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HARRISBURG COMMERCIAL

real estate REPORT

Unintended HVAC Consequences of Energy Savings Projects

By James C. Mooney, PE, LEED AP



Renovation and energy reduction projects begin with great intentions and often end in aggravation and, potentially, a sick building due to the unintended consequences of not “right sizing” the HVAC systems as a part of the overall design.

It started off easily enough; the office was long overdue for a renovation and it seemed logical to hire professionals to provide a holistic update to the offices. The first step was to improve the insulation properties of the building's skin. The architect selected a new window wall with a thermally-separated frame, double-pane / low-emissivity glass and interior shading. The aging black rubber roof was removed and,

after adding another few inches of insulation, a new white EPDM surface was installed. The company was delighted that this new energy efficient shell was going to lower their carbon footprint and meet their increasing desire to be considered environmentally conscious.

Of course, the new space renovation didn't stop with the skin; working with a lighting vendor, the interior designer selected new energy efficient LED fixtures that met the foot-candle requirements for the new aesthetic. And, since more of the staff was able to work flexible hours and were no longer constrained to the office, the interior design company was able to increase the square feet per person, providing a much nicer open feel. The new space was going to make a statement to the staff and clients that this was a forward-thinking company.

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Part of the project was replacing the ceiling and the interior design called for new diffusers to complete the edgy high-tech image the client wanted. In the process of coordinating the diffuser replacement with their HVAC contractor, Low First Cost Service Inc. (who had just replaced the rooftop HVAC units a couple of years ago), recommended adding demand control ventilation to further enhance the energy savings. Having just installed this control scheme on a new office building, the contractor explained that it was comprised of carbon dioxide sensors and controls that would raise and lower the amount of fresh air delivered to the space depending on the

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New Listing



Industrial Sale - 140 - 148 Ole Lane, Grantville

- This nearly 1,400 SF industrial building sits on over 2 acres of paved parking
- Perfect for a trucking company or industrial user needing quick access to I-81
- Parking availability for 60+/- cars and trailers

Commercial Listings



Sale - 5650 Lancaster Street, Harrisburg

- Newly renovated building conveniently situated on Derry Street, just moments from Route 322 and 283/83 interchange
- The building underwent major upgrades in 2017 and has been well-maintained throughout the years
- The unique set-up offers many possible options for an office or commercial user



Sale - 5620 Derry Street, Harrisburg

- Newly renovated building conveniently situated on Derry Street, just moments from Route 322 and 283/83 interchange
- The building underwent major upgrades in 2017 and has been well-maintained throughout the years
- The unique set-up offers many possible options for an office or commercial user

Industrial Listings



Lease - 151 Allendale Road, Mechanicsburg

- Hard to find, completely updated warehouse space available
- Tenant's suite features frontage along Simpson Ferry Road, vanilla shell office space, ready to be built-out and a warehouse with 14'6" clear ceilings, two drive-in's (12 x 12), sprinklers, and new LED lighting
- Convenient access to Route 15, Route 581, and I-81



Sale - 638 & 651 Alricks Street, Harrisburg

- Freestanding warehouse along the 6th Street industrial corridor
- Clean, well-maintained, functional, and offers convenient access to I-81, Route 22/322 and the City
- Additional land across the street (638 Alricks Street) is also available for sale, all as one parcel including the street between them (Alricks Street, which has been vacated, paved, and fenced)
- Opportunity for additional car parking, truck parking or outside storage



Sale - 700 Angenese Street, Harrisburg

- Functional warehouse property for sale along the 6th Street industrial corridor
- Convenient access to I-81, Route 22/322 and the City
- This property can be purchased in conjunction with 638 and 651 Alricks Street
- A 5,500 SF temporary canvas building has been setup at this location, which can also be purchased for an additional cost



number of occupants. They were positive if it worked for the new building it would work here. The theory was that outside air requires a lot of energy to condition to the space temperature and minimizing it when it wasn't required by the occupants was the "green" thing to do. Of course, this too was added to the plan by the well-intentioned client.

After several months of phased work and inconvenience, the project was complete and the patient staff moved into the new space; it was everything they hoped. The new interior design made sense with the workflow and the new "look" made a progressive statement. It was everything they wanted to do and convey...except there was a problem.

Despite the great looks and improved workflow, the staff complained about the working conditions. The office was either too warm or too cold, it had a dank odor, the copier was jamming incessantly, and it was often described as "like working in a cave." What was wrong? The HVAC units were practically brand new, so that couldn't be it and the building's shell was tighter than ever; so, what was the cause?

It was obvious to the client that the only thing that had changed with the HVAC was the new demand control ventilation. Low Cost Service was called in and they spent weeks "tweaking" the controls to no avail. Finally, they removed the CO2 control entirely and returned the units to the original condition. The muggy conditions worsened. Technician after technician tried new

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approaches to the solving the problem by moving thermostats, lowering the space temperature, raising the space temperature, adjusting the refrigerant charge, but nothing seemed to work. Why? Because it was no longer the same building it was a couple of years ago when the HVAC equipment was replaced.

The well-executed, energy saving strategy of drastically improving the building's skin combined with the new energy efficient lighting and lower occupancy resulted in much lower overall building heat load. The existing equipment was now oversized. "But why is this an issue? At least they weren't undersized and unable to keep up, right? There are lots of buildings that just can't seem to stay cool on the hottest days, so being oversized must be a benefit, right"? Wrong.

The trick to maintaining a dry comfortable space is maintaining a stable low coil temperature consistently. This cold coil allows the water to condense out of the air which is necessary to maintain the dry space conditions needed for client comfort and, interestingly, good copier operation as well! The space temperature is then controlled by varying the air flow to meet the cooling demand (i.e.

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Commercial Listings



Sale - 326 Herman Avenue, Lemoyne

- Your chance to purchase the former West Shore Bureau of Fire station
- The firehouse has kept some of its original charm and features but also had renovations including additions, an upgraded AMP service, updated kitchen area and ADA restroom
- Office and retail uses would be allowed with a zoning change



Lease - 5129 E. Trindle Road, Mechanicsburg

- Brand new retail or office space along Trindle Road
- Great visibility and parking
- The 4,000+/- SF is an open shell - ready for your finishing touches



Lease - 611 N. 12th Street, Lebanon

- Join Save-A-Lot grocery store in this newly constructed shopping center located in Lebanon City
- Tenants can acquire one suite (25' x 64') or all five up to 8,000+/- SF for retail or office use
- The vanilla shell is ready for your finishing touches



Lease - 665 Market Street, Lemoyne

- Join Classic Drycleaners at this desirable commercial location
- Open floorplan allows for good retail space
- Business ID sign available for your business

(Featured article...Continued from page 3)

Variable Air Volume (VAV) systems), or via the energy inefficient re-heat system which maintains the air volume and raises its temperature to meet the space demand.

While certain systems, like those providing chilled and hot water to central station air handlers, can more easily adapt to situations like the one described above, unitary equipment cannot. Since unitary, or packaged, HVAC equipment, is found on most commercial buildings, this scenario is a common one. In the case of this building, the of-the-shelf rooftop units were meant to handle a much higher cooling requirement and, because these systems predominantly offer only one or two steps of capacity control, they do not have the infinite variability necessary to keep the coil cold all the time while keeping the space at the desired temperature.

In order for the standard unitary system to keep the space at the desired temperature setpoint, the unit must cycle the compressor (the cooling "heart" so to speak) off. And, because stopping and starting compressors is damaging to them, these systems have a forced "off" period before the compressor can turn on again. This on / off cycling of cooling causes the space temperature to seesaw and the inability to maintain a cold coil causes the humidity to rise. The typical result is a space that cycles above and below the comfort level while remaining humid, thus the "cave" environment - which also increases the chance of mold growth.

What's the answer? The obvious first choice is to replace the equipment with something engineered to work in the new conditions. Many systems are available today that offer an acceptable level of space condition control while still being economically viable around the unitary price-point. If replacement of the system is not an option, there are certain circumstances when the addition of special refrigerant controls can be applied to standard unitary equipment to "false load" the system thus keeping the compressor on and the coil cold. Other options can involve eliminating other stages of control (turning off a compressor) or rezoning the system to handle more physical office space and eliminating the need for a unit altogether. In all these circumstances, it is critical the HVAC service contractor has the technical knowhow (preferably inhouse engineering) and experience to deliver a final product that meets the client's needs while being sensitive to budget.

The office renovation described above is the perfect storm, but any one of the modifications mentioned to the building's skin or interior could result in an oversized system. What's the takeaway? CCIM Institute lists HVAC comfort as one of the top criteria in selecting office space so it makes sense to choose a quality HVAC partner that has the responsiveness and technical aptitude to solve problems quickly and provide advice on future initiatives. Choose wisely. ■

About the Author:



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Office Listings



2,850 SF

Sale - 1223 E. Chocolate Avenue, Hershey

- Beautifully kept, freestanding office on heavily traveled road
- The space is very versatile and will lend itself to a variety of users
- Features include a first floor office area with reception/waiting, private offices, a conference room and kitchenette
- The second floor has a two-bedroom apartment which is rented on a short-term basis
- Storage areas are abundant throughout - full basement, attic area, and 30 x 30 garage at the rear of the parcel



2,500 - 4,542 SF

Lease - 208 N. Third Street, Suite 400, Harrisburg

- Completely renovated and updated suite on the 4th floor
- Historic building faces the Capitol Complex with great window lines
- Downtown amenities are just a few steps away and parking is a block in every direction



1,304 SF

Sale - 4825 E. Trindle Road, Mechanicsburg

- Various opportunities exist at this location
- For the office user, the building lays out well for a small professional/business office
- For an investor, there is an acre of land for a potential larger office or construction of multi-family units behind the office building

Would You Like to be Featured?



The Bill Gladstone Group of NAI CIR is looking to fill editorial content in our quarterly magazine and monthly newsletter publications for the 2019 calendar year.

What Are We Looking For?

Industry related articles that our readership of over 4,600 business decision makers and industry leaders would benefit from reading in print and online through social media. Articles are typically 1,200 – 1,500 words and include an author bio, headshot, and recognition for your company.

Topics Can Include: Finance, development, law, architecture, technology, engineering, environmental, wellness, current trends, security, business operations, and much more.

Need Assistance With A Topic?

We can suggest one that would be a good fit for your expertise.

Contact: Leah Wentz (717) 761-5070, ext. 116 or lwentz@naicir.com.

Please forward this information to any colleagues you feel could be a good fit for our publications as well. We look forward to hearing from you!

Office Listings



Lease - 212 N. Third Street, Harrisburg

- One suite available in this attractive brick office building, perfectly suited for attorneys, lobbyists, associations or any other professional user
- The building is centrally located just steps from the Capitol Complex as well as many eateries, retail shops and downtown attractions
- New aggressive rates include in-suite janitorial



Lease - 30 N. Third Street, Harrisburg

- 1,443 - 20,112 SF contiguous available in Class A office building
- Skywalk to Strawberry Square, Walnut Street garage, Harrisburg Hilton, Whitaker Center, etc.
- This building is Energy Star Certified and utilizes the latest energy management systems for optimal energy efficiency



Lease - 3780 Trindle Road, 2nd Floor, Camp Hill

- Centrally located on Trindle Road, this building has great visibility and excellent access
- The second floor suite features three offices and reception area
- The property is very well-maintained and the furniture in the suite is available for sale or it can be removed



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266 - 4,453 SF

Lease - 415 Market Street, Harrisburg

- Attractive office spaces at the Harrisburg Transportation Center
- In walking distance to all the downtown restaurants, amenities, and Riverfront Park
- Located in Technology Corridor Enterprise Zone
- **HALF PRICE RENT for the first year on a 3 or 5 year deal (promotion ends October 31, 2019)**



Price Reduced

3,600 SF

Lease - 4386 Sturbridge Drive, Harrisburg

- Class A office space for medical or professional use
- Space in shell condition, ready to accept a build-out designed to suit tenant
- Located along Route 39 with access to amenities such as lodging, eateries, gas, banking and all major transportation corridors



2,746 SF

Lease - 3425 Simpson Ferry Road, Camp Hill

- One suite available
- Office area has great perimeter window lines designed for professional users
- Ample parking on-site and easy access to Route 15, Route 581, and the PA Turnpike (I-76)
- Amenities close by including banks, restaurants, shopping, and convenience stores



2,630 SF

Lease - 1100 N. Mountain Road, Suite 1, Harrisburg

- Large, open office suite in this brick, single-story office building in Lower Paxton Township
- Great signage and visibility on Mountain Road
- Close proximity to I-81



155 - 5,910 SF

Lease - 112 Market Street, Harrisburg

- Great downtown location, directly across from the Dauphin County Courthouse and accessible to all the downtown business and entertainment districts
- Suites available in all sizes, from a single office to an entire floor
- The fifth floor suite was recently renovated with expansive views of the Susquehanna River
- Parking is available in the Market Square Garage at market rates



2,464 SF

Sale/Lease - 3759 Peters Mountain Road, Halifax

- Freestanding brick building located along heavily traveled Peters Mountain Road
- The 2,464+/- SF building has been well-maintained
- Perfectly suited for a professional office or retail user

Featured Land



Sale - Linglestown Road, Harrisburg, Dauphin County

- Over 60 acres of land, zoned Agricultural Residential for sale in Lower Paxton Township
- Located off Linglestown Road with access also available from Pikestown Road, just moments from several of Harrisburg's major thoroughfares

Investment Listing



Sale - Confidential, Harrisburg

- Well-maintained, 3-story masonry building overlooking the Susquehanna River
- Five (5) year lease renewal started January 1, 2019
- No deferred maintenance and on-site parking available
- Signed Confidentiality Agreement needed for additional information

Land Listings

Location	Acres	Zoning	Type
370 W. Main Street, Leola, Lancaster County	1.3 - 2.8	General Commercial	Sale/Lease
Bent Creek Boulevard, Lot 2, Mechanicsburg, Cumberland County	2.02	Community Commercial	Lease
7700 Derry Street, Harrisburg, Dauphin County	2.12 (lot 4)	Commercial District General	Sale
Price Reduced - I-81 and W. Trindle Road, Carlisle, Cumberland County	2.18 (2 parcels)	Commercial Highway	Sale
Price Reduced - 100 Narrows Drive, NEC of US Route 422 & Narrows Drive, Lebanon	2.2	Commercial	Sale
8001 Grayson Road, Harrisburg, Dauphin County	2.25	Commercial	Lease
7700 Derry Street, Harrisburg, Dauphin County	2.3 (lot 8)	Commercial District General	Lease
2600 Delta Road, Brogue, York County	2.5	General Commercial	Sale/Lease
5650 Derry Street, Harrisburg, Dauphin County	2.5	Commercial Limited	Sale
St. Johns Road, Camp Hill, Cumberland County	3.05	General Commercial District	Sale
Peters Mountain Road & River Road, Halifax, Dauphin County	5.1	None	Sale
700 S. Baltimore Street, Dillsburg, York County	5.23 - 57.5	Agricultural - Conservation (AC)	Sale
Eisenhower Boulevard, Harrisburg, Dauphin County	5.39	Commercial General	Sale
W. Suncrest Drive and Spring Road, Carlisle, Cumberland County	6.72 (5 parcels)	Commercial/Light Industrial	Sale
1706 Good Hope Road, Enola, Cumberland County	6.78	Office Park	Sale
SOLD - Lancer Street Extended, Harrisburg, Dauphin County	7.52	Medium Density Residential (R-2)	Sale
Pending - 503 Jonestown Road, Jonestown, Lebanon County	7.91	Commercial	Sale
Route 441 and Orchard Drive, Harrisburg, Dauphin County	8.34	Single Family Residential District	Sale
Price Reduced - 730 Limekiln Road, New Cumberland, York County	8.64	Commercial Business	Sale
1900 State Road, Duncannon, Perry County	9.46	Commercial	Sale
Carlisle Pike (Route 11) Waterford Square, Mechanicsburg, Cumberland County	8.78 (8 lots)	Community Commercial (C2)	Sale
Price Reduced - Eisenhower Blvd & Highspire Road, Harrisburg, Dauphin County	10	Commercial District General	Sale
Route 75 & William Penn Highway, Mifflintown, Juniata County	11	Industrial Commercial	Sale/Lease
Gettysburg Pike & Spring Lane Road, Dillsburg NWC, York County	14.92	Commercial	Sale
Price Reduced - Allentown Boulevard, Harrisburg, Dauphin County	17+	Commercial Highway (CH)	Sale
3050 Heidlersburg Road, York Springs, York County	18.16	Highway Commercial	Sale/Lease
349 Pleasant View Road, New Cumberland, York County	45.48	Commercial Business	Sale
Price Reduced - Linglestown Road, Harrisburg, Dauphin County	61.55	Agricultural Residential	Sale

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Check Out Our Recent Deals

Visit www.billgladstone.com to view listings not included in this issue.



SOLD – Part of lot 4, Berks Products Drive, Leesport, PA

Rutter's purchased land in Leesport, PA. This will be the home to an additional Rutter's Convenience Store. The Bill Gladstone Group of NAI CIR along with John Buccinno and Brian Cole of NAI Keystone facilitated the transaction.



SOLD – 71 Cumberland Parkway, Mechanicsburg, PA

Cumberland Parkway, LLC purchased this 2,860 +/- SF commercial space located in Cumberland County. The Bill Gladstone Group of NAI CIR and Gary Russell of Bennett Williams facilitated the transaction.



LEASED - 400 Bent Creek Boulevard, Mechanicsburg, PA

The Cumberland County Library System (CCLS) leased 5,445 +/- SF of office space located in Cumberland County. The Bill Gladstone Group of NAI CIR represented Pennsylvania School Boards Association, Inc. and Joe Bedard of NAI CIR represented CCLS.