

01-05-2020

DRB Final Submittal

4400 Sheridan Ave Miami Beach, FL 33140

Alex and Nancy Warshofsky

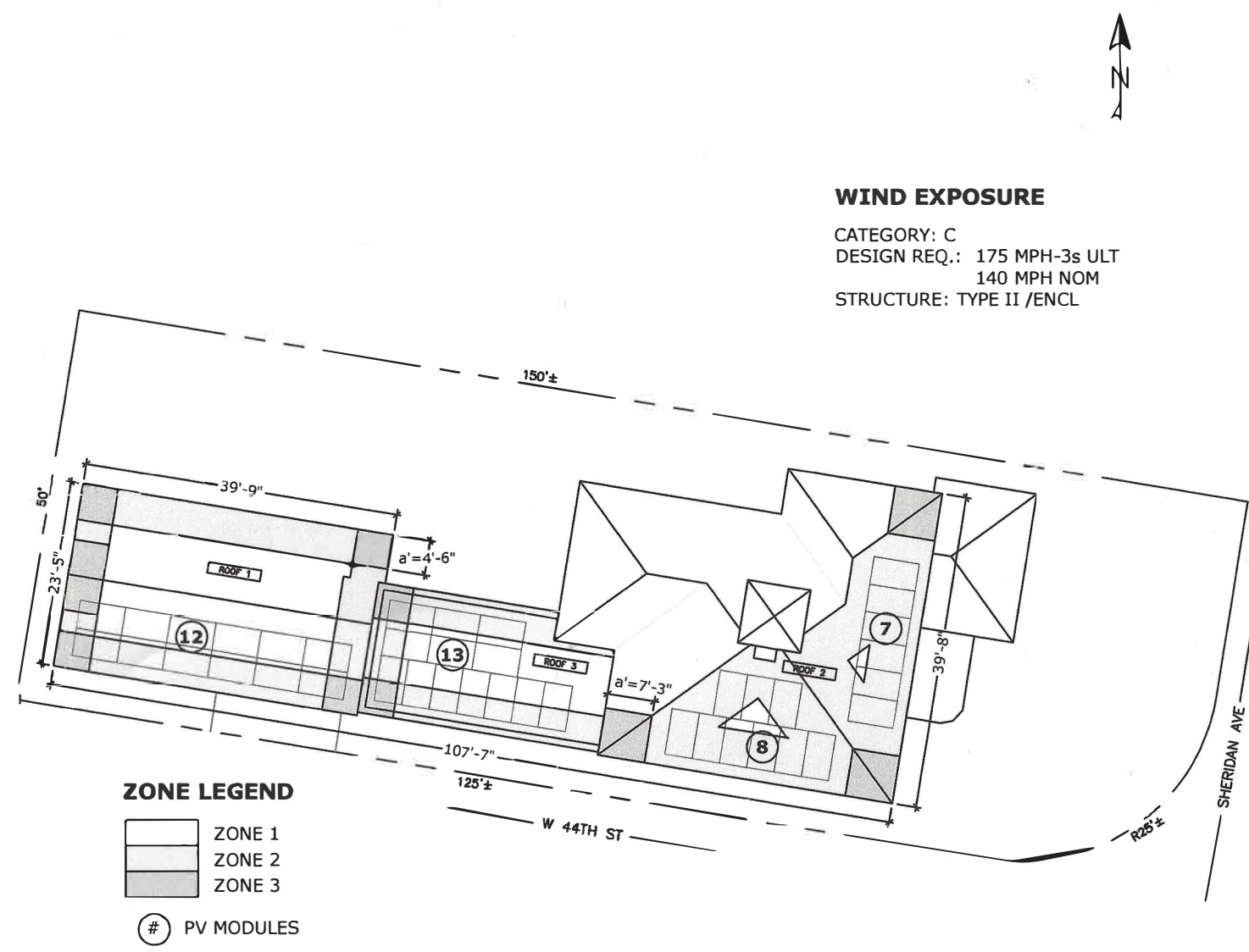
Residential Solar Project

Contractor: Goldin Solar LLC.

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Warshofsky Residence - 13.6 kW Solar Photovoltaic System

4400 Sheridan Avenue, Miami Beach, FL 33140



SITE PLAN & WIND ZONES
SCALE: NTS

PROPERTY INFORMATION

AHJ: MIAMI BEACH
UTILITY: FPL HOA: N/A
FOLIO NO: 02-3222-001-0910 LAND AREA: 0.17 ACRES
PROPERTY USE CODE: 0101 RESIDENTIAL - SINGLE FAMILY
LEGAL DESCRIPTION: ORCHARD SUB NO 4 PB 25-30 LOT 1 BLK 7
LOT SIZE 50.000 X 150 OR 20484-2842 0602 1
COC 22965-0920 12 2004 1

SYSTEM SUMMARY

40 HANWHA QCELL DUO-G6 340 MODULES
1 SOLAREGE SE11400H-US INVERTER
SNAPnRACK UR-60 RAIL SYSTEM

SHEET INDEX

- C SITE MAP AND WIND ZONES
- STRUCTURAL**
S1 ATTACHMENT & EQUIPMENT PLAN
S2-1 ATTACHMENT DETAILS
S2-2 ATTACHMENT DETAILS
S2-3 ATTACHMENT DETAILS
- ELECTRICAL**
E1 ELECTRICAL RISER & SCHEDULES
E2 WARNING LABELS
- SPECIFICATIONS**
E3 MODULE SPECIFICATIONS
E4 OPTIMIZER & INVERTER
E5 POWERWALL BATTERY & BACKUP GATEWAY II

CODE TABLE & CERTIFICATIONS

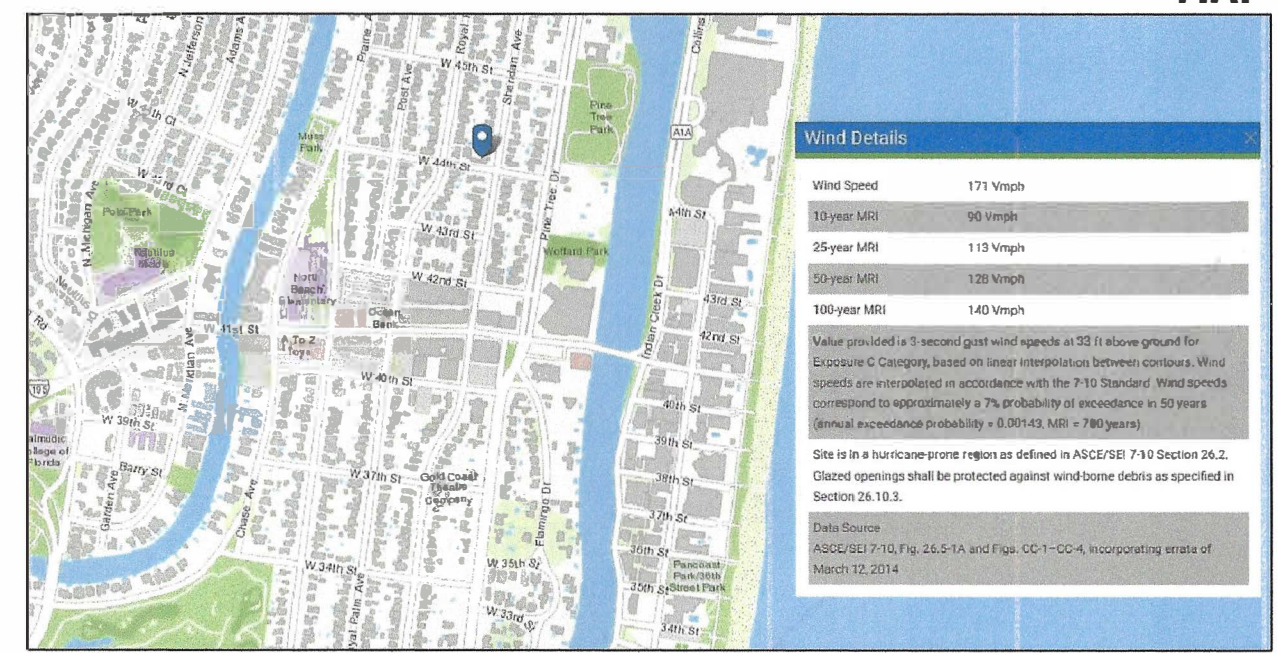
STRUCTURAL: 2015 IBC/IEBC/IRC, FBCR2017
ELECTRICAL: 2014 NEC, 2017 IEC, FBCR2017
FIRE SAFETY: NFPA70/70A, FBCR2017, 2015IEC

CERTIFICATIONS

INVERTER: UL1741SA
OPTIMIZER: UL1703
ENERGY: UL1703
ENERGY STORAGE: UL1642, UL1741, UL1973, UL9540, IEEE1547, UN38.3
RACKING: UL2703
JUNCTION BOX: NEMA 4X (ROOF) 3R (WALL)

AHJ: MIAMI BEACH UTILITY: FPL

LOCATION & WIND MAP



GOLDIN SOLAR, LLC

1109 US HIGHWAY No. 1
VERO BEACH, FLORIDA 32960
CERTIFIED FLORIDA SOLAR CONTRACTOR CVC56965
(772) 205-3244
Email : permitting@goldinsolar.com
Web : www.GoldinSolar.com



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LEGEND

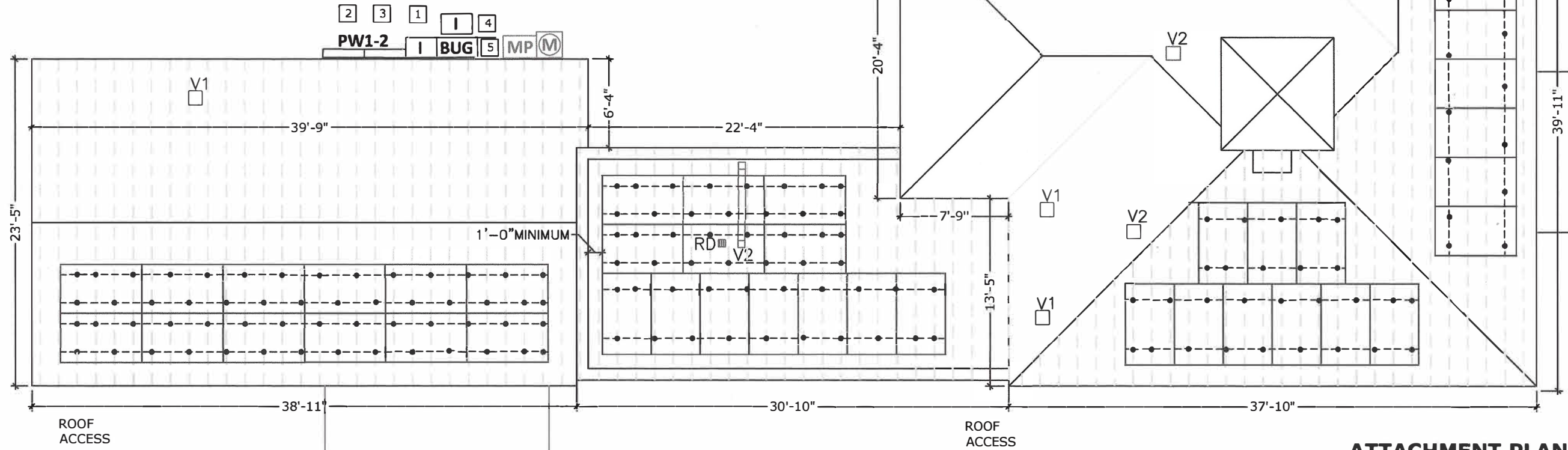
D DISCONNECT
I INVERTER
M METER (EXIST.)

MP MAIN PANEL (EXIST.)
LP LOAD PANEL
PV PV PANEL
GP GENERATION PANEL
CH CHIMNEY
V1 PLUMBING VENT
V2 EXHAUST VENT
V3 RIDGE VENT
V4 ATTIC FAN

SKY SKYLIGHT
SAT SATELLITE DISH
SRJ V1 W/ SOLAR ROOF JACK
MODULES
PW1 POWERWALL 1
BUG BACKUP GATEWAY
TRUSS
RAIL W/ ATTACHMENT

19.3 SF MODULE SIZE

1 SHEET E1 REFERENCE



ATTACHMENT PLAN

SCALE: 1/8" = 1'-0"

EXISTING ROOF CONSTRUCTION

ROOF 1 TYPE: HIP/GABLE SLOPE = 3:12 MEAN HEIGHT: 9.7'±
ROOF 2 TYPE: HIP/GABLE SLOPE = 3:12 MEAN HEIGHT: 18.5'±
SHEATHING: WOOD PLANK FRAMING: WD TRUSS, 24" O.C.
MATERIAL: BARREL TILE FIRE RATING: CLASS A

ROOF 2 TYPE: FLAT/PARAPET SLOPE = 1/4":12 MEAN HEIGHT: 10'±
SHEATHING: WOOD PLANK FRAMING: WD TRUSS, 24" O.C.
MATERIAL: ROLLED ASPHALT FIRE RATING: CLASS A

DIMENSION NOTE: EAGLEVIEW DXF AND PROPERTY APPRAISER DIMENSIONS FIELD-VERIFIED WITH DRONE & SATELLITE IMAGERY.

GENERAL NOTES:

1. THE PROJECT IS DESIGNED IN ACCORDANCE WITH 2017 FLORIDA BUILDING CODE RESIDENTIAL AND OTHER APPLICABLE CODES.
2. ABBREVIATIONS USED OTHER THAN AS LISTED ARE INDUSTRY STANDARD.
3. ROOF ASSEMBLY CONDITION SHALL BE VERIFIED BY PHYSICAL INSPECTION AND ACCEPTED BY GOLDIN SOLAR PRIOR TO COMMENCEMENT.
4. CONTRACTORS AND SUB-CONTRACTORS SHALL BE STATE-LICENSED AND AS REQUIRED BY AHJ; NO UNLICENSED ACTIVITY OR WORKERS SHALL BE ALLOWED ON JOBSITE.
5. UNPLANNED ALTERATION OF STRUCTURE AFTER SURVEY AND PRIOR TO COMMENCEMENT SHALL REQUIRE WRITTEN APPROVAL BY THE EOR AND OWNER; PLANS SHALL BE SO REVISED.
6. BEST MANAGEMENT PRACTICES SHALL BE EXERCISED TO MAINTAIN A SAFE AND CLEAN JOBSITE FOR PARKING, TRASH REMOVAL, STORAGE, SOUND, UTILITIES AND TIMES OF WORK.
7. NO WORK SHALL BE PERFORMED IN RIGHT-OF-WAY OR EASEMENTS WITHOUT WRITTEN PERMISSION FROM THE AHJ AND OWNER.
8. ANY DAMAGE TO PROPERTY OR BUILDINGS NOT UNDER THE CONTROL OF GOLDIN SOLAR SHALL BE REMEDIATED BY THE OWNER.
9. IN THE EVENT OF WEATHER AND OTHER CIRCUMSTANCES THAT COULD MATERIALLY AFFECT THE STRUCTURE, WORKING CONDITIONS OR THE INSTALLATION, GOLDIN SOLAR SHALL PERFORM A RE-INSPECTION ALONG WITH OTHER CONTRACTORS AS REQUIRED THEN ADJUST PROJECT SCHEDULE TO INCLUDE RESPECTIVE PLAN REVISIONS.

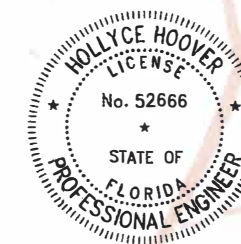
ATTACHMENT SYSTEM: (SnapRack HD STAND) NOTES:

1. AT EACH ATTACHMENT POINT, STAINLESS STEEL LAG SCREW(S) SHALL BE DRILLED THROUGH ROOF SHEATHING/MEMBRANE INTO TRUSS. (SEE: S2-1, S2-2)
2. ATTACHMENT POINTS DEPICTED ARE APPROXIMATE. INSTALLATION SHALL BE ACCORDING TO SPAN TABLE (SEE: S2-1). RAIL PAIRS IN MORE THAN ONE ZONE SHALL BE INSTALLED ACCORDING TO HIGHER ZONE UNTIL 1ST ATTACHMENT BEYOND 'a' DISTANCE.

MOUNT HT : 8"± FASTENERS/MOUNT: 2 MODULE WT: 44 lbs± ARRAY WT: x lbs.±
* **ADDITIONAL STANDS:** ADDITIONAL STANDS IN EXCESS OF SNAPRACK SPECIFICATION AND WIND LOAD REQUIREMENTS ARE TO MEET PRESCRIPTIVE REQUIREMENT OF CITY OF MIAMI BEACH.

ROOF FIRE SAFETY NOTES: (NFPA 11.12.2.2.1.3)

1. FIRE PROTECTION PROCEDURES SHALL BE FOLLOWED IN ACCORDANCE WITH NEC 2014, A 690.9. WORK SHALL BE INSPECTED PRIOR TO COVER BY BUILDING INSPECTOR, AND EOR UPON REQUEST.
2. ACCESS POINT ARE LOCATED FOR FIRE DEPT. LADDER(S) CLEAR OF OPENINGS/OBSTRUCTIONS.
3. WORK SHALL BE PERFORMED IN ACCORDANCE WITH ROOF SAFETY RATING (CLASS A). (UL 790 / ASTM E108)



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WARSHOFSKY RESIDENCE
4400 SHERIDAN AVENUE
MIAMI BEACH, FL 33140

ATTACHMENT & EQUIPMENT MOUNT PLAN

CONSTRUCTION DOCUMENTS

- PLAN SET
- CALCULATIONS
- SPECIFICATIONS
- MANUALS
- CERTIFICATIONS
- BUILDING PERMIT

(MAINTAIN COPY ON JOBSITE)

ENGINEER HLH 10/27/20
DESIGNER JLC 10/27/20
DRAFTER GEV 10/27/20

DATE REVISION
1 5/19/20 ADD STANDS &
E1 TAG NOTE

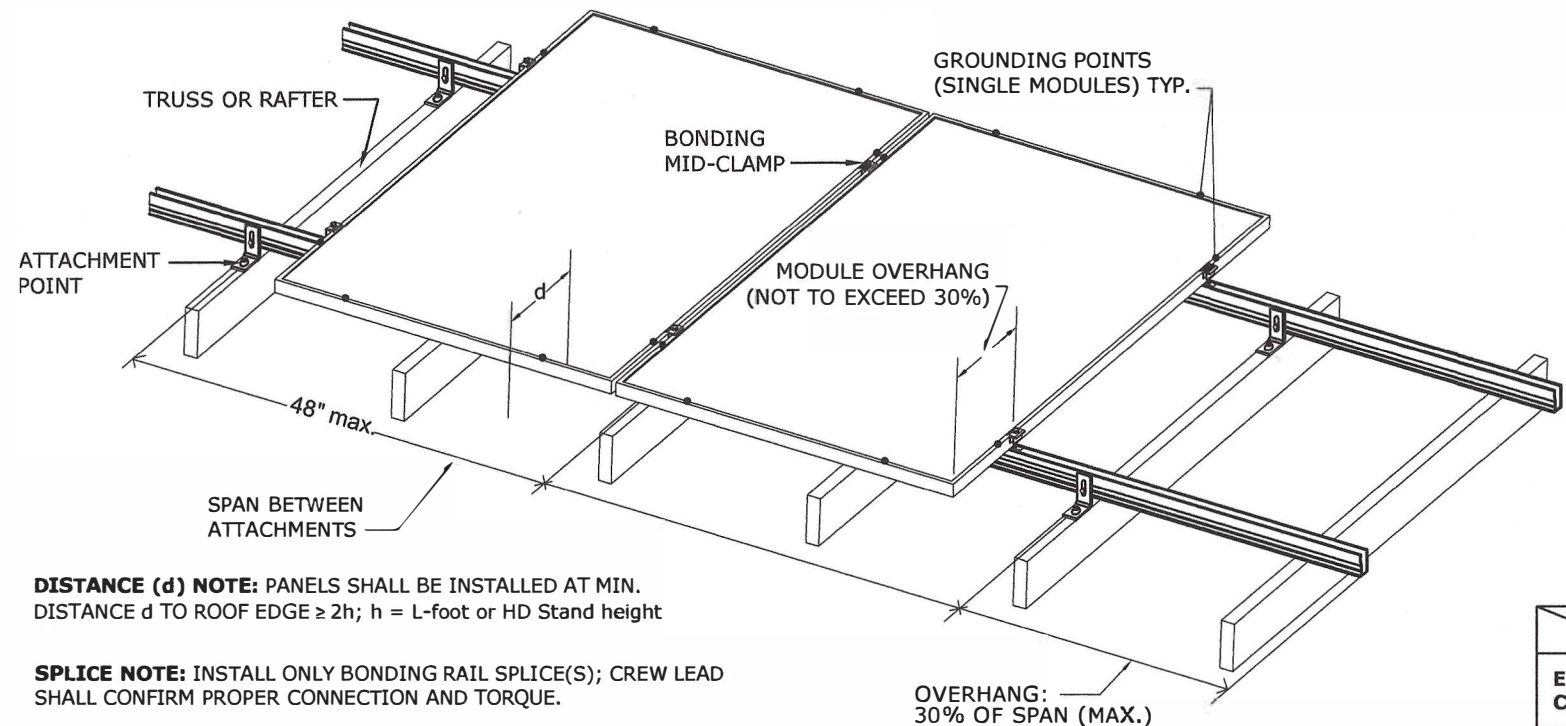
SHEET: 2 OF 10

S1

GS NO. P2002-017

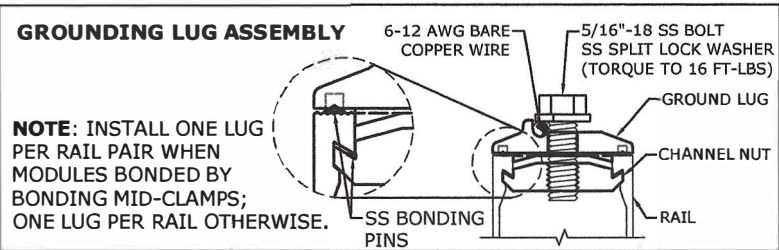
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SnapNrack UR-60 RAIL LAYOUT



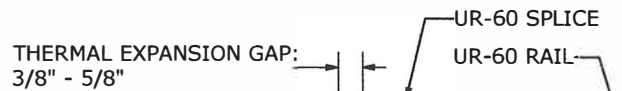
DISTANCE (d) NOTE: PANELS SHALL BE INSTALLED AT MIN. DISTANCE d TO ROOF EDGE $\geq 2h$; h = L-foot or HD Stand height

SPLICE NOTE: INSTALL ONLY BONDING RAIL SPLICE(S); CREW LEAD SHALL CONFIRM PROPER CONNECTION AND TORQUE.

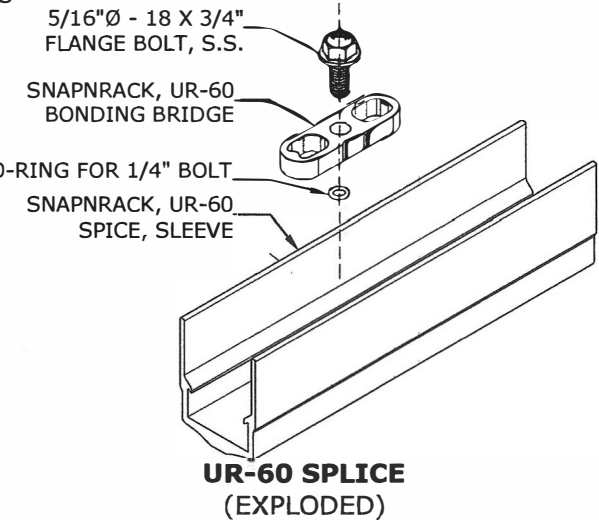


NOTE: INSTALL ONE LUG PER RAIL PAIR WHEN MODULES BONDED BY BONDING MID-CLAMPS; ONE LUG PER RAIL OTHERWISE.

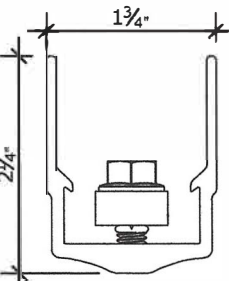
ATTACHMENT TORQUE AND SPACER NOTE:
1) 4" x 5/16" Ø STAINLESS STEEL LAG SCREWS, TORQUE 7-9 FT-LBS
2) RAIL CAN MOUNT TO EITHER SIDE OF POST (UP- / DOWNSLOPE)
3) TWO LEVELING SPACERS PER L-FOOT OR STANDOFF MAY BE USED.
4) FOLLOW INSTALLATION MANUAL DIRECTIONS IN ORDER.



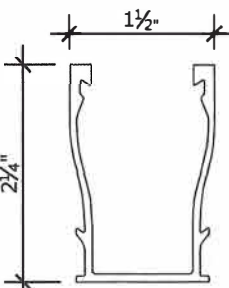
UR-60 SPLICE INSTALLED TOP VIEW



UR-60 SPLICE (EXPLODED)



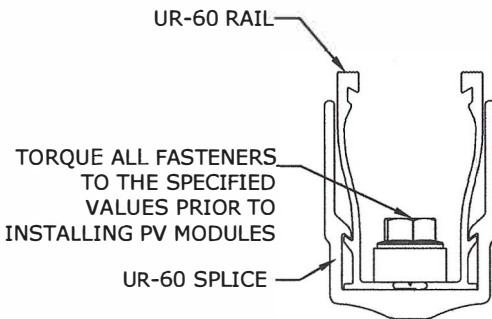
UR-60 SPLICE



UR-60 RAIL

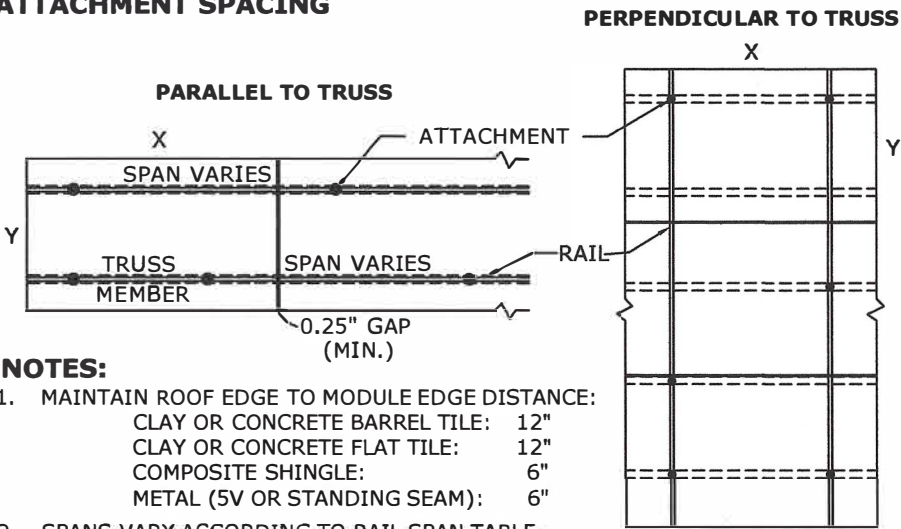
SNAPNRACK UR-60 RAIL SPLICE DETAILS
5/16"Ø HARDWARE TORQUE SPECIFICATIONS SHALL BE ACCORDING TO INSTALLATION MANUAL.

SPLICE POSITIONING:
• APPROVED - ANYWHERE ALONG RAIL SPAN BETWEEN TWO ROOF ATTACHMENTS
• NOT APPROVED - RAIL OVERHANGS/CANTILEVERS



UR-60 SPLICE INSTALLED FRONT VIEW

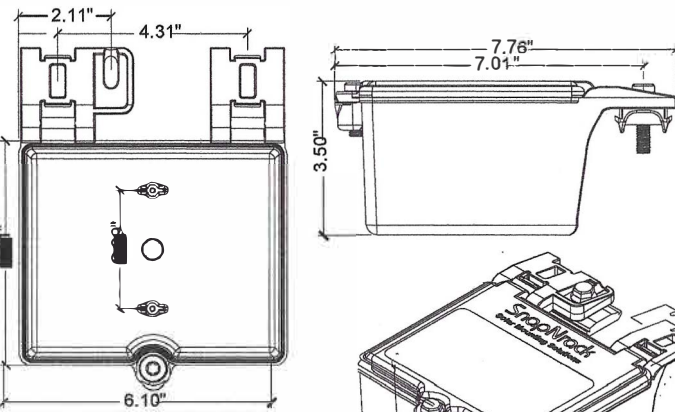
ATTACHMENT SPACING



- NOTES:**
1. MAINTAIN ROOF EDGE TO MODULE EDGE DISTANCE:
CLAY OR CONCRETE BARREL TILE: 12"
CLAY OR CONCRETE FLAT TILE: 12"
COMPOSITE SHINGLE: 6"
METAL (5V OR STANDING SEAM): 6"
 2. SPANS VARY ACCORDING TO RAIL SPAN TABLE.
 3. MAX. EDGE DISTANCE TO ATTACHMENT IS 30% OF CHORD LENGTH.
 4. SPACING FIELD TOLERANCE 2"±, OTHERWISE APPROVAL OF EOR REQUIRED.

RAIL SPAN TABLE: SnapNrack UR-60 - Bin 8 - 60-Cell (0 to 30 ft afg)																						
EXP CAT	PANEL ANGLE	120 mph			130 mph			140 mph			150 mph			160 mph			170 mph			180 mph		
		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
B	0 to 7	110	107	91	110	101	86	110	95	79	110	91	74	107	87	69	103	81	65	98	77	61
	7 to 27	112	109	93	112	102	88	112	97	82	112	92	76	111	88	71	106	84	67	102	79	63
	27 to 45	114	114	114	113	113	113	106	106	106	100	100	100	95	95	95	90	90	90	85	85	85
	45 to 90	117	115	115	111	108	108	104	103	103	98	98	98	92	92	92	87	87	87	82	82	82
C	0 to 7	110	94	78	110	89	72	105	84	68	99	78	62	99	73	55	91	68	49	87	64	43
	7 to 27	112	96	81	112	91	74	108	86	69	103	80	64	98	75	60	94	70	53	90	66	47
	27 to 45	105	105	105	98	98	98	92	92	92	86	86	86	81	81	81	77	77	77	73	73	73
	45 to 90	103	102	102	95	95	95	89	89	89	83	83	83	78	78	78	74	74	74	70	70	70
D	0 to 7	110	89	71	104	83	66	98	77	61	94	71	53	89	67	47	85	62	41	80	58	37
	7 to 27	112	91	74	108	85	68	102	79	63	97	73	57	93	68	50	89	64	44	84	61	39
	27 to 45	98	98	98	91	91	91	85	85	85	80	80	80	75	75	75	71	71	71	67	67	67
	45 to 90	95	95	95	88	88	88	82	82	82	77	77	77	72	72	72	68	68	68	65	65	65
Δ																						
MIAMI-DADE: 175 MPH																						

MIAMI-DADE: 175 MPH



SPECIFICATIONS
GASKET: PROVIDED
INNER BOX AREA: 5.5" x 4.5" x 3.2"
RATING: NEMA 4X / UL50
TEMP. RANGE: -40°F - 185°F

JUNCTION BOX
Part No. 242-01104)

- MATERIALS INCLUDED**
- 1) JUNCTION BOX BODY
 - 2) LID W/GASKET
 - 3) 5/16"-18 X 1-1/4" SS HCS BOLT
 - 4) 1) SCHANNEL NUT
 - 5) 1) 5/16"-18 X 1" SS HCS BOLT
 - 6) 1) 5/16"-18 SELF-RETAINING WASHER



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Hollyce Hoover
Date: 2020.10.08 21:30:53 -04'00'

1109 US HIGHWAY NO. 1
VERO BEACH, FL 32960
(772) 205-3244
permitting@goldinsolar.com



WARSHOFSKY RESIDENCE
4400 SHERIDAN AVENUE
MIAMI BEACH, FL 33140

ATTACHMENT DETAILS

CONSTRUCTION DOCUMENTS

- PLAN SET
- CALCULATIONS
- SPECIFICATIONS
- MANUALS
- CERTIFICATIONS
- BUILDING PERMIT

(MAINTAIN COPY ON JOBSITE)

ENGINEER HLH 03/27/20
DESIGNER JLC 03/27/20
DRAFTER GEV 03/27/20

DATE REVISION
1 5/19/20 ADD NOTES

SHEET: 3 OF 10

S2-1

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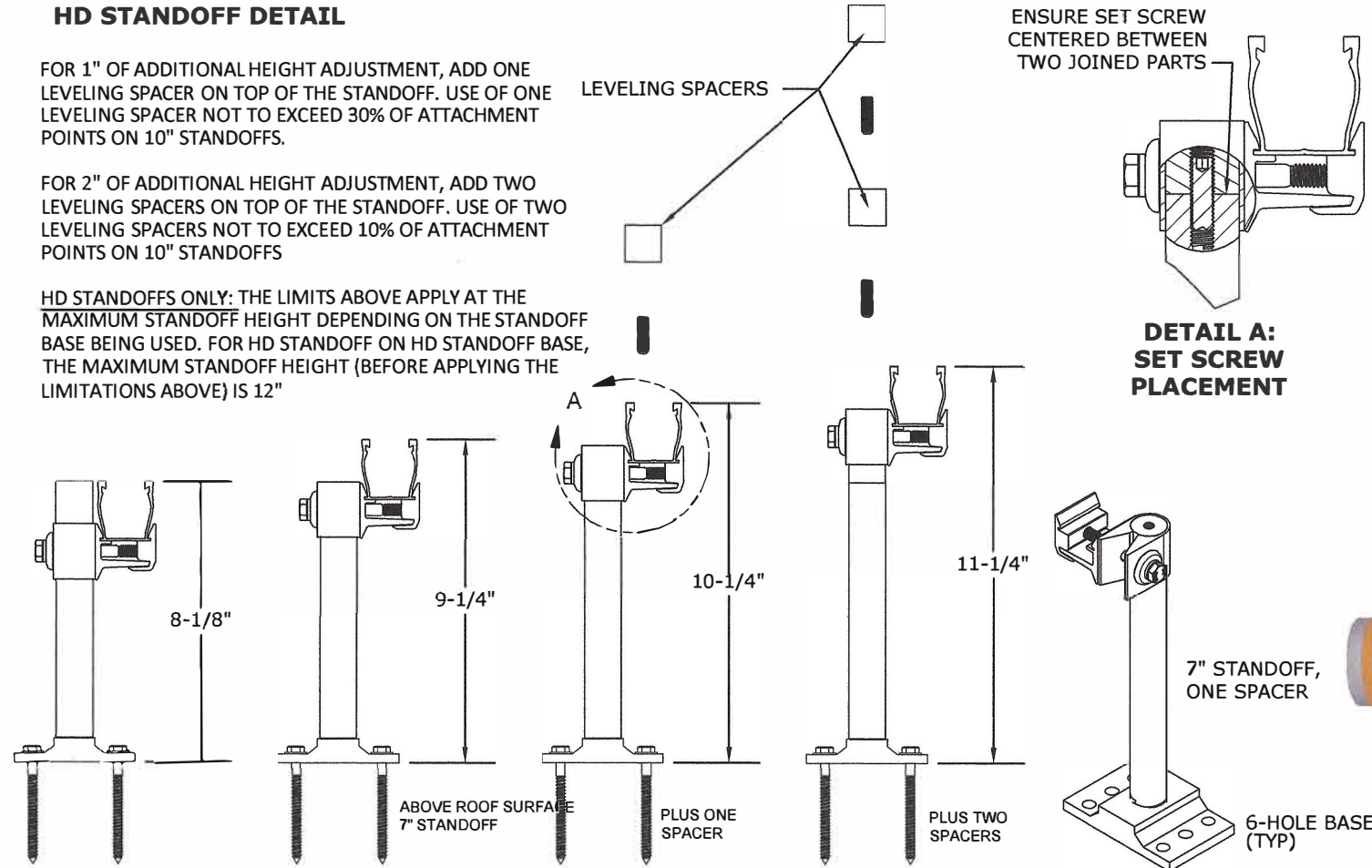
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HD STANDOFF DETAIL

FOR 1" OF ADDITIONAL HEIGHT ADJUSTMENT, ADD ONE LEVELING SPACER ON TOP OF THE STANDOFF. USE OF ONE LEVELING SPACER NOT TO EXCEED 30% OF ATTACHMENT POINTS ON 10" STANDOFFS.

FOR 2" OF ADDITIONAL HEIGHT ADJUSTMENT, ADD TWO LEVELING SPACERS ON TOP OF THE STANDOFF. USE OF TWO LEVELING SPACERS NOT TO EXCEED 10% OF ATTACHMENT POINTS ON 10" STANDOFFS

HD STANDOFFS ONLY: THE LIMITS ABOVE APPLY AT THE MAXIMUM STANDOFF HEIGHT DEPENDING ON THE STANDOFF BASE BEING USED. FOR HD STANDOFF ON HD STANDOFF BASE, THE MAXIMUM STANDOFF HEIGHT (BEFORE APPLYING THE LIMITATIONS ABOVE) IS 12"



SEALANT ALTERNATIVES:

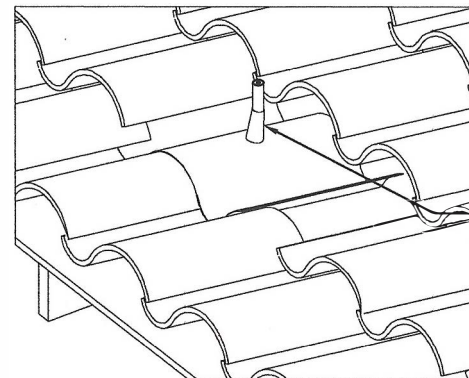
- GEOCEL S4® SOLAR PANEL ROOF INSTALLATION SEALANT
- GARDNER CEMENT

INSTALLATION INSTRUCTIONS

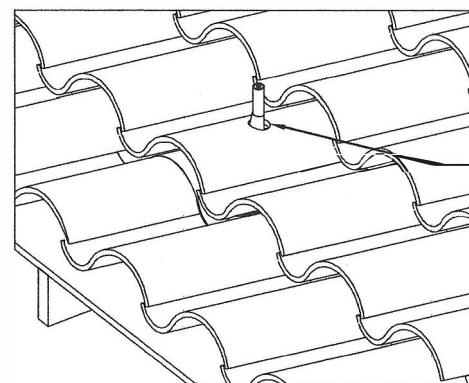
1. LOCATE TOP CHORD OF TRUSS/RAFTER; SNAP HORIZ/VERT LINES TO MARK ATTACHMENT POINTS.
2. PREP SURFACES; REMOVE DIRT, OIL, GREASE, FOREIGN MATERIALS PRIOR TO APPLICATION.
3. APPLY FULLY TO STANDOFF BASE BTM, LAG SCREW TOPS FILLING BASE HOLES AND IN 3" Ø CIRCLE ON BTM OF FLASHING AROUND BOOT.
4. PRODUCT SETS UP FAST. WORK QUICKLY APPLYING MINIMUM WET BEAD, THICKNESS 1/4".
5. IF OVER-COATING/PAINTING IS REQUIRED, PERMIT TO DRY 24 HOURS BEFORE APPLYING ELASTOMERIC COATINGS OR AS INDICATED BY COATING/PAINT MANUFACTURER.



FLASHING DETAIL, STANDOFF WITH FLAT TILE



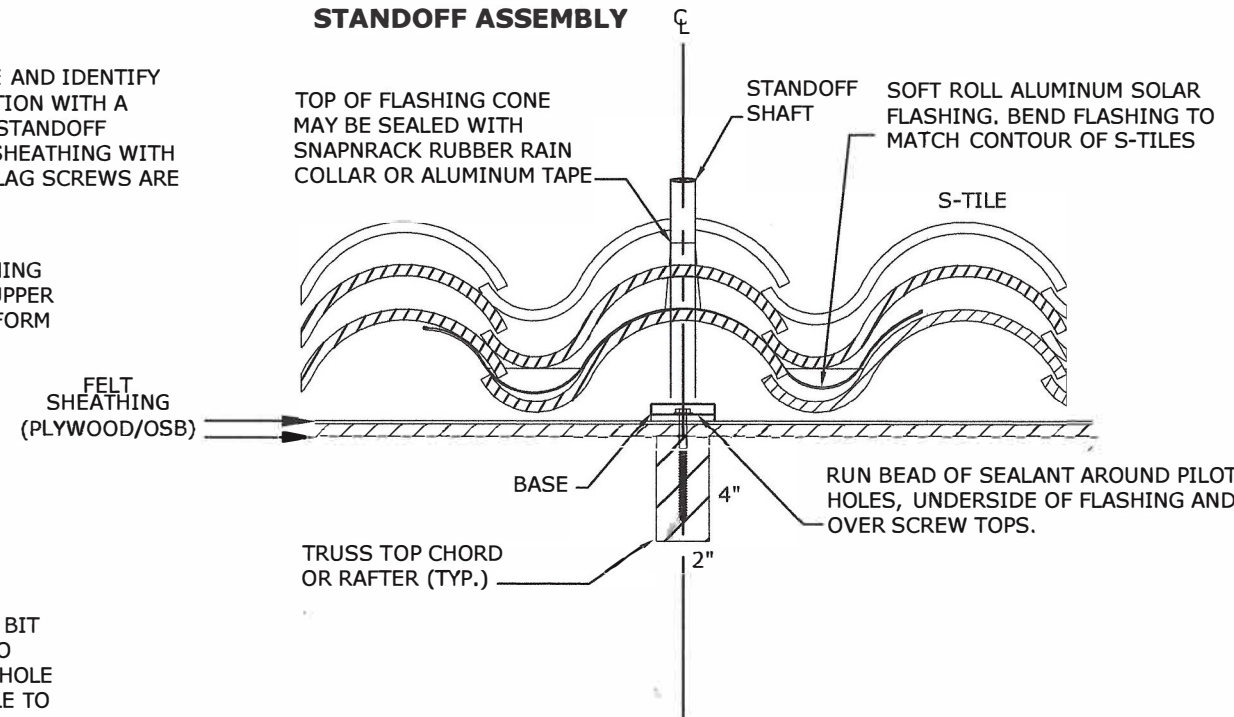
STEP 1: REMOVE TILE AND IDENTIFY TRUSS/RAFTER LOCATION WITH A PILOT DRILL. MOUNT STANDOFF ASSEMBLY TO ROOF SHEATHING WITH A MINIMUM BE SURE LAG SCREWS ARE FULLY SEATED



STEP 2: SLIDE FLASHING OVER POST, UNDER UPPER LAYER OF TILE, AND FORM FLASHING TO MATCH CONTOUR OF TILES

STEP 3: USE CORING BIT OR OTHER METHOD TO DRILL 2" CLEARANCE HOLE IN TILE TO ALLOW TILE TO BE REPLACED IN ORIGINAL LOCATION

ULTRA RAIL HD STANDOFF ASSEMBLY



LAG SCREW NOTE: TWO PILOT HOLES SHALL BE DRILLED INTO CENTERLINE OF TRUSS PRIOR TO LAG SCREWS.

1109 US HIGHWAY NO. 1
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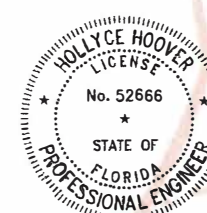
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SHEET: 4 OF 10

S2-2

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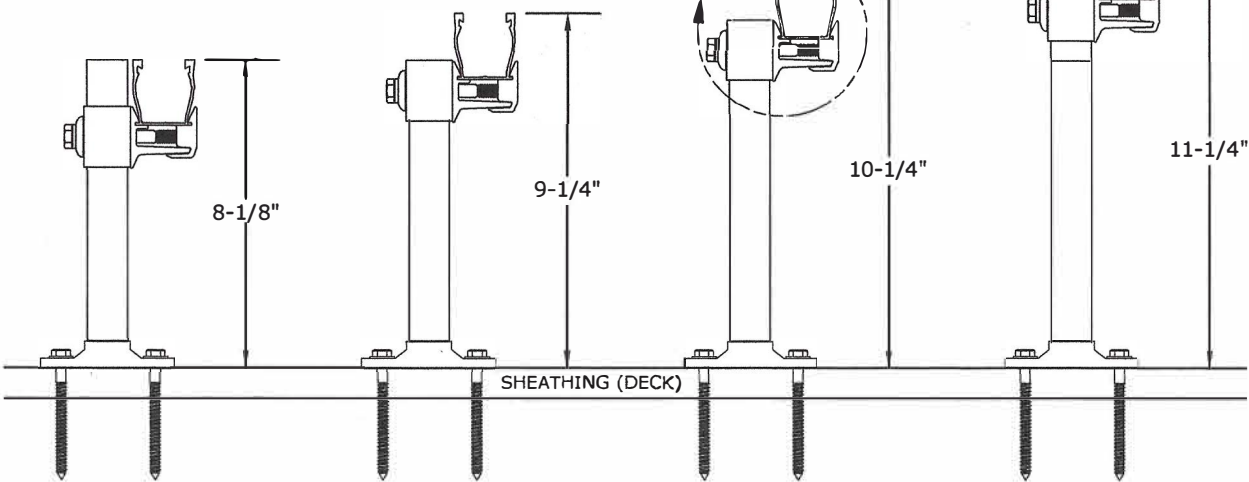
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HD-UR STANDOFF DETAIL

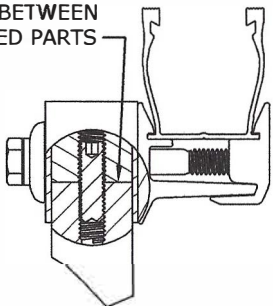
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FOR 2" OF ADDITIONAL HEIGHT ADJUSTMENT, ADD TWO LEVELING SPACERS ON TOP OF THE STANDOFF. USE OF TWO LEVELING SPACERS NOT TO EXCEED 10% OF ATTACHMENT POINTS ON 10" STANDOFFS

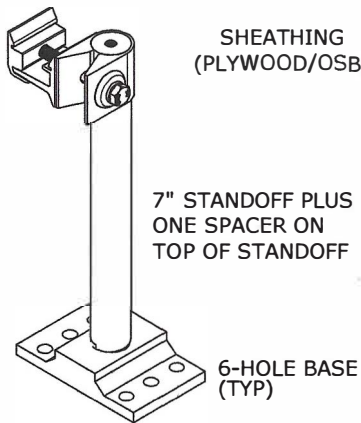
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ENSURE SET SCREWS IS CENTERED BETWEEN THE TWO JOINED PARTS

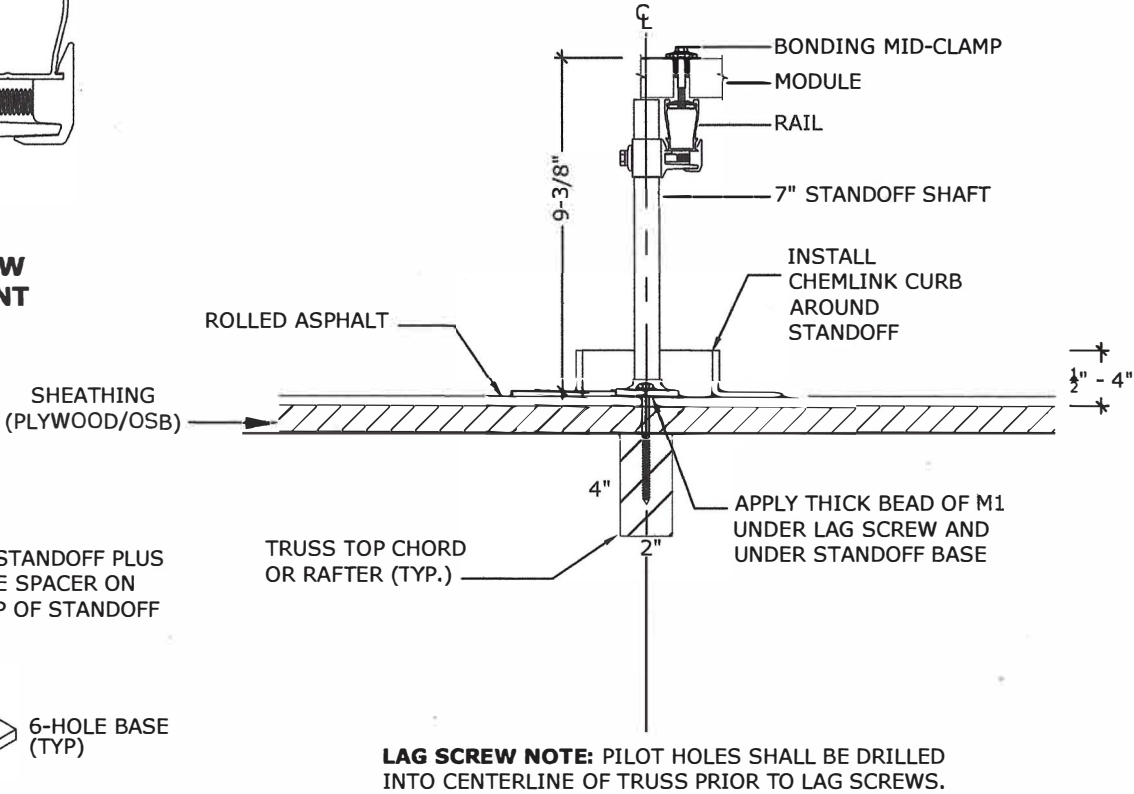


SET SCREW PLACEMENT

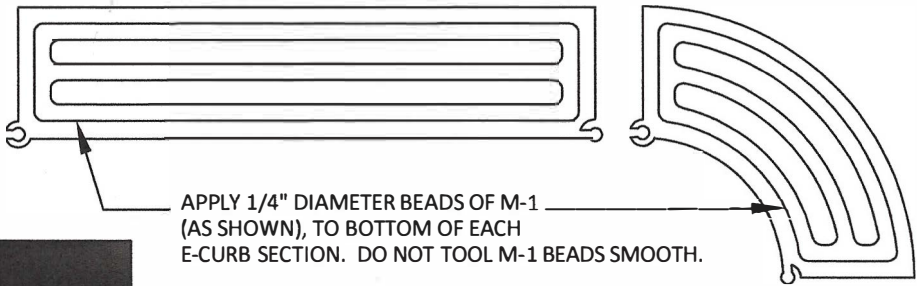
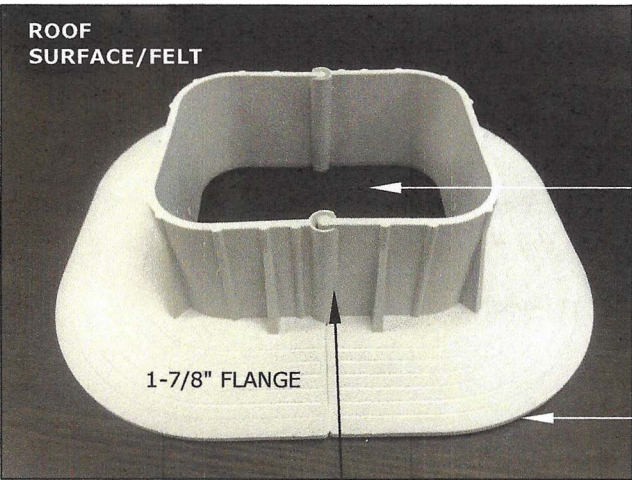


ULTRA RAIL HD STANDOFF ASSEMBLY

MODULE MOUNTING SECTION



CHEMLINK e-CURB



M-1 APPLICATION PATTERN (BOTTOM OF E-CURB)

E-CURBS FILL: 1-PART POURABLE SEALER WHEN INSTALLING ON GRANULATED MEMBRANES. ON ALL OTHER SURFACES, MEMBRANES PRO PACK POURABLE SEALER CAN BE USED.

- NOTES:
1. PRIME PENETRATIONS WITH M-1.
 2. MECHANICALLY SECURE RAIL MOUNTS TO ELIMINATES MOVEMENT.

APPLY EXTERNAL BEAD OF M-1.

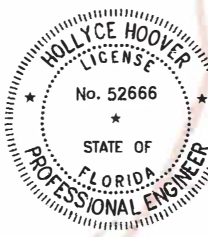
NOTE: AN ADDITIONAL BEAD OF 1-PART POURABLE SEALER CAN BE APPLIED OVER EXTERNAL BEAD TO LOCK IN GRANULES ON GRANULATED ROOF MEMBRANES.

M-1 SEALANT MAY BE USED TO BOND JOINTS. (SEALANT NOT SHOWN FOR CLARITY)

MATERIALS SCHEDULE

ITEM	MANUFACTURER	MFG Part #:	UNITS
UR-60 RAIL, 168"	SNAPnRACK	232-02482	26
UR-60 RAIL SPLICE, SILVER	SNAPnRACK	242-01271	18
BONDING MID CLAMP, BONDING CHANNEL NUT	SNAPnRACK	242-02054	64
GROUNDING LUG ASSEMBLY (3-PIECES)	SNAPnRACK	242-02101	8
UR-60 END CAP	SNAPnRACK	232-02484	32
UNIV END CLAMP ASSEMBLY	SNAPnRACK	242-02215	32
WIRE CLIPS, COMPOSITE, BLACK (20/PK)	SNAPnRACK	232-01106	2
OPTIMIZER KIT: CHANNEL NUT, BOLT WASHER	SNAPnRACK	242-92093	40
UR HD STANDOFF KIT, 7"	SNAPnRACK	242-01265	97
UR HD STANDOFF KIT, 14-(2-7") + 2 SPACERS	SNAPnRACK		50
FLASHING - SOFT WITH ROLLED EDGES	SNAPnRACK	175-0500	70
ROOF SEALANT (12-PACK)	GEOCEL/ GARDNERS	64703	2
5/16 X 4" STAINLESS STEEL LAG	SNAPnRACK	516401	294
CHEMLINK CURB KIT (4-PK)	CHEMLINK	131-01357	13
MULTI POWERWALL STACKING KIT	TESLA	1112154-00-B	2

ADDITIONAL STANDS:
ADDITIONAL STANDS IN EXCESS OF SNAPnRACK SPECIFICATION AND WIND LOAD REQUIREMENTS ARE TO MEET PRESCRIPTIVE REQUIREMENT OF CITY OF MIAMI BEACH.



Digitally signed by Hollyce Hoover
Date: 2020.10.08 21:31:18 -04'00'

1109 US HIGHWAY NO. 1
VERO BEACH, FL 32960
(772) 205-3244
permitting@goldinsolar.com



WARSHOFSKY RESIDENCE
4400 SHERIDAN AVENUE
MIAMI BEACH, FL 33140

ATTACHMENT DETAILS

CONSTRUCTION DOCUMENTS

- PLAN SET
- CALCULATIONS
- SPECIFICATIONS
- MANUALS
- CERTIFICATIONS
- BUILDING PERMIT

(MAINTAIN COPY ON JOBSITE)

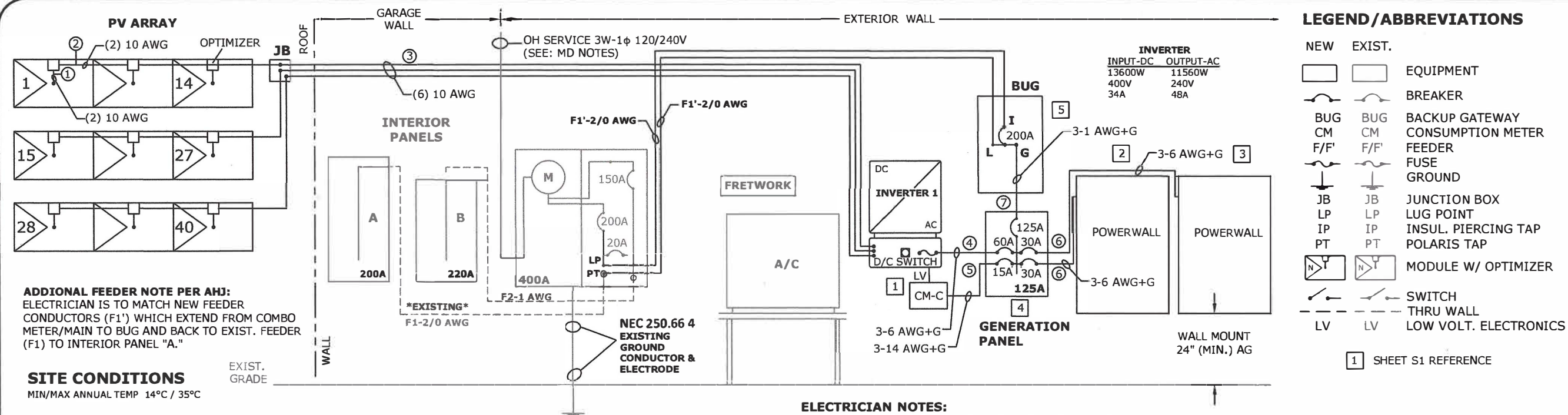
ENGINEER HLH 03/27/20
DESIGNER JLC 03/27/20
DRAFTER GEV 03/27/20

DATE REVISION
1 5/19/20 ADD STANDS

SHEET: 5 OF 10

S2-3

GS NO. P2002-017



GROUNDING & BONDING: GROUNDING CONDUCTORS SHALL BE COPPER AND COMPLY WITH NEC 250.122. MODULES SHALL BE BONDED USING "BONDING MID-CLAMPS" AND "BONDING SPLICES" ACCORDING TO INSTALLATION MANUAL. MODULES WHICH CAN NOT BE FULLY BONDED SHALL BE PROPERLY GROUNDED USING GROUNDING LUG DIRECTLY WIRED TO SYSTEM GROUND WIRE.

EQUIPMENT NOTES:

1. NEW EQUIPMENT CLEARANCES: 36" (FRONT), 30" (WORK AROUND), 6 FT (OH). (NEC 110.26)
2. NEW EQUIPMENT AND COMPONENTS SHALL BE CERTIFIED BY A NATIONAL LABORATORY.
3. LABEL READING, "WARNING: THIS EQUIPMENT FED BY MULTIPLE SOURCES" SHALL BE PROPERLY AFFIXED.
4. LISTED OR LABELED EQUIPMENT SHALL BE INSTALLED AND USED ACCORDING TO INSTALLATION MANUAL OR SPECIFICATIONS (NEC 110.3(B)), RATED FOR OUTDOOR USE (NEMA 3-6P, TABLE 110.28)

EQUIPMENT SCHEDULE

TAG	ITEM	MODEL	QTY.
1	MODULE	HANWHA/QCELL DUO-G5 340	40
2	DC OPTIMIZER	SOLAR EDGE P340	40
3	JUNCTION BOX	SNAPNRACK (NEMA 4X, UL50)	3
4	INVERTER W / INTEGRATED DISCONNECT	SOLAREGE 11400H-US	1
5	CDMA WIFI DEVICE OR HARDWIRE TO MODEM WIRE 100'±	SOLAREGE KIT OPTIONS	1
6	125A PANEL & 125A MAIN, 2P-60A, (2)2P-30A & 2P-15A BREAKERS	BY ELECTRICIAN	1
7	BATTERY	POWERWALL 2	2
8	BACKUP GATEWAY	POWERWALL 2	1
	A/C SOFT STARTER (FUTURE)	BY OTHERS	2

GENERAL NOTES:

1. GOLDIN SOLAR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE ELECTRICAL SYSTEM PURSUANT TO THE PLANS IN ACCORDANCE WITH 2017FBCR, NEC, FHPA, OSHA AND OTHER APPLICABLE CODES AND ORDINANCES.
2. GOLDIN SOLAR REQUIRES THAT OTHER CONTRACTORS AND SUB-CONTRACTORS ARE STATE-LICENSED AND TO SHALL INSPECT SITE AND STRUCTURES IMMEDIATELY BEFORE PREPARING ANY BID AND BEFORE ORDERING ANY MATERIALS; GOLDIN SOLAR SHALL THEN BE PROVIDED WRITTEN NOTICE OF FIELD OR PLAN DISCREPANCY WITHIN 72 HOURS OF VERIFICATION. GOLDIN SOLAR SHALL PREPARE ANY REVISION 72 HOURS OF SUCH NOTICE.
3. WORK TO BE COMPLETED SHALL BE VERIFIED BY INSTALLER AND ELECTRICIAN 72 HRS PRIOR TO MATERIAL ORDER AND COMMENCEMENT.
4. MATERIALS SHALL BE INCLUDED IN THE PLANS AND ANY NECESSARY EQUIVALENT SUBSTITUTIONS SHALL BE APPROVED BY THE EOR; CONDUCTORS SHALL BE COPPER OF 98% CONDUCTIVITY, CABLE 600V-RATED, SINGLE-CONDUCTOR IN THERMOPLASTIC INSULATION SUITABLE FOR CONTINUOUS OPERATION AT 75° C. CONDUCTORS/CABLE SHALL BE NEC-CLASS TYPE THW OR THWN, EXCEPT AWG SIZE #10 AND SMALLER MAY BE TW. INSULATION SHALL BE COLOR-CODED #6 AND SMALLER. COLOR-CODED TAPE SHALL BE USED ON #4 AND LARGER.
5. CONDUCTORS SHALL BE RUN IN CONDUIT WHEN NOT BENEATH MODULES. EXPOSED CONDUIT IS PERMITTED IN GARAGES OR OTHER AREAS ACCEPTABLE TO OWNER AND AS APPROVED BY EOR. CONDUIT/WALL SURFACES SHALL BE PAINT-MATCHED AS REQUIRED BY OWNER.
6. FLEXIBLE CONDUIT SHALL BE USED FOR RECESSED, MOUNTED FIXTURES AND SEALED WITH LIQUID TIGHT IF EXPOSED TO WEATHER WITH GREEN BOND CONDUCTOR INSTALLED TOGETHER AT CIRCUIT CONDUCTORS. GALVANIZED EMT WITH SET-SCREW MAY BE USED FOR INTERIOR LOCATIONS. PVC WITH GREEN BOND CONDUCTOR(NEC 250) MAY BE USED IN UG LOCATIONS.
7. PV OUTPUT CIRCUITS ENTERING BLDG. PRIOR TO INVERTER DISCONNECT SHALL BE INSTALLED IN METAL RACEWAY.
8. EXISTING AND CONNECTED ELECTRICAL PANELS, CIRCUIT BREAKERS AND SAFETY SWITCH SHALL BE SQUARE D OR EQUIV. LOAD SIDE SOLAR PV-SYSTEM CIRCUIT BREAKERS SHALL BE INSTALLED AT OPPOSITE END OF BUSBAR. CIRCUIT BREAKER DIRECTORY SHALL BE AFFIXED TO PANEL.
9. CONDUCTORS, CIRCUIT BREAKERS AND FUSES IN NEW AND MODIFIED PANELS SHALL BE REPLACED TO COMPLY W/ MANUF. NAMEPLATE AND REQUIRED OVER-CURRENT PROTECTION. REPLACEMENT SHALL BE THE RESPONSIBILITY OF THE OWNER.
11. ALL MATERIALS SHALL BE OBTAINED THROUGH CONTRACTOR-APPROVED VENDORS AND CONFORM TO CODE TABLE, INDUSTRY STANDARDS AND POLICIES OF AHJ.
12. DETAILS OR SPECIFICATIONS ARE CALLED OUT BY LOCATION, ARRAY, ELEMENT OR AS OTHERWISE APPLIES.

CONDUCTOR SCHEDULE									
TAG	CONDUCTOR				CONDUIT				
	WIRE	#	SIZE	AMPS	GROUND	OCPD (A)	SIZE	MATERIAL	
1	PV WIRE-CU	2	10 AWG	12					
2	PV WIRE-CU	2	10 AWG	15	10 AWG		3/4-1"	EMT	
3	THWN-2-CU	3-2	10 AWG	15	10 AWG	25	3/4-1"	EMT	
4	THWN-2-CU	3	6 AWG	48	8 AWG	60	1"	EMT	
5	THWN-2-CU	3	14 AWG	< 1	14 AWG	15	3/4-1"	EMT	
6	THWN-2-CU	3	6 AWG	30	8 AWG	30	3/4-1"	EMT	
7	THWN-2-CU	3	1 AWG	108	6 AWG		1-1/4"	EMT	

CONDUCTOR NOTE: TEMPERATURE ADJUSTMENT FOR NEC 310.15(B)

#12-21A / #10-28A / #8-39A / #6-53A / #4-67A / #2-92A / #1-103A / #1/0-120A

CONDUIT NOTES:

ELECTRICAL METALLIC TUBING (EMT) NEC A358:

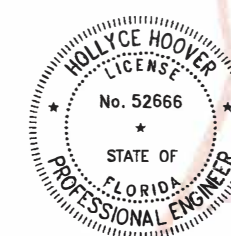
1. EMT SHALL BE FASTENED EVERY 10 FT & FROM BOX, FITTING, TERMINAL POINT.
2. BENDS BETWEEN PULL POINTS SHALL COMBINE ≤ 360°.
3. CONNECTORS SHALL BE CORROSION RESISTANT.
4. GASKETS SHALL BE WATERTIGHT.
5. COUPLINGS AND CONNECTORS SHALL BE RAIN-TIGHT OR RAIN-TIGHT/INSUL.

PVC (ALTERNATE CONDUIT)

SCH 40/80 MAY BE USED. SCH 80 SHALL BE USED IN EXPOSED AREAS REQUIRING ADDITIONAL SAFETY OR RUNS ≤ 3 FT.

NEC FILL TABLES

FLEXIBLE METALLIC CONDUIT - TABLE C3
LIQUIDTIGHT FLEXIBLE CONDUIT TABLE- METALLIC C7
NON-METALLIC (FNM-C-B) - C5
RIGID PVC CONDUIT TABLE: SCH80 - C10 / 40 - C11



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Hollyce Hoover
Date: 2020.10.08
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LEGEND/ABBREVIATIONS

NEW	EXIST.	
		EQUIPMENT
		BREAKER
BUG	BUG	BACKUP GATEWAY
CM	CM	CONSUMPTION METER
F/F'	F/F'	FEEDER
		FUSE
		GROUND
JB	JB	JUNCTION BOX
LP	LP	LUG POINT
IP	IP	INSUL. PIERCING TAP
PT	PT	POLARIS TAP
		MODULE W/ OPTIMIZER
		SWITCH
LV	LV	THRU WALL
LV	LV	LOW VOLT. ELECTRONICS

1 SHEET S1 REFERENCE

WARSHOFSKY RESIDENCE
4400 SHERIDAN AVENUE
MIAMI BEACH, FL 33140

ELECTRICAL RISER & SCHEDULES

CONSTRUCTION DOCUMENTS

- PLAN SET
- CALCULATIONS
- SPECIFICATIONS
- MANUALS
- CERTIFICATIONS
- BUILDING PERMIT

(MAINTAIN COPY ON JOBSITE)

ENGINEER HLH 03/27/20

DESIGNER JLC 03/27/20

DRAFTER GEV 03/27/20

DATE REVISION

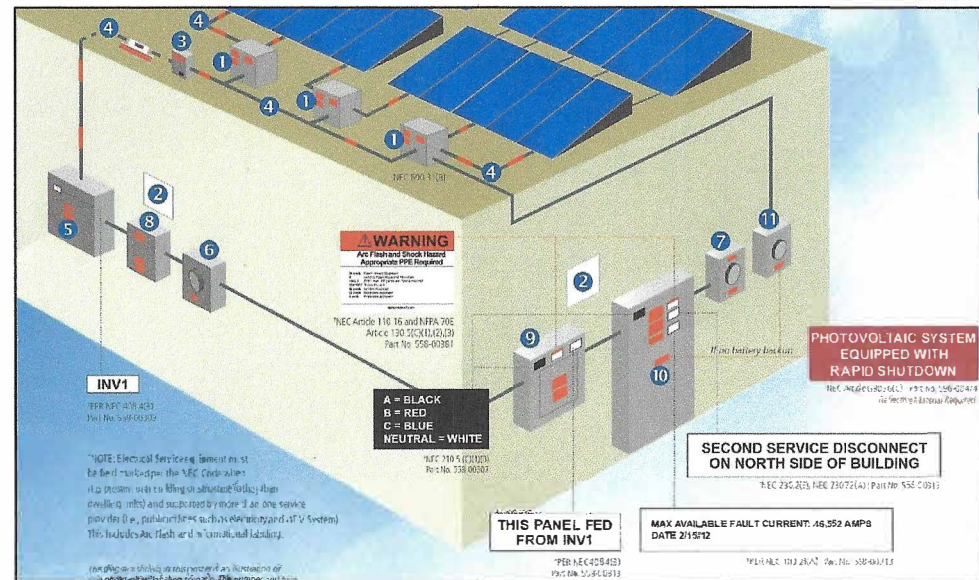
1 5/20/20 NOTE/LABELS

PER AHJ

SHEET: 6 OF 10

E1

GS NO. P2002-017



GS NO. P2002-017

MECHANICAL SPECIFICATION

Format	1740 mm × 1030 mm × 32 mm (including frame)
Weight	19.9 kg - 44 lbs
Front Cover	3.2 mm thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodised aluminium
Cell	6 × 20 monocrystalline Q.ANTUM solar half cells
Junction box	61-71 mm × 41-50 mm × 13-21 mm Protection class IP67, with bypass diodes
Cable	4 mm² Solar cable; (+) 1150 mm, (-) 1150 mm
Connector	Multi-Contact MC4, IP68



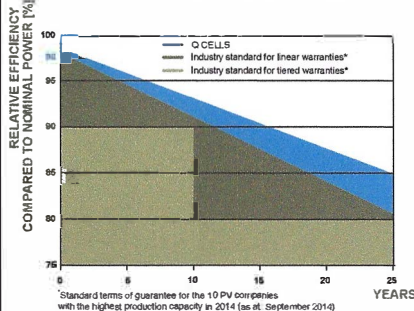
Q.PEAK DUO-G6 330-345

ELECTRICAL CHARACTERISTICS

POWER CLASS				330	335	340	345
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC1 (POWER TOLERANCE +5 W / -0 W)							
Minimum	Power at MPP1	PMPP	[W]	330	335	340	345
	Short Circuit Current1	ISC	[A]	10.57	10.62	10.68	10.73
	Open Circuit Voltage1	VOC	[V]	39.74	39.99	40.24	40.49
	Current at MPP	IMPP	[A]	10.06	10.11	10.16	10.22
	Voltage at MPP	VMPP	[V]	32.81	33.13	33.45	33.76
	Efficiency1	η	[%]	≥ 18.4	≥ 18.7	≥ 19.0	≥ 19.3
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT2							
Minimum	Power at MPP	PMPP	[W]	246.5	250.2	254.0	257.7
	Short Circuit Current	ISC	[A]	8.52	8.56	8.60	8.65
	Open Circuit Voltage	VOC	[V]	37.39	37.63	37.87	38.10
	Current at MPP	IMPP	[A]	7.92	7.96	8.00	8.04
	Voltage at MPP	VMPP	[V]	31.14	31.45	31.75	32.04

1 Measurement tolerances PMPP ± 3 %; ISC, VOC ± 5 % at STC; 1000 W/m², 25 ± 2 °C, AM 1.5 G according to IEC 60904-3 · 2800 W/m², NMOT, spectrum AM 1.5 G

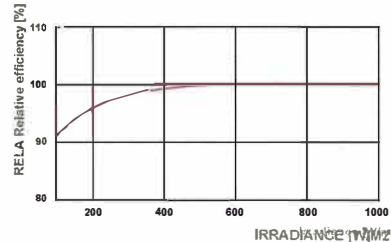
Q CELLS PERFORMANCE WARRANTY



At least 98 % of nominal power during first year. Thereafter max. 0.54 % degradation per year. At least 93.1 % of nominal power up to 10 years. At least 85 % of nominal power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Q CELLS sales organisation of your respective country.

PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m²).

TEMPERATURE COEFFICIENTS

Temperature Coefficient of ISC	α	[% / K]	+ 0.04	Temperature Coefficient of VOC	β	[% / K]	- 0.28
Temperature Coefficient of PMPP	γ	[% / K]	- 0.37	Normal Module Operating Temperature	NMOT	[°C]	43 ± 3

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage	V _{sys}	[V]	1000 Safety Class	II
Maximum Reverse Current	I _R	[A]	20 Fire Rating	C
Max. Design Load, Push / Pull	[Pa]	3600 / 2667	Permitted Module Temperature on Continuous Duty	- 40 °C up to +85 °C
Max. Test Load, Push / Pull	[Pa]	5400 / 4000		

QUALIFICATIONS AND CERTIFICATES

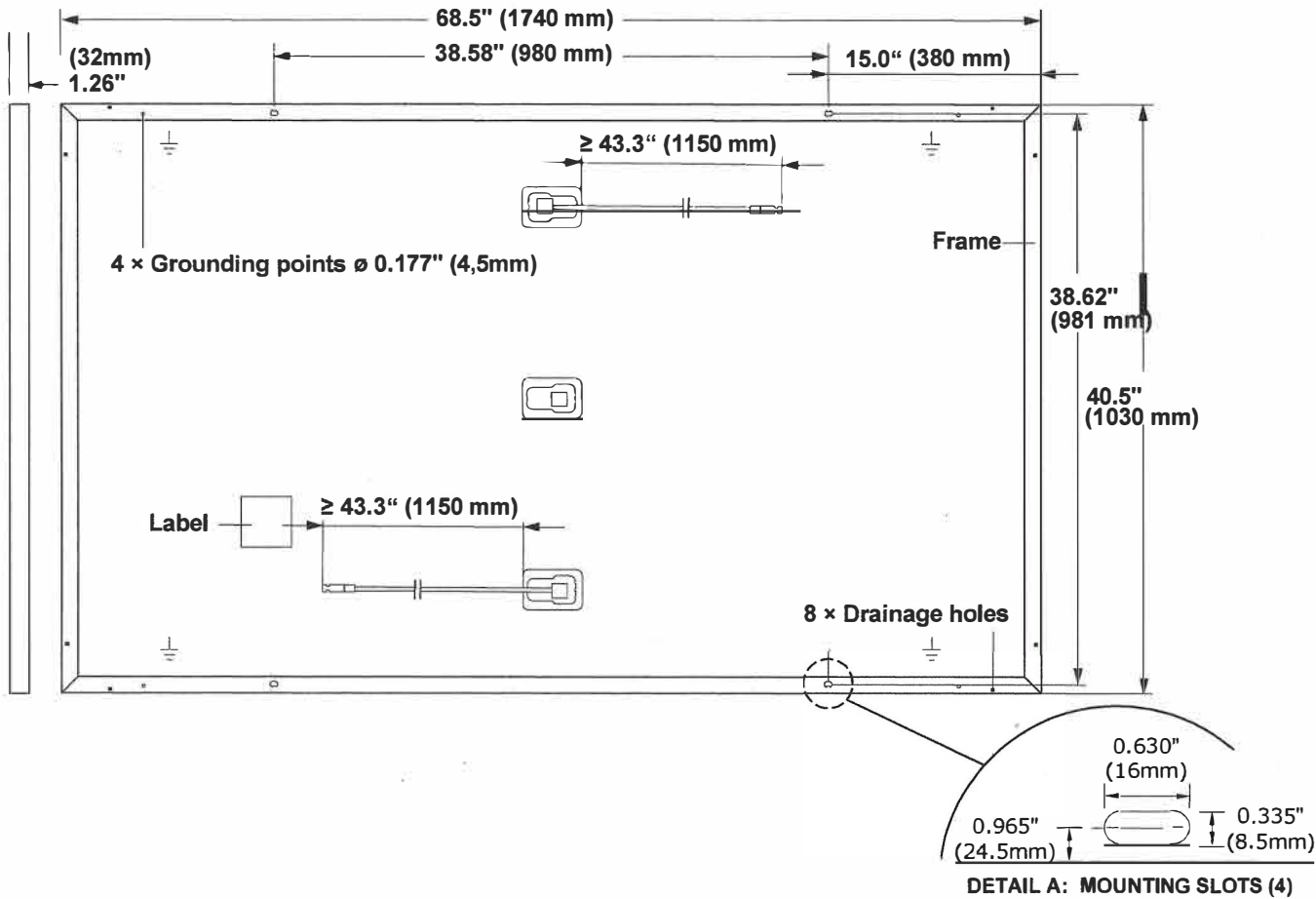
PARTNER

VDE Quality Tested, IEC 61215:2016; IEC 61730:2016, Application class. A This data sheet complies with DIN EN 50380.
NOTE: Installation instructions must be followed. See the installation and operating manual or contact our technical service department for further information on approved installation and use of this product.

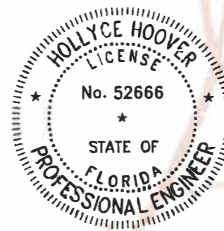
Hanwha Q CELLS America Inc. 300 Spectrum Center Drive, Suite 1250, Irvine, CA 92618, USA | TEL +1 949 748 59 96 | EMAIL inquiry@us.q-cells.com | WEB www.q-cells.us

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MODULE CONNECTION DIAGRAM



MODULE SPECIFICATION



Digitally signed
by Hollyce
Hoover
Date:
2020.10.08
21:32:00 -04'00'

E3

GS NO. P2002-017-MIA-GOL-PVS

MECHANICAL SPECIFICATION

Format	1740 mm × 1030 mm × 32 mm (including frame)
Weight	19.9 kg - 44 lbs
Front Cover	3.2 mm thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodised aluminium
Cell	6 × 20 monocrystalline Q.ANTUM solar half cells
Junction box	61-71 mm × 41-50 mm × 13-21 mm Protection class IP67, with bypass diodes
Cable	4 mm² Solar cable; (+) 1150 mm, (-) 1150 mm
Connector	Multi-Contact MC4, IP68



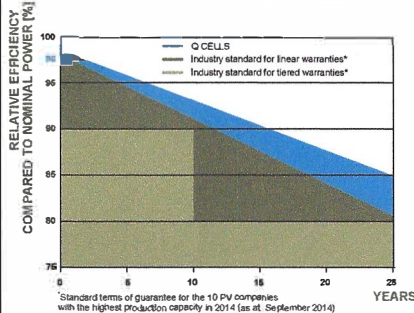
Q.PEAK DUO-G6 330-345

ELECTRICAL CHARACTERISTICS

POWER CLASS				330	335	340	345
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC1 (POWER TOLERANCE +5 W / -0 W)							
Minimum	Power at MPP1	PMPP	[W]	330	335	340	345
	Short Circuit Current1	ISC	[A]	10.57	10.62	10.68	10.73
	Open Circuit Voltage1	VOC	[V]	39.74	39.99	40.24	40.49
	Current at MPP	IMPP	[A]	10.06	10.11	10.16	10.22
	Voltage at MPP	VMPP	[V]	32.81	33.13	33.45	33.76
	Efficiency1	η	[%]	≥ 18.4	≥ 18.7	≥ 19.0	≥ 19.3
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT2							
Minimum	Power at MPP	PMPP	[W]	246.5	250.2	254.0	257.7
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1 Measurement tolerances PMPP ± 3 %; ISC; VOC ± 5 % at STC: 1000 W/m², 25 ± 2 °C, AM 1.5 G according to IEC 60904-3 · 2800 W/m², NMOT, spectrum AM 1.5 G

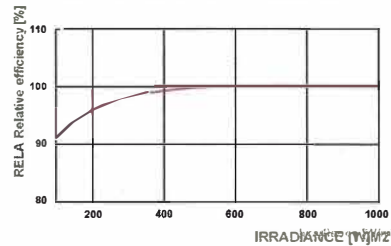
Q CELLS PERFORMANCE WARRANTY



At least 98 % of nominal power during first year. Thereafter max. 0.54 % degradation per year. At least 93.1 % of nominal power up to 10 years. At least 85 % of nominal power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Q CELLS sales organisation of your respective country.

PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m²).

TEMPERATURE COEFFICIENTS

Temperature Coefficient of ISC	α	[% / K]	+ 0.04	Temperature Coefficient of VOC	β	[% / K]	- 0.28
Temperature Coefficient of PMPP	γ	[% / K]	- 0.37	Normal Module Operating Temperature	NMOT	[°C]	43 ± 3

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage	V _{sys}	[V]	1000 Safety Class	II
Maximum Reverse Current	I _R	[A]	20 Fire Rating	C
Max. Design Load, Push / Pull	[Pa]	3600 / 2667	Permitted Module Temperature on Continuous Duty	- 40 °C up to +85 °C
Max. Test Load, Push / Pull	[Pa]	5400 / 4000		

QUALIFICATIONS AND CERTIFICATES

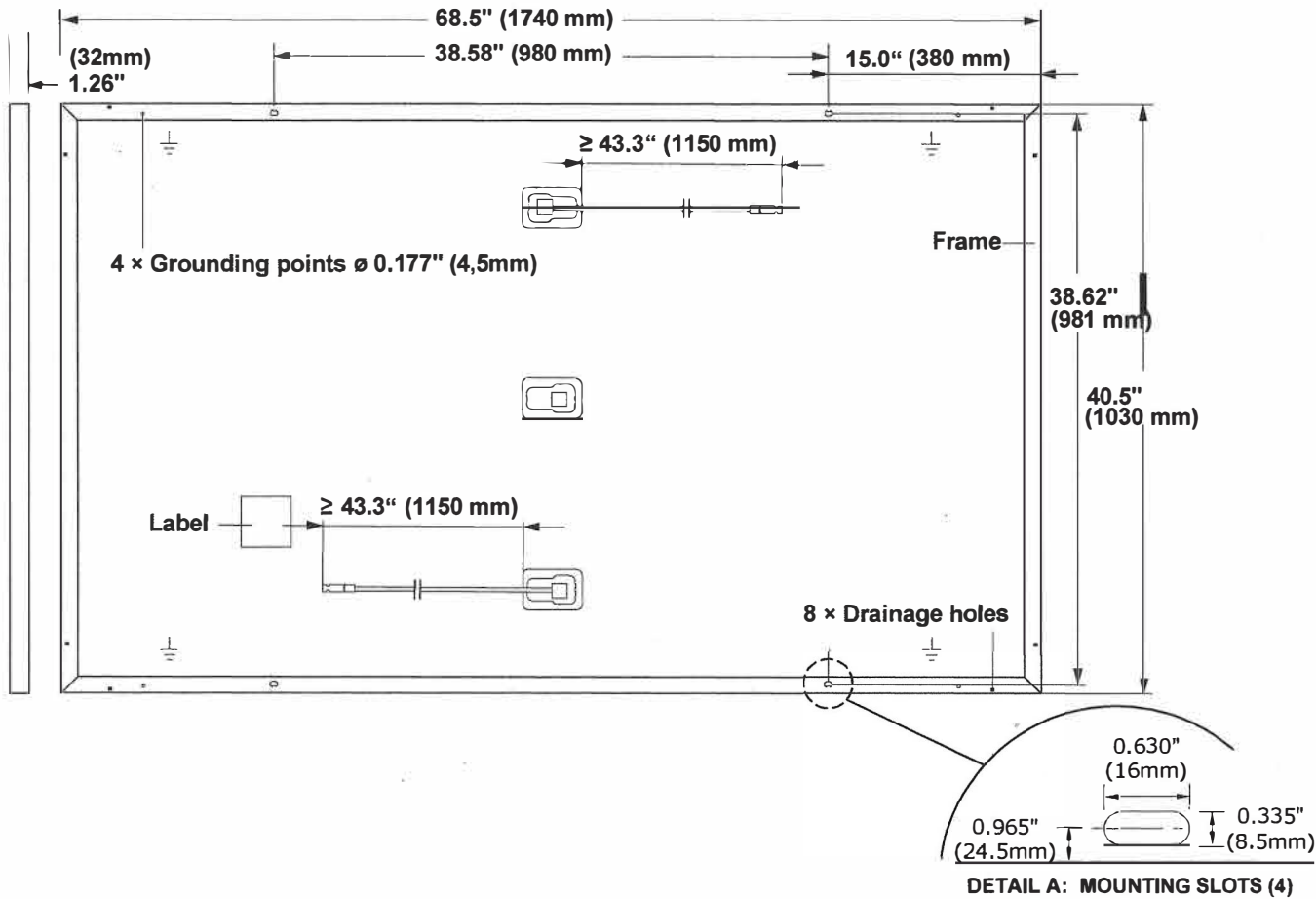
PARTNER

VDE Quality Tested, IEC 61215:2016; IEC 61730:2016, Application class. A This data sheet complies with DIN EN 50380.
NOTE: Installation instructions must be followed. See the installation and operating manual or contact our technical service department for further information on approved installation and use of this product.

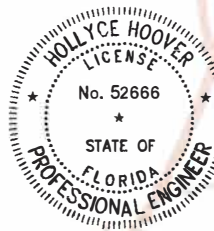
Hanwha Q CELLS America Inc. 300 Spectrum Center Drive, Suite 1250, Irvine, CA 92618, USA | TEL +1 949 748 59 96 | EMAIL inquiry@us.q-cells.com | WEB www.q-cells.us

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MODULE CONNECTION DIAGRAM



MODULE SPECIFICATION



Digitally signed
by Hollyce
Hoover
Date:
2020.10.08
21:32:00 -04'00'

E3

GS NO. P2002-017-MIA-GOL-PVS

Power Optimizer For North America

P320 / P340 / P370 / P400 / P405 / P505

Optimizer model (typical module compatibility)	P320 (for 60-cell modules)	P340 (for high- power 60-cell modules)	P370 (for higher- power 60 and 72-cell modules)	P400 (for 72 & 96- cell modules)	P405 (for thin film modules)	P505 (for higher current modules)	
INPUT							
Rated Input DC Power(1)	320	340	370	400	405	505	W
Absolute Maximum Input Voltage (Voc at lowest temperature)	48	60	80	125(2)	125(2)	125(2)	Vdc
MPPT Operating Range	8 - 48	8 - 60	8 - 80	12.5 - 105	12.5 - 105	12.5 - 83	Vdc
Max. Short Circuit Current (Isc)	11	11	11	10.1	10.1	14	Adc
Max. DC Input Current	13.75	13.75	13.75	12.63	12.63	17.5	Adc
Max. Efficiency			99.5				%
Weighted Efficiency			98.8			98.6	%
Overvoltage Category			II				
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREGE INVERTER)							
Maximum Output Current			15				Adc
Maximum Output Voltage		60		85			Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREGE INVERTER OR SOLAREGE INVERTER OFF)							
Safety Output Voltage per Power Optimizer			1 ± 0.1				Vdc
STANDARD COMPLIANCE							
EMC			FCC Part15 Class B, IEC61000-6-2, IEC61000-6-3				
Safety			IEC62109-1 (class II safety), UL1741				
RoHS			Yes				
INSTALLATION SPECIFICATIONS							
Maximum Allowed System Voltage			1000				Vdc
Compatible inverters			All SolarEdge Single Phase and Three Phase inverters				
Dimensions (W x L x H)	128 x 152 x 28 / 5 x 5.97 x 1.1	128 x 152 x 36 / 5 x 5.97 x 1.42	128 x 152 x 50 / 5 x 5.97 x 1.96	128 x 152 x 59 / 5 x 5.97 x 2.32			mm / in
Weight (including cables)	630 / 1.4	750 / 1.7	845 / 1.9	1064 / 2.3			gr / lb
Input Connector			MC4(3)				
Output Wire Type / Connector			Double Insulated, MC4				
Output Wire Length	0.95 / 3.0		1.2 / 3.9				m / ft
Input Wire Length		0.16 / 0.52					m / ft
Operating Temperature Range		-40 ~ +85 / -40 ~ +185					°C / °F
Protection Rating		IP68 / NEMA6P					
Relative Humidity		0 - 100					%

(1) Rated STC power of the module. Module of up to +5% power tolerance allowed

(2) NEC 2017 requires max input voltage be not more than 80V

(3) For other connector types please contact SolarEdge

PV System Design Using a SolarEdge Inverter(4)(5)	Single Phase HD-Wave	Single phase	Three Phase 208V	Three Phase 480V	
Minimum String Length (Power Optimizers)	P320, P340, P370, P400	8	10	18	
	P405 / P505	6	8	14	
Maximum String Length (Power Optimizers)		25	25	50(6)	
Maximum Power per String	5700 (6000 with SE7600-US - SE11400- US)	5250	6000(7)	12750(8)	W
Parallel Strings of Different Lengths or Orientations		Yes			

(4) For detailed string sizing information refer to: http://www.solaredge.com/sites/default/files/string_sizing_na.pdf

(5) It is not allowed to mix P405/P505 with P320/P340/P370/P400 in one string

(6) A string with more than 30 optimizers does not meet NEC rapid shutdown requirements; safety voltage will be above the 30V requirement

(7) For SE14.4KUS/SE43.2KUS: It is allowed to install up to 6,500W per string when 3 strings are connected to the inverter (3 strings per unit for SE43.2KUS) and when the maximum power difference between the strings is up to 1,000W For SE30KUS/SE33.3KUS/SE66.6KUS/SE100KUS

(8) It is allowed to install up to 15,000W per string when 3 strings are connected to the inverter (3 strings per unit for SE66.6KUS/SE100KUS) and when the maximum power difference between the strings is up to 2,000W

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Single Phase Inverter with HD-Wave Technology for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US / SE7600H-US / SE10000H-US / SE11400H-US

	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
OUTPUT								
Rated AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400	VA
Maximum AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400	VA
AC Output Voltage Min.-Nom.-Max. (183 - 208 - 229)	-	3	-	3	-	-	-	Vac
AC Output Voltage Min.-Nom.-Max. (211 - 240 - 264)	3	3	3	3	3	3	3	Vac
AC Frequency (Nominal)				59.3 - 60 - 60.5(1)				Hz
Maximum Continuous Output Current 208V	-	16	-	24	-	-	-	A
Maximum Continuous Output Cur- rent @240V	12.5	16	21	25	32	42	47.5	A
GFDI Threshold				1				A
Utility Monitoring, Islanding Protection, Country Configurable Thresholds				Yes				
INPUT								
Maximum DC Power @240V	4650	5900	7750	9300	11800	15500	17650	W
Maximum DC Power @208V	-	5100	-	7750	-	-	-	
Transformer-less, Ungrounded				Yes				
Maximum Input Voltage				480				Vdc
Nominal DC Input Voltage			380		400			Vdc
Maximum Input Current 208V(2)	-	9	-	13.5	-	-	-	Adc
Maximum Input Current @240V(2)	8.5	10.5	13.5	16.5	20	27	30.5	Adc
Max. Input Short Circuit Current				45				Adc
Reverse-Polarity Protection				Yes				
Ground-Fault Isolation Detection				600k Ω Sensitivity				
Maximum Inverter Efficiency	99			99.2				%
CEC Weighted Efficiency				99				%
Nighttime Power Consumption				< 2.5				W
ADDITIONAL FEATURES								
Supported Communication Interfaces				RS485, Ethernet, ZigBee (optional), Cellular (optional)				
Revenue Grade Data, ANSI C12.20				Optional(3)				
Rapid Shutdown - NEC 2014 and 2017 690.12				Automatic Rapid Shutdown upon AC Grid Disconnect				
STANDARD COMPLIANCE								
Safety				UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadian AFCEI according to T.I.L. M-07				
Grid Connection Standards				IEEE1547, Rule 21, Rule 14 (H-I)				
Emissions				FCC Part 15 Class B				
INSTALLATION SPECIFICATIONS								
AC Output Conduit Size / AWG Range		3/4" minimum / 14-6 AWG		3/4" minimum / 14-4 AWG				
DC Input Conduit Size / # of Strings / AWG Range		3/4" minimum / 1-2 strings / 14-6 AWG		3/4" minimum / 1-3 strings / 14-6 AWG				
Dimensions with Safety Switch (HxWxD)		17.7 x 14.6 x 6.8 / 450 x 370 x 174		21.3 x 14.6 x 7.3 / 540 x 370 x 185				in / mm
Weight with Safety Switch	22 / 10	25.1 / 11.4	26.2 / 11.9	38.8 / 17.6				lb / kg
Noise		< 25		< 50				dBA
Cooling		Natural Convection		Natural convection				
Operating Temperature Range		-13 to +140 / -25 to +60(4) (-40°F / -40°C option)(5)						°F / °C
Protection Rating		NEMA 4X (Inverter with Safety Switch)						

(1) For other regional settings please contact SolarEdge support

(2) A higher current source may be used; the inverter will limit its input current to the values stated

(3) Revenue grade inverter P/N: SE000H-US000N02

(4) For power de-rating information refer to: <https://www.solaredge.com/sites/default/files/se-temperature-derating-note-na.pdf>

(5) -40 version P/N: SE000H-US000N04

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CE RoHS

NOTE: PHOTOVOLTAIC SYSTEM EQUIPPED WITH RAPID SYSTEM SHUTDOWN - NEC 2014 Code Article 690.56 (C)

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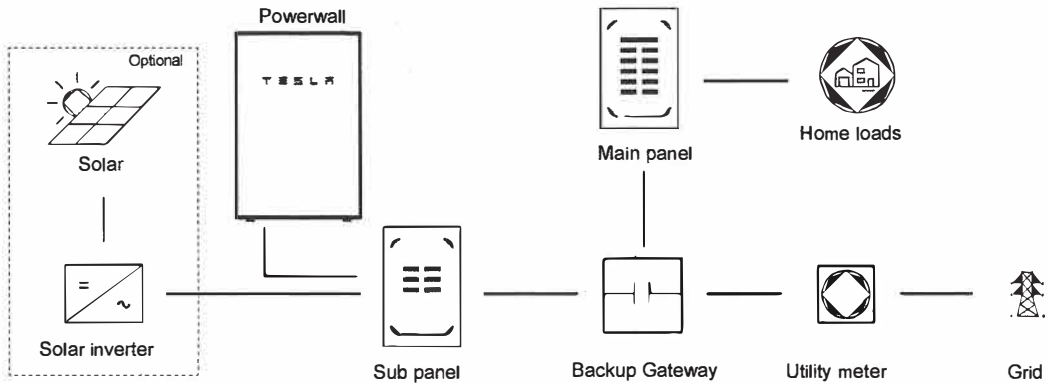
GS NO. P2002-017-MIA-GOL-PVS

BATTERY - TESLA POWERWALL 2

SYSTEM FEATURES

- FULLY-INTEGRATED, RECHARGEABLE AC LITHIUM-ION BATTERY
- TIME-BASED CONTROL, AND BACKUP SYSTEM W/ BUILDING INTERFACE
- ENERGY STORAGE FOR SOLAR SELF-CONSUMPTION

WHOLE HOME BACKUP



PERFORMANCE SPECIFICATIONS

AC Voltage (Nominal)	120/240 V
Feed-In Type	Split Phase
Grid Frequency	60 Hz
Total Energy1	14 kWh
Usable Energy1	13.5 kWh
Real Power, max continuous2	5 kW (charge and discharge)
Real Power, peak (10 s, off-grid/backup)2	7 kW (charge and discharge)
Apparent Power, max continuous	5.8 kVA (charge and discharge)
Apparent Power, peak (10 s, off-grid/backup) 2	7.2 kVA (charge and discharge)
Maximum Supply Fault Current	10 kA
Maximum Output Fault Current	32 A
Overcurrent Protection Device	30 A
Imbalance for Split-Phase Loads	100%
Power Factor Output Range	+/- 1.0 adjustable
Power Factor Range (full-rated power)	+/- 0.85
Internal Battery DC Voltage	50 V
Round Trip Efficiency1,3	90%
Warranty	10 years

1 Values provided for 25°C (77°F), 3.3 kW charge/discharge power.
2 In Backup mode, grid charge power is limited to 3.3 kW.
3 AC to battery to AC, at beginning of life.

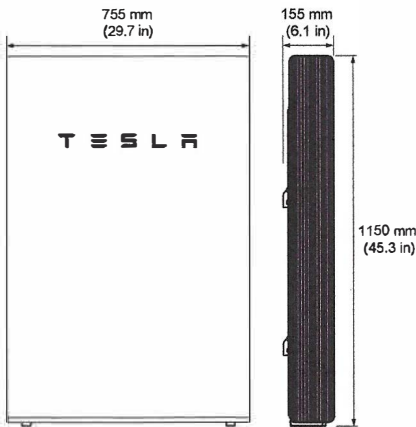
COMPLIANCE INFORMATION

Certifications	UL 1642, UL 1741, UL 1973, UL 9540, IEEE 1547, UN 38.3
Grid Connection	Worldwide Compatibility
Emissions	FCC Part 15 Class B, ICES 003
Environmental	RoHS Directive 2011/65/EU
Seismic	AC156, IEEE 693-2005 (high)

TESLA

MECHANICAL SPECIFICATIONS

Dimensions	1150 mm x 755 mm x 155 mm (45.3 in x 29.7 in x 6.1 in)
Weight	125 kg (276 lbs)
Mounting options	Floor or wall mount



ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-20°C to 50°C (-4°F to 122°F)
Optimum Temperature	0°C to 30°C (32°F to 86°F)
Operating Humidity (RH)	Up to 100%, condensing
Storage Conditions	-20°C to 30°C (-4°F to 86°F) Up to 95% RH, non-condensing State of Energy (SoE): 25% initial
Maximum Elevation	3000 m (9843 ft)
Environment	Indoor and outdoor rated
Enclosure Type	NEMA 3R
Ingress Rating	IP67 (Battery & Power Electronics) IP56 (Wiring Compartment)
Wet Location Rating	Yes
Noise Level @ 1m	< 40 dBA at 30°C (86°F)

TESLA.COM/ENERGY

BACKUP GATEWAY 2

PERFORMANCE SPECIFICATIONS

AC Voltage (Nominal)	120/240V
Feed-In Type	Split Phase
Grid Frequency	60 Hz
Current Rating	200 A
Maximum Input Short Circuit Current	10 kA ¹
Overcurrent Protection Device	100–200A; Service Entrance Rated ¹
Overvoltage Category	Category IV
AC Meter	Revenue accurate (+/- 0.2%)
Primary Connectivity	Ethernet, Wi-Fi
Secondary Connectivity	Cellular (3G, LTE/4G) ²
User Interface	Tesla App
Operating Modes	Support for solar self-consumption, time-based control, and backup, and off-grid
Backup Transition	Automatic disconnect for seamless backup
Modularity	Supports up to 10 AC-coupled Powerwalls
Optional Internal Panelboard	200A 6-spaces / 12 circuit Eaton BR Circuit Breakers
Warranty	10 years

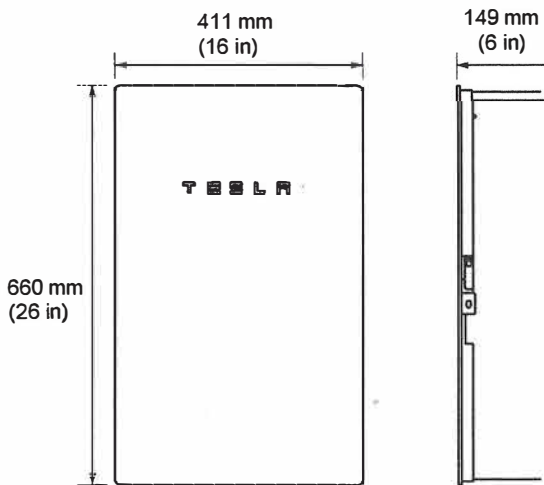
¹ When protected by Class J fuses, Backup Gateway 2 is suitable for use in circuits capable of delivering no more than 22kA symmetrical amperes.
² The customer is expected to provide internet connectivity for Backup Gateway 2; cellular should not be used as the primary mode of connectivity. Cellular connectivity subject to network operator service coverage and signal strength.

COMPLIANCE INFORMATION

Certifications	UL 67, UL 869A, UL 916, UL 1741PCS CSA 22.2 0. 19, CSA 22.2 205
Emissions	FCC Part 15, ICES 003,

MECHANICAL SPECIFICATIONS

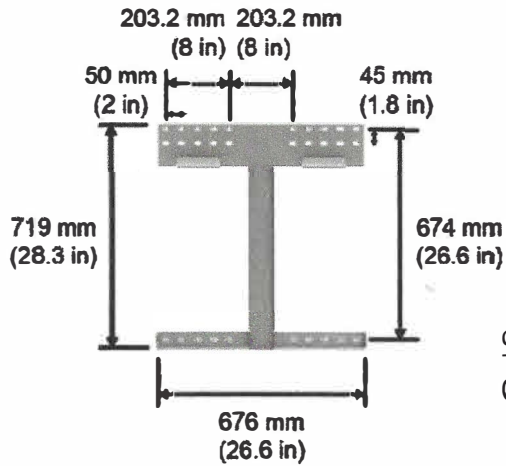
Dimensions	660 mm x 411 mm x 149 mm (26 in x 16 in x 6 in)
Weight	20.4 kg (45 lbs)
Mounting options	Wall mount, Semi-flush mount



ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-20°C - 50°C (-4°F - 122°F)
Operating Humidity (RH)	Up to 100%, condensing
Maximum Elevation	3000 m (9843 ft)
Environment	Indoor and outdoor rated
Enclosure Type	NEMA 3R

BATTERY WALL-MOUNT BRACKET



CONNECTORS:
Tapcon® 1/4" x 2-1/4"
(4 TOP/2 BTM)



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Hollyce Hoover
Date: 2020.10.08
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-04'00'

E5

GS NO. P2002-017-MIA-GOL-PVS



CONTRACTOR

GOLDIN SOLAR, LLC
109 US HWY No. 1
VERO BEACH, FLORIDA 32960
1382 NW 78TH AVE
DORAL, FL 33126
(305) 469-9790
permitting@goldinsolar.com
www.GoldinSolar.com

SOLAR LICENSE: CVC56965
ELECTRICAL LICENSE: EC13008547
ROOFING LICENSE: CCC1331878

AHJ: CITY OF MIAMI BEACH
UTILITY: FPL

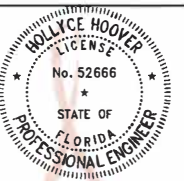
SCOPE

GRID-TIED (TIER 2)
13.6 kW SOLAR PHOTOVOLTAIC
28 kWh BATTERIES BESS

WARSHOFSKY
RESIDENCE

4400 SHERIDAN AVENUE
MIAMI BEACH, FL 33140
PN: P2008-109-MIA-ROB-PVS

ENGINEER OF RECORD



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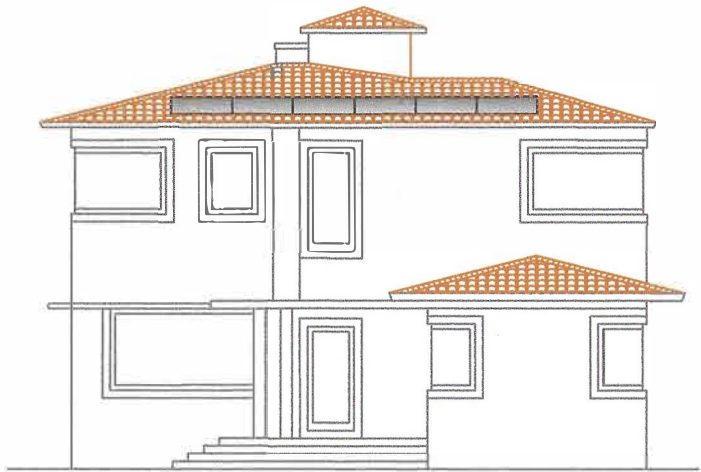
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ELEVATIONS

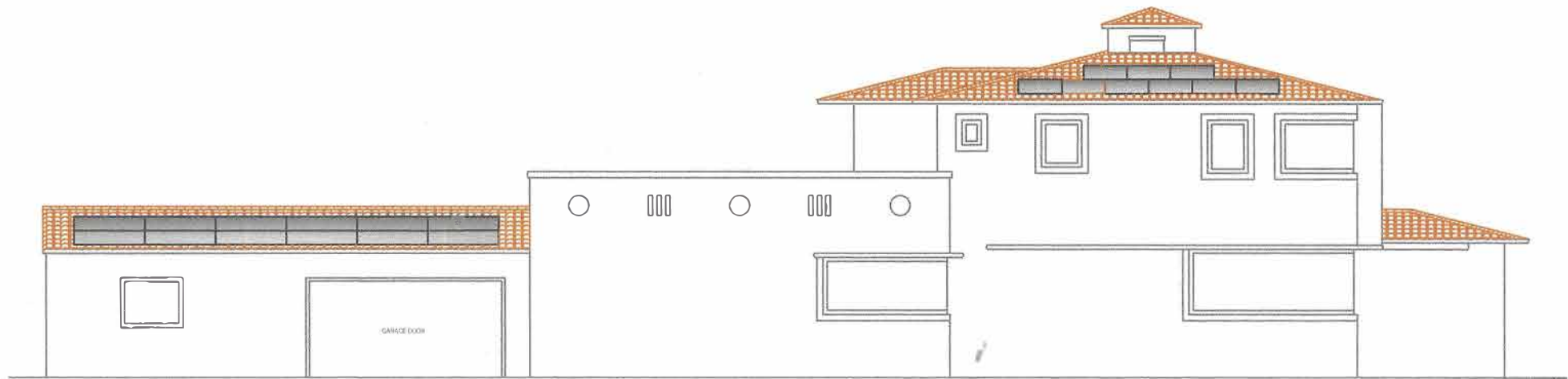
S-004

(SHEET 1 OF 11)

scale: 1/8" = 1'0"



EAST ELEVATION - SHERIDAN AVENUE



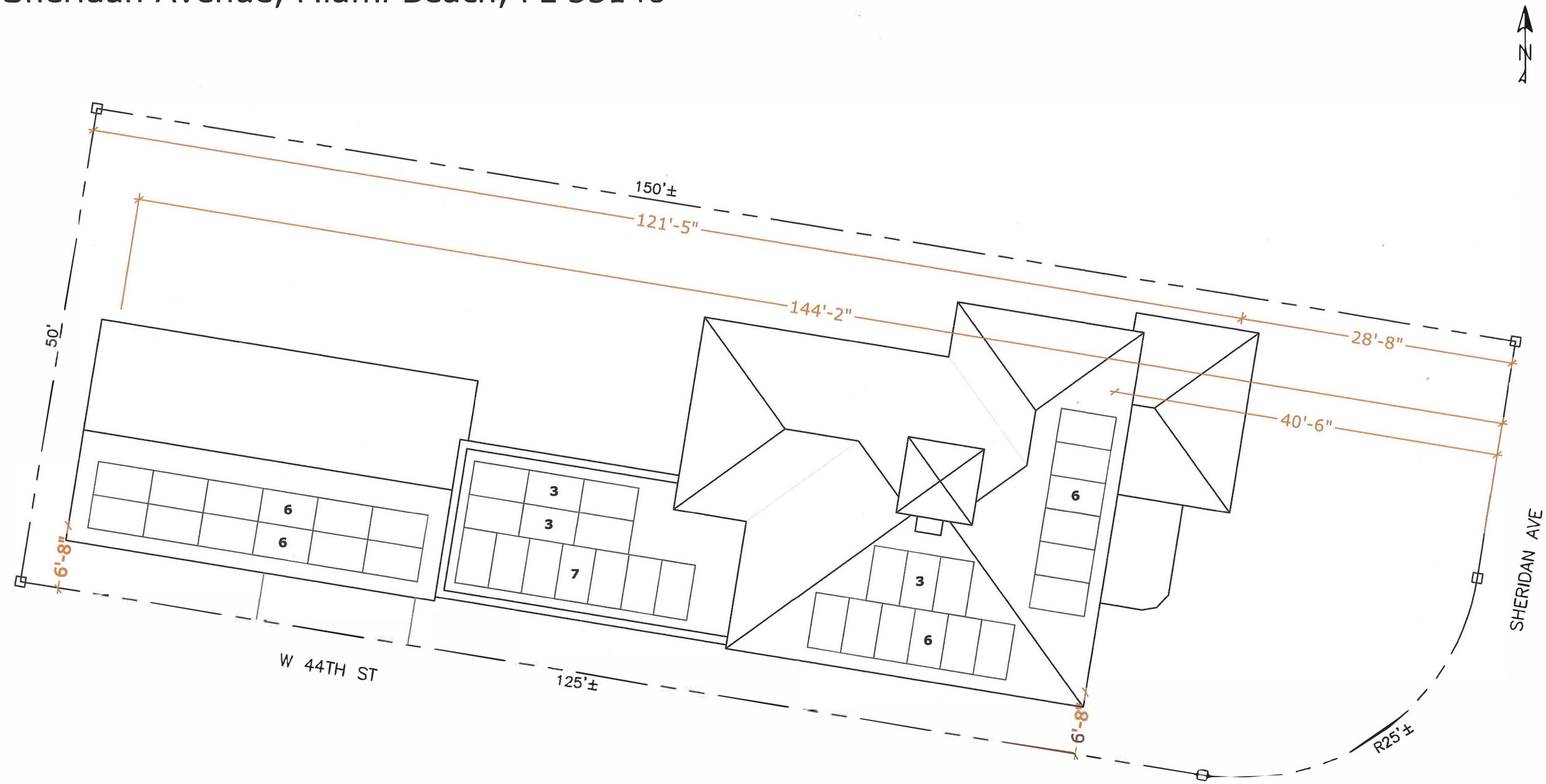
SOUTH ELEVATION - W 44TH STREET



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Warshofsky Residence - 13.6 kW Solar Photovoltaic System

4400 Sheridan Avenue, Miami Beach, FL 33140



NOTE: DIMENSIONS ARE FROM FACADE LINES.

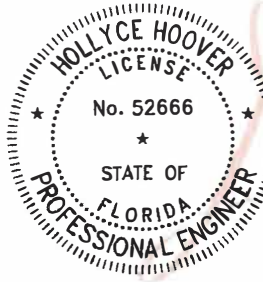
PROPERTY INFORMATION

AHJ: MIAMI BEACH
UTILITY: FPL HOA: N/A
FOLIO NO: 02-3222-001-0910 LAND AREA: 0.17 ACRES
PROPERTY USE CODE: 0101 RESIDENTIAL - SINGLE FAMILY
LEGAL DESCRIPTION: ORCHARD SUB NO 4 PB 25-30 LOT 1 BLK 7 LOT
SIZE 50.000 X 150 OR 20484-2842 0602 1 COC 22965-0920 12 2004 1



GOLDIN SOLAR, LLC

1109 US HIGHWAY No. 1
VERO BEACH, FLORIDA 32960
CERTIFIED FLORIDA SOLAR CONTRACTOR CVC56965
(772) 205-3244
Email : permitting@goldinsolar.com
Web : www.GoldinSolar.com



PLAN VIEW

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Hoover
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2020.10.08
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GS NO. P2002-017-MIA-GOL-PVS

Property Images

Homeowner: Alex Warshofsky

Address: 4400 Sheridan Ave Miami Beach, FL 33140

1. 44th Street View



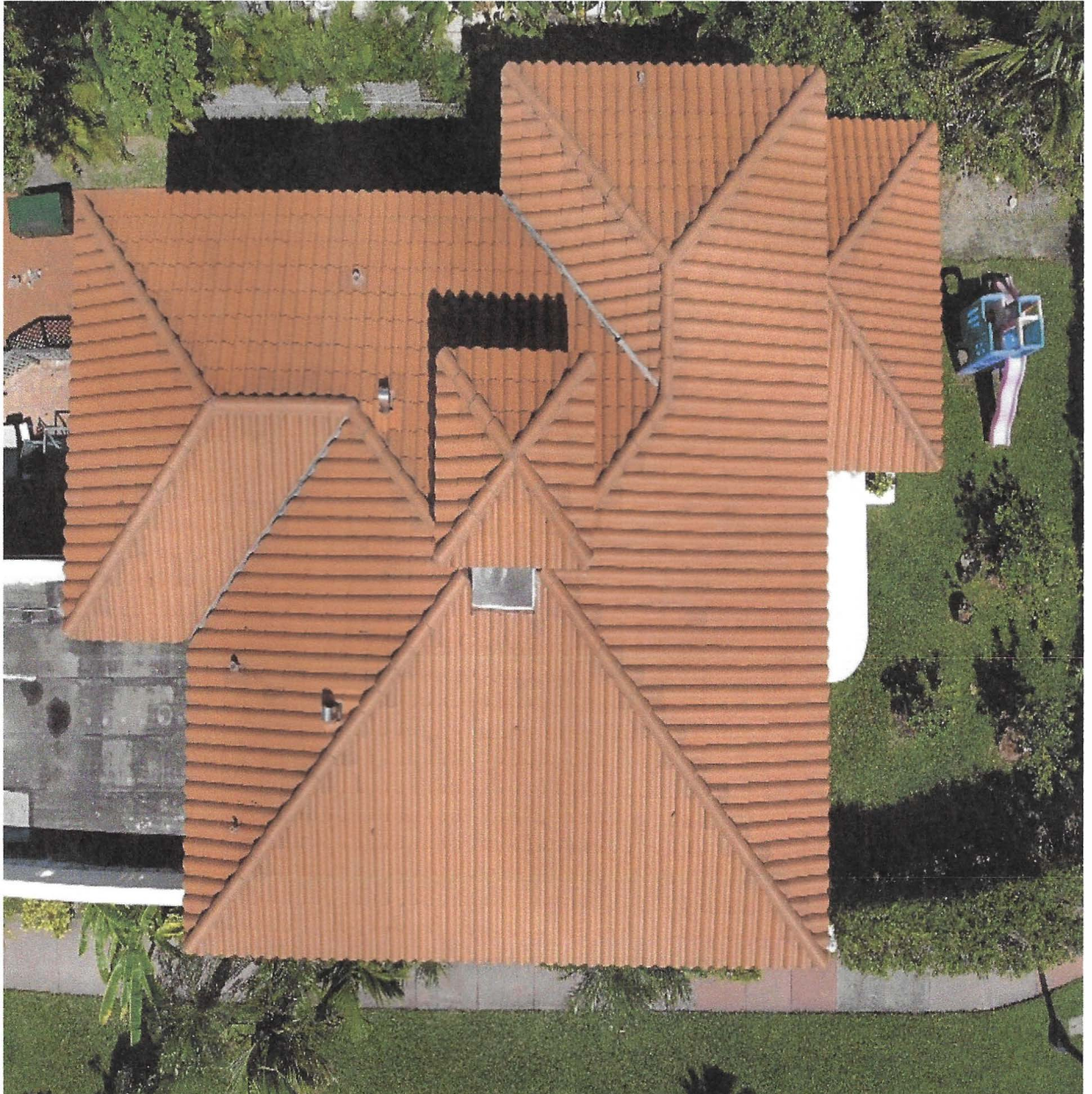


2. Sheridan Ave Street View



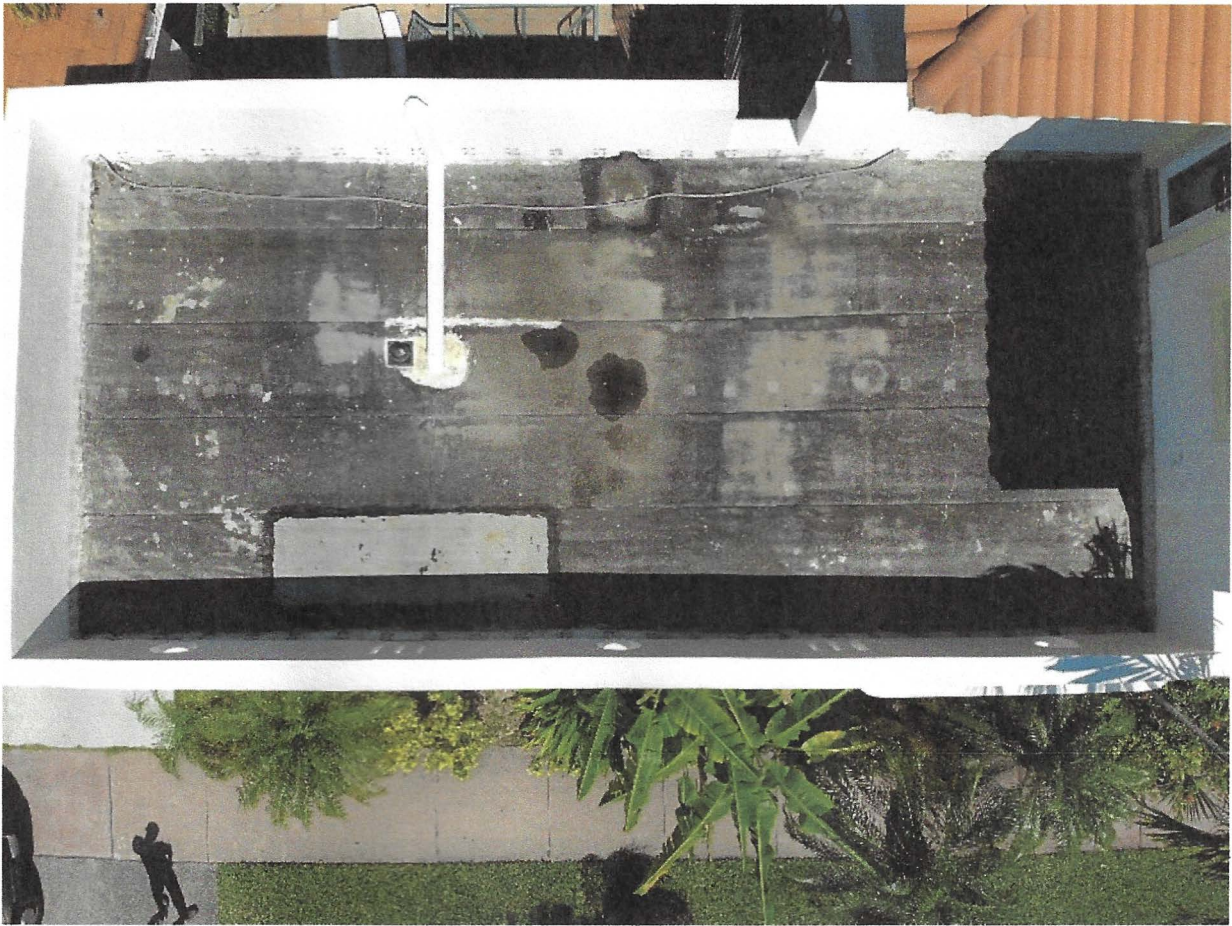


3. Arial Images





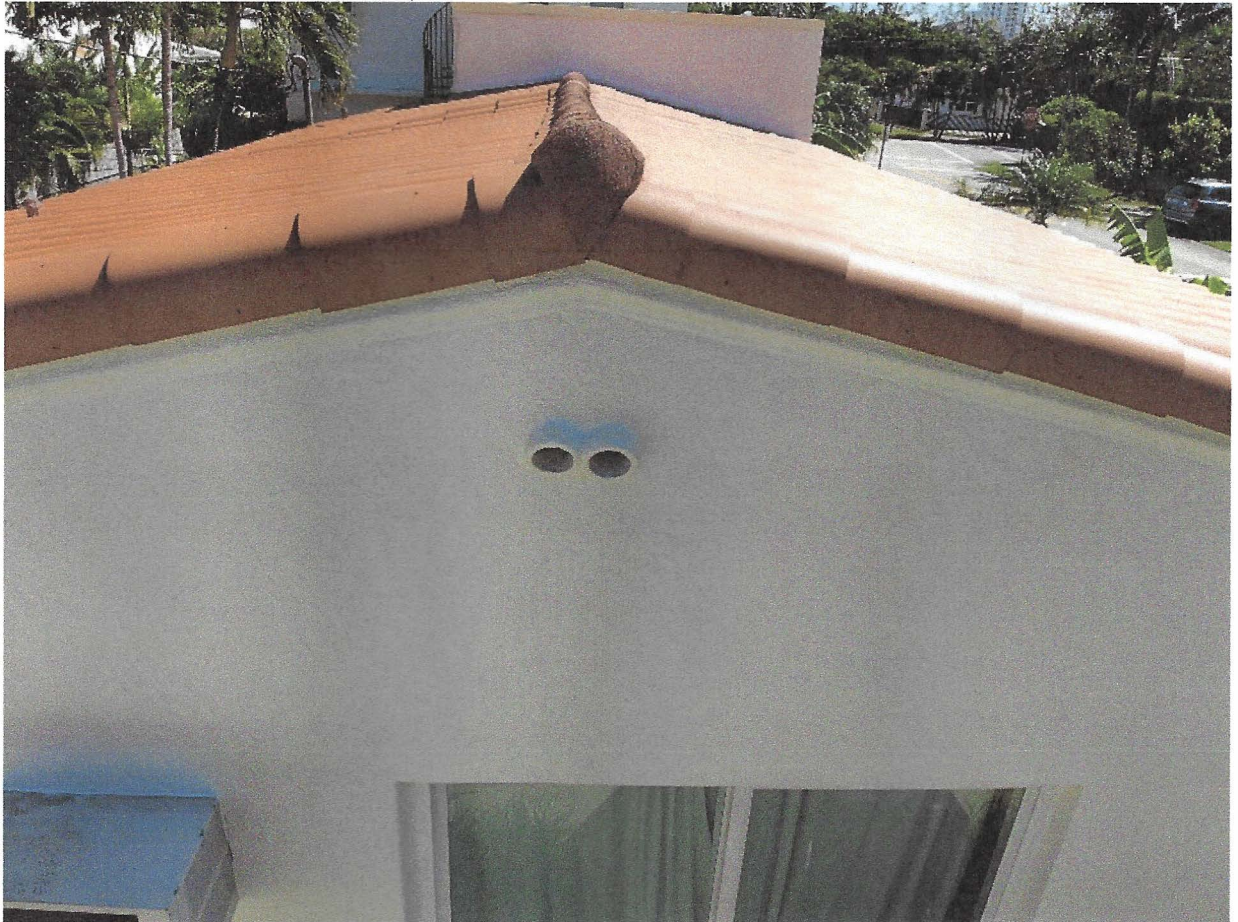




Additional images of area of roof installation of Solar Panels









Additional Photos of the Property







Additional Images - Front of the Home











Goldin Solar, LLC
Certified Florida Solar Contractor, License number: CVC56965
Cell #: (305) 469 9790
dgoldin@goldinsolar.com
www.goldinsolar.com



10-09-2020
Address: 4400 Sheridan Ave Miami Beach
Permit Number: BPHR2000054
DRB #: DRB20-0603

To whom this may concern,

At the owner's request, we would like to request a review from the DRB for installation of a Roof Mounted Photovoltaic Solar system. We are submitting the Permit Applications and engineering Plans for your review, requesting an audience with the Board.

We are addressing the comments from the Planning Reviewer, Steven Williams. Please see below comment:

Planning- Per Sec. 142-105(b)(7) of the City's Land Development Regulations, Solar panels shall be located in a manner to minimize visual impacts on predominant neighborhood view corridors as viewed from public rights-of-way and waterways. As such, in order for the permit to be approved at staff level, the following panels must be relocated or removed to comply with this regulation: • 12 panels from "roof 1" (the garage facing 44th Street) • 7 panels on "roof 2" facing Sheridan Ave. You can seek the review and approval of the Design Review Board (DRB) for the some or all of the aforementioned panels to remain in the proposed locations. If the DRB were to approve the panels, staff could then sign off on the permit.

We have included photos of all street views and aerials of the home. We have also included a site plan, elevations, and final engineering plans. Thank you for your time and consideration, and look forward to meeting with you and coming to a mutual agreement.

Regards,

Daren Goldin

Owner/Founder

Goldin Solar, LLC

Certified Florida Solar Contractor

License Number: CVC56965

Phone: (305) 469-9790

Goldin Solar, LLC
Certified Florida Solar Contractor, License number: CVC56965
Cell #: (305) 469 9790
dgoi
www.goldinsolar.com





EAST ELEVATION - SHERIDAN AVENUE (NTS)



SOUTH ELEVATION - W 44TH STREET (NTS)

NOTE: GENERAL REPRESENTATIONAL PV OVERLAY
PHOTO CREDIT: ZILLOW/GOOGLE
(FOR EDUCATIONAL PURPOSE ONLY)

CONTRACTOR

GOLDIN SOLAR, LLC
109 US HWY No. 1
VERO BEACH, FLORIDA 32960
1382 NW 78TH AVE
DORAL, FL 33126
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permitting@goldinsolar.com
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SOLAR LICENSE: CVC56965
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AHJ: CITY OF MIAMI BEACH
UTILITY: FPL

SCOPE

GRID-TIED (TIER 2)
13.6 kW SOLAR PHOTOVOLTAIC
28 kWh BATTERIES BESS

WARSHOFSKY
RESIDENCE

4400 SHERIDAN AVENUE
MIAMI BEACH, FL 33140
PN: P2008-109-MIA-ROB-PVS

ENGINEER OF RECORD



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PHOTO OVERLAY
S-005

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