

GENERAL NOTES:

1. ROLL-UP DOOR SHOWN ON THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) HAS BEEN VERIFIED FOR CODE COMPLIANCE IN ACCORDANCE WITH THE **2018 EDITION** OF THE INTERNATIONAL BUILDING CODE, (I.B.C) AND INTERNATIONAL RESIDENTIAL CODE, (I.R.C).

DESIGN WIND LOADS SHALL BE DETERMINED AS PER SECTION **1609** OF THE INTERNATIONAL BUILDING CODE, FOR A BASIC WIND SPEED AS REQUIRED BY THE JURISDICTION WHERE THIS PRODUCT WILL BE INSTALLED, AND FOR A DIRECTIONALITY FACTOR $K_d=0.85$, IN ACCORDANCE WITH **ASCE 7-16 STANDARD**, AND SHALL NOT EXCEED THE DESIGN PRESSURE RATING INDICATED BELOW.

IN ORDER TO VERIFY THE ABOVE CONDITION, ULTIMATE DESIGN WIND LOADS DETERMINED PER **ASCE 7-16** SHALL BE FIRST REDUCED TO A.S.D. DESIGN WIND LOADS BY MULTIPLYING THEM BY 0.6 IN ORDER TO COMPARE THESE W/ MAX. (A.S.D.) DESIGN PRESSURE RATINGS INDICATED ON THIS SHEET.

IN ORDER TO VERIFY THAT ANCHORS ON THIS P.E.D. AS TESTED WERE NOT OVERSTRESSED, A 33% INCREASE IN ALLOWABLE STRESS FOR WIND LOADS WAS **NOT** USED IN THEIR ANALYSIS.

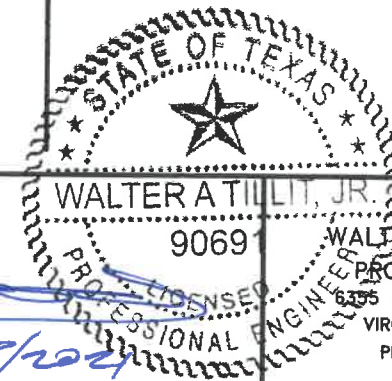
ROLL-UP DOOR'S ADEQUACY FOR IMPACT AND FATIGUE RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTION 1609.1.2 OF THE INTERNATIONAL BUILDING CODE AS PER **BLACKWATER TECHNICAL SERVICES INC.** REPORT # BT-MTD-20-001 PER FLORIDA HIGH VELOCITY HURRICANE ZONE TAS-201, TAS 202 & TAS-203 PROTOCOLS., EQUIVALENT TO ASTM E-1886-13a , ASTM E- 1996-14a & ASTM E -330-14.

MAX. A.S.D. DESIGN PRESSURE RATING: +70.0. -70.0 PSF

- 2. SLAT TO BE A.S.T.M. A-653 GR 45 STRUCTURAL QUALITY STEEL WITH MIN $F_y= 45.0$ ksi AND G-60 GALVANIZED PER A.S.T.M. A-653.
- 3. ALL STEEL ANGELS TO BE A.S.T.M. A-36 DESIGNATION, SHOP PRIMED AGAINST CORROSION PRIOR TO INSTALLATION. PAINT TO CONFORM TO FEDERAL SPECIFICATIONS CORRESPONDING TO GRAY PAINT OR EQUAL.
- 4. WINDLOCKS TO BE A.S.T.M. A-1011 GRADE 60 W/ A.S.T.M. A-123 G-60 GALVANIZED STEEL. ($F_y= 60$ ksi, $F_u= 80$ ksi).
- 5. ALL ASSEMBLY BOLTS TO BE S.A.E. GRADE 5 CADMIUM PLATED OR GALVANIZED STEEL. ALL SCREWS AND BOLTS INSTALLED TO BE STAINLESS STEEL 304 OR 316 AISI SERIES AND MEET ASTM A167, OR HOT DIPPED GALVANIZED (AFTER FABRICATION) CARBON STEEL AS PER ASTM A123 OR ASTM A153, OR HOT DIPPED GALVANIZED OR GALVANNEALED (PRIOR TO FABRICATION) AND MEET ASTM A653 WITH 50 ksi YIELD STRENGTH AND 90 hsi TENSILE STRENGTH.
- 6. STEEL WINDBARS TO BE A.S.T.M/ A-36 DESIGNATION, SHOP PRIMED PRIOR TO INSTALLATION. PAINT TO CONFORM TO FEDERAL SPECIFICATIONS CORRESPONDING TO RED OXIDE PAINT OR EQUAL.
- 7.1 HOOD TO BE 24 GAGE A.S.T.M. A-653 DESIGNATION, GRADE 33, G-90 GALVANIZED STEEL OR 22 GAGE A.S.T.M. A-653 DESIGNATION, GRADE 33, G-60 GALVANIZED STEEL.
- 7.2 BACKER SLAT TO BE 24 GAGE A.S.T.M. A-653 DESIGNATION, GRADE 33, G-90 GALVANIZED STEEL, OR 22 OR 20 GAGE A.S.T.M. A-653 DESIGNATION, GRADE 33, G-60 GALVANIZED STEEL.
- 8. ALL RIVETS TO BE A.I.S.I. $\frac{1}{4}$ " ϕ W/ $\frac{1}{2}$ " FLANGE ϕ STAINLESS STEEL MODEL # STS84D DOMED HD, W/ 1460 Lb SHEAR STRENGTH & 1800 TENSILE STRENGTH.
- 9. CONCRETE ANCHORS TO BE AS MANUFACTURED BY RED HEAD AND SHALL BE INSTALLED FOLLOWING ALL OF THE RECOMMENDATIONS AND SPECIFICATIONS OF THE ANCHOR'S MANUFACTURER. ANCHOR FOR STEEL SHALL BE AS MANUFACTURED BY ELCO CONSTRUCTION PRODUCTS.
- 10. ALL WELDING TO CONFORM TO AMERICAN WELDING SOCIETY'S AWS D1.1 REGULATIONS. USE A.W.S. AS.1 OR A5.5 E60XX ELECTRODES MIN. $\frac{3}{16}$ " FILLET SIZE.
- 11. INSULATION MATERIAL SHALL BE RMAX FOIL FACED RIGID POLYISOCYANURATE FOAM SHEATHING INSULATION, MANUFACTURED BY Rmax Operating, LLC W/ MIAMI DADE COUNTY, FLORIDA APPROVAL.

- 12. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT THE EXISTING STRUCTURE IS DESIGNED TO SUPPORT V_x AND V_y FORCES AT BOTH JAMBS. SEE SCHEDULE ON SHEET 7 OF 7, FOR V_x & V_y VALUES.
- 13. ROLL-UP MECHANISM NOT PART OF THIS APPROVAL.
- 14. (A) THIS P.E.D. PREPARED BY THIS ENGINEER IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT: I.E. WHERE THE SITE CONDITIONS DEVIATE FROM THE P.E.D.
 (B) CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION OF THIS PRODUCT BASED ON THIS P.E.D. PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT, CONSTRUCTION SAFETY AT SITE IS THE CONTRACTOR'S RESPONSIBILITY.
 (C) THIS P.E.D. WILL BE CONSIDERED INVALID IF MODIFIED.
 (D) SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A TEXAS 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.
 (E) ORIGINAL P.E.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.
- 15. ROLL-UP DOOR MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION AT ROLL-UP DOOR IN ACCORDANCE WITH TEXAS DEPARTMENT OF INSURANCE REQUIREMENTS. ONE LABEL SHALL BE PLACED FOR EVERY OPENING.

THIS DRAWING SHALL ONLY BE USED TO OBTAIN PERMITS IN THE STATE OF TEXAS



[Signature]
 P.E. SEAL/SIGNATURE/DATE

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 PROFESSIONAL ENGINEER
 6375 N.W. 36th. STREET, STE. 305
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 TEXAS LIC. # 90691
 FIRM REGISTRATION # F-13790

TEXAS DEPARTMENT OF INSURANCE -2018

18'-1" MAXIMUM WIDE, 20 GAGE SLAT ROLL-UP DOOR TYPE "D" MISSILE IMPACT RESISTANT

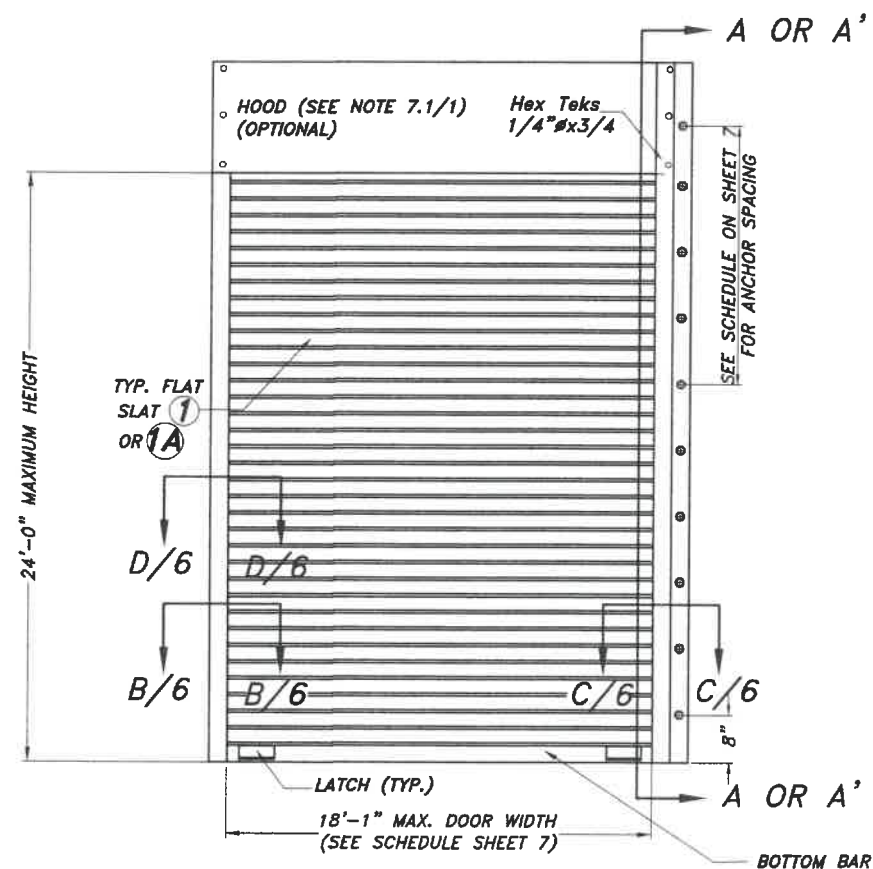
METRO DOOR LLC.
 821 INDUSTRIAL DRIVE
 LEWISBURG, TN 37091

M.P.
DRAWN BY:

10/13/2020
DATE

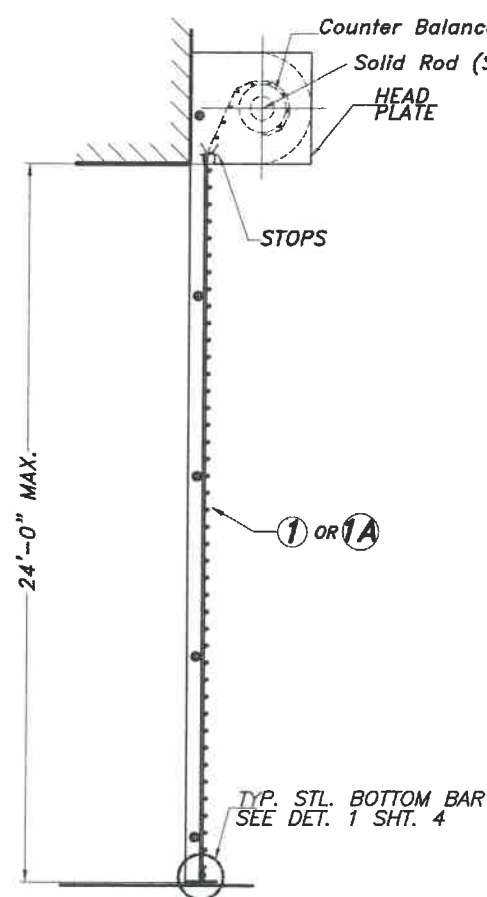
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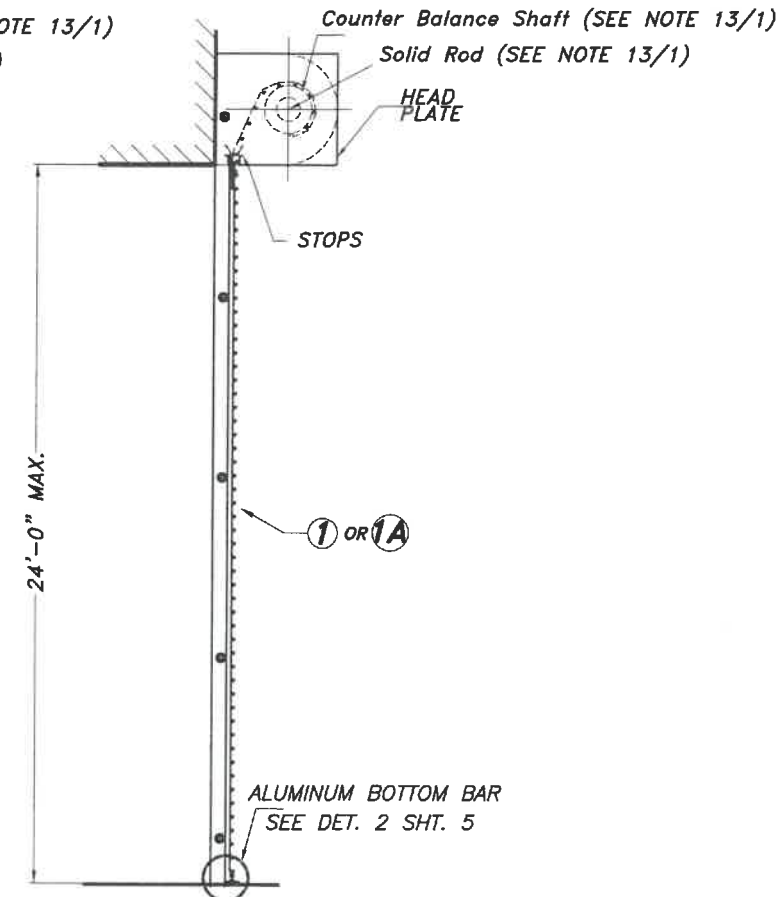
TYPICAL DOOR ELEVATION

N. T. S.



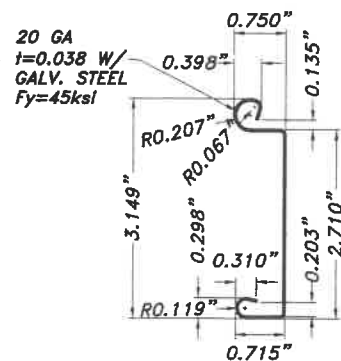
SECTION A-A

N. T. S.



SECTION A'-A'

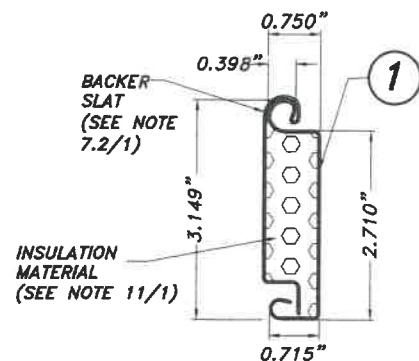
N. T. S.



1 FLAT SLAT

Fy=45ksi

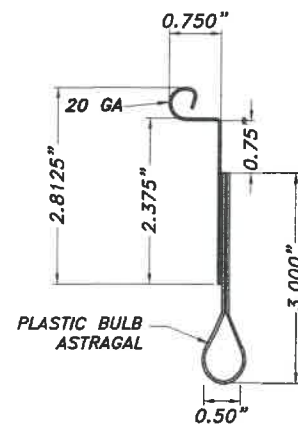
ASTM A-653 GRADE 45
G-60 GALV. STL



1A SLAT

Fy=45ksi

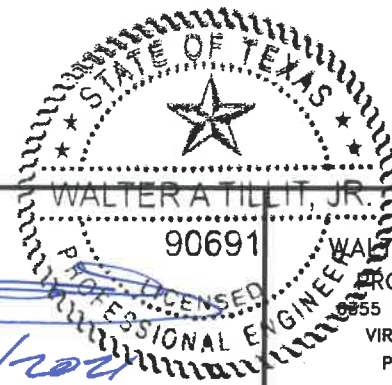
ASTM A-653 GRADE 45
G-60 GALV. STL



2 STL BOTTOM SLAT FOR SECTION A-A

Fy=45ksi

ASTM A-653 GRADE 45
G-60 GALV. STL



WALTER A. TILLIT, JR.
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PROFESSIONAL ENGINEER
4/8/2021

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TEXAS DEPARTMENT OF INSURANCE -2018

18'-1" MAXIMUM WIDE, 20 GAGE SLAT
ROLL-UP DOOR TYPE "D" MISSILE
IMPACT RESISTANT

M.P.
DRAWN BY:

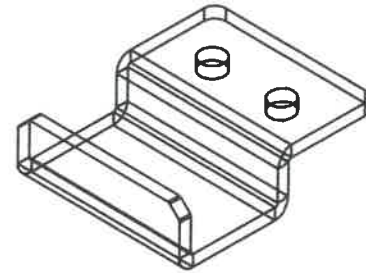
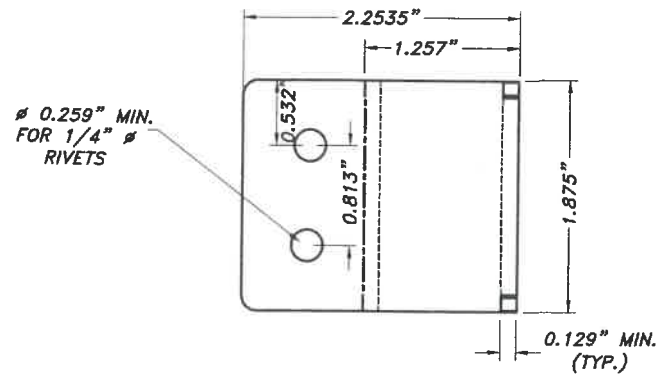
METRO DOOR LLC.
821 INDUSTRIAL DRIVE
LEWISBURG, TN 37091

10/13/2020
DATE

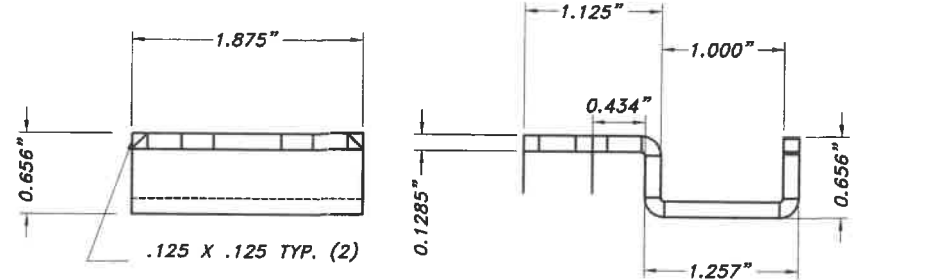
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SHEET 2 OF 7



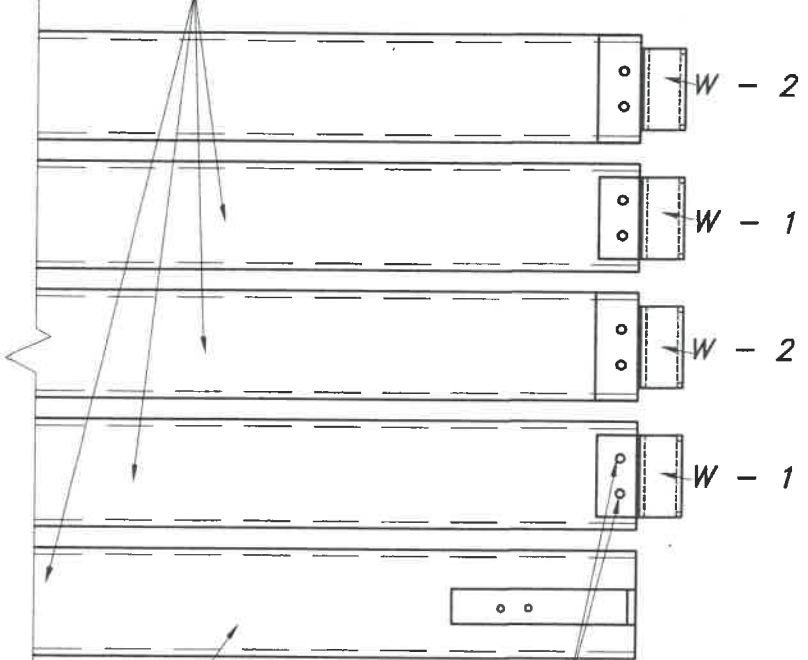
ISOMETRIC VIEW W-1



WIND LOCK W-1

Fy= 60ksi
Fu= 80ksi
ASTM A-1011 GRADE 60 W/ ASTM A-123
G-60 GALVANIZED STEEL

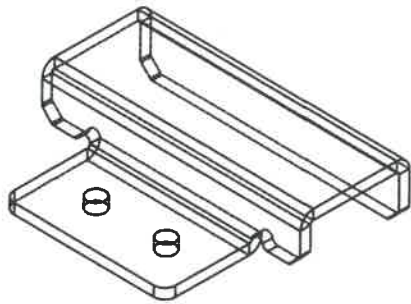
FLAT SLAT , INSULATED SLAT
①, ①A



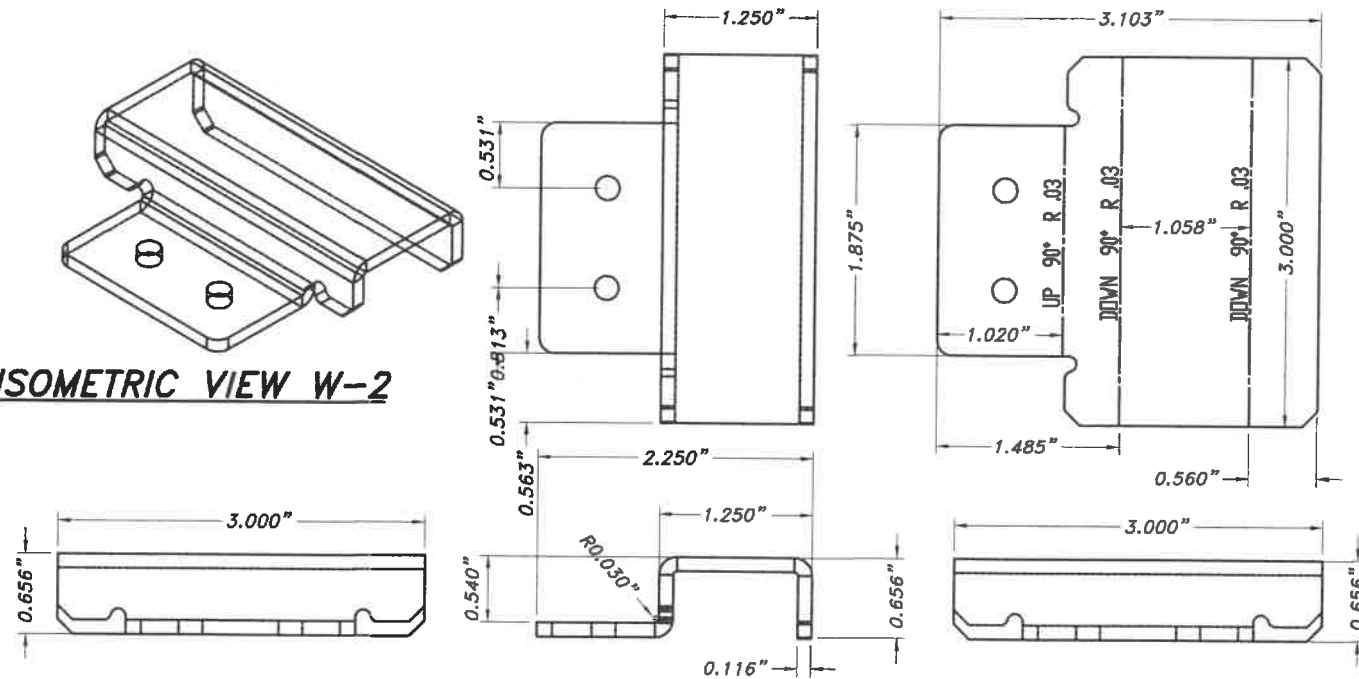
BOTTOM SLAT W/LATCH
(SEE SHEETS 4 & 5)

S.S. RIVETS ϕ 1/4" (STS84D)
(2) EA. W-1 OR EA. W-2

ELEVATION DETAIL FOR SLAT W/ W-1 & W-2
N.T.S.

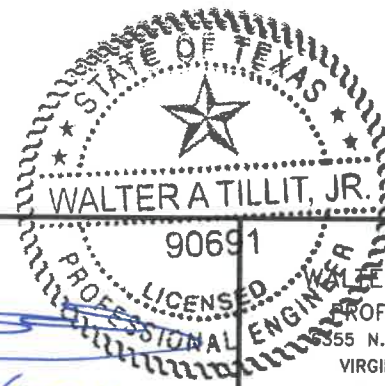


ISOMETRIC VIEW W-2



WIND LOCK W-2

Fy= 60ksi
Fu= 80ksi
ASTM A-1011 GRADE 60 W/ ASTM A-123
G-60 GALVANIZED STEEL



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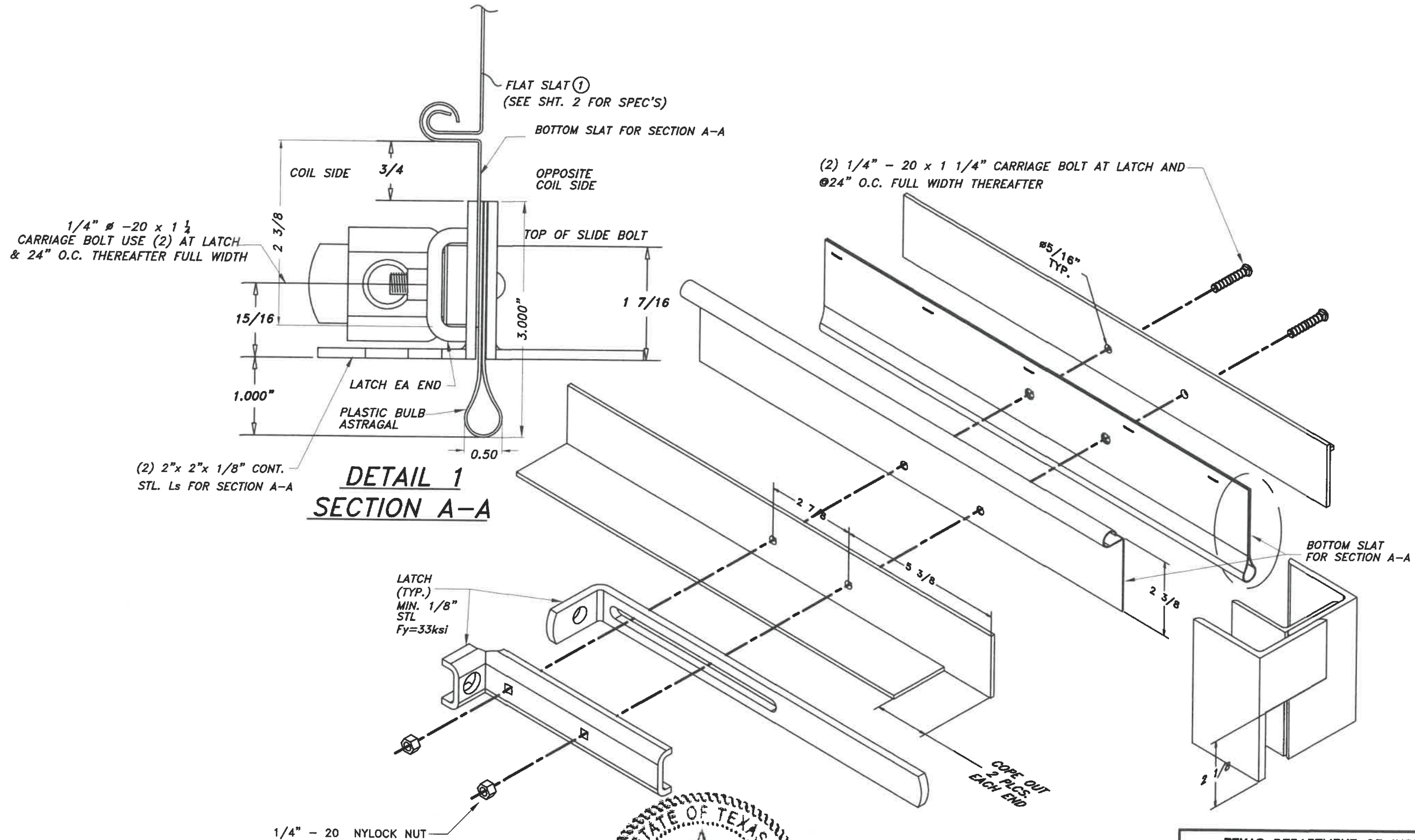
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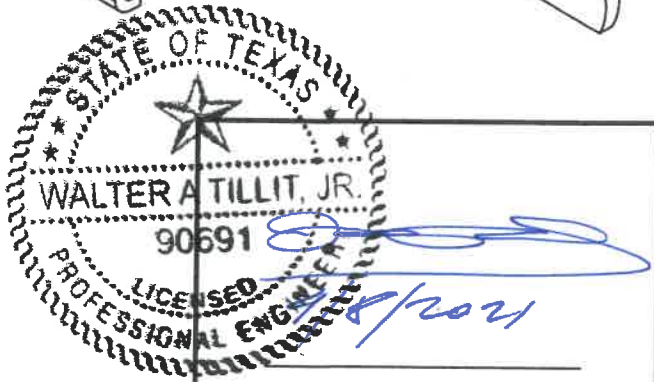
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1	G. NOTES 7.1 & 7.2	4/7/21	3	-	-
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SHEET 3 OF 7



**DETAIL 1
SECTION A-A**

**ASSEMBLY DETAIL OF BOTTOM SLAT
W/ STEEL ANGLES & W/ LATCH AT
SECTION A-A**



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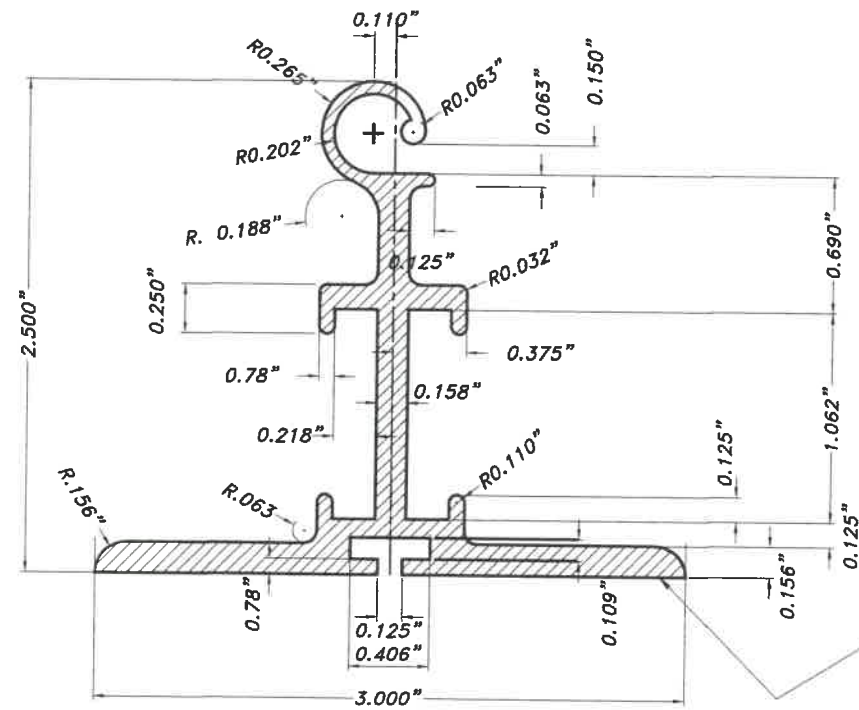
M.P.
DRAWN BY:

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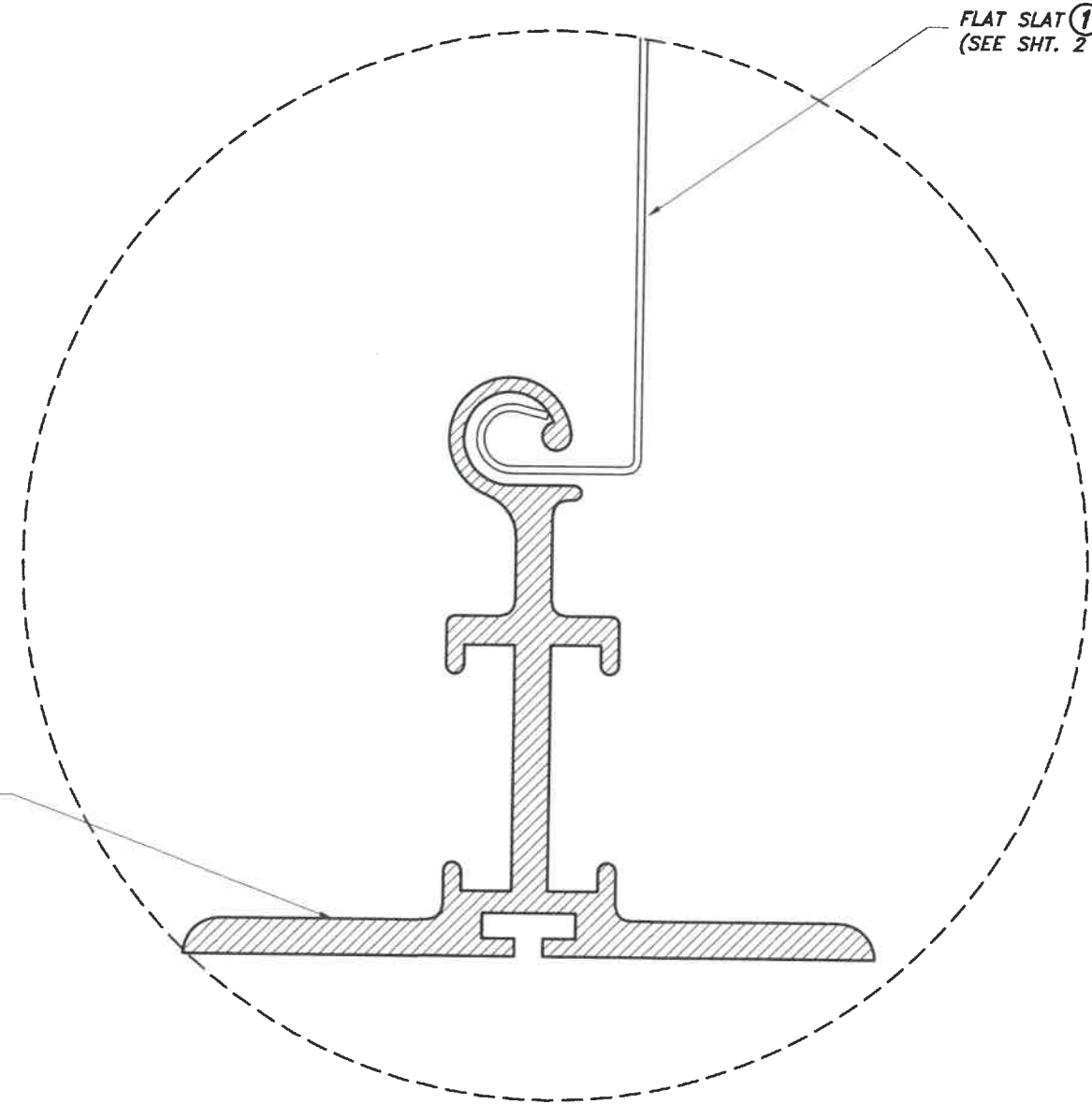
20-288
DRAWING No

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SHEET 4 OF 7



ALUMINUM BAR



**ASSEMBLY DETAIL AT BOTTOM W/ ALUMINUM BAR
SECTION A'-A'**

N. T. S.

STATE OF TEXAS
WALTER A TILLIT JR.
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LICENSED PROFESSIONAL ENGINEER
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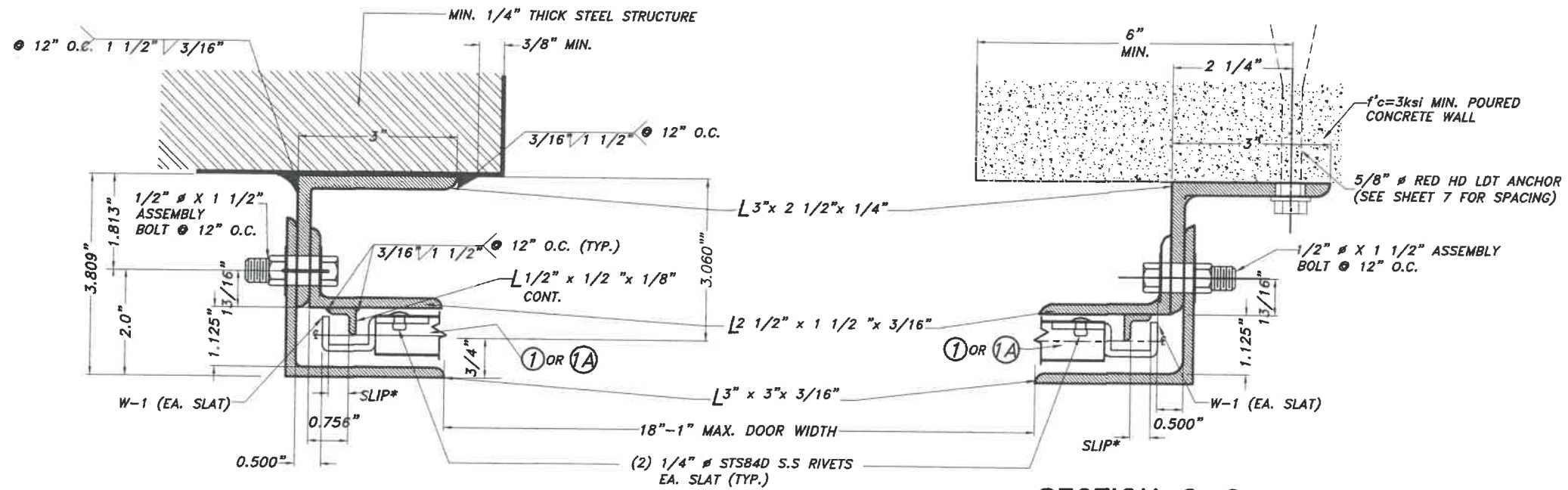
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20-288
DRAWING No

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SHEET 5 OF 7



SECTION B-B

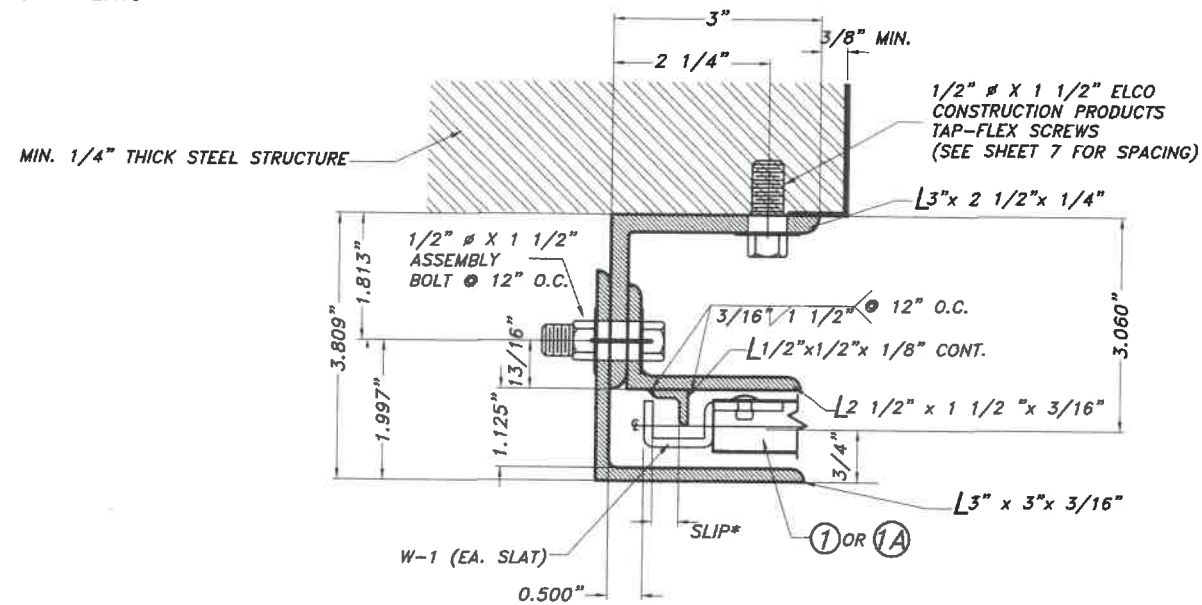
SCALE : 3/8" = 1"

* SEE SHEET 7 FOR REQUIREMENTS

SECTION C-C

SCALE : 3/8" = 1"

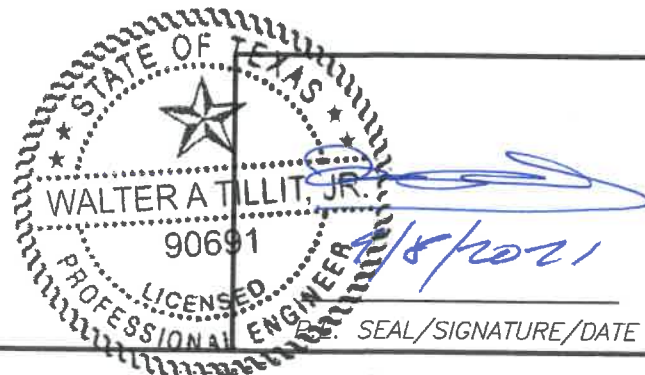
* SEE SHEET 7 FOR REQUIREMENTS



SECTION D-D

SCALE : 3/8" = 1"

* SEE SHEET 7 FOR REQUIREMENTS



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M.P.
 DRAWN BY:

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10/13/2020
 DATE

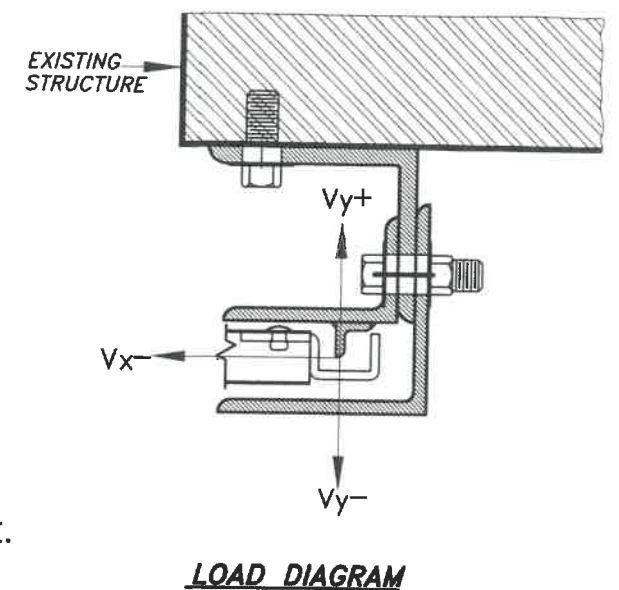
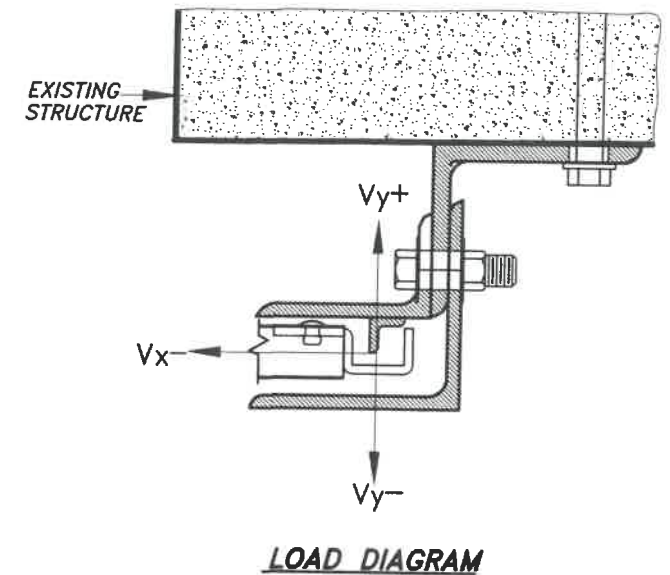
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 DRAWING No

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SHEET 6 OF 7

V_x & V_y REACTIONS & ANCHOR SPACING SCHEDULE

MAXIMUM DESIGN LOAD (psf)	DOOR WIDTH (ft-in)	SLIP (in)	V _x (lb/ft)	V _y (lb/ft)	MAXIMUM ANCHOR SPACING		
					ANCHOR TYPE 1 *		ANCHOR TYPE 2 *
					f'c= 3ksi Min.	f'c= 4ksi Min.	1/4 Min. f'y=36ksi STEEL
+50.0 , -50.0	14'-0"	3/8"	1427	350	10"	10"	10"
	16'-0"	1/2 "	1595	400	10"	10"	10"
	18'-1"	0.634"	1765	453	10"	10"	10"
+55.0 , -55.0	14'-0"	3/8"	1585	385	10"	10"	10"
	16'-0"	1/2 "	1762	440	10"	10"	10"
	18'-1"	0.634"	1944	498	9 1/2"	10"	10"
+60.0 , -60.0	14'-0"	3/8"	1741	420	10"	10"	10"
	16'-0"	1/2 "	1928	480	9 3/4"	10"	10"
	18'-1"	0.634"	2122	543	8 3/4"	10"	10"
+70.0 , -70.0	14'-0"	3/8"	2048	490	9"	10"	10"
	16'-0"	1/2 "	2255	560	8 1/4"	10"	10"
	18'-1"	0.634"	2472	634	7 1/2"	9"	9 1/4"



ANCHOR TYPE 1: 5/8"Ø RED HEAD LDT SELF THREADING W/ 4 1/2" MIN. EMBEDMENT & 6" MIN. EDGE DISTANCE INTO f'c= 3ksi MIN. POURED CONCRETE.

ANCHOR TYPE 2: 1/2"Ø x 1 1/2" MIN. ELCO CONSTRUCTION PRODUCT TAP-FLEX THREADING SCREW INTO 1/4" MIN. ASTM A-36 STEEL STRUCTURE.


WALTER A. TILLIT, JR.
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ROLL-UP DOOR TYPE "D" MISSILE
IMPACT RESISTANT**

METRO DOOR LLC.
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 LEWISBURG, TN 37091

M.P.
DRAWN BY:

10/13/2020
DATE

20-288
DRAWING No

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
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SHEET 7 OF 7