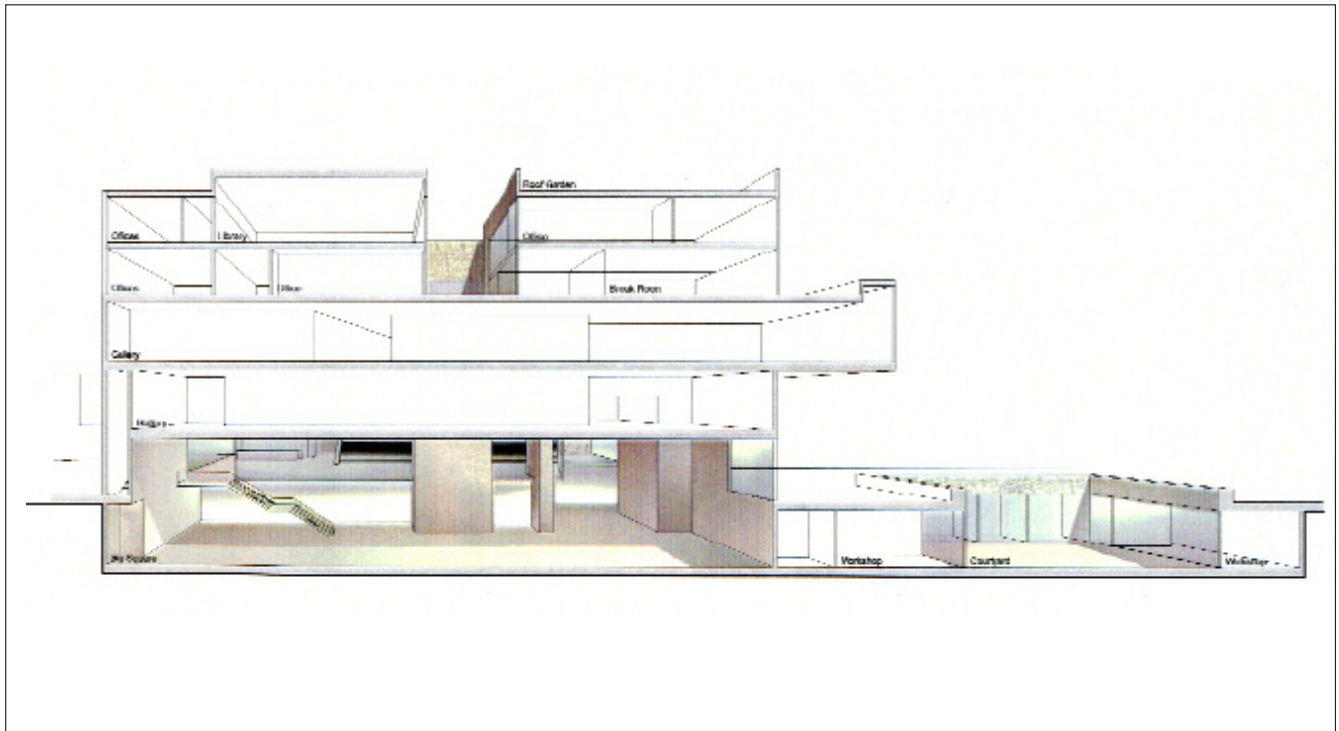


BATTLE McCARTHY ©

Consulting Engineers & Landscape Architects



PROJECT:

Gothenburg Museum of World Culture

CLIENT:

Gothenberg Local Government

ARCHITECTS:

Brisac Gonzales Architects

BM SERVICES:

Building Services & Environmental Design

VALUE:

£15million

DESIGN BRIEF

Building Services & Environmental Design for the Museum of World Culture, including Environmental Analysis up to scheme design level.

The Museum is at the foot of a hill, at the southeastern edge of central Gothenburg and next to the Liseberg Amusement Park.

The museum will house the collections of the Folkens Museum Etnografiska, the Mediterranean Museum, the East Asian Museum and the Ethnographic Museum.

The new building will include an auditorium, research center, library, restaurant and administrative areas.

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DESIGN INITIATIVES/ACTIONS UNDERTAKEN

The Museum of World Culture has been designed to exceed the highest standards in environmental design, whilst providing the museum authorities with an innovative and flexible facility.

The museum design incorporates a number of key features;

- underground labyrinth to provide cooling in summer and heating in winter.
- seasonal atrium responding to environmental changes for full year round use
- highly efficient facade
- demonstration environmental building for exhibitions and education
- full heat/coolth recovery on all air systems
- flexible and adaptable building systems

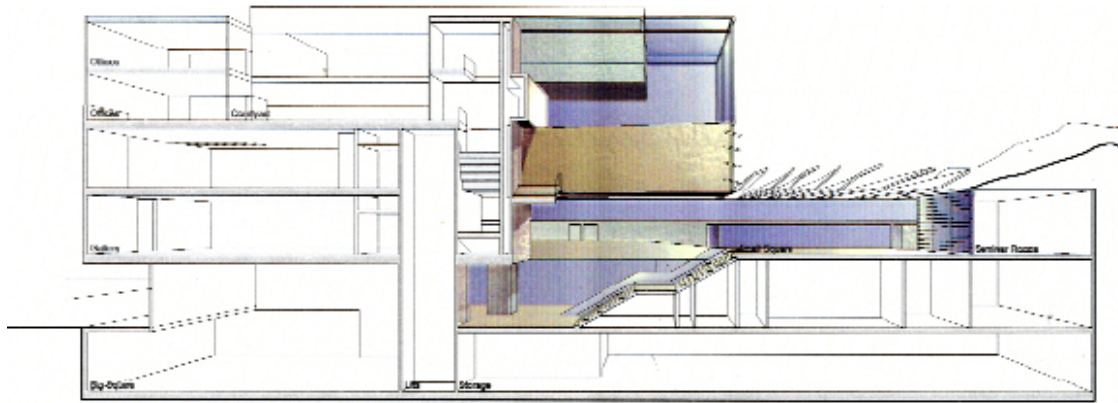
The museum consists of approximately 12,000m² the key spaces of which are the exhibition halls, lobby & meeting squares and the conference facilities.

Battle McCarthy undertook extensive analysis and specialist design of a number of areas within the museum. Analysis took place for the thermal performance, daylight and solar penetration, air flows and facade design to optimise the low energy building design.

Specialist analysis and design was also required for the labyrinth and principle ventilation and cooling systems including wind towers used to extract air.

Specialist mechanical and lighting design was needed for the atrium, small squares and main square and specialist environmental conditioning was developed for storage and exhibition of ancient textiles and other treasures.

Construction and fitout is reaching its final stages on site and the museum is due to open in October 2004



A number of strategies have been implemented to reduce the amount of water used in the building.

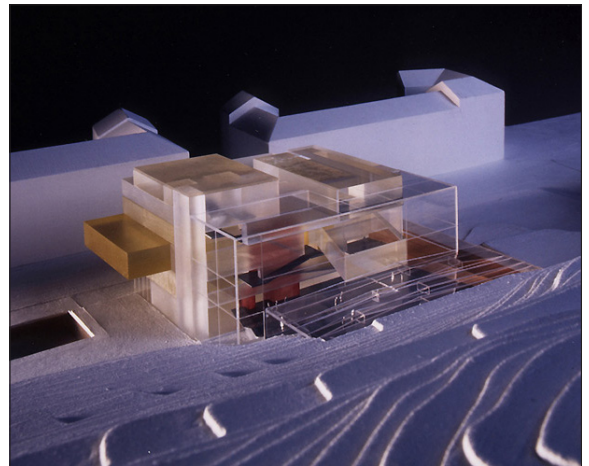
Emphasis has been placed on basic water conservation with flow limiting devices and low water demand systems while rainwater collection also offsets consumption.

Overall the building will achieve;

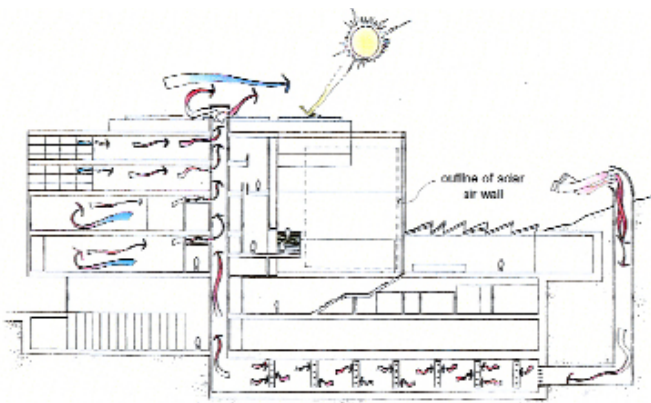
- 30% heating energy reduction
- 100% free cooling in summer
- 30% lighting energy reduction
- 30% fan energy use reduction



CAD rendering of street facade



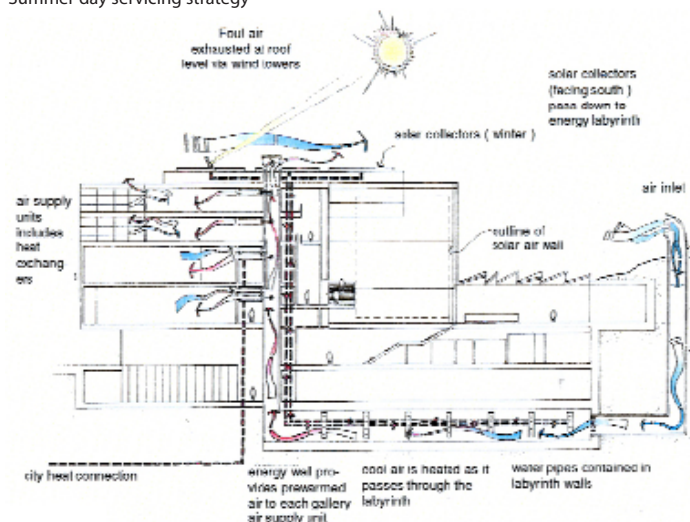
Development model



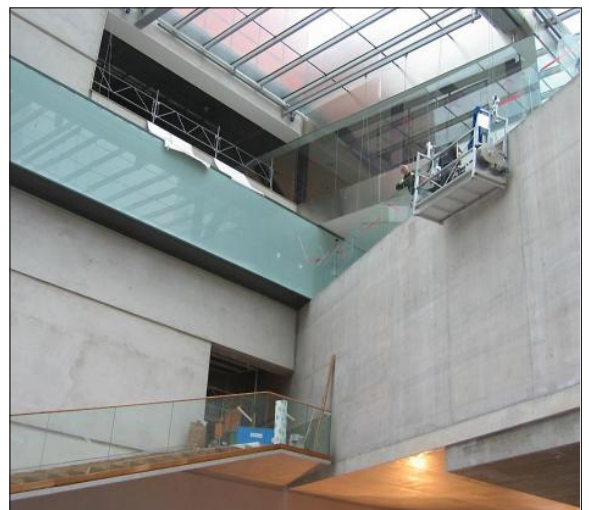
Summer day servicing strategy



Internal view through atrium and glazed roof



Winter day servicing strategy



Entrance atrium and staircase during fitout