

BLOCK 1385.07 LOT 10 QUALIFICATION CODE _____ ADDRESS (SITE) 640 Winding River Rd PERMIT NO. 18-3389



CONSTRUCTION PERMIT APPLICATION

C-18-004320

Applicant Completes: Sections I, II, III (optional), IV, VI, and VII

I. IDENTIFICATION

1. Proposed Work Site at: 640 Winding River Rd Brick NJ 08724

2. Name: Unius Residence

Tel. () e-mail ()

Address 640 Winding River Rd Brick NJ 08724

3. Ownership in Fee: Public ☐ Private ☒ zip code

4. Principal Contractor: **Reliable Power & Solar** Tel. (732) 367-1166

Address 1085 Route 9 e-mail Carolyn @getrpsnow.com

Howell, NJ 07731

License No. OR, if new home, Builder Reg. No. 11223B Exp. Date 3/31/21

Home Improvement Contractor Registration No. or Exemption Reason (if applicable): 13VHO5266200

Federal Emp. ID No. () FAX: (732) 942-3979

5. Architect or Engineer Cirande Architects Contact LARRY

Address 14 Plaza Ninedmanalagan e-mail ()

Tel. (132) 303-7022 FAX: ()

6. Responsible Person in Charge once Work has Begun Chris DiPasquale

Tel. (732) 367-1166 FAX: (732) 942-3979

V. FEE SUMMARY (for office use only)		Update	Update
1. Building	\$ <u>164</u>		
2. Electrical	\$ <u>325</u>		
3. Plumbing			
4. Fire Protection			
5. Elevator Devices			
6. Subtotal			
7. Less 20% for State Plan Review	\$		
8. Subtotal	\$		
9. State Permit Surcharge Fee	\$ <u>51</u>		
10. Subtotal	\$ <u>116</u>		
11. Cert. of Occupancy			
12. Other			
13. TOTAL	\$ <u>116</u>		

VI. BUILDING/SITE CHARACTERISTICS (office use only)

1. Number of Stories 13.5 kw

2. Height of Structure _____ ft.

3. Area — Largest Floor _____ sq. ft.

4. New Building Area _____ sq. ft.

5. Volume of New Structure _____ cu. ft.

6. Max. Live Load _____

7. Max. Occupancy Load _____

8. If Industrialized Building: State Approved _____ HUD _____

9. Total Land Area Disturbed _____ sq. ft.

10. Flood Hazard Zone _____

11. Base Flood Elevation _____ ft.

12. Wetlands yes _____ no _____

IIa. PROPOSED WORK

☐ Minor Work ☐ New Building ☐ Addition ☐ Demolition

☐ Repair ☒ Alteration ☐ Renovation ☐ Reconstruction

☐ Asbestos Abat. -Subch. B ☐ Lead Hazard Abatement ☐ Radon Remediation ☐ Annual Permit

IIb. SUBCODES (Check all that apply)

	Est. Cost	Plans Rec'd by	Date Rec'd	Rejection Date	Approval Date	Re-viewer	Resubmission Dates Approval	Rejection	Re-viewer
☒ Building	<u>3272.00</u>	<u>MP</u>	<u>11/15/18</u>		<u>12/10/18</u>	<u>JP</u>			
☒ Electrical	<u>23905.00</u>				<u>12/3/18</u>	<u>PJ</u>			
☐ Plumbing									
☐ Fire Protection									
☐ Elevator									

TOTAL COST 27,177

VII. DESCRIPTION OF BUILDING USE

A. RESIDENTIAL (primary use)

1. State Specific Use: _____

2. Use Group, Proposed: _____

3. Change in Use Group, Indicate Present: _____

4. No. of dwelling units: Total Units Income-restricted

Gained, Sale	
Gained, Rental	
Lost, Sale	
Lost, Rental	

B. NON-RESIDENTIAL (primary use)

1. State Specific Use: _____

2. Use Group, Proposed: _____

3. Change in Use Group, Indicate Present: _____

C. MIXED USE -List secondary use(s): _____

D. Construct. Classification: Present _____ Proposed _____

III. PLAN REVIEW (optional)

DO YOU WANT:

1. ☐ Partial Releases

2. ☐ Prototype Processing

IV. DOES OR WILL YOUR BUILDING CONTAIN ANY OF THE FOLLOWING?

1. ☐ Elevators/Escalators/Lifts/ Dumbwaiters/Moving Walks	4. ☐ Refrigeration Systems	8. ☐ Smoke Control Systems in Open Wells	12. ☐ Fire Alarm
2. ☐ High Pressure Boilers	5. ☐ Cross-Connections/Backflow Preventers	9. ☐ Underground Storage Tanks	
3. ☐ Pressure Vessels	6. ☐ Hazardous Uses/Places of Assembly	10. ☐ Swimming Pools, Spas and Hot Tubs	
	7. ☐ Sprinklers/Standpipes	11. ☐ LPGas Tanks	

CERTIFICATION IN LIEU OF OATH

I. OWNER SECTION (to be completed if the applicant is the owner in fee)

I hereby certify that I am the owner in fee of the property listed on Page 1.

Mark the following applicable boxes:

- A. ☐ I further certify that a new home (private residence) will be constructed on this property for my own use and occupancy. This dwelling is to be occupied by myself and is not to be used for any purpose other than single family residential use. I attest that all construction, plumbing, or electrical work will be done, in whole or in part, by me or by subcontractors under my supervision, in accordance with all applicable laws; and, I further acknowledge that said new home is not covered under the New Home Warranty and Builders Registration Act (N.J.S.A. 46:3B-1 et seq.) and that such fact shall be disclosed to any person purchasing this property within ten years of the date of issuance of a certificate of occupancy.

I UNDERSTAND THAT IN MARKING BOX A, I ACKNOWLEDGE THAT I AM ASSUMING RESPONSIBILITY FOR THE WORK DONE ON SAID PROPERTY, THE CONDITION OF THE PROPERTY PRIOR TO, DURING, AND AFTER ANY WORK PERFORMED, AND FOR THE PERFORMANCE OF THE SUBCONTRACTORS I HIRE, EMPLOY, OR OTHERWISE CONTRACT OR WITH WHOM I MAKE AGREEMENTS TO PERFORM WORK. I AM VOLUNTARILY AND KNOWINGLY ASSUMING THIS RESPONSIBILITY.

- B. ☐ I further certify the following as required by the New Jersey Uniform Construction Code, N.J.A.C. 5:23-2.15(f)1.ix:

I personally prepared the plans submitted for: 1) the new home referred to in A.; or 2) an addition, alteration, renovation, or repair to an existing single family residence owned and occupied by myself and located on the property listed on Page 1; or 3) a new structure that will be physically separate from, but that will be deemed part of, an existing single family residence that is owned and occupied by myself and located on the property listed on Page 1.

- C. ☐ I further certify that I will perform or supervise the following work:

C.1. ☐ Building C.2. ☐ Fire Protection

I further certify that I will perform the following work:

C.3. ☐ Electrical C.4. ☐ Plumbing

- D. ☐ I agree to advise all contractors on this project that they are required to be registered with the New Jersey Division of Taxation and to comply with all New Jersey tax laws.

I further certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(a)5: All required State, county, and local prior approvals have been given, including such certification as the construction official may require.

I understand that if any of the above statements are willfully false, I am subject to punishment.

Signature _____ Date _____

II. AGENT SECTION (to be completed if the applicant is not the owner in fee)

I hereby certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(d): the proposed work is authorized by the owner in fee; and I have been authorized by the owner in fee to make this application as his agent.

I further certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(a)5: All required State, county, and local prior approvals have been given, including such certification as the construction official may require.

I agree to advise all contractors on this project that they are required to be registered with the New Jersey Division of Taxation and to comply with all New Jersey tax laws.

I understand that if any of the above statements are willfully false, I am subject to punishment.

☐ Check if contractor.

Agent Name **Reliable Power & Solar**

Address **1085 Route 9**

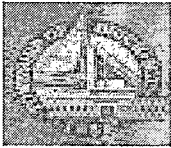
Howell, NJ 07731

Telephone **732 367-1166**

Signature _____

- III. ☐ LEAD HAZARD ABATEMENT: Include Homeowner or Building Owner Affidavit as per N.J.A.C. 5:17.

- IV. ☐ HOME ELEVATION: Include Home Elevation Contractor Certification as per N.J.S.A. 52:27D-123.16.



Brick Township
401 Chambersbridge Rd
Brick, NJ 08723

Date Issued 12/20/2018
Control Number C-18-004320
Permit Number 18-3389
Permit Issue Date 12/12/2018
Certificate Number 18-3389

Certificate

Construction Code Division

(Certificate of Approval)

Identification

Work Site Location: 640 WINDING RIVER RD. Brick Township, NJ Block: 1385.07 Lot: 10 Qual: _____
Owner in Fee: HAYES, THOMAS & REGINA
Owner Address: 640 WINDING RIVER RD BRICK NJ 08724
Telephone: [REDACTED]
Contractor Reliable Power & Solar, Inc.
Address 1085 Route 9 Howell NJ 07731
Telephone: (732) 367-1166 Fax: (732) 942-3979
License Number or Builders Registration Number: _____ Federal Emp. Number: [REDACTED]
Home Warranty Number: _____
Type of Warranty Plan: ☐ State ☐ Private
Use Group: R-5 Construction Classification: _____
Maximum Live Load: 0 Maximum Occupancy Load: 0
Description of Work/Use: SOLAR PANELS - ...INSTALL 13.5 kw ROOF MOUNT PHOTOVOLTAIC SOLAR SYSTEM

Certificate Comments:

☐ **Certificate of Occupancy**

This serves notice that said building or structure has been constructed in accordance with the New Jersey Uniform Construction Code and is approved for occupancy.

☒ **Certificate of Approval**

This serves notice that the work completed has been constructed or installed in accordance with the New Jersey Uniform Construction Code and is approved. If the permit was issued for minor work, this certificate was based upon what was visible at the time of inspection.

☐ **Certificate of Continued Occupancy**

This serves notice that based on a general inspection of the visible parts of the building there are no imminent hazards and the building is approved for continued occupancy.

☐ **Temporary Certificate of Compliance**

The following conditions must be met no later than or the owner will be subject to fine or order to vacate:
This certificate has an expiration date of:
Conditions to be met:

☐ **Certificate of Clearance - Lead Abatement 5:17**

This serves notice that based on written certification, lead abatement was performed as per NJAC5:17 to the following extent.

- ☐ Total removal of lead-based paint hazards in scope of work
☐ Partial or limited time period (years); see file

☐ **Certificate of Clearance - Asbestos Abatement**

This serves notice that based on written certification, asbestos abatement was performed to the following extent.

- ☐ Total removal of asbestos hazards in scope of work
☐ Partial or limited time period (years); see file

☐ **Certificate of Compliance**

This serves notice that said potentially hazardous equipment has been installed and/or maintained in accordance with the New Jersey Uniform Construction Code and is approved for use until

☐ **Temporary Certificate of Occupancy**

The following conditions must be met no later than: or the owner will be subject to fine or order to vacate:
This certificate has an expiration date of:
Conditions to be met:

Daniel Newman Jr

Construction Official

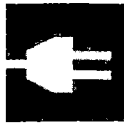
Fee: \$0.00

Check Number: _____

Collected By: _____



ELECTRICAL SUBCODE TECHNICAL SECTION



Date Received
Control #

12/12/18

Date Issued
Permit #

18-3389

A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block 1385-07 Lot 10 Qualification Code _____
Work Site Location 640 Winding River Rd Beck NJ 08724

Owner in Fee: Hoves Residence

Tel. _____ e-mail _____

Address 640 Winding River Beck 08724
street municipality zip code

Contractor: Reliable Power & Solar Tel. (732) 367-1166

Address 1085 Rt 9, Howell, NJ 07731 e-mail Carolyn@getrpsnow.com

Contractor License No. 11223B Exp. Date 3/31/21

Home Improvement Contractor Registration No. or Exemption Reason (if applicable): 13VH05266200

Federal Emp. ID No. _____ FAX: (732) 942-3979

B. ELECTRICAL CHARGE

Use Group Present _____ Proposed _____

[] Pole/Pad # _____ [] Temporary [] Other

Building Occupied as _____ Utility Co. JCPdL

Est. Cost of Elec. Work \$ 23,905.00

JOB SUMMARY (Office Use Only)

PLAN REVIEW

[] No Plans Required

[] Partial -Underslab Utilities Approved

Date _____ Approved by: _____

[x] Electric Plans Approved

Date 12/3/18 Approved by: RE

Joint Plan Review Required:

[] Bldg. [] Plumb. [] Fire. [] Elev.

SUBCODE APPROVAL FOR PERMIT

Date: 12/3/18

Approved by: [Signature]

SUBCODE APPROVAL FOR CERTIFICATE

[] CO [] CCO [x] CA

Date: 12/20/18

Approved by: [Signature]

INSPECTIONS

Type:

Rough

Barrier-Free

Trench

Temp. Serv.

Constr. Serv.

TCO

Other

Service

Final

Barrier-Free

Temp. Cut-in-Card Date Issued

Final Cut-in-Card Date Issued

Annual Pool Inspection

Date of Grounding and Bonding

Certification

Dates (Month/Day)

Failure

Failure

Approval

Initial

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

Installation of Disconnect, Net Meter, Inverter and Bonding Solar Panels.

QTY.

SIZE

ITEMS

FEE (Office Use Only)

Lighting Fixtures

Receptacles

Switches Solar Panels

Detectors

Light Poles

Motors—Fract. HP

Emergency & Exit Lights

Communications Points

Alarm Devices/F.A.C. Panel

13.5 kw size KW PV

TOTAL NUMBERS

Pool Permit/with UW Lights

Storable Pool/Spa/Hot Tub

KW Elec. Range/Receptacle

KW Oven/Surface Unit

KW Elec. Water Heater

KW Elec. Dryer/Receptacle

KW Dishwasher

HP Garbage Disposal

KW Central A/C Unit

HP/KW Space Heater/Air Handler

KW Baseboard Heat

HP Motors 1/+ HP

KW Transformer/Generator

1

70

AMP Service Disconnect

1

100

AMP Subpanels

2

100

AMP Meter Control Center Net Meter

KW Elec. Sign/Outline Light

45

100

micro Inverters

C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the (agent or) owner of record and am authorized to make this application and perform the work listed on this application.

Applicant's Signature/Contractor's Seal and Signature Chris DiParonale

[x] Licensed Elec. Contractor [] Certifd Landscape Irrigation Contr [] Exempt Applicant

U.C.C. F120HB3 (rev. 12/07)

Administrative Surcharge \$
Minimum Fee \$
State Permit Surcharge Fee \$
TOTAL FEE \$

1 White = Inspector Copy 2 Canary = Office Copy 3 Tag = Office Copy



BUILDING SUBCODE TECHNICAL SECTION



Date Received
Control #

Date Issued
Permit #

12/12/18

18-3389

A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block 1385-07 Lot 10 Qualification Code _____
Work Site Location 6410 Winding River Rd
Barclay NJ 08724
Owner in Fee: Hayes Residence
Address 6410 Winding River Rd
Barclay NJ 08724
Tel. _____
Contractor Reliable Power & Solar
Address 1085 Rt 9, Howell, NJ 07731
Tel. (732) 367-1166 FAX: (732) 942-3979
Contractor License No. or Builder Registration No. 13VH05266200
Federal Emp. No. _____

C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the agent or owner of record and am authorized to make this application.

Signature Chris Di Pasquale

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

Installation of pre-engineered solar racking system to accommodate photovoltaic modules.
See drawings enclosed.

(45)

JOB SUMMARY (Office Use Only)

PLAN REVIEW	Date	Initial	INSPECTIONS	Failure	Dates (Month/Day)	Initial
☐ No Plans Required			Type:	Failure	Approval	
☒ All	<u>12-10-18</u>	<u>JSB</u>	Footings			
☐ Footing			Footings Bonding			
☐ Foundation			Foundation			
☐ Frame			Slab			
☐ Other			Frame			
Subcode			Truss Sys./Bracing			
Joint Plan Review Required:	<u>App'd 12/10/18</u>	<u>kek</u>	Barrier-Free			
☐ Elec. ☐ Plumb. ☐ Fire ☐ Elevator			Insulation			
SUBCODE APPROVAL			Finishes - Base Layer			
☐ CO ☐ CCO ☒ CA			Finishes - Final			
Date: <u>12/19/18</u>			Energy			
Approved by: <u>kek</u>			Mechanical			
			TCO			
			Other			
			Final			<u>12/19/18 kek</u>
			Barrier-Free			

B. BUILDING CHARACTERISTICS

Use Group Present _____ Proposed _____
Constr. Class Present _____ Proposed _____
No. of Stories 1
Height of Structure 12 Ft.
Area — Largest Floor 1000 Sq. Ft.
New Bldg. Area/All Floors 0 Sq. Ft.
Volume of New Structure 0 Cu. Ft.
Total Land Area Disturbed 0 Sq. Ft.

Est. Cost of Bldg. Work:

1. New Bldg. \$ 0
2. Rehabilitation \$ 3272.00
3. Total (1+2) \$ 3272.00

TYPE OF WORK:

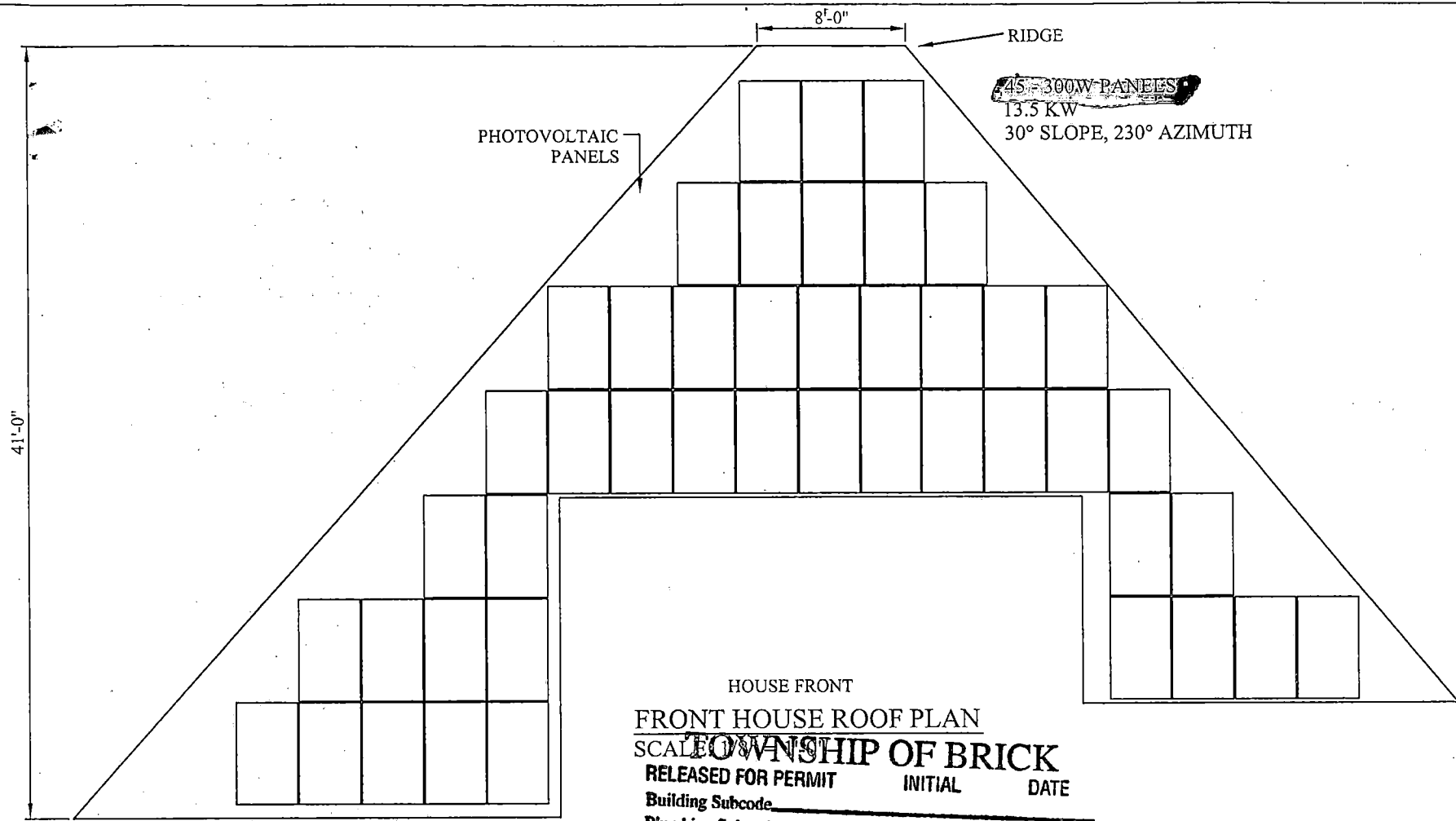
- ☐ New Building
☐ Addition
☐ Rehabilitation
☐ Roofing
☐ Siding
☐ Fence _____ Height (exceeds 6')
☐ Sign _____ Sq. Ft.
☐ Pool
☐ Asbestos Abatement Subchapter 8
☐ Lead Haz. Abatement NJAC 5:17
☒ Other Photovoltaic System Install
☐ Demolition

FEE (Office Use Only)

\$ _____

Administrative Surcharge \$ _____
Minimum Fee \$ _____
State Permit Surcharge Fee \$ _____
TOTAL FEE \$ _____

COPY



DIMENSIONS ARE RELATIVE TO SLOPE

NOTE: EXISTING STRUCTURE IS ADEQUATE TO SUPPORT
DESIGN SNOW LOAD OF 25 PSF / ROOF TL 35 PSF
DESIGN BASIC WIND SPEED OF 125 MPH / 24 PSF
ADDITIONAL DEAD LOAD OF SOLAR PANELS AT 3 PSF
WITH ALUMINUM RAIL MOUNTING SYSTEM

HOUSE FRONT
FRONT HOUSE ROOF PLAN
SCALE 1/8" = 1'-0"
TOWNSHIP OF BRICK
RELEASED FOR PERMIT INITIAL DATE
Building Subcode _____
Plumbing Subcode _____
Fire Subcode _____
Electrical Subcode _____
Plan Reviewer JP 12-10-18
Plans Released _____
Construction Official _____

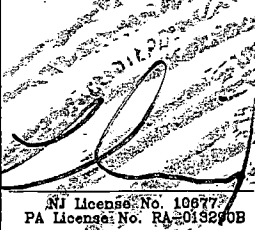
USE GROUP: R5
TYPE 5B CONSTRUCTION
IRC 2015 NJ EDITION
NEC 2014

Project

HAYES RESIDENCE
640 WINDING RIVER ROAD
BRICK, N.J. 08724

FILE COPY

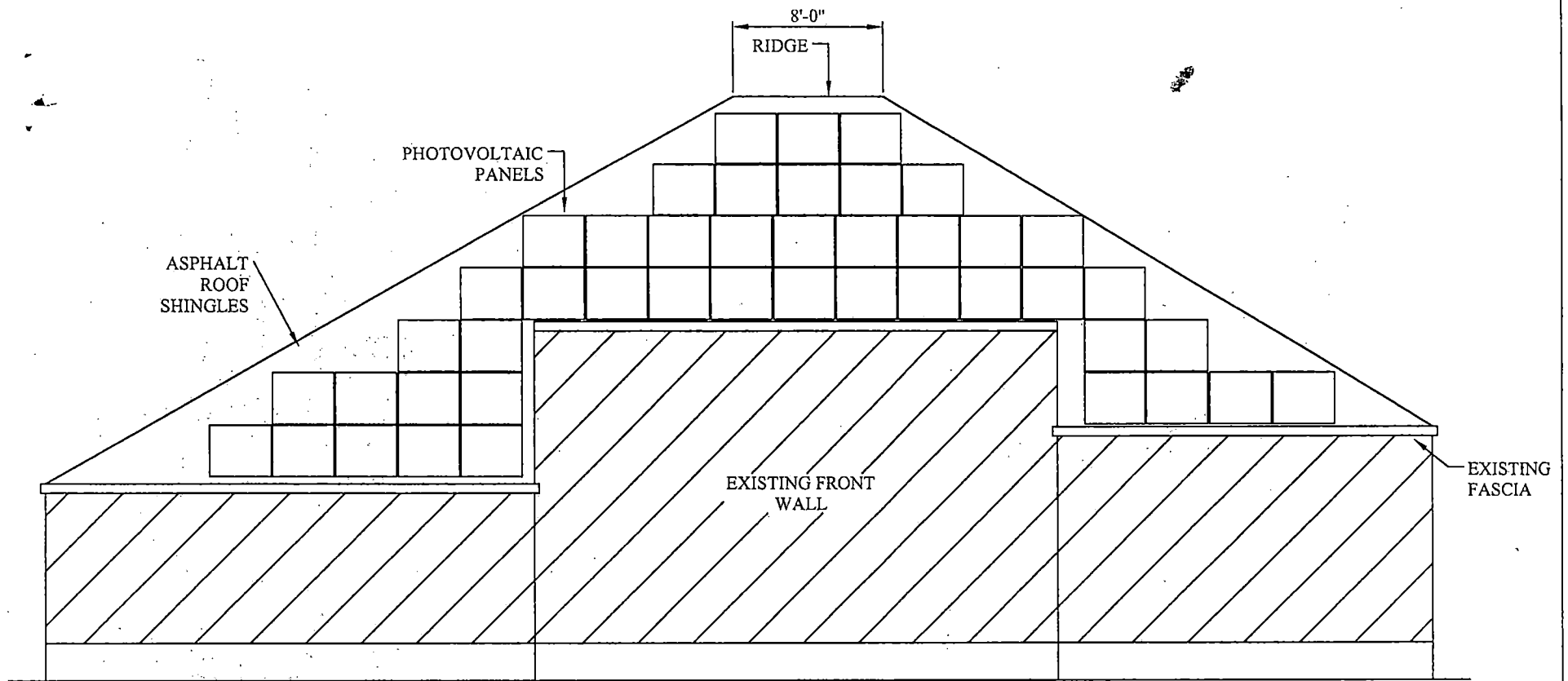

RELIABLE POWER & SOLAR
1085 ROUTE 9
HOWELL, NJ 07731
732-367-1166


NJ License No. 10877
PA License No. RA-013270B


*Cirangle
Architects*
ARCHITECTURE, INTERIOR DESIGN
14 PLAZA NINE
MANALAPAN, N.J. 07728
(732) 303-7822

Date	11/04/2018
Scale	1/8" : 1'-0"
Drawn	FDS
Chkd	LSC

Project No.	1801-137
Sheet No.	A-1



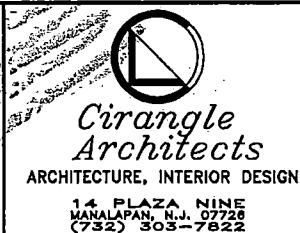
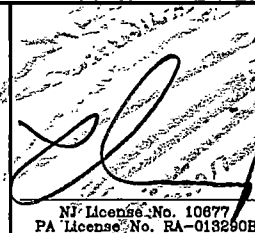
FRONT HOUSE ELEVATION
N.T.S.

REVISED 10-24-2018

USE GROUP: R5
TYPE 5B CONSTRUCTION
IRC 2015 NJ EDITION
NEC 2014

Project

HAYES RESIDENCE
640 WINDING RIVER ROAD
BRICK, N.J. 08724



Date
11/04/2018

Scale
1/8" : 1'-0"

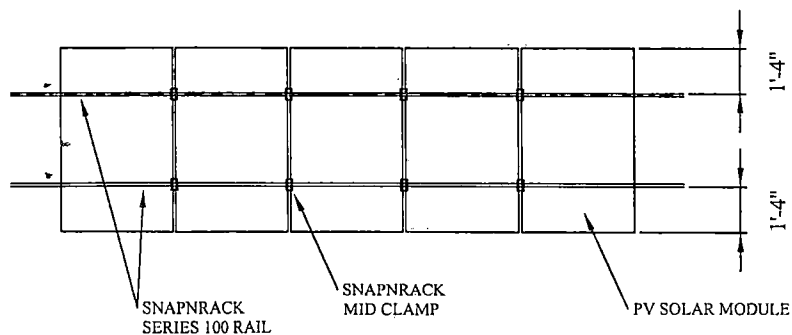
Drawn
FDS

Chkd
LSC

Project No.
1801-137

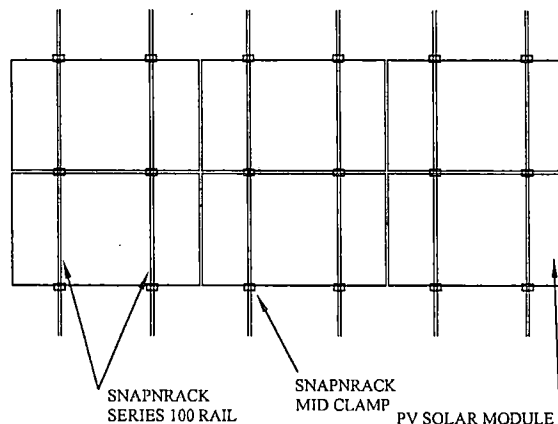
Sheet No.

A-2



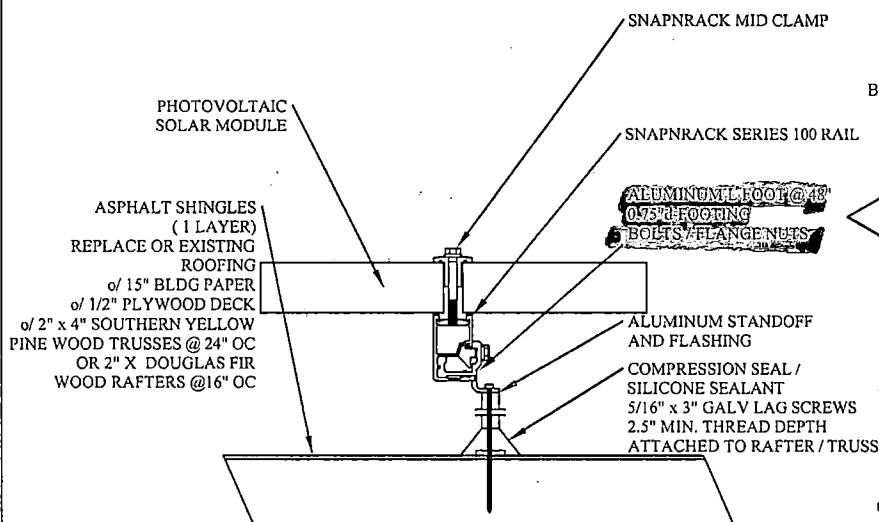
PORTRAIT LAYOUT DETAIL

N.T.S.



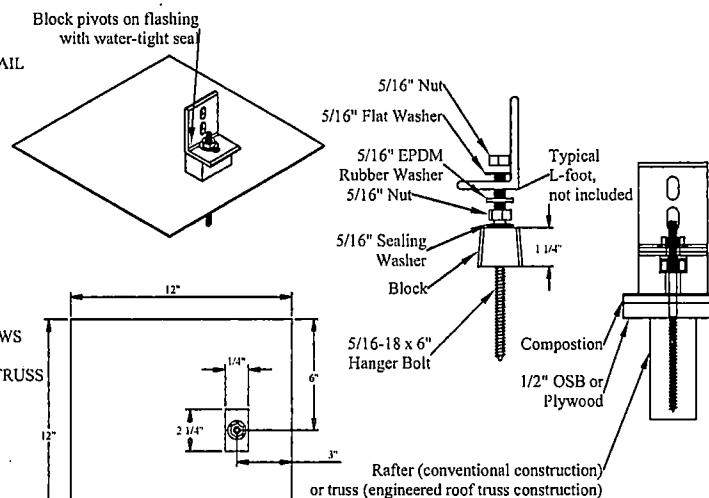
LANDSCAPE LAYOUT DETAIL

N.T.S.



RACK MOUNTING DETAIL

N.T.S.



QM-PV - COMP - 5/16" DETAIL

N.T.S.

GENERAL NOTES:

1. Installers shall visit the site of the proposed work and be fully acquainted with the existing conditions prior to installation in order that all requirements and conditions are fully understood. All areas and conditions indicated on the drawing must be verified by installers and subcontractors at the site prior to start of work.
2. Unknown or hidden structural deficiencies or dimensional discrepancies relating to the existing structure or the renovated area must be reported to Architect immediately upon discovery. All changes to plan must be approved by Architect. Methods and systems of erection, demolition and reconstruction and jobsite safety is the responsibility of the contractor.
3. Owner shall oversee the work of contractor unless the Architect is engaged by the owner to administer construction and periodically visit the site. Blueprint Drawings are not to scale. All dimensions to be verified and confirmed in the field by installer prior to installation or construction. Architect shall be notified immediately of any discrepancies to the Plan or of the conditions noted or implied upon discovery.
4. Roof System:
25 YEAR asphalt shingles self-sealed U.L. 790, UL 997, ASTM E108 Class 1 Fire, ASTM D3462, ASTM D3018 Type 1, ASTM D3161 Class F Wind, ASTM 228 over 15 lb bldg paper over 1/2" CDX plywood sheathing over roof trusses or rafters. 36" wide moisture resistant granular surface self-sealing rubberized asphalt membrane in all valleys and along eaves.
5. Other Specified Materials on Drawings: Materials Indicated on drawing showing specific Manufacturer are intended to be for size and shape references only.
6. The mounting height of the solar panel installation is 4" from the top of the photovoltaic solar panel to the top of the finished roof surface.
7. The solar panel installation will not exceed the roof peak or the edge of the roof.

REVISED 10-24-2018

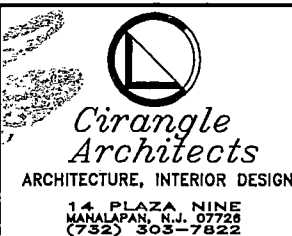
USE GROUP: R5
TYPE 5B CONSTRUCTION
IRC 2015 NJ EDITION
NEC 2014

Project

HAYES RESIDENCE
640 WINDING RIVER ROAD
BRICK, N.J. 08724



NJ License No. 10877
PA License No. RA-013200B



Date	11/04/2018	Project No.	1801-137
Scale	1/8" = 1'-0"	Sheet No.	
Drawn	FDS		
Chkd	LSC		

A-3



CONSTRUCTION PERMIT

Date Issued 12/12/18
Control # C-18-004320
Permit # 18-3389

IDENTIFICATION Block: 1385.07 Lot: 10 Qualifier _____
Work Site Location: 640 WINDING RIVER RD. Brick Township, NJ Contractor Reliable Power & Solar, Inc.
Address 1085 Route 9 Howell NJ 07731
Owner in Fee HAYES, THOMAS & REGINA
640 WINDING RIVER RD BRICK NJ 08724 Telephone: (732) 367-1166
Lic. No. or Bldrs. Reg. No. 13VH05266200 11223B 13VH05266200
Telephone: _____ Federal Employee No. _____

Is hereby granted permission to perform the following work:

- ☒ BUILDING ☐ PLUMBING ☐ LEAD HAZARD ABATEMENT
☒ ELECTRICAL ☐ FIRE PROTECTION ☐ DEMOLITION
☐ ELEVATOR DEVICES ☐ ASBESTOS ABATEMENT (Subchapter 8 only) ☐ OTHER

DESCRIPTION OF WORK:

SOLAR PANELS...INSTALL 13.5 kw ROOF MOUNT PHOTOVOLTAIC SOLAR SYSTEM

Note: If construction does not commence within one (1) year of date of issuance, or if construction ceases for a period of six (6) months, this permit is void.

Estimated Cost of Work \$27,177

D. J. HARTMAN
Construction Official

12/11/18
Date

U.C.C. F170
equiv (rev 1/04)

1 WHITE - INSPECTOR

2 CANARY - OFFICE

3 PINK - TAX ASSESSOR

PAYMENTS (Office Use Only)

Building \$164
Electrical \$325
Plumbing \$0
Fire Protection \$0
Elevator Devices \$0
Other \$0.00
DCA Training Fee \$51
CO Fee _____
Other \$0
Total \$540
Check No. _____
Cash \$0
Credit \$0
Collected By C/1803 SERV. CO.

175
615

REQUIRED INSPECTIONS

Construction work must be inspected in accordance with the State Uniform Construction Code Regulations N.J.A.C. 5:23-2.18. This agency will carry out such periodic inspections during the progress of work as are necessary to insure that the work installed conforms with the requirements of the Uniform Construction Code.

The owner or other responsible person in charge of work must notify this agency when work is ready for any required inspections specified below. Requests for inspections must be made at least 24 hours prior to the time the inspection is desired. Inspections will be performed within three business days of the time for which they are requested. The work must not proceed in a manner which will preclude the inspection until it has been made and approval granted.

☒ Required inspections for all subcodes for one- and two-family dwellings are as follows:

1. The bottom of footing trenches before placement of footings, except that in cases of pile foundations, inspections shall be made in accordance with the requirements of the building subcode.
2. Foundations and all walls up to grade level prior to back filling.
3. All structural framing, connections, wall and roof sheathing and insulation; electrical rough wiring, panel and service installation; rough plumbing. The framing inspection shall take place after the rough electrical and plumbing inspections and after the installation of the heating, ventilation and /or air conditioning duct system. The insulation inspection shall be performed after all other subcode rough inspections and prior to the installation of any interior finish material.
4. Installation of all finished materials, sealings of exterior joints, plumbing piping, trim and fixtures; electrical wiring, devices and fixtures; mechanical systems equipment.

Additional required inspections for all subcodes of construction, for other than one- and two-family dwellings, are fire suppression systems, heat producing devices and Barrier Free subcode accessibility, if applicable.

☐ Required special inspections. The applicant by accepting the permit will be deemed to have consented to these requirements:

☒ A final inspection is required for each applicable subcode area before a final Certificate of Occupancy or Approval may be issued. The final inspections include the installation of all interior and exterior finish materials, sealing of exterior joints, mechanical system and other required equipment; electrical wiring, devices and fixtures; plumbing pipes, trim and fixtures; tests required by any provision of the adopted subcodes, Barrier Free accessibility, if applicable; and verification of compliance with NJAC 5:23-3.5, "Posting structures".

☒ A complete copy of released plans must be kept on the job site.

If you do not understand any of this information, please ask.

RECEIVING CLERK _____
DATE REC'D _____

ZONING PERMIT APPLICATION

PERMIT # ZP-18-01404
DATE ISSUED 12/12/18

BLOCK: 1385.07 LOT: 1D QUALIFIER: _____ SITE ADDRESS: 640 Winding River Rd.

IDENTIFICATION:

1. NAME OF OWNER IN FEE: Hayes, Thomas
COMPLETE ADDRESS: 640 Winding River Rd
Berlin NJ 08724
PHONE # [REDACTED] EMAIL: _____

2. NAME OF APPLICANT: Reliable Power & Solar
APPLICANT ADDRESS: 1085 Rt 9
Howell, NJ 07731
PHONE # 732 367-1166 EMAIL: Carolyn@GetRPSNow.com

3. RESPONSIBLE PERSON FOR WORK: Chris DiPasquale
PHONE # 732-367-1166 FAX # 732 942 3979

4. SIGNATURE OF APPLICANT: [Signature]

FOR OFFICE USE ONLY

FEE SUMMARY:

APPLICATION FEE: \$ 75-
OTHER: \$ _____
TOTAL: \$ 75-

REQUIRED BY APPLICANT

RESIDENTIAL: ✓
COMMERCIAL: _____
EXISTING USE: SFR
PROPOSED USE: SFR

BOARD APPROVAL: _____ PB _____ ZB _____
RESOLUTION#: _____
APPROVAL DATE: _____

PROJECT DESCRIPTION: (PLEASE CHECK APPLICABLE WORK & DESCRIBE)

*NEW BUILDING: _____ *ADDITION _____ *ALTERATION _____ *PORCH _____ *DECK _____

POOL: ABOVE GROUND _____ IN GROUND _____ FENCE: HEIGHT _____ TYPE _____ MATERIAL _____

HEIGHT: _____ (*IF APPLICABLE)

OTHER: X Solar Installation (Roof top Mounted)

DESCRIPTION: Install 45 panels 300w w/micro inverters IQ7 System size 13.5 Kw

ZONING REVIEW:

DATE REVIEWED: 11-27-18 DATE DENIED: _____ DATE APPROVED: 11-27-18 INTLS: an

(SEE BACK PAGE)

RECEIVING CLERK _____
DATE REC'D _____

ZONING PERMIT APPLICATION

PERMIT # _____
DATE ISSUED _____

BLOCK: _____ LOT: _____ QUALIFIER: _____ SITE ADDRESS: _____

IDENTIFICATION:

1. NAME OF OWNER IN FEE: _____
COMPLETE ADDRESS: _____
PHONE # _____ EMAIL: _____
2. NAME OF APPLICANT: _____
APPLICANT ADDRESS: _____
PHONE # _____ EMAIL: _____
3. RESPONSIBLE PERSON FOR WORK: _____
PHONE# _____ FAX# _____
4. SIGNATURE OF APPLICANT: _____

FOR OFFICE USE ONLY

FEE SUMMARY:

APPLICATION FEE: \$ _____
OTHER: \$ _____
TOTAL: \$ _____

REQUIRED BY APPLICANT

RESIDENTIAL: _____
COMMERCIAL: _____
EXISTING USE: _____
PROPOSED USE: _____

BOARD APPROVAL: _____ PB _____ ZB _____
RESOLUTION#: _____
APPROVAL DATE: _____

PROJECT DESCRIPTION: (PLEASE CHECK APPLICABLE WORK & DESCRIBE)

*NEW BUILDING: _____ *ADDITION _____ *ALTERATION _____ *PORCH _____ *DECK _____

POOL: ABOVE GROUND _____ IN GROUND _____ FENCE: HEIGHT _____ TYPE _____ MATERIAL _____

HEIGHT: _____ (*IF APPLICABLE)

OTHER _____

DESCRIPTION: _____

ZONING REVIEW:

DATE REVIEWED: _____ DATE DENIED: _____ DATE APPROVED: _____ INTLS: _____

(SEE BACK PAGE)

TOWNSHIP OF BRICK ZONING CHECKLIST

1) Four (4) copies of plot plan containing:

- All existing and proposed structures
- All dimensions of the lot and structures
- All setbacks from the structures to the property lines
- All adjacent streets and waterways
- If applicable, include a copy of the Zoning Board of Adjustment Resolution, the date that the map was signed, and/or the date that the subdivision map was filed with the Ocean County Clerk, along with the file map and number.

2) Two copies of the plans with dimensions and heights noted:

- Floor plans and elevations
- Signed site plans
- Property map
- Survey map

Choose which is applicable for submission

3) Plot plans and building plans must match for complete review

NOTE: NO PARTIAL, TAPED, FAXED, REDUCED OR ENLARGED COPIES CAN BE ACCEPTED

OFFICE USE ONLY

ZONING REVIEW:

DATE REVIEWED: 11/28/10 DATE DENIED: _____ DATE APPROVED: 11/28/10 INTLS: MS 20

[illegible]

LAND USE

245 Attachment 5

Township of Brick

SCHEDULE OF AREA, YARD AND BUILDING REQUIREMENTS

Township of Brick

Ocean County, New Jersey

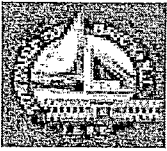
[Amended 6-26-1979 by Ord. No. 354-2B-79; 4-22-1980 by Ord. No. 354-2H-80; 10-14-1980 by Ord. No. 354-2N-80; 9-23-1980 by Ord. No. 354-1B-80; 8-25-83 by Ord. No. 354-2SS-83; 11-5-1984 by Ord. No. 354-2-AAA-84; 11-5-1984 by Ord. No. 354-2CCC-84; 6-24-1986 by Ord. No. 354-2WWW-86; 9-13-1988 by Ord. No. 354-2TTTT-88; 9-27-1988 by Ord. No. 354-2XXXX-88; 9-12-2000 by Ord. No. 354-2EE-00; 5-9-2000 by Ord. No. 354-2Z-00; 3-26-2002 by Ord. No. 354-2C-02; 11-26-2002 by Ord. No. 354-2L-02; 3-25-2003 by Ord. No. 354-2D-03; 6-13-2006 by Ord. No. 19-06]

Zone	Minimum Lot Size						Minimum Required Yard Depth						Maximum Lot Coverage by Building	Maximum Building Height				Minimum Floor/ Building Area (square feet) 2 stories/1 story	Maximum Allowable Impervious Coverage	
	Interior Lots			Corner Lots			Principal Building				Accessory Building			Stories	Eaves (feet)	Feet	Ridge (feet)			
	Area (square feet)	Width (feet)	Depth (feet)	Area (square feet)	Width (feet)	Depth (feet)	Front Yard (feet)	Side Yard, Each (feet)	Both Sides Combined (feet)	Rear Yard (feet)	Side Yard (feet)	Rear Yard ¹ (feet)								
R-R	40,000	150	150	40,000	150	150	50	25			50	25	25	25%	-	25			-	
RR-2	See § 245-90.																			
RR-3	See § 245-103.																			
R-20	20,000	100	125	25,000	100	125	40	15	-		40	10	10	25%	-	25	35	38.5	-	
R-15	15,000	100	115	17,250	100	115	35	12	-		35	10	10	25%	-	25	35	38.5	-	
R-10	10,000	90	100	10,500	100	100	30	6	20		20	5	5	30%	-	25	35	38.5	-	
R-7.5	7,500	75	90	9,000	75	90	25	6	15		15	5	5	30%	-	25	35	38.5	-	
R-5	5,000	50	75	6,000	50	75	20	5	12		15	5	5	35%	-	25	35	38.5	-	
O-P	15,000	100	150	15,000	100	150	50	10	-		50	20	50	35% ²	2	-	35	38.5	1,500	70%
B-1	10,000	100	90	12,500	100	125	30	10	-		20	10	20	30% ³	2	-	35	38.5	1,000	60%
B-2	20,000	125	125	20,000	125	125	50	10	-		50	10	50	30% ²	2	-	35	38.5	2,000	65%
B-3	2 acres	200	200	2 acres	200	200	75	30	-		50	20	50	25% ²	-	-	35	38.5	2,000	65%
B-4	5 acres	300	300	-	-	-	100	50(150) ¹	-		100(150) ¹	20	50	25%	3	-	35	38.5	30,000	70%
M-1	5 acres	300	300	5 acres	300	300	100	50	-		150	75	150	30% ²	-	-	35	38.5	5,000	65%
R-M	25 acres	350	200	-	-	-	50	50	-		30	30	30	20%	-	25	35	38.5	-	65%
O-P-T	40,000	150	150	40,000	150	150	50	20	-		50	20	50	25% ²	2	-	35	38.5	2,000	50%
H-S	See § 245-261.																			

NOTES:

- ¹ If adjacent to residential zone or use.
- ² The maximum lot coverage shall refer only to that percentage of an affected lot which is suitable for building.
- ³ For rear yard setback requirements for accessory buildings on waterfront property, see § 245-10D.

FOR REFERENCE ONLY



Brick Township
401 Chambers Bridge Rd.
Brick, NJ 08723
(732) 262-1336

Date Issued: 12/12/18
Application Number: ZA-18-01421
Application Date: 11/26/2018
Project Number: _____
Permit Number: ZP-18-01404
Fee: \$75.00

Zoning Permit

Worksite **640 WINDING RIVER RD.**
Location: **Brick Township, NJ 08724**

Owner: **HAYES, THOMAS & REGINA**
Address: **640 WINDING RIVER RD**
BRICK, NJ 08724

Applicant: **Reliable Power & Solar, Inc.**
Address: **1085 Route 9**
Howell, NJ 07731

Block: 1385.07 Lot: 10 Qualifier: _____ Zone: R-20

This Certifies that an application for the issuance of a Zoning Permit has been examined.

Present Use: Single-Family Residential

☐ Non Conforming Use

☐ Non Conforming Structure

Proposed Use: Single-Family Residential

Work Description:

Solar Energy System - 45- 300W Trina Solar, 13.5kW ENPHASE micro-inverters, mounted on the roof of the house.

Additional Zoning Permit is required for additional work.

Application Approved Date: 11/27/2018

Upon review it was determined that the Zoning Permit:

☒ Permitted by Ordinance

☐ Permitted by Variance approved on: _____

☐ Approved with Conditions

☐ Valid Nonconforming Use/Structure is established by

☐ Zoning Board of Adjustment

☐ Zoning Officer

Christopher J. Romano, Assistant Zoning Officer

11/27/2018

Date

Sean Kinnevy, Zoning Officer

11/28/18

Date

Zoning Review

Approval

By: cu Ray Sol
Date: 11-27-18

640 Winding River Rd, Brick

JCPL acct# 100 123 130 906

Hayes, Thomas

45 - Trina 300 watt modules installed on rooftop area highlighted in yellow

@ 230° azimuth, 30° tilt

45 - Enphae IQ7 micro inverters installed on roof. Utility meter, net meter and disconnect installed on southeast exterior side of house.

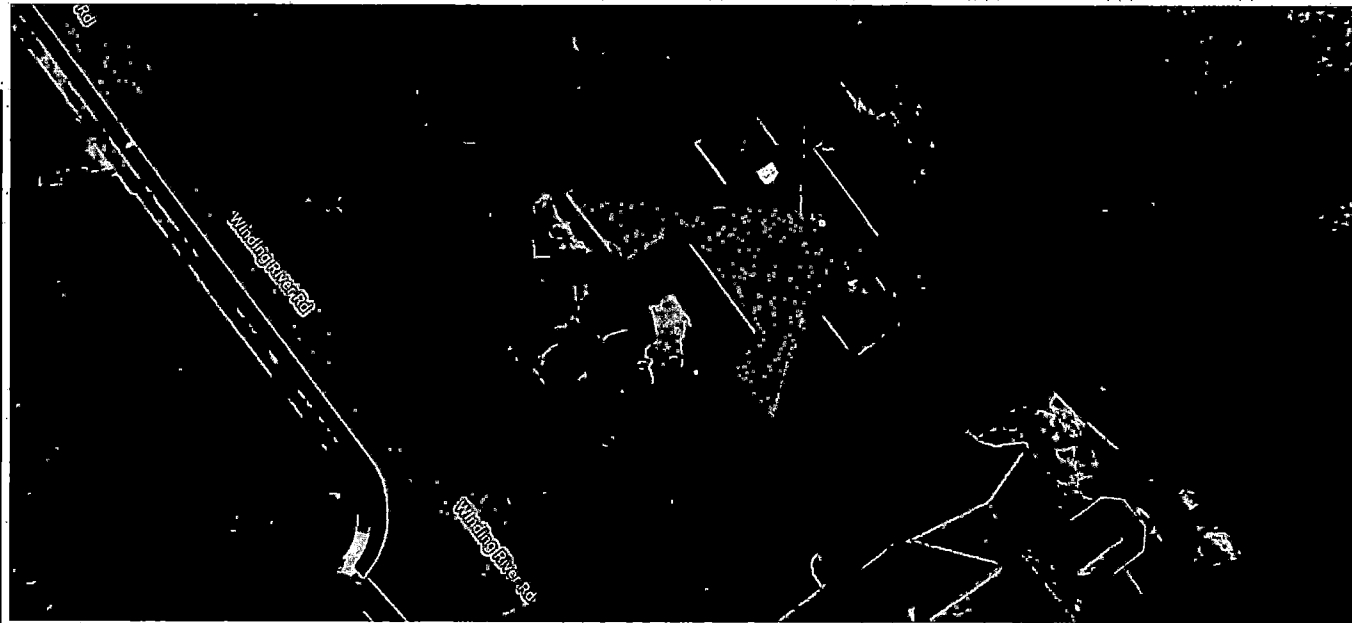
RELIABLE POWER & SOLAR

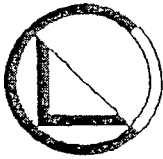
1085 Route 9

Howell, NJ -7731

(732)367-1166

www.GETRPSNOW.com





CIRANGLE ARCHITECTS

14 PLAZA NINE
MANALAPAN, NJ 07726
732-303-7822 PHONE
732-303-7833 FAX

November 13, 2018

Brick Township Municipal Building
Building Department
401 Chambersbridge Road
Brick, NJ 08723

Attn: Mr. Daniel F. Newman Jr.: Construction Official

Re: Solar Panel/Support Rack Installation
Hayes Residence
640 Winding River Road
Brick, NJ 08724
CA Project No. 1801-137

Dear Mr. Newman,

I am writing to address and certify the following items regarding the proposed installation of 45 roof mounted panels as manufactured by Trinasolar: Photovoltaic Module, TSM-300PA05 (41.0 lbs/panel x 45 = 1,845 lbs total), and support racks (450 lbs total) as manufactured by SnapNrack. The system shall be located over a roof area of approximately 792sq ft. The contractor shall install the panels and support racks as per the code compliant planning and assembly Installation Manual: Series 100 as provided by SnapNrack.

1. The existing building is a 1 story wood framed structure with 7:12 pitch roofs. The existing roof rafter assembly can adequately support the proposed panel/rack installation using 5/16" dia. x 4" long stainless steel lag bolts @ 48" oc under IRC 2015, New Jersey edition, for materials, loads, and stresses: live load conditions based on wind loads of 125 mph (3 second gust) and exposure 'C' and Chapter 3: Building Planning, Section 301.2.1: Wind Limitations. This lag bolt fastening spacing correlates to the existing rafter spacing. There are no modifications required to the existing roof framing.
2. Support rack anchorage will comply with wind loads of 125 mph (3 second gust) as required by the IRC 2015, New Jersey edition, Chapter 3: Building Planning.
3. Photovoltaic Modules shall resist wind pressure of 24 lbs per square foot based on 125 mph wind speed and exposure 'C.'

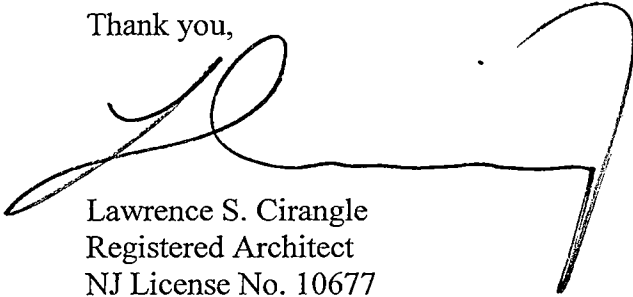
Hayes
November 13, 2018
Page 2

4. Design snow load = 20 psf and roof TL = 40 psf (30 psf live / 10 psf dead).
5. The additional dead load of the solar panels and aluminum rail mounting system is 3 lbs per square foot.

This is to certify that as per our code/structural review, the proposed solar panel /support rail installation shown on Cirangle Architects Drawings A-1, A-2, & A-3 (dated November 4, 2018) meets or exceeds the code parameters and structural requirements cited in this letter.

Please feel free to contact me if you have any questions regarding these items.

Thank you,



Lawrence S. Cirangle
Registered Architect
NJ License No. 10677

cc: C. Di Pasquale (RPS)

Township of Brick

SOLAR PANEL INSTALL CHECKLIST

REVISED 05/04/16

1. Construction Jacket signed & completed – Front and inside the jacket filled out completely.	Yes ☒	No ☐
2. Zoning Application completely filled out all sections.	Yes ☒	No ☐
3. Engineering Application completely filled out all sections.	Yes ☒	No ☐
4. Four true size surveys to scale showing proposed work	Yes ☒	No ☐
5. Building Subcode Tech completed	Yes ☒	No ☐
6. Electrical Subcode Tech completed	Yes ☒	No ☐
7. Copy of Home Improvement Contractor Registration	Yes ☒	No ☐
8. Two sets of detailed plans showing actual conditions of each installation signed and sealed by a licensed design professional.	Yes ☒	No ☐

USEFUL TIPS:

- Electric sub-code form must be signed and sealed by NJ licensed contractor.
- If you are cutting down trees, you will need a grading/clearing permit prior to the removal of the trees.

ENGINEERING PERMIT APPLICATION

RECEIVING CLERK: _____

PERMIT #: _____

BLOCK: 1385.07 LOT: 10 ADDRESS: 640 Winding River Rd, Back NJ

IDENTIFICATION:

1. WORK SITE ADDRESS: 640 Winding River Rd
2. NAME OF OWNER IN FEE: Hages Residence
ADDRESS: 640 Winding River Rd PHONE # [REDACTED]
Back, NJ FAX #: ()
3. PRINCIPAL CONTRACTOR: Reliable Power & Solar
ADDRESS: 1085 Rt 9 PHONE #: 732 367-1166
Howell NJ 07731 FAX #: 732 942-3979
4. ARCHITECT OR ENGINEER: Cirangle Architects
ADDRESS: 14 Plaza Nine Manhattan PHONE #: (212) 337-8822
5. RESPONSIBLE PERSON FOR WORK: Chris DiPasquale
ADDRESS: 1065 Rt 9 Howell NJ 07731
PHONE #: 732 367-1166 FAX #: 732 942-3979 E-MAIL: Carolyn@CietRpt.com

PROJECT DESCRIPTION: ☐ GRADING/CLEARING ☐ ROAD OPENING☐ SOIL REMOVAL/FILL ☐ RETAINING WALL ☐ POOL☐ BULKHEAD/DOCK ☐ DWELLING ☐ TREE REMOVAL☒ OTHER Installation of Roof top mounted Solar Panel SystemLENGTH: 74 ft WIDTH: 41 ft HEIGHT: not more than 5 inches from roof

FEE SUMMARY:

APPLICATION FEE: \$ _____

REVIEW FEE: \$ _____

INSPECTION FEE: \$ _____

OTHER: \$ _____

BOND(S): \$ _____

TOTAL: \$ _____

SPECIAL CONDITIONS:

OCEAN COUNTY SOILS: _____

DRAINAGE EASEMENTS: _____

UTILITY EASEMENTS: _____

CONSERVATION EASEMENTS: _____

FEMA REQUIREMENTS: _____

D.E.P. PERMITS: _____

BOARD APPROVAL: ☐ PB ☐ ZB

APPLICATION NUMBER: _____

APPROVED DATE: _____

ENGINEERING REVIEW:

DATE RECEIVED: _____ DATE REJECTED: _____ DATE APPROVED: _____ INITIALS: _____

PROPOSED INSTALLATION OF SOLAR SYSTEM FOR:

Hayes Residence
640 Winding River Road
Brick, NJ 08724

FILE COPY

BLK- 1385.07 LOT - 10

TOWNSHIP OF BRICK	
RELEASED FOR PERMIT	INITIAL DATE
Building Subcode	
Plumbing Subcode	
Fire Subcode	
Electrical Subcode	RSC 02/01/18
Plan Reviewer	
Plans Released	
Construction Official	

SYSTEM INSTALLED BY
RPS INC.

RELIABLE POWER SERVICES, INC.
1085 HIGHWAY 9 SOUTH,
HOWELL, NJ 07731

NJ HOME IMPROVEMENT LICENSE
13VHO5266200

NJ ELECTRICAL LICENSE
NJ #11223B

FEDERAL TAX ID #
16-1732531

CONTACT:

CHRIS Di PASQUALE

OFFICE # 732-367-1166

FAX # 732-942-3979

EMAIL SOLAR@GETRPSNOW.COM

WWW.GETRPSNOW.COM



RELIABLE
Power & Solar
732.367.1166

Rt 9 North, Howell NJ 07731

RELIABLE POWER SERVICES, INC.
1085 RT 9 SOUTH
HOWELL, NJ 07731

ELECTRIC LIC#11223B
HOME IMPROVEMENT LIC#13VH05266200
INSURED & BONDED

Hayes Residence
640 Winding River Road
Brick, NJ 08724

13.5kW Grid Tie Solar System

The following is a description of the work to be done at listed address. This system is a leased system by the homeowner and will be owned and maintained by NJRHS INC. in Wall Twp.

The system installed at the above address is a Grid tie system. It uses Trina 300 watt panels and a micro inverter(s). The system is installed on SnapnRack mount fastening systems and uses all stainless steel hardware. Roof flanges are used on all penetrations and no "L" feet will be installed directly on the roof shingle. Although this is not a code requirement, it will provide for a more mechanically sound system for building and structure to prevent possible leaks. All penetrations will be sealed using approved sealants and manufacturer's specs will be adhered to.

NJRHS is also required to install an approved net meter and disconnect from system. This is due to the system being commercially owned for the term of the lease. The disconnect will be in sight of utility meter unless otherwise impossible and will be duly noted on drawings. If panel space allows and if it meets the requirements for sizing according to the NEC, system will be connected to an isolated circuit breaker in panel. If space is not available than a live bite tap will be installed before the main breaker and will be noted on paperwork. If both conditions do not apply then notes to drawings will be amended and listed.

All phases of work to be performed and maintained by RPS Inc. No sub contractors will be used. All licenses and insurances listed, along with bonding. Structural design by Architect listed and system design by designer listed. All parts of system to be approved or listed components. No homemade parts. IE. shelf brackets, wood, PVC, rigid or EMT will be used to support system. Any tilting of system will be done with approved system parts of aluminum channel, stainless strut, square stock aluminum or approved system parts. Tilt system will have details of system listed for approval.

All DC connections to be approved for outdoor use and no open splicing to be done. All panels and equipment are to be clearly marked for inspections, maintaining of system, and customer safety.

State Of New Jersey
New Jersey Office of the Attorney General
Division of Consumer Affairs

THIS IS TO CERTIFY THAT THE
Board of Exam. of Electrical Contractors

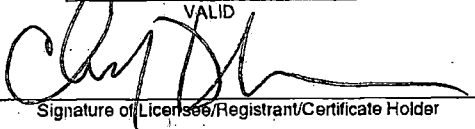
HAS LICENSED

CHRISTOPHER J. DI PASQUALE
1085 Route 9
HOWELL NJ 07731

FOR PRACTICE IN NEW JERSEY AS A(N): Electrical Contractor

02/02/2018 TO 03/31/2021

VALID


Signature of Licensee/Registrant/Certificate Holder

34EI01122300

LICENSE/REGISTRATION/CERTIFICATION #


ACTING DIRECTOR

State Of New Jersey
New Jersey Office of the Attorney General
Division of Consumer Affairs

THIS IS TO CERTIFY THAT THE
Board of Exam. of Electrical Contractors

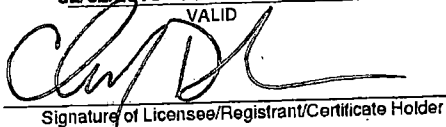
HAS LICENSED

RELIABLE POWER SERVICES INC
CHRISTOPHER J DI PASQUALE
1085 Route 9
Howell NJ 07731

FOR PRACTICE IN NEW JERSEY AS A(N): Electrical Business Permit

02/02/2018 TO 03/31/2021

VALID


Signature of Licensee/Registrant/Certificate Holder

34EB01122300

LICENSE/REGISTRATION/CERTIFICATION #


ACTING DIRECTOR

NOT AN
ELECTRICIAN'S
OR PLUMBER'S
LICENSE

State Of New Jersey
New Jersey Office of the Attorney General
Division of Consumer Affairs

THIS IS TO CERTIFY THAT THE
Division of Consumer Affairs

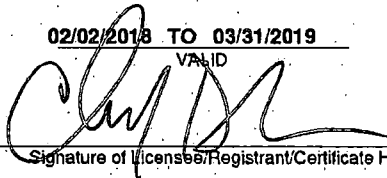
HAS REGISTERED

RELIABLE POWER SERVICES, INC
Chris DiPasquale
1085 Route 9
Howell NJ 07731

FOR PRACTICE IN NEW JERSEY AS A(N): Home Improvement Contractor

02/02/2018 TO 03/31/2019

VALID


Signature of Licensee/Registrant/Certificate Holder

13VH05266200

LICENSE/REGISTRATION/CERTIFICATION #


ACTING DIRECTOR

640 Winding River Rd, Brick

JCPL acct# 100 123 130 906

Hayes, Thomas

45 - Trina 300 watt modules installed on rooftop area highlighted in yellow

@ 230° azimuth, 30° tilt

45 - Enphase IQ7 micro inverters installed on roof. Utility meter, net meter and disconnect installed on southeast exterior side of house.

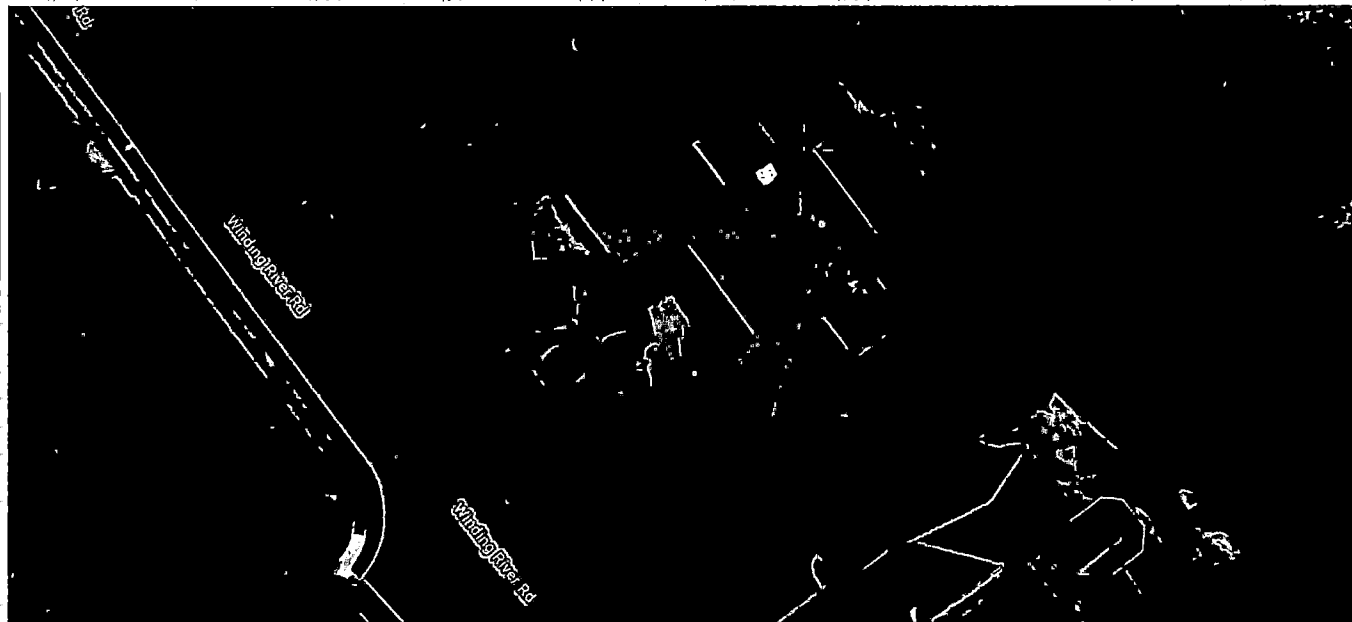
RELIABLE POWER & SOLAR

1085 Route 9

Howell, NJ -7731

(732)367-1166

www.GETRPSNOW.com

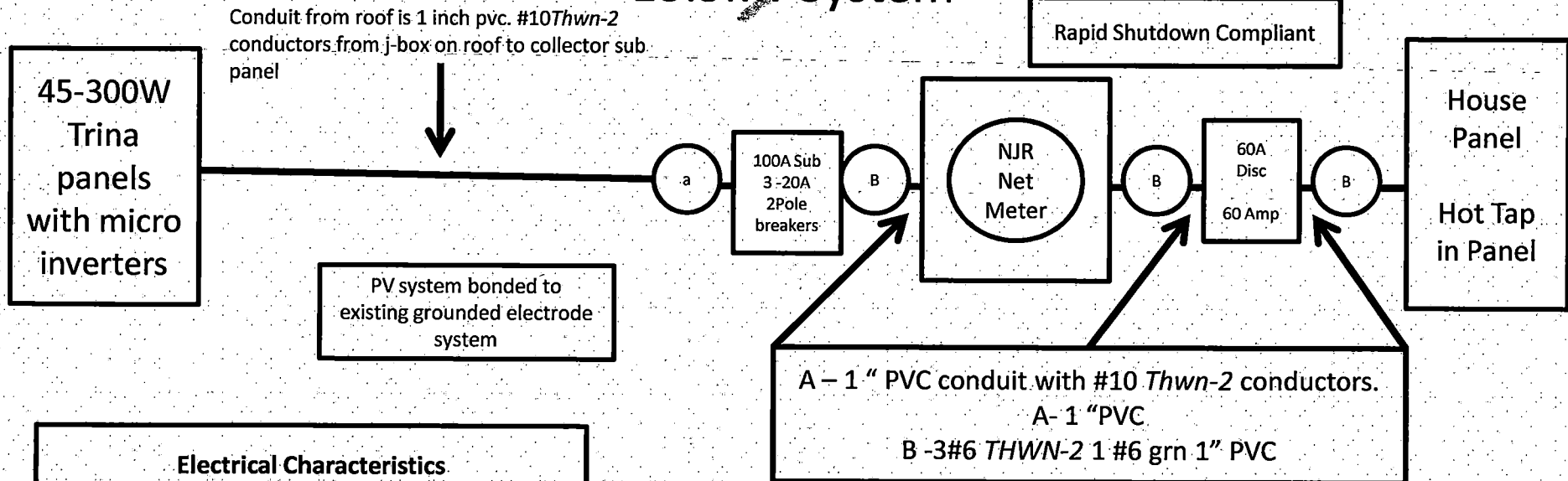


Name: Hayes Residence
 Address: 640 Winding River Road,
 Brick, N.J. 08724
 Block: 1385.07 Lot: 10
 Azimuth: 230 Slope: 30



Making NJ Greener One Roof at a Time
 Insured & Bonded NJ License #11223

13.5kw System



Electrical Characteristics Summary

Inverter (45) Enphase IQ7-60-2-US
 Module Trina Solar TSM-300DD05A.05(II) (300W)
 Number of Modules 45
 Array Circuits 3 branches of 15 (15.0A)
 STC power of array 13,500W
 PTC power of array 12,316W
 CEC power output 10,800W
 Max AC output current 45A
 First-Year PV Watts Prod. Estimate 18,682kWhr

NEC ART 690.8

$8.92 \text{ Isc} \times 156\% (1.56) = 13.91\text{A}$ (minimum #12 PV allowed) (RPS uses #10 PV CONDUCTOR) (DC System calc)
 $8.92 \text{ Isc} \times 125\% = 11.15 \text{ amps}$ (min #14 -RPS uses #10) (Trina uses #12 leads on panel)

1.0 Amp Continuous Max per micro inverter (Standard nameplate of enphase IQ6).
 $(1.0\text{Amp} \times 16 = 15.36\text{A})$ Max per string is 16 (16 Amp $\times 125\% = 20 \text{ amp}$)
 Max 16 on string @ 20 amp OCPD #12 THWN-2 (RPS uses #10 THWN-2)
 $1.0\text{A} \times 45$ (#of micro inverter) = 45.0 amps total system amps. (45Amps $\times 125\% = 56.25$ (60 A OCPD)

1. System Summary

1.1. System Data

1.1.1. Summary



Location Info

Project Site	14 Pine Rd, Howell, NJ 07731
Climate Data Source Location	Howell, NJ 07731 United States
Latitude	40° 10'N
Longitude	74° 13'W
Design Low Temperature	3°F (-16°C)
Design High Temperature	91°F (33°C)

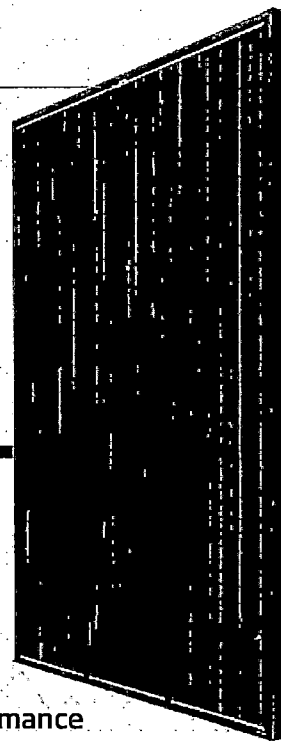
Electrical Characteristics

Summary	
Inverter	(45) Enphase IQ7-60-2-US
Module	Trina Solar TSM-300DD05A.05(II) (300W)
Number of Modules	45
Array Circuits	3 branches of 15 (15.0A)
STC power of array	13,500W
PTC power of array	12,316W
CEC power output	10,800W
Max AC output current	45A
First-Year PV Watts Prod. Estimate	18,682kWhr

Honey^M PLUS[†] MODULE

TSM-DD05A.05 (II)

IN BLACK



60 CELL

MONOCRYSTALLINE MODULE

275-310W

POWER OUTPUT RANGE

18,9%

MAXIMUM EFFICIENCY

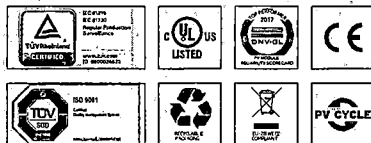
0/+5W

POSITIVE POWER TOLERANCE

Founded in 1997, Trina Solar is the world's leading comprehensive solutions provider for solar energy. We believe close cooperation with our partners is critical to success. Trina Solar now distributes its PV products to over 60 countries all over the world. Trina Solar is able to provide exceptional service to each customer in each market and supplement our innovative, reliable products with the backing of Trina Solar as a strong, bankable partner. We are committed to building strategic, mutually beneficial collaboration with installers, developers, distributors and other partners.

Comprehensive Product And System Certificates

IEC61215/IEC61730/UL1703/IEC61701/IEC62716
 ISO 9001: Quality Management System
 ISO 14001: Environmental Management System
 ISO14054: Greenhouse Gas Emissions Verification
 OHSAS 18001: Occupational Health and Safety Management System



Trina solar



Excellent low light performance on cloudy days, mornings and evenings

- Advanced surface texturing
- Back surface field
- Selective emitter



Maximize Limited Space with high efficiency

- Up to 189 W/m² power density
- Low thermal coefficients for greater energy production at high operating temperatures



Great aesthetics for dark roofs

- Dark mono cells
- Black frame and backsheet



Highly reliable due to stringent quality control

- All modules have to pass electroluminescence (EL) inspection
- Over 30 in-house tests (UV, TC, HF, and many more)
- In-house testing goes well beyond certification requirements
- PID resistant
- 1000 V UL/1000 V IEC certified

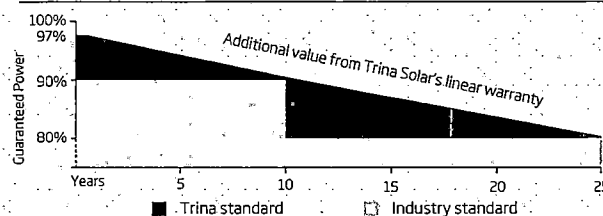


Certified to withstand challenging environmental conditions

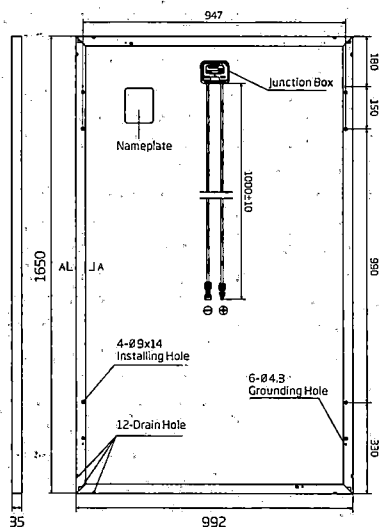
- 2400 Pa wind load
- 5400 Pa snow load
- 35 mm hail stones at 97 km/h
- Ammonia resistance
- Salt mist resistance
- Resistance to sand and dust abrasion

LINEAR PERFORMANCE WARRANTY

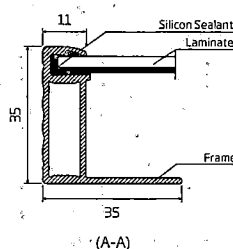
10 Year Product Warranty • 25 Year Linear Power Warranty



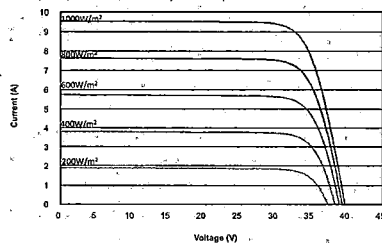
DIMENSIONS OF PV MODULE
TSM-DD05A.05 (II)
(unit: mm)



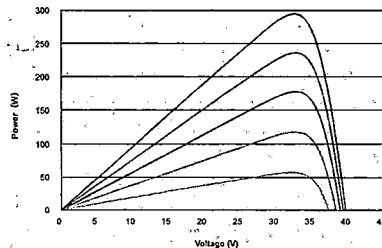
Back View



I-V CURVES OF PV MODULE (295W)



P-V CURVES OF PV MODULE (295W)



ELECTRICAL DATA @ STC

	TSM-275	TSM-280	TSM-285	TSM-290	TSM-295	TSM-300	TSM-305	TSM-310
Peak Power Watts- P_{MAX} (Wp)*	275	280	285	290	295	300	305	310
Power Output Tolerance- P_{MAX} (W)	0/+5	0/+5	0/+5	0/+5	0/+5	0/+5	0/+5	0/+5
Maximum Power Voltage- V_{MPP} (V)	31,4	31,7	31,8	32,2	32,5	32,6	32,9	33,2
Maximum Power Current- I_{MPP} (A)	8,76	8,84	8,97	9,01	9,08	9,19	9,28	9,37
Open Circuit Voltage- V_{OC} (V)	38,4	38,4	38,5	38,9	39,6	39,8	40,0	40,2
Short Circuit Current- I_{SC} (A)	9,24	9,42	9,51	9,66	9,68	9,77	9,85	9,94
Module Efficiency η_m (%)	16,8	17,1	17,4	17,7	18,0	18,3	18,6	18,9

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM1.5

*Measuring tolerance: ±3%

ELECTRICAL DATA @ NOCT

	TSM-275	TSM-280	TSM-285	TSM-290	TSM-295	TSM-300	TSM-305	TSM-310
Maximum Power- P_{MAX} (Wp)	205	209	212	216	220	223	227	231
Maximum Power Voltage- V_{MPP} (V)	29,1	29,4	29,5	29,9	30,1	30,2	30,5	30,8
Maximum Power Current- I_{MPP} (A)	7,04	7,10	7,21	7,24	7,30	7,38	7,46	7,53
Open Circuit Voltage- V_{OC} (V)	35,7	35,7	35,8	36,2	36,8	37,0	37,2	37,4
Short Circuit Current- I_{SC} (A)	7,46	7,61	7,68	7,80	7,82	7,89	7,95	8,03

NOCT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s.

MECHANICAL DATA

Solar Cells	Monocrystalline 156,75 × 156,75 mm
Cell Orientation	60 cells (6 × 10)
Module Dimensions	1650 × 992 × 35 mm
Weight	18,6 kg
Glass	3,2 mm, high transparency, AR coated and heat tempered solar glass
Backsheet	Black
Frame	Black Anodized Aluminium Alloy
J-Box	IP 67 or IP 68 rated
Cables	Photovoltaic Technology Cable 4,0mm ² , 1000 mm
Connector	EU Countries: 28 MC4 / UTX / TS4, Non-EU Countries: 28 QC4 / TS4

TEMPERATURE RATINGS

Nominal Operating Cell Temperature (NOCT)	44°C (±2K)
Temperature Coefficient of P_{MAX}	-0,39%/K
Temperature Coefficient of V_{OC}	-0,29%/K
Temperature Coefficient of I_{SC}	0,05%/K

WARRANTY

10 year Product Workmanship Warranty
25 year Linear Performance Warranty
(Please refer to product warranty for details)

PACKAGING CONFIGURATION

Modules per box:	30 pieces
Modules per 40' container:	840 pieces

MAXIMUM RATINGS

Operational Temperature	-40 to +85°C
Maximum System Voltage	1000V DC (IEC) 1000V DC (UL)
Max Series Fuse Rating*	15 A (Power ≤ 285 W) 20 A (Power ≥ 290 W)
Mechanical Load	5400 Pa
Wind Load	2400 Pa

*DO NOT connect fuse in combiner box with two or more strings in parallel connection

TSM_EN_2017_B

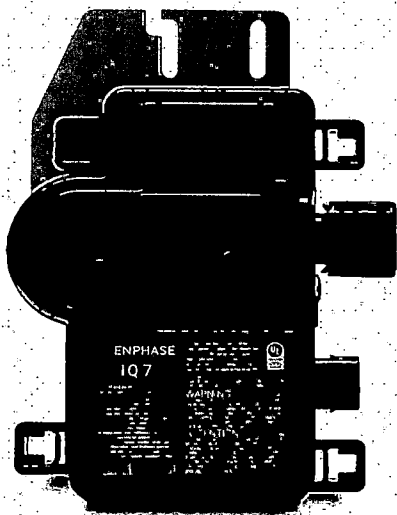
Enphase IQ 7 and IQ 7+ Microinverters

The high-powered smart grid-ready

Enphase IQ 7 Micro™ and **Enphase IQ 7+ Micro™** achieve the highest system efficiency.

Part of the Enphase IQ System, the IQ 7 and IQ 7+ Micro integrate seamlessly with the Enphase Envoy-S™, and the Enphase Enlighten™ monitoring and analysis software.

The IQ 7 and IQ 7+ Micro extend the reliability standards set forth by previous generations and undergo over a million hours of power-on testing, enabling Enphase to provide an industry-leading warranty.



Easy to Install

- Lightweight and simple
- Faster installation with improved, lighter two-wire cabling

Productive and Reliable

- Optimized for high powered 60-cell and 72-cell* modules
- More than a million hours of testing
- Class II double-insulated enclosure

Smart Grid Ready

- Complies with advanced grid support, voltage and frequency ride-through requirements
- Remotely updates to respond to changing grid requirements
- Configurable for varying grid profiles

*The IQ 7+ Micro is required to support 72-cell modules

Enphase IQ 7 and IQ 7+ Microinverters

INPUT DATA (DC)	IQ7-60-2-INT	IQ7PLUS-72-2-INT
Commonly used module pairings ¹	235 W - 350 W +	235 W - 440 W +
Module compatibility	60-cell PV modules only	60-cell and 72-cell PV modules
Maximum input DC voltage	48 V	60 V
Peak power tracking voltage	27 V - 37 V	27 V - 45 V
Operating range	16 V - 48 V	16 V - 60 V
Min/Max start voltage	22 V / 48 V	22 V / 60 V
Max DC short circuit current (module I _{sc})	15 A	15 A
Overvoltage class DC port	II	II
DC port backfeed under single fault	0 A	0 A
PV array configuration	AC side protection requires max 20A per branch circuit	
OUTPUT DATA (AC)	IQ 7 Microinverter	IQ 7+ Microinverter
Peak output power	250 VA	295 VA
Maximum continuous output power	240 VA	290 VA
Nominal (L-N) voltage/range ²	230 V / 184-276 V	230 V / 184-276 V
Maximum continuous output current	1.04 A	1.26 A
Nominal frequency	50 Hz	50 Hz
Extended frequency range	45 - 55 Hz	45 - 55 Hz
Maximum units per 20 A (L-N) branch circuit	16 (230 VAC)	13 (230 VAC)
Overvoltage class AC port	III	III
AC port backfeed current	0 A	0 A
Power factor setting	1.0	1.0
Power factor (adjustable)	0.7 leading ... 0.7 lagging	0.7 leading ... 0.7 lagging
EFFICIENCY	@230 V	@230 V
EN 50530 (EU) weighted efficiency	96.5 %	96.5 %
MECHANICAL DATA		
Ambient temperature range	-40°C to +65°C	
Relative humidity range	4% to 100% (condensing)	
Connector type	MC4 (or Amphenol H4 UTX with additional Q-DCC-5 adapter)	
Dimensions (WxHxD)	212 mm x 175 mm x 30.2 mm (without bracket)	
Weight	1.08 kg	
Cooling	Natural convection - No fans	
Approved for wet locations	Yes	
Pollution degree	PD3	
Enclosure	Class II double-insulated	
Environmental category / UV exposure rating	Outdoor - IP67	
FEATURES		
Communication	Power Line Communication (PLC)	
Monitoring	Enlighten Manager and MyEnlighten monitoring options Compatible with Enphase IQ Envoy	
Compliance (pending)	AS 4777.2, RCM, IEC/EN 61000-6-3, IEC/EN 62019-1, IEC/EN 62109-2	

1. No enforced DC/AC ratio. See the compatibility calculator at <https://enphase.com/en-us/support/module-compatibility>.
2. Nominal voltage range can be extended beyond nominal if required by the utility.

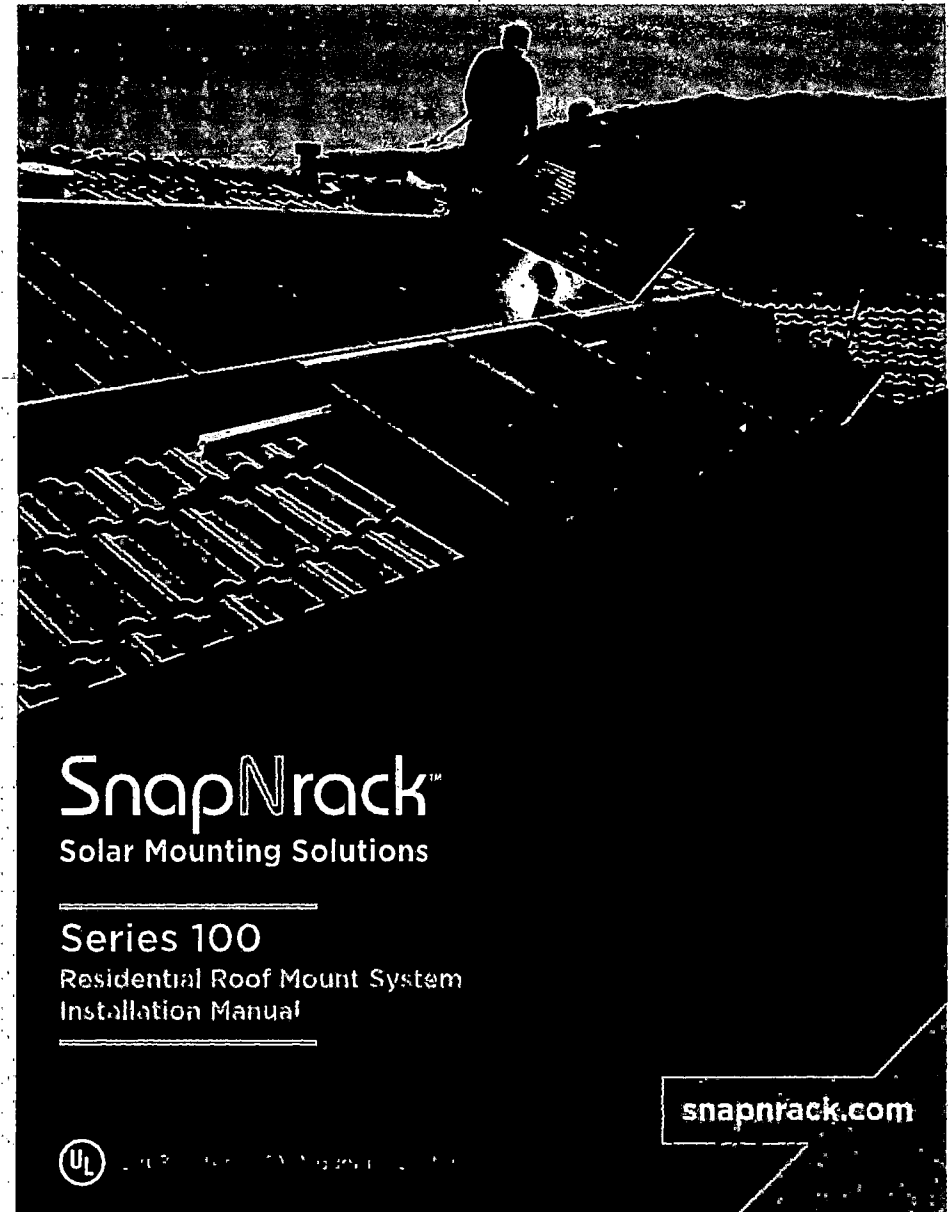
To learn more about Enphase offerings, visit enphase.com/au

Meeting the Requirements of NEC 690.35 Ungrounded Photovoltaic Power Systems

Enphase Microinverters meet the requirements of NEC Article 690.35 for Ungrounded Photovoltaic Power systems. The article states:

690.35 Ungrounded Photovoltaic Power Systems. Photovoltaic Power Systems shall be permitted to operate with ungrounded photovoltaic source and output circuits where the system complies with 690.35(A) through (G).

- (A) **Disconnects.** In an Enphase system the AC and DC connectors are the disconnecting means.
- (B) **Overcurrent Protection.** In an Enphase system, the AC circuit breaker or fused disconnecting feeding the branch circuit provides overcurrent protection for the inverter output circuit. As per 690.9(A) Exception (b), overcurrent protection is not required on the DC conductors.
- (C) **Ground Fault Protection.** In an Enphase system, ground fault protection is provided in the microinverter. In the Enphase Microinverters with integrated grounding, the ground fault protection is provided by a ground fault sensing circuit.
- (D) **The DC conductors must be PV Wire.** The DC conductors in an Enphase Microinverter are PV Wire.
- (E) **Allowed for use in ungrounded battery systems**
- (F) **Labelling.** The Enphase Microinverters are labeled as specified.
- (G) **Listing.** The Enphase Microinverters are listed for use in an ungrounded photovoltaic system.



L-Foot Mounts

SNAPTRACK.COM

Required Tools

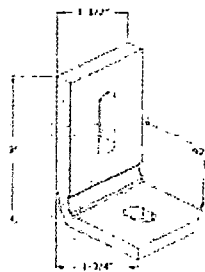
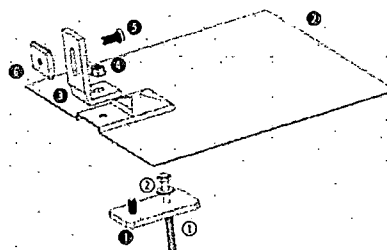
- Hammer or Stud Finder
- Roof Marking Crayon
- Drill with 3/16" Pilot Drill Bit
- Roof Sealant
- Torque Wrench
- Socket Wrench
- 1/2" Socket

Materials Included - L Foot Flashing Kit

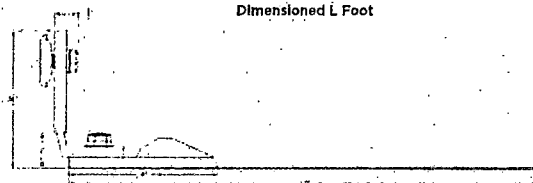
- (1) SnapTrack L Foot Base
- (1) SnapTrack L Foot Flashing
- (1) SnapTrack Composition L Foot
- (1) 5/16"-18 SS Flange Hex Nut
- (1) 5/16"-18 X 1-1/4" SS Flange Bolt
- (1) SnapTrack Channel Nut

Other Materials Required

- (1) 5/16" Lag Screw
- (1) 5/16" Washer



Dimensioned L Foot



Dimensioned L Foot Assembly

Application Note:

Install on composition shingle roofs.

L Foot Mounts

SNAPTRACK.COM

INSTALLATION INSTRUCTIONS



1) Using roof attachment locations drawn during system layout, drill a pilot hole through the roofing material into the roof framing member.

Install Note:

Ensure the lag screws will be installed in a solid portion of the roof framing member.

If the roof framing member is not found, then seal the pilot hole immediately with roofing sealant.



2) Apply roofing sealant to the bottom of the base and directly onto the lag screw to ensure a water tight seal.



3) Attach the L Foot Base with a 5/16" lag screw, drive lag screw for minimum 2.5" embedment into the roof framing member.

Best Practice

Using an impact driver with a torque limiting screw with a limit wrench to prevent L Foot Base from rotating.



4) Pry up shingles with a breaker bar and install flashing underneath shingle course above installed base, position flashing so base stud extends through hole in bottom edge of flashing.

Install Note:

Ensure flashing extends a minimum (2) courses above base, and does not overlap bottom edge of shingle course.

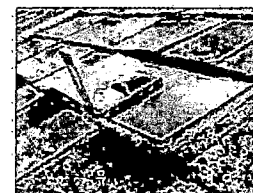
Apply a horseshoe of sealant under flashing to direct water away from penetration.



5) Place the L Foot on the base stud over the flashing and tighten the flange nut over the L Foot, torque to 10 - 16 ft-lbs.

Install Note:

The L Foot can be attached in any orientation.



6) If necessary, adjust the vertical face of the L Foot with the "live hinge" feature and adjust angle of L Foot so that the vertical face is perpendicular to the roof surface.

Module Installation

snapntrack.com

Required Tools

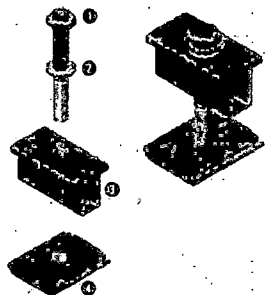
- Torque Wrench
- Socket Wrench
- 1/2" Socket

Materials Included - Install Module Clamps

- ① Pre-Installed SnapNrack Roof Attachments
- ② Pre-Installed SnapNrack Rails
- ③ SnapNrack Mid Clamp Assemblies
- ④ SnapNrack End Clamp Assemblies
- ⑤ PV Modules

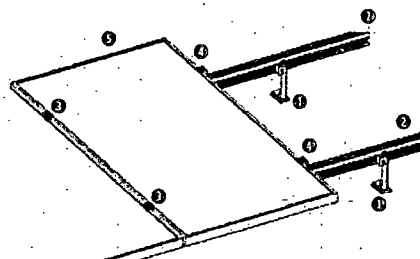
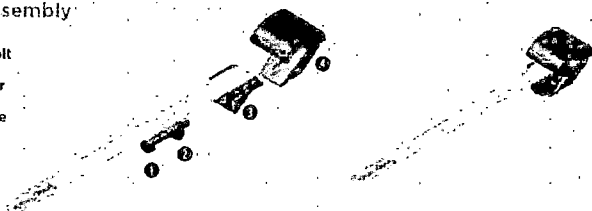
Mid Clamp Assembly

- ① (1) 5/16"-18 SS HCS Bolt
- ② (1) 5/16" SS Split Lock Washer
- ③ (1) SnapNrack Bonding Mid Clamp
- ④ (1) 5/16"-18 SnapNrack Channel Nut



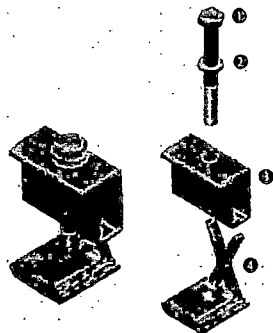
Universal End Clamp Assembly

- ① (1) 5/16"-18 X 1-1/2" SS HCS Bolt
- ② (1) 5/16" X 3/4" SS Flat Washer
- ③ (1) SnapNrack Universal Wedge
- ④ (1) SnapNrack Universal Wave



Adjustable End Clamp Assembly

- ① (1) 5/16"-18 SS HCS Bolt
- ② (1) 5/16" SS Split Lock Washer
- ③ (1) SnapNrack Self Adjusting Top
- ④ (1) SnapNrack Self Adjusting Bottom



Module Installation

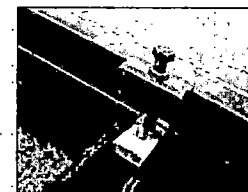
snapntrack.com

INSTALLATION INSTRUCTIONS

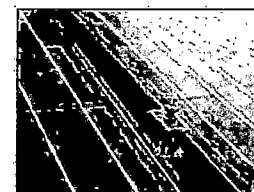
SnapNrack Mid Clamp



1) Snap the channel nut into the top channel of the rail.



2) Slide the clamp flush to the module with the top lip of the mid clamp over the top edge of the module frame.



3) Place the next module flush to the other side of the mid clamp.

Install Note:
Take care to avoid having wires pinched between modules and rails, as this can lead to system failure and be dangerous.

Install Note:
Mid clamps require 1/2" gap between modules.



4) Tighten hardware, torque silver hardware to 10-16 ft-lbs and black hardware to 8-10 ft-lbs.

Module Installation

snaphracker.com

INSTALLATION INSTRUCTIONS

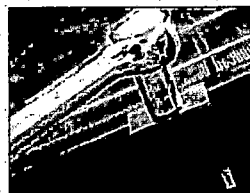
SnapNrack Adjustable End Clamp



1) Snap the channel nut into the top channel of the rail.



2) Slide the clamp flush to the module with the top lip of the end clamp over the top edge of the module frame.



3) Tighten hardware, torque silver hardware to 10-16 ft-lbs and black hardware to 8-10 ft-lbs.

Install Note:

Adjustable End Clamps require 15" of extra rail to extend past the end of the module frame.

Install Note:

Always connect ground bus using wires per local code, modules and rails. As this can involve system failure and be dangerous.



4) Install rubber end cap to finish.

MLPE Installation

snaphracker.com

Required Tools

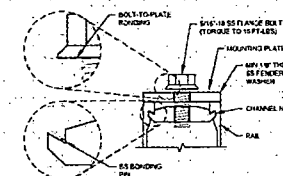
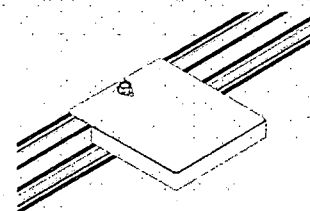
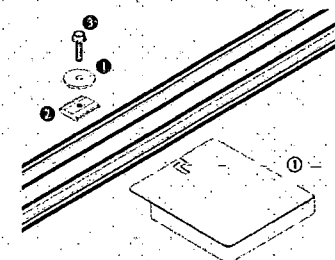
- Torque Wrench
- Socket Wrench
- 1/2" Socket

Materials Included - MLPE Rail Attachment Kit

- 1 (1) 5/16" X 1-1/2" X 0.125" SS Fender Washer
- 2 (1) SnapNrack Channel Nut
- 3 (1) 5/16"-18 X 1-1/4" SS Flange Bolt

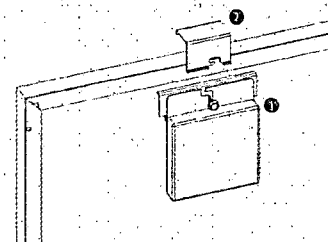
Other Materials Required

- 1 (1) MLPE Unit



Materials Needed - Enphase Frame Mount

- 1 (1) Enphase Microinverter
- 2 (1) Enphase Frame Mount



Materials Needed - SolarEdge Frame Mount

- 1 (1) SolarEdge Optimizer w/ Frame-Mounted Module Add-On

