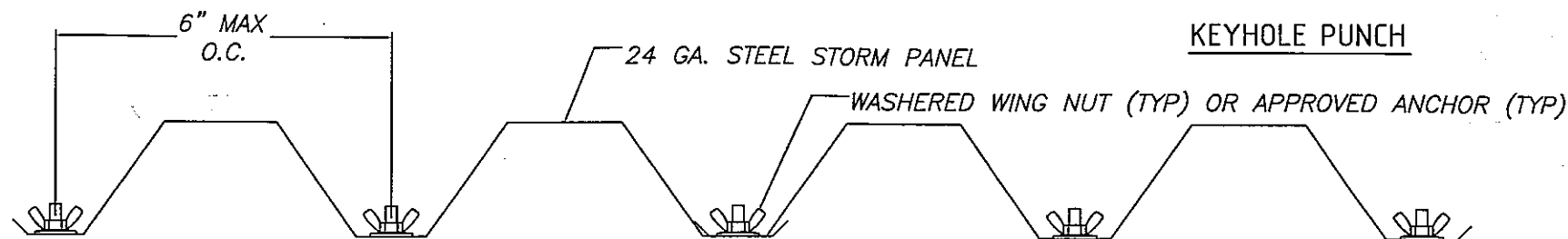
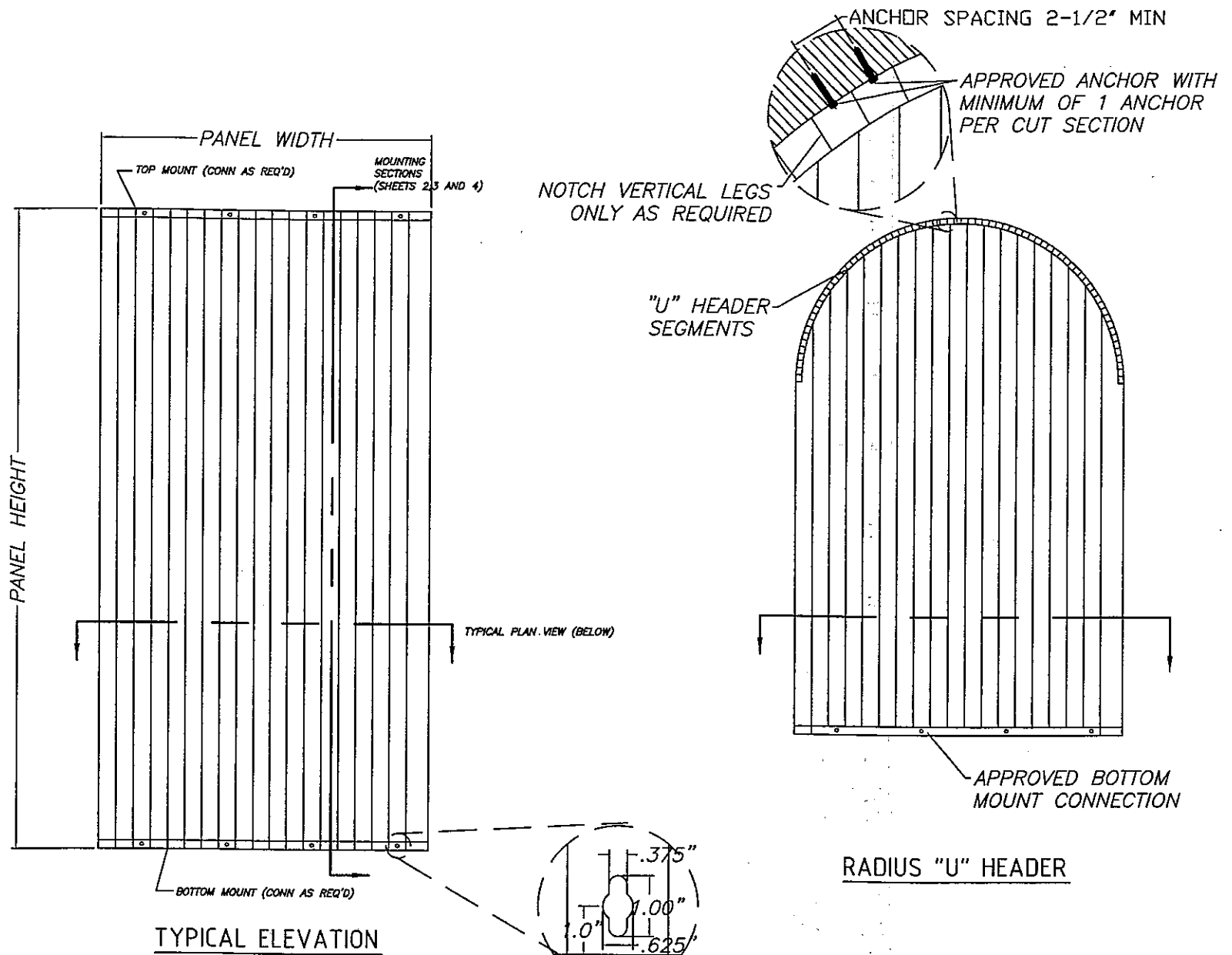


- 24 GAGE GALVANIZED STEEL STORM PANELS. STEEL SHALL CONFORM TO ASTM A653, STRUCTURAL QUALITY GRADE 40, WITH G60 GALVANIZED COATING AND MINIMUM $F_y=44$ KSI.
- THIS SYSTEM HAS BEEN TESTED AND EVALUATED AS A LARGE MISSILE IMPACT PROTECTIVE SYSTEM COMPLYING WITH SECTION 1609.1.4 OF THE 2007 FLORIDA BUILDING CODE AND ASTM STANDARDS E1886/E1996 & E330. PROVEN PERFORMANCE IS MISSILE LEVEL 'D', WIND ZONE 3.
- THESE PRODUCT EVALUATION DOCUMENTS ARE PREPARED BY THE PRODUCT ENGINEER AND ARE GENERIC. THEY DO NOT INCLUDE INFORMATION PREPARED FOR A SPECIFIC SITE.
- USE OF THESE APPROVAL DOCUMENTS SHALL COMPLY WITH CHAPTER 61G15-23 OF THE FLORIDA ADMINISTRATIVE CODE.
- THE 33-1/3% INCREASE IN ALLOWABLE STRESS HAS NOT BEEN USED IN THE DESIGN OF THIS PRODUCT.
- PERMIT HOLDER SHALL VERIFY THE ADEQUACY OF THE EXISTING STRUCTURE TO WITHSTAND ANCHORAGE LOADS IMPARTED TO THE STRUCTURE.
- ALL ALUMINUM EXTRUSIONS SHALL BE 6063-T6 UNLESS OTHERWISE NOTED. TOP & BOTTOM MOUNTING DETAILS MAY BE INTERCHANGED AS FIELD CONDITIONS DICTATE. PANELS MAY BE MOUNTED HORIZONTALLY WHERE APPLICABLE.
- ALL BOLTS & WASHERS SHALL BE ZINC COATED STEEL, GALVANIZED STEEL, STAINLESS STEEL OR 2024-T4 ALUMINUM ALLOY WITH A MINIMUM TENSILE YIELD STRENGTH OF 33 KSI.
- STORM PANELS ARE NOT AIR PERMEABLE. THEREFORE, MINIMUM SPACING BETWEEN PANEL AND GLAZING IS NOT REQUIRED. FRACTURE OF GLAZING IS ACCEPTABLE WITH THIS PRODUCT.
- SHUTTER'S MANUFACTURER LABEL SHALL CONTAIN THE MINIMUM INFORMATION OF:

TOWN & COUNTRY INDUSTRIES
FT. LAUDERDALE, FLORIDA

LIMITATIONS

THIS PRODUCT HAS BEEN EVALUATED AND IS IN COMPLIANCE WITH THE 2007 FLORIDA BUILDING CODE EXCLUDING "HIGH VELOCITY HURRICANE ZONE." MISSILE IMPACT TESTING WAS PERFORMED TO WIND ZONE 3 (BASIC WIND SPEED < 140 MPH) MISSILE LEVEL D REQUIREMENTS. THIS PRODUCT HAS NOT BEEN EVALUATED FOR ENHANCED PROTECTION OF ESSENTIAL FACILITIES AS DEFINED IN ASTM E1996.



TYPICAL PLAN VIEW
2-PANELS SHOWN

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12" EFFECTIVE WIDTH
24 GAUGE STORM-LDC
GALVANIZED SHUTTER SYSTEM

400 WEST McNABB ROAD
FT. LAUDERDALE, FL 33309
Tel: (954) 970-7700

REVISIONS		DESCRIPTION
NO.	DATE	BY
1	6 JULY 07	ANR
		CHANGED OWNER

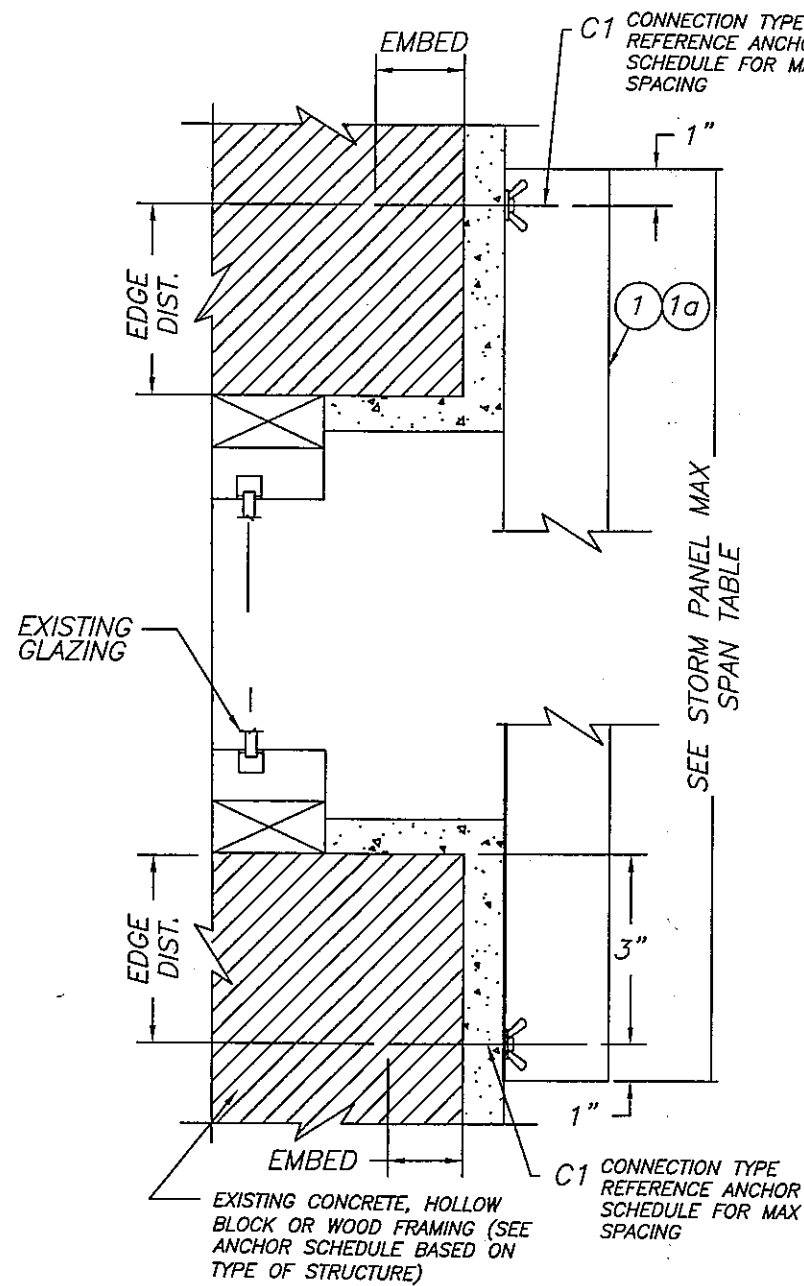
TOWN & COUNTRY INDUSTRIES

DATE: 28 NOV. 2006

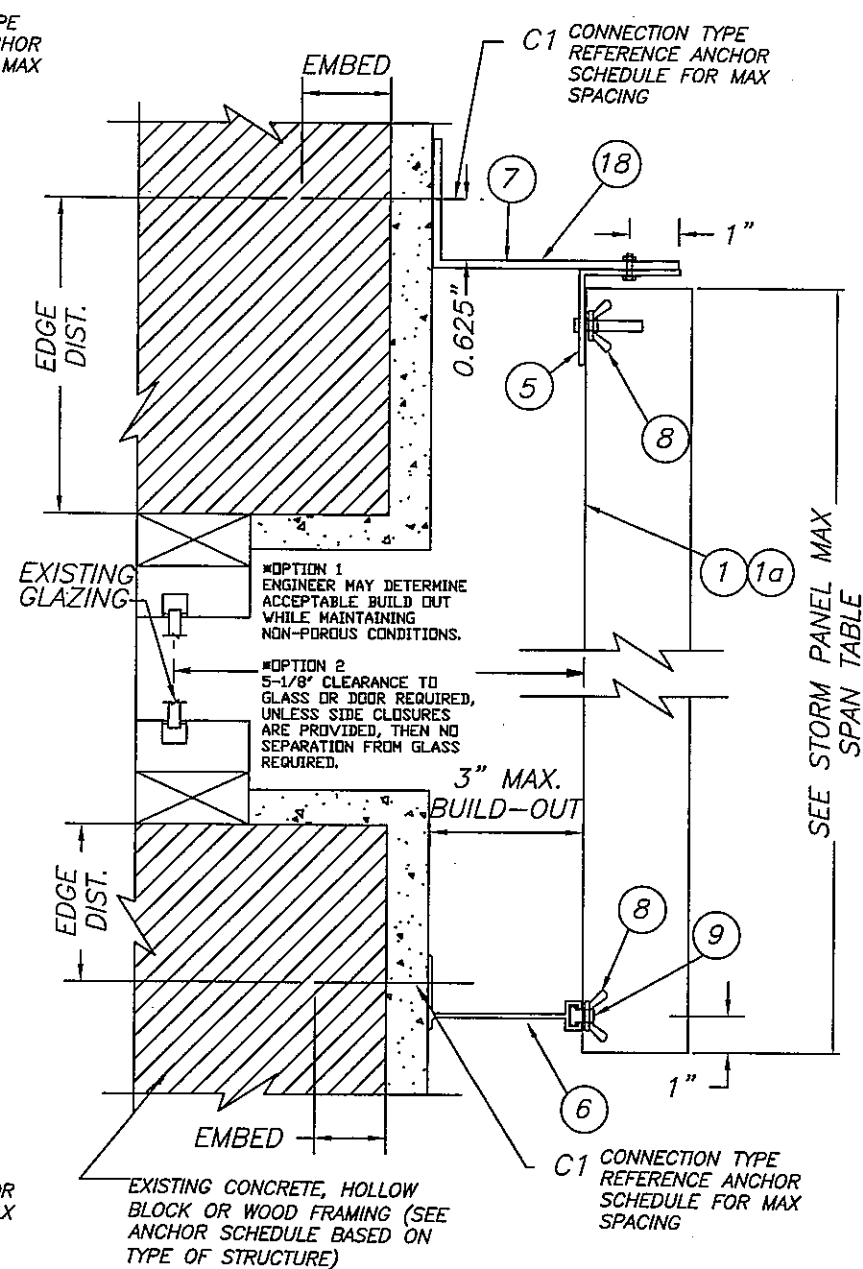
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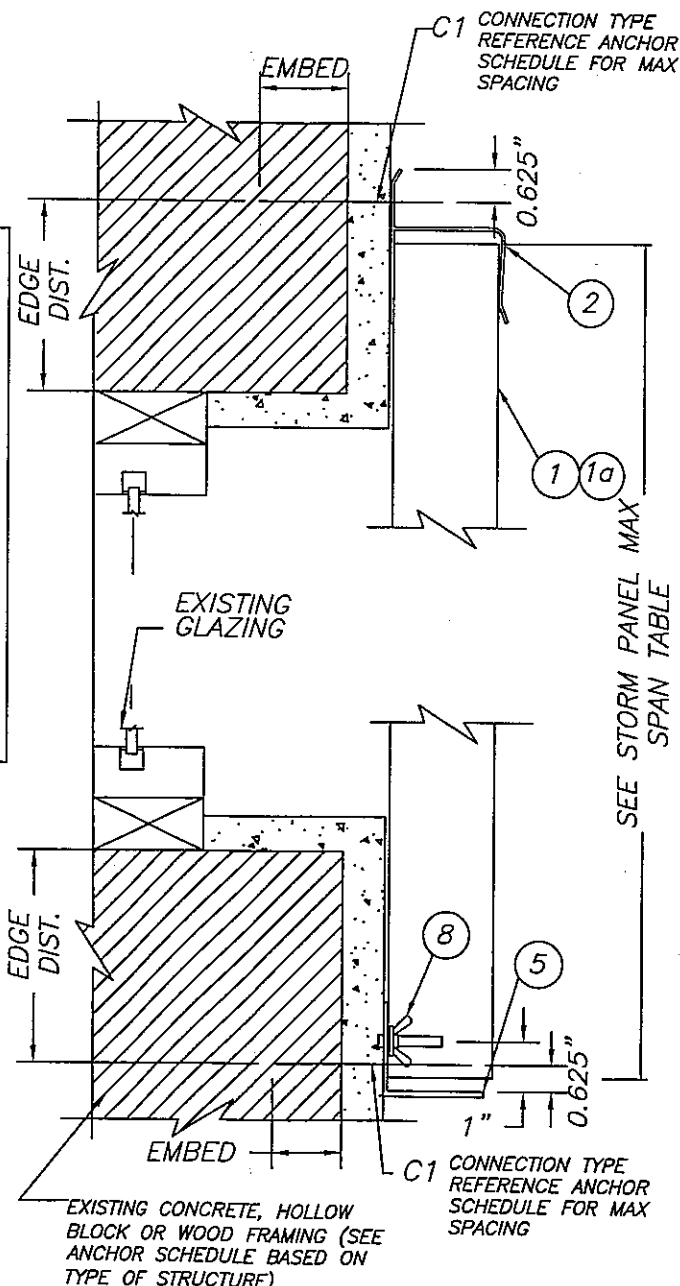
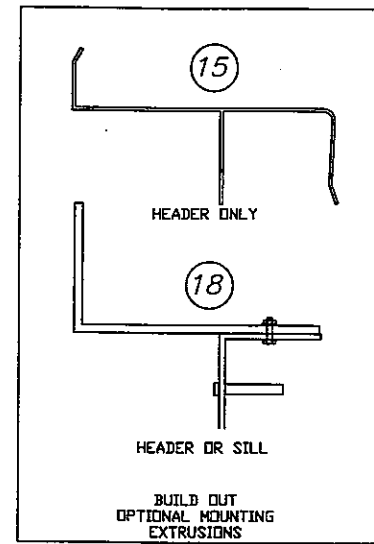
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22 DECEMBER 2008



A WALL MOUNT SECTION



B BUILD-OUT SECTION



C "h" HEADER SECTION

SPECIAL NOTES: ANCHOR, ANCHOR EMBED AND ANCHOR EDGE DISTANCE SHALL BE AS SPECIFIED ON SHEET 8/9 AND 9/9. ALL ANCHORS SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.

STORM PANELS ARE NOT AIR PERMEABLE. THEREFORE, MINIMUM SPACING BETWEEN PANEL AND GLAZING IS NOT REQUIRED. FRACTURE OF GLAZING IS ACCEPTABLE WITH THIS PRODUCT

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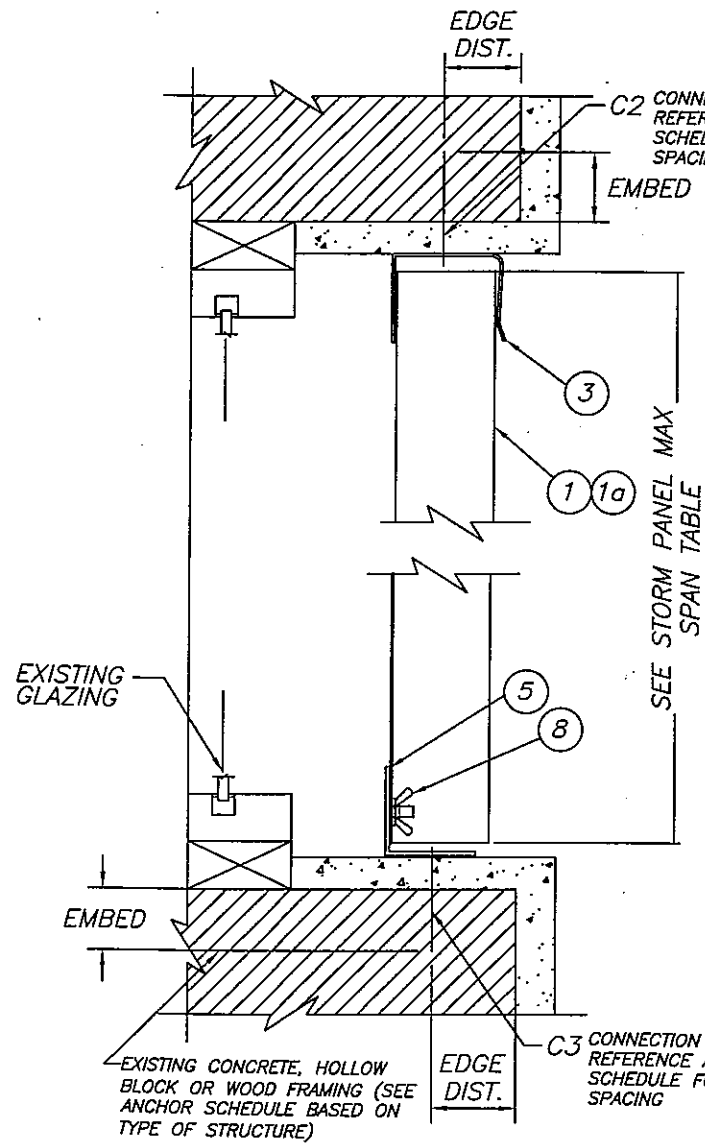
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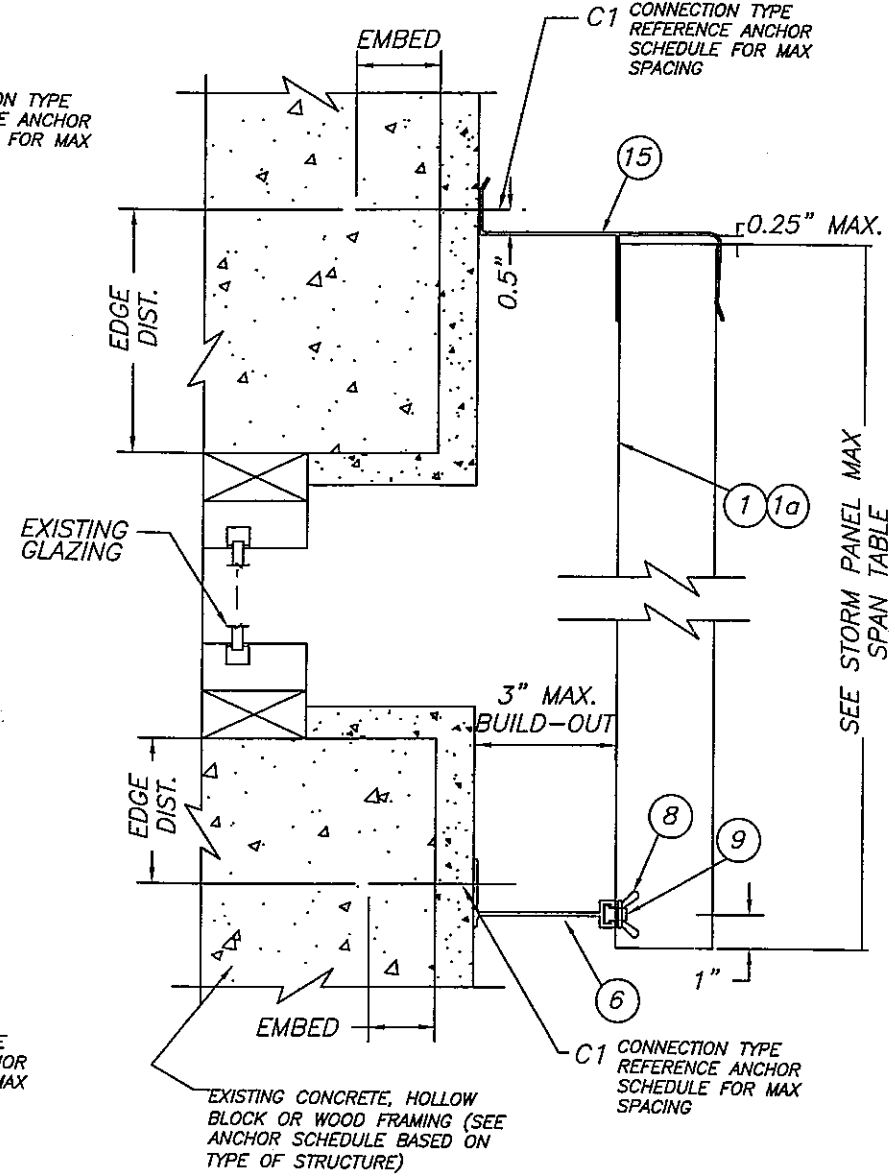
PROJECT NUMBER
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 07070009
 08120002

SHEET 2 OF 9

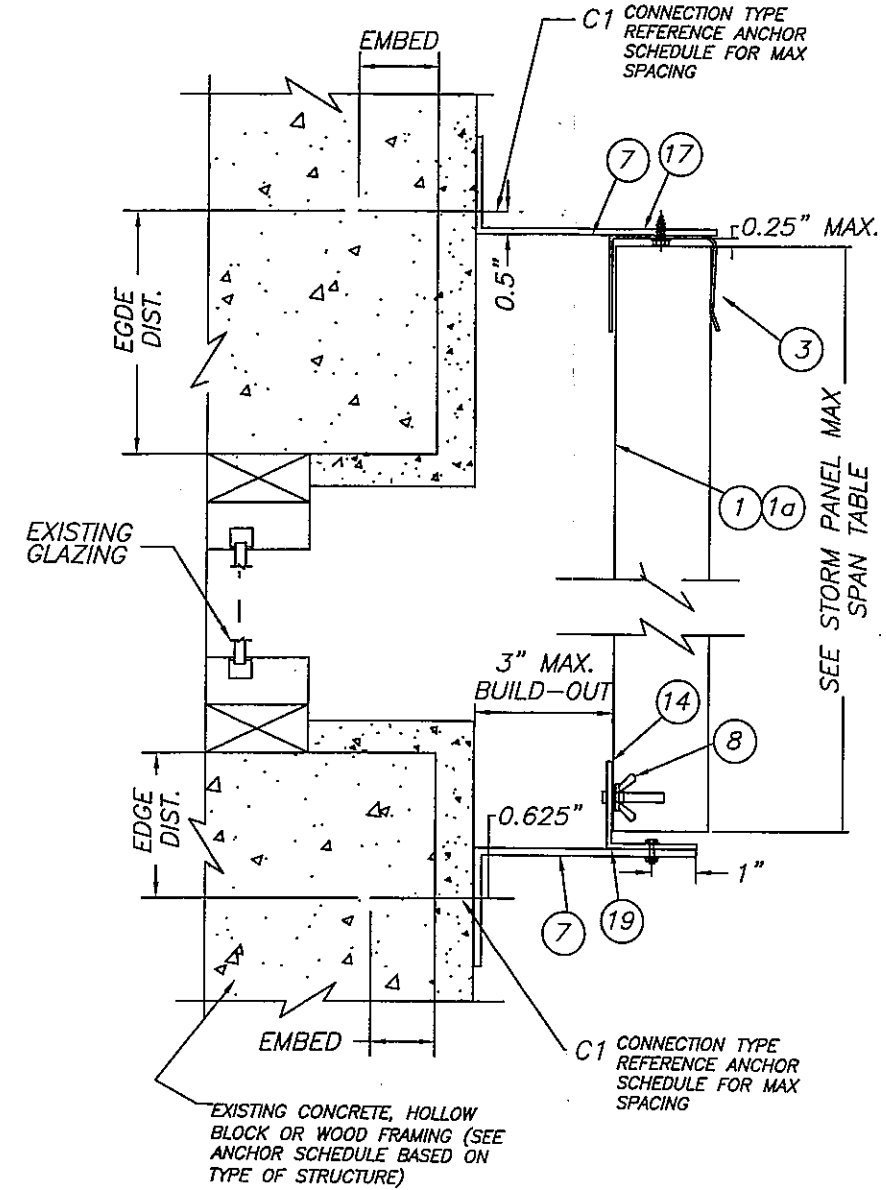
Allen N. Reeves
 22 DECEMBER 2008



D "U" HEADER SECTION



E BUILD-OUT SECTION SPECIAL HEADER



F BUILD-OUT SECTION SPECIAL HEADER

SPECIAL NOTES: ANCHOR, ANCHOR EMBED AND ANCHOR EDGE DISTANCE SHALL BE AS SPECIFIED ON SHEET 8/9 AND 9/9. ALL ANCHORS SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.

STORM PANELS ARE NOT AIR PERMEABLE. THEREFORE, MINIMUM SPACING BETWEEN PANEL AND GLAZING IS NOT REQUIRED. FRACTURE OF GLAZING IS ACCEPTABLE WITH THIS PRODUCT.

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22 DECEMBER 2008

REVISIONS	
NO.	DESCRIPTION
1	CHANGED OWNER

DATE: 28 NOV. 2006

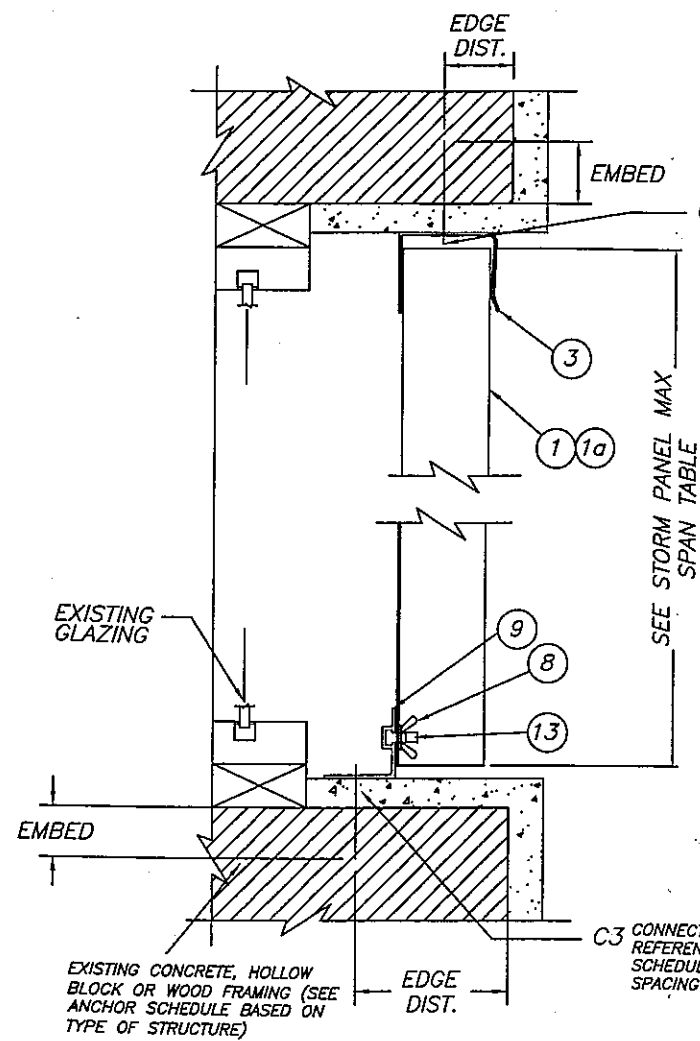
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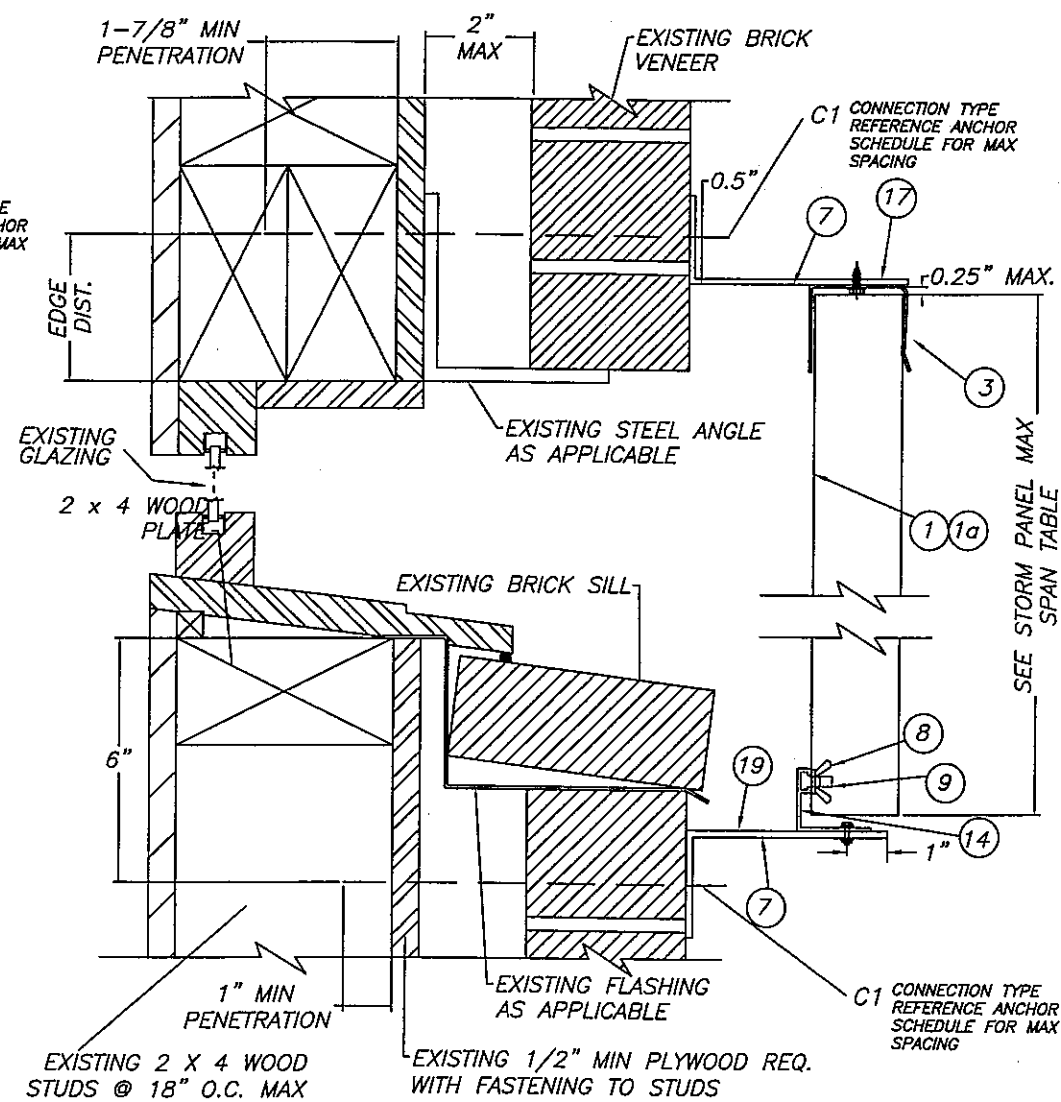
SHEET 3 OF 9

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12" EFFECTIVE WIDTH
24 GAUGE STORM-LOC
GALVANIZED SHUTTER SYSTEM
400 WEST McNABB ROAD
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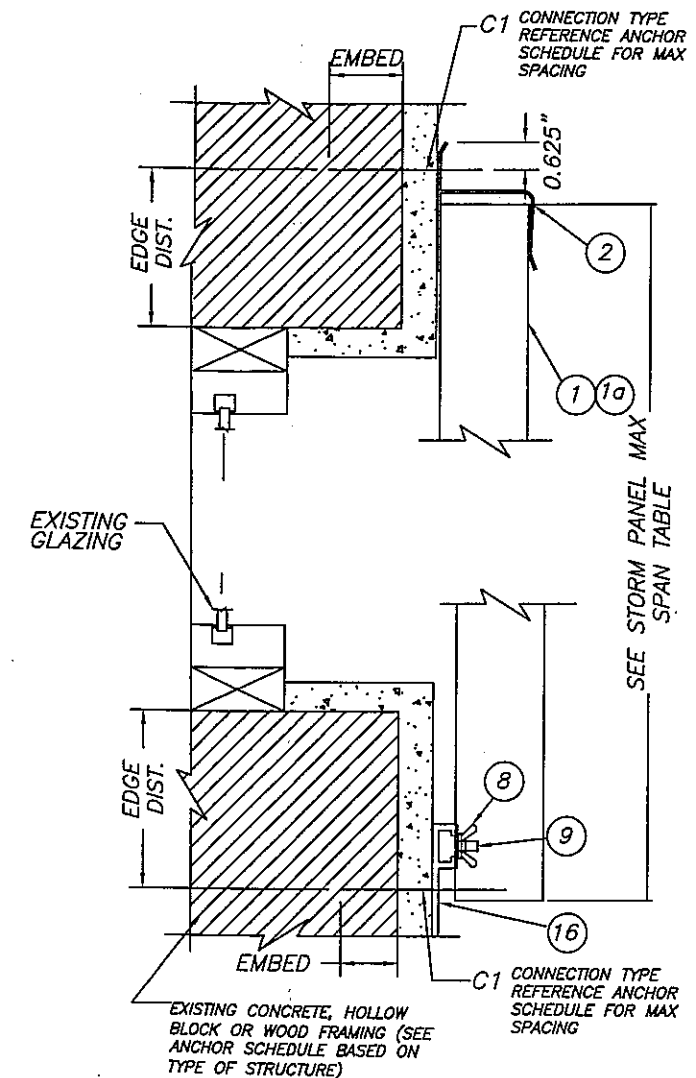
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G "U" HEADER SECTION



H BUILD-OUT SECTION BRICK VENEER



I "F" TRACK MOUNTING

SPECIAL NOTES: ANCHOR, ANCHOR EMBED AND ANCHOR EDGE DISTANCE SHALL BE AS SPECIFIED ON SHEET 8/9 AND 9/9. ALL ANCHORS SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.

STORM PANELS ARE NOT AIR PERMEABLE. THEREFORE, MINIMUM SPACING BETWEEN PANEL AND GLAZING IS NOT REQUIRED. FRACTURE OF GLAZING IS ACCEPTABLE WITH THIS PRODUCT.

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12" EFFECTIVE WIDTH
 24 GAUGE STORM-L0C
 GALVANIZED SHUTTER SYSTEM

400 WEST McNABB ROAD
 FT. LAUDERDALE, FL 33309
 Tel: (954) 970-7700

TOWN & COUNTRY
 INDUSTRIES

NO.	DATE	BY	DESCRIPTION
1	6 JULY 07	ANR	CHANGED OWNER

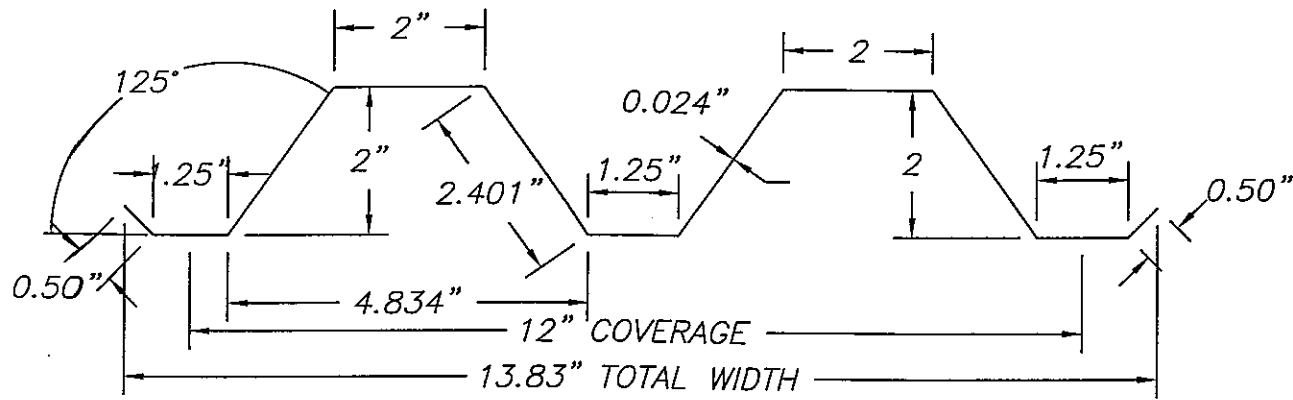
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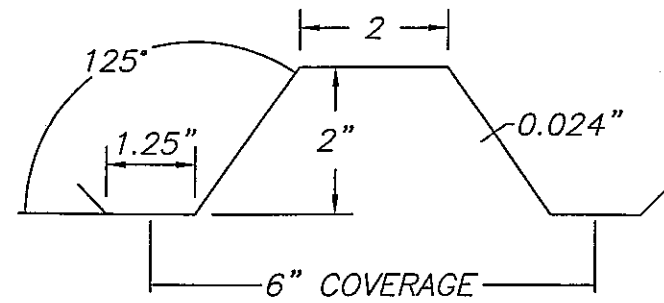
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 08120002

SHEET 4 OF 9

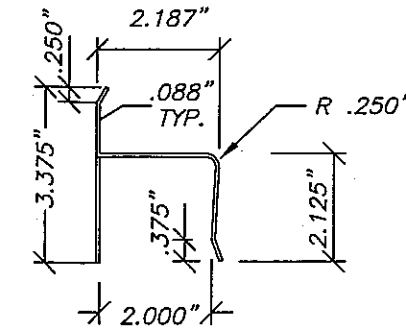
Allen N. Reeves
 22 DECEMBER 2008



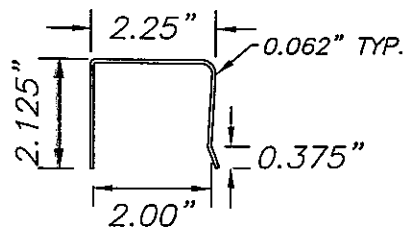
① 12" PANEL PROFILE



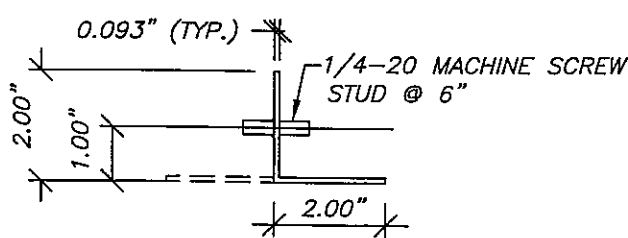
①a 6" PANEL PROFILE
NOTE: CAN ONLY BE USED AS AN END PANEL TO CLOSE THE REMAINING OPENING THAT MAY BE LESS THAN A FULL PANEL WIDTH



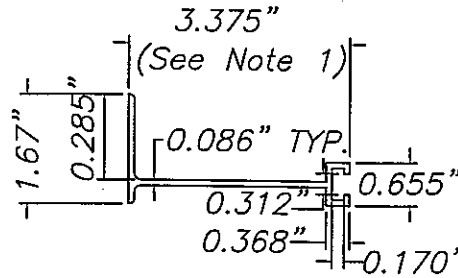
② "h" HEADER



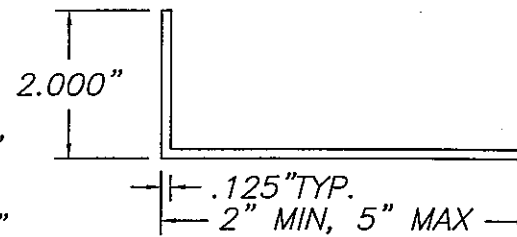
③ "U" HEADER



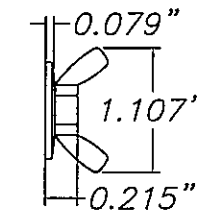
⑤ STUDDED ANGLE



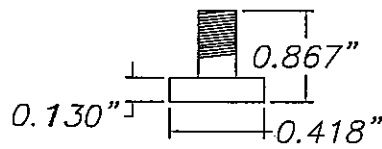
⑥ BUILD-OUT "F" TRACK



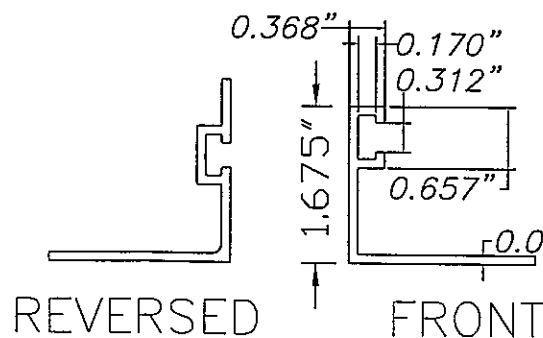
⑦ ALUMINUM ANGLE BUILD-OUT/CLOSURE



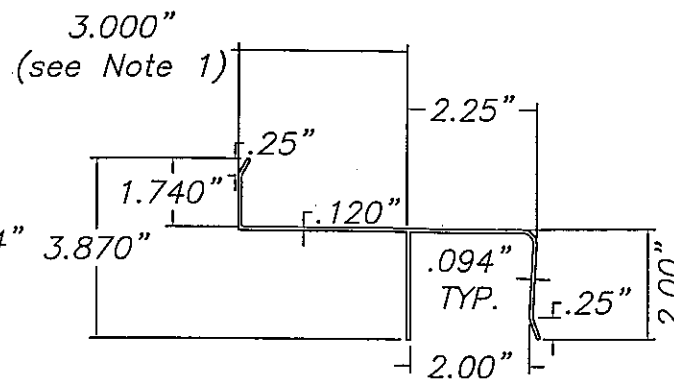
⑧ WING NUT



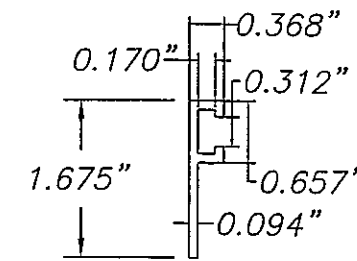
⑨ 1/4"-20 SQUARE HEADED BOLT



⑭ "E" TRACK



⑮ SPECIAL BUILD-OUT HEADER



⑯ "F" TRACK

NOTES:

- 1) TESTING QUALIFIES 1" AND 2" LENGTHS ALSO
- 2) TESTING QUALIFIES AS-TESTED EXTRUSION THICKNESS AND THICKER

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Florida License No. 19354

12" EFFECTIVE WIDTH
24 GAUGE STORM-LOC
GALVANIZED SHUTTER SYSTEM
400 WEST McNABB ROAD
FT. LAUDERDALE, FL 33309
Tel: (954) 970-7700

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DATE: 28 NOV. 2006

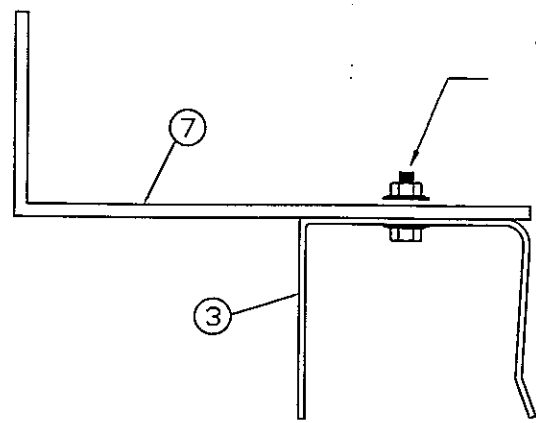
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SHEET 5 OF 9

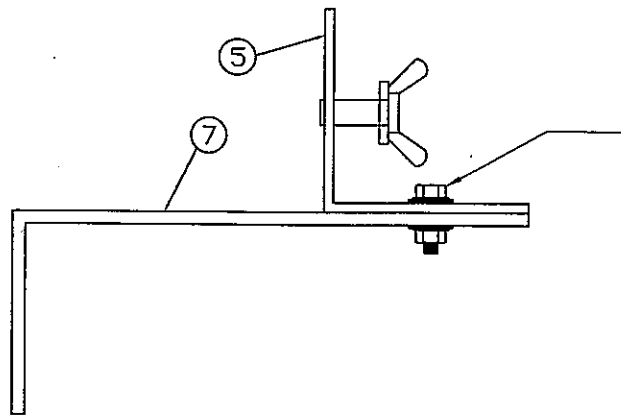
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SELECTED ASSEMBLIES OF COMPONENTS



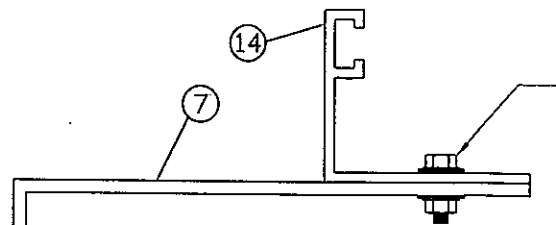
1/4"-20 Sidewalk
Bolt W/Nut @ 12" O.C.
or #14 SMS @ 8" O.C.

17 BUILD-OUT WITH "U" HEADER



1/4"-20 Sidewalk
Bolt W/Nut @ 12" O.C.
or #14 SMS @ 8" O.C.

18 BUILD-OUT WITH STUDDED ANGLE



1/4"-20 Sidewalk
Bolt W/Nut @ 12" O.C.
or #14 SMS @ 8" O.C.

19 BUILD-OUT WITH REV. "E"

SELECTED ANCHORS

- (a) 1/4" X 2-1/2" PANELMATE (MALE)
- (b) 1/4" X 7-3/8" PANELMATE (MALE) FOR BRICK VENEER
- (c) 1/4" X 2-1/2" PANELMATE (FEMALE)
- (d) 1/4" X 2-1/4" SAMMY ANCHOR (FEMALE)
- (e) 1/4" X 2-1/2" QUICKSET CONCRETE ANCHOR
- (f) 1/4" X 2-1/2" TAPCON
- (g) 1/4" X 2-1/2" WOOD LAG SCREW
- (h) 1/4"-20 X 5/8" SLOTTED BRASS BUSHING (FEMALE)
- (i) 1/4"-20 X 2-1/8" PANELMATE INSERT
- (j) 1/4"-20 X 1" TAMPIN
- (k) 1/4"-20 X 1/2" to 2-1/2" SIDEWALK S.S. BOLT

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24 GAUGE STORM-LOC
GALVANIZED SHUTTER SYSTEM

400 WEST McNABB ROAD
FT. LAUDERDALE, FL 33309
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NO.	DESCRIPTION
1	CHANGED OWNER
6	JULY 07 ANR

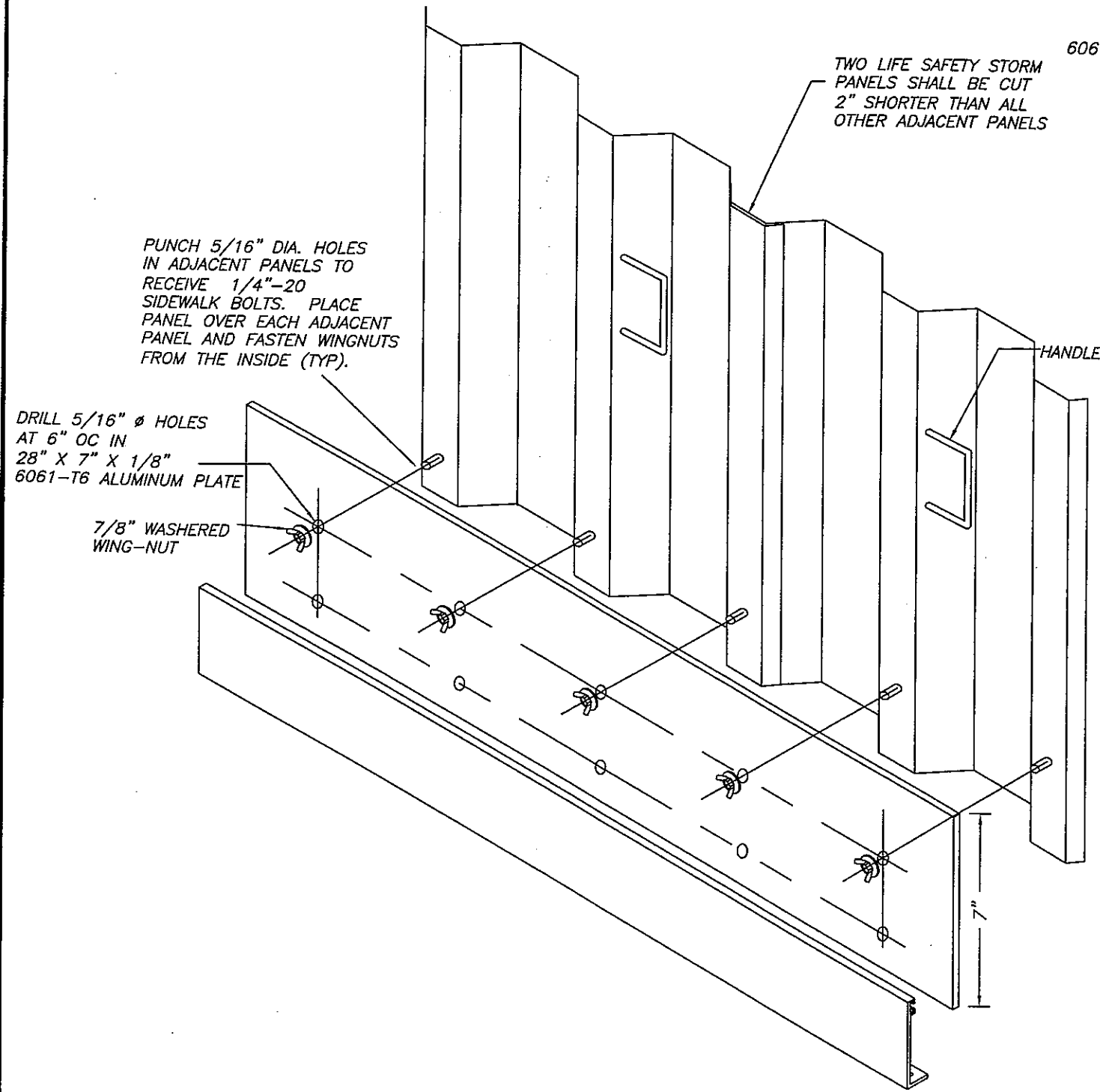
TOWN & COUNTRY
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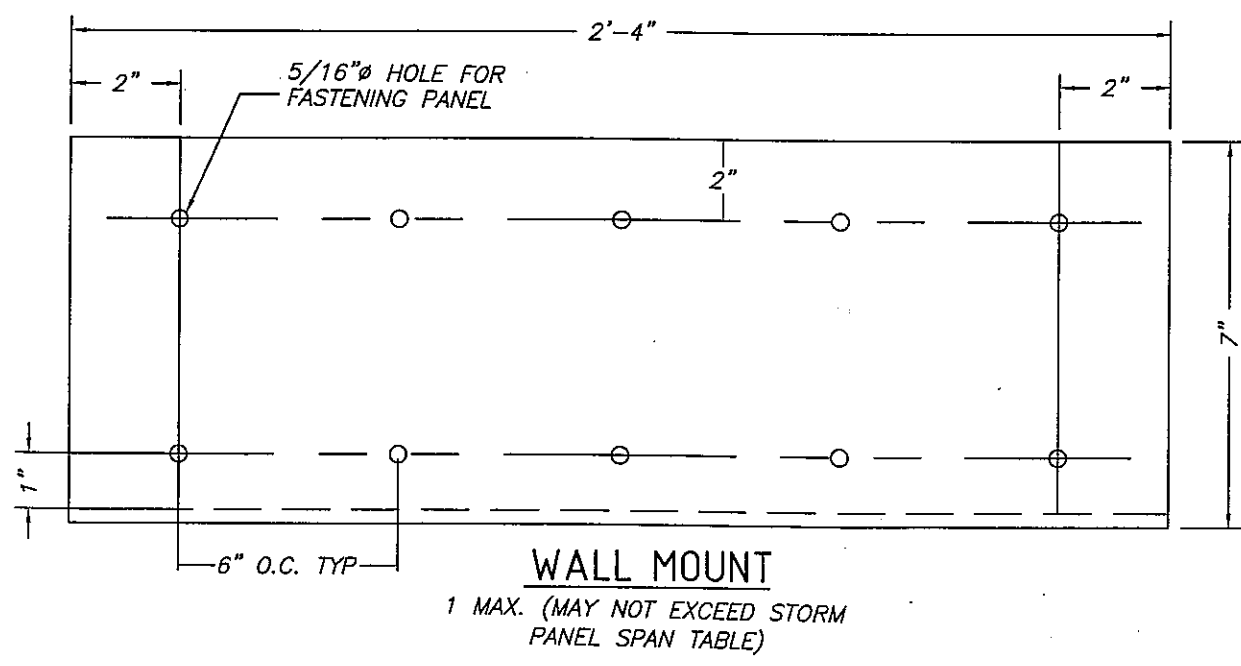
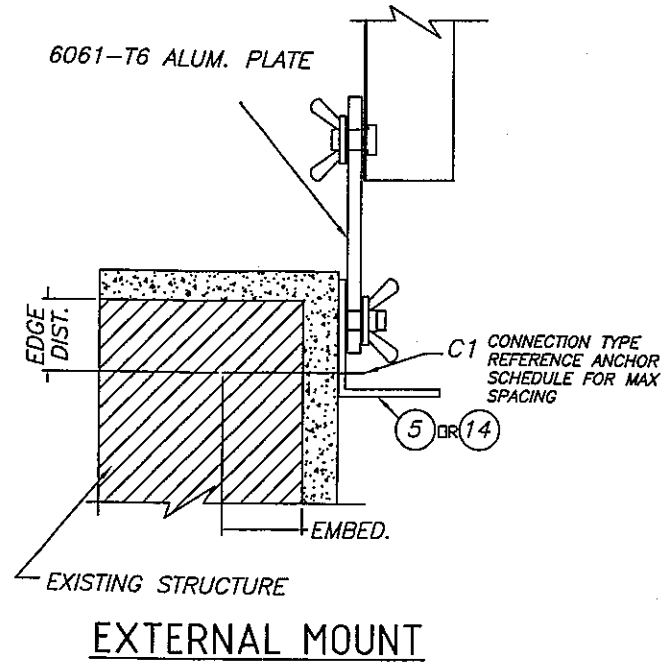
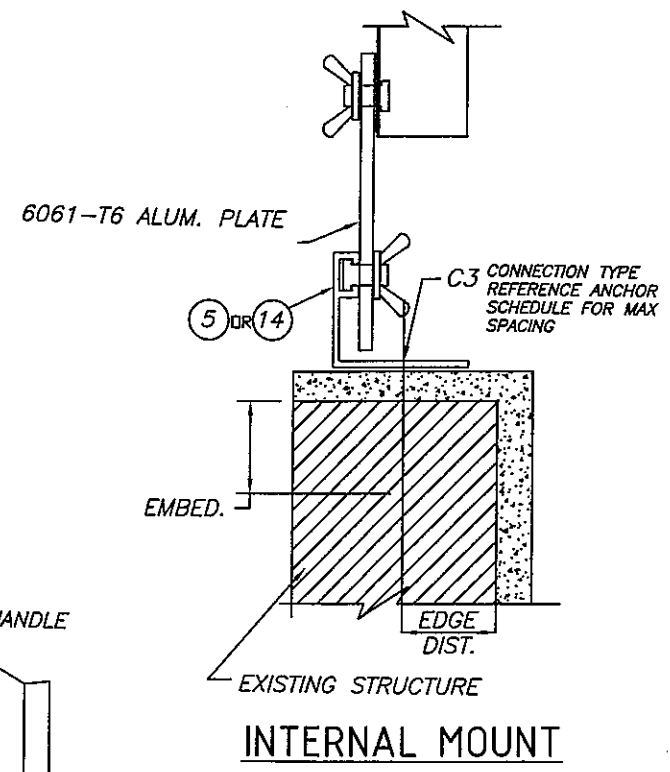
DRILL 5/16" Ø HOLES AT 6" OC IN 28" X 7" X 1/8" 6061-T6 ALUMINUM PLATE

7/8" WASHERED WING-NUT

PUNCH 5/16" DIA. HOLES IN ADJACENT PANELS TO RECEIVE 1/4"-20 SIDEWALK BOLTS. PLACE PANEL OVER EACH ADJACENT PANEL AND FASTEN WINGNUTS FROM THE INSIDE (TYP).

TWO LIFE SAFETY STORM PANELS SHALL BE CUT 2" SHORTER THAN ALL OTHER ADJACENT PANELS

FIRE EGRESS PANEL



WALL MOUNT
1 MAX. (MAY NOT EXCEED STORM PANEL SPAN TABLE)

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1	CHANGED OWNER
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SHEET 7 OF 9

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ANCHOR SCHEDULE

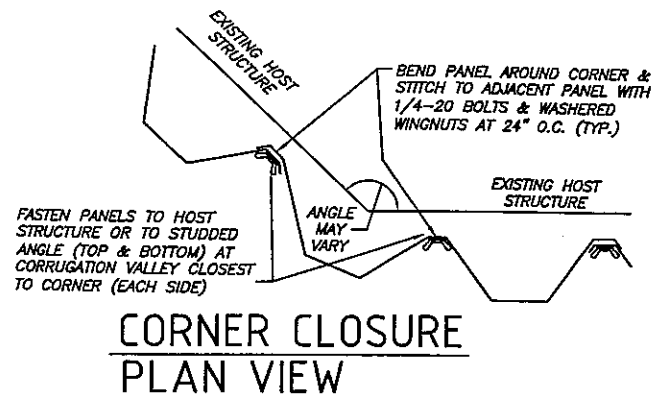
Anchor Schedule, 12" Storm Panel Maximum Allowable Fastener Spacing in Inches

Existing Structure	Anchor Type	Installation Type	Min. 3/4" Edge Distance, Spans 4'-0" to 12'-0"		
			Connection Type		
			C1	C2	C3
Wood	1/4" Ø Lag Screw, 1-27/32" Min. Thread Penetration, Shear Parallel or Perpendicular to Wood Grain	Wall Mount	18	6	5
		Build Out	18	11	10
		Egress Panel	18	12	11
	1/4" Ø Textron Panel-Mate, 1-7/8" Min. Penetration, 1/4-20 Machine Screw for Female, 1/4-20 WWN for Male	Wall Mount	18	11	10
		Build Out	18	18	18
		Egress Panel	18	18	18
	All Points Brass Wood Bushing, 1-1/8" Embedment, 1/4" Ø - 20 x 5/8" Sidewalk Bolt	Wall Mount	7	7	6
		Build Out	14	14	12
		Egress Panel	15	15	14

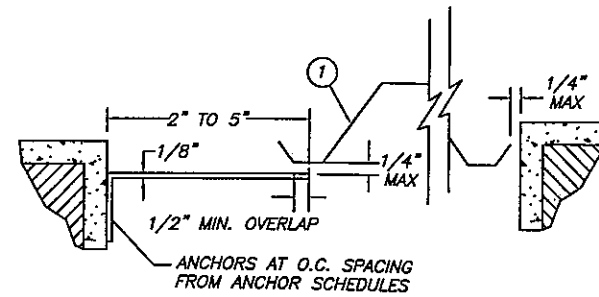
SEE SHEET 9 OF 9 FOR ADDITIONAL ANCHORS

SPAN TABLE

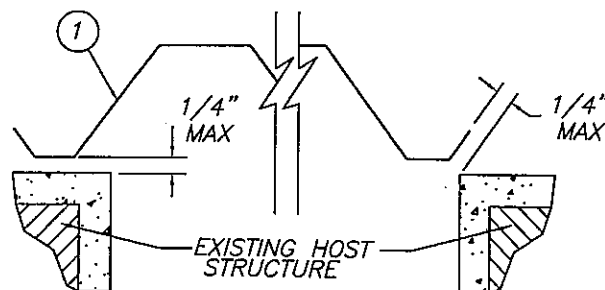
12" Storm Panel Allowable Design Wind Pressure			
Span Length	Wall Mount (P.S.F.)	Build Out (P.S.F.)	Egress Panel (P.S.F.)
4'-0"	+134.0, -145.0	+67.0, -78.0	+60.5, -70.5
5'-0"	+107.2, -116.0	+53.6, -62.4	+48.4, -56.4
6'-0"	+89.3, -96.7	+44.7, -52.0	+40.3, -47.4
7'-0"	+76.6, -82.9	+38.3, -44.6	+34.6, -40.3
8'-0"	+67.0, -72.5	+33.5, -39.0	+30.2, -35.2
9'-0"	+59.6, -64.4	+29.8, -34.7	+26.9, -31.3
10'-0"	+53.6, -58.0	+26.8, -31.2	+24.2, -28.2
11'-0"	+48.7, -52.7	+24.4, -28.4	+22.0, -25.6
12'-0"	+44.7, -48.2	+22.3, -26.0	+20.2, -23.5



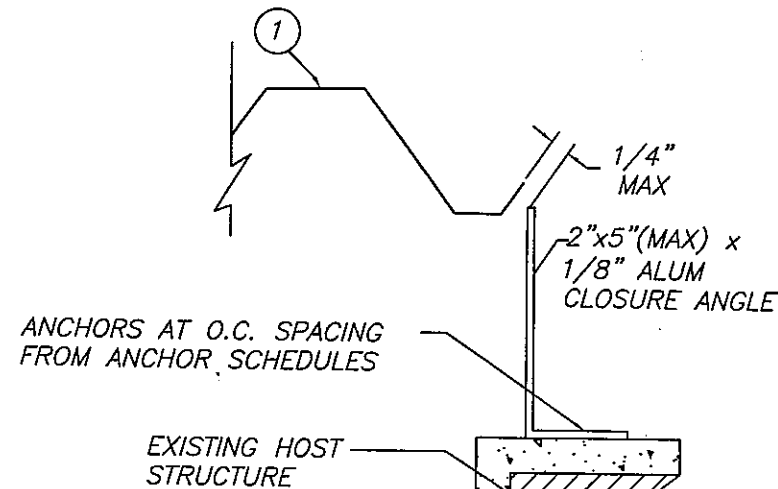
**CORNER CLOSURE
PLAN VIEW**



**TRAP MOUNT CLOSURE
PLAN VIEW**



**WALL MOUNT CLOSURE
PLAN VIEW**



**BUILD-OUT
MOUNT CLOSURE
PLAN VIEW**

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SHEET 8 OF 9

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22 DECEMBER 2008

ANCHOR SCHEDULE TABLES

Anchor Schedule, 12" Storm Panel Maximum Allowable Fastener Spacing in Inches

Existing Structure	Anchor Type	Installation Type	Min. 2" Edge Distance Spans 4'-0" to 12'-0"			Min. 3" Edge Distance Spans 4'-0" to 12'-0"			
			Connection Type			Connection Type			
			C1	C2	C3	C1	C2	C3	
Concrete	3/16" Ø ITW Tapcon 1" Min. Embedment, Min. 3,000 psi Concrete	Wall Mount	X	7	6	X	8	7	
		Build Out	X	13	11	3	16	14	
		Egress Panel	X	14	13	3	18	16	
	3/16" Ø ITW Tapcon 1-3/4" Min. Embedment, Min. 3,000 psi Concrete	Wall Mount	4	8	7	5	10	9	
		Build Out	8	15	14	10	18	17	
		Egress Panel	8	17	15	11	18	18	
	1/4" Ø ITW Tapcon 1" Min. Embedment, Min. 3,000 psi Concrete	Wall Mount	3	12	10	3	15	13	
		Build Out	5	18	18	7	18	18	
		Egress Panel	6	18	18	7	18	18	
	1/4" Ø ITW Tapcon 1-3/4" Min. Embedment, Min. 3,000 psi Concrete	Wall Mount	7	17	16	9	18	18	
		Build Out	14	18	18	17	18	18	
		Egress Panel	15	18	18	18	18	18	
	1/4" Ø Textron Panel-Mates, Male or Female, or Textron Crete-Flex, 1-3/4" Min. Embed., Min. 3,000 psi	Wall Mount	18	13	11	18	16	14	
		Build Out	18	18	18	18	18	18	
		Egress Panel	18	18	18	18	18	18	
	1/4" Ø Powers Zamac Nailin, 1-1/8" Min. Embed., Min. 4,000 psi Concrete	Wall Mount	10	10	9	11	12	11	
		Build Out	18	18	16	18	18	18	
		Egress Panel	18	18	18	18	18	18	
				Min. 1.25" Edge Dist.			Min. 2" Edge Dist.		
	1/4" Ø All Points Solid Set Anchors, 7/8" Min. Embed., 1/4-20 SS Machine Screw, Min. 3,000 psi Concrete	Wall Mount	13	7	6	17	17	15	
		Build Out	18	14	12	18	18	18	
		Egress Panel	18	15	14	18	18	18	

Anchor Schedule, 12" Storm Panel Maximum Allowable Fastener Spacing in Inches

Existing Structure	Anchor Type	Installation Type	Min. 2" Edge Distance Spans 4'-0" to 12'-0"			Min. 3" Edge Distance Spans 4'-0" to 12'-0"			
			Connection Type			Connection Type			
			C1	C2	C3	C1	C2	C3	
Hollow Masonry Block	3/16" Ø ITW Tapcon 1" Min. Embedment	Wall Mount	X	6	5	X	7	6	
		Build Out	X	11	10	X	14	12	
		Egress Panel	X	12	11	X	15	14	
	3/16" Ø ITW Tapcon 1-3/4" Min. Embedment	Wall Mount	3	7	6	4	9	8	
		Build Out	5	14	12	7	17	16	
		Egress Panel	6	15	14	8	18	17	
	1/4" Ø ITW Tapcon 1" Min. Embedment	Wall Mount	X	9	8	X	11	10	
		Build Out	4	17	15	5	18	18	
		Egress Panel	4	18	17	5	18	18	
	1/4" Ø ITW Tapcon 1-3/4" Min. Embedment	Wall Mount	5	12	11	6	15	14	
		Build Out	10	18	18	12	18	18	
		Egress Panel	11	18	18	14	18	18	
	1/4" Ø Textron Panel-Mates, Male or Female, or Textron Crete-Flex, 1-1/4" Min. Embed.	Wall Mount	10	8	7	10	10	9	
		Build Out	18	15	13	18	18	17	
		Egress Panel	18	16	15	18	18	18	
	1/4" Ø Powers Zamac Nailin, 1-1/8" Min. Embed.	Wall Mount	8	8	7	8	10	9	
		Build Out	14	15	13	16	18	17	
		Egress Panel	16	17	15	17	18	18	
				Min. 1.25" Edge Dist.			Min. 2" Edge Dist.		
	1/4" Ø All Points Solid Set Anchors, 7/8" Min. Embed., 1/4-20 SS Machine Screw	Wall Mount	8	6	5	15	10	9	
		Build Out	16	12	10	18	18	17	
		Egress Panel	18	13	12	18	18	18	

HR
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Allen N. Reeves, P.E.
 Texas License No. 84141
 Florida License No. 19354

12" EFFECTIVE WIDTH
 24 GAUGE STORM-LOC
 GALVANIZED SHUTTER SYSTEM

400 WEST McNABB ROAD
 FT. LAUDERDALE, FL 33309
 Tel: (954) 970-7700

TOWN & COUNTRY INDUSTRIES

DATE: 28 NOV. 2006

DRAWN: BWM CHECKED: ANR

PROJECT NUMBER
 0610009 &
 0707009
 0812002

SHEET 9 OF 9

Allen N. Reeves
 22 DECEMBER 2008