604.2.2 Groups A, E, F-1, H, I, M, R-1, R-2, R-4, S-1, and S-2. In buildings with occupancies in Groups A, E, F-1, H, I, M, R-1, R-2, R-4, S-1, and S-2, work areas that include exits or corridors shared by more than one tenant or that serve an occupant load greater than 30 shall be provided with automatic sprinkler protection where all of the following conditions occur:

1. The work area is required to be provided with automatic sprinkler protection in accordance with the International Building Code as applicable to new construction;

2. The work area exceeds 50 percent of the floor area; and

3. The building has sufficient municipal water supply for design of a fire sprinkler system available to the floor without installation of a new fire pump.

Exception: Work areas in Group R occupancies three stories or less in height.

GIVEN: Assume Level 2 alterations to an existing building that is not classified as a high-rise building. The building is not a Group R occupancy. All the listed conditions, including Items 1 and 2, are applicable. The municipal water supply for the building is sufficient for design of a fire sprinkler system to the floor containing the work area, without requiring the installation of a new fire pump.

Q1: Is a fire sprinkler system required to be provided to the work area if a new water service pipe is required to be installed between the municipal water supply and the building?

A1: No. Section 604.2.2, condition 3 indicates that “the building has sufficient...”. Therefore it was not intended that new water service pipes be installed from the water main to the building.

Q2: Is a fire sprinkler system required to be provided to the work area if a new water distribution pipe (or riser) is required to be installed between the water service pipe and the work area?

A2: No. Sprinkler system will not be required if a new riser must be constructed to bring water from lower floors.

STAFF COMMENTARY: For both of these answers, please note that the language in Section 604.2.2 is distinctly different from that found in Section 704.1.1 (Level 3 Alterations, high-rise buildings), where sprinklers will be required if the municipal water main at the site has sufficient municipal water supply.

One of the main resource documents upon which the IEBC was based is the Nationally Applicable Recommended Rehabilitation Provisions (NARRP). The origin of many of the IEBC Sections can be traced to similar provisions in the NARRP. The NARRP does not require sprinkler systems in work areas for the level of construction called “Alterations” (this is approximately the same level as IEBC Level 2 Alterations and is found in NARRP Chapter 5). Section 606.1 of NARRP for the level called “Reconstruction” (approximately similar to Level 3 Alterations of IEBC), requires sprinkler system, but provides an exception if “…an automatic water supply for sprinkler protection is not available at that floor, the building official shall be permitted to accept alternative protection”. A review of this history indicates the intent of the IEBC drafting committee to require sprinkler system in Level 2 Alterations only if sufficient municipal water supply is available at the floor under discussion.