

DIPLOMA FALL 2022 ©
ARCHITECTURE

SEDIGHEH SAFARI



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The Oslo School of Architecture and Design

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Desert wind-catcher's hotel in Iran

3 01 Abstract

What did I choose Nargh in Iran?

Naragh is a small city located in the central part of Iran and at the foot of the Aal Mountain. It has a pleasant geography and historical identity due to its architectural and urban heritage, which entails 130 historical buildings and sites. One of the key features of Iranian, and Islamic, architecture is the charm of rich details intertwined with an overall simplicity, closely integrating to the contextual and functional aspects of its location. Traditional Iranian architecture, or vernacular architecture, is today among the inspiring resources of climatic and sustainable design.

These architectural design considerations led to a variety of typologies and architectural elements that were specifically driven from climatic conditions, available resources, and craft in the district and climatic zones they were in Iran.

Windcatchers as landmarks contribute to the natural passive ventilation of the indoor spaces. A schematic section shows how the traditional ventilation system has been re-interpreted in the project as an integral part of the design, providing the ventilation system: the hot air tends to rise and go out through the upper channel of the Badgir (windcatcher) which is not in the direction of the prevailing wind, while the consequent indoor negative air pressure will capture the natural air through the other channel of the Badgir towards the direction of the prevailing summer wind.

Problem/Challenge?

One of the challenges of contemporary Iranian architecture is the lack of discourse between traditional and modern approaches in creating new forms in a historical urban environment. The traditional architecture and its trends are vastly underestimated and due to the rapid rate of urban transformations in populated cities of Iran, there is no opportunity for the adoption of these changes with local cultures. Architecture as a communication system interacts with culture, and for receiving its inner message, the cultural context in which that architecture is formed should be recognized and studied. The challenge might be how to create an identity without falling back in memorial-like stereotypes.

What do I wish to do for the place and the people? (Aim)

The purpose of this diploma will be:

- Merge modern architecture into local architecture to create an attractive form for both visitors and the locals.
- Preserve the spirit of ancient Iranian architecture with new design methods.
- Attention and emphasis on "context" and "history"
- Avoid excessiveness decorations, and instead strive for simplicity in expression"

Methods: To achieve the above goals, I have conducted literature and field studies which has been both inspirational and informative for my design process. And, to understand and apply climatic design considerations in the project's design process, climate-based analytical tools such as Ladybug, and octopus (optimization), which are two plugins in Grasshopper (parametric modelling tool), Rhinoceros (3d modelling software), were used.

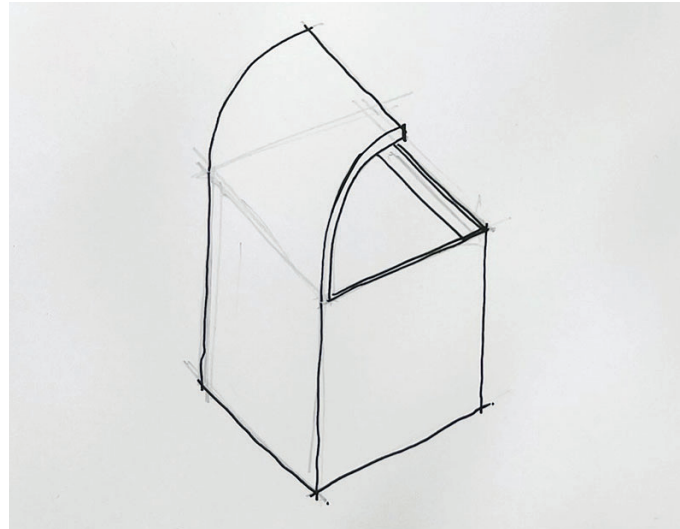
Conclusion:

The diploma has strived to propose a modern approach in employing new interpretations and applications of historical Iranian architecture through combining two different aspects: 1) the historical patterns of Iranian architecture and its philosophical, artistic, and heritage essence, and 2) considerations related to local materials, culture and climatic contexts.

04 Original concepts of Iran's culture and its traditional architecture

Inspiration from context:

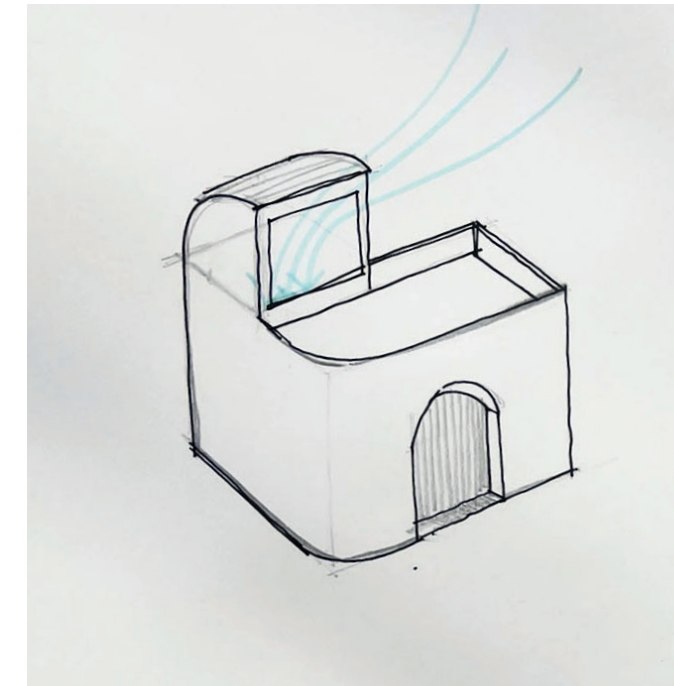
1. Vault



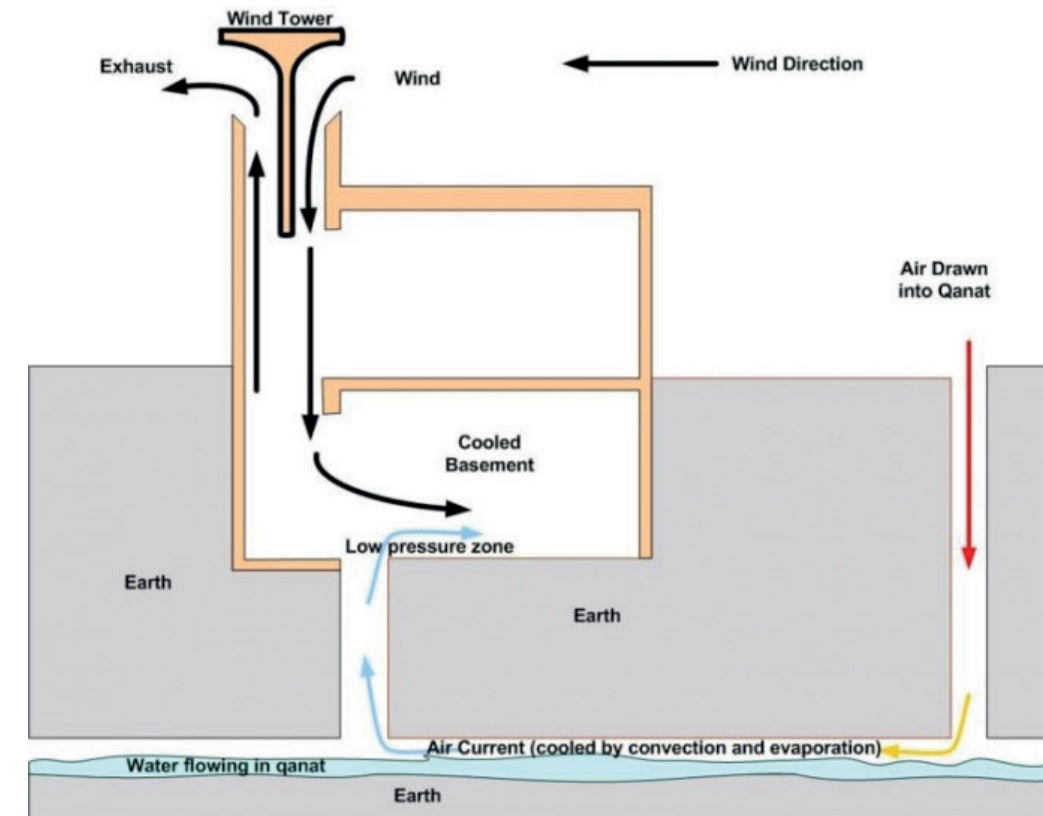
Geometric design of a masonry lattice space dome tittles Karbandi in Persian architecture

4 5 Concept
Inspiration from context

2. Windcatcher - passive architecture elements



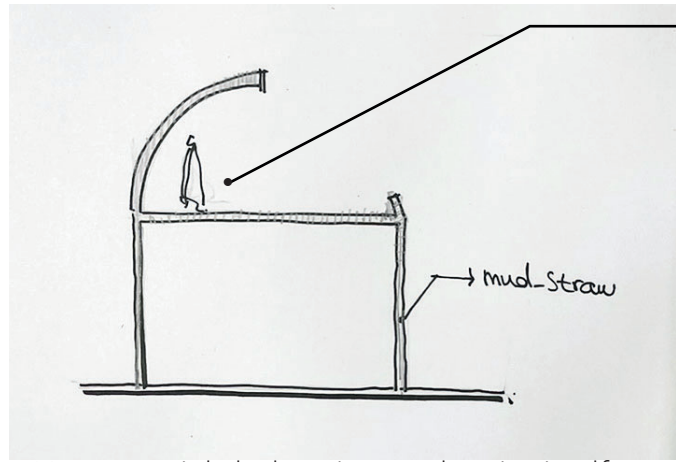
• Taking into account climatic conditions and socio/cultural context of the site



Wind-towers were built using local constructions methods and natural materials, their design and aesthetic appearance provides an architectural example in harmony with traditional society and the environment.



3. Mud-straw buildings



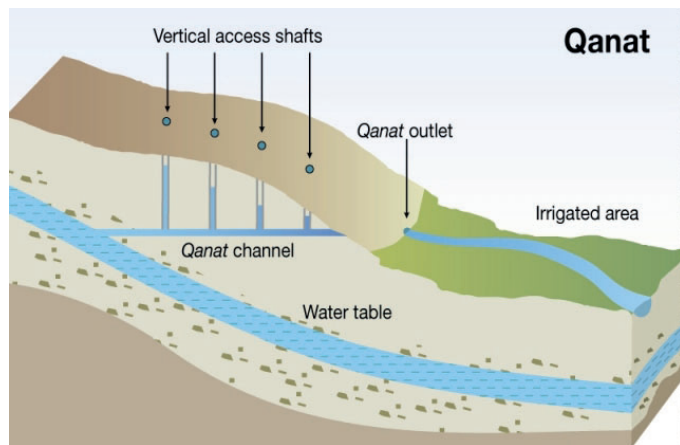
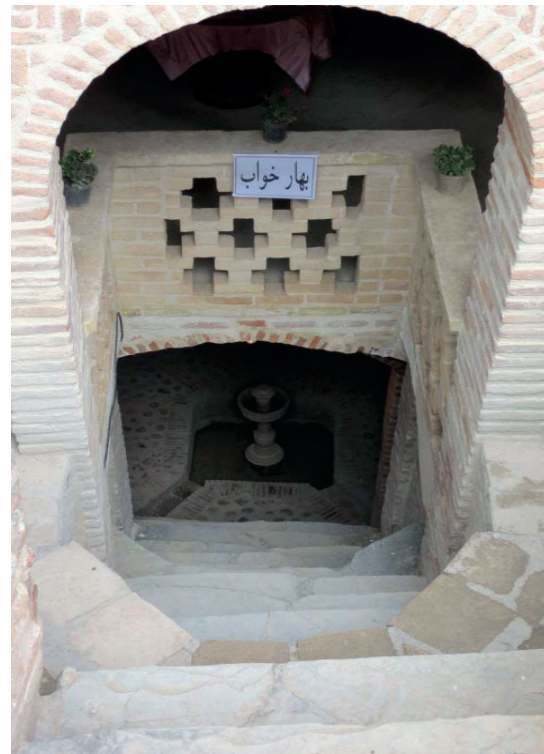
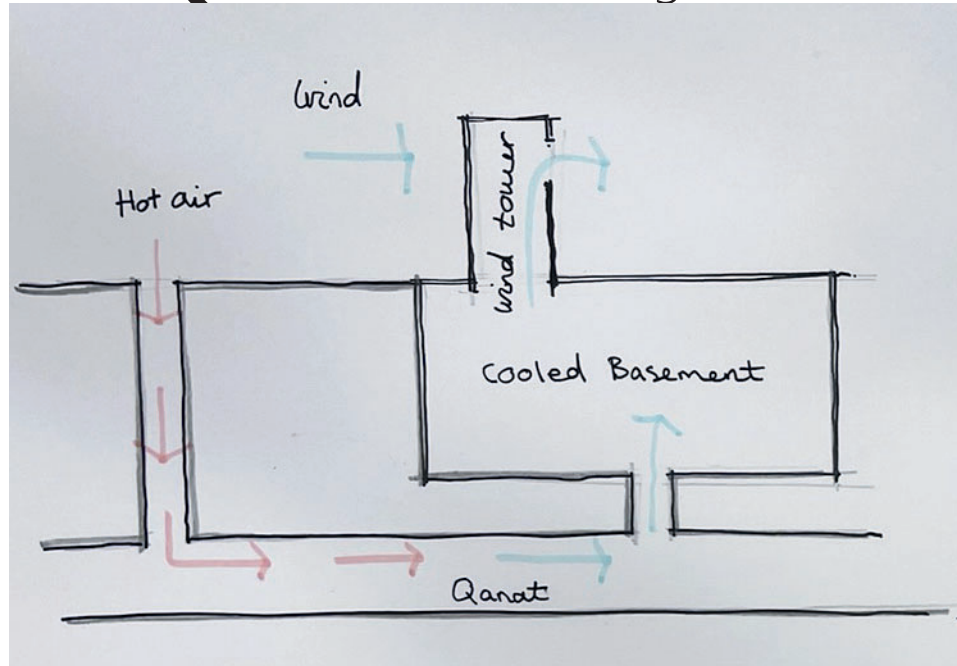
• Occupied to sleep on the rood during the summer months

• Use materials belonging to the site itself



Concept
Inspiration from context

4. Qanat (underground waterways)



Qanats is a system for transporting water with hand-dug tunnels from nearby mountain and redirect them to arable land. Along the length of a qanat, which can be several kilometers, vertical shafts were sunk at distances of 20 to 30 meters to provide ventilation and access for repairs.



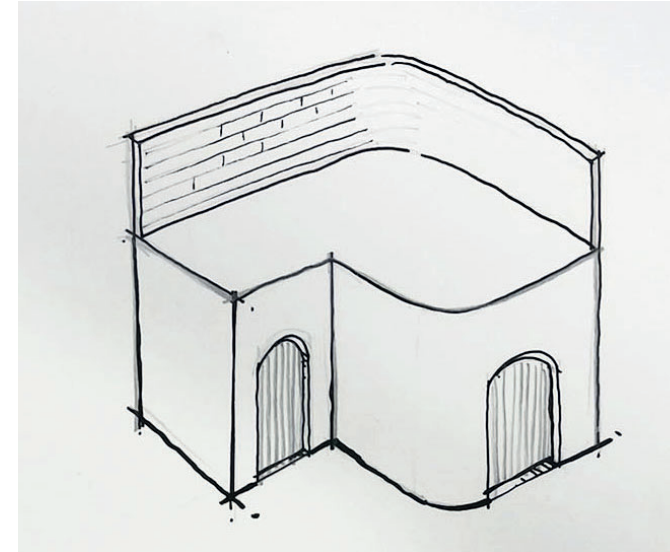
8 9 Concept
Inspiration from context

5. Mashrabiya

Mashrabiya are vernacular architectural elements from the hot countries. It can be defined as a wooden lattice veil drawn against the outside world.

It has many functions:

- Controlling the natural air flow
- Controlling the passage of daylight
- Assuring a considerable level of privacy



05 Analysing site & The surrounding context

Naragh, Iran
Site choice

Located in the central district of Delijan County, Markazi Province, Naragh is considered as historical city in terms of its architecture and urban construction. The city dates to 2,000 years ago and boasts 130 historical buildings and sites. The architectural styles in this old city pertain to the Ilkhanid, Seljuk and Qajar eras. Naragh is home to three aqueducts, two caravanserais and Shamsolsaitaneh Bazaar.

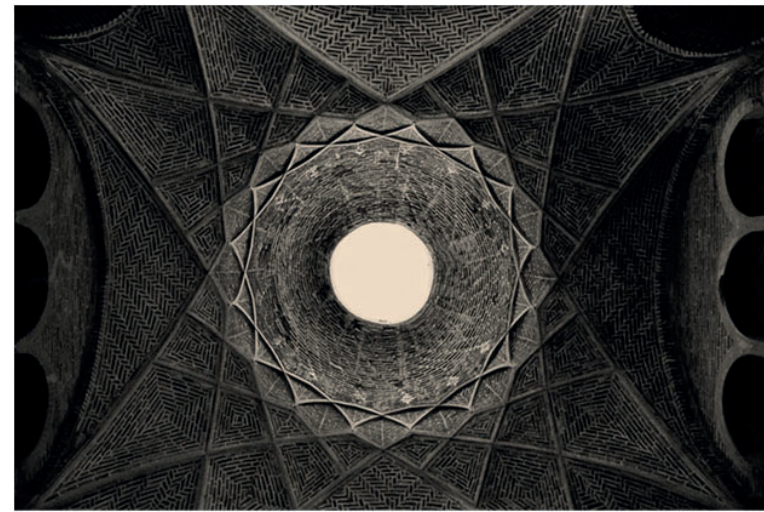
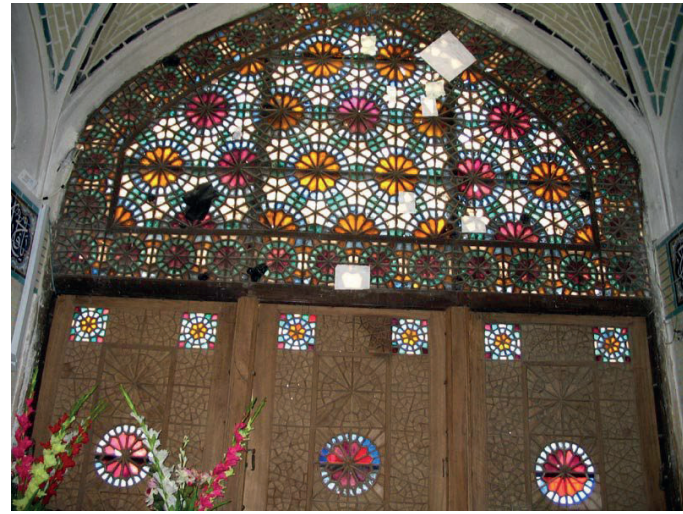
10 11 **Site Analysis**
View to mountain Oel



Iran Map Illustration

Reference: Reddit (2022). Available from: https://www.reddit.com/r/iran/comments/ri2jly/illustrated_map_of_iran/ [Accessed 11 Desember 2022]

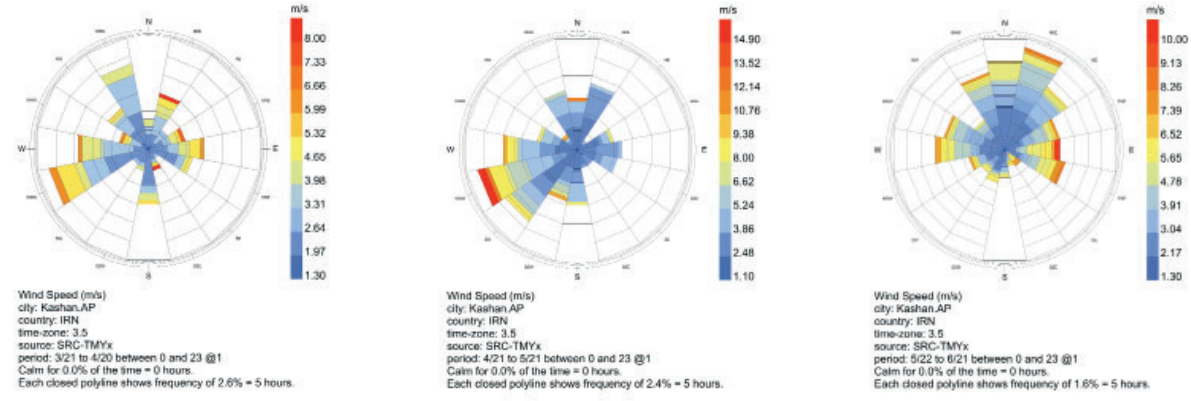




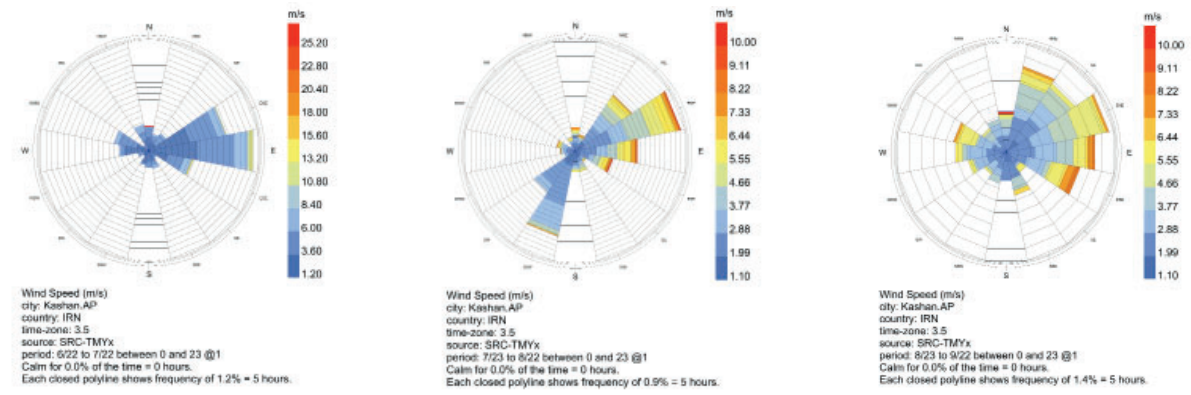
Monthly wind rose

Base on Persian solar hijri calendar

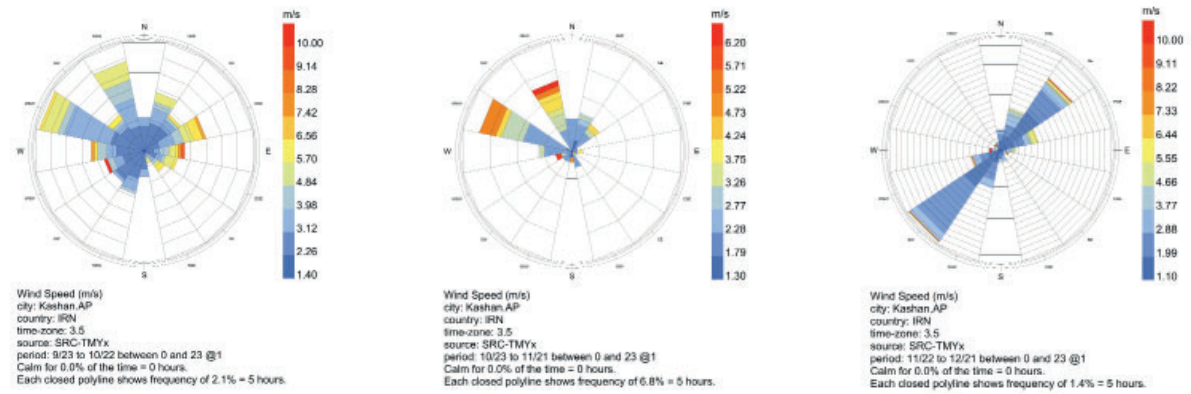
Spring



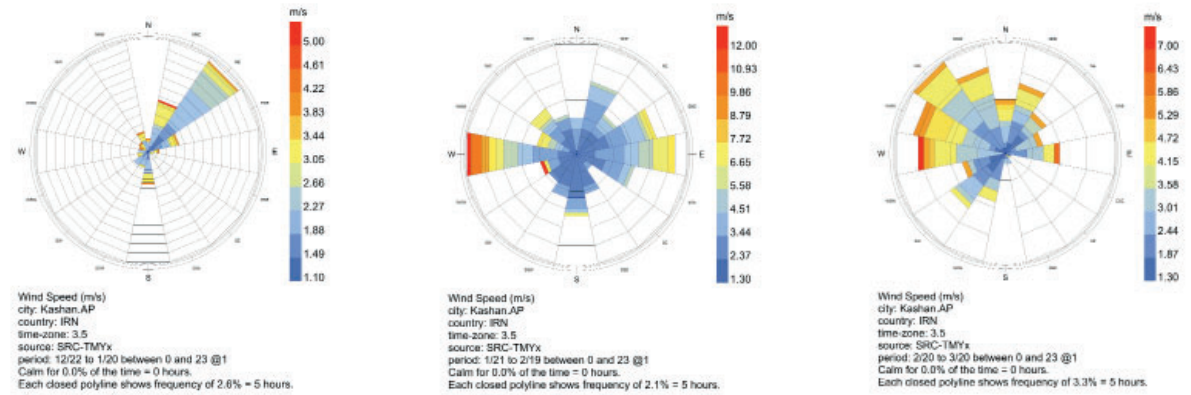
Summer



Autumn



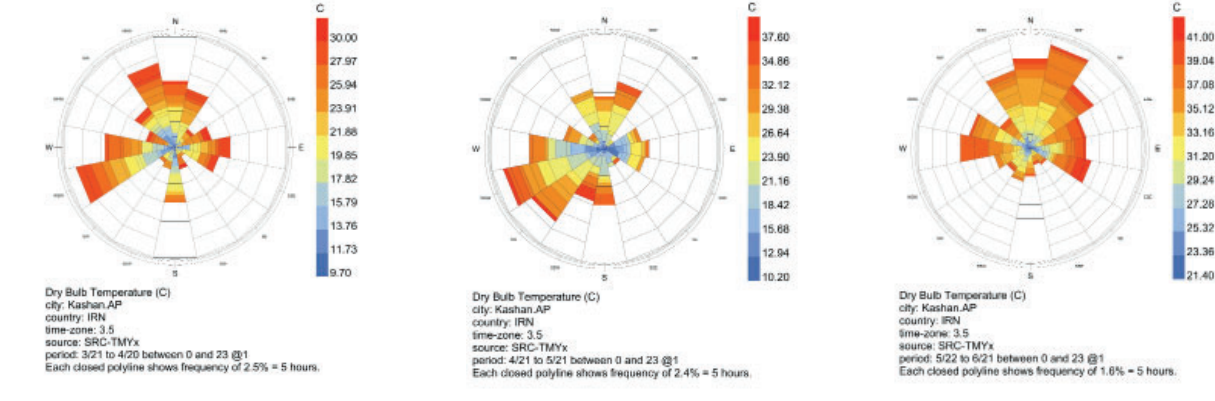
Winter



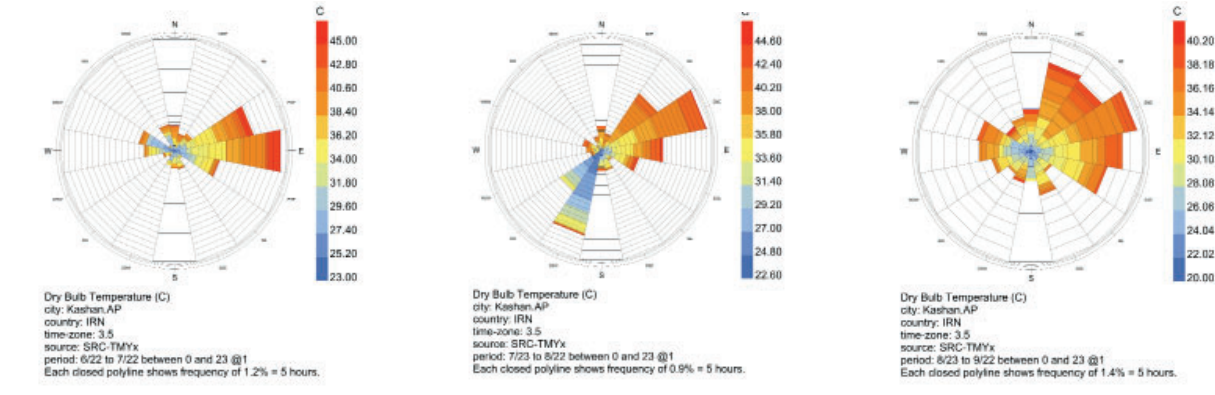
14 15 Monthly Dry Bulb Temperature (c)

Base on Persian solar hijri calendar

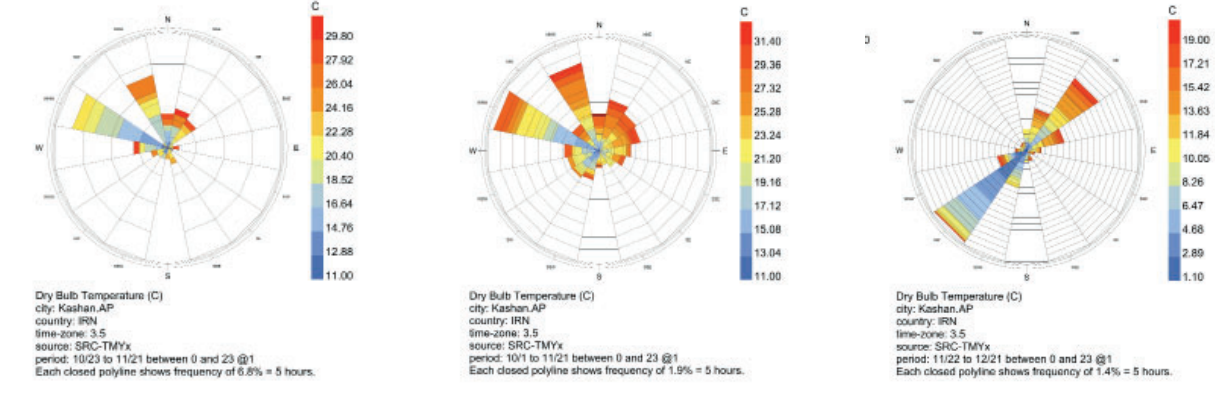
Spring



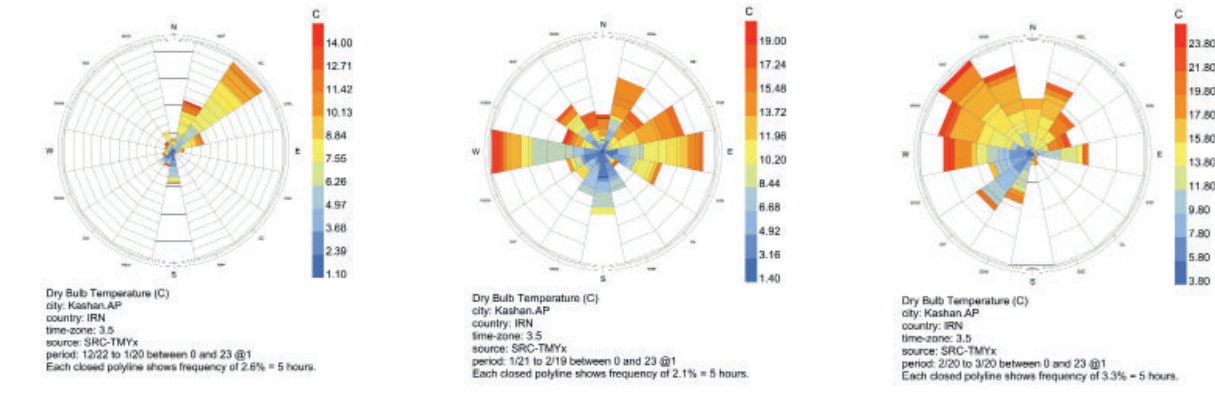
Summer

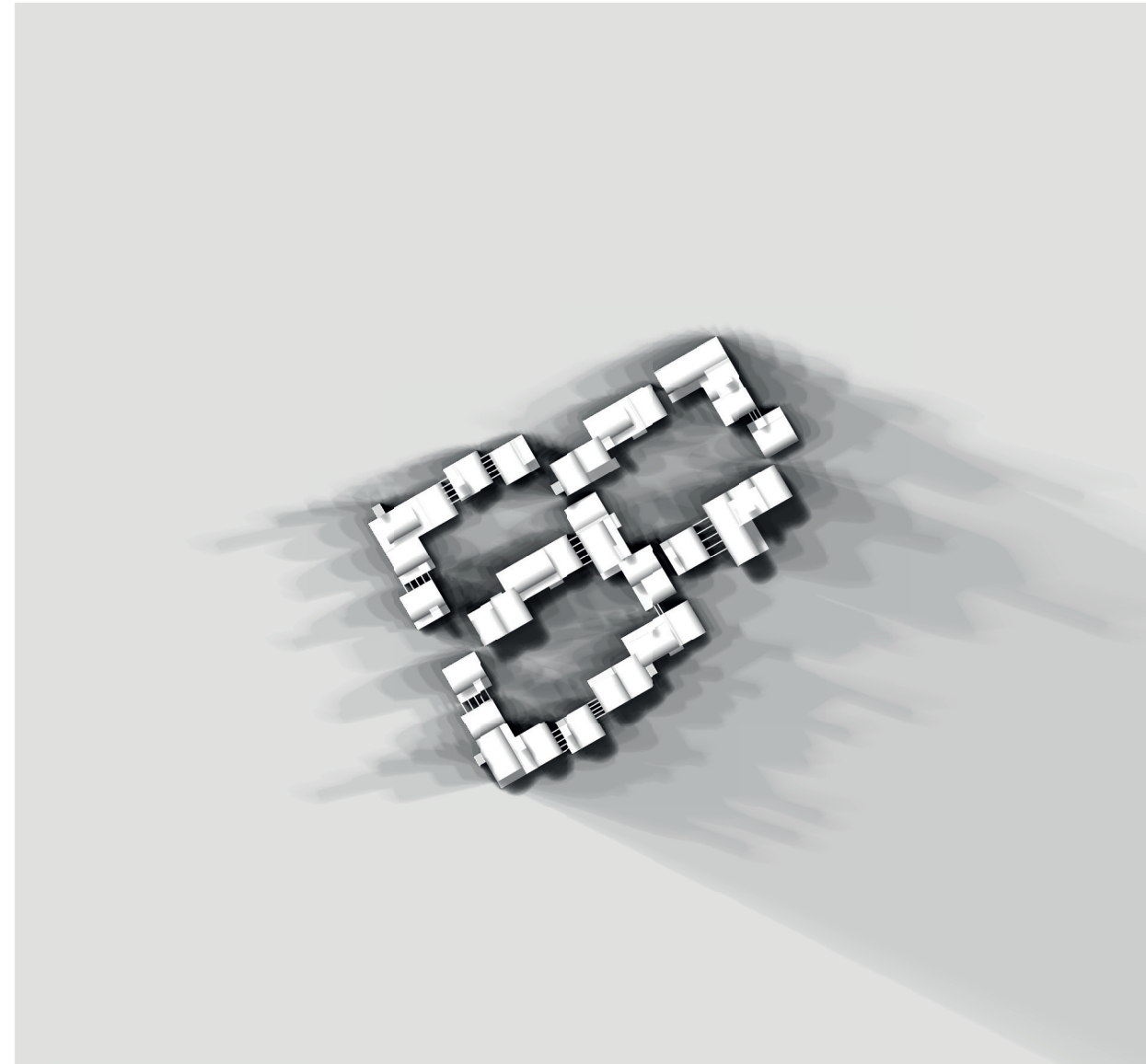


Autumn



Winter





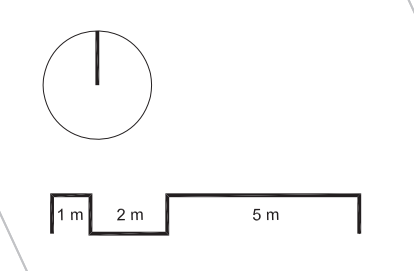
Direct Sun Hours

June & July, Day 1-31, kl.7-23

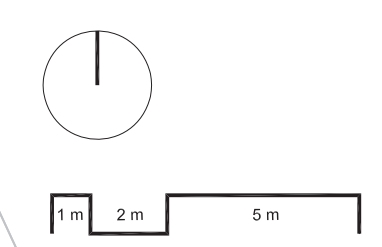




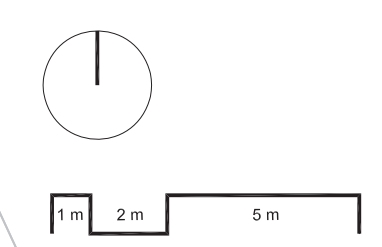
1 Bench
2 Pergola



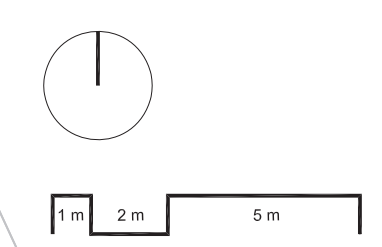
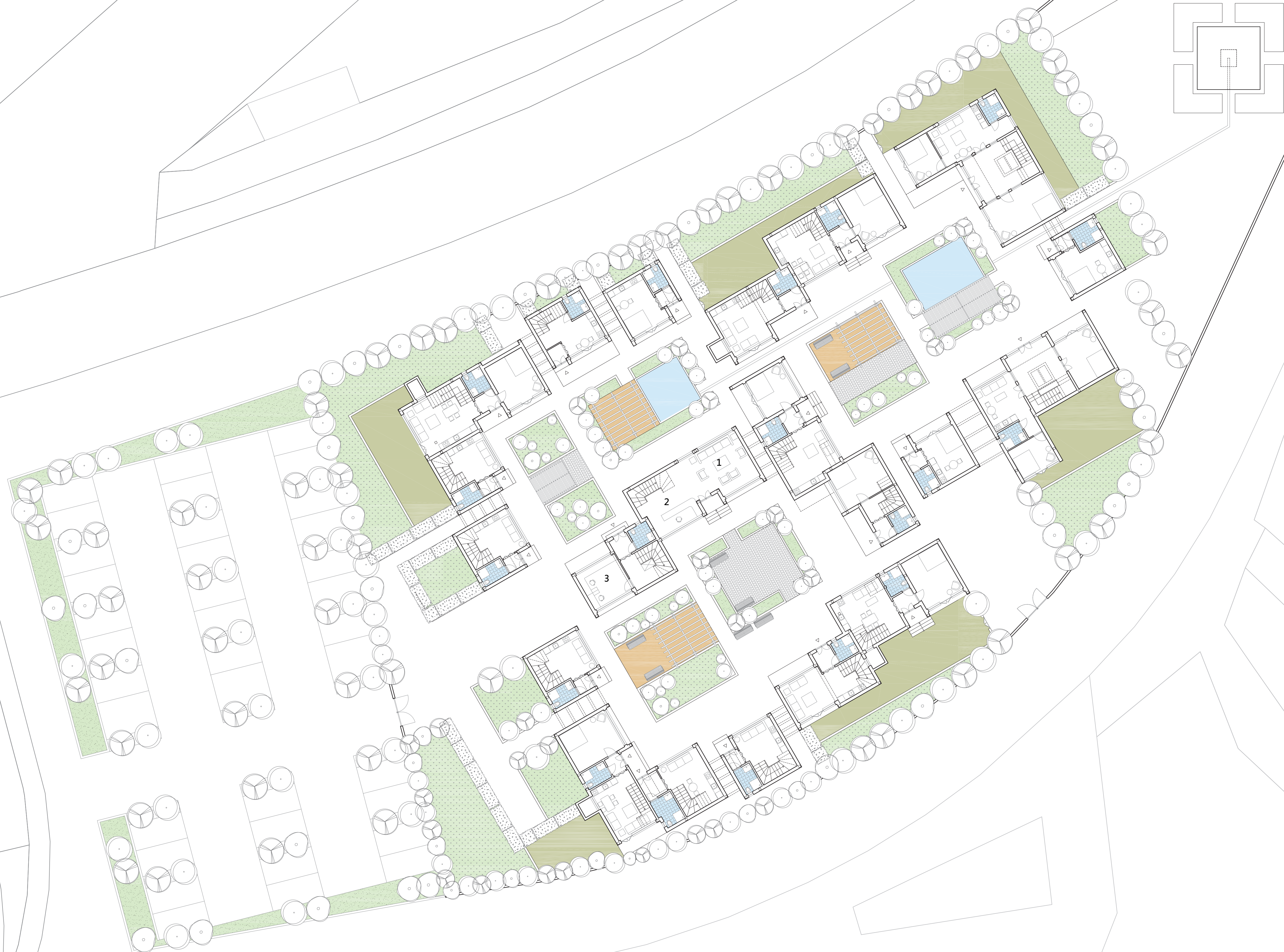
1 Shop
2 Staff room

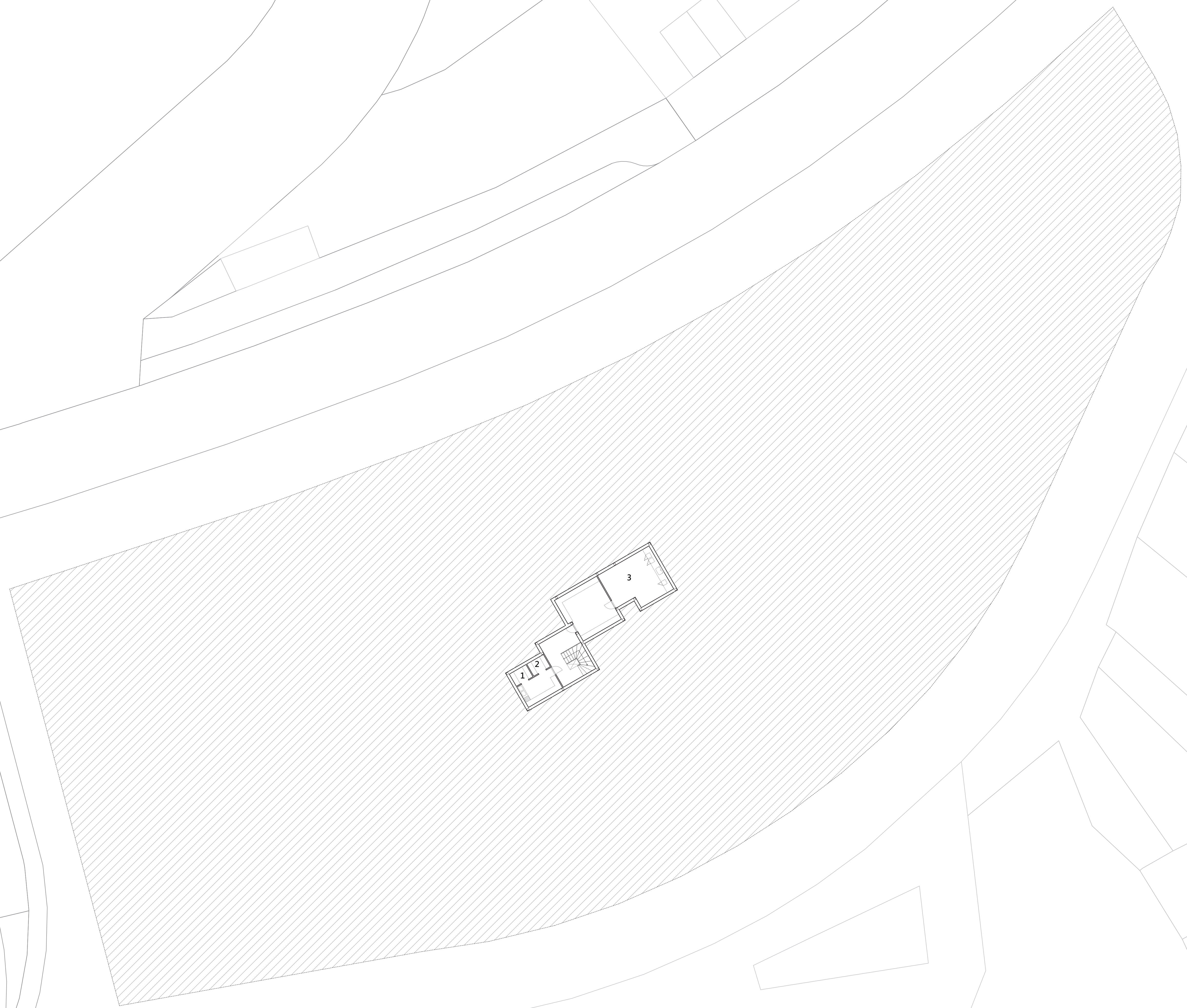


1 Restaurant
2 Kitchen

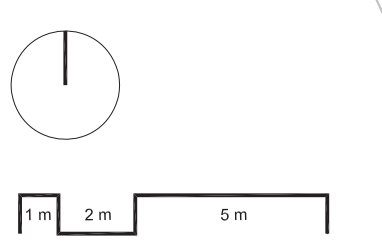


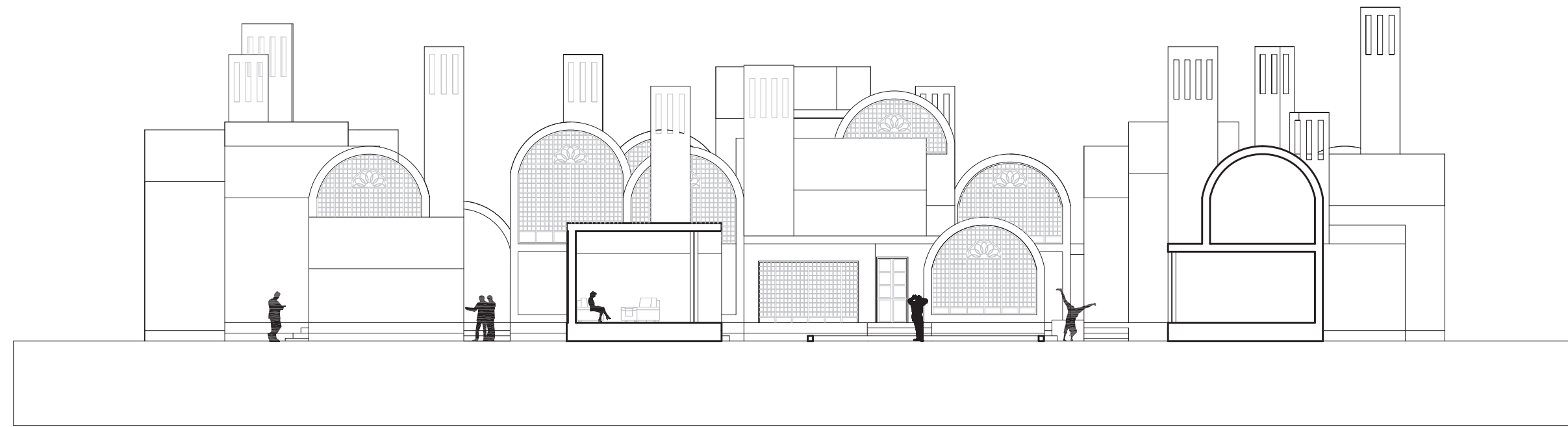
1 Lobby
2 Reception
3 Office



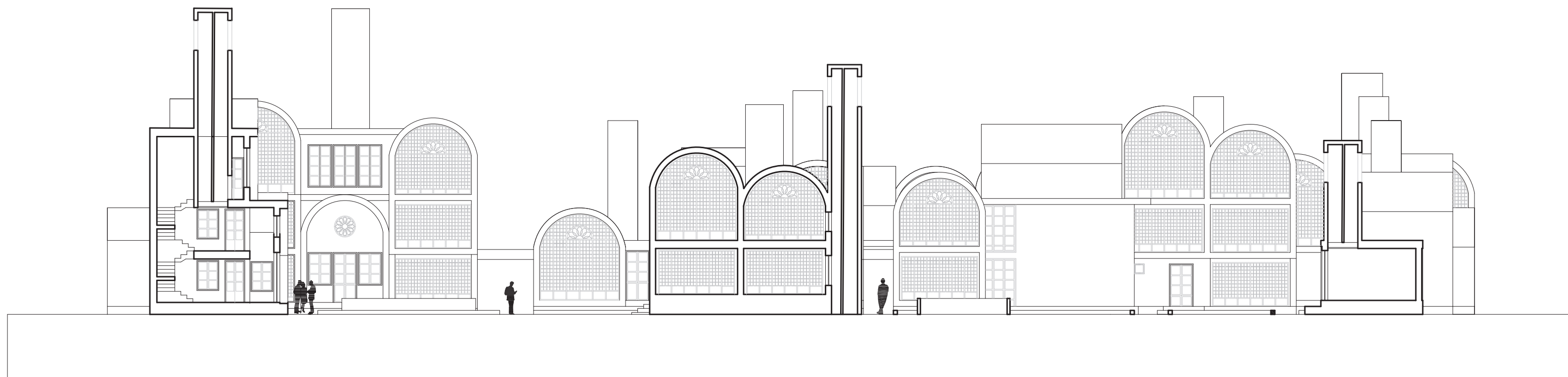
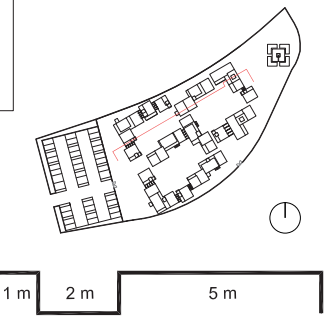


1 Storage, Meat
2 Storage, Vegetation
3 Laundry

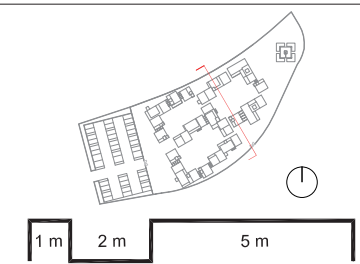


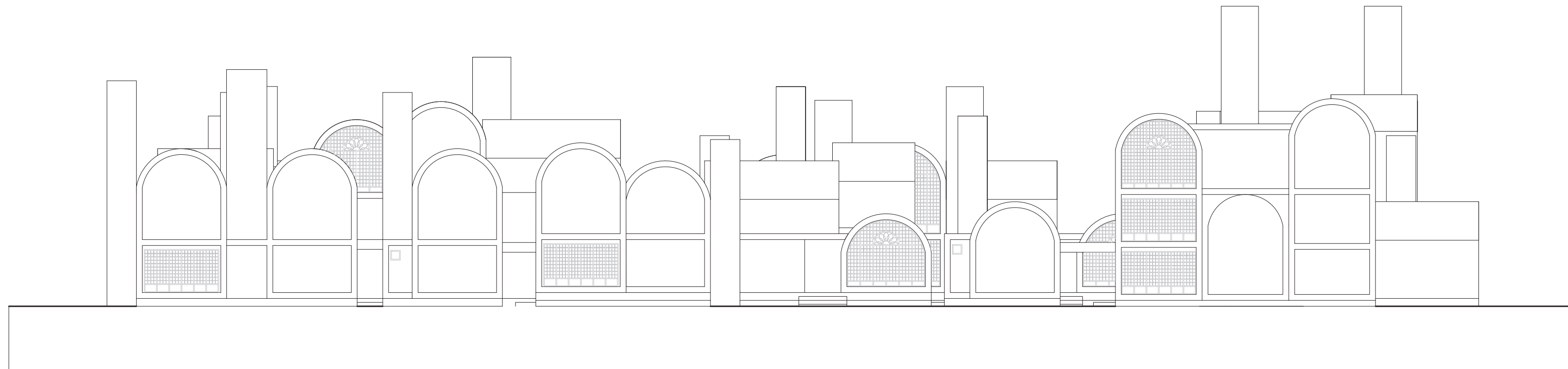


Section A-A



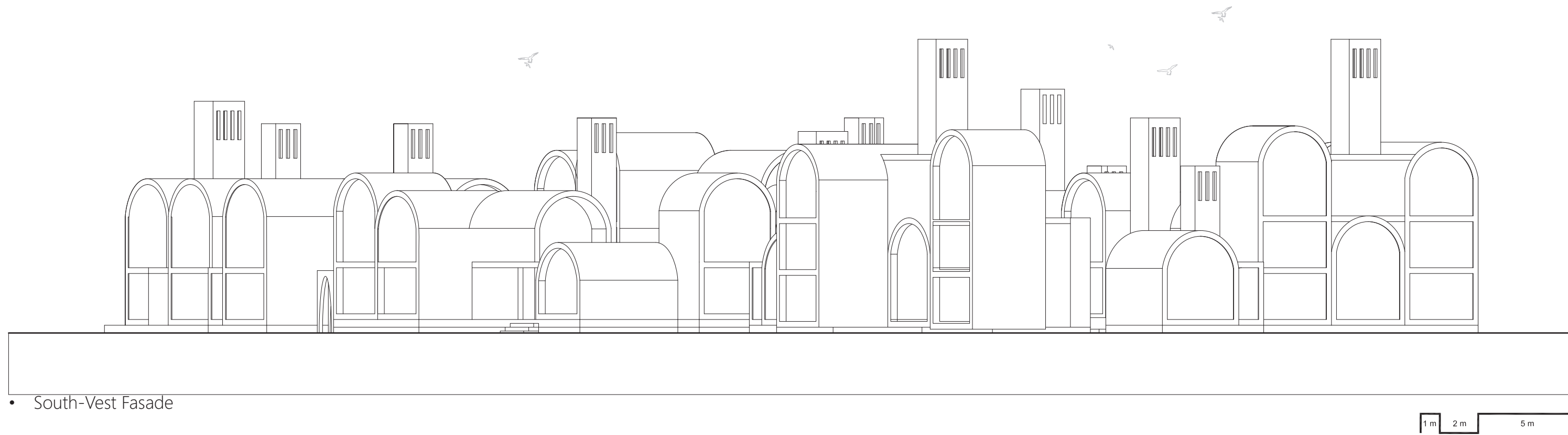
Section B-B





• South Facade





• South-Vest Fasade



07 Construction

