



Washington State Building Code Council

Improving the built environment by promoting health, safety and welfare

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STATE BUILDING CODE OPINION NO. 20-08

CODE: 2015 International Mechanical Code
2015 International Building Code

SECTION: IMC 601.2, Air movement in egress elements
IBC 1020.5, Air movement in corridors

BACKGROUND: V-A construction, R-2 occupancy, 4-story wood-framed corridor loaded 170 unit apartment building, 13R sprinklers, fire alarm system. The corridors are 1-hour-rated fire partitions.

HVAC Design: 2 mechanical units are installed in the attic space at opposite ends for the corridor and air is ducted from each through shafts to their respective ends of the corridor. There is no ductwork in the corridor itself. Tempered air is supplied at one end of the corridor and pulled to the other by a combination of exhaust & return. The return air is taken back to the attic space mechanical unit and resupplied to its side of the corridor. *The southern mechanical system supplies air to floors 1 & 3 and returns air from 2 & 4. The northern mechanical system supplies air to floors 2 & 4 and returns air from 1 & 3.*

The system is designed for the corridors only, no air designed to be shared with any adjoining spaces. The residential units all have their own independent HVAC systems. The exit stairwells have their own independent HVAC systems. The systems would require return air duct detection in accordance with WSMC 606. Mechanical units would shut down upon smoke. Corridor duct penetrations are protected by smoke fire dampers.

QUESTION: Are the corridors in this situation acting as a supply, return, exhaust or ventilation air ducts for other (separate) corridors and therefore prohibited as per IMC 601.2 and IBC 1020.5?

ANSWER: **No. The intention is that the corridor is not used as a duct to serve tenant spaces, dwelling units, sleeping units or other such spaces connected to the rated corridor.**

SUPERSEDES: None

REQUESTED BY: City of Spokane Valley