



Exterior Waterfront Rendering



### Guggenheim, Helsinki

**Adorning the waterfront.**  
Perched at the waters edge a cluster of slender timber towers provides a dynamic addition to the city skyline. Clearly seen from afar and taking full advantage of this spectacular location the sculptural form provides the new Guggenheim with a distinctive „Beacon-like“ appearance, attracting visitors arriving by either land or sea.

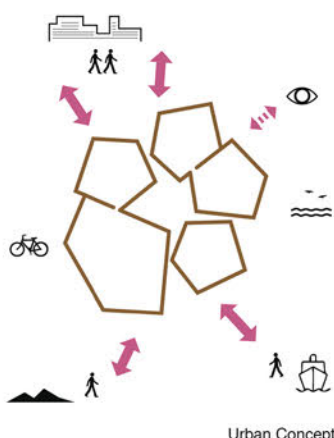
**A majestic public place in the city.**  
The towers are gathered around a spectacular cathedral-like central space. Flooded with light and sheltered from the extremes of the weather, whilst still a part of the quayside, this soaring space offers spectacular views out over the city and a unique new home for public events.

**The scene is set.**  
The scale and industrial character of the surroundings provide clues as to the character of the new Guggenheim. Deliberately free from clutter the open outdoor spaces flow freely between the towers, breaking boundaries between indoor and out.

**A chest for treasures.**  
In contrast to the open character of the central atrium the galleries are housed in a series of introverted timber cabinets. These are stacked within the towers. Bridges between the towers offer the visitor valuable respite along the main processional route with a sequence of new viewing points.

**A showcase.**  
The project provides an opportunity for the large scale application of simple construction techniques using readily available local products. Through exploiting the experience of local craftsmen the towers will become a source of local pride.

**Expanding heritage.**  
The play of light and shadow with the massive forms of the towers provides the city with a new architectural icon and a fitting home for the Guggenheim.



Urban Concept



Light Concept

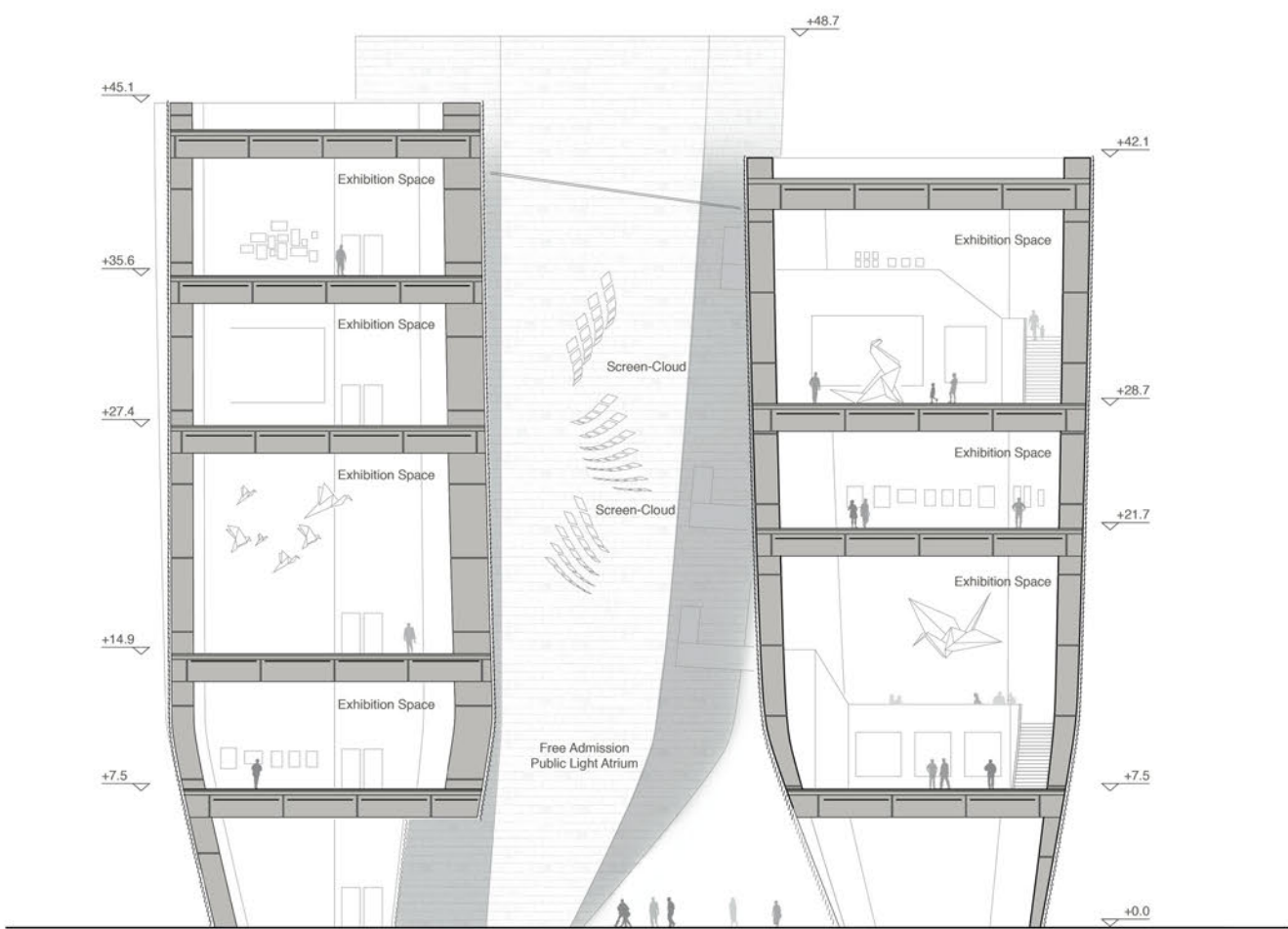








Fourth floor M 1:200

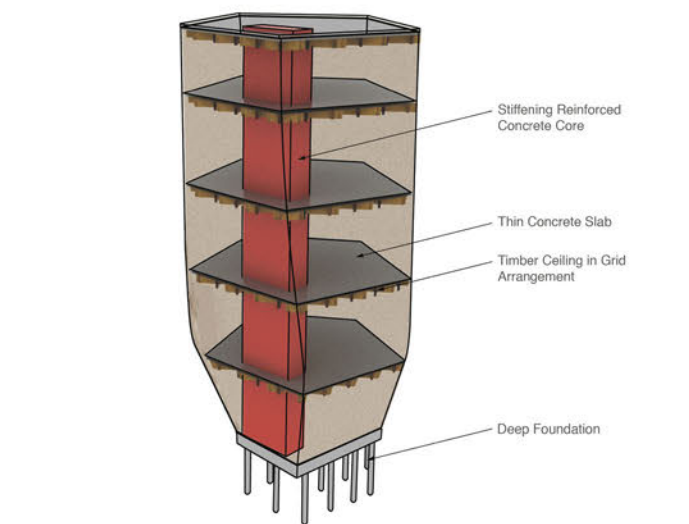


Section A-A M 1:200



Public Light Atrium Rendering





Structure Concept

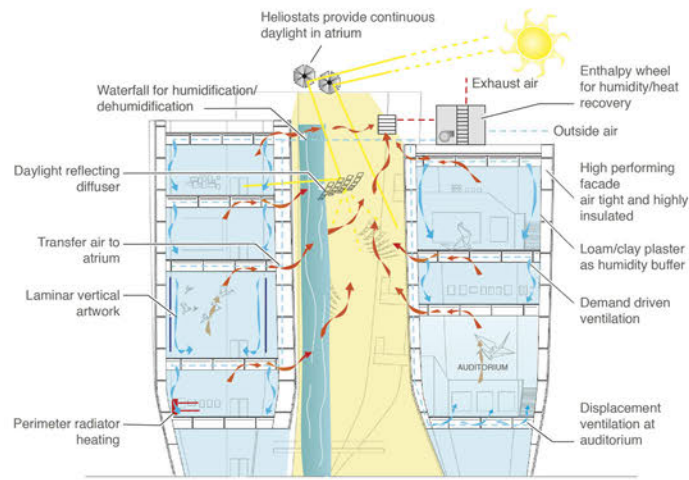
The Guggenheim Museum in Helsinki has been planned with five towers, in which each can be viewed as an independent structural system. Despite the various floor plans and area usage in each of these towers, they will be designed with a consistent structural system.

A reinforced concrete core in each tower will act as a cantilever in order to carry horizontal loads, such as wind, earthquake and imperfection. Load bearing walls are designed as glue-laminated timber beams and panels. By using prefabricated elements, the overall construction time can be reduced.

The timber-beam ceilings for each floor are designed in a two way grid-like arrangement. Thin, prefabricated concrete plates lay above the timber beams.

In first floor, the building tapers and more tensile force is introduced into the system. Therefore this ceiling system will also act as stiffening slab that transfers load into the reinforced concrete core.

Since the upper layers of soil are not load bearing, it is recommended that the building is designed without a basement, and with deep foundations like piles.



Sustainability Concept

Airtight and highly insulated facades serve as a prerequisite for energy efficient operation. Energy is supplied by district heating and cooling.

Atrium has optimized daylight supply, provides filtered daylight to the adjacent spaces and is conditioned by exhaust air.



Entrance Plaza Rendering





## ***Concept Description***

### **Architecture Concept**

Adorning the waterfront.

Perched at the waters edge a cluster of slender timber towers provides a dynamic addition to the city skyline. Clearly seen from afar and taking full advantage of this spectacular location the sculptural form provides the new Guggenheim with a distinctive „Beacon-like“ appearance, attracting visitors arriving by either land or sea.

A majestic public place in the city.

The towers are gathered around a spectacular cathedral-like central space. Flooded with light and sheltered from the extremes of the weather, whilst still a part of the quayside, this soaring space offers spectacular views out over the city and a unique new home for public events.

The scene is set.

The scale and industrial character of the surroundings provide clues as to the character of the new Guggenheim. Deliberately free from clutter the open outdoor spaces flow freely between the towers, breaking boundaries between indoor and out.

A chest for treasures.

In contrast to the open character of the central atrium the galleries are housed in a series of introverted timber cabinets. These are stacked within the towers. Bridges between the towers offer the visitor valuable respite along the main processional route with a sequence of new viewing points.

A showcase.

The project provides an opportunity for the large scale application of simple construction techniques using readily available local products. Through exploiting the experience of local craftsmen the towers will become a source of local pride.

Expanding heritage.

The play of light and shadow with the massive forms of the towers provides the city with a new architectural icon and a fitting home for the Guggenheim.

## **Sustainability Concept**

Airtight and highly insulated facades as a prerequisite for energy efficient operation

Energy supply by district heating and cooling

Atrium

- Optimized daylight supply
- Provides filtered daylight to the adjacent spaces
- Conditioned by exhaust air

Exhibition

- Overhead laminar ventilation
- Transfer air to the atrium space
- Perimeter heating if needed
- Central exhaust via atrium space

Auditorium

- Displacement ventilation
- Centralized exhaust

## **Structure Concept**

The Guggenheim Museum in Helsinki has been planned with five towers, in which each can be viewed as an independent structural system. Despite the various floor plans and area usage in each of these towers, they will be designed with a consistent structural system.

A reinforced concrete core in each tower will act as a cantilever in order to carry horizontal loads, such as wind, earthquake and imperfection. Load bearing walls are designed as glue-laminated timber beams and panels. By using prefabricated elements, the overall construction time can be reduced.

The timber-beam ceilings for each floor are designed in a two way grid-like arrangement. Thin, prefabricated concrete plates lay above the timber beams. Through the use of approximately 15 cm thin concrete plates, the building achieves fire resistance up to 90 minutes.

In first floor, the building tapers and more tensile force is introduced into the system. Therefore this ceiling system will also act as stiffening slab that transfers load into the reinforced concrete core.

Since the upper layers of soil are not load bearing, it is recommended that the building is designed without a basement, and with deep foundations like piles.