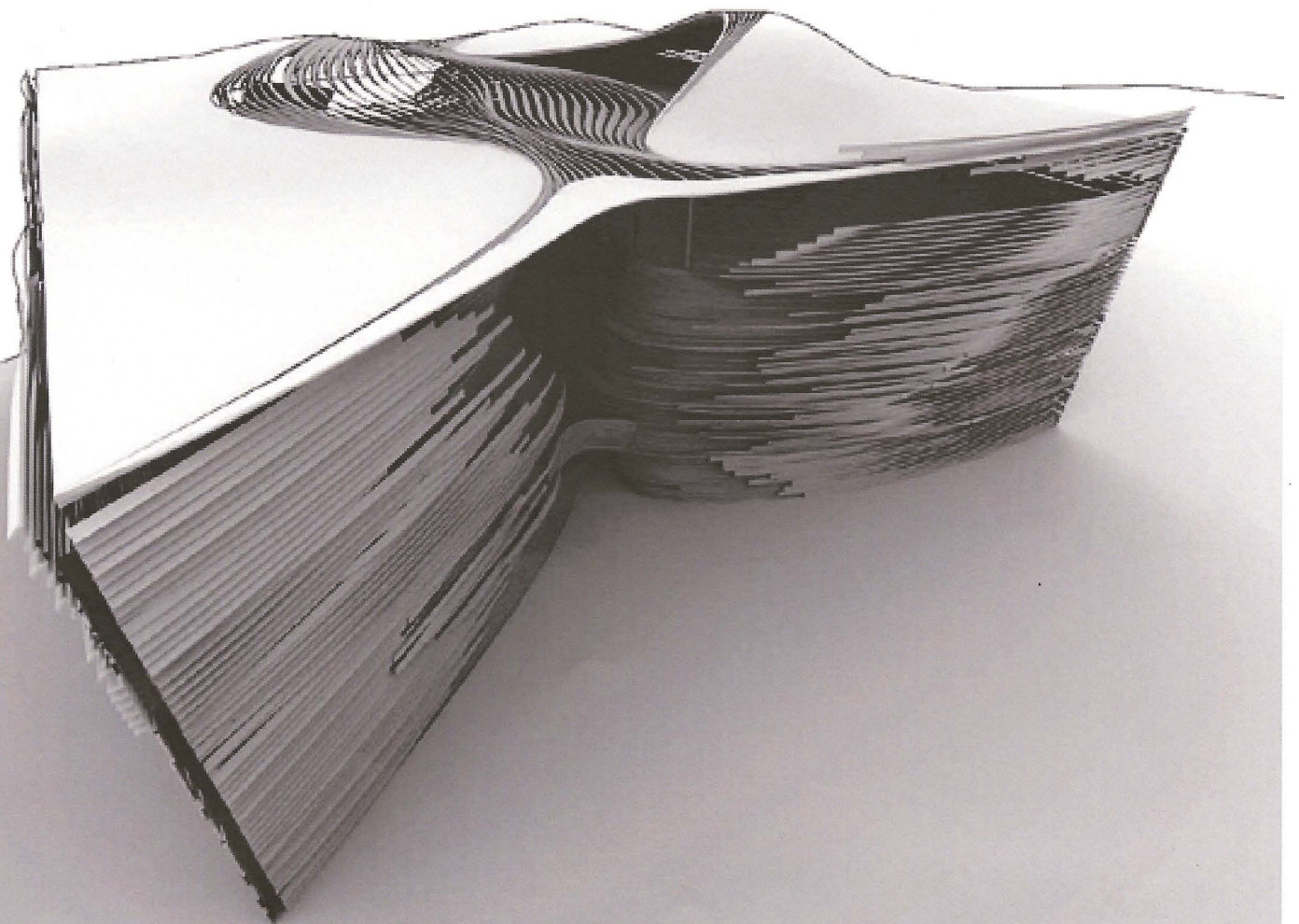


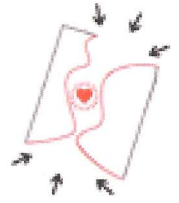
N 2956 BEX



House of Arts and Culture The Lebanese-Omani Centre

Layers of Legacies

N 2956 BEX



Urban Design Concept

The HAC site is located in the Central District of Beirut. at the crossing point of two main axis, the ring road and the south high-way

City Fabric

Beirut is in the process of reinventing itself after decades of war and devastation that have erased a significant part of its urban fabric. The area of the Beirut Central District was once one of the liveliest and most emblematic quarters of the city. In this sense, the Beirut Central District has the potential of becoming a host for truly successful public spaces where all sorts of people, regardless of religious or political backgrounds can feel comfortable, making these spaces their own. Like any other city, Beirut needs urban spaces that respond to all sorts of people's needs, be it for leisure, commercial, cultural, or political purposes. Also, the need to recuperate some kind of symbolic space that roots and represents the people of Beirut, their lifestyle and customs, is of the utmost importance. There is a longing for the city that Beirut once was. This does not mean that the Beirut Central District should try to recuperate its old physiognomy, but it definitely should try to provide Beiruti representative qualities.

The building has an important location next to a highway slip-off road from the south and a public garden to the north. This location is characterised by two types of flows; a high speed vehicular transport type and a calmer city, pedestrian pace. The whole city-scape is inclined and gradually rises towards the southern direction. An important axis can be derived from the 'old' (?) district. This axis provides a direct connection from the sea to the HAC site tying all major buildings and landmarks together. A public passageway through the HAC acts as a canyon cutting through the layers of time and history, thus responding to the site constraints. The proposal is a building form that communicates with the future surrounding development, is open to the public and noticeable from the highway as a gate into the city.

Concept

The public garden, arena and HAC form a unifying whole.

The public garden is an extension of the HAC function and geometry. Green strips form flows that guide and invite visitors into the heart of the building – the Arena.

This is a central public platform for creativity. A central place visible to all and by all who enter. This central space becomes an incubator for art joining all types of people to freely express their own forms of art. It is an experimental vivid hub, defying all notions of borders and boundaries between man, his faith, social status and city. It is a space open to everyone, no matter what cultural or social status they fall into. It will become a place from which the HAC can freely expand its activity through the most efficient form imaginable; by the people who visit the Cultural Centre themselves!

The location of this arena also acts as a clear way finding zone. The visitors can easily access information and ticketing desk and continue their journey through the buildings functional layers.

The House acts as two separate entities joined by bridges at different levels. The auditorium is located in the Eastern building, whereas the remaining support, library and exhibition functions are located in the West block. Each function has its dedicated level which corresponds to a layering effect.

The aspiration of layers is deeply rooted in the fabric of Beirut and her people. Beirut is known as the city of seven layers. The city has been thriving since Phoenician times and urban studies depict

how further era's built upon previous times. The whole city rests on profound foundations of cultural legacy. How does one design a new building in a contradicting environment? One must be sensitive to history, embrace it in order to provide a structure that can be rooted into the cities fabric of heritage

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Acoustic Soundproofing

The House of Arts and Culture features three soundproof volumes - the main performance hall, the small performance hall and the movie theatre. Through splitting the building in two, the main performance hall and movie theatre is designed as a 'box within a box', in order to minimise routes for sound transmission. The remaining small performance hall is located outside this box in the Eastern wing. Technical rooms and support facilities are located alongside this hall in order to create a bufferr zone for sound. Frame members are located within acoustically isolated partition cavities, together with isolating materials such as acoustic pads.

The roof structure is isolated by an acoustic barrier and by physical separation of beams, purlins and roof sheets. Floor construction involves placing isolating break joints between adjacent auditoria floor slabs and seating risers, together with isolating pads beneath all raised seating units.

Structural solutions

A reinforced concrete monolythis structure will form the buildings skelleton. The foundation is a 90cm thick reinforced slab with a deeper structure wherever shear walls fall into place. The shear walls support the angled balconies of the main performance hall and together with the foundation slab, provide a solid concrete box. Larger cantilevers (alongside the central void) are suspended from beams supported by shear walls and reinfordec concrete columns.

The facade is supported by vertical steel beams suspended from the floor slabs. The stone louvers are held in place by modular steel brakets that are rotated to the acquired angle on site.

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Sustainable design strategy

Reduction of CO₂ emission

HAC ventilation, heating and cooling

1-Solar power: The roof fitted with solar and photovoltaic cells will allow the building to generate electricity and hot water for an absorption cooling machine and produce chilled water for the radiant cooling system

2-Natural ventilation and daylight

are used where possible to reduce energy consumption and improve living conditions. At night the windows on east and west elevations open automatically drawing in air to cool the spaces

3-under floor air distribution system

-A mechanical ventilation system delivers air along ducts in the floor slab and expels it through a slot at the perimeter of the floor to create a pool of fresh air at floor level

Should additional cooling be required, chilled water is circulating through pipes embedded in the ceiling and can alternately be heated in the winter.

4-high thermal mass passive solar heat blocking

the building highly efficient double skin envelop minimises heat gain and loss.

allow Air to circulate in the façade cavity to insulate the building, Warm air is supply to the cavity at ground level during the winter while sunlight heat the air in the void causing it to rise and be exhausted at roof level.

5-natural shading and daylight Self shading louvers To prevent solar gain the east and west elevations are fitted with louvers to provide maximum shade according to sun path without obscuring view

6-Waste management: The building also reuses its own waste energy: water based heating and cooling system is run by electric pump powered by the central exhaust stack

7-Material use of local stone visible from inside/outside

