

Title: **Debating Tall: Antennas vs. Spires**

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## Antennas vs. Spires

The CTBUH's Height Committee ratified the architectural height of One World Trade Center last November, touching off massive media coverage and opening up complicated mixed feelings in Chicago, New York, and across the world. Now that the dust has settled a bit, we step back to ask, "Is the CTBUH right to differentiate between an antenna and a spire in order to determine tall building height?"

### YES

**Larry Silverstein**

*Chairman, Silverstein Properties, Inc.*

After 9/11, it took some time to develop a plan that reconciled all the different interests and goals New Yorkers had for a rebuilt World Trade Center site, beginning with an appropriate memorial that honors the memory of the almost 3,000 people who lost their lives on 9/11. Of course, the rebuilding effort didn't follow a straight line, and everyone didn't always have the same perspective. But the one thing everyone did have in common – and what drove us all at the end of the day – was a passion to create something even better than existed before 9/11.

Daniel Libeskind's Master Plan called for One World Trade Center to be developed as an iconic symbol with a height of 1,776 feet, and David Childs of SOM carried out this vision. The tower portion of the building marks the height of the original Twin Towers: 1,368 feet to the top of the parapet. The spire brings the building up to its symbolic height of 1,776 feet, to commemorate the year of the United States' independence.

The spire is an integrated part of the design and cannot be removed, it is thus right to include it in the height of the building. It is illuminated by LED lights that will change for special occasions including the anniversary of 9/11 and July 4. The beacon at the top of the spire serves the symbolic purpose of marking 1,776 feet (there is a

separate red FAA light for nighttime and flashing strobe lights for daytime hazard notification).

There is no doubt in my mind that the height of One World Trade Center is 1,776 feet and I commend the Council on Tall Buildings and Urban Habitat for recognizing that last November.

I sincerely hope that our work at the World Trade Center will be viewed as a fitting tribute to those who died on 9/11, and also as a tribute to all New Yorkers, who have been through so much in the last 12 years. Together we are reinventing what it means to be a city for the 21<sup>st</sup> Century.

### NO

**Dario Trabucco**

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My research activity at the Council is on a life cycle energy assessment of tall buildings, and is aimed at understanding the environmental consequences of building tall buildings.

The impact of height, as pointed out 50 years ago by Fazlur Khan, follows an exponential trend, such that a 250-meter building requires about 50 kilograms of steel per square meter of usable area, while a 500-meter building requires an average of 170 kg/m<sup>2</sup>, an increase

of more than three times the material for twice the height. The production of building materials has huge environmental consequences, in terms of energy consumption, CO<sub>2</sub> emissions, and land use.

Buildings are for people, and the rationale for placing people high in the sky, from the point of view of sustainability, is arguable, and the debate on this has only really just begun. The idea of putting materials in the sky, when not justified by putting people in the sky, but by ego alone, is, from my personal point of view, the very opposite of sustainability.

I believe the Council should not, by setting height criteria, acknowledge, justify, encourage, and ultimately reward the waste of valuable materials and the depletion of the world's energy resources for the sake of ego, pride, and exhibitionism. As a research institution, the Council should not favor unsustainable behaviors.

I encourage Journal readers to consider environmental sustainability as the guiding principle of construction, for the benefit of future generations in an overcrowded world. Tall building height should be measured to the highest occupied floor, as an indicator of density, concentration, and economies of scale. "Height to Tip" cannot be justified from a sustainability standpoint.

The "highest occupied floor" should thus be the only parameter to be considered when measuring tall buildings.

