Breaking Ground

THE MAGAZINE OF THE MASTER BUILDERS ASSOCIATION OF WESTERN PENNSYLVANIA

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GREEN BUILDING UPDATE

2009 BUILDING EXCELLENCE AWARDS

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CMU's Resnick Café Rycon Construction, Contractor Pfaffmann + Associates, Architect Photography by Ed Massery



MBA

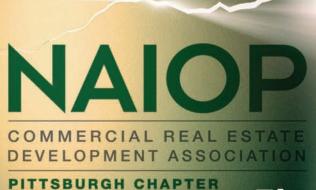
FEATURES & DEPARTMENTS

- 3 PUBLISHER'S NOTE
- 4 NEWS FROM
 THE STREET
 MBA Building Excellence
 Awards Announced, Pittsl

Awards Announced, Pittsburgh Ranks #1 In Commercial Real Estate Markets, Remains One of Five Least Risky Markets, Rivers Casino Contractor Keating is Bought.

- 8 REGIONAL
 MARKET UPDATE
 The Bid Market Thaws,
 Stimulus Smiles on PA.
- 10 NATIONAL
 MARKET UPDATE
 The SNAFU Stage of Recession
 Sets In.
- 12 WHAT'S IT COST?
 Prices Are Holding, For Now.
- 14 FEATURE STORY
 Green Goes Mainstream.
- 25 PROJECT PROFILE
 Carnegie Mellon's Resnick
 Hall Café.
- 32 FIRM PROFILE Moshier Studio.

- 34 LEGAL PERSPECTIVE Southern Builders, Inc. v. Shaw Development.
- 36 FINANCIAL PERSPECTIVE
 A Hard Insurance Market
 is Looming.
- 39 MANAGEMENT
 PERSPECTIVE
 LEED Accredited Professional
 Growth.
- 42 TREND TO WATCH
 Green Building Returns
 to Homes.
- 44 BEST PRACTICE
 Looking for Triple Bottom
 Line Returns.
- 46 AWARDS AND CONTRACTS
- 48 FACES AND NEW PLACES
- THE INDUSTRY
 IN THE COMMUNITY
- IBC CLOSING OUT USGBC's Rebecca Flora.



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Publisher's Note

oyal BreakingGround readers (and you both know who you are) know that we have devoted a fair amount of space over the first few years to what is often referred to as the 'green building movement.' I have a natural aversion to the human tendency to call every trend a 'movement'. In the case of sustainable design and construction, the idea of a 'green movement' seems to trivialize what has become the life's work of some visionary professionals, as if it's something akin to the British Invasion or the Steroids Era.

The motive behind focusing on a green building update this year was to examine how many things have changed since our 'Gray to Green' edition in November 2006. At the time, it was commonplace in my interviews to hear back comments suggesting that sustainable was a noble goal that couldn't be afforded, or that it was an interesting fad to watch for the future. It turned out the future is now.

In the intervening two years, the shift in the market towards sustainable buildings has been nothing short of remarkable. It's not so much that it seems like everyone is building a LEED-certified building (and they are not, by the way), the real surprise for me has been that the demand for sustainable construction has moved into board rooms, and moved beyond just designing and building a LEED project. In several new projects in our region, the client has pushed a sustainable agenda that included proximity to public transportation and location in a live-work-play development, things that are sustainable lifestyle issues rather than bricks and mortar issues.

There is an element to the sustainable lifestyle emphasis that also has some social renovation to it. The long time proponents of a green lifestyle are almost always saddled with the dreaded 'liberal' label (having Ed Begley Jr. as a poster child doesn't help). But the classical definition of a conservative, one who makes best use of his resources and wastes little, is more on target. It turns out that many green lifestyle advocates are linking sustainable practices with fiscal conservation to recommend a remedy to what ails us economically for the long haul. The desire for acquisition and consumption without much regard for waste was certainly part of the climate during the housing bubble, and the push from mortgage companies to write more and more didn't work out so well in the end.

During the research for the January/February article on the proposed stimulus package, there was some buzz about the focus the legislation would have on energy efficient and healthy buildings. It would make sense for the government to attach strings to a massive spending bill that would require the beneficiaries of the package to develop in a manner that is responsible to the environment, and especially that resulted in buildings that operated cheaper and with less dependence on energy.

It remains to be seen whether or not Americans will respond to the current economic pressure by adopting a more sustainable way of living, or if the pressure of a government response to the economic woes will dictate a measure of sustainable practices to the recipients of aid. Saving more, consuming less, and living smaller aren't part of the American way, but applying new technologies and methods to how we build things is. And with increasing frequency those new technologies are being applied to building green.

The one theme that came through again and again during the research of this edition was that firms that 'got' green building really got it. Whenever I encountered a firm that had invested heavily in sustainable practices, the leaders of that company obviously had a passion for green building, and the reasons for investing heavily was that it was good for the industry or society as much as for their own businesses.

It's that way for any significant change, I think, whether it is societal or business. Once an industry's leaders begin to embrace change, things seem to happen almost overnight, and suddenly the 'movement' seems to be what everyone is talking about. For the apostles of green building it probably doesn't feel like things have changed overnight, but a lot has happened in just a few years. If what's in the pipeline is any indication, there are far fewer questions about why a green building should be developed than where it should be developed.

Jeff Burd

News From The Street

MBA Building Excellence Awards Announced

The Master Builders' Association of Western PA announced its 2008 Building Excellence awards at the February 26 Evening of Excellence event at Heinz Field.



Carnegie Museum's Dinosaurs In Their Time, Jendoco Construction.



The Fred Rogers Center at St. Vincent College, Massaro Construction.



Cioppino Restaurant, Giffin Interior & Fixture.



The Meadowcroft Rockshelter Enclosure, F. J. Busse Co. (photo by Ed Massery).



St. Paul's Cathedral, Volpatt Construction.

The awards recognized outstanding work in five categories of projects. For 2008, the MBA revised its categories slightly to be more compatible with changes in market conditions over the past few years. Winners for 2008 are:

New Construction Over \$10 Million: The Fred M. Rogers Center & St. Vincent College Conference Center, Massaro Corporation, Contractor, dggp Architecture, Architect;

Renovation Construction Over \$10 Million: Dinosaurs In Their Time, Carnegie Museum of Natural History, Jendoco Construction Corporation, Contractor, E. Verner Johnson, Architect;

New Construction Under \$10 Million: Meadowcroft Rockshelter Enclosure, Meadowcroft Rockshelter Museum of Rural Life, F. J. Busse Co. Inc., Contractor, Pfaffmann & Associates, Architect;

Renovation Construction Under \$10 Million: St. Paul Cathedral Restoration & ADA Addition, Diocese of Pittsburgh, Volpatt Construction Corporation, Contractor, CFB Architects, Architect;

Excellence In Craftsmanship, Cioppino Restaurant, PIPA Group, Giffin Interior & Fixture, Contractor, DRS Architects. Architects.

PMI Mortgage Ranks Pittsburgh Among Least Risky Markets Again

San Francisco-based PMI Group has ranked metropolitan Pittsburgh as one of the least risky residential real estate markets again. Pittsburgh was one of 15 markets with a less than one percent chance of price decline.

PMI analyzes price and affordability for all 381 U. S. Metropolitan Statistical Areas (MSA), and ranks each according to a risk metric. Risk scores translate directly into an estimated percentage risk that home prices will be lower in two years. The Fall 2008 Risk Index is based on second-quarter Office of Federal Housing Enterprise Oversight (OFHEO) data.

The risk of future price declines rose by more than 10 percent in 16 of the nation's top 50 metropolitan areas, primarily in areas of the country that experienced major increases in house prices during the housing boom. Only two areas, Cambridge-Newton-Framingham, MA and

Most Stable Markets 1. Dallas TX 2. Fort Worth TX 3. Houston TX 4. Pittsburgh PA 5. San Antonio TX 6. Memphis TN 7. Indianapolis IN

9.	Austin TX
10	Columbus OH

Kansas City MO/KS

Ris	Riskiest Markets		
1.	Fort Lauderdale FL		
2.	Riverside-San Bernardino CA		
3.	Orlando FL		
4.	Miami FL		
5.	Tampa-St. Petersburg FL		
6.	Las Vegas NV		
7.	Los Angeles CA		
	Santa Ana-Anaheim CA		
9.	Jacksonville FL		
10. Phoenix AZ			

Boston-Quincy, MA, saw their risk decrease by more than one percent. Eight of the ten riskiest MSA's were in California or Florida, and carried a risk estimate of greater than 96%.

Moody's Rates Pittsburgh #1 Commercial Real Estate Market

Moody's Investor Services quarterly Red-Yellow-Green Report placed metropolitan Pittsburgh as the best commercial real estate market in the fourth quarter of 2008. The combination of Pittsburgh's steady decline in vacancy rates and increasing rents, plus the deteriorating national conditions moved the local market ahead of all 100 metropolitan areas Moody's tracks.

Moody's uses performance in seven categories of real estate (multifamily housing, community or neighborhood shopping areas, central business district offices, suburban offices, industrial, full-service hotels and limited service hotels) to arrive at a composite score ranging from 0 to 100. Moody's current evaluation gives the Pittsburgh area a composite score of 77, up from 72 in the 2008 third quarter. Oklahoma City and San Francisco were ranked at a tie for second, with a score of 74, followed by Honolulu at 72, and Los Angeles and New York City tied at 68.

The worst rated markets were Phoenix (24), Detroit (26), Trenton NJ (33), Jacksonville FL (33) and Riverside CA (36).

Chinese Drywall Problems Prompt Florida Action

Homeowners in central Florida have discovered that a drywall product manufactured in China and installed by several homebuilders there is causing significant problems with the home's electrical and electronic appliances, and perhaps health problems.

Subdivisions developed by builders Taylor-Morrison, WCI Communities and Lennar Corp., are dealing with drywall issues that are worst in Manatee County. Residents in one Lennar subdivision there have moved out almost entirely, complaining of respiratory ailments, nose bleeds, headaches, lost voices, even of their pets losing appetites. Aside from the health complaints, all the residents reported multiple failures of their air-conditioning, TV's burning out repeatedly, corroded electrical wiring and copper pipes, appliance problems, and all within two years of occupancy.

Lennar Corp. has been active in relocating residents in an East Manatee neighborhood of Heritage Harbour, which has at least 23 homes affected. The builder also has hired environmental firm Environ International to conduct tests on at least 100 Lennar homes. Environ found that the sulfur compounds emitted from the drywall were to blame for the blackened copper wiring and corroded air conditioning units, but does not believe that the levels in the air pose a health risk to residents.

Lennar Corp. has also filed a lawsuit against distributors, installers and manufactures of the Chinese drywall, including Knauf Plasterboard (Tianjin) Co. and Taishan Gypsum.

The state of Florida is in the process of testing both claims of health and home hazards before deciding what steps it can take against the builders and manufacturers of the Chinese drywall.

Perini Corp. Acquires Rivers Casino Contractor

On January 22, Perini Corporation, a leading building, civil construction and construction management company, announced that it has completed the acquisition of

Keating Building Corporation, a privately held contracting, construction management and design/build company, with anticipated fiscal year 2008 revenues of approximately \$425 million and a backlog of \$860 million. Under the terms of the transaction, Perini acquired 100% of the company's stock for \$43 million in cash plus an amount to be determined based on the operating results for 2009 – 2011.

Keating Building Corporation is expected to operate as a wholly owned subsidiary of Perini Corporation and will continue to be managed by its current senior management team.

GREEN BUILDING NEWS

Carriage House Children's Center Awarded LEED® Gold Certification

Carriage House Children's Center has been awarded LEED® Gold certification for an Existing Building by the U.S. Green Building Council (USGBC) for its renovation of the 113-year-old, 40,000-square-foot Wightman School Community Building in Squirrel Hill. A \$2.2 million renovation, dubbed "Old School...New School...Green School," involved the facility's entire heating and cooling system, a total overhaul of its lower level, and a retrofit of the lighting and plumbing fixtures to promote conservation.

Project team members include Gary Moshier of Moshier Studio; Jendoco Construction Corporation; Bert Davis & Associates; Carlins Consulting and Electrical Engineers; Carriage House building manager, Bob Michel; and other Carriage House staff.

This is only the second building in Western PA to receive certification under the <u>LEED for Existing Buildings Rating System (LEED-EB)</u>; the first building was <u>CCI Center</u> in the South Side.

GBA Executive Director Search Launched

The Green Building Alliance has begun its search for a new executive director, to replace Rebecca Flora, who has become Senior Vice President at US Green Building Council in Washington DC. The opening is expected to attract candidates from both regional, national and global advocacy leaders, with the hope of identifying a successor during the second quarter of 2009.

Green\$ense 2009: Beyond Buildings

GBA is hosting *Green\$ense 2009: Beyond Buildings* on March 30-31 at the Westin Convention Center Hotel and David L. Lawrence Convention Center. Featured speakers are Jerome Ringo, Apollo Alliance; Harvey M. Bernstein, FASCE, LEED AP, McGraw-Hill Construction; and Joe Van Belleghem, LEED AP, Windmill West and Dockside Green.

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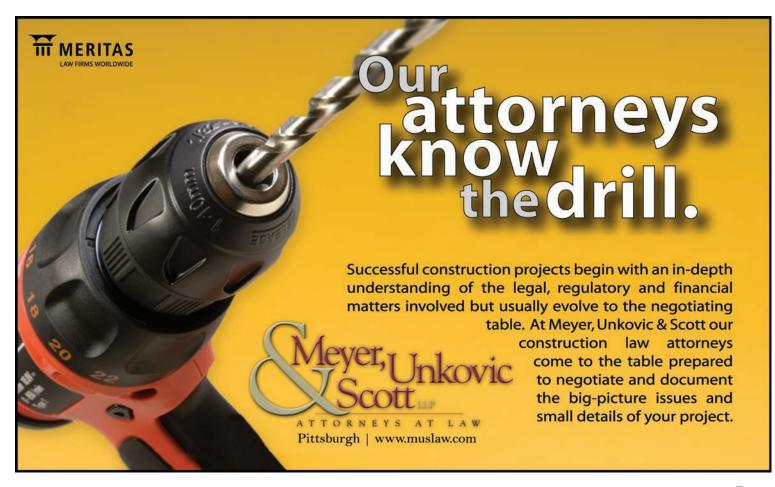
GBA is bringing the nationally recognized day-long Green Advantage® training course to Pittsburgh on April 16, followed by the two-hour Green Advantage Commercial Exam certification on April 23. Designed specifically to teach "in the field" contractors and personnel the theory and practice of sustainable buildings and green construction, the course is team taught by a pair of experienced professionals, one with architecture/design credentials and the other with a construction background. LEED® projects that include a percentage of Green Advantage Certified

contractors on the building team may qualify for a LEED innovation credit toward their overall rating score. Both events will be hosted at the Community College of Allegheny County's West Hills Center in Robinson Township.

Engineering Sustainability 2009 Conference

The Mascaro Center for Sustainable Innovation at the University of Pittsburgh and the Steinbrenner Institute for Environmental Education and Research at Carnegie Mellon University are presenting this year's Engineering Sustainability 2009: Innovations that Span Boundaries Conference on April 19-21 at the David L. Lawrence Convention Center. The conference will focus on cutting-edge research and practices in the development of environmentally sustainable buildings and infrastructure.

For more information please contact Gena Kovalcik at 412-624-9698 or gmk9@pitt.edu, Kim Wisniewski at 412-624-6718 or kaw54@pitt.edu, Deb Lange at 412-268-7121 or dlange@cmu.edu.



REGIONAL MARKET UPDATE

February and March have begun to show the first signs of thawing after the contracting freeze that accompanied the year-end financial market panic. In fact, were it not for the unusually negative background noise of the global economy, an objective observer of the bidding and contracting in the region as winter ends might be tempted to see the first crocuses of a spring recovery.

The reality of the winter, however, is a bit gloomier.

Fourth quarter of 2008 was slow for both residential and non-residential construction. The final year-end results showed better than expected numbers for housing activity, but only because expectations were so low. For the six counties that make up the historical Pittsburgh MSA, there were 2,006 single-family detached houses permitted during 2008 and 1,342 attached units were started. The total housing market declined 19.6% compared to 2007.

The final total for non-residential contracting in metro Pittsburgh was \$3.48 billion, a decline of less than one percent from 2007 volume. Like the previous few years, 2008 was characterized by construction of a number of large projects, a half dozen at more than \$100 million each. Unlike 2006 and 2007, however, the volume of smaller projects, particularly in the commercial sector, slowed significantly.

Aside from the slow contracting and bidding market in November through January, another indicator that is concerning regional market observers is the slowdown in architectural activity. Layoffs have become more commonplace at architectural firms, and requests for proposals have slowed markedly. One bright bit of anecdotal evidence at the beginning of March was that a number of firms are reporting that projects deferred during the financial market meltdown in the fall have come back off the shelf.

Like in the national market, Pittsburgh area developers seem to be watching the big picture warily, waiting to see that another panic sell off is not triggered by some unexpected bad news. It is still too early to judge whether or not the late February stock market decline will dampen development as it did in the fall. And many are also waiting to see what the American Recovery and Reinvestment Act of 2009 means for them.

Vice President Biden offered a glimpse of what the stimulus may bring the region on February 11 when he was in the state visiting some beat up bridges and drumming up support for the stimulus bill. During the visit he promised or alluded to \$16 billion for PA during the

A RECENT \$750,000 BID FOR PETERS TOWNSHIP ATTRACTED MORE THAN 50 BIDDERS ON ALL TRADES, INCLUDING TWO DOZEN GENERALS.

next two years. While it's possible that was Joe Biden being Joe Biden, telling the audience what it wanted to hear, the speech offered some insight into the plan that has allayed some worries about what the real impact the stimulus bill would have on construction.

One commonly circulated theory about the stimulus was that it would not increase infrastructure spending so much as it would replace the spending cuts that have resulted from the deficit in revenues during the past 12-18 months. Biden specified that roughly an additional \$2 billion would be coming to PA from the federal coffers to repair bridges and roads. Given that the state has identified over 400 structurally deficient bridges and \$1.5 billion in 'shovel ready' projects, the additional funding should help. More to the point, that amount of the stimulus funding is roughly the total amount spent by PennDOT annually since the late stages of the Ridge administration. Regardless of how much slippage in construction there has been from escalating costs and declining revenues, effectively doubling the amount spent by PennDOT each year will certainly result in a net gain in infrastructure construction.

While the Vice President was less specific about the implications for building construction, the bill's emphasis on energy efficiency and education should give a boost to the public construction. The more direct help that the Recovery and Reinvestment Act can offer is in creating a mechanism for securitizing or selling loans, particularly commercial mortgages. During 2008, the market for commercial backed securities fell by more than 90%, effectively eliminating the mean of financing for more than half of the commercial new construction market. Commercial mortgage brokers, like local companies Holliday Fenoglio Fowler and CBRE Melody, saw their volumes halved during the past year. As distasteful as government intervention may be, Fed action to create a guarantor of last resort will allow buyers of mortgages to assign a value to the risk and kick start that market again.

Even without the knowledge of all the specifics of the stimulus in place, activity in the local market did pick up noticeably in February. One of the better leading indicators of future construction is the bidding volume, which was noticeably higher for February and March bid dates than the past few months, and even higher than 2008. In the last week of February the local tracking service, Pittsburgh Builder's Exchange, listed 187 projects as out-for-bid, compared to slightly more than 100 in early January, and 125 during the same week in February 2008. While it's likely that a number of these projects were originally scheduled to bid a few months earlier, even that scenario suggests that regional developers have gained confidence compared to the fall.

In addition to the first signs of higher volume, the spring will bring bids on a handful of larger projects in the region. The federal Bureau of Prisons took Phase 1 technical proposals in mid-March for the construction of a \$230 million, 584,000 square foot Medium Security Facility at FCI Hazelton, just south of the Pennsylvania border in Preston County, West Virginia. The pricing phase of the project should occur before summer.

Also in the prison market on the PA side of the border, the Department of General Services is expecting to take design/build proposals for the expansion of two state correctional institutions before summer, each worth about \$200 million. According to DGS officials, the first of these should be SCI-Rockview, in Benner Township just east of State College. The proposed expansion of the SCI-Fayette, in German Township outside Masontown, will follow later in the year, after a \$400 million project at Graterford prison, near Philadelphia.

Another sector that is showing life anew is public schools. Contracts were awarded in January for the \$60 million Moon Area High School. Bids are expected in late April for the Bethel Park High School project, now estimated at more than \$98 million. While Bethel Park is the largest project slated for construction this season, several other districts are hopeful of bidding projects that will be \$20 million or more. Upper St. Clair has plans to spend roughly \$50 million on its two middle schools, Grove City has plans for a \$20 million middle school project, and Ringgold School District hopes to bid a \$35 million plus middle school as well.

The uptick in public projects, which is likely to get even more support as the funds from the Recovery and Reinvestment Act become available later in 2009, has resulted in an increase of competition from contractors from outside the area. For the most part, these have been smaller contractors on smaller projects, but the extra competition will be unwelcome in a market that is already slowing down (a recent \$750,000 bid for Peters Township attracted more than 50 bidders on all trades, including two dozen generals). Historically, out-of-state contractors added to this level of competition have resulted in below market bids, and higher claims and defaults.



NATIONAL MARKET UPDATE

As the first quarter of 2009 has unwound, there has been nothing but bad news roll off the financial pages and websites of America. The outlook for the remainder of 2009 hasn't brightened and it appears we're in for a tough year. Given the events of autumn that preceded the current conditions, however, there is some comfort in seeing a recessionary cycle progress as expected.

There's really nothing comforting about job losses and downsizing if it happens to you or someone you love; however, from a macroeconomic point of view only, the current round of business reactions is something of a return to cyclical normalcy. From that perspective we have moved to the SNAFU or 'situation normal, all fouled up' (or something stronger) stage of the business cycle. The degradation of demand is dictating that businesses cut expenses to attempt to remain profitable, or stem the red ink.

Again, not good news, but given the chaotic beginnings of this recession, the layoffs are the beginning of a predictable response to the cycle, and mark the response by business that is needed to begin the recovery.

The out-of-sequence part of this downturn was the credit crunch. What normally occurs is that slowing cyclical demand begins to cause inventory problems (for example, building too many offices slows demand, which eventually leads to too many cans of paint, sheets of drywall, etc, in warehouses). As inventories stagnate, payment slows down and defaults occur. In response to higher defaults and longer credit cycles, the banks and financial institutions tighten (and sometimes freeze) credit. The slowing economy, coupled with a lack of credit, forces layoffs, consumer belt-tightening, and general austerity until demand becomes so pent up that expansion begins anew.

Because this cycle started with credit extended on the basis of rising home values that stopped rising, the unwinding of the financial support for real estate and construction began before the normal erosion of demand. Now that businesses are recognizing that 2009 will be tough and are responding by reducing overhead, the process of reaching the bottom (and therefore the beginning of recovery) can begin.

This is no consolation for the pain we're experiencing, and there is no assurance that bottom isn't still a ways off, but the single biggest issue facing the investment side of the economy has been the terrifying uncertainty that has prevented investors from assigning value to risk, and to the financial system. Construction relies on investors

HOW QUICKLY THE SO-CALLED **OBAMA STIMULUS CAN BE** TRANSLATED INTO CONTRACTING WILL DETERMINE IF AN INCREASE IN PUBLIC CONSTRUCTION INVESTMENT CAN OFFSET THE **DECLINING PRIVATE MARKET.**

assessing the risk of development relative to the lost opportunity of missing out on demand. Judging demand is tough enough, but when investors can't be secure about how likely the debt they are buying into can be repaid, they will pass on the opportunity.

It's no different with jobs. When even a thriving business can't be sure if its customers will really be buying in six months, there's little chance it will hire or expand.

When the wheels come off and people lose their jobs or their houses, that's a fouled up situation, but in the course of an economic contraction, it's also normal

What is cautiously optimistic about the more normal employer reaction to a recession is that the layoffs and downsizing have historically reached their peak within six months of the beginning of the next growth cycle.

It is this kind of data that is supporting the arguments of those who feel that recovery for this business cycle will begin in the latter part of 2009. In fact, a recent survey suggests that individuals responsible for hiring may already be planning that. Chicago-based recruitment firm, TalentDrive, released on February 11 the results of a survey of 8,000 firms done between January 16 and February 9. The surprisingly optimistic results showed that 46% of surveyed companies are not in a hiring freeze. The survey went on to announce that 68% of participants anticipate normal hiring to return by the third quarter of this year.

The American Recovery and Reinvestment Act (ARRA) of 2009 aims to boost that hiring by introducing \$785 billion into the economy through federal spending, the bulk of which is to be committed in fiscal year 2009, which ends September 30. The bill, which was signed into law on February 18, provides for \$149 billion in funding for infrastructure and public construction. According to Reed Construction Data, the stimulus package has spawned more than 18,000 identified projects, which are expected to create 1.6 million jobs in 2010 and 2011.

Until the effects of ARRA are felt, construction starts will continue to reflect the slowdown in consumer and business spending which began in the fourth quarter of 2008. At the end of January, the Census Bureau released its final figures for contracting in 2008. Total construction spending in 2008 fell 5.1% from 2007, to \$1.08 trillion. Private residential spending was the sector lagging the most, falling 27% from the previous year. Private non-residential construction ended the year up 15% from 2007, however, those numbers include a 51% increase in spending on manufacturing buildings because of the construction of four major refineries, new power plants and two large auto plants. Absent these large projects, the manufacturing sector was down slightly.

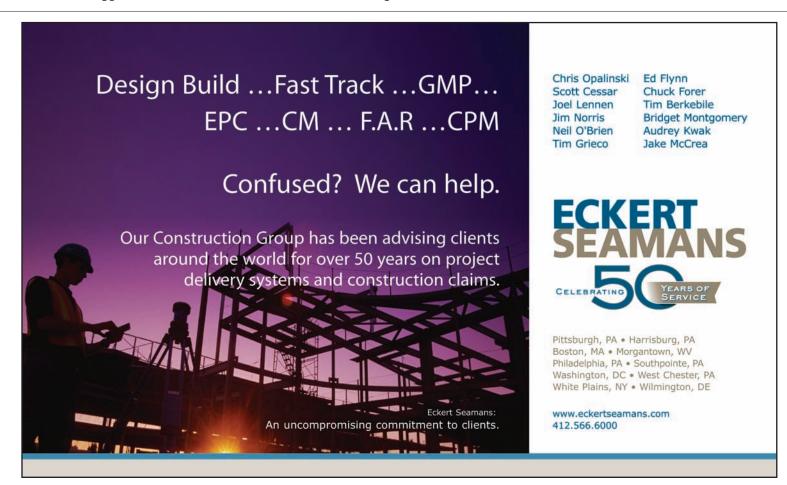
Also in January, McGraw-Hill Construction released its results for the year-end. As expected, the biggest decline occurred in residential construction, which fell another 39% to \$167 billion. Non-residential construction ended 2008 up just over one percent higher than 2007, with \$237.7 billion contracted for the year. McGraw-Hill reported that the strongest parts of the market were manufacturing (up 53%), healthcare (up 24%), education (up 7%) and public buildings (up 7%).

Within non-residential categories, commercial construction lagged 17% behind the totals for 2007. Retail buildings

and the related warehouse sector fell 27% and 28% respectively, and office construction slowed by 7%. Hotel construction was the only positive part of the commercial category, up 6%, however that market changed direction dramatically in the third quarter, and is expected to decline precipitously in 2009.

These volume levels and the downward trend in new construction should continue through the first quarter. Assuming that the end of the quarter produces no new catastrophic financial problems, no other shoe dropping, the remainder of 2009 should show lower capital expense from private sector sources, and a return to reinvestment in facilities before the year ends. How quickly the so-called Obama stimulus can be translated into contracting will determine if an increase in public construction investment can offset the declining private market.

As winter 2009 thaws, the expectations for the national economy and construction spending are very low. Recovery will depend on rekindled consumer sentiment, continued thawing of credit (particularly in the securitization of mortgages), and some signal that asset values are not going lower. Until recovery starts, the construction markets will struggle to meet expectations.



WHAT'S IT COST

Skidding Global Demand Cools Material Prices

Like most other aspects of the global economy, the hyperinflation of basic construction materials, which was viewed as a permanent problem just six months ago, has turned 180 degrees in no time. Instead of worrying about skyrocketing prices dampening demand for new construction, manufacturers are now scrambling to shutter operations adequately to match the lower demand.

For most of the building products and materials pipeline, hopes for better times rest on two opportunities: a sooner than expected economic recovery in 2009, and the immediate benefits from the American Recovery and Reinvestment Act.

January 2009 Compared to-

PERCENTAGE CHANGES IN COSTS

	1 mo.	3 mo.	1 yr.
Consumer, Producer & Construction Prices			
Consumer price index (CPI-U)	0.4	-2.5	0.0
Producer price index (PPI) for finished goods	0.9	-3.9	-1.0
PPI for materials and components for constructi	on -0.3	0.0	1.8
Costs by Construction Types			
Highway and street construction	0.4	-11.3	-1.4
Nonresidential buildings	-0.3	-5.9	1.2
New warehouse construction	1.3	1.2	7.5
New school construction	-0.9	4.0	11.8
New office construction	1.3	1.5	7.2
Multi-unit residential	-0.1	-3.7	2.2
Single-unit residential	-0.4	-2.9	4.0
Costs for Specific Construction Inputs			
#2 diesel fuel	-4.3	-41.9	-41.0
Asphalt paving mixtures and blocks	-6.2	-14.4	23.1
Concrete products	1.4	2.4	5.0
Brick and structural clay tile	-0.1	0.3	0.5
Plastic construction products	0.3	-2.4	3.5
Gypsum products	1.0	1.8	8.7
Lumber and plywood	-2.3	-5.3	-7.3
Architectural coatings	0.0	5.5	16.5
Steel mill products	-5.8	-24.9	-2.2
Copper and brass mill shapes	-4.1	-23.2	-28.7
Aluminum mill shapes	-7.6	-15.4	-12.4
Fabricated structural metal	-3.0	-6.7	7.4
Prefabricated metal buildings	-0.9	-3.5	22.1
Crude petroleum (domestic production)	-12.5	-57.9	-64.1
Cement	1.2	1.8	0.9
Iron and steel scrap	21.9	-19.2	-38.4
Copper ores	3.8	-53.9	-51.7
Source: Bureau of Labor Statistics Compiled by Ken Simonson, Chief Economist AGC			
Complied by Kell Sillionson, Chief Economist Add			

20-City	Feb-09	% change	% change
Material Cost Index	Index Value	Month	Year
Materials	2720.52	-1	5.2
CEMENT \$/TON	101.98	0.1	0.8
STEEL \$/CWT	44.8	-1.3	10.6
LUMBER \$/MBF	415.16	-0.5	-4
20-City	Feb-09	% change	% change
Building Cost Index	Index Value	Month	Year
Building Cost	4765.39	-0.3	4.6
Skilled Labor	8112.22	0	4.1
WAGE \$/HR.	45.02	0	4.1
20-City	Feb-09	% change	% change
Construction Cost Index	Index Value	Month	Year
Construction Cost	8532.73	-0.2	5.4
Common Labor	18015.79	0	5.4
WAGE \$/HR.	34.23	0	5.4

Engineering New Record indexes for costs show the impact the slowing economy has had on inflation. Source: ENR February 23 Construction Economic Report.

The primary culprits in last year's inflation, soaring energy costs and global demand had retreated dramatically by the middle of the first quarter of 2009. Prices for diesel retreated close to \$2.15 per gallon by mid-February, a 120% decline from the same period in 2008. The drop has begun to be fully reflected in liquid asphalt, roofing, and other diesel-related products. Likewise, the slowdown in economies worldwide, many of which are in far more dire straits than the U. S. economy, has removed market opportunities for manufacturers of all building components.

Structural steel remains at lower levels than at the end of 2007. Even as sagging demand has caused manufacturers to reduce activity to 50% capacity levels, prices for structural steel continue to fall near or below \$500 per ton. While January brought a glimmer of hope to suppliers with a slight increase in scrap metal prices, the market has since softened, with steel's two largest sources of demand autos and new homes - operating at lower levels than for several decades.

Demand for cement globally is expected to be spotty, with pockets of increased demand offset by declining usage in other regions. Manufacturer LaFarge announced plans in late 2008 to increase prices in recognition of the increased costs of energy, but the reality of the markets will likely dictate otherwise. Several Indian manufacturers also

THE PRIMARY CULPRITS IN LAST YEAR'S INFLATION, SOARING ENERGY COSTS AND GLOBAL DEMAND HAD RETREATED DRAMATICALLY BY THE MIDDLE OF THE FIRST QUARTER OF 2009.

predicted a modest increase to offset energy costs that were not recouped in 2008, but the drop in demand coupled with global energy costs that are 60% lower than the beginning of 2008 will make it difficult to get increases through. Even the Chinese market, which was a gluttonous consumer of cement in recent years, expects a rapidly deteriorating construction market to slow the growth of cement consumption to six percent in 2009.

One basic product that will see some increases in 2009 is drywall. Manufacturers have reacted to the drop in demand for a much longer period than other commodities, as housing remains the single biggest drywall sector. During 2008, the producers of drywall abandoned whatever hope existed of a housing recovery and cut production significantly. The supply and demand dynamics now favor the manufacturers, as demand exceeds supply. The first increase took place in January. Suppliers have indicated that these prices were only protected for 90 days, which is a sign of an expected increase in the second quarter of 2009. Manufacturers are advising that contractors and architects allow for 5% drywall budget creep for 2009.

Recessionary pressures will keep the lid on inflation for building products and materials until the increased construction spending from ARRA or a recovering economy kick in. It's instructive to note that the amount of planned expenditures from the so-called stimulus bill is less than \$150 billion. That's not chump change, but even fully invested (and remember that not all will be obligated in 2009), the increase would be less than 10% of the total U. S. construction volume.

Unless, as energy contrarians like Boone Pickens and Jim Rogers have predicted, energy supply/demand imbalance drives oil prices above \$100 per barrel again this summer, there will be very few market forces pushing construction components significantly higher during the next few quarters. The greater likelihood is for a deeper recession to further soften the markets.





reen building hasn't changed all that radically over the past two years, but it sure seems that way. The growth of LEED rated buildings and LEED Accredited Professionals, coupled with the 'greenwashing' of advertising for everything from children's clothing to oil companies, has

pushed green into the category of overnight success. Like The Beatles (without the screaming teens of course), green building has burst onto the scene only after many years of toiling in the sticks, its champions extolling the virtues of sustainable design on what seemed like deaf ears.

For all the successes that green building has had of late, it appears that 2009 will be another year where green leaders set the bar higher and make their task more difficult. Rather than basking in the glow of what has been achieved, leaders at U. S. Green Building Council (USGBC), Pittsburgh's Green Building Alliance (GBA), the AIA, Associated General Contractors of America, and many other organizations will be pushing green building to expand into areas which have been slow to adopt sustainable design, raising standards for professional accreditation and expecting more out of the people that design and build green projects.

While the research and development groups push the boundaries, perhaps the best measure of the acceptance of green building is the lack of justification needed in most quarters for accomplishing projects in a sustainable way. Green has moved from eccentric to mainstream.

"As research comes in from diverse sources examining the interest in green buildings among a wide range of Americans, the numbers keep painting the same picture: The future of our built environment clearly centers on energy efficiency, water reduction, systems that encourage cleaner indoor air, the use of recycled and more sustainably developed materials, and communities that coexist with their environments," said Rick Fedrizzi, President, CEO & Founding Chair, U.S. Green Building Council. "Over and over again, Americans are saying the same thing: The key to a prosperous future is sustainability, and the triple bottom line - environmental responsibility, economic prosperity and social equity - is imperative as we move forward."





A commercial office retrofit, the MBA's new office in Green Tree will be a LEED Silver renovation.

Key findings from studies conducted over the past year of groups ranging from consumers and homeowners to commercial real estate executives, include:

- 70% of homebuyers are more or much more inclined to buy a green home over a conventional home in a down housing market, according to McGraw-Hill Construction's 2008 SmartMarket Report, "The Green Home Consumer." That number is 78% for those earning less than \$50,000 a year, showing the increasing access to green buildings for all members of our society. In fact, 56% of respondents who bought green homes in 2008 earn less than \$75,000 per year; 29% earn less than \$50,000.
- More than 80% of commercial building owners have allocated funds to green initiatives, according to "2008 Green Survey: Existing Buildings," a survey jointly funded by Incisive Media's Real Estate Forum and GlobeSt.com, the Building Owners and Managers Association (BOMA) International and the USGBC. Some 45% plan to increase sustainability investments in 2009.
- That same study showed that 60% of commercial building owners offer education programs to assist tenants in implementing green programs in their space, up 49.4%

from last year, illustrating a growing understanding of the importance of environmental awareness among employees and customers in addition to the use of green materials and systems.

- LEED-certified projects are directly tied to more than \$10 billion of green materials, according to a Greener World Media study on green building. That could reach more than \$100 billion by 2020, contributing to a vibrant industry that could drive an economic recovery.
- The Center for American Progress and the Political Economy Research Institute at the University of Massachusetts Amherst, in a September 2008 study, found that a national green economic recovery program investing \$100 billion over 10 years in six infrastructure areas would create 2 million new jobs. The investments would include retrofitting existing buildings to improve energy efficiency and investing in wind power, solar power and next-generation biofuels.

Greening Existing Buildings

When speaking to leaders in the green community at the beginning of 2009, there is almost unanimity about the next big things in green building, and at the top of the list seems to be existing buildings.



First, we should be clear about the context of greening existing buildings. There has been a category of LEED ratings for existing buildings for a number of years, but it was commonly used to rate construction projects that renovated or re-used existing buildings. Beginning September 1, 2008, however, the LEED-EB designation was expanded to LEED-EB: Operations and Maintenance. The goal is to help building owners and managers measure operations and maintenance so they can maximize operational efficiency while minimizing environmental impacts. LEED-EB addresses building cleaning and maintenance issues, recycling programs, exterior maintenance, and systems upgrades. It can be applied both to existing buildings seeking LEED certification for the first time and to projects previously certified under LEED.

The change in emphasis with existing buildings is a reflection of a deepening of the focus on the performance and health of the built environment, irrespective of construction or renovations.

GBA's Research Director, Aurora Sherard, says the new rating is part of a larger effort. "There's a big push to incorporate green building into the existing building category, to focus on operating and maintenance costs, and improving the performance of buildings that aren't under construction," she explains. "We're moving to collecting operational data on buildings that were built new as a LEED building as well, so we can ask, is LEED working like we thought?"

The existing building stock represents the greatest potential for improving energy and environmental performance. According to the most recent study of building stock done by the Energy Information Agency, about 75 billion square feet of commercial space, and 240 billion square feet of residential space exists in the U.S. market. While a portion of this space is renovated each year, the vast majority of the building stock simply operates as built. USGBC hopes that the information collected about the performance of LEED-EB buildings will be compelling enough to motivate building owners (including consumers eventually) to make changes to be more green.

The more difficult task facing USGBC is figuring out what it will require from existing building owners to become LEED-EB. "The tough question is how to do it," admits USGBC's senior vice president of education, Rebecca Flora, who until January was the Executive Director of GBA. "We're talking about buildings, not projects. It's less clear what standards you can apply to an existing building to consider it green."

If the goal is to get owners and property managers to think that all of their buildings can be LEED certified, even if



Green building has moved from the monumental new project, like the David L. Lawrence Convention Center, to the mainstream commercial arena, like Mika Realty's adaptive re-use of the former Union Trust office building.

they aren't doing improvements to them, the rating agency will have to identify operational aspects beyond energy performance of the equipment and systems. USGBC would no doubt like to reward owners who maximize the efficiency of inefficient equipment, or who create energy savings beyond what their systems can provide. Even more important may be the operations and maintenance practices that may improve indoor air quality or material management in a building. While the ultimate response to USGBC research that shows the benefits of high-performance buildings may be to have an owner upgrade his or her building, the hope is to have building owners think about LEED concepts when the building is not under construction.

The Push for Public Schools

One of the more counterintuitive truths about green building is that one of the slowest sectors to respond has been the public school market. While private colleges and





Pittsburgh's most recent jumbo project, the new Pittsburgh Arena, will be another LEED-certified milestone.

public universities were among the earliest owners to get green building, and higher education buildings are among the most prolific of the LEED registered inventory, the public K-12 has been a laggard.

This is one that can't be blamed on the architects. Architects in general, and school architects in particular, have been advocates for energy efficiency in educational design for a couple of decades. But the fiscal issues facing many school boards, especially if they are saddled with restrictions like the PA Department of Education places on school boards, have stopped many energy driven designs as too expensive. Again, given that parents frequently dominate school boards, this seems counterintuitive.

Few topics seem to inspire more passion and gut reaction, even among politicians, than our children. It would seem logical then, that taxpayers, local school boards and legislators would have been knocking down USGBC's doors to get their schools LEED-certified. The reality is precisely the opposite. The reasons seem to boil down to the perception that building LEED-rated schools is too expensive and a lack of understanding of the benefits, according to an October 2006 study "Greening America's Schools: Costs and Benefits" by Gregory Kats. The same study identified only 30 LEEDcertified schools nationally at the time, including only three in Pennsylvania, none in Western PA.

Kats' study found that green schools cost about 2% more than conventional schools (or about \$3 per square foot) to build but provide financial benefits that are 20 times as large. Some of the benefits are:

- Save an average of \$70 per square foot over comparable conventional schools.
- Use 30-50% less energy.
- Use 30% less water.

Green schools use less energy and less water. They maximize natural daylight to create an environment that is more conducive to learning. They have better acoustics and more comfortable, efficient climate control and healthier indoor air. Their natural systems, such as green roofs or solar panels, provide hands-on learning opportunities, so that the next generation of American adults will instinctively make decisions based on sustainability as well as cost.

"When you consider the fact that 50 million young people spend eight hours a day in a school building, we should do everything we can to make that environment work for them, not against them. Parents, teachers and school board officials understand better than anyone the link between child health and learning; and the fact is that children in green schools have fewer sick days and better test scores," said Michelle Moore, Senior Vice President, USGBC.

"And if these reasons aren't compelling enough to go green," Moore continued, "the operational cost savings should be. If you do the math, energy savings alone could pay for 5,000 new textbooks per school per year."

If the call for green schools has been too long in coming, the response within the past year is beginning to make up for the delay. In April 2008, the USGBC announced that one school a day was registering a project to be LEED certified. Earlier in the spring, the Green Schools Caucus, was formed by retired U. S. Congressional Rep. Darlene Hooley, D-Ore., Rep. Michael McCaul, R-Texas, and Rep. Jim Matheson, D-Utah, to raise awareness of the benefits of green schools. As of February 3, almost 70 legislators had joined the caucus, including Reps. Mike Doyle, Kathy Dahlkemper and Jason Altmire from Western PA.

In July 2008 the American Federation of Teachers passed a resolution that every state adopts LEED as a standard for school construction. And in September, USGBC launched its 'Fifty for Fifty' initiative, which calls for caucuses working for green schools in all 50 state houses. The 'Fifty for Fifty' initiative provides state legislators with:

• Up-to-date information and developments in green building including trends, cost-benefit studies and incentives offered by localities to advance and promote green building. Networking opportunities with like-minded legislators across the country.

MASTER BUILDERS' ASSOCIATION OF WESTERN PA, Inc.



The MBA is renovating their new headquarters building to receive at least a Silver LEED Certified Rating from the U.S. Green Building Council. The MBA's 10,000-squarefoot "green building" offers a variety of environmentally friendly amenities ranging from a sophisticated air ventilation system to motion sensors to reduce energy consumption and new exterior walls and windows for proper insulation. The project is on schedule to be completed this spring and its located in the foothills of Foster Plaza, Green Tree, 631 Iron City Drive, Pittsburgh, PA 15205.

Key Green features of the Building:

- Light pollution reduction through interior & exterior fixture selections
- More efficient water fixtures 43% less than typical construction: dual flush toilets and low-flow urinals
- Energy efficient HVAC design, building shell & glazing – 38% less than typical renovations
- High reflectance roofs to reduce thermal loads
- Environmentally friendly refrigerant management
- · Recycling areas & collection
- Monitoring outdoor air delivery
- · Recycled construction waste
- · Regional materials
- Recycled materials
- Low VOC paint, carpets, sealants, & wood
- · Indoor pollutant control
- · Controllable lighting
- Thermal control & ventilation
- Daylighting
- · Views throughout the space

In green construction, the MBA membership account for 90% of the square footage of LEED certified buildings in the Greater Pittsburgh region.



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- Opportunities for partnerships with experts in their communities, from architects to engineers to contractors.
- Opportunities to present best practices and successes in regional and national forums.

During the recent debate over the economic stimulus legislation, the American Recovery and Reinvestment Act of 2009, the heightened awareness of the need for green schools paid off, at least initially. In its version of ARRA, the House of Representatives included \$14 billion for renovation and construction of green schools. By the time the House and Senate bills were reconciled, the green schools provision had been toned down, and was instead part of a \$9 billion provision for state governors to use for energy-related improvements to public buildings. While disappointing compared to the original House version, the addition of even one billion dollars to apply to green schools would allow some green-minded school boards to create better learning environments for their students.

LEED v3

The growth in acceptance by the construction and real estate mainstream during the past few years has accelerated the maturation of Leadership in Energy and Environmental Design as a concept. Whereas green building had to be first concerned with making friends at all levels during its first decade or so, the current status of the industry allows for differentiation in the education and labeling of the professional community.

One of the major changes that occurred was for the standard bearer in LEED, the USGBC, to reorganize itself to create a greater focus on LEED alone. The function of advancing LEED starting in 2009 will fall on the Green Building Certification Institute (GBCI), a separate organization within USGBC that will be responsible for the accreditation and certification programs. While USGBC will still retain the role of pushing the envelope for the development of LEED education and rating systems, it is keeping the implementation separate.

GBCI will oversee the education of professionals, and has adapted the LEED core curriculum to recognize that the marketplace needs experts, enablers and advocates. To ensure that future green buildings are more energy efficient, designed more harmoniously with the environment, and built in the most sustainable manner, LEED accredited professionals will need to have the same level of continuing education about sustainability as other technical aspects of their profession. In recognition of this higher level of technical education, GBCI's curriculum is being stratified so that the 'Level 300' provides education aimed at implementation of LEED measures. It will be this level of proficiency where LEED AP+ credentialing will occur.

At the same time, GBCI will continue to inform professionals with less of a technical requirement, but who still need to understand how LEED is implemented in order to perform their role in the industry. Building operations management and development professionals or real estate brokers, for example, play a vital role in advocating and delivering a LEED project, but don't need the depth of technical expertise to implement it. Starting in 2009, these professionals will more likely be educated to become LEED Associates by learning about LEED concepts and strategies.

GBCI will also maintain an education program, a Level 100 curriculum, for advocates of green building who may be important supporters, but who don't play a role in actually implementing or developing LEED buildings. This curriculum will teach green building concepts and create awareness for the value of green building.

For the long term, USGBC believes that a better definition of the degree of expertise needed by the different professionals will serve to keep the Accredited Professional at the cutting edge of green building. Considering that the number of LEED AP's has grown 1000% within the past three years, to almost 80,000, the need to differentiate between the dozens of professions that are represented in LEED AP had reached its time.

At the same time that USGBC is honing its professional education, the organization realizes that the future of green building depends on exponentially growing the number of people involved in design and construction to shepherd sustainable practices to the saturation point.

"We've only scratched the surface in capacity building in terms of professionals," asserts Rebecca Flora of USGBC. "The number of professionals needed to design projects, implement them, and train others is not sufficient to manage the amount of work that needs to be done. We

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will need to have our efforts supplemented by community colleges like CCAC, professional associations, and contracting organizations, to provide training and prepare as many as possible to work for green building."

Social Equity and Green Building

At the root of green building is what has been called the 'green movement' by the larger media. It's difficult to separate sustainable design and construction from sustainable living. Some of the loftier aims of green building are really social equity issues. Goals like affordable housing, healthier environments for our children, reducing individual carbon footprints for everyone, are all part of the agenda of green building.

Using green building to create a sustainable economy or so-called green jobs is a recipe for good long-term economic health, especially since the emphasis of green jobs is sustainability. But one of the slippery slopes of this discussion is the short distance perceptually between social equity and socialism. It will be very difficult to separate social equity from inclusion, and those concepts are quite difficult to reconcile with the risk/reward nature of capitalist real estate development.

Private sector construction is fostered by the perception of demand by risk-taking developers, and the system that fosters the best results for those risk takers is one that allows for the maximum reward for the risk. If the aim of sustainable development is to create affordable housing, for example, it will take great care to identify sites and opportunities for which affordable housing is the optimum return. This is one of the reasons why residential development in downtown Pittsburgh has tilted to the higher end. An urban center offers the amenities and convenience that should add a premium to the end product.

One of the tasks that face green building proponents looking to match development with social equity will be creating projects where the source of the funding for socially conscious development (historically government) can afford the characteristics and building performance that a LEED project will have.

The Colcom Foundation is a local non-profit trying to encourage a sustainable environment through control of population growth. Citing estimates that the U. S. population could be 439 million people by 2050, Colcom Foundation raises awareness about the damaging effects of more people on water usage, pollution, animal life, and quality of life in general. They realize, of course, that promoting less growth isn't a popular position to argue.

"It's easy to fall back on growth as a good thing because no one ever challenges it," points out Colcom's president Tim Inglis. "Growth always seems to be the goal of economic development but no one talks about the byproducts of growth that we don't have here in Pittsburgh, like long commutes or skyrocketing housing prices. Those are reasons why people move here in the first place."

Inglis recognizes that economic and population growth is going to be difficult to control, and the Colcom Foundation funds programs, like Paris to Pittsburgh, that encourage reinvesting in the cities that already exist, and works with groups like Bike Pittsburgh or Venture Outdoors to encourage biking or other pollution free transportation. Paris to Pittsburgh is a Pittsburgh Downtown Partnership program that reimburses 50% of the construction costs to retailers who improve their storefronts and sidewalks to open up the storefront to the outside. The goal is to connect retailers and restaurateurs with the pedestrian directly, and to drive businesses into the urban center instead of to the suburbs.

Globally Green

The final frontier for green building is the integration of best sustainable practices into global standards. European nations have been ahead of the curve in many areas of sustainability, incorporating green building products and methods into their residential construction decades before such things were commonplace here. Cutting edge energy saving measures in Scandinavia and Germany, for example, routinely exceed LEED Platinum performance. On a continent wide basis, however, the European Commission only established its non-residential program, GreenBuilding, in 2005. Moreover, more of the world's energy and environmental problems are occurring in the high growth areas that GreenBuilding doesn't address.

As a result, the USGBC has been expanding its work outside American borders, promoting sustainable standards in 69 different countries. One goal of GBCI will



be expanding LEED beyond U. S. borders, and as of the start of 2009 between twenty and twenty-five percent of LEED's project portfolio is international. Overseas there appears to be more interest in green as a remedy for the global economic problems.

The influence of global sustainable practices can have a local impact as well. Springdale-based concrete block manufacturer R. I. Lampus Co. is a member of several international trade associations, which help keep the company abreast of global trends. Growth in the usage of permeable interlocking pavers in Germany, and then Canada, told them that a market existed which wasn't being served here, according to Bob Welling, a Lampus vice president.

"We developed Eco-Tek because we noticed a shift in other markets towards permeable interlocking pavers," Welling explained. "In Chicago, they have replaced miles of asphalt paved alleys with permeable pavers as part of their 'green alleys' program. US Cellular Field there has 265,000 square feet of permeable surface instead of asphalt."

The growth of green building during the past two years has been exponential, even compared to the previous decade. Sustainable design hardly needs a justification anymore, and even the real estate community seems to be reinforcing the value of green building on a purely commercial level. LEED buildings are commanding significantly higher rents and are appreciating at a faster rate than buildings that aren't LEED certified.

In the local market, virtually no significant projects have been built in the past two years that are not LEED certified. The early proselytizing of groups like IBACOS, the Preger Intelligent Workplace, CCI and GBA have produced architectural firms and contractors whose green credibility and reputation bring them work in the national and international markets. During the next decade, green building organizations will push the envelope towards complete saturation of a green built environment, focusing the attention inward on the existing building stock.

It's still early enough in the development of green building to see growth in influence almost indefinitely. Green building is past the stage of being revolutionary or a movement, growing to the point where the business case for LEED or sustainable design is not questioned, even if it is not adopted. The day is coming when the exception will be the non-LEED building, and the justification argument will be around why not do green.



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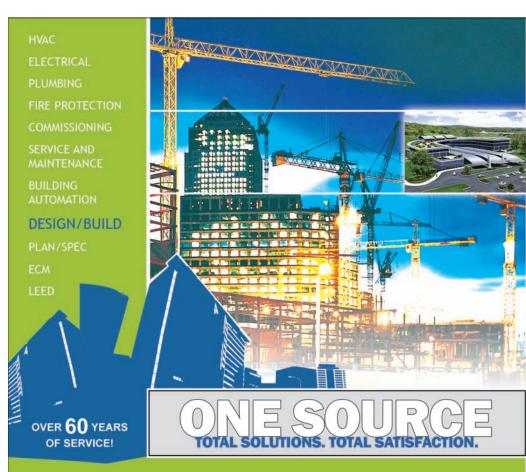
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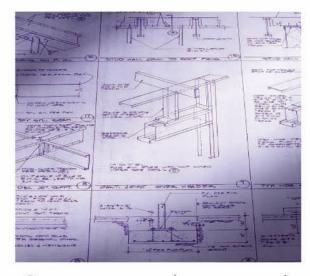
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uring the past decade or so the administrations at Carnegie Mellon have worked very hard to create a physical environment that matched the school's burgeoning international academic reputation. One area in which its students felt CMU lagged behind was in its dining facilities. And one particular facility that was universally panned by the students was the dining hall at Resnick House.

"The space was absolutely abandoned by Housing and Dining for use by the students," remembers Vice Provost Ralph Horgan. "There wasn't anything to attract the



Removing eight-foot thick brick columns allows the separate café seating to open to the larger room (photo by Ed Massery).

students to use it. It was closed down except for use by the summer camps, so we could feed soccer or basketball players in a buffet."

The situation wasn't helped by the fact that Resnick is situated at the eastern end of the campus, adjacent to Gesling Field, and the furthest dining facility away from the 'The Cut' and 'The Mall.' The dormitory was a five-story structure with dining facilities that had separate cafeteria serving and seating areas across the hall from each other.

"THE PROJECT HAD TO BE A SUSTAINABLE PROJECT, AND HAD TO INCORPORATE A HOLISTIC APPROACH TO ACCOMPLISH THE SUSTAINABLE GOAL," ... "WE THINK THE GREENEST PROJECT YOU CAN DO IS AN EXISTING BUILDING, ONE THAT DOESN'T ADD SOMETHING MORE TO THE ENVIRONMENT.

"We inherited a space that had been designed for a similar use but it wasn't set up for an ideal adaptation," recalls Greg George, project architect from Pfaffmann + Associates. The architect had been hired to do a master plan for redesigning the entire food service facility in Resnick. "The space was programmed to be dining space only with the cafeteria where you got the food still across the hall. We were proposing putting another dining

space within the existing so we were using three areas." George was convinced the effort was needed, however. "We saw that we had to reinvent the space and make it alive again, so that it would become a destination spot for students."

Carnegie Mellon's staff had reached a similar conclusion. "The Housing and Dining management decided that we would use design as a way to attract students to go along with a major menu change," says Ralph Horgan.

PROJECT TEAM Rycon Construction General Contractor **HVAC Subcontractor** Heritage Mechanical Contracting Plumbing Subcontractor Manion Plumbing Electrical Subcontractor Hanlon Electrical Fire Protection Subcontractor Scalise Industries Casework Subcontractor Master Woodcraft Seech Industries Structural Subcontractor Architect Pfaffmann + Associates Food Service Consultant Connor Architecture Mechanical Engineer **Bert Davis Associates** Structural Engineer Atlantic Engineering What the dining area did have going for it was a significant architectural focal point, an atrium that extended up from the center of the space. Although the atrium was flanked by eight-foot wide masonry columns, it was discovered that the structure was actually just one-foot steel columns behind the brick cover. Removing the brick instantly opened up the entire central space, giving more room and just as important, creating sight lines that didn't exist previously.



"WE SAW THAT WE HAD TO **REINVENT THE SPACE AND MAKE** IT ALIVE AGAIN, SO THAT IT **WOULD BECOME A DESTINATION** SPOT FOR STUDENTS."

"CMU wanted a spot for the students to hang out, plug in and talk, something like a Starbucks," explains Lou Fabrizi, project manager for contractor Rycon Construction. "But the existing space was two stories and very cold, very noisy with all the brick and quarry tile."

Pfaffmann's architects saw the atrium area as the key to the new design. "What students want in a hang out space is a place to see people, but also to be seen," says Greg George. "Our design called for building a café at the center since there was now 360 degrees of visibility. It was what Frank Lloyd Wright would call the project's fireplace, and would also give visibility and access to the outside." The architect thought this element still fell short of the goal though. "We believed that the café needed to have a sort of theatrical transformation to create the attraction, and we were able to convince the client of that."

The theatrical transformation also turned out to be one of the central parts of the sustainable design. "The architect came up with an ingenious idea of creating a dome inside the atrium, so it looks like you're standing inside half an eggshell when you're in the café," says Lou Fabrizi. "The structure was made of curved glu-lam beams covered with recycled flexible panels that was backlit."

"We designed an object within the atrium that had a theatrical feel, like a stage construction within the café, that we called the 'pod,'" explains George. "The pod is covered with a translucent fabric made by 3form® of an 'eco-resin,' which is essentially ground up plastic beverage bottles. We liked the idea that the cone was made from

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"THE HOUSING AND DINING **MANAGEMENT DECIDED** THAT WE WOULD USE **DESIGN AS A WAY TO ATTRACT STUDENTS** TO GO ALONG WITH A MAJOR MENU CHANGE,"

materials that were being sold in the café." The conical shape was inspired by the thistle that was part of the original Carnegie Mellon University logo, a touch that came from Andrew Carnegie himself. The translucent panels allowed for lighting to be focused on the pod for effect, and also diffused the natural light coming from the adjacent two-story windows, much like a lamp shade does. "The lighting was tied to a computer control which varies according to season, music, rhythm, or whatever," says Fabrizi.

Completing the central room, called the 'octagon room' by the team, was perimeter seating that would be more intimate. "We used recycled wood benches covered with a fabric, and suspended panels above the seating to make these smaller seating areas that were located around the central seating area," says Fabrizi.

Connected to the main room were two other spaces. The first was called the cruciform, a cross-shaped room that was open to allow dancing. This space got new lighting and flooring. And a rectangular open room received a similar treatment to prepare for what Lou Fabrizi called 'video game pods.' "You can actually climb into these pods and play whatever game is on them," he laughed. The project also involved finish renovations to a small



Laminate columns from Seech Industries are covered with translucent 'eco-resin' from 3form® (photo by Ed Massery).



KEA

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The Fred Rogers Center & St. Vincent College Conference Center

Massaro Corporation, Contractor, dggp Architecture, Architect



Meadowcroft Rockshelter Enclosure, Meadowcroft Rockshelter Museum of Rural Life

F. J. Busse Co. Inc., Contractor Pfaffmann & Associates, Architect



St. Paul Cathedral Restoration & ADA Addition, Diocese of Pittsburgh

Volpatt Construction Corporation, Contractor

Celli-Flynn Brennan Architects, Architect



Cioppino Restaurant, PIPA Group

Giffin Interior & Fixture, Contractor DRS Architects, Architect



Dinosaurs in their Time, Carnegie Museum of Natural History

Jendoco Construction Corporation, Contractor

Louis Siriani; E. Verner Johnson, Architect

GOLD LEVEL









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mezzanine space that is now used for exercise equipment. This space is located directly above the new café, but the lighting and cone structure proved separate spaces for eating and sweating.

To complete the transformation, attention was also paid to the exterior, renovating the entrance and adding neon signage that helps attract students. The signage, in particular, is meant to give the impression of a retail presence, something unique, even though The Café continues to be operated by the University Dining Services.

The overall project encompassed 9,400 square feet and construction was completed for under \$800,000. Including design fees, soft costs, furnishings, fixtures and equipment, the project came in at \$1.2 million, or roughly \$129 per square foot. The project also came in LEED Gold.

"The project had to be a sustainable project, and had to incorporate a holistic approach to accomplish the sustainable goal," says Greg George. "We think the greenest project you can do is an existing building, one that doesn't add something more to the environment. To work within this budget we had to take a surgical approach to what we could do sustainable. We were working with LEED for commercial interiors, which makes you look more stringently at materials than LEED NC."

Material selections included bamboo flooring, linoleum, low VOC fabrics, 'green' paints, recycled tiles, and of course, the recycled translucent fabric. George also was frustrated at the difficulty of finding green furniture. "LEED is way ahead of the furniture industry, it turns out," he said. "It was impossible to find anything but premium furniture that is green, but Continental Office Systems helped us get closer to the budget."

Another sustainable strategy that was employed to amazing success was the recycling of the project waste, or lack of it. "Less than 400 pounds of debris was sent to the dump," notes Lou Fabrizi. "The remaining material, including all that brick, was re-used or recycled or given to Habitat for Humanity. My guys (from Rycon) did a great job, plus the architect did a good job of planning for what was there to be re-use."



New signage and entrance renovations draw students to Resnick House (photo by Ed Massery).

The end result not only met the sustainability goals, but also the business plan of the university. The Café is now a destination, and is a place that sidetracks students heading to other parts of campus.

"It's close enough to attract students who live in the hill dorms along Margaret Morrison, and it's where they eat the food they buy from the food trucks that park along the street," says Ralph Horgan. "The transformation has been phenomenal." 86

Moshier Studio

It's hard to say whether it's more surprising that so many architectural couples work together, or that there aren't more who do. Managing a business is a stressful undertaking, as is managing projects as an architect. Taking into account the many stresses that arise in sustaining a healthy marriage, it is easy to understand why many couples that are architects decide not to work together, for the benefit of their personal relationship.

Moshier Studio is one of those firms that is managed by husband and wife. The collaborative studio didn't start out to be a way for the couple to spend the day together, however.

Cherie Moshier had worked at The Design Alliance since 1980. She spent eighteen years with the firm, becoming a principal and managing project architects there during the firm's mid-1990's boom. While it was exciting to be part of TDA's expansion to more than 30 architects during the time of its Alcoa Headquarters project, Moshier missed being close to the projects. She even missed the clients.

In 1998, Cherie decided to shift her career into a different mode, leaving The Design Alliance to found her own practice. As a sole proprietor, she was able to get back to the work that attracted her to architecture initially, and it gave her the freedom to devote much of her energy to raising her children. After just a couple of years working out of her home she found that she couldn't easily tolerate the lack of separation between work and home, and rented an office in the Rubicon shortly after Michelle Frangos renovated the building as part of the reawakening of the East Liberty/Shadyside corridor.

Like his wife, Gary Moshier completed his architectural education at Carnegie Mellon University, and had spent a significant amount of time with a local firm, Kingsland Scott Bauer Architects, growing into a senior associate's position. During the time spent at KSBA (between 1987 and 2003), Moshier had the opportunity to manage projects in both private and public sectors, and throughout the country and overseas. While the work was satisfying, Gary found himself in a curious position as he reached the middle of his career.

"There really wasn't a succession plan at KSBA yet," he recalled. "Roger (Kingsland), David (Bauer) and Grant (Scott) weren't showing any signs of stepping away and none of them were that much older than I was." Moshier was concerned that any succession plan that might come would require a significant financial commitment right about the time his children would be in college. "I was 45



Partners Cherie and Gary Moshier.

at the time (in 2003) and I figured there would be no better time to join Cherie's practice."

The opportunity to make the change came in 2003 when Gary Moshier was asked by the Boy Scouts of Western PA to continue a design that he had begun with KSBA. "I had done a pro bono preliminary design - Cherie actually did the model - for a new building at Camp Guyasota that the Boy Scouts were looking to find donors for," Gary remembered. "After they had lined up Gerald McGinnis, Bob Mazzuca (executive director of the Boys Scouts) asked me to continue with the project." KSBA was willing to have Moshier part amicably with the commission, and the McGinnis Education Center became the first project for the newly formed Moshier Studio.

A Woman Business Enterprise, Moshier Studio focuses on planning, architecture, and interior design clients involved in education, small business, recreation, community development and government. "If we have a philosophy, it would be that architecture informs and supports the missions of organizations, the effectiveness of work settings and the strength of neighborhoods," says Cheri Moshier.

In addition to designing new buildings, additions and renovations, Moshier Studio also consults with owners and other design professionals on sustainable design and LEED certification. The latter service has grown out of Gary Moshier's involvement with sustainable architecture that goes back to when he served on the AIA Pittsburgh's Committee on Environment. Members of that committee were part of the coalition of professionals who helped

found the Green Building Alliance. Moshier has since served on the board of GBA and estimates that two-thirds of the firm's projects are now LEED certified.

Besides the McGinnis Environmental Learning Center, Moshier Studio has also been involved with River Quest, the world's first sustainable boat, the Sustainable Technology Business Center in Mission, TX, and two projects for the state that the Moshiers think are important for their difficulty as well as their acomplishments. The firm was the architect for the Penn Nursery Office in Potters Mills, PA, and LEED consultant for the Elk Viewing Station in Benzette, Elk County, PA. Both projects were publicly bid, separate prime contract projects, a delivery system that is not custom made for the LEED certification process.

The expertise in sustainable design, coupled with varied relationships formed from a combined fifty-plus years of architectural practice, have helped the Moshier's stay busy, even as the economy has slowed. With the expectation that energy efficiency and sustainability will play a significant role in whatever economic stimulus is aimed at building construction, the opportunities are likely to be there for a firm like Moshier Studio. The practice has remained small, with four on staff. In addition to the two partners, interior designer Leah Fink and administrative assistant Heather Kropf complete the team.

"There's room here in the office for six comfortably," says Gary Moshier. "If we continue to grow there may be a time to add more people, but I was with a firm when they went from sixteen people down to four and that was no fun."

An architectural studio with two lead partners is a fairly common model historically, although most have not been married. Over time the partners tend to find niches that offset each other's strengths and weaknesses. As compatible life partners long before they were business partners, the Moshiers thought they gravitated towards the same aspects of the work. It turns out that concern was unfounded.

"We always thought that we did the same things well, that we like the same parts of the project," says Cherie Moshier. "But we've found out that our individual strengths and weaknesses were much more complimentary than overlapping." 65

COMPANY FACTS

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Legal Perspective

Proper Planning is a Must to Keep Your Green Building Projects Out of the Red

By Josh Lorenz & Chad Michaelson

Sustainable building, more affectionately known as "green building", is rapidly becoming an important part of the construction industry. Stated simply, green building is a process aimed at using environmentallyfriendly products and construction methods to create a high quality, efficient structure. The goal is to utilize an integrated approach to development throughout the design, construction and operation of the building that promotes environmental responsibility, provides economic benefits and yields a positive impact on health and the community.

Owners and developers have recognized the advantages that sustainable construction can generate and have sought to incorporate these principles into their projects. A number of organizations, such as the U.S. Green Building Council ("USGBC") and the Green Building Initiative ("GBI"), have developed standards for green building certification. Notably, the USGBC has promulgated the Leadership in Energy and Environmental Design ("LEED") Green Building Rating System, while the GBI has created its Green Globes assessment and ratings system. Using green building certification as the benchmark, a number of state and local governments have begun offering various benefits to owners and developers who utilize sustainable development in their construction projects, such as: grants, tax credits or reductions, low-interest loans, density bonuses, waived or reduced fees for certification, permitting, etc., priority or expedited permitting, free or reduced cost technical assistance, and other financial incentives.

As owners and developers have created an increased demand in the marketplace for sustainable construction, the contractors, subcontractors and materials suppliers retained on these projects have had to change and adapt their practices in order to meet the needs of their clients. Those in the construction industry who are willing and able to meet the challenges posed by green building can open up new avenues for business. However, these additional opportunities are not without risk.

THE CONTRACT DOCUMENTS MUST BE DRAFTED WITH THE CERTIFICATION PROCESS IN MIND. THEY SHOULD CLEARLY DEFINE WHO IS RESPONSIBLE FOR MAINTAINING AND GATHERING THE INFORMATION **NECESSARY TO SUPPORT** CERTIFICATION SUBMITTALS... AND WHO IS RESPONSIBLE FOR THE SUBMITTALS THEMSELVES.

The case of Southern Builders Inc. v. Shaw Development LLC filed in the Circuit Court for Somerset County, Maryland illustrates this point. In that case, Shaw Development had purchased land and hired Southern Builders to construct a luxury condominium complex on that site adjacent to the Chesapeake Bay. While Southern Builders initially filed suit in the form of a mechanic's lien on the project, Shaw Development filed a counter-complaint against Southern Builders alleging damages in excess of \$1.3 million. Of that amount, Shaw Development attributed \$635,000 in damages to the alleged failure of Southern Builders to meet the green building requirements set forth in the parties' contract.

Specifically, the project manual that was incorporated into the contract between Shaw Development and Southern Builders, which utilized the AIA's A101-1997 Standard Form of Agreement Between Owner and Contractor, states, in relevant part:

Project is designed to comply with Silver Certification Level according to the U.S. Green Building Council's Leadership in Energy & Environmental Design (LEED) Rating System, as specified in Division 1 Section "LEED Requirements."

Notably, while the project manual that was part of the parties' contract indicated that the project was designed to meet LEED Silver Certification, nowhere in the contract is there a provision expressly requiring Southern Builders to build the project to this standard. Nonetheless, Shaw Development interpreted this provision as being a contract specification with which Southern Builders was obligated to comply. Shaw Development alleged in its counter-complaint that Southern Builders failed to construct the project to LEED Silver Certification, thereby breaching the parties' contract. Moreover, Shaw Development argued that as a result of Southern Builders' breach in this regard, Shaw Development lost \$635,000 in tax credits.

This dispute settled prior to trial, but it demonstrates what can happen when parties engaged in green building fail to properly address and define their respective rights, duties and obligations.

So, what can you do to avoid this type of litigation?

Just as a green building requires a more sophisticated design (and in some cases more sophisticated construction methods), it also requires more sophisticated contract documents. Those documents must clearly set forth the owner's sustainability goals and allocate responsibility for reaching those goals among the owner, architect/engineer, GC/CM, subcontractors and suppliers.

The contract documents must be drafted with the certification process in mind. They should clearly define who is responsible for maintaining and gathering the information necessary to support certification submittals (typically the GC/CM), and who is responsible for the submittals themselves (usually the architect). In addition, the contract should spell out precisely what type of supporting documents and information must be maintained. A GC/CM that strictly follows these requirements can more effectively defend itself against a claim that the architect's ability to prepare certification submittals was somehow jeopardized by the GC/CM's recordkeeping.

The contract documents also must contemplate the possibility of a failure to achieve certification, or to obtain certification at the desired level. Because the hallmark of green building is a sustainable design, much of the responsibility for reaching certification goals should fall on the architect's shoulders. The GC/CM, however, has a

responsibility to ensure that the building is built in accordance with that sustainable design. Certification points could be lost if, for instance, the owner and general contractor agree during construction to substitute for a specified material or otherwise modify the design in order to reduce cost or save time. In addition, the GC/CM typically exercises control over certain activities that have a significant impact on a project's ability to meet certification goals, such as management of construction waste. Consequently, the contract documents must clearly spell out the responsibilities of each member of the team.

Determining who is responsible for a project's failure to achieve certification is likely to require a complex and inherently speculative analysis of the performance of every member of the team. This is not unlike what occurs in the event of a delay claim, and litigation over a project's failure to achieve certification is likely to be equally expensive and time-consuming. One way to limit this risk is through the use of special liquidated damages provisions. These must be tailored to the specific project in order to account for the costs that the owner anticipates it will incur if certification goals are not met, and the amount of liquidated damages can be tailored to reflect the level of control the contracting party exercises over the certification process.

It also is important to carefully examine any warranties contained in the contract documents. As noted above, it is nearly impossible for a contractor to warrant the performance of any system in a green building. Performance of the HVAC system, for instance, depends on the choice of equipment, the mechanical engineer's design of the system, the overall design of the building and the quality of installation, among other things. Moreover, once construction is complete the owner must be trained to properly operate and maintain the system in order to achieve the desired performance characteristics. Any warranties therefore should be narrowly tailored to cover only that which is within the control of the party providing the warranty.

The parties to the Southern Builders case did not give due consideration to these issues, or the many others that can arise during the construction of a green building. Consequently, they ended up litigating issues that could have been resolved at the time they entered into their contract. With the rise in popularity of green building, the Southern Builders case is a harbinger of things to come for parties that ignore the unique and significant differences between green projects and traditional projects. 60

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Financial Perspective

A Hard Market for Insurance is Shaping Up

Among the many industries negatively impacted by the meltdown in financial markets in the fall of 2008 was insurance. As the economy weakens in 2009, business owners will be facing another period of higher property/casualty insurance rates.

During the past five years, the commercial insurance industry has faced two record years of claims losses, 2005 and 2008. Until last year, however, losses were offset by unusually high investment returns. The industry had been steadily growing capital surpluses since the September 11 attacks, which allowed them to take more risks and grow the premium base.

The excess capital reserves that accrued throughout the financial industries during the bubble years of 2004-2006 created opportunities for firms looking to diversify to enter the insurance market. For the insurers in the business for the long haul, unfortunately, the additional competitors in the market created softer market conditions and lower rates. But again, the investment performance of most companies outstripped the market. In fact, since all carriers tended to be outperforming the markets, they could drop rates by 25% or more to gain share. As a result of a few years of soft conditions, insurers entered 2007 poorly positioned to deal with a slowdown in the economy.

Net premiums fell by double-digit rates in 2007. In addition to the lower premium revenues, insurance companies began to see the first symptoms of the liquidity crisis that would bloom fully in 2008. Almost from the beginning of last year, the industry began to reel from the losses experienced by bond insurers, underwriters of mortgage-backed securities, and the unimaginable investment losses that would have wrecked the world's largest insurer, AIG, in September without government intervention. And as the fall crisis plunged the global economy into recession, the number of liability and property losses climbed to the second highest level ever, \$45 billion.

"Insurance companies began reporting losses of 30% or 40% throughout the third and fourth quarter," says Nick Tropiano of HDH Group, a commercial insurance broker with offices downtown. "Most saw losses in liquidity and

big declines in asset values. It started with the MBS market and then deepened with the overall global economic decline."

The combination of mounting underwriting losses together with soft market rates and inadequate premium reserves, declining surplus, reduced asset base, poor return on investment and the downsizing trend by current policyholders has created unsettling conditions for the insurance industry. Insurers will come under greater scrutiny in the first half of 2009, and will likely respond by shrinking their risk appetite, tightening underwriting standards, and raising rates. These actions will likely increase the incremental cost of insurance for most businesses in North America, creating what is referred to as a hard insurance market.

There have been similar hard markets during earlier recessions, but there is now little capital available for investment in new products or alternative insurance mechanisms to restore profitability. Also, in past hard markets the global financial institutions have responded by infusing capital into the insurance business, but those businesses will have bigger problems to deal with in their own industry. That leaves insurers no recourse for increasing revenues but to raise rates.

For construction related businesses it will be hard to avoid increases in property/casualty coverage in the coming few years. Most regional insurance executives don't anticipate big increases until late in 2009 or into 2010, but all see them coming.

One area of the industry that seems to be avoiding this kind of doomsday scenario is the surety side of the business. The history of that business has been to relax underwriting during soft times, generally then taking higher risks on insured contractors that lead to bigger losses and defaults. Surety losses in the early years of the decade triggered massive consolidation, eliminating all but a small group of insurers and preventing the business from getting soft with the rest of the industry. Most surety executives don't see that changing.

"We know that a hard market is coming overall, but I don't see it getting bad this year, and I don't think it will have a big impact on sureties," explained Liberty Insurance's Chris Pavone. "Surety didn't get real soft during the past few years. We paid a lot more attention to underwriting standards, and I still think there's a strong desire to remain sound."

"We anticipate it happening. It has to happen," Marsh Vice President Jim Bly predicted. "The buds are on the tree for a springing of rates, but it probably will be modest until next year, or the late fourth quarter of '08."

One concern the insurers have is that the slower economy will cause companies to shed employees who are charged with managing the risk of their business. While those risk managers and insurance buyers provide objective oversight for their ownership, they are viewed as nonessential when companies hunker down. Downsizing them often leads to greater risk taking, and loses tend to follow.

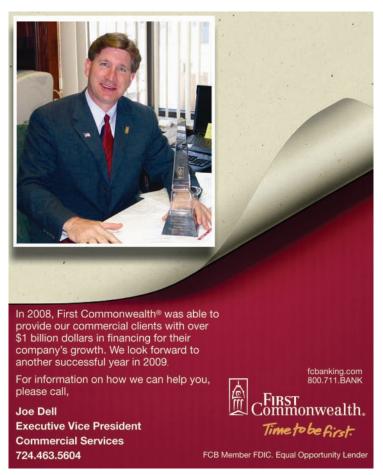
Nick Tropiano sees that as one scenario that could trigger a rate increase in 2009 for local companies. "While the premiums should be flat around here this year, there will be significant increases for firms that aren't actively managing their risk or who have catastrophic losses."

Bly agrees. "Any increases on the surety side seem to be modest, but big increases are happening to heavily leveraged firms. Surety companies are very nervous right now about any company that is leveraged more than normal right now. They want to know who's actually financing the business, and who's making decisions about risk."

For business owners the best course to limiting the rate increases is to expand efforts to manage risk and to be proactive in communicating those efforts to the insurer. It will pay dividends to anticipate the needs of the insurance companies and take steps to meet them more than halfway. Some of the preparations that will help anticipate the insurer's requirements include:

- Compiling five years of comprehensive financial data
- Audit your five-year loss history and be prepared to explain large claims, negative claims trends, and frequency of claims.
- Meet face-to-face to review open claims and examine if reserves are adequate.
- Implement better safety programs, a fleet safety plan, maintain a written safety and accident prevention plan.
- Objectively analyze any inherent or unusual risks associated with your business, and be prepared to explain how your management team mitigates those risks.
- Prepare to submit renewal or new business reviews to insurers 90 days in advance.
- Be prepared to live with restrictive terms, higher deductibles and higher rates.

Managing risk will be a business mantra for the near term. While it's always a good idea for all businesses to assess their risks, it is the main business of insurance to do so. Don't expect greater rewards for managing risk well in a hard insurance market, but be prepared for stiffer penalties if you don't. 60



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Management Perspective

Building Green Means Getting Accredited

As the number of projects has increased that are LEED certified, so has the number of construction industry professionals that are LEED accredited. The logic of the growth of LEED Accredited Professionals is inescapable. To achieve the volume of green buildings that exist now, the number of designers and contractors who understand how to put the projects in place had to grow at a similar pace.

LEED accreditation originated as a way to take the best practices and enormous research that was done by the pioneers of green building and standardize it to create minimum credentials for those who were designing energy efficient buildings. Just as LEED certification assured an owner that his project was meeting performance standards, accreditation assured an owner or employer that the professional had been examined to demonstrate his or her knowledge, as opposed to simply adopting a marketing moniker.

As might be expected, the majority of those who became LEED AP's early were designers, but the common denominator seemed to have been a passion for sustainability as much as a practical consideration. While most of Pittsburgh's green pioneers were architects and engineers, more than a few were also contractors.

"It's something we have believed in for a long time," says Mike Mascaro of Mascaro Construction. "We believe it's a good thing for society, for our employees. Our own building was designed to be green before LEED even existed."

"Our ongoing training we call Limbach University," explains company executive Mike Balistreri. "We stress that green building and LEED are important to society and our industry as much as for our own business." Balistreri says that Limbach began a LEED training course first in Pittsburgh in 2007, and then spread it throughout its eleven locations. The training, which is designed to prepare employees to initiate LEED accreditation courses, has spawned around 35 LEED AP's in short order. "There are two or three project managers or engineers in each of our branches," says Balistreri. "We

IN TAIKING WITH LEED APS AND BUSINESS LEADERS THROUGHOUT THE COUNTRY, WE RECOGNIZED A NEED FOR A CREDENTIALING SYSTEM THAT ALLOWS THE MARKETPLACE TO DISTINGUISH BETWEEN PRACTITIONERS WITH BASIC, ADVANCED, AND EXTRAORDINARY LEVELS OF KNOWLEDGE...

do a lot of design/build work now and that delivery systems demands that more of our people can design and install systems for LEED buildings."

Limbach's support of LEED AP for its employees is unusual in that it is pervasive, and that so many LEED AP's work for a subcontractor. As of December 31, subcontractors nationwide employed fewer than 500 AP's.

The makeup of LEED AP's historically is a reflection of who leads the process of certifying a LEED-rated building, and the AP training mirrored that as well. The examination for a LEED AP focuses on four main aspects: knowledge of LEED Credit Intents and Requirements, coordination of the project team, implementation of the LEED process, and the technical analyses required for LEED credits. The traditional roles of project delivery meant that the incentive for the designers to become accredited was greater; and in fact, 40% of the LEED AP's are still architects or engineers. But the role of the contractor in LEED certification is significant, and contractors now employ roughly 20% of all LEED AP's.

With increasing frequency, even smaller contractors often find that having LEED AP staff makes a difference, especially if they have clients who care about sustainability. Local general contractor Poerio Inc. counts PNC Financial Services among its repeat clients. PNC has more LEED-rated buildings than any other owner in the nation. Keeping them happy meant someone at Poerio was going to become LEED accredited.

"We've done eleven LEED jobs for PNC, and have four new ones underway," explained LEED AP Gerri Poerio. "Even though we've done them before, I approach each one fresh, keeping on top of the subs for submittals on every item that will be evaluated: low VOC paints, mechanical equipment, the kinds of woods used, whatever." Poerio found that accreditation made a big difference in managing the process. "It's more than just managing documents. You have to have the knowledge about what's being submitted so that there aren't any problems. For me, it's also important to have my work contribute to a better environment."

For a large contractor, like Mascaro Construction, accreditation needed a more systemic approach. "The company had two AP's at the start of 2008, and we have more than 25 AP's now, including the chairman," says Mike Mascaro.

LEED AP Breakdown

Area of Practice	LEED APs
Architect	20,364
Construction Management	5,115
Mechanical Engineering	4,637
Project Management	4,414
General Contracting	3,328
Interior Design	3,130
Civil Engineering	2,453
Consulting	2,408
Electrical Engineering	1,595
Landscape Architecture	1,430
Builder	1,252
Structural Engineering	939
Developer	735
Property Management/Realtor	698
Subcontracting	491
Manufacturing	475
Facility Management	435
Student	434
Commissioning	346
Building Products	225
Legal	194
Plumbing Engineering	169
Building Owner	140
Code Official	52
Total	77,434

Accredited professionals as of December 31, 2008. Source, GBCI

Company founder Jack Mascaro had transitioned to a semi-retired role when he went through LEED accreditation in 2008, having turned the operation over to his three sons. While there was literally no chance that he would need to call on his LEED AP status to manage any projects, he felt that becoming accredited sent the right message. "I still have a role in setting the vision for the company, and I want to make sure that Mascaro is a leader in sustainability." One of the company's initiatives was that all of its project management and estimating staff become LEED accredited, but Jack Mascaro saw some resistance at first from his more experienced employees, most of whom had been with him for two decades. "I thought, 'I'll take care of these guys', so I took the exam myself, and I knew the others would follow suit." The approach worked.

One of Jack Mascaro's observations was that studying for the LEED AP examination put him in a position to learn much more about green building, something he wasn't expecting. That revelation is part of what the USGBC expects others to experience as it moves to the next phase of LEED AP in 2009. During 2008, USGBC organized its LEED programs under the Green Building Certification Institute (GBCI), and created a multi-tiered credentialing system that would raise the bar for LEEDAP.

Beginning in March, GBCI initiated changes to the AP exam that reflect the rapid recent advances in green building technology and practice. According to Beth Holst, Vice President of Credentialing at GBCI, "a new credentialing system has been put in place to ensure that LEED-credentialed professionals have the latest knowledge and understanding of green building practices and that they're recognized with this distinction."

Holst explains that the changes also intend to increase the rigor of the LEED accreditation, recognize the efforts of existing accredited professionals, and maintain everincreasing standards by using GBCI as an arm of USGBC focused on professional accreditation. The new credentials will recognize long-time professionals with the LEED AP Fellow designation. Professionals who support green building but don't need the constant training (usually outside the design or contracting fields) will become LEED Green Associates.

For practicing LEED AP's there will be two tiers, the Legacy LEED AP and LEED AP+, to create a transition to the new standards. Newly examined accredited professionals will become LEED AP+. Current LEED AP's will have the Legacy designation until they move to active AP status by opting into the higher standards and agreeing to 30 hours of annual credential maintenance. No additional testing is required. Those who do not choose to be active will keep

the LEED AP designation, but their names will be removed from the GBCI directory in 2011.

"In talking with LEED APs and business leaders throughout the country, we recognized a need for a credentialing system that allows the marketplace to distinguish between practitioners with basic, advanced, and extraordinary levels of knowledge," said Holst, explaining the changes. "This improves upon the current LEED accreditation system by providing a mechanism to recognize knowledge and expertise beyond a basic understanding of green building practices and provides the assurance that having LEED credentials will mark you as the defacto leaders of implementing green building."

To date, roughly 80,000 professionals have completed accreditation, and the tighter standards won't slow that pace down. More importantly, the variety of firms with LEED AP employees continues to broaden, with LEED accredited attorneys, owners and developers, realtors, code officials and even students recognizing that leadership in green building means walking the walk. 66



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Trend to Watch

Full Circle: Green **Building is Focusing on Residential Again**

Green building is probably the hottest trend in the commercial and institutional construction markets, and there is every indication that the trend is only at the beginning of the wave. But green building's origins are residential. While someone was probably talking about energy conservation at the time of the Revolution, the modern green trend in design and construction got its traction in the early 1980's, after the OPEC oil crises of the mid and late 1970's awakened an interest in saving energy costs.

Viewers of public television in those days may remember the advent of a new genre of TV, the home improvement show, when WGBH in Boston launched This Old House. The show focused, as its name implied, on the trend towards renovating old houses in the Boston area, making household names out of Bob Vila and Norm Abrams. A regular feature of the renovations, and even of the new construction projects shown, was the energy conservation measures that were being incorporated. Many new products or methods were given a huge marketing boost when This Old House used them.

The show was located in a cold, wet part of the country, so doing energy saving measures had impressively measurable results. There was also a conservationist bent to the content, as many of the projects involved restoring historic structures or reclaiming run down neighborhoods. On a regular basis, the show exuded sustainable principals, but no one at the time labeled the ideas "green."

Away from the limelight, homeowners around the country saw rising heating and cooling bills as strong incentives to make investments in their homes that paid them back over time. The federal government also added to the momentum by enacting tax credits and incentives to help pay for the renovations.

Instead of being the launching pad for an evergrowing green construction consciousness, the energy conservation movement of the early 1980's became a THE WIDESPREAD ACCEPTANCE OF A LABEL LIKE ENERGYSTAR MEANS THAT EVEN PRODUCTION ORIENTED **BUILDERS CAN PUT STANDARDS AND** PRACTICES IN PLACE THAT CAN BE INCORPORATED INTO THE COST STRUCTURE AND BUSINESS PLANNING FOR NEW DEVELOPMENTS.

victim of cheap energy by 1986. By the time that green building was emerging as a force in the marketplace in the mid-1990's, the landscape of residential construction had shifted towards larger (and still larger) homes, production builders, and a more competitive environment than had existed in residential construction.

Yet in the midst of these market dynamics some organizations still grew up with the mission of improving residential construction. One of the first of these was Integrated Building and Construction Solutions (IBACOS), based in Pittsburgh. Founded in 1989 by a consortium of building products manufacturers and design professionals with an interest in best home performance, IBACOS researched the best ways to achieve optimum home performance and advanced the most progressive construction techniques to support high performance homes.

The work of IBACOS and kindred organizations led to numerous advances in products, technology and best practices in construction, but the fruits of their labor were mostly limited to individual buyers or builders who committed to a high performance home. As green building organizations blossomed, and US Green Building Council introduced Leadership in Energy and Environmental Design (LEED), the focus was on nonresidential construction because of the impact that could be made. Residential development wasn't ignored but

there were market impediments to green building progress that didn't exist in commercial construction.

At the same time green building was gaining momentum, two federal agencies moved forward with a program that is probably the most influential in residential green construction. In 1992 the Environmental Protection Agency (EPA) and the Department of Energy (DOE) launched the EnergyStar program to promote the manufacturing of energy efficient equipment and best practices. What EnergyStar offered that was compelling was a set of performance standards that required thirdparty verification before the EnergyStar designation was awarded.

Initially focused on energy efficient building products, appliances and materials, EnergyStar also developed standards for home performance, and more recently, a designation for the builder that is meant to convey the same standards.

EnergyStar focuses on the aspects of the home where the most benefit to energy reduction can occur. What a homeowner can expect from an EnergyStar home is effective insulation, high-performance windows, a tight envelope and ductwork, efficient heating and cooling equipment, efficient appliances and a third-party verification of the standards applied to the construction. And an EnergyStar builder is also reviewed for the same kinds of standard practices in the homes they build.

One of the inherent problems in large-scale residential green building is that production builders like Lennar, Ryland Homes or Toll Brothers, drive so much of the residential new construction market. Their business model is built on meeting ever-present consumer demand for more square footage per dollar, and is very focused on controlling the cost structure of new home construction. Sustainable designs generally include products and methods that are a premium to these homes, and consumers have not consistently demonstrated a willingness to accept the higher cost structure.

The widespread acceptance of a label like EnergyStar means that even production oriented builders can put standards and practices in place that can be incorporated into the cost structure and business planning for new developments. While such developments will still likely have an elevated cost per square foot, the EnergyStar label (or other accepted label) will give buyers confidence that the home's performance will produce an offsetting savings.

Building green in metropolitan Pittsburgh is no longer a matter of finding an expert or a committed builder in an isolated lot. The choices have broadened significantly just in the past two years.

Several of the top ten builders in volume have become EnergyStar certified, and a number of the recent condo projects, like South Side Mews or 3 PNC Place, are getting LEED certification. And several new developments have been moving forward with plans for the majority of their homes as energy efficient, or even zero energy designs.

EQA Landmark Communities is one of the developers of Summerset at Frick Park, a groundbreaking community built east of the Squirrel Hill tunnels. The homes built in Summerset were constructed with higher performance standards than code required, and the experience motivated EQA principal Brett Malky to take green construction up a notch for his current developments, Newbury Market in South Fayette, and Venango Trails in Marshall Township.

"The value of the houses in Summerset was higher than the market because they were more comfortable and less expensive to live in," asserts Malky. "Our new developments at Newbury and Venango Trails will attract people that care about the environmental impact and so we'll offer zero energy houses. Our plan is that somewhere between five and fifteen percent of the construction will be zero energy, but we're certainly not capping it."

A zero energy home is one that has a net zero consumption of energy over the course of a typical year.

As a sister company to IBACOS, EQA may seem like a natural organization to go to such green extremes in development, but the firm is also developing for a profit, and that factors into the equation now. When Summerset was developed in the late 1990's there was virtually no consumer demand for a green home, but Malky is certain that public awareness is much higher, and that the payback is there.

The site work is underway on the mixed-use Newbury Market project, with construction of homes beginning later in 2009. One interesting aspect of the development is that there is no plan for segregating the lots to have a green section. "We are intentionally not segregating by price or location," explains Malky. "No lots have been set aside, except for any that have no southern exposure, and there is no reason that any size or style house can't be built to zero energy standards."

That's a claim that was not being made five years ago. Uncertain economic times can discourage developers from advancing new concepts, but a tougher market generally requires a better value proposition. For residential construction, building green may be one of the best ways to demonstrate value that differentiates one home from another. BG

Best Practice

Sustainable Management Means Triple Bottom Line Decisions

The heightened emphasis on being green has heightened awareness of a growing trend that is changing the accounting and evaluation of business performance. Triple Bottom Line accounting attempts to describe the social and environmental impact of an organization's activities, in a measurable way, to its economic performance in order to show improvement or to make evaluation more in-depth.

Adopting a phrase coined by John Elkington, co-founder of the business consultancy SustainAbility, in his 1998 book Cannibals with Forks: the Triple Bottom Line of 21st Century Business, the practice lacks any real accounting standards that can compare triple bottom line performance to plain old profit and loss. Instead, triple bottom line represents an effort to apply decision-making filters beyond cost/benefit analysis to judging an opportunity.

The concept of triple bottom line isn't much more than a formalized B-school version of the old phrase 'doing well by doing good', but because it's being touted by accountants as well as green advocates, the idea seems to be getting more traction in board rooms.

While Elkington may have coined the phrase a decade ago, the idea of using triple bottom line evaluation for business strategy was really advanced by Andy Savitz in the 2006 book The Triple Bottom Line. A lead partner with PricewaterhouseCoopers who founded Sustainable Business Strategies in 2005, Savitz studied how some of the best-run companies in the world were focusing on economic, environmental and social success. His conclusion was that a culture that promoted and followed sustainable principals for the long haul served a company better than a profit-driven one.

According to Savitz, sustainability is a powerful and defining idea for business. A sustainable corporation is one that creates profit for its shareholders while protecting the environment and improving the lives of those with

SAVITZ STUDIED HOW SOME OF THE BEST-RUN COMPANIES IN THE WORLD WERE FOCUSING ON **ECONOMIC, ENVIRONMENTAL** AND SOCIAL SUCCESS. HIS **CONCLUSION WAS THAT A CULTURE THAT PROMOTED AND FOLLOWED SUSTAINABLE** PRINCIPALS FOR THE LONG HAUL SERVED A COMPANY BETTER THAN A PROFIT-DRIVEN ONE.

whom it interacts. It operates so that its business interests and the interests of the environment and society intersect. A sustainable business stands an excellent chance of being more successful tomorrow than it is today, and remaining successful, not just for months or even years, but for decades or generations.

Increasingly, businesses are expected to find ways to be part of the solution to the world's environmental and social problems. The best companies are finding ways to turn this responsibility into opportunity. Savitz believes that when business and societal interests overlap, everyone wins.

The Triple Bottom Line explores the successes of a number of businesses, but it's interesting that the book begins with a look at the failures of one of Pennsylvania's most beloved corporations, Hershey's Foods. Savitz opens the book by describing how Hershey's top management misjudged the attitude of many of its shareholders, and virtually all of its stakeholders in the community of Hershey, during its failed attempt to sell the company in summer 2002. Within days of announcing the deal, hundreds of angry citizens, employees, politicians and several of Hershey's former CEO's had gathered in the town's public squares to angrily protest the sale of what was viewed as a community asset.

In examining this chapter of Hershey's history, Savitz takes time to talk about the contrast to how the founder, Milton Hershey, guided the company. Milton Hershey used the profits from his candy business to build a company town quite different from the manufacturing or mining towns that were built along the industrial rivers by his contemporaries. The village green, Kisses-shaped streetlights, and the school for orphans were some of Hershey's investments. Less well known was the fact that he maintained employment for all his workers during the Great Depression, even though chocolate consumption fell by 50%.

The reward for his social stewardship was a business that was an icon of profitability over the long haul.

In real estate decisions, the same kinds of rewards can accompany sustainable judgments about design and construction. Even a simple maintenance decision can have triple bottom line ramifications. For example, the decision to replace the lighting in a corporate headquarters can have a return on investment by reducing the energy consumption while increasing the light. If done properly, that same decision has environmental impact by reducing the amount of electricity needed and thereby reducing the pollution needed to generate it. And the better lighting brightens the work environment, which improves the employees' well being.

On a slightly larger scale, software giant Adobe Systems undertook a triple bottom line evaluation of it facilities early in the decade. Working with facilities management and real estate brokerage firm Cushman & Wakefield, Adobe invested \$1.4 million between 2001 and 2006 for an energy and environmental retrofit of its San Jose headquarters campus. Over the five-year period, Adobe reduced electricity use by 35 percent, natural gas use by 41 percent, domestic water use by 22 percent, and irrigation water use by 76 percent. Adobe now recycles or composts up to 90 percent of its solid waste. Through energy savings projects and the purchase of green power, Adobe has reduced its pollutants emissions by 26 percent.

Adobe undertook a total of 45 specific projects to achieve LEED platinum certification of the West Tower, which opened in 1996; these have netted a 114% return on investment and payback, in some cases, in as few as nine

months. Included in the projects were: retrofitting lighting, adding motion sensors, installing variable speed frequency drives on large fans and chillers, adding real-time metering, upgrading building control systems, re-commissioning of major systems throughout the facilities, and participating in peak period power shedding programs.

Creating an atmosphere that is healthy, bright and fun is part of the culture in Silicone Valley, and the environments at companies like Adobe, Google or Oracle have allowed their employees to create and grow, and rarely leave. Creating such environments is less difficult with the piles of cash that these companies have amassed. Here in Pittsburgh, the Master Builders' Association is making a similar decision with considerably less resources.

In 2008 the MBA decided on a location for its new offices and started down a path that was more difficult but more responsible to a triple bottom line. Evaluating proposals from a handful of architects, the MBA's board of directors and its executive, Jack Ramage, were struck by Rothschild Doyno Collaborative's emphasis on using the new building to demonstrate leadership in sustainability. Though it would likely mean a larger investment, and could ultimately lead to a longer project cycle, the board found the concept of an energy efficient, bright and healthy office too irresistible to pass up.

"Silver LEED certification or higher was a priority with the MBA Board from the outset of the search for a new headquarters and was a major selection criteria for each of the competing architects," explained MBA's executive director Jack Ramage. "At every meeting during the design development phase and during every construction progress meeting, the question is asked if we are still on track for Silver LEED certification or higher. As the leading construction trade association in Western PA, not building a LEED certified was never an option."

It will take some time to determine whether or not the MBA's new office will offer returns like Adobe's, or create an environment that enhances employee well being and retention. What is known is that the decision-making process was altered and expanded by the broader vision of a triple bottom line. BG

ECONOMIC Sales, profit, ROI Taxes Cash flow Jobs created

ENVIRONMENTAL Air quality Water quality Energy usage Waste produced

SOCIAL Labor practices Community impacts Human rights Product responsibility

P. J. Dick Incorporated has been selected by The Center for Orthopaedics and Sports Medicine and The Indiana Regional Medical Center to perform Construction Manager at Risk services for the newly formed Indiana Musculoskeletal Institute. The new Indiana, Pennsylvania facility, estimated at 72,000 square feet, will consist of four wings: ambulatory surgical center, medical office building, rehabilitation and wellness center. The Indiana Musculoskeletal Institute will provide comprehensive medical services to patients with pain and mobility problems at one convenient location. The health care facility, designed by IKM, Incorporated, is scheduled for completion in late Summer 2010.

P. J. Dick has been selected by the Pennsylvania State University to provide Pre-construction, Construction Management services for The Moore Building Project. The Moore Building, completed in 1973, is home to Penn State's Department of Psychology. The project will include renovations and the addition of an approximately 50,000 square foot addition. The project, located on the University Park campus, is designed by KlingStubbins.

P. J. Dick Incorporated was awarded the Slab-on-Grade Concrete and Slab-on-Metal Concrete package at the Consol Energy Center, formerly referred to as the New Pittsburgh Arena for approximately \$6 million.

Poerio Incorporated has recently been awarded a project for JC Penney Valley West Mall Ames Iowa. The project is a 71,272 square foot renovation of the upper level and lower level sales floor. Nudell is the architect for the \$1.2 million project.

Poerio Incorporated was awarded a contract to renovate the PNC Bank, Centerville Road, Lancaster, PA. A+EI Architecture & Engineering of Mountville, PA is the architect on the project. It is a 4,000 square foot renovation. Poerio was awarded the PNC Rehobeth Beach new branch office, a 3,500 square foot prototype designed by Gensler. Both projects will be LEED certified.

Poerio Incorporated was selected as the contractor for the Liberty Mutual Bank project in Mt. Nebo Point Pittsburgh PA. The 1,500 square foot interior tenant fit out includes restrooms, additional office space, a breakroom, and reception area. The Architect on the project is Hellyer Berman Lewis, Inc.

A. Martini & Co. was awarded the renovation project of Penn Center East Building #5 by LG Realty Advisors Inc. The project scope includes demolition of the first floor, a new lobby and public restrooms. Also included in the scope is elevator modernization and stairwell pressurization. This renovation project is designed by **Desmone & Associates Architects**.

Gurtner Construction Co. was awarded the general construction contract for additions and renovations to Moss Side Elementary School. The \$4 million project involves renovations and a 10,300 square foot addition. Architectural Innovations is the architect.

Massaro Corporation has been selected as general contractor by Equitable Resources for their new head-quarters at 625 Liberty Avenue, Dominion Tower. Fit-out is expected to begin in February and completion is expected late summer for the 250,000 square foot project. Burt, Hill Pittsburgh is the architect for the project.

The Hill House Association has chosen Massaro as the general contractor for the Kaufmann Program Center project. This \$3 million, 15,600 square foot renovation is slated to begin in Spring of 2009. The architect on the project is Renaissance 3 Architects.

Massaro Corp. has been chosen to serve as the general contractor for the Kuhn's Market in the Hill District. This \$8 million, 40,000 square foot new construction will be a grocery store to serve the Hill District community. The building will include a pharmacy, bakery, and café. HHEDC will serve as the Developer and Kuhn's Market will serve as the operator.

Massaro Corp. has been selected as general contractor for miscellaneous site work and interior renovations for Providence Connections located on the North Shore. Work is to begin in March.

Allegheny Construction Group is the construction manager for the University of Pittsburgh's expansion of Chambers Hall Fitness Center at the Greensburg campus. The Design Alliance is the architect. Allegheny is also the construction manager for the \$2.2 million, 7,800 square foot new Bridgeville Public Library. Pfaffmann + Associates is the architect.

Lafayette Manor Inc. awarded a contract to Allegheny Construction Group for a \$4 million renovation to its facility in Uniontown. Paul Graf is the architect.

Jendoco Construction Corporation was awarded a contract from Fifth and Amberson Holdings, L.P. for the Fifth Avenue Mansions Renovations, a restoration & renovation of two mansions on Fifth Avenue in Shadyside. The architect is Landmark Design Associates.

Steel City Rowing Association has selected Jendoco Construction as contractor for their new Verona Boathouse. The project involves new construction of a 17,500 square foot, three-story building along the Allegheny River. Loysen + Kreuthmeier Architects designed the boathouse.

Rycon Construction, Inc. has been awarded a \$6 million contract for design/build services with DRS Architects for StartingGate. This new 75,000 sq. ft. building and related site work is located in Chippewa Township, Beaver Falls PA.

Rycon Special Projects Group was awarded contracts for these three projects: WVU Engineering Science Building Basement Renovation, Children's Hospital Guard Station, and Cigna Insurance Renovation in Robinson, PA.

Construction is underway on the conversion of the ExpoMart in Monroeville, owned by GVA Oxford. Rycon Construction is the contractor for the renovations of approximately 100,000 square feet. The architect is Design 3 Architects.

Nello Construction Company was awarded a \$38.6 million contract for general construction of the new high school for Moon Area School District. The \$60 million project consists of 291,000 square feet. Designed by Eckles Architecture, the new building will house nearly 1,200 students in grades nine to twelve and is scheduled to open at the end of 2010.

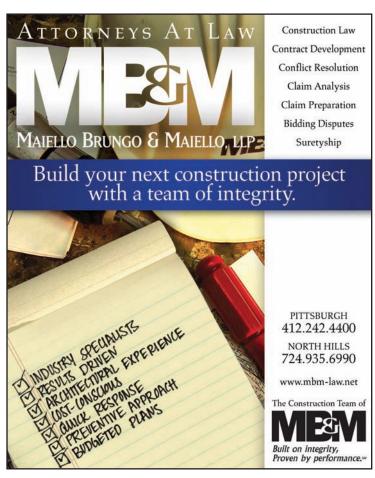
Nello Construction Company is doing construction at Chambersburg High School. The \$41.8 million project includes alterations and additions totaling 312,000 square feet. The new space will include a gymnasium, locker room, kitchen/cafeteria, administrative offices, and a three-story classroom wing. Designed by Crabtree, Rohrbaugh and Associates, the 1,008 calendar day project is on schedule for completion in 2010.

Forest City Enterprises awarded a contract to F. J. Busse Co. for renovations to the Federal Public Defenders Office at Liberty Center downtown. The \$800,000 project involves renovations to 18,000 square feet. Design was by Virginia Weida Designs LLC and Next Architecture.

John Deklewa & Sons was the successful contractor on the UPMC Horizon Second Floor Renovations at the Greenville PA campus. The \$3 million project involves renovations to 21,500 square feet of space. Image Associates is the architect. University of Pittsburgh Medical Center also awarded Deklewa a contract for renovations to 7,065 square feet on the fifth floor at the Presbyterian University Hospital campus.

John Deklewa & Sons was awarded a contract for a \$10 million new condo/mixed-use development in downtown Harrisburg.

University of Pittsburgh awarded TEDCO Construction the general contract for its Chambers Hall Fitness Center project in Greensburg. The architect is The Design Alliance. Allegheny Construction Group is the construction manager. 60









P. J. Dick Inc. is pleased to welcome Matthew Geary as an Engineering Intern in the Estimating Department. Matthew is currently a student at Penn State University. He is on course to graduate with a Masters of Architectural Engineering in 2011.

P. J. Dick is pleased to welcome John Sirc as the MEP Coordinator at the VA Pittsburgh, Building No. 29 project. Mr. Sirc has 29 years experience in the local construction industry with a special emphasis on HVAC, plumbing, mechanical/electrical systems installations. As an onsite MEP Coordinator, Mr. Sirc's responsibilities include contract administration, owner/contractor relations, field and office supervision, subcontractor supervision, scheduling, quality control, and overall direction of office and field construction activities relating to MEP installations.

Jendoco Construction Corporation announced that two of its professional staff, Estimator/Project Manager Chris Kondas and Project Manager Robert Borland, completed examination to become LEED® Accredited Professionals.

Nello Construction Company announces that Dave Leasure, Project Manager, passed the U.S. Green Building Council exam in December to become a LEED® Accredited Professional.

Hilary Brown, MSW joined Massaro Corporation in January of this year as the Community Affairs Coordinator. She joined Massaro after working as the Program Manager at the Union Project for the last 5 years. She is responsible for assisting Business Development and Human Resources as well as community involvement. She has a bachelor's degree from Gordon College in Social Work and also earned a Master's in Social Work/Community Organizing and Social Administration from the University of Pittsburgh.

Gilbert Brindley, P.E. joined Massaro Corporation as the Director of Strategic Planning and Corporate Development in January of this year. He joined Massaro from PSI and prior to that, Dick Corporation. Gil has a degree in engineering from the United States Military Academy and an MBA from Case Western Reserve University.

Joshua Kerestesi joined Massaro Corporation as an Estimator in January of this year. A native of Pittsburgh, Joshua moved back to Pittsburgh after having spent several years in Florida working as the Estimating and Purchasing Director for The Ransome Group. He has a Bachelor's Degree from California University of Pennsylvania in Business Administration with a concentration in Marketing.

Babst, Calland, Clements and Zomnir, P.C., a regional law firm headquartered in downtown Pittsburgh, recently named Kurt F. Fernsler as shareholder. Mr. Fernsler, a 1996 graduate of Duquesne University School of Law, was previously an associate and is a member of the Construction Services and Litigation Services Group.

Nicholson Construction Company has acquired the capital stock of Terra Drilling Company Inc., a geotechnical contractor headquartered in Hudson, MA. The acquisition strengthens Nicholson's position in the New England market, where Terra Drilling has completed hundreds of piling, earth retention, and grouting projects since it was founded in 1984.

The Master Interior Contractors Association (MICA) announced the election of its officers for 2009: President, Thomas Milletary of Easley & Rivers, Inc.; Vice-President, Fred Episcopo of Wyatt, Incorporated; Treasurer, David Balmert of J.J. Morris & Sons, Inc.; Secretary, Richard Ostrom of RAM Acoustical Corporation. MICA is a professional trade organization representing qualified commercial interior contractors performing work in the Greater Pittsburgh region.

Rycon Construction, Inc. announces Jonathan Garlow passed the U.S. Green Building Council exam and is now a LEED® Accredited Professional.

At its Annual Meeting held on February 4th, 2009 at the Lexus Club at PNC Park, the Ironworker Employers Association of Western Pennsylvania elected the following Officers and Directors for a two-year term from Feb. 2009 - Feb. 2011. Elected as officers were Bob George, Abate-Irwin, President; John Murray Jr., Stevens Painton Corp., Vice President; Frank Lagoni, Lagoni Erection Inc., Secretary/Treasurer. Elected as directors were: Donn Taylor, Century Steel Erectors Inc., Frank Altavilla, Tri-City

Steel Inc., Bill Trauterman, ICEI, Mike Cruny, Iron City Constructors, Denny Harmon, dck worldwide, and Patrick Carnevale, Amelie Construction & Supply LLC.

Schneider Downs announces that Kenneth Gruber has joined the firm as Chief Information Officer, a new position at the firm. Gruber is responsible for the firm's information technology strategic plans, programs and initiatives to support the firm's overall strategic goals. Prior to joining Schneider Downs, Gruber held several technology and operational positions at BNY Mellon.

The Gateway Engineers announced that project manager Aaron Richardson, RLA, ASLA, has successfully completed the U.S. Green Building Council's examination and is a LEED® Accredited Professional.

Celebrating 84 years in the mechanical construction trade A. J. Demor & Sons, Inc. is proud to announce the appointment of Bryan J. Demor (4th generation) to Vice President of Operations.

The Duggan Rhodes Group recently promoted three professionals in its downtown office. Laura Arrigo was named Project Manager. Laura specializes in construction claim consulting and project risk management consulting. In addition, Donald Kaplan and Mark Hammad were both promoted from Consultant to Senior Consultant. Donald and Mark specialize in construction claim consulting and CPM scheduling services. Donald is a graduate of the University of Massachusetts Amherst with a B.S. in Physics. Mark holds a B.S. in Mechanical Engineering from Case Western Reserve University.

dck worldwide is pleased to announce that Paul Spence has joined the organization as Senior Vice President of Business Development, Commercial. In his new role, Mr. Spence's responsibilities include managing the commercial client and project development group, expanding the current client base, and pursuing strategic opportunities for the company.

LitCon Group announces the opening of the Chicago office and welcomes Joseph M. Andres, PMP, PSP and John J. Cullian, PE. With more than 35 years of combined experience, Mr. Andres and Mr. Cullian provide schedule delay and disruption analysis, CPM scheduling, and expert witness testimony for construction and government contracts. LitCon Group's other offices are Pittsburgh and Washington, DC.

Scalise Industries Corporation announces that Tom Valerio has successfully passed the US Green Building Council exam and now is a LEED accredited professional at the company. Scalise Industries is pleased to welcome the following new people to their team: Dianne Flament IT Manager, Joseph Kopko – Safety Director, Amy Luciow - Marketing. 66





THE INDUSTRY in the OMMUNITY

dck worldwide Benefits **Local Children**

Approximately 130 dck worldwide employees participated in a "build-a-bike" challenge to build 18 children's bikes that were then donated, along with bike helmets, to underprivileged children involved in a Pittsburgh community Boys and Girls Club. The experience was challenging and fun but the ultimate reward was the excitement of the club as they accepted the bikes.

In December, dck worldwide presented a donation to Children's Hospital of Pittsburgh (CHP) in the amount of \$12,500. This money was raised through contributions made throughout 2008 from Blue Jean Fridays, the Basket of Cheer raffle, Italian Day lunch, and dck matching contributions. In addition, all of the contractors working on the new CHP project in Lawrenceville raised more than \$23,000 through a golf outing organized by dck employees, who have been serving as Construction Managers on the project.



Rick Leone (standing) and Andrew Jones (green shirt) of do assemble a bike to donate to Boys & Girls Club.

MBA Awards Two Scholarships to Pitt Engineers

The Master Builders' Association of Western PA held its annual meeting at the Duguesne Club on January 16, 2009. Approximately 260 MBA members and guests attended the program, which featured a 'state of the union' address from County Executive Dan Onorato. Mr. Onorato shared with the group what steps the county had taken to line up 'shovel ready' projects in advance of the economic stimulus package, and outlined some of the county's initiatives for enabling development.

One highlight of the evening was the awarding of \$4,500 scholarships from the MBA and the Construction Advancement Program (CAP) to Kyle Kaminski and Kari Zeleznick, both are students at the University of Pittsburgh School of Engineering.



MBA scholarship winners Kari Zelesnick and Kyle Kaminski with CAP Trustees Ray Volpatt Sr., John E. Deklewa and MBA Executive Director Jack Ramage.



The Builders' Guild's Jason Fincke, Henry Nutbrown retired, Jennifer Dorsch of BNY/Mellon and Landau Building Co.'s Tom Landau at the MBA annual meeting.



MBA Executive Director Jack Ramage, MBA Board President Cliff Rowe of P. J. Dick Inc., Dan Onorato, and Jack Brooks of Greater PA Regional Carpenters Council.



(left-to-right) Brian Ashbaugh of Blumling & Gusky LLP, Eric Kimbel of Cohen Seglias, McCrory McDowell's Mike Rollage & former UPMC Exec George Ehringer.



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2nd Evening of Excellence Held at Heinz Field

More than 700 Pittsburgh area developers, architects, engineers and contractors made the second annual Construction Industry Evening of Excellence a great night of networking and celebrating the industry's best. Held at Heinz Field East on February 26, the event was highlighted by the announcement of the MBA's Building Excellence awards for 2008.86

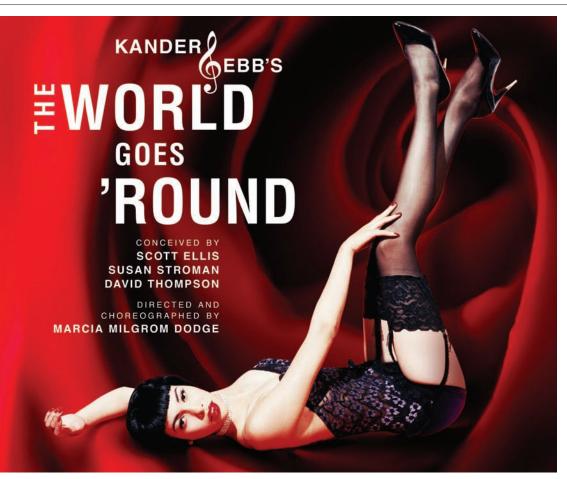


McKamish's John Jordan (I) and David McKamish flank Evening of Excellence judge Bill Bates from Eat 'n Park.



(left-to-right) Mary Ann Berg of Mascaro Construction, John O'Brien of Landau Building Co., Rusty Hodge and John Blum of Scalise Industries enjoy the Evening of Excellence.



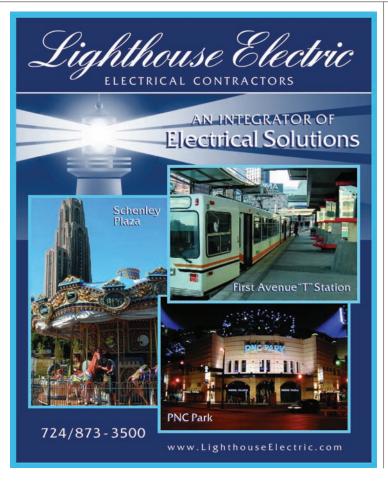




Westfield Insurance's Sal Schiavone and Barb Brizendine, Jay Black of Seubert & Associates and Tad Imbrie of PenTrust Realty.



Joe Calloway of Birmingham Capital Advisors with Amy Kuntz and Christopher Merlo of PNC Institutional Investments at Heinz Field.







IKM's Mark Witouski and Jeff Brown flank Cindy Gilch of Rebuilding Together Pittsburgh.



left-to-right) Bill Pope (left) and Dan DeLisio (right) of Next Architecture, with MWELA's Marc Little (center).

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Jerome Ringo President, Apollo Alliance This advocate of environmental justice and clean energy will discuss the future of American "green-



Harvey M. Bernstein VP, McGraw-Hill Construction Developer, Dockside Green Representing an industry leader, Mr. Bernstein will speak about the growth of sustainable practices in the global marketplace.



Joe Van Belleghem A prominent developer, Mr. Van Bellegham will discuss innovative green community design

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> Tuesday March 31 David L. Lawrence Convention Center

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MBA Membership

MBA MEMBERSHIP

The Master Builders' Association (MBA) is a trade organization representing Western Pennsylvania's leading commercial, institutional and industrial contractors. MBA contractors invest in a skilled workforce, implementing award-winning safety programs and offer the best in management and stability.

The MBA is a chapter of the Associated General Contractors of America, the nation's largest and oldest construction trade association. The MBA is committed to improving the construction trade association through education, promoting technological advancements and advocating building the highest quality projects for owners. To learn more go to www.mbawpa.org.

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Closing Out

By Rebecca Flora, AICP, LEED AP

As an advocate of sustainable design for almost two decades, I am gratified to see how far green building has progressed. And as a Pittsburgher for most of that time, I am proud of the leadership role the city and its talented professionals have played in that progress. As green building moves to the next plateau, I am also anxious to see that leadership role remain undiminished.

During my time as executive director at the Green Building Alliance I got to watch the organization's role change from evangelist to resource. Our outreach efforts never decreased but instead of knocking on doors to get attention, GBA was fielding more than a thousand calls a year from companies wanting to know how to 'go green." The successes we had in convincing civic and business leaders to deliver high profile projects like the David Lawrence Convention Center or PNC Firstside as LEED projects, translated into an acceptance of LEED's value in more and more projects each year.

Green has become a differentiator in the real estate market, and consumers are demanding it in the homes and schools. Green is also a topic with which most legislators want to associate themselves, and it is playing a big role in the current administration's economic recovery and energy policies. Green is even driving many financial investment decisions. And green will play a big role in the renewal of the global economy.

The leaders in Western Pennsylvania are working hard to maintain the region's role in green building in a number of ways:

Growing a green public voice and constituency through advocacy and membership efforts by groups like GBA. Our elected officials must implement green building programs and policies, and remove code barriers.

Driving Pennsylvania's competitiveness in the green building economy through the growth of green building product manufacturing and innovation. Green building product investment means green jobs.

Being key participants in national research initiatives related to building performance, green building product labeling and life cycle assessment.

Expanding our educational programs to build capacity and engage more sectors throughout Western Pennsylvania.

Financially supporting the efforts of groups like GBA, and the research and initiatives of our universities in Pittsburgh.

In my new role at the U. S. Green Building Council I will lead global efforts to educate the public and research solutions to the green building problems that we still face. We must turn our attention next to greening the existing built environment, and we have barely scratched the surface. Our most precious resource, our children, attend schools that are for the most part not environmentally friendly. We need to strive to ensure that every school is energy efficient and healthy. And we need to continue to build the capacity of professionals trained to design and build green buildings by expanding the LEED Accredited Professionals program.

The leadership role Pittsburgh has played is yours to lose. The capacity and will of the leaders to keep pushing a green agenda is amazing, but maintaining the status quo won't keep Pittsburgh in a groundbreaking position much longer. The support, partnership, voice and commitment of professionals throughout the design, construction and real estate industries will be needed to continue the advance of green building practices in Western Pennsylvania.

Rebecca Flora is the Senior Vice President, Education & Research at USGBC in Washington, DC. From 1997 to 2008 she was the first executive director of the Green Building Alliance in Pittsburgh.



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