

Tom Petersen

Architects • Planners

NYC Department of Buildings
Queens Borough Office
120-55 Queens Boulevard
Kew Gardens, NY 11424

July 15, 2019

Re: Solar Panel Installation
Chiang Residence
85-26 251st Street
Queens, NY 11426

Dear Sirs,

I've reviewed the proposed solar panel installation at this location to evaluate the existing roof structure and the connection of the panels to the roof.

Criteria: Applicable codes: 2014 NYC Construction Code (w/ amendments)
2001 Wood Frame Construction Manual
Design roof load: 20 psf live load, 10 psf dead load, 30 psf total load
Design wind load: 120 mph, 35 psf; Exposure Category 'B'

My findings are as follows.

1. The new solar panels will imply an additional dead load of 3 psf. The existing roof structure (2x6 roof rafters @ 16" o.c., with 2x4 collar ties and 2x8 ridge, span = +/- 11'-2") is sufficient to bear this additional load. This analysis is based on the existing single layer of asphalt shingles but is also adequate for two layers of asphalt shingles.
2. The solar panels are attached to the roof with the Ironridge Pegasus solar rack system, with components as shown on the attached drawings. The rack system, roof connections and connection spacing are rated for 120 mph. Flange footing connections to the rail are not required to be staggered. The flange foot connections to the roof are 5/16" diameter x 4" long lag bolts. The total panel installation is no higher than 6" above the existing roof plane.

It is a violation of NYSED 7209 for any person, unless acting under the direction of a licensed professional, to alter an item in any way. If an item bearing the seal of a licensed professional is altered, the altering licensed professional must attach the notation 'altered by' with his seal, signature, date of alteration, and description of the alteration.

I therefore certify that this installation complies with the applicable codes and design loads mentioned above, as well as ASCE 7-10, and is acceptable for approval. Please let me know if you have any questions on this information. Thanks!

Sincerely yours,

Tom Petersen

Cc: Swapnil Prabhu, Venture Home Solar

