Engineering Express®
Product Evaluation Report

April 18, 2021

Application Number:	FL 14179.1-R5
EX Project Number:	21-38289
Product Manufacturer:	American Products, Inc.
Manufacturer Address:	13909 Lynmar Blvd. Tampa, FL 33626
Product Name & Description:	Series F2000-T 1” Thermal Flush Glazed Aluminum Storefront System

Scope of Evaluation:

This Product Evaluation Report is being issued in accordance with the requirements of the Florida Department of Business and Professional Regulation (Florida Building Commission) Rule Chapter 61G20-3.005, F.A.C., for statewide acceptance per Method 1 (d). The product noted above has been tested and/or evaluated as summarized herein to show compliance with standard ASCE 7-16 (ASD) and Florida Building Code Seventh Edition (2020) and is, for the purpose intended, at least equivalent to that required by the Standard and Code. Re-evaluation of this product shall be required following pertinent Florida Building Code or ASCE Standard modifications or revisions.

Substantiating Data:

- **PRODUCT EVALUATION DOCUMENTS**

EX Installation Drawing #21-38289 titled “Series F2000-T 1” Thermal Flush Glazed Aluminum Storefront System”, prepared by Engineering Express, Inc., signed & sealed by Frank Bennardo, P.E. is an integral part of this Evaluation Report, pages 1 through 4.

- **TEST REPORTS**

Uniform static structural performance has been tested in accordance with AAMA 501-05, ASTM E330-02, and ASTM E331-00 test standards per test report(s) #A1438.01-401-44 signed and sealed by Joseph A. Reed P.E. for Architectural Testing, Inc.

- **STRUCTURAL ENGINEERING CALCULATIONS**

Structural engineering calculations have been prepared which evaluate the product based on comparative and/or rational analysis to qualify the following design criteria:

1. Anchor Spacing
2. Maximum Allowable Size/Pressure
3. Glass Capacity per ASTM E1300-04
4. Anchor Capacity

No 33% increase in allowable stress has been used in the design of this product.

Impact Resistance:

Large / Small Missile Impact Resistance has NOT been demonstrated as evidenced in previously listed test reports and is NOT part of this certification.

American Products, Inc.: Series F2000-T 1” Thermal Flush Glazed Aluminum Storefront System

Wind Load Resistance

This product has been designed to resist wind loads as indicated on its respective Product Evaluation Document (i.e. engineering document).

Installation

The product listed above shall be installed in strict compliance with the Product Evaluation Document (i.e. engineering document), along with all components noted therein.

The product components shall be of the material specified in the Product Evaluation Document (i.e. engineering document).

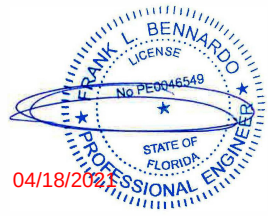
Limitations & Conditions of Use:

Use of each product shall be in strict accordance with its respective Product Evaluation Document (i.e. engineering document) as noted herein.

All supporting host structures shall be designed to resist all superimposed loads and shall be of a material listed in each product’s respective anchor schedule. Host structure conditions which are not accounted for in each product’s respective anchor schedule shall be designed for on a site-specific basis by a registered professional engineer.

All components which are permanently installed shall be protected against corrosion, contamination, and other such damage at all times. Any alteration to the respective Product Evaluation Document will invalidate it. This product has been designed for use outside of the High Velocity Hurricane Zone (NON-HVHZ).

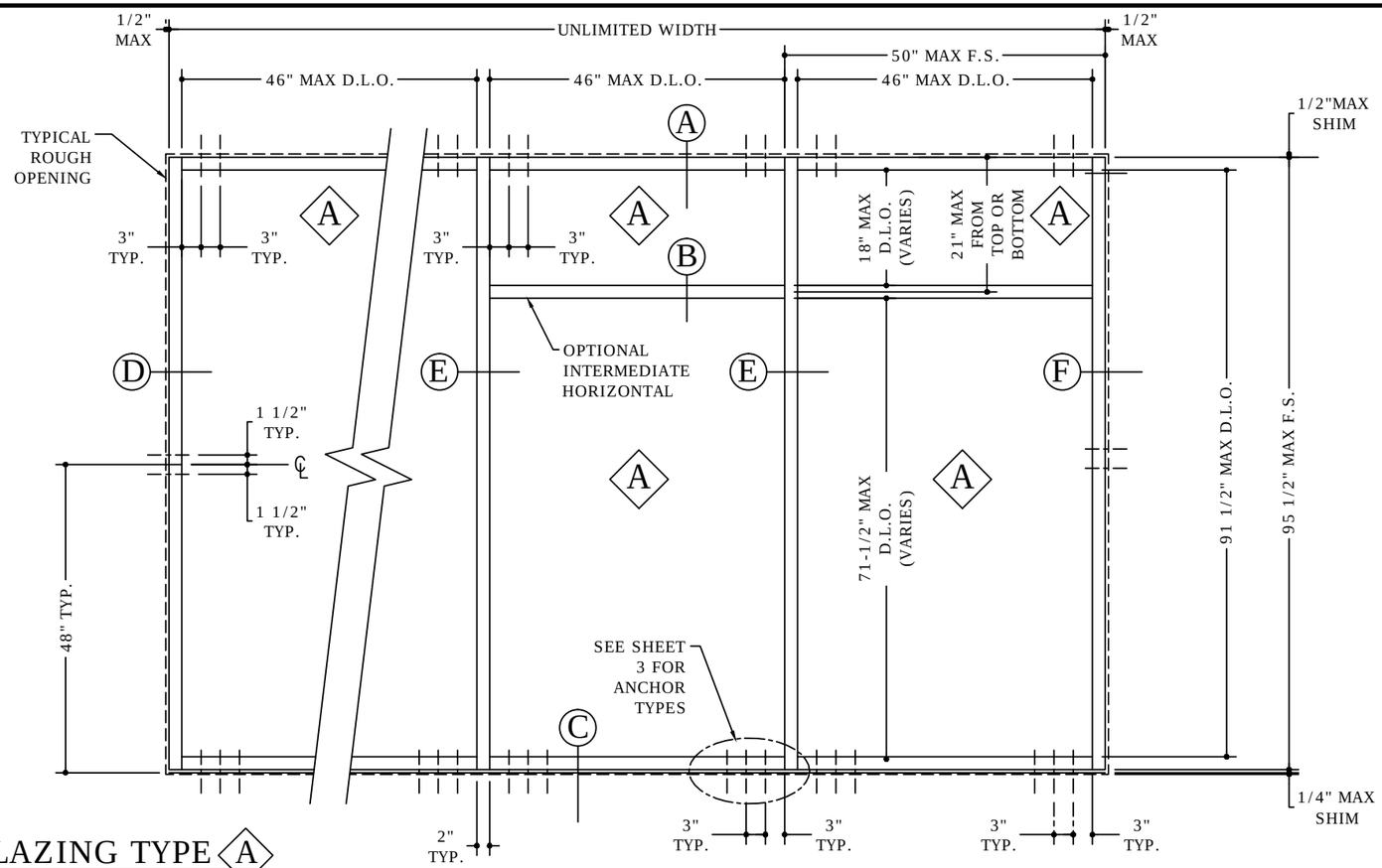
Respectfully,



Frank Bennardo, PE
ENGINEERING *EXPRESS*®
#PE0046549 | Cert. Auth. 9885

SERIES F2000-T 1" THERMAL FLUSH GLAZED ALUMINUM STOREFRONT SYSTEM

NON IMPACT SYSTEM

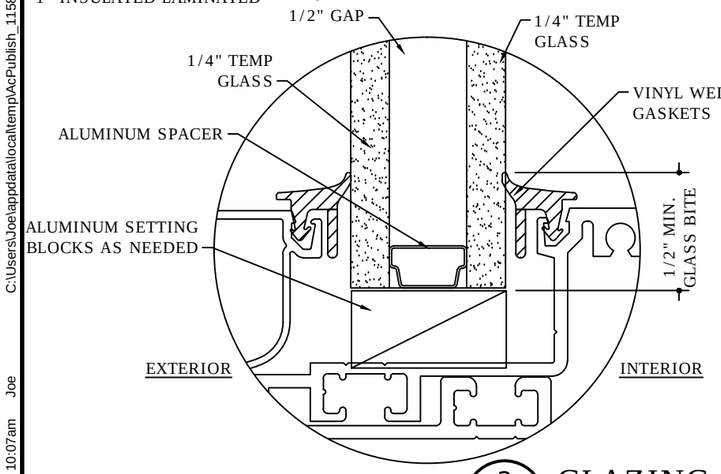


1 / 1 TYPICAL STOREFRONT ELEVATION

1/2" = 1'-0" EXTERIOR ELEVATION

GLAZING TYPE A

1" INSULATED LAMINATED



2 / 1 GLAZING DETAIL

N.T.S.

ALLOWABLE DESIGN PRESSURES

+45 PSF

-45 PSF

DESIGN NOTES

DESIGN PRESSURE CAPACITY: +45PSF/-45PSF
POSITIVE AND NEGATIVE DESIGN PRESSURES CALCULATED FOR USE WITH THIS SYSTEM SHALL BE DETERMINED BY OTHERS ON A JOB-SPECIFIC BASIS IN ACCORDANCE WITH THE GOVERNING CODE. SITE-SPECIFIC PRESSURE REQUIREMENTS AS DETERMINED IN ACCORDANCE WITH ASCE 7-16 THE FLORIDA BUILDING CODE SEVENTH EDITION (2020) SHALL BE LESS THAN OR EQUAL TO THE POSITIVE OR NEGATIVE DESIGN PRESSURE CAPACITY VALUES LISTED HEREIN FOR ANY ASSEMBLY AS SHOWN.

GENERAL NOTES:

1. THIS SYSTEM DESCRIBED HEREIN HAS BEEN DESIGNED AND TESTED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE SEVENTH EDITION (2020) FOR NON-IMPACT USE OUTSIDE OF THE HVHZ ONLY. DESIGN CONFORMS TO AAMA 501 METHODS OF TESTS FOR EXTERIOR WALLS & ASTM E330 AND E331.
2. DESIGN PRESSURES NOTED HEREIN ARE BASED ON MAXIMUM TESTED PRESSURES DIVIDED BY A 1.5 SAFETY FACTOR.
3. THE SYSTEM DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. FOR SITE CONDITIONS DIFFERENT FROM THE CONDITIONS DETAILED HEREIN, A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE IN CONJUNCTION WITH THIS DOCUMENT.
4. NO 33-1/3% INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THIS SYSTEM. WIND LOAD DURATION FACTOR Cd=1.6 HAS BEEN USED FOR WOOD ANCHOR DESIGN.
5. ALUMINUM IN CONTACT WITH DISSIMILAR MATERIALS SHALL BE PROTECTED PER CODE.
6. THE ARCHITECT/ENGINEER OF RECORD FOR THE PROJECT SUPERSTRUCTURE WITH WHICH THIS DESIGN IS USED SHALL BE RESPONSIBLE FOR THE INTEGRITY OF ALL SUPPORTING SURFACES TO THIS DESIGN WHICH SHALL BE COORDINATED BY THE PERMITTING CONTRACTOR.WOOD BUCKS (BY OTHERS) SHALL BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE EXISTING STRUCTURE.
7. ALL FASTENERS TO BE 1/4"Ø SAE GRADE 5 OR 300 SERIES STAINLESS STEEL UNLESS NOTED OTHERWISE. FASTENERS SHALL BE CADMIUM-PLATED OR OTHERWISE CORROSION-RESISTANT MATERIAL AND SHALL COMPLY WITH ANY APPLICABLE FEDERAL, STATE, AND/OR LOCAL CODES.
8. ALL STEEL IN CONTACT WITH ALUMINUM SHALL BE PAINTED OR PLATED AS PRESCRIBED IN THE ABOVE-NOTED BUILDING CODE.
9. EXTERIOR SEAM OF FRAME CORNERS AND FULL EXTERIOR PERIMETER SHALL BE SEALED WITH SILICONE.
10. THE CONTRACTOR IS RESPONSIBLE TO INSULATE ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS.
11. ENGINEER SEAL AFFIXED HERE TO VALIDATES STRUCTURAL DESIGN AS SHOWN ONLY. USE OF THIS SPECIFICATION BY CONTRACTOR, et. al. INDEMNIFIES & SAVES HARMLESS THIS ENGINEER FOR ALL COST & DAMAGES INCLUDING LEGAL FEES & APPELLATE FEES RESULTING FROM MATERIAL FABRICATION, SYSTEM ERECTION, & CONSTRUCTION PRACTICES BEYOND THAT WHICH IS CALLED FOR BY LOCAL, STATE, & FEDERAL CODES & FROM DEVIATIONS OF THIS PLAN.
12. EXCEPT AS EXPRESSLY PROVIDED HEREIN, NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED.
13. ALTERATIONS, ADDITIONS, HIGHLIGHTING, OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE THIS CERTIFICATION.
14. THE SYSTEM DETAILED HEREIN HAS BEEN TESTED PER AAMA 501 METHODS OF TESTS FOR EXTERIOR WALLS AND ASTM E330 & E331 AS REFERENCED IN TEST REPORT #A1438.01-401-44 BY ARCHITECTURAL TESTING, INC. PRODUCT SHALL BE PERMANENTLY LABELED WITH A MINIMUM OF ONE LABEL PER SYSTEM CONTAINING THE FOLLOWING:
   AMERICAN PRODUCTS, INC.
   TAMPA, FLORIDA
   AAMA 501 / ASTM E330 / ASTM E331
   APPROVED BY FLORIDA BUILDING COMMISSION
   FLORIDA PRODUCT APPROVAL NUMBER

VISIT ECALC.IO/38289

FOR HELPFUL RESOURCES, SITE SPECIFIC JOB ORDERING & MORE INFORMATION ABOUT THIS PRODUCT & RELATED SERVICES

SCAN HERE:

FRANK BENNARDO, P.E.
PE# 0046549 CA. 9885

04/16/2021

FL#14179.1

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SERIES F2000-T 1" THERMAL FLUSH GLAZED
ALUMINUM STOREFRONT SYSTEM (NON IMPACT & NON-HVHZ)
FLORIDA STATEWIDE APPROVAL

REMARKS	DRWN	CHKD	DATE
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FBC 2020 UPDATE	JEM	AJP	03/15/21

21-38289

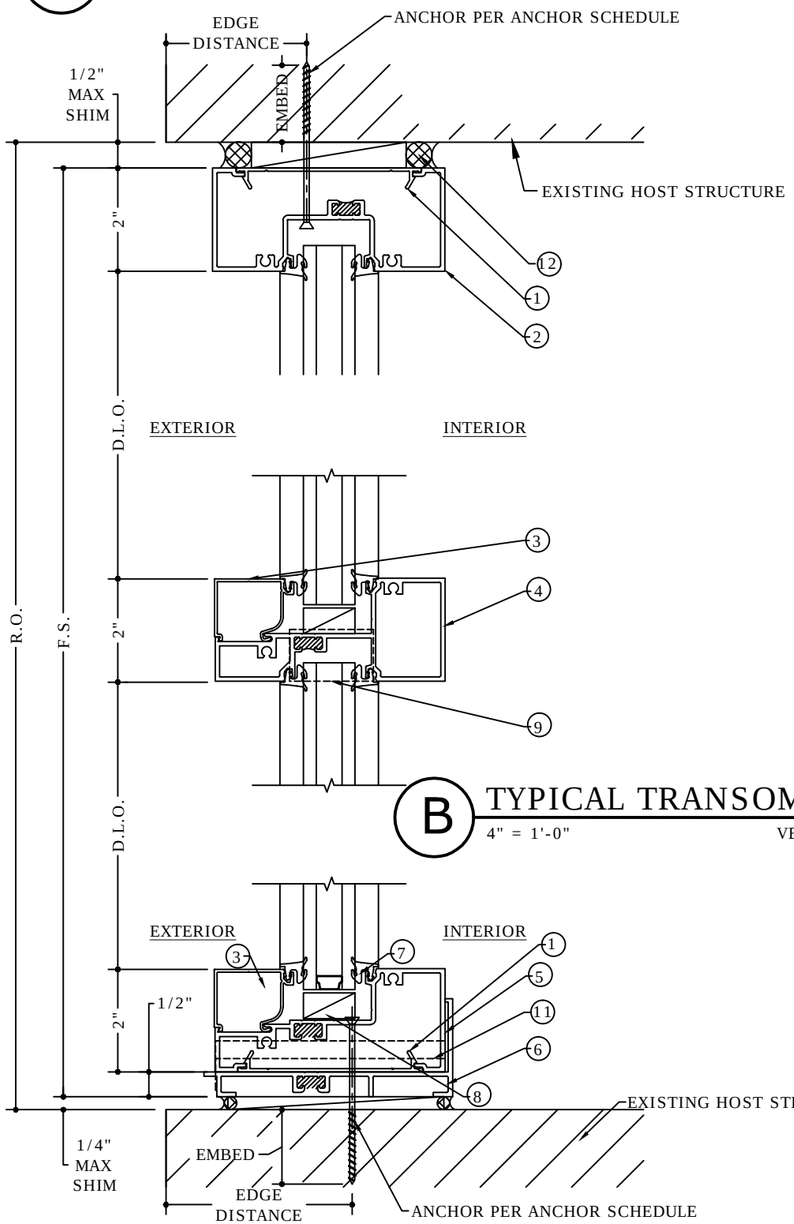
SCALE: NTS UNLESS NOTED

OF 4

01

A TYPICAL HEAD DETAIL

4" = 1'-0" VERTICAL SECTION



B TYPICAL TRANSOM DETAIL

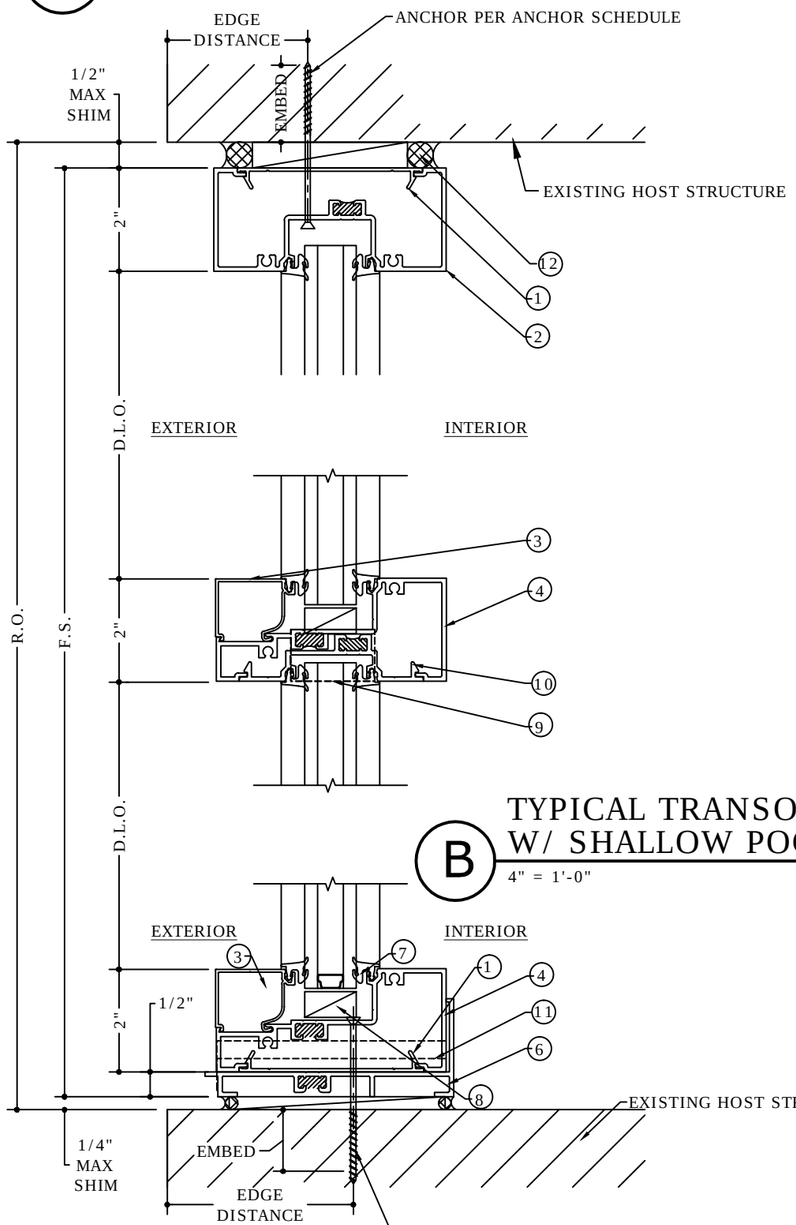
4" = 1'-0" VERTICAL SECTION

C TYPICAL SILL DETAIL

4" = 1'-0"

A TYPICAL HEAD DETAIL

4" = 1'-0" VERTICAL SECTION



B TYPICAL TRANSOM DETAIL W/ SHALLOW POCKET FILLER

4" = 1'-0" VERTICAL SECTION

C TYPICAL SILL DETAIL

4" = 1'-0"

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	-	-	-
	-	-	-

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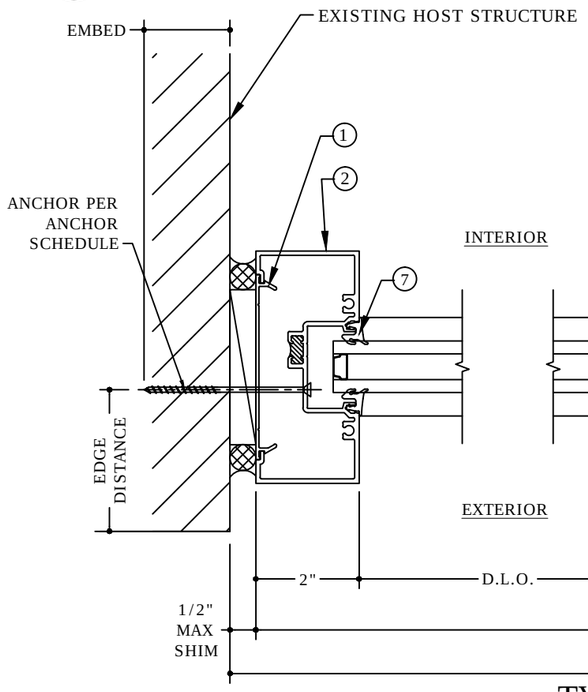
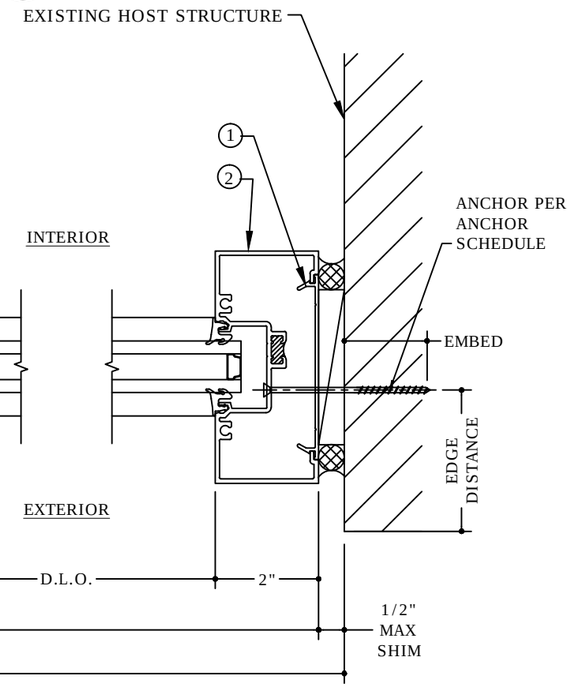
D TYPICAL JAMB DETAIL

4" = 1'-0" HORIZONTAL SECTION



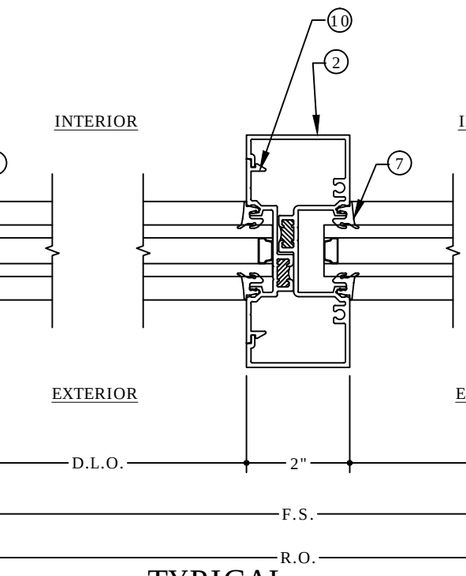
F TYPICAL JAMB DETAIL

4" = 1'-0" HORIZONTAL SECTION



E TYPICAL INTERMEDIATE DETAIL

4" = 1'-0" HORIZONTAL SECTION



ANCHOR SCHEDULE:

TO HOLLOW CONCRETE BLOCK OR 3192 PSI MIN CONCRETE HOST STRUCTURE:

- 1/4" ITW CARBON STEEL TAPCONS THRU 1X OR 2X WOOD BUCKS OR DIRECTLY INTO MASONRY/ CONCRETE WITH 1-1/4" MIN EMBED AND 2-1/2" MIN EDGE DISTANCE.

TO WOOD BUCK OR HOST STRUCTURE (G=0.55 MIN WOOD):

- #14 WOOD SCREWS WITH 1-1/2" MIN THREAD PENETRATION.

TO METAL STRUCTURES (STEEL OR ALUMINUM, MIN ⅛" THICK):
STEEL: Fy = 36 KSI MIN
ALUMINUM: 6063-T5 MIN

- #14 SELF-DRILLING SAE GRADE 5 SCREWS

ANCHOR NOTES:

1. SEE SYSTEM ELEVATION FOR ANCHOR LOCATIONS AND/OR SPACING.
2. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
3. ENSURE MINIMUM 2-1/2" EDGE DISTANCE FOR ALL ANCHORS TO CONCRETE & TO HOLLOW BLOCK.
4. WHERE ANCHORS FASTEN TO NARROW FACE OF STUD FRAMING, ANCHOR SHALL BE LOCATED IN CENTER OF NOMINAL 2x (MIN) WOOD STUD (i.e. 3/4" EDGE DISTANCE IS ACCEPTABLE FOR ANCHORS TO WOOD FRAMING).
5. WOOD HOST STRUCTURE SHALL BE "SOUTHERN PINE" G=0.55 OR GREATER DENSITY.
6. ANCHOR REQUIREMENTS AS SHOWN HEREIN, INCLUDING MINIMUM EMBEDMENT AND EDGE DISTANCE, EXCLUDES STUCCO, FOAM, BRICK, AND OTHER WALL FINISHES. FOR SITE CONDITIONS DIFFERENT FROM THE CONDITIONS DETAILED HEREIN, THE BUILDING OFFICIAL MAY REQUIRE A ONE-TIME SITE-SPECIFIC NOTICE OF ACCEPTANCE BE OBTAINED, OR THAT SITE SPECIFIC DOCUMENTS BE PREPARED, SIGNED, DATED AND SEALED BY A LICENSED ENGINEER OR REGISTERED ARCHITECT, WHICH DETAIL AND JUSTIFY THE DEVIATION.
7. WHERE EXISTING STRUCTURE IS WOOD FRAMING, EXISTING CONDITIONS MAY VARY. FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT INTO PLYWOOD.
8. PRESSURE TREATED WOOD BUCKS (BY OTHERS) SHALL BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE EXISTING STRUCTURE.

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21-38289

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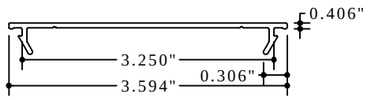
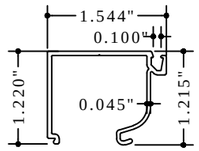
03 OF 4



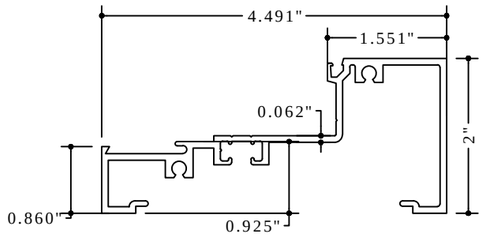
1 FLAT FILLER

6" = 1'-0" 6063-T5 ALUMINUM



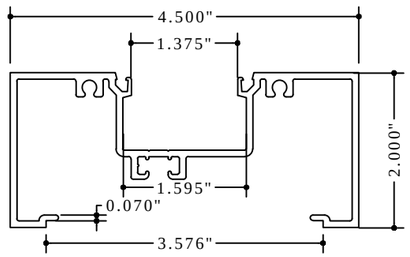
3 GLASS STOP

6" = 1'-0" 6063-T5 ALUMINUM



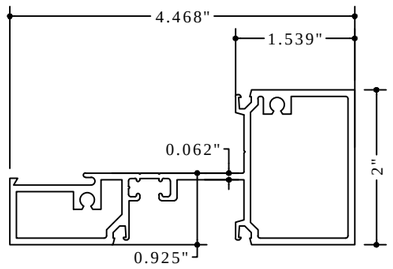
5 HORIZONTAL/SILL

6" = 1'-0" 6063-T5 ALUMINUM



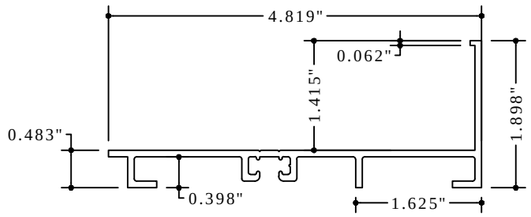
2 HEAD/JAMB

6" = 1'-0" 6063-T5 ALUMINUM



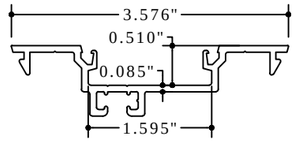
4 HORIZONTAL

6" = 1'-0" 6063-T5 ALUMINUM



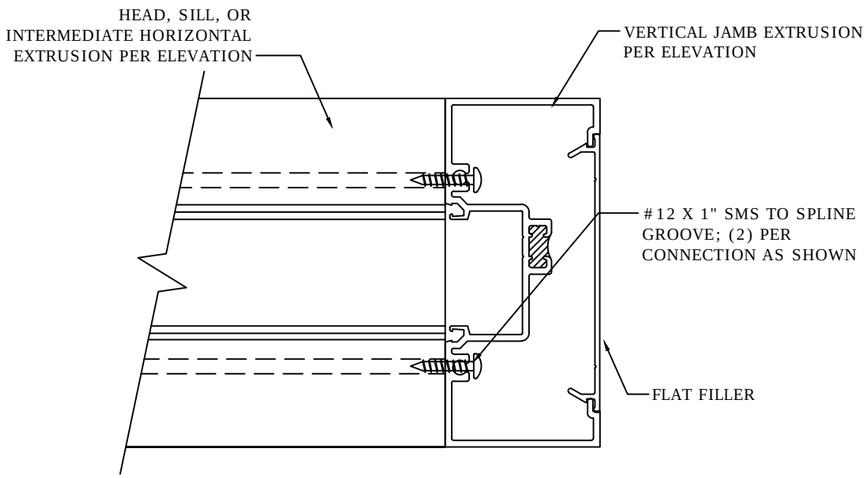
6 SILL FLASHING

6" = 1'-0" 6063-T5 ALUMINUM



10 SHALLOW POCKET FILLER

6" = 1'-0" 6063-T5 ALUMINUM



A/3 FRAME CONSTRUCTION

N.T.S. TYPICAL PLAN VIEW

BILL OF MATERIALS

ITEM	PART #	DESCRIPTION	MATERIAL
1	F20045-T	FLAT FILLER	ALUMINUM
2	F20010-T	HEAD/JAMB	ALUMINUM
3	F20025	GLASS STOP	ALUMINUM
4	F20030-T	HORIZONTAL	ALUMINUM
5	F20020-T	HORIZONTAL/SILL	ALUMINUM
6	F20050-T	SILL FLASHING	ALUMINUM
7	F51010-T	GLAZING GASKET	VINYL
8	F200SB	SETTING BLOCK	ALUMINUM
9	F20095	WATER DIVERTER	ALUMINUM
10	F20015-T	SHALLOW POCKET FILLER	ALUMINUM
11		END DAM	0.040" BRAKE METAL
12		DOWSIL #795 CAULK	FULL PERIMETERS

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FRANK L. BENNARDO LICENSE No PE0046549 STATE OF FLORIDA PROFESSIONAL ENGINEER
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04