



# QUARTERLY REVIEW

CURRENT LEGAL AND BUSINESS DEVELOPMENTS AFFECTING  
THE DESIGN, CONSTRUCTION AND REAL ESTATE INDUSTRIES

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## Green, Energy Efficient Office Space on the Rise in Manhattan

By Stephen T. Del Percio, Esq.

**N**ew York City's commercial real estate market continues to implement aggressively sustainable and energy-efficient design features. An increasing number of office properties are seeking certification under both the U.S. Green Building Council's various LEED rating systems, as well as the federal government's Energy Star program. Most significantly, it appears that tenants are recognizing the importance of these programs and ranking green and energy efficient spaces as important criteria when searching for commercial space in Manhattan.

In a recent report released by the Burnham-Moores Center for Real Estate at the University of San Diego, New York City ranked third among U.S. cities for LEED- or Energy Star-certified office space. Gotham checked in with 11 buildings and 12.3 million square feet, while Los Angeles topped the list with 100 buildings and 26.2 million square feet. Comparing dense, vertical New York with the sprawling Los Angeles metropolis yields the disparate number of certified buildings, and a number of commercial projects currently under construction, including LEED hopefuls Bank of America Tower and 11 Times Square, should boost the Big Apple's totals in future compilations of any similar lists.

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## Working Globally—Lessons Learned While Climbing the Hills of the Flat New World

By Edward R. Kasparek, Senior Vice President, Thornton Tomasetti, Inc.

On a plane heading from New York to Dubai, Dennis Poon reviews plans for the latest high-rise building he and his team are designing in the Middle East. In Moscow, Leonid Zborovsky is preparing for a breakfast meet-

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## SPEAKING OUT

■ The AIA/ACEC Special Advisory Committee Meetings have been scheduled as follows:

- » Wednesday, **May 14th**, 8 am-10 am  
Firm Management/Consultants
- » Wednesday, **May 14th**, 12 pm-2 pm  
Contracts
- » Thursday, **May 15th**, 8 am-10 am  
Risk Management

Location: Harvard Club, New York City.  
For more information, please contact  
Barrie Cota at (212) 682-6800.

■ Zetlin & De Chiara and McGraw-Hill *New York Construction Magazine* will present the 3rd Annual **Green Build Symposium** on Monday, **June 23rd** at the McGraw-Hill Auditorium, New York City from 8 am-10 am.

■ McGraw-Hill *New York Construction Magazine* presents **New York's Next Generation of Builders—Growing A New Generation of Leadership: Challenges, Stories and Strategies** scheduled on Tuesday, **June 24th** from 4 pm-7 pm at the McGraw Hill Auditorium, New York City. The event will be moderated by Michael K. De Chiara and Michael S. Zetlin of Zetlin & De Chiara LLP and Louis C. Grassi, founding partner of Grassi & Co., CPAs. A cocktail reception will follow.



*Michael De Chiara moderates the **Annual Joint Session on Current Insurance Issues for Design Professionals** on December 5, 2007, co-hosted with the AIANYS Statewide Advisory Committee and the American Council of Engineering Companies of New York. Panelists included representatives from the Beazley Group, Lexington Insurance, Liberty International, Victor O. Schinnerer, XL Environmental and Zurich North America.*



***McGraw Hill/New York Construction and Z&D BIM Symposium**, November 8, 2007. Seated left to right are Michael De Chiara of Zetlin & De Chiara, James Brogan of Kohn Pedersen Fox, Stewart Carroll of the Beck Group, Michael Feigin of Marsh USA, Brad Horst of Autodesk, Charles Murphy of Turner Construction Company, John Marinello of Flack & Kurtz, Robert Schubert of Boston Properties, Dennis Shelden of Gehry Technologies and James Vandezande of Skidmore, Owings & Merrill.*

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## Green Office Space

In 2007, the EPA distributed 1,400 commercial Energy Star ratings—the most in the program's history, which dates from 2002. In order to receive the designation, a building must perform better than 75 percent of comparable properties as measured against an EPA benchmark. Five New York City properties earned the award, including Cass Gilbert's New York Life Insurance Building at 51 Madison Avenue. Thanks to a number of energy efficient retrofits that were implemented over the past three years, the building now accounts for 18 million fewer pounds of CO<sub>2</sub> annually—equivalent to 1,540 fewer cars on the road. The other four properties that received an Energy Star rating were 375 Hudson Street, 520 Madison Avenue, and 460 and 320 Park Avenue. In order to qualify under USGBC's LEED for Existing Buildings rating system, a participating property must achieve, at a minimum, an Energy Star rating of 67.

While it is important for owners and operators to promote the green initiative, tenants who recognize the importance of energy efficiency and the potential consequent cost savings are essential to the success of the green commercial office market. According to the CoStar Group, three out of the top ten commercial leases that were finalized during 2007 were for space in green buildings. L&L Acquisitions' 200 Fifth Avenue, registered under LEED for Core and Shell, signed the Grey Global Group for nearly 370,000 square feet of space; the deal ranked sixth on CoStar's top 50 list. At number seven, Boston Properties' 250 West 55th Street, which will seek a Gold rating under LEED for New Construction, inked law firm Gibson Dunn & Crutcher for just over 220,000 square feet. Another law firm, Goodwin Proctor, checked in at number eight on the list for its 217,000 square feet at New York Times Tower which, although not a LEED building, offers tenants an extensive menu of sustainable design features ranging from radiant flooring to an efficient, double-hung

curtain wall. Six other leases in the top fifty were secured at similar green properties, including Larry Silverstein's LEED Gold 7 World Trade Center and 350 Park Avenue and 599 Lexington Avenue, both of which are seeking certification under LEED for Existing Buildings.

Green building is rapidly changing the commercial office landscape in Manhattan, and tenants will likely have an increased number of LEED- and Energy Star-certified options to choose from over the course of the next year. Owners and operators will likely have no choice but to both educate themselves about the types of programs that exist, as well as the different types of green design features that may be cost-effective and attractive to tenants given the type of property at issue. Otherwise, they may run the risk of being at a competitive disadvantage given the currently unstable economic environment. ■

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## Working Globally

ing with a team of developers about a new mega-project they are planning outside St. Petersburg. At the same time, Dan Cuoco, our firm's president, is clearing customs in Vietnam. With Peter Nielsen, a principal at Leif Hansen, our engineering partner from Denmark, he will meet with developers about the feasibility of a new mixed-use complex in downtown Hanoi. In our Chicago office, Joe Burns is putting the finishing touches on a talk he will give next week in Helsinki on building information modeling. These are some typical scenarios that go on daily at Thornton Tomasetti. In the past few years, these opportunities have been emerging from all corners of the world at an accelerating pace.

Nearly since the founding of our firm 50 years ago, we have worked internationally on such landmark projects as the Petronas Towers in Malaysia and Taipei 101, two of the world's tallest buildings. In the last decade we have seen rapid growth internationally, with more than 15 percent of our revenues this year coming from outside the United States.

With this internationalization comes a new set of challenges that touch on nearly all aspects of our business: how we conduct business development, how we screen candidate projects and prepare bids, right down to the smallest details of how we operate day to day in the field.

Our international activities span more than 14 time zones, and 23 languages, not to mention countless variations of building codes and practices, as well as nuances of how partnerships function (vastly different in Russia, for example, than in China or Dubai). To coordinate international activities throughout our firm, and to accelerate and better distribute our learning we formed an International Steering Committee that tracks all of our global work. The Steering Committee also sets policy on how and where we work, settles debate about which teams and offices will be assigned to which projects and also which market sectors we pursue. As in most firms, communicating effectively across geographic and functional boundaries is of prime importance.

Currently we have offices in Hong Kong, Shanghai, Moscow, and London. We also have strategic alliances with other engineering firms in Denmark and Saudi Arabia and we have used an outsourcing firm in India for some of our CAD support over-

flow. These relationships allow us to utilize the time differences and travel time advantageously for projects in surrounding countries. To further widen client connections and prepare our young, high-potential engineers for the global economy, we have an employee exchange program with our colleagues in Denmark which has been a great benefit for both firms. In the program, a Danish engineer comes to one of our U.S. offices for six to nine months, and one of our American engineers works at our partner office in Copenhagen, learning Danish building codes and practices—not to mention how to order lunch in a local bistro.

*To quote one of our founding principals, Dr. Charles H.*

*Thornton, "many firms are more successful from the projects they turn down rather than from some of the ones that they win."*

We have found certain key considerations make the difference between success and failure in international work:

- Legal requirements- licensure, building codes, travel requirements, work permits, insurance requirements, and types of contracts used.
- Financial requirements- fee requirements, capability to pay, past payment history, payment schedules, travel and reimbursable expenses, currency risks, and taxation.
- Cultural considerations- work schedules, holidays, negotiating tactics, religious and political differences, security, nationality clash checking, and language barriers.
- Project deliverables- types of documentation required, design quality control, schedule, plans and specifications, phasing requirements, language and design terminology.
- Construction considerations- means and methods of construction, schedule, contractor scope, building standards, construction quality control and local factors such as labor force, climate, and substrate conditions.

To properly evaluate the feasibility of taking on new international work requires a lot of due diligence, especially when working with a new client or in a new country.

Unfortunately with the rapid increase in global opportunities and with the use of the Internet for communications, the time allotment for proper evaluation is most often very short, sometimes with millions of dollars at stake, if not done properly. Many clients are asking for proposal turnaround almost immediately after they issue their initial request. Without doing your homework, taking on a new project with unknown conditions could be a recipe for disaster. To quote one of our founding principals, Dr. Charles H. Thornton, "many firms are more successful from the projects they turn down rather than from some of the ones that they win." Although it is difficult to turn work away, it often proves to be the best choice when the criteria of the five areas above are studied and found to be unacceptable or questionable.

To expand the evaluation process we will look at each of the five areas in more depth. Of course each firm has its own areas of concern based on its individual business needs but these points can be used as a baseline with additions and subtractions as needed for your business.

### Legal Requirements

When we get an opportunity from a new client or project in a new region, our diligence starts with verifying national laws regarding business with a U.S. entity. Also when we receive a new opportunity for work, we immediately start the process of evaluating the Request for Qualifications (RFQ) or the Request for Proposal (RFP). It is essential to start a dialogue with the client immediately and develop a list of questions that may not be specifically pointed out in the initial request. Some critical key legal issues include:

- Who will be responsible for stamping and sealing the drawings?
- Which building codes will be used?
- What are the terms of payment?
- What are the requirements of travel in and out of the country (such as special entry permits or visas)?
- What type of security and safety will be provided for our employees while working in the country?
- Who will be responsible for reviewing documents and obtaining building permits?
- What type of contract will be used?
- What are the requirements for errors and omissions insurance as well as liability insurance? It may be possible to speed up this review process by using law firms that have offices or other clients in the region. / CONTINUED PG. 4

## Working Globally

### Financial Requirements

Simultaneous with the legal issues, we review the financial requirements. Our finance department has a checklist of review points. Foremost is the currency in which we will be compensated (we always strive to be paid in U.S. dollars). The exchange rate conversion is critical and the fees should always specify the U.S. dollar amount required as the total fee shall be the same, regardless of fluctuations in the exchange rate. Also, the taxation requirements vary by country and have to be coordinated with U.S. tax requirements. Most all of our contracts state that our fee requirements do not include any local taxes, which will be the responsibility of the client to pay. The method of invoicing should also be clarified and on all of our projects outside the U.S. we require a retainer that will be deducted from the last invoice. Our standard billing is usually monthly and we sometimes bill bi-weekly. This allows us a better control on cash flow, especially when we are unsure of a client's payment history.

We have found that it is also prudent to alert project managers that timely receipt of monthly payment is essential with international work. Many years ago we were working on a major project in Malaysia with a U.S. architect who was very smart about keeping on top of billing. When the interval between payments started growing, the architect notified all consultants to stop work on the project. The client was notified immediately and was told that we would not proceed unless we were paid at once. The ramifications to the project schedule were pointed out and the client agreed to an immediate payment. From that day until the end of the project, every payment was wired to us exactly when it was due. The payment history of many international clients can also be verified by speaking with colleagues who have worked for the same clients or by asking for a list of references as part of due diligence.

### Cultural Considerations

Cultural considerations are also critical, and it is often best to run a cultural clash check before entering into an agreement with a client in another country or with another cultural background. Each country has different cultural attributes, including the predominant language, how people obtain new work and conduct business meetings. Will interpreters be required? Do you need a guide or person who is knowledge-

able with local customs? Is there a security risk that might require an escort? There are religious and ethnic considerations when working with certain countries that might limit the integration of employees from different ethnic, tribal or religious backgrounds. Other cultural issues include the work week timing, the work ethic in each country, the cultural differences between parties on the design team, the owner and other consultants as well as the contracting

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teams. Before working in a new country, study the customs. Little things, like how to present a business card, how to address your contacts and entertainment habits and etiquette, are details that can make or break a relationship.

### Project Deliverables

Many requests for proposals are not clear about this, and after the project starts it is learned too late that the format that you intended to use will not be acceptable. Several countries have different requirements for drawing and specification format, dimensioning, language, and so the amount of effort required for each phase of work may not be the same as at home. (Schematic design in Boston, for example, may not be the same thing as schematic design in Beijing.)

Several of our international projects are completed only through the design development phase and then handed over to a local firm for completion of construction documents and construction administration. Although many firms work this way, the actual effort involved with the design development phase is usually much more extensive than it is for design development for a U.S. project.

Many projects in Asia are completed by a local design institute, in which case we are requested to provide only design development services. Compared to the effort that is normally considered in design development for U.S. projects, the design develop-

ment effort in other countries sometimes may require the same level of effort we provide for construction documents. We call it "enhanced design development." If possible, we try and have some representation at the design institute during the construction document phase and during actual construction. This ensures that our design intent is met and that the quality the owner expects and deserves will actually be delivered. Many clients also ask us to provide full-time representation at the site, to observe the construction and be available to answer questions as they arise. This process helps keep the project on schedule without waiting for answers from the architect's or engineer's home office.

Drawing and specification sizes often vary by country. It is also critical to engage a translator to review all documentation that is completed in a foreign language. Many disputes occur when phrases are misinterpreted or translated in error. Certain contracts also require dual notations (as in Canada, for example) that should be clarified before the fee negotiation phase to ensure there will be proper time allotted to the fee. Quality control issues are always crucial but especially with international work because of the risk of misinterpretation. Bilingual employees are essential in this process.

### Construction Considerations

Construction techniques and "know-how" vary from country to country across the world. One cannot over-emphasize the importance of awareness of the availability of building materials, construction practices, and the cost of delivery and production of the materials. Due to high tariffs imposed on finished versus raw material imports, during the construction of the Petronas Towers in Kuala Lumpur, the owners purchased their own steel production plant in Malaysia. This reduced tariffs for raw steel and the finishing was all done in the plant near the site, saving money and time. Another consideration for local versus shipped materials is the local traffic patterns and availability to shipping. Again at the Petronas Towers project the constant traffic jams in Kuala Lumpur would not allow for the steady delivery of concrete as needed to keep up with the pouring schedule and meet the challenging schedules of the project. To remedy this, the contractors mixed all concrete on site instead of trucking it in. With the ongoing world movement for sustainability, the use of locally sourced materials, and the reduction of embodied energy costs, makes steps like this of prime importance.

In some instances the client dictates the type of materials to be used in their buildings. This often is based on their national resources, the national labor force, and customary construction methods in their region. In Taipei, when designing the structural system for Taipei 101, it was essential to use a steel system because one of Taiwan's main businesses is steel fabrication.

In regions where the cost of materials is prohibitive, the reuse of materials is common. Wooden formwork temporary bracing and shoring materials are often reused until they wear out. Even the practice of removing existing nails and straightening them is done in many regions, as well as the reuse of bamboo scaffolding. These steps have been used for years and are now recognized tenets of the sustainability movement.

A final critical consideration is to know what to expect during construction of the project. Methods of construction, quality control, and safety practices are extremely different in many areas that have not been previously exposed to Western building and safety techniques. This disparity has caused our firm to try, whenever possible, to have some involvement with the construction phase.

In many instances we strive to provide periodic site visits if the client doesn't engage us for the full construction administration services. This is especially true for projects in which we have contracts only up to the design development phase and in which the client does not want us to provide further services. We feel that it is critical to have at least some input while the building is constructed. Some projects have proven to be easier to predict than others, especially when we are familiar with the contractors or construction managers. In many cases, however, we are not the design firm of record, but we are still connected to these projects and have a moral and professional responsibility to follow through and make sure our design intent was met.

With any growth and new opportunity there are certain hurdles that must be cleared to realize success. As we all move forward on the new flat world surface, be aware that you will need to keep your eyes open because you will need to climb a few hills also. Hopefully your considerations of these key points will prevent these hills from turning into mountains that could limit your international success. ■

## Finish Your Office Move: Notify the State Education Department



By Raymond T. Mellon, Esq.

After years in your familiar office, your lease is expiring. Months earlier, you did a careful investigation and analysis

of available office space with a reputable broker and ultimately decided to relocate.

Knowing the natural disruption that such a change engenders, you try to mitigate the interruption. Doing so requires careful scheduling and coordination with your old landlord, the new landlord, and movers. Very importantly, you prepare change of address notices, both via mail and electronically, advising all clients, consultants and friends of your new location. Care is taken to ensure that all of your vendors, banks, and suppliers are also apprised of this important news. When the move is complete, hopefully you have a party to celebrate your new and beautiful office space. After the chaos of the last year of implementing an office change, you can finally relax and settle into a long tenancy in the new space.

While one would naturally feel that you have discharged all responsibilities concerning your move, one omission has commonly occurred which has caused great difficulties to New York design professionals. The majority of licensed architects and engineers have registered their office address as the location for license renewals to be sent. Consequently, when the license renewal forms are sent out by

the State Education Department ("SED"), they are sent to the address on file, i.e., the old office address. Unless one is extremely vigilant as to the expiration date of their architectural or engineering license, they will be completely unaware of the license expiration.

In these circumstances, the design professional continues to practice architecture or engineering blissfully unaware that they are practicing without a valid license.

In the last two years, I have had to advise a number of architects and engineers who discovered that their licenses have expired due to a failure to notify the SED of their change of office address.

While this situation is usually rectified by contacting the SED, there are definite drawbacks. First, you must execute forms which acknowledge the temporary practice of your profession without a valid license. Moreover, license renewal will not be granted without first establishing compliance with the requirements of continuing education units. Finally, applicable fees, and potential penalties, are imposed.

This unfortunate situation can be avoided by simply providing timely notice to the SED of the change of your office address. Doing so will avoid having to execute embarrassing documents that will remain in your SED file and could potentially come back to haunt you in the event of a future investigation on other charges or offenses. (If your residence is the address on file with the SED, you must similarly provide notice in the event of a move.) ■



### Patterson Appointed to Governing Committee

Senior Partner Carol Patterson was recently appointed to the governing committee of the American Bar Association's Construction Forum, a national association of lawyers who specialize in construction law.

# Pushing the Envelope on BIM: A McGraw-Hill/New York Construction and Z&D Symposium

By Chad Sjoquist, Esq.

On November 8, 2007, Zetlin & De Chiara and McGraw-Hill/New York Construction co-sponsored their annual industry wide symposium on Building Information Modeling

(“BIM”). This symposium was entitled “Pushing The Envelope On BIM: Who’s Using It, How They’re Using It, and Where It’s Taking the Design & Construction Industry.” After a warm welcome by Vince Peters, then publisher of *New York Construction Magazine*, the symposium began with presentations by four distinguished experts on BIM.

## Dennis R. Shelden

The first presentation was given by Dennis Shelden, who is the Chief Technology Officer of Gehry Technologies. Mr. Shelden also spoke at the 2006 symposium, at which he provided a basic overview of BIM and its potential benefits to the industry. He began this year’s presentation by pointing out that the prevalence of those in the construction industry who have a basic understanding of BIM has grown exponentially in the last year. Mr. Shelden thus chose to forgo the basics and discuss the emerging uses for BIM in the industry.

Mr. Shelden stated that BIM will continue to emerge as a cost-effective way to manage design and construction. He explained that the cost of fixing a relatively small problem, such as chipping away and re-laying concrete because a design professional forgot to insert ducts into the design, is more expensive than using BIM. BIM makes such mistakes much less likely.

Mr. Shelden then gave a real life example—the Forest City Ratner Atlantic Yards Project—where BIM has been used effectively from the project’s outset. In that case, Mr. Shelden explained how a model that includes the topography and bedrock of the land of a proposed project was used to do a foundation analysis using various cutaways and other views of the land. Instead of a piecemeal review of these issues, BIM allows the entire design and construction team to sit in the same room and make in-

formed choices about the scope and goals of the project.

Other preconstruction uses for BIM include lighting and wind impact analyses, and the ability to substitute post-design code checks with an ongoing analysis as the design is put together. Simply put, BIM allows all the redlining to occur in one place, and reduces the need to thumb through drawings and repeatedly exchange submittals. Mr. Shelden also explained that because of the ongoing collaborative nature of BIM, it reduces many errors and coordination problems that traditionally occur during large-scale projects.

Mr. Shelden also pointed out that BIM actually facilitates a four-dimensional analysis—conventional 3D plus time. This time visualization allows designers and contractors to better understand the project schedule. It also allows the construction team to reduce the construction cycle significantly, thus providing substantial savings to the owner. BIM also has the potential to increase efficiency by reducing the number of RFIs, reducing mistakes in the design, and ultimately providing what Mr. Shelden believes can be a return of up to ten or twenty times the investment associated with BIM.

## Bradley C. Horst, AIA

Bradley Horst, AIA was next to speak. Mr. Horst is a Product Marketing Manager for Autodesk’s AEC Solutions Division. He is specifically responsible for the global marketing of Autodesk’s Revit Architecture, which is the company’s BIM software.

Mr. Horst began by explaining the various benefits that BIM can provide to design professionals and others in the construction industry. These include a higher quality design, better performance, enhanced team coordination, increased project viability, and a competitive advantage over a non-BIM process. He further remarked that BIM is ideally targeted for a construction industry that has seen a sustained growth in urbanization, globalization, and scarcity of resources. BIM is just another step in an industry marked by continuing changes, where technology has long been a catalyst for the future.

Mr. Horst stressed that while BIM is a technological marvel, it is fundamentally about people and the way that they interact with one another on large-scale projects. He remarked that BIM is now typically being utilized by design professional firms of over 100 people, and that they have found the collaborative aspects of this new process to be extremely rewarding.

In light of these benefits, Mr. Horst expressed his belief that BIM will fundamentally change how design professionals think about the traditional design process. He predicted that the industry will see a change from two-dimensional drafting to three-dimensional analysis and visualization, from the use of “rules of thumb” to more tailored analyses that will ultimately fully embrace the change from traditional documents such as design and construction documents and shop drawings into models, from which fabrication and construction will directly flow.

## James Vandezande, AIA

Next to speak was James Vandezande, AIA, who is an Associate and the Digital Design Manager at the architectural firm Skidmore, Owings & Merrill, LLP. Among Mr. Vandezande’s many technological responsibilities at SOM, he has been deeply involved with the firm’s implementation of BIM software during the last few years.

SOM has emerged as one of the nation’s leaders in the use of BIM, and Mr. Vandezande remarked that it has already used Revit Architecture on a number of high-profile projects around the world. Perhaps most notable of these projects has been the Freedom Tower, which is also known as 1 World Trade Center. SOM has used BIM for other large-scale and smaller projects, including the Lotte Tower in Seoul, South Korea, and various hospital projects in New York.

Mr. Vandezande stressed that while SOM’s professionals learn something new each time they engage BIM, they have found that in many ways the model is simply an extension of autocad. Indeed, more than one presenter mentioned that autocad is a part of the BIM paradigm. This appears to be particularly true with Revit Architecture, since it is fully compatible with, and can integrate AutoCad drawings into its model.

Mr. Vandezande shared some of the experience and lessons that SOM has learned as it has continued down the BIM path. Simi-

lar to the experience of the other panelists, SOM has noted a significant reduction in RFIs during both the bidding and construction processes, since the BIM model provides more immediate and readily accessible information to contractors. The simultaneous availability of such information to everyone on the project has also led to a more effective, and condensed coordination process, which provides obvious benefits to everyone involved. This includes submittal reviews, which can now be done through the model, instead of through the repeated exchange of shop drawings and other documents that so often slow down the traditional construction process.

Finally, Mr. Vandezande discussed the somewhat unanticipated but welcome effect that BIM has had on the professional development of SOM's architects. He explained that prior to BIM, many of the younger architects found themselves focusing on certain aspects of a building, without designing or necessarily understanding other components of the project. SOM found, however, that the integrated and comprehensive nature of BIM has allowed, and to a certain extent forced, its younger professionals to think about and understand the design for the entire building, thus accelerating their training and development.

### Stewart Carroll

The symposium's final presentation was made by Stewart Carroll, who is the Chief Operations Officer of Beck Technology, a company that has produced another popular BIM software product called D-Profiler. As the company's COO, Mr. Carroll has served as the primary manager and creative mind behind D-Profiler.

Mr. Carroll divided the benefits of BIM into four primary categories. These include a greater ability to meet the owner's needs, lower project costs, shorten delivery time, and deliver better quality of design and construction. BIM has greatly contributed to the puzzle of finding the best way to integrate data and lower the owner's costs.

Mr. Carroll proceeded to provide a demonstration of the benefits that BIM, and D-Profiler specifically, can provide at a project's very early stages. Before any design work is begun, Mr. Carroll showed how D-Profiler, in conjunction with Google Earth, can provide an owner with a basic understanding of whether the land in question is suitable for the proposed project. Mr. Carroll explained that at these initial stages, the issue is not architecture, but cost

and possibility. Thus D-Profiler can be used to predict the operating costs of the proposed project, including electricity, water, and gas, and can also provide a carbon footprint for the building. Within a couple of hours, an owner can have a full understanding of the suitability of the land for the proposed building, as well as the impact that the building's proposed design will have on construction and operating

*“Contractors and design professionals will need to evaluate any potential risks that BIM may impose upon them, and take them into account when determining whether, and for how much, to bid on a project.”*

**PAT A. DI FILIPPO**, Executive Vice President of Turner Construction Company

costs, its surrounding environment, and other factors. Mr. Carroll explained that, during that initial meeting with the owner, The Beck Group has been able to provide a guaranteed scope of work, price and schedule. Thus, BIM provides owners with more information more quickly and with greater understanding of the project than they ever had under the more traditional design and construction process.

### Panel Discussion

The presentations were followed by a question and answer panel discussion that included each of the featured speakers, as well as several other construction experts, including James R. Brogan, AIA, Senior Associate Principal and Director of Firmwide Information and Technology at Kohn Pederson Fox Associates, P.C.; Pat A. Di Filippo, Executive Vice President of Turner Construction Company; Michael Feigin, Managing Director of Marsh USA, Inc.; John Marinello, Chief Information Officer at Flack + Kurtz; and Robert Schubert, Senior Vice President of Construction at Boston Properties Inc. The panel was moderated by Zetlin & De Chiara Senior Partner Michael De Chiara.

The panel covered a wide range of issues and questions relating to BIM, but two primary themes emerged. First, the panelists agreed that as BIM continues to develop its place in the construction industry, there will be many legal and practical issues that

will arise and will have to be resolved. Second, the panelists concurred with the featured speakers by stating that BIM has the potential to provide an enormous wealth of benefits to everyone involved with the construction process, including owners and developers, design professionals, and contractors.

Audience members posed questions related to potential legal issues, such as who will own and be responsible for the data that is entered into the BIM model. Michael De Chiara pointed out that such issues, particularly with respect to assignment of responsibility, will need to be resolved in the various parties' contracts. Dennis Shelden mentioned that the same concerns existed when two dimensional CAD drawings became prevalent years ago, but that contracts ultimately resolve most of those issues. He predicted that the same thing will happen with BIM without any radical changes. Pat Di Filippo also pointed out that contractors and design professionals will need to evaluate any potential risks that BIM may impose upon them, and take them into account when determining whether, and for how much, to bid on a project. He also shared his understanding that insurance carriers fully expect that any risks from BIM will be insurable. Mr. Di Filippo also advised that if a party is responsible for the data, for its own sake, it better make sure it controls that data.

Several questions were posed regarding the practical effect that BIM will have on the delivery of design and construction drawings. For example, one audience member asked how BIM will affect shop drawings and the submittal process. Bradley Horst explained that sophisticated subcontractors will be contributing to the BIM model, so that two-dimensional shop drawings may no longer be necessary. He pointed to the new Yankee Stadium as an example where subcontractors' participation in the BIM model included providing a three-dimensional bidding model. Robert Schubert explained that at this point, many owners and contractors are still concerned more about price than the method of delivery. Thus, an owner and/or contractor may still choose to retain the subcontractor that provides the most cost-effective bid, even if that subcontractor does not use BIM. John Marinello remarked that there are no industry-wide answers to these questions, and that for at least the near future they will vary by project.

A somewhat similar question was posed regarding the role of sup- / CONTINUED PG. 8

## BIM Symposium

pliers and whether they are able to add a layer of product specification to the BIM model. James Vandezande explained that many of the larger suppliers were considering entering the BIM world, but for the most part have yet to do so. John Marinello predicted that this issue will ultimately be resolved by the contractors, who will have to mandate that their suppliers participate in BIM or risk losing the contractors' business.

An audience member also asked how BIM will affect the speed of the design process. Robert Schubert explained that experience has already shown that the process speeds up, in part because there are fewer RFIs, since so much information is in the model and available to everyone on the project. Michael Feigin stated that design professionals are still trying to quantify the time savings that BIM provides.

This answer then led to a follow up question regarding how BIM will change the staffing needs of design professionals and contractors. James Vandezande remarked that firms are now looking for students who are proficient with BIM, but that first and foremost, they will always need people who know how to put buildings together. Ideally, he said, firms will look for professionals that possess a combination of these two qualifications. A number of panelists concurred with this and explained that firms will look to the growing number of younger professionals who are familiar with BIM, but that senior professionals will always be needed because they will be able to recognize problems and provide quality control that less experienced professionals will not be equipped to.

The final question posed to the panelists was whether design professionals and/or contractors will be able to use their BIM models to obtain necessary permits from government agencies. Robert Schubert commented that thus far, all permit applications in New York City must include two-dimensional drawings, and that the City will not grant permits based on a BIM model. Dennis Sheldon stated that some municipalities are beginning to accept BIM models for permit applications in large-scale projects. One might guess that as BIM models become more comprehensive and user-friendly than two-dimensional drawings, municipalities will ultimately allow, and perhaps even prefer, an approval process that is based on BIM models. ■

## Sustainable Design: A Chat with Russell Unger

By Stephen Del Percio, Esq.



Russell Unger, the Executive Director of the U.S. Green Building Council's New York Chapter ("USGBC-NY"), joined a number of prominent design, construction, and real estate industry stakeholders

for a breakfast roundtable on Tuesday, October 9 at the Tudor Hotel in Midtown. The discussion, part of a series of breakfasts that are hosted by the law firm of Zetlin & De Chiara, focused on the increased attention that the construction industry has devoted in recent months to green building initiatives. Mr. Unger shared his vision of the New York Chapter's role in increasing green practices throughout the New York City construction industry and fielded questions and suggestions.

Mr. Unger described the origins of USGBC-NY as a small group of volunteers who primarily ran technical workshops to assist project teams seeking certification under the LEED rating system. (LEED is the prominent green building rating system in the United States, promulgated by USGBC headquarters in Washington, D.C.) Established in 2002, USGBC-NY is now a professional/volunteer organization that raises public awareness of sustainable design and its benefits for owners and occupants.

Mr. Unger emphasized that the NY Chapter is actively looking to partner with a number of organizations—from ASHRAE to the unions—in order to educate industry stakeholders about green building. At his previous position with the City Council, Mr. Unger helped draft New York City's Local Law 86, which requires LEED for particular public projects. The NY Chapter intends to continue working with local government to determine the best mechanisms for inserting green requirements into building codes.

USGBC-NY has also approached a number of local owners in order to perform cost-benefit analyses of green building projects in New York City. Though this is sensitive information for many owners, Mr. Unger hopes to eventually produce data on a square-foot green building premium. Eventually, Mr. Unger expects to create a physical green building resource

center where industry stakeholders can obtain information on green products, receive technical assistance with LEED certification requirements, and generally educate themselves about green building benefits. Initially, he hopes to establish a virtual resource center where this information will be accessible to project teams and the general public.

While fielding questions, Mr. Unger acknowledged that any definition of green building depends on whom you are asking, making USGBC-NY's task all the more challenging. Nevertheless, attendees all agreed that the key to green building's long-term success in New York City is education.



UNGER

USGBC-NY clearly has a vision for the future of sustainable construction across New York City, and

the breakfast roundtable was successful in both sharing that vision with industry stakeholders as well as providing the organization with some direction regarding the needs of the local green industry. ■

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