The Hansar, Bangkok
Developing Skyscraper Districts: La Défense
Hybrid Mass Dampers for Canton Tower
Greening the Urban Habitat: Singapore
Talking Tall: A Future for Tall Building History
Debating tall: A Supertall Future in the US?
2011: A Tall Building Review
Tallest 20 in 2020
Inside

News and Events
02 This Issue
Timothy Johnson, CTBUH Chairman
04 CTBUH News and Events
Antony Wood, CTBUH Executive Director
05 Debating Tall
Opinions “for” and “against” on a topical issue
06 Global News
Highlights from the CTBUH global news archive

Case Study
12 The Hansar, Bangkok
Wong Mun Sum & Richard Hassell

Research
18 Developing Skyscraper Districts: La Défense
Maria Scicolone
24 Hybrid Mass Dampers for Canton Tower
Fu Lin Zhou, Ping Tan, Yanhui Liu & Jun Teng
30 Greening the Urban Habitat: Singapore
Jason Pomeroy

Features
36 Tall Buildings in Numbers
2011: A Tall Building Review
38 A Year in Review:
Trends of 2011
Nathaniel Hollister & Antony Wood
44 Tallest 20 in 2020:
Era of the Megatall
Nathaniel Hollister & Antony Wood

Features (cont.)
48 Design Research
2011 CTBUH Student Design Competition Result
50 Talking Tall
A Future for Tall Building History
Raymond Hartshorne & Paul Alessandro

CTBUH
54 2011 Awards, Symposium, Ceremony, and Dinner
Report on the 10th annual awards events
56 CTBUH 2011 Seoul World Conference
Report
59 CTBUH on the Road
CTBUH events around the world.
59 Diary
Upcoming tall building events
60 Reviews
Review on new books in the CTBUH Library
61 Letters
Feedback and Comments
61 What’s on the Web?
Featuring new content now available on the website
62 Meet the CTBUH
Werner Sobek
63 CTBUH Organizational Structure & Member Listings

The term “supertall” (a building over 300 meters) is no longer adequate to describe the world’s tallest buildings of the future: we are entering the era of the ‘megatall.’ This term is now officially being used by the Council to describe buildings over 600 meters in height.”

Nathaniel Hollister & Antony Wood, page 44
“We try to restore not just the image of the building, but more so the life inside the building through combining old qualities with new ones. As such we call these projects rehabilitation rather than restoration.”

An interview with Raymond Hartshorne and Paul Alessandro (Hartshorne Plunkard Architecture) by Jan Klerks, CTBUH Journal Editor

Looking at the skylines of Chicago and New York, one looks at over a century of skyscrapers. One feature that sets apart the first skyscraper cities from the more recent ones is of course the rich history of tall building architecture. These first cities are now facing the issue of what to do with vintage skyscrapers. What older tall buildings lack in modern structure and facility, they make up for in history and character. The value that these qualities represent lies in the fact that they are irreplaceable. In recent years, some abandoned office buildings built in the early 20th century have been converted to residential buildings, attracting those who seek these qualities in a high-rise urban environment. Rehabilitating those buildings allows a city to preserve its architectural heritage.

In this edition of Talking Tall, we interview Raymond Hartshorne and Paul Alessandro of Hartshorne Plunkard Architecture (HPA), who have an expertise designing the transformation projects of many of Chicago’s early loft warehouses and vintage skyscrapers. Their latest and tallest project involves the 141-meter (463-foot) tall Randolph Tower, which is located in the central business district of downtown Chicago, better known as The Loop (see Figure 1).

Like many buildings designed in the early 20th century, the 45-story Randolph Tower consists of an office block with a tower built on top of it. The 17-story tower section has three setbacks articulated by flying buttresses. The tower space was originally used to house a club for German Americans. Opened in 1929 as the Steuben Club Building, the late-gothic tower was originally designed by architect Karl M. Vitzthum. It is currently being transformed into a luxury apartment building by the Village Green Companies (see Figure 2).

How did you get involved in Chicago’s biggest rehabilitation projects?

We grew into it. HPA started 24 years ago. As a four person firm we were involved in the rehabilitation of small vintage buildings. Through the years our projects grew in size, and so did our company.

In the 1990s, a need for housing and a good economy caused a boom in loft development. Many old warehouses near the city center were converted to residential use. We were one of the architectural firms leading this movement. In 1999 we completed the Randolph Place project, which converted the 18-story Butler Brothers warehouse, designed by Daniel Burnham, into a 342-unit mixed-use loft condominium. At 305,000 square meters (1 million square feet), it was one of the largest loft projects in the USA.

During the late 1990s, the Loop became more desirable for residential development due in part to Mayor Richard Daley’s efforts and the creation of a theater district. Our clients took advantage of opportunities in the Loop by purchasing obsolete vintage office towers and converting them into residential use.
Most recently we have been working with Michigan based developer the Village Green Companies on the conversion of two vintage towers, the now completed MDA City Apartments project and the Randolph Tower City Apartments. For decades, Village Green has been dedicated to the revitalization of historic buildings in Chicago, Minneapolis, St. Louis, and other cities in the Midwest by creating luxury apartment communities.

**What’s your approach to architectural renovation?**

Like cities, buildings are entities that change and develop in time. In the course of their existence, the exterior and especially the interior of older buildings have been altered according to the needs and preferences of a given user.

We begin this effort by looking for original architectural details and materials. When original historic material has been destroyed and cannot be replaced, we create an infill design to satisfy the new use. The Randolph Tower lobby for example was no longer intact, so we designed a new space with modern and sustainable finishes.

We try to restore not just the image of the building, but more so the life inside the building through combining old qualities with new ones. As such we call these projects rehabilitation rather than restoration.

**What historical elements will be preserved in the Randolph Tower project?**

The terracotta façade of Randolph Tower will be brought back to its former glory. Terracotta (meaning *baked earth* in Italian) is a signature building material of the early 20th century skyscrapers. One of the most familiar ones in Chicago is the Wrigley Building on Michigan Avenue. After the Mather Tower (159 meters/521 feet, 1928), Randolph Tower is the second tallest building in Chicago with a terracotta façade (see Figures 3 and 4).

Preserving the façade involves repairing and replacing damaged terracotta pieces. Included will be the fabrication of new terracotta pieces created from molds of existing pieces in areas that were removed.

Rooms which were a part of the original Steuben Club will be rehabilitated as amenities for the residents. The ballroom...
When I visited Christchurch to study their buildings’ earthquake-resistance, I found that Japanese structures had about twice as much strength… In terms of design, Japanese buildings appear fat and heavy, because we give them more strength by maximizing the numbers of walls and pillars. Western building designs look pretty, but for us they make quite a scary impression.

— Professor Yoshiaki Nakano, a quake engineering specialist at Tokyo University, commenting on the Japanese earthquake-proofing building standards. From “Structural Damage Limited by Lessons Past,” The Australian, March 26, 2011

room will be repurposed as a fitness center. Also the existing pool will remain and be updated (see Figures 5 and 6).

What difficulties do you run into when converting an old office tower into a new residential building?

There are a good number of challenges that can be expected when working on an adaptive reuse project mainly due to understanding existing conditions and accommodating the new use. In preparation, we begin with extensive historic and on-site research by studying blue prints, photos, building permits and other available information. Often times a laser survey of the existing building is performed to create digital floor plans and occasionally we resort to x-ray analysis to uncover hidden conditions.

Inevitably, original documents have gone missing or are incomplete. Sometimes it feels like we are investigating a crime scene where we have very few clues with which to recreate the crime. It helps that we have the experience, but no two buildings are identical.

How about the “intestines” of the building, like the structure, wiring, plumbing, etc.?

Naturally we do thorough structural research as well. Wherever needed, we repair and strengthen the structure of the building. By doing so, we add another 75 years to the life of the tower.

When it comes to mechanical systems (MEP), one needs to realize that most old skyscrapers were built as office buildings. When we plan to convert a former office space into 313 apartments, like we do for the Randolph Tower, we are adding at least that same number of kitchens, bathrooms, and all the items needing electrical wiring and plumbing, which were not part of the original plan. Virtually all new MEP systems and services must be retrofitted into the existing structure.

Luckily there are good software programs available to help us with this effort. On projects we designed over ten years ago, coordination was more difficult. With Building Information Modeling (BIM) technology in combination with using Global Positioning System (GPS), much of that uncertainty can be ruled out as we can digitally map the existing condition exactly as it is on site.

How do old skyscrapers compare to modern buildings when it comes to sustainability?

Actually quite good. Because older buildings usually have a thicker façade with smaller
windows, they are generally better insulated compared to modern glass high-rises.

Also, the fact that we are recycling the entire building makes the project sustainable from an embodied energy point of view. Elements will be replaced using modern materials, such as new insulated windows. This contributes to better energy efficiency. In addition, skyscrapers tend to be located near mass transit. In all, the Randolph Tower building will be able to obtain a LEED certification.

**Looking at the total costs of rehabilitation, would you say it is cheaper to restore a vintage skyscraper or to demolish it and built a new one?**

Strictly looking at the direct costs involved, it would be cheaper to demolish and construct a new building. It would also be the less difficult thing to do. For example, when it comes to designing floor plans, we must work within the framework of the existing space. Being eligible for historic tax credits requires us to maintain any valuable historic material, including the corridors. It can be difficult to plan new apartments around an existing floor space and make them fit properly.

One good selling point for restoring the structure is that by converting the existing office use into apartments, we can offer 3-meter (10-foot) high ceilings, which would be very expensive to achieve in modern construction.

**Is there public support for the project?**

Rehabilitating Randolph Tower contributes to an incredible skyline and helps to maintain Chicago’s stature as one of the greatest architecture cities in the world. The City of Chicago, which likes to brand itself as a city of architecture, is well aware of these qualities, and the project received plenty of cooperation, such as Tax Increment Financing (TIF), due to this indirect benefit and others that are more direct, like job creation and affordable housing. The project also received historic tax credits from the federal government’s Department of Interior, whose role is to preserve natural heritage and it also maintains the National Register of Historic Places to recognize significant buildings and places.

The rehabilitation of Randolph Tower would not be feasible without political support and public financial incentives.

Some older industrial and now declining cities in America have vintage skyscrapers as well. What are their chances to ever get rehabilitated?

Given its size, Chicago obviously has a bigger market potential compared to cities like St. Louis, Cleveland, and Detroit, where positive development is occurring, albeit slowly. But looking back, cities witness periods of growth and decline all the time. Fulfilling the market potential of skyscraper redevelopment will require a renaissance of each industrial city, combining economic prosperity with strong civic leadership and financial incentives for developers.

As architects, we can aid this process by demonstrating the virtue of rehabilitating and reimagining skyscrapers which create a framework for the revitalization of city centers. City centers are proving to be the most sustainable places to live and due to the green movement, a renewed interest in living downtown has occurred across the USA.

Figure 5. Randolph Tower formerly known as the Steuben Building – interiors in 1929 © HPA

Figure 6. Randolph Tower proposed interiors © HPA