

PRESS INFORMATION

EXTENSION OF THE STÄDEL: THE ARCHITECTURE

In Fall 2007, the Städel Museum held a competition for extension work to be carried out on the museum, whereby eight prominent German and international architecture firms were invited to take part: Diller Scofidio + Renfro, New York; Gigon/Guyer Architekten, Zurich; Jabornegg & Pálffy, architects, Vienna; Kuehn Malvezzi Architekten GmbH, Berlin; Sanaa Ltd / Kazuyo Sejima, Ryue Nishizawa & Associates, Tokyo; schneider+schumacher Planungsgesellschaft mbH, Frankfurt/Main; UNStudio, Architects, Amsterdam and Wandel Hoefer Lorch + Hirsch Müller, Frankfurt/Main. In February 2008, an international jury chaired by Louisa Hutton (architect BDA, Berlin) announced Frankfurt architects schneider+schumacher as the competition winners. "An excellent choice," were the words used by the press when reporting on the announcement. "A shining jewel by day, a pool of light by night," applauded the competition jury.

The new building adjoins the garden wing completed at the start of the 20th century and itself the first extension of the original museum building, which was built on Frankfurt's Schaumainkai in 1878. In contrast to any of the extension work carried out to date, the new section of the museum will not be above ground; the generous new space planned by schneider+schumacher will be located beneath the Städel garden. The new exhibition space will be accessed via a central axis from the main entrance on the museum's river side. By opening the two tympanums to the right and left of the museum's main entrance foyer, visitors will be able to reach the Metzler Foyer level. A staircase will then lead from this area down into the 3,000-square-meter museum extension beneath the garden. The garden halls' interior will be characterized by the elegantly curved, seemingly weightless ceiling, spanning the entire exhibition space. 195 circular skylights varying between 1.5 and 2.5 meters in circumference will flood the space below with natural light as well as form a captivating pattern in the garden area above. Outside, the green, dome-like protrusions, which visitors will be able to walk across, will lend the Städel garden a unique look and create a new architectural hallmark for the museum. "Frankfurt will not only gain a new, unique

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exhibition building,” declared the competition jury, “but as a ‘green building’ it will also be very much abreast of its times.” The generously spacious, light-flooded garden halls will be the new home of the contemporary art section of the museum’s collection.

TYOLOGY

Designed by Oskar Sommer in 1878, the interior of the museum’s original historical building, the Main River wing, on Schaumainkai is organized around a central axis. A second construction phase to add the two garden wings in 1921 served to extend this axis in keeping with Sommer’s original concept. In light of this long-reaching history it seems only natural to maintain this established principle and extend the trajectory along the central axis via the Metzler Foyer and into the new exhibition space.

THE FOYER

The extension will ascribe the entrance hall in the original building and its central staircase a particular significance. By opening the two tympanums to the right and left of the museum’s main entrance foyer, visitors will be able to reach the Metzler Foyer level in the garden wing. Together with the adjacent Metzler Hall, currently holding Thomas Demand’s new installation, the Metzler Foyer will also function as an event venue as well as providing additional exhibition space.

THE GARDEN HALLS

The new collection rooms were positioned beneath the museum garden and will be accessed via a central staircase leading down from the Metzler Foyer into the garden halls. The garden halls’ interior will be characterized by the elegantly curved, seemingly weightless ceiling, spanning the entire space. This will be the new home of the contemporary art collection.

LIGHT/ATMOSPHERE

The Städel Museum’s existing rooms are marked by their abundance of natural light. The new space will be fitted with 195 circular skylights varying between 1.5 and 2.5 meters in their circumference, lending the space a similar bright, airy feel to the “old” rooms. The openings will also include a shading system to avert direct sunlight, while a blackout feature affords the possibility of blocking out daylight completely. The ambient lighting will be integrated into the skylights and individual outlets will guarantee a great deal of flexibility to illuminate individual exhibits.

THE GARDEN

The protected tree population in the Städel garden will be augmented by a green shroud on the east side, a counterpart to the west wing, that will allow a view through to Dürerstrasse. From the outside, the protrusions in the garden’s surface

corresponding to the curves of the Halls' ceiling will form a key component in the configuration of the new garden. These swellings in the land, bewildering and natural at the same time, will function to enhance the Städel Museum's architectural identity. This green dome alone will constitute a significant enrichment to the architecture of the original Städel Museum complex. The architects have succeeded in subtly offsetting the current separation of the building and the garden area and by extending the space's trajectory out into the garden they have also created something of an extension of the museum's foyer. A path leading through the grounds reveals ideal resting spots, sculptures, areas of retreat and spaces to hold events. The new design of the garden area could also prove beneficial to the architectonic relationship between the Städel Museum and the Städel Art Academy. The Städel Art Academy, which was modernized in the course of the construction project by schneider+schumacher, provides a perfect counterpart to the south-facing façade of the garden wing. In its new form, the garden will span from the building where the art is housed to the courtyard of the building where new art is created. The museum, the Art Academy, the library, the events hall and the garden will form a locus for cultural interaction – conceived as an expression of the progressive mentality of its benefactors.

ENERGY CONCEPT

HEATING/COOLING SYSTEM

An underground energy storage unit based on heat exchangers (geothermic drilling down to 90 meters) and downstream heat pumps will be used to heat and cool the museum's rooms as necessary. This energy storage unit will help balance out seasonal variations in the museum's energy requirements, while the heat pump will subsequently allow the museum to cover its heating and a portion of its cooling requirements using renewable energy sources. An under-floor heating system will distribute heat throughout the building, while the ventilation system described below and activated concrete ceiling will keep the building cool during warmer weather.

VENTILATION SYSTEM

The planned ventilation system will not only cool the newly-built exhibition halls but humidify and de-humidify them too. It is also equipped with a highly efficient heat recovery facility, while diffuser outlets in the walls will aerate the space. The technical components will be housed in a control room adjacent to the exhibition halls. The compact underground construction, the energy storage unit for heating and cooling the space and the large internal storage capacity will create the optimum internal climate for such a building while using as little energy as possible.

SUPPORTING STRUCTURE

ORIGINAL BUILDING

The garden wing is the point at which the extension will adjoin the building, whereby the architects took the utmost care and attention in incorporating the new supporting structure with the existing building. The extension's position – several meters below the original foundation level – underpins the building's existing foundations. High-pressure injection walls were inserted precisely into the ground and small bore piles were used to achieve the optimum load transfer. During the building process, the valuable remaining structures were also reinforced and intercepted using additional steel constructions, enabling them to build the connecting structure.

EXTENSION WORKS

In addition to storage and technical spaces, a rectangular-shaped, reinforced concrete body will shape the new garden halls, with a 76 x 52-meter footprint and a height of 6-8 meters. Thanks to the freeform, perforated ceiling with glazed openings that visitors will be able to walk over, the exhibition space can be illuminated using natural light alone. The organically shaped ceiling stretches up toward the earth's surface creating a dome-like protrusion that at its center of approx. 26 x 26 meters is up to 2.20 meters high. This surrounding, horizontal ceiling serves to support this dome-shaped area. The thickness of this reinforced/pre-stressed concrete construction varies between 35 and 60 centimeters and has been adapted to bear the varying loads. The ceiling is supported by just 12 internal columns and the surrounding reinforced-concrete exterior walls, while the foundations were formed using a load-bearing floor plate (h = 40 cm), which has been reinforced in those places where the columns stand. Owing to the depth of the new-build as well as the high ground water level, concrete tension piles have been used to prevent the construction from "refloating". All external concrete constructions have been designed as "white tanks", which will then be finished with a black waterproof sealing.

RENOVATION WORK ON THE ORIGINAL BUILDING

During the course of the construction works to extend the Städel Museum, long-standing structural shortcomings in the original building's wings will also be corrected. According to the plans the entire building was made wheelchair-accessible, additional emergency staircases and escape routes will be constructed and extensive fire prevention measures introduced. The arrangement and hanging of the museum's works, the division of the space in the original building and the lighting concept in the gallery rooms have all been modernized and adapted to meet the needs of a modern 21st-century museum. Furthermore, additional facilities aiming to enhance the visitor's experience such as a new museum bookstore and café and the Städel library have been redesigned or rather comprehensively renovated.

Facts and figures

Client:	Städelsches Kunstinstitut
Project Management:	Dres & Sommer GmbH Frankfurt
Architecture:	schneider+Schumacher architects
Construction Management:	B+G Ingenieure / Bollinger und Grohmann GmbH
Building services:	IPB Ingenieurgesellschaft für Energie- & Gebäudetechnik (extension) IBO Ingenieurbüro Dieter Bohlmann (original building) IBFR Ingenieurbüro Freudl & Ruth GmbH & Co. KG (expansion/original building)
Lighting Design:	LKL – Licht Kunst Licht AG
Grounds:	Keller + Keller Landschaftsarchitekten Gartenarchitekten BDLA
Structural fire protection:	Sachverständigenbüro für vorbeugenden Brandschutz hilla
Soil survey:	BFM Baugrundinstitut Franke-Meißner und Partner GmbH
Survey of land:	Grandjean & Kollegen ÖbVI
Structural Physics:	TOHR Bauphysik GmbH & Co. KG
Surveying:	Grandjean & Kollegen ÖbVI
Soil Expertise:	BFM Baugrundinstitut Franke-Meißner und Partner GmbH
Health and Safety:	GefAS - Gesellschaft für Arbeitssicherheit mbH
Expert's survey:	TÜV Rheinland
Structural analysis:	Ingenieursozietät Deutsch-Buckert-Thomas DBT
Legal advice:	MEK Rechtsanwaltsgesellschaft mbH
Safety advice:	IfaS Sachverständigen- und Planungsbüro
Main trades	
Sheeting and bracing, earthworks, water retention measures:	Arge Bauer Spezialtiefbau GmbH, Müller Erdbau GmbH
Shell of building:	Ed. Züblin AG Direktion Frankfurt
Metal building works (Oberlichter):	seele sedak GmbH & Co. KG
Exhibition walls:	Baumgärtner GmbH
Building services:	YIT Germany GmbH Spinnler GmbH
Lightning:	Zumtobel Licht GmbH
Security services:	Bosch Sicherheitssysteme GmbH
Grounds:	August Fichter GmbH
GFA:	Extension 4,151 m ² / total 24,726 m ²
Gross volume:	Extension 27,568 m ³ / total 115,535m ³
Dimensions:	Length: 75.77 m (incl. corridor & ancillary rooms); exhibition halls alone 55.00 m Breadth: 52.60 m (incl. corridor); exhibition halls alone 47.60 m Height: 6.00 m to 8.20m
Performance stage:	1-9
Planning Period:	03/2008 – 12/2009
Construction Phase:	09/2009 – 02/2012