

OWNER:
JOHN DOE
ANY LOCATION IN FLORIDA

THIS PLAN IS ONLINE FOR REVIEW @
WWW.CADVICE.US/SW/G.PV.20_FL.PDF

NOTES FOR FLORIDA-WIDE, GENERIC, PV STRUCTURAL INSTALLATION PLAN:
THIS SEALED PLAN IS FOR THE STRUCTURAL ATTACHMENT OF ANY AND ALL FSEC APPROVED PV MODULES. THIS PLAN SHALL ONLY BE USED FOR PV
INSTALLATIONS UTILIZING UNISTRUT P1000T CRS CORROSION RESISTANT STEEL CHANNELS. THIS PLAN SHALL ONLY BE USED FOR MOUNTING PV MODULES
IN ROOF PRESSURE ZONE 1, PARALLEL WITH AND WITHIN A 6-INCHES OF THE ROOF COVERING OF ALL TYPES AND ALL SLOPES FROM FLAT THRU 12-IN-12 AT
ROOF HEIGHTS OF 60-FT OR LESS WITHIN FLORIDA.
THOSE DESIRING THAT SEOR (SOLAR ENGINEER OF RECORD) PROVIDE PLANS FOR CONDITIONS OTHER THAN HEREIN STATED, AND/OR RACKING OTHER THAN
UNISTRUT, AND/OR INSTALLATION IN ROOF PRESSURE ZONES OTHER THAN PZ1, AND/OR TILT-UP, AND/OR INSTALLATIONS OUTSIDE OF FLORIDA, AND/OR
ELECTRICAL DESIGN, ARE REQUESTED TO CONTACT SEOR DIRECTLY.
SEOR CONTACT INFO-OFFICE: 813 909 1956, CELL: 813 650 7246, E-MAIL: ALLEN@GEZELMANPE.COM
THE DETAILS SPECIFIED ON THIS "PAPER" PLAN ARE CONSIDERED TO BE THE MINIMUM NEEDED BY AHI AND INSTALLERS. HYPERLINKS ARE PROVIDED HEREON
TO SUPPLEMENTAL DEM, GOVERNMENTAL AND OTHER INFORMATION SOURCES IN ORDER TO PROVIDE COMPLETE, EASY INFORMATION AVAILABILITY.
USERS ARE ENCOURAGED TO ACCESS AN EV (ELECTRONIC VERSION) OF THIS PLAN AT WWW.CADVICE.US/SW/G.PV.20_FL.PDF. EV HYPERLINKS ARE ACTIVE
AND WILL PROVIDE EASY ACCESS TO INFORMATION. EV ALSO ALLOWS VIEWER TO STUDY THE PLAN AT A MAGNIFICATION OF HIS CHOICE UP TO 6400%. IF A
CONFLICT SHOULD OCCUR BETWEEN THE SPECIFICATIONS HEREON AND AN OEM DETAIL, OEM SHALL PREVAIL.

STRUCTURAL:
THIS PLAN IS FOR INSTALLATIONS IN PZ1 ONLY - WHICH IS THE INTERIOR PORTION OF ROOF AT LEAST 40% OF EAVE HEIGHT OR 10% OF LEAST PLAN
DIMENSION OF BUILDING-WHICHEVER IS LESS.
PZ2 MAY BE USED WITH SITE SPECIFIC ENGINEERING ONLY. PZ3 MAY NOT BE USED IN THE HVHZ.
THERE SHALL BE TWO UNISTRUT P1000T CRS CHANNELS EQUALLY SPACED UNDER EVERY PV MODULE. PV MODULES MAY BE LANDSCAPE OR PORTRAIT.
UNISTRUT CHANNELS SHALL RUN PERPENDICULAR TO ROOF FRAMING.
WITHIN HVHZ:
UNISTRUT CHANNELS SHALL BE ATTACHED TO EVERY STRUCTURAL FRAMING MEMBER. UNISTRUT CHANNELS SHALL BE ATTACHED BY A CRS 5/16" DIAMETER
LAG 3" LONG THRU A 1" GALVANIZED FLOOR FLANGE FILLED WITH APPROVED POLYURETHANE ROOF SEALANT. IF GREATER ROOF CLEARANCE IS NEEDED
(CONCRETE TILE FOR EXAMPLE), UTILIZE SCHEDULE 80 PVC PIPE NIPPLE OF APPROPRIATE LENGTH - NGT (NOT GREATER THAN) 4". IF GREATER ROOF
CLEARANCE IS NEEDED, USE GALVANIZED STEEL 1" PIPE NIPPLE, DOUBLE FLOOR FLANGES, AND TWO LAGS PER ROOF/FLOOR FLANGE ATTACHMENT SEE
DETAIL DRAWING THIS SHEET.

OUTSIDE OF HVHZ - SAME ATTACHMENT SPECIFICATION AS HVHZ BUT DIFFERENT SPACING:
DESIGN WIND SPEED UP TO AND INCLUDING 140-MPH EXPOSURE 8 ATTACH UNISTRUT INTO ROOF FRAMING AT NGT (NOT GREATER THAN) 6-FT C-C.
DESIGN WIND SPEED UP TO AND INCLUDING 160-MPH EXPOSURE 8 ATTACH UNISTRUT INTO ROOF FRAMING AT NGT 4-FT C-C.
DESIGN WIND SPEED GREATER THAN 160-MPH EXPOSURE 8 ATTACH UNISTRUT INTO ROOF FRAMING AT NGT 2-FT C-C.
PV MODULES SHALL ATTACH TO UNISTRUT CHANNELS AT EVERY CROSSING POINT WITH A GSAS MODULE CLAMP. ADJOINING MODULES MAY SHARE
ATTACHMENT CLAMPS. ATTACHMENT CLAMPS SHALL ATTACH TO UNISTRUT P1000T CHANNEL USING UNISTRUT CORROSION RESISTANT CHANNEL NUTS.

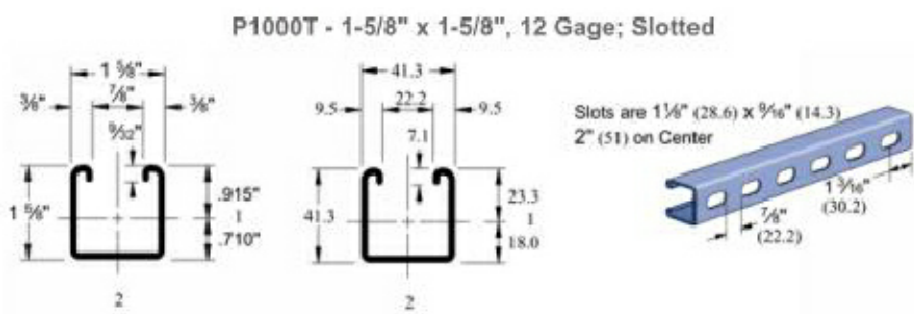
ELECTRICAL: BY OTHERS
THOSE DESIRING ELECTRICAL DESIGN BY SEOR ARE REQUESTED TO CONTACT SEOR DIRECTLY
SEOR CONTACT INFO-OFFICE: 813 909 1956, CELL: 813 650 7246, E-MAIL: ALLEN@GEZELMANPE.COM
GENERAL:
• PV-MODULES PRODUCE ELECTRICITY WHEN EXPOSED TO SUNLIGHT. USE COMMON-SENSE & CAUTION.
• TWISTED (WIRE NUT) CONNECTIONS ARE NOT PERMITTED FOR DC WIRING. USE OEM PLUG CONNECTOR HARNESS BETWEEN PV MODULES.
• MAKE SOLID MECHANICAL CONNECTIONS TO ENSURE ELECTRICAL CONDUCTIVITY BETWEEN ALL PV MODULE ENCLOSURES AND FRAMING MEMBERS
WITH NO ELECTRICALLY ISOLATED COMPONENTS. USE #10 AWG BARE COPPER WITH SCREWED CONNECTIONS FOR BONDING JUMPERS AS NEEDED. OEM
BONDING PLATES ARE AN ACCEPTABLE SUBSTITUTE.
• DO NOT LEAVE LOOSE UNSECURED WIRES/HARNESS BETWEEN PV-MODULES, TIE TO THE MOUNTING RAILS WITH UV RESISTANT ZIP TIES OR APPROVED
WIRE CLIPS IN NEAT, PROFESSIONAL MANNER.
• USE APPROVED MEANS AND METHODS PER CURRENT NEC
• ADHERE TO BEST PRACTICES/MEANS & METHODS OF FBC AND NRCA ROOFING & WATERPROOFING MANUAL TO ENSURE NO ROOF LEAKS.

ALL AFFIDAVITS, DESIGNS, OPINIONS, CALCULATIONS & OTHER ENGINEERING SERVICES PROVIDED BY ALLEN GEZELMAN PE AND HIS ASSOCIATES ON ANY AND ALL PROJECTS ARE SUBJECT TO THE PROVISIONS OF EICDC
C-700 (ENGINEERS JOINT CONSTRUCTION DOCUMENT COMMITTEE - STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT) CURRENT AT THE TIME. THOSE OBJECTING TO SAID EICDC C-700 OR
PROVISIONS THEREOF ARE DIRECTED NOT TO USE THE AFFIDAVIT, DESIGN, OPINION, CALCULATION OR OTHER ENGINEERING SERVICE OFFERED BY ALLEN GEZELMAN PE AND HIS ASSOCIATES ON THE PROJECT. EICDC
C-700 MAY BE VIEWED AT: HTTP://GEZELMANPE.COM/REFERENCE/AG/C-700.PDF

Design Bolt Torque:

BOLT SIZE	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"
FOOT LBS.	6	11	19	50	100	125
Nm	8	15	25	70	135	170

CHANNEL NUT TORQUE



Use Unistrut P1000T (CORROSION RESISTANT)



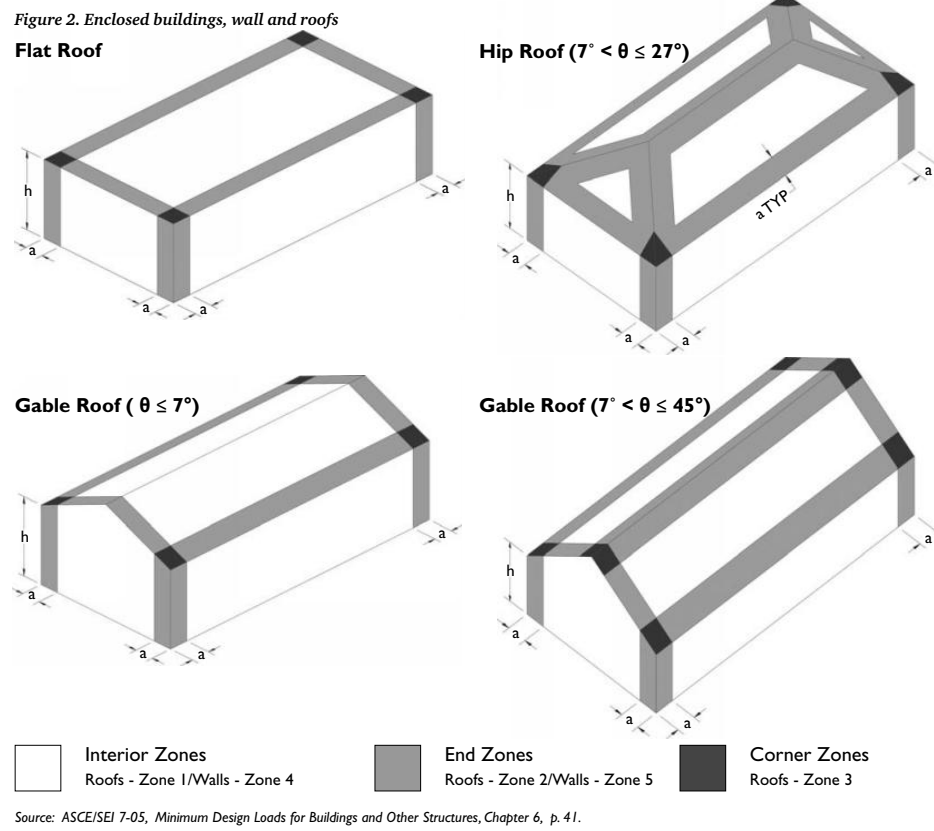
01 UNISTRUT P 1000T PRODUCT SPECIFICATION
SCALE: NTS.

02 SAMPLE INSTALLATION PHOTO
SCALE: NTS.

CODE DESIGNED PER: ASCE 7-05, ASCE 7-10, FBC2007 W/09 SUPP, 2010 FBC
AHJ: ANY JURISDICTION IN THE STATE OF FLORIDA
MODULE: ANY FSEC CERTIFIED PV MODULE

WIND DESIGN WIND SPEED: 200 MPH
EXPOSURE CATEGORY: D
IP CATEGORY: II

I CERTIFY THAT PV INSTALLATIONS MADE IAW THIS PLAN CAN RESIST POSITIVE & NEGATIVE WIND FORCES GREATER THAN 240_PSF. THIS IS
ATTESTED TO BY MY SIGNATURE AND SEAL ON THIS DRAWING AT THE UPPER RIGHT.



03 ASCE 7-05, ASCE 7-10 PRESSURE DIAGRAM
SCALE: N.T.S. INSTALL ANY LOCATION IN THIS JURISDICTION

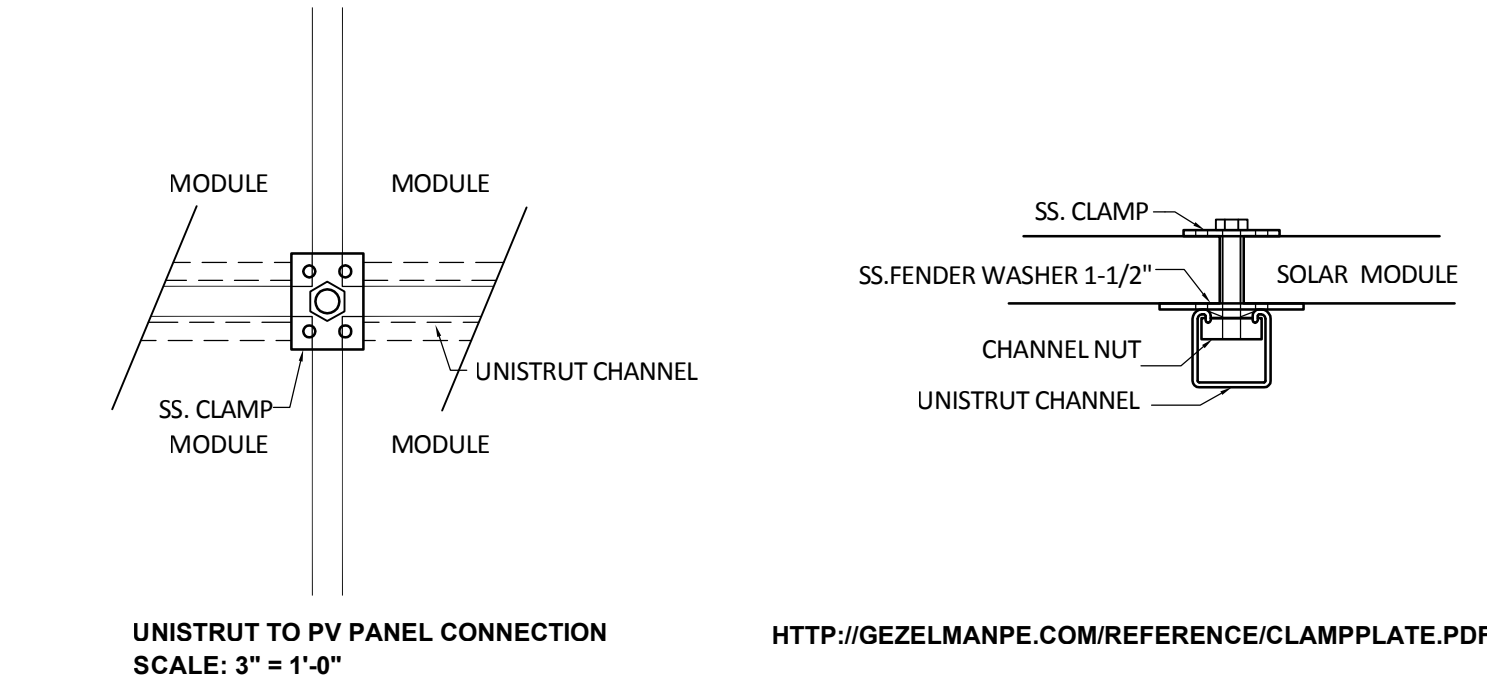
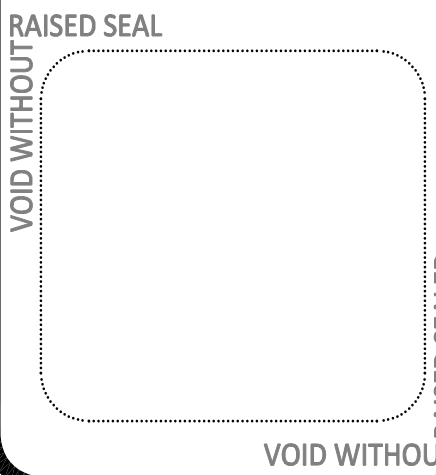
VERIFY CONTRACTOR RESPONSIBLE TO VERIFY THE FIT OF THE PV ARRAY ON APPLICABLE ROOF SLOPE PRIOR TO INSTALLATION.
CONTRACTOR SHALL CONTACT THE ENGINEER IF THE ARRAY MAY NOT FIT AS PROJECTED. CONTRACTOR RESPONSIBLE TO
VERIFY SUN EXPOSURE AND SHADING OF THE PV ARRAY PRIOR TO INSTALLATION!

I CERTIFY THIS DESIGN &
SPECIFICATIONS MEET 2010 FBC
VOID WITHOUT RAISED SEAL, MAY
NOT BE USED FOR PLANS ON FILE,
EVERY PERMIT PULLED REQUIRES A
SEPARATE ORIGINAL COPY OF THIS
PLAN

ALLEN GEZELMAN
16502 HANNA RD.
LUTZ, FLORIDA 33549

PH. 813 650 7246
FX. 866 397 9050
Allen@GezelmanPE.com
www.GezelmanPE.com

PE. # 59180



GSAS SOLAR END CLAMP - SAMPLE



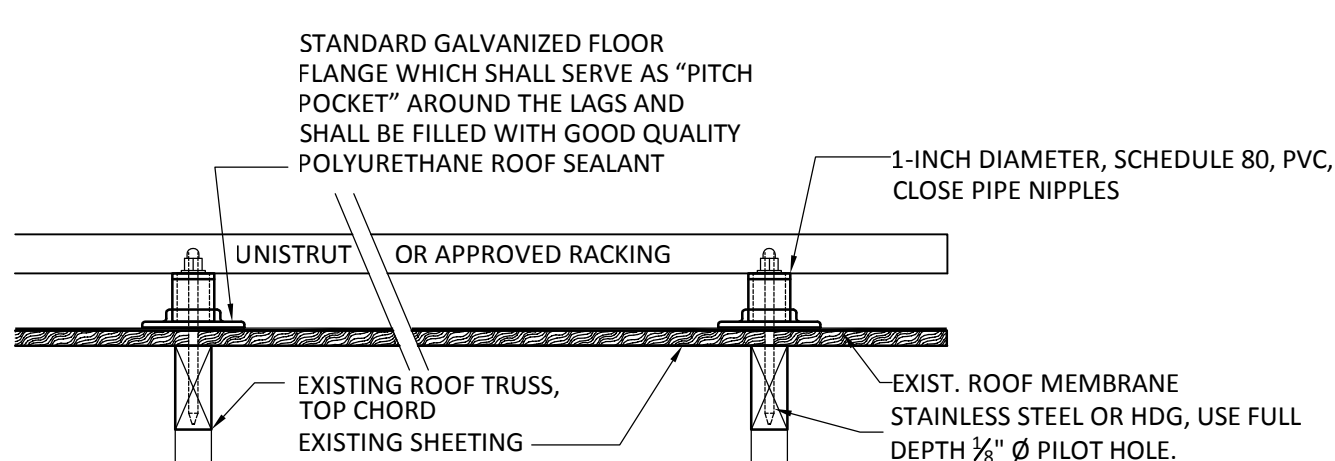
GSAS SOLAR END CLAMP - SAMPLE



GSAS SOLAR END CLAMP - SAMPLE



GSAS SOLAR MID CLAMP - SAMPLE



04 RAFTER TO FLANGE / UNISTRUT CONNECTION
SCALE: 3" = 1'-0"



ONE-INCH PIPE NIPPLE AND GALVANIZED FLANGE SERVE DUAL-PURPOSE AS BOTH
STRUCTURAL SUPPORT AND ROOF SEALANT FILLED PITCH-POCKET. CONTRACTOR SHALL FILL NIPPLE WITH PL1 OR
EQUAL POLYURETHANE ROOF SEALANT AS SHOWN IN ADJACENT PHOTOS.



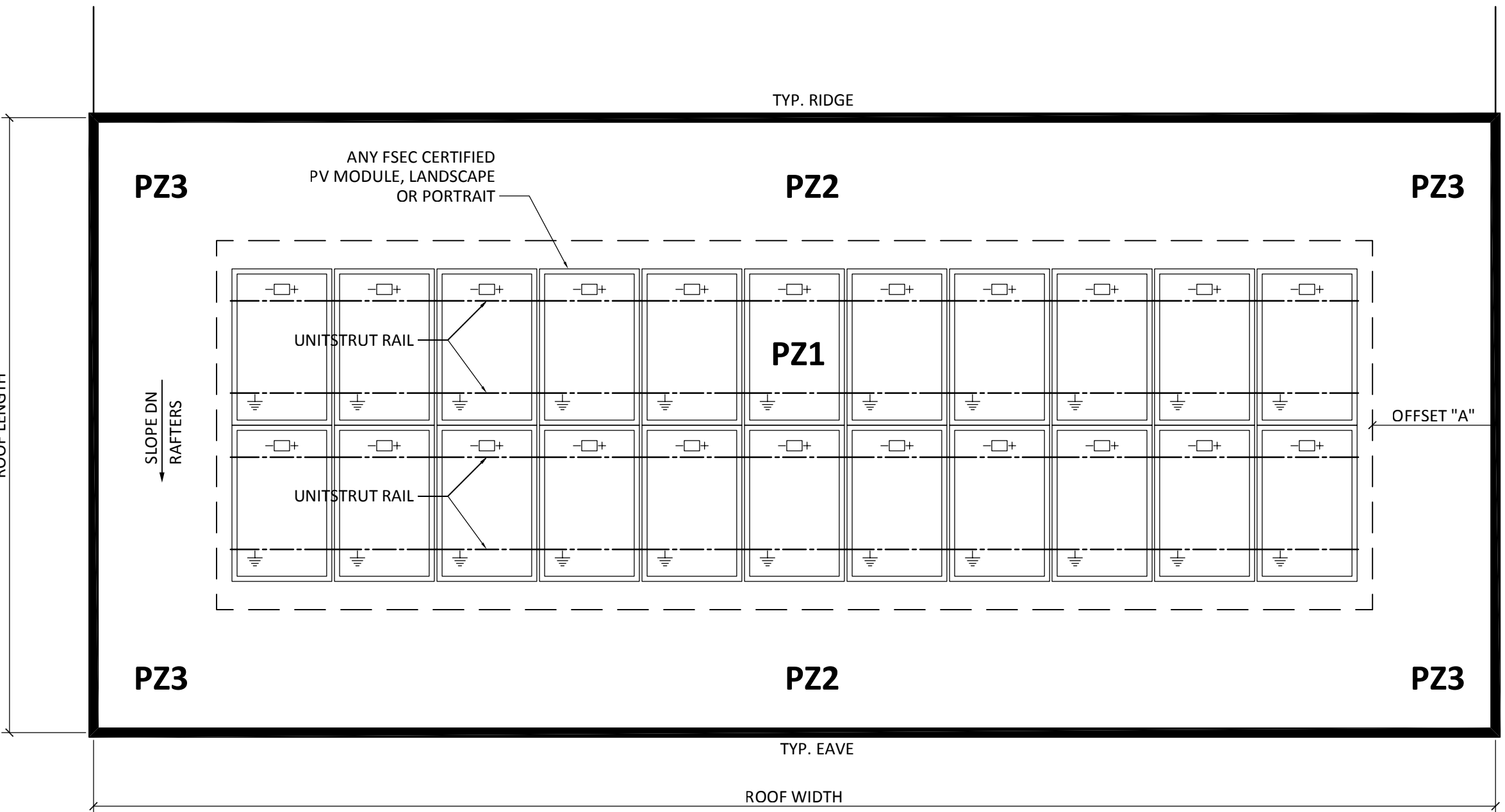
SAMPLE PHOTO : GALV. FLANGE
W/ PVC SCHED 80 NIPPLE



CENTER FLOOR FLANGE DIRECTLY
ABOVE ROOF FRAMING MEMBER.
SET FLANGE IN GENEROUS BED
OF APPROVED ROOF SEALANT.
USE 1/8" PILOT HOLES. INSTALL
TWO-5/16"-DIAMETER BY 3"
LONG CRS LAGS INTO ROOF
FRAMING



SAMPLE PHOTO : GALV. FLANGE
W/ UNISTRUT P1000T



05 GENERIC ROOF LAYOUT - OTHER ROOF SHAPES SUCH AS FLAT, HIP AND GABLE APPROVED
SCALE: 1/4" = 1'-0"

INSTALLATION OF A ROOF MOUNT
RENEWABLE ENERGY SYSTEM
ANY JURISDICTION IN THE STATE OF FLORIDA

SYSTEM:
GRAYBAR
4010 WEST OSBORNE AVE.
TAMPA, FL 33614
PH. 813 253 8881

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REVISIONS: DATE
SHEET NAME:
PERMIT SET
THIS IS SHEET 1 OF 1
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