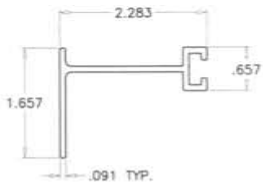
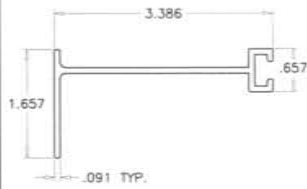


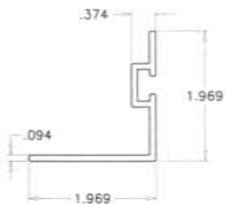
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6061-T6



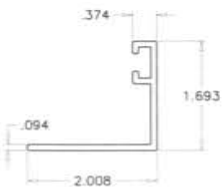
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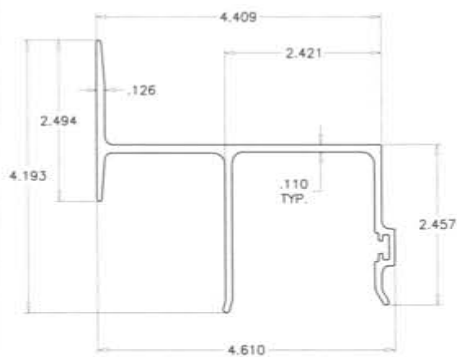
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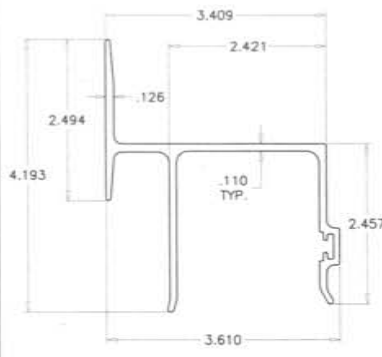
REVERSE E-TRACK
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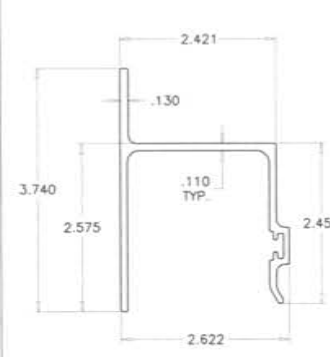
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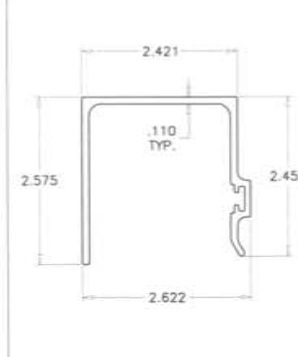
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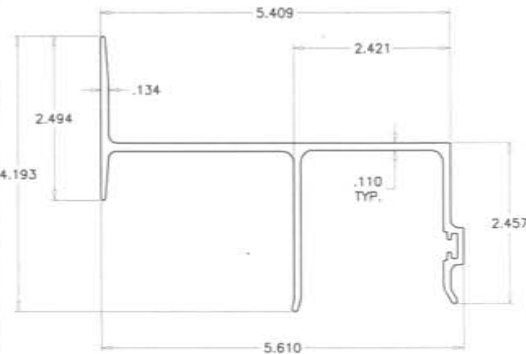
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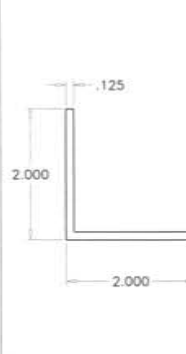
STD H-TRACK
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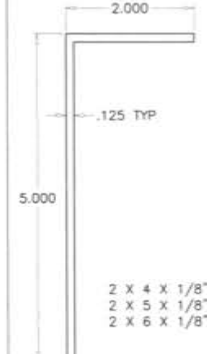
U-TRACK
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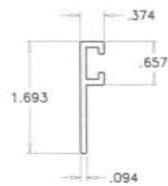
3" H-TRACK
6061-T6



STUDED ANGLE
6063-T5



BUILT-OUT ANGLES
6063-T6



FLAT F-TRACK
6061-T6

NOTE:
TRACKS CAN BE CURVED TO FOLLOW THE INSTALLATION
PROFILE AROUND ARCHES AND RADII.

GENERAL NOTES

1. THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE 2007 EDITION.
2. DESIGN CRITERIA FOR ALUMINUM, MINIMUM MECHANICAL PROPERTIES, AND SAFETY FACTORS ARE IN ACCORDANCE WITH THE "ALUMINUM CONSTRUCTION MANUAL" LATEST EDITION.
3. ALUMINUM ALLOYS: ALL EXTRUSIONS SHALL BE ALLOY AS SHOWN
4. STEEL SURFACES TO BE PLACED IN CONTACT WITH ALUMINUM SHALL BE GIVEN ONE COAT OF ZINC CHROMATE PRIMER IN ACCORDANCE WITH FEDERAL SPEC. NO. TTP-645, OR BE GALVANIZED.
5. ANCHORS SHALL BE AS SHOWN ON DETAILS. ANCHOR EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.
6. ALL BOLTS SHALL BE STAINLESS STEEL, ALUMINUM ALLOY 2024-T4 OR 7075-T6, OR PLATED STEEL WING NUTS TO BE OF ZINC ALLOY.
7. ANCHORING OR LOADING CONDITIONS OTHER THAN THOSE SHOWN IN THESE DETAILS ARE NOT PART OF THIS APPROVAL.
8. A LOAD DURATION INCREASE IN ALLOWABLE STRESS IS USED IN DESIGN OF ANCHORS INTO WOOD ONLY.

SPAN LOAD TABLE DIRECT MOUNT PANELS AT BOTH ENDS	
MAX. SPAN - IN.	MAX. DESIGN LOAD - PSF
60"	80.0
72"	66.5
84"	57.0
96"	55.1
108"	38.9
120"	35.0
132"	31.4
135"	30.0

SPAN LOAD TABLE DIRECT MOUNT PANELS AT ONE END ONLY	
MAX. SPAN - IN.	MAX. DESIGN LOAD - PSF
60"	65.0
72"	54.4
84"	46.7
96"	45.1
102"	25.0

DESIGN LOADS SHALL BE CALCULATED AS PER REQUIREMENTS
OF ASCE 7-02/04.

THIS QUALIFIES PRODUCTS FOR INSTALLATIONS OUTSIDE THE HVHZ ONLY.
INSTALLATION OF THIS SYSTEM OUTSIDE THE HVHZ AREA SHALL MEET
THE APPLICABLE REQUIREMENTS FOR WIND BORNE DEBRIS PROTECTION.

- A- THIS PRODUCT EVALUATION DOCUMENT (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.E.
- B- CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION OF THIS PRODUCT BASED ON THIS PRODUCT EVALUATION PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT.
- C- THIS PRODUCT EVALUATION DOCUMENT 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 THE 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.

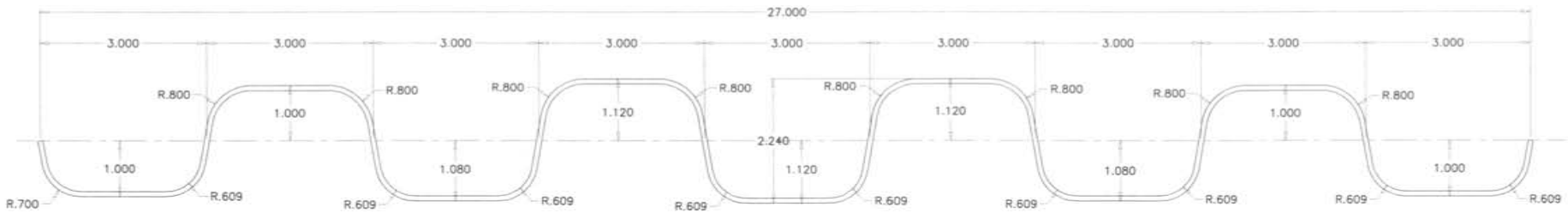
F.B.C.
Eng. DR. H. M. YOUNG FAROOQ
STRUCTURES
FLA. PE # 15557
C.A.N. 3538

MAR 02 2009

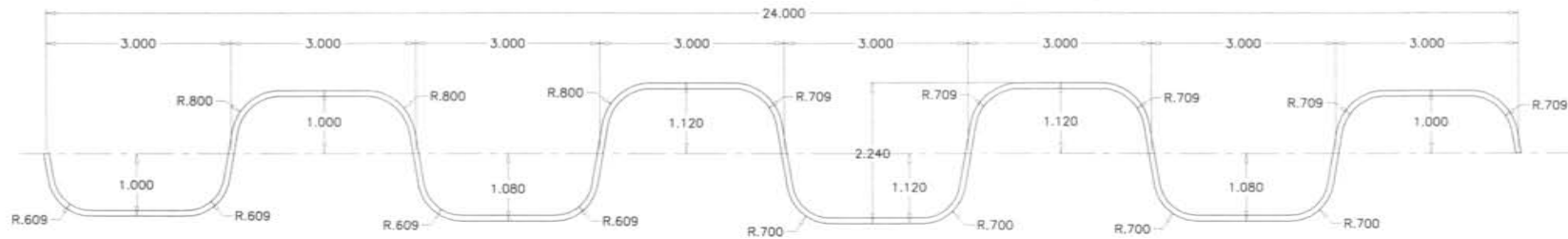
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AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 204-8100 FAX (305) 262-6078
PANELS/07-17HSP

'CLEARTEK' LEXAN/MAKROLON STORM PANEL
HURRICANE SAFE PRODUCTS
3801 N. WASHINGTON BLVD.
SARASOTA, FL. 34234
TEL. (941) 924-2285 FAX. (941) 924-2286

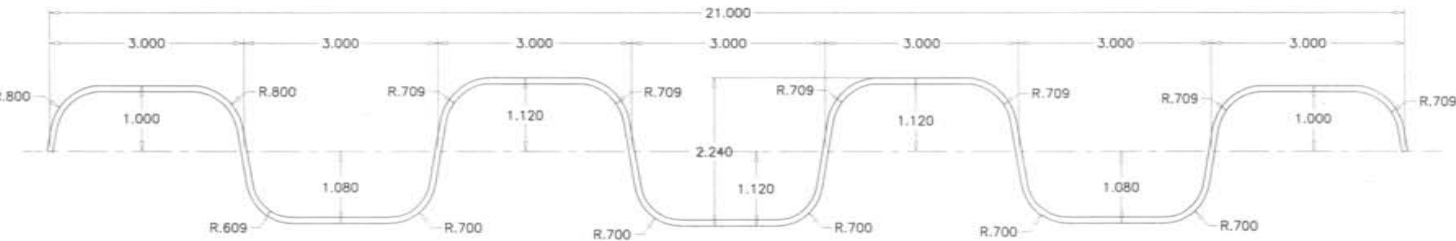
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no. date by description
1 10/27/05 updated for 2007 FBC
date: 08-16-07
scale: 1/2" = 1"
dr. by: HMOJ
chk. by:
drawing no. 07-17
sheet 1 of 6



27" EXTRUDED PANEL
 (GE LEXAN 103/BAYER MAKROLON 3103)
 $F_u = 9367 \text{ PSI}$, $F_y = 9134 \text{ PSI}$



24" EXTRUDED PANEL
 (GE LEXAN 103/BAYER MAKROLON 3103)
 $F_u = 9367 \text{ PSI}$, $F_y = 9134 \text{ PSI}$



21" EXTRUDED PANEL
 (GE LEXAN 103/BAYER MAKROLON 3103)
 $F_u = 9367 \text{ PSI}$, $F_y = 9134 \text{ PSI}$

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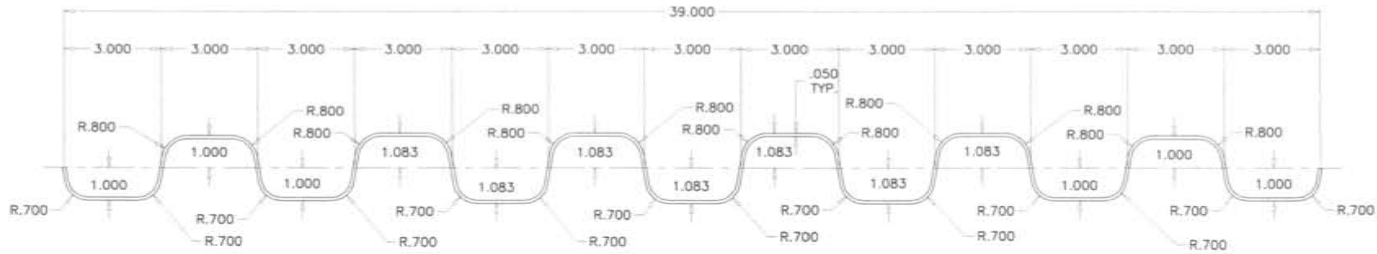
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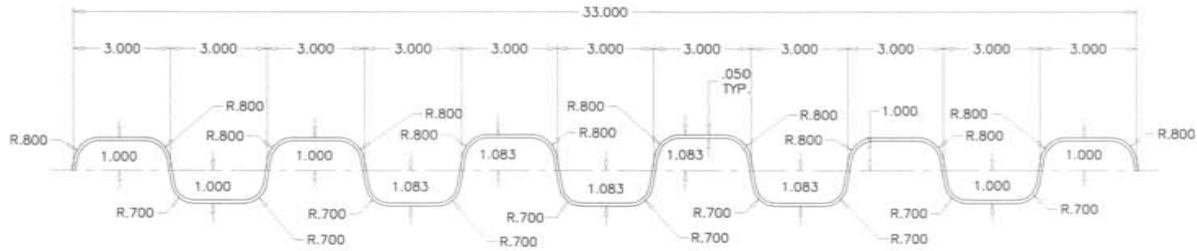


MAR 02 2009

drawing no. 07-17
 sheet 2 of 6



39" EXTRUDED PANEL
 (GE LEXAN 103/BAYER MAKROLON 3103)
 $F_u = 9367 \text{ PSI}$, $F_y = 9134 \text{ PSI}$



33" EXTRUDED PANEL
 (GE LEXAN 103/BAYER MAKROLON 3103)
 $F_u = 9367 \text{ PSI}$, $F_y = 9134 \text{ PSI}$

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no	date	by	description

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 chk. by:

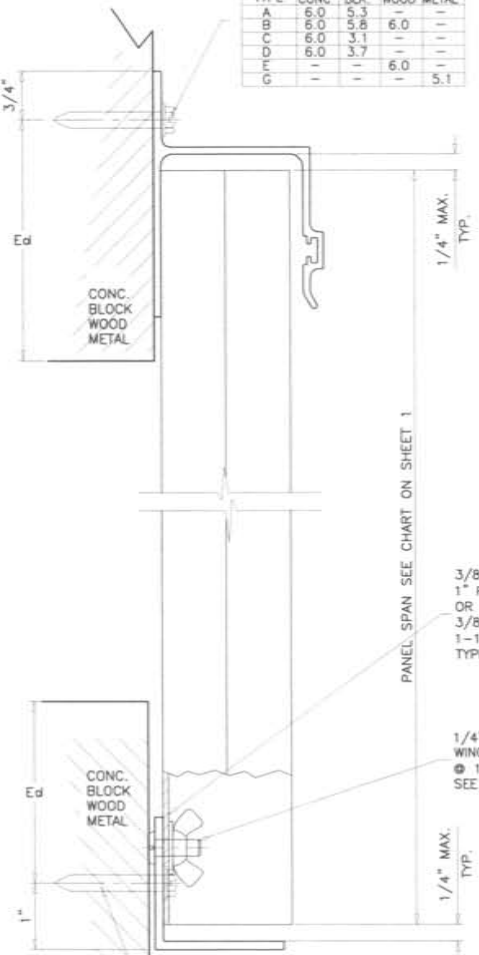
drawing no. 07-17
 sheet 2.1 of 6

Eng. DR. HUMAYUN FAROOQ
 STRUCTURES I
 FLA. PE # 16557
 C.A.N. 3538
 MAR 02 2009

WALL MOUNTS

MAX. PANEL SPAN 102 INCHES				
ANCHOR TYPE	ANCHOR SPACING INCHES			
	CONC.	BLK.	WOOD	METAL
A	6.0	5.3	-	-
B	6.0	5.8	6.0	-
C	6.0	3.1	-	-
D	6.0	3.7	-	-
E	-	-	6.0	-
F	-	-	-	5.1

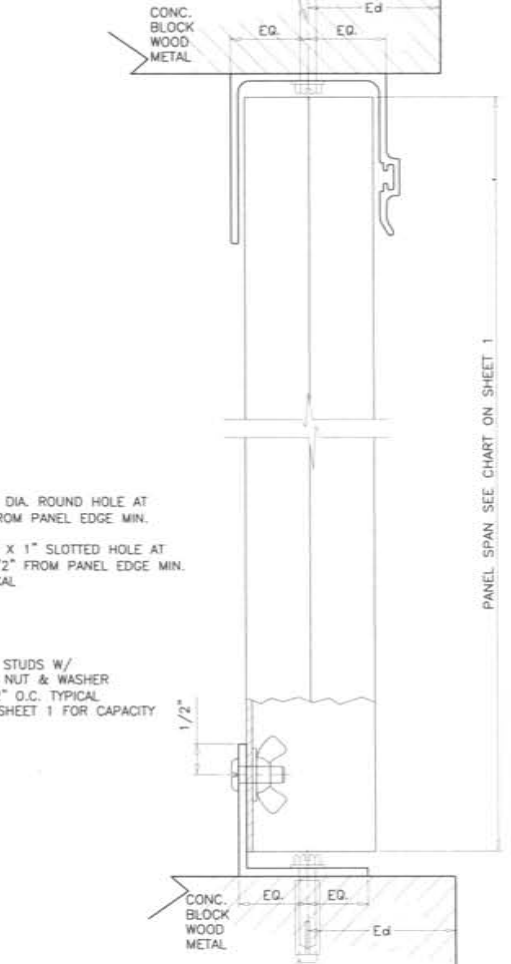
MAX. PANEL SPAN 102 INCHES				
ANCHOR TYPE	ANCHOR SPACING INCHES			
	CONC.	BLK.	WOOD	METAL
A	6.0	6.0	-	-
B	6.0	6.0	6.0	-
C	6.0	5.6	-	-
D	6.0	6.0	-	-
E	-	-	6.0	-
F	-	-	-	6.0



MAX. PANEL SPAN 135 INCHES				
ANCHOR TYPE	ANCHOR SPACING INCHES			
	CONC.	BLK.	WOOD	METAL
A	6.0	6.0	-	-
B	6.0	6.0	6.0	-
C	6.0	5.9	-	-
D	6.0	6.0	-	-
E	-	-	6.0	-
F	-	-	-	6.0

SECTION A-A

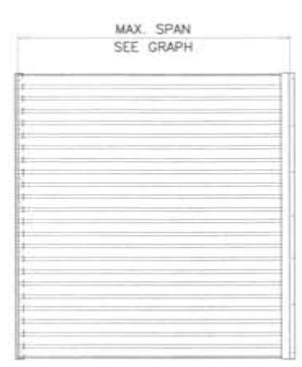
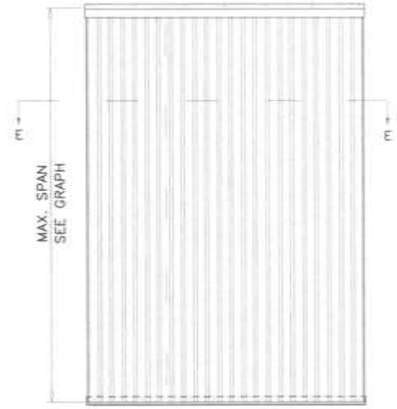
INSIDE MOUNTS



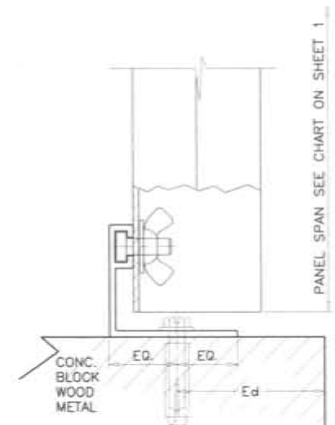
MAX. PANEL SPAN 135 INCHES				
ANCHOR TYPE	ANCHOR SPACING INCHES			
	CONC.	BLK.	WOOD	METAL
A	6.0	6.0	-	-
B	6.0	6.0	6.0	-
C	6.0	4.4	-	-
D	6.0	5.3	-	-
E	-	-	6.0	-
F	-	-	-	6.0

SECTION B-B

MAX. PANEL SPAN 135 INCHES				
ANCHOR TYPE	ANCHOR SPACING INCHES			
	CONC.	BLK.	WOOD	METAL
A	6.0	6.0	-	-
B	6.0	6.0	6.0	-
C	6.0	4.4	-	-
D	6.0	5.3	-	-
E	-	-	6.0	-
F	-	-	-	6.0



TYPICAL ELEVATION
PANELS CAN BE INSTALLED VERTICALLY OR HORIZONTALLY USING APPLICABLE ANCHORING DETAILS.



MAX. PANEL SPAN 135 INCHES				
ANCHOR TYPE	ANCHOR SPACING INCHES			
	CONC.	BLK.	WOOD	METAL
A	6.0	6.0	6.0	-
B	6.0	6.0	-	-
D	6.0	6.0	-	-
C	-	-	-	6.0

Eng: H. HEWAYUN FAROOQ
STRUCTURES
FLA. PE # 16537
C.A.N. 3538

FOR GENERAL NOTES AND EXTRUSION DETAILS SEE SHEET 1 OF 6.

ANCHORS: EMBEDMENT & EDGE DISTANCES SHOWN ARE BEYOND THE WALL & FLOOR COVERING (STUCCO, TILES, ETC.)

Ed = TYPICAL EDGE DISTANCE
CONC. & BLOCK = 12d (12 ANCHOR DIAMETERS)
WOOD = 5d
FOR LESSER EDGE DISTANCES SEE SHEET 6 OF 6.

HEAD AND SILL DETAILS CAN BE USED IN ANY COMBINATIONS.

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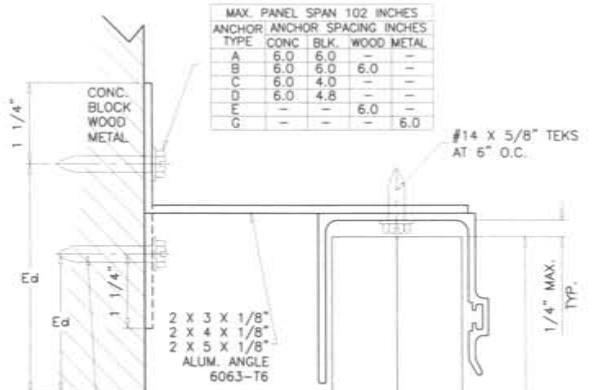
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REVISIONS: no. date by description
date: 06-16-07
scale: 1/2" = 1"
dr. by: HAMD
chk. by:

drawing no. 07-17
sheet 3 of 6

BUILT-OUT CONDITION



MAX. PANEL SPAN 102 INCHES			
ANCHOR ANCHOR SPACING INCHES			
TYPE	CONC.	BLK.	WOOD METAL
A	6.0	6.0	-
B	6.0	6.0	6.0
C	6.0	4.0	-
D	6.0	4.8	-
E	-	-	6.0
G	-	-	6.0

#14 X 5/8" TEKS
AT 6" O.C.

2 X 3 X 1/8"
2 X 4 X 1/8"
ALUM. ANGLE
6063-T6

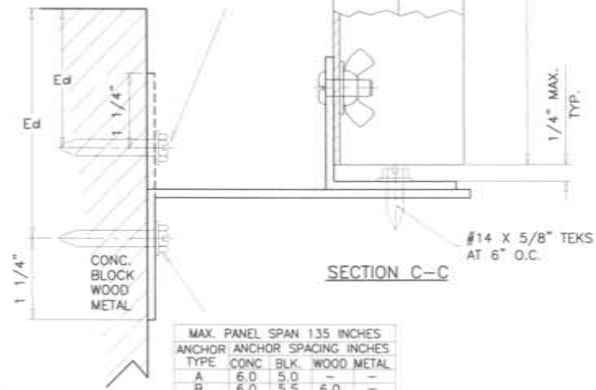
MAX. PANEL SPAN 102 INCHES			
ANCHOR ANCHOR SPACING INCHES			
TYPE	CONC.	BLK.	WOOD METAL
A	6.0	6.0	-
B	6.0	6.0	6.0
C	6.0	5.1	-
D	6.0	6.0	-
E	-	-	6.0
G	-	-	6.0

PANEL SPAN SEE CHART ON SHEET 1

1/4" MAX.
TYP.

MAX. PANEL SPAN 102 INCHES			
ANCHOR ANCHOR SPACING INCHES			
TYPE	CONC.	BLK.	WOOD METAL
A	6.0	6.0	-
B	6.0	6.0	6.0
C	6.0	3.6	-
D	6.0	4.3	-
E	-	-	6.0
G	-	-	5.9

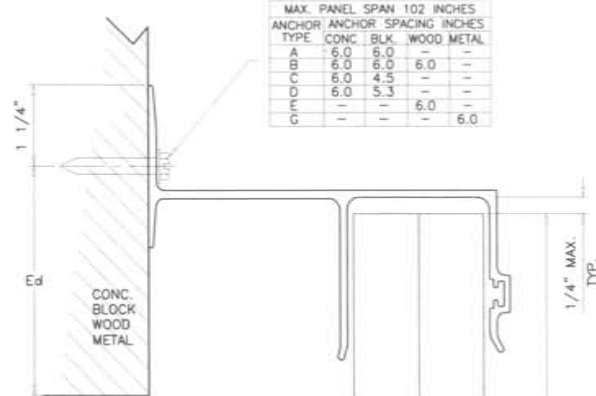
1/4" MAX.
TYP.



SECTION C-C

MAX. PANEL SPAN 135 INCHES			
ANCHOR ANCHOR SPACING INCHES			
TYPE	CONC.	BLK.	WOOD METAL
A	6.0	6.0	-
B	6.0	6.0	6.0
C	6.0	3.0	-
D	6.0	3.6	-
E	-	-	6.0
G	-	-	4.9

BUILT-OUT CONDITION



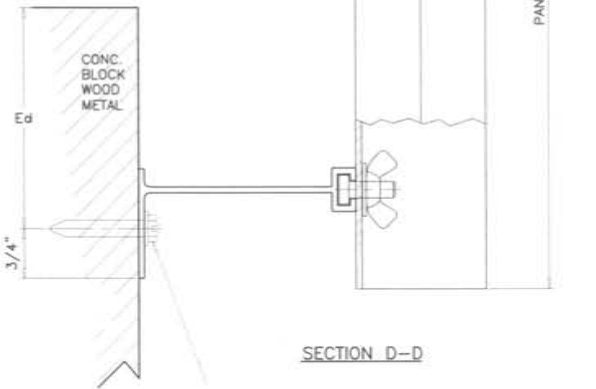
MAX. PANEL SPAN 102 INCHES			
ANCHOR ANCHOR SPACING INCHES			
TYPE	CONC.	BLK.	WOOD METAL
A	6.0	6.0	-
B	6.0	6.0	6.0
C	6.0	4.5	-
D	6.0	5.3	-
E	-	-	6.0
G	-	-	6.0

#14 X 5/8" TEKS
AT 6" O.C.

2 X 3 X 1/8"
2 X 4 X 1/8"
ALUM. ANGLE
6063-T6

PANEL SPAN SEE CHART ON SHEET 1

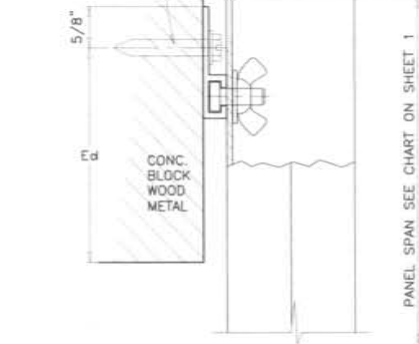
1/4" MAX.
TYP.



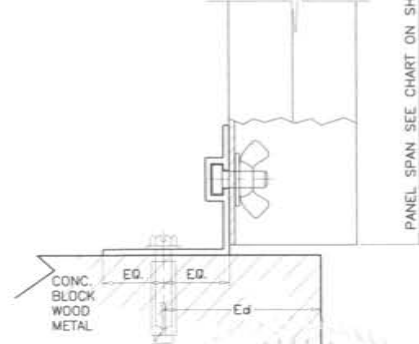
SECTION D-D

MAX. PANEL SPAN 135 INCHES			
ANCHOR ANCHOR SPACING INCHES			
TYPE	CONC.	BLK.	WOOD METAL
A	6.0	6.0	-
B	6.0	6.0	6.0
C	6.0	4.4	-
D	6.0	5.2	-
E	-	-	6.0
G	-	-	6.0

MAX. PANEL SPAN 135 INCHES			
ANCHOR ANCHOR SPACING INCHES			
TYPE	CONC.	BLK.	WOOD METAL
A	6.0	6.0	-
B	6.0	6.0	6.0
C	6.0	4.4	-
D	6.0	5.2	-
E	-	-	6.0
G	-	-	6.0



PANEL SPAN SEE CHART ON SHEET 1



PANEL SPAN SEE CHART ON SHEET 1

MAX. PANEL SPAN 135 INCHES			
ANCHOR ANCHOR SPACING INCHES			
TYPE	CONC.	BLK.	WOOD METAL
A	6.0	6.0	-
B	6.0	6.0	6.0
C	6.0	4.4	-
D	6.0	5.3	-
E	-	-	6.0
G	-	-	6.0

Engr. DR. UJAYOUN FAROOQ
STRUCTURES
FLA. REG. # 16557
C.A.N. 3538

MAR 02 2009

afc
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TEL. (305) 264-8100 FAX. (305) 262-6078

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SARASOTA, FL. 34234
TEL. (941) 924-2285 FAX. (941) 924-2286

NO.	DATE	DESCRIPTION

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scale: 1/2" = 1"
dr. by: HAMD
chk. by:

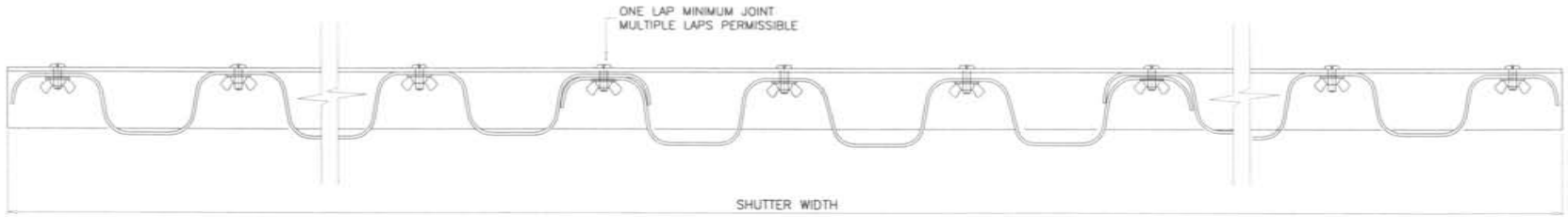
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sheet 4 of 6

PANELS/07-17HSP

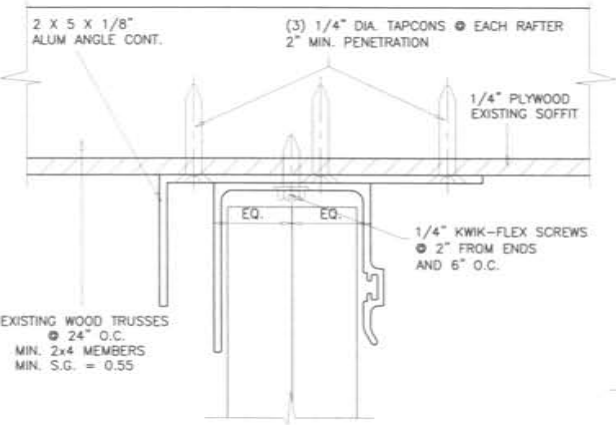
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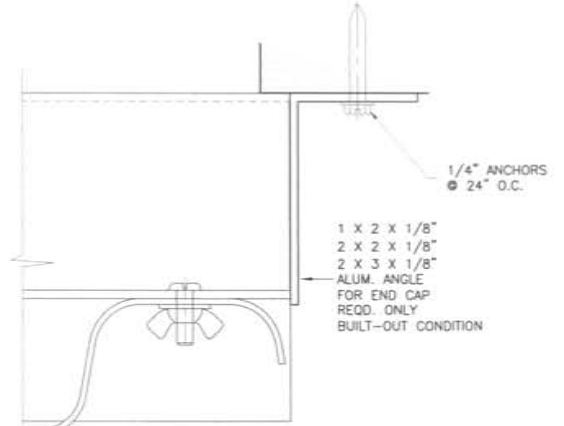
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 dt. by: HAMID
 chg. by:
 drawing no. 07-17
 sheet 5 of 6



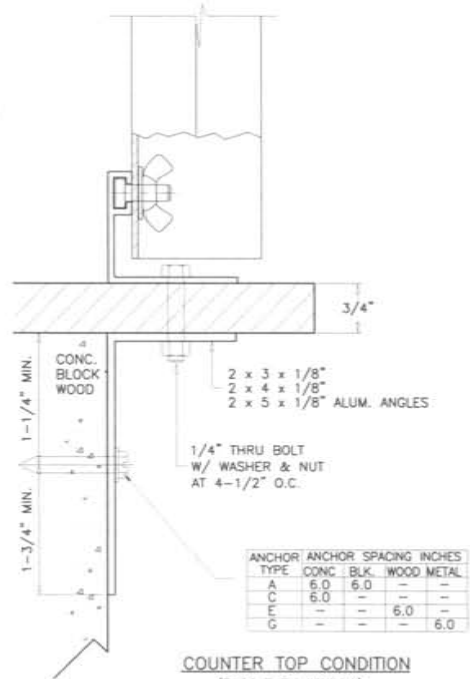
SECTION E-E
 SCALE 1/4" : 1"



HEADER CONNECTION TO WOOD TRUSSES
 MAX. SHUTTER HEIGHT SEE SPAN LOAD TABLE ON SHEET 1
 LIMIT MAX. DESIGN LOADS TO 65 PSF



END CAP BUILT-OUT CONDITION
 DETAIL 'A'



COUNTER TOP CONDITION
 (PASS THRU WINDOW)
 MAX SHUTTER HEIGHT = 6 FT.

ANCHOR TYPE	CONC.	BLK.	WOOD	METAL
A	6.0	6.0	-	-
C	6.0	-	-	-
M	-	-	6.0	-
G	-	-	-	6.0



TYPICAL ANCHORS:

- ANCHOR **A** = 1/4" DIA. ULTRACON (BY ELCO)
 1-3/4" EMBEDMENT INTO 3000 PSI CONC.
 1-1/4" EMBEDMENT INTO C-90 BLOCK
- ANCHOR **B** = 1/4" DIA. PANELMATE ANCHORS (ELCO-TEXTRON)
 2" EMBEDMENT TO CONC.
 1-1/4" EMBEDMENT TO BLOCK
 1-7/8" MIN PENETRATION INTO WOOD(S.G.=0.55)
- ANCHOR **C** = 1/4" DIA. TAPCONS (BY ITW)
 1-3/4" EMBEDMENT INTO 3000 PSI CONC.
 1" EMBEDMENT INTO C-90 BLOCK
- ANCHOR **D** = 1/4" POWERS CALK-IN
 TOTAL ANCHOR BODY INTO 3000 PSI CONC.
 OR C-90 BLOCK
- ANCHOR **E** = 1/4" DIA. LAG SCREWS
 1-1/2" MIN PENETRATION INTO WOOD(S.G.=0.55)
- ANCHOR **G** = 1/4" DIA. KWIK-FLEX SELF DRILLING SCREWS
 INTO METAL STRUCTURES
 (STEEL OR ALUMINUM 1/8" MIN. THICK.)

NOTE: ANCHORS EMBEDMENT SHOWN IS BEYOND WALL & FLOOR COVERINGS (STUCCO, TILES, ETC.)

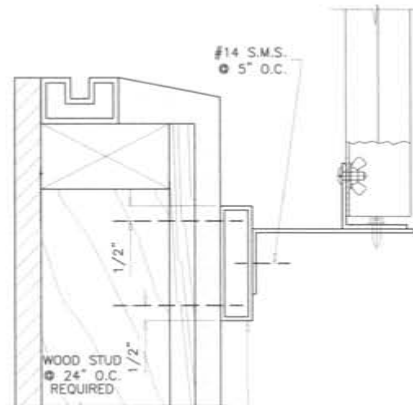
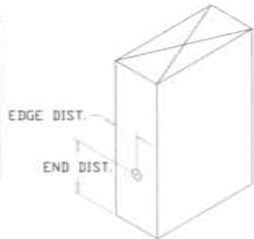
FASTENER SPACING IN MASONRY

CHARTS ARE BASED ON TYPICAL EDGE DISTANCE = 12d.
 FOR LESSER EDGE DISTANCE DECREASE SPACING BY
 MULTIPLYING WITH THE FACTOR BELOW

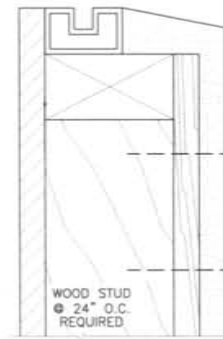
EDGE DIST.	12d=3"	10d=2-1/2"	8d=2"	6d=1-1/2"	5d=1-1/4"
FACTOR	1.00	0.86	0.71	0.57	0.50

EXAMPLE: FOR 3" EDGE DIST. SPACING = 12" O.C. (FROM CHART)
 FOR 2" EDGE DIST. SPACING = 12 X .71 = 8.5 O.C.

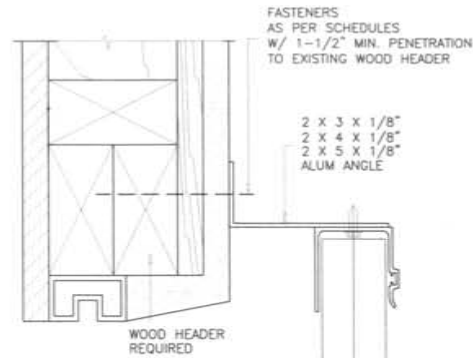
TYPICAL EDGE DISTANCE IN WOOD = 3/4"
 TYPICAL END DISTANCE IN WOOD = 1"
 NO REDUCTION FACTOR IS REQUIRED



1" X 4" X 1/8" CONT. ALUM TUBE
 W/ (2) 1/4" Ø X 4" TAPCONS
 Ø EACH STUD W/ 2" MIN PENETRATION
 INTO EXISTING STUD



2" X 6" CONT.
 W/ (2) 1/4" Ø X 5" TAPCONS
 Ø EACH STUD W/ 2" MIN PENETRATION
 INTO EXISTING STUD



FASTENERS
 AS PER SCHEDULES
 W/ 1-1/2" MIN. PENETRATION
 TO EXISTING WOOD HEADER

2 X 3 X 1/8"
 2 X 4 X 1/8"
 2 X 5 X 1/8"
 ALUM ANGLE

WOOD STUD
 24" O.C.
 REQUIRED

FASTENERS
 SEE SCHEDULES
 ON SHEET 4

INSTALLATION DETAIL ON EXISTING WOOD STUDS SCALE: 1/4"=1"

ABOVE DETAILS SHOWS CONNECTION OF 2X6 BUCK & 1X4 ALUM TUBE TO WOOD STUDS TO PROVIDE A CONTINUOUS SURFACE FOR SHUTTER INSTALLATION.

FOR INSTALLATION DETAILS OF HEADER/SILL TO CONTINUOUS WOOD MEMBERS SEE SHEETS 3 & 4.

Engr. DR. HUMAYOON FAROOQ
 STRUCTURES
 FLA. 175 # 16587
 C.A.N. 3535
 MAR 02 2009