THE CITY OF NEW YORK
HOUSING AND DEVELOPMENT ADMINISTRATION
DEPARTMENT OF BUILDINGS

DEPARTMENTAL MEMORANDUM

DATE: February 23, 1972

TO: Borough Superintendents

FROM: Thomas V. Burke,P.E., Director of Operations

SUBJECT: Steel Frame Buildings - Distribution of Horizontal Loads - C26-906.2

The recent collapse of an eight story steel frame structure,in the course of construction, in Rockaway, Queens, has directed attention to a serious deficiency that may occur in other buildings of steel frame construction.

It appears that the building may have been constructed without, adequate resistance to side-sway and without resistance to wind loads. Under the provisions of Reference Standard RS9-5, structures which are 100 feet or less in height, must be designed to withstand a wind pressure of 20 pounds per square foot on vertical surfaces and buildings from 101 feet to 300 feet in height must be designed for a wind pressure of 25 pounds per square foot; for heights greater than 300 feet, refer to table RS9-5-1. Wind must be assumed to come from any direction.

In order to develop such wind resistance the connection of the columns to the floor systems must be adequate to develop the required resisting moments. Moments must be analyzed with the building considered as a continuous frame. Note that unless adequate resisting moments are developed at each floor, in each direction, by the connections of the columns to the floor systems, sufficient resistance to lateral loads cannot be developed by the structural frame and the building may collapse. Note also that provision of a heavy, rigid floor system will not prevent collapse under lateral loads unless the connections of the floor system to the columns develop adequate moment resistance. Other methods of providing lateral stability may be utilized e.g., "shear walls".

The shear at each story due to horizontal loads, is transmitted to the floor below, by the columns. The columns can do this only when they can develop adequate resisting moments at the floor connections.

Examiners shall require compliance with this memorandum and with the provisions of the Reference Standard. A complete, thorough set of structural computations bearing the seal and signature of the structural applicant of record showing analysis for horizontal stability shall be submitted in accord with C26-1002.1.

Thomas V. Burke
Thomas V. Burke,P.E.
Director of Operations

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cc: Executive staff