



PERFORMANCE STANDARD

Glazed Steel Door

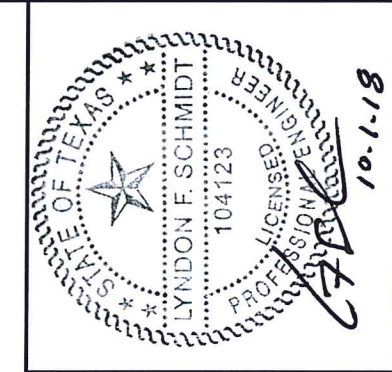
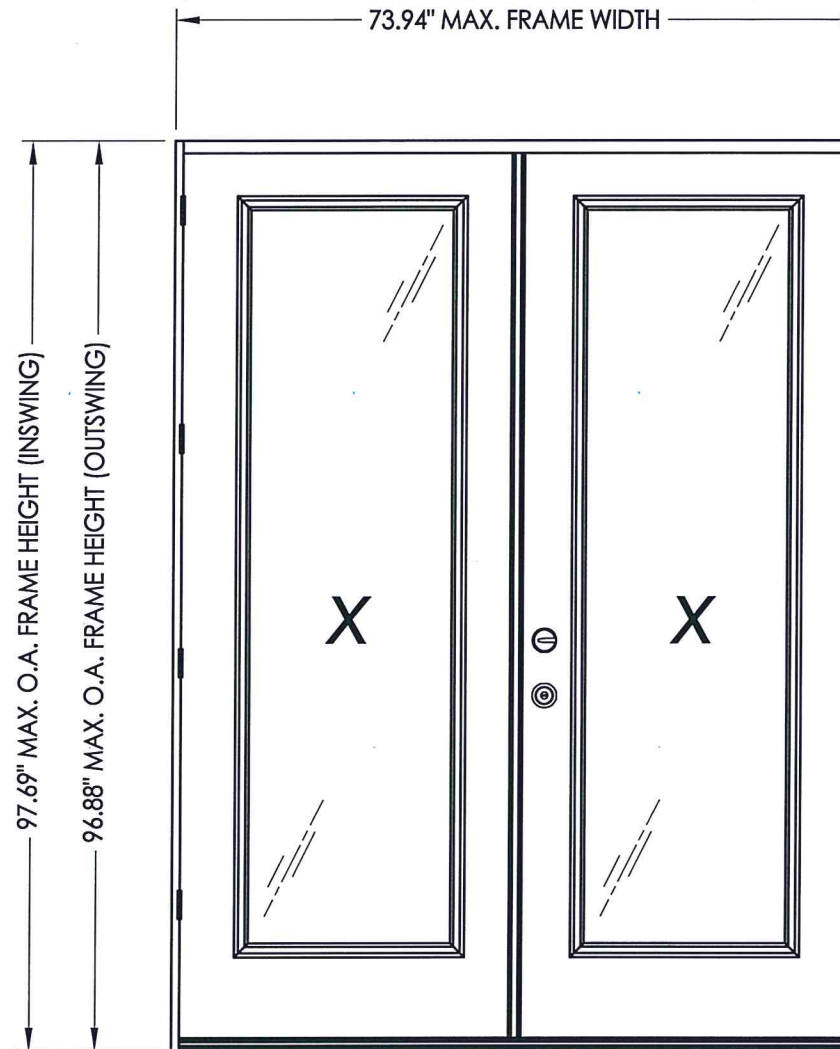
"NON-IMPACT"
IN SWING / OUT SWING

EVALUATED FOR USE IN THE STATE OF TEXAS

The Glazed Steel Door system described herein complies with the 2006 International Residential Code (IRC), Sections R301 & R613 and the 2006 International Building Code (IBC), Sections 1405.12, 1609, 1714.5, 2403 and 2404 (including Texas revisions) subject to the following conditions:

1. Anchors shall be as listed and spaced as shown in the details. Anchor embedment to base material shall be beyond wall dressing or stucco.
2. When used in areas requiring wind-borne debris protection this product is required to be protected with an impact resistant covering that complies with Section R301.2.1.2 of the IRC and Section 1609.1.2 of the IBC.
3. Allowable design pressure requirements must be equal to or less than the design pressure rating shown in the design pressure chart, sheet 1 of this drawing.
4. Conditions not covered by this drawing are subject to further engineering analysis.

TABLE OF CONTENTS	
SHEET#	DESCRIPTION
1	Typical elevations, design pressures & general notes
2	Astragal details (Ultimate Flip Lever)
3	Astragal details (Ultimate Multi-point)
4	Astragal details (Ultimate Hurricane)
5	Door panel details (lip lite insert glazing)
6	Horizontal cross sections
7	Vertical cross sections
8	Frame anchoring



Documents Prepared By: Lyndon F. Schmidt, P.E.
TEXAS P.E. #104123

RW BUILDING CONSULTANTS, INC.
P.O. Box 230 Vairico FL, 33595
Phone No.: 813.659.9197

TEXAS BOARD OF PROFESSIONAL ENGINEERS
CERTIFICATE OF REGISTRATION # F-11852

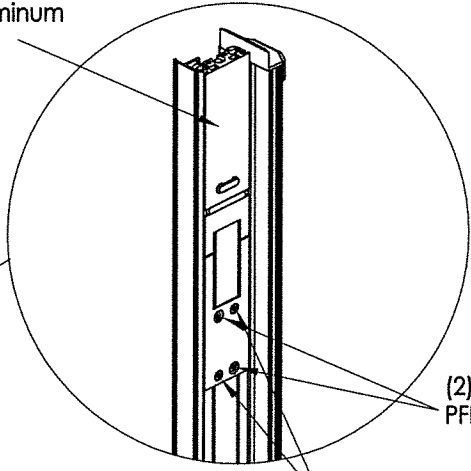
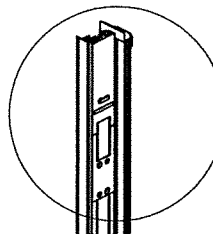
PRODUCT: ENDURA
PART OR ASSEMBLY: TYPICAL ELEVATION, DESIGN PRESSURES & GENERAL NOTES

NO.	DATE	REVISIONS
4	9/27/18	UPDATE FOR NEW TESTING
3	11/01/16	ADDED THRESHOLDS
2	5/05/15	ADD NEW ASTRAGAL PIN CAPTURE
1	1/09/14	ADDED ARTICULATING SILL

DATE: 8/20/12
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: TX-4225
SHEET 1 OF 8

CONFIG.	MODEL	DESIGN PRESSURE (PSF) ULTIMATE HURRICANE ASTRAGAL		DESIGN PRESSURE (PSF) ULTIMATE MULTIPOINT ASTRAGAL		DESIGN PRESSURE (PSF) ULTIMATE FLIP LEVER ASTRAGAL	
		POSITIVE	NEGATIVE	POSITIVE	NEGATIVE	POSITIVE	NEGATIVE
XX	IN SWING	+40.0	-40.0	+40.0	-40.0	+35.0	-40.0
	OUT SWING	+35.0	-35.0	+40.0	-40.0	+35.0	-35.0

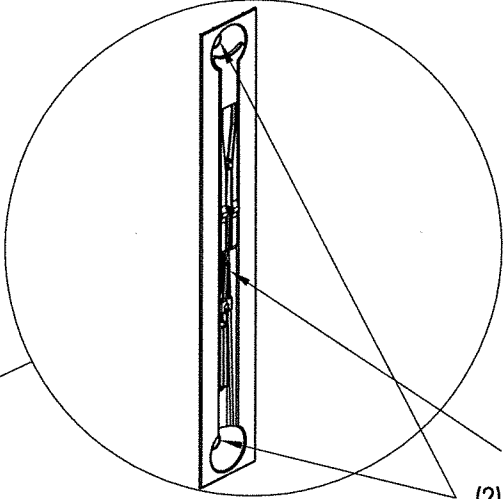
Upper Bolt Sleeve - Aluminum



(2) #8 X 1-1/2" PFH WOOD SCREWS

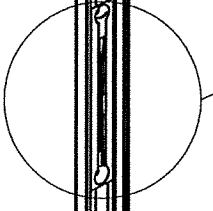
(2) #6-32 X 5/8" MACHINE SCREWS

Upper/Lower Bolt Actuator Lever - Zinc
(2) #8 X 1-1/2" PFH WOOD SCREWS

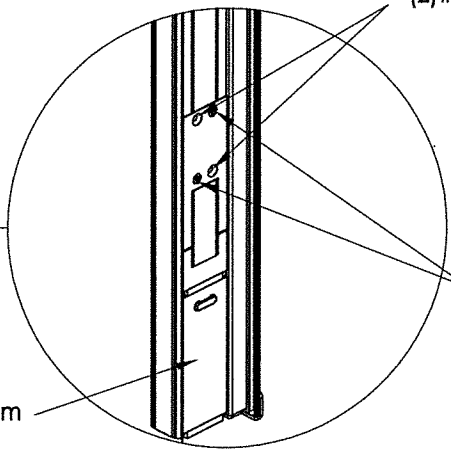


(2) #8 X 1-1/2" PFH WOOD SCREWS

Aluminum Body

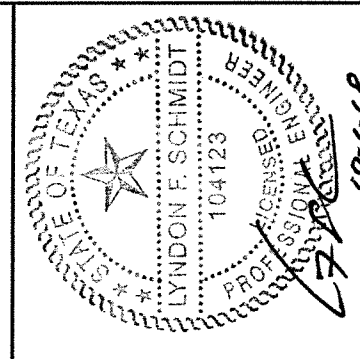


Lower Bolt Sleeve - Aluminum



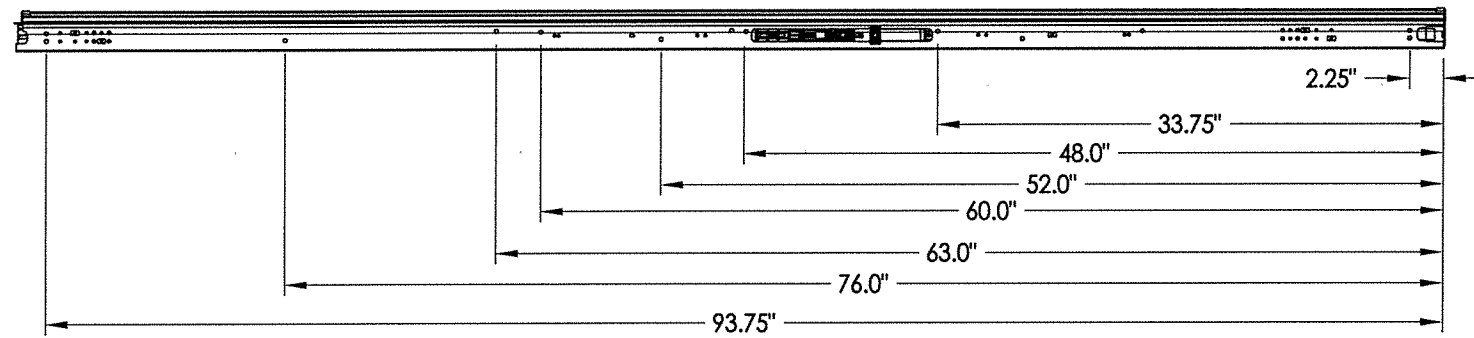
(2) #6-32 X 5/8" MACHINE SCREWS

ULTIMATE FLIP LEVER ASTRAGAL



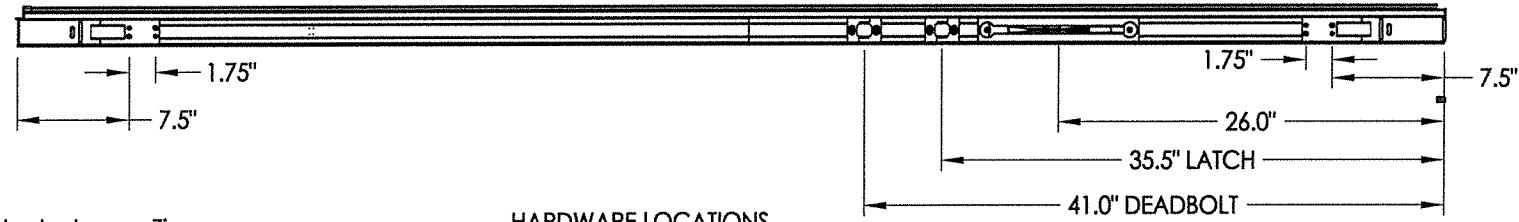
Documents Prepared By: Lyndon F. Schmidt, P.E.
TEXAS P.E. #104123
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Phone No.: 813.659.9197
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TOP

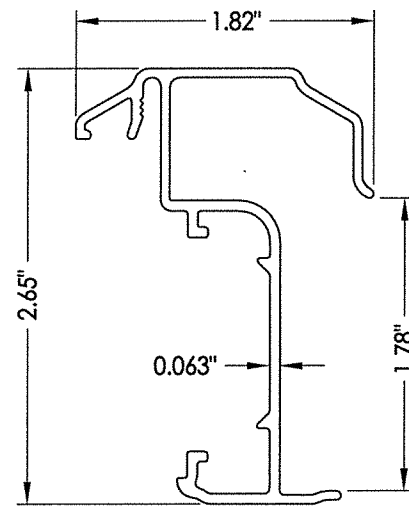


ANCHOR SCREW LOCATIONS

BOTTOM

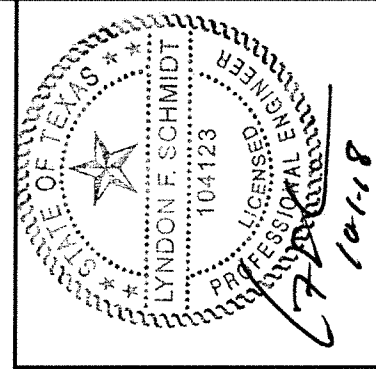


HARDWARE LOCATIONS



Astragal Section

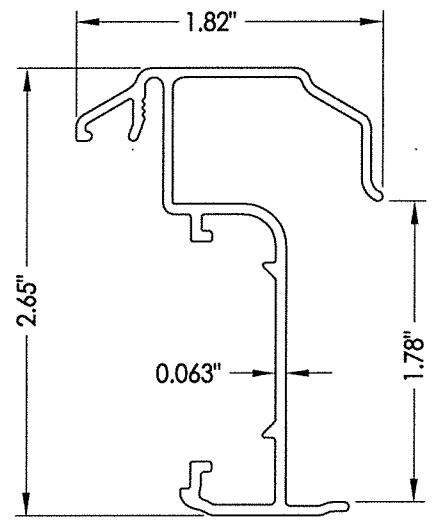
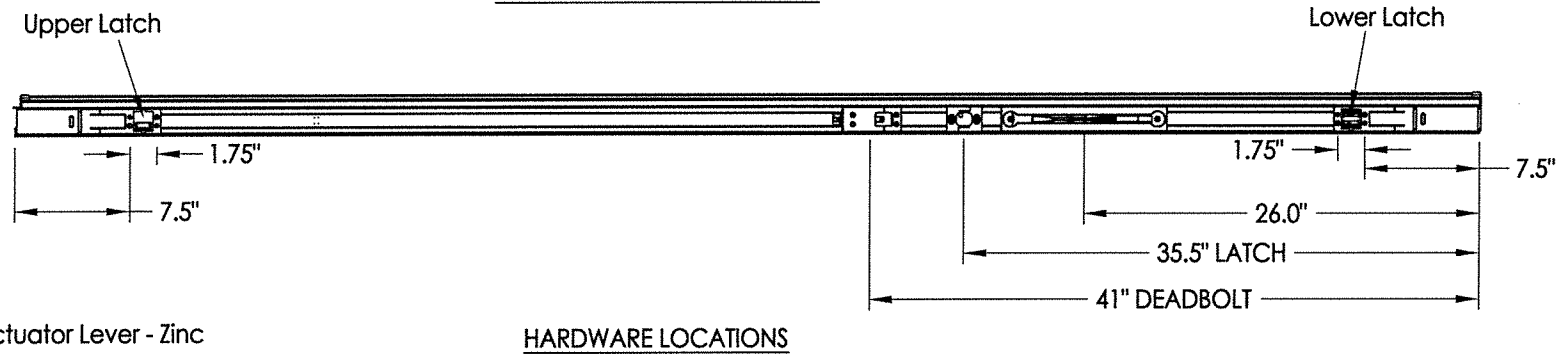
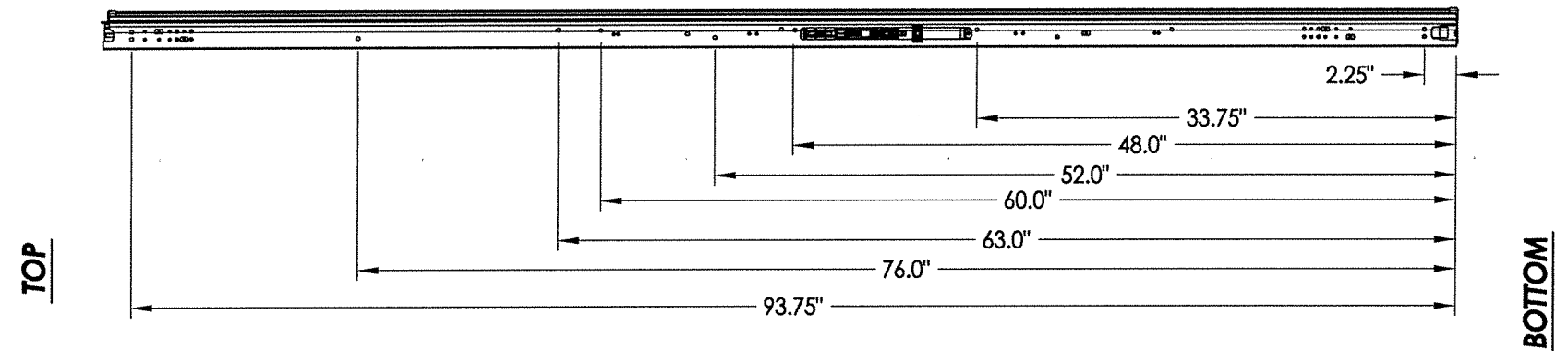
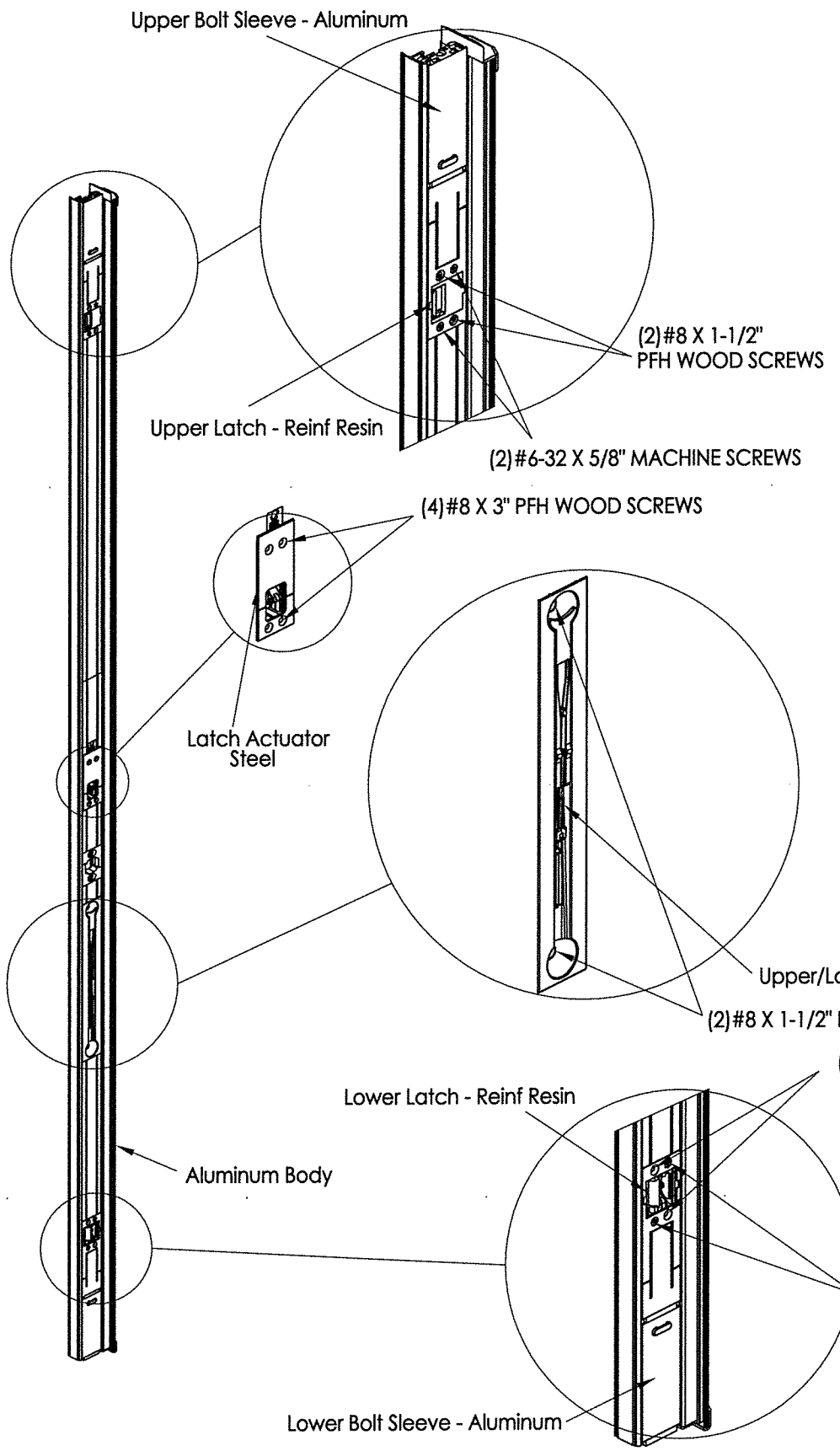
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REVISIONS		
NO.	DATE	BY
4	9/27/18	LFS
3	11/01/16	LFS
2	5/05/15	LFS
1	1/09/14	LFS
PART OR ASSEMBLY: ASTRAGAL DETAILS (ULTIMATE FLIP LEVER)		
DATE:	8/20/12	
SCALE:	N.T.S.	
DWG. BY:	JK	
CHK. BY:	LFS	
DRAWING NO.:	TX-4225	
SHEET	2 OF 8	



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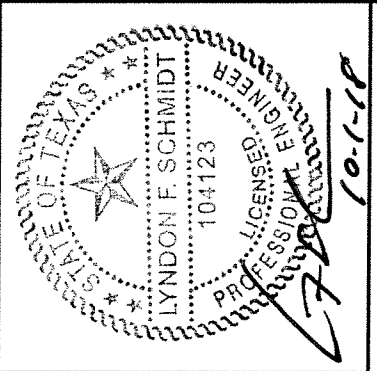
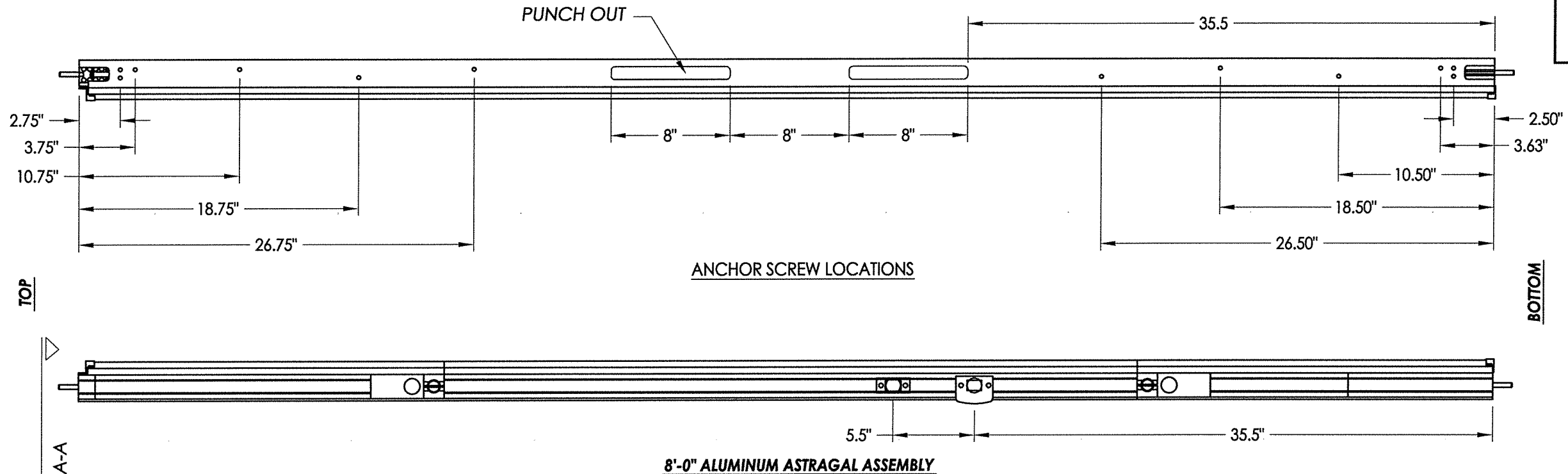


ULTIMATE MULTI-POINT ASTRAGAL

PRODUCT: ENDURA		ASTRAGAL DETAILS (ULTIMATE MULTI-POINT)	
NO.	DATE	BY	REVISIONS
4	9/27/18	LFS	UPDATE FOR NEW TESTING
3	11/01/16	LFS	ADDED THRESHOLDS
2	5/05/15	LFS	ADD NEW ASTRAGAL PIN CAPTURE
1	1/09/14	LFS	ADDED ARTICULATING SILL

DATE: 8/20/12
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: TX-4225
SHEET 3 OF 8

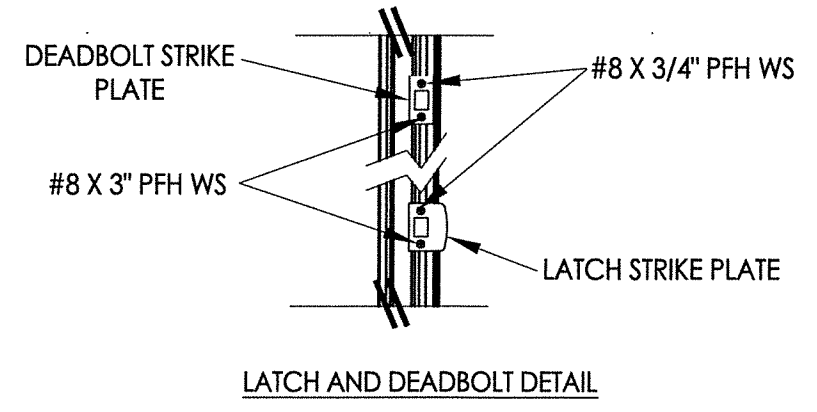
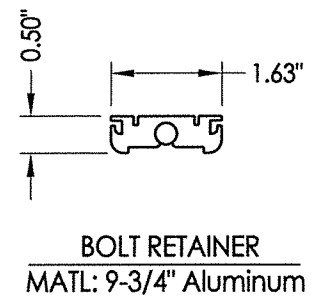
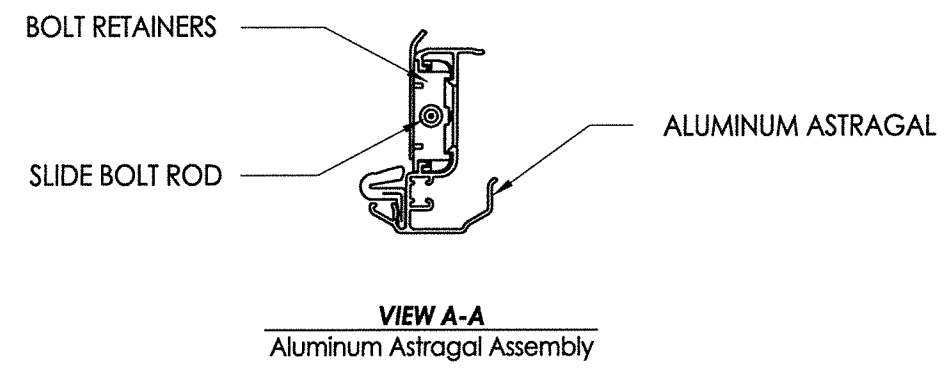
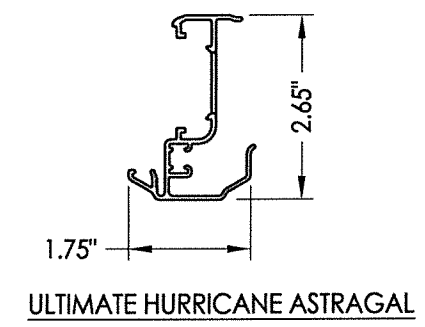
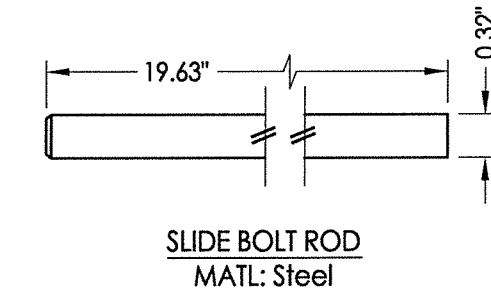
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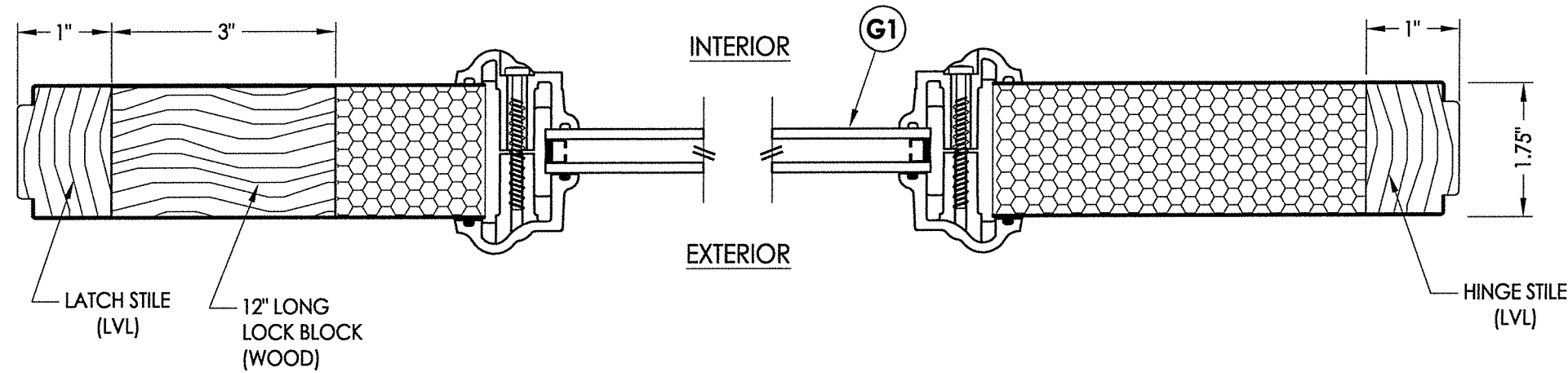
Documents Prepared By: Lyndon F. Schmidt, P.E.
TEXAS P.E. #104123

RW BUILDING CONSULTANTS, INC.
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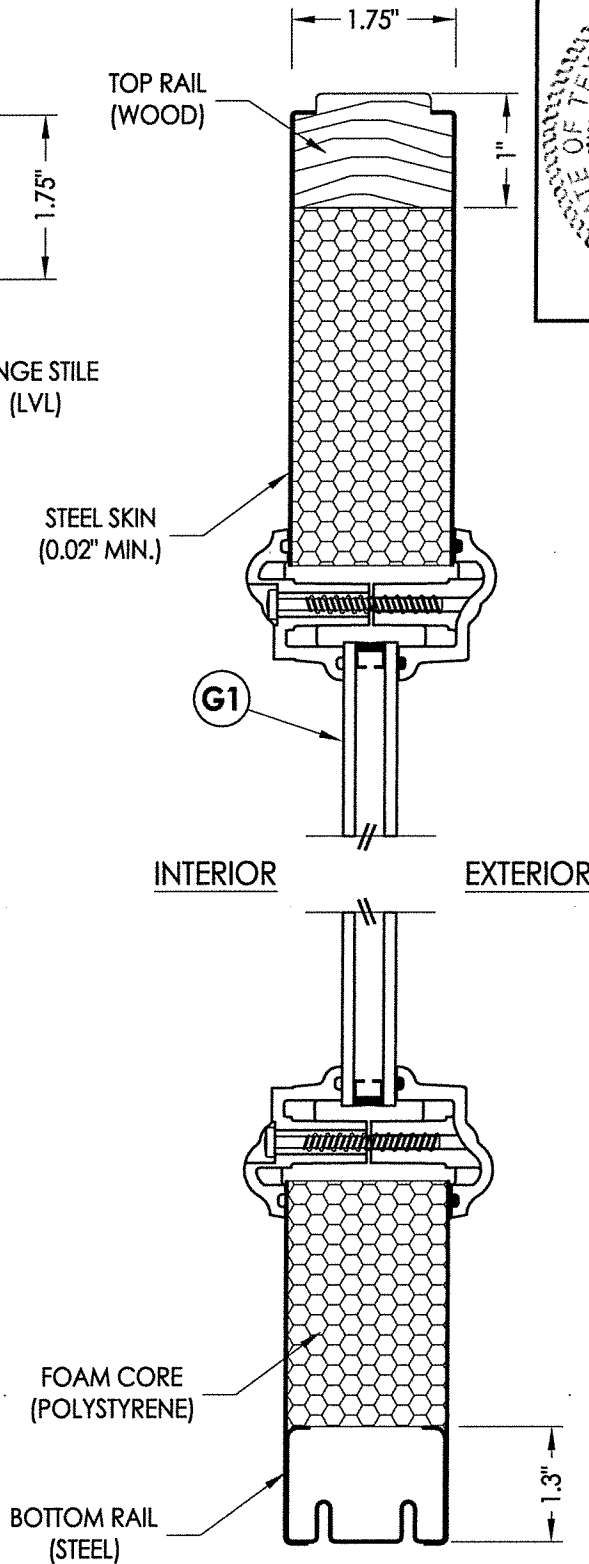
TEXAS BOARD OF PROFESSIONAL ENGINEERS
CERTIFICATE OF REGISTRATION # F-11852



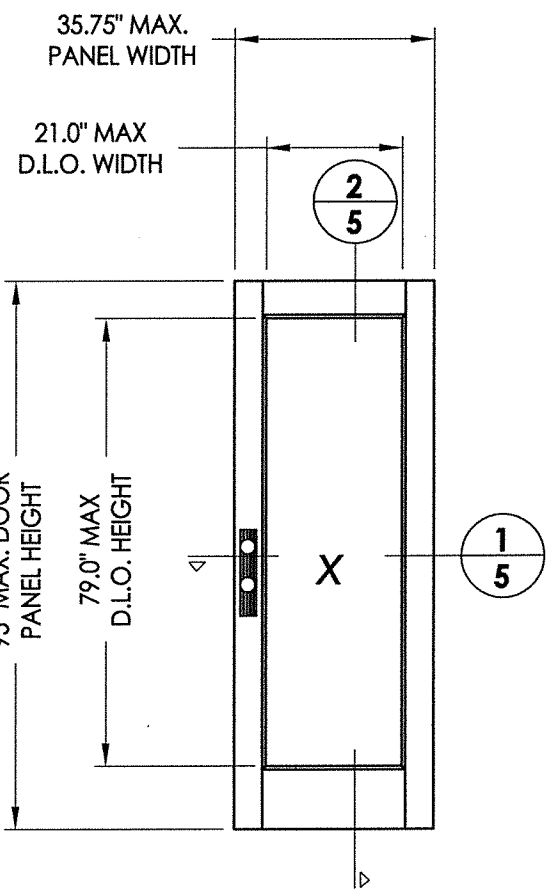
PRODUCT: ENDURA	
PART OR ASSEMBLY: ASTRAGAL DETAILS (ULTIMATE HURRICANE)	
4	9/27/18 UPDATE FOR NEW TESTING
3	11/01/16 ADDED THRESHOLDS
2	5/05/15 ADD NEW ASTRAGAL PIN CAPTURE
1	1/09/14 ADDED ARTICULATING SILL
NO.	DATE
REVISIONS	
DATE: 8/20/12	
SCALE: N.T.S.	
DWG. BY: JK	
CHK. BY: LFS	
DRAWING NO.: TX-4225	
SHEET 4 OF 8	



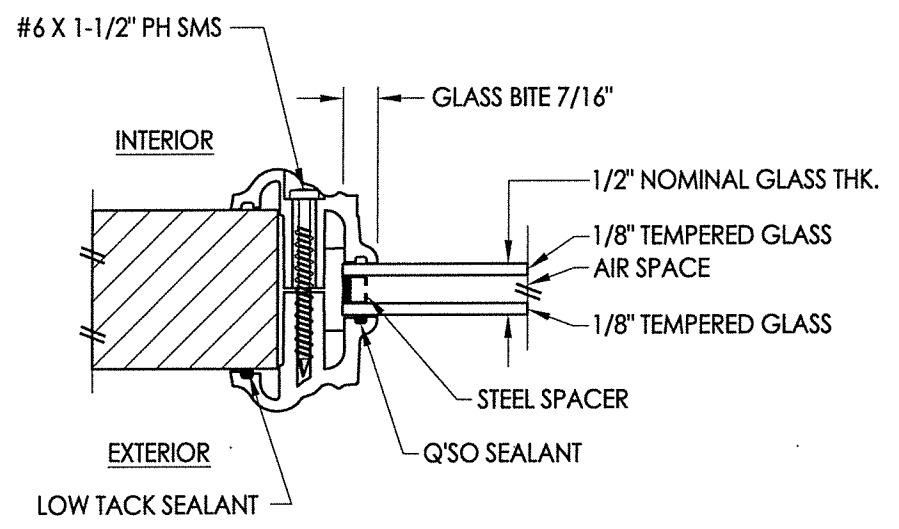
1
5 HORIZONTAL CROSS SECTION



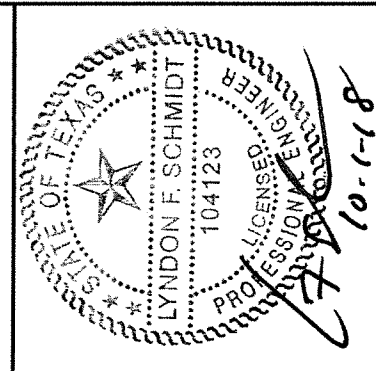
2
5 VERTICAL CROSS SECTION



JELD-WEN
Insert Glazed
(steel)



G1 GLAZING DETAIL
Lip Lite Insert Glazing



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TEXAS BOARD OF PROFESSIONAL ENGINEERS
CERTIFICATE OF REGISTRATION # F-11852

PRODUCT: ENDURA

PART OR ASSEMBLY: DOOR PANEL DETAILS (LIP LITE INSERT GLAZING)

NO.	DATE	REVISIONS	BY
4	9/27/18	UPDATE FOR NEW TESTING	LFS
3	11/01/16	ADDED THRESHOLDS	LFS
2	5/05/15	ADD NEW ASTRAGAL PIN CAPTURE	LFS
1	1/09/14	ADDED ARTICULATING SILL	LFS

DATE: 8/20/12

SCALE: N.T.S.

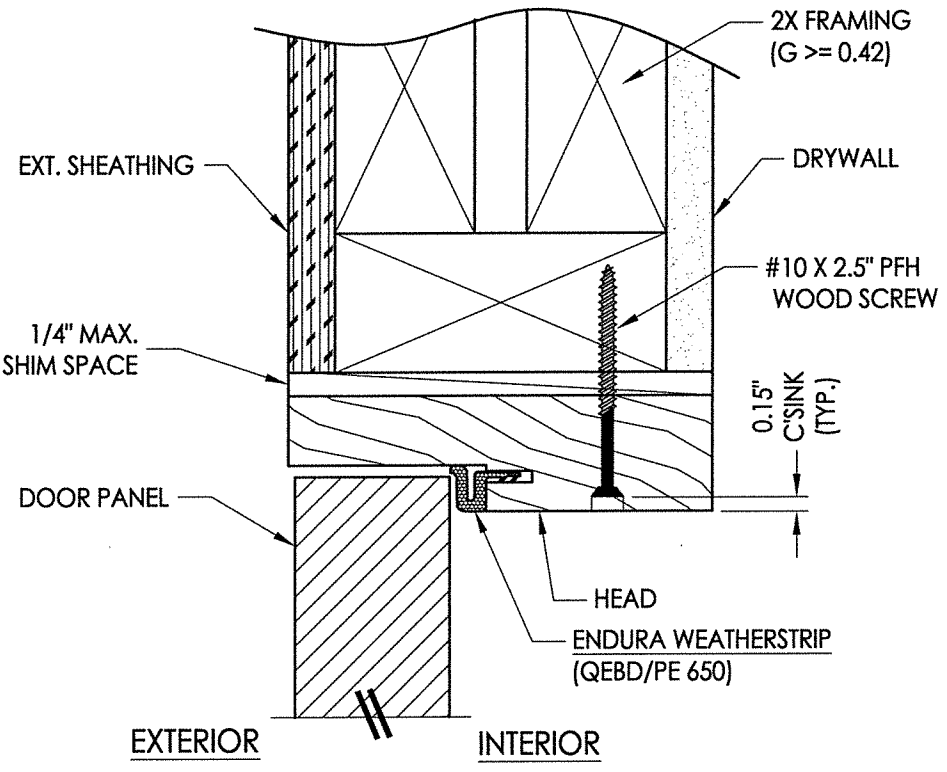
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CHK. BY: LFS

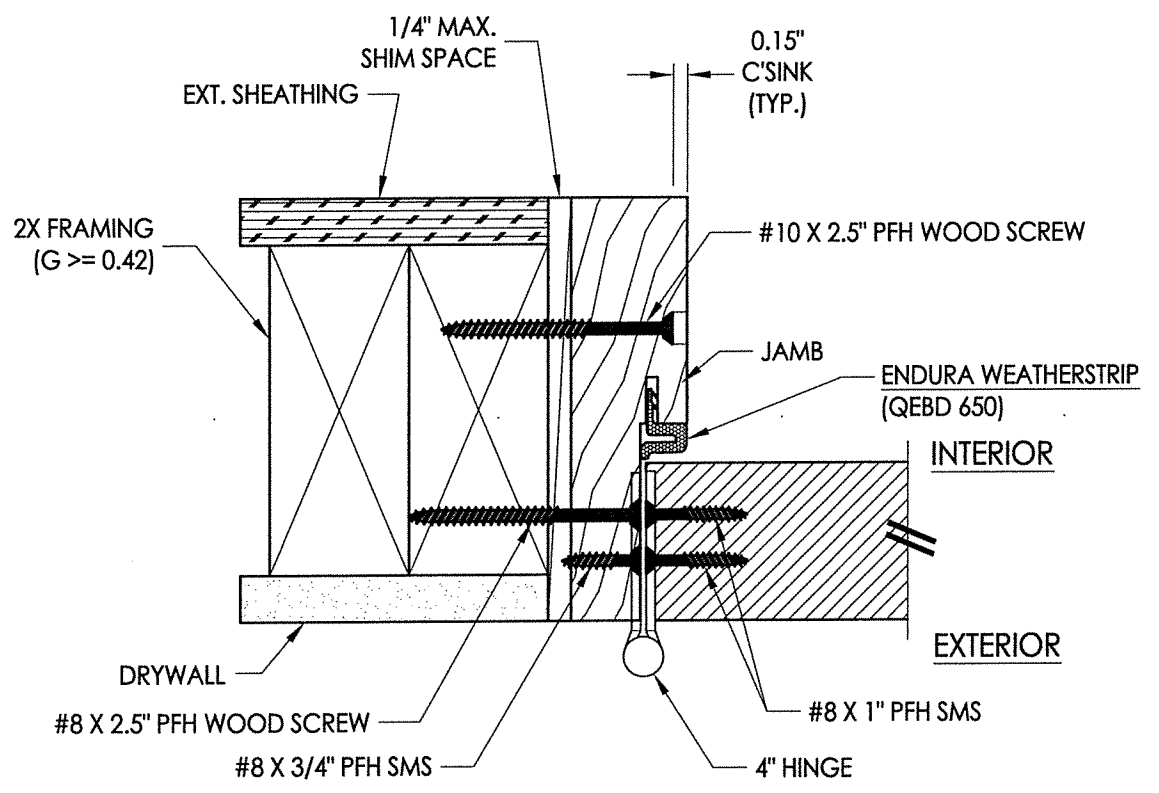
DRAWING NO.: TX-4225

SHEET 5 OF 8

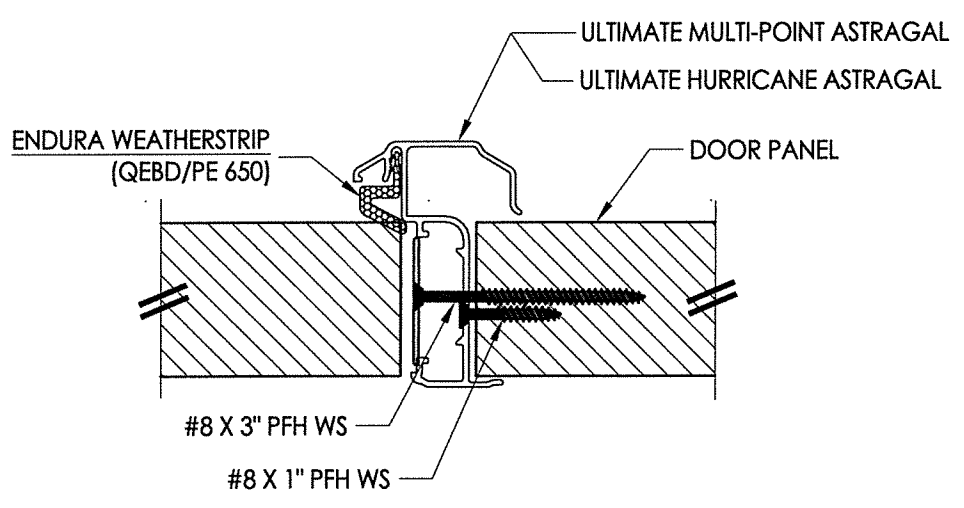
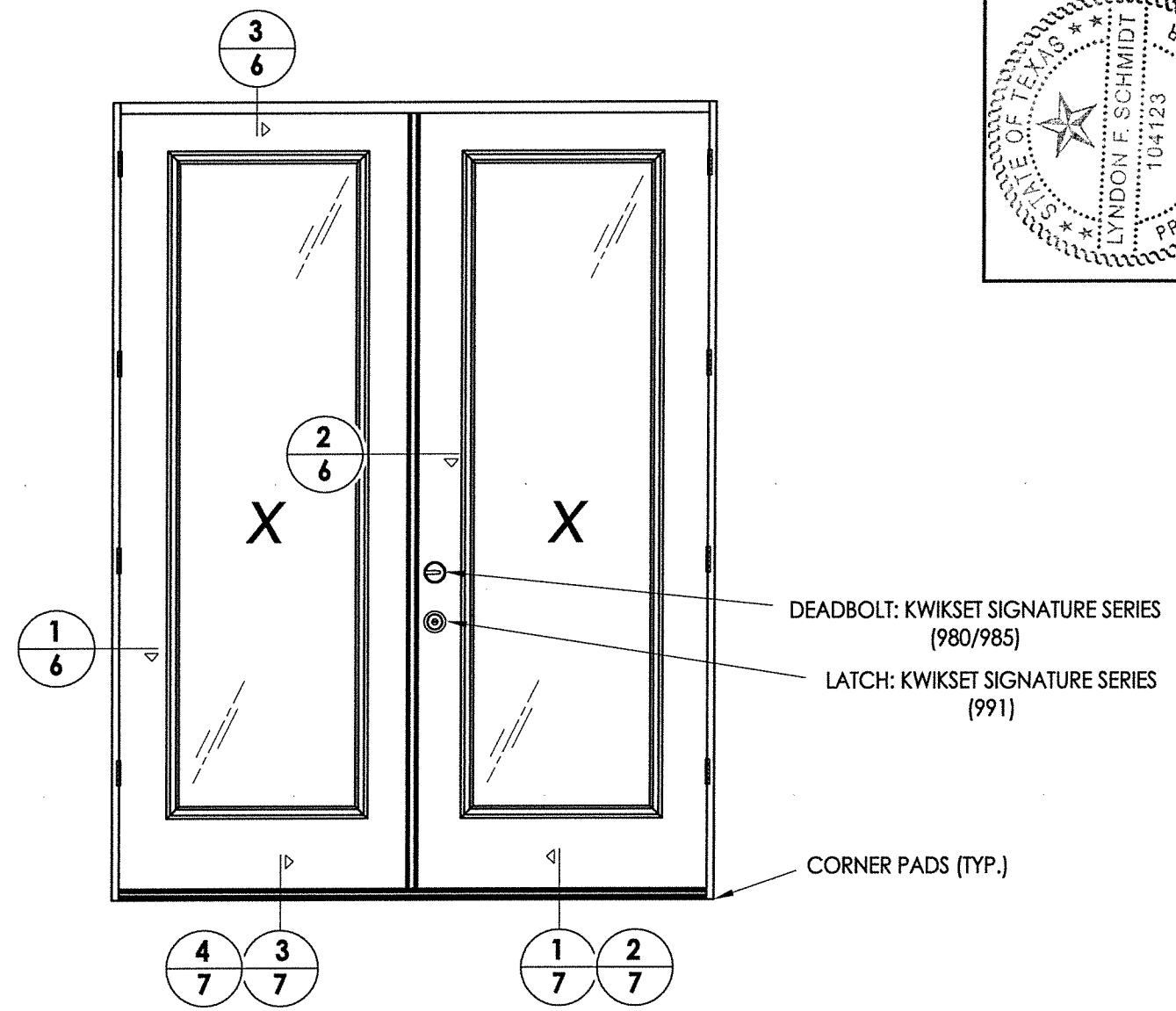
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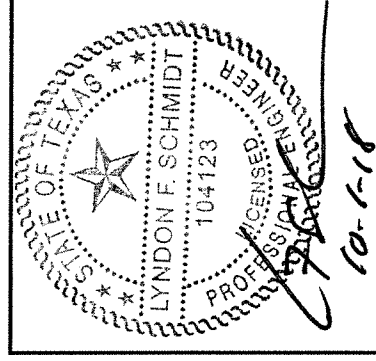
3
6 **VERTICAL CROSS SECTION**
Outswing shown - inswing also approved



1
6 **HORIZONTAL CROSS SECTION**
Inswing shown - Outswing also approved



2
6 **HORIZONTAL CROSS SECTION**



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TEXAS P.E. #104123

RW BUILDING CONSULTANTS, INC.
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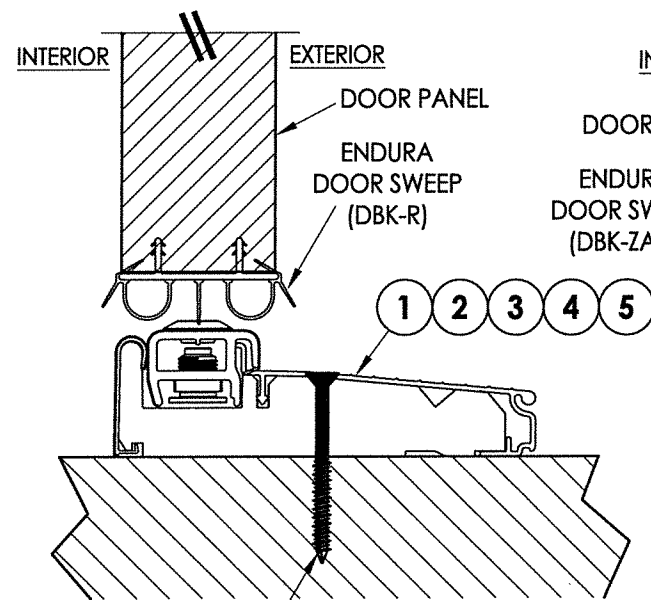
TEXAS BOARD OF PROFESSIONAL ENGINEERS
CERTIFICATE OF REGISTRATION # F-11852

PRODUCT:	ENDURA
PART OR ASSEMBLY:	HORIZONTAL CROSS SECTIONS

NO.	DATE	BY	REVISIONS
3	11/01/16	LFS	ADDED THRESHOLDS
2	5/05/15	LFS	ADD NEW ASTRAGAL PIN CAPTURE
1	1/09/14	LFS	ADDED ARTICULATING SILL

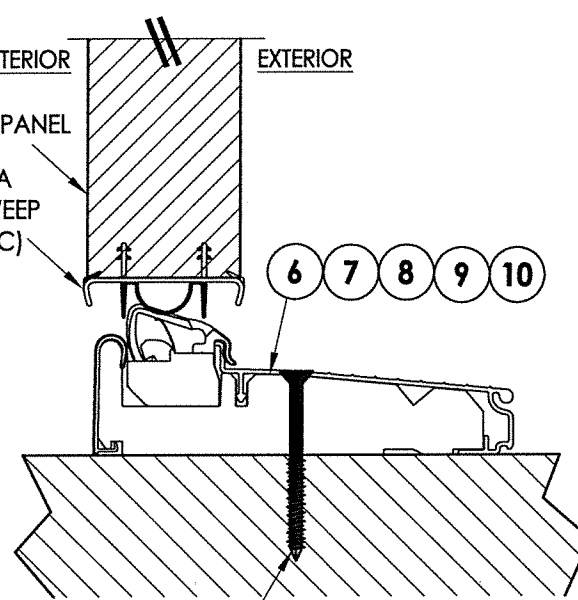
DATE:	8/20/12
SCALE:	N.T.S.
DWG. BY:	JK
CHK. BY:	LFS
DRAWING NO.:	TX-4225
SHEET	6 OF 8

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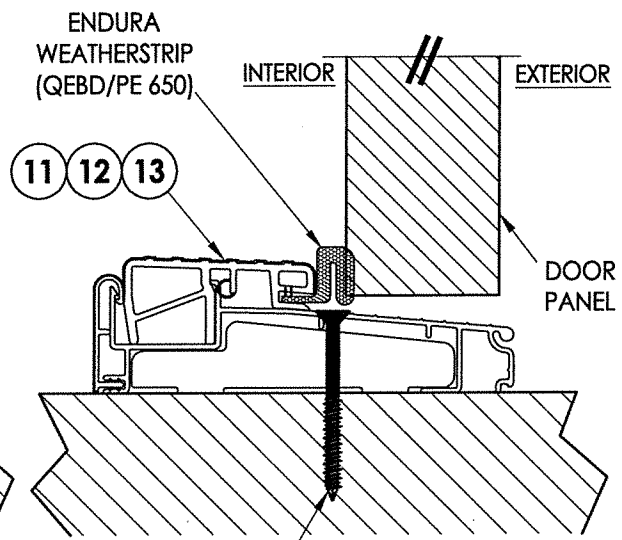
#10 X 2.5" PFH WOOD SCREW OR
1/4" X 2-3/4" ELCO OR ITW CONCRETE SCREW

1 VERTICAL CROSS SECTION
7 Inswing Adjustable Threshold



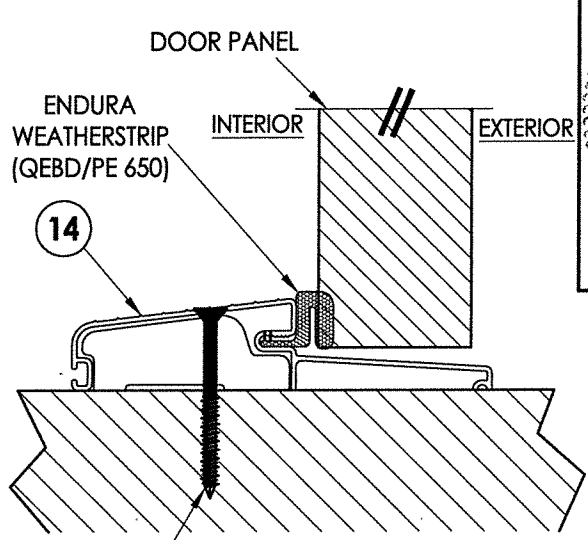
#10 X 2.5" PFH WOOD SCREW OR
1/4" X 2-3/4" ELCO OR ITW CONCRETE SCREW

2 VERTICAL CROSS SECTION
7 Inswing Articulating Threshold
w/ Pin Capture



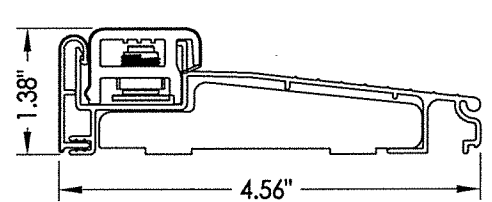
#10 X 2.5" PFH WOOD SCREW OR
1/4" X 2-3/4" ELCO OR ITW CONCRETE SCREW

3 VERTICAL CROSS SECTION
7 Outswing Bump Threshold

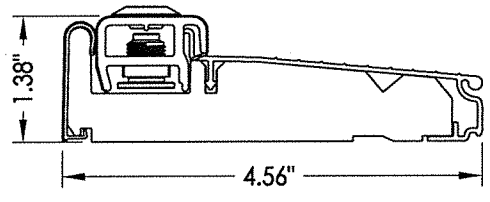


#10 X 2.5" PFH WOOD SCREW OR
1/4" X 2-3/4" ELCO OR ITW CONCRETE SCREW

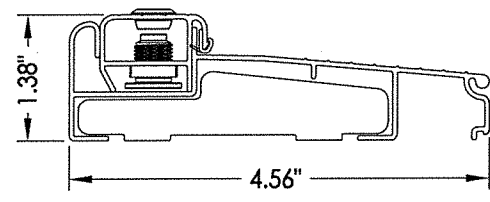
4 VERTICAL CROSS SECTION
7 Outswing Bump Threshold



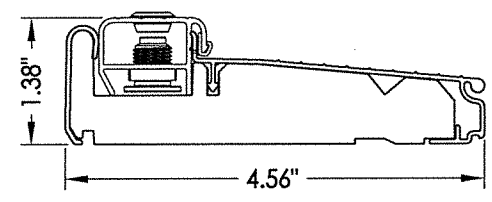
1 INSWING ADJUSTABLE THRESHOLD
ZAIL4565



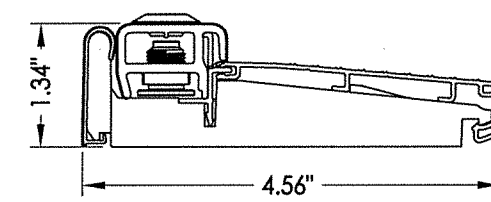
2 INSWING ADJUSTABLE THRESHOLD
ZAI4565FN



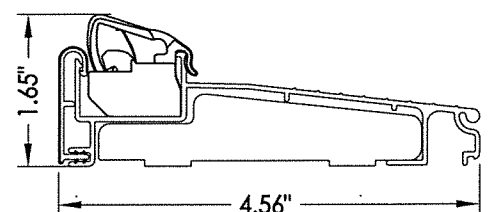
3 INSWING ADJUSTABLE THRESHOLD
ZAILAA4565



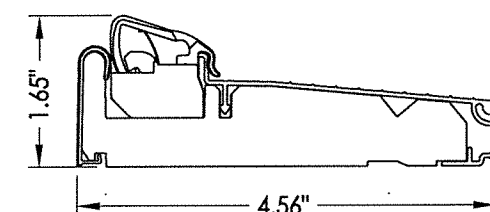
4 INSWING ADJUSTABLE THRESHOLD
ZAI4565FN



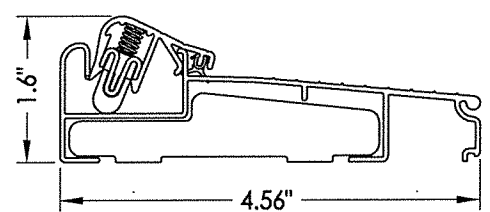
5 INSWING ADJUSTABLE THRESHOLD
ZAI4565RDS



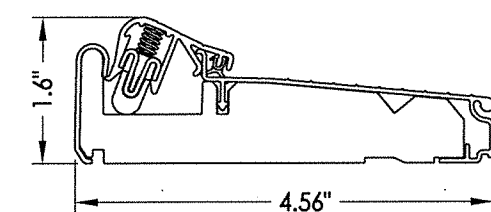
6 INSWING ARTICULATING THRESHOLD
ZACL4565



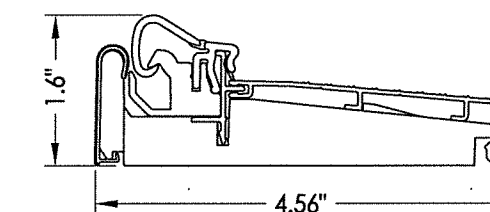
7 INSWING ARTICULATING THRESHOLD
ZAC4565FN



8 INSWING ARTICULATING THRESHOLD
ZACAA4565

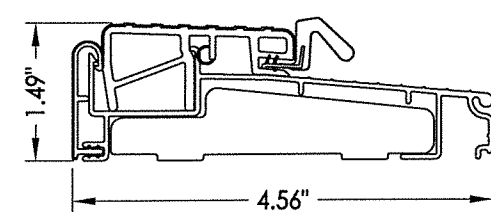


9 INSWING ARTICULATING THRESHOLD
ZACAA4565FN

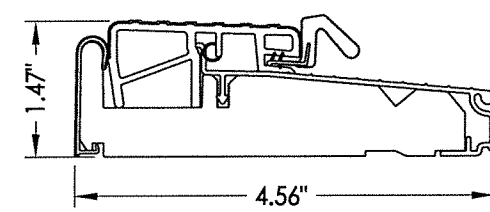


10 INSWING ARTICULATING THRESHOLD
ZAC4565RDS

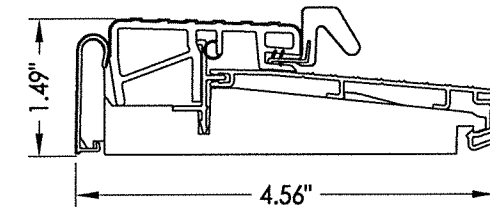
MAX. DESIGN PRESSURE = ±35 PSF



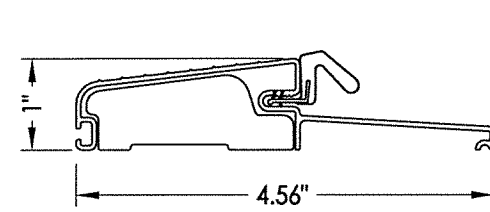
11 OUTSWING THRESHOLD
ZOBL4565



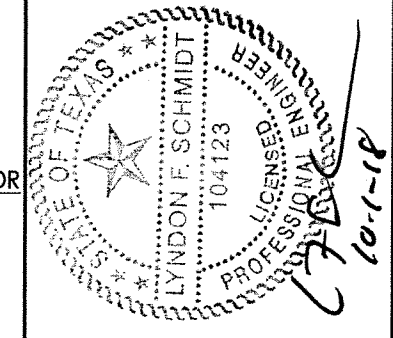
12 OUTSWING THRESHOLD
ZOB4565FN



13 OUTSWING THRESHOLD
ZOB4565RDS



14 OUTSWING THRESHOLD
FOB4566



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CERTIFICATE OF REGISTRATION # F-11852

PRODUCT: ENDURA

PART OR ASSEMBLY: VERTICAL CROSS SECTIONS

NO.	DATE	REVISIONS	BY
4	9/27/18	UPDATE FOR NEW TESTING	LFS
3	11/01/16	ADDED THRESHOLDS	LFS
2	5/05/15	ADD NEW ASTRAGAL PIN CAPTURE	LFS
1	1/09/14	ADDED ARTICULATING SILL	LFS

DATE: 8/20/12

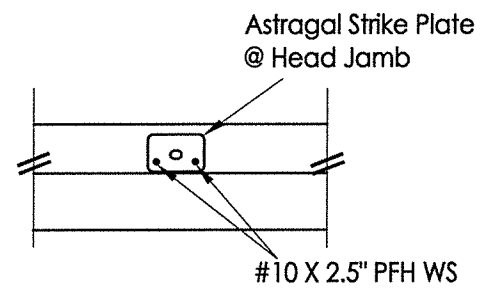
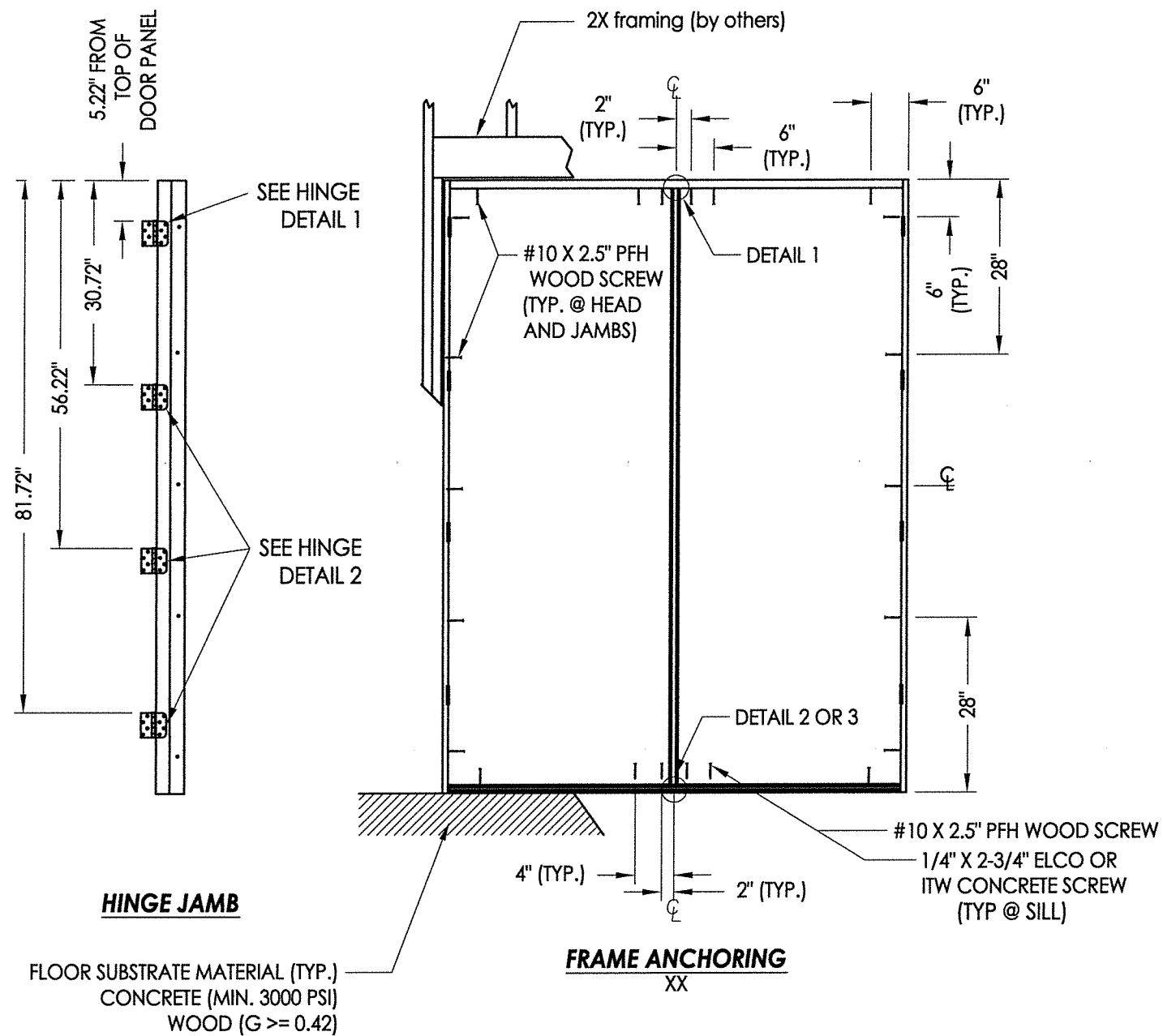
SCALE: N.T.S.

DWG. BY: JK

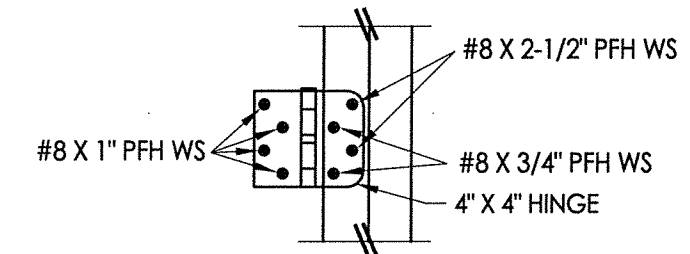
CHK. BY: LFS

DRAWING NO.: TX-4225

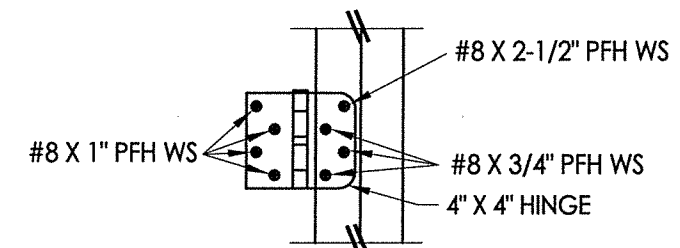
SHEET 7 OF 8



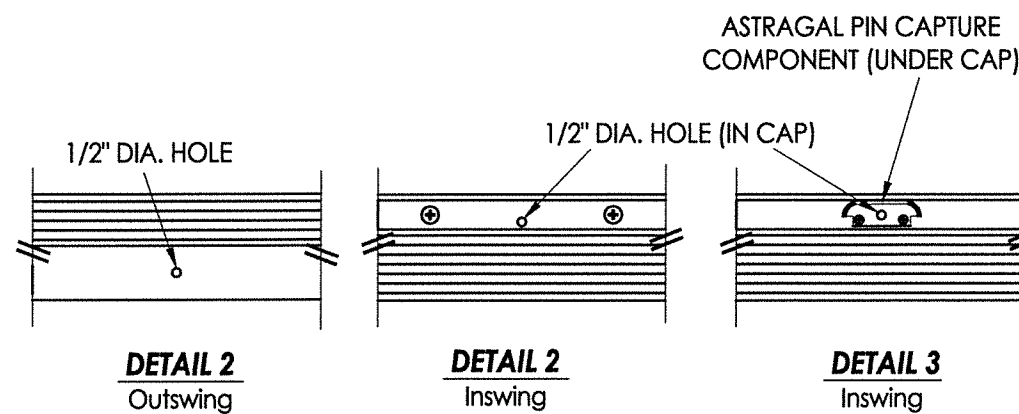
DETAIL 1



HINGE DETAIL 1



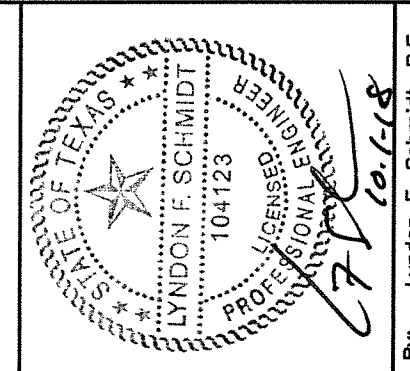
HINGE DETAIL 2



CONCRETE ANCHOR NOTES:

1. Concrete anchor locations at the corners may be adjusted to maintain the min. edge distance to mortar joints.
2. Concrete anchor locations noted as "MAX. ON CENTER" must be adjusted to maintain the min. edge distance to mortar joints, additional concrete anchors may be required to ensure the "MAX. ON CENTER" dimension are not exceeded.
3. Concrete anchor table:

ANCHOR TYPE	ANCHOR SIZE	MIN. EMBEDMENT	MIN. CLEARANCE TO MASONRY EDGE	MIN. CLEARANCE TO ADJACENT ANCHOR
ITW TAPCON®	1/4"	1-3/4"	2-1/2"	3"
ELCO ULTRACON®	1/4"	1-3/4"	1"	3"



Documents Prepared By: Lyndon F. Schmidt, P.E.
TEXAS P.E. #104123

RW BUILDING CONSULTANTS, INC.
P.O. Box 230 Valrico FL 33595
Phone No.: 813.659.9197

TEXAS BOARD OF PROFESSIONAL ENGINEERS
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PRODUCT:	ENDURA	
PART OR ASSEMBLY:	FRAME ANCHORING	
REVISIONS		
NO.	DATE	BY
4	9/27/18	LFS
3	11/01/16	LFS
2	5/05/15	LFS
1	1/09/14	LFS
DATE: 8/20/12		
SCALE: N.T.S.		
DWG. BY: JK		
CHK. BY: LFS		
DRAWING NO.: TX-4225		
SHEET 8 OF 8		