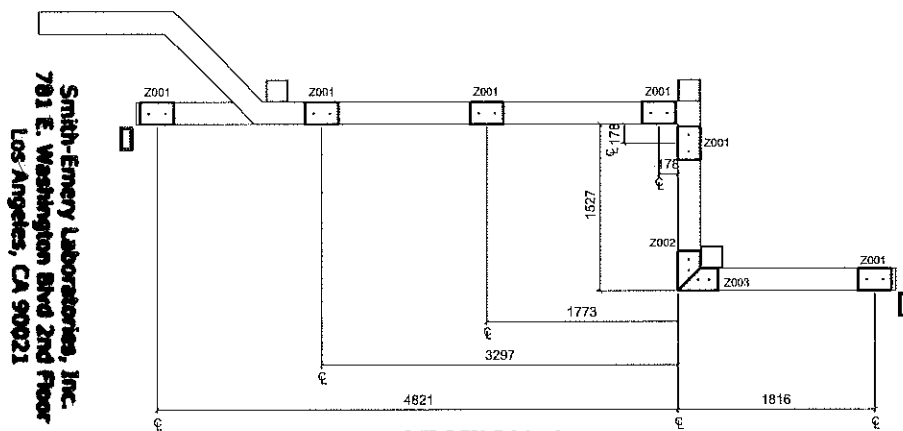


Smith-Emery Laboratories, Inc.
781 E. Washington Blvd 2nd Floor
Los Angeles, CA 90021

EXTENSION TO TEST CHAMBER



PROJECT #	TGW PERFORMANCE MOCKUP	ARCHITECT	CONTRACTOR	PROJECT	GENERAL NOTES	REVISIONS	DATE	BY	
	DATE								03 / 11 / 2014
	ORDERED BY								
	REORDERED BY								
DRAWING TITLE: ELEVATION		SCALE: 1:20		UNIVERSITY MICROFILMS TORO GLASSWALL INC.					

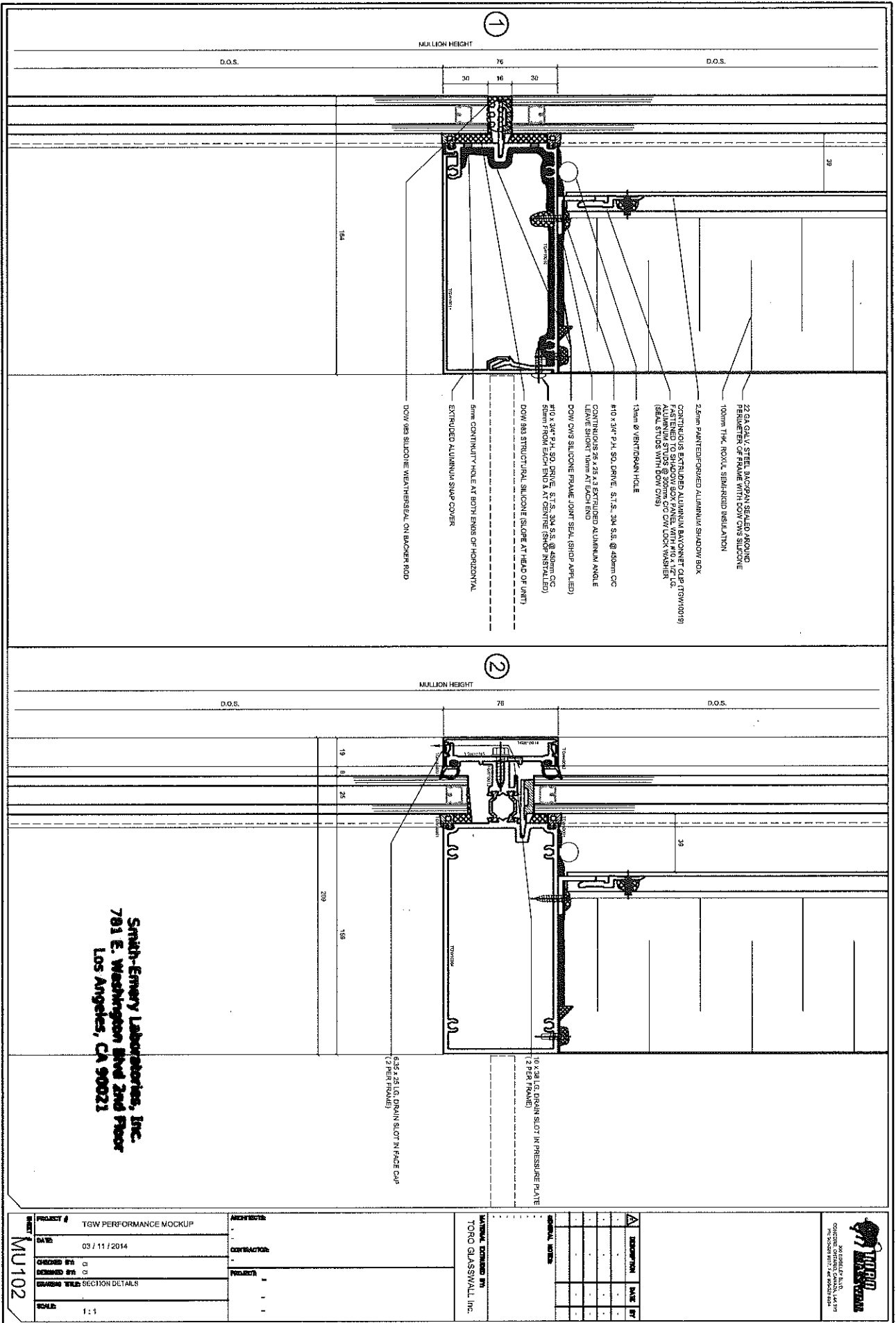


SECTION A

[illegible]



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	DATE	03 / 11 / 2014
	CHECKED BY:	<input type="checkbox"/>
	DESIGNED BY:	<input type="checkbox"/>
	DRAWING TITLE:	SECTION DETAILS
	SCALE	1 : 1



300 LINDSEY AVE.
SMITH-EMERY LABORATORIES, INC.
LOS ANGELES, CA 90021

REVISION	DATE	BY
1		
2		
3		
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DESIGNED BY
TOTO GLASSWALL, INC.

ARCHITECT
CONTRACTOR
PROJECT

PROJECT # TGW PERFORMANCE MOCKUP

DATE 03 / 11 / 2014

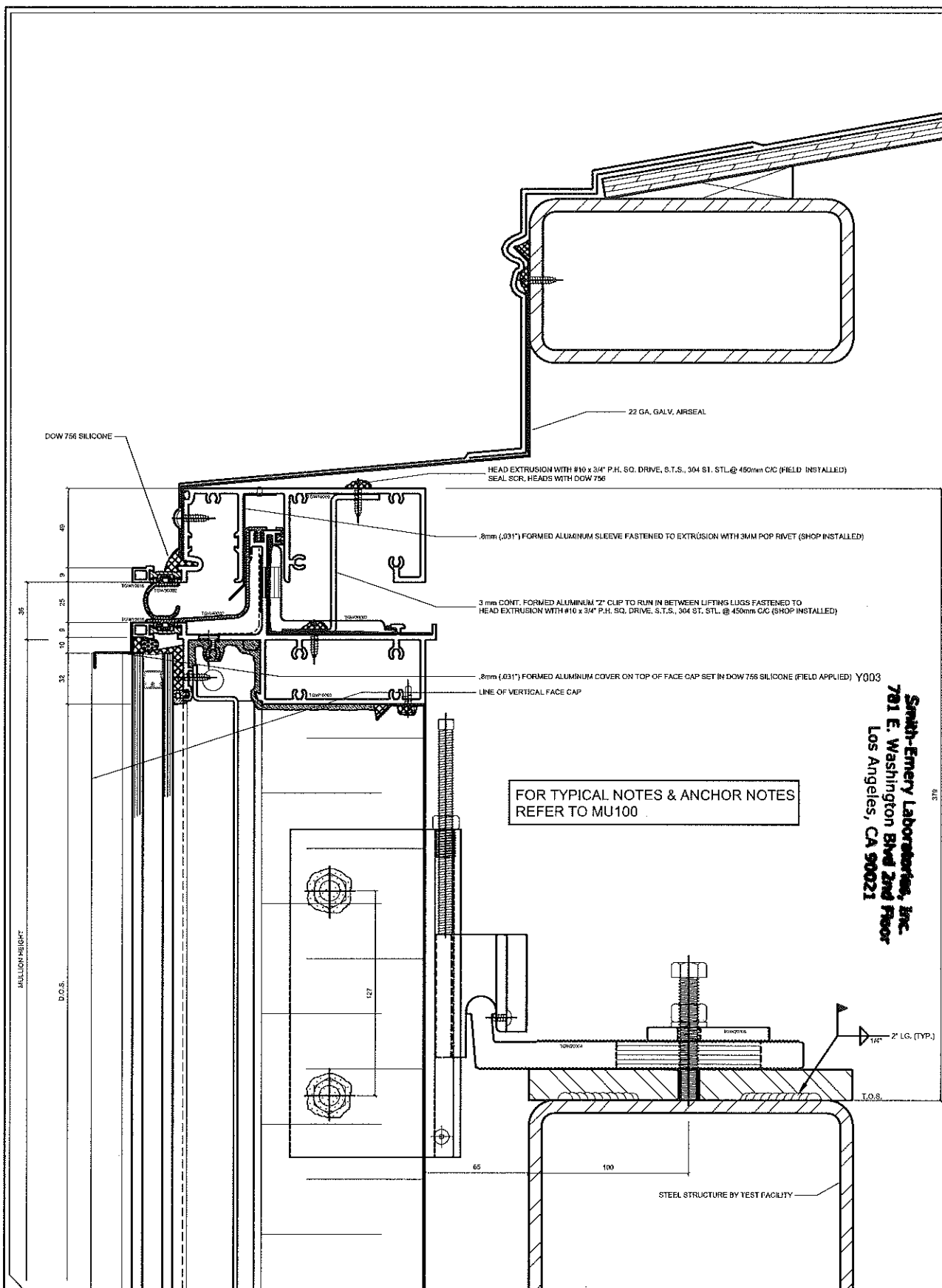
CHECKED BY ☐

DESIGNED BY ☐

DRAWING TITLE SECTION DETAILS

SHEET 1

MU102



Smith-Emery Laboratories, Inc.
781 E. Washington Blvd 2nd Floor
Los Angeles, CA 90021

PROJECT # TGW PERFORMANCE MOCKUP DATE 03/11/2014 DESIGNED BY CI REVIEWED BY CI ISSUED TITLE SECTION DETAILS SCALE 1:1	ARCHITECT TORO GLASSWALL INC.	CONTRACTOR TORO GLASSWALL INC.	REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>DATE</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DESCRIPTION	DATE	BY																
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GENERAL NOTES																							
APPROVED BY [Signature]																							
DATE 03/11/2014																							

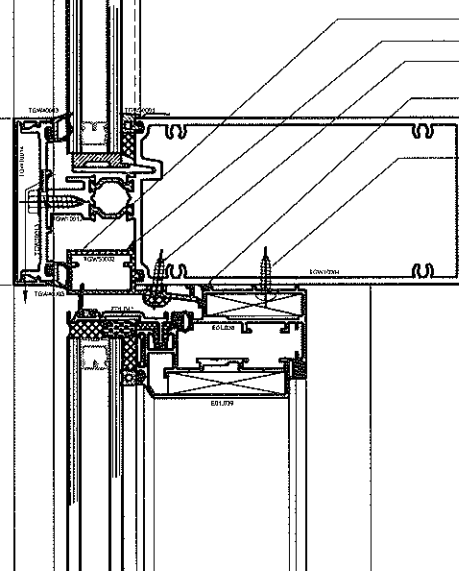
①

MULLION HEIGHT

D.O.S.

76

D.O.S.



- CONT. RIGID PVC SPACER AROUND PERIMETER
- SEAL WITH DOW CWS SILICONE (SHOP APPLIED)
- #10 x 3/4" LG. P.H. SQ. DRIVE S.T.S. 304 ST. STL. @ 450mm C/C (SEAL SCR. HDS. WITH SILICONE)
- SEAL WITH DOW CWS SILICONE (SHOP APPLIED)
- CONTINUOUS AROUND PERIMETER (AIR SEAL)

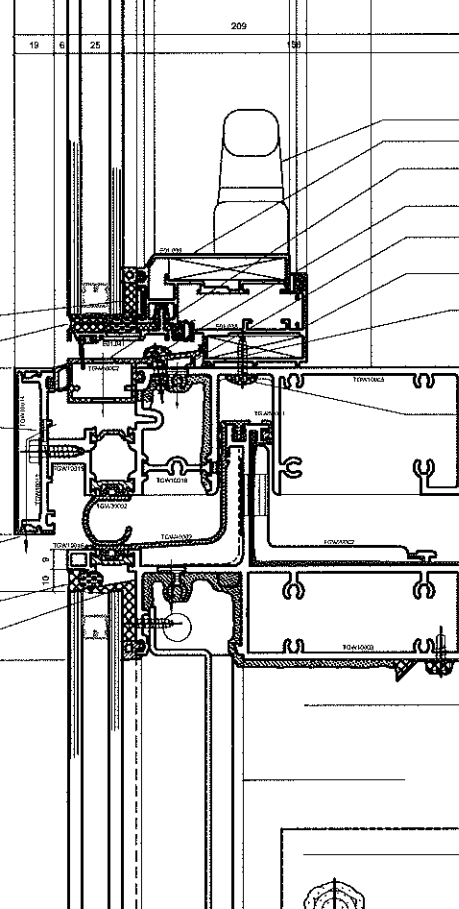
②

MULLION HEIGHT

D.O.S.

76

D.O.S.



- VENT HANDLE
- VENT SASH
- 10mm Ø DRAIN HOLES AT BOTH ENDS OF FRAME
- #10 x 3/4" LG. P.H. SQ. DRIVE S.T.S. 304 ST. STL. @ 450mm C/C (SEAL SCR. HDS. WITH SILICONE)
- 10mm Ø DRAIN HOLE AT BOTH ENDS
- VENT FRAME
- SEAL WITH DOW CWS SILICONE (SHOP APPLIED)
- CONTINUOUS AROUND PERIMETER (AIR SEAL)

DOW 983 STRUCTURAL SILICONE (SHOP APPLIED)

DOW 983 SILICONE WEATHERSEAL ON BACKER ROD (SHOP APPLIED)

10 x 30 LG. DRAIN SLOT IN PRESSURE PLATE (2 PER FRAME)

6.35 x 25 LG. DRAIN SLOT IN FACE CAP (2 PER FRAME)

DOW 983 SILICONE WEATHERSEAL ON BACKER ROD (SHOP APPLIED)

DOW 983 STRUCTURAL SILICONE (SHOP APPLIED)

#10 x 3/4" LG. P.H. SQ. DRIVE S.T.S. 304 ST. STL. @ 450mm C/C (SEAL SCR. HDS. WITH SILICONE)

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Los Angeles, CA 90021

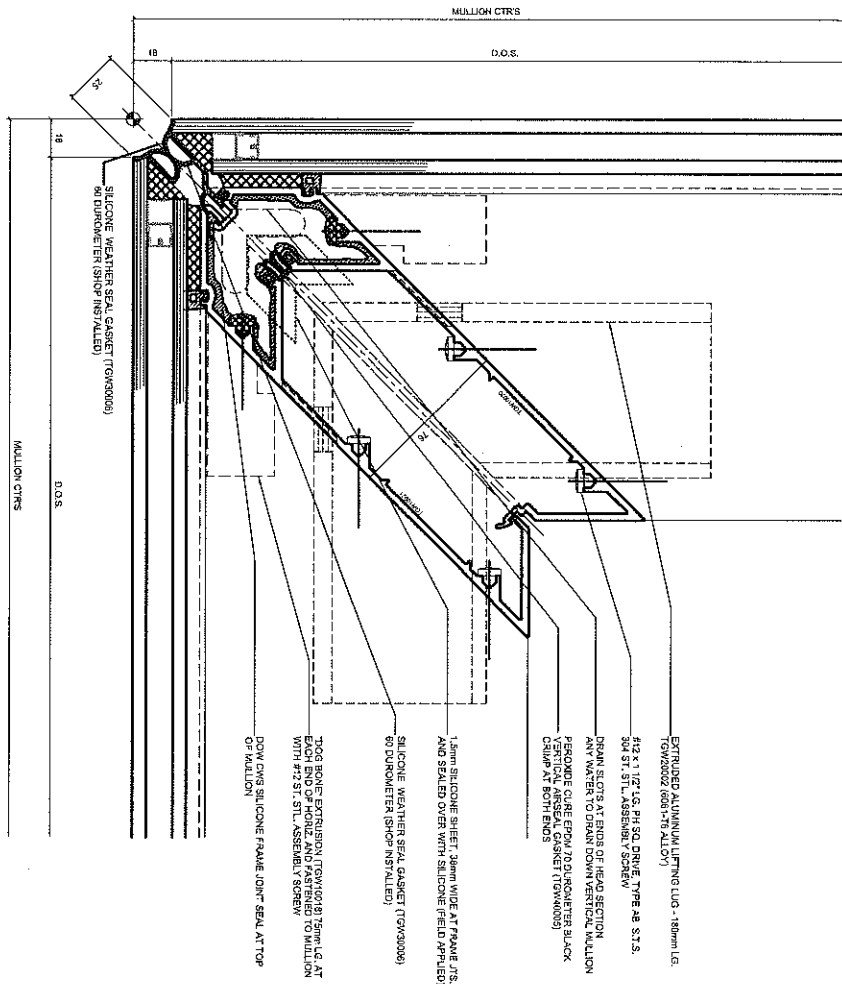
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	NO.	DATE	BY															
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NO.	DATE	BY																
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NO.	DATE	BY																

MU105



200 E. PULASKI BLVD.
LOS ANGELES, CALIF. 90012
TEL: (213) 475-1111 FAX: (213) 475-1112

Smith-Emery Laboratories, Inc.
781 E. Washington Blvd 2nd Floor
Los Angeles, CA 90021



300 E. 10TH ST. SUITE 200
LOS ANGELES, CA 90015
TEL: (213) 475-1111 FAX: (213) 475-1112

A	DESCRIPTION	DATE	BY
1	DESIGNED BY		
2	CHECKED BY		
3	DESIGNED BY		
4	CHECKED BY		
5	DESIGNED BY		
6	CHECKED BY		

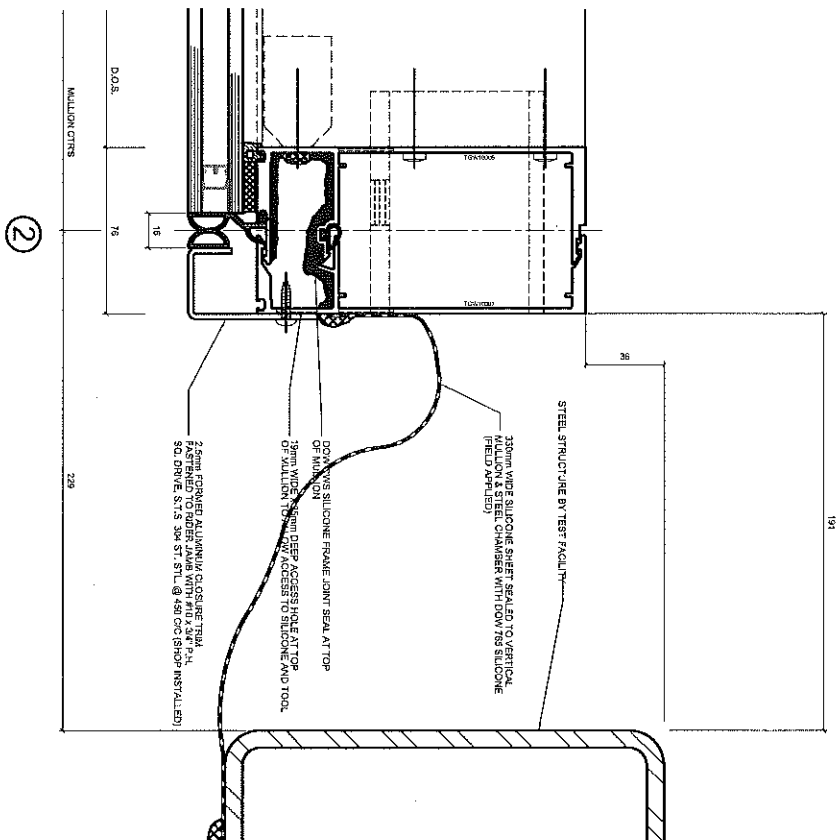
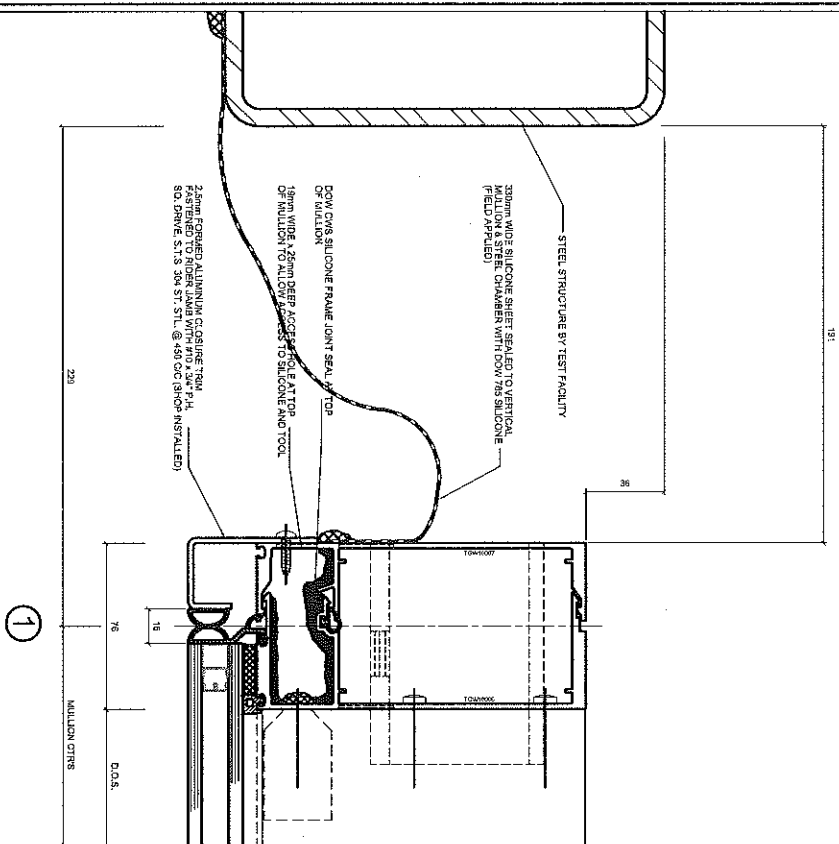
MATERIAL EXTRUDED BY
TORO GLASSWALL, INC.

ARCHITECT:
CONTRACTOR:
PROJECT:

PROJECT # TGW PERFORMANCE MOCKUP
DATE: 03/11/2014
CHECKED BY: D.D.
DESIGNED BY: D.D.
DRAWING TITLE: PLAN DETAILS
SCALE: 1:1

MU201

Smith-Emery Laboratories, Inc.
 781 E. Washington Blvd 2nd Floor
 Los Angeles, CA 90021



		PROJECT # TGW PERFORMANCE MOCKUP DATE 03 / 11 / 2014 CHECKED BY DESIGNED BY SCALE 1 : 1		ARCHITECT CONTRACTOR PROJECT		MATERIALS PROVIDED BY TORO GLASSWALL INC.	
GENERAL NOTES		1. ALL GLASS SHALL BE SUPPLIED BY TORO GLASSWALL INC.		2. ALL GLASS SHALL BE SUPPLIED BY TORO GLASSWALL INC.		3. ALL GLASS SHALL BE SUPPLIED BY TORO GLASSWALL INC.	

**360 LODGELEY BLVD.
CONCORD, ONTARIO, CANADA L4R 0Y4
PH: 905-926-9077 FAX: 905-926-9084**

280 EGGSBURY BLVD.
COBURN, ONTARIO, CANADA L4K 3T7
PH: 905-226-9617, Fax: 905-226-8824

[illegible]

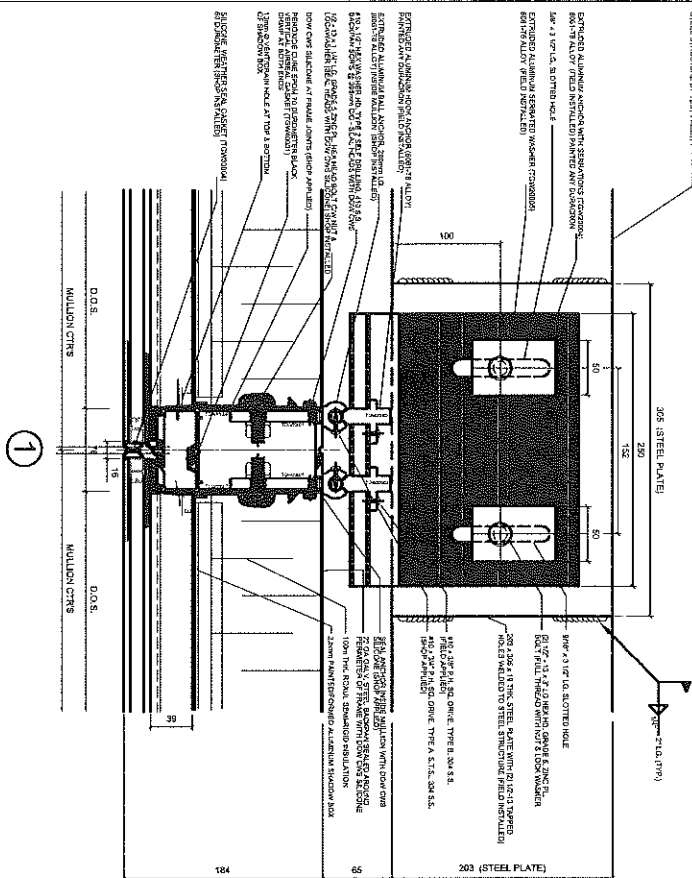
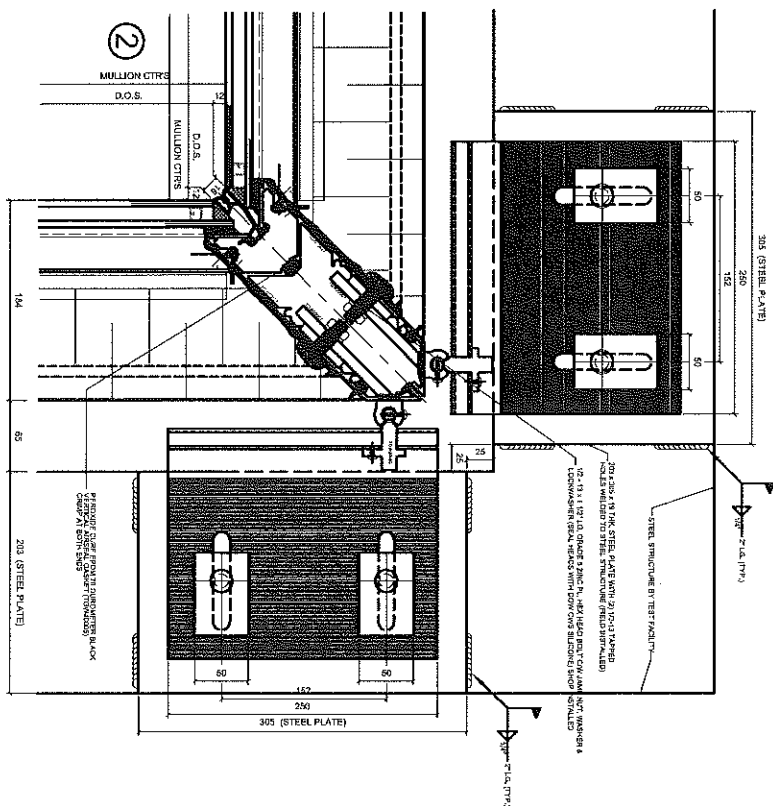
Special Notice

TORO GLASSWALL Inc.

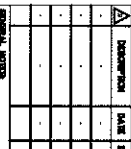
ARCHITECT	
CONTRACTOR	
PROJECT	

PROJECT #	TGW PERFORMANCE MOCKUP
DATE	03 / 11 / 2014
CHECKED BY	CI
DESIGNED BY	CI
CREATED FILE	PLAN DETAILS
SCALE	1 : 2

MU203



**3RD SQUARE BLVD,
CONCORD, ONTARIO, CANADA, L4T 3Y7
PH: 416-226-1177, FAX: 416-226-8574**



SHEET MU204	PROJECT #	TGW PERFORMANCE MOCKUP	ARCHITECT
	DATE	03 / 11 / 2014	-
	CHECKED BY	cl	CONTRACTOR
	DRAWN BY	cl	-
	DRAWING TITLE	PLAN DETAILS	PROJECT
SCALE	1 : 2	-	-

**380 ELDREDGE BLVD.,
CONCORD, ONTARIO, CANADA L4K 3Y7
PH: 905-306-9077, FAX: 905-308-8934**

[illegible]

GENERAL NOTICES

MATERIAL PROVIDED BY
TORO GLASSWALL Inc.

ARCHITECT:

CONTRACTOR:

PROJECT: _____

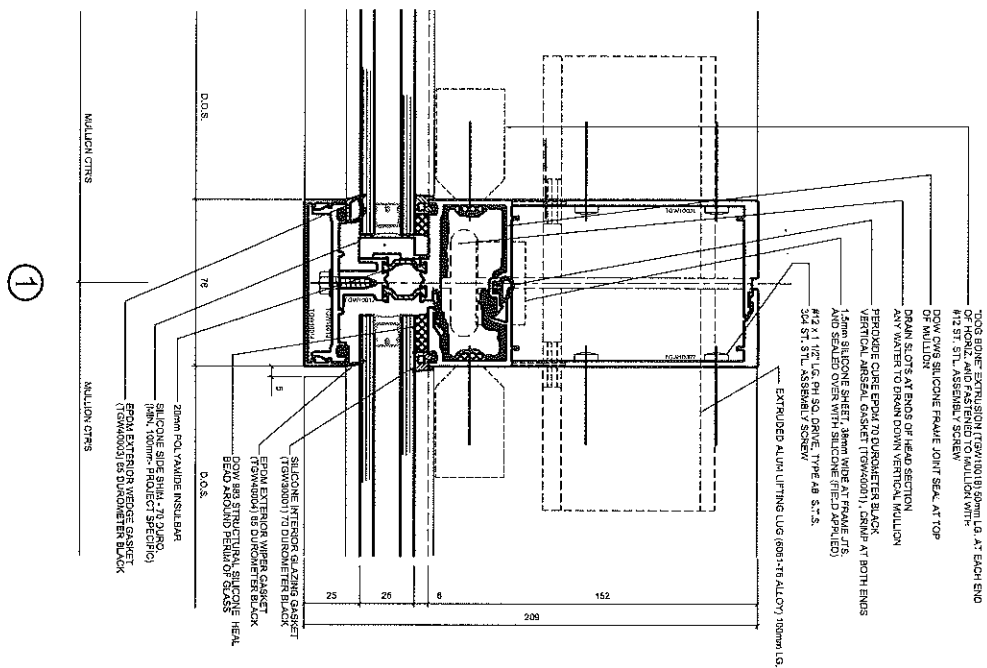
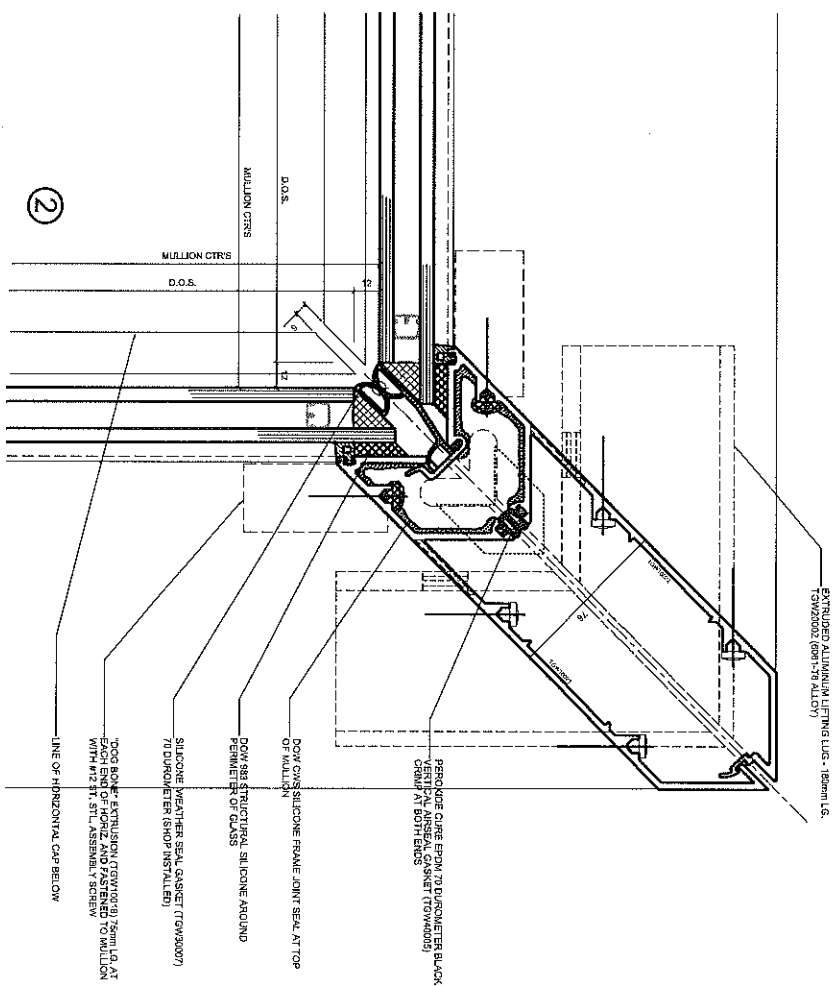
PROJECT #	TGW PERFORMANCE MOCKUP
DATE	03/11/2014
CHECKED BY:	CI
REVIEWED BY:	CI
DRAWING TITLE: PLAN DETAILS	
SCALE:	1:2

MU205

3RD EDITION BY OLVO.
CHICAGO, ILLINOIS, CANADA, LAR 3754
PUB. WILSON'S 6017, 11-16-1934 10724

INNOVATION	DATE	BY
1	2	3
4	5	6
7	8	9
10	11	12

TORO GLASSWALL Inc.



**300 RIDGEWAY BLVD,
CONCORD, ONTARIO, CANADA, L4C 3Y7
PH: 288-3828 0177, FAX: 866-428 9954**

	CHECKPOINT	DATE	BY
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5			

GENERAL NOTE

TORO GLASSWALL Inc

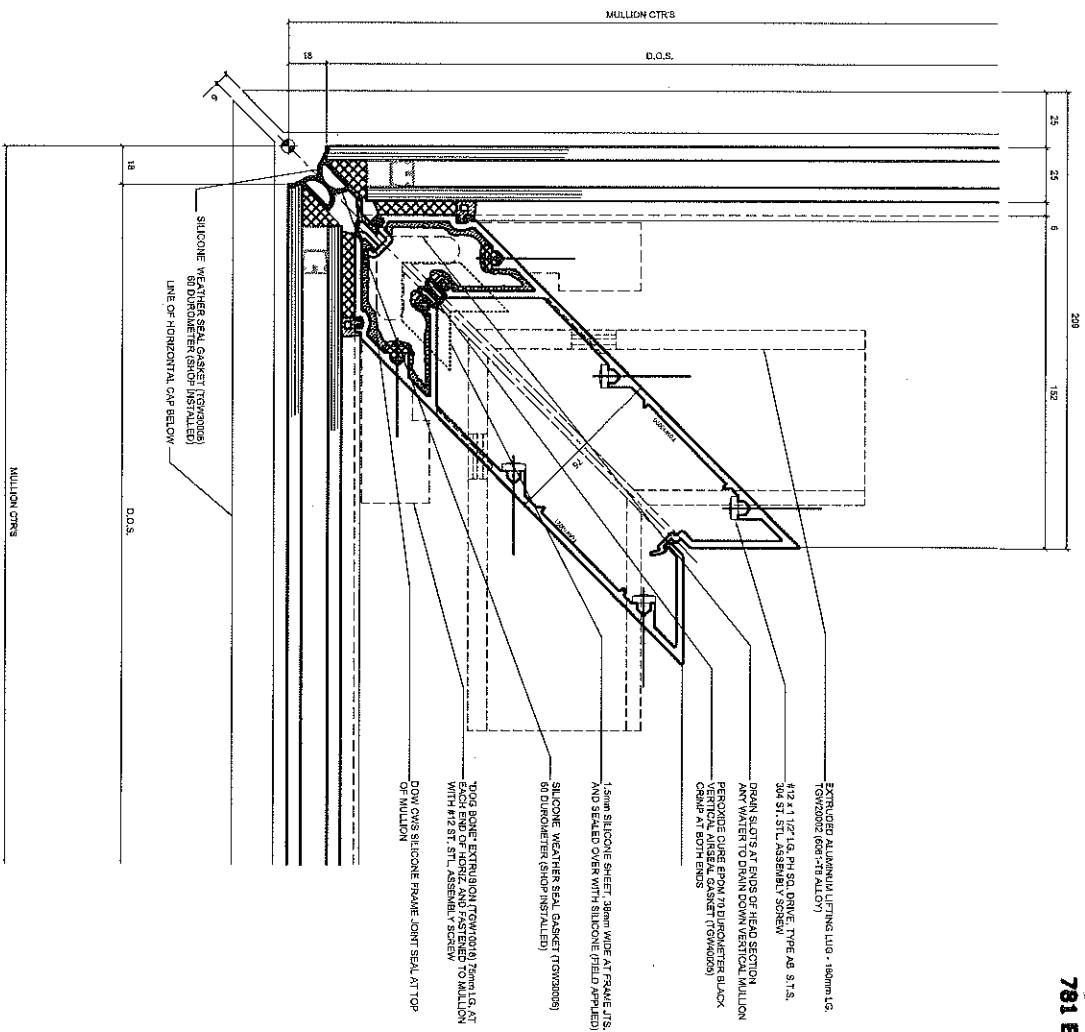
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CONTRACTOR:

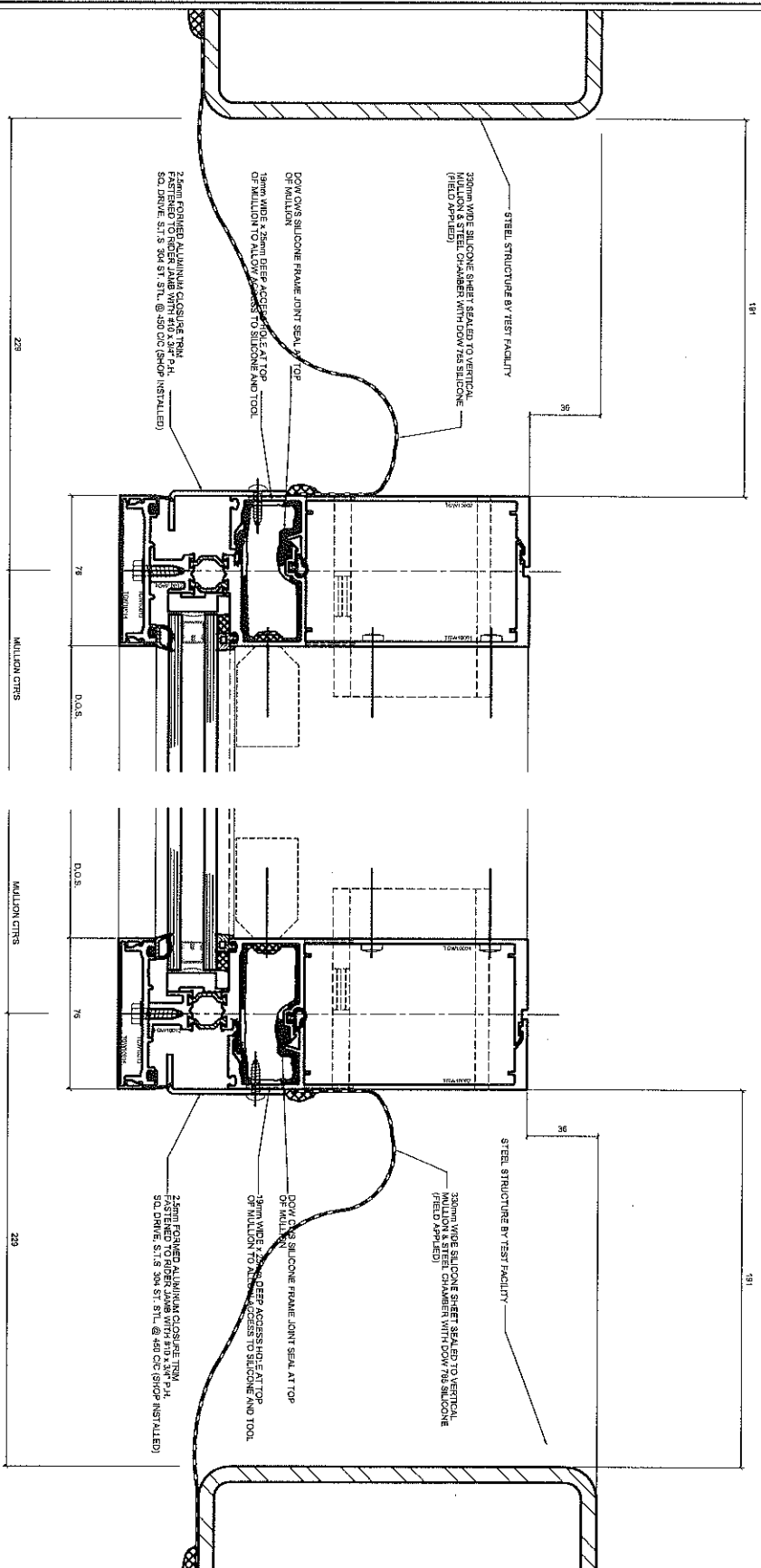
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PROJECT #	TGW PERFORMANCE MOCKUP
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SCALE:	1 : 1

MU207



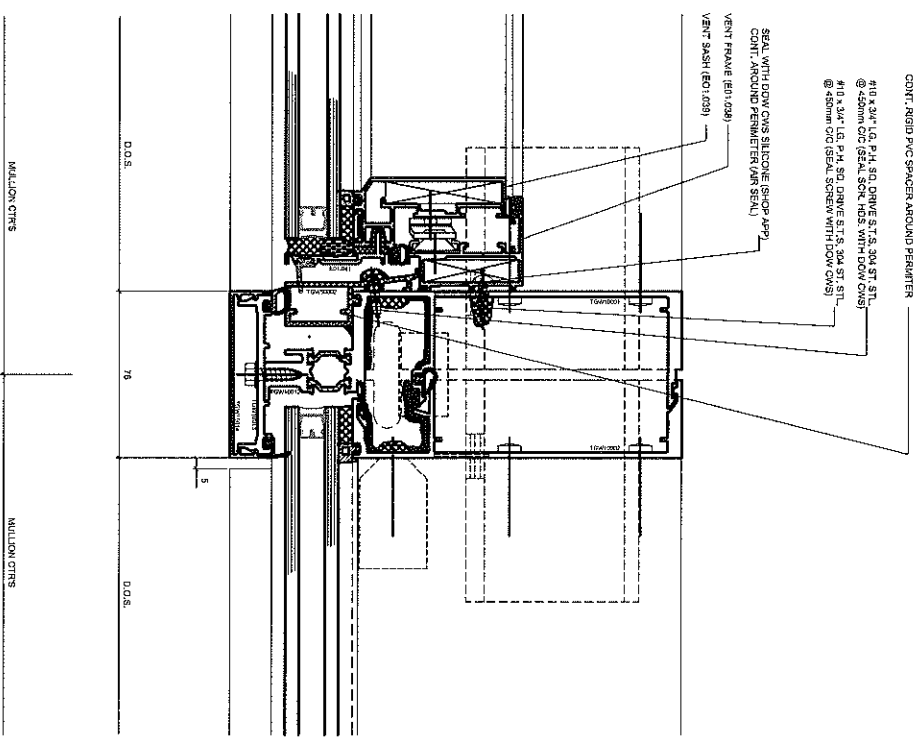
Sault-Emery Laboratories, Inc.
 781 E. Washington Blvd 2nd Floor
 Los Angeles, CA 90021



 <p>303 SOUTH MAIN CHICAGO, ILLINOIS 60604-1473 TEL: 312.587.1111 FAX: 312.587.1111</p>		<p>PROJECT # TGW PERFORMANCE MOCKUP</p> <p>DATE 03/11/2014</p> <p>DESIGNED BY D.D.</p> <p>REVIEWED BY D.D.</p> <p>DRAWING TITLE PLAN DETAILS</p> <p>SCALE 1:1</p>		<p>ARCHITECT</p> <p>CONTRACTOR</p> <p>PROJECT</p>		<p>MATERIAL PROVIDED BY TORO GLASSWALL INC.</p>		<table border="1"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>DATE</th> <th>BY</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>		NO.	DESCRIPTION	DATE	BY																																								
NO.	DESCRIPTION	DATE	BY																																																		

MU208

Smith-Emery Laboratories, Inc.
 781 E. Washington Blvd 2nd Floor
 Los Angeles, CA 90021



THE TORO GLASSWALL SYSTEM
 TORO GLASSWALL SYSTEM
 THE TORO GLASSWALL SYSTEM

DESCRIPTION	DATE	BY

GENERAL NOTES

DESIGNED BY
 TORO GLASSWALL, Inc.

ARCHITECT
 CONTRACTOR
 PROJECT

PROJECT #	TGW PERFORMANCE MOCKUP
DATE	03 / 11 / 2014
DESIGNED BY	
DESIGNED BY	
DESIGNED TITLE	PLAN DETAILS
SCALE	1:1

SHEET
 MU209