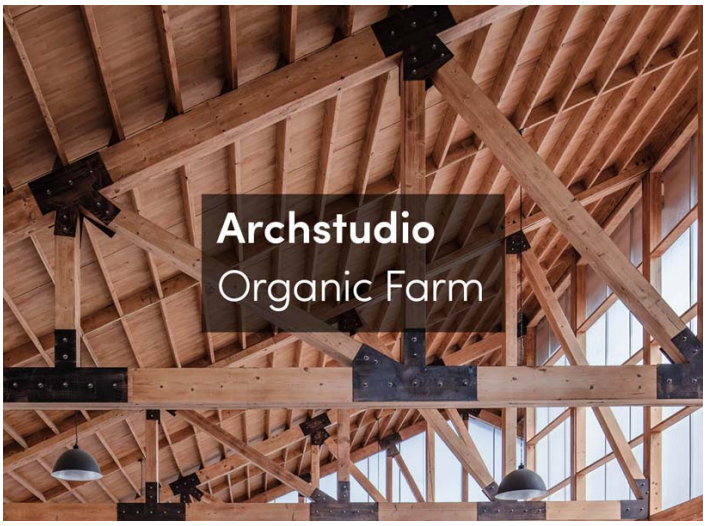

ORGANIC FARM

Posted on June 19, 2017 by content

Categories: Archstudio, Energy and sustainability, Low Density, Project, Territory and mobility, Urban Paradigms

Tags: Agrarian Landscape, China, Courtyard, Ecological agencies, Ecological researches, Energetic Approach, Farming, Farming processes, Farming production, Food production, Inner courtyard, Landscape, Landscape vs. Architecture, Project, Structural Plywood, Sustainability, Tangshan City, Territorial Approach, Timber, Urban Paradigms, Warehouse, Wood, Wood construction, Wooden ceiling

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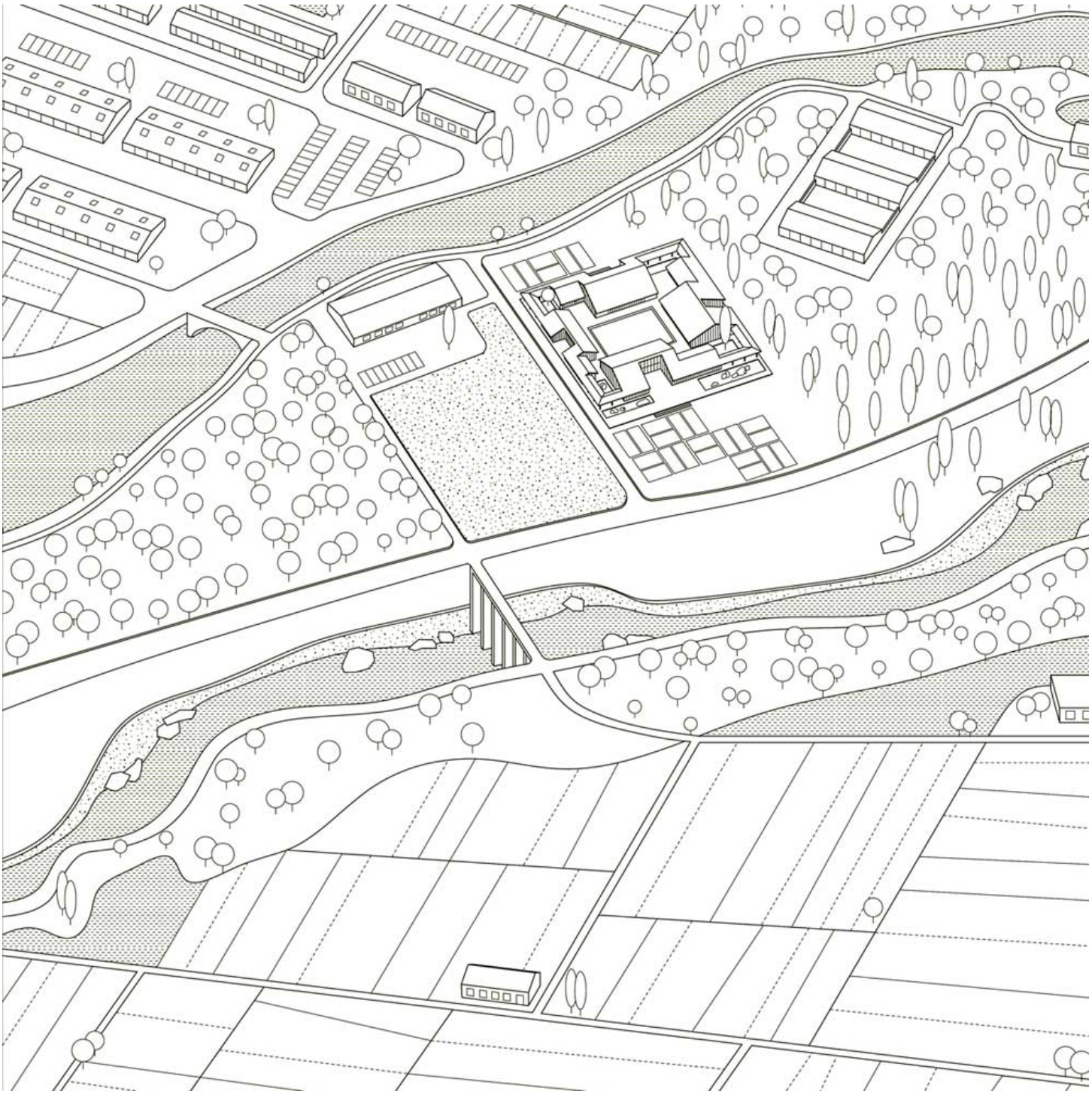
The project is located in the farmland on the fringe area of Guye district, Tangshan. Villages and houses are scattered around. The site is a rectangular flat plot of land that covers an area of 6,000㎡. The basic function of the building is acting as a processing workshop for organic food: raw materials come from organic producing areas across the country; they are collected, processed and packed here; and then they are delivered to other places as finished products. The design is inspired by a traditional courtyard building. The initial idea was to build a magnified courtyard house – a workplace full of natural atmosphere and flexibility, which would be self-contained and form a corresponding relationship with the surrounding broad and flat field.

ISSN : 2575-5374



ISSN : 2575-5374

ISSN : 2575-5374

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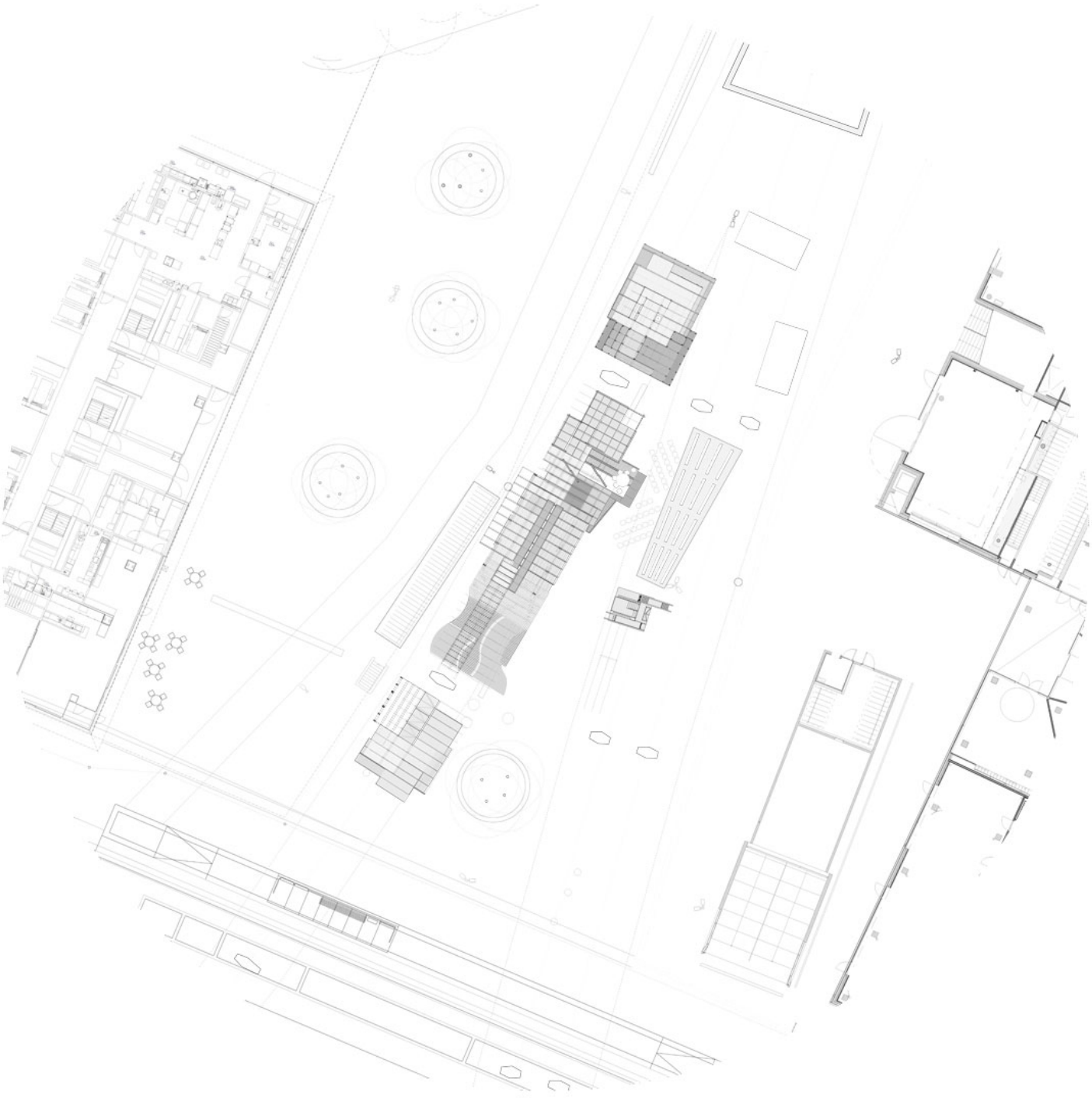
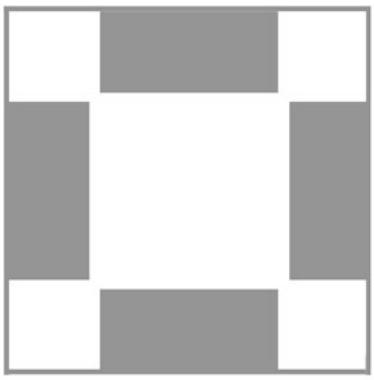


ISSN : 2575-5374

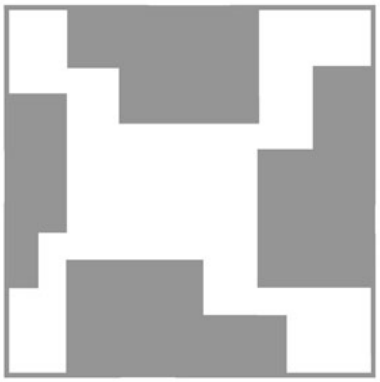
Site plans

ISSN : 2575-5374

ISSN : 2575-5374



1. Siheyuan Prototype



2. Scattered Courtyards

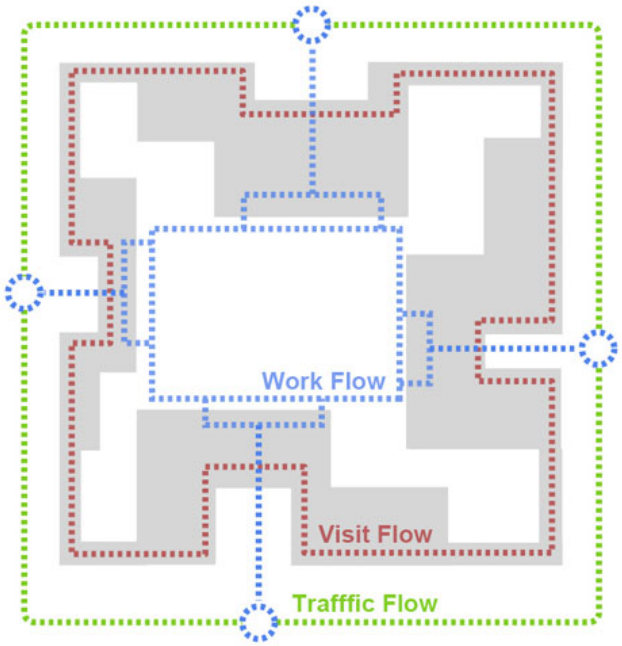
3. The Combination of Exterior and Interior

Concept analysis

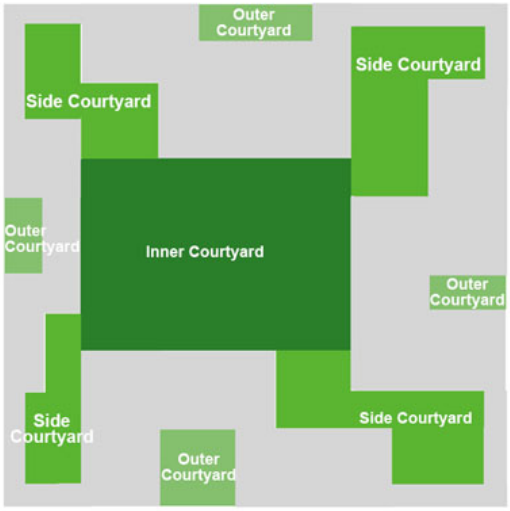
ISSN : 2575-5374

ISSN : 2575-5374

ISSN : 2575-5374



Trafffic Flow



Landscape Courtyards

Flow and landscape analysis

The entire building is made up of four enclosed relatively independent houses, including the material storage area, the mill, the oil-pressing workshop and the packing area. The inner courtyard is the grain-drying area, and a convenient work cycle line is formed around it. The boundary of the building is the external corridor that connects the four areas, and it is the route to visit the food processing workshop. The central courtyard spans out around the building randomly, topologically forming a courtyard space with multiple layers, which meets the demand for natural ventilation, natural lighting and views of the workshop while maintaining nice interior and exterior space qualities. The organic connection of courtyard and house creates functional areas of different sizes under one big roof: a small-sized corridor, medium-sized rooms and a large-sized workshop, which flexibly meet the requirements of compound use of the workshop.

ISSN : 2575-5374

ISSN : 2575-5374

ISSN : 2575-5374

ISSN : 2575-5374

The design chooses glued timber structure as the major structure because it is lightweight, easily processed and installed, and because of its natural properties. The building is “floating” above the ground. It sits on a 60 cm cement base, which ensures the wood structure is moisture proofed against the ground and allows it to hide pipelines of some fixed equipments. In order to control the construction budget reasonably, the building adopts light wood frame walls with a length of 2.1 m. The upper part is a glued timber truss beam, and the top is wooden and felt roofing. The façade is covered with translucent pc board, which is light and easy to install as well. The space, structure, materials and the multiple-layered exterior courtyards together create a warm, natural and continuous working atmosphere for this farm.

ISSN : 2575-5374

ISSN : 2575-5374

ISSN : 2575-5374

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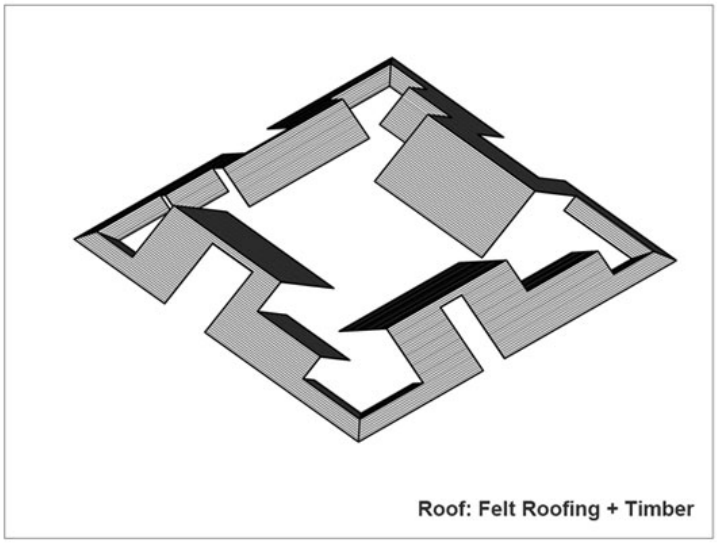
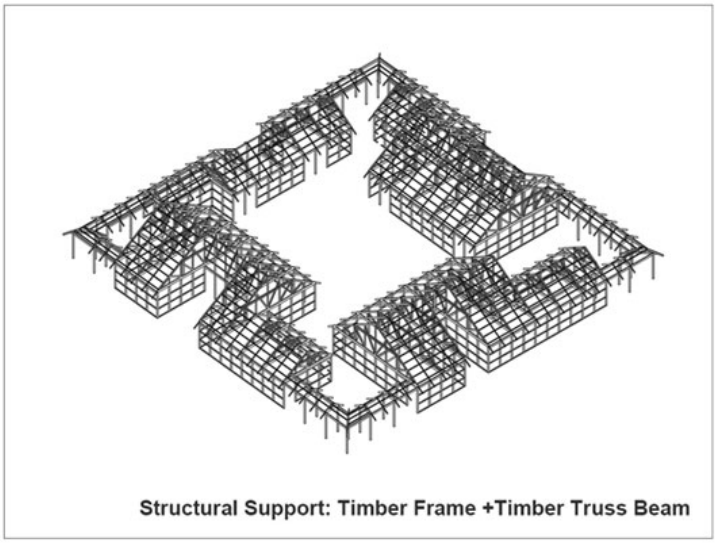
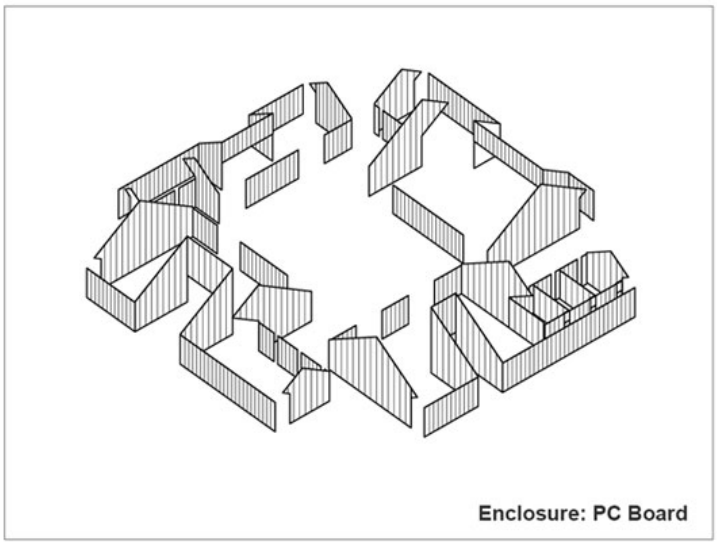
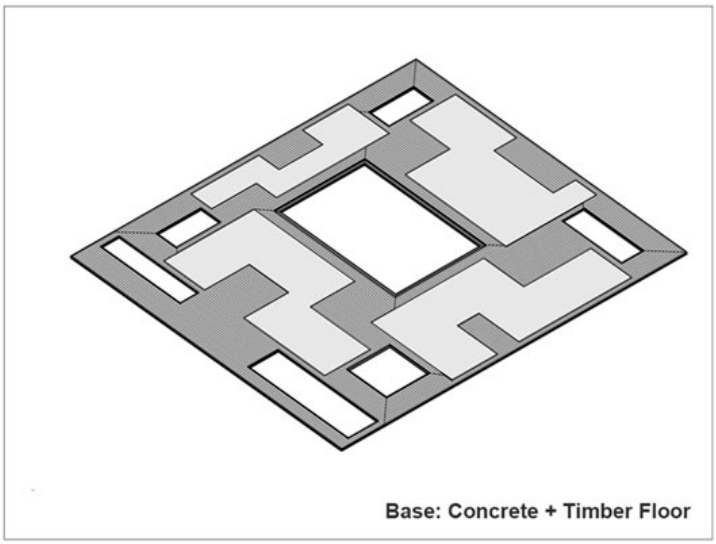
ISSN : 2575-5374



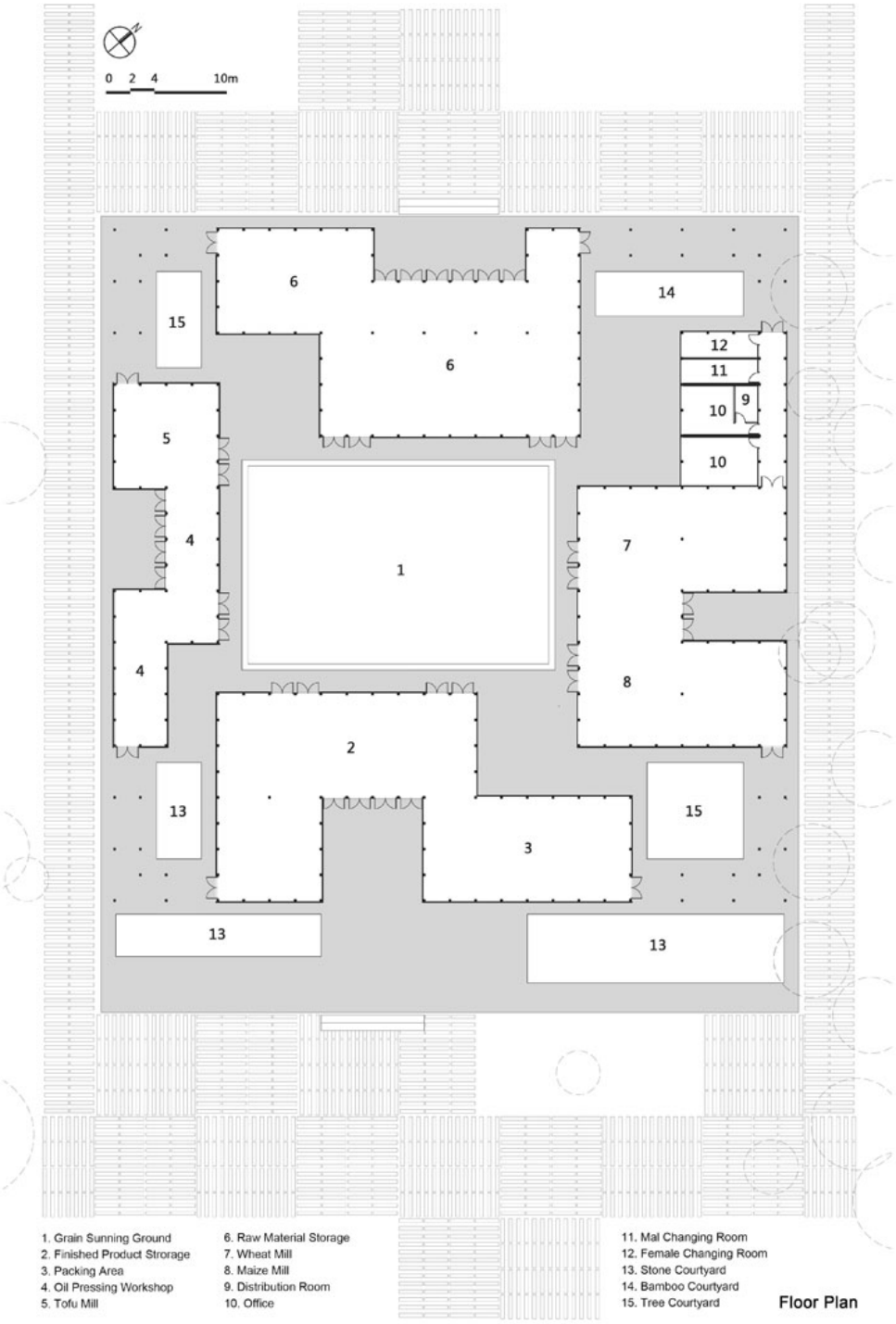






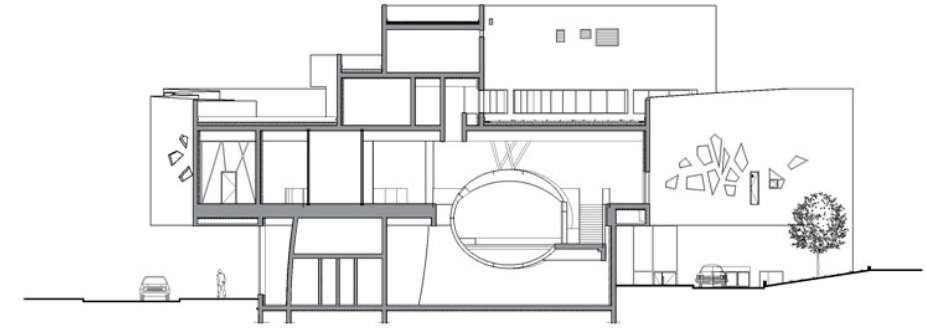
Structure diagram

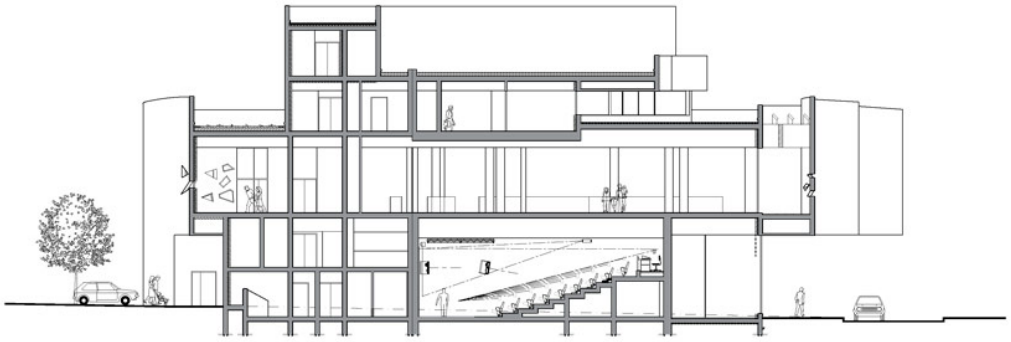
ISSN : 2575-5374



ISSN : 2575-5374

Plan





ISSN : 2575-5374

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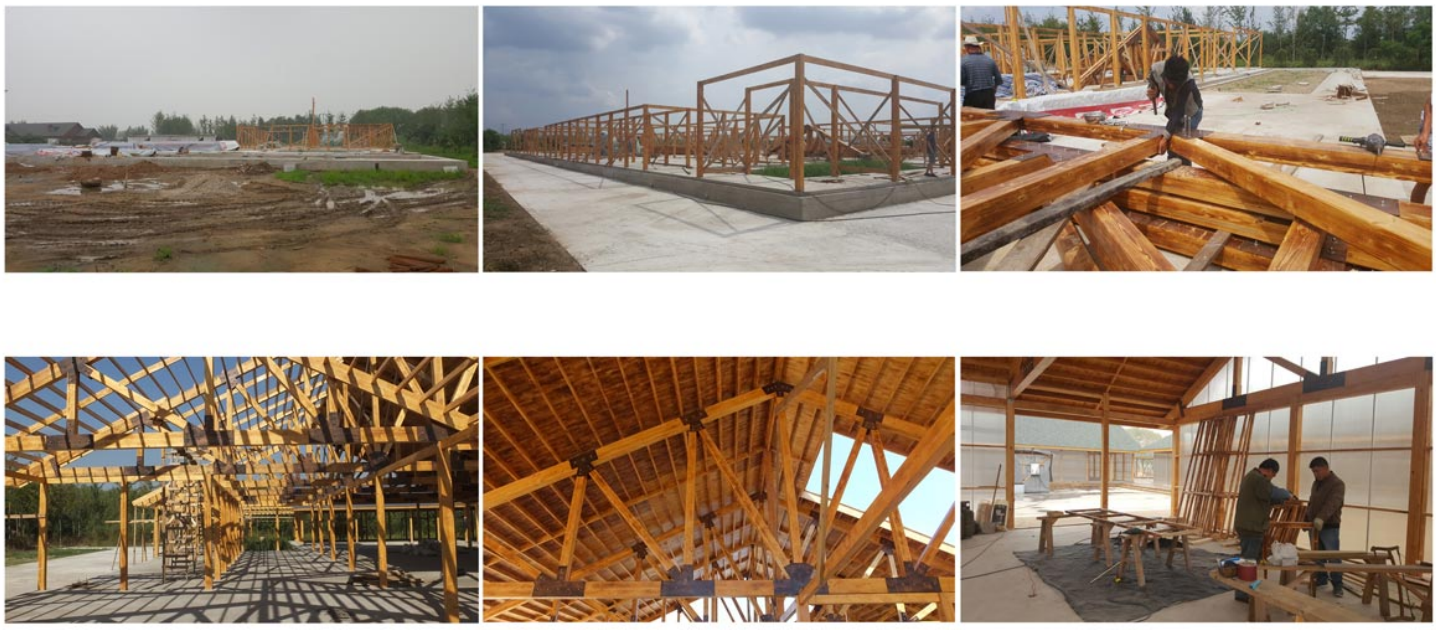

Construction process

ISSN : 2575-5374

ISSN : 2575-5374

ISSN : 2575-5374

ISSN : 2575-5374

ISSN : 2575-5374

ISSN : 2575-5374

ISSN : 2575-5374

ISSN : 2575-5374

ISSN : 2575-5374