

SHOWCASE CUSTOM WINDOWS AND DOORS

VERTICAL REINFORCED MULLION (IMPACT)

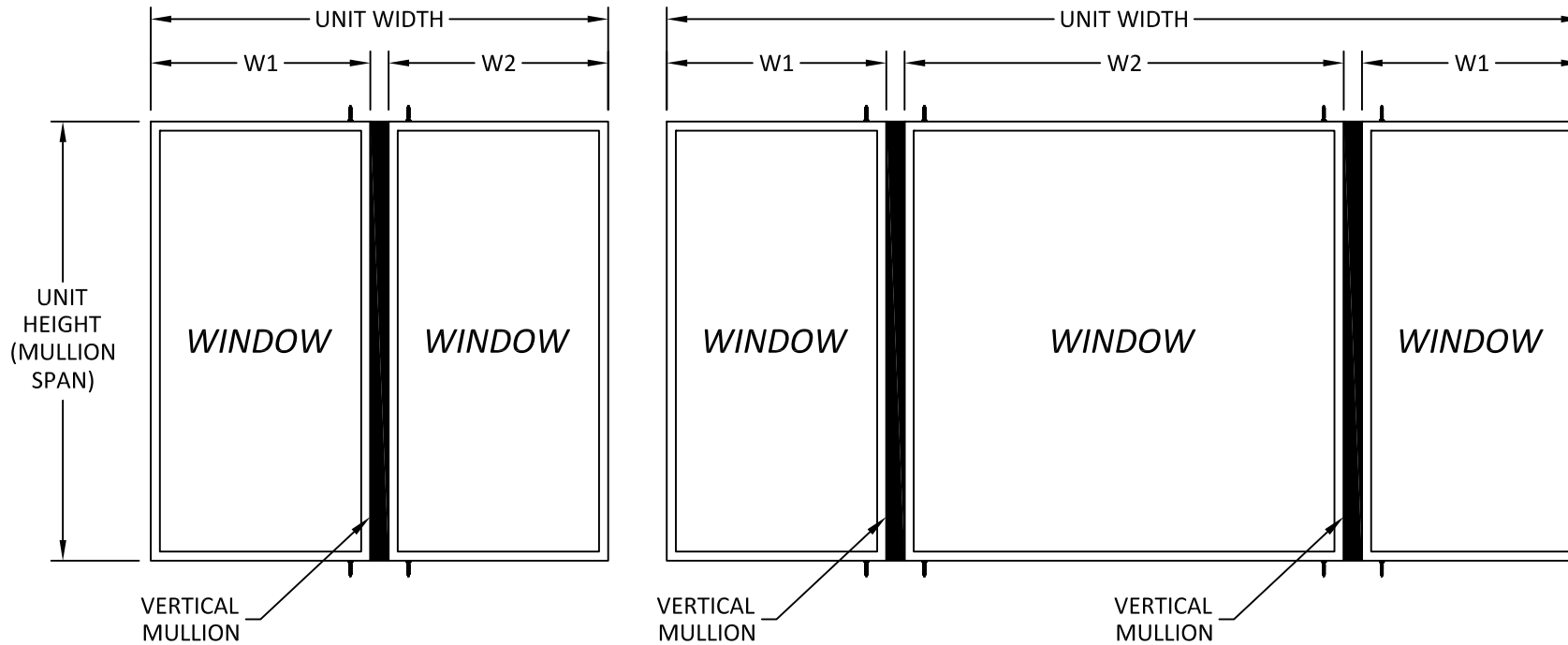


12613 CITYPARK DRIVE, SUITE 100
MISSOURI CITY, TX 77489
PH: (713) 926-8500

TITLE: VERTICAL REINFORCED MULLION (IMPACT)
ELEVATION, NOTES AND DESIGN PRESSURE CHART
PREPARED BY: BUILDING DROPS, INC.
398 E. DANIA BEACH BLVD., STE. 338
DANIA BEACH, FL 33004
PH: (954) 399-8278
FAX: (954) 744-4738
WEB: www.buildingdrops.com



TABLE OF CONTENTS	
SHEET	SHEET DESCRIPTION
1	ELEVATION, NOTES AND DESIGN PRESSURE CHART
2	INSTALLATION DETAILS AND BILL OF MATERIALS
3	INSTALLATION DETAILS
4	COMPONENTS



HEIGHT (IN.)	TRIBUTARY WIDTH (IN.)											
	18.0	21.0	24.0	27.0	30.0	33.0	36.0	39.0	42.0	45.0	48.0	53.0
24.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
30.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	68.6	67.8	67.5	67.5
54.0	70.0	70.0	70.0	70.0	66.5	62.8	60.0	57.8	56.1	54.9	54.0	53.4
60.0	70.0	70.0	67.5	61.9	57.6	54.2	51.4	49.2	47.5	46.1	45.0	43.8
63.0	70.0	70.0	63.5	58.2	54.0	50.7	48.0	45.8	44.1	42.7	41.5	40.2
66.0	70.0	66.7	60.0	54.9	50.8	47.6	45.0	42.9	41.1	39.7	38.6	37.1
72.0	68.6	60.2	54.0	49.2	45.5	42.5	40.0	38.0	36.3	34.9	33.8	32.2
78.0	62.6	54.9	49.1	44.7	41.1	38.3	36.0	34.1	32.5	31.1	30.0	28.5
84.0	57.6	50.4	45.0	40.9	37.6	34.9	32.7	30.9	29.4	28.1	27.0	25.5

DESIGN PRESSURE TABLE INSTRUCTION:

1. DEFINE REQUIRED DESIGN LOAD PER INTERNATIONAL BUILDING CODE OR INTERNATIONAL RESIDENTIAL CODE.
2. DETERMINE TRIBUTARY WIDTH AND MULLION SPAN (UNIT HEIGHT) BASED ON PRODUCT TO BE INSTALLED. SEE FORMULA FOR TRIBUTARY WIDTH.
3. LOCATE MULLION SPAN (UNIT HEIGHT) AND TRIBUTARY WIDTH. AT THE INTERSECTION OF ROW AND COLUMN CONTAINING THE MULLION SPAN AND TRIBUTARY WIDTH RESPECTIVELY IS THE MULLION RATING FOR PRODUCT IN STEP 2.
MULLION RATING MUST BE EQUAL OR GREATER THAN REQUIRED DESIGN PRESSURE OBTAINED IN STEP 1.

$$\text{TRIBUTARY WIDTH} = \frac{W1 + W2}{2}$$

NOTES:

1. THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH THE 2018 INTERNATIONAL BUILDING CODE (IBC) AND 2018 INTERNATIONAL RESIDENTIAL CODE (IRC).
2. WOOD FRAMING AND MASONRY OPENING TO BE DESIGNED AND ANCHORED TO PROPERLY TRANSFER ALL LOADS TO STRUCTURE. FRAMING AND MASONRY OPENING IS THE RESPONSIBILITY OF THE ARCHITECT OR ENGINEER OF RECORD.
3. ALLOWABLE STRESS INCREASE OF 1/3 WAS NOT USED IN THE DESIGN OF THE PRODUCT SHOWN HEREIN. WIND LOAD DURATION FACTOR Cd=1.6 WAS USED FOR WOOD ANCHOR CALCULATIONS.
4. APPROVED IMPACT PROTECTIVE SYSTEM IS NOT REQUIRED FOR THIS PRODUCT IN WIND BORNE DEBRIS REGIONS ZONE 3 OR LESS.
5. APPROVED IMPACT PROTECTIVE SYSTEM IS REQUIRED FOR THIS PRODUCT IN WIND BORNE DEBRIS REGIONS ZONE 4.
6. DESIGN PRESSURE AND INSTALLATION DETAILS SHOWN IN THIS DOCUMENT APPLY ONLY TO THE MULLION. WINDOWS MUST BE APPROVED UNDER SEPARATE APPROVAL.
7. SINGLE UNITS TO BE MULLED ARE NOT LIMITED TO THOSE SHOWN IN THIS DRAWING.
8. DESIGN PRESSURE OF MULLED UNIT SHALL BE CONTROLLED BY THE LESSER DESIGN PRESSURE OF THE MULLION OR THE INDIVIDUAL WINDOW UNIT.
9. FOR USE WITH APPLICABLE SHOWCASE PRODUCTS.

REMARKS	BY	DATE
A. CHANGE OF P.E.	LS	12.10.15
B. REV. ANCHOR & DP 70	MS	05.06.16
C. RE-EVALUATION	MS	12.21.21

THE INSTALLATION DETAILS DESCRIBED HEREIN ARE GENERIC AND MAY NOT REFLECT ACTUAL CONDITIONS FOR A SPECIFIC SITE. IF SITE CONDITIONS CAUSE INSTALLATION TO DEVIATE FROM THE REQUIREMENTS DETAILED HEREIN, A LICENSED ENGINEER OR ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE WITH THIS DOCUMENT.



HERMES F. NORERO, P.E.
TEXAS P.E. No. 118471
BUILDING DROPS, INC.
398 E. DANIA BEACH BLVD. # 338
DANIA BEACH, FL 33004
TBPE FIRM No. 13734

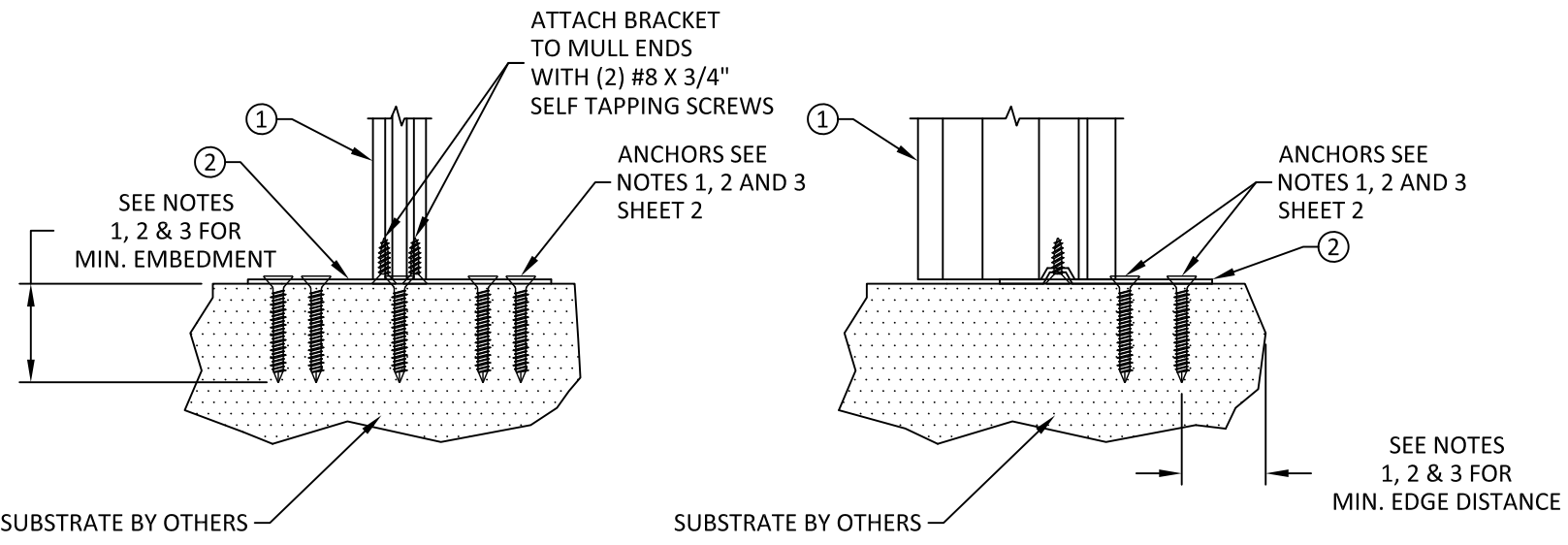
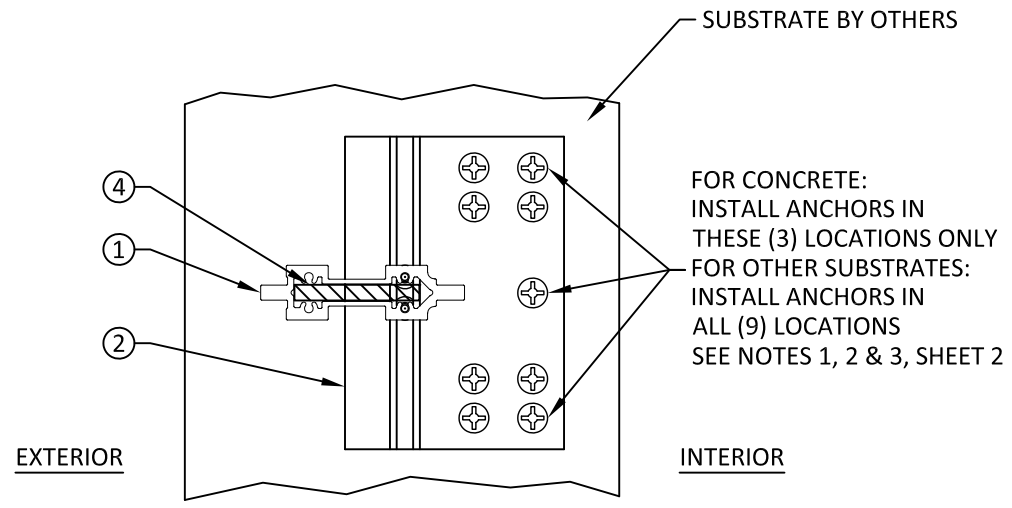
DATE:	03.12.14	
DWG. BY:	SSM	CHK. BY: HFN
SCALE:	NTS	
DWG. #:	SCV008	

SHEET: 1 OF 4

s:\projects\showcase custom vinyl windows & doors\lfdi-21-1144 - tdi_submittal - nu_33_renewal\dwgs\scv008.dwg 2/1/2022 5:36 PM

s:\projects\showcase custom vinyl windows & doors\1144 - tdf submittal - mu 33 renewal\dwgs\scv008.dwg 2/1/2022 5:36 PM

BILL OF MATERIALS				
NO.	PART NUMBER	DESCRIPTION	MANUFACTURER	MATERIAL
1	10300085	ALUMINUM VERTICAL MULLION	EASTERN METALS	ALUMINUM 6005-T5
2	10203000	15 GA. STEEL MULLION BRACKET	EASTERN METALS	GALVANIZED STEEL
3	10300093	MULLION CLIP	EASTERN METALS	ALUMINUM 6005-T5
4	-	MULLION REINFORCEMENT	-	STEEL



STEEL MULLION BRACKET 10203000
INSTALLATION DETAILS
SILL AND HEAD TYP.

ANCHOR NOTES:

1. FOR ANCHORING MULLION BRACKET OR MULL CLIP INTO MASONRY/CONCRETE USE 3/16" ITW TAPCONS WITH SUFFICIENT LENGTH TO ACHIEVE A 1 3/4" MINIMUM EMBEDMENT INTO SUBSTRATE WITH 2 5/8" MINIMUM EDGE DISTANCE. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
2. FOR ANCHORING MULLION BRACKET OR MULL CLIP INTO WOOD FRAMING OR 2X BUCK USE #10 WOOD SCREW WITH SUFFICIENT LENGTH TO ACHIEVE A 1 3/8" MINIMUM EMBEDMENT INTO SUBSTRATE WITH 3/4" MINIMUM EDGE DISTANCE. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
3. FOR ANCHORING MULLION BRACKET OR MULL CLIP INTO METAL FRAMING USE #10 TEK SELF TAPPING SCREWS WITH SUFFICIENT LENGTH TO ACHIEVE A MINIMUM EMBEDMENT OF THREE THREADS PAST SUBSTRATE WITH 1/2" MINIMUM EDGE DISTANCE. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
4. FOR WINDOW UNIT ANCHORING TO VERTICAL MULLION SEE INDIVIDUAL WINDOW APPROVAL INSTALLATION INSTRUCTIONS.
5. FOR WINDOW UNIT ANCHORING SCHEDULE TO SUBSTRATE REFER TO INDIVIDUAL WINDOW APPROVAL INSTALLATION INSTRUCTIONS.
6. ALL FASTENERS TO BE CORROSION RESISTANT.
7. INSTALLATION ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ANCHOR MANUFACTURER'S INSTALLATION INSTRUCTIONS, AND ANCHORS SHALL NOT BE USED IN SUBSTRATES WITH STRENGTHS LESS THAN THE MINIMUM STRENGTH SPECIFIED BELOW:
 - A. WOOD - MINIMUM SPECIFIC GRAVITY OF G = 0.42
 - B. CONCRETE - MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI.
 - C. MASONRY - STRENGTH CONFORMANCE TO ASTM C-90.
 - D. STEEL - MIN. 16 GA. TENSILE YIELD STRENGTH OF 33 KSI
 - E. ALUMINUM - MIN. 0.125" THICK, 6063-T5 (f'y=16000 PSI)



12613 CITYPARK DRIVE, SUITE 100
MISSOURI CITY, TX 77489
PH: (713) 926-8500

TITLE: VERTICAL REINFORCED MULLION (IMPACT)
INSTALLATION DETAILS AND BILL OF MATERIALS

PREPARED BY: BUILDING DROPS, INC.
398 E. DANIA BEACH BLVD., STE. 338
DANIA BEACH, FL 33004
PH: (954) 399-8278
FAX: (954) 744-4738
WEB: www.buildingdrops.com

REMARKS	BY	DATE
A. CHANGE OF P.E.	LS	12.10.15
B. REV. ANCHOR & DP 70	MS	05.06.16
C. RE-EVALUATION	MS	12.21.21

THE INSTALLATION DETAILS DESCRIBED HEREIN ARE GENERIC AND MAY NOT REFLECT ACTUAL CONDITIONS FOR A SPECIFIC SITE. IF SITE CONDITIONS CAUSE INSTALLATION TO DEVIATE FROM THE REQUIREMENTS DETAILED HEREIN, A LICENSED ENGINEER OR ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE WITH THIS DOCUMENT.



HERMES F. NORERO, P.E.
TEXAS P.E. No. 118471
BUILDING DROPS, INC
398 E. DANIA BEACH BLVD. # 338
DANIA BEACH, FL 33004
TBPE FIRM No. 13734

DATE:	03.12.14	
DWG. BY:	SSM	CHK. BY: HFN
SCALE:	NTS	
DWG. #:	SCV008	
SHEET:	2	

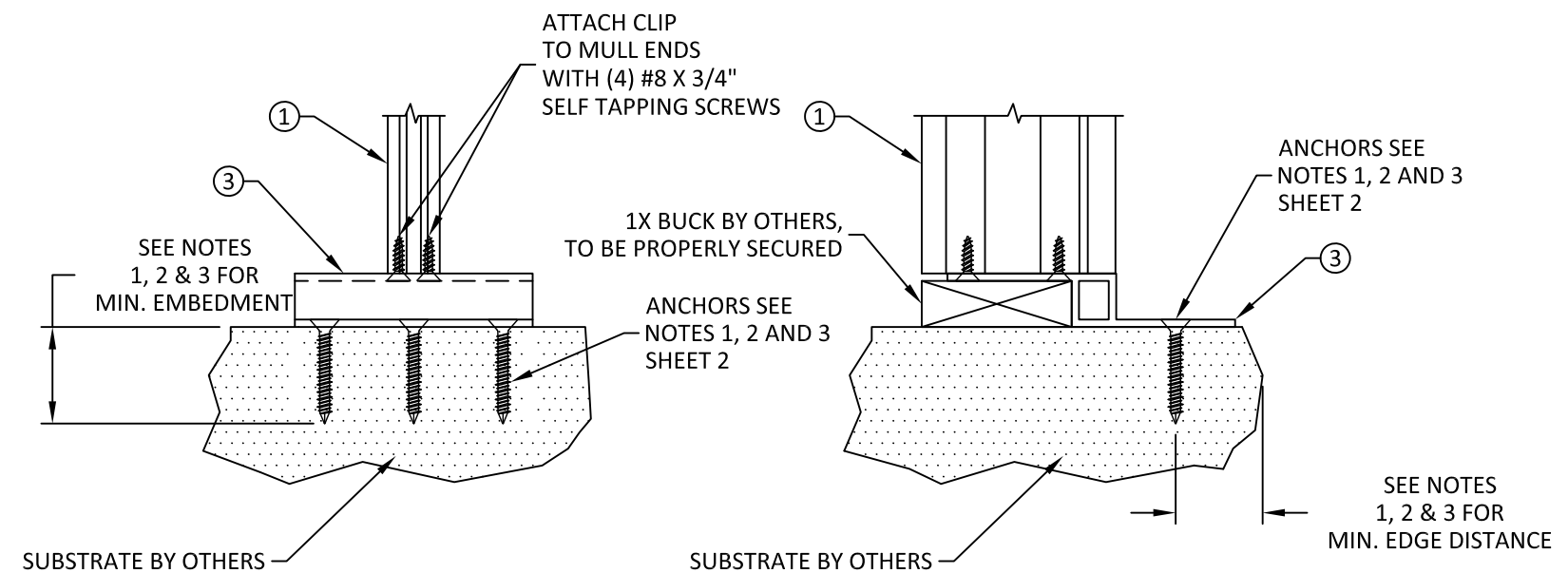
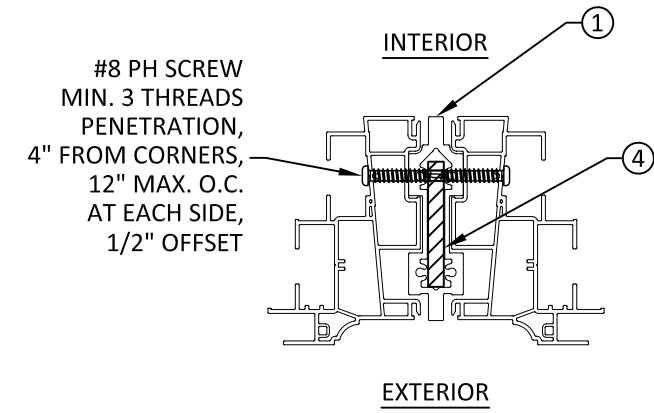
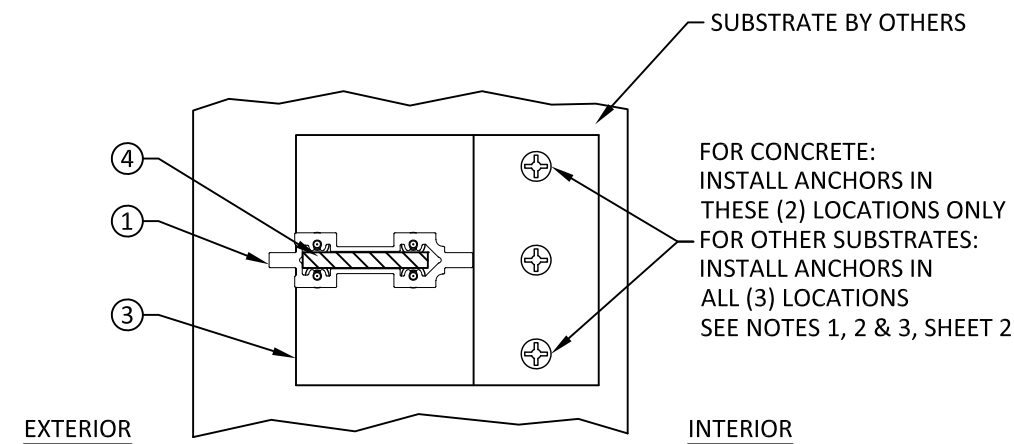
s:\projects\showcase custom vinyl windows & doors\ltd-21-1144 - tdi submittal - mu 33 renewal\dwgs\scv008.dwg 2/1/2022 5:36 PM



12613 CITYPARK DRIVE, SUITE 100
MISSOURI CITY, TX 77489
PH: (713) 926-8500

TITLE: VERTICAL REINFORCED MULLION (IMPACT)
INSTALLATION DETAILS

PREPARED BY: BUILDING DROPS, INC.
398 E. DANIA BEACH BLVD., STE. 338
DANIA BEACH, FL 33004
PH: (954) 399-8478
FAX: (954) 744-4738
WEB: www.buildingdrops.com



MULLION CLIP 10300093
INSTALLATION DETAILS
SILL AND HEAD TYP.

REMARKS BY DATE

A. CHANGE OF P.E.	LS	12.10.15
B. REV. ANCHOR & DP 70	MS	05.06.16
C. RE-EVALUATION	MS	12.21.21

THE INSTALLATION DETAILS DESCRIBED HEREIN ARE GENERIC AND MAY NOT REFLECT ACTUAL CONDITIONS FOR A SPECIFIC SITE. IF SITE CONDITIONS CAUSE INSTALLATION TO DEVIATE FROM THE REQUIREMENTS DETAILED HEREIN, A LICENSED ENGINEER OR ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE WITH THIS DOCUMENT.



HERMES F. NORERO, P.E.
TEXAS P.E. No 118471
BUILDING DROPS, INC
398 E. DANIA BEACH BLVD. # 338
DANIA BEACH, FL 33004
TBPE FIRM No. 13734

DATE: 03.12.14

DWG. BY: SSM CHK. BY: HFN

SCALE: NTS

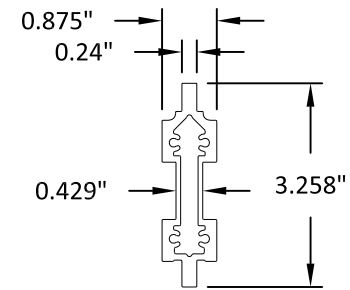
DWG. #: SCV008

SHEET:

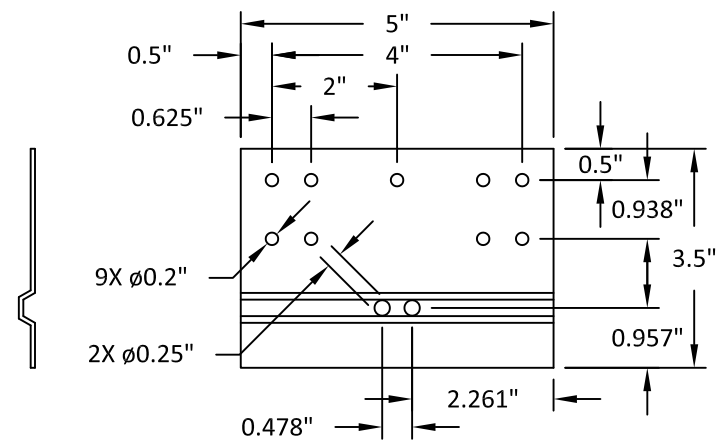
s:\projects\showcase custom vinyl windows & doors\tdi-21-1144 - tdi submittal - mu 33 renewal\dwg\scv008.dwg 2/1/2022 5:36 PM



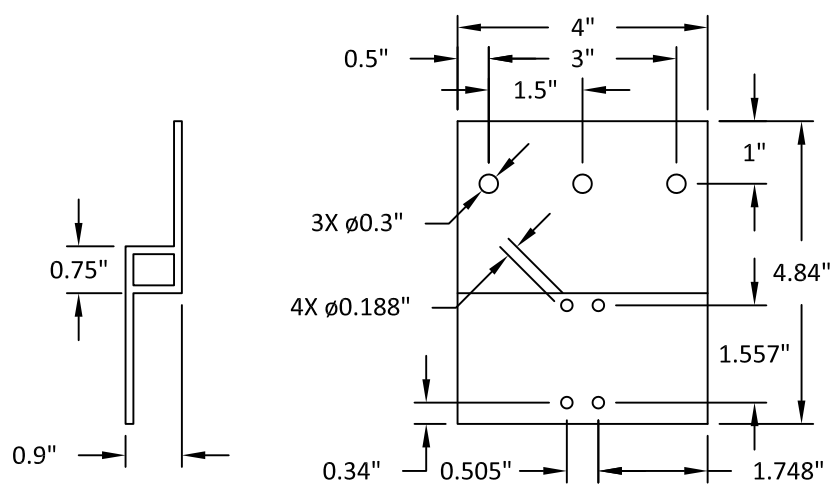
12613 CITYPARK DRIVE, SUITE 100
MISSOURI CITY, TX 77489
PH: (713) 926-8500



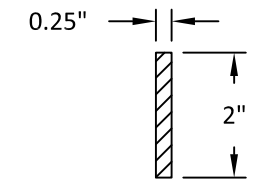
1 10300085 ALUMINUM VERTICAL MULLION
ALUMINUM 6005-T5 0.075" THICK MINIMUM



2 10203000 STEEL MULLION BRACKET
15 GA. GALVANIZED STEEL



3 10300093 MULLION CLIP
ALUMINUM 6005-T5 0.125" THICKNESS



4 MULLION REINFORCEMENT
STEEL 1/4" THICKNESS

TITLE: VERTICAL REINFORCED MULLION (IMPACT)
COMPONENTS
PREPARED BY: BUILDING DROPS, INC.
398 E. DANIA BEACH BLVD., STE. 338
DANIA BEACH, FL 33004
PH: (954) 399-8478
FAX: (954) 744-4738
WEB: www.buildingdrops.com

REMARKS	BY	DATE
A. CHANGE OF P.E.	LS	12.10.15
B. REV. ANCHOR & DP 70	MS	05.06.16
C. RE-EVALUATION	MS	12.21.21

THE INSTALLATION DETAILS DESCRIBED HEREIN ARE GENERIC AND MAY NOT REFLECT ACTUAL CONDITIONS FOR A SPECIFIC SITE. IF SITE CONDITIONS CAUSE INSTALLATION TO DEVIATE FROM THE REQUIREMENTS DETAILED HEREIN, A LICENSED ENGINEER OR ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE WITH THIS DOCUMENT.



HERMES F. NORERO, P.E.
TEXAS P.E. No 118471
BUILDING DROPS, INC
398 E. DANIA BEACH BLVD. # 338
DANIA BEACH, FL 33004
TBPE FIRM No. 13734

DATE:	03.12.14
DWG. BY:	SSM
CHK. BY:	HFN
SCALE:	NTS
DWG. #:	SCV008
SHEET:	4