Architectural Testing

MIAMI-DADE COUNTY PERFORMANCE TEST REPORT

Report No.: D2662.01-109-18

Rendered to:

CIW ENTERPRISES, INC.
Mountain Top, Pennsylvania

PRODUCT TYPE: Roll-Up Garage Door
SERIES/MODEL: Thermiser

This report contains in its entirety:

Cover Page:	1 page
Report Body:	17 pages
Sketches:	3 pages
Tensile Test Chart:	1 page
Photograph:	1 page
Chamber Drawings:	7 pages
Drawings:	16 pages

Digitally Signed by: Michael D. Stremmel

2014.02.07 09:49:08 -05'00'

Test Start Date:	10/25/2013
Test End Date:	11/07/2013
Report Date:	02/07/2014
Test Record Retention End Date:	11/07/2023
Miami-Dade County Notification No.:	ATI 13008

1.0 Client Identification:

1.1 Report Issued To: CIW Enterprises, Inc.
24 Elmwood Avenue
Crestwood Industrial Park
Mountain Top, Pennsylvania 18707

1.2 Contact Person: Trevor Errington

2.0 Laboratory Identification:

2.1 Test Laboratory: Architectural Testing, Inc.
130 Derry Court
York, Pennsylvania 17406-8405

2.2 Laboratory Phone Number: 717-764-7700

3.0 Project Summary:

3.1 Introduction: Architectural Testing, Inc. was contracted by CIW Enterprises, Inc. to conduct TAS 201, TAS 202, and TAS 203 testing on their Thermiser, Roll-Up Garage Door in accordance with Florida Building Code for High Velocity Hurricane Zone and Miami-Dade County requirements. The eight specimen(s) tested met the performance requirements set forth in the protocols. The results are summarized in Table 1.

Table 1: Summary of Test Results

Specimen #	Test Protocol	Design Pressure
1 and 2	TAS 202	+65.0 / -65.0 psf
3 through 8	TAS 201 / 203 (Large Missile)	+65.0 / -65.0 psf

3.2 Product Type: Roll-Up Garage Door

3.3 Series/Model: Thermiser

3.4 Miami-Dade County Notification No.: ATI 13008

3.5 Test Dates: 10/25/2013 - 11/07/2013

3.6 Test Record Retention End Date: November 7, 2023

3.7 Test Location: Architectural Testing, Inc. test facility in York, Pennsylvania.

3.8 Test Specimen Source: The test specimen(s) were provided by the client. Representative samples of the test specimen(s) will be retained by Architectural Testing for a minimum of ten years from the test completion date.

3.0 Project Summary: (Continued)

3.9 Drawing Reference: The test specimen drawings have been reviewed by Architectural Testing and are representative of the test specimen(s) reported herein. Test specimen construction was verified by Architectural Testing per the drawings located in Appendix E. Any deviations are documented herein and on the drawings.

3.10 List of Official Observers:

Name	Company
Trevor Errington	CIW Enterprises, Inc.
Chris Rebarchak	CIW Enterprises, Inc.
Jeremy R. Bender	Architectural Testing, Inc.
Ken R. Stough	Architectural Testing, Inc.
Michael D. Stremmel, P.E.	Architectural Testing, Inc.
Aaron M. Shultz	Architectural Testing, Inc.

4.0 Test Protocol(s):

TAS 201-94, *Impact Test Procedures*

TAS 202-94, *Criteria for Testing Impact & Non Impact Resistant Building Envelope Components Using Uniform Static Air Pressure*

TAS 203-94, *Criteria for Testing Products Subject to Cyclic Wind Pressure Loading*

5.0 Test Specimen Description:

5.1 Product Sizes: Table 2 provides product sizes for the overall test specimen(s) and operable components.

Table 2: Overall Specimen and Operable Component Sizes

Overall Area: 123.3 ft^2	**Width (in.)**	**Height (in.)**
Overall size	148	120

5.0 Test Specimen Description: (Continued)

5.2 Test Chamber Description:

5.2.1 Test Chamber #1: The steel chamber was constructed with a 3000 psi concrete jamb and a 1/4" thick steel jamb. Both jambs were welded and braced to the base steel test chamber and sealed with sealant to prevent extraneous leakage.

5.2.2 Test Chamber #2: The steel chamber was constructed with a CMU jamb consisting of a double CMU unit and a 1/4" thick steel jamb. Only the CMU cell closest to the opening was filled with grout. Both jambs were welded and braced to the base steel test chamber and sealed with sealant to prevent extraneous leakage.

5.3 Garage Door Description: The garage door utilized a 12' 5" wide distance between guides and a 10' 0" tall door opening height. Test Specimens #1, #3, #4, and #6 were installed using an interior mounting condition. Test Specimens #2, #5, #7, and #8 were installed using an exterior mounting condition.

The door curtain was constructed of nominal 1" thick, 3" high foam-filled interlocking steel slats. For Specimens #1, #3, #6 and #8, the slats were constructed of 0.0296" thick steel on the mounting side and 0.0220" thick steel on the opposite side with a polyurethane insulation core. Endlock/Wind-locks were located on each end of alternating slats and were secured with two 1/4" rivets per end. For Specimens #2, #4, #5 and #7, the slats were constructed of 0.0405" thick steel on the mounting side and 0.0220" thick steel on the opposite side with a polyurethane insulation core. Endlock/Wind-locks and wind-locks were located at each end of alternating slats and were secured with three 1/4" rivets per end. The doors were secured to the jambs of the chamber with either a Box Guide track, (Reference Drawing #GA0576) or a Zee Guide track, (Reference Drawing #GA0575). All guides utilized a 4" by 3-1/2" by 1/4" wall mounting angle. The wall mounting angle was secured to the guide track with 1/2"-13 x 1-1/2" long bolts and nuts, spaced 18" on center.

The hood was constructed of 0.022" thick steel and was tested to qualify interior and exterior configurations. The doors were tested for air pressure resistance per TAS 202 in the closed position with the slide locks disengaged.

5.4 Installation Methods:

5.4.1 Steel Jamb Installation (Weld): The Box Guide track was secured to the steel jamb of the chamber with 1/4" fillet welds in the mounting slots. The welds were spaced 18" on center.

5.0 Test Specimen Description: (Continued)

5.4 Installation Methods: (Continued)

5.4.2 Steel Jamb Installation (Bolt): The Box Guide track was secured to the steel jamb of the chamber with 1/2"-13 Hex bolts with washers tapped into the steel jamb. The bolts were spaced 18" on center.

5.4.3 Concrete Jamb Installation (Anchor A): The Zee Guide track was secured to the concrete jamb with 1/2" x 4-1/2" Hilti Kwik Bolt 3 anchors. The anchors were spaced 16" on center.

5.4.4 Concrete Jamb Installation (Anchor B): The Zee Guide track was secured to the concrete jamb with 1/2" x 5-1/2" Simpson Wedge-All anchors. The anchors were spaced 16" on center.

5.4.5 Double CMU Jamb Installation (Anchor A): The Zee Guide track was secured to the concrete jamb with 1/2" x 4-1/2" Hilti Kwik Bolt 3 anchors. The anchors were spaced 8" on center.

5.4.6 Double CMU Jamb Installation (Anchor B): The Zee Guide track was secured to the concrete jamb with 1/2" x 5-1/2" Simpson Wedge-All anchors. The anchors were spaced 8" on center.

5.5 Test Specimen Construction Summary: Table 3 provides of summary of the installation details utilized for each test specimen.

Table 3: Overall Specimen and Installation Details

Specimen	Mounting Orientation	Left Jamb		Right Jamb	
		Material	Anchor Type	Material	Anchor Type
#1	Interior	Concrete	Anchor A	1/4" Steel	Weld
#2	Exterior	Concrete	Anchor B	1/4" Steel	Bolt
#3	Exterior	Concrete	Anchor B	1/4" Steel	Bolt
#4	Interior	Concrete	Anchor A	1/4" Steel	Weld
#5	Exterior	Concrete	Anchor B	1/4" Steel	Bolt
#6	Interior	Double CMU	Anchor A	1/4" Steel	Weld
#7	Exterior	Double CMU	Anchor B	1/4" Steel	Bolt
#8	Exterior	Concrete	Anchor A	1/4" Steel	Bolt

6.0 Test Results: The temperature during TAS 202 testing was 75°F. Results are tabulated as follows:

6.1 Protocol TAS 202-94, *Static Air Pressure*

Table 4 provides the results for positive and negative uniform static load test.

Table 4: Test Specimen #1 TAS 202, Preload and Design Load Test Results

Load (psf)	Indicator Location	Deflection (in.)	Permanent Set (in.)	Percent Recovery	
		Measured	Measured	Measured	Allowed
+48.87 50% of Test Pressure	1	9.01	0.41	95%	95%
+65.16 Design Pressure	1	12.56	1.17	91%	N/A
+97.74 Test Pressure	1	10.64	1.16	89%	80%
-48.87 50% of Test Pressure	1	7.89	0.34	96%	95%
-65.16 Design Pressure	1	10.53	0.97	91%	N/A
-97.74 Test Pressure	1	11.56	1.34	88%	80%

Table 5 provides the results for the forced entry resistance test.

Table 5: Test Specimen #1 TAS 202, Forced Entry Test Results

Title of Test	Results	Allowed
Forced Entry Resistance in accordance with 300 lb upward pull	Pass	No Entry

***Note**: See Architectural Testing Sketch #1 for indicator locations. Deflection/permanent set reported is the overall deflection between three points (longest unsupported span) which accounts for support movement.*

6.0 Test Results: (Continued)

6.1 Protocol TAS 202-94, *Static Air Pressure* (Continued)

Table 6 provides the results for positive and negative uniform static load test.

Table 6: Test Specimen #2 TAS 202, Preload and Design Load Test Results

Load (psf)	Indicator Location	Deflection (in.)	Permanent Set (in.)	Percent Recovery	
		Measured	Measured	Measured	Allowed
+48.87 50% of Test Pressure	1	5.92	0.30	95%	95%
+65.16 Design Pressure	1	8.18	0.59	93%	N/A
+97.74 Test Pressure	1	11.58	1.54	87%	80%
-48.87 50% of Test Pressure	1	5.79	0.28	96%	95%
-65.16 Design Pressure	1	7.81	0.50	94%	N/A
-97.74 Test Pressure	1	9.08	0.76	92%	80%

Table 7 provides the results for the forced entry resistance test.

Table 7: Test Specimen #2 TAS 202, Forced Entry Test Results

Title of Test	Results	Allowed
Forced Entry Resistance in accordance with 300 lb upward pull	Pass	No Entry

***Note**: See Architectural Testing Sketch #1 for indicator locations. Deflection/permanent set reported is the overall deflection between three points (longest unsupported span) which accounts for support movement.*

Observations: The door was fully operable upon completion of testing and showed no signs of anchorage failure.

Conclusion: Architectural Testing observed no signs of failure in any area of the test specimen during the TAS 202 testing; as such, the test specimen satisfies the requirements of TAS 202.

6.0 Test Results: The temperature during TAS 201 testing was 75°F. Results are tabulated as follows:

6.2 Protocol TAS 201-94, *Large Impact Procedures*

Tables 8 through 13 provide the results for the large missile impact test.

Table 8: Test Specimen #3 TAS 201, Large Missile Impact Test Results

Impact #	Missile Weight (lbs.)	Missile Length (in.)	Missile Velocity (ft./sec.)
1	9.2	93-7/8	49.0
2	9.2	93-7/8	48.9

Table 9: Test Specimen #4 TAS 201, Large Missile Impact Test Results

Impact #	Missile Weight (lbs.)	Missile Length (in.)	Missile Velocity (ft./sec.)
1	9.2	93-7/8	79.8
2	9.2	93-7/8	79.5

Table 10: Test Specimen #5 TAS 201, Large Missile Impact Test Results

Impact #	Missile Weight (lbs.)	Missile Length (in.)	Missile Velocity (ft./sec.)
1	9.2	93-7/8	80.0
2	9.2	93-7/8	79.8
3	9.2	93-7/8	79.5

***Note**: See Architectural Testing Sketch #2 for impact locations.*

6.0 Test Results: (Continued)

6.2 Protocol TAS 201-94, *Large Impact Procedures* (Continued)

Table 11: Test Specimen #6 TAS 201, Large Missile Impact Test Results

Impact #	Missile Weight (lbs.)	Missile Length (in.)	Missile Velocity (ft./sec.)
1	9.2	93-7/8	48.8
2	9.2	93-7/8	49.0

Table 12: Test Specimen #7 TAS 201, Large Missile Impact Test Results

Impact #	Missile Weight (lbs.)	Missile Length (in.)	Missile Velocity (ft./sec.)
1	9.17	99-3/8	80.0
2	9.17	99-3/8	80.3
3	9.17	99-3/8	79.4

Table 13: Test Specimen #8 TAS 201, Large Missile Impact Test Results

Impact #	Missile Weight (lbs.)	Missile Length (in.)	Missile Velocity (ft./sec.)
1	9.2	93-7/8	49.6
2	9.2	93-7/8	49.6
3	9.2	93-7/8	49.9

***Note**: See Architectural Testing Sketch #3 for impact locations.*

Conclusion: The large missiles impacted each intended target and Architectural Testing carefully inspected each impact location. Architectural Testing observed no signs of penetration, rupture, or opening after the large missile impact test; as such, each test specimen satisfies the large missile requirements of TAS 201.

6.0 Test Results: The temperature during TAS 203 testing was 75°F. Results are tabulated as follows:

6.3 Protocol TAS 203-94, *Cyclic Wind Pressure Loading*

Tables 14 through 31 provide the results for the positive and negative cyclic load test.

Table 14: Test Specimen #3 TAS 203, Cyclic Test Spectrum and Average Cycle Time

Design Pressure	**+65.0 / -65.0 psf**	**Stage**		
		1	**2**	**3**
Pressure Range (psf)		0.0 – 32.5	0.0 – 39.0	0.0 – 84.5
Average Cycle Time (sec.)		3.00	2.90	----
Number of Cycles		600	70	1
		4	**5**	**6**
Pressure Range (psf)		0.0 – 32.5	0.0 – 39.0	0.0 – 84.5
Average Cycle Time (sec.)		3.00	3.00	----
Number of Cycles		600	70	1

Table 15: Test Specimen #3 TAS 203, Positive Cyclic Load Test Results

Indicator Location	**Maximum Deflection**	**Permanent Set (in.)**
1	12.98	1.58

Table 16: Test Specimen #3 TAS 203, Negative Cyclic Load test results

Indicator Location	**Maximum Deflection**	**Permanent Set (in.)**
1	10.61	1.24

***Note**: See Architectural Testing Sketch #1 for indicator locations. Deflection/permanent set reported is the overall deflection between three points (longest unsupported span) which accounts for support movement.*

Observations: The door was fully operable upon completion of testing and showed no signs of anchorage failure.

6.0 Test Results: (Continued)

6.3 Protocol TAS 203-94, *Cyclic Wind Pressure Loading*: (Continued)

Table 17: Test Specimen #4 TAS 203, Cyclic Test Spectrum and Average Cycle Time

Design Pressure	**+65.0 / -65.0 psf**	**Stage**		
		1	**2**	**3**
Pressure Range (psf)		0.0 – 32.5	0.0 – 39.0	0.0 – 84.5
Average Cycle Time (sec.)		3.00	3.00	----
Number of Cycles		600	70	1
		4	**5**	**6**
Pressure Range (psf)		0.0 – 32.5	0.0 – 39.0	0.0 – 84.5
Average Cycle Time (sec.)		3.00	3.00	----
Number of Cycles		600	70	1

Table 18: Test Specimen #4 TAS 203, Positive Cyclic Load Test Results

Indicator Location	**Maximum Deflection**	**Permanent Set (in.)**
1	10.28	1.19

Table 19: Test Specimen #4 TAS 203, Negative Cyclic Load Test Results

Indicator Location	**Maximum Deflection**	**Permanent Set (in.)**
1	11.83	1.31

***Note**: See Architectural Testing Sketch #1 for indicator locations. Deflection/permanent set reported is the overall deflection between three points (longest unsupported span) which accounts for support movement.*

Observations: The door was fully operable upon completion of testing and showed no signs of anchorage failure.

6.0 Test Results: (Continued)

6.3 Protocol TAS 203-94, *Cyclic Wind Pressure Loading*: (Continued)

Table 20: Test Specimen #5 TAS 203, Cyclic Test Spectrum and Average Cycle Time

Design Pressure	**+65.0 / -65.0 psf**	**Stage**		
		1	**2**	**3**
Pressure Range (psf)		0.0 – 32.5	0.0 – 39.0	0.0 – 84.5
Average Cycle Time (sec.)		3.00	3.00	----
Number of Cycles		600	70	1
		4	**5**	**6**
Pressure Range (psf)		0.0 – 32.5	0.0 – 39.0	0.0 – 84.5
Average Cycle Time (sec.)		3.00	3.00	----
Number of Cycles		600	70	1

Table 21: Test Specimen #5 TAS 203, Positive Cyclic Load Test Results

Indicator Location	**Maximum Deflection**	**Permanent Set (in.)**
1	11.60	1.51

Table 22: Test Specimen #5 TAS 203, Negative Cyclic Load Test Results

Indicator Location	**Maximum Deflection**	**Permanent Set (in.)**
1	10.98	1.38

***Note**: See Architectural Testing Sketch #1 for indicator locations. Deflection/permanent set reported is the overall deflection between three points (longest unsupported span) which accounts for support movement.*

Observations: The door was fully operable upon completion of testing and showed no signs of anchorage failure.

6.0 Test Results: (Continued)

6.3 Protocol TAS 203-94, *Cyclic Wind Pressure Loading*: (Continued)

Table 23: Test Specimen #6 TAS 203, Cyclic Test Spectrum and Average Cycle Time

Design Pressure	**+65.0 / -65.0 psf**	**Stage**		
		1	**2**	**3**
Pressure Range (psf)		0.0 – 32.5	0.0 – 39.0	0.0 – 84.5
Average Cycle Time (sec.)		4.80	4.60	----
Number of Cycles		600	70	1
		4	**5**	**6**
Pressure Range (psf)		0.0 – 32.5	0.0 – 39.0	0.0 – 84.5
Average Cycle Time (sec.)		4.80	5.00	----
Number of Cycles		600	70	1

Table 24: Test Specimen #6 TAS 203, Positive Cyclic Load Test Results

Indicator Location	**Maximum Deflection**	**Permanent Set (in.)**
1	9.28	0.33

Table 25: Test Specimen #6 TAS 203, Negative Cyclic Load Test Results

Indicator Location	**Maximum Deflection**	**Permanent Set (in.)**
1	11.74	1.06

***Note**: See Architectural Testing Sketch #1 for indicator locations. Deflection/permanent set reported is the overall deflection between three points (longest unsupported span) which accounts for support movement.*

Observations: The door was fully operable upon completion of testing and showed no signs of anchorage failure.

6.0 Test Results: (Continued)

6.3 Protocol TAS 203-94, *Cyclic Wind Pressure Loading*: (Continued)

Table 26: Test Specimen #7 TAS 203, Cyclic Test Spectrum and Average Cycle Time

Design Pressure	**+65.0 / -65.0 psf**	**Stage**		
		1	**2**	**3**
Pressure Range (psf)		0.0 – 32.5	0.0 – 39.0	0.0 – 84.5
Average Cycle Time (sec.)		3.60	4.40	----
Number of Cycles		600	70	1
		4	**5**	**6**
Pressure Range (psf)		0.0 – 32.5	0.0 – 39.0	0.0 – 84.5
Average Cycle Time (sec.)		4.80	5.00	----
Number of Cycles		600	70	1

Table 27: Test Specimen #7 TAS 203, Positive Cyclic Load Test Results

Indicator Location	**Maximum Deflection**	**Permanent Set (in.)**
1	11.34	0.24

Table 28: Test Specimen #7 TAS 203, Negative Cyclic Load Test Results

Indicator Location	**Maximum Deflection**	**Permanent Set (in.)**
1	9.50	0.62

***Note**: See Architectural Testing Sketch #1 for indicator locations. Deflection/permanent set reported is the overall deflection between three points (longest unsupported span) which accounts for support movement.*

Observations: The door was fully operable upon completion of testing and showed no signs of anchorage failure.

6.0 Test Results: (Continued)

6.3 Protocol TAS 203-94, *Cyclic Wind Pressure Loading*: (Continued)

Table 29: Test Specimen #8 TAS 203, Cyclic Test Spectrum and Average Cycle Time

Design Pressure	**+65.0 / -65.0 psf**	**Stage**		
		1	**2**	**3**
Pressure Range (psf)		0.0 – 32.5	0.0 – 39.0	0.0 – 84.5
Average Cycle Time (sec.)		3.00	3.00	----
Number of Cycles		600	70	1
		4	**5**	**6**
Pressure Range (psf)		0.0 – 32.5	0.0 – 39.0	0.0 – 84.5
Average Cycle Time (sec.)		3.00	3.00	----
Number of Cycles		600	70	1

Table 30: Test Specimen #8 TAS 203, Positive Cyclic Load Test Results

Indicator Location	**Maximum Deflection**	**Permanent Set (in.)**
1	13.34	1.84

Table 31: Test Specimen #8 TAS 203, Negative Cyclic Load Test Results

Indicator Location	**Maximum Deflection**	**Permanent Set (in.)**
1	10.20	0.78

***Note**: See Architectural Testing Sketch #1 for indicator locations. Deflection/permanent set reported is the overall deflection between three points (longest unsupported span) which accounts for support movement.*

Observations: The door was fully operable upon completion of testing and showed no signs of anchorage failure.

Conclusion: Architectural Testing observed no signs of failure in any area of the test specimens during the cyclic load test; as such, the test specimens satisfy the cyclic load requirements of TAS 203.

6.0 Test Results: (Continued)

6.4 ASTM E 8, *Tensile Test Results*

Test Method: The test specimens were evaluated in accordance with ASTM E 8-08, *Standard Test Methods for Tensile Testing of Metallic Materials*. The test specimens were machined and sized in compliance with section 6.0 of the standard. The specimens were tested using a Satec 50UD Universal Machine with a cross head speed of 0.2 in/min

Test Results: The test results for the tensile testing of the garage door slats are provided in Appendix B and summarized in Table 32 below.

Table 32: ASTM E 8 Tensile Test Results

Specimen	Yield Strength (psi)	Tensile Load (lbf)	Tensile Strength (psi)	Elongation (%)	Area Reduction (%)
1	45,230	1164	57,478	31.6	27.0
2	44,789	1158	56,722	30.8	25.0
3	44,986	1161	56,918	33.2	27.0
4	44,818	1158	56,787	30.0	24.0
5	45,117	1160	57,000	28.9	25.0
6	45,077	1159	57,103	30.7	29.0
Average	**45,003**	**1,160**	**57,001**	**30.9**	**26.2**

The average Modulus of Elasticity for the tested specimens was 28.99 x 10^6 psi.

7.0 Test Equipment:

Cannon: Constructed from steel piping utilizing compressed air to propel the missile

Missile: 2x4 Southern Pine

Timing Device: Electronic beam type

Cycling Mechanism: Computer controlled centrifugal blower with electronic pressure measuring device

Deflection Measuring Device: Linear transducers

8.0 Laboratory Compliance Statements: The following are provided as required by the protocols for the testing reported herein.

Upon completion of testing, specimens tested for TAS 201-94 met the requirements of Section 1626 of the Florida Building Code, Building.

Upon completion of testing, specimens tested for TAS 202-94 met the requirements of Section 1620 of the Florida Building Code, Building.

Upon completion of testing, specimens tested for TAS 203-94 met the requirements of Section 1625 of the Florida Building Code, Building.

Tape and film were used to seal against air leakage during structural testing. In our opinion, the tape and film did not influence the results of the test.

Architectural Testing will service this report for the entire test record retention period. Test records that are retained such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation will be retained by Architectural Testing, Inc. for the entire test record retention period.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen(s) tested. This report may not be reproduced, except in full, without the written approval of Architectural Testing, Inc.

For ARCHITECTURAL TESTING, Inc.

Digitally Signed by: Aaron M. Shultz

Aaron M. Shultz
Technician

Digitally Signed by: Michael D. Stremmel

Michael D. Stremmel, P.E.
Senior Project Engineer

AMS:dem/cmd

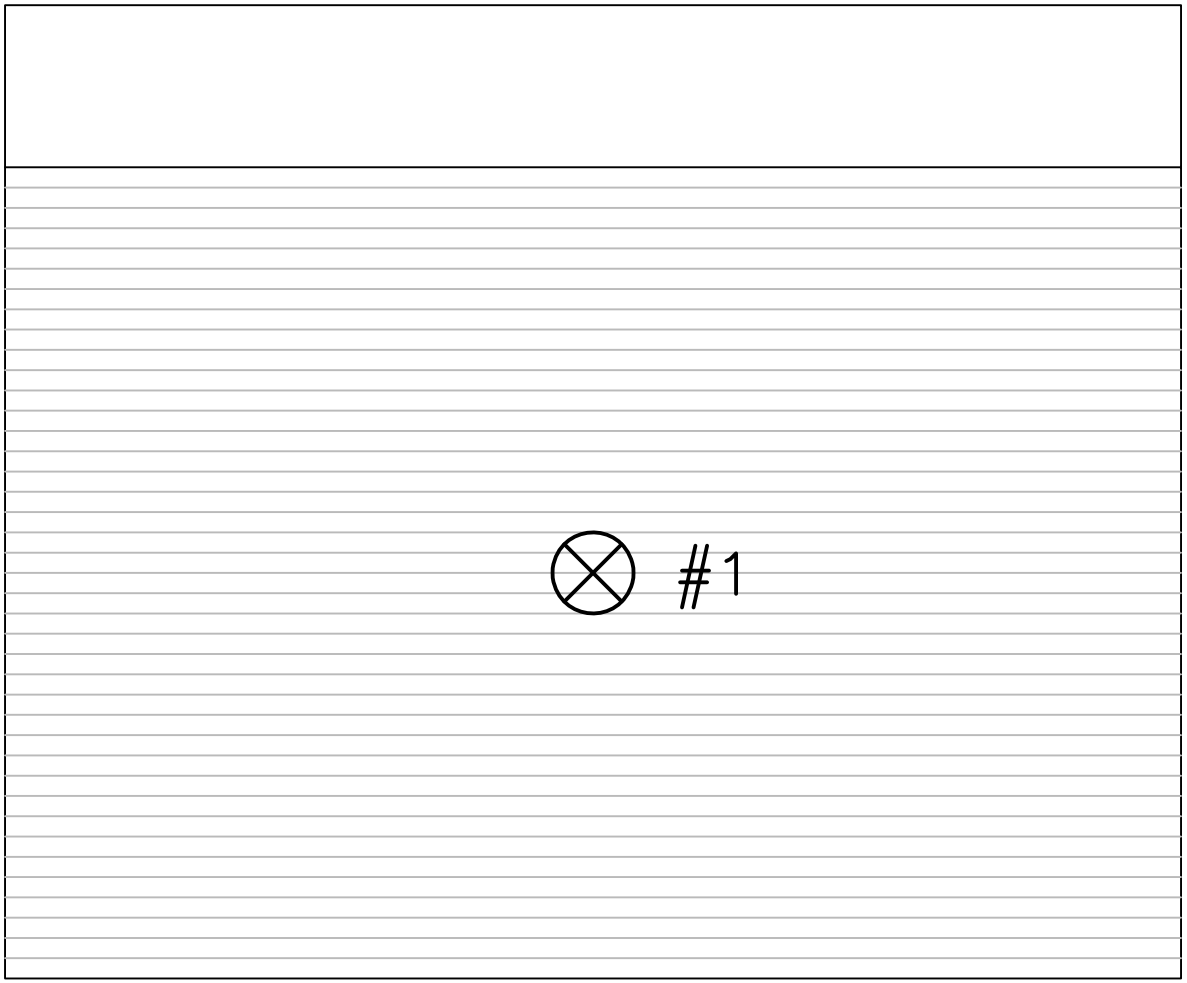
Attachments (pages): This report is complete only when all attachments listed are included.

- Appendix A: Sketches (3)
- Appendix B: Tensile Test Chart (1)
- Appendix C: Photograph (1)
- Appendix D: Chamber Drawings (7)
- Appendix E: Drawings (16)

Appendix A

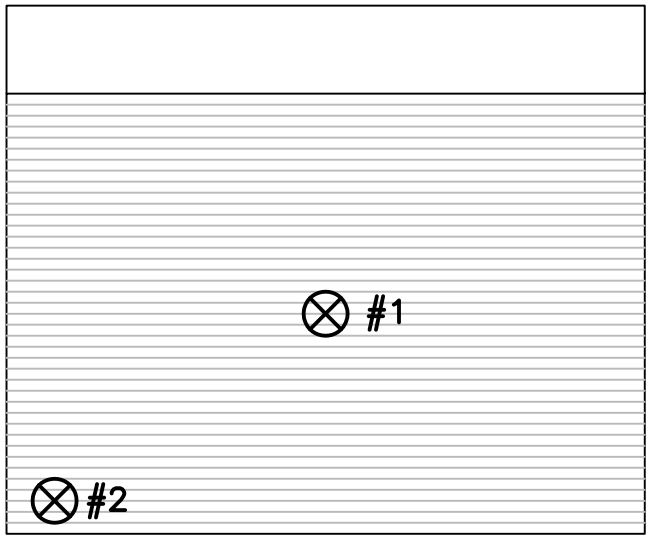
Sketches

REV	DATE	DESCRIPTION	BY

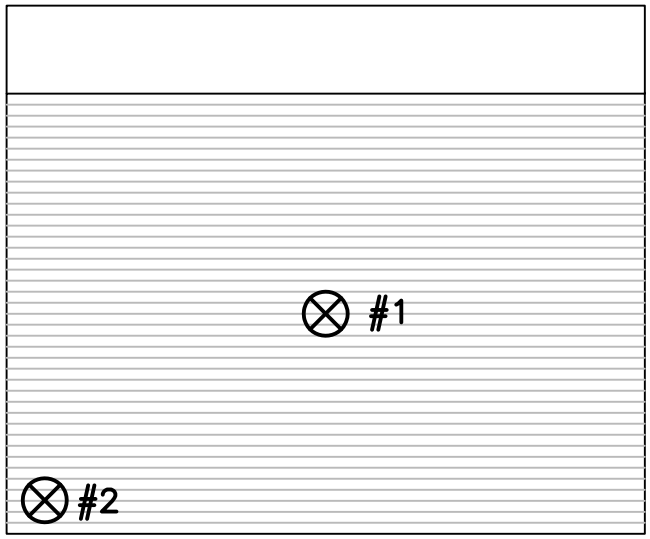


PROJECT NO. D2662.01 109-18	PROJECT NAME: Series Thermiser Rolling Door CLIENT: CIW Enterprises, Inc.	Architectural Testing	DRAWING Sketch #1 – Indicator Locations	DWG. BY: TJM DATE: 2/4/14	SHEET 1 OF 1

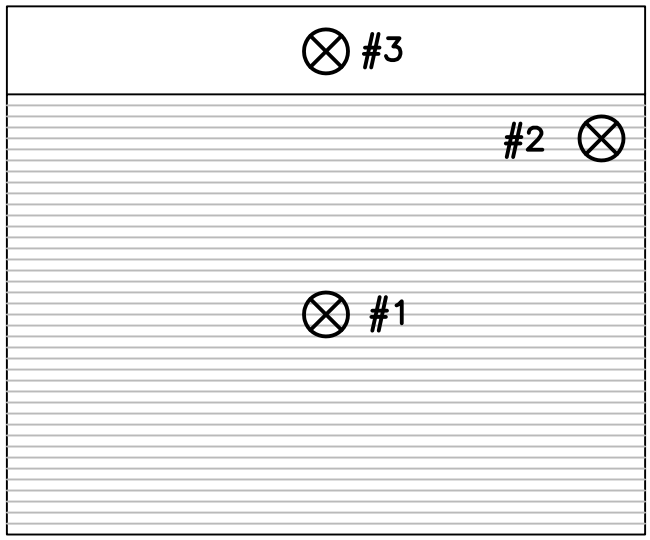
REV	DATE	DESCRIPTION	BY



Test Specimen #3 – Interior Mount



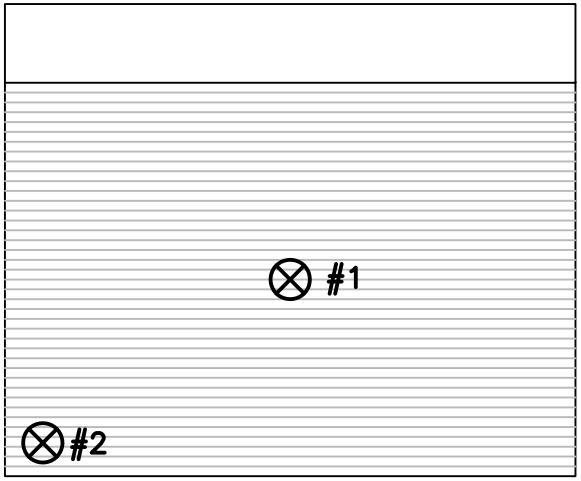
Test Specimen #4 – Interior Mount



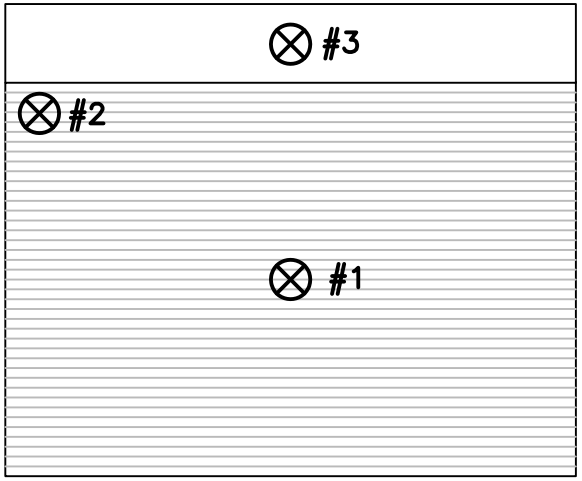
Test Specimen #5 – Exterior Mount

PROJECT NO.	PROJECT NAME:		DRAWING	DWG. BY:	SHEET
D2662.01 109–18	Series Thermiser Rolling Door CLIENT: CIW Enterprises, Inc.	Architectural Testing	Sketch #2 – Impact Locations	TJM DATE: 2/4/14	1 OF 1

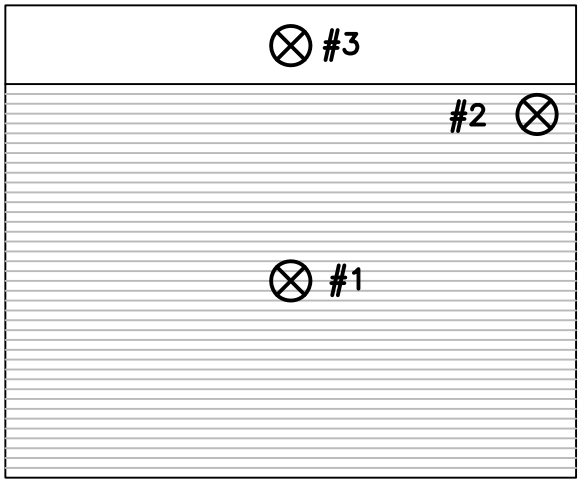
REV	DATE	DESCRIPTION	BY



Test Specimen #6 – Interior Mount



Test Specimen #7 – Exterior Mount



Test Specimen #8 – Exterior Mount

PROJECT NO.	PROJECT NAME:		DRAWING	DWG. BY:	SHEET
D2662.01 109–18	Series Thermiser Rolling Door CLIENT: CIW Enterprises, Inc.	Architectural Testing	Sketch #3 – Impact Locations	TJM DATE: 2/4/14	1 OF 1

Appendix B

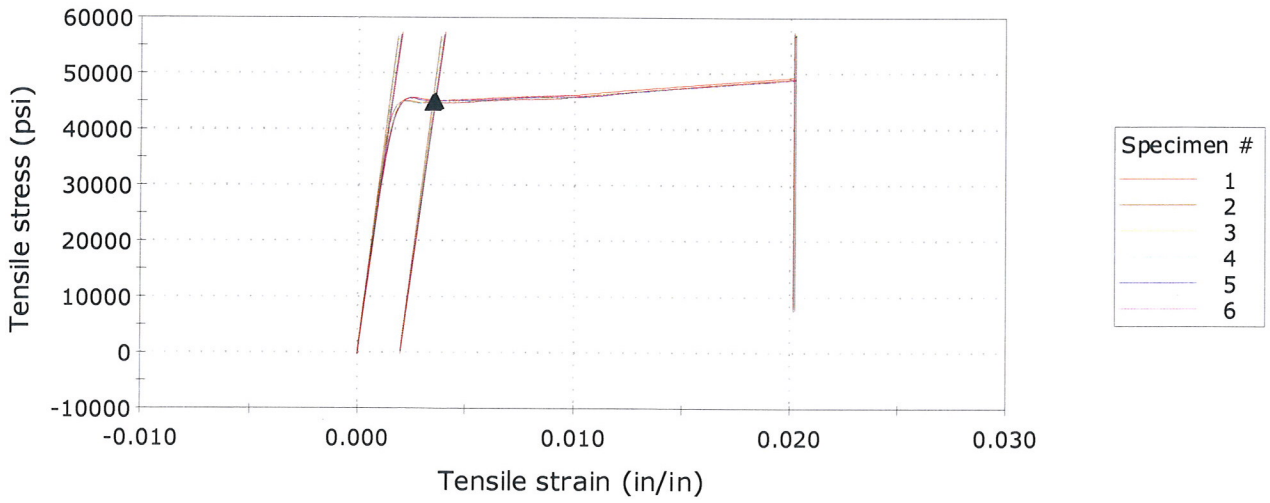
Tensile Test Chart

Architectural Testing

ASTM E8 - 08, Tensile Strength of Metallic Materials
Last Updated by: Gary Hartman 06/21/2010
Uses Instron Wedge Grips with appropriate wedges for materials being evaluated.

ATI Job #	C6863.01-109-18/0405" Samples
Client Name	CIW Enterprises, Inc.
Test Speed	0.20000 in/min
Load Cell Capacity / ICN	50 Kn/005740
Load Cell Calibration Due Date	09/04/14
Test Frame / ICN	Instron 3369
Frame Calibration Due Date	09/04/14
Lab Conditions	68°F / 52% R.H.

Specimens 1 to 6



Measured Values

	Specimen ID	Original Thickness (in)	Final thickness (in)	Original Width (in)	Final width (in)	Original Length (in)	Final length (in)
1	#1A-1) .0405"	0.0405	0.0355	0.5000	0.4180	2.0000	2.6330
2	#1A-2) .0405"	0.0409	0.0354	0.4990	0.4340	2.0000	2.6150
3	#1A-3) .0405"	0.0408	0.0347	0.5000	0.4310	2.0000	2.6650
4	#1B-1) .0405"	0.0408	0.0355	0.5000	0.4370	2.0000	2.6000
5	#1B-2) .0405"	0.0407	0.0363	0.5000	0.4220	2.0000	2.5780
6	#1B-3) .0405"	0.0406	0.0359	0.5000	0.4020	2.0000	2.6140
Mean		0.0407	0.0356	0.4998	0.4240	2.0000	2.6175
Standard Deviation		0.00	0.00	0.00	0.01	0.00	0.03

Calculated Values

	Maximum Load (lbf)	Yield Strength (psi)	Tensile Strength (psi)	Modulus of Elasticity (psi)	Reduction of Area (%)	% Elongation	Start Date	End Date
1	1164	45230	57478	28166007	27	31.6	11/7/2013 7:43 AM	11/7/2013 7:47 AM
2	1158	44789	56722	30503383	25	30.8	11/7/2013 7:49 AM	11/7/2013 7:52 AM
3	1161	44986	56918	29141270	27	33.2	11/7/2013 7:54 AM	11/7/2013 7:57 AM
4	1158	44818	56787	29927532	24	30.0	11/7/2013 7:59 AM	11/7/2013 8:02 AM
5	1160	45117	57000	28528418	25	28.9	11/7/2013 8:04 AM	11/7/2013 8:07 AM
6	1159	45077	57103	27660862	29	30.7	11/7/2013 8:09 AM	11/7/2013 8:12 AM
Mean	1160	45003	57002	28987912	26	30.9		
Standard Deviation	2.25	173.28	271.64	1081737.53	1.84	1.48		

Appendix C

Photograph

Photo No. 1
12' 4" x 10' Roll-Up Garage Door

Appendix D

Chamber Drawings

CORNELL SAFE AND SECURE
TAS 201, 202, 203

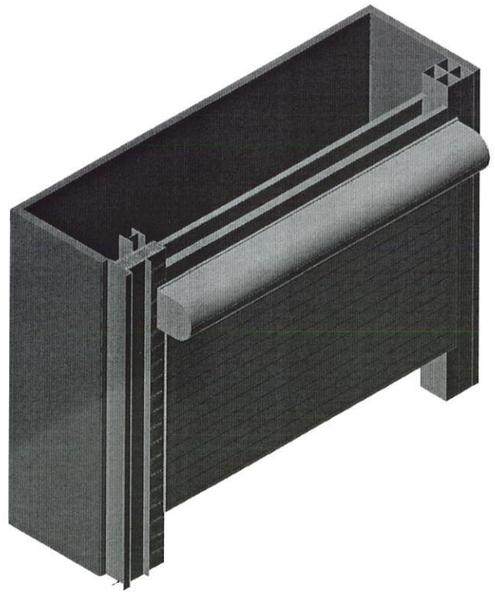
3/8" STEEL CHAMBER (SEQUENCES 1–10 & 20)

3/16" = 1'–0"

DWG. NO.	DESCRIPTION
1 of 7	TITLE SHEET
2 of 7	CHAMBER PLAN VIEWS (SEQUENCES 1–7)
3 of 7	CHAMBER PLAN VIEWS (SEQUENCES 20 & 8)
4 of 7	CHAMBER PLAN VIEWS (SEQUENCES 9–10)
7 of 7	TYPICAL SECTION

NOTES:

1. ALL MOCKUP PERIMETER SEALS BY OTHERS
2. ALL DIMENSIONS CRITICAL TO MOCKUP INSTALLATION MUST BE APPROVED
3. TEST CHAMBER ENCLOSURE DETAILS NOT SHOWN
4. TEST CHAMBER STEEL CONNECTION DETAILS NOT SHOWN



Pages 1-7
Approved
Tom Smith
4/8/13

1/4" STEEL CHAMBER (SEQUENCES 11–19)

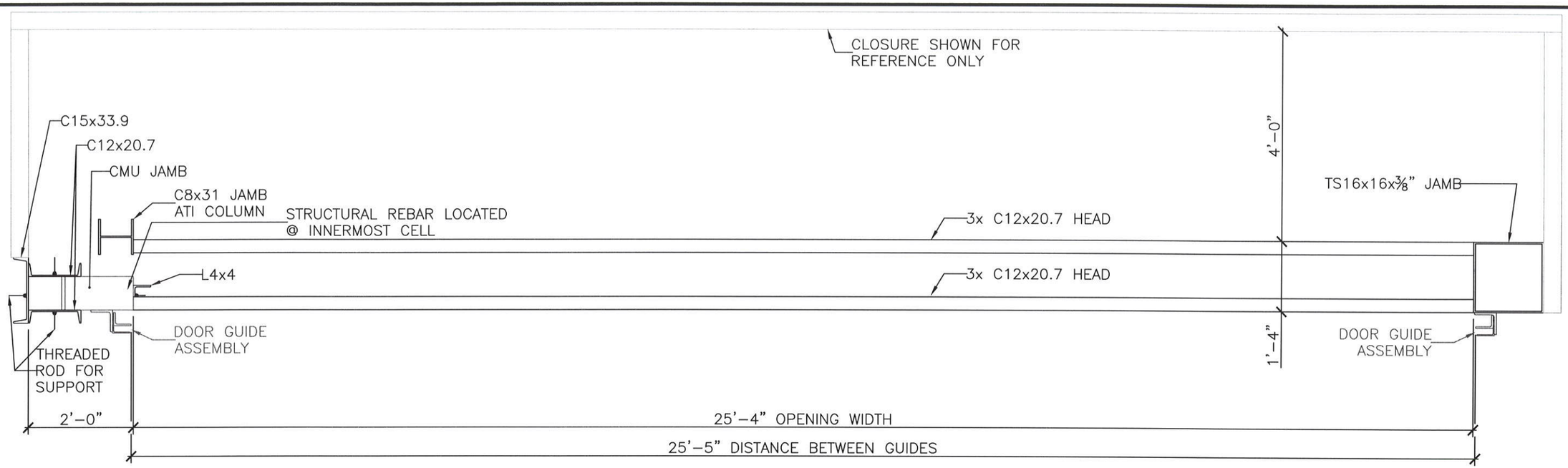
3/16" = 1'–0"

DWG. NO.	DESCRIPTION
1 of 7	TITLE SHEET
5 of 7	CHAMBER PLAN VIEWS (SEQUENCES 11–15)
6 of 7	CHAMBER PLAN VIEWS (SEQUENCES 16–19)
7 of 7	TYPICAL SECTION

NOTES:

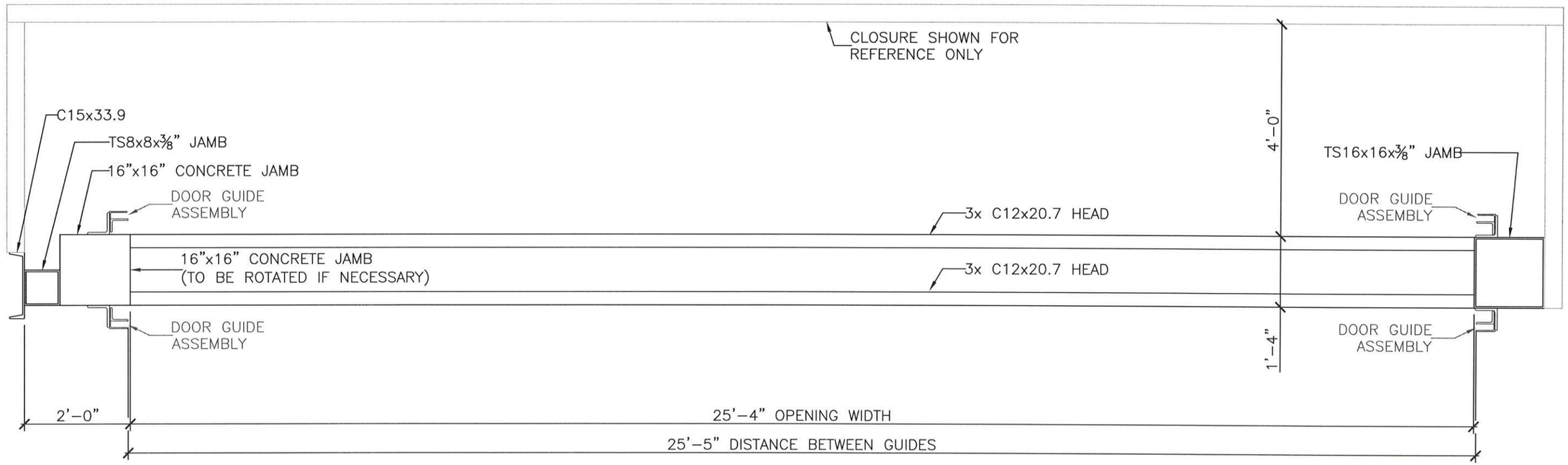
1. ALL MOCKUP PERIMETER SEALS BY OTHERS
2. ALL DIMENSIONS CRITICAL TO MOCKUP INSTALLATION MUST BE APPROVED
3. TEST CHAMBER ENCLOSURE DETAILS NOT SHOWN
4. TEST CHAMBER STEEL CONNECTION DETAILS NOT SHOWN

SHEET 1 OF 7
DRAWING BY: DAK
DATE: 04/01/13
DRAWING: TITLE SHEET
Architectural Testing
PROJECT NAME: TAS 201, 202, 203
CLIENT: CORNELL SAFE AND SECURE
PROJECT NO. C6863



CHAMBER PLAN VIEW (SEQUENCE 1–3)

1/2" = 1'–0"



CHAMBER PLAN VIEW (SEQUENCE 4–7)

1/2" = 1'–0"

S.JE 4/8/13

SHEET 2 OF 7

DRAWING BY: DAK

DATE: 04/01/13

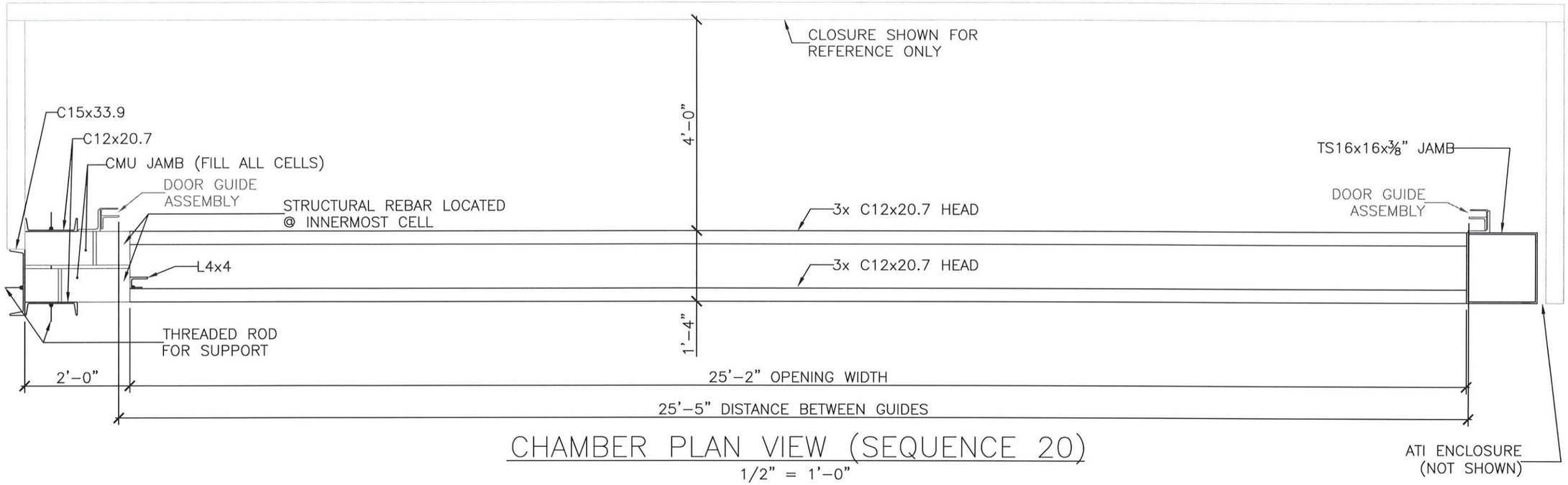
DRAWING: 3/8" STEEL TEST CHAMBER

Architectural Testing

PROJECT NAME: TAS 201, 202, 203

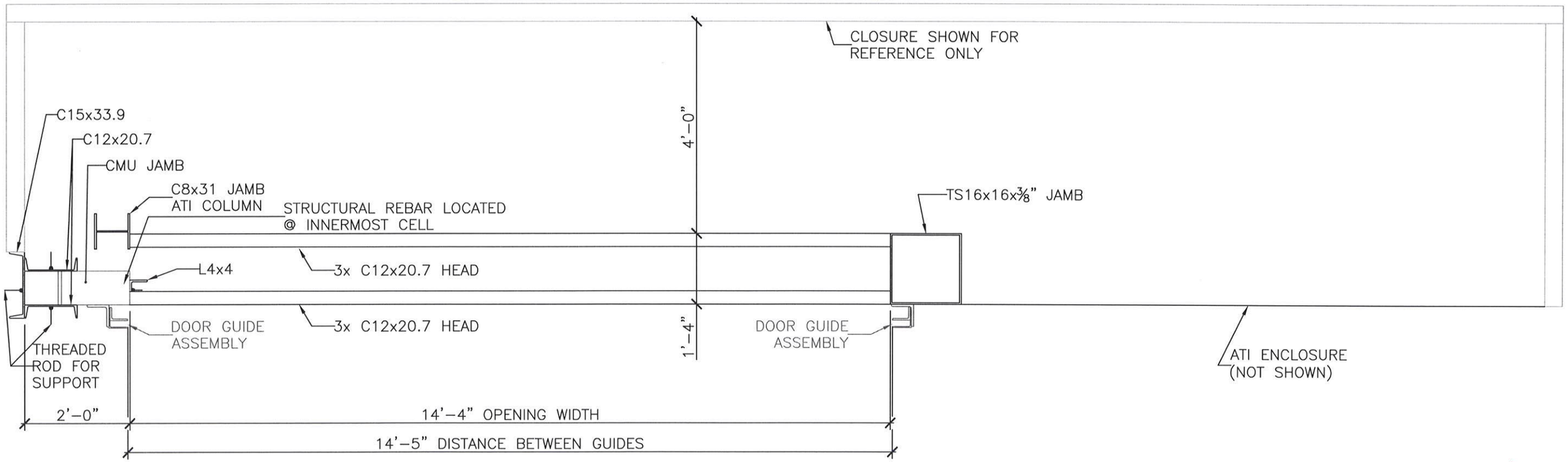
CLIENT: CORNELL SAFE AND SECURE

PROJECT NO. C6863



CHAMBER PLAN VIEW (SEQUENCE 20)

1/2" = 1'-0"



CHAMBER PLAN VIEW (SEQUENCE 8)

1/2" = 1'-0"

TJE
4/8/13

SHEET 3 OF 7

DRAWING BY: DAK

DATE: 04/01/13

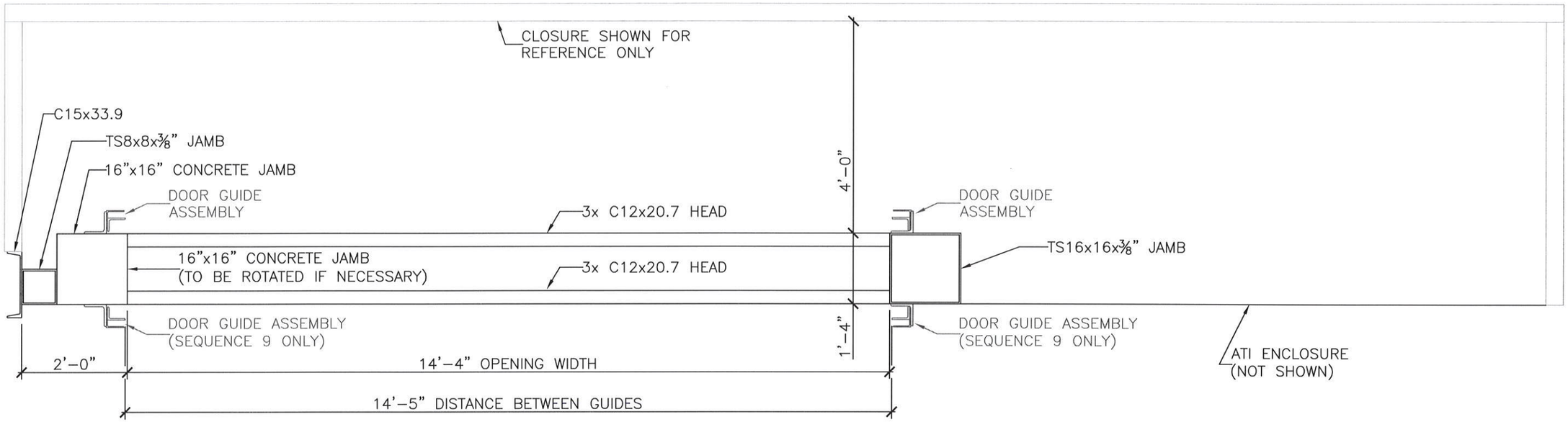
DRAWING: 3/8" STEEL TEST CHAMBER

Architectural Testing

PROJECT NAME: TAS 201, 202, 203

CLIENT: CORNELL SAFE AND SECURE

PROJECT NO. C6863



CHAMBER PLAN VIEW (SEQUENCE 9-10)

1/2" = 1'-0"

5/12
4/8/13

SHEET 4 OF 7

DRAWING BY: DAK

DATE: 04/01/13

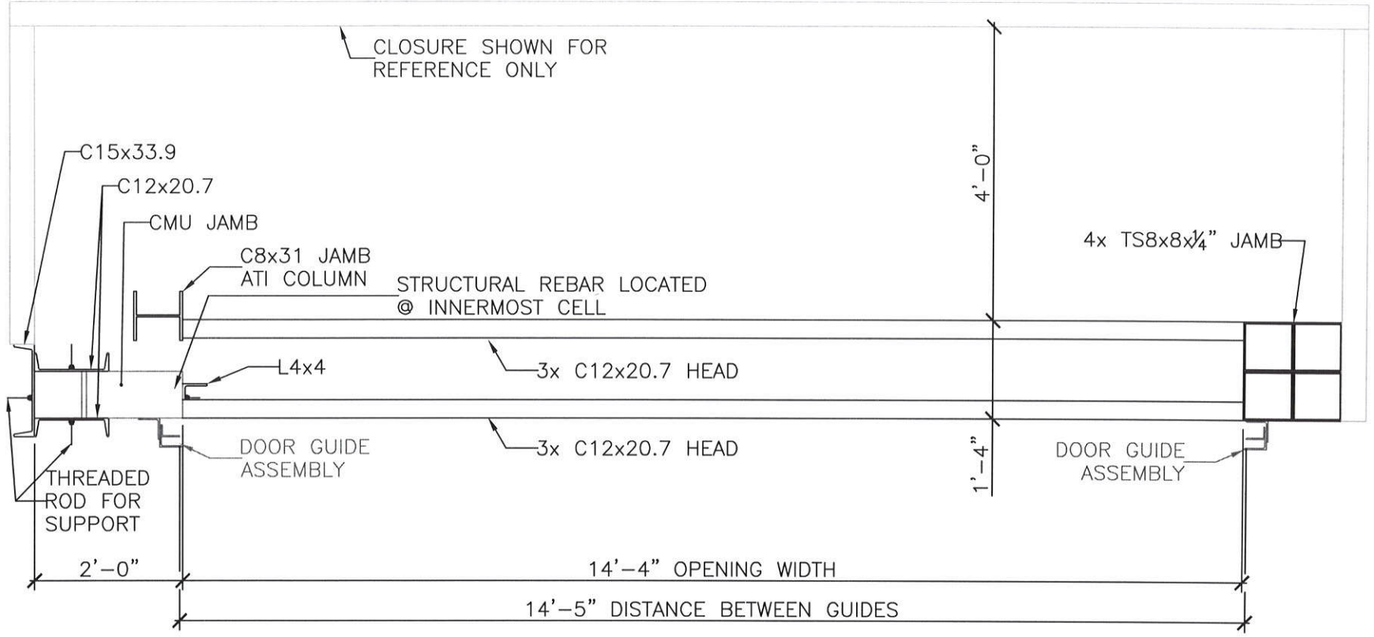
DRAWING: 3/8" STEEL TEST CHAMBER

Architectural Testing

PROJECT NAME: TAS 201, 202, 203

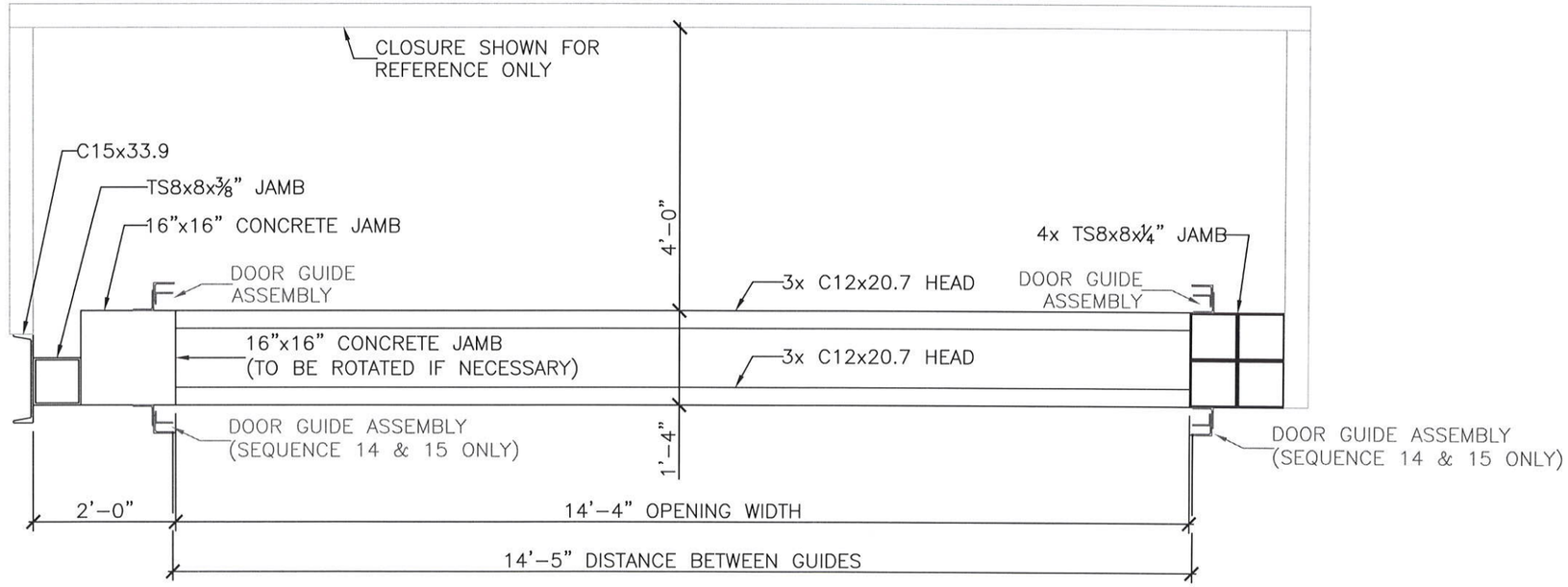
CLIENT: CORNELL SAFE AND SECURE

PROJECT NO. C6863



CHAMBER PLAN VIEW (SEQUENCE 11–12)

1/2" = 1'–0"



CHAMBER PLAN VIEW (SEQUENCE 13–15)

1/2" = 1'–0"

5/12
4/8/13

SHEET 5 OF 7

DRAWING BY: DAK

DATE: 04/01/13

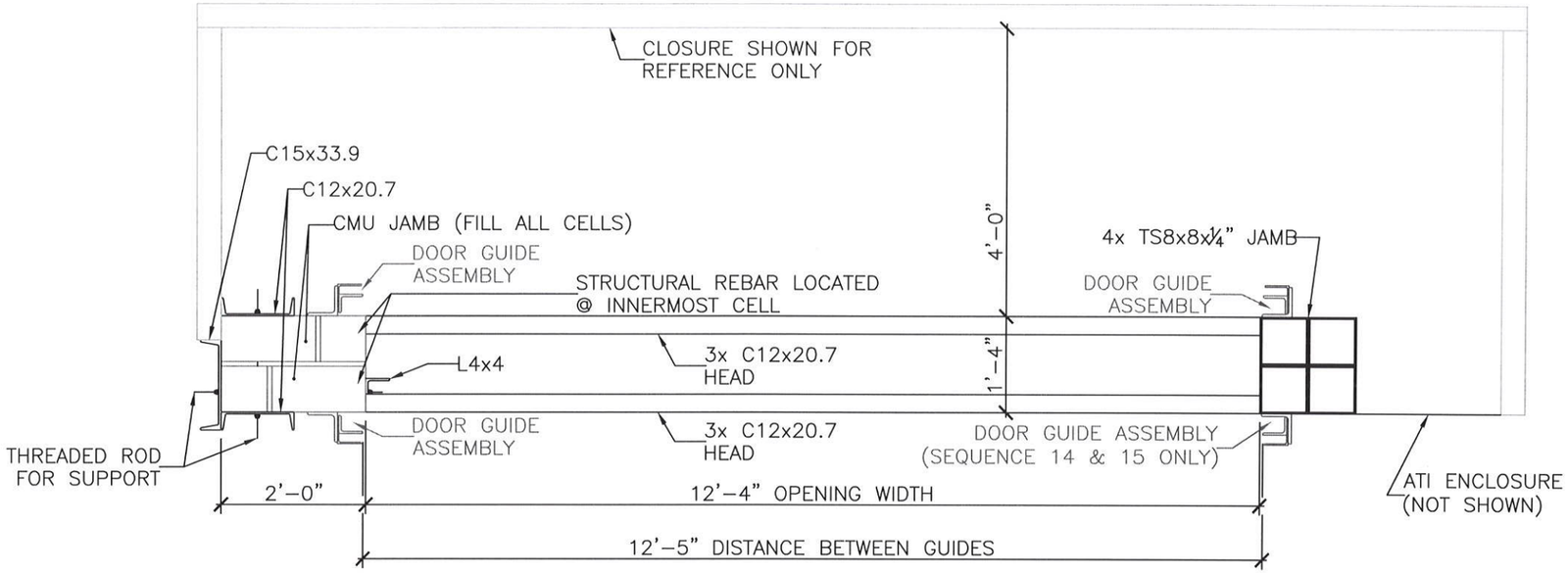
DRAWING: ¼" STEEL TEST CHAMBER

Architectural Testing

PROJECT NAME: TAS 201, 202, 203

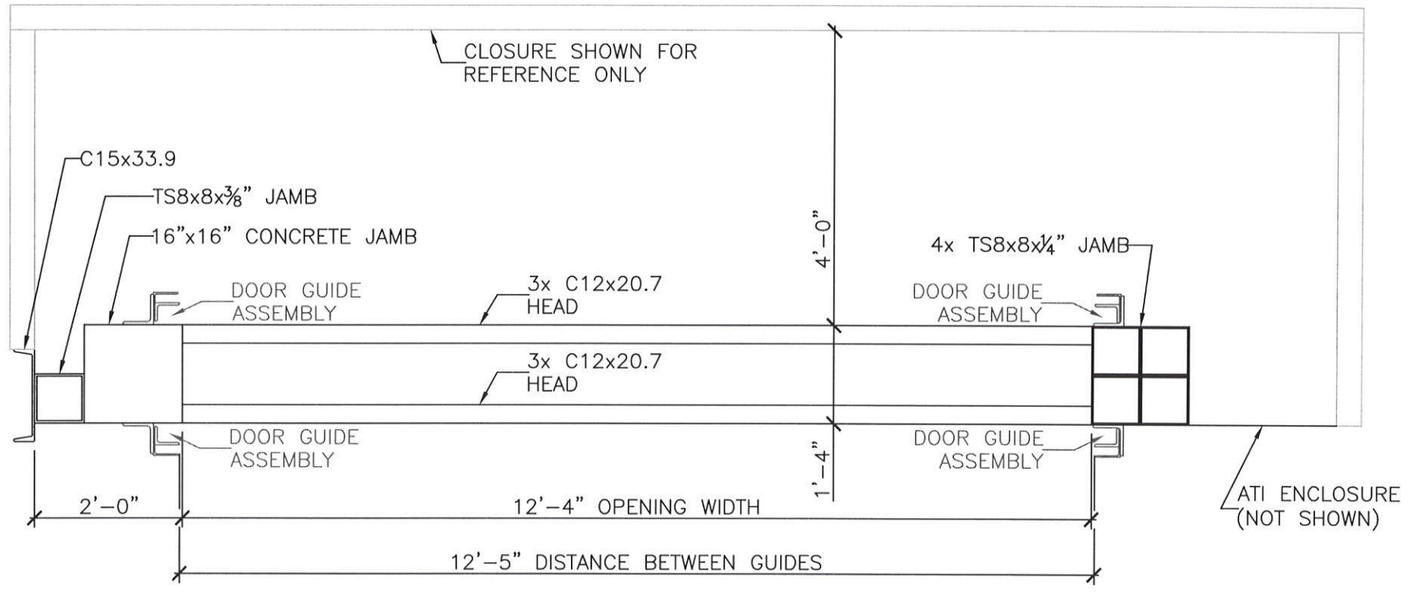
CLIENT: CORNELL SAFE AND SECURE

PROJECT NO. C6863



CHAMBER PLAN VIEW (SEQUENCE 16)

1/2" = 1'-0"



CHAMBER PLAN VIEW (SEQUENCE 17–19)

1/2" = 1'-0"

5/E 4/8/13

SHEET 6 OF 7

DRAWING BY: DAK

DATE: 04/01/13

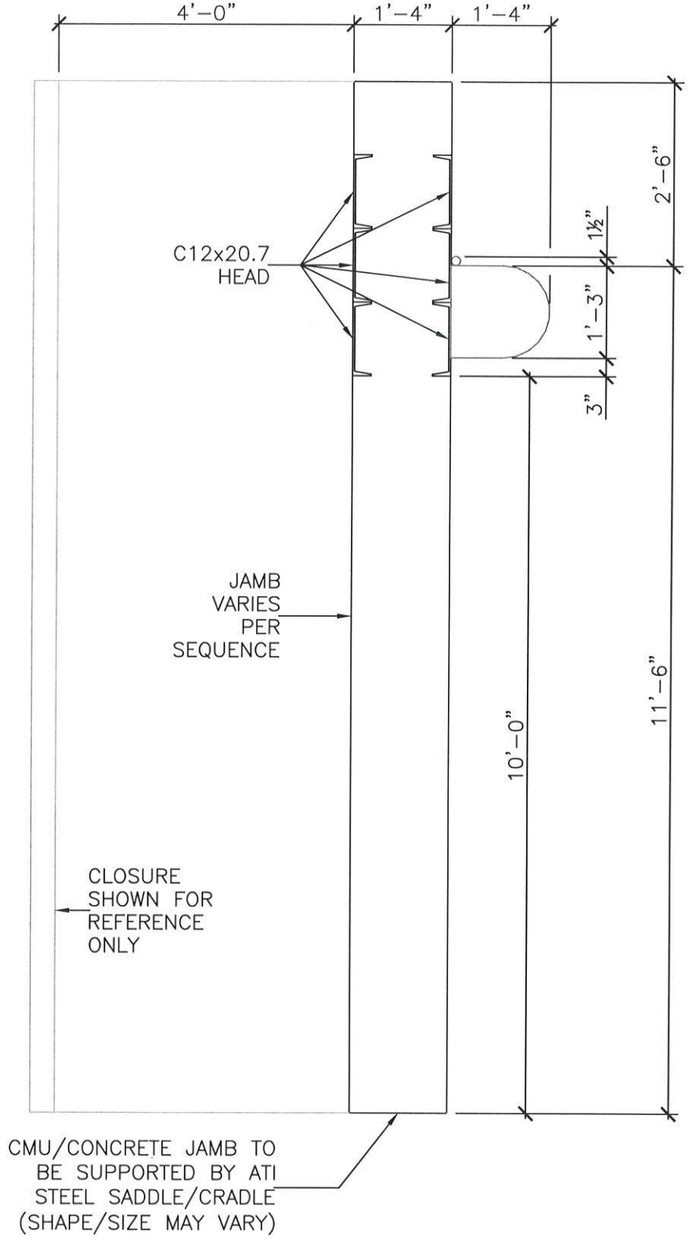
DRAWING: ¼" STEEL TEST CHAMBER

Architectural Testing

PROJECT NAME: TAS 201, 202, 203

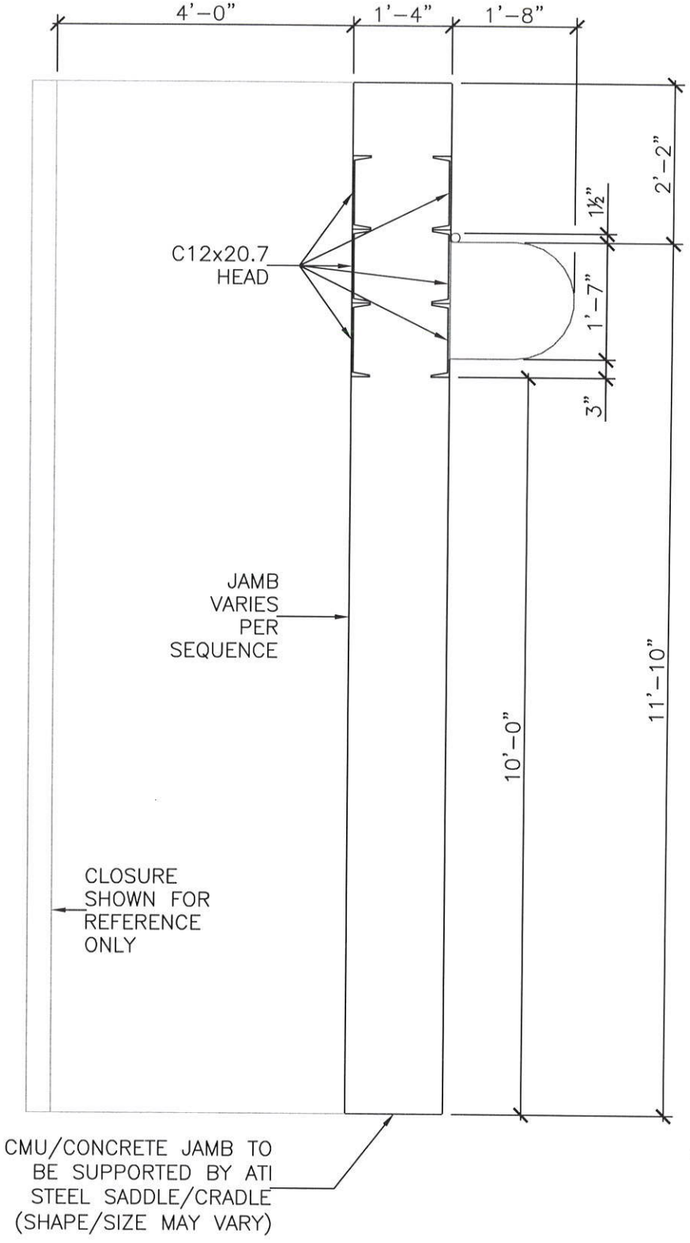
CLIENT: CORNELL SAFE AND SECURE

PROJECT NO. C6863



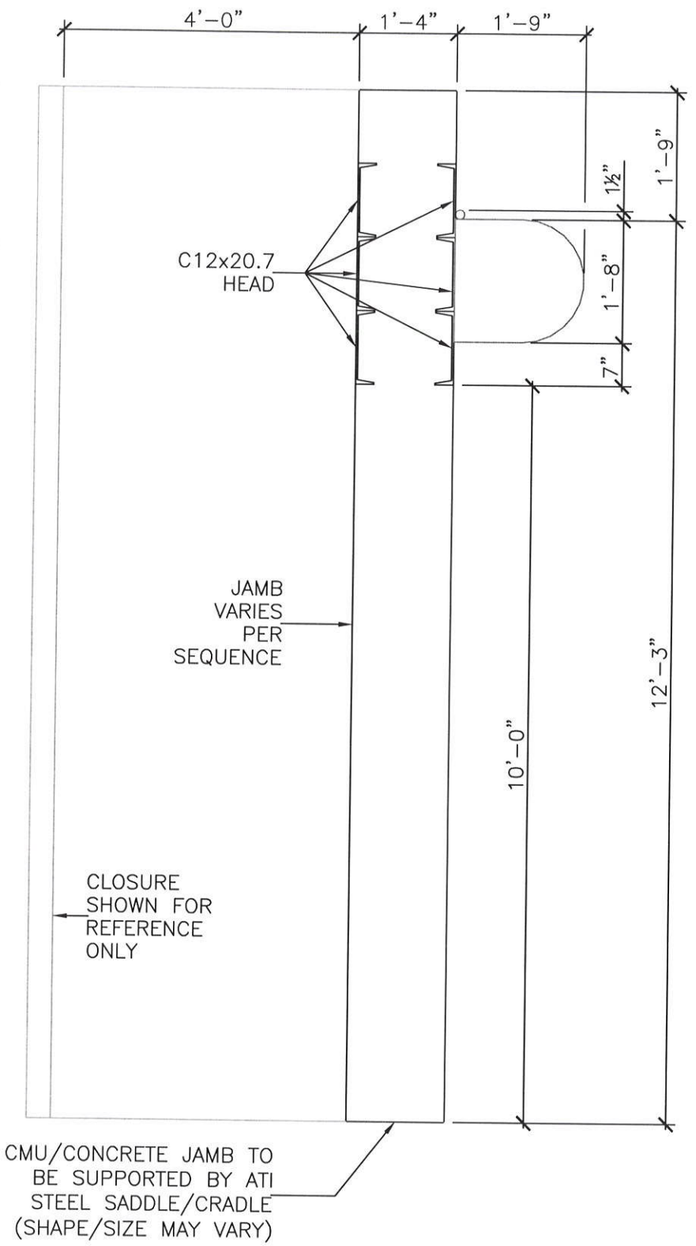
STEEL CHAMBER
TYPICAL SECTION
(SEQUENCES 1, 4–5, 11–15)

3/16" = 1'–0"



STEEL CHAMBER
TYPICAL SECTION
(SEQUENCES 8–10, 16–19)

3/16" = 1'–0"



STEEL CHAMBER
TYPICAL SECTION
(SEQUENCES 2–4, 6–7, 20)

3/16" = 1'–0"

5/E 4/8/13

SHEET 7 OF 7

DRAWING BY: DAK
DATE: 04/01/13

DRAWING: ¼" STEEL – TEST CHAMBER

Architectural Testing

PROJECT NAME: TAS 201, 202, 203

CLIENT: CORNELL SAFE AND SECURE

PROJECT NO. C6863

Appendix E

Drawings

MOTOR SPECIFICATIONS:

Architectural Testing

Report #: D2662.01-109
Date: 01/08/14
Verified by: A.M.A

ELECTRICAL EQUIPMENT LIST:

"SUPPORT TO RUN TO TOP OF COIL"

BOTTOM BAR LOCKING:

Slidebolt with hasp for padlocking located at both jambs. Padlocks (not by C.I.W.) Ø1/4" maximum shank.

QUANTITY & MARK:

(1) 80 FPS

MATERIAL & FINISH:

Front slat - Galvanized steel with GalvaNex ™ coating system. Finish color: Cornell gray

Back slat - Galvanized steel with GalvaNex ™ coating system. Finish color: Cornell gray

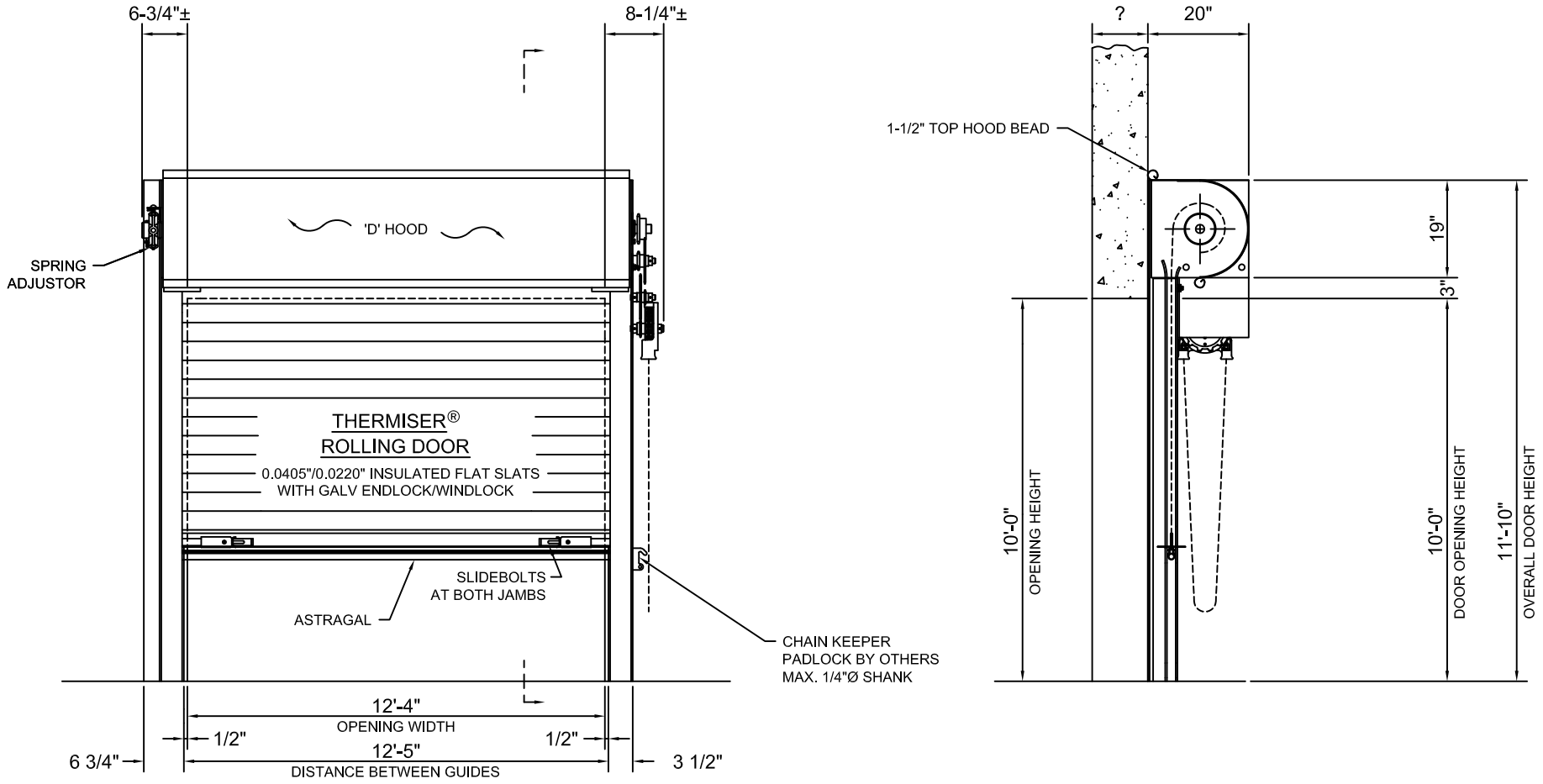
Bottom Bar - Structural steel, Cornell gray polyester powder coating

Guides - Structural steel, Cornell gray polyester powder coating

Hood - Galvanized steel with GalvaNex ™ coating system. Finish color: Cornell gray

Plain Steel - Powder coated Cornell gray

Door is designed to withstand maximum windload @ 65 P.S.F.



ELEVATION (COIL SIDE) AND SECTION VIEW

See drawing # SEQ 16 EXT MNT B for guide detail.

01-17-2011	PRODUCT CODE: CFW 6F 84GP	MODEL #: ESD20	JOB #: SEQ 16 EXT MNT A
BSESTDRV			

#	REVISION	DATE	BY
--	ORIGINAL DRAWING	05/09/13	TREVORE

CORNELL
SAFE AND SECURE
www.cornelliron.com

DOUBLE COMPOUND CHAIN OPERATED ROLLING DOOR

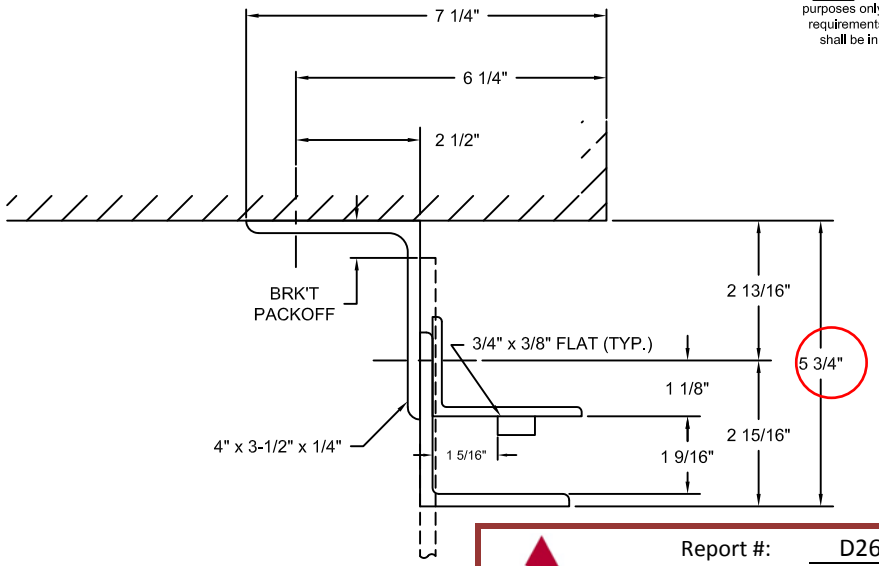
JOB: WIND LOAD DOORS MOUNTAIN TOP PA

AGENT:

CONTRACTOR:

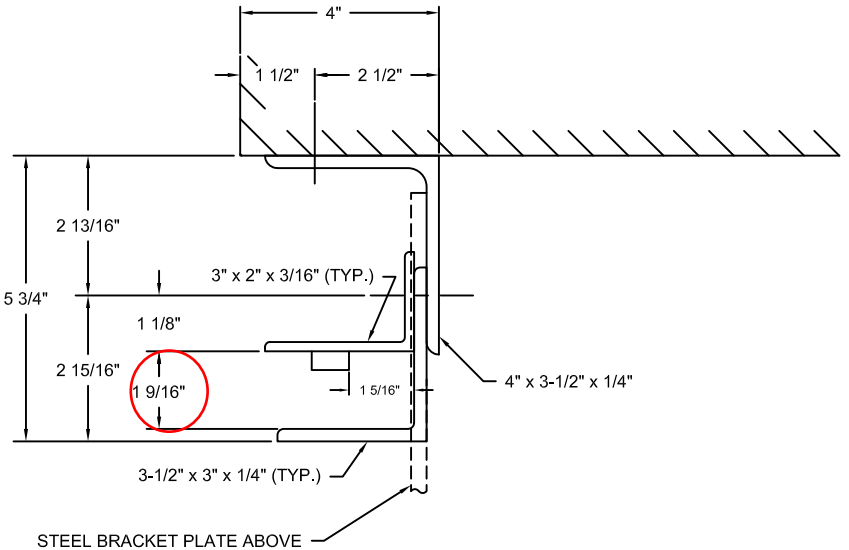
ARCHITECT:

NOTE: Wall construction detail shown is for illustrative purposes only and does not imply compliance with building requirements. Wall construction and closure installation shall be in accordance with the local authority having jurisdiction requirements.



Architectural Testing

Report #: D2662.01-109
Date: 01/08/14
Verified by: A.M.A



GA0575 - 5 3/4"

WALL FASTENERS:

AT 8" ON CENTER
- SIMPSON WEDGE-ALL, 1/2 x 5-1/2"

MIN. 5-3/4" EDGE DISTANCE
MIN. 4-1/2" EMBEDMENT DEPTH

ASSEMBLY FASTENERS:

AT 18" ON CENTER MAXIMUM
- SCREW, HEX HEAD, GRADE 8, PLATED, 1/2-13 x 1-1/2"
- (2) - WASHER, FLAT, SAE HIGH STRENGTH, PLATED, 1/2" N, 0.531 ID x 1.062 OD x 0.095 THK
- NUT, HEX, GRADE 8, PLATED, 1/2-13

GA0576 - 5 3/4"

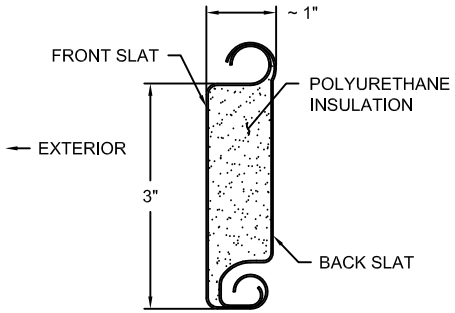
WALL FASTENERS:

AT 18" ON CENTER
- SCREW, HEX HEAD, GRADE 8, PLATED, 1/2-13 x 1"
- WASHER, FLAT, SAE HIGH STRENGTH, PLATED, 1/2" N, 0.531 ID x 1.062 OD x 0.095 THK

ASSEMBLY FASTENERS:

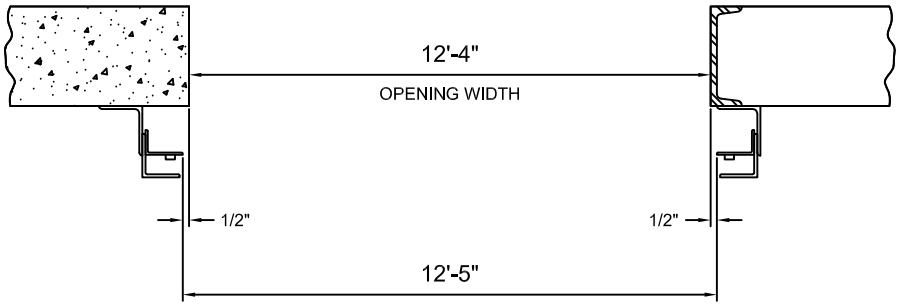
AT 18" ON CENTER MAXIMUM
- SCREW, HEX HEAD, GRADE 8, PLATED, 1/2-13 x 1-1/2"
- (2) - WASHER, FLAT, SAE HIGH STRENGTH, PLATED, 1/2" N, 0.531 ID x 1.062 OD x 0.095 THK
- NUT, HEX, GRADE 8, PLATED, 1/2-13

CP0001 SLAT



MK: 80 FPS

PLAN OF OPENING

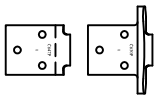


INSTALLERS NOTE:

MAINTAINING FACTORY SET GUIDE GAPS IS CRITICAL TO THE PROPER OPERATION OF THE DOOR AND IT'S ABILITY TO WITHSTAND THE DESIGNED WINDLOAD!

ENDLOCK DETAIL

CP0630 CAST IRON ENDLOCK / WINDLOCK AND CP0647 WINDLOCK ALTERNATING SLATS TO FORM CONTINUOUS WINDLOCKS, EACH WITH 3 x 1/4" RIVETS.



CP0647 CP0630

08-20-2013	PRODUCT CODE:
TDC7_575	

MODEL # :	JOB #:
ESD20	SEQ 16 EXT MNT B

#	REVISION	DATE	BY
--	ORIGINAL DRAWING	10/15/13	TREVORE

CORNELL
SAFE AND SECURE
www.cornelliron.com

THERMISER® GUIDE ASSEMBLY
5-3/4" PACKOFF

JOB:
WIND LOAD DOORS
MOUNTAIN TOP PA

AGENT:
CONTRACTOR:
ARCHITECT:

MOTOR SPECIFICATIONS:

Architectural Testing

Report #:	D2662.01-109
Date:	01/08/14
Verified by:	A.M.A

ELECTRICAL EQUIPMENT LIST:

BOTTOM BAR LOCKING:

Slidebolt with hasp for padlocking located at both jambs. Padlocks (not by C.I.W.) Ø1/4" maximum shank.

QUANTITY & MARK:

(1) 50 FPS

MATERIAL & FINISH:

Front slat - Galvanized steel with GalvaNex ™ coating system. Finish color: Cornell gray

Back slat - Galvanized steel with GalvaNex ™ coating system. Finish color: Cornell gray

Bottom Bar - Structural steel, Cornell gray polyester powder coating

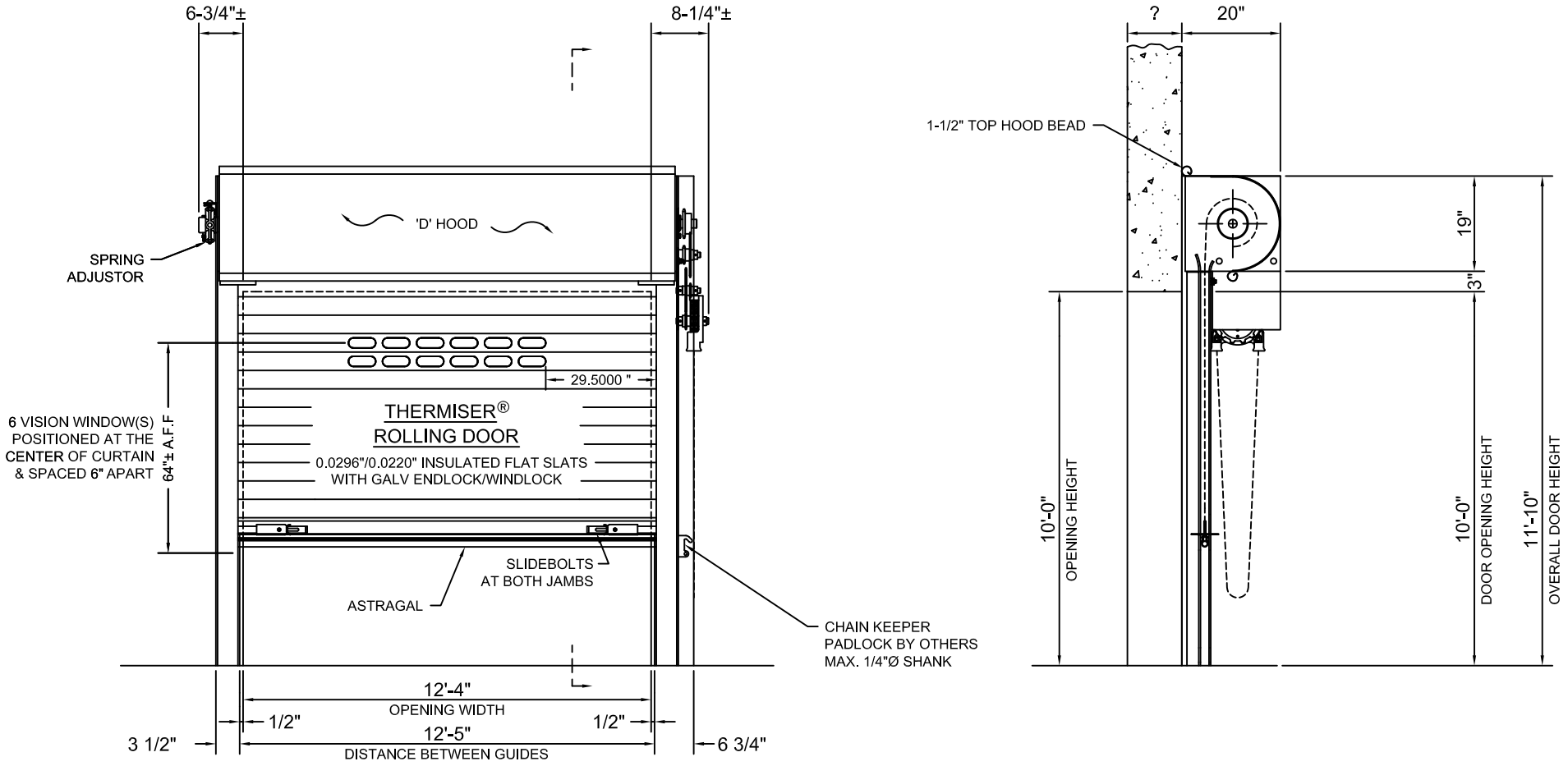
Guides - Structural steel, Cornell gray polyester powder coating

Hood - Galvanized steel with GalvaNex ™ coating system. Finish color: Cornell gray

Plain Steel - Powder coated Cornell gray

"SUPPORT TO RUN TO TOP OF COIL"

Door is designed to withstand maximum windload @ 65 P.S.F.



ELEVATION (COIL SIDE) AND SECTION VIEW

See drawing # SEQ 16 INT MNT B for guide detail.

01-17-2011	PRODUCT CODE: CFW 6F 04GP
BSESTDRV	

MODEL #:	JOB #:
ESD20	SEQ 16 INT MNT A

#	REVISION	DATE	BY
--	ORIGINAL DRAWING	05/09/13	TREVORE

CORNELL
SAFE AND SECURE
www.cornelliron.com

DOUBLE COMPOUND CHAIN OPERATED ROLLING DOOR

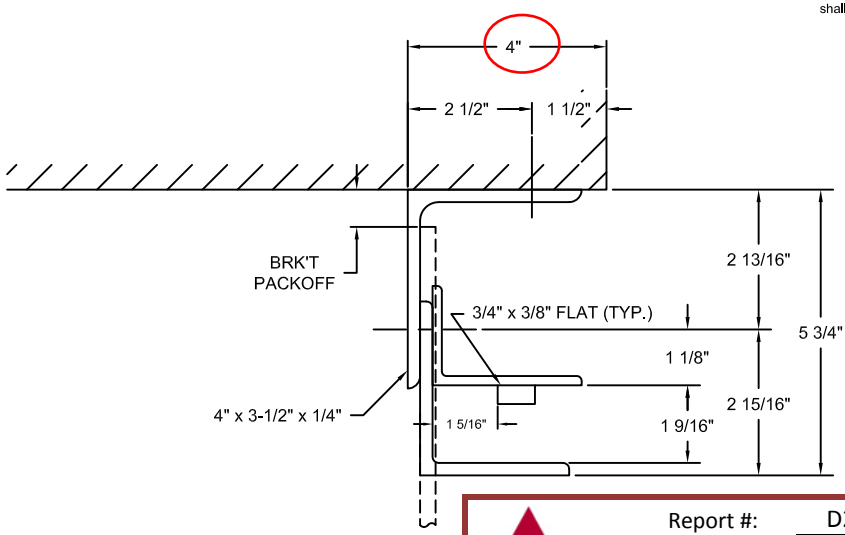
JOB:
WIND LOAD DOORS
MOUNTAIN TOP PA

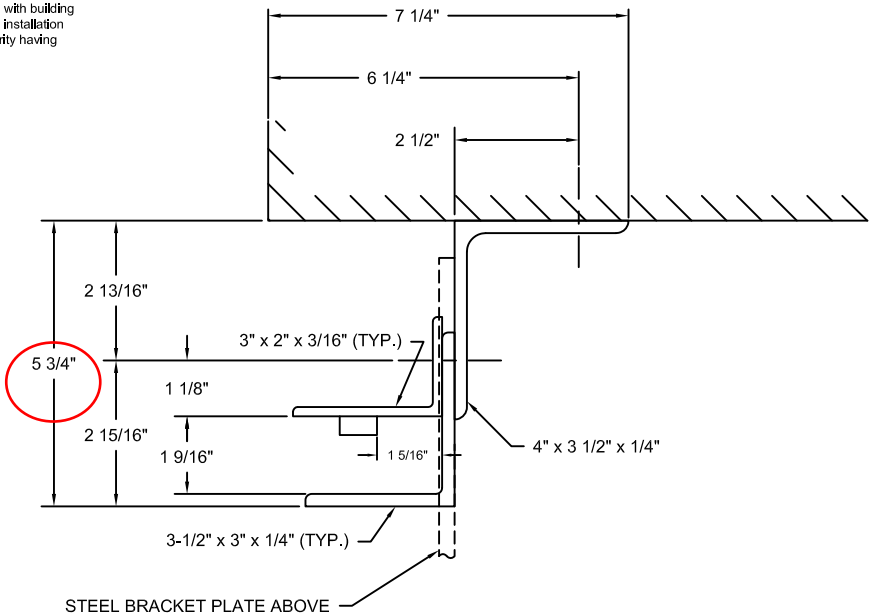
AGENT:

CONTRACTOR:

ARCHITECT:

NOTE: Wall construction detail shown is for illustrative purposes only and does not imply compliance with building requirements. Wall construction and closure installation shall be in accordance with the local authority having jurisdiction requirements.





Architectural Testing

Report #: D2662.01-109
Date: 01/08/14
Verified by:

GA0576 - 5 3/4"

WALL FASTENERS:

AT 18" ON CENTER
- 1/4" FILET WELD INSIDE ENTIRE PERIMETER OF WALL FASTENER SLOT
- MIN. 1/4" THICK STEEL

ASSEMBLY FASTENERS:

AT 18" ON CENTER MAXIMUM
- SCREW, HEX HEAD, GRADE 8, PLATED, 1/2-13 x 1-1/2"
- (2) - WASHER, FLAT, SAE HIGH STRENGTH, PLATED, 1/2" N, 0.531 ID x 1.062 OD x 0.095 THK
- NUT, HEX, GRADE 8, PLATED, 1/2-13

GA0575 - 5 3/4"

WALL FASTENERS:

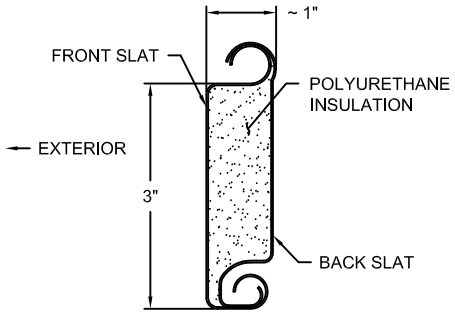
AT 8" ON CENTER
- HILTI KWIK BOLT 3, 1/2 x 4-1/2"

MIN. 5-3/4" EDGE DISTANCE
MIN. 3-1/2" EMBEDMENT DEPTH

ASSEMBLY FASTENERS:

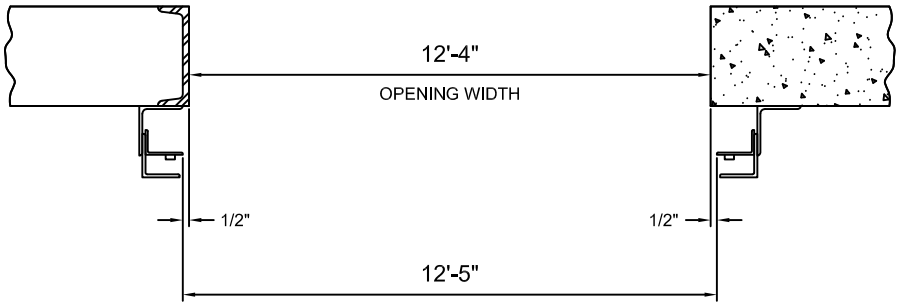
AT 18" ON CENTER MAXIMUM
- SCREW, HEX HEAD, GRADE 8, PLATED, 1/2-13 x 1-1/2"
- (2) - WASHER, FLAT, SAE HIGH STRENGTH, PLATED, 1/2" N, 0.531 ID x 1.062 OD x 0.095 THK
- NUT, HEX, GRADE 8, PLATED, 1/2-13

CP0001 SLAT



MK: 50 FPS

PLAN OF OPENING



INSTALLERS NOTE:

MAINTAINING FACTORY SET GUIDE GAPS IS CRITICAL TO THE PROPER OPERATION OF THE DOOR AND IT'S ABILITY TO WITHSTAND THE DESIGNED WINDLOAD!

ENDLOCK DETAIL

CP0629 CAST IRON ENDLOCK / WINDLOCK ON ALTERNATING SLATS WITH 2 x 1/4" RIVETS.

CP0629

08-20-2013	PRODUCT CODE:
TDC7_575	

MODEL #:	JOB #:
ESD20	SEQ 16 INT MNT B

#	REVISION	DATE	BY
--	ORIGINAL DRAWING	10/15/13	TREVORE

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THERMISER® GUIDE ASSEMBLY
5-3/4" PACKOFF

JOB:
WIND LOAD DOORS
MOUNTAIN TOP PA

AGENT:
CONTRACTOR:
ARCHITECT:

MOTOR SPECIFICATIONS:

Architectural Testing

Report #: D2662.01-109
Date: 01/08/14
Verified by: AM.A

ELECTRICAL EQUIPMENT LIST:

BOTTOM BAR LOCKING:

Slidebolt with hasp for padlocking located at both jambs. Padlocks (not by C.I.W.) Ø1/4" maximum shank.

QUANTITY & MARK:

(1) 80 FPS

MATERIAL & FINISH:

Front slat - Galvanized steel with GalvaNex ™ coating system. Finish color: Cornell gray

Back slat - Galvanized steel with GalvaNex ™ coating system. Finish color: Cornell gray

Bottom Bar - Structural steel, Cornell gray polyester powder coating

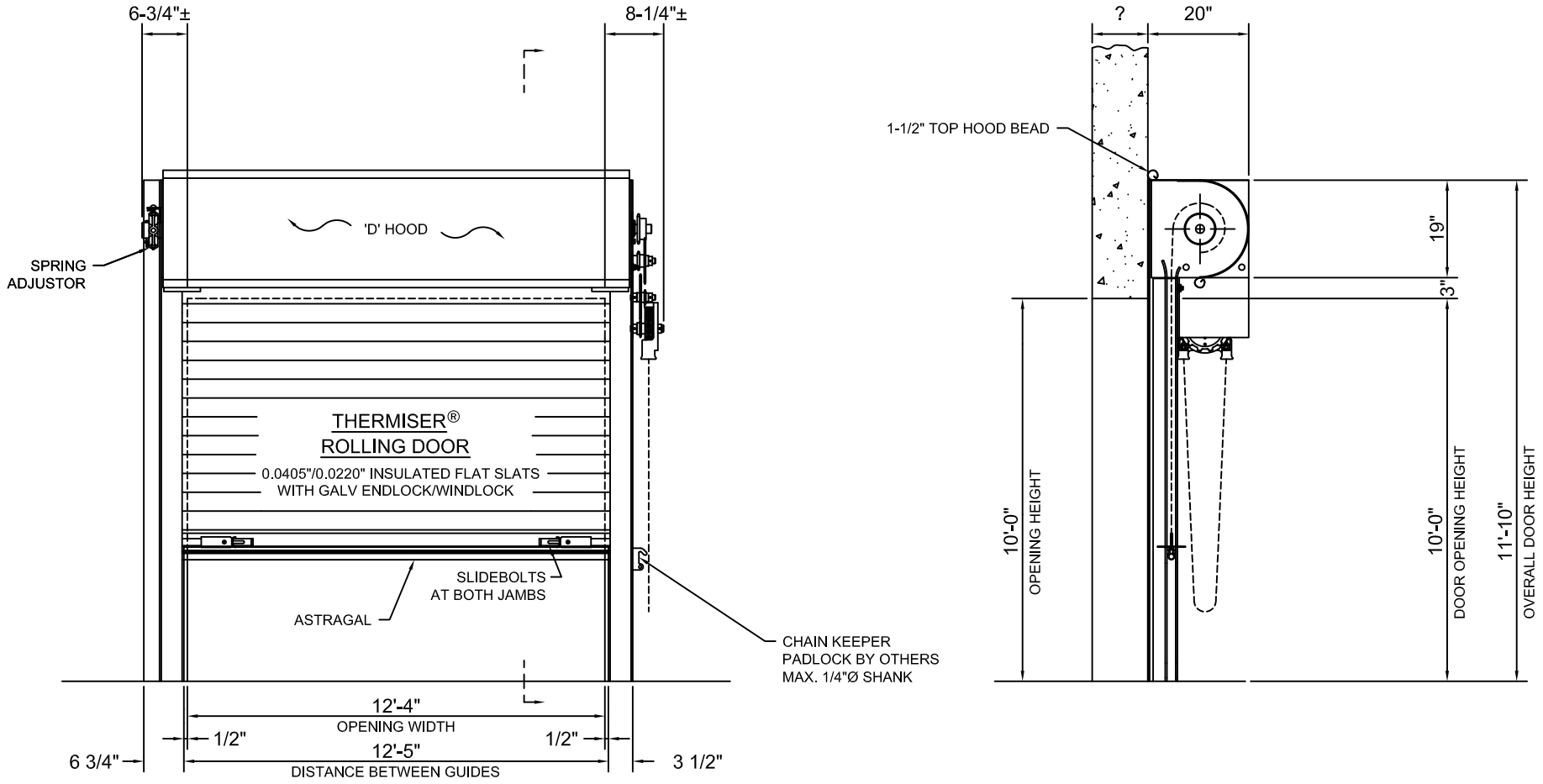
Guides - Structural steel, Cornell gray polyester powder coating

Hood - Galvanized steel with GalvaNex ™ coating system. Finish color: Cornell gray

Plain Steel - Powder coated Cornell gray

"SUPPORT TO RUN TO TOP OF COIL"

Door is designed to withstand maximum windload @ 65 P.S.F.



ELEVATION (COIL SIDE) AND SECTION VIEW

See drawing # SEQ 17 EXT MNT B for guide detail.

01-17-2011	PRODUCT CODE: CFW 6F 84GP	MODEL #: ESD20	JOB #: SEQ 17 EXT MNT A
BSESTDRV			

#	REVISION	DATE	BY
--	ORIGINAL DRAWING	05/09/13	TREVORE

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DOUBLE COMPOUND CHAIN OPERATED ROLLING DOOR

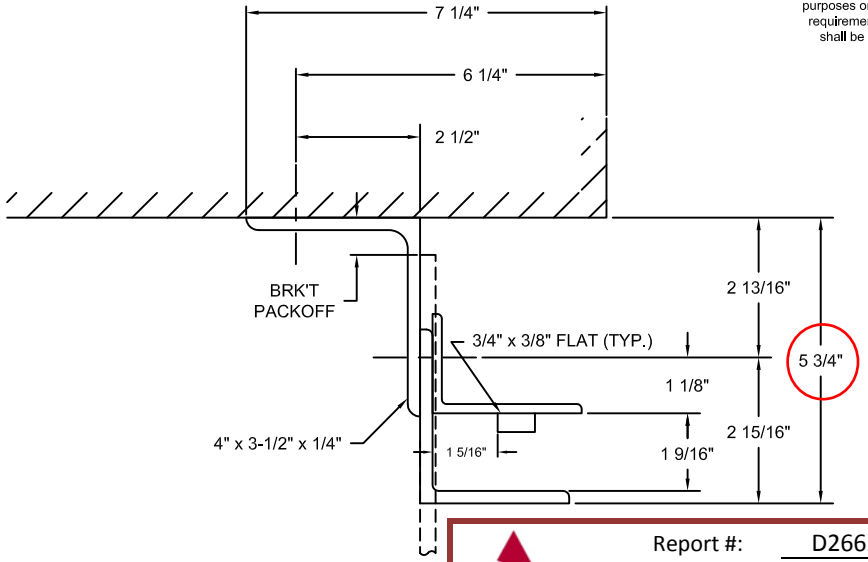
JOB: WIND LOAD DOORS MOUNTAIN TOP PA

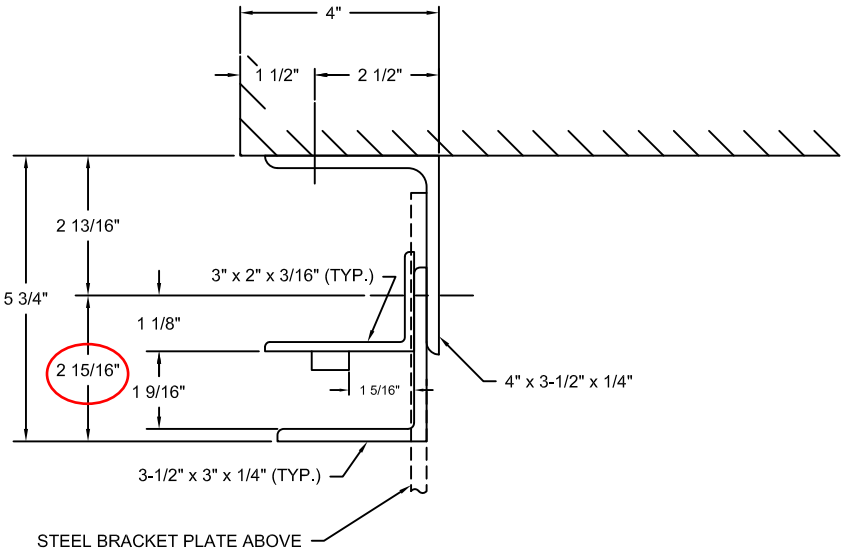
AGENT:

CONTRACTOR:

ARCHITECT:

NOTE: Wall construction detail shown is for illustrative purposes only and does not imply compliance with building requirements. Wall construction and closure installation shall be in accordance with the local authority having jurisdiction requirements.





Architectural Testing

Report #:	D2662.01-109
Date:	01/08/14
Verified by:	A.M.A

GA0575 - 5 3/4"

WALL FASTENERS:

AT 16" ON CENTER
- SIMPSON WEDGE-ALL, 1/2 x 5-1/2"
MIN. 3000 psi CONCRETE REQ'D.
MIN. 5-3/4" EDGE DISTANCE
MIN. 4-1/2" EMBEDMENT DEPTH

ASSEMBLY FASTENERS:

AT 18" ON CENTER MAXIMUM
- SCREW, HEX HEAD, GRADE 8, PLATED, 1/2-13 x 1-1/2"
- (2) - WASHER, FLAT, SAE HIGH STRENGTH, PLATED, 1/2" N, 0.531 ID x 1.062 OD x 0.095 THK
- NUT, HEX, GRADE 8, PLATED, 1/2-13

GA0576 - 5 3/4"

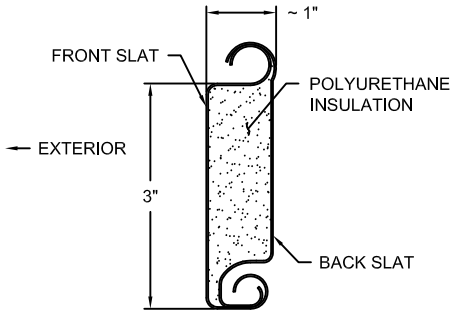
WALL FASTENERS:

AT 18" ON CENTER
- SCREW, HEX HEAD, GRADE 8, PLATED, 1/2-13 x 1"
- WASHER, FLAT, SAE HIGH STRENGTH, PLATED, 1/2" N, 0.531 ID x 1.062 OD x 0.095 THK

ASSEMBLY FASTENERS:

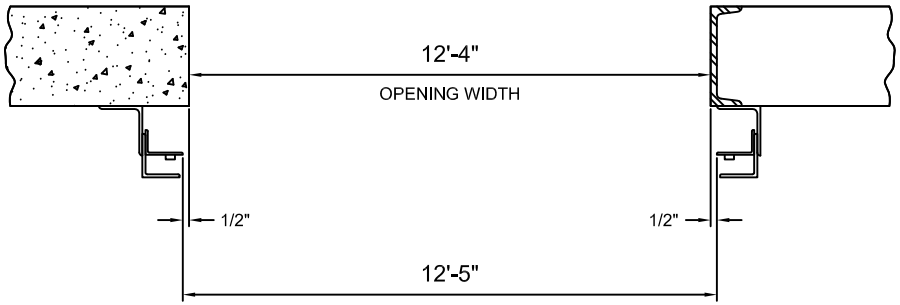
AT 18" ON CENTER MAXIMUM
- SCREW, HEX HEAD, GRADE 8, PLATED, 1/2-13 x 1-1/2"
- (2) - WASHER, FLAT, SAE HIGH STRENGTH, PLATED, 1/2" N, 0.531 ID x 1.062 OD x 0.095 THK
- NUT, HEX, GRADE 8, PLATED, 1/2-13

CP0001 SLAT



MK: 80 FPS

PLAN OF OPENING

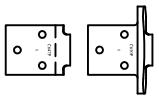


INSTALLERS NOTE:

MAINTAINING FACTORY SET GUIDE GAPS IS CRITICAL TO THE PROPER OPERATION OF THE DOOR AND IT'S ABILITY TO WITHSTAND THE DESIGNED WINDLOAD!

ENDLOCK DETAIL

CP0630 CAST IRON ENDLOCK / WINDLOCK AND CP0647 WINDLOCK ALTERNATING SLATS TO FORM CONTINUOUS WINDLOCKS, EACH WITH 3 x 1/4" RIVETS.



CP0647 CP0630

08-20-2013	PRODUCT CODE:
TDC7_575	

MODEL # :	JOB #:
ESD20	SEQ 17 EXT MNT B

#	REVISION	DATE	BY
--	ORIGINAL DRAWING	10/15/13	TREVORE

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THERMISER® GUIDE ASSEMBLY
5-3/4" PACKOFF

JOB:
WIND LOAD DOORS
MOUNTAIN TOP PA

AGENT:

CONTRACTOR:

ARCHITECT:

MOTOR SPECIFICATIONS:

Architectural Testing

Report #: D2662.01-109
Date: 01/08/14
Verified by: A.M.A

ELECTRICAL EQUIPMENT LIST:

"SUPPORT TO RUN TO TOP OF COIL"

BOTTOM BAR LOCKING:

Slidebolt with hasp for padlocking located at both jambs. Padlocks (not by C.I.W.) Ø1/4" maximum shank.

QUANTITY & MARK:

(1) 50 FPS

MATERIAL & FINISH:

Front slat - Galvanized steel with GalvaNex ™ coating system. Finish color: Cornell gray

Back slat - Galvanized steel with GalvaNex ™ coating system. Finish color: Cornell gray

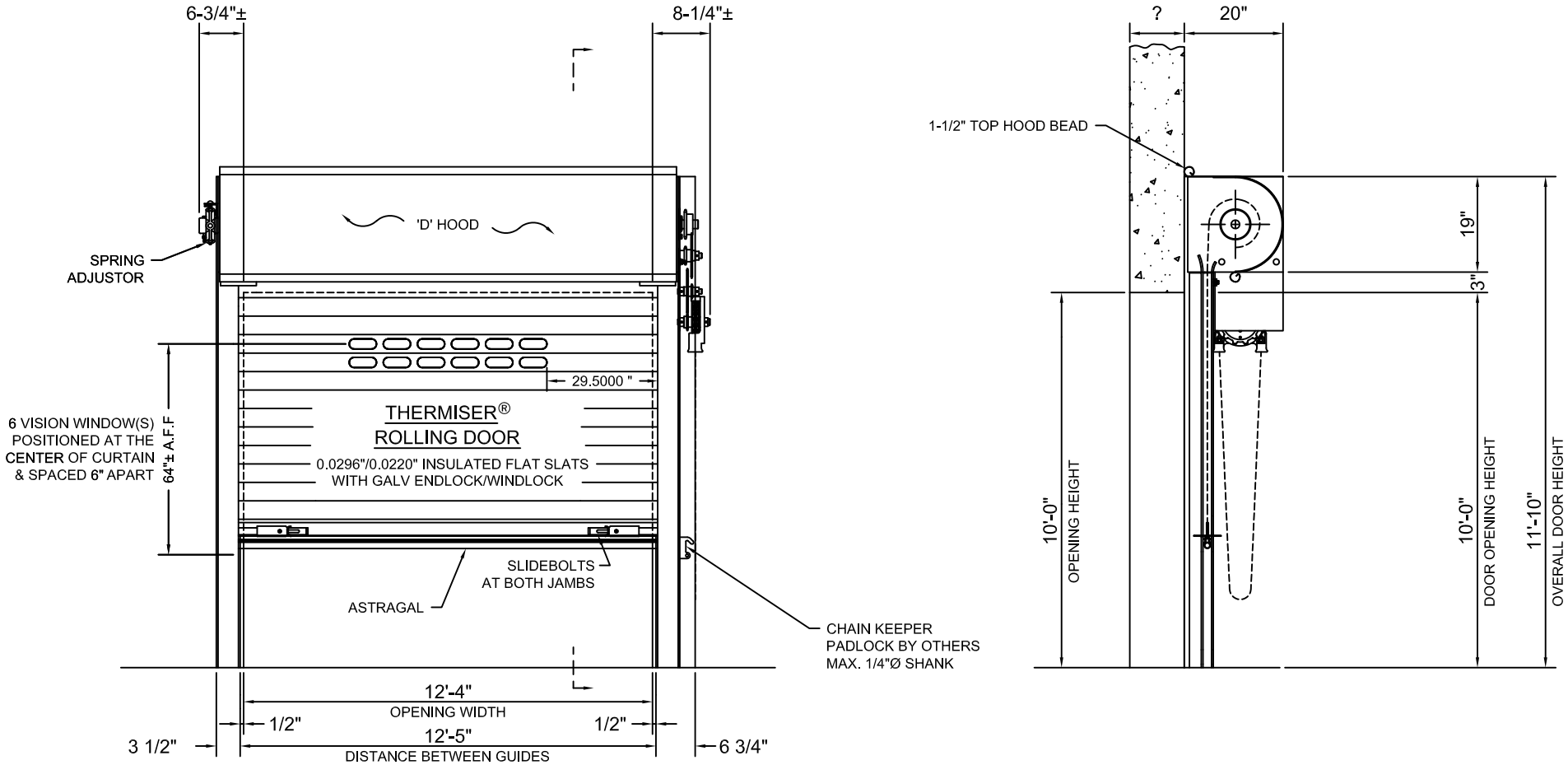
Bottom Bar - Structural steel, Cornell gray polyester powder coating

Guides - Structural steel, Cornell gray polyester powder coating

Hood - Galvanized steel with GalvaNex ™ coating system. Finish color: Cornell gray

Plain Steel - Powder coated Cornell gray

Door is designed to withstand maximum windload @ 65 P.S.F.



ELEVATION (COIL SIDE) AND SECTION VIEW

See drawing # SEQ 17 INT MNT B for guide detail.

01-17-2011	PRODUCT CODE: CFW 6F 04GP
BSESTDRV	

MODEL #:	JOB #:
ESD20	SEQ 17 INT MNT A

#	REVISION	DATE	BY
--	ORIGINAL DRAWING	05/09/13	TREVORE

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DOUBLE COMPOUND CHAIN OPERATED ROLLING DOOR

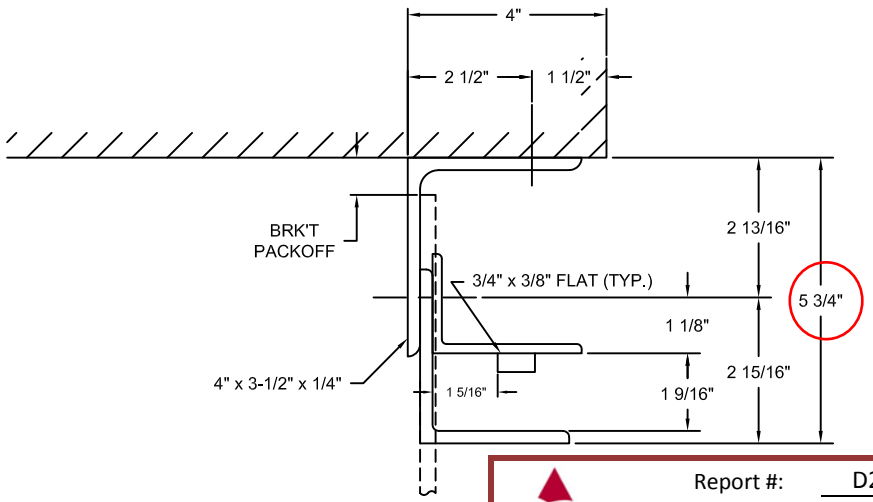
JOB:
WIND LOAD DOORS
MOUNTAIN TOP PA

AGENT:

CONTRACTOR:

ARCHITECT:

NOTE: Wall construction detail shown is for illustrative purposes only and does not imply compliance with building requirements. Wall construction and closure installation shall be in accordance with the local authority having jurisdiction requirements.

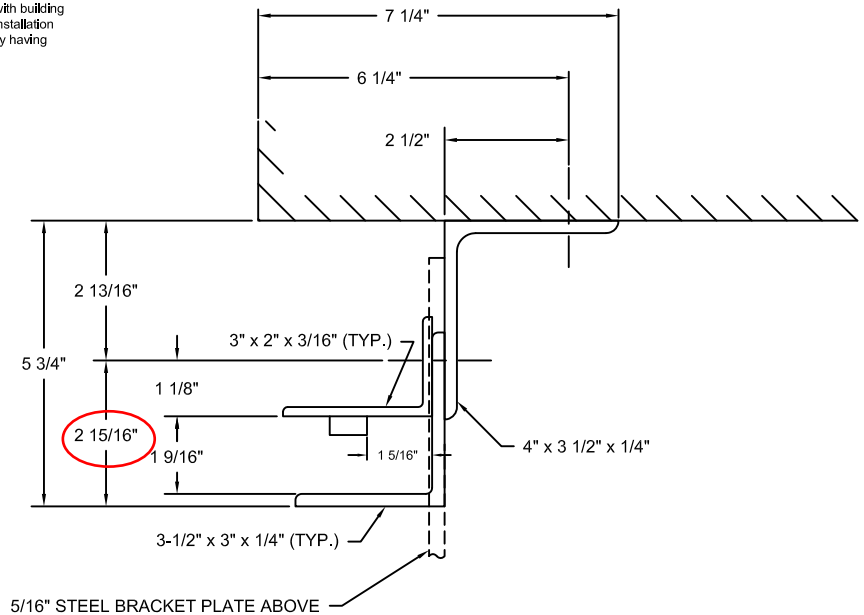


Architectural Testing

Report #: D2662.01-109

Date: 01/08/14

Verified by: AM.A



GA0576 - 5 3/4"

WALL FASTENERS:

AT 18" ON CENTER
- 1/4" FILET WELD INSIDE ENTIRE PERIMETER OF WALL FASTENER SLOT
- MIN. 1/4" THICK STEEL

ASSEMBLY FASTENERS:

AT 18" ON CENTER MAXIMUM
- SCREW, HEX HEAD, GRADE 8, PLATED, 1/2-13 x 1-1/2"
- (2) - WASHER, FLAT, SAE HIGH STRENGTH, PLATED, 1/2" N, 0.531 ID x 1.062 OD x 0.095 THK
- NUT, HEX, GRADE 8, PLATED, 1/2-13

GA0575 - 5 3/4"

WALL FASTENERS:

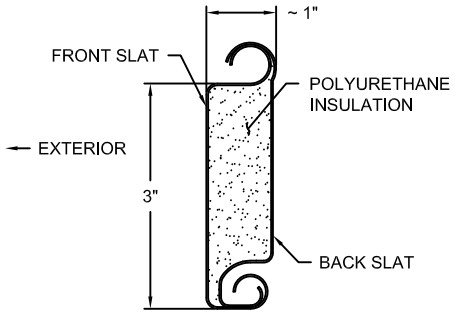
AT 16" ON CENTER
- HILTI KWIK BOLT 3, 1/2 x 4-1/2"

MIN. 3000 psi CONCRETE REQ'D.
MIN. 5-3/4" EDGE DISTANCE
MIN. 3-1/2" EMBEDMENT DEPTH

ASSEMBLY FASTENERS:

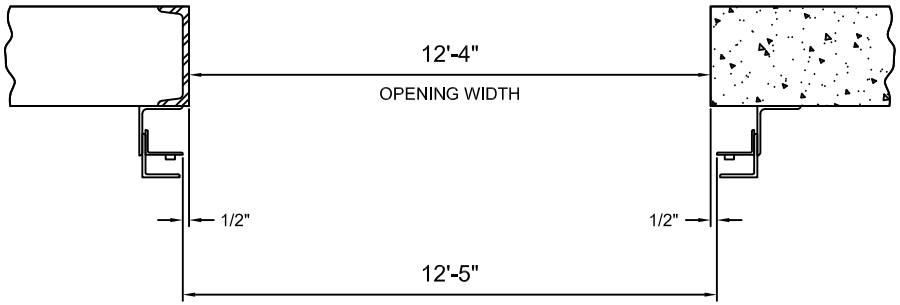
AT 18" ON CENTER MAXIMUM
- SCREW, HEX HEAD, GRADE 8, PLATED, 1/2-13 x 1-1/2"
- (2) - WASHER, FLAT, SAE HIGH STRENGTH, PLATED, 1/2" N, 0.531 ID x 1.062 OD x 0.095 THK
- NUT, HEX, GRADE 8, PLATED, 1/2-13

CP0001 SLAT



MK: 50 FPS

PLAN OF OPENING



INSTALLERS NOTE:

MAINTAINING FACTORY SET GUIDE GAPS IS CRITICAL TO THE PROPER OPERATION OF THE DOOR AND IT'S ABILITY TO WITHSTAND THE DESIGNED WINDLOAD!

ENDLOCK DETAIL

CP0629 CAST IRON ENDLOCK / WINDLOCK ON ALTERNATING SLATS WITH 2 x 1/4" RIVETS.

CP0629

08-20-2013	PRODUCT CODE:
TDC7_575	

--	ORIGINAL DRAWING	10/15/13	TREVORE
#	REVISION	DATE	BY

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THERMISER® GUIDE ASSEMBLY
5-3/4" PACKOFF

JOB:
WIND LOAD DOORS
MOUNTAIN TOP PA

MODEL #: ESD20	JOB #: SEQ 17 INT MNT B
AGENT:	
CONTRACTOR:	
ARCHITECT:	

MOTOR SPECIFICATIONS:

Architectural Testing

Report #: D2662.01-109
Date: 01/08/14
Verified by: A.M.A

ELECTRICAL EQUIPMENT LIST:

"SUPPORT TO RUN TO TOP OF COIL"

BOTTOM BAR LOCKING:

Slidebolt with hasp for padlocking located at both jambs. Padlocks (not by C.I.W.) Ø1/4" maximum shank.

QUANTITY & MARK:

(1) 50 FPS

MATERIAL & FINISH:

Front slat - Galvanized steel with GalvaNex ™ coating system. Finish color: Cornell gray

Back slat - Galvanized steel with GalvaNex ™ coating system. Finish color: Cornell gray

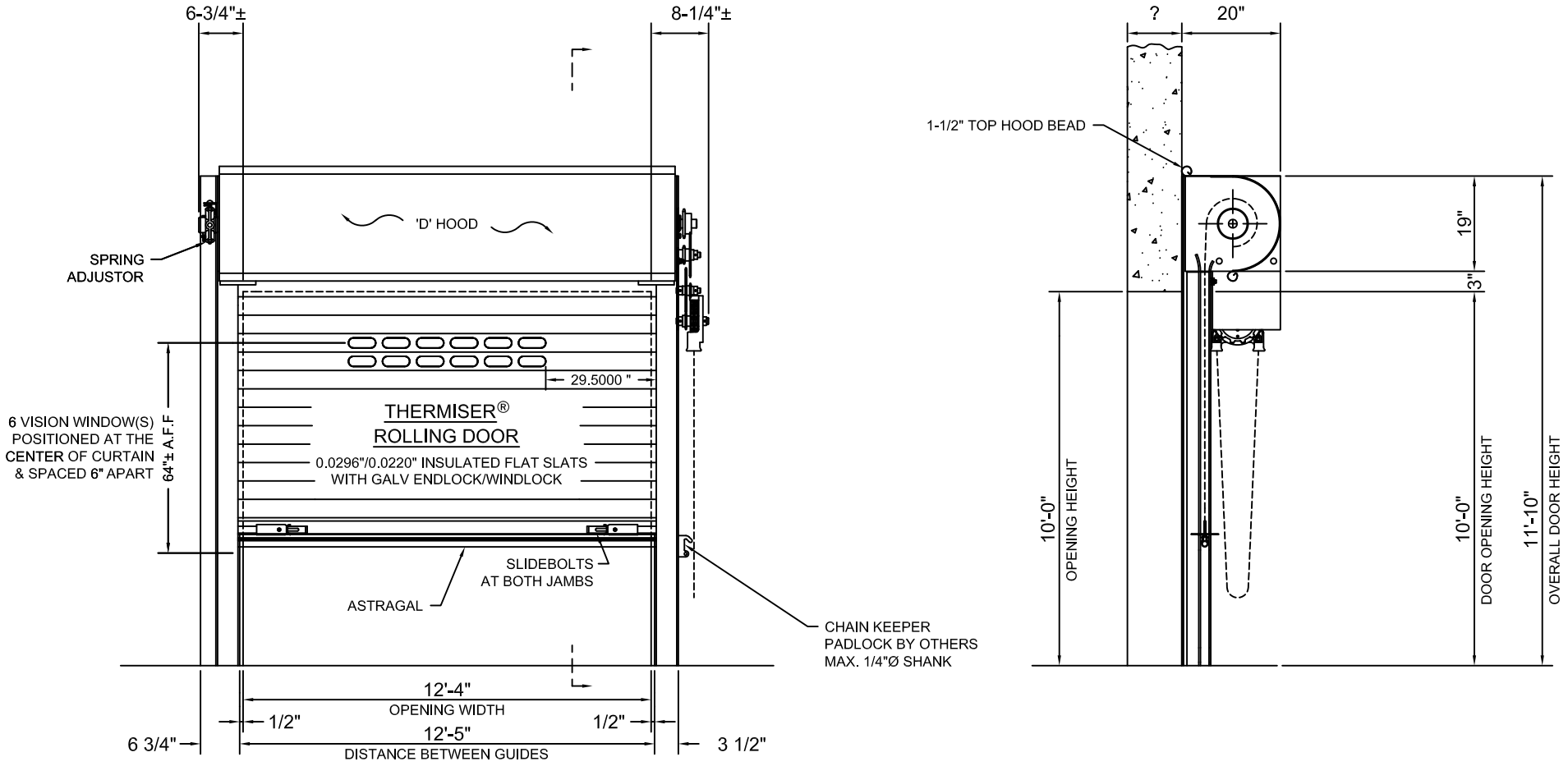
Bottom Bar - Structural steel, Cornell gray polyester powder coating

Guides - Structural steel, Cornell gray polyester powder coating

Hood - Galvanized steel with GalvaNex ™ coating system. Finish color: Cornell gray

Plain Steel - Powder coated Cornell gray

Door is designed to withstand maximum windload @ 65 P.S.F.



ELEVATION (COIL SIDE) AND SECTION VIEW

See drawing # SEQ 18 EXT MNT B for guide detail.

01-17-2011	PRODUCT CODE: CFW 6F 04GP	MODEL #: ESD20	JOB #: SEQ 18 EXT MNT A
BSESTDRV			

#	REVISION	DATE	BY
--	ORIGINAL DRAWING	05/09/13	TREVORE

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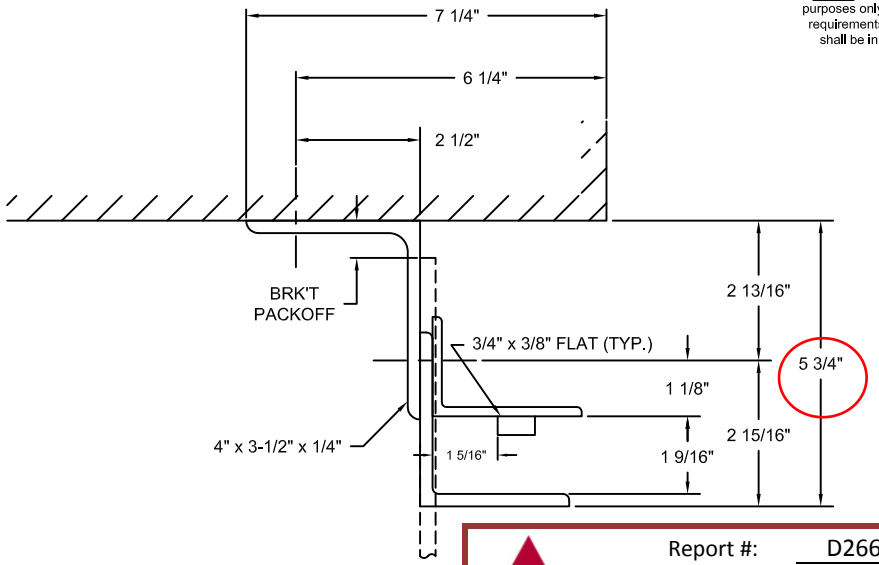
DOUBLE COMPOUND CHAIN OPERATED ROLLING DOOR

JOB:
WIND LOAD DOORS
MOUNTAIN TOP PA

AGENT:
CONTRACTOR:
ARCHITECT:

NOTE: Wall construction detail shown is for illustrative purposes only and does not imply compliance with building requirements. Wall construction and closure installation shall be in accordance with the local authority having jurisdiction requirements.

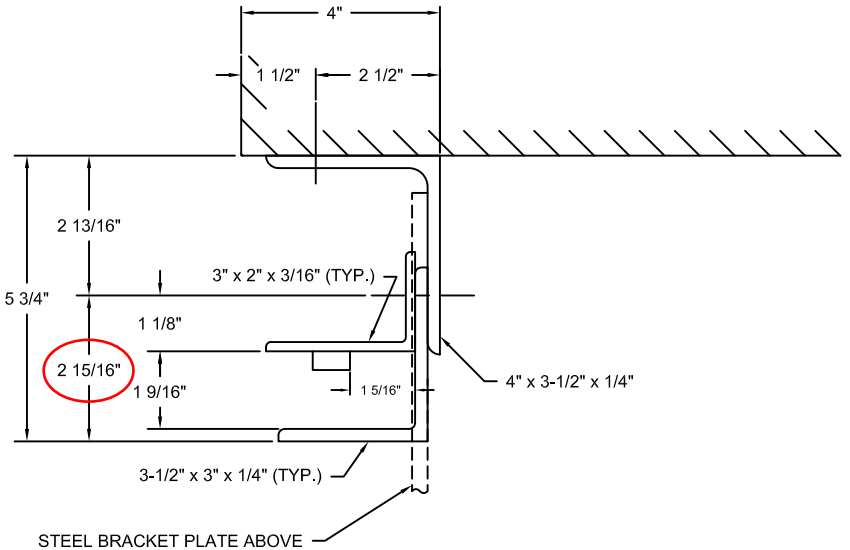


Architectural Testing

Report #: D2662.01-109

Date: 01/08/14

Verified by:



GA0575 - 5 3/4"

WALL FASTENERS:

AT 16" ON CENTER
- SIMPSON WEDGE-ALL, 1/2 x 5-1/2"
MIN. 3000 psi CONCRETE REQ'D.
MIN. 5-3/4" EDGE DISTANCE
MIN. 4-1/2" EMBEDMENT DEPTH

ASSEMBLY FASTENERS:

AT 18" ON CENTER MAXIMUM
- SCREW, HEX HEAD, GRADE 8, PLATED, 1/2-13 x 1-1/2"
- (2) - WASHER, FLAT, SAE HIGH STRENGTH, PLATED, 1/2" N, 0.531 ID x 1.062 OD x 0.095 THK
- NUT, HEX, GRADE 8, PLATED, 1/2-13

GA0576 - 5 3/4"

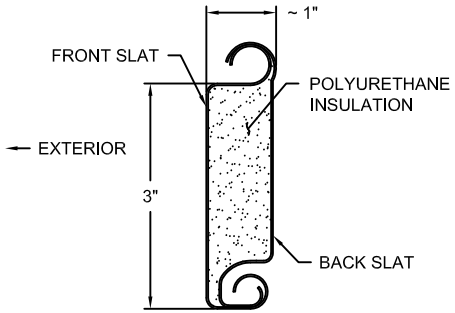
WALL FASTENERS:

AT 18" ON CENTER
- SCREW, HEX HEAD, GRADE 8, PLATED, 1/2-13 x 1"
- WASHER, FLAT, SAE HIGH STRENGTH, PLATED, 1/2" N, 0.531 ID x 1.062 OD x 0.095 THK

ASSEMBLY FASTENERS:

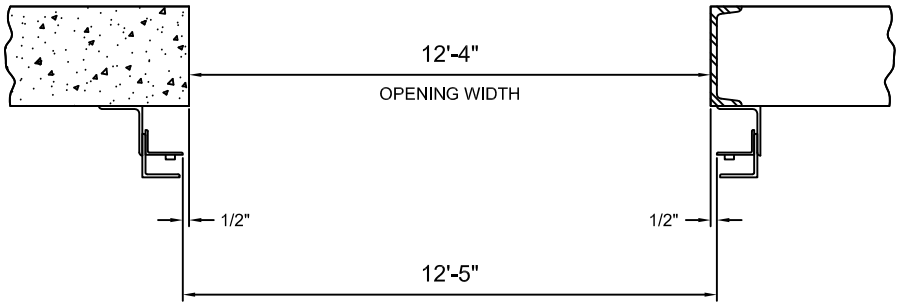
AT 18" ON CENTER MAXIMUM
- SCREW, HEX HEAD, GRADE 8, PLATED, 1/2-13 x 1-1/2"
- (2) - WASHER, FLAT, SAE HIGH STRENGTH, PLATED, 1/2" N, 0.531 ID x 1.062 OD x 0.095 THK
- NUT, HEX, GRADE 8, PLATED, 1/2-13

CP0001 SLAT



MK: 50 FPS

PLAN OF OPENING



INSTALLERS NOTE:

MAINTAINING FACTORY SET GUIDE GAPS IS CRITICAL TO THE PROPER OPERATION OF THE DOOR AND IT'S ABILITY TO WITHSTAND THE DESIGNED WINDLOAD!

ENDLOCK DETAIL

CP0629 CAST IRON ENDLOCK / WINDLOCK ON ALTERNATING SLATS WITH 2 x 1/4" RIVETS.

CP0629

08-20-2013	PRODUCT CODE:
TDC7_575	

MODEL # :	JOB #:
ESD20	SEQ 18 EXT MNT B

#	REVISION	DATE	BY
--	ORIGINAL DRAWING	10/15/13	TREVORE

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THERMISER® GUIDE ASSEMBLY
5-3/4" PACKOFF

JOB:
WIND LOAD DOORS
MOUNTAIN TOP PA

AGENT:

CONTRACTOR:

ARCHITECT:

MOTOR SPECIFICATIONS:

Architectural Testing

Report #: D2662.01-109
Date: 01/08/14
Verified by: A.M.A

ELECTRICAL EQUIPMENT LIST:

BOTTOM BAR LOCKING:

Slidebolt with hasp for padlocking located at both jambs. Padlocks (not by C.I.W.) Ø1/4" maximum shank.

QUANTITY & MARK:

(1) 50 FPS

MATERIAL & FINISH:

Front slat - Galvanized steel with GalvaNex ™ coating system. Finish color: Cornell gray

Back slat - Galvanized steel with GalvaNex ™ coating system. Finish color: Cornell gray

Bottom Bar - Structural steel, Cornell gray polyester powder coating

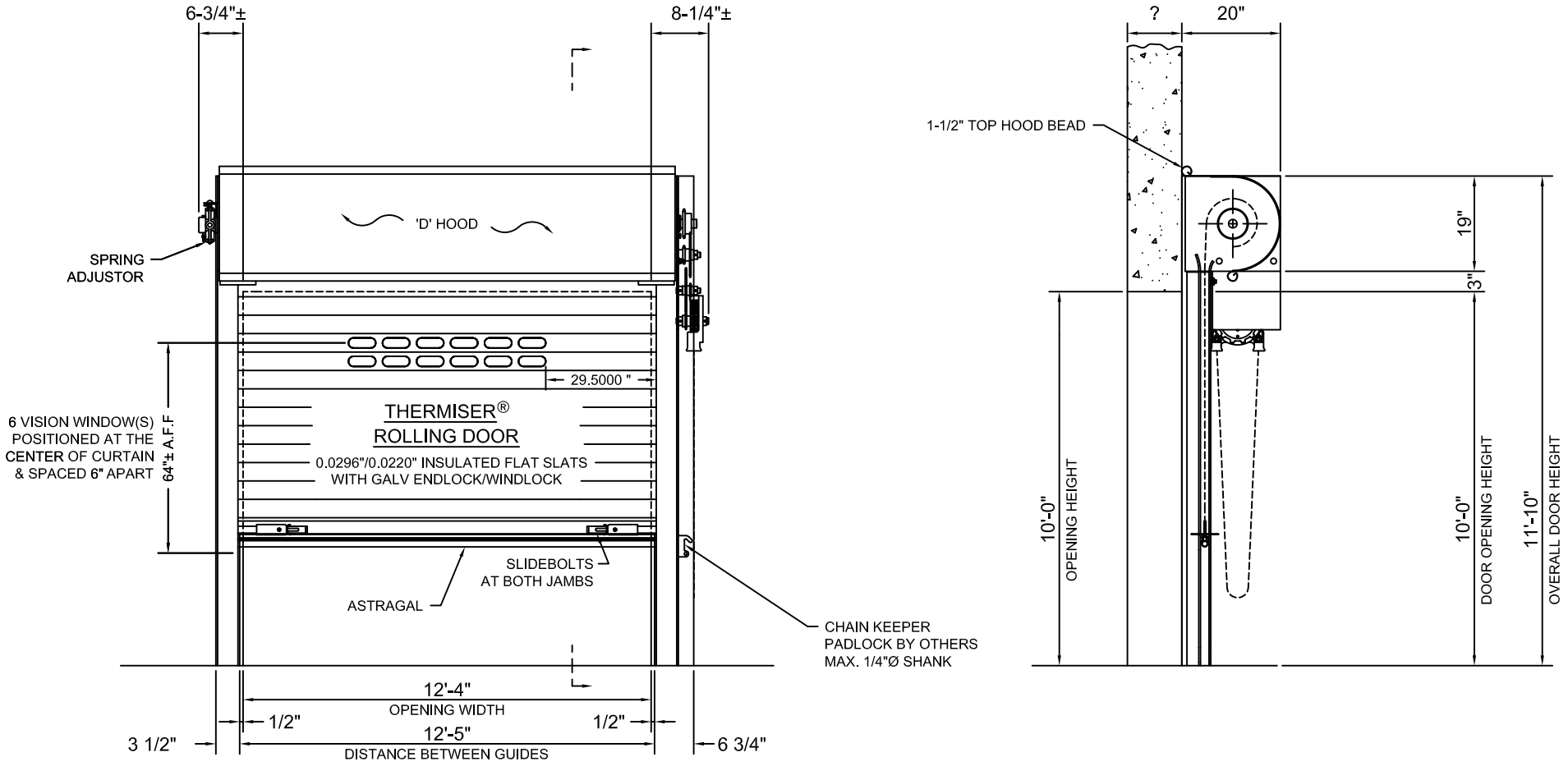
Guides - Structural steel, Cornell gray polyester powder coating

Hood - Galvanized steel with GalvaNex ™ coating system. Finish color: Cornell gray

Plain Steel - Powder coated Cornell gray

"SUPPORT TO RUN TO TOP OF COIL"

Door is designed to withstand maximum windload @ 65 P.S.F.



ELEVATION (COIL SIDE) AND SECTION VIEW

See drawing # SEQ 18 INT MNT B for guide detail.

01-17-2011	PRODUCT CODE: CFW 6F 04GP	MODEL #: ESD20	JOB #: SEQ 18 INT MNT A
BSESTDRV			

#	REVISION	DATE	BY
--	ORIGINAL DRAWING	05/09/13	TREVORE

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DOUBLE COMPOUND CHAIN OPERATED ROLLING DOOR

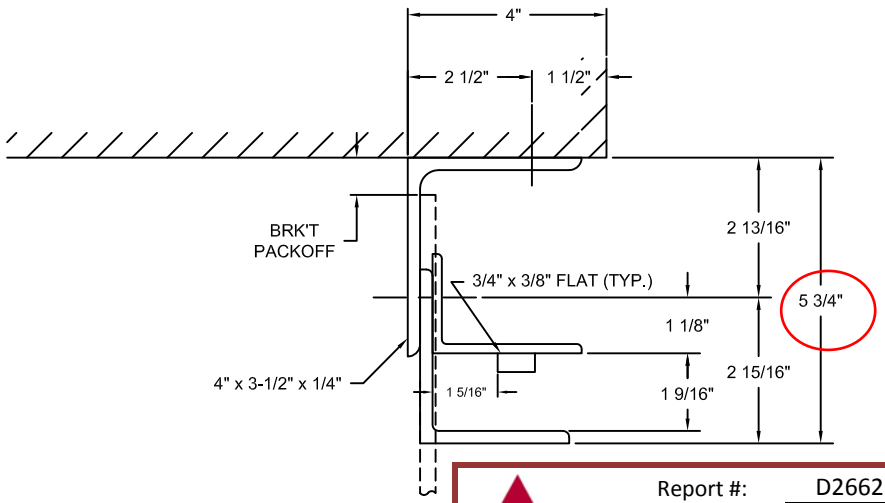
JOB:
WIND LOAD DOORS
MOUNTAIN TOP PA

AGENT:

CONTRACTOR:

ARCHITECT:

NOTE: Wall construction detail shown is for illustrative purposes only and does not imply compliance with building requirements. Wall construction and closure installation shall be in accordance with the local authority having jurisdiction requirements.

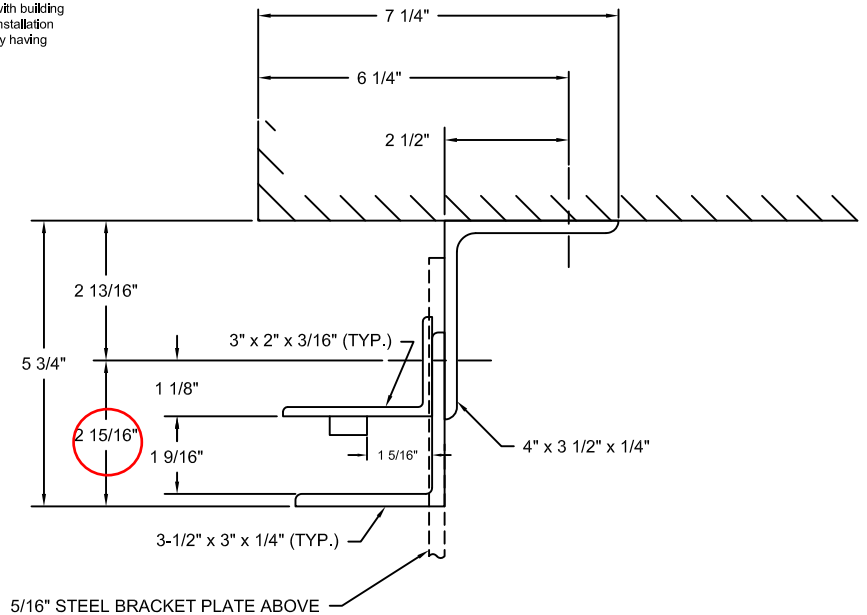


Architectural Testing

Report #: D2662.01-109

Date: 01/08/14

Verified by:



GA0576 - 5 3/4"

WALL FASTENERS:

AT 18" ON CENTER
- 1/4" FILET WELD INSIDE ENTIRE PERIMETER OF WALL FASTENER SLOT
- MIN. 1/4" THICK STEEL

ASSEMBLY FASTENERS:

AT 18" ON CENTER MAXIMUM
- SCREW, HEX HEAD, GRADE 8, PLATED, 1/2-13 x 1-1/2"
- (2) - WASHER, FLAT, SAE HIGH STRENGTH, PLATED, 1/2" N, 0.531 ID x 1.062 OD x 0.095 THK
- NUT, HEX, GRADE 8, PLATED, 1/2-13

GA0575 - 5 3/4"

WALL FASTENERS:

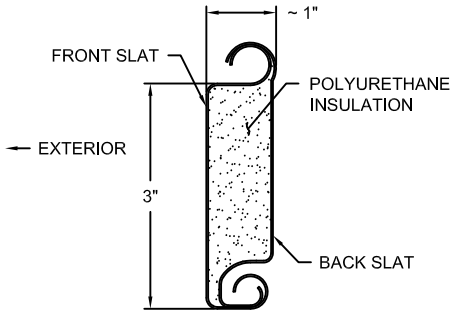
AT 16" ON CENTER
- HILTI KWIK BOLT 3, 1/2 x 4-1/2"

MIN. 3000 psi CONCRETE REQ'D.
MIN. 5-3/4" EDGE DISTANCE
MIN. 3-1/2" EMBEDMENT DEPTH

ASSEMBLY FASTENERS:

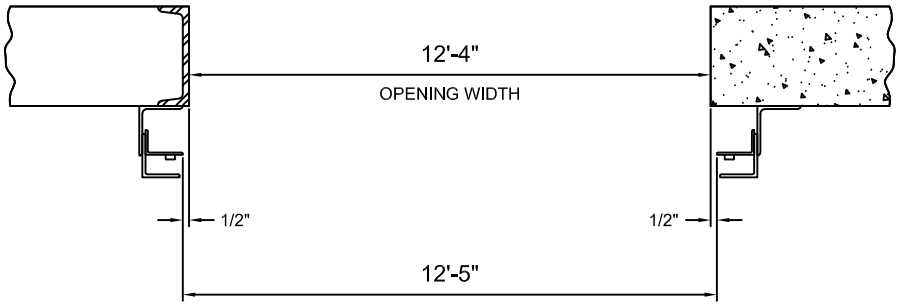
AT 18" ON CENTER MAXIMUM
- SCREW, HEX HEAD, GRADE 8, PLATED, 1/2-13 x 1-1/2"
- (2) - WASHER, FLAT, SAE HIGH STRENGTH, PLATED, 1/2" N, 0.531 ID x 1.062 OD x 0.095 THK
- NUT, HEX, GRADE 8, PLATED, 1/2-13

CP0001 SLAT



MK: 50 FPS

PLAN OF OPENING



INSTALLERS NOTE:

MAINTAINING FACTORY SET GUIDE GAPS IS CRITICAL TO THE PROPER OPERATION OF THE DOOR AND IT'S ABILITY TO WITHSTAND THE DESIGNED WINDLOAD!

ENDLOCK DETAIL

CP0629 CAST IRON ENDLOCK / WINDLOCK ON ALTERNATING SLATS WITH 2 x 1/4" RIVETS.

CP0629

08-20-2013	PRODUCT CODE:
TDC7_575	

MODEL # :	JOB #:
ESD20	SEQ 18 INT MNT B

#	REVISION	DATE	BY
--	ORIGINAL DRAWING	10/15/13	TREVORE

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THERMISER® GUIDE ASSEMBLY
5-3/4" PACKOFF

JOB:
WIND LOAD DOORS
MOUNTAIN TOP PA

AGENT:

CONTRACTOR:

ARCHITECT:

MOTOR SPECIFICATIONS:

Architectural Testing

Report #: D2662.01-109
Date: 01/08/14
Verified by: A.M.A

ELECTRICAL EQUIPMENT LIST:

BOTTOM BAR LOCKING:

Slidebolt with hasp for padlocking located at both jambs. Padlocks (not by C.I.W.) Ø1/4" maximum shank.

QUANTITY & MARK:

(1) 80 FPS

MATERIAL & FINISH:

Front slat - Galvanized steel with GalvaNex ™ coating system. Finish color: Cornell gray

Back slat - Galvanized steel with GalvaNex ™ coating system. Finish color: Cornell gray

Bottom Bar - Structural steel, Cornell gray polyester powder coating

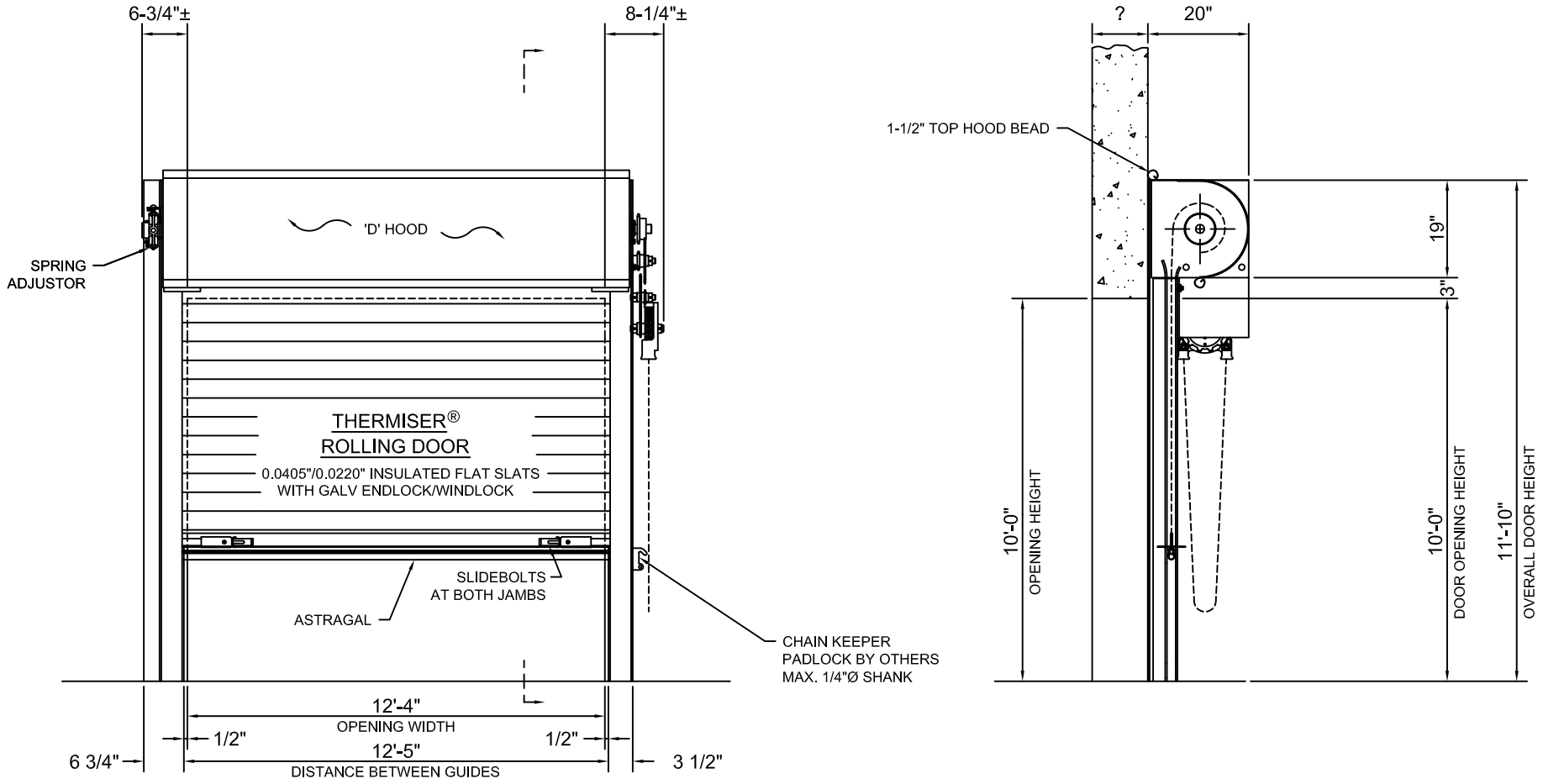
Guides - Structural steel, Cornell gray polyester powder coating

Hood - Galvanized steel with GalvaNex ™ coating system. Finish color: Cornell gray

Plain Steel - Powder coated Cornell gray

"SUPPORT TO RUN TO TOP OF COIL"

Door is designed to withstand maximum windload @ 65 P.S.F.



ELEVATION (COIL SIDE) AND SECTION VIEW

See drawing # SEQ 19 EXT MNT B for guide detail.

01-17-2011	PRODUCT CODE: CFW 6F 84GP	MODEL #: ESD20	JOB #: SEQ 19 EXT MNT A
BSESTDRV			

#	REVISION	DATE	BY
--	ORIGINAL DRAWING	05/09/13	TREVORE

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DOUBLE COMPOUND CHAIN OPERATED ROLLING DOOR

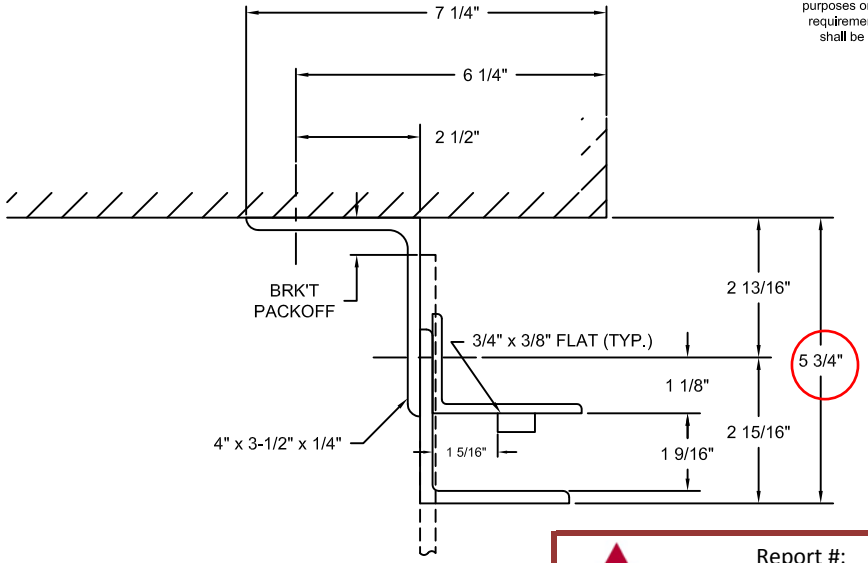
JOB: WIND LOAD DOORS MOUNTAIN TOP PA

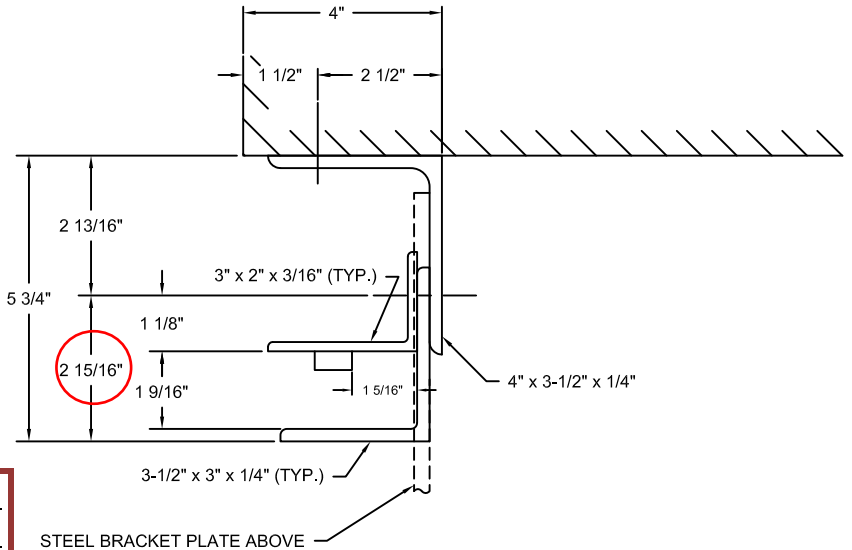
AGENT:

CONTRACTOR:

ARCHITECT:

NOTE: Wall construction detail shown is for illustrative purposes only and does not imply compliance with building requirements. Wall construction and closure installation shall be in accordance with the local authority having jurisdiction requirements.





Architectural Testing

Report #: D2662.01-109
Date: 01/08/14
Verified by:

GA0575 - 5 3/4"

WALL FASTENERS:

AT 16" ON CENTER
- SIMPSON WEDGE-ALL, 1/2 x 5-1/2"
MIN. 3000 psi CONCRETE REQ'D.
MIN. 5-3/4" EDGE DISTANCE
MIN. 4-1/2" EMBEDMENT DEPTH

ASSEMBLY FASTENERS:

AT 18" ON CENTER MAXIMUM
- SCREW, HEX HEAD, GRADE 8, PLATED, 1/2-13 x 1-1/2"
- (2) - WASHER, FLAT, SAE HIGH STRENGTH, PLATED, 1/2" N, 0.531 ID x 1.062 OD x 0.095 THK
- NUT, HEX, GRADE 8, PLATED, 1/2-13

GA0576 - 5 3/4"

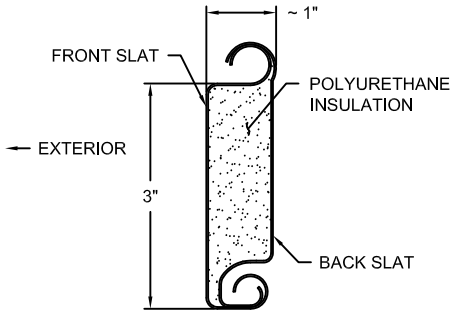
WALL FASTENERS:

AT 18" ON CENTER
- SCREW, HEX HEAD, GRADE 8, PLATED, 1/2-13 x 1"
- WASHER, FLAT, SAE HIGH STRENGTH, PLATED, 1/2" N, 0.531 ID x 1.062 OD x 0.095 THK

ASSEMBLY FASTENERS:

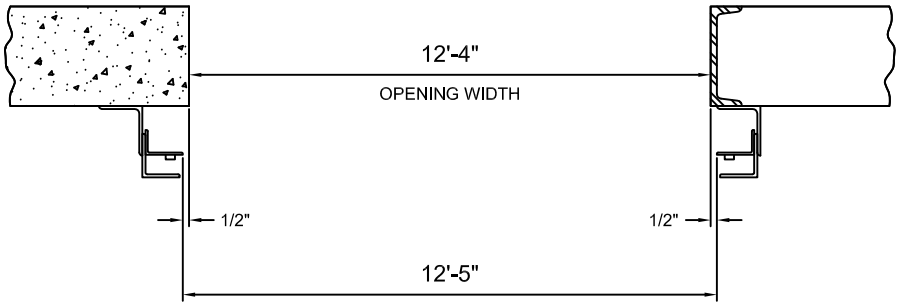
AT 18" ON CENTER MAXIMUM
- SCREW, HEX HEAD, GRADE 8, PLATED, 1/2-13 x 1-1/2"
- (2) - WASHER, FLAT, SAE HIGH STRENGTH, PLATED, 1/2" N, 0.531 ID x 1.062 OD x 0.095 THK
- NUT, HEX, GRADE 8, PLATED, 1/2-13

CP0001 SLAT



MK: 80 FPS

PLAN OF OPENING

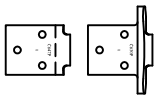


INSTALLERS NOTE:

MAINTAINING FACTORY SET GUIDE GAPS IS CRITICAL TO THE PROPER OPERATION OF THE DOOR AND IT'S ABILITY TO WITHSTAND THE DESIGNED WINDLOAD!

ENDLOCK DETAIL

CP0630 CAST IRON ENDLOCK / WINDLOCK AND CP0647 WINDLOCK ALTERNATING SLATS TO FORM CONTINUOUS WINDLOCKS, EACH WITH 3 x 1/4" RIVETS.



CP0647 CP0630

08-20-2013	PRODUCT CODE:		
TDC7_575			

--	ORIGINAL DRAWING	10/15/13	TREVORE
#	REVISION	DATE	BY

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THERMISER® GUIDE ASSEMBLY
5-3/4" PACKOFF

JOB:
WIND LOAD DOORS
MOUNTAIN TOP PA

MODEL #: ESD20	JOB #: SEQ 19 EXT MNT B
AGENT:	
CONTRACTOR:	
ARCHITECT:	

MOTOR SPECIFICATIONS:

Architectural Testing

Report #: D2662.01-109
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ELECTRICAL EQUIPMENT LIST:

"SUPPORT TO RUN TO TOP OF COIL"

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QUANTITY & MARK:

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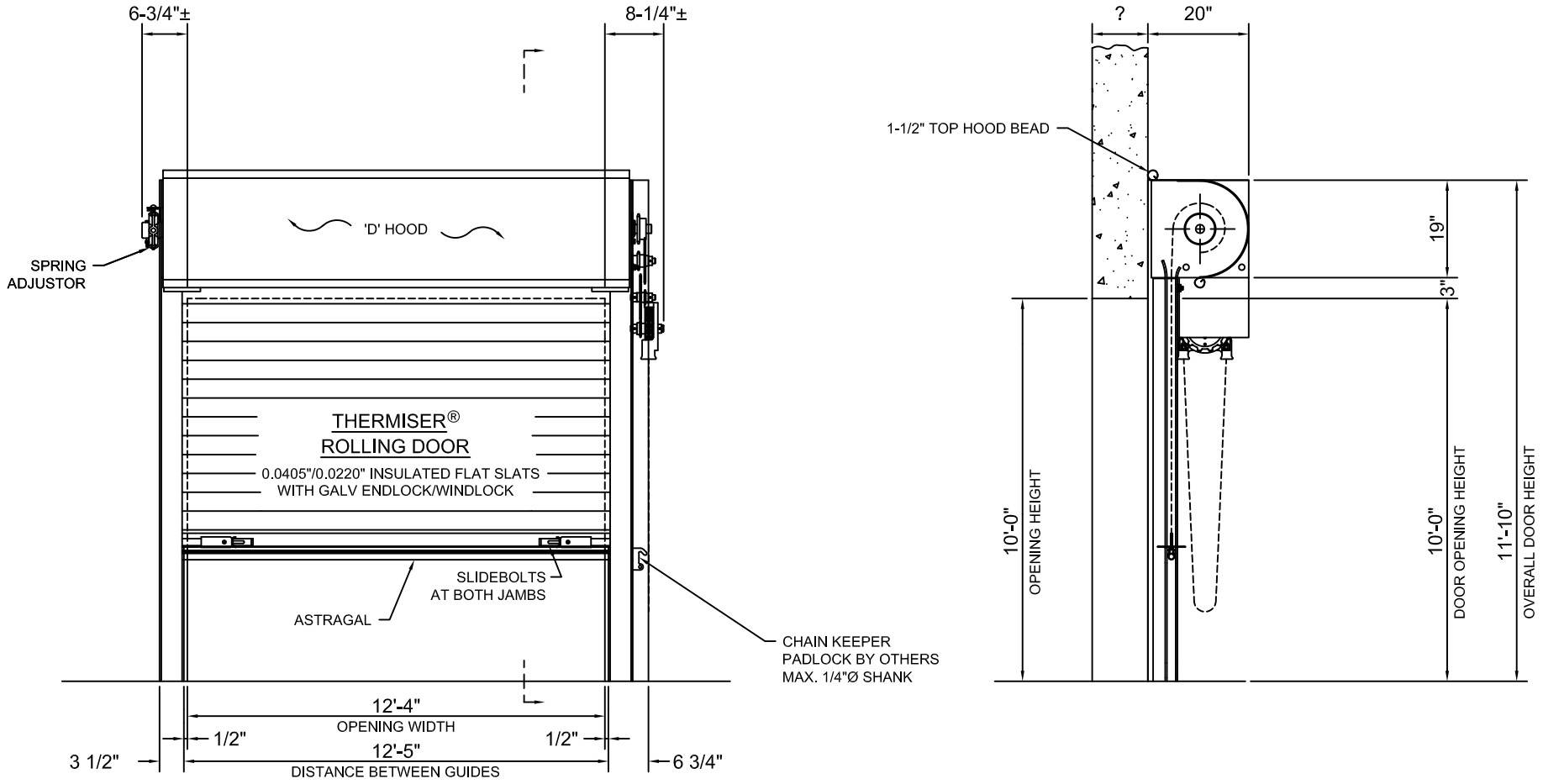

ELEVATION (COIL SIDE) AND SECTION VIEW

See drawing # SEQ 19 INT MNT B for guide detail.

01-17-2011	PRODUCT CODE: CFW 6F 84GP	MODEL #: ESD20	JOB #: SEQ 19 INT MNT A
BSESTDRV			

#	REVISION	DATE	BY
--	ORIGINAL DRAWING	05/09/13	TREVORE

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DOUBLE COMPOUND CHAIN OPERATED ROLLING DOOR

JOB:
WIND LOAD DOORS
MOUNTAIN TOP PA

AGENT:

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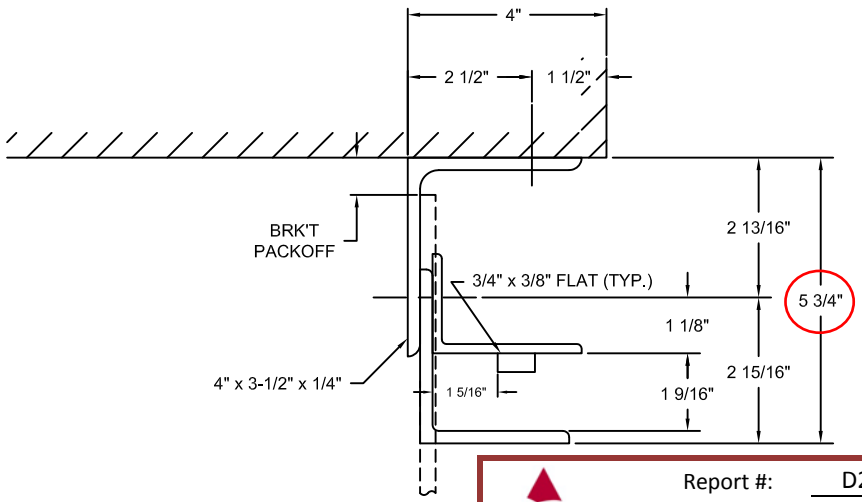

Architectural Testing

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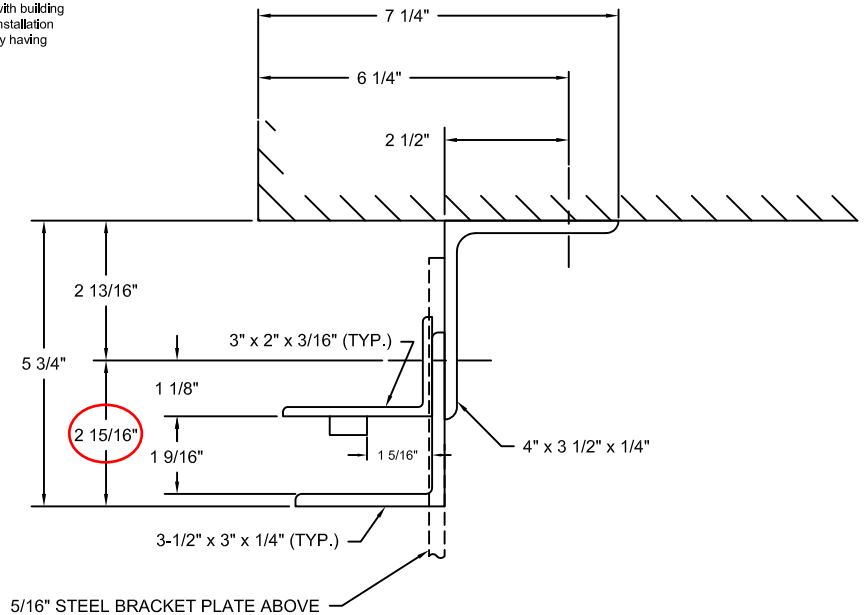


GA0576 - 5 3/4"

WALL FASTENERS:

AT 18" ON CENTER
- 1/4" FILET WELD INSIDE ENTIRE PERIMETER OF WALL FASTENER SLOT
- MIN. 1/4" THICK STEEL

ASSEMBLY FASTENERS:

AT 18" ON CENTER MAXIMUM
- SCREW, HEX HEAD, GRADE 8, PLATED, 1/2-13 x 1-1/2"
- (2) - WASHER, FLAT, SAE HIGH STRENGTH, PLATED, 1/2" N, 0.531 ID x 1.062 OD x 0.095 THK
- NUT, HEX, GRADE 8, PLATED, 1/2-13

GA0575 - 5 3/4"

WALL FASTENERS:

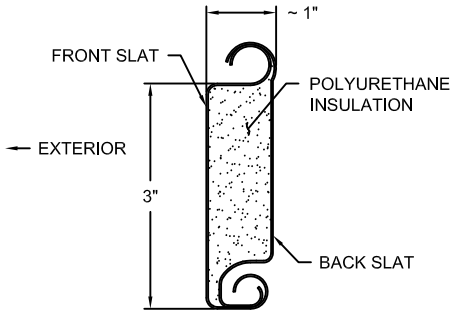
AT 16" ON CENTER
- HILTI KWIK BOLT 3, 1/2 x 4-1/2"

MIN. 3000 psi CONCRETE REQ'D.
MIN. 5-3/4" EDGE DISTANCE
MIN. 3-1/2" EMBEDMENT DEPTH

ASSEMBLY FASTENERS:

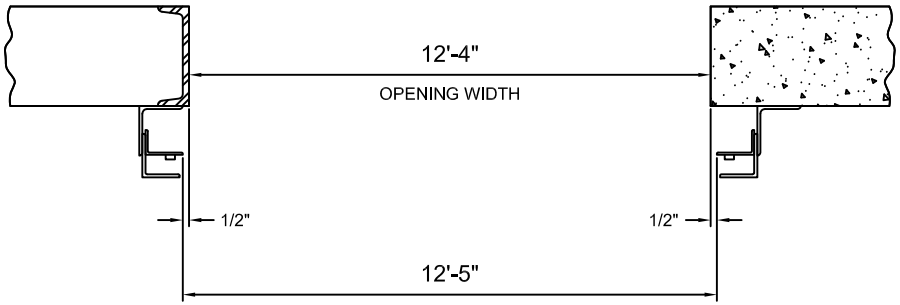
AT 18" ON CENTER MAXIMUM
- SCREW, HEX HEAD, GRADE 8, PLATED, 1/2-13 x 1-1/2"
- (2) - WASHER, FLAT, SAE HIGH STRENGTH, PLATED, 1/2" N, 0.531 ID x 1.062 OD x 0.095 THK
- NUT, HEX, GRADE 8, PLATED, 1/2-13

CP0001 SLAT



MK: 80 FPS

PLAN OF OPENING



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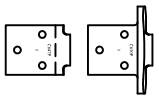

CP0647 CP0630

08-20-2013	PRODUCT CODE:
TDC7_575	

MODEL # :	JOB #:
ESD20	SEQ 19 INT MNT B

#	REVISION	DATE	BY
--	ORIGINAL DRAWING	10/15/13	TREVORE

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