[ GROWING CITY | MARKET TO MUSEUM ]

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URBAN DESIGN

ARCHITECTURAL IDEA

BUILDING DEVELOPMENT
   Structure
   Site situation
   Program
   Climate

DESIGN DETAILS
   Facade
   Interior
URBAN DESIGN
Growing city
Urban farming as catalyst
Growing city
A process of development
Transformation between Agricultural production and Urban expansion
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Existing ore wall

Memory of the site and Landscape feature
Central farming park

- Agriculture college
- Research center
- Restaurant
- Visitor center
- Market & Museum
ARCHITECTURAL IDEA
Market to Museum
Storage and Selling to Exhibition, Education and Branding

2015

2020

2030
Market

Fresh food and getting together
Museum Lakeside attraction
Year 2015
Connection between Farmland and Neighborhood
Year 2030
Lakeside attraction in mixed urban environment
Sculptural volume
Architectural form based on the feature of the wall
Integrating Space Program and Form
BUILDING DEVELOPMENT
Selecting the type of structure

Space frame with no direction  NO  Truss with one direction to span between the walls  YES
Optimizing the structure

1. First proposal

2. Decrease the space between the truss

3. Increase the size of the profile
Composition of structure
Truss 3.8m height 6m spacing ------ office and service layer
Composition of structure
Secondary beam
Composition of structure
Suspended floor --- museum layer
Composition of structure
Diagonal elements
Stability
Program in section
Integrated with structure

Roof garden
Office Service
Museum
Market Warehouse
Surrounding situation
Public routes
The entrance square introducing people into the building
Circulation in the building
View from the museum
View from the market
Climate Design
Thermal mass -- concrete wall and green roof substrate
Climate Design
Natural light
Climate Design
Ventilation

Fresh air
Waste air
Climate Design
Heating and cooling

Floor heating
Ceiling cooling
Air heating and cooling
DESIGN DETAILS
Facade design

Floating Volume on the existing wall
Facade design
Floating volume on the existing wall
Facade design

Floating volume on the existing wall
Facade design
Two layers of glass to separate different climate zones
Facade detail

Roof construction
- 150 mm Substrate
- 5 mm Filter fleece
- 40 mm Drainage layer
- 5 mm Filter fleece
- 2 mm Synthetic waterproofing
- 2 mm Protective membrane
- 120 mm Rigid plastic foam
- 5 mm Vapour barrier
- 120 mm Rigid plastic foam board
- 300 mm Load bearing truss

Facade construction
- 50 mm Composite board with white coating
- 120 mm Rigid plastic foam board
- 150 mm Load bearing truss
- 30 mm wood boards
- 50 mm cement screed with floor heating system
- 120 mm Trapezoidal profile sheet
- 300 mm Load bearing truss

Extensive roof planting

Composite board with white coating
Interior detail
Entrance of museum
Interior detail
The contrast