

PARTY WALLS

"ONE MAN'S CEILING
IS ANOTHER MAN'S FLOOR"

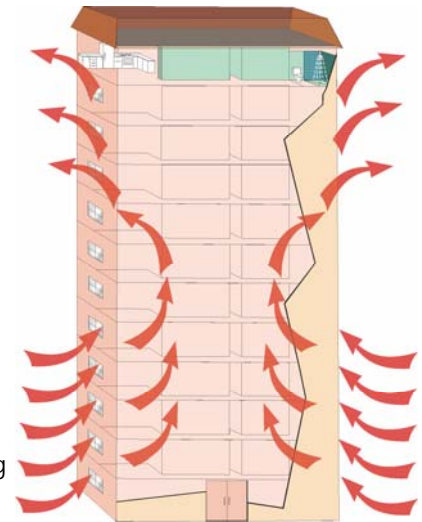
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A bimonthly update on Steven Winter Associates, Inc.'s work in the realm of multifamily housing

Solving an HVAC Riddle

It is no surprise that ventilation system design and specification has a major impact on the energy use and indoor air quality of multifamily buildings, but implementing a high performance system is more complex than it first seems. Tall multifamily buildings experience severe wind and stack effect forces driving infiltration and creating huge pressure differences between different apartments. Balancing these fluctuating forces can be a nightmare, and innovative solutions to multifamily ventilation problems have lagged behind developments in the single-family market. Steven Winter Associates (SWA) recently tested a brand new New York City multifamily building and found that second floor apartments were exhausting 93 CFM while fifth floor apartment fan rates were 192 CFM—more than double the ventilation, and far exceeding the intended design flow. SWA will be working under the U.S. Department of Housing and Urban Development's Partnership for Advancing Technology in Housing (PATH) program to test-run a solution: a central exhaust system (roof-mounted fan connected to multiple exhaust ducts in apartment



Courtesy of American Aldes

Winter stack effect: pressurized upper units and depressurized ground floor units



CAR Damper by American Aldes

baths and kitchens) plus Constant Air Regulator (CAR) dampers at each apartment exhaust point. The passive, self-balancing dampers from [American Aldes](#) are designed to respond to pressure variations and create even flow rates. Watch future issues of *Party Walls* for the results.

Tax Credits for Energy Efficiency

On February 21, 2006 the IRS announced the details of its new Federal energy tax credits to reward builders and homeowners for energy efficiency. The tax credits will apply to multifamily housing up to 3 stories high, as well as to attached housing (high rise housing is covered by a commercial building tax credit). Builders are eligible for credits of up to \$2,000 for each dwelling unit, if the heating and cooling energy is 50% less than that of a home built to meet the 2004 Supplement to the 2003 International Energy Conservation Code. The home must also have building envelope improvements (such as low-e glazing) to make it 10% more efficient than a comparable unit. Homeowners are also eligible for up to \$500 for improvements made to their homes. SWA is available to provide builders and developers with services to test and certify housing to meet IRS criteria.

Watch Where You Put Those Curb Ramps!

Curb ramps provide a way for a person who uses a wheelchair to move easily from the sidewalk to the street. Technical criteria for the proper design and construction of curb ramps are provided in all of the accessibility guidelines, including the ANSI A117.1 Standard, the Uniform Federal Accessibility Standard (UFAS), and the Americans with Disabilities Act Accessibility Guidelines (ADAAG). Among other features, curb ramps are required to have detectable warning surface textures (like those painted yellow in the bottom image) to alert people with vision disabilities that they are moving into a vehicular way. People with low vision or those who are blind detect the warning surface on the curb ramp and move across the street --- usually in the direction of the run of the curb ramp. Imagine a large two-street intersection with curb ramps located on the four corners (top image). The person who is blind arrives at the curb, detects the warning surface, and makes the decision to move across the street in the direction of the run – which points them into the middle of the intersection. This is not a good design. Even though the federal guidelines allow corner curb ramps, local jurisdictions across the country are no longer approving their use. Instead, many jurisdictions are requiring that there be two curb ramps provided at every corner so that people are directed safely across the street and not into the intersection. Since the accessibility guidelines allow the use of more than one type of curb ramp and do not limit use of the corner-type curb ramp, the requirement of the local jurisdiction takes precedence. Check with your local jurisdiction for access requirements in the public right-of-way, they may be more stringent than those required by the feds.



Learn How to Be Green in Boston

There's still time to register for the Northeast Sustainable Energy Association's (NESEA) meeting in Boston March 7-9. SWA staff will be making presentations. F.L. Andrew Padian will help present a full-day session on "Greening an Existing Facility" and will chair sessions and present on green affordable housing, guaranteed energy performance, and the orientation, configuration, and structure of high performance buildings. Andrew Zumwalt-Hathaway's session will focus on "Principles of High Performance Buildings and Construction;" Courtney Moriata will present on green thermal comfort and indoor air quality; and Robb Aldrich will talk about how small home residential design can be green and on Net Zero Energy buildings. For more info [click here](#).

For more information visit
the SWA Website:
swinter.com

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