

One57 – New York City, NY, U.S.

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As one of the first editions to Billionaire's row in New York City, One57 makes an impact in a new line of supertall skyscrapers, as well as standing as its own artistic and architectural masterpiece.

¹Developed by Christian de Portzamparc and supervised by SLCE architects, One57 set a new bar to the real estate market in the heart of Manhattan, by becoming both a grand display of structural beauty, but also as a fresh face in the realm of luxury residential properties.

Built with a purpose to impress, Portzamparc chose to imitate a waterfall design for the facade, as well as the sides of the building, that managed to meet both the goals of a structural challenging, slender building, and decorative art. In mimic of a genuine waterfall, the upper $\frac{3}{4}$ of the building facade are left mostly plain, with evenly patterned, symmetrical distributions of the blue glass and silver steel panels. Respectively, these additions functioned as windows and louvers. ⁴But from afar, symbolized the rapid current color complex of flowing water. Though with strong attention to detail, it is noticed that relative to the bottom of a waterfall, the majority of it is relatively calm, just as it would be in a real waterfall, where the upper areas are mostly laminar flowing water. ⁴Moreover, as we reach the lower levels of the facade, the patterns stride to be more chaotic, and eventually end with rippled cantilevers, functioning as porch roofs, at the bottom, the top of the first floor, where they depict the 'splash' of the waterfall⁴. To match this, the sides of the tower are also touched with lighter, whiter shades with darker, blue shades, that imitate, once again, a waterfall.

Aside from the articulate image of it, the structural engineering of it proves itself as an equally immaculate feat. Building in a city with the most extreme and scrutinous zoning laws⁵, One57 was built on an L-shaped site, and reaching a height of 1004 feet. The slenderness and unique shape of it led developers to use high performance concrete of 12,000 psi for the shear walls and columns⁵. And at such a height, wind and other lateral forces pose a much grander threat, so the engineering team designed, and with strong parallel and poetic insight, a liquid damping system⁵, for a waterfall looking building. The damping system has sloshing, flowing water through a series of chambers that react in opposition to the lateral forces, keeping the structure stable against heavy winds.

Developing in New York's most expensive, and likely one of the world's most expensive building zones applies a great, financial burden on the builders. ³Despite that, Portzamparc, SLCE, and Cantor Seinuk of WSP managed to deliver a structure that stood profoundly stable against the natural forces, in an area most would fail to deliver in, and with maximum grace, precision, and with a strong touch of poetic art.

Sources

- ¹ <https://www.christiandeportzamparc.com/en/projects/one57/>
- ² <https://www.e-architect.com/new-york/one57-tower-new-york-city>
- ³ <https://www.skyscrapercenter.com/building/one57/570>
- ⁴ <https://www.businessinsider.com/inside-one57-most-expensive-building-2015-11>
- ⁵ <https://extell.com/portfolio/one57>
- ⁶ <https://www.wsp.com/en-GL/projects/one57>

