**SESEA00351A Structural PC Response #1**

08/02/2023 ref email BM email dated 07/27/2023

1. How are bearing walls determined?

Wood framed light commercial construction bearing walls for apartment buildings / office buildings are typically perimeter walls, interior hallways at ~ half the building width, stairwells and elevator shafts, and permanent bathroom / utility rooms that serve the entire building. These interior bearing walls are stacked roof to foundation. See the 1978 Globe Bldg drawings (and SA) referenced on the SA Design Criteria page – specifically the sheet S1 foundation plan.

1. Sleeper deflection of 1.45”?

The largest vertical beam deflection in the submitted SA is ~3/4” for a 29’ span steel beam; the equipment sleeper deflection is .041”

1. Sleeper deflection in general.

The purpose of a ‘sleeper’, especially over a wall not a column, is to spread the load out to approximate a uniform load not a point load. These loads further distribute in the walls all the way down to the foundation.

From the ref drawings if appears the primary horizontal framing members are top bearing trusses. These will have blocking in between the thickness of the truss top chord. The sleeper in effect bears directly on the wall double top plate. Each 11’ 2x6 wall stud (HF #2) at 16” OC can support ~5000#s as a column or 3750 plf. This increases to 6000 plf for ASD load combos with wind or seismic.

1. Proposed sector and equipment platform sleeper load interaction with existing rooftop equipment.

There isn’t any. All proposed sleeper locations are over sections of wall that do not support any other rooftop loads other than the roof itself including the parapet at perimeter walls.