

January 27, 2022

[REDACTED]

Attention:

[REDACTED]

Subject: Review of Existing Roof Structure for PV

[REDACTED]

Peoples Associates Structural Engineers (PASE) has performed a structural evaluation for the [REDACTED] [REDACTED] for the structural feasibility of installing a series of new photovoltaic panel arrays on the existing roof. Our evaluation was based on a review of the structural drawings dated April 17, 2007 by [REDACTED].

[REDACTED] The existing building is a two- story structure with a roof consisting of concrete over metal deck supported on wide-flanged steel joists. The joists frame into structural steel walls at the perimeter of the building. There is also a structural steel penthouse on top of the roof for which PV panels are also proposed.

The structural evaluation was limited to verifying that the added weight to the roof and penthouse would not increase the seismic mass of the building by more than 10%, and checking that the added load on select typical roof members would not be more than 5% of their gravity load demands or exceed the amount of design roof live load displaced by the panel area.

The evaluation did not investigate any non-structural items such as, but not limited to, roofing, water-proofing, electrical coordination, fire hazards, egress, etc.

Our evaluation determined the existing roof structure to be acceptable under the assumptions/limitation specified below:

- PV panel, support racks, and hardware are assumed to be 3.5 psf and mechanically attached to the roof structural members;
- The entire PV panel cover area shall be no more than 2750 ft². See Attachment A for roof area illustration with the PV panel arrays highlighted in blue.

Our evaluation determined the existing penthouse structure to be acceptable under the assumptions/limitation specified below:

- PV panels, support racks and hardware are assumed to be a maximum of 3.5 psf and mechanically attached to the roof structural members;
- The entire PV panel cover area shall be no more than 3150 ft². See Attachment A for roof area illustration with the PV panel arrays highlighted in blue.

Please feel free to contact us should you require further information.


Peter V. Chabot, S.E.