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# AMERICAN STEEL PRODUCTS

## HOLLOW METAL FLUSH OUTSWING DOORS WITH SIDELITES (HVHZ)(IMPACT)

INSTALLATION NOTES:

- ONE (1) INSTALLATION ANCHOR IS REQUIRED AT EACH ANCHOR LOCATION SHOWN, UNLESS OTHERWISE STATED.
- THE NUMBER OF INSTALLATION ANCHORS DEPICTED IS THE MINIMUM NUMBER OF ANCHORS TO BE USED FOR PRODUCT INSTALLATION.
- INSTALL INDIVIDUAL INSTALLATION ANCHORS WITHIN A TOLERANCE OF ±1/4 INCH OF THE DEPICTED LOCATION IN THE ANCHOR LAYOUT DETAIL (I.E., WITHOUT CONSIDERATION OF TOLERANCES). TOLERANCES ARE NOT CUMULATIVE FROM ONE INSTALLATION ANCHOR TO THE NEXT.
- FOR INSTALLATION INFORMATION AND ANCHOR LAYOUTS ON HEAD, JAMBS AND SILL, REFER TO SHEET 4.
- MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDE WALL FINISHES, INCLUDING BUT NOT LIMITED TO STUCCO, FOAM, BRICK VENEER, AND SIDING.
- INSTALLATION ANCHORS AND ASSOCIATED HARDWARE MUST BE MADE OF CORROSION RESISTANT MATERIAL OR HAVE A CORROSION RESISTANT COATING.
- FOR GROUT FILLED BLOCK, DO NOT INSTALL MECHANICAL INSTALLATION ANCHORS INTO MORTAR JOINTS. EDGE DISTANCE IS MEASURED FROM FREE EDGE OF BLOCK OR EDGE OF MORTAR JOINT INTO FACE SHELL OF BLOCK.
- 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 BY THE ANCHOR MANUFACTURER.
- INSTALLATION ANCHOR CAPACITIES FOR PRODUCTS HEREIN ARE BASED ON SUBSTRATE MATERIALS WITH THE FOLLOWING PROPERTIES:
  - WOOD - MINIMUM SPECIFIC GRAVITY OF 0.55.
  - CONCRETE -MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI.
  - GROUT-FILLED CMU - UNIT STRENGTH CONFORMS TO ASTM C-90 (MIN. F'c = 2000 PSI) & GROUT CONFORMS TO ASTM C 476. GROUT SHALL HAVE MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI.
  - STEEL STUD - MINIMUM 16 GAUGE (0.054") WITH MINIMUM TENSILE YIELD STRENGTH (Fy) OF 33 KSI.

GENERAL NOTES:

- THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH THE CURRENT FLORIDA BUILDING CODE, INCLUDING HVHZ, AND HAS BEEN TESTED IN ACCORDANCE WITH THE FOLLOWING STANDARDS:
  - TAS 201-94
  - TAS 202-94
  - TAS 203-94
  - ASTM E330-14(21)
  - ASTM E331-00(16)
  - ASTM E283-19
  - ASTM E1886-19
  - ASTM E1996-20
- ADEQUACY OF THE EXISTING STRUCTURAL CONCRETE/MASONRY, 2X AND STEEL STUD FRAMING AS A MAIN WIND FORCE RESISTING SYSTEM CAPABLE OF WITHSTANDING AND TRANSFERRING APPLIED PRODUCT LOADS TO THE FOUNDATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD FOR THE PROJECT OF INSTALLATION.
- 1X OR 2X BUCKS (WHEN USED) SHALL BE DESIGNED AND ANCHORED TO PROPERLY TRANSFER ALL LOADS TO THE STRUCTURE. BUCK DESIGN AND INSTALLATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD FOR THE PROJECT OF INSTALLATION.
- 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 IN NON-HVHZ AREA. IN HVHZ AREA, ONE TIME PRODUCT APPROVAL TO BE OBTAINED FROM MIAMI-DADE RER OR AUTHORITY HAVING JURISDICTION (AHJ).
- APPROVED IMPACT PROTECTIVE SYSTEM **IS NOT REQUIRED** TO PROTECT THIS PRODUCT IN AREAS REQUIRING IMPACT RESISTANCE.
- STEEL COMPONENTS SHALL BE COATED OR PROVIDED WITH CORROSION RESISTANCE PROTECTION IN CONFORMANCE WITH THE MATERIAL PROTECTION PROVISIONS OF THE CURRENT FBC.
- DOOR & FRAME MATERIAL: COLD ROLLED GALVANNEALED STEEL 14 GAUGE (0.067") MIN. (MIN. Fy = 35 KSI)
- DESIGNATION "X" & "O" STANDS FOR THE FOLLOWING:  
X: OPERABLE PANEL  
O: FIXED PANEL
- ALTERNATE LOCKING AND OPERATING HARDWARE MAY BE USED SUCH THEY ARE CURRENTLY APPROVED UNDER A SEPARATE APPROVAL. INSTALLATION SHALL MAINTAIN THE MINIMUM REQUIREMENTS & LIMITATIONS OF USE OF THE SEPARATE COMPONENT APPROVAL AND THE DETAILS HEREIN. THE LESSER DESIGN PRESSURE AND RATING OF THE COMPONENT APPROVAL AND APPROVAL HEREIN SHALL GOVERN.

STEEL DOOR CONSTRUCTION:

THE OVERALL PANEL THICKNESS IS MINIMUM 1 3/4 INCH THICK. DOOR PANELS ARE CONSTRUCTED FROM MINIMUM 14 GA. (0.067") COLD-ROLLED STEEL (CRS) FACE SHEETS WITH MINIMUM 16 GA. (0.053") VERTICAL 'HAT' STIFFENERS AT MAXIMUM 6" O.C. SPOT WELDED TO FACE SHEETS 3" O.C. MAX. DOOR HINGE & LOCK STILES UTILIZE MINIMUM 12 GA. (0.096") VERTICAL EDGE CHANNEL REINFORCING AND ARE SEAM WELDED FULL HEIGHT. DOOR TOP & BOTTOM RAILS UTILIZE TWO NESTED 12 GA. (0.096") CHANNELS AS REINFORCING. DOOR ARE REINFORCED AT HINGE LOCATIONS USING A 3/16" X 1-1/2" X 10" HINGE REINFORCEMENT PLATE, STITCH WELDED TO VERTICAL EDGE REINFORCEMENT CHANNELS AND PROJECTION WELDED TO FACE SHEETS. GLAZING IS CAPTURED USING 1-1/4" (H) X 10 GA. ANGLES ATTACHED TO A 12 GA. FIXED GLASS MOLDING WITH 1/4-20 SCREWS SPACED 2" FROM CORNERS AND 6" MAX. O.C. THEREAFTER.

STEEL FRAME CONSTRCUTION:

THE DOOR FRAMES ARE CONSTRUCTED FROM MINIMUM 14 GA. (0.067") CRS MEASURING 2-5/8" X 5-3/4" O.A. DOOR FRAMES ARE REINFORCED AT HINGE LOCATIONS WITH 3/16" X 1-1/2" X 10" LONG HINGE REINFORCING PLATES WHICH ARE PROJECTION WELDED TO THE FRAME RABBET AND WELDED TO THE INSIDE TRIM OF THE FRAME. SIDELITE GLAZINGS ARE CAPTURED THROUGH THE USE OF 1-1/4" X 1-1/4" X 10 GA. ANGLE STOPS SECURED TOT HE FRAME WITH 1/4-20 BUTTON HEAD PIN TORX GRADE 8 SECURITY SCREWS, SPACED 2" FROM CORNERS AND 6" MAX. O.C. THEREAFTER.

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| DESIGN PRESSURE RATING DOOR ASSEMBLY |                             |                 |                                    |
|--------------------------------------|-----------------------------|-----------------|------------------------------------|
| NOM. SINGLE DOOR OPENING SIZE        | NOM. PAIR DOOR OPENING SIZE | DESIGN PRESSURE | MISSILE IMPACT RATING              |
| 4' X 8'                              | 8' X 8'                     | +70/-70 PSF     | SMALL & LARGE MISSILE IMPACT RATED |
| 3'-6" X 8'                           | 7' X 8'                     | +75/-75 PSF     |                                    |
| 3' X 8'                              | 6' X 8'                     | +80/-80 PSF     |                                    |
| 4' X 7'                              | 8' X 7'                     | +80/-80 PSF     |                                    |

- UNIT SHALL BE INSTALLED AT LOCATION PROTECTED BY OVERHANG SUCH THE OVERHANG RATIO (OH) = OH LENGTH/OH HEIGHT GREATER THAN 1.0 WHERE WATER INFILTRATION RESISTANCE IS REQUIRED.
- SIDELITES ARE RATED FOR WATER TEST PRESSURE OF 15 PSF IN ACCORDANCE WITH TAS 202-94 & ASTM E331-00(16).
- SINGLE DOORS AND DOUBLE DOORS MAY BE UTILIZED AT DESIGN PRESSURES SHOWN HEREIN WITH SIDELITE ASSEMBLIES SUCH THAT MAX. DIMENSIONS OF SIDELITE ASSEMBLY ARE NOT EXCEEDED.



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OUTSWING DOORS WITH  
SIDELITES (HVHZ)(IMPACT)  
INSTALLATION & GENERAL NOTES

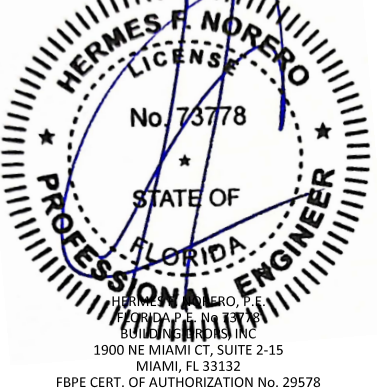
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Reason: I am approving this document  
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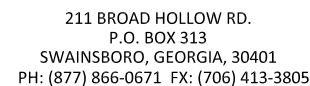
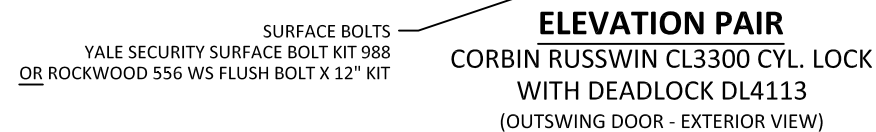
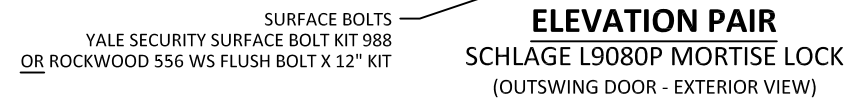
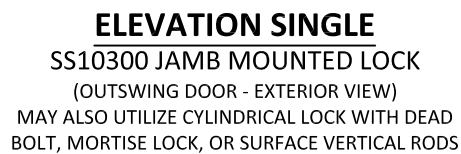
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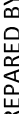
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**1**  
OF 8



**TITLE: HOLLOW METAL FLUSH  
OUTSWING DOORS WITH  
SIDELITES (HVHZ)(IMPACT)  
ELEVATIONS**

**PREPARED BY:**

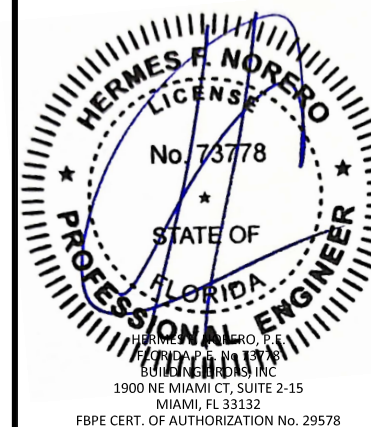


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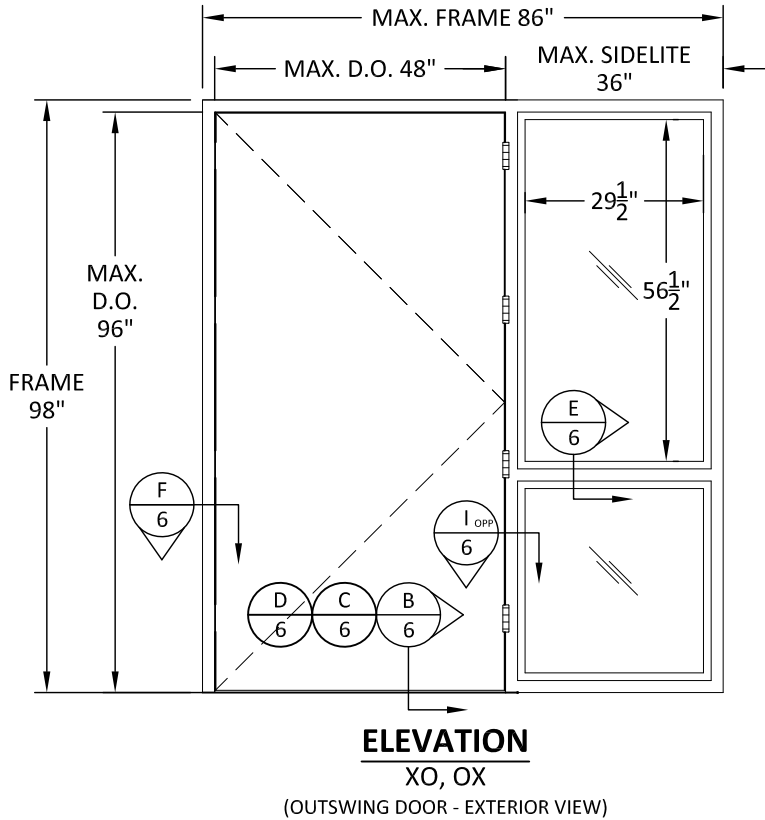
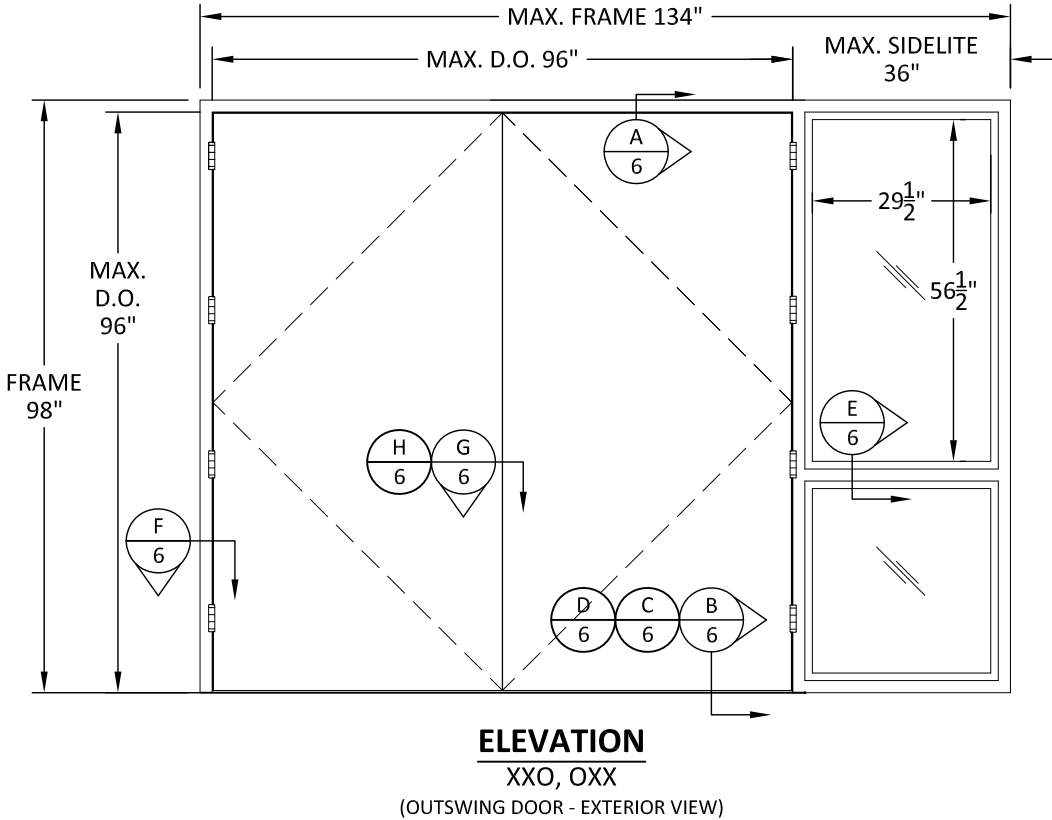
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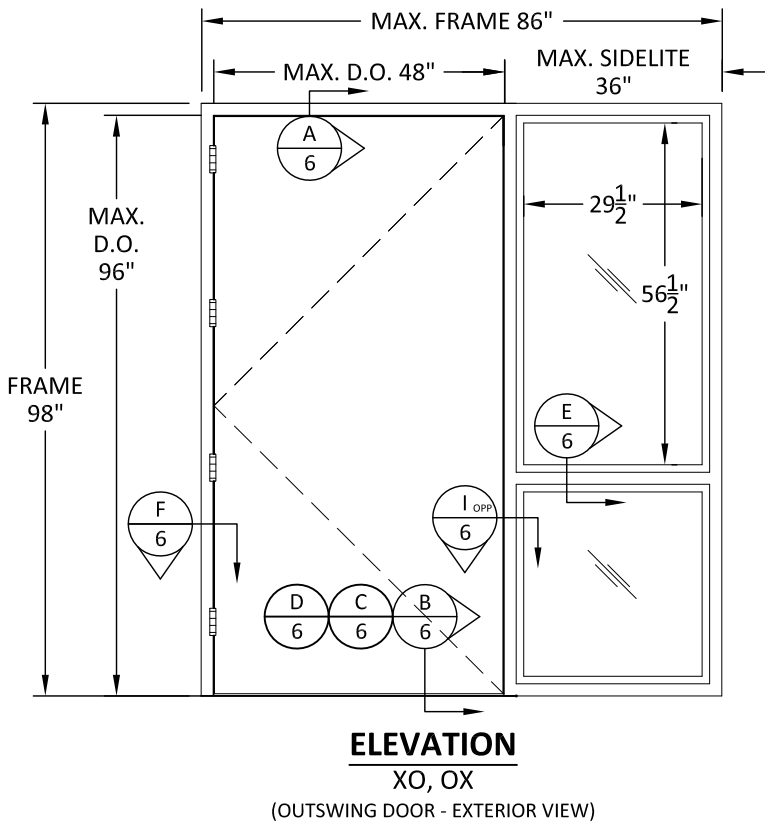
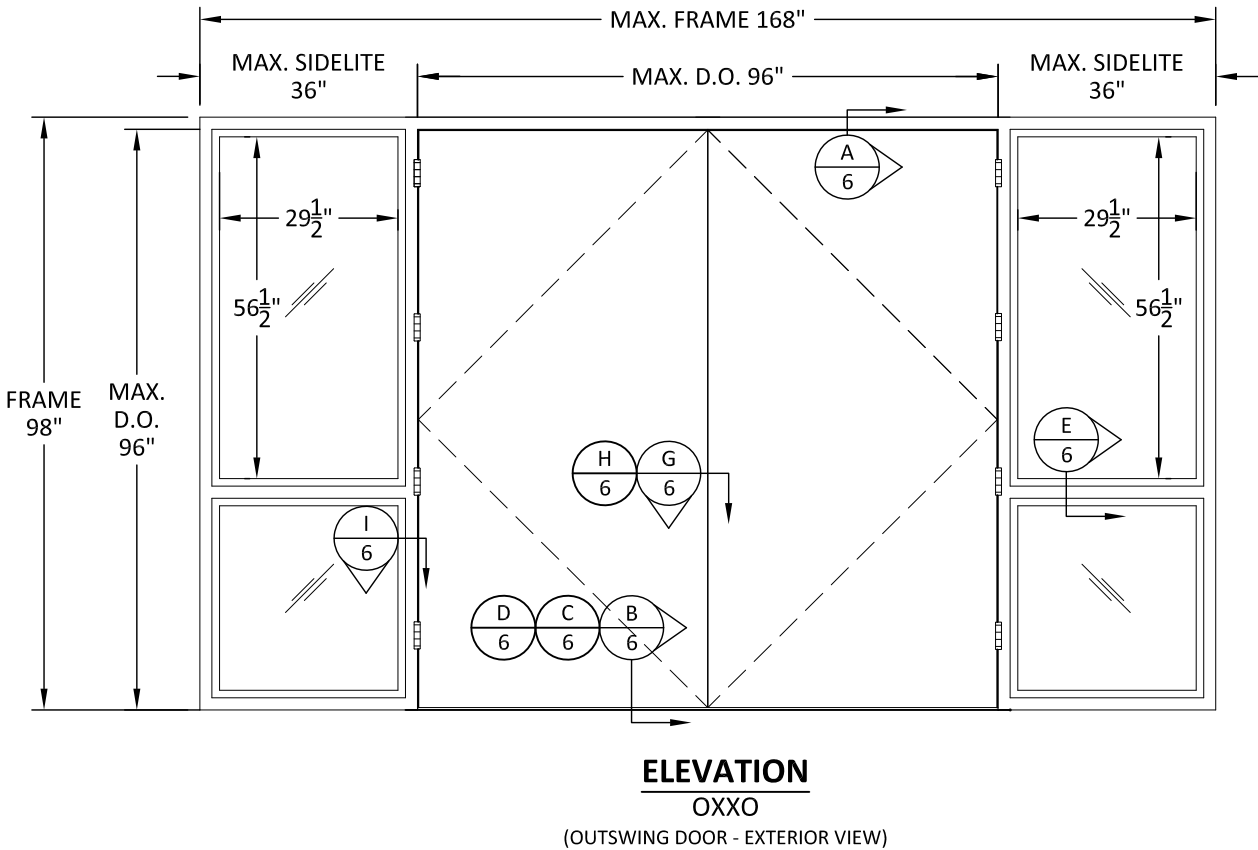
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# QUALIFIED CONFIGURATIONS



## SIDELITE OPTIONS

- SIDELITES ARE QUALIFIED FOR USE AT THE SIZES AND PRESSURES SHOWN HEREIN INDEPENDENTLY OF ADJACENT DOORS. FRAMES SHALL BE ANCHORED AT ALL SIDES IN ACCORDANCE WITH ANCHOR SCHEDULES SHOWN ON SHEET 4 USING ANCHOR DETAILS DEPICTED ON SHEETS 7 & 8.
- SIDELITES SHALL BE GLAZED IN ACCORDANCE WITH GLAZING DETAIL SHOWN ON SHEET 5.



## HARDWARE OPTIONS

- LOCK TYPES
  - 1.1. CYLINDRICAL LOCKSET W/ DEADBOLT
    - 1.1.1. CORBIN RUSSWIN CL3300 + MORTISE DL4113
  - 1.2. MORTISE LOCKSET
    - 1.3.1. SCHLAGE L9080P MORTISE LOCK
  - 1.4. EXIT DEVICES
    - 1.5.1. SARGENT HC8700 SURFACE VERTICAL ROD.
  - 1.6. JAMB MOUNTED SECURITY LOCK
    - 1.6.1. SS10300 SOUTHERN STEEL
- HINGE TYPES
  - 2.1. 4.5" X 4.5" MCKINNEY FULL MORTISE EXTRA HEAVY HINGES.
  - 2.2. 4.5" X 4.5" SS204 FM FULL MORTISE HINGE.
- SURFACE/FLUSH BOLT KITS
  - 3.1. YALE SECURITY SURFACE BOLT KIT 988
  - 3.2. ROCKWOOD 556 FLUSH BOLT X 12" KIT
- ALTERNATE DOOR COMPONENTS MAY BE USED UNDER SEPARATE APPROVAL AND/OR EVALUATED TO CHAPTER 17 OF THE FLORIDA BUILDING CODE.



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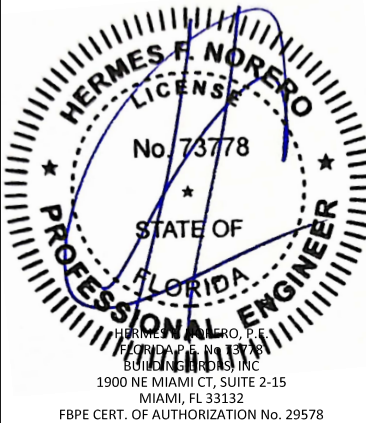
TITLE: HOLLOW METAL FLUSH  
OUTSWING DOORS WITH  
SIDELITES (HVHZ)(IMPACT)  
ELEVATIONS, QUALIFIED  
CONFIGURATIONS, HARDWARE

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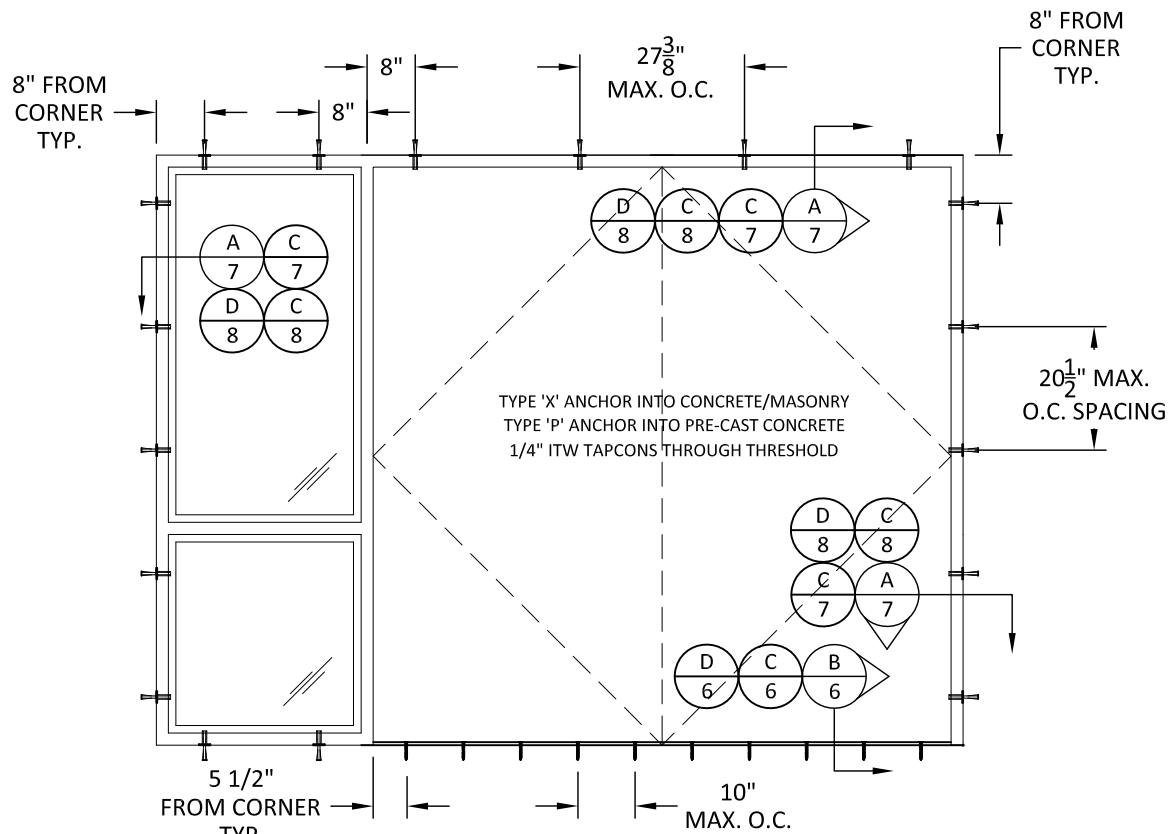
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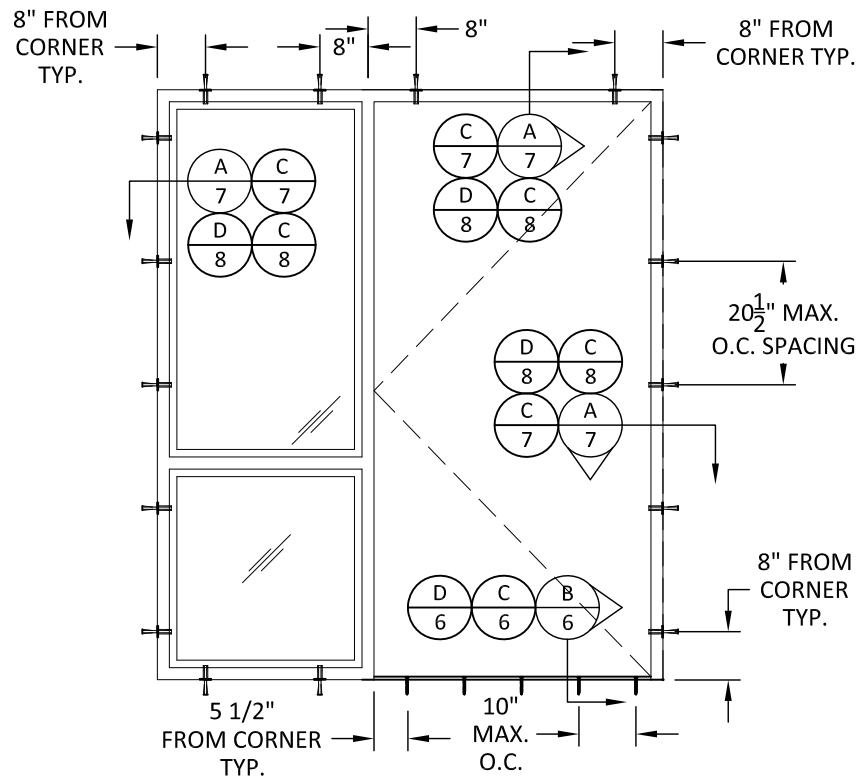
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#### ANCHOR LAYOUT

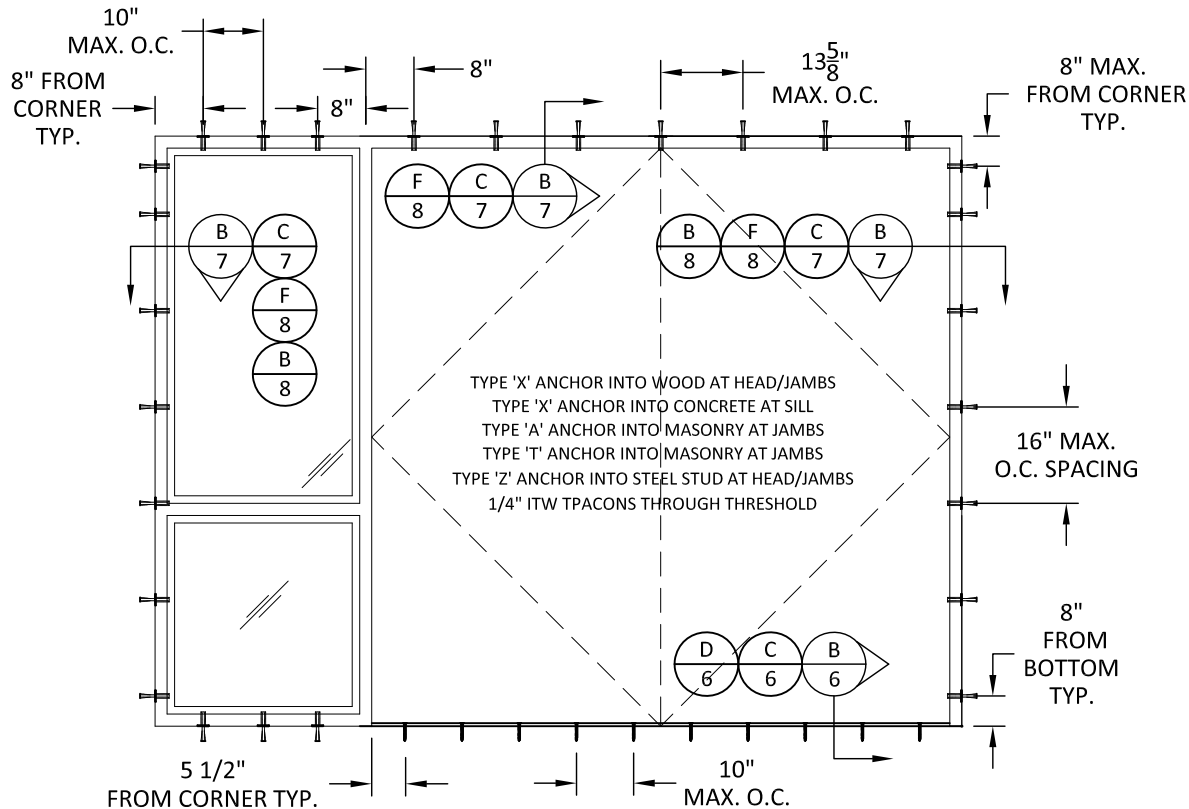
OXX - APPLIES TO OXXO & XX CONFIGURATIONS



#### ANCHOR LAYOUT

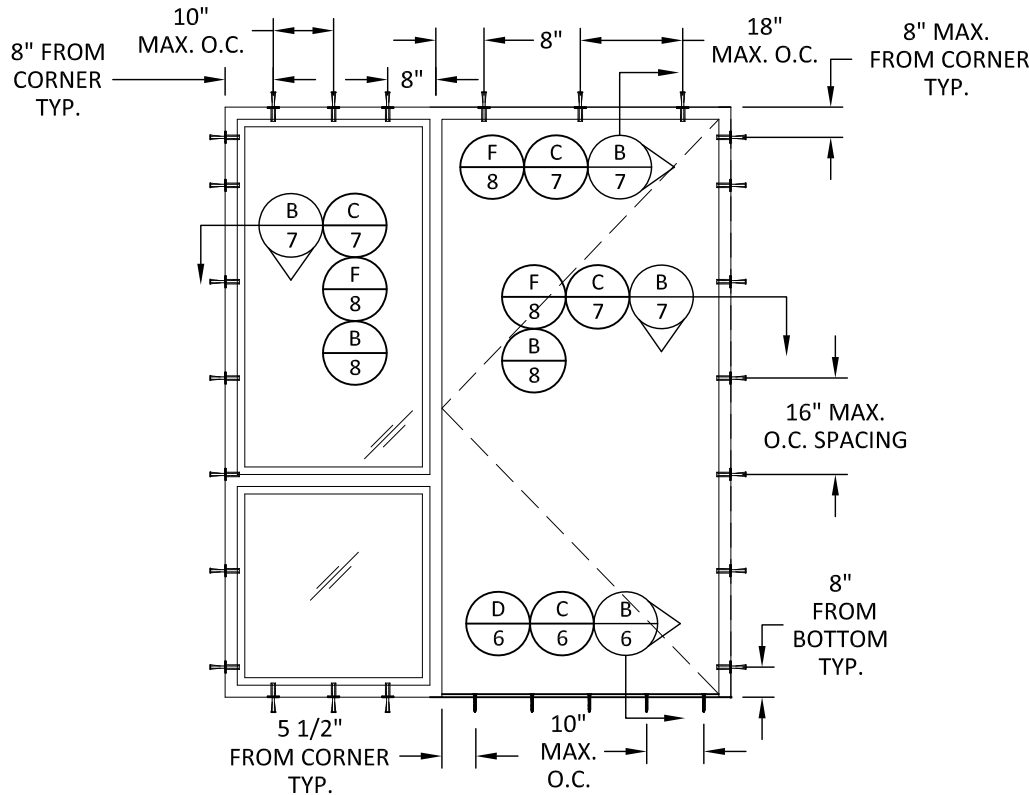
OX - APPLIES TO OXO & X CONFIGURATIONS

TYPE 'X' ANCHOR INTO CONCRETE/MASONRY  
1/4" ITW TAPCONS THROUGH THRESHOLD



#### ANCHOR LAYOUT

OXX - APPLIES TO OXXO & XX CONFIGURATIONS



#### ANCHOR LAYOUT

OX - APPLIES TO OXO & X CONFIGURATIONS

TYPE 'X' ANCHOR INTO WOOD AT HEAD/JAMBS  
TYPE 'X' ANCHOR INTO CONCRETE AT SILL  
TYPE 'A' ANCHOR INTO MASONRY AT JAMBS  
TYPE 'T' ANCHOR INTO MASONRY AT JAMBS  
TYPE 'Z' ANCHOR INTO STEEL STUD AT HEAD/JAMBS  
1/4" ITW TAPCONS THROUGH THRESHOLD



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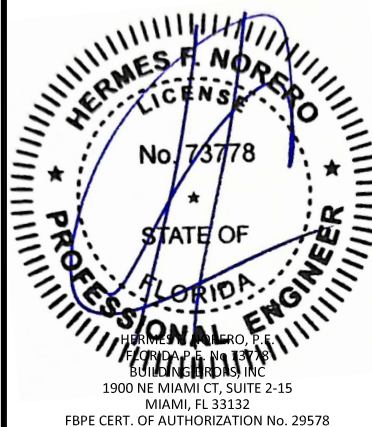
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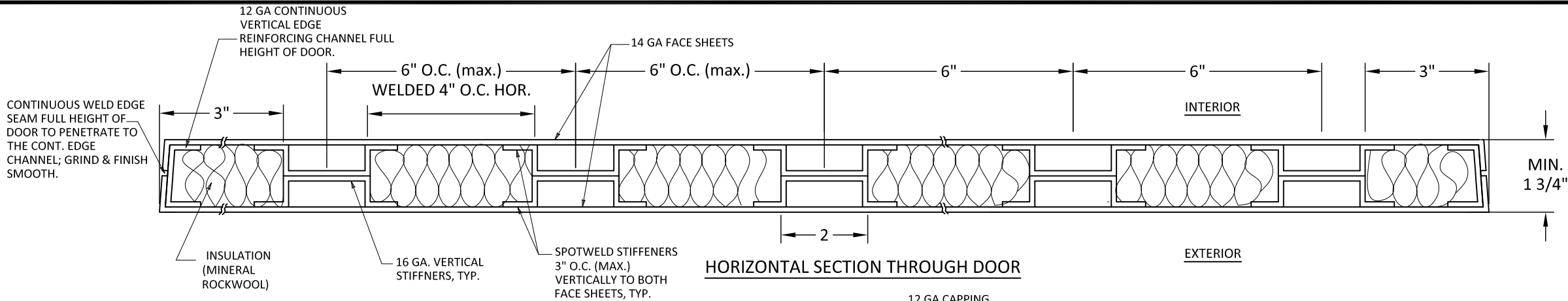
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#### DOOR HINGE REINFORCEMENT AND EDGE CHANNEL DETAIL:

Continuous weld to penetrate vertical edge reinforcement channel (typical).

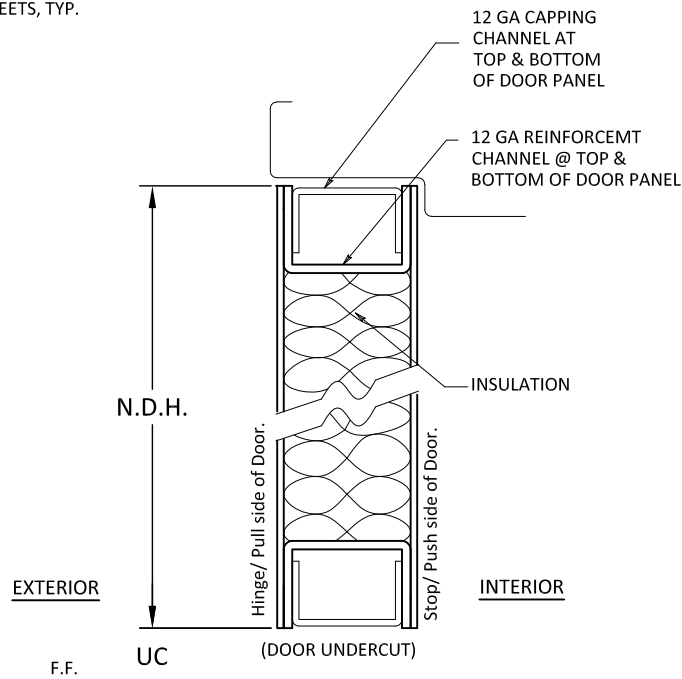
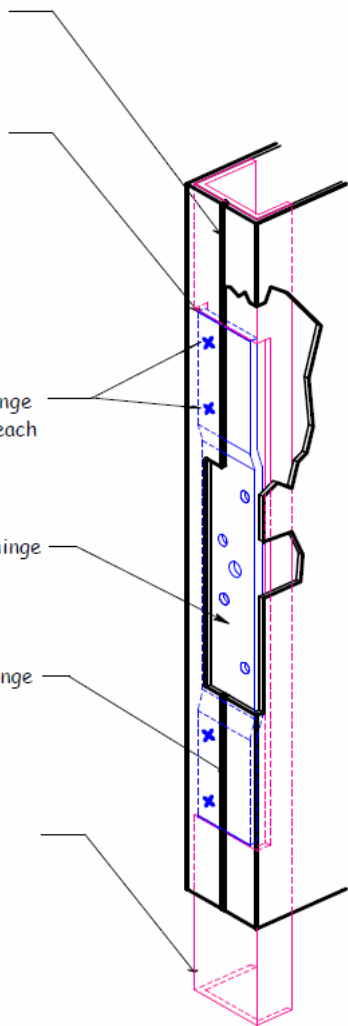
Stitch weld across top and bottom and along the side connecting the hinge reinforcement plate to the vertical edge reinforcement channel at each hinge location. The hinge reinforcement plates then becomes an integral part of the vertical edge channel.

(2) projection welds to penetrate hinge reinforcing plate (top & bottom) at each hinge location. Total (4) projection welds.

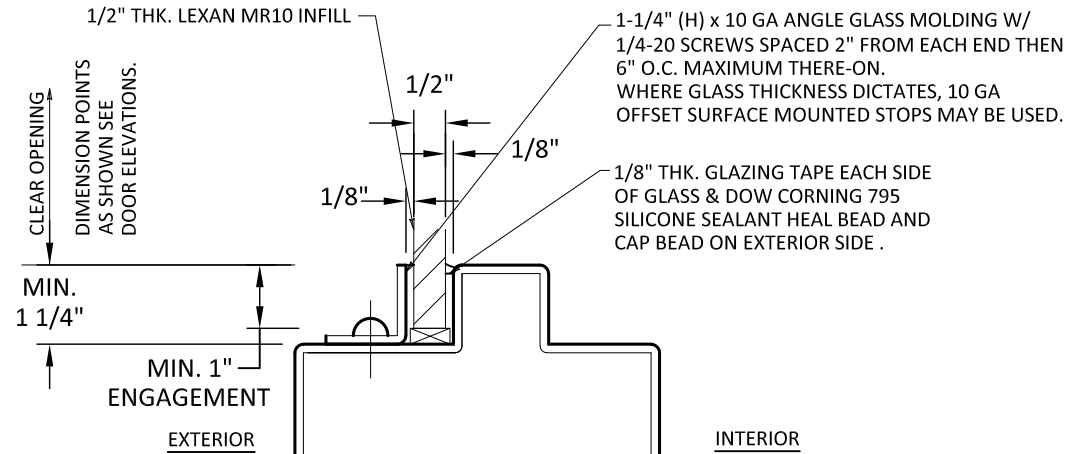
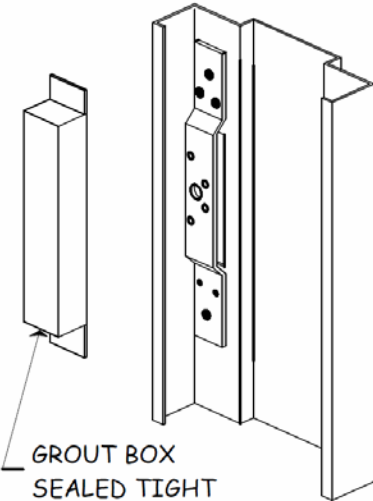
3/16" x 1-1/2" x 10" hinge reinforcement plate .

Continuous weld to penetrate hinge reinforcement plate (typical).

(12ga) thk continuous vertical edge channel.



**TYPICAL FRAME HINGE REINFORCEMENT :**  
3/16" x 1-1/2" x 10" long, Hinge Reinforcement Plate. Projection welded to the frame rabbet and welded to the inside trim of the frame; Offset for hinge leaf thickness.



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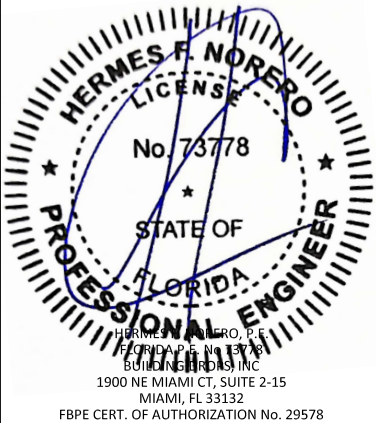
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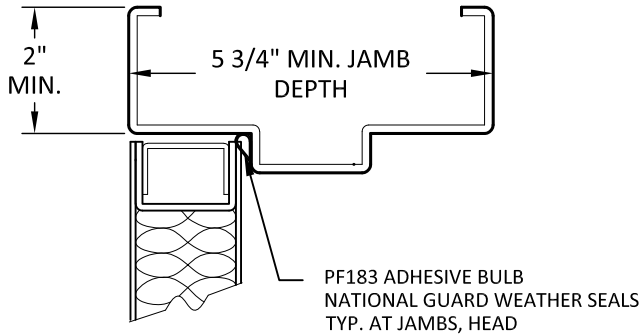
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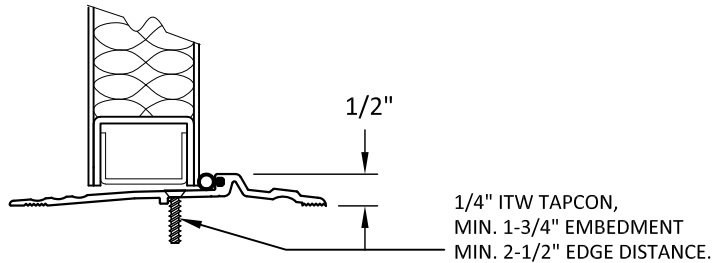
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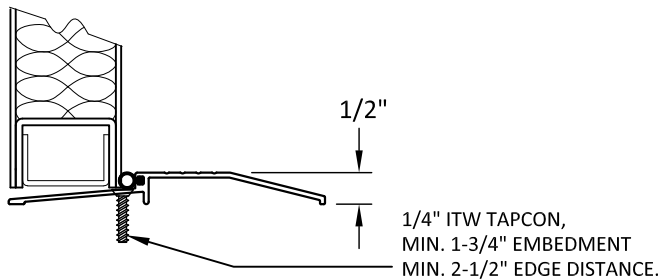
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c:\users\d\aniwata\building drops, inc\building drops landing - common\projects\american steel products\cc-24-0739 - 2023 code change - fl20454 hollow metal doors (dwgs)\asp002 flush doors.dwg



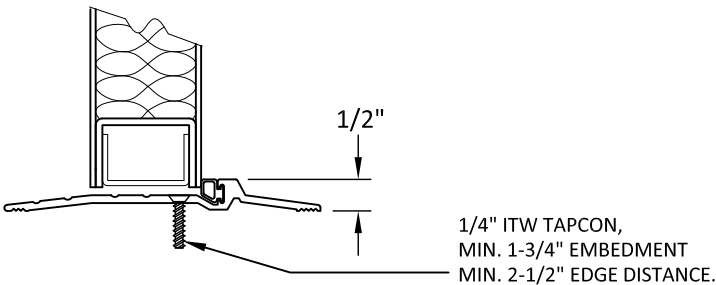
**A**  
**6**      **VERTICAL SECTION**  
HEAD



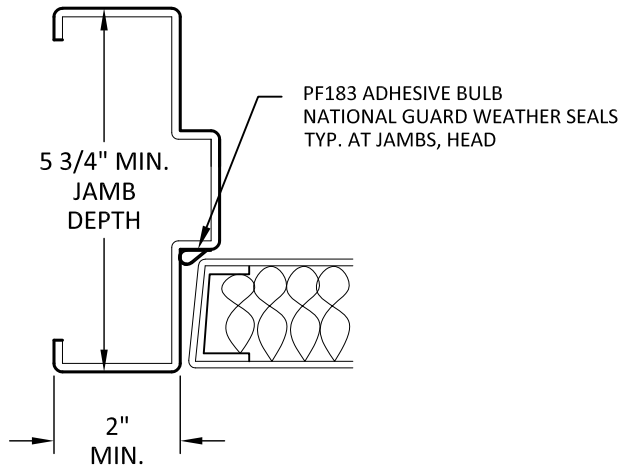
**B**  
**6**      **VERTICAL SECTION**  
SILL  
NG 896 V ADA THRESHOLD



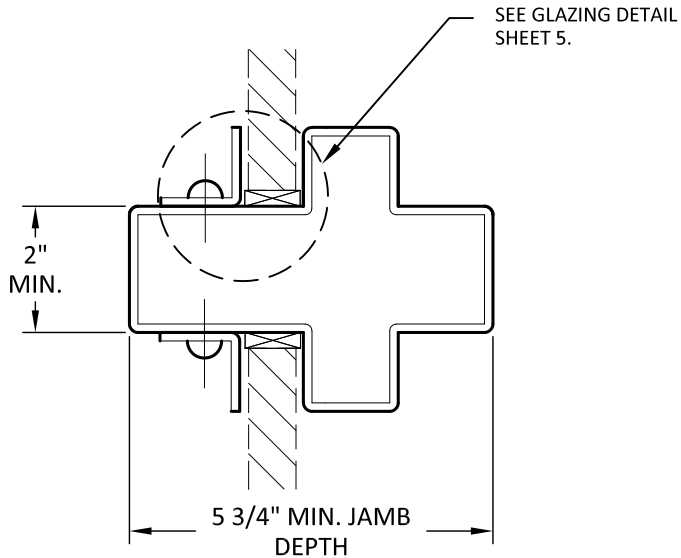
**C**  
**6**      **VERTICAL SECTION**  
SILL  
NG 950 V ADA THRESHOLD



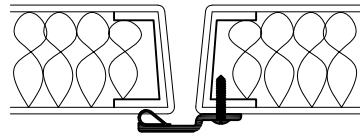
**D**  
**6**      **VERTICAL SECTION**  
SILL  
PEMKO 2005 V ADA THRESHOLD



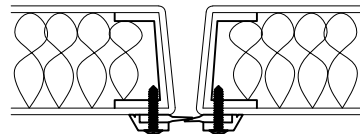
**F**  
**6**      **HORIZONTAL SECTION**  
TYPICAL JAMB



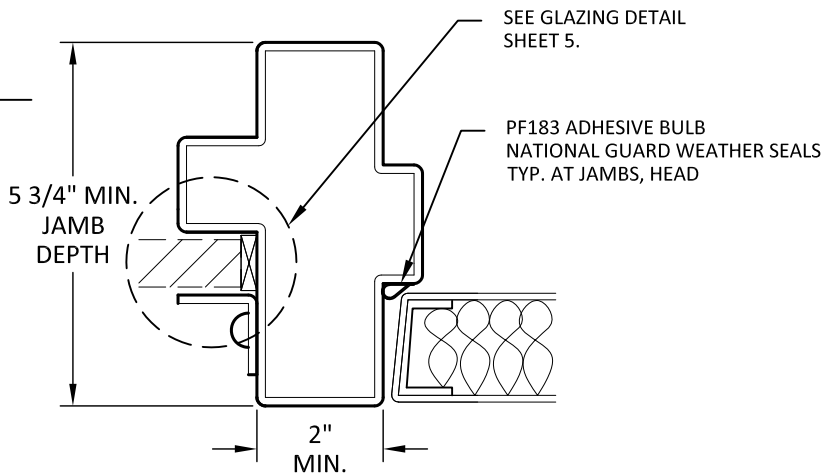
**E**  
**6**      **VERTICAL SECTION**  
MULLION TYP.  
GLAZED LITE TO GLAZED LITE



**G**  
**6**      **HORIZONTAL SECTION**  
NG 178 SA ASTRAGAL  
FOR USE WITH CYL/DB & MORTISE LOCKS



**H**  
**6**      **HORIZONTAL SECTION**  
NG 9115A ASTRAGAL  
FOR USE WITH SURFACE VERTICAL RODS



**I**  
**6**      **HORIZONTAL SECTION**  
MULLION - TYP.  
SIDELITE TO DOOR



211 BROAD HOLLOW RD.  
P.O. BOX 313  
SWAINSBORO, GEORGIA, 30401  
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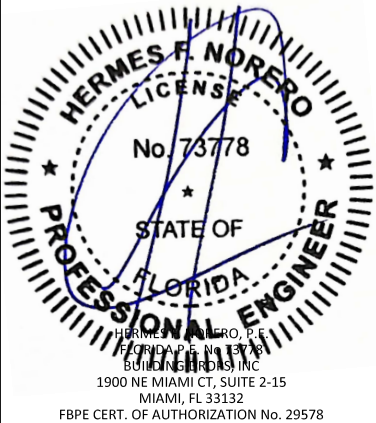
TITLE: HOLLOW METAL FLUSH  
OUTSWING DOORS WITH  
SIDELITES (HVHZ)(IMPACT)  
ASSEMBLY DETAILS

PREPARED BY:  
**BUILDING DROPS, INC.**  
1900 NE MIAMI CT, SUITE 2-15  
MIAMI, FL 33132  
PH: (954) 399-8478  
FAX: (954) 744-4738  
WEB: www.buildingdrops.com



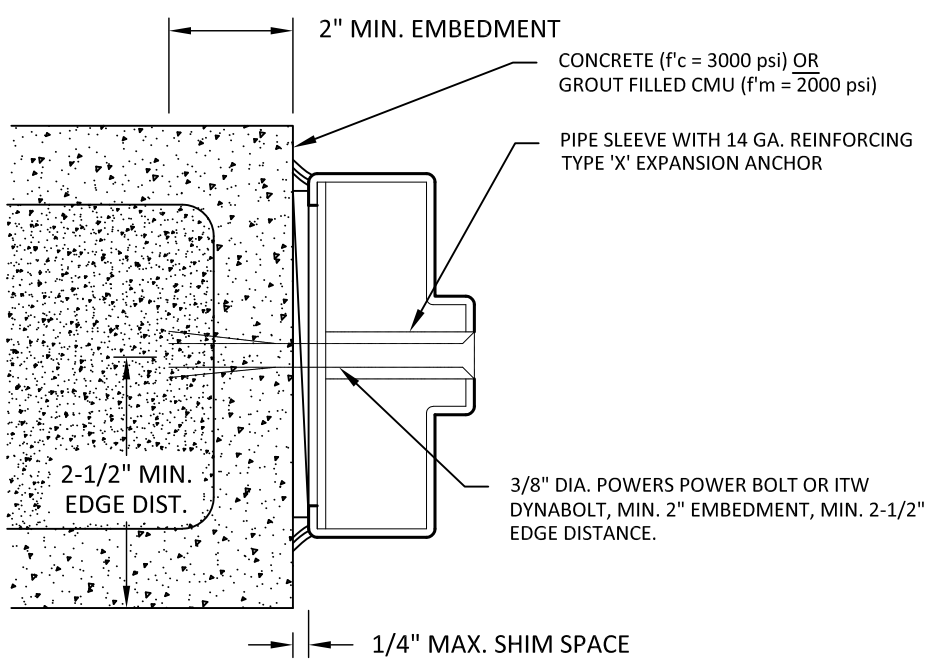
| REMARKS         | BY | DATE    |
|-----------------|----|---------|
| FBC CODE CHANGE | RN | 7.31.24 |
|                 |    |         |
|                 |    |         |

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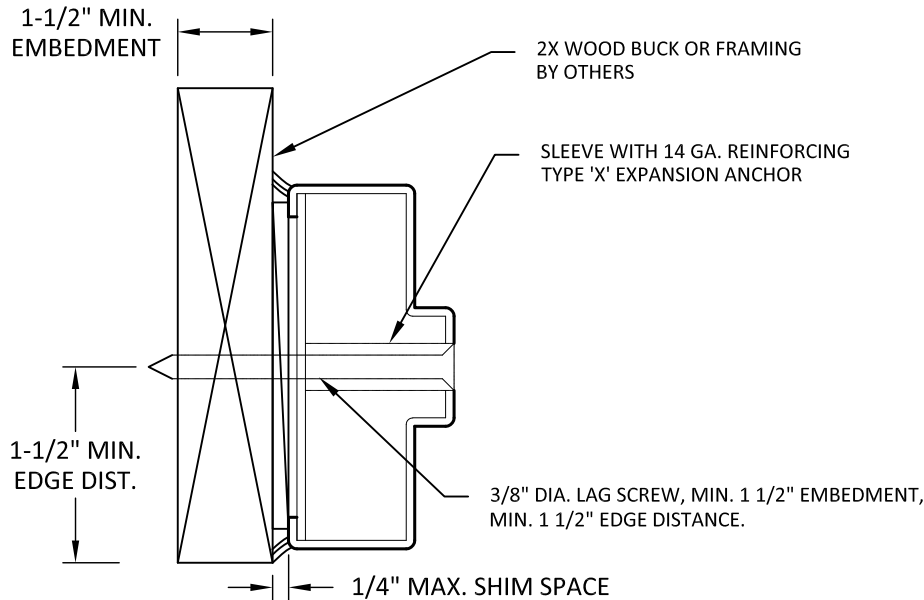


|          |          |              |
|----------|----------|--------------|
| FL#      | FL20454  |              |
| DATE:    | 12.13.15 |              |
| DWG. BY: | MSS      | CHK. BY: HFN |
| SCALE:   | NTS      |              |
| DWG. #:  | ASP002   |              |
| SHEET:   | 6 OF 8   |              |

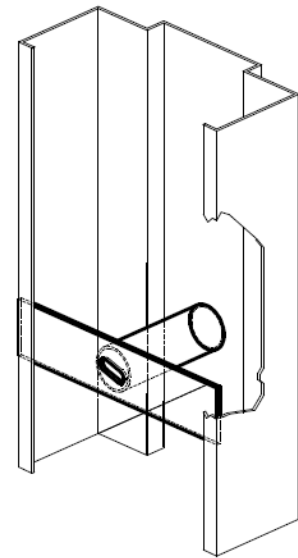
c:\users\dylanwata\building drops, inc\building drops landing - common\projects\american steel products\cc-24-0739 - 2023 code change - fl20454 hollow metal doors (dwgs)\asp002 flush doors.dwg 8/15/2024 11:55 AM



**A**  
**7** **TYPICAL SECTION**  
HEAD/JAMB  
CONCRETE/MASONRY - TYPE 'X' EXPANSION ANCHOR



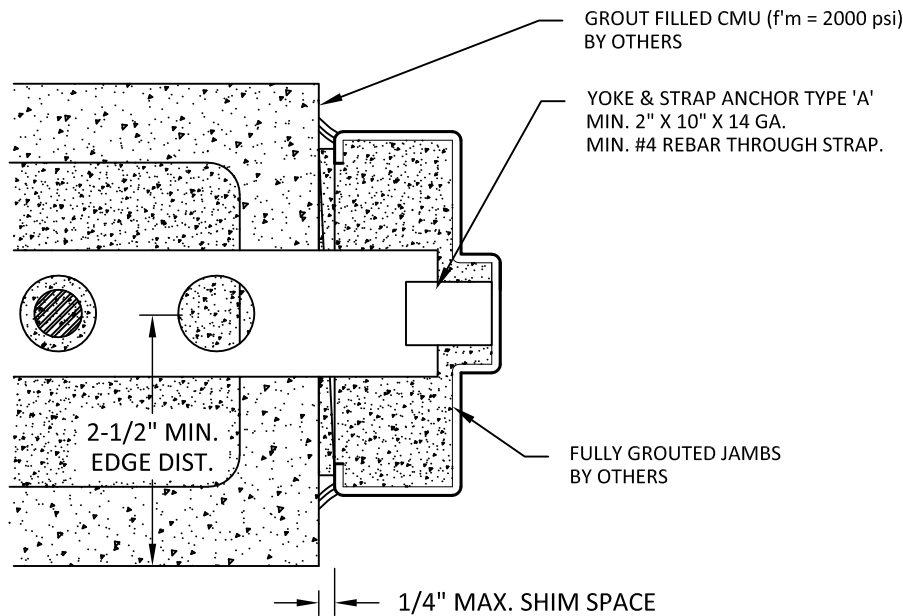
**B**  
**7** **TYPICAL SECTION**  
HEAD/JAMB  
WOOD - TYPE 'X' WITH LAG SCREW



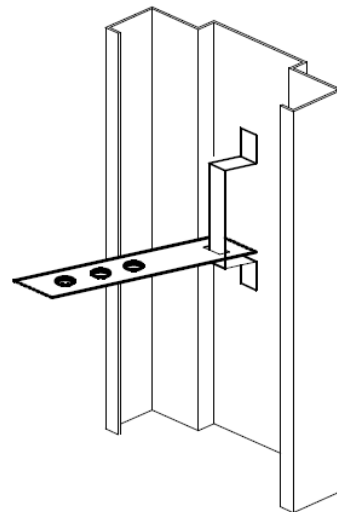
TYPE 'X' EXPANSION BOLT ANCHOR

TYPE 'X' PIPE SLEEVE ANCHOR MAY BE USED FOR INSTALLATION TO CONCRETE/MASONRY (SEE DETAIL A/7) OR INTO WOOD SUBSTRATES (SEE DETAIL B/7). MIN. 14 GA. SEE SHEET 4 FOR ANCHOR LAYOUT.

**C**  
**7** **ISOMETRIC**  
HEAD/JAMB  
CONCRETE/MASONRY/WOOD - TYPE 'X' PIPE SLEEVE



**E**  
**7** **TYPICAL SECTION**  
JAMB  
MASONRY - TYPE 'A' YOKE & STRAP



YOKE AND STRAP ANCHOR AT JAMBS OF GROUT FILLED CMU WALLS. MAY BE USED AS ALTERNATIVE TO TYPE 'X' ANCHOR WITH EXPANSION BOLT. MIN. #4 REBAR THROUGH STRAP, MIN. 14 GA. STEEL. JAMBS SHALL BE FULLY GROUTED. SEE SHEET 4 FOR ANCHOR LAYOUT. SEE DETAIL E/7.

WELDED ON YOKE & STRAP 'A' ANCHOR

**D**  
**7** **ISOMETRIC**  
JAMB  
MASONRY - 14 GA. YOKE & STRAP



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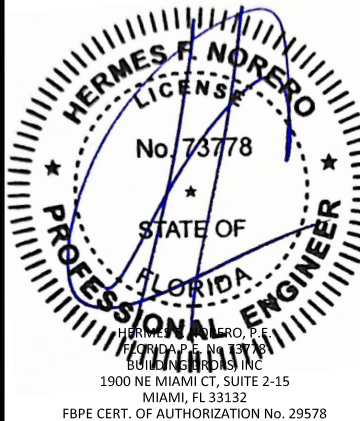
TITLE: HOLLOW METAL FLUSH  
OUTSWING DOORS WITH  
SIDELITES (HVHZ)(IMPACT)  
INSTALLATION DETAILS (1)

PREPARED BY:  
**BUILDING DROPS, INC.**  
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MIAMI, FL 33132  
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| FBC CODE CHANGE | RN | 7.31.24 |
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|                 |    |         |

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FL#  
**FL20454**

DATE: **12.13.15**

DWG. BY: **MSS** CHK. BY: **HFN**

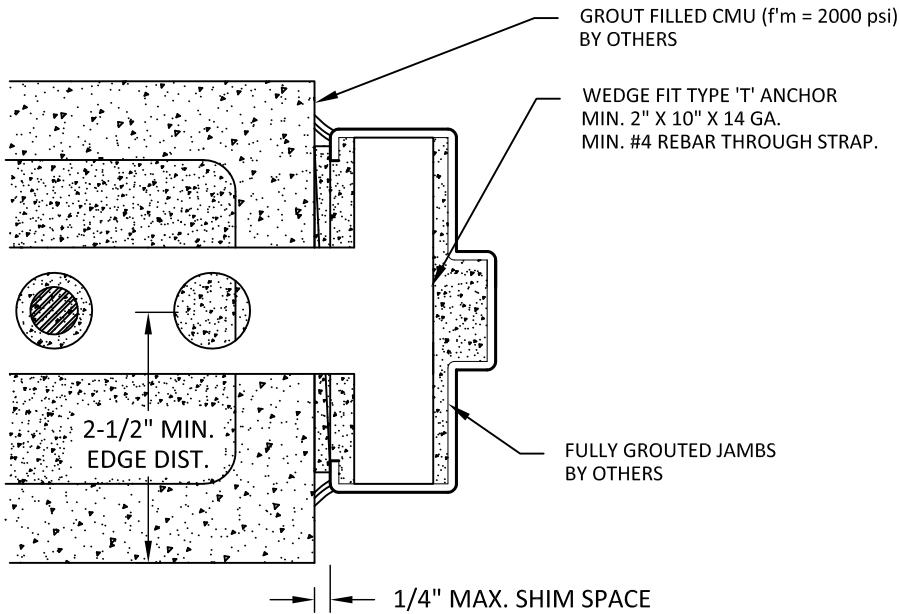
SCALE: **NTS**

DWG. #: **ASP002**

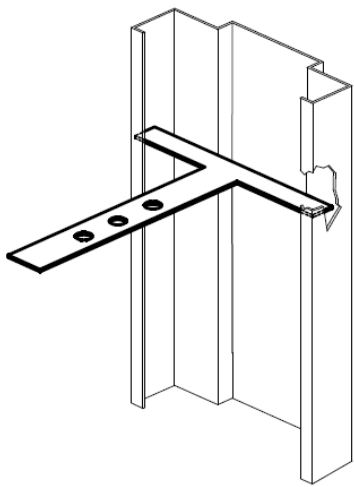
SHEET:

**7**  
OF 8

8/15/2024 11:55 AM  
c:\users\dylanwata\building drops, inc\building drops products\cc-24-0739 - 2023 code change - fl20454 hollow metal doors (dwgs)\asp002 flush doors.dwg



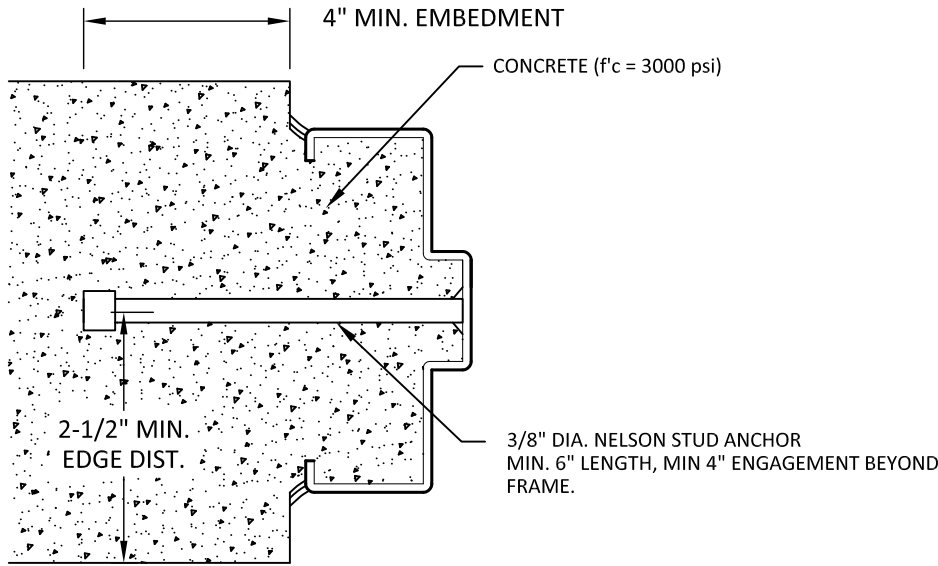
**A**  
**8**  
**TYPICAL SECTION**  
JAMB  
MASONRY - TYPE 'T' WEDGE FIT T ANCHOR



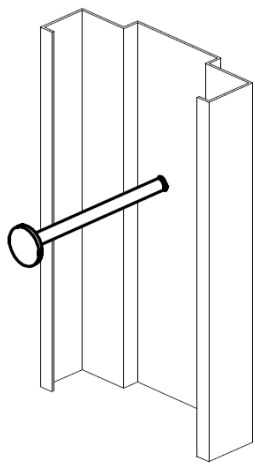
WEDGE FIT 'T' ANCHOR AT JAMBS OF GROUT FILLED CMU WALLS. MAY BE USED AS ALTERNATIVE TO TYPE 'X' ANCHOR WITH EXPANSION BOLT. MIN. #4 REBAR THROUGH STRAP. MIN. 14 GA. STEEL. JAMBS SHALL BE FULLY GROUTED. SEE SHEET 4 FOR ANCHOR LAYOUT. SEE DETAIL A/8.

WEDGE FIT 'T' ANCHOR:  
(USED @ WINDOW FRAMES ONLY)

**B**  
**8**  
**ISOMETRIC**  
HEAD/JAMB  
MASONRY - 14 GA. WEDGE FIT 'T' ANCHOR



**C**  
**8**  
**TYPICAL SECTION**  
HEAD/JAMB  
PRECAST CONCRETE - TYPE 'P' ANCHOR

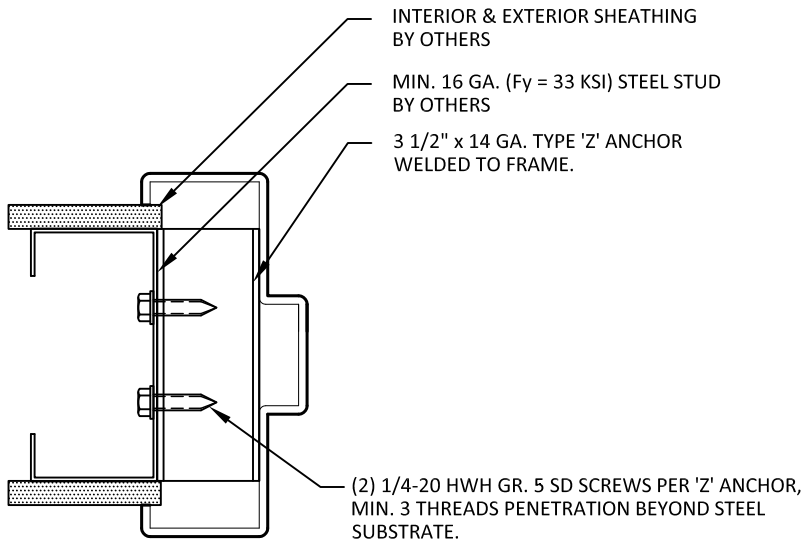


TYPE 'P' PRECAST STUD ANCHOR MAY BE USED AS AN EQUAL ALTERNATE TO TYPE 'X' EXPANSION ANCHOR FOR INSTALLATION PRE-CAST CONCRETE CONSTRUCTION, MIN. f'c = 3000 psi. SEE SHEET 4 FOR ANCHOR LAYOUT. SEE DETAIL C/8.

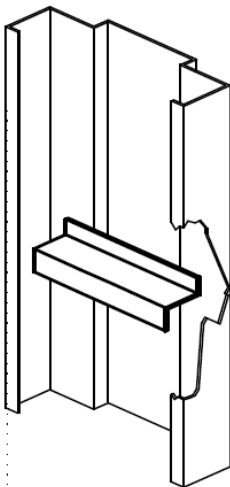
TYPE 'P' PRE-CAST HEADED STUD ANCHOR

3/8" x 6" HEADED PRE-CAST STUD ANCHOR.

**D**  
**8**  
**ISOMETRIC**  
HEAD/JAMB  
PRECAST CONCRETE - TYPE 'P' ANCHOR



**E**  
**8**  
**TYPICAL SECTION**  
HEAD/JAMB  
METAL STUD - TYPE 'Z' ANCHOR



TYPE 'Z' METAL STUD ANCHOR SHALL BE MIN. 14 GA. STEEL. MAY BE USED AS ALTERNATE TO TYPE 'X' EXPANSION ANCHOR FOR INSTALLATION INTO METAL STUD. METAL STUD SHALL BE MIN. 16 GA., USE TWO (2) 1/4-20 SDS GR. 5 SCREWS FROM STUD TO 'Z' ANCHOR. SEE SHEET 4 FOR ANCHOR LAYOUT. SEE DETAIL E/8.

TYPE 'Z' METAL STUD ANCHOR

**F**  
**8**  
**ISOMETRIC**  
HEAD/JAMB  
MIN. 16 GA. STEEL STUD - TYPE 'Z' ANCHOR



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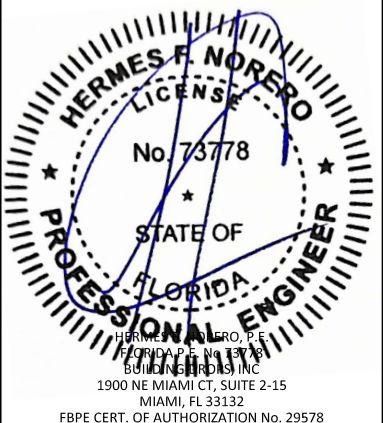
TITLE: HOLLOW METAL FLUSH  
OUTSWING DOORS WITH  
SIDELITES (HVHZ)(IMPACT)  
INSTALLATION DETAILS (2)

PREPARED BY:  
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|          |          |              |
|----------|----------|--------------|
| FL#      | FL20454  |              |
| DATE:    | 12.13.15 |              |
| DWG. BY: | MSS      | CHK. BY: HFN |
| SCALE:   | NTS      |              |
| DWG. #:  | ASP002   |              |
| SHEET:   | 8 OF 8   |              |