

Tom Petersen

Architects • Planners

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

March 21, 2018

Re: Solar Panel Installation
Ying Residence
45-63 202nd Street
Queens, NY 11361

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, 15 psf dead load, 35 psf total load
Design wind load: 110 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 (hip roof: 2x8 roof rafters @ 16" o.c., with 2x4 collar ties and 2x10 hips and ridge, span = +/- 13'-2" at maximum) 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 InvisiMount solar rack system, with components as shown on the attached drawings. The rack system, roof connections and connection spacing are rated for 110 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 7-05, 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

