

HERCUWALL 8" COMPOSITE WALL PANEL SYSTEM

SEE SHEET 2 FOR DESIGN LOAD RATINGS

COMPONENTS SPECIFICATIONS

CONCRETE

READY-MIXED CONCRETE FOR WALL PANELS SHALL MEET ALL REQUIREMENTS OF ACI 301, CEMENT, U.N.O. MINIMUM STRENGTH AT 28 DAYS OR 60 DAYS – SEE SHEET 2, MAXIMUM AGGREGATE SIZE IS 3/8" OR ROCK MIX.

HYDRAULIC GROUT PUMP WITH A 3" OR SMALLER DISCHARGE REDUCED TO 2" OR 1-1/2" HOSE AT DELIVERY POINT.

REBAR REINFORCEMENT

USE ASTM A615 GRADE 60 FOR REINFORCEMENT.

LAP SPLICES TO BE A MINIMUM OF 48 BAR DIAMETERS.

VERTICAL REBAR IS NOT REQUIRED WITH WALL PANELS AS VERTICAL REINFORCING IS INTEGRAL TO THE SYSTEM (SHEARSTRIP). ONE CONTINUOUS HORIZONTAL REBAR REINFORCEMENTS SHALL BE PLACED WITHIN THE BOND BEAM AT TOP OF THE WALL WITHIN INTEGRAL PLASTIC HANGERS.

BAR DIAMETERS SHALL BE MINIMUM 1/2"(#4) OR HIGHER AS SPECIFIED BY THE ENGINEER OF RECORD.

SHEET METAL COMPONENTS

ALL SHEET METAL COMPONENTS INCLUDING SHEARSTRIP®, TOP CAP, BASE TRACK, HEADER TRIM, WINDOW AND DOOR TRIM EXTERIOR AND INTERIOR SILL COVER SHALL BE MANUFACTURED FROM 24 GA. GALVANIZED COLD ROLLED STEEL.

GALVANIZED COATING SHALL BE A MINIMUM OF G-90 PER ASTM A653. ALTERNATE CORROSION RESISTANCE COATING MAY BE SPECIFIED AS APPROPRIATE, TO BE REVIEWED BY EOR.

STEEL USED IN THE MANUFACTURE OF SHEARSTRIPS IS SPECIFIED AT 44±6 KSI YIELD STRENGTH, PER AISI 1010, ASTM A 109.

STEEL USED IN ALL OTHER SHEET METAL COMPONENTS SHALL HAVE A MINIMUM YIELD STRENGTH OF 33 KSI.

OUTER PANEL SKIN COATED WITH LATEX PRIMER AND SEALER.

UNLESS EXTERIOR COATING OPTIONS 1, 2 & 3 LISTED ON SHEET 2 ARE USED.

SCREWS

ALL SCREWS CONNECTING SHEET METAL COMPONENTS SHALL BE ZINC PLATED OR GALVANIZED STEEL, #8 DIAMETER MIN. 1/2" LENGTH, SELF DRILLING TAPPING AND SHALL CONFORM TO SAE J 78 OR EQUAL.

SCREWS FOR STEEL-TO-STEEL CONNECTIONS SHALL BE INSTALLED WITH A MIN. EDGE DISTANCE AND CENTER-TO-CENTER SPACING OF 1/2", SHALL BE SELF DRILLING TAPPING AND SHALL CONFORM TO SAE J 78.

FOAM OPTIONS:

1. FOAM FOR WALL PANELS IS MANUFACTURED FROM EXPANDED POLYSTYRENE (EPS) AND SHALL HAVE  
MINIMUM DENSITY = 1.11 PCF  
MAX. FLAME SPREAD RATING = 10 AS PER ASTM E-84  
SMOKE DEVELOPED INDEX = 130  
SPONTANEOUS IGNITION TEMPERATURE = 752° F.
2. 'NEOPOR' RIGID FOAM INSULATION BOARD BY 'BASF'  
MINIMUM DENSITY = 1.35 PCF  
MAX. FLAME SPREAD RATING = 25 AS PER ASTM E-84  
SMOKE DEVELOPED INDEX = 450  
SPONTANEOUS IGNITION TEMPERATURE = 880° F.

CAULK

CONTINUOUS 1/8" BEAD OF CAULK APPLIED ON ALL JOINTS BETWEEN PANEL FORMS FROM T.O.W. TO BASE.

CAULK SHALL BE SILICONE VARIETY WITH A 100 YEAR WARRANTY.

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 2017 (6TH EDITION)/ 2020 (7TH EDITION) FLORIDA BUILDING CODE INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).

ALL ELECTRICAL, MECHANICAL DETAILS AND FIRE RATING PROVISIONS ARE NOT PART OF THIS APPROVAL AND SHALL BE PREPARED BY A REGISTERED PROFESSIONAL ENGINEER AND REVIEWD BY CORRESPONDING BUILDING DEPARTMENT.

HERCUWALL COMPOSITE WALL SYSTEM IS DESIGNED AND TO BE INSTALLED AS AN EXTERIOR OR INTERIOR BEARING OR NON BEARING WALL.

THIS PRODUCT CONTROL APPROVAL IS FOR THE WALL PANELS AS SHOWN ON THESE APPROVED DRAWINGS. BUILDING DIMENSIONS, DETAILS, UPLIFT, FOUNDATIONS, ROOF AND OTHER ELEMENTS SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER AND REVIEWED BY THE STRUCTURAL PLANS EXAMINAR OF THE CORRESPONDING BUILDING DEPARTMENT.

DISSIMILAR MATERIALS IN CONTACT WITH EACH OTHER SHALL BE PROTECTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2017/2020 FLORIDA BLDG. CODE.

DESIGN IS BASED ON TESTING IN ACCORDANCE WITH FLORIDA BUILDING CODE LARGE MISSILE IMPACT TEST, ASTM E1886-13A/ASTM E1996-14.

CYCLIC WIND PRESSURE TEST, ASTM E1886-13A/ASTM E1996-14.

STATIC AIR PRESSURE TEST, TAS 202.

AIR INFILTRATION TEST, ASTM E283-04

WATER INFILTRATION TEST, ASTM E331-00

HERCUWALL COMPOSITE PANELS HAVE BEEN TESTED WITH INTERIOR 1/2" THK. GYPSUM BOARDS ATTACHED TO SHEAR STRIPS WITH #6 X 1-1/4" S.M.S. AT 12" O.C. VERTICALLY.

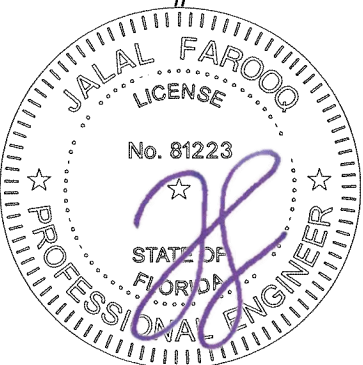
THIS PRODUCT APPROVAL IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT, i.e. LIFE SAFETY OF THIS PRODUCT, ADEQUACY OF STRUCTURE RECEIVING THIS PRODUCT AND SEALING AROUND OPENING FOR WATER INFILTRATION RESISTANCE ETC. CONDITIONS NOT SHOWN IN THIS DRAWING ARE TO BE ANALYZED SEPARATELY, AND TO BE REVIEWED BY BUILDING OFFICIAL.

DESIGN LOADS SHOWN ARE BASED ON 'ALLOWABLE STRESS DESIGN (ASD)'.

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FL #18514

A- CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION OF THIS PRODUCT BASED ON THIS PRODUCT EVALUATION PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT.  
B- THIS PRODUCT EVALUATION DOCUMENT WILL BE CONSIDERED INVALID IF ALTERED BY ANY MEANS.  
C- SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A FLORIDA 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. ENGINEER OF RECORD, ACTING AS A DELEGATED ENGINEER TO THE P.E.D. ENGINEER SHALL SUBMIT TO THIS LATTER THE SITE SPECIFIC DRAWINGS FOR REVIEW.  
D- THIS P.E.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.



**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
9360 SUNSET DRIVE, SUITE 220  
MIAMI, FLORIDA 33173 (C.A.N. 3538)  
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EPS/CONCRETE 8" COMPOSITE WALL SYSTEM  
**HercuTech Inc.**  
8980 S. McKerny Street, Suite 101  
Tempe, Arizona, 85284  
Tel. (480) 284-4535 Fax. (480) 284-6535

| revisions: |          | no | date     | by | description              |
|------------|----------|----|----------|----|--------------------------|
| 08-28-15   | scale: - | A  | 06.06.17 |    | EXT. COATING REV.        |
|            |          | B  | 12.11.17 |    | EXT. FACADE OPTION ADDED |
|            |          | C  | 04.17.19 |    | FOAM OPTION ADDED        |
|            |          | D  | 12.09.20 | ML | UPDATED TO 2020 FBC      |
|            |          | E  | 05.21.21 | ML | ADDRESS CHANGE           |

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dr. by: MLS  
chk. by:

drawing no.  
**15-1139**

sheet 1 of 4

WALL - PANELS \12-03HI

4000 PSI. AT 28 DAYS CONCRETE STUDS AT 12" O.C.

MAX. DESIGN LOAD RATING =  $\pm 86.0$  PSF (MAX. WALL HT. = 108")  
EXTERIOR COATING OPTION #1  
 $\pm 72.5$  PSF (MAX. WALL HT. = 114")  
 $\pm 61.7$  PSF (MAX. WALL HT. = 120")  
 $\pm 55.0$  PSF (MAX. WALL HT. = 132")

5270 PSI. AT 60 DAYS CONCRETE STUDS AT 12" O.C.

$\pm 50.0$  PSF (MAX. WALL HT. = 144")

| WALL PANEL MAX. ALLOWABLE LOADS- CONCRETE STUDS AT 12" O.C. |                                         |                                                      |                                                   |
|-------------------------------------------------------------|-----------------------------------------|------------------------------------------------------|---------------------------------------------------|
| WALL HEIGHT                                                 | AXIAL COMPRESSION<br>Lbs Per Linear Ft. | AXIAL-TRANSVERSE LOAD CAPACITY<br>Lbs Per Linear Ft. | RACKING SHEAR LOAD CAPACITY<br>Lbs Per Linear Ft. |
| UPTO 9 FT.                                                  | 6430                                    | 6330                                                 | 180                                               |
| UPTO 12 FT.                                                 | 5150                                    | 3990                                                 | 180                                               |

| WALL PANEL MAX. ALLOWABLE LOADS- CONCRETE STUDS AT 8" O.C. |                                         |                                                      |                                                   |
|------------------------------------------------------------|-----------------------------------------|------------------------------------------------------|---------------------------------------------------|
| WALL HEIGHT                                                | AXIAL COMPRESSION<br>Lbs Per Linear Ft. | AXIAL-TRANSVERSE LOAD CAPACITY<br>Lbs Per Linear Ft. | RACKING SHEAR LOAD CAPACITY<br>Lbs Per Linear Ft. |
| UPTO 9 FT.                                                 | 9645                                    | 9495                                                 | 180                                               |
| UPTO 12 FT.                                                | 7725                                    | 5895                                                 | 180                                               |

EXTERIOR COATING OPTION:

1. VERTICAL SHEAR STRIPS COVERED WITH 90 MM SHEATHING TAPE BY 'SAUNDERS'.  
EPS PANELS COVERED WITH 'HERCU-TECH' POLYESTER LAMINATING FILM.

4000 PSI. AT 28 DAYS CONCRETE STUDS AT 12" O.C.

MAX. DESIGN LOAD RATING =  $\pm 86.0$  PSF (MAX. WALL HT. = 108")  
EXTERIOR COATING OPTIONS #2 & 3  
 $\pm 72.5$  PSF (MAX. WALL HT. = 114")  
 $\pm 61.7$  PSF (MAX. WALL HT. = 120")  
 $\pm 55.0$  PSF (MAX. WALL HT. = 132")

5270 PSI. AT 60 DAYS CONCRETE STUDS AT 12" O.C.

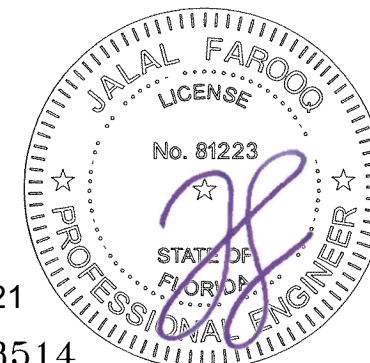
$\pm 50.0$  PSF (MAX. WALL HT. = 144")

| WALL PANEL MAX. ALLOWABLE LOADS- CONCRETE STUDS AT 12" O.C. |                                         |                                                      |                                                   |
|-------------------------------------------------------------|-----------------------------------------|------------------------------------------------------|---------------------------------------------------|
| WALL HEIGHT                                                 | AXIAL COMPRESSION<br>Lbs Per Linear Ft. | AXIAL-TRANSVERSE LOAD CAPACITY<br>Lbs Per Linear Ft. | RACKING SHEAR LOAD CAPACITY<br>Lbs Per Linear Ft. |
| UPTO 9 FT.                                                  | 6430                                    | 6330                                                 | 180                                               |
| UPTO 12 FT.                                                 | 5150                                    | 3990                                                 | 180                                               |

| WALL PANEL MAX. ALLOWABLE LOADS- CONCRETE STUDS AT 8" O.C. |                                         |                                                      |                                                   |
|------------------------------------------------------------|-----------------------------------------|------------------------------------------------------|---------------------------------------------------|
| WALL HEIGHT                                                | AXIAL COMPRESSION<br>Lbs Per Linear Ft. | AXIAL-TRANSVERSE LOAD CAPACITY<br>Lbs Per Linear Ft. | RACKING SHEAR LOAD CAPACITY<br>Lbs Per Linear Ft. |
| UPTO 9 FT.                                                 | 9645                                    | 9495                                                 | 180                                               |
| UPTO 12 FT.                                                | 7725                                    | 5895                                                 | 180                                               |

EXTERIOR COATING OPTION:

2. 1/8" BASE COAT APPLIED TO EPS PANELS CONSISTING OF 'MasterSeal 579' CEMENTITIOUS WATER PROOF COATING BY 'BASF' AND 'MasterEmaco A660' BONDING MIXTURE BY 'BASF'.  
FIBERGLASS MESH SHEET EMBEDDED INTO BASE COAT.  
1/8" LAYER OF 'MasterSeal 584' CEMENTITIOUS WATER PROOF COATING BY 'BASF' APPLIED ON TOP OF MESH.  
1/16" TOP COAT CONSISTING OF 'MasterSeal 582 WATER PROOF CEMENT-BASED COATING BY 'BASF', AND 'MasterEmaco A660' BONDING MIXTURE BY 'BASF' MIXED 2:1 WITH #20 SAND.  
'MasterProtect HB200' WATER PROOF COATING BY 'BASF' AS EXTERIOR FINISH.  
(1/4" OVERALL STUCCO THICKNESS)
3. 3/16" THICK 'STO Stolit' ACRYLIC TEXTURED TOP FINISH BONDED TO EPS CORE (WALL PANELS) WITH COATED GLASS FIBER FABRIC MESH EMBEDDED IN 1/8" THICK 'STO Adhevine-B' BASECOAT



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|            |  | A  | 12.09.20 | ML | UPDATED TO 2020 FBC |

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dr. by: MLS  
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drawing no.

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sheet 2 of 4

WALL-PANELS\12-03HI

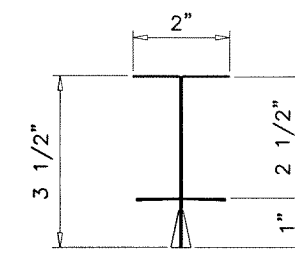
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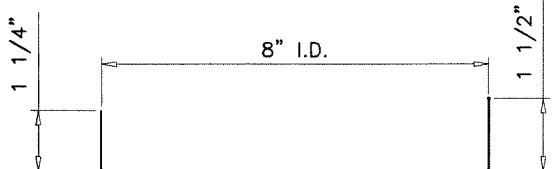
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| sheet       | 3 of 4  |



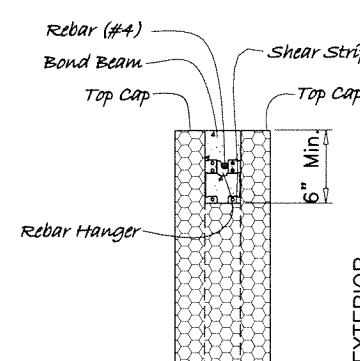
**Top Cap**  
24 Gauge G90 Galvanized Steel



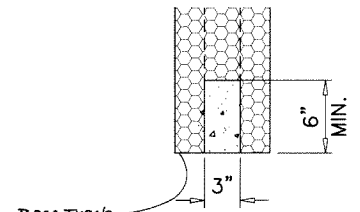
**Shear Strip**  
24 Gauge G90 Galvanized Steel



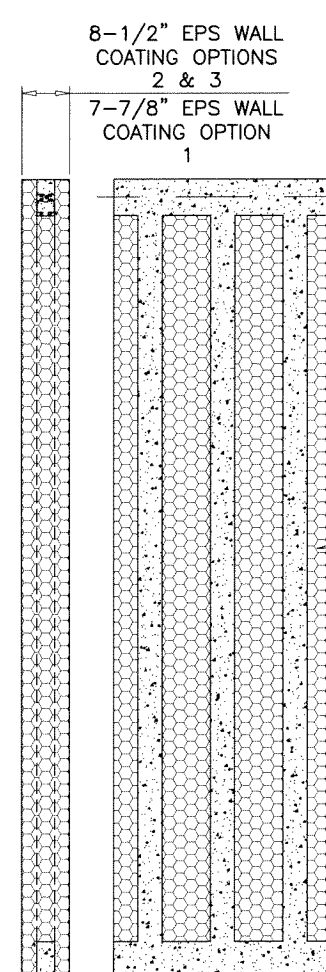
**Base Track**  
24 Gauge G90 Galvanized Steel



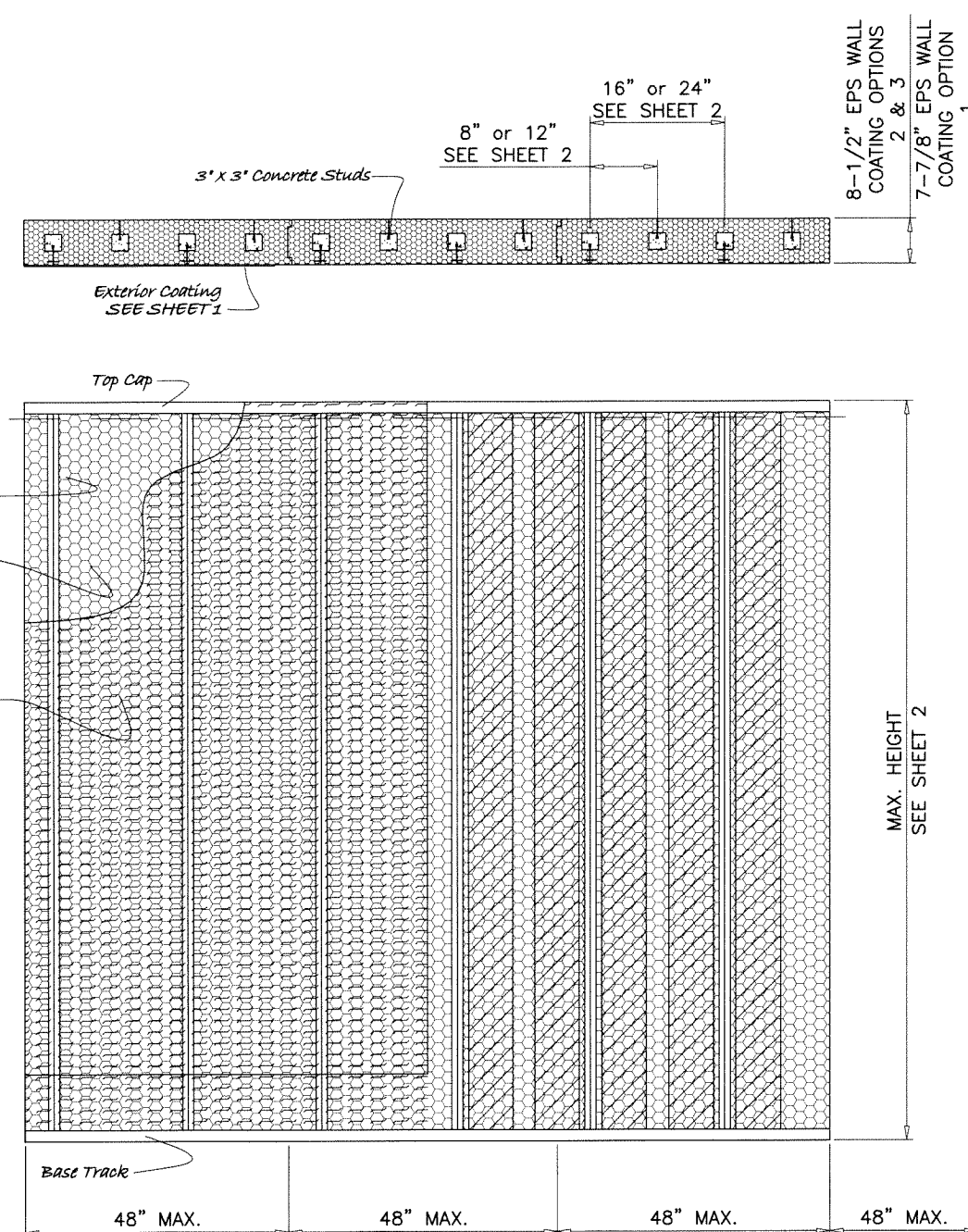
**BOND BEAM**



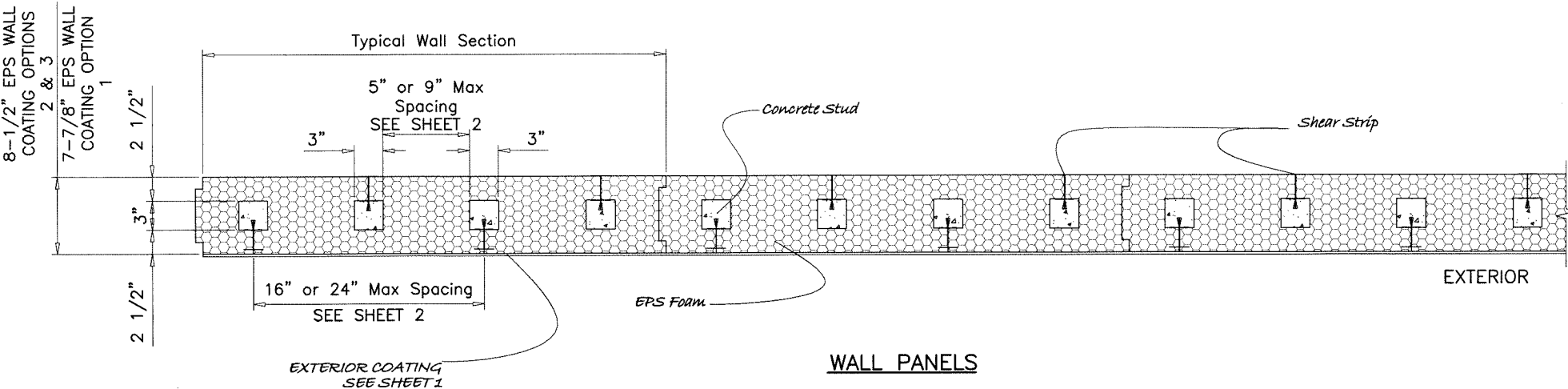
**BASE BEAM**



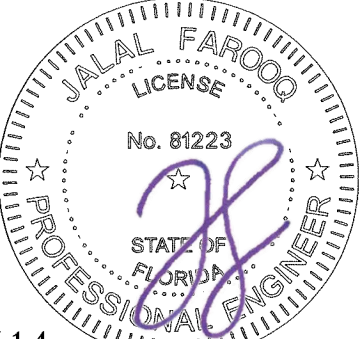
**CONC. STUDS**



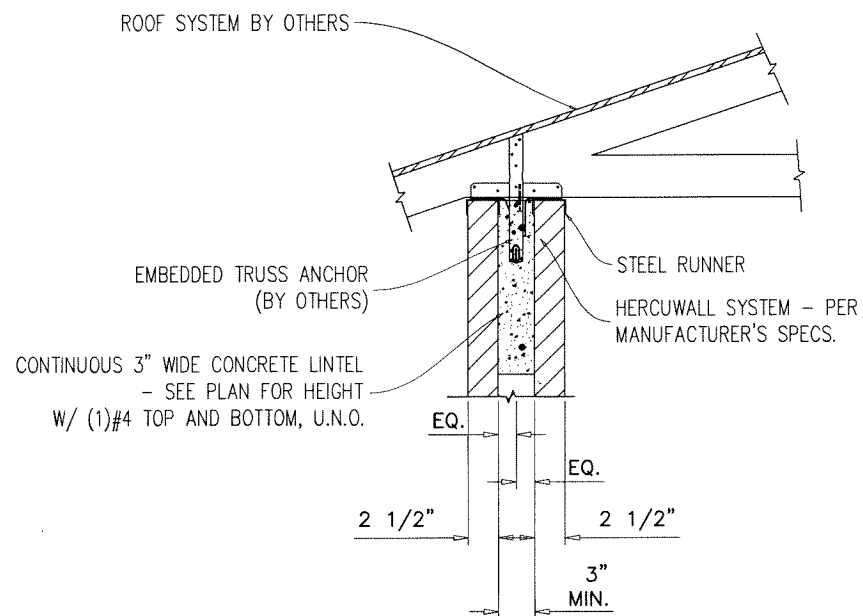
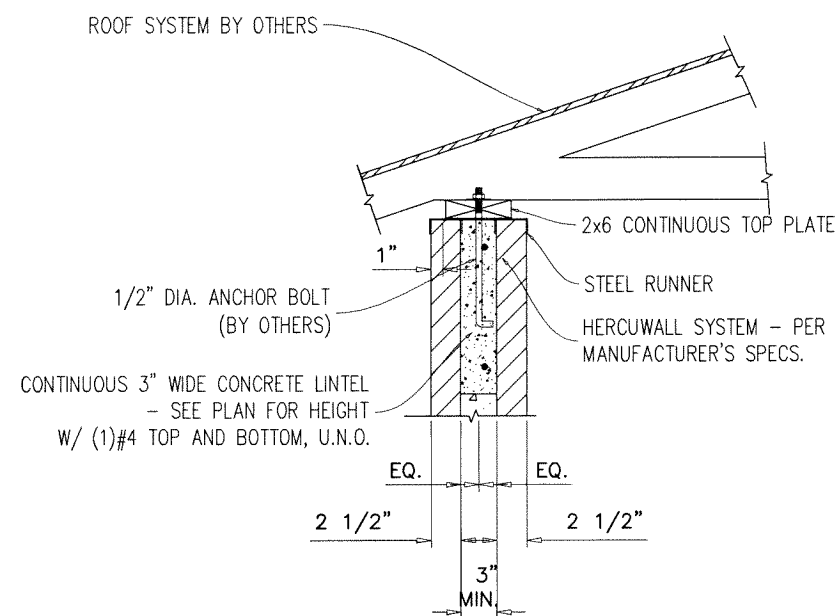
**WALL EXTERIOR ELEVATION**



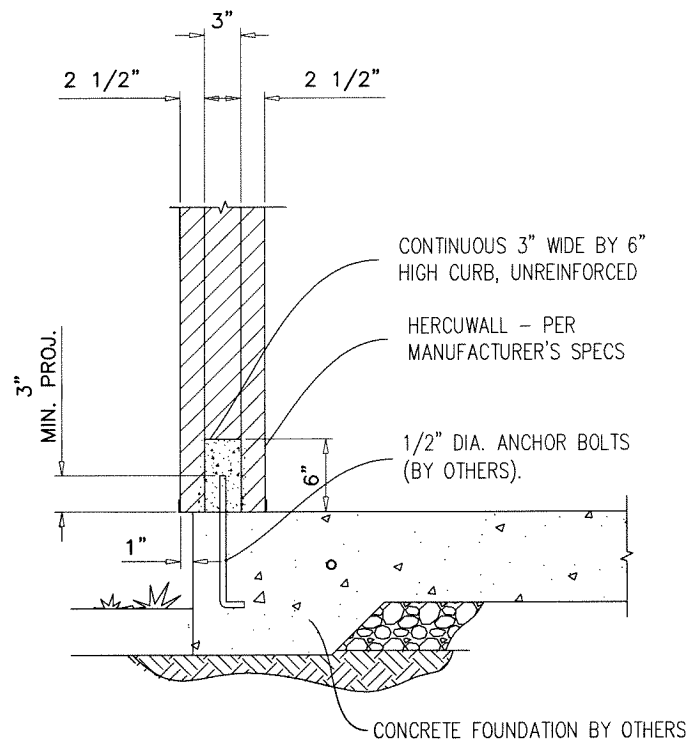
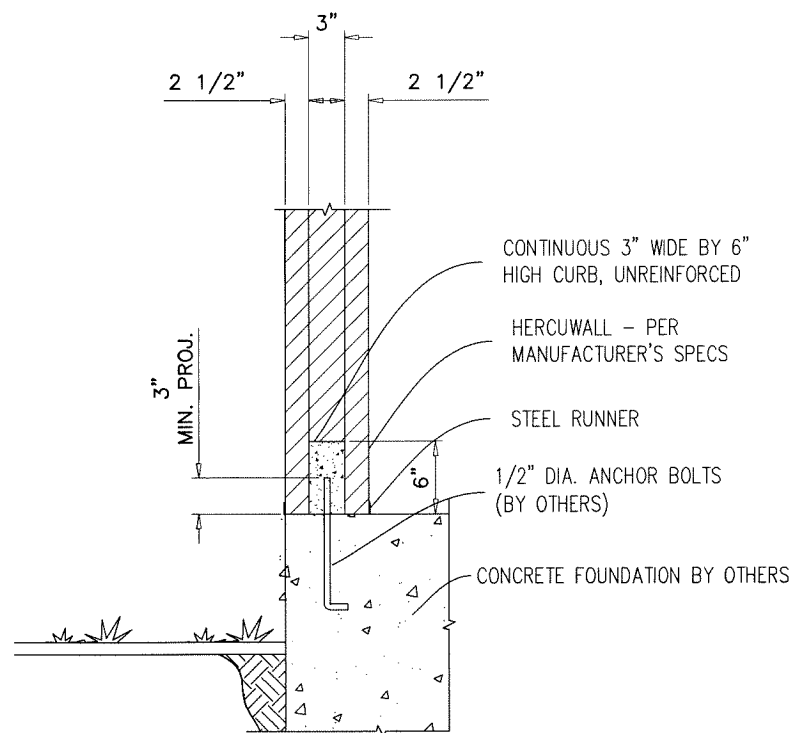
**WALL PANELS**



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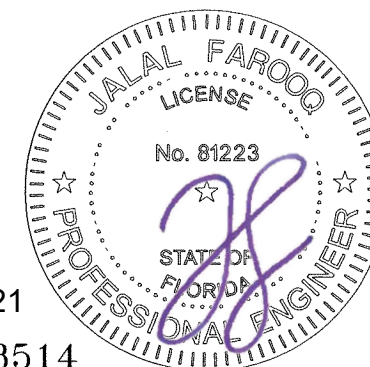
**TYPICAL TOP CONNECTIONS**



**TYPICAL BOTTOM CONNECTIONS**

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