



Product Evaluation

LVR11 | 1116

Engineering Services Program

The following product has been evaluated for compliance with the wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC).

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

For more information, contact TDI Engineering Services Program at (800) 248-6032.

Evaluation ID: LVR-11

Effective Date: November 1, 2016

Re-evaluation Date: November 2020

Product Name: SED-5.1 Aluminum Louver System with or without CD-151 Damper, Impact Resistant

Manufacturer: United Enertech, Inc.
3005 South Hickory Street
Chattanooga, TN 37407
(423) 698-7715

General Description:

Louvers manufactured of extruded aluminum and assembled using extruded aluminum blades. The louvers may be installed with or without aluminum dampers. The louvers are used for exhaust and intake ventilation openings in the exterior wall of the structure.

Design Drawings:

- “SED-5.1 Louver System with or without CD-151 Damper Assembly,” manufactured by United Enertech, Inc., Drawing No. 16-005, Sheets 1–16 of 16, dated January 20, 2016, signed, sealed, and dated January 21, 2016 by Walter A. Tillit, P.E.. The stated drawings will be referred to as approved drawings in this report.

Limitations:

Configurations:

- Single SED 5.1 Louver Units with or without Damper with Square Edges
- Multiple SED 5.1 Louver Units with or without Damper with Mullion
- Single SED 5.1 Louver Units with or without Damper with Curved Edges

Mounting Conditions:

- Trapped Mount

Wall Construction: The louvers may be mounted to the following types of wall framing:

- Pre-cast concrete, cast-in-place concrete (minimum compressive strength required specified in drawings)
- Grout-filled concrete masonry units (CMU)
- Steel (minimum 1/8" thick, ASTM A500, A653, or A36)

Allowable Design Pressure: The allowable design pressure varies for all single units with square edges without mullions with or without damper and single units with curved edges without damper. The allowable design pressure varies for all multiple units with mullions with or without damper. The maximum allowable design pressure is +/-150.0 psf. Refer to the approved drawings for the allowable design pressure for a specific installation condition.

Maximum Width: The maximum width of a louver panel unit is 6'-0". Louver panel units may be placed side by side utilizing mullions to achieve an unlimited overall width.

Maximum Height: Louver panel units may be stacked to achieve an opening height. Refer to the approved drawings for the maximum allowable height for a specific condition.

Product Identification: The louvers must have a manufacturer-produced label that indicates the manufacturer: "United Enertech, Inc.", the name of the product: "SED-5.1 Louver System with or without CD-151 Damper Assembly", the missile Level: Large Missile, and compliance with TAS-201, TAS-202, and TAS-203.

Impact Resistance: This louver assembly satisfies the Texas Department of Insurance's criteria for protection from windborne debris in both the **Inland I zone** and the **Seaward zone**. The assembly has passed a missile test equivalent to Missile Level D specified in ASTM E 1996. The assembly may be installed at any height on the structure as long as the design pressure rating for the assembly is not exceeded.

Installation:

General Installation Requirements: The louvers must be installed in accordance with the manufacturer's installation instructions, the approved drawings, and this product evaluation report. Copies of the approved drawings must be available on the jobsite during inspection of the louver assembly.

Anchorage: The louver must be anchored to the structure in accordance with the approved drawings. Anchorage of the louvers to concrete, grout-filled concrete masonry units (CMU), and steel wall framing must follow the mounting conditions, fastener options, and fastener placement specified on the approved drawings.

Note: Keep the manufacturer's installation instructions available on the job site during installation. Use corrosion resistant fasteners as specified in the IRC, the IBC, and the Texas Revisions.

GENERAL NOTES:

1. SED-5.1 LOUVER SYSTEM WITH OR WITHOUT CD-151 DAMPER SHOWN ON THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) HAS BEEN VERIFIED FOR COMPLIANCE IN ACCORDANCE WITH THE 2006 EDITION OF THE INTERNATIONAL BUILDING CODE, (I.B.C) AND INTERNATIONAL RESIDENTIAL CODE, (I.R.C) WITH THE 2006 TEXAS REVISIONS, EFFECTIVE JANUARY 1, 2008.

DESIGN WIND LOADS SHALL BE DETERMINED AS PER SECTION 1609 OF THE INTERNATIONAL BUILDING CODE, FOR A BASIC WIND SPEED AS REQUIRED BY THE JURISDICTION WHERE PRODUCT WILL BE INSTALLED, AND FOR A DIRECTIONALITY FACTOR $K_d = 0.85$, IN ACCORDANCE WITH ASCE 7-05 STANDARD, AND SHALL NOT EXCEED THE DESIGN PRESSURE RATING INDICATED ON THIS NOTE.

IN ORDER TO VERIFY THAT ANCHORS ON THIS P.E.D., AS TESTED, WERE NOT OVERSTRESSED, A 33% INCREASE IN ALLOWABLE STRESS FOR WIND LOADS WAS NOT USED IN THEIR ANALYSIS. FASTENERS SPACING TO WOOD HAS BEEN DETERMINED IN ACCORDANCE WITH N.D.S. 2005.

SED-5.1 LOUVER SYSTEM WITH OR WITHOUT CD-151 DAMPER ADEQUACY FOR IMPACT AND CYCLIC RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTIONS 1609.1.4 AND R301.2.1.2 OF THE ABOVE MENTIONED CODES RESPECTIVELY, AS PER FLORIDA BUILDING CODE HIGH VELOCITY HURRICANE ZONES PROTOCOLS TAS-201, TAS-202, TAS-203, PER AMERICAN TESTING LAB REPORT # 0514.01-08, AS WELL AS PER ANSI/AMCA IMPACT STANDARD 540, PER INTERTEK/ARCHITECTURAL TESTING REPORT # F 3136.01-550-44 & PRI TECHNOLOGIES LAB REPORT # UEC-001-02-01, PER TAS-100A (WIND DRIVEN RAIN, EXCEEDS ANSI/AMCA 550-09 STANDARD), AND AS PER SUBMITTED STRUCTURAL CALCULATIONS, PERFORMED AS PER SECTION 1604 OF THE ABOVE MENTIONED BUILDING CODE.

DESIGN PRESSURE RATING:

VARIABLES (psf), FOR ALL SINGLE UNITS W/ SQUARE EDGES WITHOUT MULLIONS WITH OR WITHOUT DAMPER. (SEE SCHEDULE ON SHEET 4A), AND +150, -150 psf. FOR ALL SINGLE UNITS W/ CURVED EDGES W/O DAMPER.

VARIABLES (psf), FOR ALL MULTIPLE UNITS WITH MULLIONS (12L) WITH OR WITHOUT DAMPER (SEE SCHEDULE ON SHEET 15).

2. ALL ALUMINUM EXTRUSIONS SHALL BE 6063-T5 ALLOY WITH MIN. SPECIFIC YIELD STRENGTHS AS SHOWN ON SHEETS 2 AND 3

3. ALL SCREWS AND BOLTS INSTALLED AT SEAWARD AREAS TO BE STAINLESS STEEL 304 OR 316 AISI SERIES AND MEET ASTM A167, OR HOT DIPPED GALVANIZED (AFTER FABRICATION) CARBON STEEL AS PER ASTM A 123 OR ASTM A153, OR HOT DIPPED GALVANIZED OR GALVANNEALED (PRIOR TO FABRICATION) AND MEET ASTM A653 WITH 50 ksi YIELD STRENGTH AND 90 hsi TENSILE STRENGTH, PER 2006 TEXAS REVISIONS TO SECTION TO SECTION 1716.1.2 OF THE 2006 I.B.C AND SECTION R324.1.1 OF THE 2006 I.R.C.

ALL SCREWS AND BOLTS INSTALLED AT INLAND AREAS TO BE STAINLESS STEEL 304 OR 316 AISI SERIES AND MEET ASTM A167, OR HOT DIPPED GALVANIZED (AFTER FABRICATION) CARBON STEEL AS PER ASTM A123 OR ASTM A153, OR HOT DIPPED GALVANIZED OR GALVANNEALED (PRIOR TO FABRICATION) AND MEET ASTM A653; HOT DIP GALVANIZED OR ELECTRO GALVANIZED PER ASTM A641, MECHANICALLY DEPOSITED ZINC COATING PER ASTM B695 OR ELECTRO DEPOSITED ZINC COATINGS PER ASTM B133, PER THE 2006 TEXAS REVISIONS TO SECTION 1716.1.2 OF THE 2006 I.B.C AND TO SECTION R324.1.2 OF THE 2006 I.R.C.

4. ALL WELDING OF ALUMINUM FRAMING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY A.W.S. D.1.2 2004 EDITION REGULATIONS. USE CERTIFIED WELDERS. USE ER-5356 ELECTRODES.

5. ANCHORS TO EXISTING STRUCTURE'S JAMBS SHALL BE AS FOLLOWS (SEE SHEETS 11 AND 16):

- ANCHORS SHALL BE INSTALLED FOLLOWING ALL OF THE RECOMMENDATIONS AND SPECIFICATIONS OF THE ANCHOR'S MANUFACTURER. E.D. IS BEYOND ANY WALL FINISH.

ANCHOR TYPE	MANUFACTURER	DIAMETER OR GAGE	MIN. EMBEDMENT			MIN. EDGE DISTANCE (E.D)	
			TO CONCRETE (f'c= 3192psi) MIN.	TO CONCRETE BLOCK (C-90 UNIT)	TO 1/8" MIN. STEEL Fy=33 ksi (MIN.)	CONCRETE OR CONCRETE BLOCK	STEEL
TAPCONS	ITW/ BUILDEX	1/4"	1-3/4"	1-1/4"	N/A	3"	N/A
TEK SCREWS	ITW/ BUILDEX	1/4"	N/A	N/A	3/4"	N/A	1"

- ANCHORS FOR MULLION CONNECTIONS SHALL BE AS INDICATED ON SHEETS 12 AND 13

6. SED-5.1 LOUVER SYSTEM WITHOUT CD-151 DAMPER SHALL ONLY BE INSTALLED IN A LOCATION WHERE THE ROOM BEHIND THE LOUVER IS DESIGNED TO DRAIN WATER PENETRATING INTO THE ROOM, AND THE ROOM WILL HOUSE WATER RESISTANT/WATER PROOF EQUIPMENT, COMPONENTS OR SUPPLIES.

7. SED-5.1 LOUVER SYSTEM WITH CD-151 DAMPER MAY BE INSTALLED IN LOCATIONS WHERE THE ROOM BEHIND THE LOUVER IS NOT DESIGNED TO DRAIN WATER PENETRATING INTO THE ROOM, OR THE ROOM WILL HOUSE NON-WATER RESISTANT EQUIPMENT, COMPONENTS, OR SUPPLIES. INSTALLATION ON LOUVER WITH DAMPER IS LIMITED TO 40 FT IN HEIGHT ACCORDING TO TABLE 3 OF TAS 100(A)-95.

8. CD-151 DAMPER IS AN OPERABLE ASSEMBLY, IT MAY BE OPERATED BY MEANS OF A HAND QUADRANT HANDLE MECHANISM (AS SHOWN ON SHEET 7) OR THROUGH AN ELECTRICAL OR PNEUMATIC ACTUATOR. DAMPER'S OPERATIVE MECHANISM IS NOT PART OF THIS APPROVAL, BUT SHALL BE CERTIFIED BY AN INDEPENDENT TESTING AGENCY.

9. ALL ALUMINUM EXTRUSIONS IN CONTACT WITH STEEL, CONCRETE, GROUT FILLED CONCRETE BLOCK AND WOOD SHALL COMPLY WITH SECTION 6.7 OF THE ALUMINUM DESIGN MANUAL 2005 EDITION.

10. SHOP DRAWINGS PREPARED BASED ON THIS T.D.I REPORT AND TAKING INTO ACCOUNT THE SPECIFIC JOB CONDITIONS, SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AS PART OF THE PERMIT DOCUMENTS.

11. SUBSTRATE MATERIAL NOTED ON THIS DRAWING AS EXISTING BY OTHERS, POURED CONCRETE, GROUT FILLED CONCRETE BLOCK AND WOOD MUST WITHSTAND THE LOADS IMPOSED BY THIS PRODUCT.

12. THIS PRODUCT'S INSTALLATION SHALL COMPLY WITH ALL SPECS INDICATED IN THIS DRAWING PLUS ANY BUILDING AND ZONING REGULATIONS PROVIDED BY THE JURISDICTION WHERE PERMIT IS APPLIED TO.

13. (a) THIS P.E.D. PREPARED BY THIS ENGINEER IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT; i.e. WHERE THE SITE CONDITIONS DEVIATE FROM THE P.E.D.

(b) CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION INCLUDING LIFE SAFETY OF THIS PRODUCT, BASED ON THIS P.E.D., PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT. CONSTRUCTION SAFETY AT SITE IS THE CONTRACTOR'S RESPONSIBILITY.

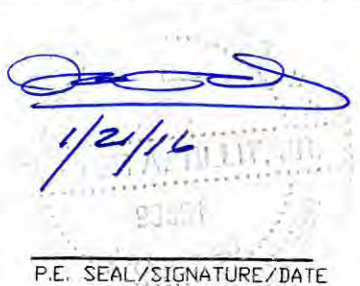
(c) THIS P.E.D. WILL BE CONSIDERED INVALID IF ALTERED BY ANY MEANS.

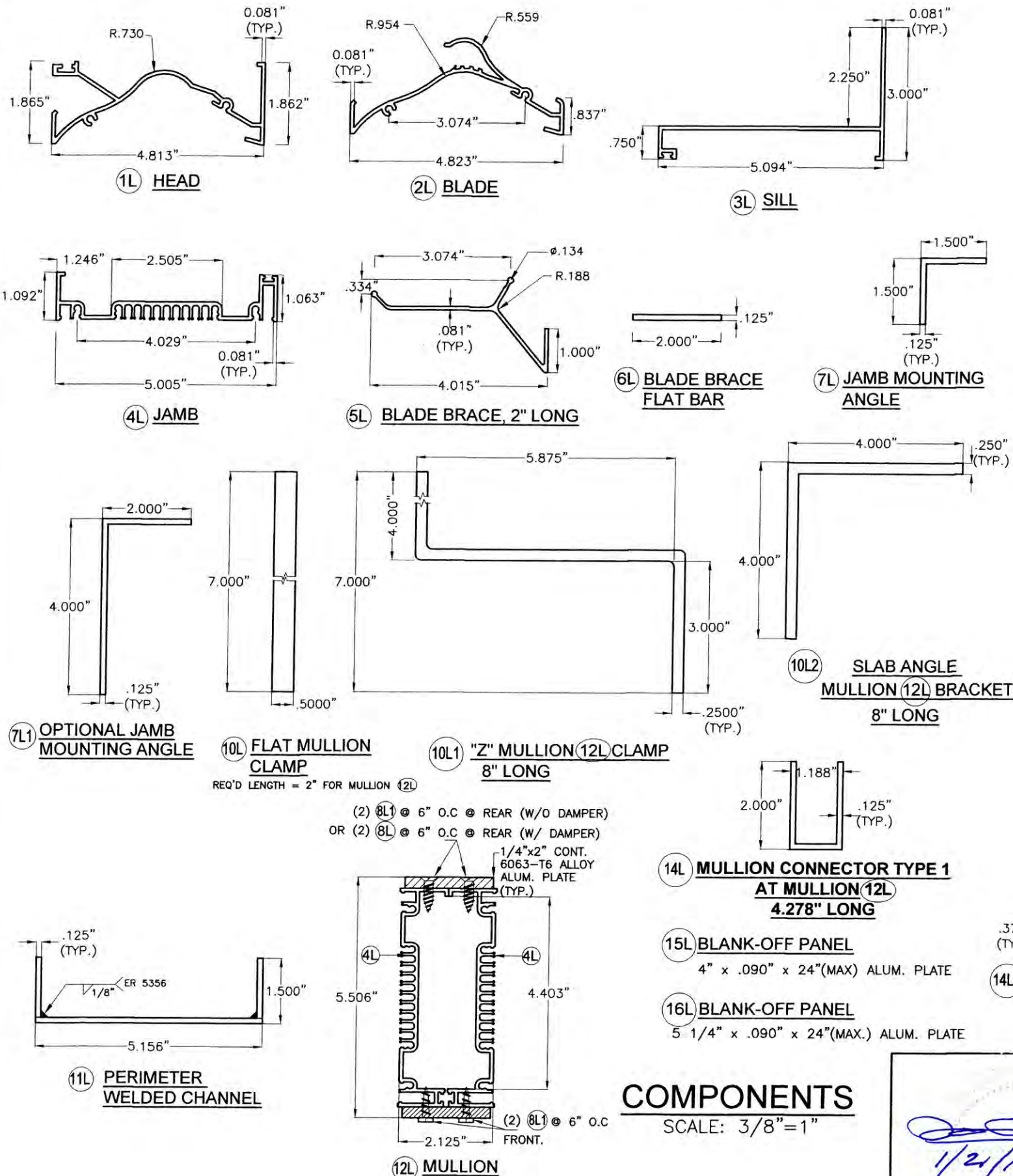
(d) SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A PROFESSIONAL ENGINEER OR ARCHITECT WHICH WILL BECOME THE ENGINEER OF RECORD (E.O.R.) FOR THE PROJECT AND WHO WILL BE RESPONSIBLE FOR THE PROPER USE OF THE P.E.D. ENGINEER OF RECORD, ACTING AS A DELEGATED ENGINEER TO THE P.E.D. ENGINEER, SHALL SUBMIT TO THIS LATTER THE SITE SPECIFIC DRAWINGS FOR REVIEW.

(e) ORIGINAL P.E.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.

14. PRODUCT MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION AT PRODUCT IN ACCORDANCE WITH TEXAS DEPARTMENT OF INSURANCE REQUIREMENTS. ONE LABEL SHALL BE PLACED FOR EVERY OPENING.

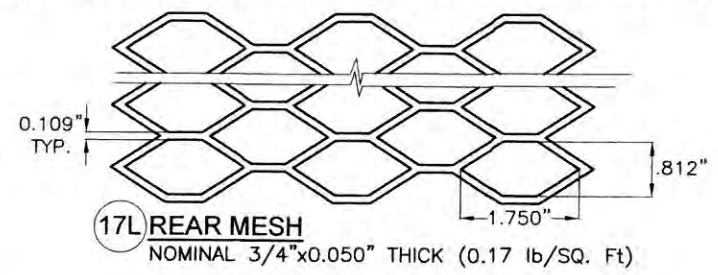
THIS DRAWING SHALL ONLY BE USED TO OBTAIN PERMITS UNDER THE TEXAS DEPARTMENT OF INSURANCE JURISDICTION

TEXAS DEPARTMENT OF INSURANCE - 2006																							
 P.E. SEAL/SIGNATURE/DATE	WALTER A. TILLIT Jr P.E. PROFESSIONAL ENGINEER 6355 N.W 36 STREET, STE. 305 VIRGINIA GARDENS, FL 33166 PHONE(305) 871-1530 FAX (305) 871-1531 TEXAS LIC. # 90691 FIRM REGISTRATION # F-13790			SED-5.1 LOUVER SYSTEM WITH OR WITHOUT CD-151 DAMPER ASSEMBLY		M.L. DRAWN BY:																	
	UNITED ENERTECH, INC. 3005 SOUTH HICKORY ST. CHATTANOOGA, TN 37407 PHONE: (423)698-7715 FAX:(423)698-6629			01/20/16 DATE:		16-005 DRAWING No.																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REV. NO</th> <th>DESCRIPTION</th> <th>DATE</th> <th>REV. No</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-</td> <td>-</td> <td>3</td> <td>-</td> <td>-</td> </tr> <tr> <td>2</td> <td>-</td> <td>-</td> <td>4</td> <td>-</td> <td>-</td> </tr> </tbody> </table>						REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	1	-	-	3	-	-	2	-	-	4	-	-
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE																		
1	-	-	3	-	-																		
2	-	-	4	-	-																		
					SHEET 1 OF 16																		



BILL OF MATERIALS SED-5.1 LOUVER ASSEMBLY				
ITEM	DESCRIPTION	MATERIAL	SIZE	REMARKS
1L	EXTRUDED ALUM. HEAD	6063-T5 ALLOY	SEE DETAIL	Fy (MIN.) = 16 ksi
2L	EXTRUDED ALUM. BLADE	6063-T5 ALLOY	SEE DETAIL	Fy (MIN.) = 16 ksi
3L	EXTRUDED ALUM. SILL	6063-T5 ALLOY	SEE DETAIL	Fy (MIN.) = 16 ksi
4L	EXTRUDED ALUM. JAMB	6063-T5 ALLOY	SEE DETAIL	Fy (MIN.) = 16 ksi
5L	EXTRUDED ALUM. BLADE BRACE	6063-T5 ALLOY	SEE DETAIL	Fy (MIN.) = 16 ksi
6L	EXTRUDED ALUM. FLAT BAR	6063-T5 ALLOY	SEE DETAIL	Fy (MIN.) = 16 ksi
7L	EXTRUDED ALUM. JAMB MOUNTING ANGLE	6063-T6 ALLOY	SEE DETAIL	Fy (MIN.) = 25 ksi
7L1	OPTIONAL EXTRUDED ALUM. JAMB MOUNTING ANGLE	6063-T6 ALLOY	SEE DETAIL	Fy (MIN.) = 25 ksi
8L	FLAT HEAD TEK SCREWS	ZINC PLATED STEEL	1/4"Ø x 3/4" LONG	ITW / BUILDEX
8L1	HEX HEAD TEK SCREWS	ZINC PLATED STEEL	1/4"Ø x 1" LONG	ITW / BUILDEX
9L	NEOPRENE WASHER HEAD S.M.S.	410 STAINLESS STEEL	#8 x 1-1/2" LONG	LOUVER BLADE AND FRAME ASSEMBLY (1L, 2L, & 4L)
10L	FLAT MULLION CLAMP	ASTM A-36 OR ASTM A-653 GRADE 40 OR AISI 304 S.S. *	SEE DETAIL	REQ'D LENGTH = 2" FOR MULLION 12L Fy (MIN.) = 36 ksi
10L1	"Z" MULLION CLAMP	ASTM A-36 OR ASTM A-653 GRADE 40 OR AISI 304 S.S. *	SEE DETAIL	8" LONG AT HEAD & SILL AT BLADE W/ MULLION 12L Fy (MIN.) = 36 ksi
10L2	ANGLE MULLION BRACKET	6063-T6 ALLOY	SEE DETAIL	8" LONG AT HEAD & SILL AT BLADE W/ MULLIONS. Fy (MIN.) = 25 ksi
11L	PERIMETER WELDED CHANNEL	6063-T5 ALLOY	SEE DETAIL	Fy (MIN.) = 16 ksi
12L	MULLION	6063-T5 ALLOY	SEE DETAIL	Fy (MIN.) = 16 ksi
14L	MULLION CONNECTOR TYPE 1 AT MULLION 12L	6063-T6 ALLOY	SEE DETAIL	Fy (MIN.) = 16 ksi
14L1	MULLION CONNECTOR TYPE 2 AT MULLION 12L	ASTM A-36 *	SEE DETAIL	Fy (MIN.) = 36 ksi
15L	BLANK-OFF PANEL	6063-T5 ALLOY	SEE DETAIL	Fy (MIN.) = 16 ksi
16L	BLANK-OFF PANEL	6063-T5 ALLOY	SEE DETAIL	Fy (MIN.) = 16 ksi
17L	REAR MESH	3003-H14 ALLOY	SEE DETAIL	Fy (MIN.) = 16 ksi

* NOTE: STEEL COMPONENTS SHALL BE PROTECTED FROM CORROSION W/ A PRIMER CONSISTING OF RED OXIDE PAINT OR SIMILAR W/ GALVANIZING (G-60) AS AN OPTION. ADDITIONALLY, FINAL (FINISH) PAINT FOR THESE PROFILES SHALL BE IN ACCORDANCE W/ SECTION 2003.8.4.2 OF THE F.B.C., ADDRESSING PROTECTION OF ALUMINUM IN CONTACT W/ METALS NOT CONSIDERED COMPATIBLE.



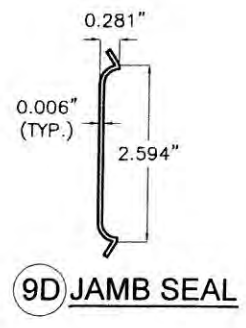
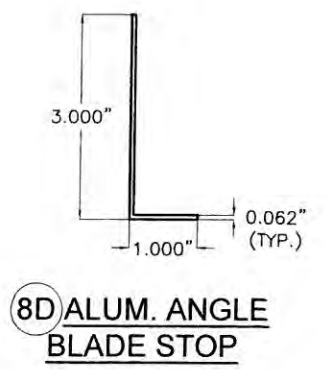
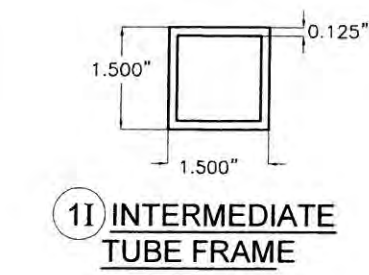
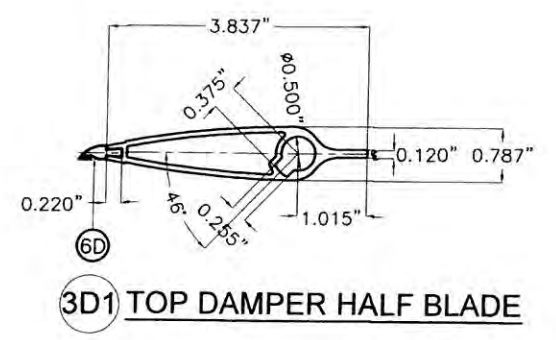
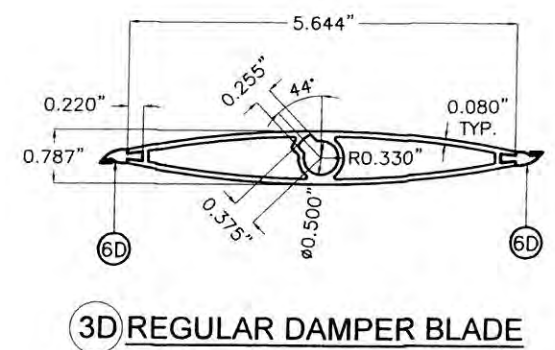
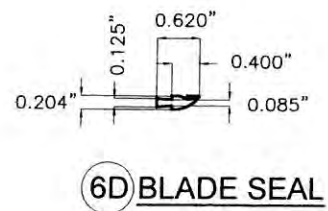
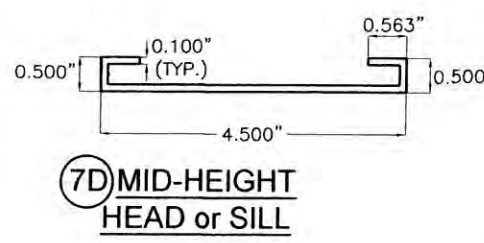
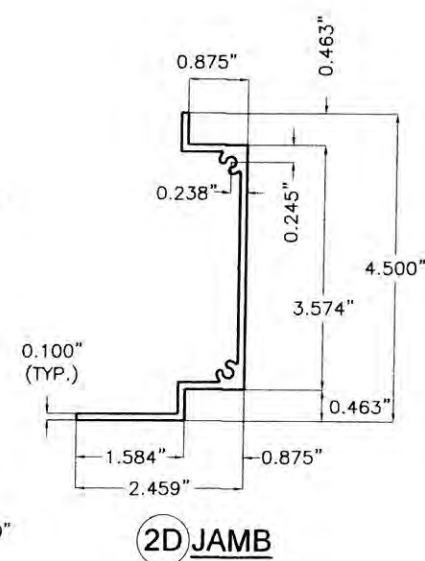
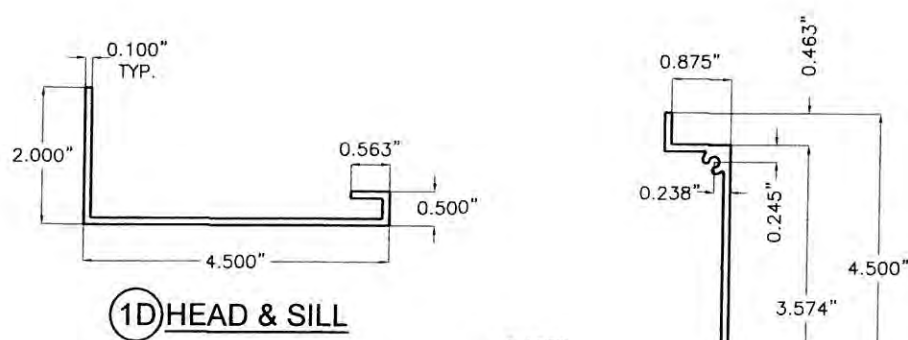
COMPONENTS
SCALE: 3/8"=1"

WALTER A. TILLIT Jr P.E.
PROFESSIONAL ENGINEER
6355 N.W. 36 STREET, STE. 305
VIRGINIA GARDENS, FL 33166
PHONE(305) 871-1530 FAX (305) 871-1531
TEXAS LIC. # 90691
FIRM REGISTRATION # F-13790

1/21/16
P.E. SEAL/SIGNATURE/DATE

TEXAS DEPARTMENT OF INSURANCE - 2006


SED-5.1 LOUVER SYSTEM WITH OR WITHOUT CD-151 DAMPER ASSEMBLY			M.L. DRAWN BY:		
UNITED ENERTECH, INC. 3005 SOUTH HICKORY ST. CHATTANOOGA, TN 37407 PHONE: (423)698-7715 FAX:(423)698-6629			01/20/16 DATE:		
16-005 DRAWING No.			SHEET 2 OF 16		
REV. NO	DESCRIPTION	DATE	REV. NO	DESCRIPTION	DATE
1	-	-	3	-	-
2	-	-	4	-	-

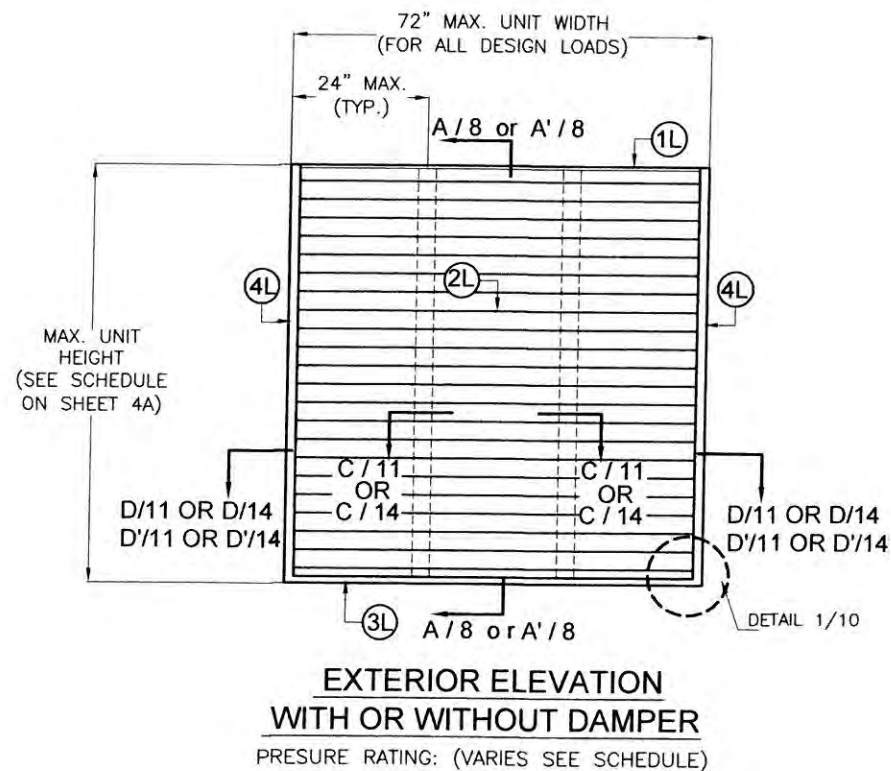
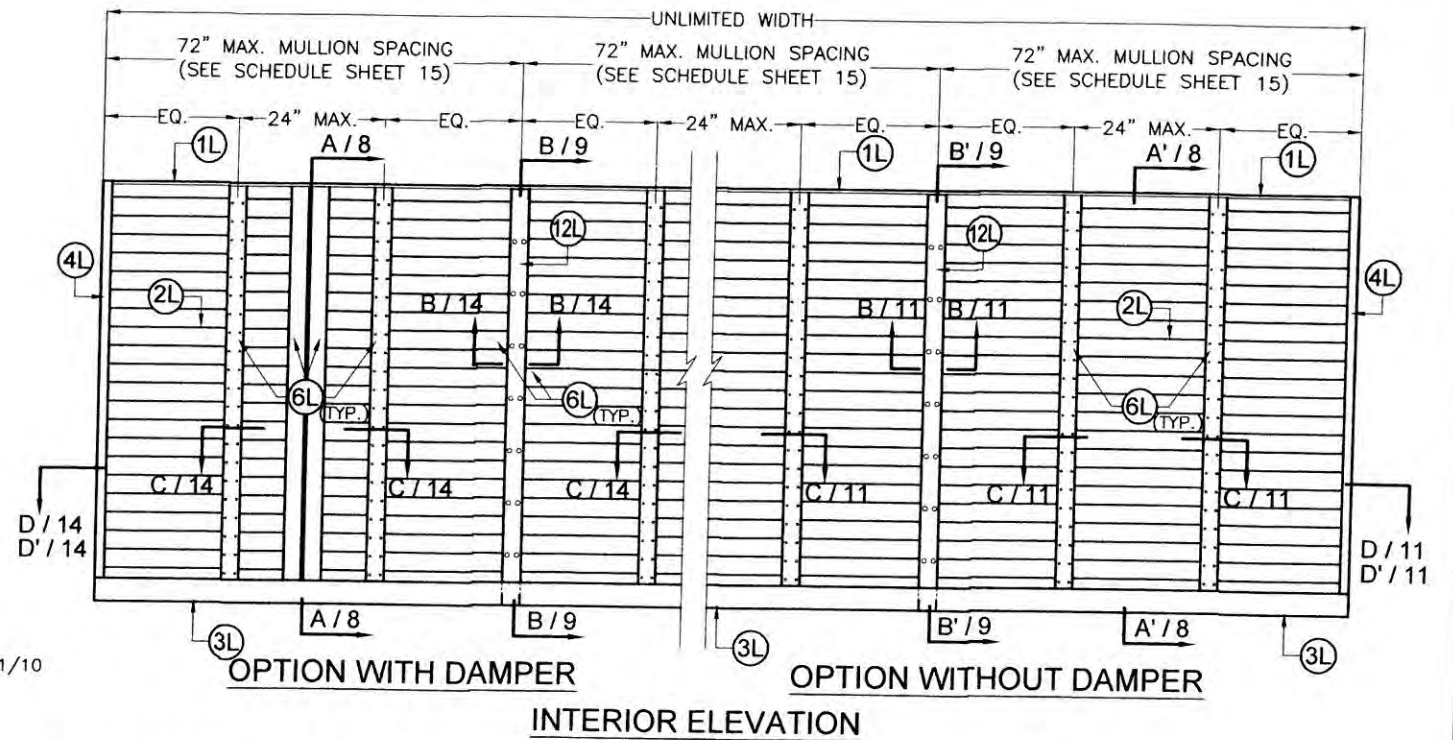
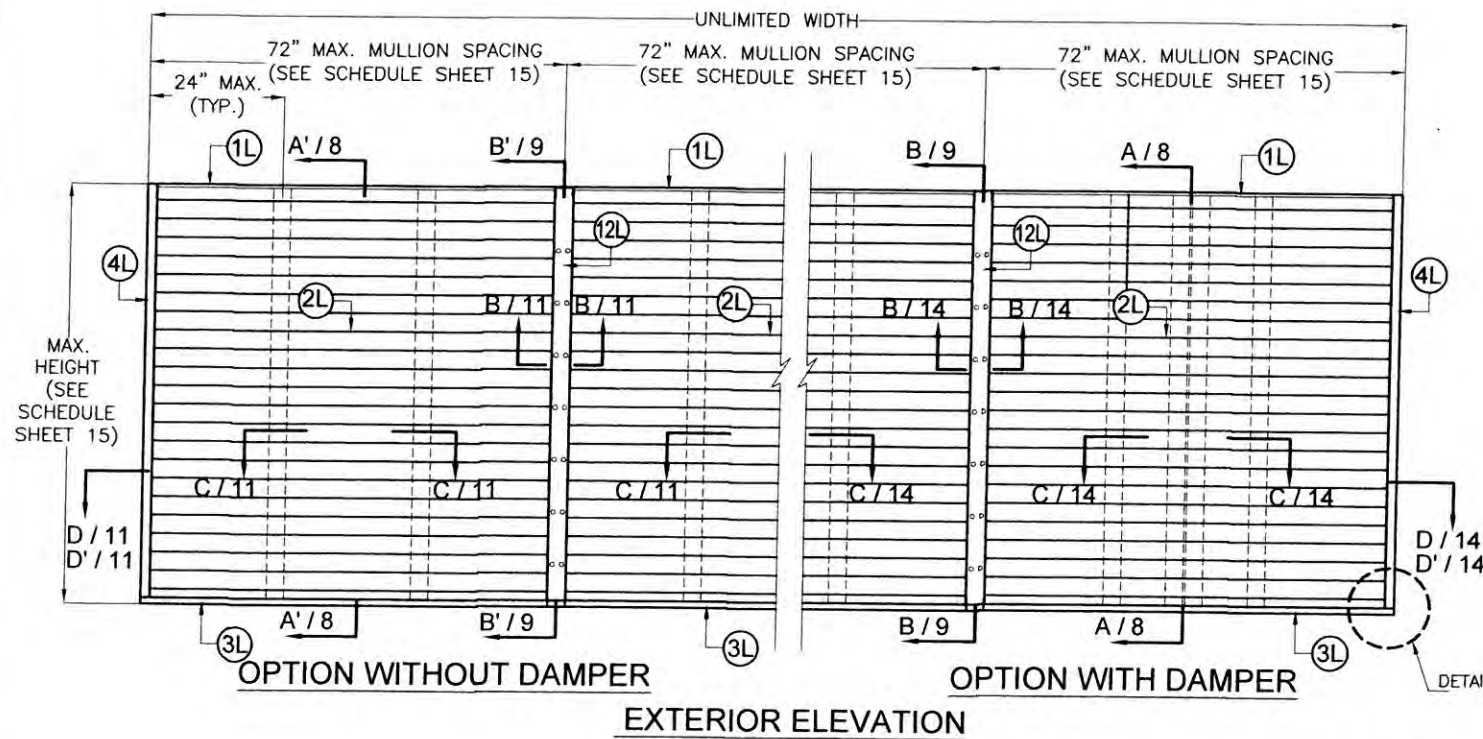


BILL OF MATERIALS CD-151 DAMPER ASSEMBLY				
ITEM	DESCRIPTION	MATERIAL	SIZE	REMARKS
1D	EXTRUDED ALUM. HEAD & SILL	6063-T5 ALUMINUM ALLOY	SEE DETAIL	Fy(MIN.)=33.4 ksi
2D	EXTRUDED ALUM. JAMB	6063-T5 ALUMINUM ALLOY	SEE DETAIL	Fy(MIN.)=31.6 ksi
3D	EXTRUDED ALUM. REGULAR DAMPER BLADE	6063-T5 ALUMINUM ALLOY	SEE DETAIL	Fy(MIN.)=31.8 ksi
3D1	EXTRUDED ALUM. TOP DAMPER HALF BLADE	6063-T5 ALUMINUM ALLOY	SEE DETAIL	Fy(MIN.)=31.8 ksi
4D	BUSHING	BRONZE	1/2" I.D. (5/8" O.D.)x1/4"	0.059" THICK @ WASHER SIDE
5D	AXLE PIN	ZAMAC No. 3 ZINC	1/2"x3 1/8"	WITH NYLON WASHER & LOCK RING
6D	BLADE SEAL	SILICONE	SEE DETAIL	ASTM D-2000, 60-65 DUROMETER
7D	MID-HEIGHT EXTRUDED ALUM. HEAD or SILL	6063-T5 ALUMINUM ALLOY	SEE DETAIL	Fy(MIN.)=29.8 ksi
8D	ALUM. ANGLE BLADE STOP	6063-T5 ALUMINUM ALLOY	SEE DETAIL	WITH VINYL WEATHER STRIP AT END OF 3" LEG
9D	JAMB SEAL	STAINLESS STEEL 316 SERIES	SEE DETAIL	ATTACHED TO 2D W/(3) DOUBLE SIDED (1"x1/8") TAPES
10D	S.D.S. TEK SCREW	ZINC PLATED	#8 X 1/2"	FASTEN TO 6D @ 12" O.C., 2 1/2" FROM ENDS
1I	INTERMEDIATE TUBE FRAME	6063-T5 ALUMINUM ALLOY	SEE DETAIL IN THIS SHEET AND SHEET 9.	Fy(MIN.)=31.9 ksi INSTALL BETWEEN DAMPER & LOUVER FRAME.

CD-151 DAMPER AND INTERMEDIATE TUBE FRAME COMPONENTS
(EXCLUDES COMPONENTS FOR OPERATIVE MECHANISM, SEE NOTE 8/1)

COMPONENTS
SCALE: 3/8"=1"

 P.E. SEAL/SIGNATURE/DATE		TEXAS DEPARTMENT OF INSURANCE - 2006																			
		WALTER A. TILLIT Jr P.E. PROFESSIONAL ENGINEER 6355 N.W 36 STREET, STE. 305 VIRGINIA GARDENS, FL 33166 PHONE(305) 871-1530 FAX (305) 871-1531 TEXAS LIC. # 90691 FIRM REGISTRATION # F-13790	SED-5.1 LOUVER SYSTEM WITH OR WITHOUT CD-151 DAMPER ASSEMBLY UNITED ENERTECH, INC. 3005 SOUTH HICKORY ST. CHATTANOOGA, TN 37407 PHONE: (423)698-7715 FAX:(423)698-6629	M.L. DRAWN BY: 01/20/16 DATE: 16-005 DRAWING No.																	
<table border="1"> <thead> <tr> <th>REV. NO</th> <th>DESCRIPTION</th> <th>DATE</th> <th>REV. No</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-</td> <td>-</td> <td>3</td> <td>-</td> <td>-</td> </tr> <tr> <td>2</td> <td>-</td> <td>-</td> <td>4</td> <td>-</td> <td>-</td> </tr> </tbody> </table>		REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	1	-	-	3	-	-	2	-	-	4	-	-	SHEET 3 OF 16	
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE																
1	-	-	3	-	-																
2	-	-	4	-	-																

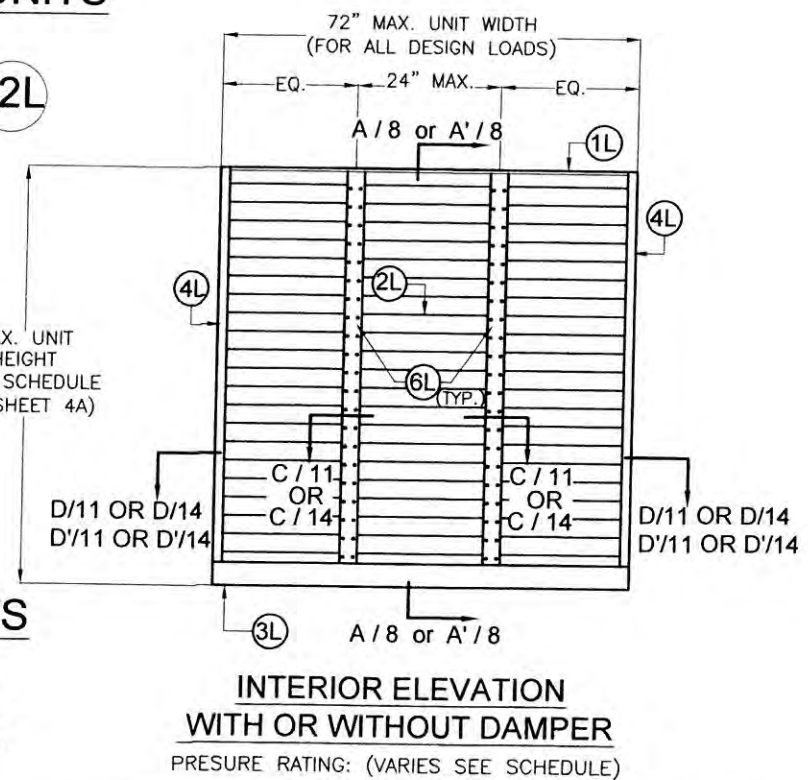


**MULTIPLE SED 5.1 LOUVER UNITS
WITH OR WITHOUT
DAMPER WITH MULLION 12L**

N.T.S.
(PRESURE RATING VARIES, SEE SCHEDULE
ON SHEET 15)

**SINGLE SED 5.1 LOUVER UNITS
WITH OR WITHOUT
DAMPER W/ SQUARE EDGES**

N.T.S



[Handwritten Signature]
1/24/16
P.E. SEAL/SIGNATURE/DATE

WALTER A. TILLIT Jr P.E.
PROFESSIONAL ENGINEER
6355 N.W 36 STREET, STE. 305
VIRGINIA GARDENS, FL 33166
PHONE(305) 871-1530 FAX (305) 871-1531
TEXAS LIC. # 90691
FIRM REGISTRATION # F-13790

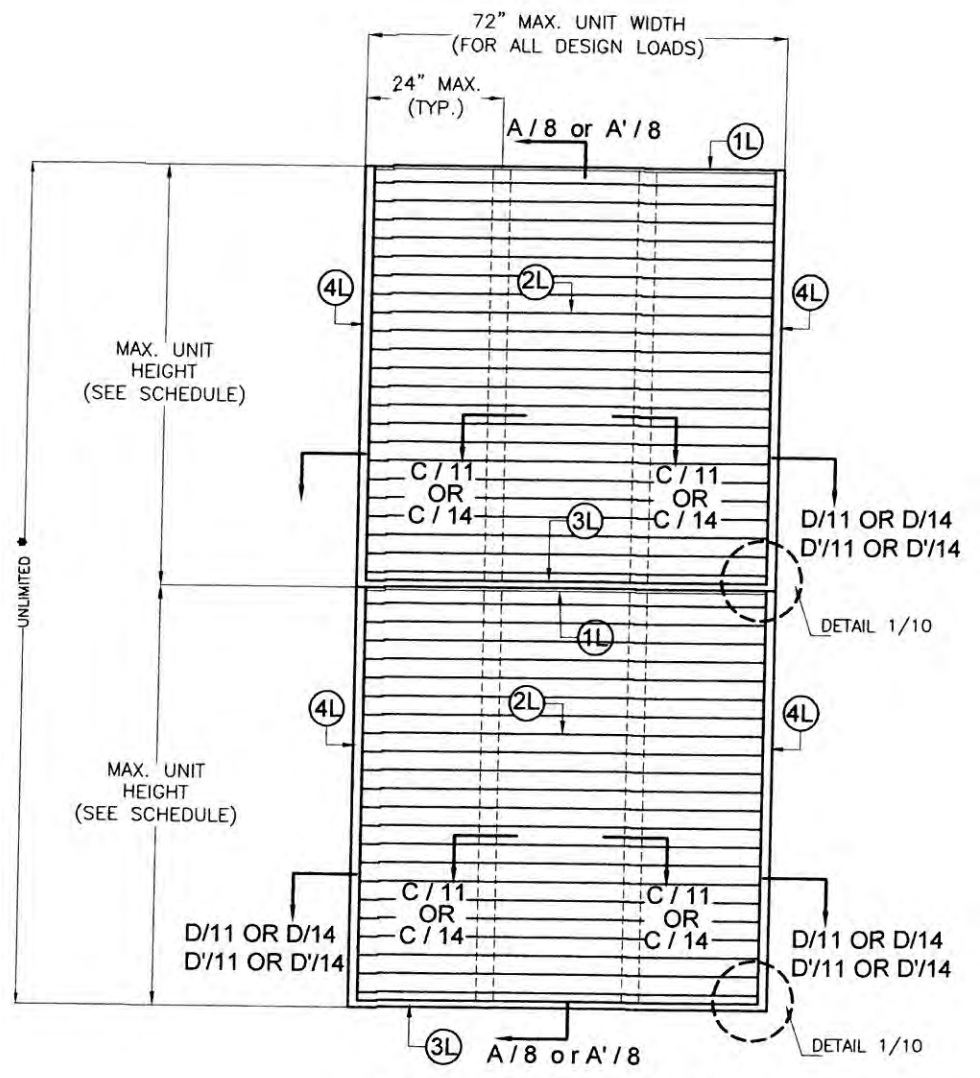
TEXAS DEPARTMENT OF INSURANCE - 2006

SED-5.1 LOUVER SYSTEM WITH OR WITHOUT CD-151 DAMPER ASSEMBLY						M.L. DRAWN BY:
UNITED ENERTECH, INC. 3005 SOUTH HICKORY ST. CHATTANOOGA, TN 37407 PHONE: (423)698-7715 FAX:(423)698-6629						01/20/16 DATE:
REV. NO DESCRIPTION DATE REV. No DESCRIPTION DATE						16-005 DRAWING No.
1	-	-	3	-	-	SHEET 4 OF 16
2	-	-	4	-	-	

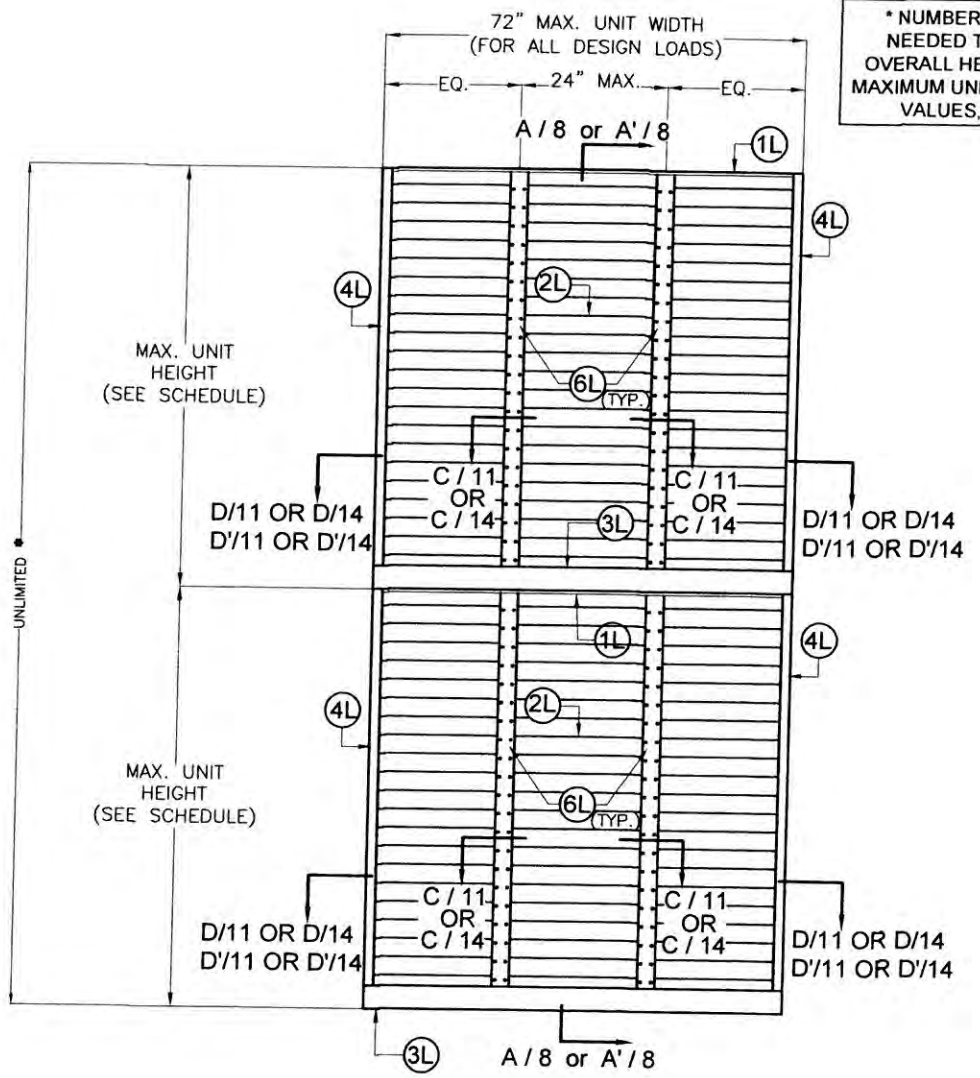
MAX. UNIT HEIGHT FOR A GIVEN DESIGN PRESSURE RATING SCHEDULE, APPLICABLE TO SINGLE UNITS W/ SQUARE EDGES W/O MULLION

MAXIMUM DESIGN PRESSURE RATING (p.s.f)	MAX. UNIT HEIGHT
40	10'-0"
45	10'-0"
50	10'-0"
55	10'-0"
60	10'-0"
65	10'-0"
70	10'-0"
75	9'-11"
80	9'-7"
85	9'-4"
90	9'-0"
95	8'-10"
100	8'-7"
105	8'-4"
110	8'-2"
115	7'-12"
120	7'-10"
125	7'-8"
130	7'-6"
135	7'-5"
140	7'-3"
145	7'-1"
150	7'-0"

* NUMBER OF LOUVER PANEL UNITS NEEDED TO ACHIEVE THE OPENING OVERALL HEIGHT MAY VARY. HOWEVER MAXIMUM UNIT HEIGHT SHALL NO EXCEED VALUES, SHOWN ON SCHEDULE.



**EXTERIOR ELEVATION
WITH OR WITHOUT DAMPER**
PRESURE RATING: (VARIES SEE SCHEDULE)



**INTERIOR ELEVATION
WITH OR WITHOUT DAMPER**
PRESURE RATING: (VARIES SEE SCHEDULE)

**SINGLE SED 5.1 LOUVER UNITS
WITH OR WITHOUT
DAMPER W/ SQUARE EDGES**

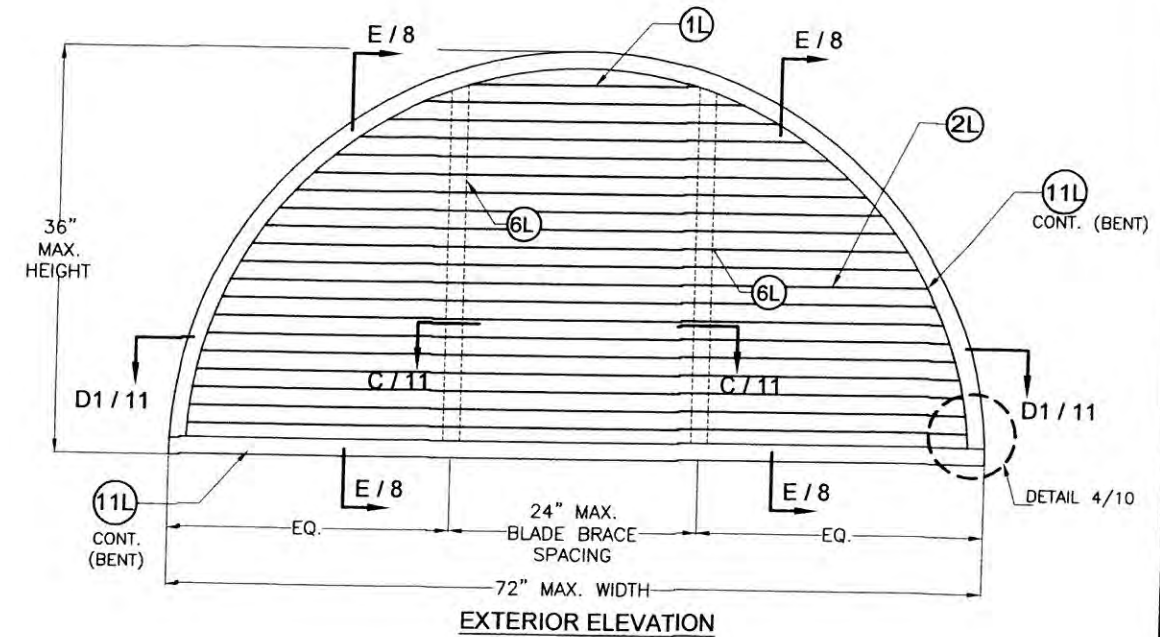
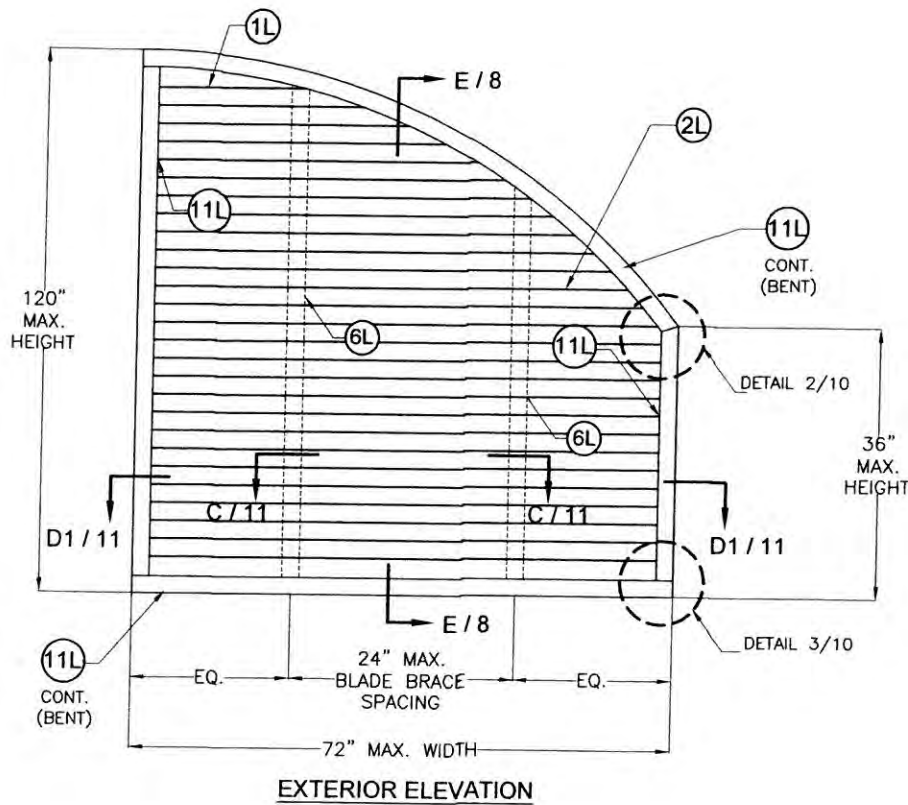
N.T.S

[Signature]
1/29/16
P.E. SEAL/SIGNATURE/DATE

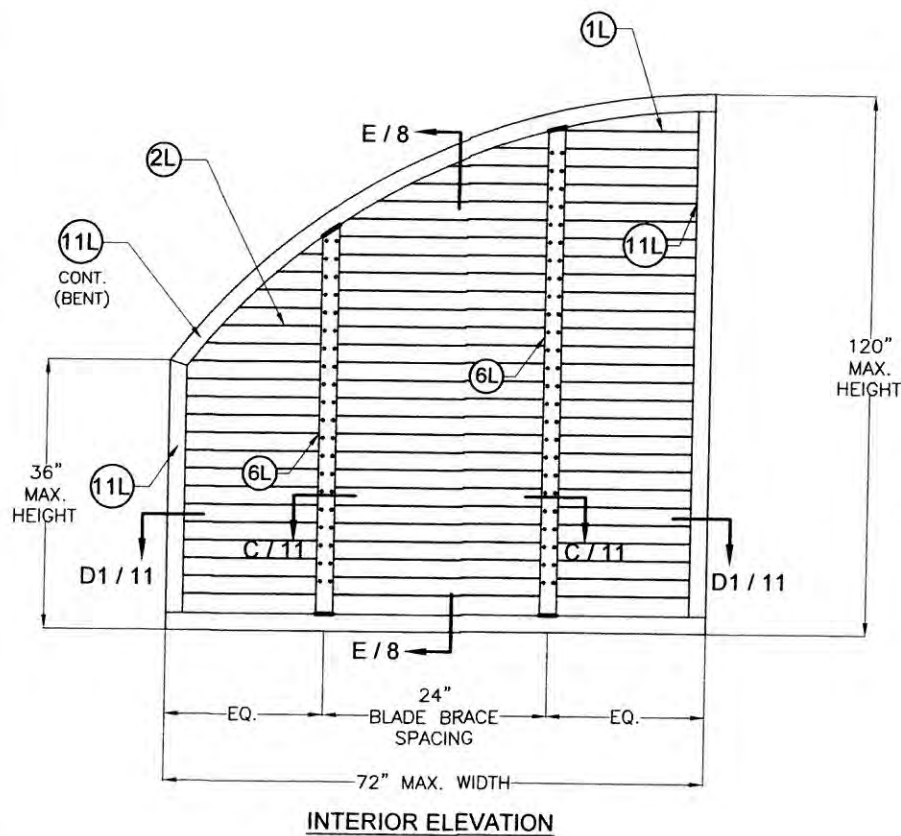
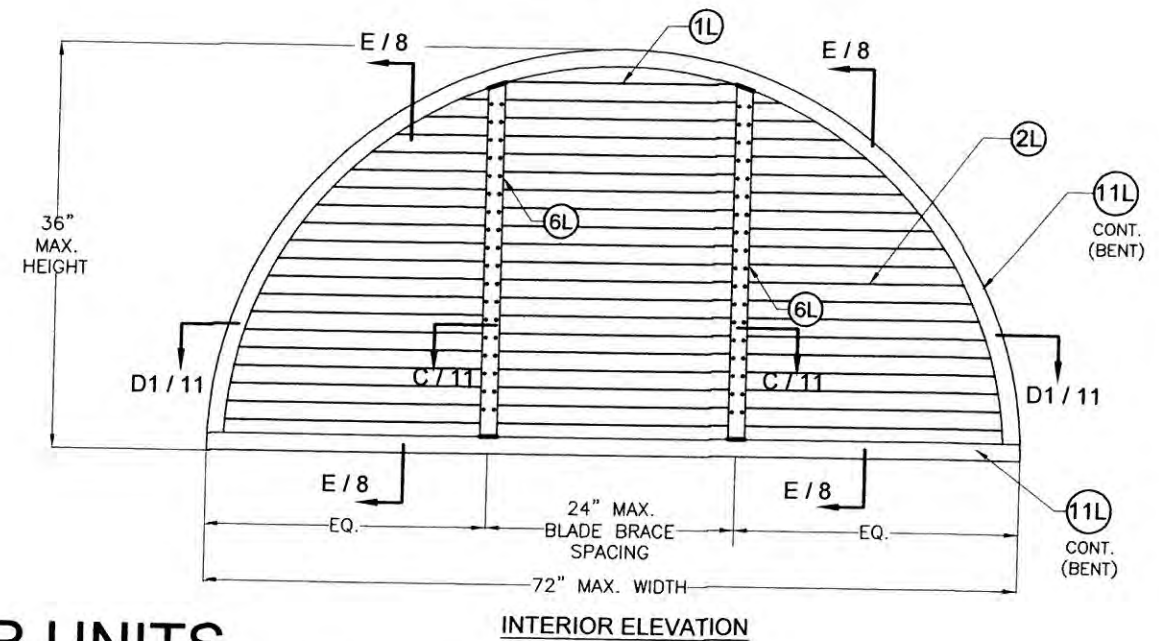
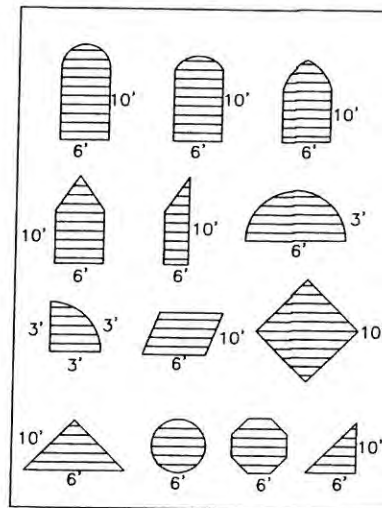
WALTER A. TILLIT Jr P.E.
PROFESSIONAL ENGINEER
6355 N.W 36 STREET, STE. 305
VIRGINIA GARDENS, FL 33166
PHONE(305) 871-1530 FAX (305) 871-1531
TEXAS LIC. # 90691
FIRM REGISTRATION # F-13790

TEXAS DEPARTMENT OF INSURANCE - 2006

SED-5.1 LOUVER SYSTEM WITH OR WITHOUT CD-151 DAMPER ASSEMBLY		M.L. DRAWN BY:
UNITED ENERTECH, INC. 3005 SOUTH HICKORY ST. CHATTANOOGA, TN 37407 PHONE: (423)698-7715 FAX:(423)698-6629		01/20/16 DATE:
		16-005 DRAWING No.
REV. NO	DESCRIPTION	DATE
1	-	3
2	-	4



QUALIFIES THE FOLLOWING SHAPES:

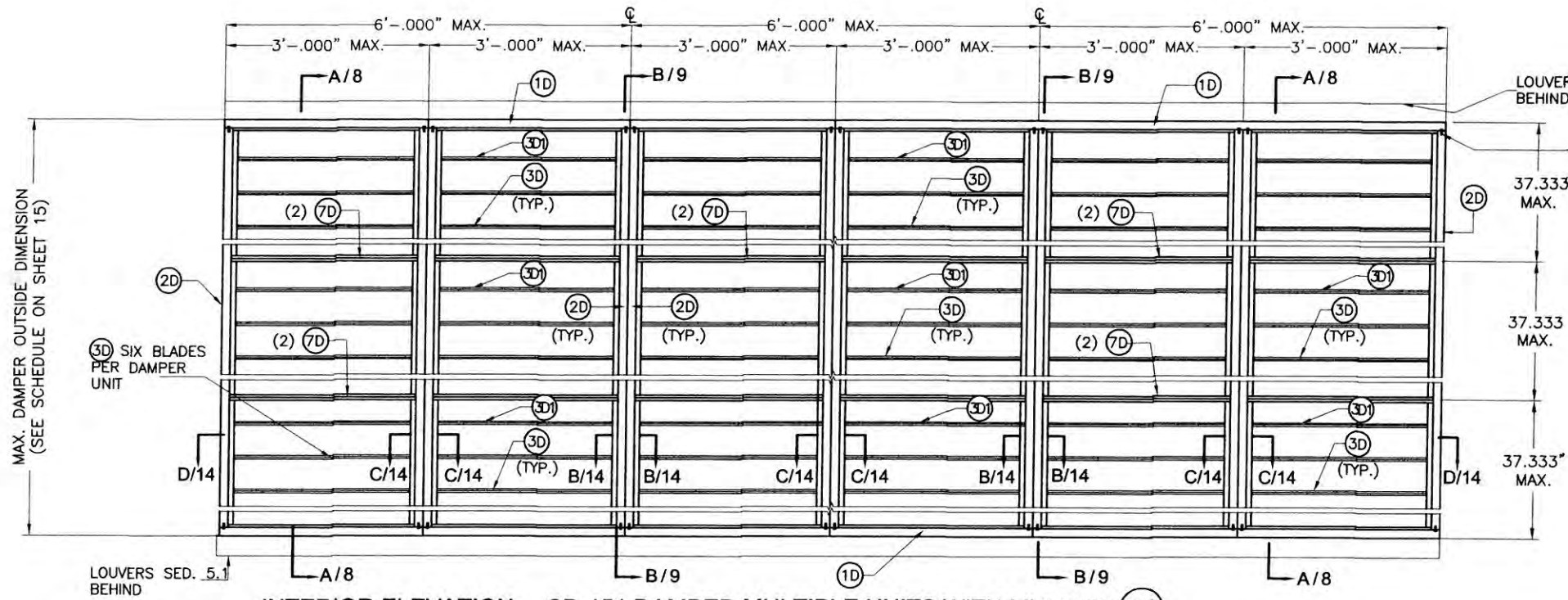


SINGLE SED 5.1 LOUVER UNITS WITHOUT DAMPER W/ CURVED EDGES

N.T.S
(DESIGN PRESSURE RATING: +150, -150 PSF)

[Signature]
1/26/16
P.E. SEAL/SIGNATURE/DATE

WALTER A. TILLIT Jr P.E. PROFESSIONAL ENGINEER 6355 N.W 36 STREET, STE. 305 VIRGINIA GARDENS, FL 33166 PHONE(305) 871-1530 FAX (305) 871-1531 TEXAS LIC. # 90691 FIRM REGISTRATION # F-13790		TEXAS DEPARTMENT OF INSURANCE - 2006 SED-5.1 LOUVER SYSTEM WITH OR WITHOUT CD-151 DAMPER ASSEMBLY		M.L. DRAWN BY: 01/20/16 DATE: 16-005 DRAWING No.																			
UNITED ENERTECH, INC. 3005 SOUTH HICKORY ST. CHATTANOOGA, TN 37407 PHONE: (423)698-7715 FAX:(423)698-6629		<table border="1"> <thead> <tr> <th>REV. NO</th> <th>DESCRIPTION</th> <th>DATE</th> <th>REV. No</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-</td> <td>-</td> <td>3</td> <td>-</td> <td>-</td> </tr> <tr> <td>2</td> <td>-</td> <td>-</td> <td>4</td> <td>-</td> <td>-</td> </tr> </tbody> </table>		REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	1	-	-	3	-	-	2	-	-	4	-	-	SHEET 5 OF 16	
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE																		
1	-	-	3	-	-																		
2	-	-	4	-	-																		

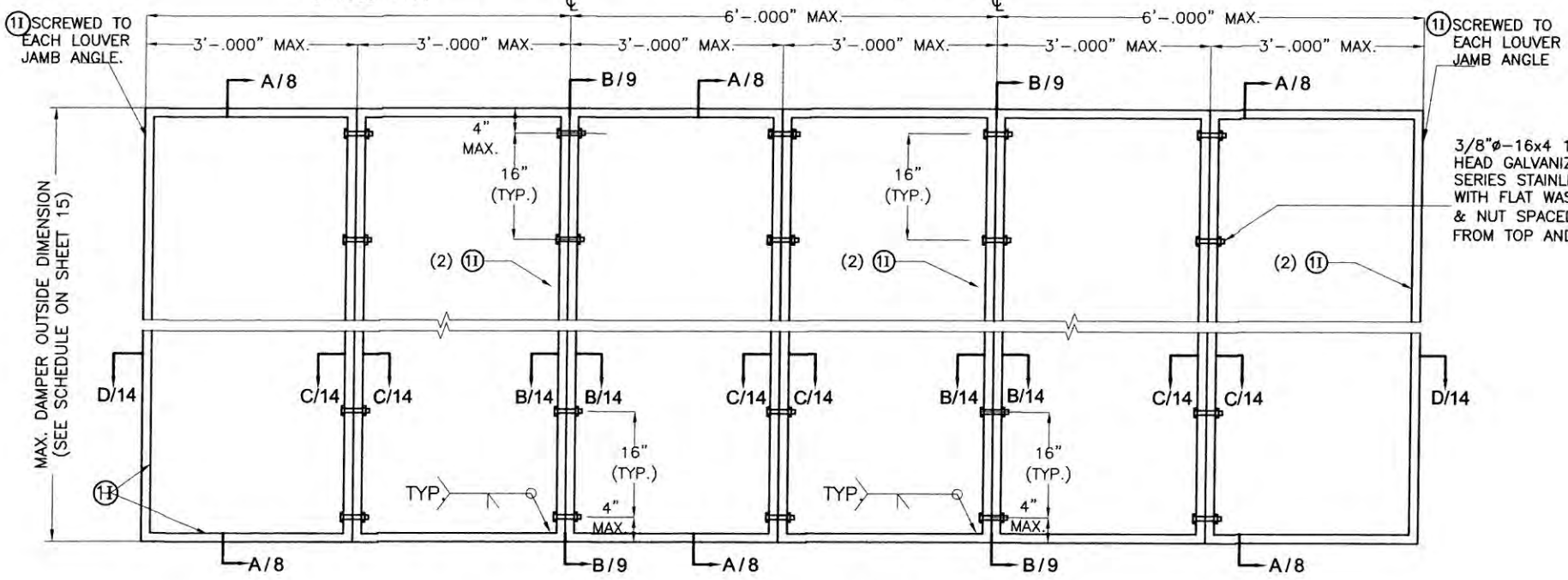


INTERIOR ELEVATION: CD-151 DAMPER MULTIPLE UNITS WITH MULLION (12L)

SCALE: 1/2"=1'-0"

LOUVERS SED. 5.1 BEHIND
 (2)#8x1 1/2" S.M.S. FROM (1D) TO (2D) TYP. EA. CORNER

NOTE:
 (1) SEE COMPONENTS ON SHEET 3.

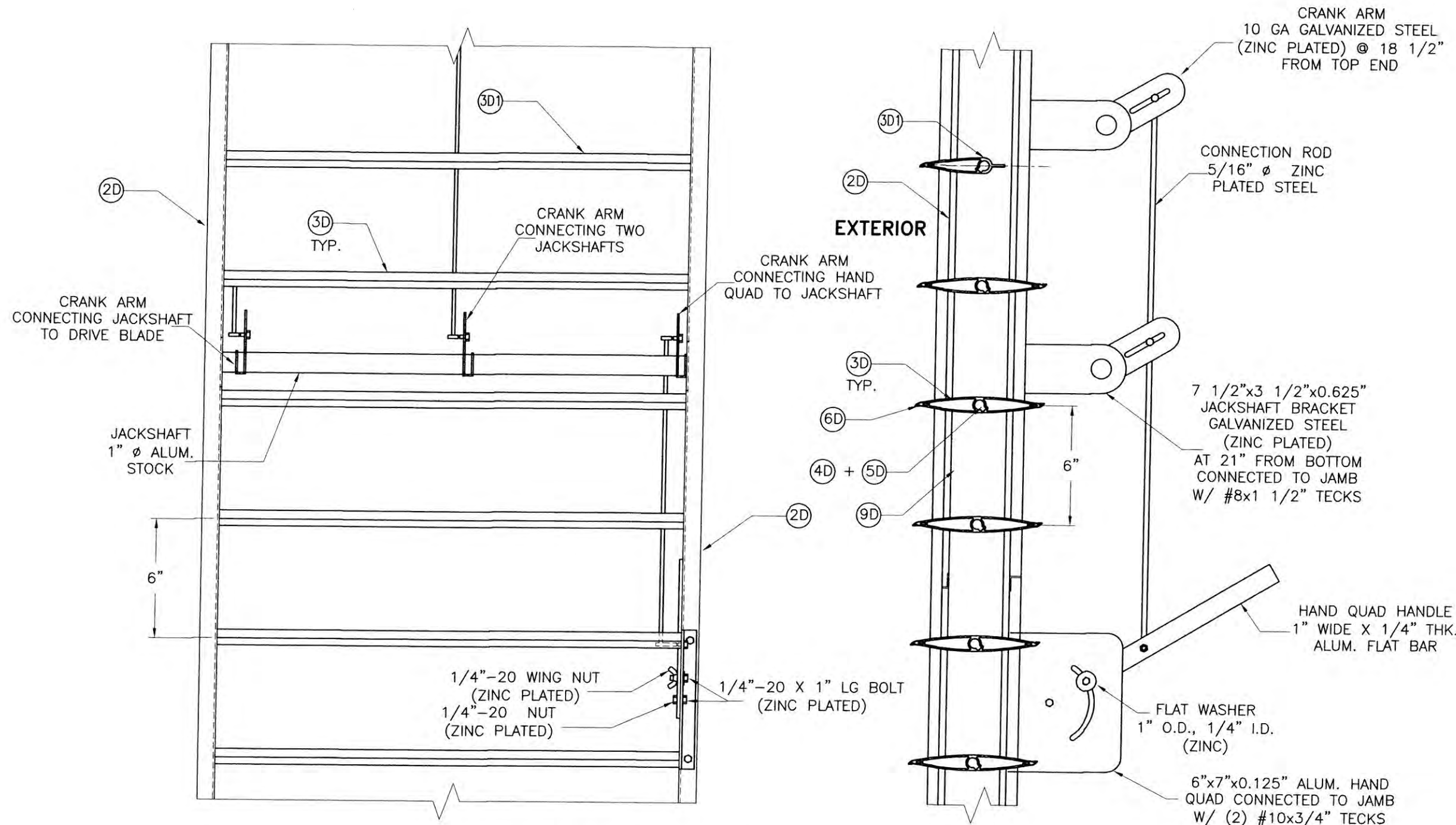


EXTERIOR ELEVATION: INTERMEDIATE TUBE FRAME FOR CD-151 DAMPER ATTACHMENT AT MULTIPLE UNITS WITH MULLION (12L)

SCALE: 1/2"=1'-0"

3/8"φ-16x4 1/2" LONG A 307 HEX HEAD GALVANIZED STEEL OR 304 SERIES STAINLESS STEEL BOLTS WITH FLAT WASHER, LOCK WASHER, & NUT SPACED @ 16" O.C. & 4" FROM TOP AND BOTTOM (TYP.).

TEXAS DEPARTMENT OF INSURANCE - 2006																							
 1/29/16 P.E. SEAL/SIGNATURE/DATE				WALTER A. TILLIT Jr P.E. PROFESSIONAL ENGINEER 6355 N.W. 36 STREET, STE. 305 VIRGINIA GARDENS, FL 33166 PHONE(305) 871-1530 FAX (305) 871-1531 TEXAS LIC. # 90691 FIRM REGISTRATION # F-13790																			
SED-5.1 LOUVER SYSTEM WITH OR WITHOUT CD-151 DAMPER ASSEMBLY				M.L. DRAWN BY:																			
UNITED ENERTECH, INC. 3005 SOUTH HICKORY ST. CHATTANOOGA, TN 37407 PHONE: (423)698-7715 FAX:(423)698-6629				01/20/16 DATE:																			
<table border="1"> <thead> <tr> <th>REV. NO</th> <th>DESCRIPTION</th> <th>DATE</th> <th>REV. No</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-</td> <td>-</td> <td>3</td> <td>-</td> <td>-</td> </tr> <tr> <td>2</td> <td>-</td> <td>-</td> <td>4</td> <td>-</td> <td>-</td> </tr> </tbody> </table>				REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	1	-	-	3	-	-	2	-	-	4	-	-	16-005 DRAWING No.	
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE																		
1	-	-	3	-	-																		
2	-	-	4	-	-																		
SHEET 6 OF 16																							



HAND QUADRANT HANDLE MECHANISM

N.T.S.

[Signature]
1/21/16
P.E. SEAL/SIGNATURE/DATE

WALTER A. TILLIT Jr P.E.
PROFESSIONAL ENGINEER
6355 N.W. 36 STREET, STE. 305
VIRGINIA GARDENS, FL 33166
PHONE(305) 871-1530 FAX (305) 871-1531
TEXAS LIC. # 90691
FIRM REGISTRATION # F-13790

TEXAS DEPARTMENT OF INSURANCE - 2006

**SED-5.1 LOUVER SYSTEM WITH OR
WITHOUT CD-151 DAMPER ASSEMBLY**

UNITED ENERTECH, INC.

3005 SOUTH HICKORY ST.
CHATTANOOGA, TN 37407
PHONE: (423)698-7715 FAX:(423)698-6629

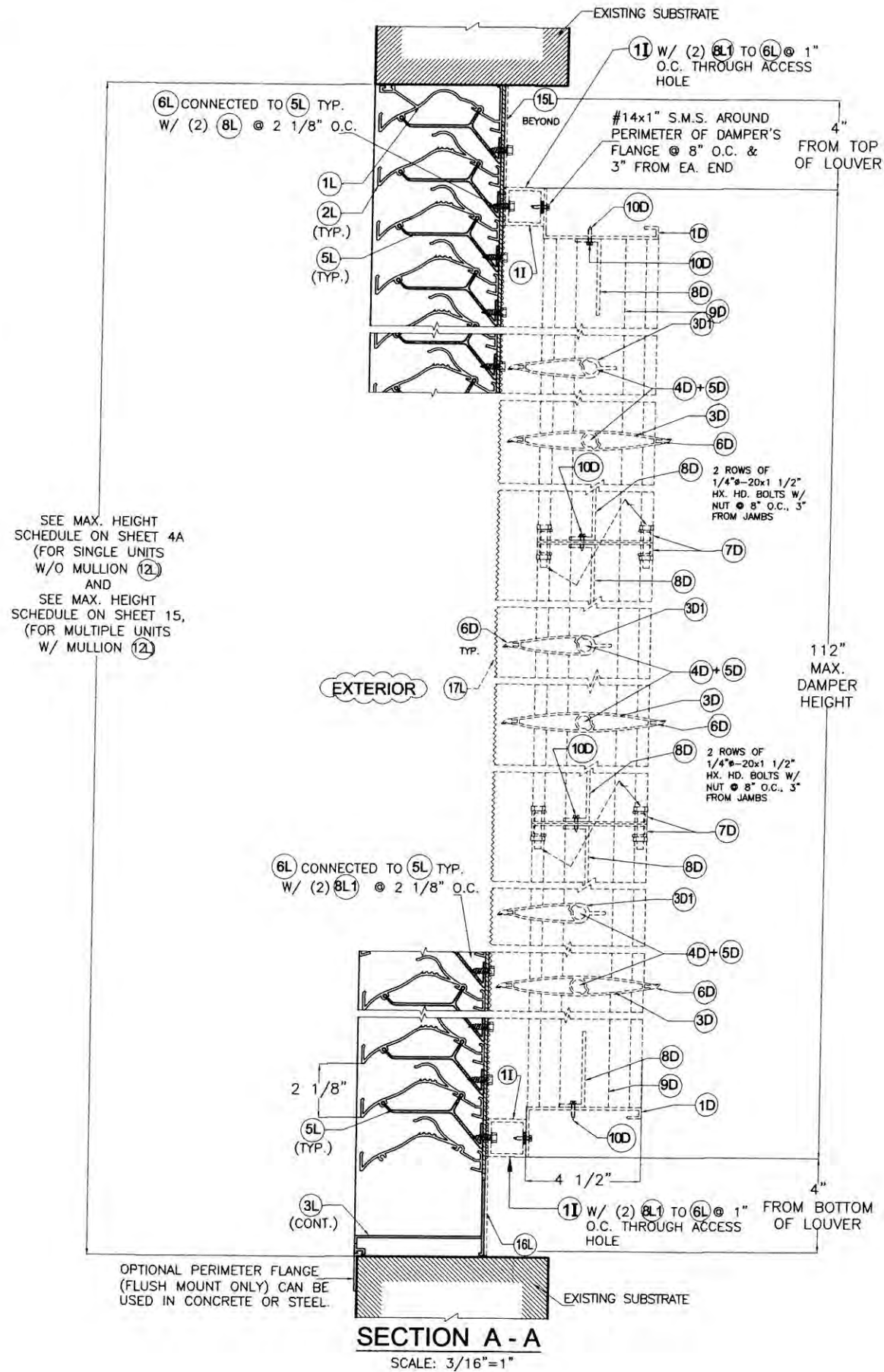
M.L.
DRAWN BY:

01/20/16
DATE:

16-005
DRAWING No.

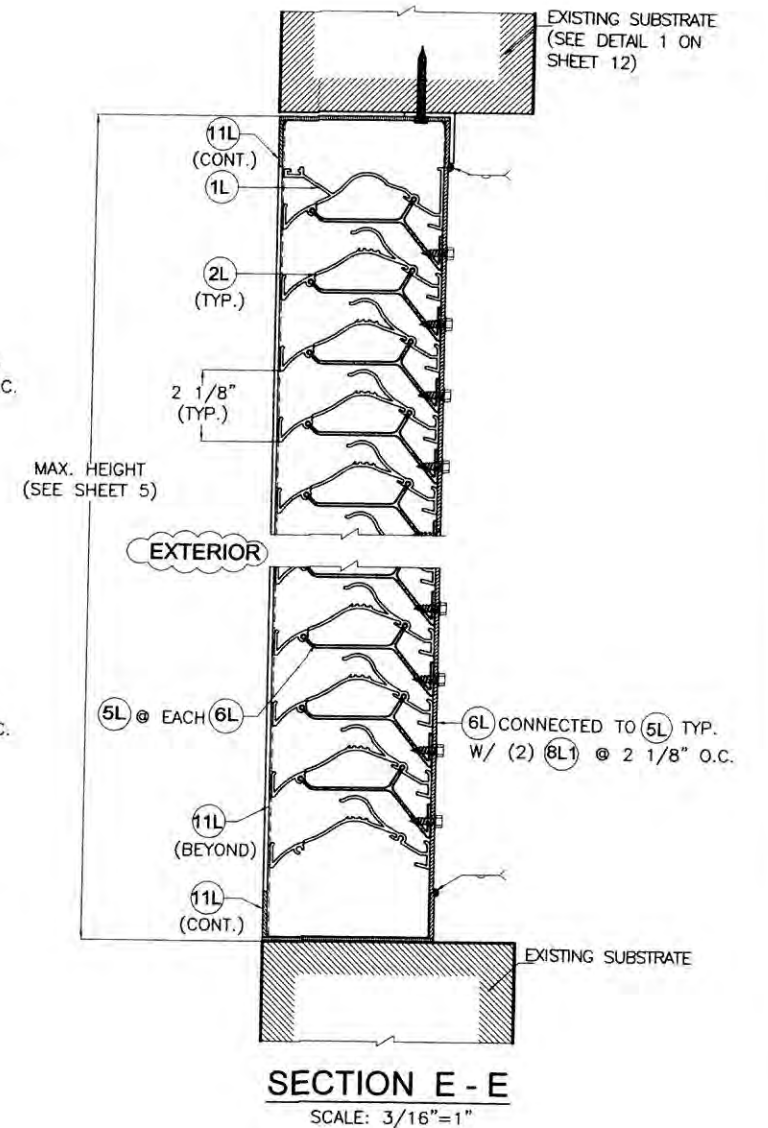
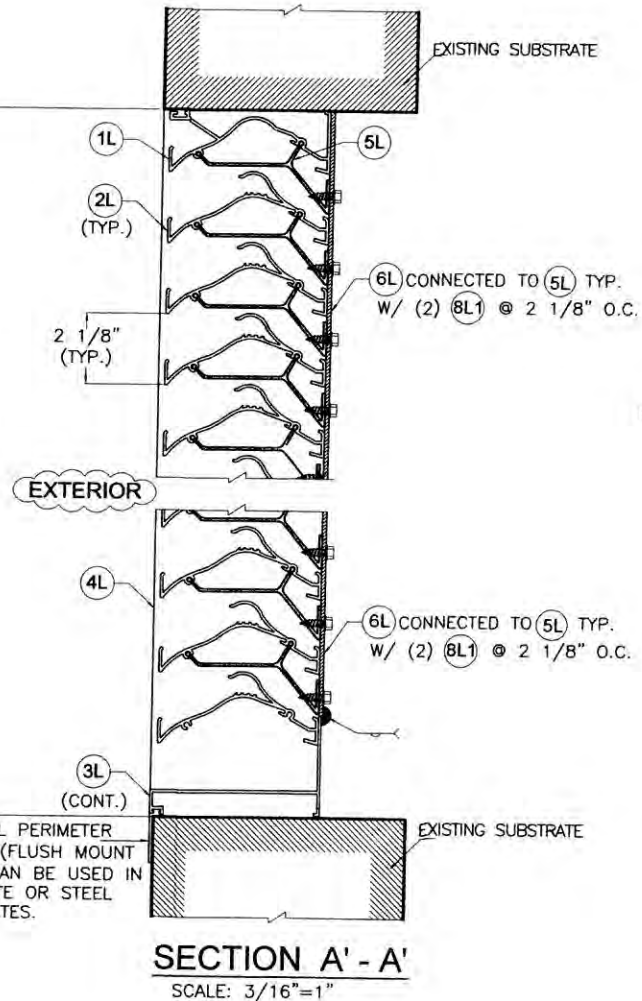
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	-	-	3	-	-
2	-	-	4	-	-

SHEET 7 OF 16



SEE MAX. HEIGHT SCHEDULE ON SHEET 4A (FOR SINGLE UNITS W/O MULLION 12) AND SEE MAX. HEIGHT SCHEDULE ON SHEET 15, (FOR MULTIPLE UNITS W/ MULLION 12)

SEE MAX. HEIGHT SCHEDULE ON SHEET 4A (FOR SINGLE UNITS W/O MULLION 12) AND SEE MAX. HEIGHT SCHEDULE ON SHEET 15, (FOR MULTIPLE UNITS W/ MULLION 12)



TEXAS DEPARTMENT OF INSURANCE - 2006

SED-5.1 LOUVER SYSTEM WITH OR WITHOUT CD-151 DAMPER ASSEMBLY

UNITED ENERTECH, INC.

3005 SOUTH HICKORY ST.
CHATTANOOGA, TN 37407
PHONE: (423)698-7715 FAX:(423)698-6629

M.L.
DRAWN BY:
01/20/16
DATE:

16-005

DRAWING No.

REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	-	-	3	-	-
2	-	-	4	-	-

SHEET 8 OF 16

[Signature]
1/21/16

P.E. SEAL/SIGNATURE/DATE

WALTER A. TILLIT Jr P.E.
PROFESSIONAL ENGINEER
6355 N.W 36 STREET, STE. 305
VIRGINIA GARDENS, FL 33166
PHONE(305) 871-1530 FAX (305) 871-1531
TEXAS LIC. # 90691
FIRM REGISTRATION # F-13790

EXISTING SUBSTRATE
(SEE SHEET 12 FOR CONNECTION
DETAILS 2 OR 3)

11 W/ (2) 8L1 TO 6L @ 1"
O.C. THROUGH ACCESS
HOLE

#14x1" S.M.S. AROUND
PERIMETER OF DAMPER'S
FLANGE @ 8" O.C. & 3"
FROM EA. END

4"
FROM TOP
OF LOUVER

15L
(BEYOND)

12L

1D

10D

8D

9D

3D1

4D+5D

3D

6D

10D

8D

7D

8D

3D1

4D+5D

3D

6D

10D

8D

7D

8D

3D1

4D+5D

6D

3D

8D

9D

1D

10D

4 1/2"

11 W/ (2) 8L1 TO 6L @ 1"
O.C. THROUGH ACCESS
HOLE

16L
(BEYOND)

112"
MAX. HEIGHT

4"
FROM BOTTOM
OF LOUVER

MAX. HEIGHT
(SEE SCHEDULE
ON SHEET 15)

EXTERIOR

12L

SECTION B - B

SCALE: 3/16"=1"
(DAMPER BEYOND)

EXISTING SUBSTRATE
(SEE SHEET 12 FOR CONNECTION
DETAILS 2 OR 3)

MAX. HEIGHT
(SEE SCHEDULE
ON SHEET 15)

EXTERIOR

12L

EXISTING SUBSTRATE
(SEE SHEET 12 FOR CONNECTION
DETAILS 2 OR 3)

EXISTING SUBSTRATE
(SEE SHEET 12 FOR CONNECTION
DETAILS 2 OR 3)

SECTION B' - B'

SCALE: 3/16"=1"

TEXAS DEPARTMENT OF INSURANCE - 2006

**SED-5.1 LOUVER SYSTEM WITH OR
WITHOUT CD-151 DAMPER ASSEMBLY**

M.L.
DRAWN BY:

UNITED ENERTECH, INC.

01/20/16
DATE:

3005 SOUTH HICKORY ST.
CHATTANOOGA, TN 37407
PHONE: (423)698-7715 FAX:(423)698-6629

16-005

REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	-	-	3	-	-
2	-	-	4	-	-

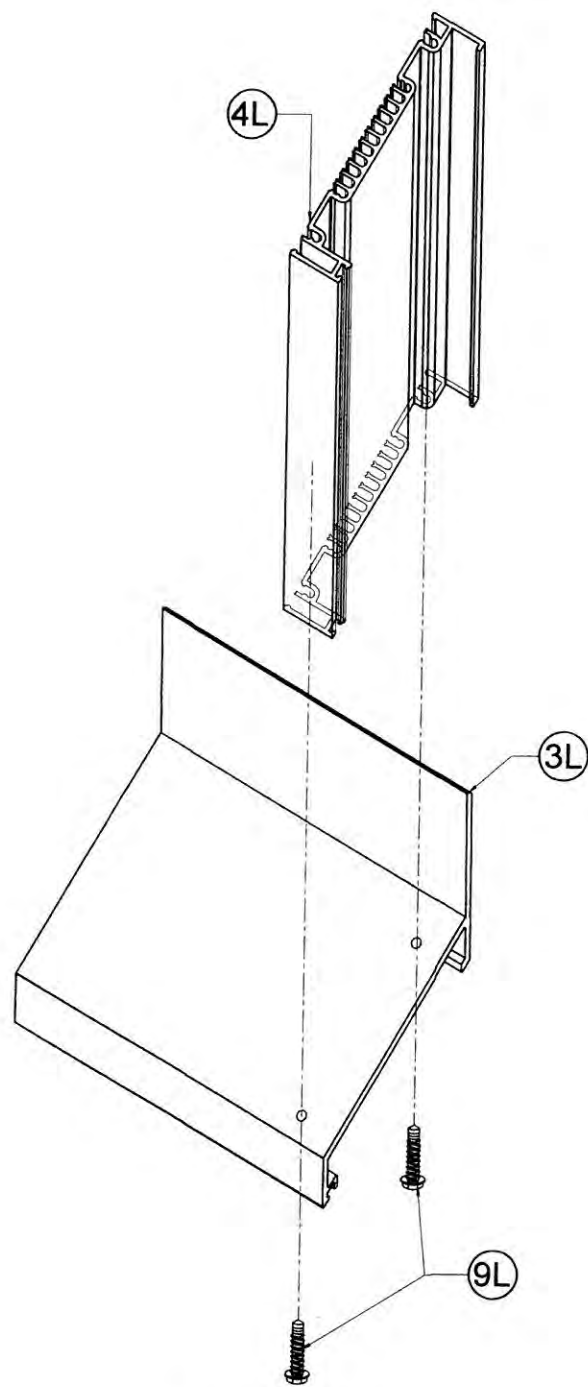
DRAWING No.

SHEET 9 OF 16

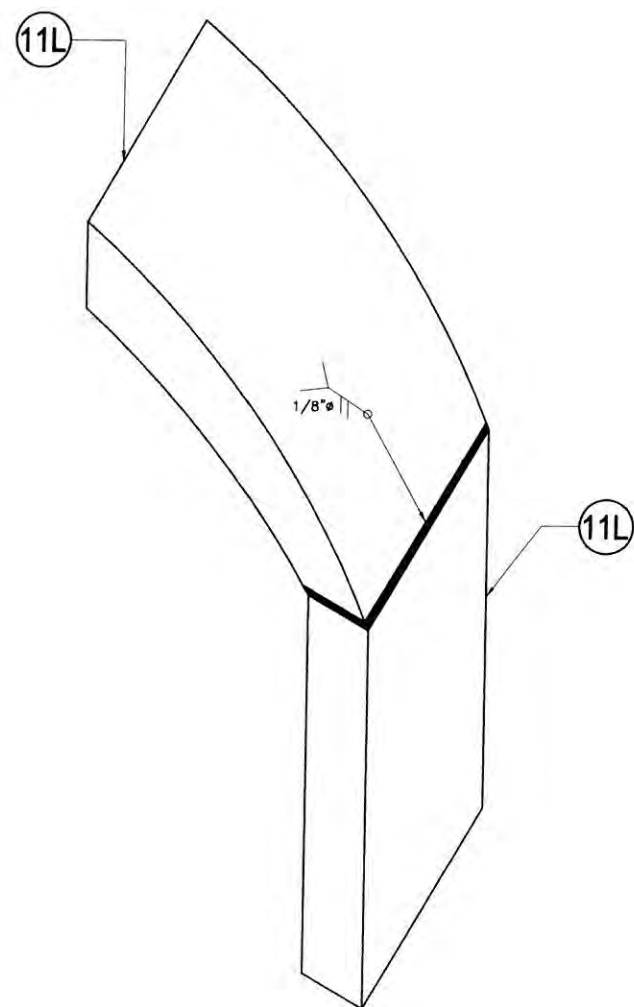
[Signature]
1/24/14

P.E. SEAL/SIGNATURE/DATE

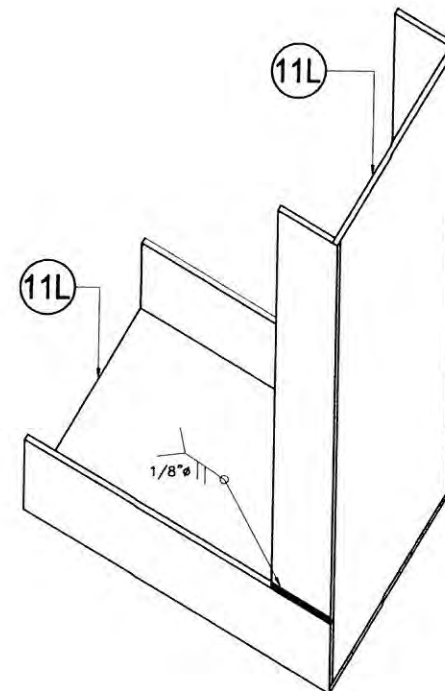
WALTER A. TILLIT Jr P.E.
PROFESSIONAL ENGINEER
6355 N.W 36 STREET, STE. 305
VIRGINIA GARDENS, FL 33166
PHONE(305) 871-1530 FAX (305) 871-1531
TEXAS LIC. # 90691
FIRM REGISTRATION # F-13790



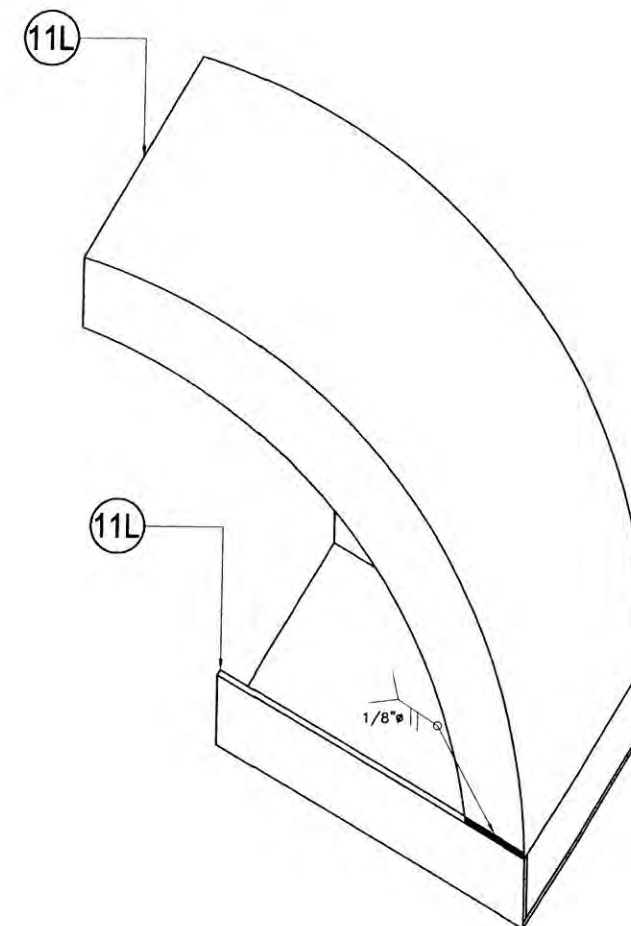
DETAIL 1
CORNER AT BOTTOM
 N.T.S



DETAIL 2
CORNER AT TOP
 N.T.S



DETAIL 3
CORNER AT BOTTOM
 N.T.S



DETAIL 4
CORNER AT BOTTOM
 N.T.S

P.E. SEAL/SIGNATURE/DATE

WALTER A. TILLIT Jr P.E.
 PROFESSIONAL ENGINEER
 6355 N.W 36 STREET, STE. 305
 VIRGINIA GARDENS, FL 33166
 PHONE(305) 871-1530 FAX (305) 871-1531
 TEXAS LIC. # 90691
 FIRM REGISTRATION # F-13790

TEXAS DEPARTMENT OF INSURANCE - 2006

SED-5.1 LOUVER SYSTEM WITH OR WITHOUT CD-151 DAMPER ASSEMBLY

UNITED ENERTECH, INC.
 3005 SOUTH HICKORY ST.
 CHATTANOOGA, TN 37407
 PHONE: (423)698-7715 FAX:(423)698-6629

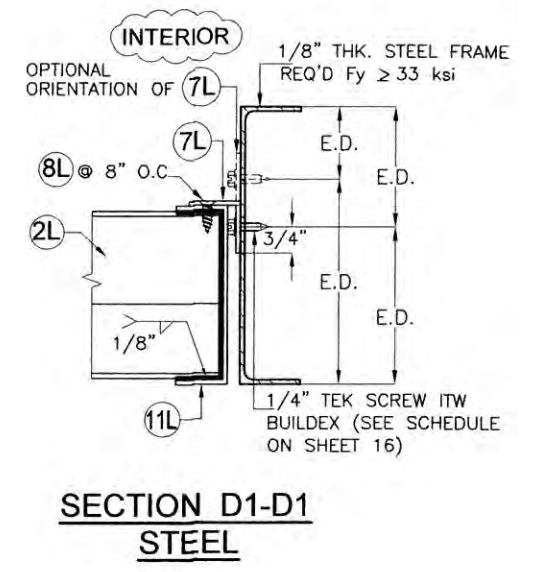
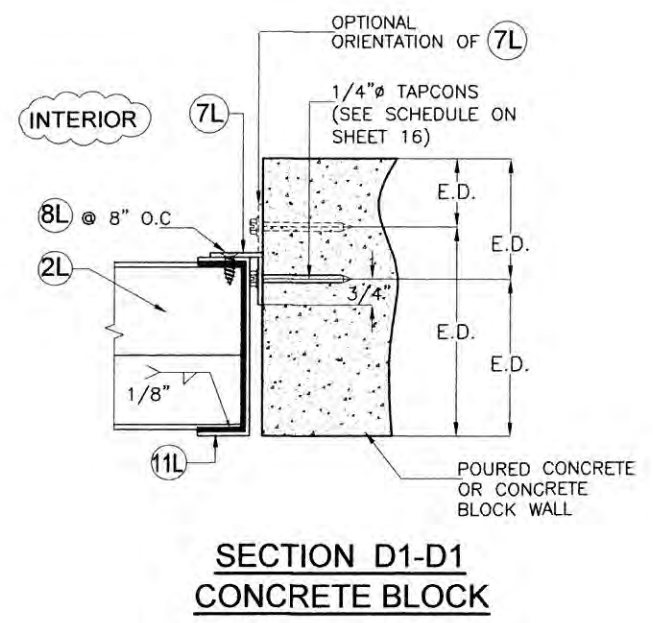
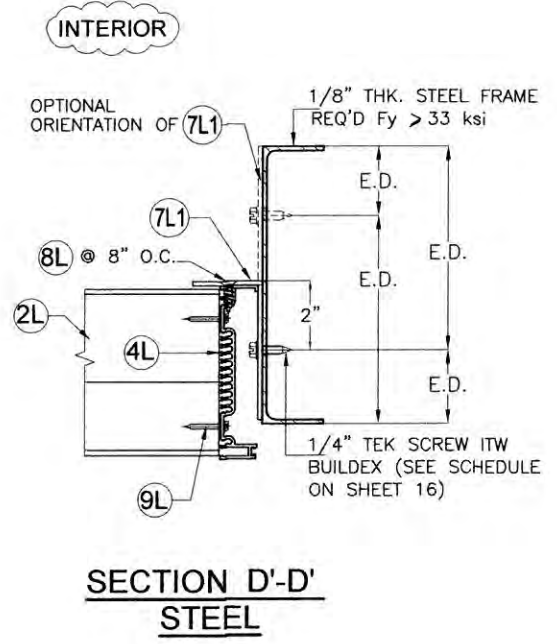
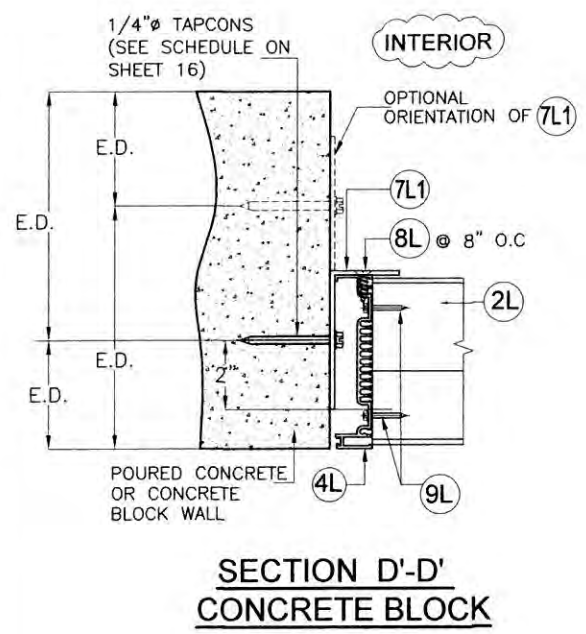
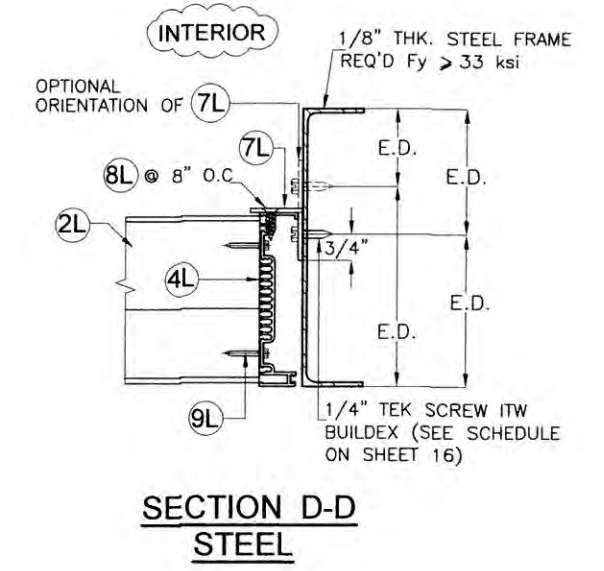
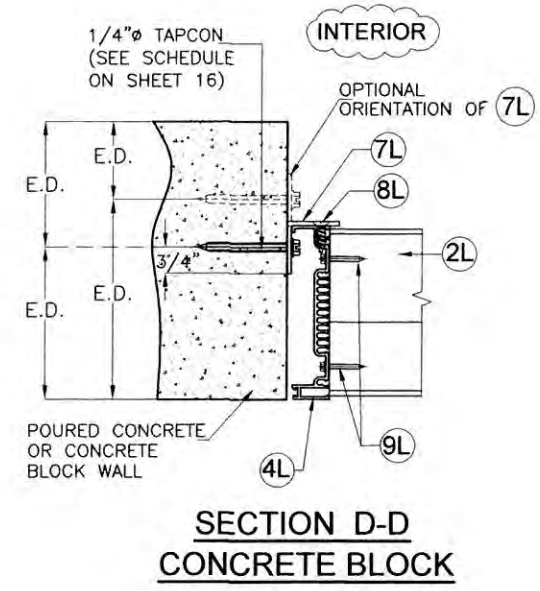
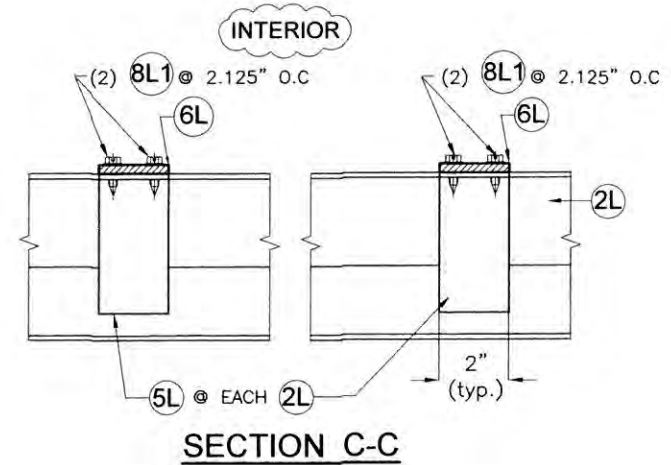
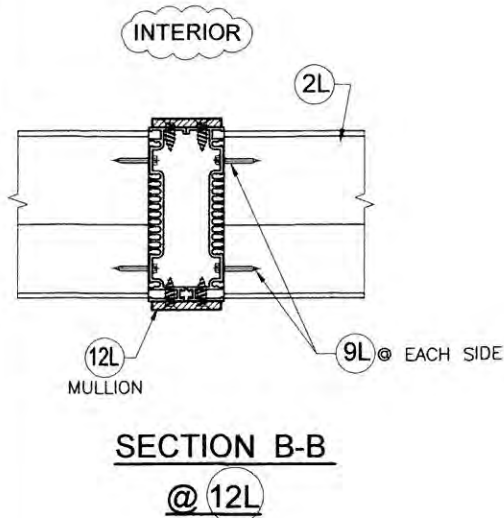
M.L.
 DRAWN BY:

01/20/16
 DATE:

16-005
 DRAWING No.

REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	-	-	3	-	-
2	-	-	4	-	-

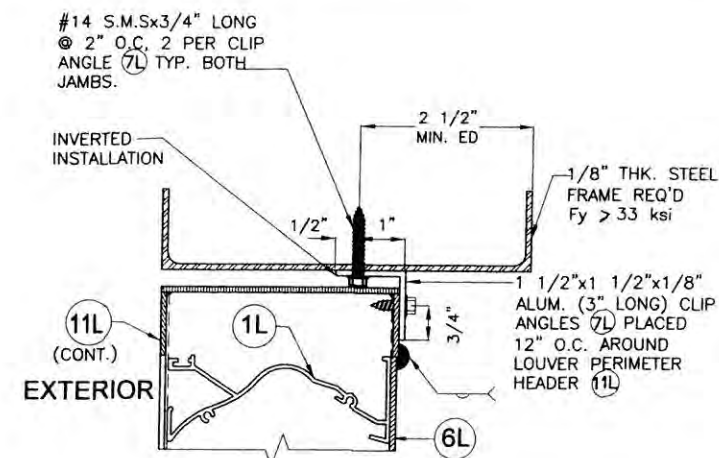
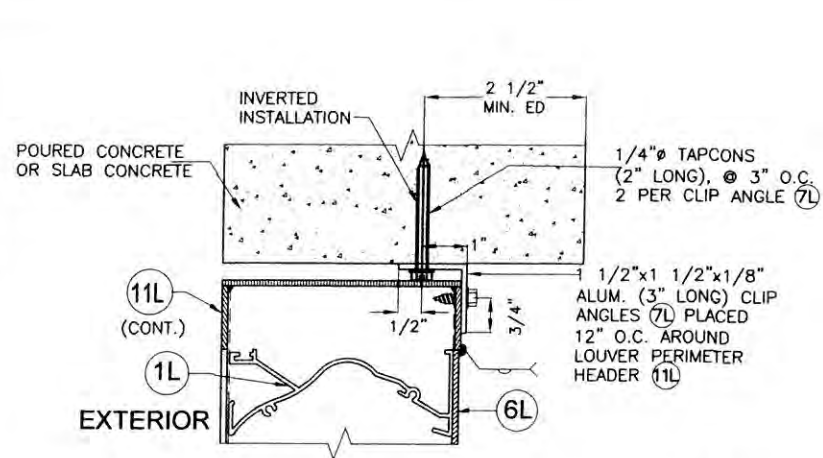
SHEET 10 OF 16



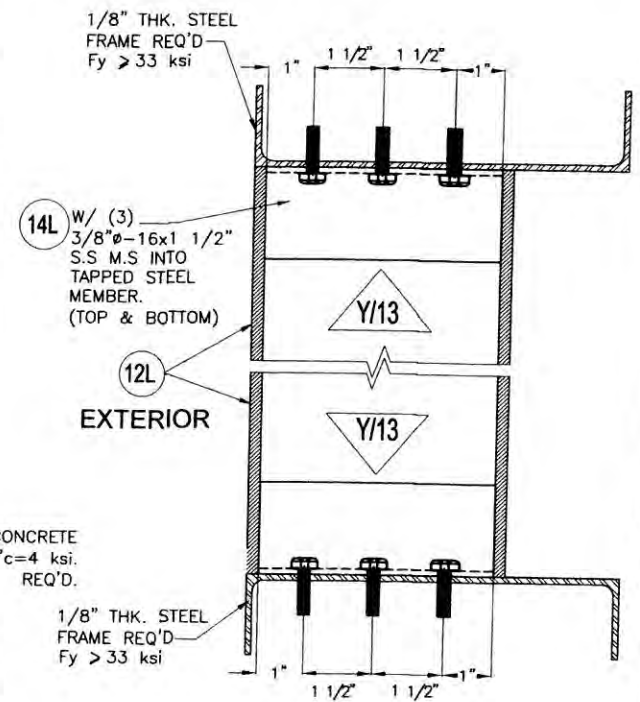
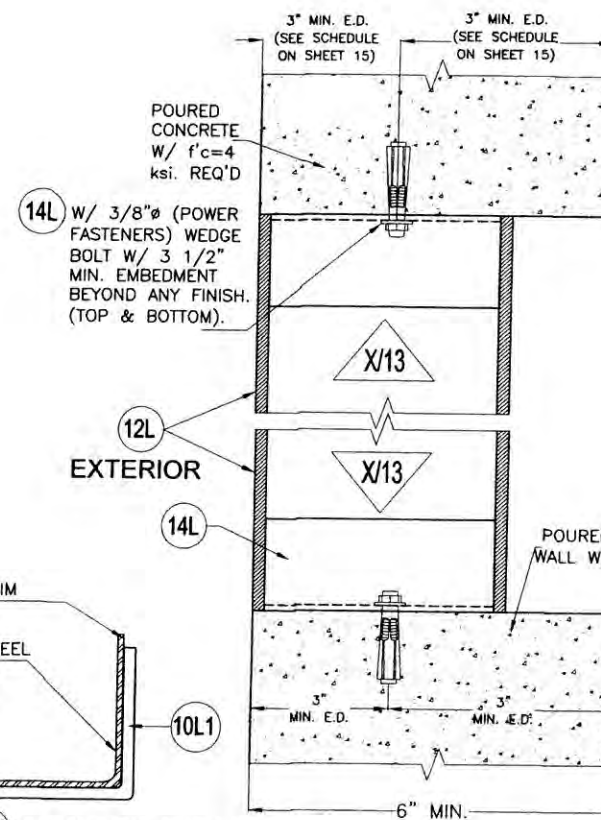
CONNECTION DETAILS

SCALE: 3/16"=1"

<p>P.E. SEAL/SIGNATURE/DATE</p>		TEXAS DEPARTMENT OF INSURANCE - 2006																				
		SED-5.1 LOUVER SYSTEM WITH OR WITHOUT CD-151 DAMPER ASSEMBLY			M.L. DRAWN BY:																	
WALTER A. TILLIT Jr. P.E. PROFESSIONAL ENGINEER 6355 N.W. 36 STREET, STE. 305 VIRGINIA GARDENS, FL 33166 PHONE (305) 871-1530 FAX (305) 871-1531 TEXAS LIC. # 90691 FIRM REGISTRATION # F-13790			UNITED ENERTECH, INC. 3005 SOUTH HICKORY ST. CHATTANOOGA, TN 37407 PHONE: (423)698-7715 FAX: (423)698-6629		01/20/16 DATE:																	
			16-005 DRAWING No.																			
		<table border="1"> <thead> <tr> <th>REV. NO</th> <th>DESCRIPTION</th> <th>DATE</th> <th>REV. No</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-</td> <td>-</td> <td>3</td> <td>-</td> <td>-</td> </tr> <tr> <td>2</td> <td>-</td> <td>-</td> <td>4</td> <td>-</td> <td>-</td> </tr> </tbody> </table>		REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	1	-	-	3	-	-	2	-	-	4	-	-	SHEET 11 OF 16
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE																	
1	-	-	3	-	-																	
2	-	-	4	-	-																	

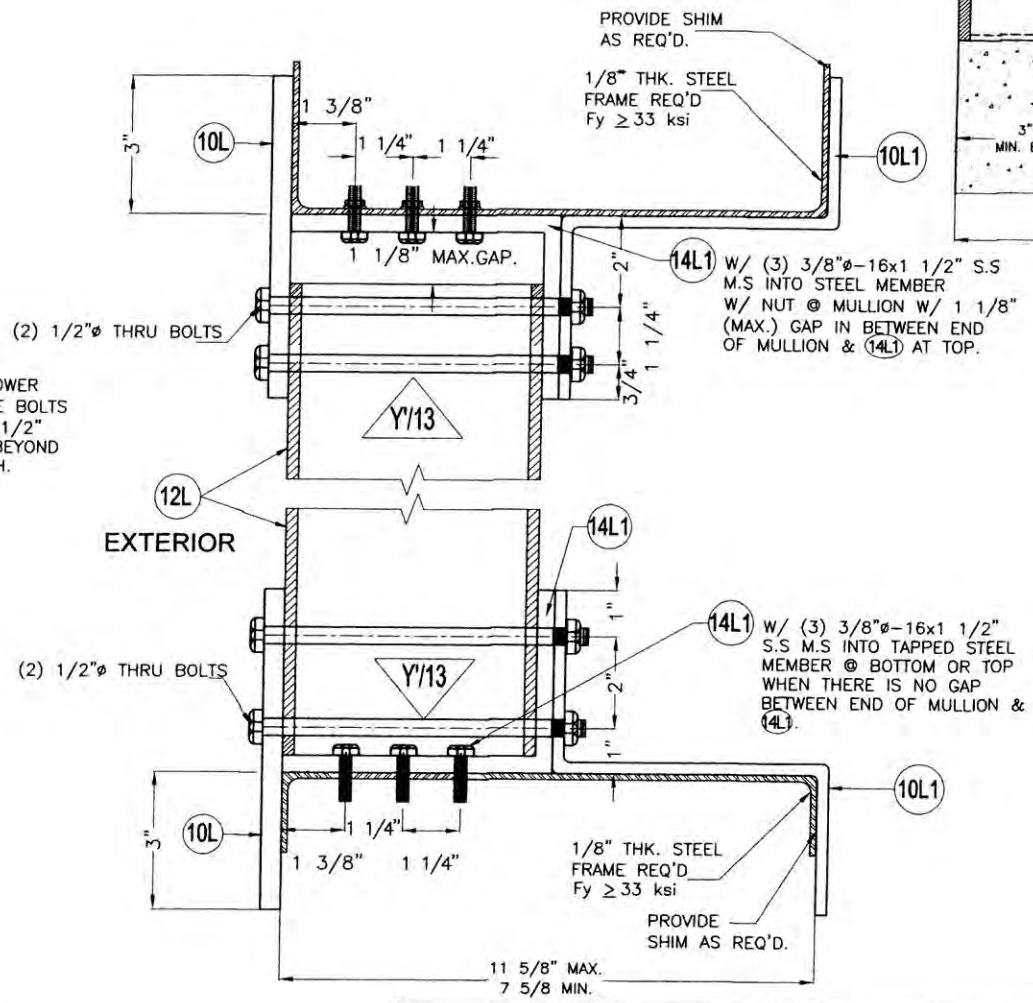
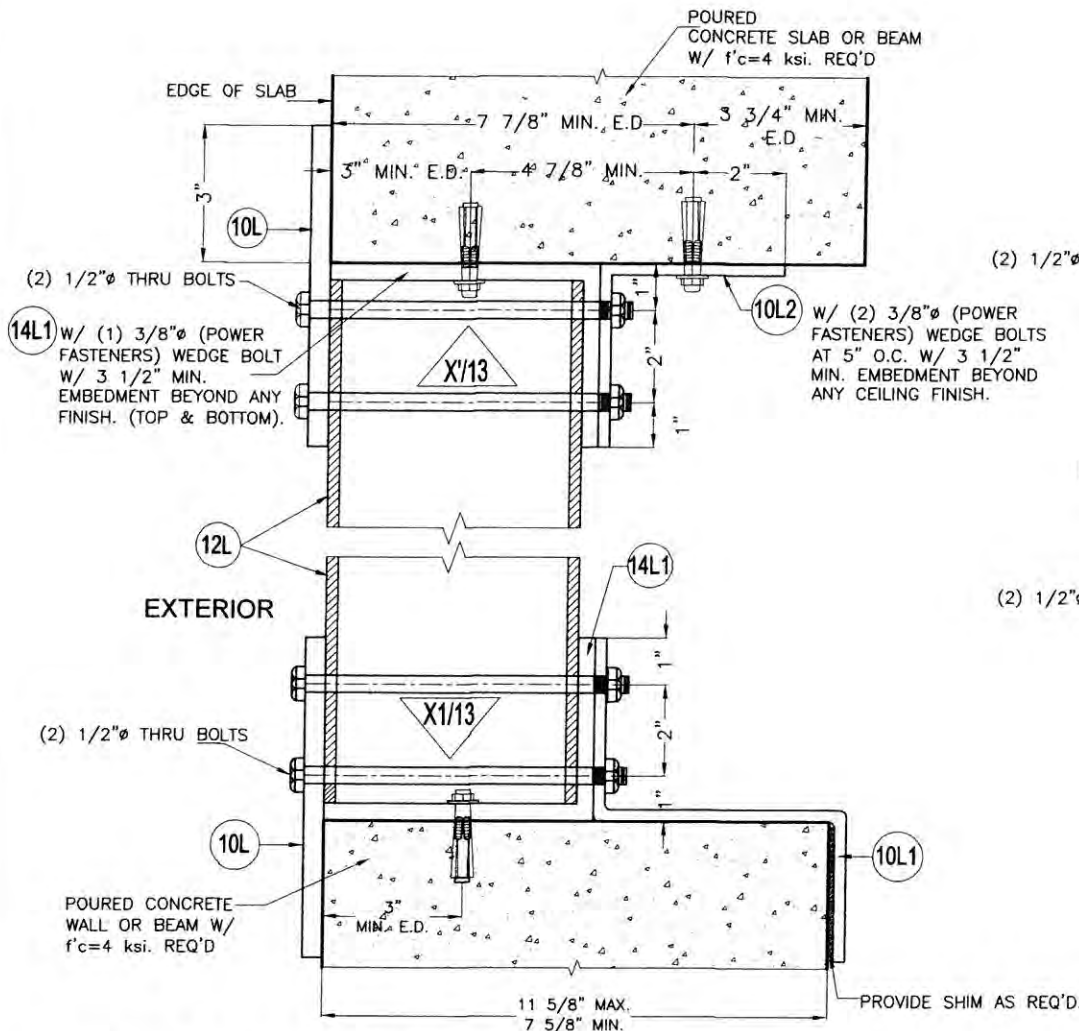


DETAIL - 1



DETAIL - 2

(SEE SHEET 15 FOR MAX. MULLION HEIGHT SCHEDULE GIVEN A MULLION SPACING AND DESIGN PRESSURE RATING FOR APPLICABILITY OF THIS DETAIL)



CONNECTION DETAILS

SCALE: 1/4" = 1"

NOTE: TOP & BOTTOM MOUNTINGS MAY BE INTERCHANGEABLE

DETAIL - 3

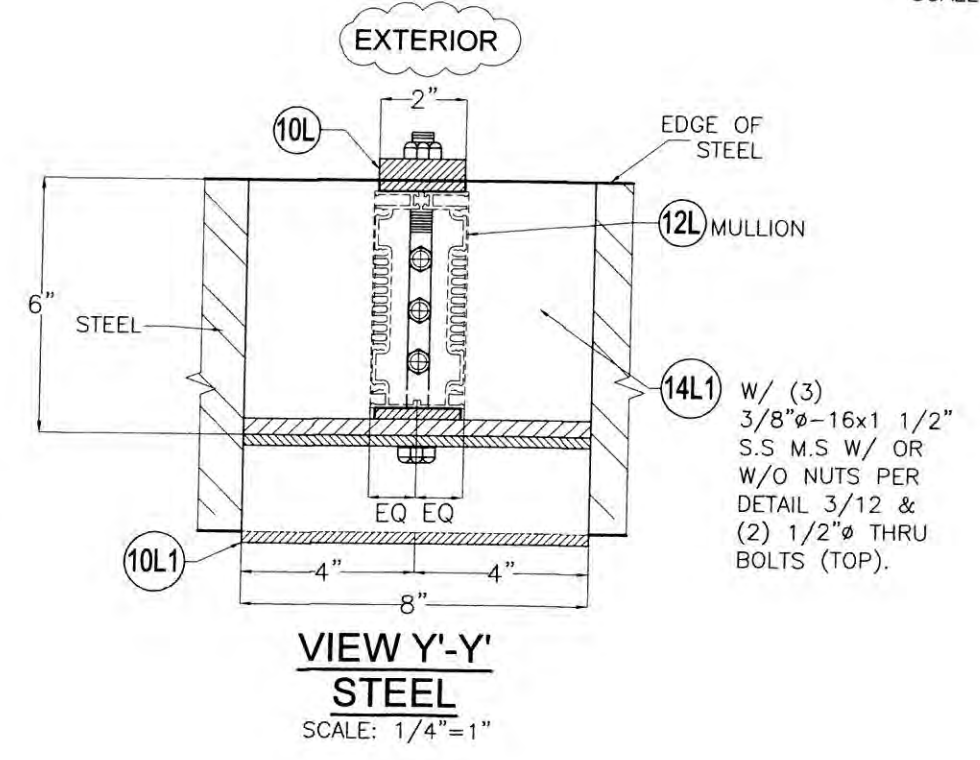
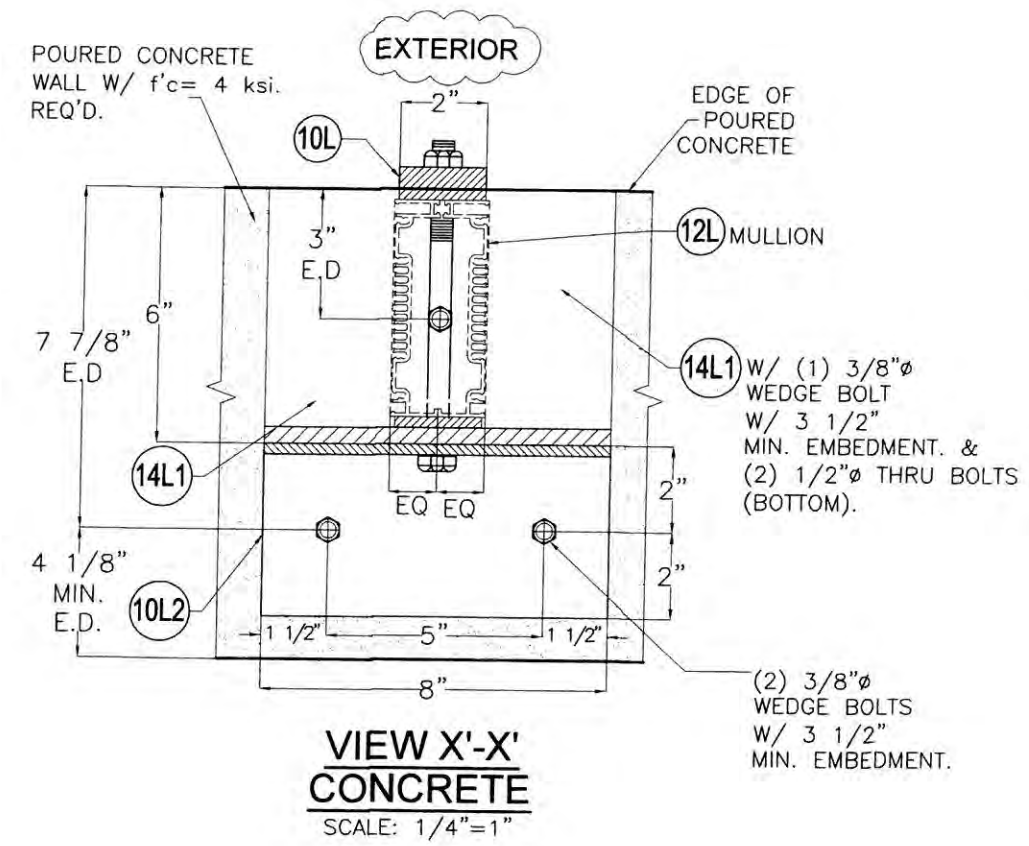
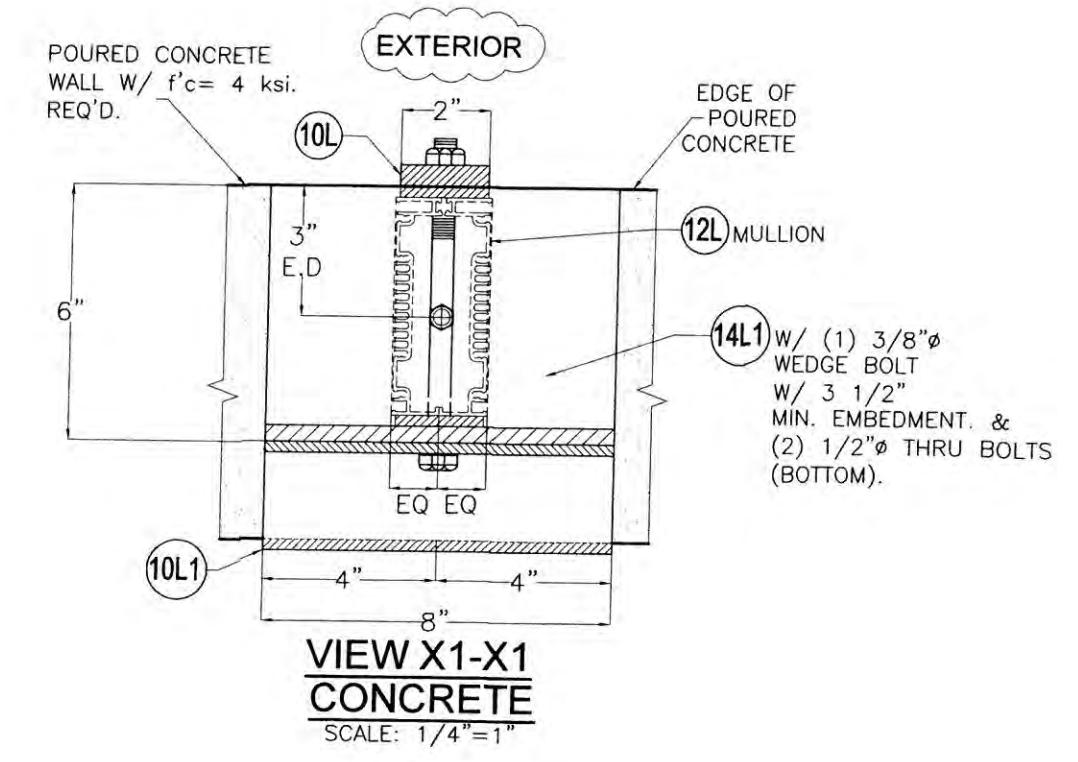
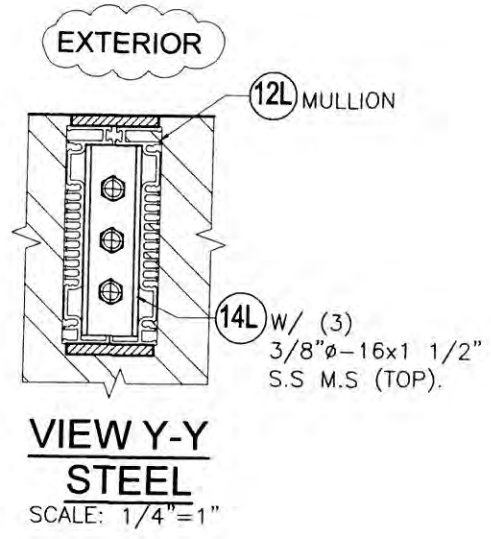
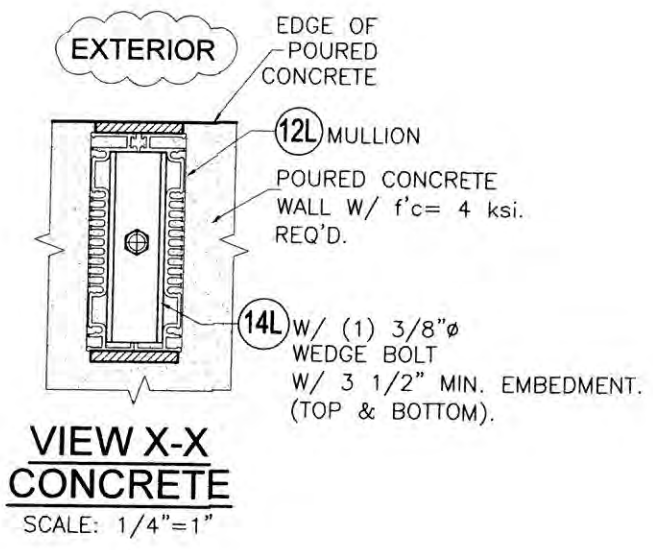
(SEE SHEET 15 FOR MAX. MULLION HEIGHT SCHEDULE GIVEN A MULLION SPACING AND DESIGN PRESSURE RATING FOR APPLICABILITY OF THIS DETAIL)

[Signature]
1/24/16
P.E. SEAL/SIGNATURE/DATE

WALTER A. TILLIT Jr P.E.
PROFESSIONAL ENGINEER
6355 N.W. 36 STREET, STE. 305
VIRGINIA GARDENS, FL 33166
PHONE (305) 871-1530 FAX (305) 871-1531
TEXAS LIC. # 90691
FIRM REGISTRATION # F-13790

TEXAS DEPARTMENT OF INSURANCE - 2006

SED-5.1 LOUVER SYSTEM WITH OR WITHOUT CD-151 DAMPER ASSEMBLY			M.L. DRAWN BY:		
UNITED ENERTECH, INC. 3005 SOUTH HICKORY ST. CHATTANOOGA, TN 37407 PHONE: (423)698-7715 FAX:(423)698-6629			01/20/16 DATE:		
16-005			DRAWING No.		
REV. NO	DESCRIPTION	DATE	REV. NO	DESCRIPTION	DATE
1	-	-	3	-	-
2	-	-	4	-	-



[Handwritten Signature]
1/24/16
P.E. SEAL/SIGNATURE/DATE

TEXAS DEPARTMENT OF INSURANCE - 2006

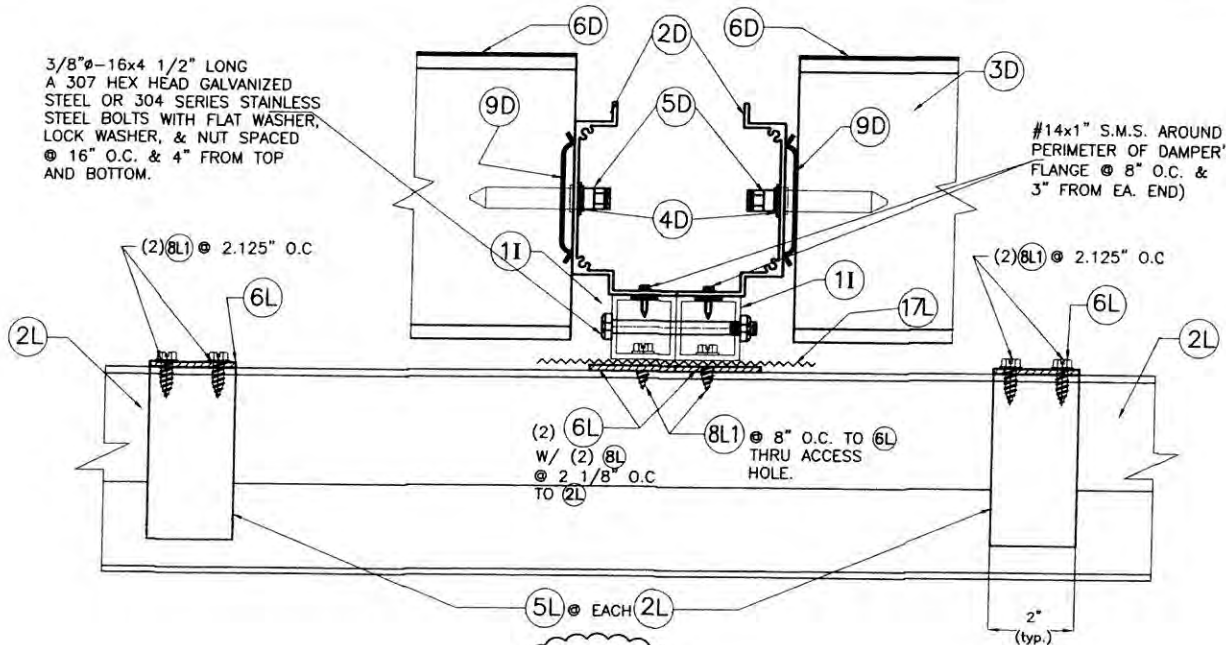
WALTER A. TILLIT Jr P.E.
PROFESSIONAL ENGINEER
6355 N.W 36 STREET, STE. 305
VIRGINIA GARDENS, FL 33166
PHONE(305) 871-1530 FAX (305) 871-1531
TEXAS LIC. # 90691
FIRM REGISTRATION # F-13790

SED-5.1 LOUVER SYSTEM WITH OR WITHOUT CD-151 DAMPER ASSEMBLY

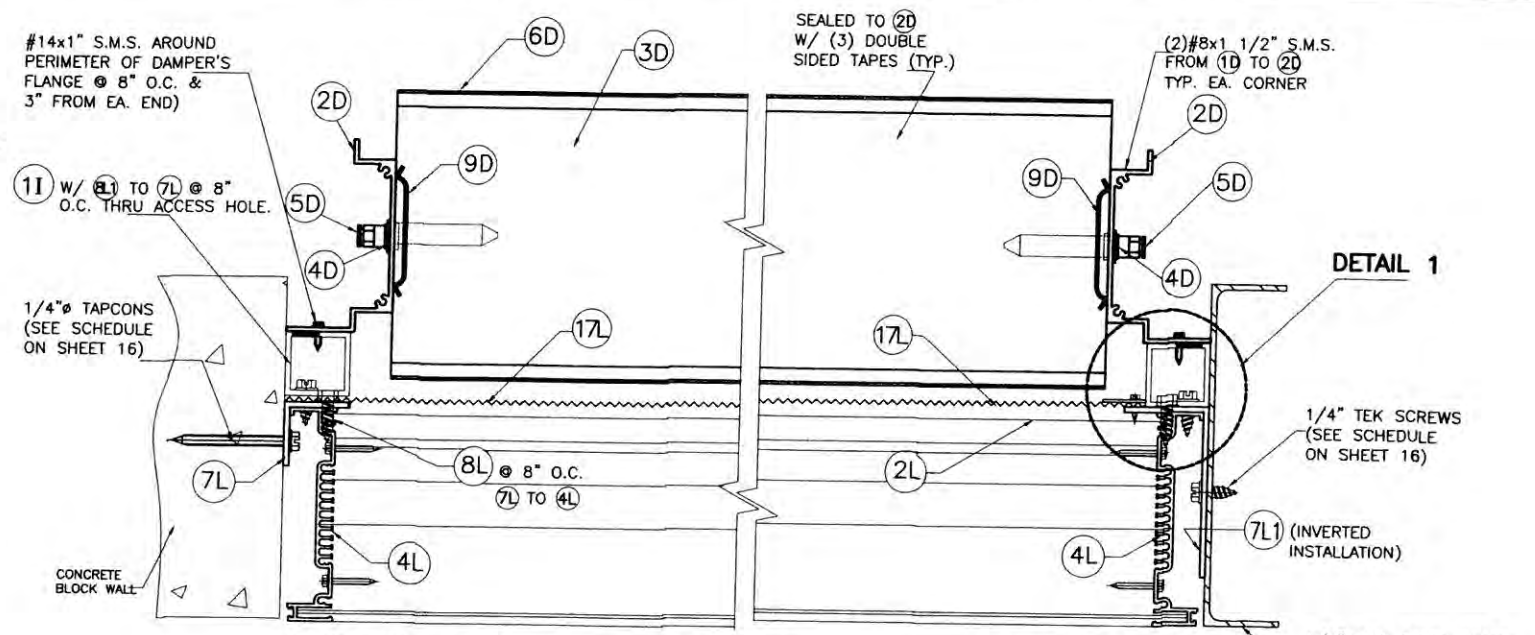
UNITED ENERTECH, INC.
3005 SOUTH HICKORY ST.
CHATTANOOGA, TN 37407
PHONE: (423)698-7715 FAX:(423)698-6629

REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	-	-	3	-	-
2	-	-	4	-	-

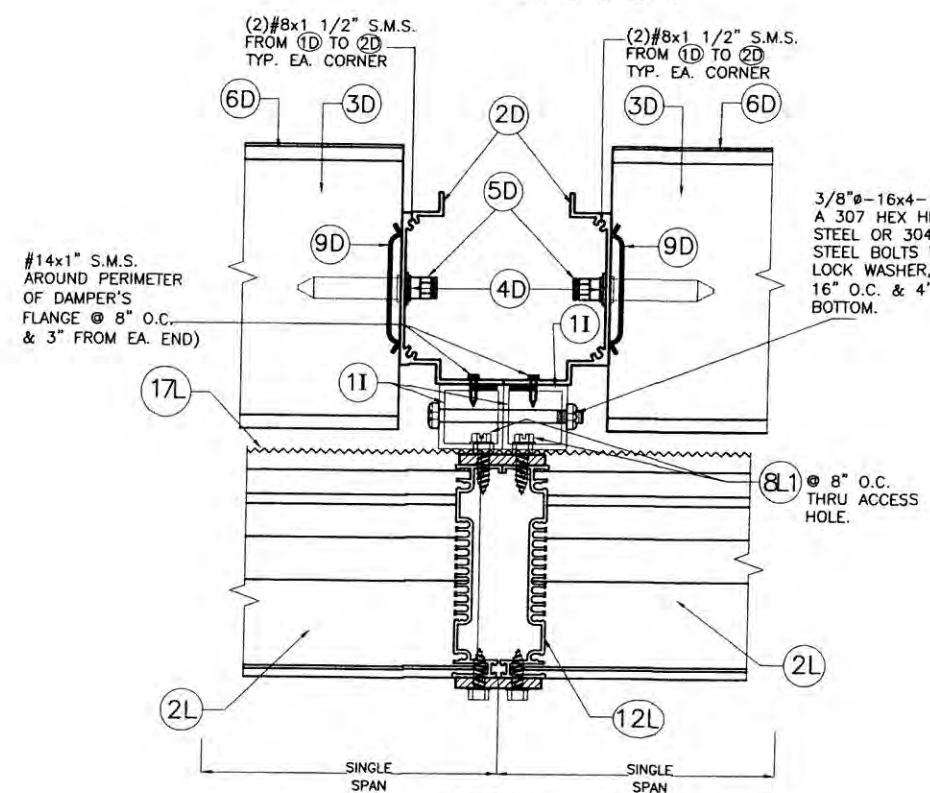
M.L. DRAWN BY:
01/20/16 DATE:
16-005 DRAWING No.
SHEET 13 OF 16



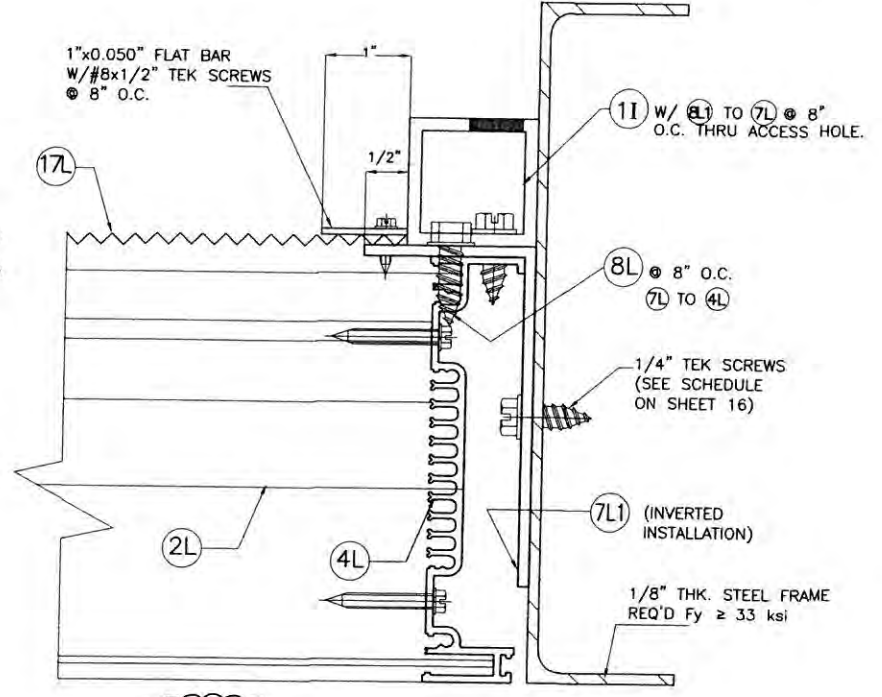
EXTERIOR SECTION "C-C"
SCALE: 3/16"=1"



SECTION D-D
SCALE: 3/16"=1"



EXTERIOR SECTION B-B
@ MULLION (12)
SCALE: 3/16"=1"



EXTERIOR DETAIL 1 (PLAN)
1ST LOUVER
BLANK-OFF LOCATION
SCALE: 3/8"=1"

 1/21/16 P.E. SEAL/SIGNATURE/DATE		TEXAS DEPARTMENT OF INSURANCE - 2006					
		SED-5.1 LOUVER SYSTEM WITH OR WITHOUT CD-151 DAMPER ASSEMBLY					
WALTER A. TILLIT Jr P.E. PROFESSIONAL ENGINEER 6355 N.W 36 STREET, STE. 305 VIRGINIA GARDENS, FL 33166 PHONE(305) 871-1530 FAX (305) 871-1531 TEXAS LIC. # 90691 FIRM REGISTRATION # F-13790						M.L. DRAWN BY: 01/20/16 DATE:	
UNITED ENERTECH, INC. 3005 SOUTH HICKORY ST. CHATTANOOGA, TN 37407 PHONE: (423)698-7715 FAX:(423)698-6629						16-005 DRAWING No.	
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	SHEET 14 OF 16	
1	-	-	3	-	-		
2	-	-	4	-	-		

MAXIMUM LOUVER SYSTEM HEIGHT (ft) SCHEDULE FOR A GIVEN DESIGN PRESSURE RATING (psf) AND A 12" MULLION SPACING (ft), APPLICABLE TO MULLION CONNECTION TO CONCRETE OR STEEL TOP AND BOTTOM COVERED BY DETAIL 2, SHEET 12 W/ ED. = 3" (FOR CONCRETE W/ MIN. f_c = 4 ksi.)

System Height (ft)	Concrete		Steel		System Height (ft)	Concrete		Steel	
	48"	60"	72"	10'-0"		48"	60"	72"	10'-0"
40	10'-0"	9'-10"	8'-3"	10'-0"	100	4'-11"	3'-11"	6'-10"	5'-5"
45	10'-0"	8'-9"	7'-4"	10'-0"	105	4'-8"	3'-9"	6'-6"	5'-2"
50	10'-0"	7'-11"	6'-7"	10'-0"	110	4'-6"	3'-7"	6'-2"	4'-12"
55	10'-0"	8'-12"	7'-2"	10'-0"	115	4'-3"	3'-5"	5'-11"	4'-9"
60	10'-0"	8'-3"	6'-7"	10'-0"	120	4'-1"	3'-3"	5'-8"	4'-7"
65	10'-0"	7'-7"	6'-1"	10'-0"	125	3'-11"	3'-2"	5'-5"	4'-4"
70	10'-0"	7'-1"	5'-8"	10'-0"	130	3'-10"	3'-0"	5'-3"	4'-2"
75	10'-0"	6'-7"	5'-3"	10'-0"	135	3'-8"	2'-11"	5'-1"	4'-0"
80	10'-0"	6'-2"	4'-11"	10'-0"	140	3'-6"	2'-10"	4'-10"	3'-11"
85	10'-0"	5'-10"	4'-8"	10'-0"	145	3'-5"	2'-9"	4'-8"	3'-9"
90	10'-0"	5'-6"	4'-5"	10'-0"	150	3'-3"	2'-8"	4'-7"	3'-8"
95	10'-0"	5'-2"	4'-2"	10'-0"		2'-2"	2'-2"	3'-0"	3'-0"

MAXIMUM LOUVER SYSTEM HEIGHT (ft) SCHEDULE FOR A GIVEN DESIGN PRESSURE RATING (psf) AND A 12" MULLION SPACING (ft), APPLICABLE TO MULLION CONNECTION TO CONCRETE OR STEEL TOP AND BOTTOM COVERED BY DETAIL 2, SHEET 12 W/ ED. = 4" (FOR CONCRETE W/ MIN. f_c = 4 ksi.)

System Height (ft)	Concrete		Steel		System Height (ft)	Concrete		Steel	
	48"	60"	72"	10'-0"		48"	60"	72"	10'-0"
40	10'-0"	10'-0"	10'-0"	10'-0"	100	6'-12"	5'-7"	7'-3"	5'-10"
45	10'-0"	10'-0"	10'-0"	10'-0"	105	6'-8"	5'-4"	6'-11"	5'-6"
50	10'-0"	10'-0"	10'-0"	10'-0"	110	6'-4"	5'-1"	6'-7"	5'-3"
55	10'-0"	10'-0"	10'-0"	10'-0"	115	6'-1"	4'-10"	6'-4"	5'-1"
60	10'-0"	10'-0"	10'-0"	10'-0"	120	5'-10"	4'-8"	6'-1"	4'-10"
65	10'-0"	10'-0"	10'-0"	10'-0"	125	5'-7"	4'-6"	5'-10"	4'-8"
70	10'-0"	10'-0"	10'-0"	10'-0"	130	5'-5"	4'-4"	5'-7"	4'-6"
75	10'-0"	10'-0"	10'-0"	10'-0"	135	5'-2"	4'-2"	5'-5"	4'-4"
80	10'-0"	10'-0"	10'-0"	10'-0"	140	4'-12"	3'-12"	5'-2"	4'-2"
85	10'-0"	10'-0"	10'-0"	10'-0"	145	4'-10"	3'-10"	5'-0"	4'-0"
90	10'-0"	10'-0"	10'-0"	10'-0"	150	4'-8"	3'-9"	4'-10"	3'-10"
95	10'-0"	10'-0"	10'-0"	10'-0"		3'-1"	3'-1"	3'-3"	3'-3"

MAXIMUM LOUVER SYSTEM HEIGHT (ft) SCHEDULE FOR A GIVEN DESIGN PRESSURE RATING (psf) AND A 12" MULLION SPACING (ft), APPLICABLE TO MULLION CONNECTION TO CONCRETE OR STEEL TOP AND BOTTOM COVERED BY DETAIL 3, SHEET 12 W/ ED. = 3" (FOR CONCRETE W/ MIN. f_c = 4 ksi.)

System Height (ft)	Concrete		Steel		System Height (ft)	Concrete		Steel	
	48"	60"	72"	10'-0"		48"	60"	72"	10'-0"
40	10'-0"	10'-0"	10'-0"	10'-0"	100	48"	60"	9'-2"	8'-6"
45	10'-0"	10'-0"	10'-0"	10'-0"	105	48"	60"	9'-0"	8'-5"
50	10'-0"	10'-0"	10'-0"	10'-0"	110	48"	60"	8'-11"	8'-3"
55	10'-0"	10'-0"	10'-0"	10'-0"	115	48"	60"	8'-9"	8'-2"
60	10'-0"	10'-0"	10'-0"	10'-0"	120	48"	60"	8'-8"	8'-0"
65	10'-0"	10'-0"	10'-0"	10'-0"	125	48"	60"	8'-6"	7'-11"
70	10'-0"	10'-0"	10'-0"	10'-0"	130	48"	60"	8'-5"	7'-10"
75	10'-0"	10'-0"	10'-0"	10'-0"	135	48"	60"	8'-4"	7'-8"
80	10'-0"	10'-0"	10'-0"	10'-0"	140	48"	60"	8'-2"	7'-7"
85	10'-0"	10'-0"	10'-0"	10'-0"	145	48"	60"	8'-1"	7'-6"
90	10'-0"	10'-0"	10'-0"	10'-0"	150	48"	60"	8'-0"	7'-5"
95	10'-0"	10'-0"	10'-0"	10'-0"		48"	60"	8'-8"	7'-0"

NOTE: TOP & BOTTOM MOUNTINGS AT DETAIL 3 MAY BE INTERCHANGEABLE.

MAXIMUM MULLION 12" HEIGHT FOR MULTIPLE LOUVER SYSTEM SED 5.1 W/ OR W/O DAMPER FOR A GIVEN DESIGN PRESSURE RATING, MULLION SPACING AND CONNECTION TYPE FOR CONNECTIONS INTO CONCRETE OR STEEL SUBSTRATES.

[Signature]
1/21/14
P.E. SEAL/SIGNATURE/DATE

WALTER A. TILLIT Jr P.E.
PROFESSIONAL ENGINEER
6355 N.W 36 STREET, STE. 305
VIRGINIA GARDENS, FL 33166
PHONE(305) 871-1530 FAX (305) 871-1531
TEXAS LIC. # 90691
FIRM REGISTRATION # F-13790

TEXAS DEPARTMENT OF INSURANCE - 2006

SED-5.1 LOUVER SYSTEM WITH OR WITHOUT CD-151 DAMPER ASSEMBLY

UNITED ENERTECH, INC.
3005 SOUTH HICKORY ST.
CHATTANOOGA, TN 37407
PHONE: (423)698-7715 FAX:(423)698-6629

M.L. DRAWN BY:
01/20/16 DATE:
16-005 DRAWING No.
SHEET 15 OF 16

REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	-	-	3	-	-
2	-	-	4	-	-

**ANCHOR SPACING SCHEDULE AT JAMBS, VALID FOR CONNECTION TO
CONCRETE, CONCRETE BLOCK & STEEL SUBSTRATES.**


ANCHOR SPACING SCHEDULE AT JAMBS W/7L (1 1/2"x1 1/2"x1/8" ANGLE)				
DESIGN PRESSURE RATING	SINGLE UNIT WIDTH OR MULLION	MAX. SPACING (in)		
(psf.)	SPACING (S) AT MULTIPLE UNITS	TO CONCRETE	TO CONCRETE BLOCK	TO STEEL
75 OR LESS	48	8" O.C	4" O.C	8" O.C
	60	8" O.C	3" O.C	8" O.C
	72	8" O.C	3" O.C	8" O.C
> 75 TO 110	48	8" O.C	3" O.C	8" O.C
	60	8" O.C	3" O.C**	8" O.C
	72	7" O.C	N/A	7 1/2" O.C
> 110 TO 150	48	8" O.C	3" O.C*	8" O.C
	60	6 1/2" O.C	N/A	6 1/2" O.C
	72	5" O.C	N/A	5 1/2" O.C

* LIMITED TO 114.0 psf. DESIGN PRESSURE RATING.

** LIMITED TO 91.0 psf. DESIGN PRESSURE RATING.

ANCHOR SPACING SCHEDULE AT JAMBS W/7L1 (2"x4"x1/8" ANGLE)				
DESIGN PRESSURE RATING	SINGLE UNIT WIDTH OR MULLION	MAX. SPACING (in)		
(psf.)	SPACING (S) AT MULTIPLE UNITS	TO CONCRETE	TO CONCRETE BLOCK	TO STEEL
75 OR LESS	48	8" O.C	7" O.C	8" O.C
	60	8" O.C	6" O.C	8" O.C
	72	8" O.C	5" O.C	8" O.C
> 75 TO 110	48	8" O.C	5" O.C	8" O.C
	60	8" O.C	4" O.C	8" O.C
	72	8" O.C	3" O.C	8" O.C
> 110 TO 150	48	8" O.C	3" O.C	8" O.C
	60	8" O.C	3" O.C	8" O.C
	72	7 1/2" O.C	3" O.C***	8" O.C

*** LIMITED TO 127.0 psf. DESIGN PRESSURE RATING.

 P.E. SEAL/SIGNATURE/DATE		TEXAS DEPARTMENT OF INSURANCE - 2006			
		SED-5.1 LOUVER SYSTEM WITH OR WITHOUT CD-151 DAMPER ASSEMBLY			M.L. DRAWN BY:
WALTER A. TILLIT Jr P.E. PROFESSIONAL ENGINEER 6355 N.W 36 STREET, STE. 305 VIRGINIA GARDENS, FL 33166 PHONE(305) 871-1530 FAX (305) 871-1531 TEXAS LIC. # 90691 FIRM REGISTRATION # F-13790			UNITED ENERTECH, INC. 3005 SOUTH HICKORY ST. CHATTANOOGA, TN 37407 PHONE: (423)698-7715 FAX:(423)698-6629		01/20/16 DATE:
			16-005 DRAWING No.		
			SHEET 16 OF 16		
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	-	-	3	-	-
2	-	-	4	-	-