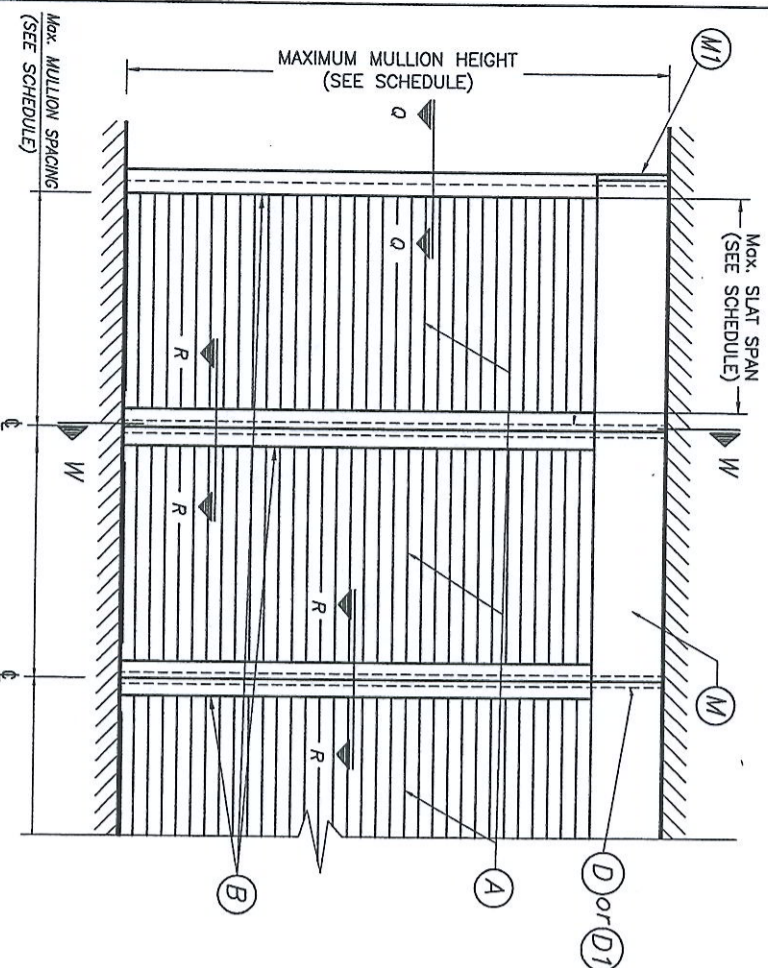


**TYPICAL SINGLE UNIT ELEVATION**

NOTE: SEE SHEETS 2 & 3 FOR COMPONENTS NOMENCLATURE.



**TYPICAL MULTIPLE UNIT ELEVATION**

NOTE: SEE SHEETS 2 & 3 FOR COMPONENTS NOMENCLATURE.

- NOTES:
- (1) SEE SECTIONS ON SHEETS 4 THRU 7
  - (2) SEE SCHEDULES ON SHEETS 5 & 8

**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 EDITION OF THE INTERNATIONAL BUILDING AND RESIDENTIAL CODES.  
 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 SHUTTER WILL BE INSTALLED, AND FOR A DIRECTIONALITY FACTOR  $K_d=0.85$ , IN ACCORDANCE WITH ASCE 7-05 STANDARD.  
 ROLL-UP SHUTTERS ADEQUACY FOR IMPACT AND CYCLIC RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTION 1609.1.2 OF THE INTERNATIONAL BUILDING CODE AND SECTION R301.1.3 OF THE INTERNATIONAL RESIDENTIAL CODE AS PER ARCHITECTURAL TESTING, INC. REPORTS # 66443.02-109-18 & 78796.01-109-18, CORRESPONDING TO MISSILE TYPE "D" & WIND ZONE 4.  
 SEE NOTE \* ON SHEET 4 FOR ADDITIONAL LIMITATIONS.

2. ALL ALUMINUM EXTRUSIONS SHALL BE ALUMINUM ASSOCIATION 6063-T6 ALLOY AND TEMPER (SEE SHEET COMPONENTS).
3. EVERY OTHER SLAT (INCLUDING BASE SLAT) SHALL INCLUDE ONE RETAIN SCREW (C), AISI 304 SERIES STAINLESS STEEL (SEE SHEET 2).
4. ALL SCREWS (EXCEPT COMPONENT # (C)) TO BE STAINLESS STEEL 304 OR 316 AISI SERIES OR ITW BULDEX CORROSION RESISTANT COATED CARBON STEEL TEK SCREWS, AS PER DIN 50018.
5. BOLTS TO BE ASTM A-307 GALVANIZED STEEL OR AISI 304 SERIES STAINLESS STEEL, WITH 35 KSI MINIMUM YIELD STRENGTH.
6. ANCHORS TO WALL FOR SIDE RAILS CONNECTION SHALL BE AS FOLLOWS:

- (A) TO EXISTING POURED CONCRETE (MIN.  $f'_c = 2899$  psi) OR GROUT FILLED CELL ASTM C-90 CONCRETE BLOCK:
  - 5/16" CARBON STEEL TAPCON XL ANCHORS, AS MANUFACTURED BY ITW/BULDEX, INC.

NOTES:  
 A.1) MINIMUM EMBEDMENT OF ANCHORS INTO POURED CONCRETE OR GROUT FILLED CELL CONCRETE BLOCK IS 2 1/4". 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, ANCHORS SHALL BE LONG ENOUGH TO REACH THE MAIN SUBSTRATE BEHIND SUCH PANELS. MINIMUM EMBEDMENT SHALL BE AS INDICATED ON NOTE A.1 ABOVE.

- (B) TO EXISTING WOOD FRAME WALL: MIN. SPECIFIC GRAVITY  $G = 0.46$  OR  $G = 0.55$  (SEE SCHEDULE)
  - 1/4" N.D.S. WOOD SCREWS.

NOTES:  
 B.1) MINIMUM THREADED PENETRATION OF ANCHORS INTO WOOD STUDS SHALL BE 3".  
 B.2) ANCHORAGE SHALL BE PERFORMED BEYOND ANY FINISH MATERIAL AT WALL LIKE BRICK VENEER, STUCCO OR ANY OTHER FINISH. ANCHORAGE SHALL BE AS INDICATED ON NOTE B.1 ABOVE.

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

8. ANCHORS REQUIRED FOR MULLION CONNECTIONS SHALL BE AS SPECIFIED ON APPLICABLE SECTIONS SHOWN ON SHEETS 6 & 7 RESPECTIVELY.

- 5/8" KWIK BOLT TZ EXPANSION ANCHOR TO BE AS MANUFACTURED BY HILTI, INC.
- 1/2" KWIK BOLT 3 EXPANSION ANCHOR TO BE AS MANUFACTURED BY HILTI, INC.

MINIMUM EDGE DISTANCE AND SPACING FOR ABOVE MENTIONED ANCHORS SHALL BE AS INDICATED BELOW OR AT ABOVE MENTIONED SHEET. EDGE DISTANCE AND EMBEDMENTS ARE BEYOND ANY FINISH MATERIAL.

ANCHOR	SPACING @ 100%	EDGE DISTANCE @ 100%	CONCRETE EMBEDMENT	GROUT FILLED OR CONCRETE BLOCK
KWIK BOLT TZ	3"	4 1/4"	4" (3000 psi)	-
KWIK BOLT 3	8"	4"	-	3 1/2"

9. 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 POURED CONCRETE, GROUT FILLED CELL CONCRETE BLOCK, AND WOOD FRAME BUILDINGS.

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. ROLL-UP MECHANISM NOT PART OF THIS APPROVAL, BUT SHALL BE CERTIFIED BY AN INDEPENDENT TESTING AGENCY.

12. ROLL-UP SHUTTER INSTALLATION SHALL COMPLY WITH 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 FLORIDA 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.  
 14. SHUTTER MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION AT ROLL-UP SHUTTER IN ACCORDANCE WITH SECTION 1714.8.2 OF THE FLORIDA BUILDING CODE. ONE LABEL SHALL BE PLACED FOR EVERY OPENING. LABELING TO COMPLY WITH SECTION 1714.8.2 OF THE FLORIDA BUILDING CODE.

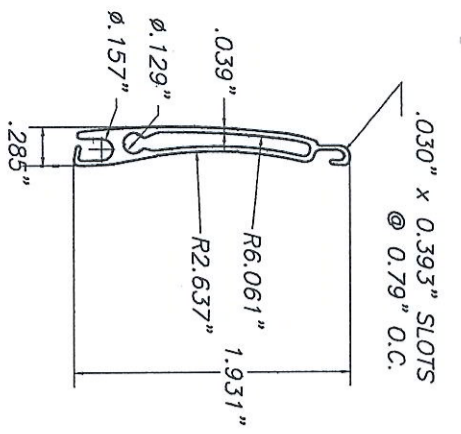
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<p>WALTER A. TILLIT Jr. P.E.          STRUCTURAL PROFESSIONAL ENGINEER</p>		<p>6355 N.W. 36th. St. Ste. 305          VIRGINIA GARDENS, FL. 33166          Phone : (305)871-1530 . Fax : (305)871-1531          SOUTH CAROLINA Lic. # 22109</p>	
<p>BARRACUDA I END RETENTION          ROLL-UP SHUTTER SYSTEM</p>		<p>ALUTECH UNITED INC.          15 DIXON STREET          SELBYVILLE, DE 19975          PHONE: (800) 233-1144, FAX: (302) 436-5100</p>	
<p>10/15/07          DATE</p>		<p>07-262          DRAWING No</p>	
<p>SHEET 1 OF 8</p>		<p>DATE</p>	

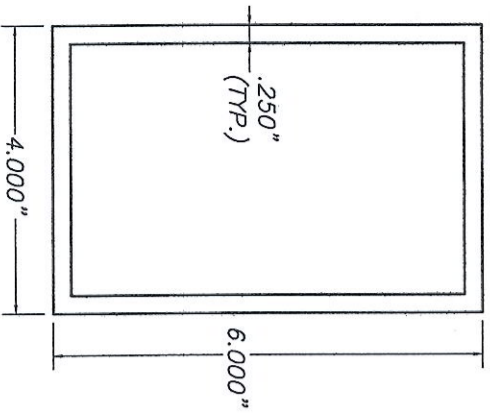
APR 24 2008

P.E. SEAL/SIGNATURE/DATE

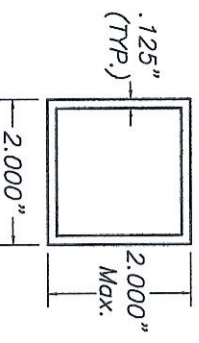




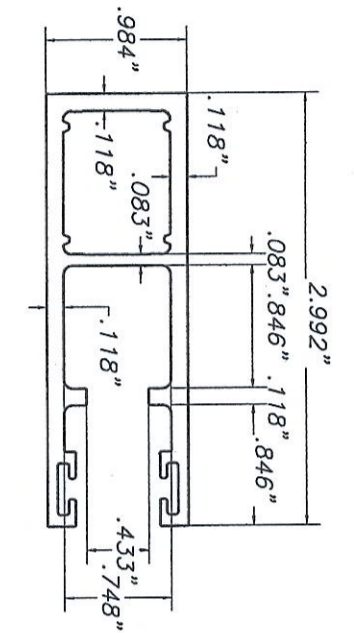
**A SLAT**  
6063-T6 ALUMINUM ALLOY  
SCALE: 3/4" = 1"



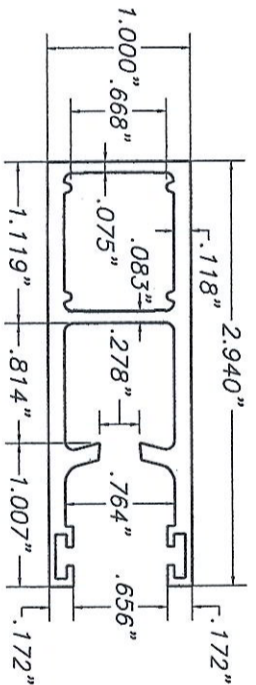
**D 4"x6" MULLION:**  
6063-T6 ALUMINUM ALLOY  
SCALE: 3/8" = 1"



**G BUILD-OUT TUBE**  
6061-T6 ALUMINUM ALLOY  
SCALE: 3/8" = 1"

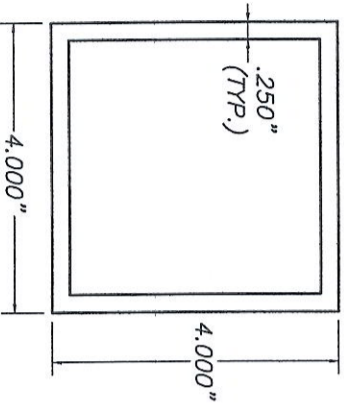


**OPTION #1**

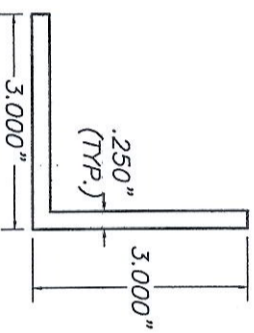


**OPTION #2**

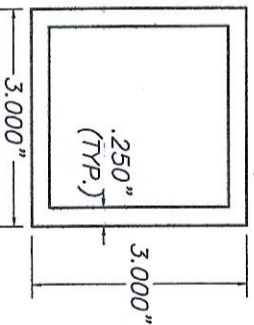
**B SIDE RAIL**  
6063-T5 ALUMINUM ALLOY  
SCALE: 3/4" = 1"



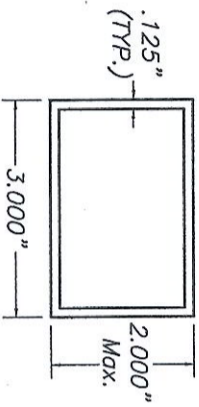
**D1 4"x4"x1/4" ALTERNATE MULLION**  
6063-T6 ALUMINUM ALLOY  
SCALE: 3/8" = 1"



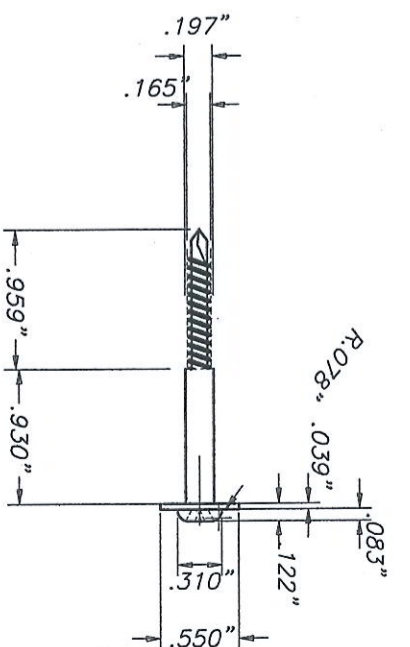
**E 3"x3"x1/4" INSIDE MOUNT ANGLE**  
6061-T6 ALUMINUM ALLOY  
SCALE: 3/8" = 1"



**E1 3"x3"x1/4" ALTERNATE INSIDE MOUNT TUBE**  
6061-T6 ALUMINUM ALLOY  
SCALE: 3/8" = 1"



**G1 BUILD-OUT TUBE ALTERNATE**  
(SEE SHEET 5 FOR REQUIREMENTS TO ANCHORS SPACING)  
6061-T6 ALUMINUM ALLOY  
SCALE: 3/8" = 1"

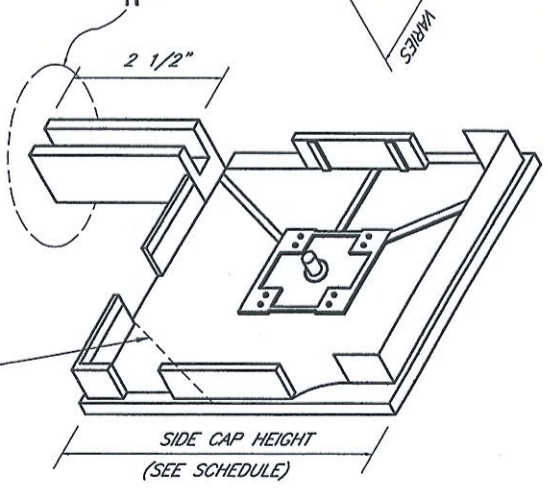
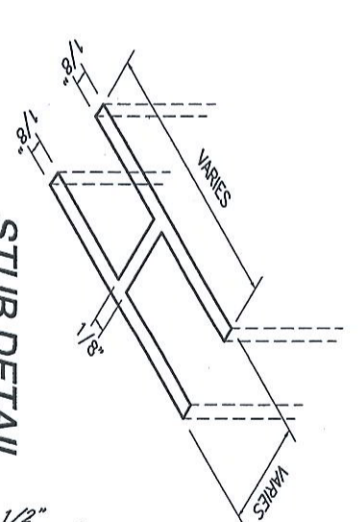
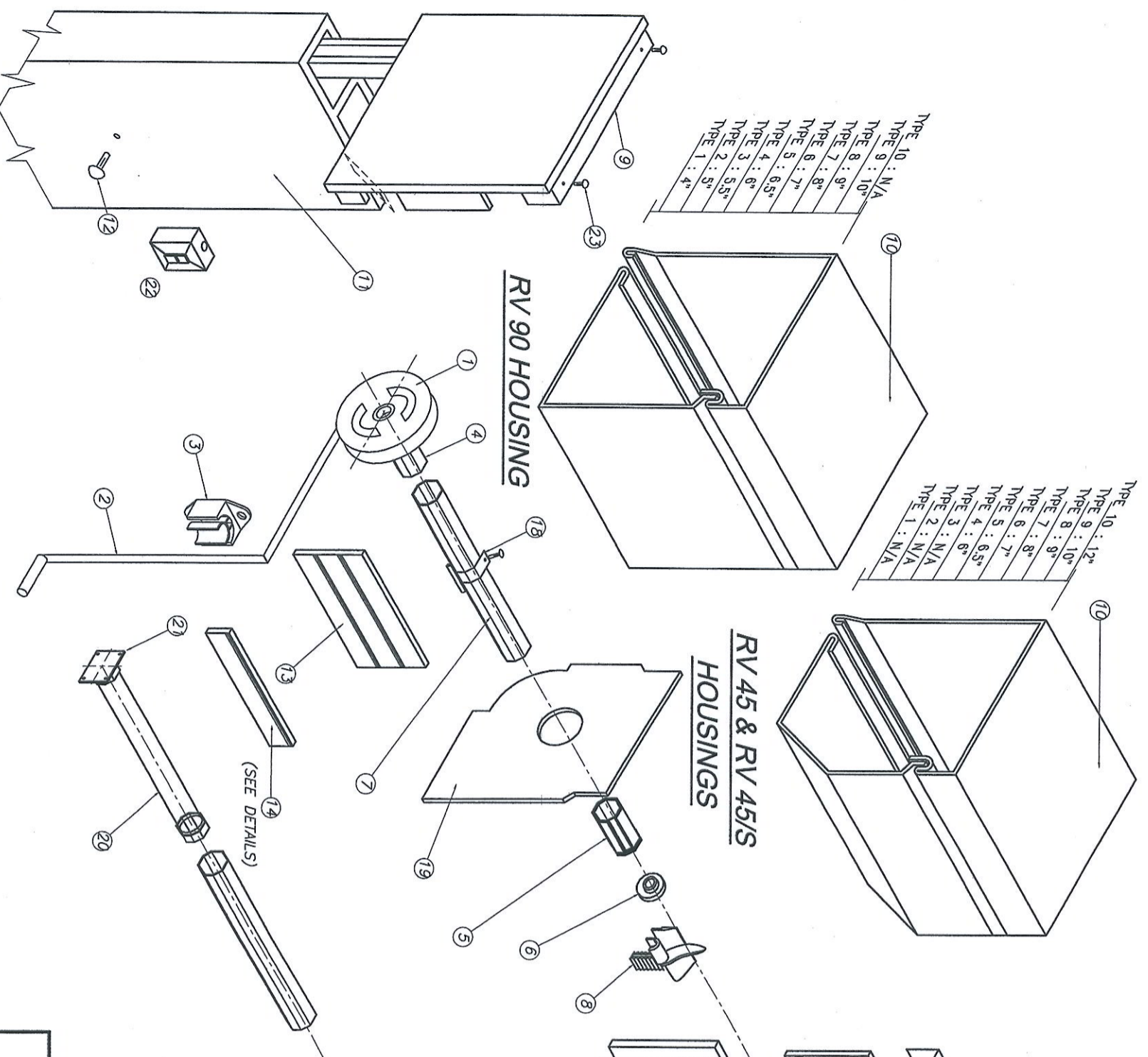


**C RETAIN SCREW**  
(1 EVERY OTHER SLAT INCLUDING BASE SLAT AND SHALL BE INSTALLED W/A 0.576" MIN. SLIP AS SHOWN ON SECTIONS)  
AISI/SAE 304 SERIES STAINLESS STEEL  
SCALE: 3/4" = 1"

**COMPONENTS**

 <b>APR 24 2008</b> P.E. SEAL/SIGNATURE/DATE		<b>WALTER A. TILLIT JR. P.E.</b> STRUCTURAL PROFESSIONAL ENGINEER 6355 N.W. 36th. St., Ste. 305 VIRGINIA GARDENS, FL. 33166 Phone : (305)871-1530 . Fax : (305)871-1531 SOUTH CAROLINA LIC. # 22109			
<b>BARRACUDA I END RETENTION ROLL-UP SHUTTER SYSTEM</b> <b>ALUTECH UNITED INC.</b> 15 DIXON STREET SELBYVILLE, DE 19975 PHONE: (800) 233-1144, FAX: (302) 436-5100		International Building Code / International Residential Code L.G. DRAWN BY 10/15/07 DATE 07-262 DRAWING No SHEET 2 OF 8			
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD DWG 07-026	10/15/07	3		
2			4		





**COMPONENTS FOR GEAR OPERATED SYSTEM**

- 1 - GEAR
  - 2 - UNIVERSAL & CRANK
  - 3 - CRANK HOLDER(OPTIONAL)
  - 4 - GEAR INSERT(GEAR TO AXLE CONNECTOR)
  - 5 - IDLER INSERT
  - 6 - BALL BEARING
  - 7 - OCTAGONAL AXLE \*
  - 8 - ENTRY GUIDES
  - 9 - SIDE/END CAP \*
  - 10 - HOUSING(FRONT & BOTTOM), 0.040" THICK
  - 11 - SIDE RAIL
  - 12 - PLUG-BOTTOMS
  - 13 - ALUMINUM SLATS
  - 14 - BASE SLAT
  - 15 - PLASTIC STOPS(OPTIONAL)
  - 16 - SIDE LOCKS(OPTIONAL)
  - 17 - STAPLES(OPTIONAL)
  - 18 - SPRINGLOCK HANGER
  - 19 - SAFETY PLATES
- ADDITIONAL COMPONENTS FOR MOTORIZED OPERATED SYSTEM**
- 20 - TUBULAR MOTOR
  - 21 - MOTOR BRACKET
  - 22 - SWITCH
- FASTENERS**
- 23 - 3/16" ALUMINUM POP RIVETS(6 REQ'D EA. SIDE CAP) : 2 @ TOP, 2 @ REAR, 2@ BOTTOM

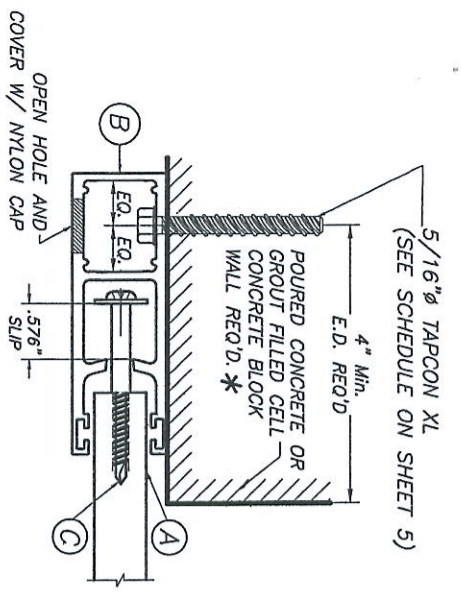
\* SHALL BE CAPABLE TO SUSTAIN SLATS WEIGHT AND ASSURE LIFTING MECHANISM (SEE NOTE 11/1)

**(M) BOX COMPONENTS AND ASSEMBLY DETAIL**

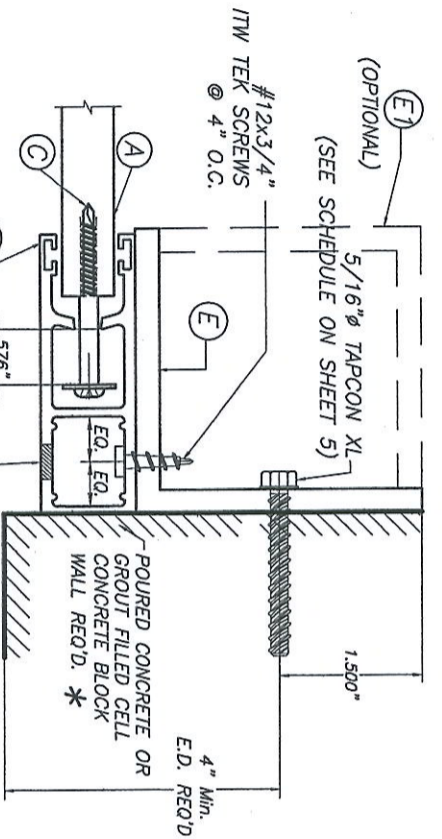
**END CAP SYSTEM**  
(SEE NOTE 11 ON SHEET 1)

 APR 24 2008 P.E. SEAL/SIGNATURE/DATE	WALTER A. TILLITT JR. P.E. STRUCTURAL PROFESSIONAL ENGINEER 6355 N.W. 36th. St., Ste. 305 VIRGINIA GARDENS, FL. 33166 Phone : (305)871-1530 Fax : (305)871-1531 SOUTH CAROLINA Lic. # 22109	BARRACUDA I END RETENTION ROLL-UP SHUTTER SYSTEM ALUTECH UNITED INC. 15 DIXON STREET SELBYVILLE, DE 19975 PHONE: (800) 233-1144, FAX: (302) 436-5100	L.G. DRAWN BY 10/15/07 DATE
	International Building Code / International Residential Code	07-262 DRAWING No	SHEET 3 OF 8

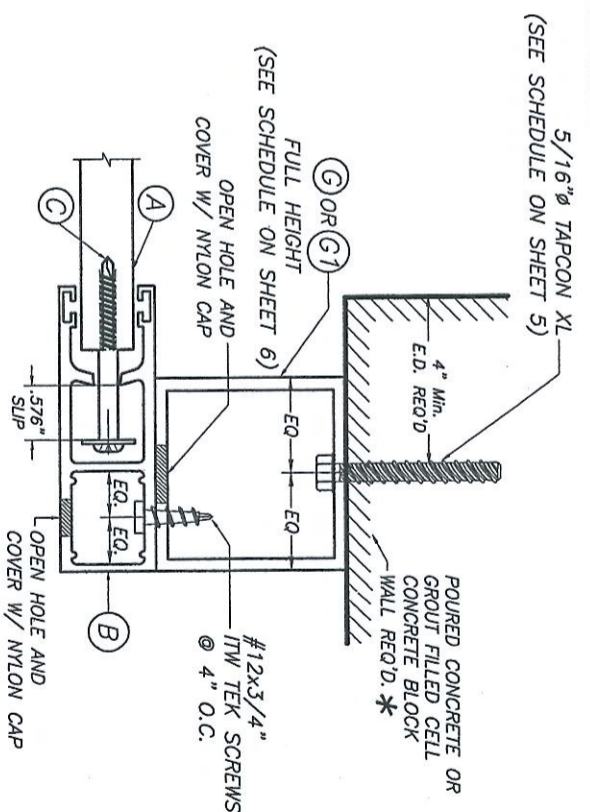




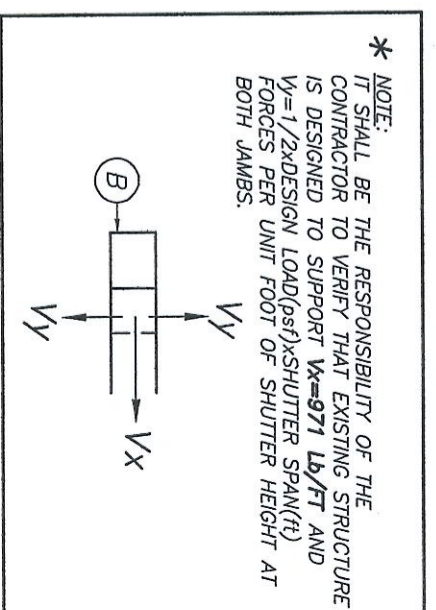
**SECTION P-P (1): WALL MOUNT**



**SECTION P-P (2): INSIDE MOUNT**



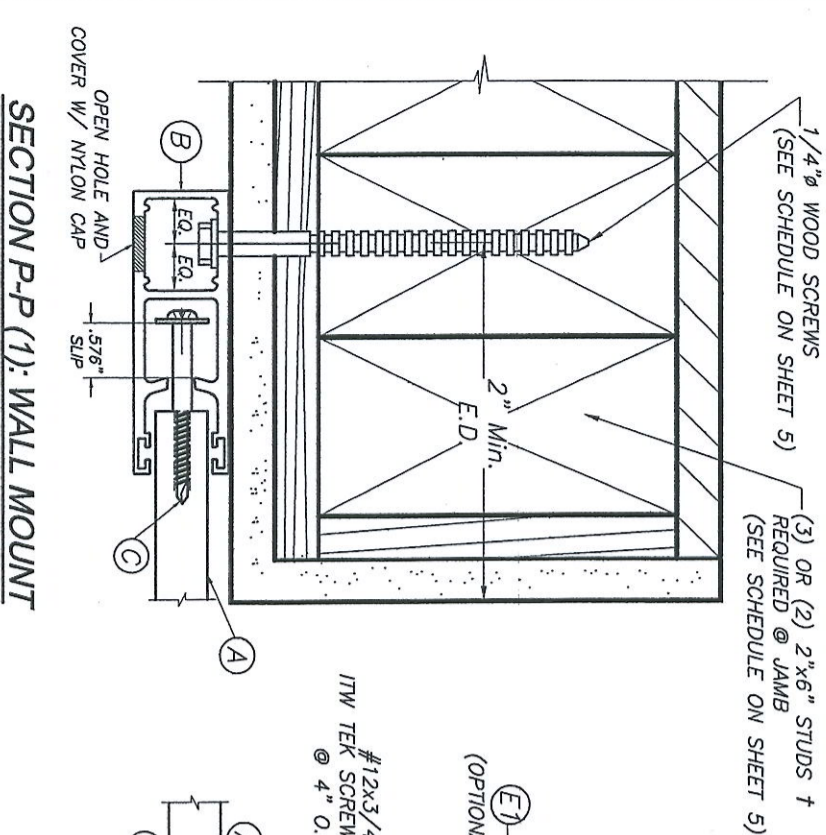
**SECTION P-P (3): BUILD-OUT**



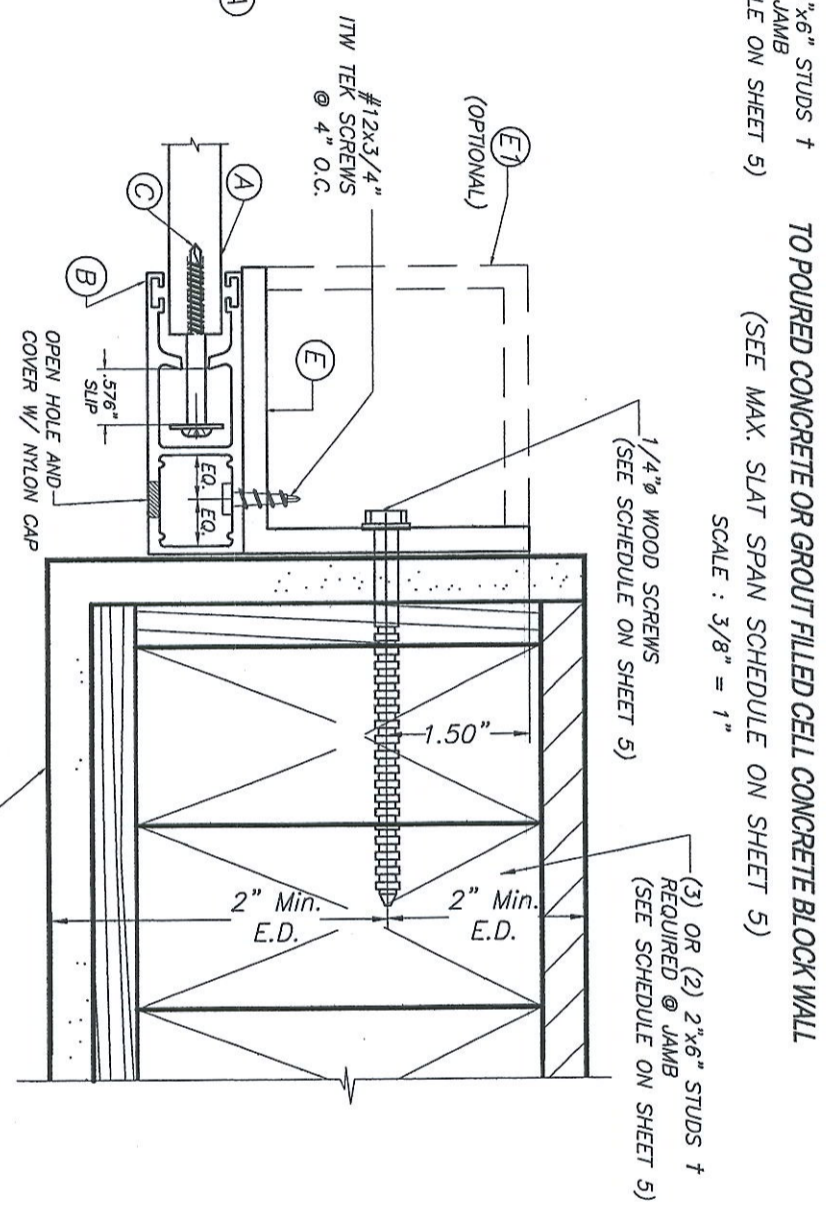
**SIDE RAIL CONNECTIONS**

TO POURED CONCRETE OR GROUT FILLED CELL CONCRETE BLOCK WALL  
(SEE MAX. SLAT SPAN SCHEDULE ON SHEET 5)

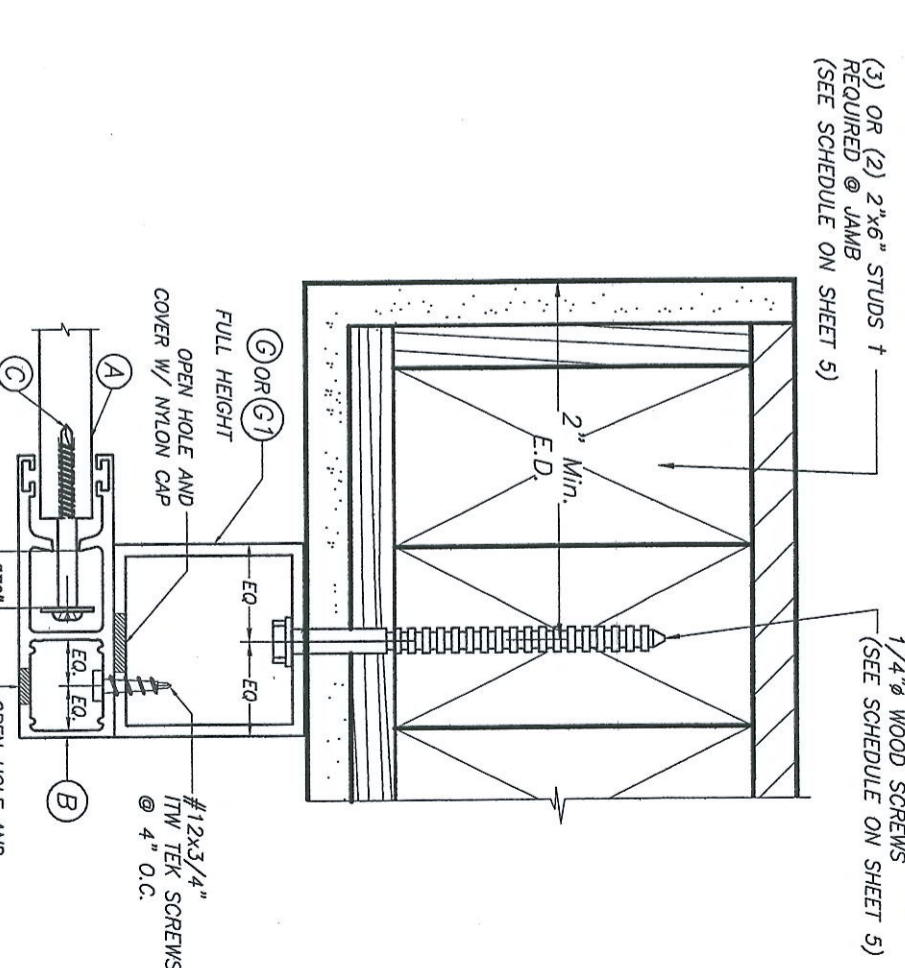
SCALE : 3/8" = 1"



**SECTION P-P (1): WALL MOUNT**



**SECTION P-P (2): INSIDE MOUNT**



**SECTION P-P (3): BUILD-OUT**

† MULTIPLE STUDS TO BE FASTENED TO EACH OTHER W/ 2-#14x3" F.H. WOOD SCREWS @ 4" O.C. FULL HEIGHT, FOLLOWING A SEQUENCE FROM FIRST TO LAST STUD. ALTERNATIVELY, USE 1/2" THRU BOLTS @ 8" O.C. W/ NUT & WASHER FROM FIRST TO LAST STUD.  
CONNECTION OF MULTIPLE STUDS TOP & BOTTOM SHALL RESIST A HORIZONTAL REACTION OF 1600 LB. DESIGN OF THIS CONNECTION IS BY PROFESSIONAL OF RECORD FOR THE STRUCTURE.

**SIDE RAIL CONNECTIONS**

TO WOOD FRAME WALL  
(SEE MAX. SLAT SPAN SCHEDULE ON SHEET 5)  
SCALE : 3/8" = 1"

9'-0" Max. HIGH WALL W/ 7'-0" Max. OPENING HEIGHT (TYP).

APR 24 2008  
P.E. SEAL/SIGNATURE/DATE

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**ALUTECH UNITED INC.**

15 DIXON STREET  
SELBYVILLE, DE 19975  
PHONE: (800) 233-1144, FAX: (302) 436-5100

BARRACUDA I END RETENTION  
ROLL-UP SHUTTER SYSTEM

International Building Code / International Residential Code

L.G. DRAWN BY

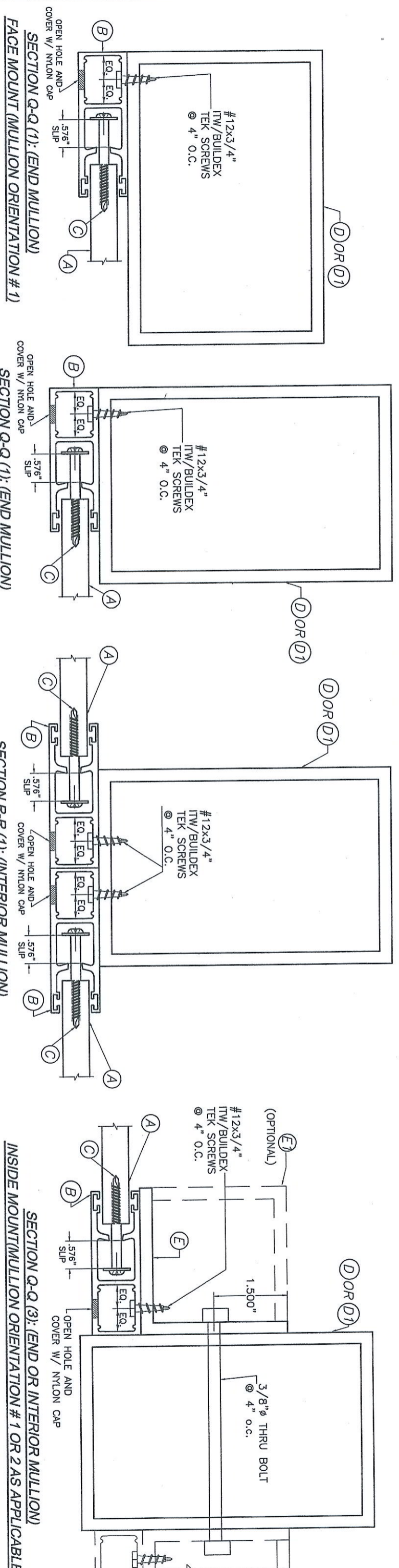
10/15/07 DATE

07-262 DRAWING No

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1	OLD DWG 07-026	10/15/07	3		
2			4		

SHEET 4 OF 8





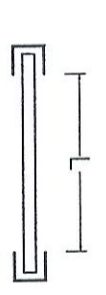
MAXIMUM ANCHOR SPACING SCHEDULE FOR INSTALLATIONS INTO CONCRETE OR GROUT FILLED CONCRETE BLOCK.

DESIGN LOAD (P.S.F)	SPAN L (ft)	WALL MOUNTING		TRAPPED MOUNTING		BUILD-OUT MOUNTING	
		POURED GROUT FILLED CONCRETE BLOCK	POURED GROUT FILLED CONCRETE BLOCK	POURED GROUT FILLED CONCRETE BLOCK	POURED GROUT FILLED CONCRETE BLOCK	POURED GROUT FILLED CONCRETE BLOCK	POURED GROUT FILLED CONCRETE BLOCK
+45, -45	≤ 6'-0"	4"	4"	4"	4"	4"	4"
	> 6'-0" TO 7'-0"	4"	4"	4"	4"	4"	4"
+50, -50	≤ 6'-0"	4"	4"	4"	4"	4"	4"
	> 6'-0" TO 7'-0"	4"	4"	4"	4"	4"	4"

REQUIRES INSTALLATION TO BE PERFORMED ONLY W/ (G1) (2"x3"x1/8") B.O. TUBE.  
MAXIMUM ANCHOR SPACING SCHEDULE FOR INSTALLATIONS INTO WOOD FRAME BUILDINGS.

DESIGN LOAD (P.S.F)	SPAN L (ft)	WALL MOUNTING		TRAPPED MOUNTING		BUILD-OUT MOUNTING	
		G=0.46	G=0.55	G=0.46	G=0.46	G=0.46	G=0.55
+45, -45	≤ 6'-0"	4"	4"	4"	4"	4"	4"
	> 6'-0" TO 7'-0"	4"	4"	4"	4"	4"	4"
+50, -50	≤ 6'-0"	4"	4"	4"	4"	4"	4"
	> 6'-0" TO 7'-0"	4"	4"	4"	4"	4"	4"

**SIDE RAIL CONNECTIONS TO MULLIONS**  
(SEE SLAT SPAN SCHEDULE)  
SCALE: 3/8" = 1"



DESIGN LOAD (P.S.F)	REQUIRED SUBSTATE	MAX. SPAN "L" (FT.)	REMARKS
+35, -35	WOOD	6'-0"	LIMITED TO SHUTTER HGT (W/O BOX) UP TO 84" + W/ (2) 2x6 STUDS EA. JAMB
+45, -45	WOOD	12'-0"	LIMITED TO SHUTTER HGT (W/O BOX) UP TO 54" + W/ (3) 2x6 STUDS EA. JAMB
	WOOD	6'-0"	LIMITED TO SHUTTER HGT (W/O BOX) UP TO 72" + W/ (2) 2x6 STUDS EA. JAMB
+50, -50	POURED CONCRETE OR GROUT FILLED CONC.	7'-0"	SEE NOTE * ON SHEET 4
	WOOD	7'-0"	LIMITED TO SHUTTER HGT (W/O BOX) UP TO 84" + W/ (3) 2x6 STUDS EA. JAMB

FOR SHUTTER HEIGHTS LARGER THAN 54", SPECIAL AND SITE SPECIFIC ENGINEERING WILL BE REQUIRED TO DETERMINE THE REQUIRED NUMBER OF WOOD STUDS AT EACH JAMB, WHICH WILL EXCEED (3) STUDS.

ALTERNATIVELY, MAX. SPACING MAY BE 3" O.C. IF B.O. TUBE (G1) (2"x3"x1/8") IS USED IN LIEU OF (G) (2"x2"x1/8").

APR 24 2008  
P.E. SEAL/SIGNATURE/DATE

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SOUTH CAROLINA LIC. # 22109

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BARRACUDA I END RETENTION  
ROLL-UP SHUTTER SYSTEM

ALUTECH UNITED INC.

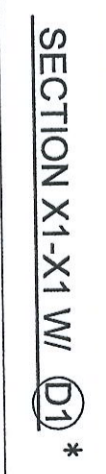
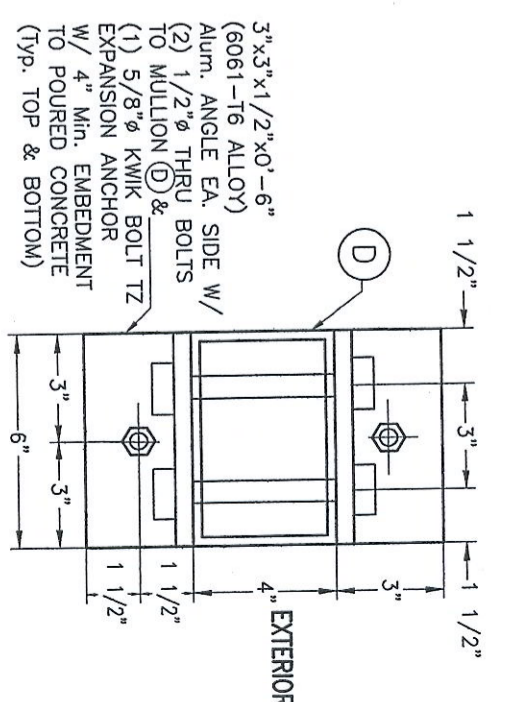
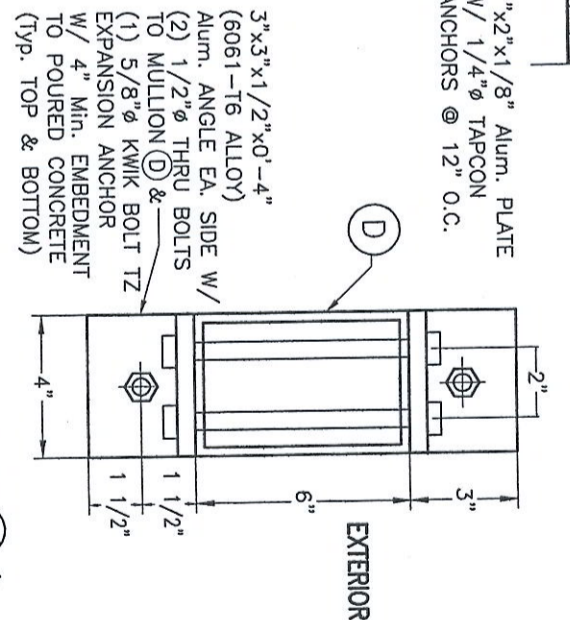
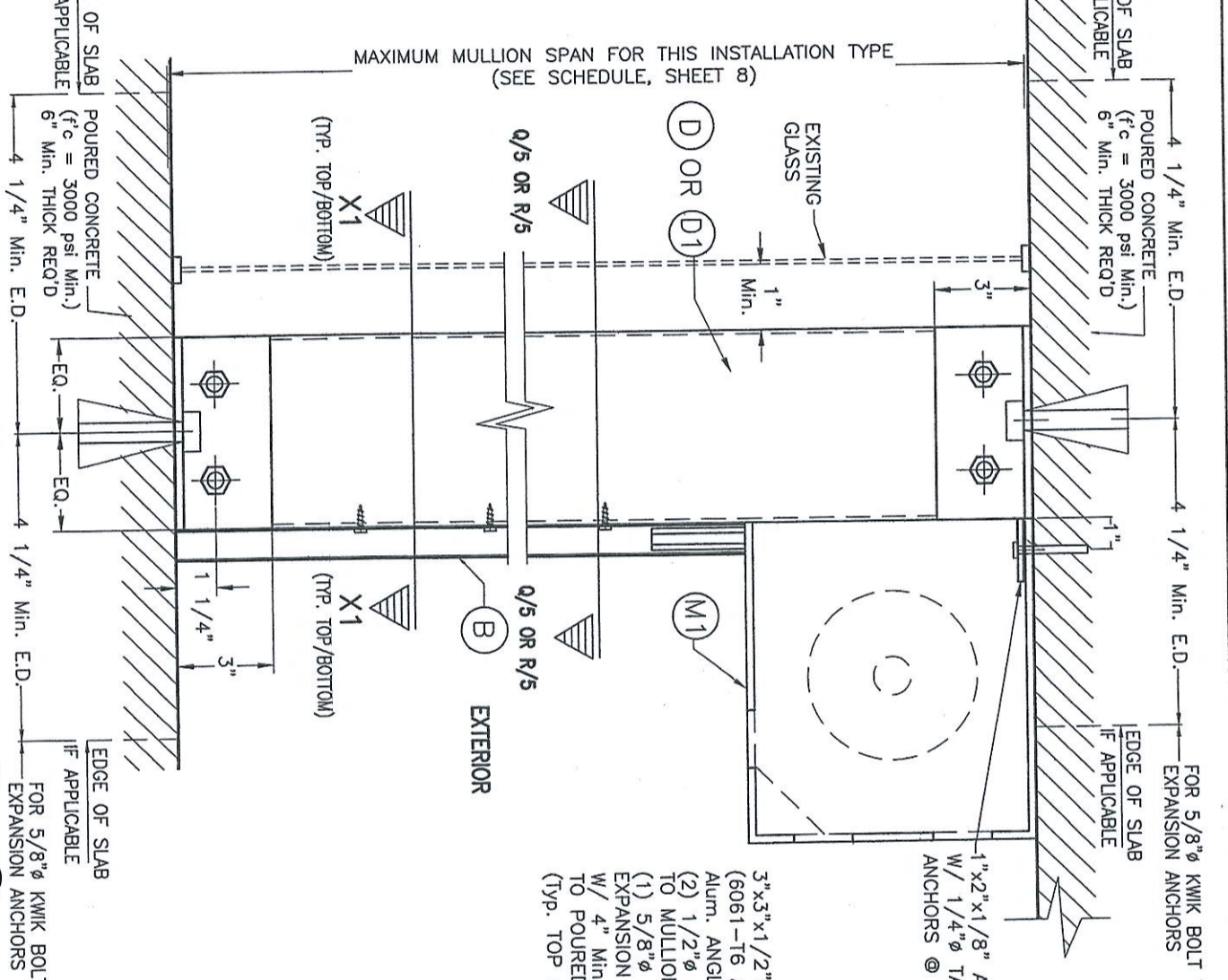
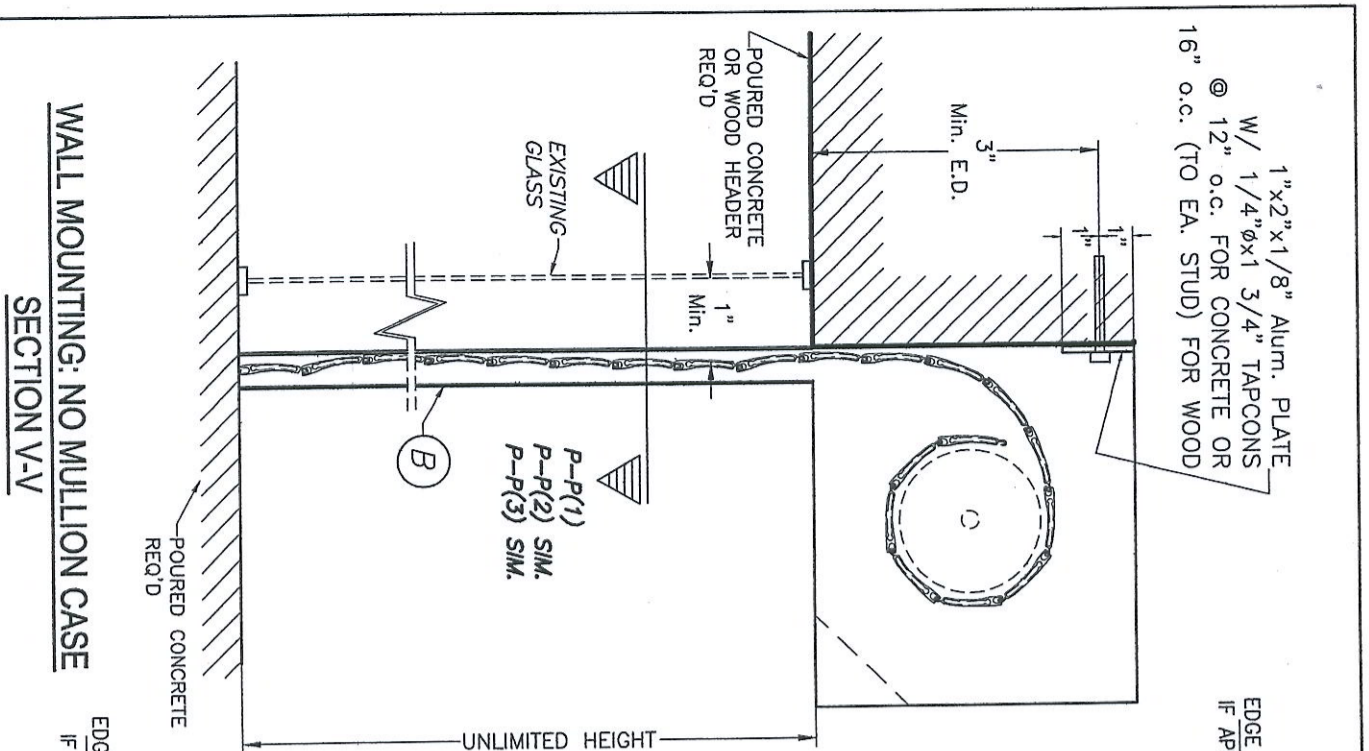
15 DIXON STREET  
SELBYVILLE DE 19975  
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10/15/07 DATE  
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REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	QLD DWG 07-028	10/15/07	2		

SHEET 5 OF 8





\* SIDE RAIL B NOT SHOWN FOR CLARITY. IT GOES ON EXTERIOR SIDE OF MULLION.

**END & INTERIOR TRAPPED MOUNTED MULLION INSTALLATION**

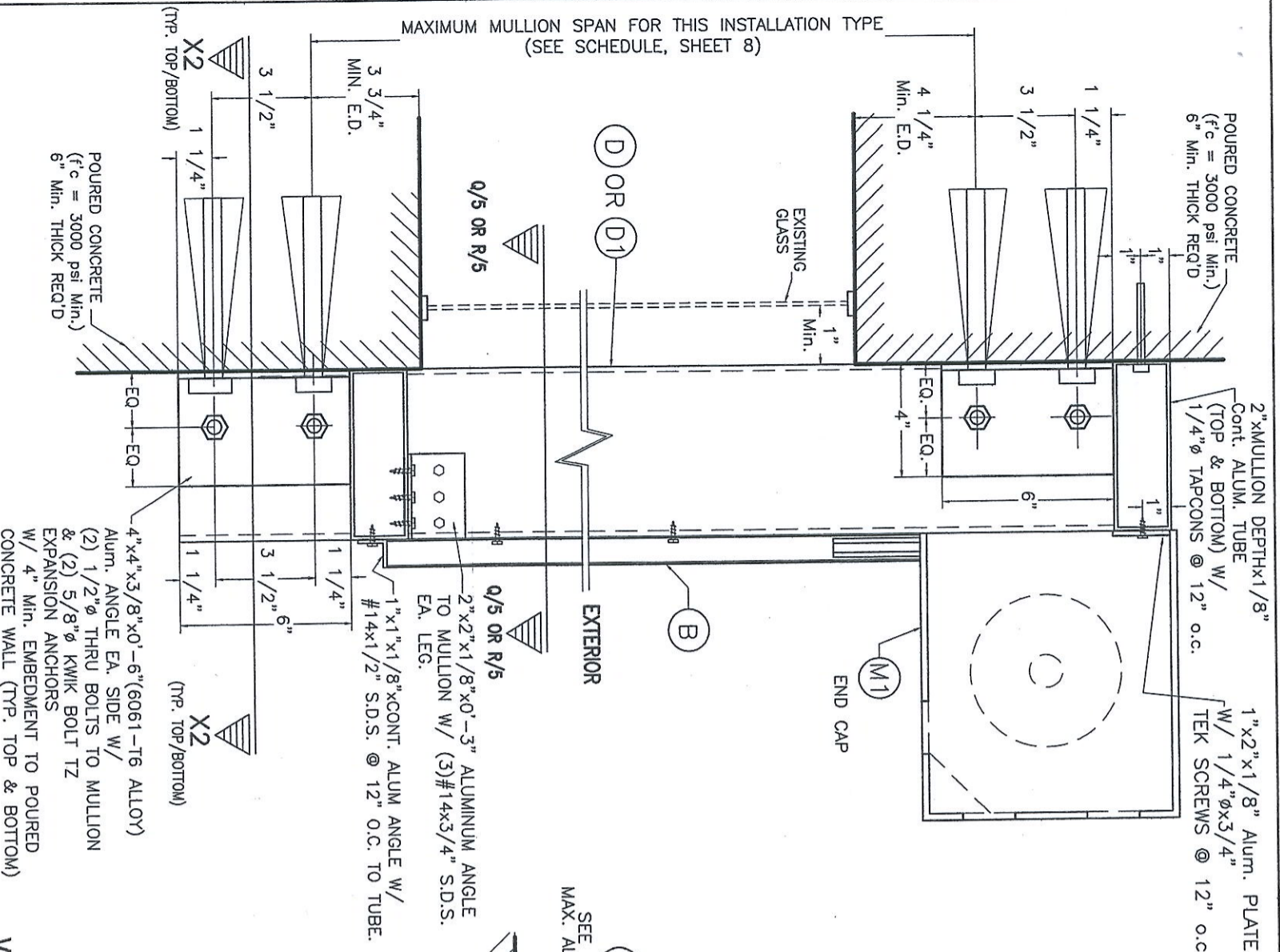
SCALE: 3/16" = 1"

APR 24 2008  
P.E. SEAL/SIGNATURE/DATE

WALTER A. TILLIT Jr. P.E.  
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International Building Code / International Residential Code		L.G. DRAWN BY	
BARRACUDA I END RETENTION ROLL-UP SHUTTER SYSTEM		10/15/07 DATE	
ALUTECH UNITED INC.		07-262 DRAWING No	
15 DIXON STREET SELBYVILLE, DE 19975 PHONE: (800) 233-1144, FAX: (302) 436-5100		07-262 DRAWING No	
REV. No	DESCRIPTION	DATE	DATE
1	OLD DWG 07-026	10/15/07	
2			
SHEET 6 OF 8			

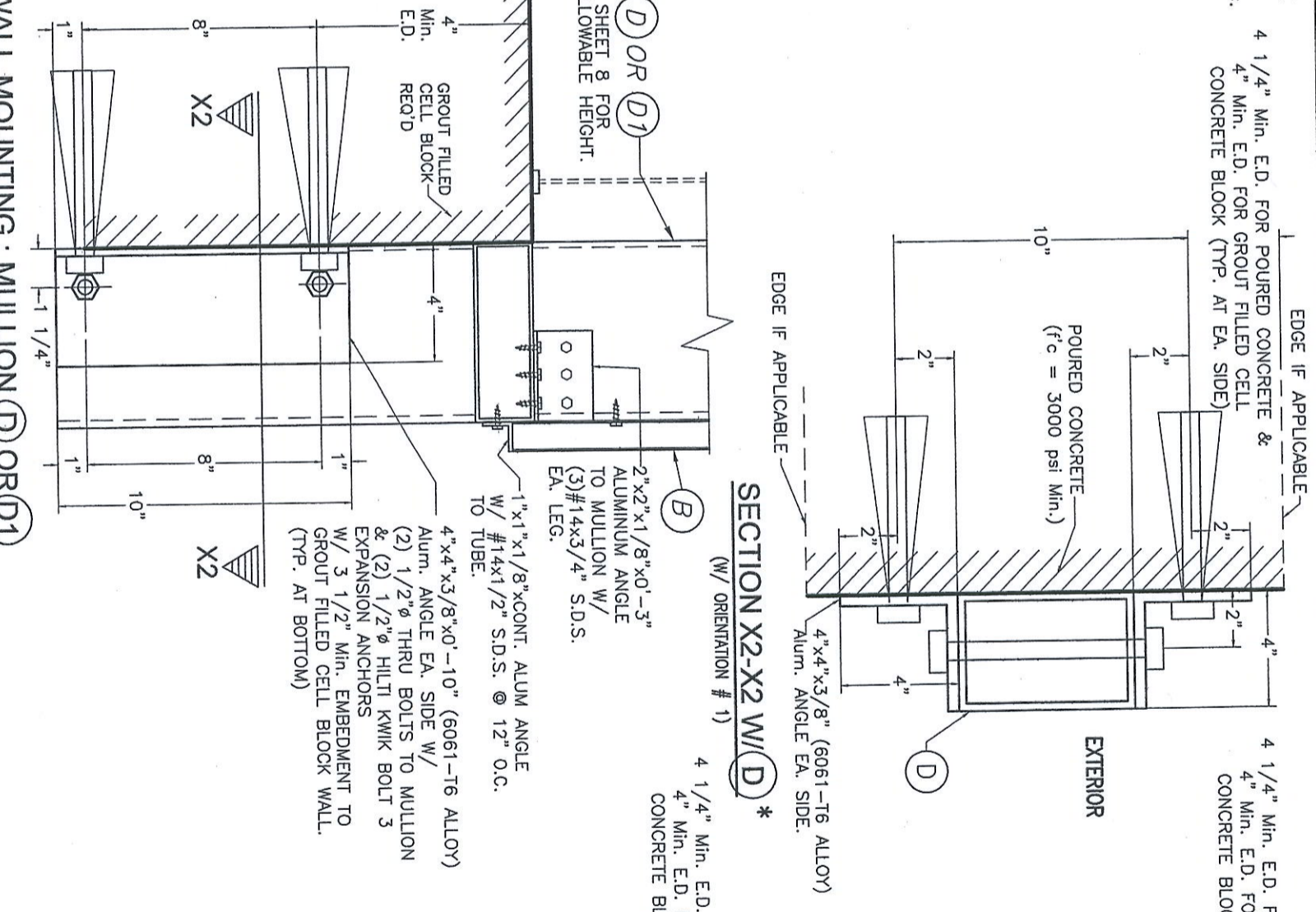




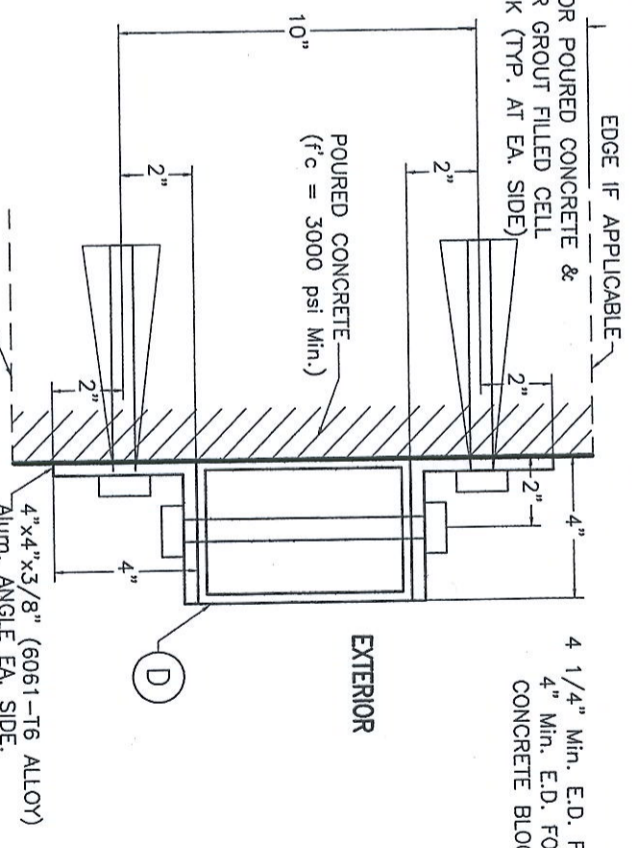
WALL MOUNTING: MULLION **D** OR **D1**  
POURED CONCRETE WALL  
SECTION W-2

END & INTERIOR WALL MOUNTED MULLION INSTALLATION

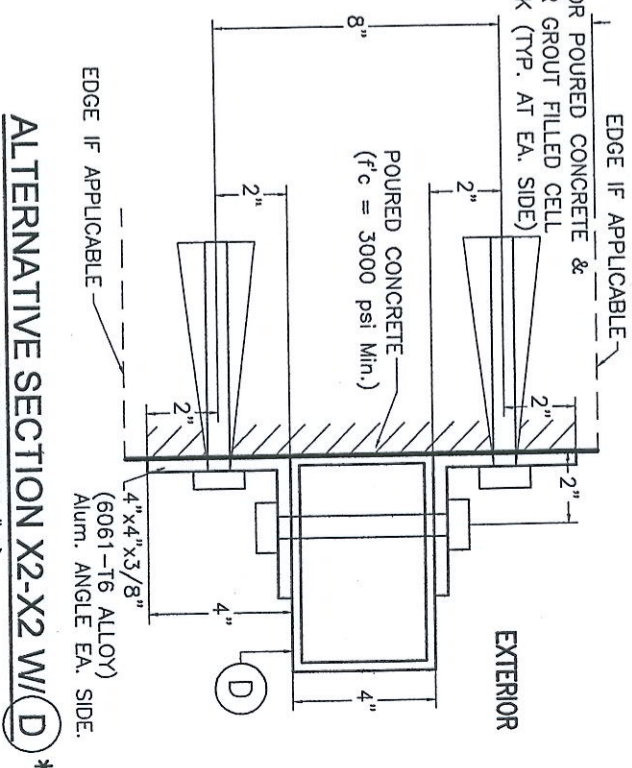
SCALE: 3/16" = 1"



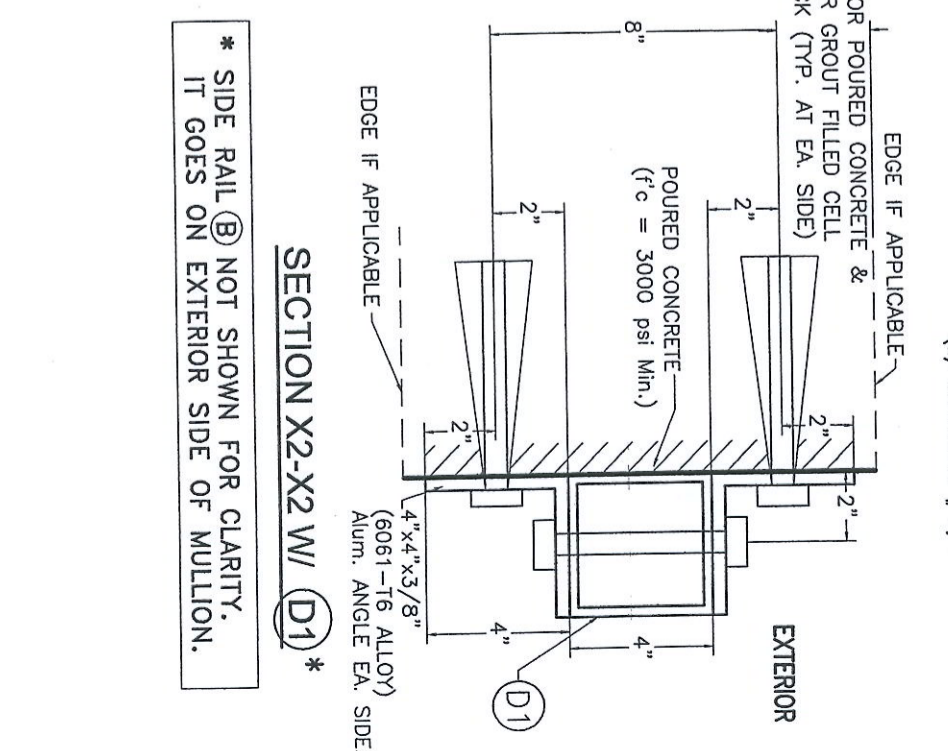
WALL MOUNTING: MULLION **D** OR **D1**  
GROUT FILLED CELL CONCRETE BLOCK WALL  
SECTION W-W



SECTION X2-X2 W/**D** \*  
(W/ ORIENTATION # 1)



ALTERNATIVE SECTION X2-X2 W/**D** \*  
(W/ ORIENTATION # 2)



SECTION X2-X2 W/**D1** \*

\* SIDE RAIL **B** NOT SHOWN FOR CLARITY. IT GOES ON EXTERIOR SIDE OF MULLION.

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BARRACUDA I END RETENTION  
ROLL-UP SHUTTER SYSTEM

ALUTECH UNITED INC.

15 DIXON STREET  
SELBYVILLE, DE 19975  
PHONE: (800) 233-1144, FAX: (302) 436-5100

07-262  
DRAWING No

10/15/07  
DATE

REV. No. 1  
DESCRIPTION  
DATE

2  
3  
4


SHEET 7 OF 8



**MAXIMUM MULLION HEIGHT (ft) SCHEDULE FOR A GIVEN MAXIMUM DESIGN LOAD "W" (psf),  
MULLION SPACING (ft), TYPE OF MULLION AND 0.576" SLIP (in),  
FOR INSTALLATION INTO POURED CONCRETE OR GROUT FILLED BLOCK**

MULLION SPACING (ft)	TRAPPED MULLIONS						WALL MOUNTED MULLIONS																													
	CONCRETE						CONCRETE GROUT FILLED BLOCK																													
	Ⓚ W/ ORIENTATION #1* (□)	Ⓚ W/ ORIENTATION #2* (□)	MULLION Ⓚ1 (□)	Ⓚ W/ ORIENTATION #1* (□)	Ⓚ W/ ORIENTATION #2* (□)	MULLION Ⓚ1 (□)	Ⓚ W/ ORIENTATION #1* (□)	Ⓚ W/ ORIENTATION #2* (□)	MULLION Ⓚ1 (□)	Ⓚ W/ ORIENTATION #1* (□)	Ⓚ W/ ORIENTATION #2* (□)	MULLION Ⓚ1 (□)																								
DESIGN LOAD (p.s.f.)	6'-0"	7'-0"	12'-0"	6'-0"	7'-0"	12'-0"	6'-0"	7'-0"	12'-0"	6'-0"	7'-0"	12'-0"	6'-0"	7'-0"	12'-0"	6'-0"	7'-0"	12'-0"	6'-0"	7'-0"	12'-0"	6'-0"	7'-0"	12'-0"												
+45, -45	12'-0"	11'-6"	7'-9"	12'-0"	11'-0"	7'-2"	10'-7"	9'-0"	5'-11"	12'-0"	11'-6"	7'-8"	12'-0"	11'-0"	7'-3"	10'-7"	9'-0"	5'-11"	12'-0"	11'-6"	7'-8"	12'-0"	11'-0"	7'-3"	10'-7"	9'-0"	5'-11"	12'-0"	11'-6"	7'-8"	12'-0"	11'-0"	7'-3"	10'-7"	9'-0"	5'-11"
+50, -50	12'-0"	10'-11"	N/A	12'-0"	10'-4"	N/A	9'-11"	8'-6"	N/A	12'-0"	10'-11"	N/A	12'-0"	10'-4"	N/A	9'-11"	8'-6"	N/A	12'-0"	10'-11"	N/A	12'-0"	10'-4"	N/A	9'-11"	8'-6"	N/A	12'-0"	10'-11"	N/A	12'-0"	10'-4"	N/A	9'-11"	8'-6"	N/A

\*SEE SHEET 5 FOR ORIENTATION OF MULLIONS DEFINITION.

 <b>APR 24 2008</b> P.E. SEAL/SIGNATURE/DATE	<b>WALTER A. TILLITT JR. P.E.</b> STRUCTURAL PROFESSIONAL ENGINEER 6355 N.W. 36th St., Ste. 305 VIRGINIA GARDENS, FL 33166 Phone : (305)871-1530 . Fax : (305)871-1531 SOUTH CAROLINA Lic. # 22109	International Building Code / International Residential Code <b>BARRACUDA I END RETENTION          ROLL-UP SHUTTER SYSTEM</b> <b>ALUTECH UNITED INC.</b> 15 DIXON STREET SELBYVILLE, DE 19975 PHONE: (800) 233-1144, FAX: (302) 436-5100
		L.G. DRAWN BY 10/15/07 DATE 07-262 DRAWING No SHEET 8 OF 8