

Raffles City Chengdu Office Block 1



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Height: Occupied
115.2 m / 378 ft

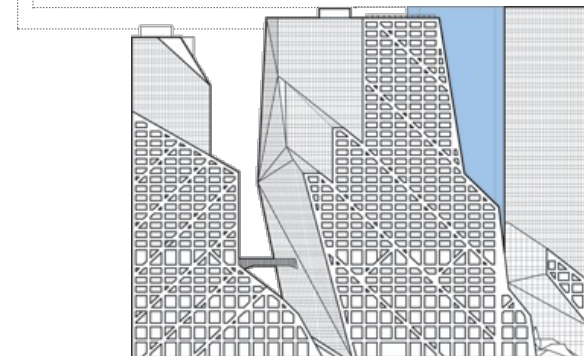
Height: To Tip
123 m / 404 ft

Height: Architectural
123 m / 404 ft

Floors Above Ground
29

Floors Below Ground
4

Development GFA
195,446 m² / 2,103,763 ft²



Facts

Official Name	Raffles City Chengdu Office Block 1
Name of Complex	Raffles City Chengdu
Other Names	Sliced Porosity Office Block 1
Structure Type	Building
Status	COM
Country	China
City	Chengdu
Street Address & Map	No.3, Section 4, South Renmin Road
Building Function	office / retail
Structural Material	concrete
Proposed	2006
Construction Start	2008
Completion	2012

Companies Involved

Owner	CapitaLand Limited
Architect	<ul style="list-style-type: none"> Design: Steven Holl Architects Architect of Record: China Academy of Building Research
Structural Engineer	<ul style="list-style-type: none"> Design: China Academy of Building Research
MEP Engineer	<ul style="list-style-type: none"> Design: Arup
Main Contractor	China Construction Third Engineering Bureau Co., Ltd.

About Raffles City Chengdu Office Block 1

In the center of Chengdu, China, at the intersection of the first Ring Road and Ren Ming Nam Road, the Sliced Porosity Block forms large public plazas with a hybrid of different functions. The program consists of five towers with offices, serviced apartments, retail, a hotel, cafés and restaurants, and a large urban public plaza. Creating a metropolitan public space, this project takes its shape from the need to distribute natural light, such that each of the residential apartments experiences a minimum of two hours of sunlight each day.

The required minimum sunlight exposures to the surrounding urban fabric prescribe precise geometric angles that slice the exoskeletal concrete frame of the structure. The building structure is white concrete, organized in six-foot-high openings with earthquake diagonals as required, while the "sliced" sections are glass. The structural system used in the Sliced Porosity block consists largely of exoskeletal concrete framing, up to 123 meters high at the office towers. The concrete façades express the buildings' structural behavior, as concrete diagonals cut across the column/beam grid where needed to carry vertical and seismic loads. The density and placement of these diagonals follow the requirements of the buildings' carvings and multi-story cantilevers. The concrete mix contains a high proportion of recycled materials. A "break" from the concrete and glass material palette occurs in the public History Pavilion, which is faced in raw bamboo and COR-TEN steel.

Allowing the structure to be placed on the façades maximizes floor efficiency and allows large column-free spaces in the buildings. In Chengdu weather, it also serves a sustainable purpose as it acts as a container of thermal mass, conserving the cool indoor temperatures in the summer and warm indoor temperatures in the winter.

The large public space framed in the center of the block is formed into three valleys inspired by a poem of the city's greatest poet, Du Fu (713-770), who wrote, "From the northeast storm-tossed to the southwest, time has left stranded in Three Valleys." The three plaza levels feature water gardens based on concepts of time. These are the Fountain of the Chinese Calendar Year, Fountain of Twelve Months, and Fountain of Thirty Days. These three ponds function as skylights for the six-story shopping precinct below. Visitors transit between the levels of the public plaza via several means, including an inclined moving sidewalk and shallow stairs.

The designers achieved human scale in this metropolitan rectangle through the concept of “micro urbanism,” in which double-fronted shops open to the street as well as the shopping center. Three large openings are sculpted into the mass of the towers as the sites of the pavilion of history, designed by Steven Holl Architects, the Light Pavilion by Lebbeus Woods, and the Local Art Pavilion.

The Sliced Porosity Block is heated and cooled with 468 geothermal wells, and the large ponds in the plaza harvest recycled rainwater, while the natural grasses and lily pads create a natural cooling effect. High-performance glazing, energy-efficient equipment, and the use of regional materials are among the other methods employed to reach the LEED Gold rating.

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