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Title: Revitalizing Lower Manhattan: World Trade Center in Context

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Subjects: Architectural/Design
Urban Design

Keywords: Master Planning
Urban Planning

Publication Date: 2011

Original Publication: CTBUH Journal, 2011 Issue III

Paper Type:

1. Book chapter/Part chapter
2. **Journal paper**
3. Conference proceeding
4. Unpublished conference paper
5. Magazine article
6. Unpublished

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Revitalizing Lower Manhattan: World Trade Center in Context

“It is nearly impossible to predict when the World Trade Center site will be fully rebuilt and occupied. As it is already gradually becoming part of the New York urban context, it can be argued that there will never be one definitive moment of completion.”

An overview by Jan Klerks, CTBUH Communications Manager/Journal Editor

Almost 10 years after the destruction of the Twin Towers, the reconstruction of the World Trade Center site is in full swing. One World Trade Center, which is discussed in the case study paper in this Journal, will be the largest and tallest development on the site, but it is definitely not the only one. In fact, the site will eventually become one of the very few clusters of supertall buildings in the world. As such, it is part of a development which in significance and importance far exceeds the 65,000 square meters (16 acres) site in Lower Manhattan. The following offers an overview and status update of the components that make up the World Trade Center development.

Urban Scheme

The master plan for the World Trade Center site is based on a design by Studio Daniel Libeskind (see Figure 1 and 2). The study was selected in February 2003 as the master plan for rebuilding the World Trade Center site. This plan proposed a complex program, which called for the construction of a memorial with waterfalls, an underground museum, a visitor center, retail space, an intermodal transit hub and five office towers spiraling to the height

of the then-called Freedom Tower. The plan also contained a number of symbolic elements, such as a proposed height of 541 meters (1,776 feet) for the tallest tower (referring to the year in which the Declaration of Independence was signed) and a concept called the “wedge of light.” This concept positioned the tower faces in such an arrangement that the faces pointed at the sun in the sky at the onset and the end of the attack: 8:46 am when the first plane hit and

10:28 am when the second tower collapsed.

An important element in the scheme for the site is the restoration of the linear thoroughfare of Greenwich, Cortland, Day, and Fulton Streets. As a result, the World Trade Center site will be more integrated with its surrounding area compared to the raised plaza concept that was laid on top of 12 demolished city blocks in the former World Trade Center.



Figure 1. World Trade Center Site Plan © SOM



Figure 2. World Trade Center Towers © dBoxStudio

Towers

Besides One World Trade Center, Towers 2, 3 and 4 have been planned along the newly aligned Greenwich Street, at the eastern perimeter of the site. Although the foundations of Towers 2 and 3 are part of the current ongoing construction, further development of these buildings has been pushed back awaiting market demand. Tower 4, however, is currently under construction. To the south of the original site and on the location of the recently demolished Deutsche Bank Building, Tower 5 has been planned for future development. Located to the north of the World Trade Center site, 7 World Trade Center was opened in 2006. All of these towers are office buildings and no new building has been planned that will carry the number 6 in its name.

The Port Authority of New York and New Jersey, who was the developer and owner of the former World Trade Center, has assumed responsibility for the development of One World Trade Center, Tower 5, the National September 11 Memorial & Museum, the transportation hub, and overall site infrastructure. Towers 2, 3, and 4 are being developed by Silverstein Properties of New York City, the lease holder of the 10 million-square foot (929,000-square meter) commercial space of the former World Trade Center.

Tower 2 at 200 Greenwich Street

Designed by Foster + Partners, Tower 2 is planned to rise to 79 stories. When constructed, the 411-meter (1,348-foot) tall tower will be the second tallest skyscraper in the World Trade Center site and the third tallest building in New York City, following One World Trade Center and the Empire State Building. The sloping roof, consisting of four diamonds inclined toward the memorial (see Figure 3), will provide a visual marker around the skyline of just where the original towers were. Although a completion date has not been projected, foundation work began on June 1, 2010 and should continue until late 2011. Further progress of Tower 2 depends on the demand for office space. Adamson Architects are the executive architects for this Tower as well as Towers 3 and 4.



Figure 3. Tower 2 © Foster + Partners

Tower 3 at 175 Greenwich Street

Tower 3 is at the center of the various buildings around the memorial site (see Figure 4). As a result, it stands centrally across Greenwich Street from the main axis, formed by the two reflecting pools of the Memorial. The 71-story tower was designed by Rogers Stirk Harbour + Partners and will be 378 meters (1,240 feet) tall when completed. The



Figure 4. Tower 3, Rogers Stirk Harbour + Partners © Silverstein Properties

progress of developing Tower 3 depends on the ability to finance the project.

Tower 4 at 150 Greenwich Street

With a height of 298 meters (977 feet), Tower 4 is the lowest projected tower in the site (see Figure 5 and 6). The building was designed by the Japanese Pritzker Prize-winning ↗



Figure 5. Tower 4, Fumihiko Maki © Silverstein Properties



Figure 6. Tower 4 under construction © Jan Klerks



Figure 7. 7 World Trade Center © Antony Wood

architect Fumihiko Maki and broke ground in January 2008. When completed in 2013, the 64-story tower will house, amongst other tenants, the Port Authority of New York and New Jersey. Safety systems will be designed to exceed the New York City building code. Designed in accordance with the highest energy efficiency standards, the tower will seek to achieve LEED Gold Certification by the U.S. Green Building Council.

Tower 5 at 130 Liberty Street

Not part of the former World Trade Center site but incorporated into the current development, Tower 5 will be built on the site of the former Deutsche Bank Building on Liberty Street, which was irreparably damaged in the 9/11 attacks. In 2007, Kohn Pedersen Fox designed the 42-story glass and steel tower as the new headquarters for JP Morgan Chase. The design included a seven-floor high cantilevered section, starting at the 12th floor, offering large floor plates which would have housed the JP Morgan Chase's trading floors. However, following JP Morgan Chase's acquisition of Bear Stearns in March 2008, the company announced plans to use the existing Bear Stearns headquarters at 383 Madison Avenue as its new headquarters. Like Towers 2 and 3, development of Tower 5 depends on future market demands. In the mean time, an entrance point is being built on the site, which provides security access for deliveries to the projects in the World Trade Center area.

7 World Trade Center

The 226-meter (741-foot) tall 7 World Trade Center tower was the first building to be completed as part of the redevelopment of the World Trade Center site (see Figure 7). Almost immediately after the site was cleared of debris from the collapsed of the former 7 World Trade Center, the first proposals for a

new design was presented. Construction started on May 7, 2002 and the tower was opened in May of 2006. 7 World Trade Center's design places emphasis on safety, with an extremely strong reinforced concrete core, wider stairways, thicker more adhesive fireproofing of steel columns, and additional water capacity for firefighting. It also incorporates numerous environmentally friendly features, which made the tower the first LEED Gold certified green skyscrapers to be constructed in United States.

National September 11 Memorial & Museum

Located in the center of the World Trade Center site is the National September 11 Memorial & Museum. The memorial is called "Reflecting Absence" and it honors the victims of the September 11 attacks and the 1993 World Trade Center bombing. The Memorial design is defined by two reflecting pools, a grove of trees and the names of every person who died in the 1993 and 2001 attacks inscribed in bronze panels edging the Memorial pools (see Figure 8). The reflecting pools are nearly an acre in size and sit within the footprints of where the Twin Towers once stood. Selected from a global design competition that included more than 5,200 entries from 63 nations, architect Michael Arad and landscape architect Peter Walker created the final design. The Memorial will be



Figure 8. National 9/11 Memorial and Museum, Michael Arad & Peter Walker © Squared Design Lab



Figure 9. National 9/11 Museum Pavillion, Snøhetta © Squared Design Lab

dedicated on September 11, 2011, the 10th anniversary of the 9/11 attacks, in a ceremony for victims' families. It will open to the public on September 12, 2011. Occupying a central place in the development of the World Trade Center site, the biggest difference in the new planning concept is perhaps that the green and sunlit area of the memorial is designed as a place where you want to be, while the former World Trade Center Plaza was a space where you didn't linger too long if you didn't have to.

Located approximately 21 meters (70 feet) below ground and underneath the area around the memorial sits the National September 11 Museum. Next to exhibitions showing artifacts recovered from the site and victims' and survivors' personal effects, the museum also displays existing foundations, the slurry retaining wall that holds back the Hudson River and had remained unbreached during and after 9/11, and the Vesey Street Stair remnant, also known as the "Survivor Stairs" used by hundreds to escape on 9/11. The museum is designed by the Lower Manhattan based firm Davis Brody Bond Aedas. The Museum's entry pavilion is designed by the Norwegian American architecture firm Snøhetta (see Figure 9).

Transport Hub and Retail

In between the projected Towers 2 and 3, a new transport hub is under construction, replacing a temporary station currently in use. This hub connects the stations for the PATH (Port Authority Trans-Hudson, a rapid transit railroad linking Manhattan with New Jersey) with subway line #1 to the ferry terminal, the E line to mid-town, N & R subways serving Brooklyn and Queens, the World Financial Center and One World Trade Center on the west, and seven other lines of the New York City subway system called the new Fulton Street Transit Center a couple of block to the east of the site. When completed, it will be capable of handling 250,000 pedestrians per day. The transportation hub's design features 46-meter (150-foot) high, glass-and-steel wings that will allow natural light to pass through to the rail platforms 18 meters (60

feet) below street level. Architecture enthusiasts will instantly recognize this Santiago Calatrava design (see Figure 10).

Arts Center

Projected on to be what is currently a temporary exit from the PATH train is the one thousand-seat International Joyce Theater, a performing arts center at the northwest corner of Fulton and Greenwich Streets, separated at grade from One World Trade Center by 18 meters (60 feet). There is an operable skylight running the full length of the structure. Surrounding the multi-level transit hall and concourses that connect the hub with the towers will be 46,500 square meters (500,000 square feet) of retail. The retail extends three stories into the base of the towers. Funding details for the project, which is currently under design by Gehry Partners, have yet to be worked out.

Future Progress

Already plans are being made to occupy the World Trade Center Towers, Conde Naste a major media company has just signed a 92,900-square meter (1 million-square foot) lease for One World Trade Center and the China Center is set to occupy 11,600 square meters (125,000 square feet) of the same tower. The Port Authority itself will relocate to Tower 4 and other significant leases are in serious discussions. It is nearly impossible to predict when the World Trade Center site will be fully rebuilt and occupied. As it is already gradually becoming part of the urban context, it can be argued that there will never be one definitive moment of completion. Given the scale of the development, even under ideal circumstances it will take many years to build all of the projects. In the meantime, economics, politics, and public opinions change, any one of them capable of influencing the time frame, program and



Figure 10. World Trade Center Transportation Hub © The Port Authority of NY & NJ

appearance of the development. Some projects will perhaps be scrapped, delayed or redesigned, other projects will be introduced. One day there will be a ceremony during which the World Trade Center is declared complete. But that day shall be just another moment in the continuous development that is New York City. ■

...schmaltz

“The towers are pure technology, the lobbies are pure schmaltz, and the impact on New York... is pure speculation... In spite of their size, the towers emphasize an almost miniature module...”

Ada Louise Huxtable in her book "Big but Not So Bold: Trade Center Tower Are Tallest, but Architecture Is Smaller in Scale," The New York Times, April 5, 1973.