

**GENERAL NOTES:**

1. ROLL-UP SHUTTER SHOWN ON THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) HAS BEEN VERIFIED FOR COMPLIANCE IN ACCORDANCE WITH THE 2006 EDITIONS OF THE INTERNATIONAL BUILDING CODE, (I.B.C.) AND INTERNATIONAL RESIDENTIAL CODE, (I.R.C.) WITH THE 2006 TEXAS REVISIONS, EFFECTIVE JANUARY 1, 2008.  
 THIS ROLL-UP SHUTTER SHALL BE INSTALLED AT SEAWARD AND INLAND AREAS, AS DEFINED BY THE TEXAS DEPARTMENT OF INSURANCE. DESIGN WIND LOADS SHALL BE DETERMINED AS PER SECTION 1609 OF THE OF THE INTERNATIONAL BUILDING CODE, FOR A BASIC WIND SPEED AS REQUIRED BY THE JURISDICTION WHERE SHUTTER WILL BE INSTALLED, AND FOR A DIRECTIONALITY FACTOR  $KD=0.85$ , IN ACCORDANCE W/ ASCE 7-05 STANDARD. IN ORDER TO VERIFY THAT COMPONENTS AND ANCHORS ON THIS P.E.D. AS TESTED WERE NOT OVER STRESSED, 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.  
 ROLL-UP SHUTTER ADEQUACY FOR IMPACT AND CYCLIC RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTIONS 1609.1.2 AND R301.1.3 OF THE INTERNATIONAL AND RESIDENTIAL BUILDING CODE, RESPECTIVELY, AS PER ARCHITECTURAL TESTING LAB. REPORTS # **49124.01-122-44**. AS PER ASTM E 1886-02, E 1996-02 AND E 330-02 STANDARDS, QUALIFYING INSTALLATIONS FOR WIND ZONES 1, 2 & 3, MISSILE TYPE D, APPLICABLE TO BASIC PROTECTION ONLY, INSTALLATIONS AT NON ESSENTIAL FACILITIES AS DEFINED BY SECTIONS 6.2.1.1, 6.2.1.2 AND 8.3 OF ASTM E 1996-02.

2. MAXIMUM DESIGN PRESSURE RATING:

**+50.0 PSF, -55.0 PSF**

ANY DESIGN WIND LOAD, SLAT SPAN, SHUTTER HEIGHTS AND WIDTHS EQUAL OR SMALLER THAN MAXIMUM ALLOWABLE INDICATED IN THIS DRAWING ARE ACCEPTABLE FOR INSTALLATION.

3. ALL ALUMINUM EXTRUSIONS SHALL BE 6063-T6 ALLOY (UNLESS OTHERWISE NOTED).

4. ALL SCREWS & 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 A123 OR ASTM A153, OR HOT DIPPED GALVANIZED OR GALVANNEALED (PRIOR TO FABRICATION) AND MEET ASTM A653 WITH 50 KSI YIELD STRENGTH AND 90 KSI TENSILE STRENGTH, PER 2006 TEXAS REVISIONS TO SECTION 1716.1.1 OF THE 2006 I.B.C. AND SECTION R325.1.1 OF THE 2006 I.R.C.

5. ALL SCREWS & BOLTS INSTALLED AT INLAND I 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 COATINGS PER ASTM B695 OR ELECTRO DEPOSITED ZINC COATINGS PER ASTM B633, PER THE 2006 TEXAS REVISIONS TO SECTION 1716.1.2 OF THE 2006 I.B.C. AND TO SECTION R325.1.2 OF THE 2006 I.R.C.

6. STORM BARS AT FLOOR AND CEILING MOUNTING INSTALLATIONS MAY BE REMOVABLE AT NON HURRICANE CONDITIONS. HOWEVER, EACH STORM BAR SHALL BEAR A PERMANENT LABEL IN A VISIBLE PLACE WITH A WARNING NOTE INSTRUCTING THE TENANT OR OWNER THAT STORM BARS MUST BE INSTALLED WITH CORRESPONDING HARDWARE DURING PERIODS OF HURRICANE WARNING AND THAT ROLL UP SHUTTERS WILL NOT OFFER HURRICANE PROTECTION UNLESS ALL STORM BARS ARE INSTALLED AS DIRECTED.

7. REMOVABLE STORM BARS SHALL BE STORED IN A CONSPICUOUS PLACE WITH EASY AND IMMEDIATE ACCESS SO THAT THEY CAN BE REACHED AND INSTALLED ANY TIME (HURRICANE CONDITIONS OR NOT) SLATS ARE ROLLED DOWN. THE EFFECT OF THE SLATS ROLLED DOWN WITHOUT STORM BARS IS; THOSE SLATS WILL SLIP OUT OF TRACK DUE TO THE DEFLECTION CAUSED BY WIND FORCES.

8. PROTEUS® FLAME RETARDANT 18G, IS A POLYPROPYLENE MANUFACTURED BY POLY HI SOLIDUR, INC., USED AT SPRING LOADED SYSTEM FOR REMOVABLE STORM BARS & COMPLIES W/ THE FOLLOWING SPECIFICATIONS:

DESIGNATION	PROPERTIES	VALUE
ASTM D-792	DENSITY	59.51 lbs/ft <sup>3</sup> (AVERAGE)
ASTM D-638	YIELD POINT	3200 psi (AVERAGE)
ASTM D-638	TENSILE BREAK	3250 psi (AVERAGE)
ASTM D-638	ELONGATION AT BREAK	600 % (AVERAGE)
ASTM D-790	FLEXURAL MODULUS	145000 psi (AVERAGE)
ASTM D-4020	IZOD IMPACT	0.15 ft-lbs/inch (AVERAGE)
UL 94	BURN RATING.	V-0/5-VA (AVERAGE)
ASTM E-84	FLAME SPREAD INDEX	15 °F (AVERAGE)
ASTM E-84	SMOKE DEVELOPMENT INDEX	375 °F (AVERAGE)

9. ANCHORS TO WALL FOR SIDE RAILS & BOX CONNECTION SHALL BE AS FOLLOWS:

- 1/4"Ø TAPCON ANCHORS, AS MANUFACTURED BY I.T.W. BUILDEX OR ELCO TEXTRON, INC.

NOTES:

A.1) MINIMUM EMBEDMENT OF TAPCON ANCHORS INTO POURED CONCRETE IS 1 3/4". NO EMBEDMENT INTO STUCCO SHALL BE CONSIDERED AS PART OF THE REQUIRED EMBEDMENT.

A.2) IN CASE THAT PRECAST STONE, PRECAST CONCRETE OR BRICK PANELS, VENEER OR PAVERS BE FOUND ON THE EXISTING WALL OR FLOOR, ANCHORS SHALL BE LONG ENOUGH TO REACH THE MAIN STRUCTURE BEHIND SUCH COVERS. ANCHORAGE SHALL BE AS INDICATED ON NOTE A.1 ABOVE.

(B) TO EXISTING CONCRETE A.S.T.M. C-90 BLOCK WALL:

- 1/4" Ø TAPCON ANCHORS AS MANUFACTURED BY I.T.W. BUILDEX OR ELCO TEXTRON, INC.

NOTES:

B.1) MINIMUM EMBEDMENT OF TAPCON ANCHORS INTO CONCRETE BLOCK UNIT SHALL BE 1 1/4".

B.2) IN CASE THAT PRECAST STONE, PRECAST CONCRETE OR BRICK PANELS, VENEER OR PAVERS BE FOUND ON THE EXISTING WALL OR FLOOR, ANCHORS SHALL BE LONG ENOUGH TO REACH THE MAIN STRUCTURE BEHIND SUCH COVERS. ANCHORAGE SHALL BE AS INDICATED ON NOTE B.1 ABOVE.

(C) TO EXISTING WOOD FRAME WALL (MIN. SPECIFIC GRAVITY = 0.36):  
 - 5/16" Ø WOOD SCREWS W/ 2" MIN. EMBEDMENT INTO WOOD BEYOND ANY WALL FINISH.

(D) ANCHORS SHALL BE INSTALLED FOLLOWING ALL OF THE RECOMMENDATIONS AND SPECIFICATIONS OF THE ANCHOR'S MANUFACTURER.

(E) ANCHORS REQUIRED FOR STORM BARS & HEADER CONNECTIONS SHALL BE AS SPECIFIED ON APPLICABLE SECTIONS SHOWN ON SHEETS 4 & 5 OF 5. POWER BOLT ANCHORS TO BE AS MANUFACTURER BY POWERS FASTENERS, INC., WOOD SCREWS SHALL BE COMPLY W/ THE NATIONAL DESIGN SPECIFICATION FROM AF & PA.

10. THE INSTALLATION CONTRACTOR IS TO SEAL/CAULK ALL SHUTTER COMPONENT EDGES WHICH REMAIN IN CONTINUOUS CONTACT WITH THE BUILDING TO PREVENT WIND/RAIN INTRUSION.

11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SOUNDNESS OF THE STRUCTURE WHERE SHUTTER IS TO BE ATTACHED TO INSURE PROPER ANCHORAGE. THIS SHUTTER SHALL ONLY BE ATTACHED TO CONCRETE, CONCRETE BLOCK OR WOOD FRAME BUILDINGS.

12. SHUTTER'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. LIFTING MECHANISM NOT PART OF THIS APPROVAL, BUT SHALL BE CERTIFIED BY AN INDEPENDENT TESTING AGENCY.

14. (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.

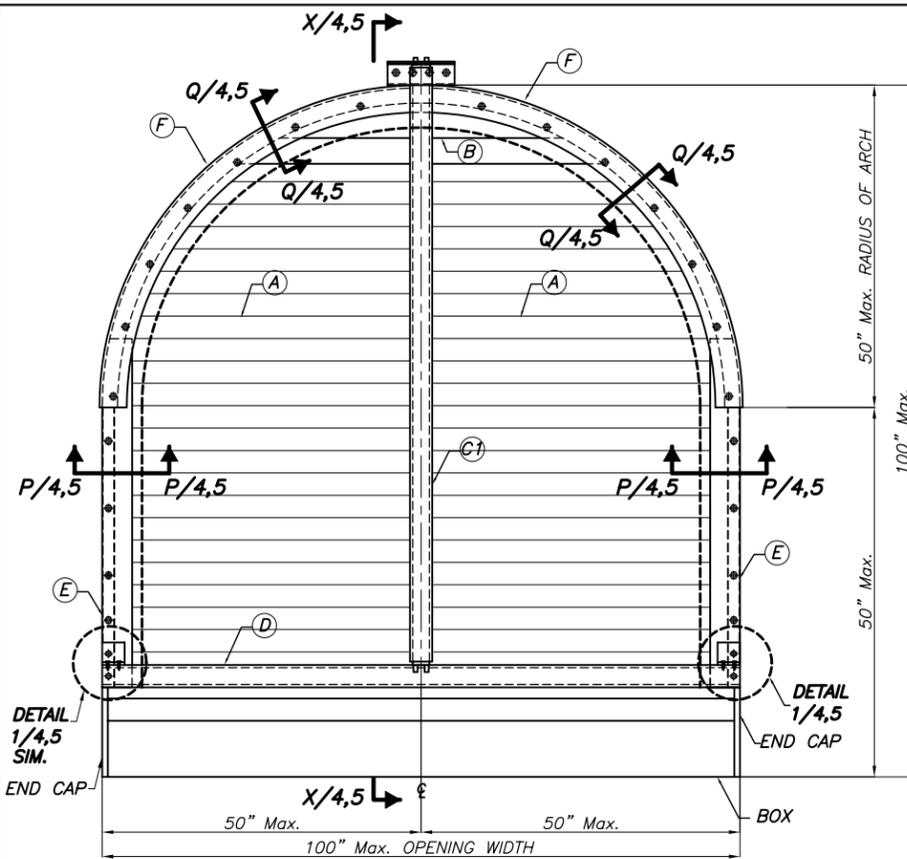
(d) SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A PROFESSIONAL REGISTERED ENGINEER OR ARCHITECT WHICH WILL BECOME THE ENGINEER OF RECORD (E.O.R.) FOR THE PROJECT AND WHO WILL BE RESPONSIBLE FOR THE PROPER USE OF THE P.E.D. ENGINEER OF RECORD, ACTING AS A DELEGATED ENGINEER TO THE P.E.D. ENGINEER, SHALL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

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

15. SHUTTER MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION AT ROLL-UP SHUTTER. ONE LABEL SHALL BE PLACED FOR EVERY OPENING. LABELING SHALL INDICATE MANUFACTURER'S NAME, PRODUCT NAME AND ASTM E 330, E 1886 & E 1996 COMPLIANT.

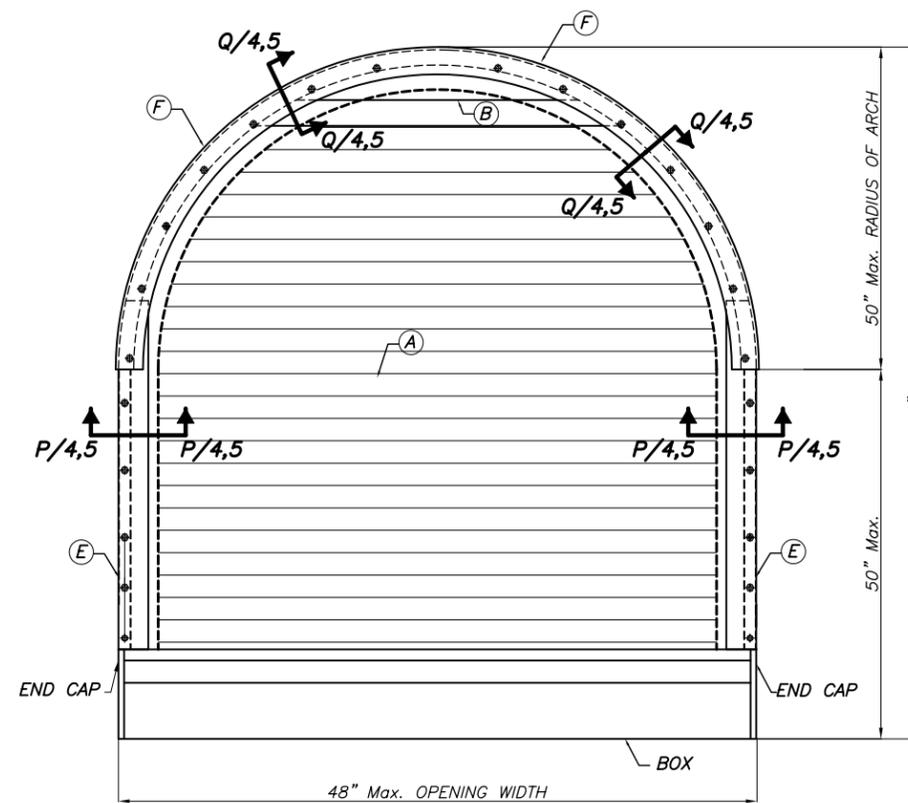
TEXAS DEPARTMENT OF INSURANCE - 2006

<b>WALTER A. TILLIT Jr. P.E.</b> PROFESSIONAL ENGINEER  6355 N.W. 36TH ST., STE. 305 VIRGINIA GARDENS, FL 33166 PHONE : (305) 871-1530 , FAX : (305) 871-1531  TEXAS LIC. # 90691		STUDIO STAR 40mm ROLL-UP SHUTTER			I.A. DRAWN BY:
		<b>ALUTECH UNITED INC.</b>  15 DIXON STREET SELBYVILLE, DE 19975 PHONE: (800) 233-1144, FAX: (302) 436-5100			06/16/09 DATE
		09-107 DRAWING No			
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					SHEET 1 OF 5



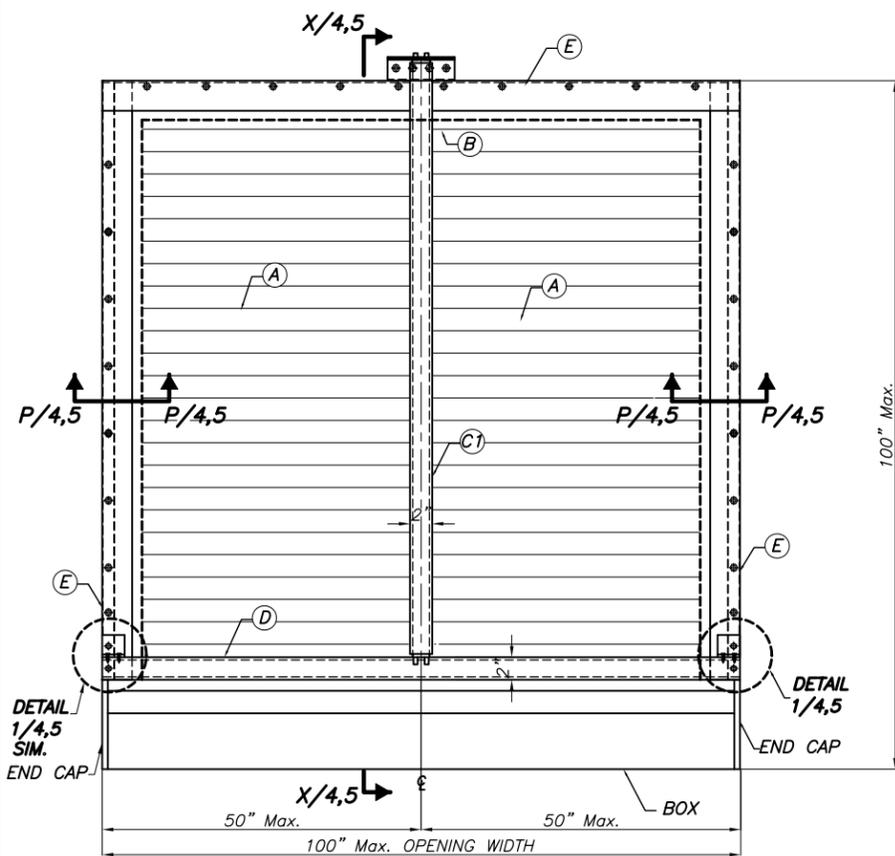
**TYPICAL DOUBLE UNIT ARCH ELEVATION (STORM BARS REQUIRED)**

NOTE: SEE SHEET 3 OF 5 FOR COMPONENTS NOMENCLATURE  
SCALE: 3/4"=1"



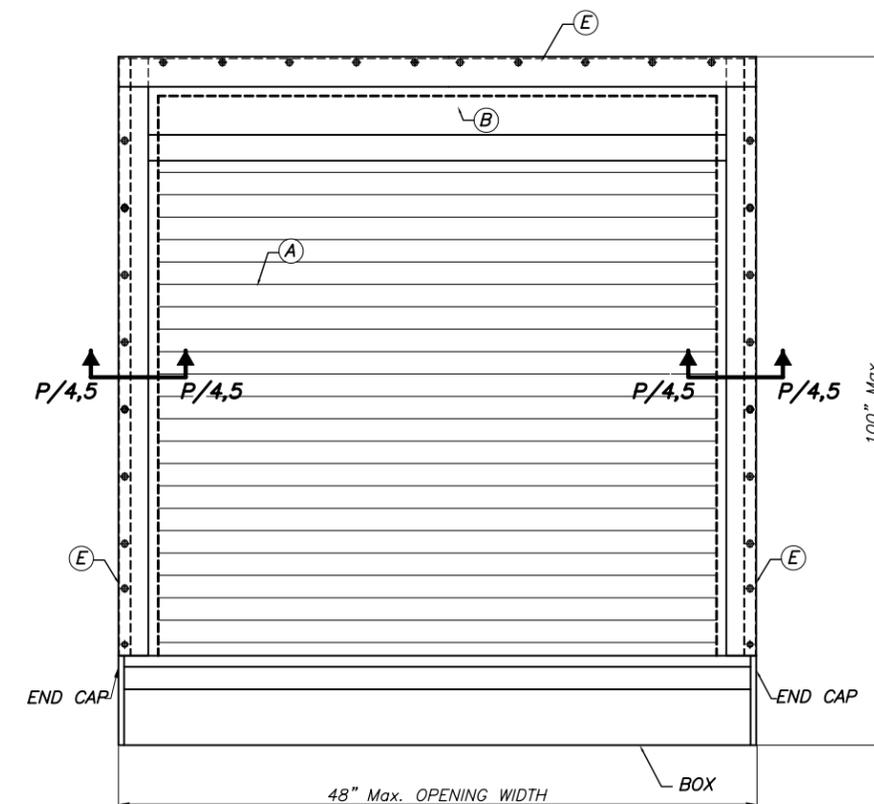
**TYPICAL SINGLE UNIT ARCH ELEVATION (NO STORM BARS REQUIRED)**

NOTE: SEE SHEET 3 OF 5 FOR COMPONENTS NOMENCLATURE  
SCALE: 3/4"=1"



**TYPICAL DOUBLE UNIT ELEVATION (STORM BARS REQUIRED)**

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TEXAS LIC. # 90691

STUDIO STAR 40mm ROLL-UP  
SHUTTER

**ALUTECH UNITED INC.**

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I.A.  
DRAWN BY:

06/16/09  
DATE

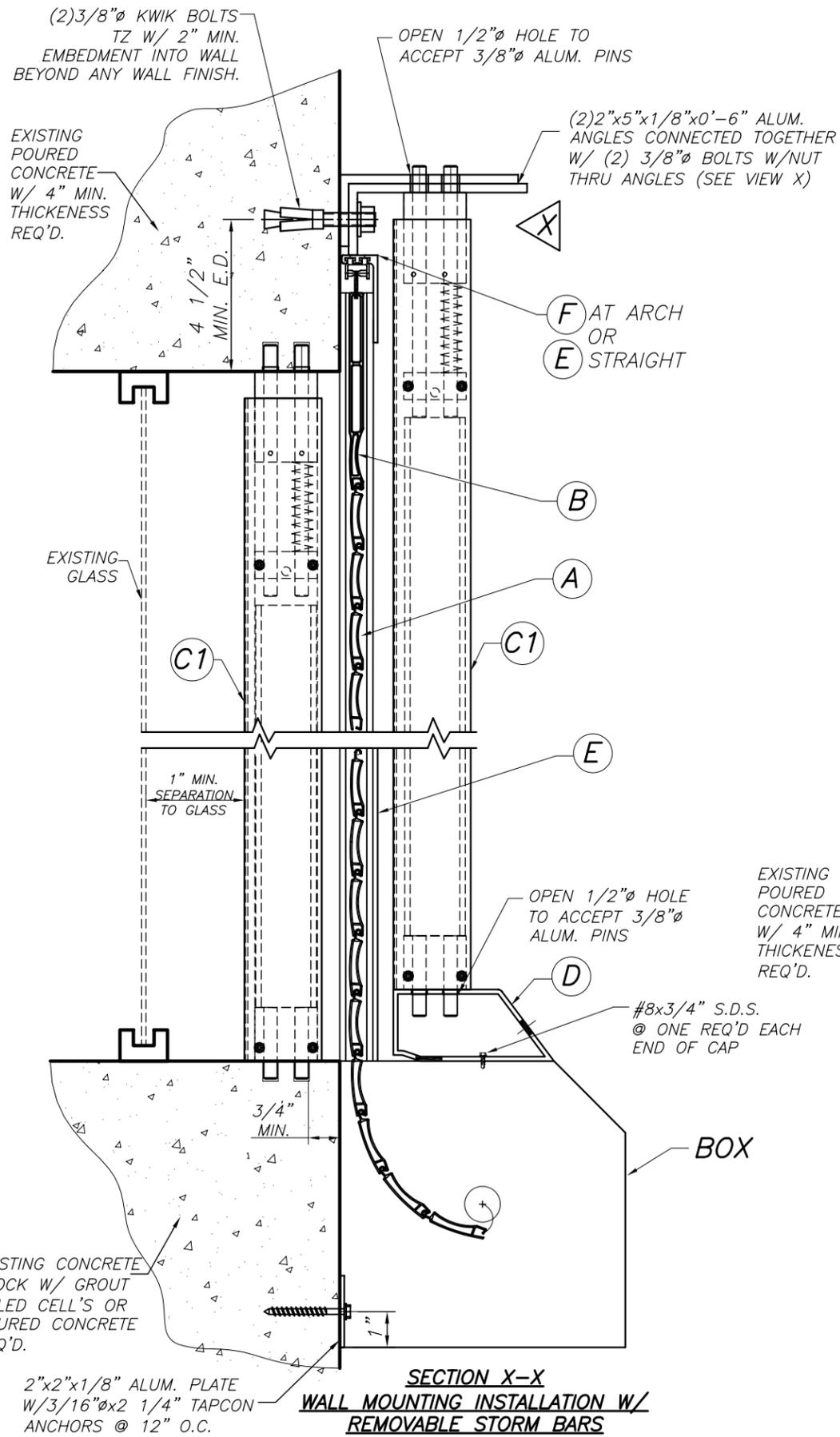
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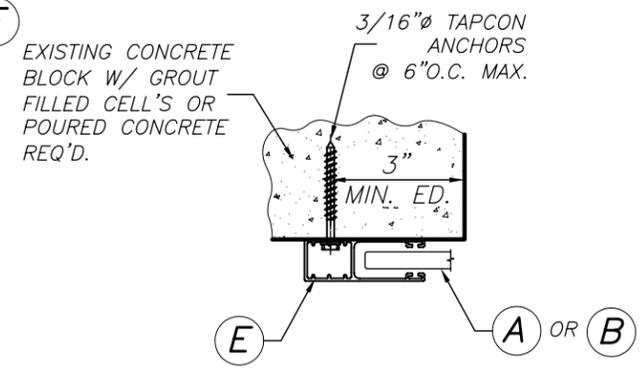
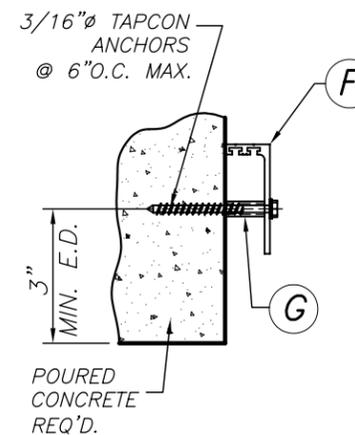
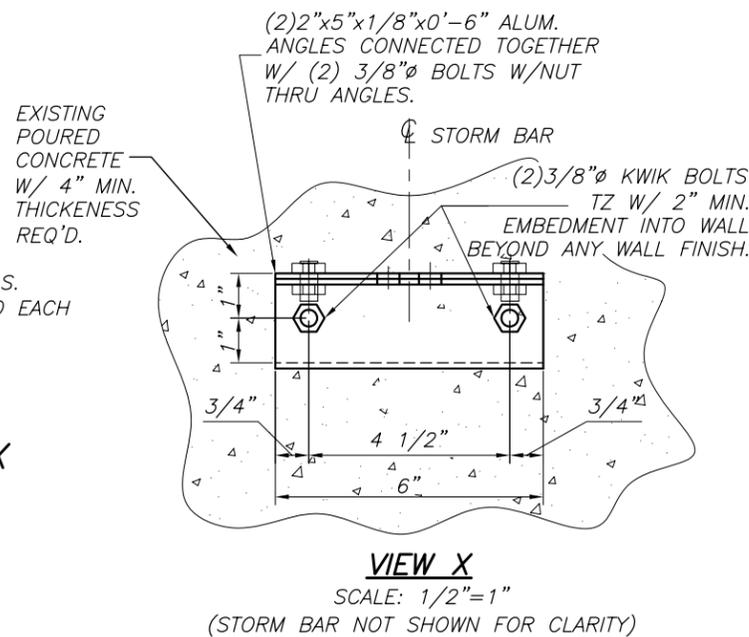
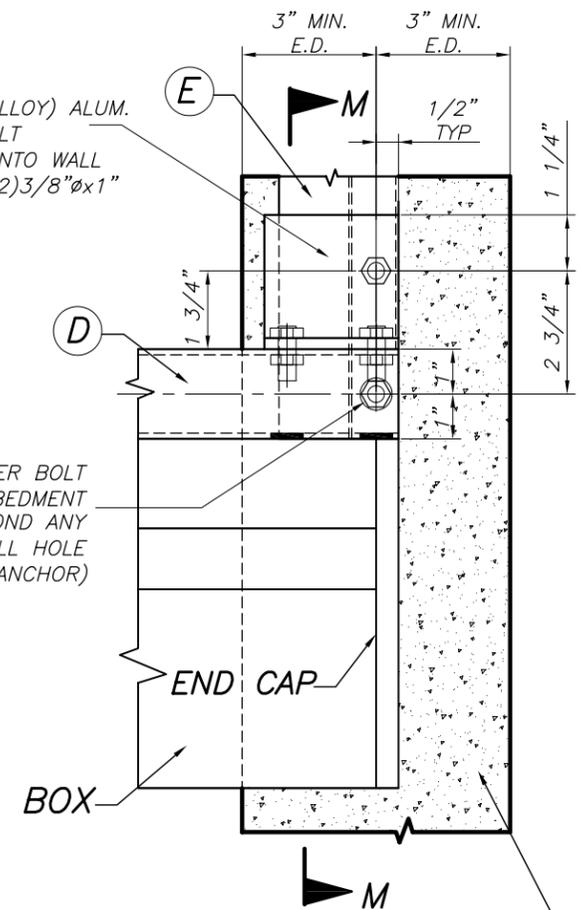
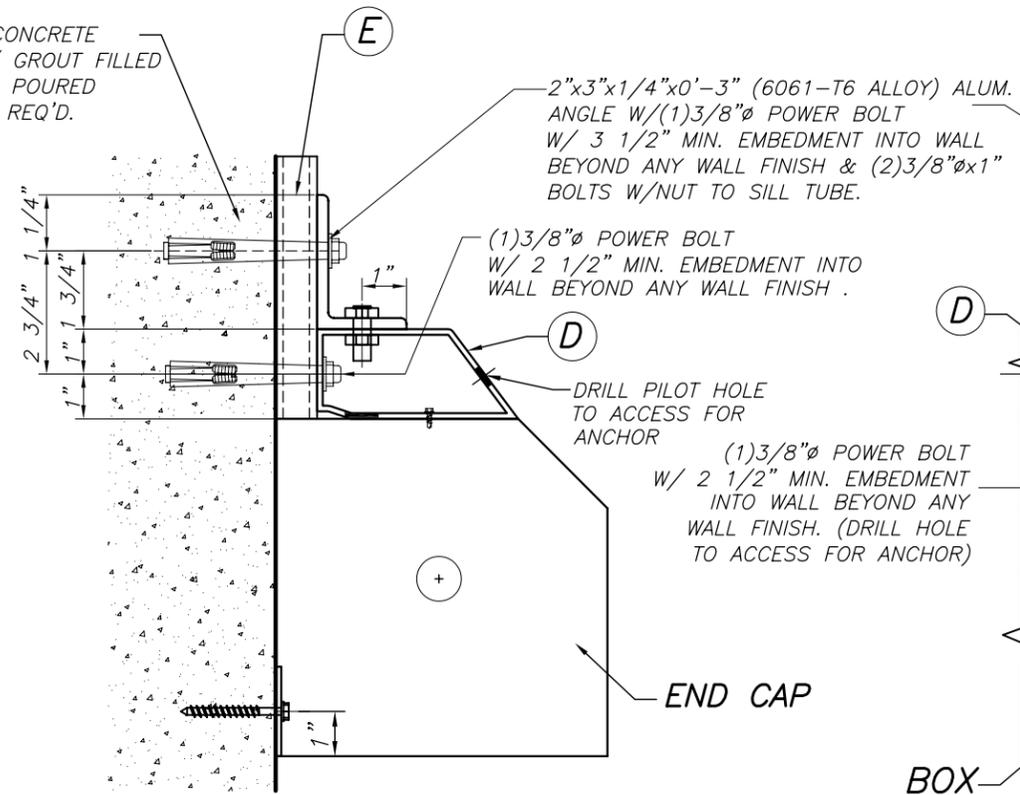
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SHEET 2 OF 5





EXISTING CONCRETE BLOCK W/ GROUT FILLED CELL'S OR POURED CONCRETE REQ'D.



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SHEET 4 OF 5

TEXAS DEPARTMENT OF INSURANCE - 2006

