



**BUILDING CODE COMPLIANCE OFFICE**  
METRO-DADE FLAGLER BUILDING  
140 WEST FLAGLER STREET, SUITE 1603  
MIAMI, FLORIDA 33130-1563  
(305) 375-2901 FAX (305) 375-2908

**PRODUCT CONTROL NOTICE OF ACCEPTANCE**

**Rollac Shutter of Texas, Inc.**  
**10800 Blankhawk Blvd**  
**Houston TX 77089**

**CONTRACTOR LICENSING SECTION**  
(305) 375-2527 FAX (305) 375-2558

**CONTRACTOR ENFORCEMENT SECTION**  
(305) 375-2966 FAX (305) 375-2908

**PRODUCT CONTROL DIVISION**  
(305) 375-2902 FAX (305) 372-6339

Your application for Product Approval of:

***Roll Up Shutter***

under Chapter 8 of the Code of Miami-Dade County governing the use of Alternate Materials and Types of Construction, and completely described herein, has been recommended for acceptance by the Miami-Dade County Building Code Compliance Office (BCCO) under the conditions specified herein.

This approval shall not be valid after the expiration date stated below. BCCO reserves the right to secure this product or material at anytime from a jobsite or manufacturer's plant for quality control testing.

If this product or material fails to perform in the approved manner, BCCO may revoke, modify, or suspend the use of such product or material immediately. BCCO reserves the right to revoke this approval, if it is determined BCCO that this product or material fails to meet the requirements of the South Florida Building Code.

The expense of such testing will be incurred by the manufacturer.

**Acceptance No.:** 99-0930.05

**Expires:** 05/26/2003

Raul Rodriguez  
Chief Product Control Division

**THIS IS THE COVERSHEET, SEE ADDITIONAL PAGES FOR SPECIFIC AND GENERAL CONDITIONS**

**BUILDING CODE & PRODUCT REVIEW COMMITTEE**

This application for Product Approval has been reviewed by the BCCO and approved by the Building Code and Product Review Committee to be used in Dade County, Florida under the conditions set forth above.

Francisco J. Quintana, R.A.  
Director

Miami-Dade County  
Building Code Compliance Office

**Approved:** 05/26/2000



**Rollac Shutter of Texas, Inc.**

**ACCEPTANCE No. :** 99-0930.05

**APPROVED :** MAY 26 2000

**EXPIRES :** MAY 26 2003

**NOTICE OF ACCEPTANCE: SPECIFIC CONDITIONS**

**1. SCOPE**

This approves an aluminum slat roll-up shutter, as described in Section 2 of this Notice of Acceptance, designed to comply with the South Florida Building Code, 1994 Edition for Miami-Dade County (SFBC). For the locations where the pressure requirements, as determined by SFBC Chapter 23, do not exceed the Design Pressure Rating values indicated in the approved drawings.

**2. PRODUCT DESCRIPTION**

The **Rollac RLL3 Roll-Up Shutter** and its components shall be constructed in strict compliance with the following documents: Drawing No. 99-135, titled "Roll-Up Shutter" prepared by Tilteco, Inc., dated 04/16/99, with latest revision on 12/20/99, sheets 1 through 13 of 13. They bear the Miami-Dade County Product Control Approval stamp with the Notice of Acceptance number and approval date by the Miami-Dade County Product Control Division. These documents shall hereinafter be referred to as the approved drawings.

**3. LIMITATIONS**

**3.1** Minimum slat engagement shall be 1.163".

**3.2** Minimum separation from interior of slat to glass being protected shall be as shown on sheet 9 of 13.

**3.3** The operating mechanism, not part of this approval shall be certified by a recognized testing agency.

**3.4** All permanent set components, included but not limited to embedded anchor bolts, threaded cones, metal shields, etc., must be protected against corrosion, contamination and damage at all time.

**4. INSTALLATION**

The Aluminum Slat Roll-Up Shutter and its components shall be installed in strict compliance with the approved drawings.

**5. LABELING**

Each shutter shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved".

**6. BUILDING PERMIT REQUIREMENTS**

**6.1** Application for building permit shall be accompanied by copies of the following:

**6.1.1** This Notice of Acceptance.

**6.1.2** Duplicate copies of the approved drawings, as identified in Section 2 of this Notice of Acceptance, clearly marked to show the components selected for the proposed installation.

**6.1.3** Any other documents required by the Building Official or the South Florida Building Code (SFBC) in order to properly evaluate the installation of this system.



Candido F. Font, P.E., Sr. Product Control Examiner  
Product Control Division

**Rollac Shutter of Texas, Inc.**

**ACCEPTANCE No. : 99-0930.05**

**APPROVED : MAY 26 2000**

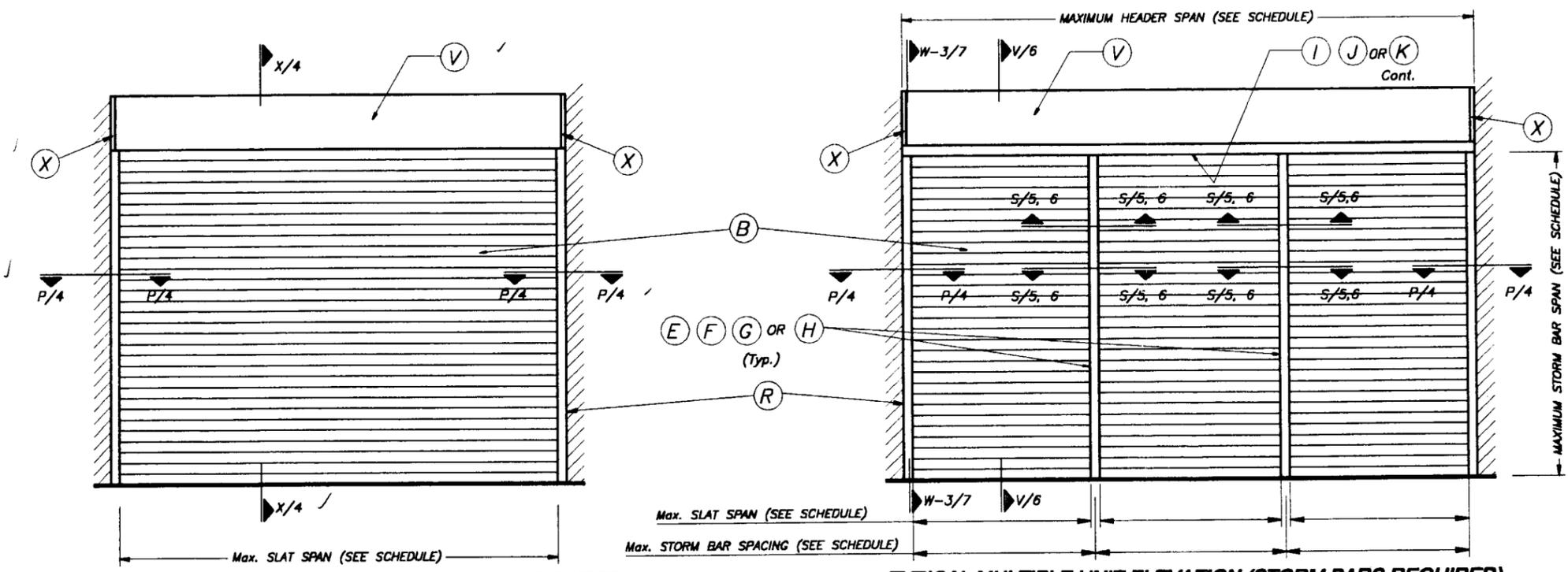
**EXPIRES : MAY 26 2003**

**NOTICE OF ACCEPTANCE: STANDARD CONDITIONS**

1. Renewal of this Acceptance (approval) shall be considered after a renewal application has been filed and the original submitted documents, including test-supporting data, engineering documents, are no older than eight (8) years.
2. Any and all approved products shall be permanently labeled with the manufacturer's name, city, state, and the following statement: "Miami-Dade County Product Control Approval", or as specifically stated in the specific conditions of this Acceptance.
3. Renewals of Acceptance will not be considered if:
  - a. There has been a change in the South Florida Building Code affecting the evaluation of this product and the product is not in compliance with the code changes.
  - b. The product is no longer the same product (identical) as the one originally approved.
  - c. If the Acceptance holder has not complied with all the requirements of this acceptance, including the correct installation of the product.
  - d. The engineer who originally prepared, signed and sealed the required documentation initially submitted, is no longer practicing the engineering profession.
4. Any revision or change in the materials, use, and/or manufacture of the product or process shall automatically be cause for termination of this Acceptance, unless prior written approval has been requested (through the filing of a revision application with appropriate fee) and granted by this office.
5. Any of the following shall also be grounds for removal of this Acceptance:
  - a. Unsatisfactory performance of this product or process.
  - b. Misuse of this Acceptance as an endorsement of any product, for sales, advertising or any other purposes.
6. The Notice of Acceptance number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the Notice of Acceptance is displayed, then it shall be done in its entirety.
7. A copy of this Acceptance as well as approved drawings and other documents, where it applies, shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at all time. The engineer need not reseal the copies.
8. Failure to comply with any section of this Acceptance shall be cause for termination and removal of Acceptance.
9. This Notice of Acceptance consists of pages 1, 2 and this last page 3.

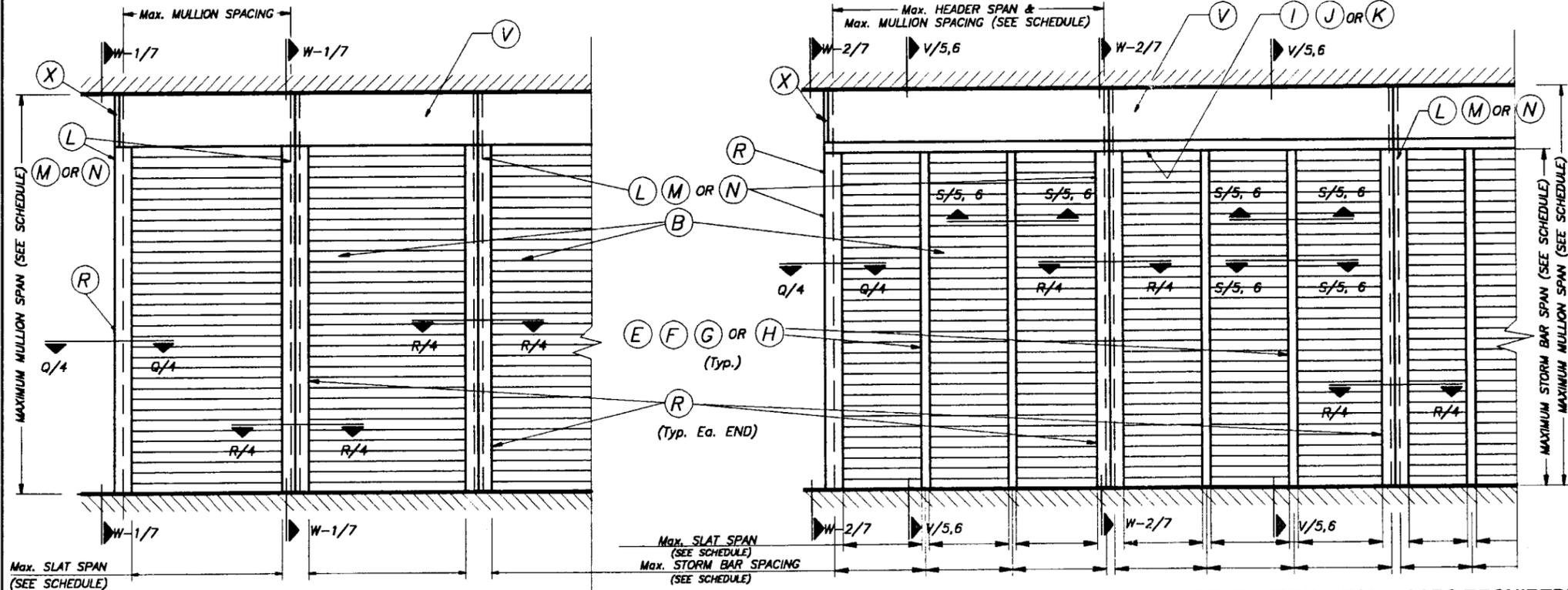
**END OF THIS ACCEPTANCE**

  
\_\_\_\_\_  
Candido F. Font, P.E., Sr. Product Control Examiner  
Product Control Division



**TYPICAL SINGLE UNIT ELEVATION (NO STORM BARS REQUIRED)**  
NOTE: SEE SHEET 2 & 3 OF 13 FOR COMPONENTS NOMENCLATURE.

**TYPICAL MULTIPLE UNIT ELEVATION (STORM BARS REQUIRED)**  
NOTE: SEE SHEET 2 & 3 OF 13 FOR COMPONENTS NOMENCLATURE.



**TYPICAL CONSECUTIVE SINGLE UNIT ELEVATION (NO STORM BARS REQUIRED)**  
NOTE: SEE SHEET 2 & 3 OF 13 FOR COMPONENTS NOMENCLATURE.

**TYPICAL CONSECUTIVE MULTIPLE UNIT ELEVATION (STORM BARS REQUIRED)**  
NOTE: SEE SHEET 2 & 3 OF 13 FOR COMPONENTS NOMENCLATURE.

**GENERAL NOTES:**

- ROLL-UP SHUTTER HAS BEEN DESIGNED IN ACCORDANCE WITH THE 1994 MIAMI-DADE COUNTY EDITION OF THE SOUTH FLORIDA BUILDING CODE. DESIGN WIND LOADS SHALL BE AS PER SECTION 8 OF ASCE 7-88, WITH 110 m.p.h. BASIC WIND SPEED. ROLL-UP SHUTTER'S ADEQUACY FOR IMPACT AND FATIGUE RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTIONS 2315 & 2314 RESPECTIVELY OF THE ABOVE MENTIONED CODE AS PER HURRICANE TESTING LAB REPORTS # 0187-0407-99, 0187-0423-99, 0187-0413-99, 0187-0414-99.
  - ALL ALUMINUM EXTRUSIONS SHALL BE 6063-T5 ALLOY (UNLESS OTHERWISE NOTED).
  - ALL SCREWS TO BE STAINLESS STEEL 304 OR 316 SERIES W/50 KSI YIELD POINT AND 90 KSI TENSILE STRENGTH OR CORROSION RESISTANT COATED CARBON STEEL AS PER DIN 50018.
  - BOLTS TO BE 2024-T4 ALUMINUM ALLOY, GALVANIZED OR STAINLESS STEEL WITH 36 KSI MINIMUM YIELD POINT.
  - STORM BARS AT FLOOR OR 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.
  - ANCHORS TO WALL FOR SIDE RAILS & BOX CONNECTION SHALL BE AS FOLLOWS: (UNLESS OTHERWISE NOTED)
    - (A) TO EXISTING POURED CONCRETE: MIN. 3000 p.s.i. COMPRESSIVE STRENGTH.
      - 1/4" # TAPCON ANCHORS AS MANUFACTURED BY I.T.W./BUILDEX OR ELCO TEXTRON
    - NOTES:
      - A.1) MINIMUM EMBEDMENT OF TAPCON ANCHORS INTO POURED CONCRETE SHALL BE 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 PANELS, OR PAVERS BE FOUND ON THE EXISTING WALL OR FLOOR, ANCHORS SHALL BE LONG ENOUGH TO REACH THE MAIN STRUCTURE BEHIND SUCH PANELS.
    - (B) TO EXISTING CONCRETE BLOCK WALL:
      - 1/4" # TAPCON ANCHORS, AS MANUFACTURED BY I.T.W./BUILDEX OR ELCO TEXTRON
    - NOTES:
      - B.1) MINIMUM EMBEDMENT OF TAPCON ANCHORS, INTO THE CONCRETE BLOCK UNIT SHALL BE 1 1/4".
      - B.2) IN CASE THAT PRECAST STONE OR PRECAST CONCRETE PANELS BE FOUND ON THE EXISTING WALL, ANCHORS SHALL BE LONG ENOUGH TO REACH THE MAIN STRUCTURE BEHIND SUCH PANELS.
    - (C) ANCHORS SHALL BE INSTALLED FOLLOWING ALL OF THE RECOMMENDATIONS AND SPECIFICATIONS OF THE ANCHOR'S MANUFACTURER.
    - (D) ANCHORS REQUIRED FOR STORM BARS, HEADERS & MULLION CONNECTIONS SHALL BE AS SPECIFIED ON APPLICABLE SECTIONS SHOWN ON SHEETS 5 & 6 OF 13 RESPECTIVELY. POWER BOLTS & CALK-IN ANCHORS TO BE AS MANUFACTURED BY POWERS RAWL FASTENING, INC. MINIMUM EDGE DISTANCE AND SPACING FOR ABOVE MENTIONED ANCHORS SHALL BE AS INDICATED BELOW OR AS SHOWN ON CORRESPONDING DETAILS FOR EACH SHUTTER COMPONENT INSTALLATION IN THIS DRAWING, WHICHEVER IS LARGER (MORE CRITICAL).
- | ANCHOR          | SPACING | EDGE DISTANCE |
|-----------------|---------|---------------|
| 3/8" POWER BOLT | 3 3/4"  | 4 1/2"        |
| 1/4" CALK-IN    | 2 1/2"  | 3"            |
| 1/4" TAPCON     | 3"      | 2 1/2"        |
- 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.
  - SHUTTER MANUFACTURER'S STAMP SHALL BE PLACED ON THE EXPOSED SURFACE OF THE SIDE RAIL APPROXIMATELY 4" ABOVE THE BOTTOM OF SUCH RAIL. STAMP SHALL READ AS FOLLOWS:  
ROLLAC SHUTTERS OF TEXAS, INC.  
HOUSTON, TX.  
MIAMI-DADE COUNTY PRODUCT CONTROL APPROVED.
  - ROLL-UP MECHANISM NOT PART OF THIS APPROVAL, BUT SHALL BE CERTIFIED BY AN INDEPENDENT TESTING AGENCY.

APPROVED AS COMPLYING WITH THE  
SOUTH FLORIDA BUILDING CODE  
DATE May 20, 2000  
BY [Signature]  
PRODUCT CONTROL DIVISION  
BUILDING CODE COMPLIANCE OFFICE  
ACCEPTANCE NO. 99-0930.05

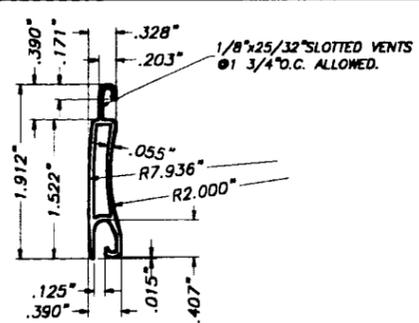
MIAMI-DADE COUNTY

*Drawn by*  
4/4/00

**TILECO Inc.**  
TILLIT TESTING & ENGINEERING COMPANY  
6595 N.W. 36th St., Ste. 217, VEROBEACH GARDENS, FL 33166  
Phone: (305)871-1530 Fax: (305)871-1531  
WALTER A. TILLIT Jr., P. E.  
FLORIDA Lic. # 44167

ROLL-UP SHUTTER		AS SHOWN SCALE			
Rollac Shutters of Texas, Inc.		4/16/99 DATE			
10800 Blackhawk Blvd. Houston, TX 77089		99 - 135 DRAWING No			
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	GENERAL	12/20/99	3		
2			4		

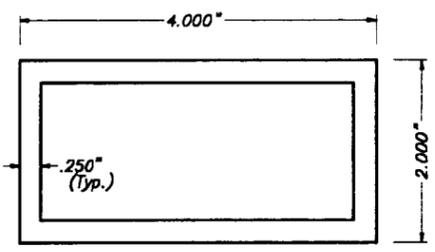
SHEET 1 OF 13



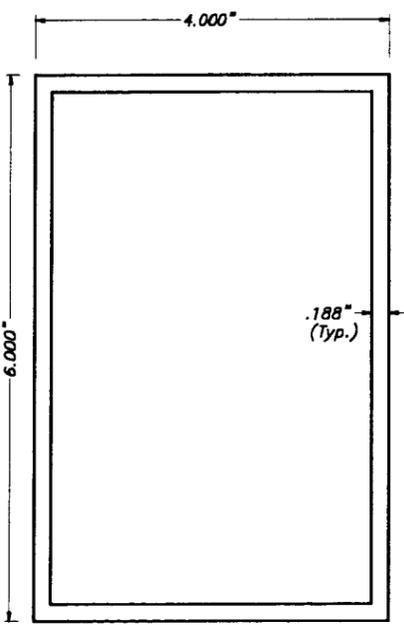
**(B) TYPE 1 SLAT:**

RLL-3 SLAT  
EXTRUDED ALUMINUM  
6063-T5 ALUMINUM ALLOY  
SCALE: 1/2" = 1"

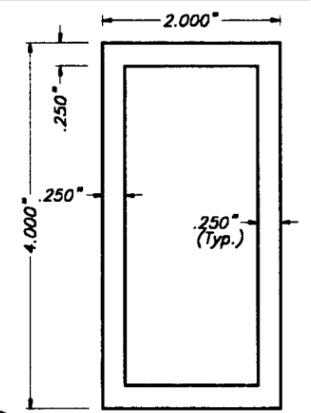
**NOTE:**  
TYPE 1 SLAT SHALL BE INSTALLED  
W/SIDE LOCKS AT EVERY OTHER SLAT.



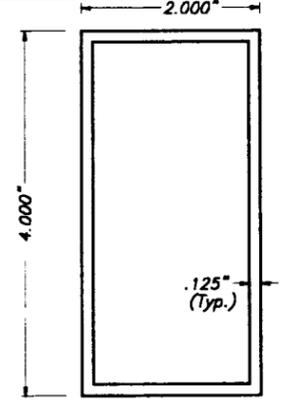
**(I) TYPE 1 HEADER:**  
4" HEAVY EXTRUDED HEADER  
6063-T6 ALUMINUM ALLOY  
SCALE: 1/2" = 1"



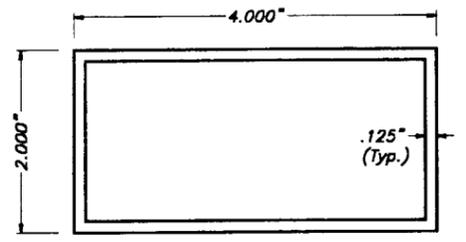
**(L) TYPE 1 MULLION:**  
6" EXTRUDED MULLION  
6063-T5 ALUMINUM ALLOY  
SCALE: 1/2" = 1"



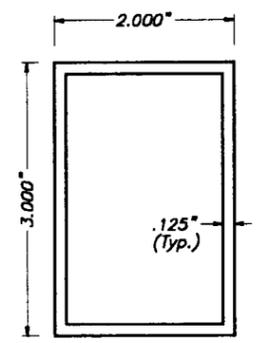
**(E) TYPE 1 STORM BAR:**  
4" HEAVY EXTRUDED STORM BAR  
6063-T6 ALUMINUM ALLOY  
SCALE: 1/2" = 1"



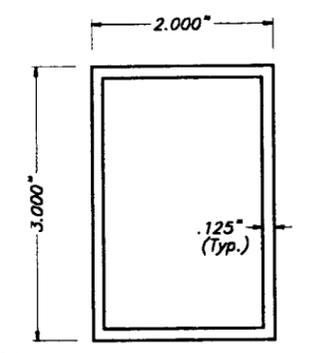
**(F) TYPE 2 STORM BAR:**  
4" EXTRUDED STORM BARS  
6063-T6 ALUMINUM ALLOY  
SCALE: 1/2" = 1"



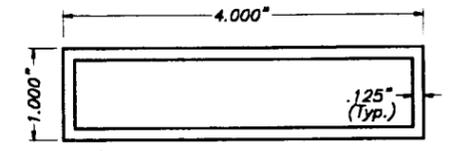
**(J) TYPE 2 HEADER:**  
4" EXTRUDED HEADER  
6063-T6 ALUMINUM ALLOY  
SCALE: 1/2" = 1"



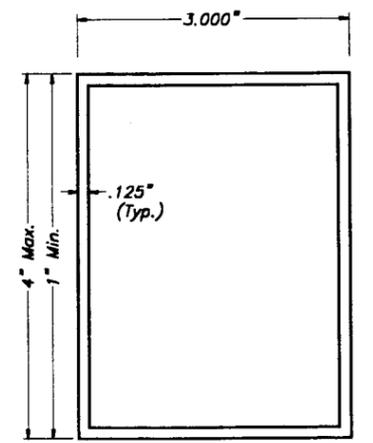
**(N) TYPE 3 MULLION:**  
3" EXTRUDED MULLION  
6063-T6 ALUMINUM ALLOY  
SCALE: 1/2" = 1"



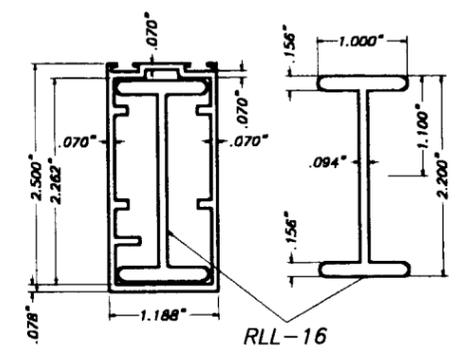
**(G) TYPE 3 STORM BAR:**  
3" EXTRUDED STORM BARS  
6063-T6 ALUMINUM ALLOY  
SCALE: 1/2" = 1"



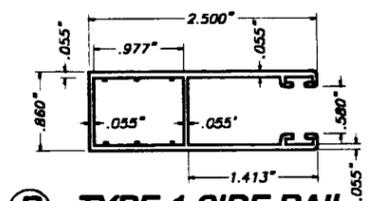
**(K) TYPE 3 HEADER:**  
1"x4" EXTRUDED HEADER  
6063-T5 ALUMINUM ALLOY  
SCALE: 1/2" = 1"



**(Y) BUILD-OUT TUBES**  
3"x4" EXTRUDED TUBE  
6063-T5 ALUMINUM ALLOY  
SCALE: 1/2" = 1"



**(H) TYPE 4 STORM BAR:**  
RLL-15 + RLL-16 EXTRUDED STORM BAR  
6063-T5 ALUMINUM ALLOY  
SCALE: 1/2" = 1"



**(R) TYPE 1 SIDE RAIL**  
RLL-32 SIDE RAIL  
6063-T5 Alum. ALLOY  
SCALE: 1/2" = 1"

APPROVED AS COMPLYING WITH THE  
SOUTH FLORIDA BUILDING CODE  
DATE May 28, 2000  
BY [Signature]  
PRODUCT CONTROL DIVISION  
BUILDING CODE COMPLIANCE OFFICE  
ACCEPTANCE NO. 99-0930.05

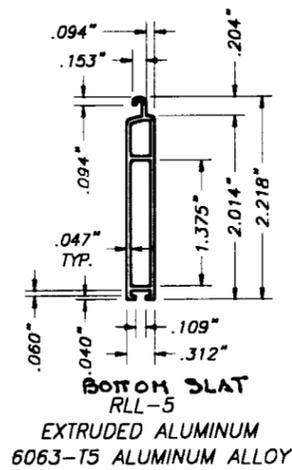
MIAMI-DADE COUNTY

[Signature]  
4/4/0

**TILECO inc.**  
TILLIT TESTING & ENGINEERING COMPANY  
6595 N.W. 38th St., Ste. 217, VIRGINIA GARDENS, FL 33166  
Phone: (305)871-1530 Fax: (305)871-1531  
WALTER A. TILLIT Jr. P. E.  
FLORIDA Lic. # 44167

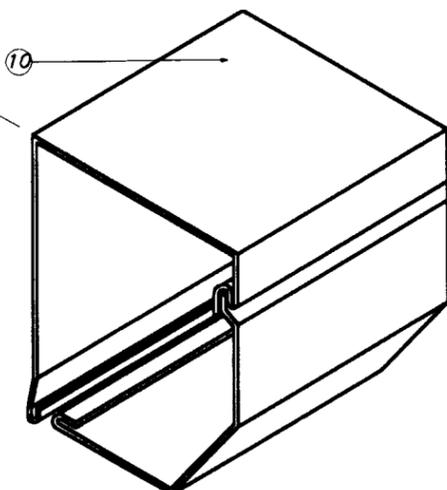
ROLL-UP SHUTTER			AS SHOWN SCALE		
Rollac Shutters of Texas, Inc.			4/16/99 DATE		
10800 Blackhawk Blvd. Houston, TX 77089			99 - 135 DRAWING No		
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	GENERAL	12/20/98	3		
2			4		

SHEET 2 OF 13



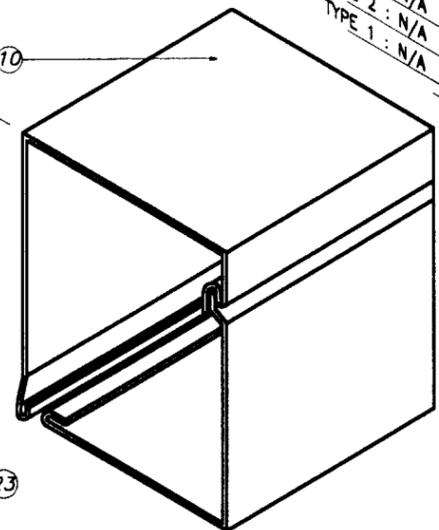
**14** DETAIL

- TYPE 10 : 12"
- TYPE 9 : 10"
- TYPE 8 : 9"
- TYPE 7 : 8"
- TYPE 6 : 7"
- TYPE 5 : 6.5"
- TYPE 4 : 6"
- TYPE 3 : N/A
- TYPE 2 : N/A
- TYPE 1 : N/A

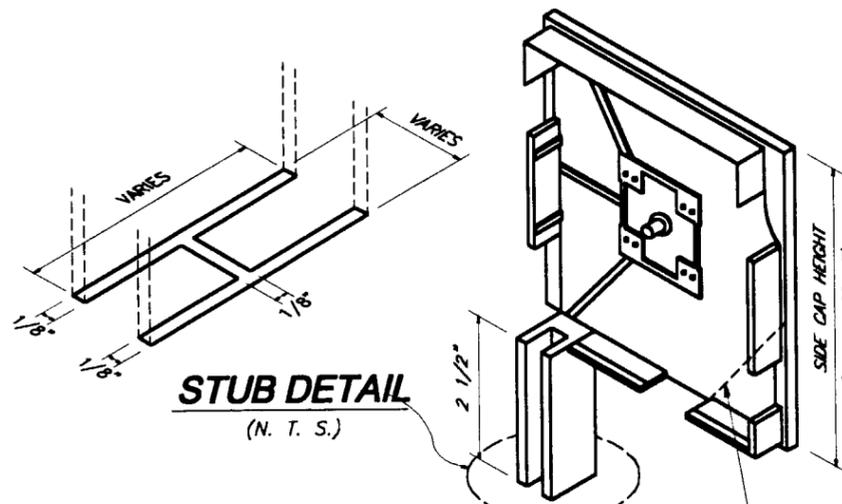


**RV 45 & RV 45/S**  
HOUSINGS

- TYPE 10 : N/A
- TYPE 9 : 10"
- TYPE 8 : 9"
- TYPE 7 : 8"
- TYPE 6 : 7"
- TYPE 5 : 6.5"
- TYPE 4 : 6"
- TYPE 3 : 5.5"
- TYPE 2 : 5"
- TYPE 1 : 4"



**RV 90 HOUSING**



**STUB DETAIL**  
(N. T. S.)

**⊗ SIDE CAPS:**  
**BK 90, BK 45 & BK 45/S**

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 - SIDE/END CAP
- ⑨ - HOUSING(FRONT & BOTTOM), 0.040" THICK
- ⑩ - SIDE RAIL
- ⑪ - PLUG-BUTTONS
- ⑫ - ALUMINUM SLATS
- ⑬ - BASE SLAT
- ⑭ - PLASTIC STOPS(OPTIONAL)
- ⑮ - SIDE LOCKS(OPTIONAL)
- ⑯ - STAPLES(OPTIONAL)
- ⑰ - SPRINGLOCK HANGER
- ⑱ - 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

SIDE CAP HEIGHT SCHEDULE		
TYPE	90°	45°
1	4.0"	N/A
2	5.0"	N/A
3	5.5"	N/A
4	6.0"	6.0"
5	6.5"	6.5"
6	7.0"	7.0"
7	8.0"	8.0"
8	9.0"	9.0"
9	10.0"	10.0"
10	N/A	12.0"

N/A = NOT APPLICABLE

APPROVED AS COMPLYING WITH THE

SOUTH FLORIDA BUILDING CODE

DATE May 26, 2000

BY [Signature]

PRODUCT CONTROL DIVISION

BUILDING CODE COMPLIANCE OFFICE

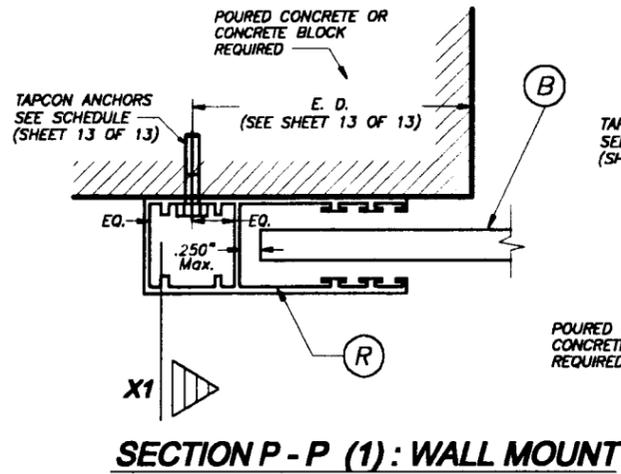
ACCEPTANCE NO. 99-0930.05

MIAMI-DADE COUNTY

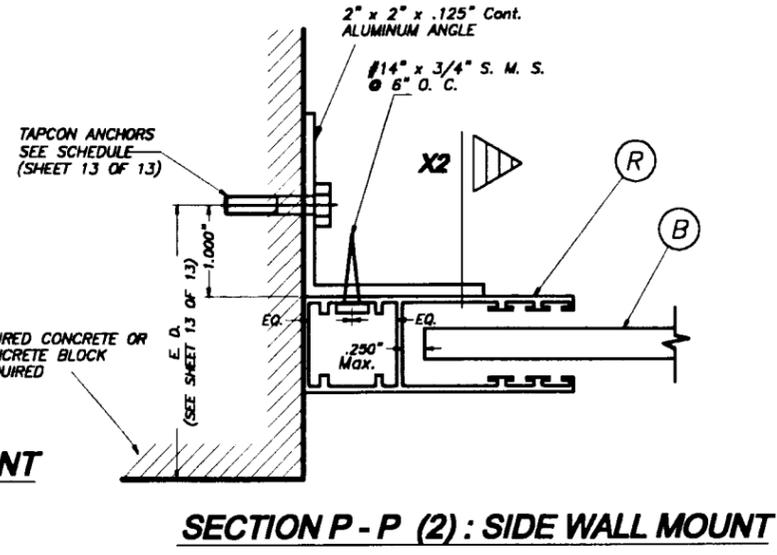
**Ⓥ** BOX COMPONENTS AND ASSEMBLY DETAIL

*Walters*  
4/4/00

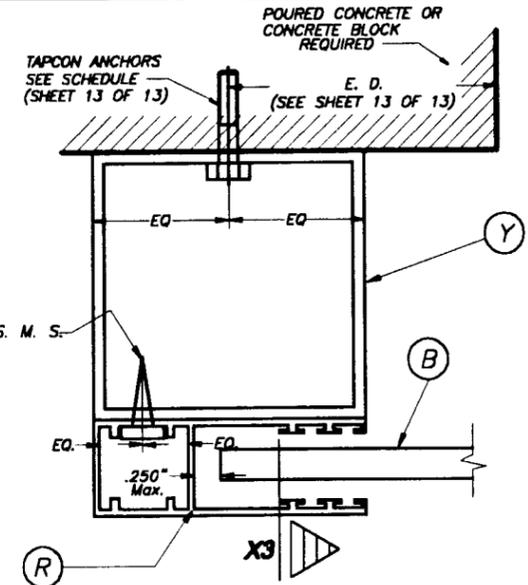
<p><b>TILECO Inc.</b> TILLIT TESTING &amp; ENGINEERING COMPANY 6595 W.W. 36th St., Ste. 217, VIRGINIA GARDENS, FL 33166 Phone : (305)871-1530 . Fax : (305)871-1531</p>		ROLL-UP SHUTTER		AS SHOWN SCALE	
		<p><b>Rollac Shutters of Texas, Inc.</b> 10800 Blackhawk Blvd. Houston, TX 77089</p>		4/16/99 DATE	
<p>WALTER A. TILLIT Jr. P. E. FLORIDA Lic. # 44167</p>		<p>99 - 135 DRAWING No</p>		SHEET 3 OF 13	
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	GENERAL	12/20/99	3		
2			4		



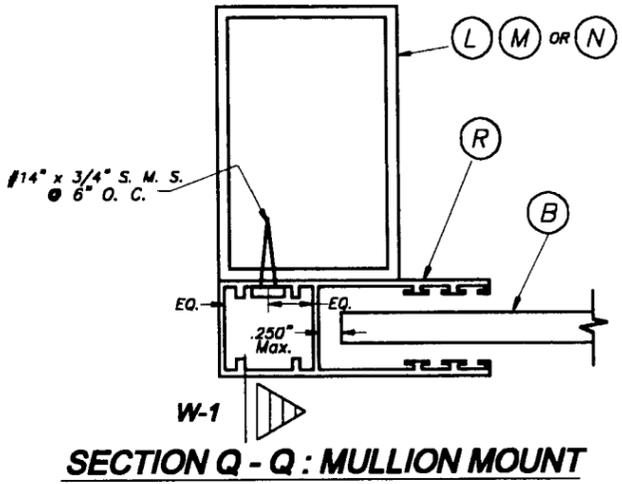
SCALE: FULL



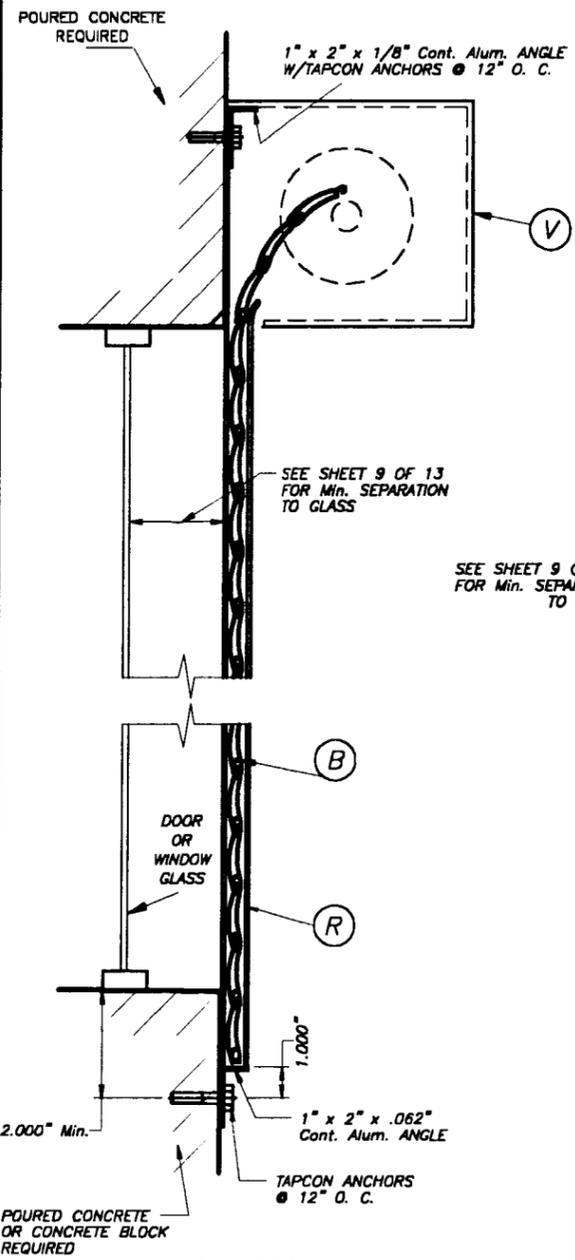
SCALE: 1/2\"/>



SCALE: 1/2\"/>

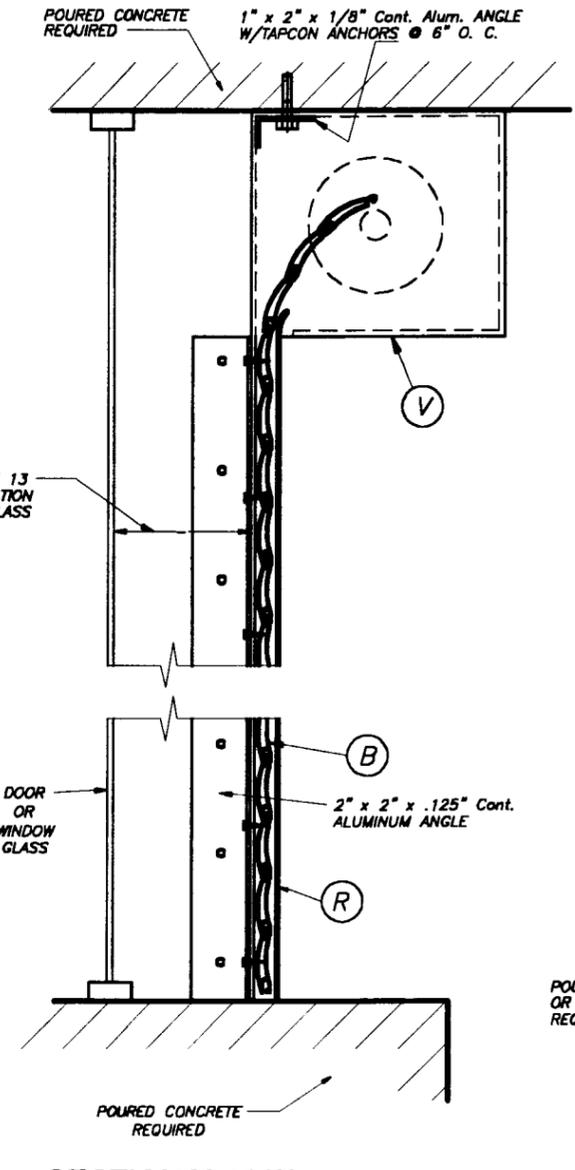


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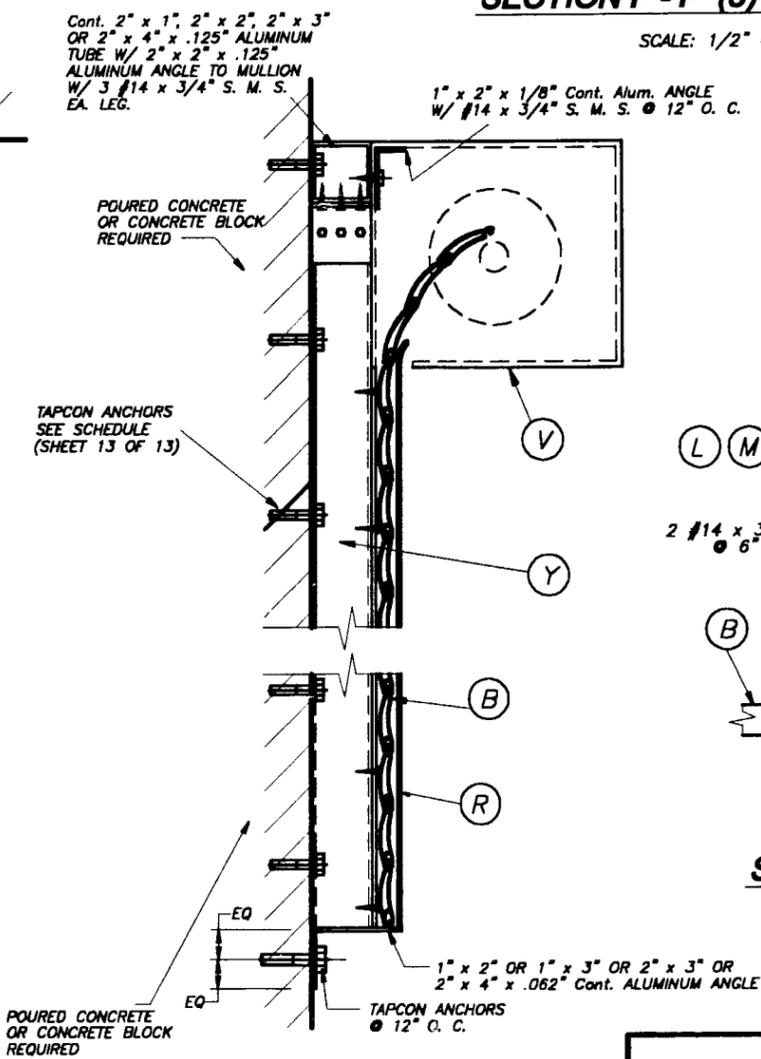
SECTION X-X (1)

N. T. S.



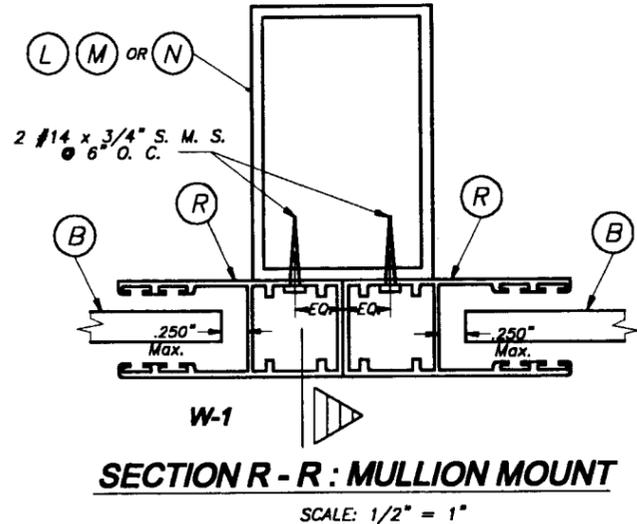
SECTION X-X (2)

N. T. S.



SECTION X-X (3)

N. T. S.  
*Drawn*  
 4/4/00



SECTION R-R: MULLION MOUNT

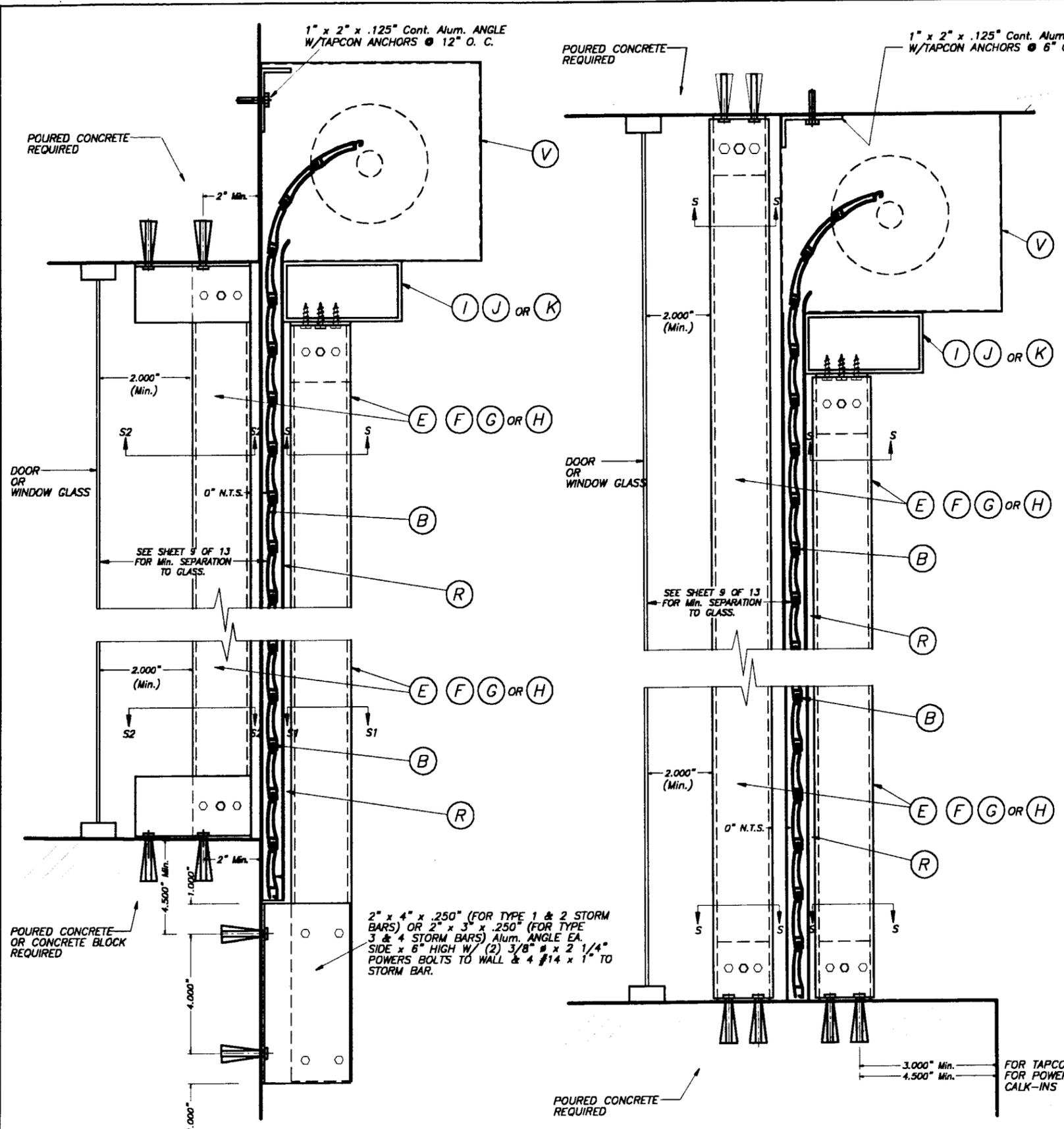
SCALE: 1/2\"/>

APPROVED AS COMPLYING WITH THE  
 SOUTH FLORIDA BUILDING CODE  
 DATE: *Aug 26, 2000*  
 BY: *[Signature]*  
 PRODUCT CONTROL DIVISION  
 BUILDING CODE COMPLIANCE OFFICE  
 ACCEPTANCE NO. *99-0930.05*

MIAMI-DADE COUNTY

**TILECO inc.**  
 TILLIT TESTING & ENGINEERING COMPANY  
 6595 N.W. 38th St., Ste. 217, VIRGINIA GARDENS, FL 33188  
 Phone: (305)871-1530 Fax: (305)871-1531  
 WALTER A. TILLIT Jr. P. E.  
 FLORIDA Lic. # 44167

ROLL-UP SHUTTER						AS SHOWN SCALE
Rollac Shutters of Texas, Inc.						4/16/99 DATE
10800 Blackhawk Blvd. Houston, TX 77089						99 - 135 DRAWING No
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	SHEET 4 OF 13
1	GENERAL	12/20/98	3			
2			4			



**WALL MOUNTING: SECTION V - V (1)**

SCALE: 1/4" = 1"

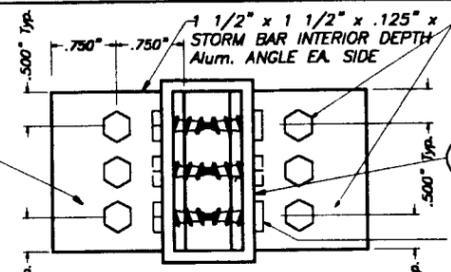
**CEILING & FLOOR MOUNTING: SECTION V - V (2)**

SCALE: 1/4" = 1"

*David [Signature]*  
4/4/00

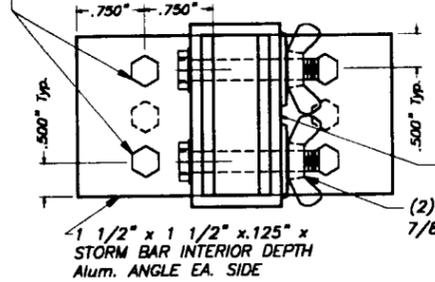
FOR INSTALLATIONS INTO HEADERS (I, J OR K) USE (2) #14 x 3/4" S. M. S. EA. SIDE FOR DESIGN LOADS UP TO 80.0 psf & (3) #14 x 3/4" S. M. S. EA. SIDE FOR GREATER DESIGN LOADS.

FOR INSTALLATION INTO CONCRETE, USE (2) 1/4" # x 7/8" CALK-IN ANCHORS EA. SIDE FOR DESIGN LOADS UP TO 80 psf & (2) 3/8" # x 1 1/4" CALK-INS EA. SIDE FOR GREATER DESIGN LOADS. \* FOR INSTALLATIONS INTO HEADERS (I, J OR K) USE (2) #14 x 3/4" S. M. S. EA. SIDE FOR DESIGN LOADS UP TO 80.0 psf & (3) #14 x 3/4" S. M. S. EA. SIDE FOR GREATER DESIGN LOADS.



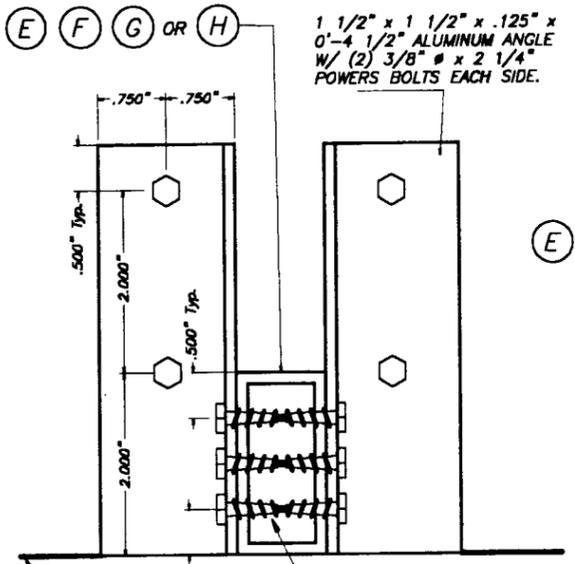
**SECTION S - S FOR FIXED STORM BARS**

SCALE: 1/2" = 1"



**SECTION S - S (FOR REMOVABLE STORM BARS)**

SCALE: 1/2" = 1"



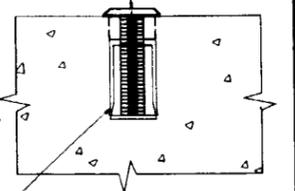
**SECTION S2 - S2**

SCALE: 1/2" = 1"

FOR INSTALLATION INTO CONCRETE, USE (2) 1/4" # TAPCON ANCHORS EA. SIDE FOR DESIGN LOADS UP TO 80.0 psf & (2) 3/8" # x 2 1/4" POWERS BOLTS EA. SIDE FOR GREATER DESIGN LOADS.

(2) #14 x 3/4" S. M. S. FOR DESIGN LOAD UP TO 80.0 p.s.f. & (3) #14 x 3/4" S. M. S. FOR DESIGN LOAD GREATER THAN 80.0 p.s.f. EACH SIDE.

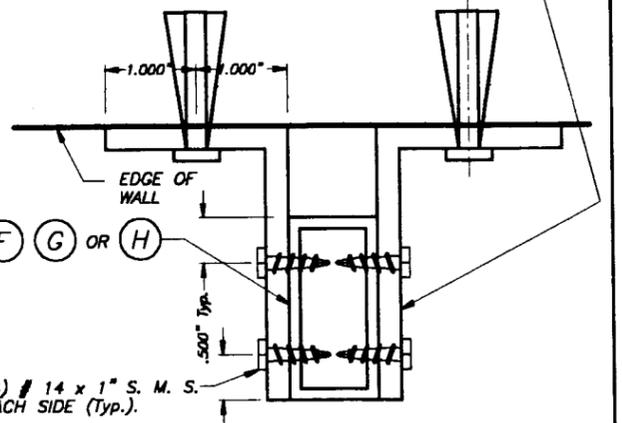
\* MACHINE SCREW FULLY EMBEDDED INTO ANCHOR



**DETAIL A**

SCALE: 1/2" = 1"

2" x 4" x .250" (FOR TYPE 1 & 2 STORM BARS) OR 2" x 3" x .250" (FOR TYPE 3 & 4 STORM BARS) Alum. ANGLE EA. SIDE x 6" HIGH W/ (2) 3/8" # x 2 1/4" POWERS BOLT ANCHORS TO WALL.



**SECTION S1 - S1**

SCALE: 1/2" = 1"

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE

DATE *May 26, 2000*

BY *[Signature]*

PRODUCT CONTROL DIVISION

BUILDING CODE COMPLIANCE OFFICE

ACCEPTANCE NO. *99-0930.05*

MIAMI-DADE COUNTY

**TILECO inc.**  
TILLIT TESTING & ENGINEERING COMPANY  
6080 N.W. 38th St., Ste. 217, VIRGINIA GARDENS, FL 33188  
Phone: (305)871-1530 Fax: (305)871-1531  
WALTER A. TILLIT Jr. P. E.  
FLORIDA Lic. # 44167

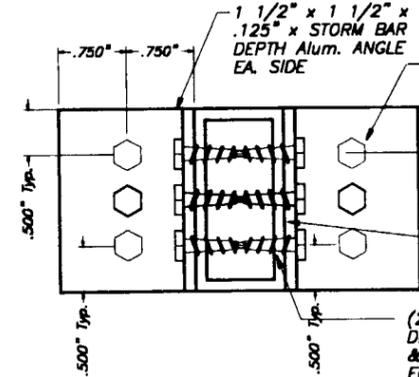
ROLL-UP SHUTTER			AS SHOWN SCALE		
Rollac Shutters of Texas, Inc.			4/16/99 DATE		
10800 Blackhawk Blvd. Houston, TX 77089			99 - 135 DRAWING No		
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	GENERAL	12/20/99	2		
2			3		
SHEET 5 OF 13					

3" x 3" (Max.) x .125" Cont. Alum. TUBE  
W/ 2" x 2" x .125" x 0'-3" (Max.)  
ALUMINUM ANGLE TO BUILD-OUT TUBE  
W/ 3 #14 x 3/4" S.M.S. EA. LEG  
& CONCRETE ANCHORS @ 12" O. C.  
FULL LENGTH TO POURED CONCRETE

1" x 2" x .125" Cont. Alum. ANGLE W/  
#14 x 3/4" S.M.S. @ 12" O. C. TO TUBE

3" x 4" (Min.) x .125" Cont. Alum. TUBE  
W/ 2" x 2" x .125" x 0'-4" (Min.)  
ALUMINUM ANGLE TO BUILD-OUT TUBE  
W/ 3 #14 x 3/4" S.M.S. EA. LEG  
& CONCRETE ANCHORS @ 12" O. C.  
FULL LENGTH TO POURED CONCRETE

1" x 2" x .125" Cont. Alum. ANGLE W/  
#14 x 3/4" S.M.S. @ 12" O. C. TO TUBE



FOR INSTALLATIONS INTO TUBE  
& HEADERS (1) (J) OR (K), USE  
(2) #14 x 3/4" S. M. S. EA.  
SIDE FOR DESIGN LOADS UP TO  
80.0 psf & (3) #14 x 3/4"  
S. M. S. EA. SIDE FOR GREATER  
DESIGN LOADS.

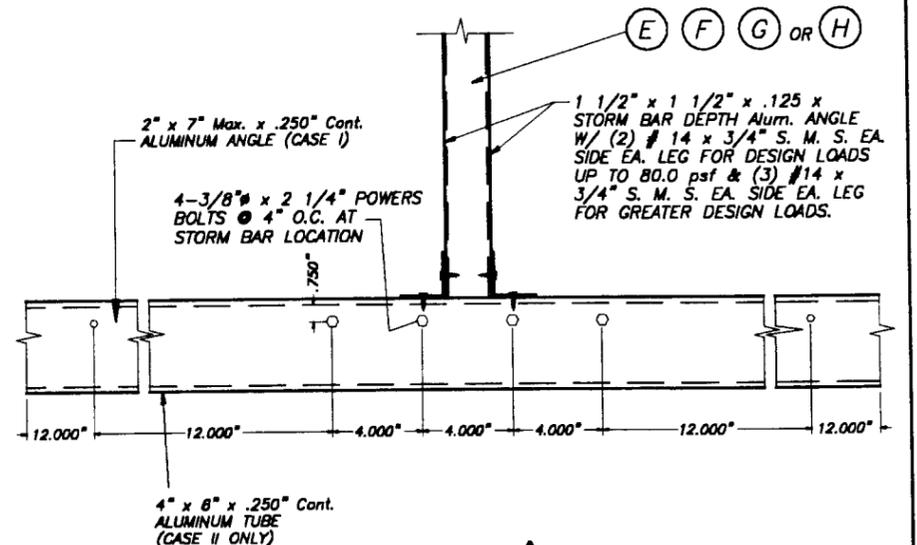
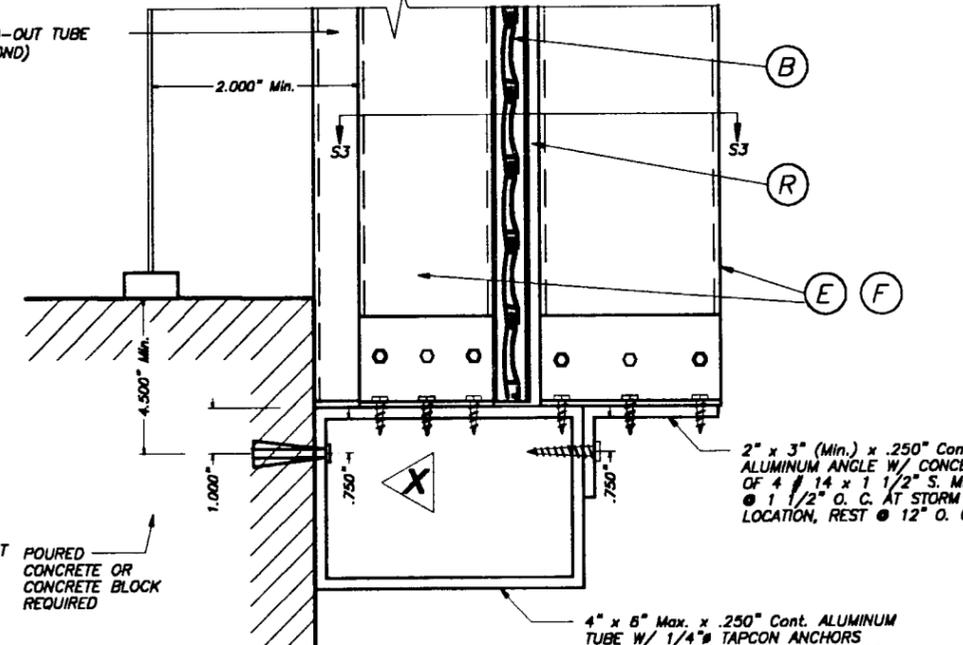
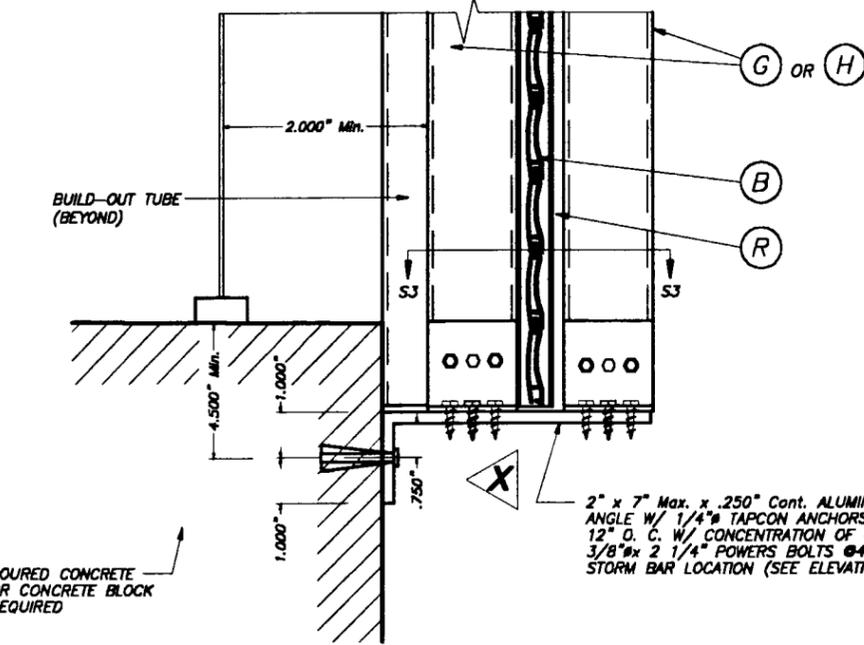
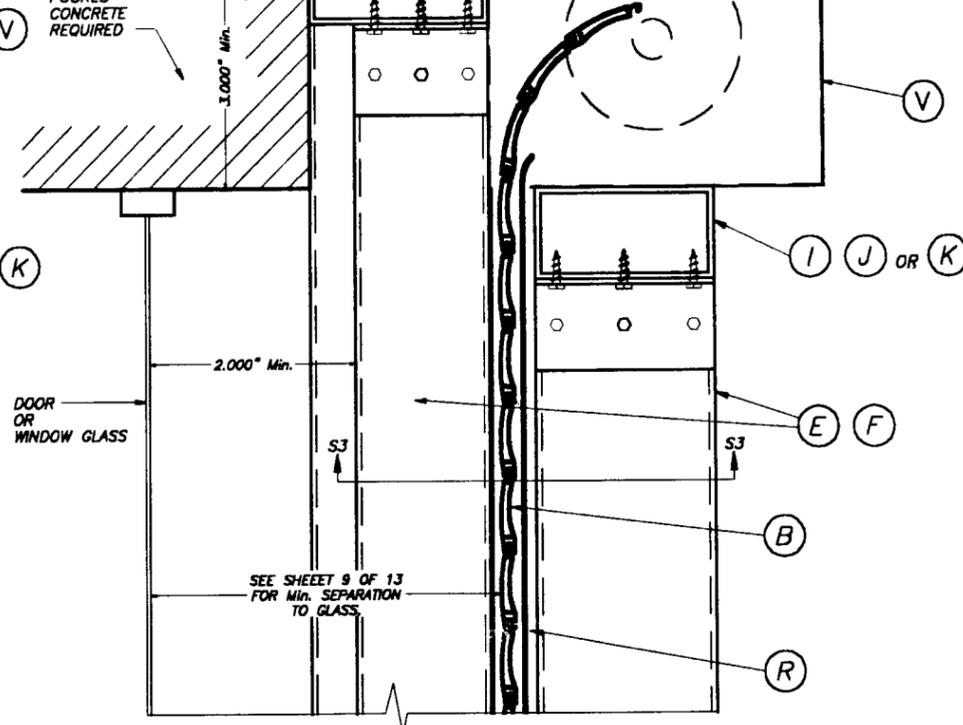
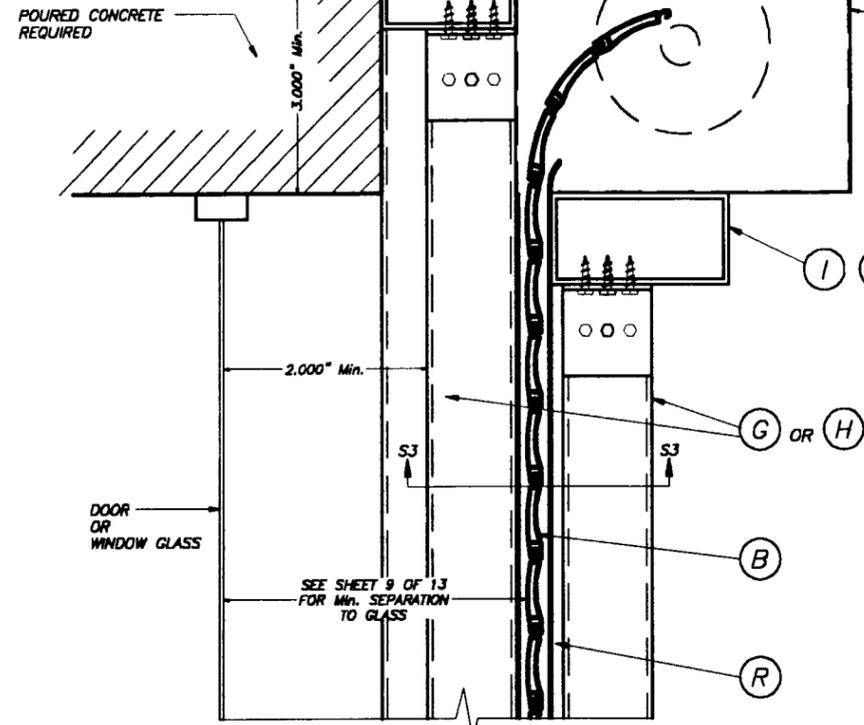
(2) #14 x 3/4" S. M. S. FOR  
DESIGN LOAD UP TO 80.0 p.s.f.  
& (3) #14 x 3/4" S. M. S.  
FOR DESIGN LOAD GREATER THAN  
80.0 p.s.f. EACH SIDE.

**SECTION S3 - S3**

SCALE : 1/2" = 1"

POURED CONCRETE  
REQUIRED

POURED CONCRETE  
REQUIRED



**ELEVATION X**

SCALE : 1/8" = 1"

APPROVED AS COMPLYING WITH THE  
SOUTH FLORIDA BUILDING CODE  
DATE May 30, 2000  
BY [Signature]  
PRODUCT CONTROL DIVISION  
BUILDING CODE COMPLIANCE OFFICE  
ACCEPTANCE NO. 99-0930.05

**CASE I**

**CASE II**

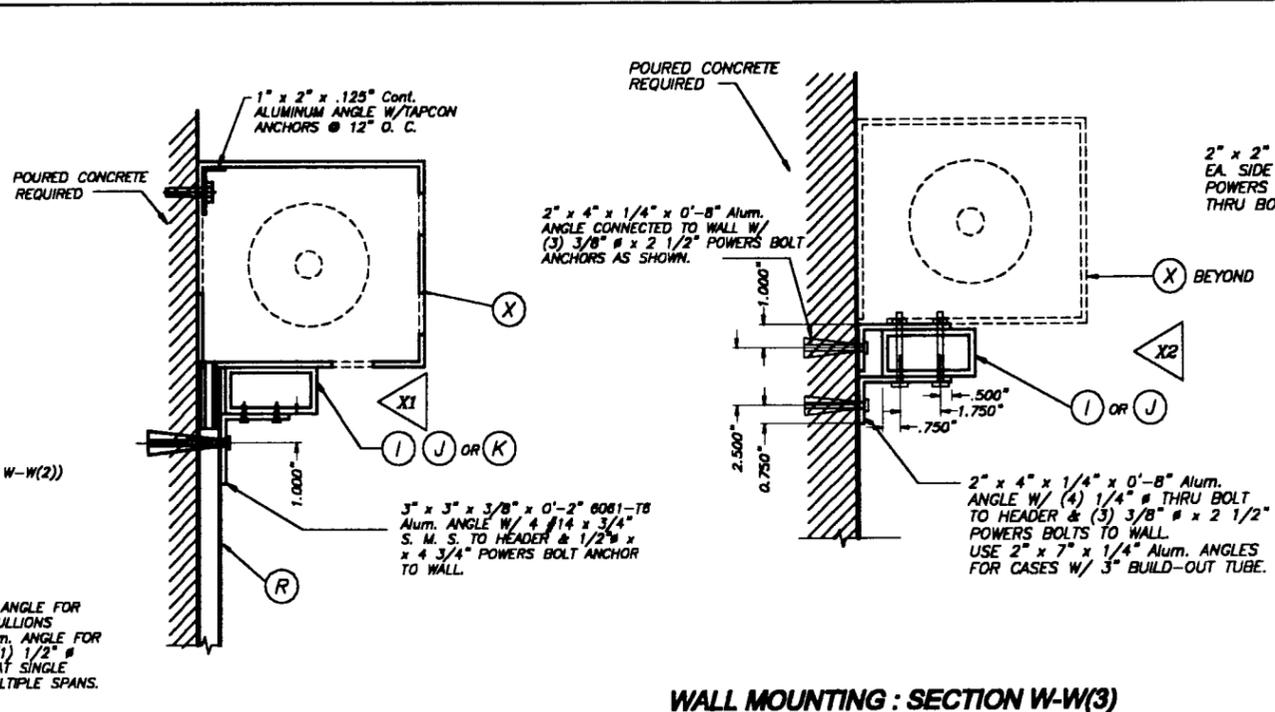
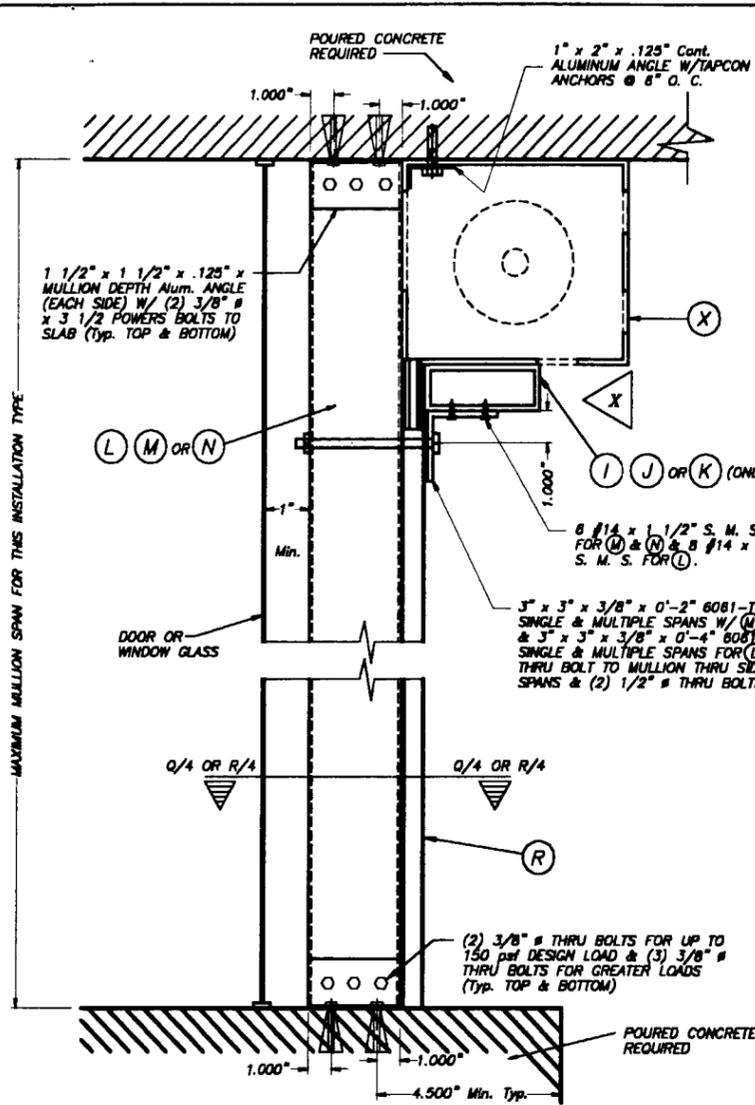
**STORM BAR CONNECTION AT BUILD-OUT INSTALLATION : SECTIONS V - V (3)**

SCALE : 1/4" = 1"

*David*  
*4/9/00*

<p>TILLIT TESTING &amp; ENGINEERING COMPANY 8585 N.W. 38th St., Ste. 217, VIRGINIA GARDENS, FL 33188 Phone : (305)871-1530 . Fax : (305)871-1531</p> <p>WALTER A. TILLIT Jr. P. E. FLORIDA Lic. # 44167</p>		<p>ROLL-UP SHUTTER</p> <p>AS SHOWN SCALE</p>	
		<p>Rollac Shutters of Texas, Inc. 10800 Blackhawk Blvd. Houston, TX 77089</p>	
<p>DATE <u>12/20/99</u></p>		<p>DATE <u>4/16/99</u></p>	
<p>DESCRIPTION <u>GENERAL</u></p>		<p>DESCRIPTION <u>GENERAL</u></p>	
<p>REV. No <u>1</u></p>		<p>REV. No <u>3</u></p>	
<p>REV. No <u>2</u></p>		<p>REV. No <u>4</u></p>	
<p>DRAWING No</p>		<p>DRAWING No</p>	
<p>SHEET 6 OF 13</p>		<p>SHEET 6 OF 13</p>	

MIAMI-DADE COUNTY



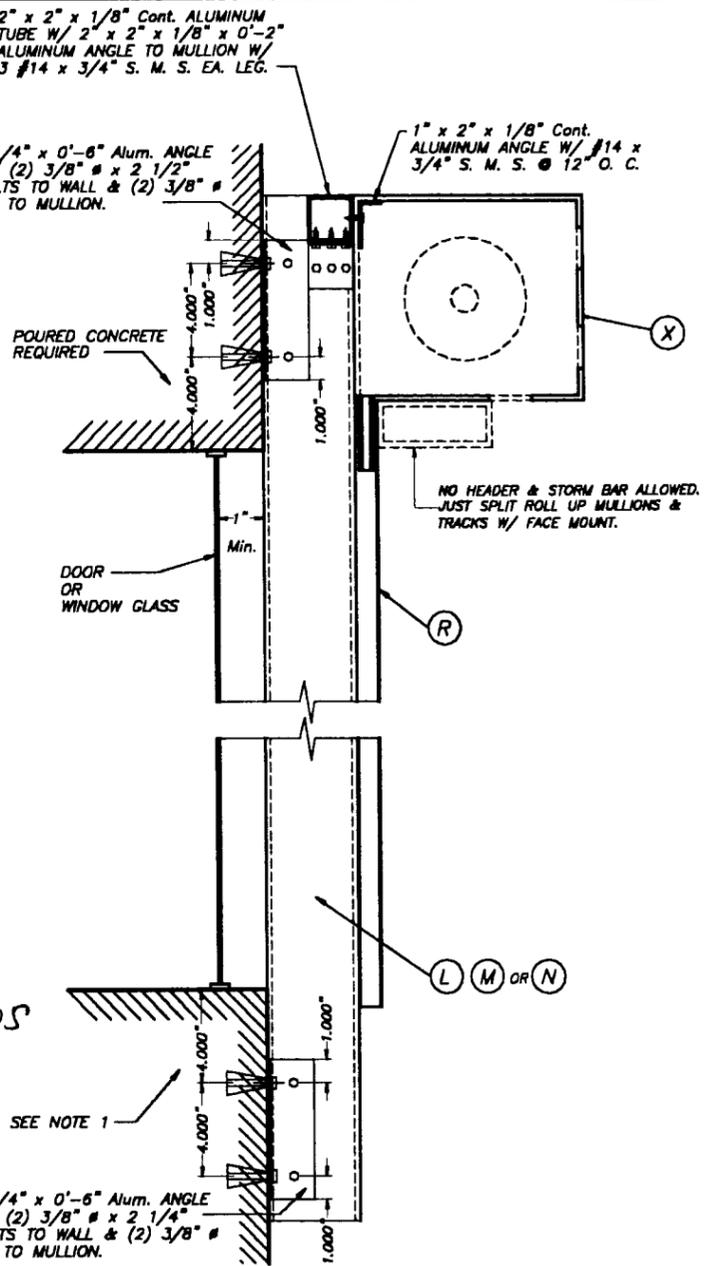
**WALL MOUNTING : SECTION W-W (3)**

NOTE :  
 THIS INSTALLATION IS ONLY VALID FOR STORM BARS WITH  
 Max. SPAN = 8'-0", HEADERS WITH 12'-0" Max. SINGLE  
 SPAN & 80 psf MAXIMUM DESIGN LOAD.

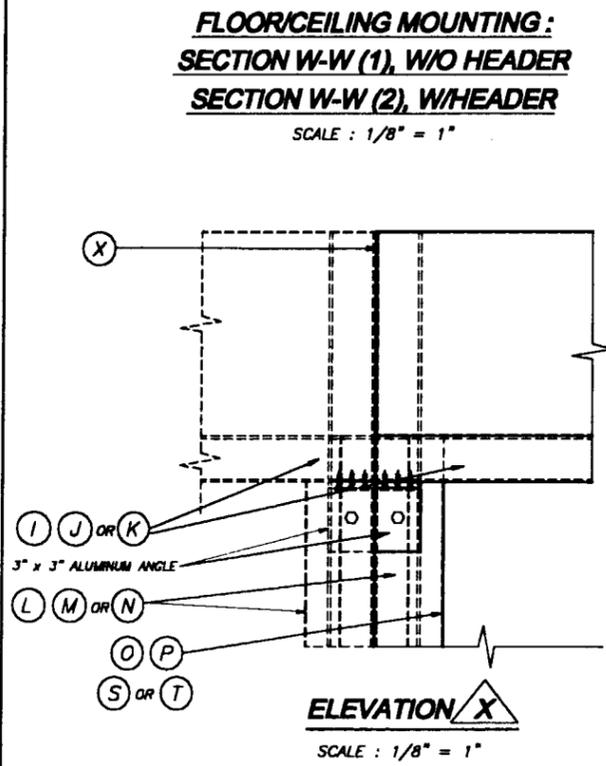
**WALL MOUNTING : SECTION W-W (3)**

SCALE: 1/8" = 1"

APPROVED AS COMPLYING WITH THE  
 SOUTH FLORIDA BUILDING CODE  
 DATE May 26, 2000  
 BY [Signature]  
 PRODUCT CONTROL DIVISION  
 BUILDING CODE COMPLIANCE OFFICE  
 ACCEPTANCE NO. 99-0930.05



NOTE 1 :  
 EXISTING WALL MAY BE POURED CONCRETE OR CONCRETE BLOCK FOR DESIGN LOADS UP TO 150.0 psf AND SHALL BE POURED CONCRETE OR CONCRETE FILLED BLOCKS FOR GREATER LOADS.



**ELEVATION X1**

SCALE: 1/8" = 1"

**ELEVATION X2**

SCALE: 1/8" = 1"

**TYPICAL HEADER CONNECTION AT ENDS:**

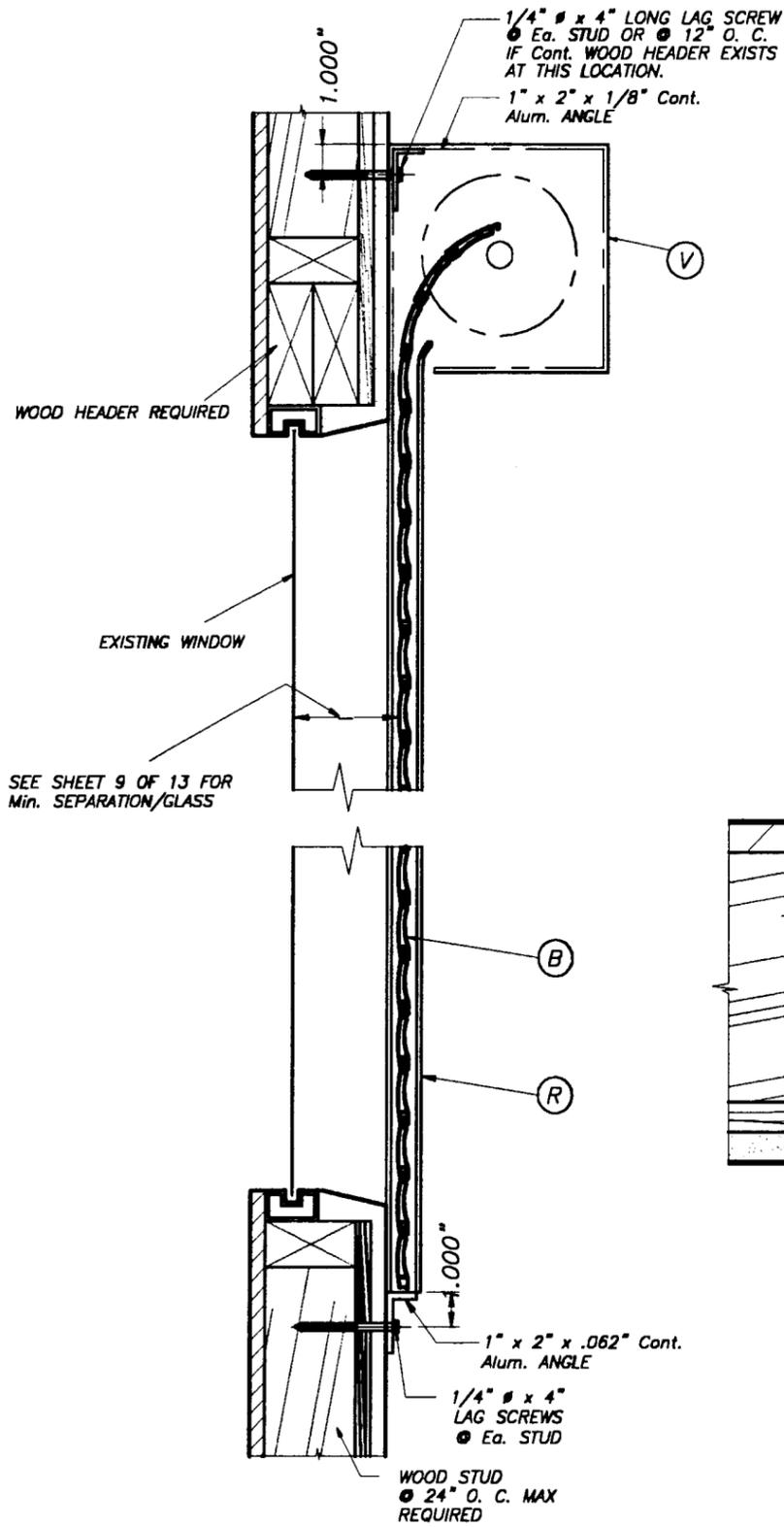
**SECTIONS W-W**

[Signature]  
4/4/00

MIAMI-DADE COUNTY

**TILTECO Inc.**  
 TILLIT TESTING & ENGINEERING COMPANY  
 6385 N.W. 38th St., Ste. 217, VIRGINIA GARDENS, FL 33188  
 Phone: (305)871-1530 Fax: (305)871-1531  
 WALTER A. TILLIT Jr. P. E.  
 FLORIDA Lic. # 44167

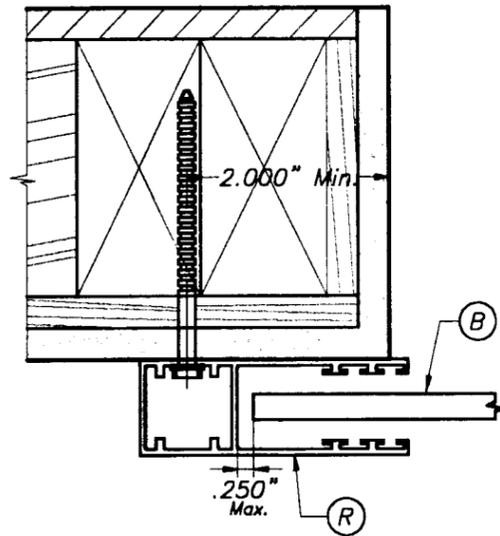
<b>ROLL-UP SHUTTER</b>						AS SHOWN SCALE
<b>Rollac Shutters of Texas, Inc.</b>						4/16/99 DATE
10800 Blackhawk Blvd. Houston, TX 77089						99 - 135 DRAWING No
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	SHEET 7 OF 13
1	GENERAL	12/20/99	3			
2			4			



**WALL MOUNTING INSTALLATION**

**SINGLE SPAN CONDITION**

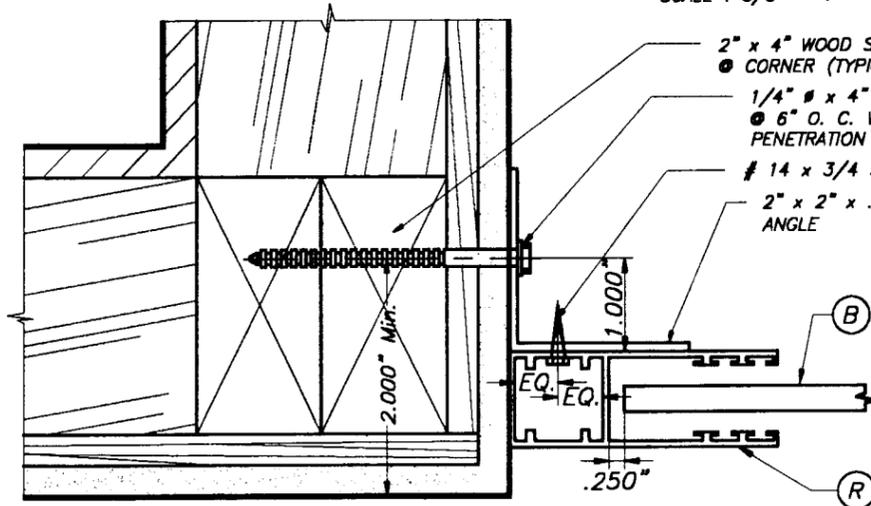
N. T. S.



**PLAN A (SECTION)**

**WALL MOUNT**

SCALE : 3/8" = 1"



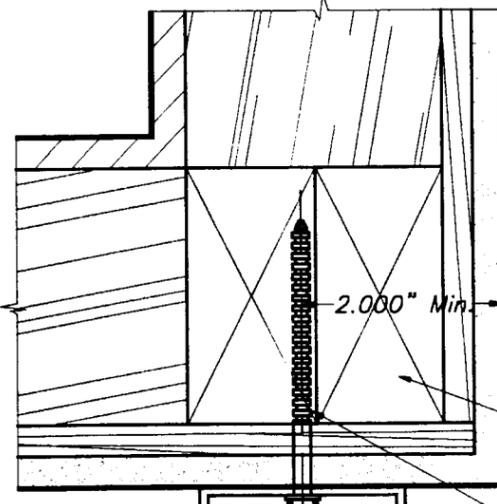
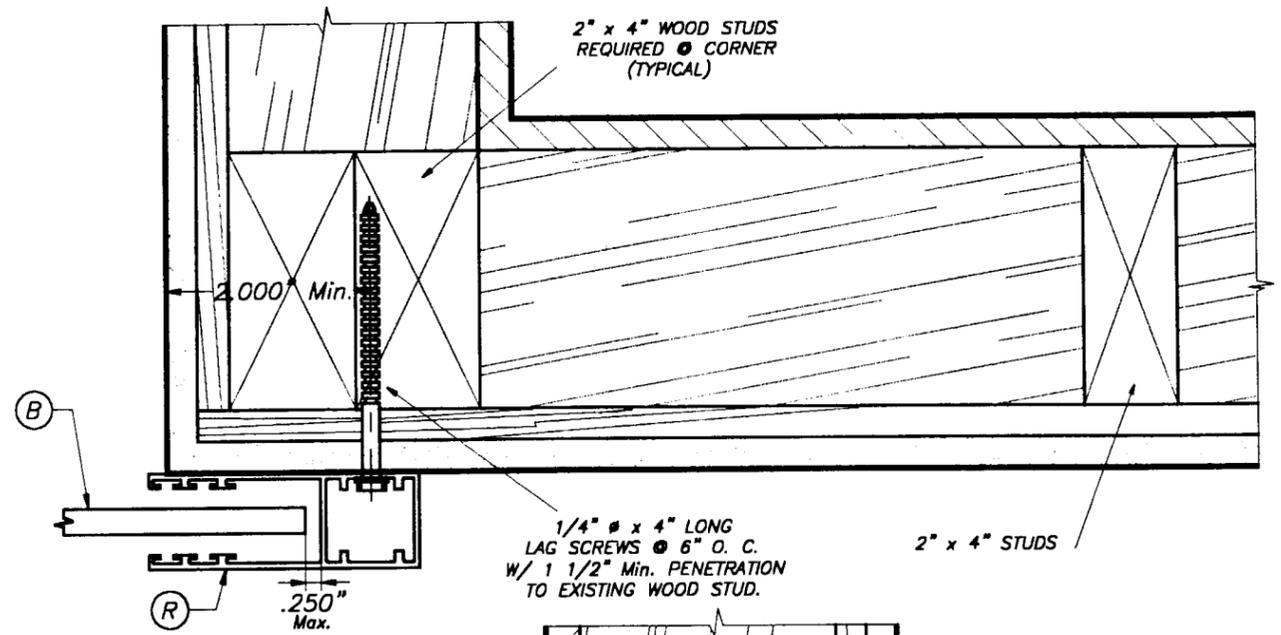
**PLAN B (SECTION)**

**INSIDE MOUNT**

SCALE : 3/8" = 1"

**NOTES:**

1. INSTALLATIONS ARE ONLY VALID FOR BUILDINGS WITH DESIGN LOAD UP TO 80 p.s.f.
2. FOR NEW FRAME CONSTRUCTION: WOOD MEMBER TO BE SOUTHERN PINE No. 2 W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.
3. MINIMUM PENETRATION OF LAG SCREWS INTO WOOD MEMBER TO BE 1 1/2".



**PLAN C (SECTION)**

**BUILD-OUT**

SCALE : 3/8" = 1"

APPROVED AS COMPLYING WITH THE  
 SOUTH FLORIDA BUILDING CODE  
 DATE May 26, 2000  
 BY [Signature]  
 PRODUCT CONTROL DIVISION  
 BUILDING CODE COMPLIANCE OFFICE  
 ACCEPTANCE NO. 99-0930.05

MIAMI-DADE COUNTY

<p><b>TILTECO INC.</b>          TILLIT TESTING &amp; ENGINEERING COMPANY          6595 N.W. 38th St., Ste. 217, VIRGINIA GARDENS, FL 33188          Phone : (305)871-1530 . Fax : (305)871-1531</p>		ROLL-UP SHUTTER		AS SHOWN SCALE																		
		<p><b>Rollac Shutters of Texas, Inc.</b>          10800 Blackhawk Blvd.          Houston, TX 77069</p>		4/16/99 DATE																		
<p>WALTER A. TILLIT Jr. P. E.          FLORIDA Lic. # 44167</p>		<p>99 - 135 DRAWING No</p>		SHEET 8 OF 13																		
<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>GENERAL</td> <td>12/20/99</td> <td>2</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	GENERAL	12/20/99	2			2			4				
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE																	
1	GENERAL	12/20/99	2																			
2			4																			

*2000*  
*4/16/00*

**SLAT PERFORMANCE CHART**  
**MAXIMUM NEGATIVE DESIGN PRESSURE RATING "W" (p. s. f.) AND**  
**CORRESPONDING MAXIMUM SLAT SPAN "L" FOR TYPE 1 SLAT**

(USE NEGATIVE PRESSURE VALUES AS PER ASCE 7-88)

**TABLE 1:** SEE NOTE BELOW.

SLAT SPAN (ft.)	MINIMUM SEPARATION TO GLASS
48" OR LESS	3"
> 48" TO 54"	3 3/16"

NOTE:  
 MINIMUM SEPARATION TO GLASS FOR SINGLE AND MULTIPLE UNITS SHALL BE MEASURED FROM BACK OF SLAT TO GLASS.

- : NOT APPLICABLE

\* MINIMUM SEPARATION TO GLASS FOR SHUTTERS INSTALLED WITHIN THE FIRST 30' ELEVATION OF BUILDING MEASURED AT BOTTOM OF SHUTTER AND MAXIMUM SPAN. SEE TABLE 1 FOR MINIMUM SEPARATION TO GLASS FOR SPANS SHORTER THAN MAXIMUM ALLOWED.

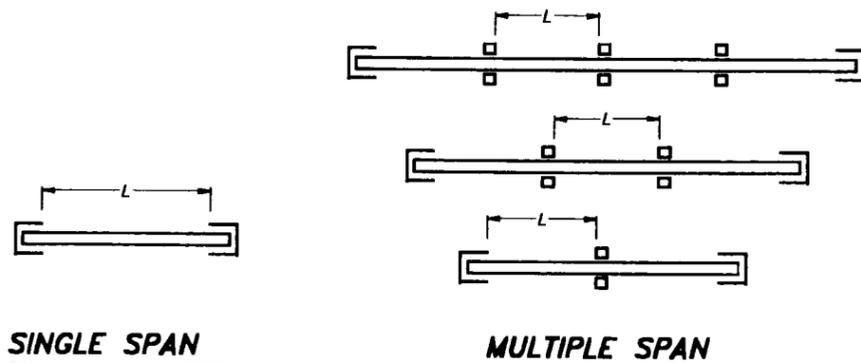
\*\* MINIMUM SEPARATION TO GLASS FOR SHUTTERS INSTALLED ABOVE 30' ELEVATION OF BUILDING MEASURED AT BOTTOM OF SHUTTER.

DESIGN LOAD "W" (p.s.f.)	TYPE 1 SLAT RLL-3		
	MAXIMUM SLAT SPAN	MINIMUM SEPARATION TO GLASS	
		SINGLE & MULTIPLE UNIT	SINGLE & MULTIPLE UNIT
40.0	4'-6"	3 3/16"	3"
45.0	4'-5"	3 3/16"	3"
50.0	4'-3"	3 3/16"	3"
55.0	4'-2"	3 3/16"	3"
60.0	4'-0"	3"	3"
65.0	3'-11"	3"	3"
70.0	3'-10"	3"	3"
75.0	3'-9"	3"	3"
80.0	3'-8"	3"	3"
85.0	3'-7"	3"	3"
90.0	3'-6"	3"	3"
95.0	3'-5"	3"	3"
100.0	3'-5"	3"	3"
105.0	3'-4"	3"	3"

DESIGN LOAD "W" (p.s.f.)	TYPE 1 SLAT RLL-3		
	MAXIMUM SLAT SPAN	MINIMUM SEPARATION TO GLASS	
		SINGLE & MULTIPLE UNIT	SINGLE & MULTIPLE UNIT
110.0	3'-4"	3"	3"
115.0	3'-3"	3"	3"
120.0	3'-2"	3"	3"
125.0	3'-2"	3"	3"
130.0	3'-1"	3"	3"
135.0	3'-1"	3"	3"
140.0	3'-1"	3"	3"
145.0	3'-0"	3"	3"
150.0	3'-0"	3"	3"
155.0	2'-11"	3"	3"
160.0	2'-11"	3"	3"
165.0	2'-11"	3"	3"
170.0	2'-10"	3"	3"
175.0	2'-10"	3"	3"

**SIDE RAIL CONDITIONS FOR TYPE 1 SLAT**

NOTE:  
 TYPE 1 SLAT SHALL ONLY BE USED IN CONJUNCTION WITH TYPE 1 SIDE RAILS.



**SPAN LAYOUT**

*David*  
 4/4/00

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE  
 DATE May 26, 2000  
 BY [Signature]  
 PRODUCT CONTROL DIVISION  
 BUILDING CODE COMPLIANCE OFFICE  
 ACCEPTANCE NO. 99-0930.05

MIAMI-DADE COUNTY

 TILTECO inc. TILLIT TESTING & ENGINEERING COMPANY 6595 N.W. 38th St., Ste. 217, VIRGINIA GARDENS, FL 33168 Phone : (305)871-1530 . Fax : (305)871-1531 WALTER A. TILLIT Jr. P. E. FLORIDA Lic. # 44167	ROLL-UP SHUTTER  <b>Rollac Shutters of Texas, Inc.</b> 10800 Blackhawk Blvd. Houston, TX 77089	AS SHOWN SCALE  4/16/99 DATE  99 - 135 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>GENERAL</td> <td>12/20/99</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	GENERAL	12/20/99	3			2			4		
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE														
1	GENERAL	12/20/99	3																
2			4																

**STORM BAR LOADING CHART**  
**MAXIMUM DESIGN PRESSURE RATING "W" (p. s. f.) AND CORRESPONDING MAXIMUM SPAN "L" FOR**  
**A GIVEN TYPE OF STORM BAR AND STORM BAR SPACING.**

(USE NEGATIVE PRESSURE VALUES AS PER ASCE 7-88)

MAXIMUM DESIGN LOAD "W" (p.s.f.)	TYPE 1 STORM BAR 2" x 4" x .250"				TYPE 2 STORM BAR 2" x 4" x .125"				TYPE 3 STORM BAR 2" x 3" x .125"				TYPE 4 STORM BAR RLL-15 + RLL-16			
	STORM BAR SPACING				STORM BAR SPACING				STORM BAR SPACING				STORM BAR SPACING			
	≤ 3'-0"	3' TO 4'	4' TO 5'	5' TO 6'	≤ 3'-0"	3' TO 4'	4' TO 5'	5' TO 6'	≤ 3'-0"	3' TO 4'	4' TO 5'	5' TO 6'	≤ 3'-0"	3' TO 4'	4' TO 5'	5' TO 6'
30.0	10'-0"	10'-0"	10'-0"	10'-0"	9'-0"	9'-0"	9'-0"	9'-0"	8'-0"	8'-0"	8'-0"	7'-9"	5'-6"	5'-6"	5'-6"	5'-6"
35.0	10'-0"	10'-0"	10'-0"	10'-0"	9'-0"	9'-0"	9'-0"	8'-11"	8'-0"	8'-0"	7'-10"	7'-6"	5'-6"	5'-6"	5'-6"	5'-1"
40.0	10'-0"	10'-0"	10'-0"	9'-11"	9'-0"	9'-0"	9'-0"	8'-7"	8'-0"	8'-0"	7'-7"	7'-3"	5'-6"	5'-6"	5'-2"	4'-9"
45.0	10'-0"	10'-0"	10'-0"	9'-8"	9'-0"	9'-0"	8'-9"	8'-4"	8'-0"	7'-9"	7'-4"	7'-0"	5'-6"	5'-6"	4'-11"	4'-6"
50.0	10'-0"	10'-0"	9'-10"	9'-5"	9'-0"	9'-0"	8'-6"	8'-2"	8'-0"	7'-7"	7'-2"	6'-10"	5'-6"	5'-2"	4'-8"	4'-3"
55.0	10'-0"	10'-0"	9'-7"	9'-2"	9'-0"	8'-10"	8'-4"	7'-9"	7'-11"	7'-5"	7'-0"	6'-8"	5'-6"	5'-0"	4'-5"	4'-1"
60.0	10'-0"	9'-11"	9'-5"	9'-0"	9'-0"	8'-7"	8'-2"	7'-5"	7'-9"	7'-3"	6'-10"	6'-6"	5'-6"	4'-9"	4'-3"	3'-11"
65.0	10'-0"	9'-9"	9'-3"	8'-10"	9'-0"	8'-5"	7'-10"	7'-2"	7'-7"	7'-1"	6'-8"	6'-5"	5'-3"	4'-7"	4'-1"	3'-9"
70.0	10'-0"	9'-7"	9'-1"	8'-8"	8'-11"	8'-3"	7'-6"	6'-10"	7'-6"	6'-11"	6'-7"	6'-3"	5'-1"	4'-5"	3'-11"	3'-7"
75.0	10'-0"	9'-5"	8'-11"	8'-6"	8'-9"	8'-2"	7'-3"	6'-8"	7'-4"	6'-10"	6'-5"	6'-2"	4'-11"	4'-3"	3'-10"	3'-6"
80.0	9'-11"	9'-3"	8'-9"	8'-4"	8'-7"	7'-10"	7'-1"	6'-5"	7'-3"	6'-9"	6'-4"	6'-1"	4'-9"	4'-1"	3'-8"	3'-4"
85.0	9'-10"	9'-1"	8'-8"	8'-3"	8'-6"	7'-8"	6'-10"	6'-3"	7'-1"	6'-7"	6'-3"	6'-0"	4'-7"	4'-0"	3'-7"	3'-3"
90.0	9'-8"	9'-0"	8'-6"	8'-0"	8'-4"	7'-5"	6'-8"	6'-1"	7'-0"	6'-6"	6'-2"	5'-11"	4'-6"	3'-11"	3'-6"	3'-2"
95.0	9'-6"	8'-10"	8'-5"	7'-10"	8'-3"	7'-3"	6'-6"	5'-11"	6'-11"	6'-5"	6'-1"	5'-10"	4'-4"	3'-9"	3'-5"	3'-1"
100.0	9'-5"	8'-9"	8'-3"	7'-7"	8'-2"	7'-1"	6'-4"	5'-9"	6'-10"	6'-4"	6'-0"	5'-9"	4'-3"	3'-8"	3'-3"	3'-0"
105.0	9'-4"	8'-8"	8'-2"	7'-5"	7'-11"	6'-10"	6'-2"	5'-7"	6'-9"	6'-3"	5'-11"	5'-7"	4'-2"	3'-7"	3'-3"	2'-11"
110.0	9'-2"	8'-7"	7'-11"	7'-3"	7'-9"	6'-9"	6'-0"	5'-6"	6'-8"	6'-2"	5'-10"	5'-5"	4'-1"	3'-6"	3'-2"	2'-10"
115.0	9'-1"	8'-6"	7'-9"	7'-1"	7'-7"	6'-7"	5'-10"	5'-4"	6'-7"	6'-2"	5'-10"	5'-4"	4'-0"	3'-5"	3'-1"	2'-10"

\* STORM BAR SPACING SHALL BE SUCH THAT MAXIMUM SLAT SPAN SHALL NOT BE EXCEEDED.

APPROVED AS COMPLYING WITH THE  
 SOUTH FLORIDA BUILDING CODE  
 DATE May 26, 2000  
 BY [Signature]  
 PRODUCT CONTROL DIVISION  
 BUILDING CODE COMPLIANCE OFFICE  
 ACCEPTANCE NO. 99-0930.05

MIAMI-DADE COUNTY

[Signature]  
 4/4/00

 <b>TILTECO Inc.</b> TILLIT TESTING & ENGINEERING COMPANY 6595 N.W. 36th St., Ste. 217, VIRGINIA GARDENS, FL 33188 Phone : (305)871-1530 . Fax : (305)871-1531 WALTER A. TILLIT Jr. P. E. FLORIDA Lic. # 44167		ROLL-UP SHUTTER		AS SHOWN SCALE	
		Rollac Shutters of Texas, Inc. 10800 Blockhawk Blvd. Houston, TX 77089		4/16/99 DATE	
				99 - 135	
				DRAWING No	
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	GENERAL	12/20/98	3		
2			4		
				SHEET 10 OF 13	

**STORM BAR LOADING CHART**  
**MAXIMUM DESIGN PRESSURE RATING "W" (p. s. f.) AND CORRESPONDING MAXIMUM SPAN "L" FOR**  
**A GIVEN TYPE OF STORM BAR AND STORM BAR SPACING.**

(USE NEGATIVE PRESSURE VALUES AS PER ASCE 7-88)

MAXIMUM DESIGN LOAD "W" (p.s.f.)	TYPE 1 STORM BAR 2" x 4" x .125"				TYPE 2 STORM BAR 2" x 4" x .125"				TYPE 3 STORM BAR 2" x 3" x .125"				TYPE 4 STORM BAR RLL-15 + RLL-16			
	STORM BAR SPACING				STORM BAR SPACING				STORM BAR SPACING				STORM BAR SPACING			
	≤ 3'-0"	3' TO 4'	4' TO 5'	5' TO 6'	≤ 3'-0"	3' TO 4'	4' TO 5'	5' TO 6'	≤ 3'-0"	3' TO 4'	4' TO 5'	5' TO 6'	≤ 3'-0"	3' TO 4'	4' TO 5'	5' TO 6'
120.0	9'-0"	8'-4"	7'-7"	6'-11"	7'-5"	6'-5"	5'-9"	5'-3"	6'-6"	6'-1"	5'-9"	5'-3"	3'-11"	3'-4"	3'-0"	2'-9"
125.0	8'-11"	8'-3"	7'-6"	6'-10"	7'-3"	6'-4"	5'-8"	5'-2"	6'-5"	6'-0"	5'-7"	5'-1"	3'-10"	3'-3"	2'-11"	2'-8"
130.0	8'-10"	8'-2"	7'-4"	6'-8"	7'-2"	6'-2"	5'-6"	5'-1"	6'-5"	5'-11"	5'-6"	5'-0"	3'-9"	3'-3"	2'-11"	2'-8"
135.0	8'-9"	8'-0"	7'-2"	6'-7"	7'-0"	6'-1"	5'-5"	4'-11"	6'-4"	5'-11"	5'-5"	4'-11"	3'-8"	3'-2"	2'-10"	2'-7"
140.0	8'-8"	7'-11"	7'-1"	6'-5"	6'-10"	5'-11"	5'-4"	4'-10"	6'-3"	5'-10"	5'-3"	4'-10"	3'-7"	3'-1"	2'-9"	2'-6"
145.0	8'-7"	7'-9"	6'-11"	6'-4"	6'-9"	5'-10"	5'-3"	4'-9"	6'-3"	5'-9"	5'-2"	4'-9"	3'-6"	3'-1"	2'-9"	2'-6"
150.0	8'-6"	7'-7"	6'-10"	6'-3"	6'-8"	5'-9"	5'-2"	4'-8"	6'-2"	5'-9"	5'-1"	4'-8"	3'-6"	3'-0"	2'-8"	2'-5"
155.0	8'-5"	7'-6"	6'-8"	6'-1"	6'-6"	5'-8"	5'-1"	4'-7"	6'-1"	5'-7"	5'-0"	4'-7"	3'-5"	2'-11"	2'-8"	2'-5"
160.0	8'-4"	7'-4"	6'-7"	6'-0"	6'-5"	5'-7"	5'-0"	4'-7"	6'-1"	5'-6"	4'-11"	4'-6"	3'-4"	2'-11"	2'-7"	2'-4"
165.0	8'-4"	7'-3"	6'-6"	5'-11"	6'-4"	5'-6"	4'-11"	4'-6"	6'-0"	5'-5"	4'-10"	4'-5"	3'-4"	2'-10"	2'-7"	2'-4"
170.0	8'-3"	7'-2"	6'-5"	5'-10"	6'-3"	5'-5"	4'-10"	4'-5"	6'-0"	5'-4"	4'-10"	4'-5"	3'-3"	2'-10"	2'-6"	2'-4"
175.0	8'-2"	7'-1"	6'-4"	5'-9"	6'-2"	5'-4"	4'-9"	4'-4"	5'-11"	5'-3"	4'-9"	4'-4"	3'-3"	2'-9"	2'-6"	2'-3"

\* STORM BAR SPACING SHALL BE SUCH THAT MAXIMUM SLAT SPAN SHALL NOT BE EXCEEDED.

APPROVED AS COMPLYING WITH THE  
 SOUTH FLORIDA BUILDING CODE  
 DATE May 26, 2000  
 BY [Signature]  
 PRODUCT CONTROL DIVISION  
 BUILDING CODE COMPLIANCE OFFICE  
 ACCEPTANCE NO. 99-0930.05

MIAMI-DADE COUNTY

[Signature]  
4/10

 TILLIT TESTING & ENGINEERING COMPANY 8595 N.W. 38th St., Ste. 217, VIRGINIA GARDENS, FL 33168 Phone: (305)871-1530 Fax: (305)871-1531		ROLL-UP SHUTTER		AS SHOWN SCALE	
		Rollac Shutters of Texas, Inc. 10800 Blackhawk Blvd. Houston, TX 77089		4/16/99 DATE	
WALTER A. TILLIT Jr. P. E. FLORIDA Lic. # 44167		99 - 135 DRAWING No		SHEET 11 OF 13	
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	GENERAL	12/20/98	2		
2			4		

**HEADER LOADING CHART**  
**MAXIMUM DESIGN PRESSURE RATING "W" (p. s. f.) AND CORRESPONDING MAXIMUM SPAN "L" (FL) FOR**  
**A GIVEN TYPE OF HEADER AND STORM BAR HEIGHT (FL).**

(USE NEGATIVE PRESSURE VALUES AS PER ASCE 7-88)

MAXIMUM DESIGN LOAD "W" (p.s.f.)	TYPE 1 HEADER 2" x 4" X .250"			TYPE 2 HEADER 2" x 4" X .125"		TYPE 3 HEADER 1" x 4" X .125"	
	STORM BAR HEIGHT			STORM BAR HEIGHT		STORM BAR HEIGHT	
	≤ 7'-0"	7' TO 9'	9' TO 10'	≤ 5'-0"	5' TO 8'	≤ 5'-0"	5' TO 7'
30.0	15'-1"	14'-2"	13'-2"	12'-0"	12'-0"	7'-1"	6'-6"
35.0	14'-6"	13'-7"	12'-5"	12'-0"	11'-11"	6'-10"	6'-3"
40.0	14'-0"	13'-2"	11'-8"	12'-0"	11'-2"	6'-7"	6'-1"
45.0	13'-7"	12'-8"	11'-0"	12'-0"	10'-6"	6'-5"	5'-11"
50.0	13'-3"	12'-0"	10'-5"	12'-0"	9'-11"	6'-3"	5'-9"
55.0	12'-11"	11'-5"	9'-11"	12'-0"	9'-6"	6'-1"	5'-7"
60.0	12'-5"	11'-0"	9'-6"	11'-6"	9'-1"	5'-11"	5'-6"
65.0	11'-11"	10'-6"	9'-1"	11'-1"	8'-9"	5'-10"	5'-4"
70.0	11'-6"	10'-2"	8'-9"	10'-8"	8'-5"	5'-9"	5'-3"
75.0	11'-1"	9'-10"	8'-6"	10'-3"	8'-2"	5'-8"	5'-2"
80.0	10'-9"	9'-6"	8'-3"	9'-11"	7'-10"	5'-6"	5'-1"
85.0	10'-5"	9'-3"	8'-0"	9'-8"	7'-8"	5'-5"	5'-0"
90.0	10'-2"	8'-11"	7'-9"	9'-5"	7'-5"	5'-5"	4'-11"
95.0	9'-11"	8'-9"	7'-7"	9'-2"	7'-3"	5'-4"	4'-11"
100.0	9'-8"	8'-6"	7'-4"	8'-11"	7'-0"	5'-3"	4'-10"
105.0	9'-5"	8'-3"	7'-2"	8'-8"	6'-10"	5'-2"	4'-9"
110.0	9'-2"	8'-1"	7'-0"	8'-6"	6'-9"	5'-1"	4'-8"
115.0	9'-0"	7'-11"	6'-10"	8'-4"	6'-7"	5'-1"	4'-7"

MAXIMUM DESIGN LOAD "W" (p.s.f.)	TYPE 1 HEADER 2" x 4" X .250"			TYPE 2 HEADER 2" x 4" X .125"		TYPE 3 HEADER 1" x 4" X .125"	
	STORM BAR HEIGHT			STORM BAR HEIGHT		STORM BAR HEIGHT	
	≤ 7'-0"	7' TO 9'	9' TO 10'	≤ 5'-0"	5' TO 8'	≤ 5'-0"	5' TO 7'
120.0	8'-9"	7'-9"	6'-9"	8'-2"	6'-5"	5'-0"	4'-6"
125.0	8'-7"	7'-7"	6'-7"	8'-0"	6'-4"	4'-11"	4'-5"
130.0	8'-5"	7'-5"	6'-5"	7'-10"	6'-2"	4'-11"	4'-4"
135.0	8'-3"	7'-4"	6'-4"	7'-8"	6'-1"	4'-10"	4'-3"
140.0	8'-2"	7'-2"	6'-3"	7'-6"	5'-11"	4'-10"	4'-2"
145.0	8'-0"	7'-1"	6'-1"	7'-5"	5'-10"	4'-9"	4'-1"
150.0	7'-10"	6'-11"	6'-0"	7'-3"	5'-9"	4'-9"	4'-1"
155.0	7'-9"	6'-10"	5'-11"	7'-2"	5'-8"	4'-8"	4'-0"
160.0	7'-7"	6'-9"	5'-10"	7'-0"	5'-7"	4'-8"	3'-11"
165.0	7'-6"	6'-7"	5'-9"	6'-11"	5'-6"	4'-7"	3'-10"
170.0	7'-5"	6'-6"	5'-8"	6'-10"	5'-5"	4'-6"	3'-10"
175.0	7'-3"	6'-5"	5'-7"	6'-9"	5'-4"	4'-5"	3'-9"

APPROVED AS COMPLYING WITH THE  
 SOUTH FLORIDA BUILDING CODE  
 DATE May 26, 2000  
 BY [Signature]  
 PRODUCT CONTROL DIVISION  
 BUILDING CODE COMPLIANCE OFFICE  
 ACCEPTANCE NO. 99-0930.05

MIAMI-DADE COUNTY

[Signature]  
4/4/00

 <b>TILTECO INC.</b> TILLIT TESTING & ENGINEERING COMPANY 6595 N.W. 36th St., Ste. 217, VIRGINIA GARDENS, FL 33166 Phone: (305)871-1530 Fax: (305)871-1531 WALTER A. TILLIT Jr. P. E. FLORIDA Lic. # 44167	ROLL-UP SHUTTER			AS SHOWN SCALE				
	<b>Rollac Shutters of Texas, Inc.</b> 10800 Blackhawk Blvd. Houston, TX 77089			4/16/99 DATE				
99 - 135			DRAWING No					
SHEET 12 OF 13			REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
			1	GENERAL	12/20/99	3		
			2			4		

**MULLION LOADING CHART**  
**MAXIMUM DESIGN PRESSURE RATING "W" (p. s. f.) AND CORRESPONDING MAXIMUM SPAN "L" (Ft.) FOR**  
**A GIVEN TYPE OF MULLION AND MULLION SPACING (Ft.).**

(USE NEGATIVE PRESSURE VALUES AS PER ASCE 7-88)

MAXIMUM DESIGN LOAD "W" (p.s.f.)	TYPE 1 MULLION 4" x 6" x .188"			TYPE 2 MULLION 3" x 4" x .125"			TYPE 3 MULLION 2" x 3" x .125"		
	MULLION SPACING			MULLION SPACING			MULLION SPACING		
	≤ 4'-0"	4' TO 5'	5' TO 8'	≤ 4'-0"	4' TO 5'	5' TO 8'	≤ 3'-0"	3' TO 4'	4' TO 5'
30.0	12'-0"	12'-0"	12'-0"	9'-0"	9'-0"	9'-0"	7'-10"	7'-2"	6'-7"
35.0	12'-0"	12'-0"	12'-0"	9'-0"	9'-0"	9'-0"	7'-5"	6'-9"	6'-3"
40.0	12'-0"	12'-0"	12'-0"	9'-0"	9'-0"	8'-10"	7'-2"	6'-6"	6'-0"
45.0	12'-0"	12'-0"	12'-0"	8'-8"	9'-0"	8'-4"	6'-10"	6'-3"	5'-9"
50.0	12'-0"	12'-0"	12'-0"	8'-4"	8'-11"	7'-11"	6'-7"	6'-0"	5'-7"
55.0	12'-0"	12'-0"	12'-0"	8'-1"	8'-7"	7'-6"	6'-5"	5'-10"	5'-5"
60.0	12'-0"	12'-0"	11'-11"	7'-10"	8'-4"	7'-3"	6'-3"	5'-8"	5'-3"
65.0	12'-0"	12'-0"	11'-8"	7'-8"	8'-2"	6'-11"	6'-0"	5'-6"	5'-1"
70.0	12'-0"	12'-0"	11'-4"	7'-5"	7'-11"	6'-8"	5'-11"	5'-4"	5'-0"
75.0	12'-0"	12'-0"	11'-1"	7'-3"	7'-9"	6'-5"	5'-9"	5'-3"	4'-11"
80.0	11'-10"	12'-0"	10'-10"	7'-2"	7'-7"	6'-3"	5'-8"	5'-2"	4'-9"
85.0	11'-8"	12'-0"	10'-8"	7'-0"	7'-5"	6'-1"	5'-7"	5'-0"	4'-8"
90.0	11'-5"	12'-0"	10'-5"	6'-9"	7'-4"	5'-11"	5'-5"	4'-11"	4'-7"
95.0	11'-3"	12'-0"	10'-1"	6'-7"	7'-2"	5'-9"	5'-4"	4'-10"	4'-6"
100.0	11'-1"	11'-9"	9'-10"	6'-5"	7'-1"	5'-7"	5'-3"	4'-9"	4'-5"
105.0	10'-11"	11'-7"	9'-7"	6'-3"	6'-11"	5'-5"	5'-2"	4'-8"	4'-4"
110.0	10'-9"	11'-5"	9'-5"	6'-2"	6'-9"	5'-4"	5'-1"	4'-7"	4'-4"
115.0	10'-7"	11'-3"	9'-2"	6'-0"	6'-7"	5'-3"	5'-0"	4'-7"	4'-3"
120.0	10'-4"	11'-1"	9'-0"	5'-10"	6'-5"	5'-1"	4'-11"	4'-6"	4'-2"
125.0	10'-2"	10'-11"	8'-10"	5'-9"	6'-4"	5'-0"	4'-11"	4'-5"	4'-1"
130.0	9'-11"	10'-10"	8'-8"	5'-8"	6'-2"	4'-11"	4'-10"	4'-4"	4'-1"
135.0	9'-9"	10'-8"	8'-6"	5'-7"	6'-1"	4'-10"	4'-9"	4'-4"	4'-0"
140.0	9'-7"	10'-6"	8'-4"	5'-6"	6'-0"	4'-9"	4'-8"	4'-3"	4'-0"
145.0	9'-5"	10'-4"	8'-2"	5'-5"	5'-10"	4'-8"	4'-8"	4'-3"	3'-11"
150.0	9'-3"	10'-2"	8'-1"	5'-4"	5'-9"	4'-7"	4'-7"	4'-2"	3'-10"
155.0	9'-1"	10'-0"	7'-11"	5'-3"	5'-8"	4'-6"	4'-6"	4'-1"	3'-10"
160.0	8'-11"	9'-10"	7'-9"	5'-2"	5'-7"	4'-5"	4'-6"	4'-1"	3'-9"
165.0	8'-10"	9'-8"	7'-8"	5'-1"	5'-6"	4'-4"	4'-5"	4'-0"	3'-9"
170.0	8'-8"	9'-7"	7'-7"	5'-0"	5'-5"	4'-3"	4'-5"	4'-0"	3'-9"
175.0	8'-7"	9'-5"	7'-5"	4'-11"	5'-4"	4'-3"	4'-4"	4'-0"	3'-8"

**NOTES :** REFER TO ELEVATIONS ON SHEET 1 OF 13  
 1- FOR MULLIONS INSTALLED W/O STORM BARS  
 A) MULLION SPACING SHALL BE SUCH THAT MAXIMUM SLAT SPAN SHALL NOT BE EXCEEDED  
 2- FOR MULLIONS INSTALLED W/ STORM BARS & HEADERS  
 A) MULLION SPACING SHALL BE SUCH THAT MAXIMUM HEADER SPAN SHALL NOT BE EXCEEDED  
 B) STORM BAR SPACING SHALL BE SUCH THAT MAXIMUM SLAT SPAN SHALL NOT BE EXCEEDED

*David*  
 4/9/00

**SIDE RAIL ANCHOR SCHEDULE**  
**MAXIMUM DESIGN PRESSURE RATING "W" (p.s.f.) AND**  
**CORRESPONDING MAXIMUM ANCHOR (in) SCHEDULE FOR**  
**SIDE RAIL (R) CONNECTION TO C.B.S. OR CONCRETE**

MASONRY  
 POURED CONCRETE  
 SUBSTRATE LEGEND

MAXIMUM DESIGN LOAD "W" (p.s.f.)	(R)		
	WALL MOUNT	SIDE WALL MOUNT	& BUILD-OUT MOUNT
80.0 OR LESS	6"	6"	6"
>80.0 TO 150.0	4"	4 1/2"	6"
	6"	6"	6"
>150.0 TO 175.0	3"	4"	6"
	6"	6"	6"

**MAXIMUM ANCHOR SPACING (in.) AT SIDE RAILS VERSUS EDGE DISTANCE = E. D.**

MAXIMUM SIDE RAILS ANCHORS SPACINGS SHOWN ON SHEET 4 OF 13 ARE VALID FOR 3 1/2" EDGE DISTANCE. FOR E. D. LESS THAN 3 1/2", REDUCE ANCHOR SPACING BY MULTIPLYING SPACINGS SHOWN ON THAT SHEET BY THE FOLLOWING FACTORS.

ACTUAL E. D.= EDGE DISTANCE	FACTOR
3 1/2"	1.0
3"	.86
2 1/2"	.71
2"	.50

THIS SPACING REDUCTION SHALL ONLY BE PERFORMED FOR SPACINGS ON SCHEDULE EQUAL OR GREATER THAN 4" O.C.

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE  
 DATE May 29, 2000  
 BY [Signature]  
 PRODUCT CONTROL DIVISION  
 BUILDING CODE COMPLIANCE OFFICE  
 ACCEPTANCE NO. 99-0930.05

MIAMI-DADE COUNTY

 <b>TILECO Inc.</b> TILLIT TESTING & ENGINEERING COMPANY 6395 N.W. 38th St., Ste. 217, VIRGINIA GARDENS, FL 33186 Phone : (305)871-1530 Fax : (305)871-1531 WALTER A. TILLIT Jr. P. E. FLORIDA Lic. # 44187	ROLL-UP SHUTTER			AS SHOWN SCALE	
	Rollac Shutters of Texas, Inc. 10800 Blackhawk Blvd. Houston, TX 77089			4/16/99 DATE	
99 - 135 DRAWING No			SHEET 13 OF 13		
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	GENERAL	12/20/98	2		
2			4		