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San Francisco: Promoting Tall Buildings Through Sustainable Incentives

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Jeffrey Heller

Jeffrey Heller, FAIA, President of Heller Manus, has been practicing architecture in San Francisco for 35 years. He founded Heller Manus in 1984. In the 23 years since its founding, the firm has established its reputation in the Bay Area, nationally, and internationally. Mr. Heller's experience covers almost all building types including commercial, residential, public, rehabilitation, institutional, retail, and adaptive re-use projects. He has widely recognized expertise in complex urban, mixed-use, and master planning projects, especially in difficult approvals environments.

Mr. Heller has Bachelor's and Master's degrees in Architecture and Urban Design from the Massachusetts Institute of Technology. He is a recipient of a National AIA Honor Award, 'Citation for Excellence in Urban Design', for his participation in a team of architects who performed volunteer work in Soviet Armenia after the earthquake.

Prior to forming Heller Manus, Jeffrey Heller was Partner-in-Charge or Project Designer of the following projects: 71 Stevenson, Washington/Montgomery Tower, St. Francis Place Housing, Galaxy Movie Theater, Levi Plaza in San Francisco, Walnut Creek Center, and the master plan for Bangkhen University in Bangkok, Thailand, for the World Bank.

Clark Manus

Clark Manus, FAIA, is CEO of Heller Manus Architects, San Francisco. Heller Manus is widely recognized for the positive impact their projects have made to the landscape of the San Francisco Bay Area. The diversity of the firms' portfolio includes the renovation of San Francisco City Hall, residential towers in Rincon Hill and downtown office towers.

Beyond the realm of the practice, Clark has held leadership positions in the AIA and other civic endeavors on advocacy issues affecting policies and plans that have helped preserve the urban fabric of San Francisco. In his role in the AIA, Clark is Vice President on the National Board, immersed in the AIA150 Blueprint for America Mosaic, the Google Earth partnership and former President of AIA San Francisco.

Nearly twenty years after the 1989 Loma Prieta earthquake, he continues to lead the civic efforts in directing the long-range planning of the newly evolving high-density Transbay/Rincon Hill neighborhood. These efforts were the catalyst to increased height allowances as well as pioneering work in the use of a performance based structural system. Clark has a MArch from the University of Pennsylvania and a BA in Environmental Design and Psychology from SUNY Buffalo.

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Abstract

The past two decades have shown some profound and heretofore unseen changes in our urban settlements. The globalization of our societies and economies, and the significant growth of world population, with its concurrent effect on the environment, has brought dramatic change to cities like Shanghai and London. This inevitable push skyward, which is a manifestation of the pressures of urban growth, has finally come to San Francisco.

San Francisco is an interesting and prototypical example of what is and will be happening to important second tier cities over the next years. The change of attitude about height is being brought about by two widely appreciated factors. First, it is now clear to the citizens of San Francisco that Smart Growth, through height at major transit nodes, is an important tool for arresting sprawl and its negative impacts. Second, the embracing of principals of sustainability in order to protect the planet is appreciated best in compact high density urban cores.

Now that the progressive elements – especially the younger people – have fully engaged on these issues, the great changes we are seeing are becoming the new reality.

Keywords: Urban Growth, Tall Buildings, Sustainability

Introduction

Not since the late 1960s, when the Bank of America and the Transamerica Buildings were built, has San Francisco embraced the concept of very tall buildings. The 1970s brought an era of large boxy buildings, mostly along Market Street (see *Figure 1*).

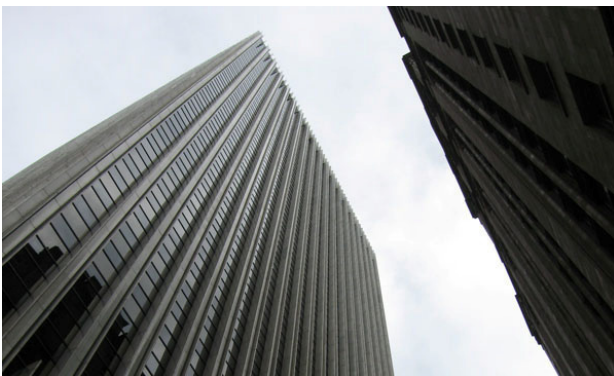


Figure 1. Market Street. (Internet)

In reaction to these buildings, a new downtown planning process commenced in 1980, culminating in the Downtown Plan of 1985. The Plan restricted both the height and geographic area in which the new high-rises were located (see *Figure 2*).



Figure 2. Downtown Plan. (Heller Manus Architects)

The slow growth/anti-growth factions in the city were not satisfied with the controls in the Downtown Plan. The Board of Supervisors was initially persuaded to create a 3-year period restricting the total square footage of new high-rise space allowed to be built each year. Not satisfied, anti-growth activists forced a public vote to make that annual limit permanent in 1986. To this day, the annual limit continues to be in effect, limiting new office construction to 875,000 square feet per year. Because of San Francisco's variable economic climate, there is a surplus of space allocation available, making it possible to build larger buildings from time to time.

In 1989, the City Planning Department embarked on a new Rincon Hill Plan for the relatively undeveloped area between the downtown office core and the Bay Bridge (see *Figure 3*). The planning process for this area

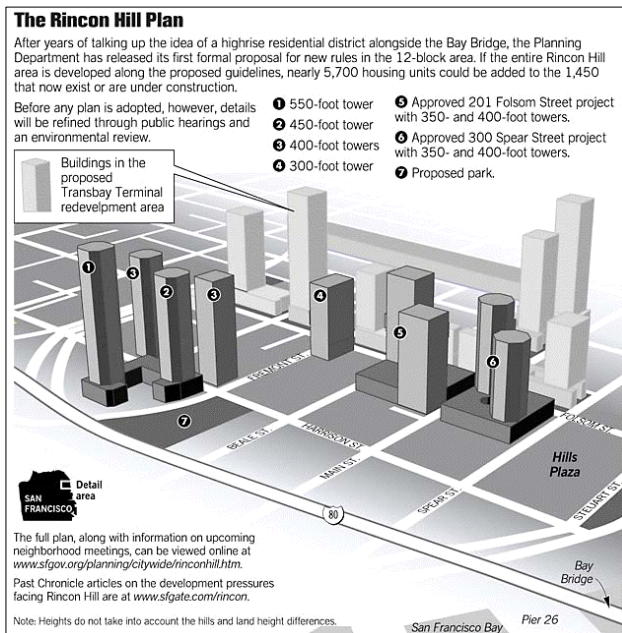


Figure 3. The Rincon Hill Plan. (San Francisco Chronicle)

proceeded in fits and starts, taking more than a decade to realize. By the time the Rincon Hill Plan was finalized in 2006, it was clear that San Francisco's planning professionals and progressive activists had embraced a new vision calling for taller building heights than those frozen in the 1980s.

Dawn of a New Century

The most profound reason for this changed approach to high-rise development has been the recognition by the progressive community of the need to control sprawl, promote transit as an alternative to the car, and move to a more sustainable society. The implication of these goals has been the understanding that we need higher density and tall buildings near major urban transit hubs. Further that these tall buildings should be mixed in use to promote a better balance between jobs and housing.

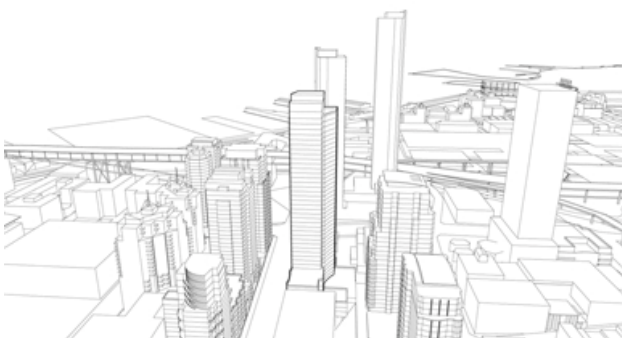


Figure 4. High density and slender towers, Rincon Hill (Heller Manus Architects)

Over time, the slow-growth/anti-growth factions have been eroded and a sustainable high-density urban center has been embraced (see *Figure 4*).

The Planning Department conducted an extensive series of visual studies and concluded that it was better to build tall and widely-spaced towers on Rincon Hill rather than shorter, bulkier closely-spaced towers. One of the strong influences in this decision was the example of the Vancouver skyline (see *Figure 5*). Vancouver is an excellent role model where the policy has been tall, slim residential towers with underground parking, animated street frontages, with retail and residential uses.



Figure 5. Vancouver Skyline. (Internet)

The result has been a fully approved high-rise district on Rincon Hill with towers ranging in height from 300 feet to 600 feet (see *Figure 6*). This height is 50 feet taller than the highest height contemplated in the downtown plan at the very center of the downtown core.

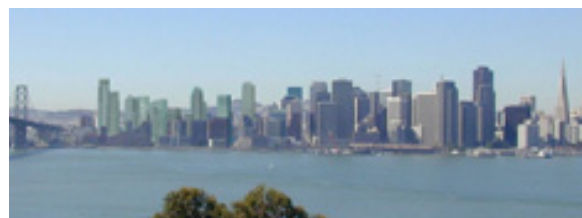


Figure 6. Transbay Development with Rincon Hill and downtown pipeline projects rendered. (Heller Manus Architects)



Figure 7. The Infinity, one of the first developments in the new Transbay/Rincon Hill neighborhood. (Heller Manus Architects)

The tower separations range from 80 feet to 115 feet (see *Figure 7*), and the area planning follows the Vancouver model in many other respects.

The Transbay Terminal Plan

Also in 2000, an ambitious plan for revitalizing one of the Bay Areas most important commuter/transit hubs was resurrected. The Transbay Terminal is the region's inner city hub and the historical transit terminal from the days when trains crossed the Bay Bridge and came directly into the downtown. Various plans to revitalize the Transbay Terminal area had been considered since the 1960s, with little success. This time however, the strong sense of a new era based on smart growth and sustainability has driven the Transbay Plan further than ever before (see *Figure 8*).



Figure 8. The Transbay Terminal Plan showing the winning design and spacing of high-rises in Transbay/Rincon Hill.

(San Francisco Redevelopment Agency and Transbay JPA)

The central idea of the Transbay Plan has been to concentrate high density around the Transbay Terminal. A master plan was adopted in 2002 that includes high-rise office, housing, dedicated open space, and other public amenities.

By 2005, it became clear that there was not enough money in the state or regional budget to bring the Terminal Plan to realization. At the same time, the city's new acceptance of taller buildings influenced city planners and policy makers to create a special height district around the Transbay Terminal.

The concept for these new tall towers was that the additional height and density would promote more intense activity along the transit hub. The Planning Department's visual analysis demonstrated that providing a new visual for the city's skyline would reinforce San

Francisco's status as a world-class city. Finally and most importantly, the additional height given to a select series of buildings would provide revenue for creating the Transbay Terminal itself. Without that revenue, it was fairly obvious that the Terminal project would not be realized (see *Figure 9*).

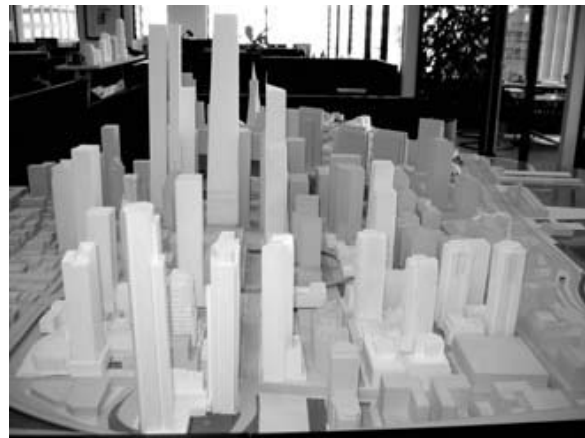


Figure 9. Heller Manus model showing the Transbay development and Rincon Hill pipeline projects. (Heller Manus Architects)

Sustainable Incentives

Coincident with the evolution of the Transbay Plan, the city embarked on a broader "City Greening" effort. The Mayor's Office and the Planning Department developed an incentive plan to encourage the development of more environmentally-sustainable high-rises. Under the new incentive plan, one of the first in the nation, any project achieving LEED Gold or higher now jumps to the top of the application list and is given first priority in the approval process (see *Figure 10*).

San Francisco and LEED

- **LEED Gold Expediting** – save large project 9-12 months in waiting for planner and building plan checker (222 2nd assigned planner 8 mo ago, another office submitted at same time yet to be submitted) Over 1 dozen major buildings have applied.
- **LEED and GreenPoints requirements** start 2008 starting with certified and by 2012 Gold. New Peskin / Newsom Legislation based on Mayor's Green Building Taskforce Report issued last summer. Expected to be voted in by Board of Supervisors at end of year. Applies to:
 - All new commercial buildings >25,000sf (LEED)
 - All new residential buildings (GreenPoints)
 - All Alterations
- **Future Measures**
 - CECO – Commercial Energy Conservation measures will be enforced
 - Landlords ability to pass on added cost of Green Building Measures to Tenants
- Other Bay Area cities considering copying SF requirements (Emeryville)

Figure 10. San Francisco and LEED: approvals process incentives. (Heller Manus Architects)

To understand the importance of this policy, one needs to appreciate the length and cost associated with San Francisco's notoriously drawn-out approvals process. The Planning Department is overstretched and under-staffed, and a standard high-rise application might wait for months on a first come, first served basis simply to be assigned to a planner for review. This can and does lead to years of expensive efforts by project sponsors before project approval. Enabling developers to

short-circuit the process and have a planner immediately assigned to review a LEED Gold project can save more than a year – a real incentive for sustainable development. And with San Francisco's annual limit creating a competitive and even combative environment amongst developers, gaining earlier approval can be a real advantage in the contest for highly controlled office space allocation.

An aesthetic sea change

Up until recently, San Francisco has taken an aesthetic road strongly grounded in contextual design. Projects were encouraged to be designed with an eye to blending into the existing city fabric and the area of immediate surround. While post-modern approaches were not officially enforced, truly modernist designs were definitely not encouraged. The result has been a generation of buildings which, for the most part, were not cutting-edge in their approach.

In the last decade, international design influences have been increasingly making inroads into major San Francisco projects. Some of the recent office buildings and notably, the new Asian Art Museum, have all set the stage for more adventurous design.



Figure 11. The competition winning design by Pelli/Hines.
(Pelli Clarke Pelli Architects, Hines, Transbay JPA & WRNS Studio)

The most significant confluence of these energies has been around the Transbay Terminal area. The recent Transbay Tower Design Competition was the most visible recent evidence of these new dynamics changing San Francisco. All three proposals (see *Figures 11-13*) for the

Transbay Tower were 1200 feet or higher, modernist in design, and well-received by the public. The competition winner, as everyone now knows, is the Pelli/Hines project. In fact, the only public criticism of that project has been that it is not as daring as the Rogers/Forest City proposal. Clearly a sign of how far things have come in San Francisco!

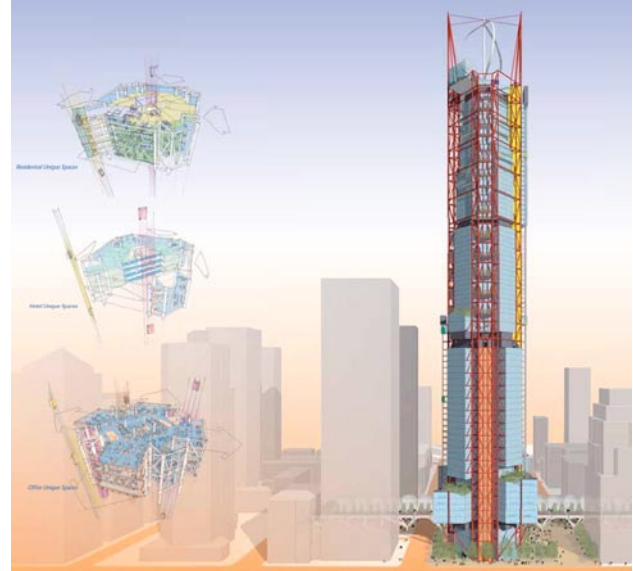


Figure 12. Proposed Transbay Tower design schematic. (Rogers Stirk Harbour + Partners)

A major hurdle still remains to turn the vision for the Transbay area into a reality: the Board of Supervisors must formalize the new, higher heights in the Transbay area. Next year will tell the tale on whether San Francisco is ready to take its place on the international scene in regard to very tall structures.



Figure 13. Proposed Transbay Terminal design. (Skidmore Owings and Merrill)

Two private proposals, one by Renzo Piano and one by Heller Manus Architects further the goals of the Transbay area by also showing the new design energy in the city. Both schemes are cutting edge in design, reach upwards to 1000 feet or more, and are committed to sustainable design. Both projects are also mixed use. That aspect, the LEED Gold rating, and the immediate proximity to the Transbay Terminal make these private tall towers consummate smart growth projects.

The Heller Manus proposal for 181 Fremont Street is a 900' exoskeletal point tower (see *Figure 14*). The lower two-thirds of the project is office use, with the upper portion of the tower residential. With a site area of only 15,500 square feet, the exterior diagonal structural solution is necessary for the forces generated on the tower while keeping an open and uncluttered floor plan free of interior columns.



Figure 14. 181 Fremont Street. (Heller Manus Architects)

The exterior skin is in a copyrighted fine saw tooth pattern. One edge of the saw tooth is the mullion; the other face is the glass. By orienting the mullion edge to the primary direction of the sun on each face, the building saves six percent of the solar heat load above and beyond the shading characteristics of the glass. Further, the large triangular surfaces of the tower are subtly canted one from another with the diagonals forming ridgelines. This gives the tower a distinctive look not realized in other towers to date (see *Figures 15 & 16*).

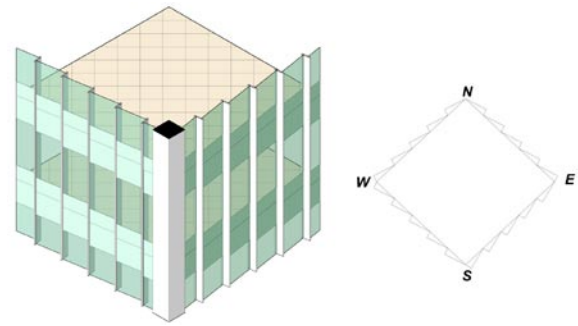


Figure 15. 181 Fremont Street; curtain wall diagrams. (Heller Manus Architects)

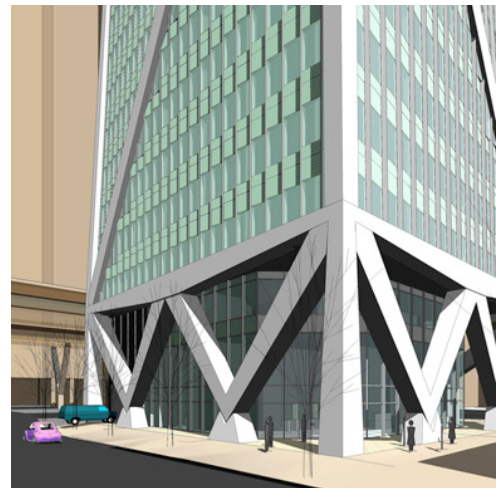


Figure 16. 181 Fremont Street; ground level perspective. (Heller Manus Architects)

Unique design to compliment an icon

Across the city to the north, and adjacent to the well known Transamerica Pyramid, Heller Manus is working on another tower on a very challenging site (see *Figure 17*).



Figure 16. 181 Fremont Street; ground level perspective. (Heller Manus Architects)

The proposed residential project has the tasks of relating well to the iconic Pyramid, being sensitive to the low-scale historic neighborhood to the north, and protecting and enhancing a highly valued Redwood Park. After working closely with city planners, the proposed design is an elegantly slim tower that starts as a chamfered corner rectangle at ground level, and through a quarter turn twist, transforms to a rounded ellipse. The twist creates an aesthetic that responds positively to the sloping edge of the Pyramid. The diagonal slot formed by the twist also provides an opportunity to include balconies to further strengthen the design. The overall composition maximizes the amount of sunlight to the Redwood Park and the area to the north.

The hope for a bright future

Any designer with experience in San Francisco knows that there is a strong civic appreciation for extraordinary design, but an equally strong sentiment for controlled, contextual growth. The forces of innovation are on the ascendancy at this time, and the future looks bright. The political climate can, however change at anytime and become once again cloudy and uncertain. Let us hope the current international and sustainable sentiments prevail, so that we continue to see innovative work in the City by the Bay.

Conclusion

The forces which are shaping cities worldwide, related to the effects of population growth and urbanization, are compelling and unavoidable. In the near term we should continue to see an expanding role for tall buildings in our urban fabric. It is interesting to note that the Infinity, one of the new residential towers on Rincon Hill, broke new ground on raising heights just 5 years ago, and is now viewed as looking somewhat short.

What will be of continuing importance are the strategies employed to make these tall buildings contribute to a more livable and sustainable existence, one that adds to our quality of life. San Francisco, through its planning controls, focus on transit oriented development and greening incentives is attempting to do just that.