BECKER
STRUCTURAL ENGINEERS

May 06, 2015

Brandon Romano
Project Manager, Facilities Development
Maine Medical Center
22 Bramhall Street
Portland, ME 04102

Re: MMC – Bean Wing AHU Replacement Project – Floor Evaluation

Mr. Romano:

It is understood that Maine Medical Center would like to store a number of new HVAC equipment units within the fourth floor mechanical level for eventual replacement of current equipment. The new units will be brought in all at once, and the old units will be removed at a later date. The purpose of our work is to determine if the floor is adequate to support both existing and replacement HVAC equipment units. You and I reviewed the mechanical floor with Dan Foote and Jamie Evans of Johnson & Jordan Mechanical Contractors April 22, 2015. The following data and material has been provided to us:

- Proposed mechanical drawing M-200 prepared by AKF consulting engineers with proposed equipment numbers and weights marked in red.
- HVAC equipment submittal (112 pages) reviewed by AKF dated 4/9/15.
- Fourth Floor Penthouse Framing Plan drawing S9 and General Notes drawing S3 and S23 dated March 10, 1983 by SBRA Architects and Zaldastani Associates Engineers.
- Level 4 Framing Plan (alterations) drawing S-2.1 dated July 15, 1996 by SBRA Architects and Souza True and Partners Engineers.
- Air handling unit (AHU) sections have weights corresponding to between 45 psf to 60 psf.
- Floor structure consists of a 7 ¼ inch thick light-weight concrete slab cast on a 3 inch deep 20 gauge galvanized steel composite deck supported by steel beams and girders (refer to S9).
- Drawing S9 indicates a Mechanical floor live load capacity of 150 psf.

The condition of the 4th floor slab appears to be good and we did not observe signs of significant damage or problems. Many existing HVAC equipment units are set on 4 inch concrete pads cast on the floor slab. Structural analysis of typical floor slab, beams, and girders indicates that the floor is structurally adequate to support a 150 psf live load. Weights of the units and concrete pads are within the allowable load capacity of the floor structure. Storing the proposed mechanical units temporarily within the fourth floor while existing units remain in place is acceptable. We recommend that units are not stacked and that they bear on wood pallets or timbers until ready to be installed. Units should be fastened or anchored according to the manufacturer's details and instructions.

If there are questions or concerns, feel free to contact me.

Sincerely,
Becker Structural Engineers, Inc.

David A. Macolini, P.E.
Senior Engineer

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