

# THE CITY OF ORANGE TOWNSHIP HISTORIC PRESERVATION COMMISSION

APPLICATION NUMBER: A3152-23 DATE RECEIVED: 3/1/23

MEETING DATE: 3/15/23 MEETING DATE: \_\_\_\_\_

NAME: Dwana Waters

PHONE: \_\_\_\_\_ E-MAIL: \_\_\_\_\_

NAME: Freedom Forever - Melissa Wesley

PHONE: 848 205 3001 E-MAIL: \_\_\_\_\_

BLOCK: 4802 LOT 29  ORANGE VALLEY  MONTROSE SEVEN OAKS PARK  MAIN STREET  ST JOHN'S

ADDRESS: 43445 Business Drive, Temecula CA 92590

PROPOSED WORK: Solar Panels

PHOTOS  SURVEY  STRUCTURAL CERTIFICATION  SKETCHES  MATERIAL SPECIFICATIONS  SITE PLAN

APPLICATION FEE: 70  CHECK NO: 18904  RECEIPT NO: \_\_\_\_\_  ONLINE: \_\_\_\_\_

TRC: \_\_\_\_\_  APPROVED \_\_\_\_\_  DENIED \_\_\_\_\_  RESCHEDULED \_\_\_\_\_

APPROVAL LETTER \_\_\_\_\_  RESOLUTION NUMBER \_\_\_\_\_  RESOLUTION DATE \_\_\_\_\_



**CITY OF ORANGE HISTORIC PRESERVATION COMMISSION**

ORANGE CITY HALL

29 North Day Street, Orange, New Jersey 07050

PHONE (973) 952- 6344 FAX (973) 672-6643

RECEIVED  
ORANGE CITY CLERK'S OFFICE  
2023 MAR -1 A 10:58

**CITY OF ORANGE PRESERVATION COMMISSION  
APPLICATION FOR CERTIFICATION OF APPROPRIATENESS**

DATE RECEIVED 3-1-2023 APPLICATION # A3152-23

APPLICANT(S):  
Name of Applicant(s): Freedom Forever c/o Melissa Wesley

Address: 43445 Business Park Drive, Temecula CA 92590 Email: \_\_\_\_\_

Telephone (Day) 848-205-3001 (Eve) \_\_\_\_\_ (Fax) 732-967-2682

Relationship of Applicant to Property owner:

- Owner(s)     Lessee     Property Under Contract     Other (Specify)

Explanation if Other: Contractor

OWNER(S), IF DIFFERENT THAN APPLICANT:

Name(s) of Owner(s): Dwana Waters

Address: 277 Highland Ave Orange NJ 07050 Email: \_\_\_\_\_

Telephone Number: (Day) \_\_\_\_\_ (Eve) \_\_\_\_\_

Street Address of the Property that is subject of Application: 277 Highland Avenue  
Orange, NJ 07050

Tax Block: 4802 Lot: 29

Name of Historic District in which Property lies: Montrose Seven Oaks Park

- Orange Valley     Montrose Seven Oaks Park     Main Street     St. John's

Existing use of the Property:  
Single Family Residential

Existing zoning of the Property:  
Single Family Residential

**Describe in detail the proposed work to be done at the Property.**

Install 10.27kW roof mount solar. 26-395W panels. 1-7.6kW inverter

---

---

---

---

**Explain how you plan to prevent, minimize and mitigate any adverse effects to this Property, to nearby historically significant properties, and to the Historic District?**

---

---

---

---

**Each Application must be accompanied by sketches, drawings, photographs, descriptions or other information sufficient to show the proposed alterations, additions, changes or new construction. The Commission may require the subsequent submission of such additional materials as it reasonably requires to make an informed decision. A submission shall include:**

- **A photograph of each elevation of the structure.**
- **Three (3) copies of drawings, photographs, material brochures, samples, specifications or information that may be necessary to assist the Commission. Copies may be submitted electronically, or by CD or flash drive.**
- **Three (3) copies of a survey, or if applicable, a site plan showing the location of new and existing structures on the site and their location with respect to the building line, property line, and the front of those buildings or structures immediately adjacent to each side of the lot to be built upon.**
- **Three (3) copies of façade elevation(s), if applicable, of the proposed work in sufficient detail to identify the limits and location of the proposed work, and existing and proposed materials to be used.**
- **\$70.00 Application fee (check or money order made to the City of Orange).**

**By signing this Application, I hereby certify that the owner of record authorizes the proposed work and I have been authorized by the owner to make this Application as his/her authorized agent. By signing this Application, the owner hereby grants authorization to the Commission members, and its professional and support staff to enter the Property in question for inspection purposes. By signing this application I further agree that the attorney's and professional staff's review of my application is chargeable to me and that I agree to pay for such review separately from the application fee, by depositing an escrow payment of \$ \_\_\_\_\_.**

Signature of Applicant(s) 

(Print Name) Melissa Wesley

Date 2/27/2023

Signature of Owner(s) (if different than Applicant) By Agent: Melissa Wesley

(Print Name) Dwana Waters

Date 2/27/2023

Submittal of this Application form-properly signed, with the indicated copies of documents and the Application fee will constitute a complete Application. Upon receipt of a complete Application, the Board Secretary will schedule the Application with the Commission. The Applicant delays his/her own Application if all of these required items are not submitted. The Commission shall reach a decision on the Application within forty-five (45) days of submission of a complete Application. The Applicant must appear in front of the Commission in order to present the Application during the public hearing on the scheduled date.

Telephone: 848-205-3001 Fax: 732-907-2082 Website: FreedomForever.com

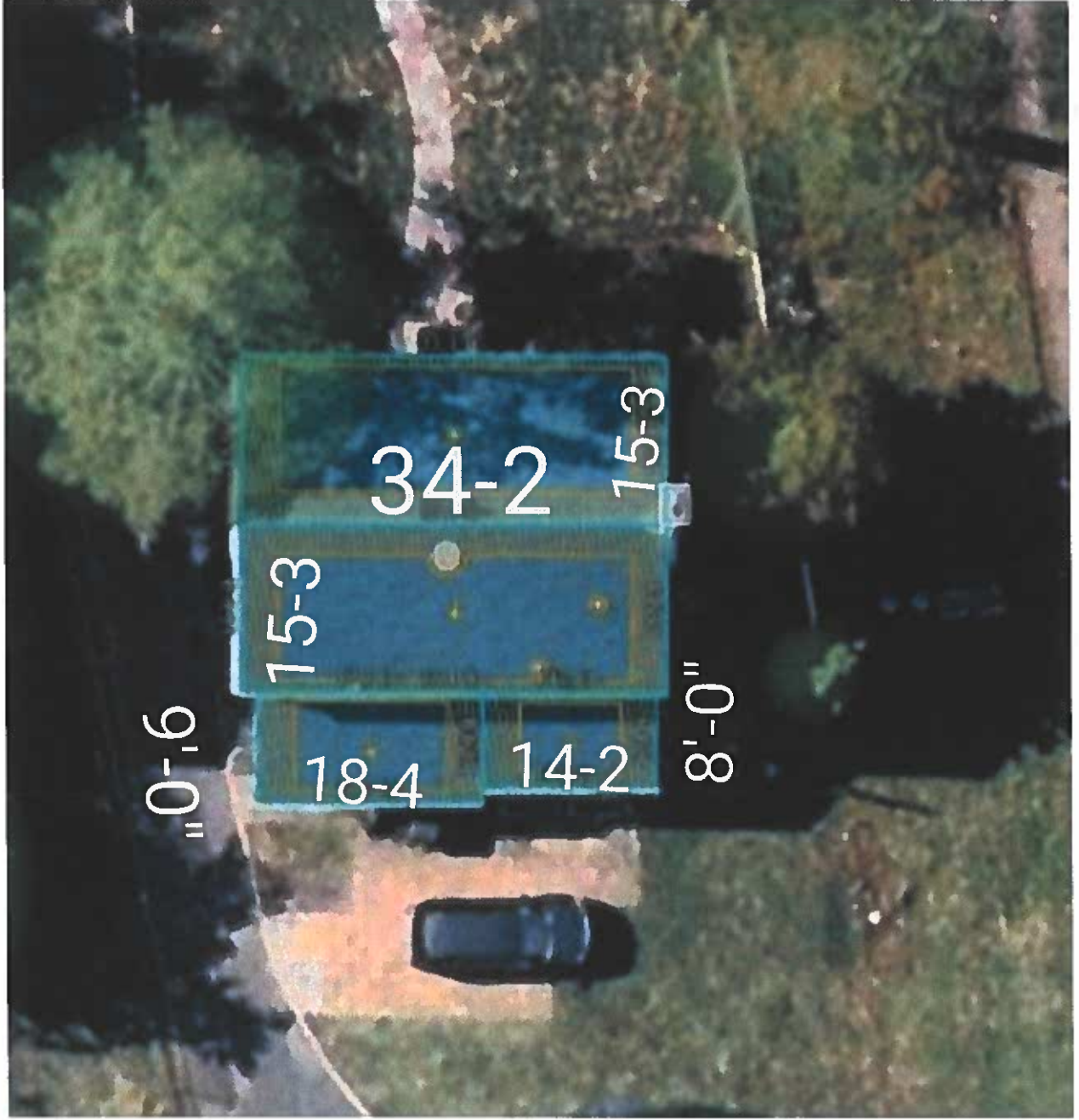
Date payment received: 3-1-2023 Check Number: 18904

Date sent to Finance: 3-1-2023 Receipt Number: \_\_\_\_\_

Certification of Appropriateness Application Form Adopted 10/21/15, revised 10/6/22.



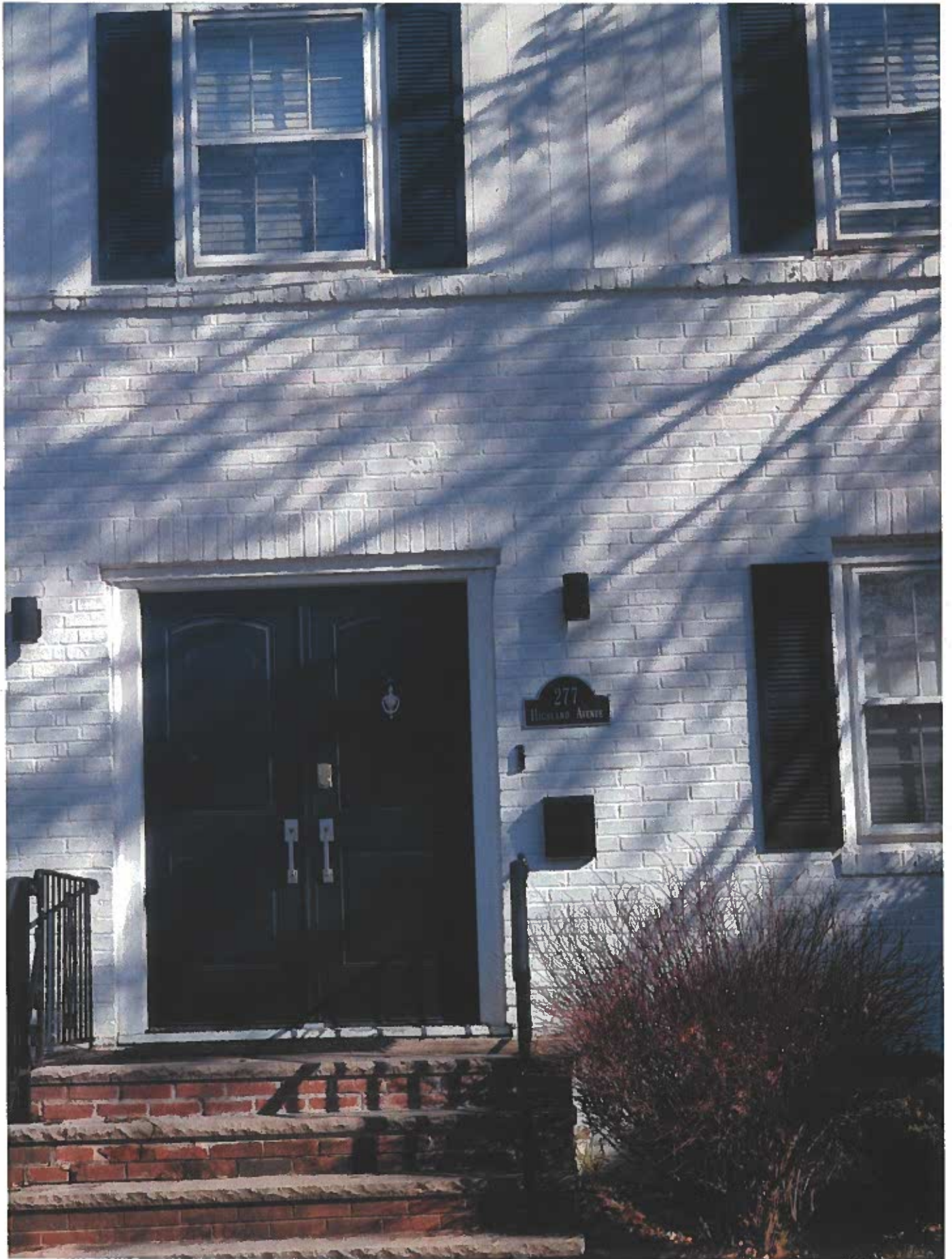






38









# BARUN CORP

February 17, 2023

RE: CERTIFICATION LETTER

Project Address: DWANA WATERS RESIDENCE  
277 HIGHLAND AVENUE  
CITY OF ORANGE, NJ 07050

**Design Criteria:**

- Applicable Codes = 2021 IEBC/IBC NJ Edition, 2021 IRC NJ Edition, ASCE 7-16 and 2018 NDS
- Risk Category = II
- Wind Speed = 115 mph, Exposure Category B, Partially/Fully Enclosed Method
- Ground Snow Load = 25 psf
- Roof 1 & 2: 2 x 6 @ 16" OC, Roof DL = 11 psf, Roof LL/SL = 19 psf (Non-PV), Roof LL/SL = 12.9 psf (PV)

To Whom It May Concern,

A structural evaluation of loading was conducted for the above address based on the design criteria listed above.

Existing roof structural framing has been reviewed for additional loading due to installation of Solar PV System on the roof. The structural review applies to the sections of roof that is directly supporting the Solar PV System.

Based on this evaluation, I certify that the alteration to the existing structure by installation of the Solar PV System meets the prescriptive compliance requirements of the applicable existing building and/or new building provisions adopted/referenced above.

Additionally, the Solar PV System assembly (including attachment hardware) has been reviewed to be in accordance with the manufacturer's specifications and to meet and/or exceed the requirements set forth by the referenced codes.

Sincerely,

S. M. Mehdi  
Zomorodian

Digitally signed by S. M. Mehdi Zomorodian  
Date: 2023.02.18  
09:21:51 -0500

No. GE57640



| MOUNTING PLANE STRUCTURAL EVALUATION |            |        |                    |
|--------------------------------------|------------|--------|--------------------|
| MOUNTING PLANE                       | ROOF PITCH | RESULT | GOVERNING ANALYSIS |
| Roof 1 & 2                           | 30°        | OK     | IEBC IMPACT CHECK  |
|                                      |            |        |                    |
|                                      |            |        |                    |
|                                      |            |        |                    |
|                                      |            |        |                    |

| STANDOFF HARDWARE EVALUATION FOR WIND UPLIFT |                 |
|--|-----------------|
| MOUNTING PLANE                               | WIND UPLIFT DCR |
| Roof 1 & 2                                   | 45.5%           |
|  |                 |
|  |                 |
|  |                 |
|  |                 |

**Limits of Scope of Work and Liability:**

The existing structure has been reviewed based on the assumption that it has been originally designed and constructed per appropriate codes. The structural analysis of the subject property is based on the provided site survey data. The calculations produced for this structure's assessment are only for the roof framing supporting the proposed PV installation referenced in the stamped planset and were made according to generally recognized structural analysis standards and procedures. All PV modules, racking and attachment components shall be designed and installed per manufacturer's approved guidelines and specifications. These plans are not stamped for water leakage or existing damage to the structural component that was not accessed during the site survey. Prior to commencement of work, the PV system installer should verify that the existing roof and connections are in suitable condition and inspect framing noted on the certification letter and inform the Engineer of Record of any discrepancies prior to installation. The installer should also check for any damages such as water damage, cracked framing, etc. and inform the Engineer of Record of existing deficiencies which are unknown and/or were not observable during the time of survey and have not been included in this scope of work. Any change in the scope of the work shall not be accepted unless such change, addition, or deletion is approved in advance and in writing by the Engineer of Record.

|   |                         |  |
|---|-------------------------|--|
| <b>BARUN CORP</b>   | <b>LOAD CALCULATION</b> |  |
|   | <b>Roof 1 &amp; 2</b>   |  |
| DWANA WATERS RESIDENCE, 277 HIGHLAND AVENUE, CITY OF ORANGE, NJ 07050 |                         |  |

| PV PANELS DEAD LOAD (PV-DL) |                         |
|-----------------------------|-------------------------|
| PV Panels Weight            | = 2.50 psf              |
| Hardware Assembly Weight    | = 0.50 psf              |
| <b>Total PV Panels</b>      | <b>PV-DL = 3.00 psf</b> |

| ROOF DEAD LOAD (R-DL)            |                        |            |                         |
|----------------------------------|------------------------|------------|-------------------------|
| Existing Roofing Material Weight | Composite Shingle Roof | 1 Layer(s) | = 2.50 psf              |
| Underlayment Weight              |                        |            | = 0.50 psf              |
| Plywood/OSB Sheathing Weight     |                        |            | = 1.50 psf              |
| Framing Weight                   | 2 x 6 @ 16 in. O.C.    |            | = 1.72 psf              |
| Vaulted Ceiling Weight           |                        |            | = 3.00 psf              |
| Miscellaneous                    |                        |            | = 1.50 psf              |
| <b>Total Roof Dead Load</b>      |                        |            | <b>R-DL = 10.70 psf</b> |

| REDUCED ROOF LIVE LOAD (Lr)                      |                          |
|--|--------------------------|
| Roof Live Load                                   | Lo = 20.00 psf           |
| Member Tributary Area                            | At < 200 ft <sup>2</sup> |
| Roof 1 & 2 Pitch                                 | 30° or 7/12              |
| Tributary Area Reduction Factor                  | R1 = 1.00                |
| Roof Slope Reduction Factor                      | R2 = 0.85                |
| <b>Reduced Roof Live Load, Lr = Lo (R1) (R2)</b> | <b>Lr = 17.00 psf</b>    |

| SNOW LOAD                   |                       |
|-----------------------------|-----------------------|
| Ground Snow Load            | pg = 25.00 psf        |
| Effective Roof Slope        | 30°                   |
| Snow Importance Factor      | Is = 1.00             |
| Snow Exposure Factor        | Ce = 1.00             |
| Snow Thermal Factor         | Ct = 1.10             |
| Minimum Flat Roof Snow Load | pf-min = 0.00 psf     |
| <b>Flat Roof Snow Load</b>  | <b>pf = 19.30 psf</b> |

| SLOPED ROOF SNOW LOAD ON ROOF (Non-Slippery Surfaces) |                            |
|---|----------------------------|
| Roof Slope Factor                                     | Cs-roof = 1.00             |
| <b>Sloped Roof Snow Load on Roof</b>                  | <b>ps-roof = 19.30 psf</b> |

| SLOPED ROOF SNOW LOAD ON PV PANELS (Unobstructed Slippery Surfaces) |                          |
|---|--------------------------|
| Roof Slope Factor   | Cs-PV = 0.67             |
| <b>Sloped Roof Snow Load on PV Panels</b>                           | <b>ps-PV = 12.90 psf</b> |

|   |                          |
|---|--------------------------|
| <b>BARUN CORP</b>   | <b>IEBC IMPACT CHECK</b> |
|   | <b>Roof 1 &amp; 2</b>    |
| DWANA WATERS RESIDENCE, 277 HIGHLAND AVENUE, CITY OF ORANGE, NJ 07050 |                          |

|                        | EXISTING | WITH PV PANELS |     |
|------------------------|----------|----------------|-----|
| Roof Dead Load (DL) =  | 10.70    | 13.70          | psf |
| Roof Live Load (Lr) =  | 17.00    | 0.00           | psf |
| Roof Snow Load (SL) =  | 19.30    | 12.90          | psf |
|                        |          |                |     |
|                        | EXISTING | WITH PV PANELS |     |
| (DL + Lr)/Cd =         | 22.16    | 15.22          | psf |
| (DL + SL)/Cd =         | 26.09    | 23.13          | psf |
| Maximum Gravity Load = | 26.09    | 23.13          | psf |
|                        |          |                |     |
| Load Increase (%) =    | -11.33%  | <b>OK</b>      |     |

The requirements of section 805.2 of 2021 IEBC are met and the structure is permitted to remain unaltered.

|   |                                |
|---|--------------------------------|
| <b>BARUN CORP</b>   | <b>WIND UPLIFT CALCULATION</b> |
|   | <b>Roof 1 &amp; 2</b>          |
| DWANA WATERS RESIDENCE, 277 HIGHLAND AVENUE, CITY OF ORANGE, NJ 07050 |                                |

| SITE INFORMATION        |            |  |       |
|-------------------------|------------|--|-------|
| Ultimate Wind Speed =   | 115.00 mph | Roof Pitch =                                 | 30°   |
| Risk Category =         | II         | Roof Type =                                  | Gable |
| Exposure Category =     | B          | Velocity Pressure Exposure Coefficient, Kz = | 0.64  |
| Mean Roof Height =      | 22.00 ft   | Topographic Factor, Kzt =                    | 1.00  |
| Solar Array Dead Load = | 3.00 psf   | Wind Directionality Factor, Kd =             | 0.85  |
| a =                     | 3.20 ft    | Ground Elevation Factor, Ke =                | 1.00  |

| DESIGN CALCULATIONS                            |                |  |               |
|--|----------------|--|---------------|
| Wind Velocity Pressure, qh =                   | 18.45 psf      | $(0.00256 * Kz * Kzt * Kd * Ke * (V^2))$     |               |
| Solar Array Pressure Equalization Factor, ya = | 0.60           |  |               |
| Hardware Type =                                | Rockit mount   |  |               |
| Allowable Load =                               | 655.00 lbs     | SPF, 5/16" Lag Screw x 1, 2.5" Embedment     |               |
| Array Edge Factor, ye =                        | 1.50           | Exposed Condition                            |               |
| Max. X - Spacing (Zone 1 - 2r) =               | 4.00 ft        | Effective Wind Area<br>13.60 ft <sup>2</sup> |               |
| Max. Y - Spacing (Zone 1 - 2r) =               | 3.40 ft        |  |               |
| Max. X - Spacing (Zone 2n & 3r) =              | 4.00 ft        | Effective Wind Area<br>13.60 ft <sup>2</sup> |               |
| Max. Y - Spacing (Zone 2n & 3r) =              | 3.40 ft        |  |               |
| Max. X - Spacing (Zone 3e) =                   | 4.00 ft        | Effective Wind Area<br>13.60 ft <sup>2</sup> |               |
| Max. Y - Spacing (Zone 3e) =                   | 3.40 ft        |  |               |
| ROOF ZONE                                      | GCP (-) UPLIFT | UPLIFT PRESSURE                              | PULLOUT FORCE |
| 1 - 2r   | -1.67          | -15.04 psf                                   | 204.60 lbs    |
| 2n & 3r  | -1.90          | -17.34 psf                                   | 235.89 lbs    |
| 3e   | -2.36          | -21.94 psf                                   | 298.35 lbs    |

**NOTE:**

- Wind calculation is based on ASCE 7-16, 29.4 - C&C, LC #7: 0.6DL + 0.6WL is used.





July 5, 2022

EcoFasten Solar LLC  
4141 W Van Buren St, Ste 2  
Phoenix, AZ 85009  
TEL: (877) 859-3947

Attn.: Eco Fasten Solar LLC - Engineering Department

Re: Report # 2015-05884HG.07.01 – EcoFasten - RockIt System for Gable and Hip Roofs  
Subject: Engineering Certification for the State of New Jersey

PZSE, Inc. – Structural Engineers has provided engineering and span tables for the EcoFasten - RockIt System, as presented in PZSE Report # 2015-05884HG.07.01, "Engineering Certification for the EcoFasten - RockIt System for Gable and Hip Roofs". All information, data, and analysis therein are based on, and comply with, the following building codes and typical specifications:

- Building Codes:
1. ASCE/SEI 7-10 & 7-16 Minimum Design Loads for Buildings and Other Structures, by American Society of Civil Engineers
  2. 2012, 2015, & 2018 International Building Code
  3. 2012, 2015, & 2018 International Residential Code
  4. AC428, Acceptance Criteria for Modular Framing Systems Used to Support Photovoltaic (PV) Panels, November 1, 2012 by ICC-ES
  5. Aluminum Design Manual 2010 & 2018, by The Aluminum Association, Inc.
  6. ANSI/AWC NDS-2015 & 2018, National Design Specification for Wood Construction, by the American Wood Council

Design Criteria:

- Risk Category II
- Seismic Design Category = A - E
- Exposure Category = B, C & D
- Basic Wind Speed (ultimate) per ASCE 7-16 = 90 mph to 180 mph
- Ground Snow Load = 0 to 60 (psf)

This letter certifies that the loading criteria and design basis for the EcoFasten - RockIt System Span Tables are in compliance with the above codes.

If you have any questions on the above, do not hesitate to call.

Prepared by:  
PZSE, Inc. – Structural Engineers  
Roseville, CA

**DIGITALLY SEALED**



07/05/2022

Block: 4802 Lot: 29 Qual: Old ID: 151-14

Owner: WATERS, DWANA  
 Address: 277 HIGHLAND AVE.  
 City, State: ORANGE, N.J.  
 ZIP: 07050  
 Property: 277 HIGHLAND AVENUE  
 Class: 2  
 Bldg Desc: 1948  
 Year Built: 1948

Land Value: 131,000 Land Dimension: 9223 SF  
 Improv Value: 363,600  
 Exemption: 0  
 Net Value: 494,600  
 Additional Lot 1:  
 Additional Lot 2:  
 Zoning:  
 Tax Map Page:  
 Square Foot Living Area: 1820

| Date     | Sale History<br>Book-Page | Amount  | Exemption | Exemptions<br>Amount | Term | Expires |
|----------|---------------------------|---------|-----------|----------------------|------|---------|
| 10/30/18 | 20180-97112               | 325,000 |           |                      |      |         |

| Prev Assessment History |       |         |         |         |  |  |
|-------------------------|-------|---------|---------|---------|--|--|
| Year                    | Class | Land    | Improve | Net     |  |  |
| 2022                    | 2     | 131,000 | 363,600 | 494,600 |  |  |
| 2021                    | 2     | 79,300  | 199,200 | 278,500 |  |  |
| 2020                    | 2     | 79,300  | 179,000 | 258,300 |  |  |
| 2019                    | 2     | 79,300  | 179,000 | 258,300 |  |  |

| Deductions       |   |
|------------------|---|
| Senior Citizen   | 0 |
| Veteran          | 0 |
| Widow            | 0 |
| Surviving Spouse | 0 |
| Disabled Person  | 0 |

Freedom Forever LLC  
Permit Account  
43445 Business Park Dr, 110  
Temecula, CA 92590

18904

11-35/1210

DATE 2/27/23

PAY  
TO THE  
ORDER OF

City of Orange

\$ 70.<sup>00</sup>

Seventy Dollars

DOLLARS



Bank Of America

FOR HPC Review fee- 277 Highland

[Signature]

Dwana Waters  
298402

⑈018904⑈ ⑆121000358⑆ 325077132738⑈

Application NOT complete -  
Can



## The City of Orange Township Historic Preservation Commission

### INSTRUCTIONS AND REQUIRED ATTACHMENTS FOR ALL APPLICATIONS

If your Application is not deemed complete, it will not be heard and your project will suffer delay. In order for your Application for a Certificate of Appropriateness to be deemed complete, you must provide the following documents with your Application:

- Missing rear photos
- A. Photographs of the existing condition of each elevation (façade) of the structure, front, sides and rear, including photographs of the structure from the nearest public street or sidewalk, approaching the structure and leaving the structure. This means a minimum of three color photographs of the front, and both sides of the house or building. This is essential to understanding what work, installations, improvements etc. will be visible from the Public Street or right-of-way. An aerial shot by a drone of the structure is insufficient to satisfy this requirement.
  - ✓ B. A site plan or other plan or drawing incorporating the location, type, design and details of the work to be undertaken. The plan must show the location of the street and front of the house or building that is the subject of the Application. Façade elevation(s), if applicable, of the proposed work shall have sufficient detail to identify the limits and location of the proposed work.
  - ✓ C. Samples, specifications and product information on the materials (shingles, windows, paint, brick, wood siding, etc. that you intend to install) to assist the Commission in understanding the work to be undertaken and the products that will be placed on your property. No vinyl or aluminum siding is allowed on any history property, site or in any historic district. Photographs of examples of property/architectural features elsewhere in the historic district that are sought to be duplicated on your property may be submitted as examples. The Applicant should describe or show the existing and proposed materials to be used in some way. It is always preferred to use the same materials as the original structure.
  - D. If applicable, a survey, or a site plan showing the location of any new proposed and existing structures on the site and their location with respect to any existing building footprints, height, property boundary lines, fence locations if applicable, and the front of those buildings or structures immediately adjacent to each side of the property(ies) on which the work will be undertaken, to help the Commission determine the design, scale and massing in context of the historic site, property, or neighborhood district.

### ADDITIONAL INSTRUCTIONS AND REQUIRED ATTACHMENTS FOR SOLAR/PV APPLICATIONS

- A. As part of the plan set for the solar installation, **a roof layout plan for the solar/PV panels and equipment, showing the front of the house or building on which the panels will be installed, and the location of the street.**
- B. At least three color photographs from the front of the house, and <sup>Missing</sup> both sides, as described above, in Section I. A., taken from the street level and showing the roof areas on which the solar panels will be placed, so that the Commission can see whether the panels to be attached to the roof according to the roof layout plan will be visible from the street.
- ✓ C. A written certification signed by a professional engineer (P.E.) or architect certifying to the fact that the structure and roof of the building that is the subject of the Application on which the solar/PV panels and related equipment will be installed, is capable of bearing the load of the panels and related equipment without any additional support or renovation, and that the installation will comply with the applicable building codes, if properly installed according to instructions.