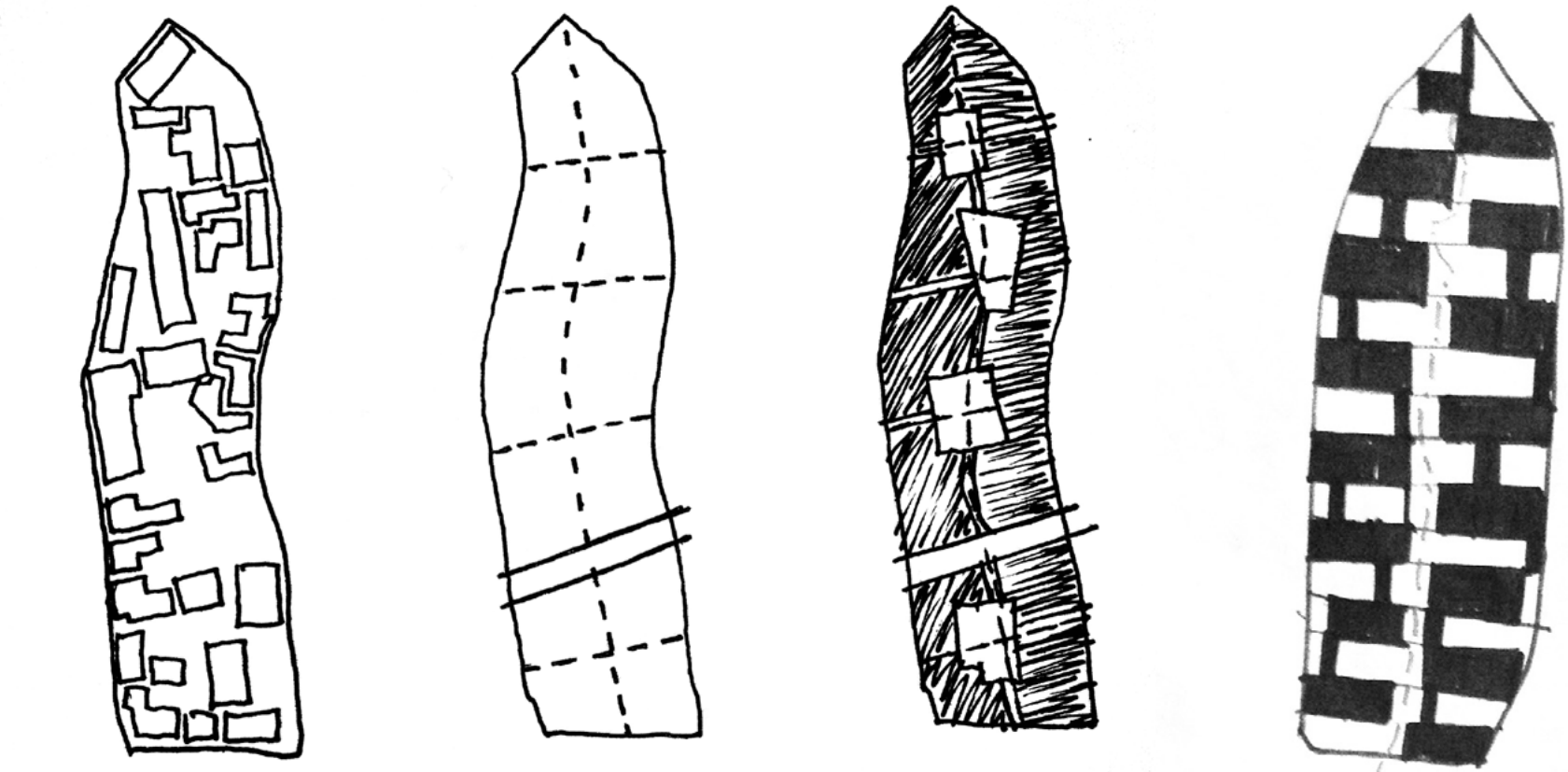


Collaboration with India

- Phase Objectives
- Research and establish form and performance guidelines
- Research and establish material and system frameworks
- Establish a concept design
- Establish a site design



concept site plan

concept site diagrams

Vision

Constructing prosperity through integrated community in rural India

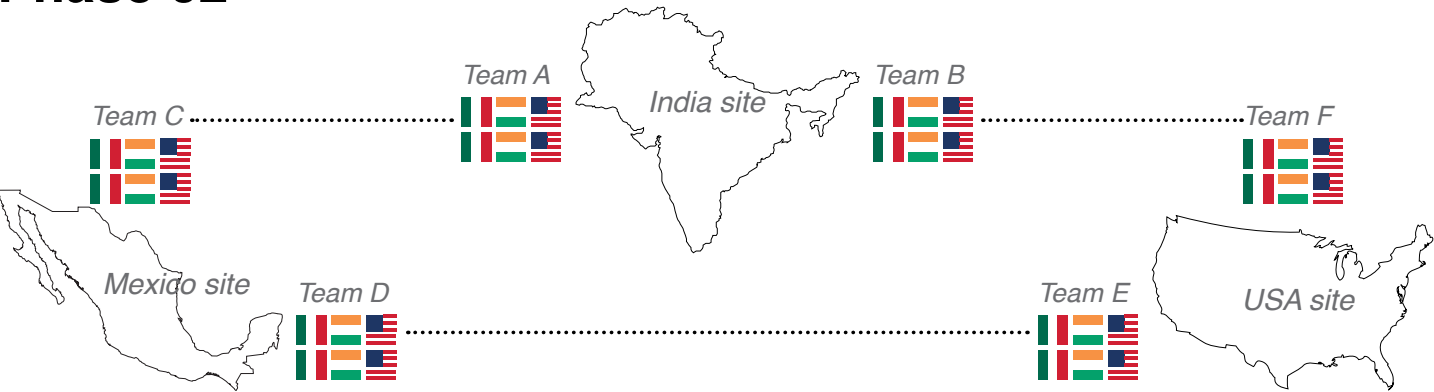
Intention

To preserve contextual form and instil innovative function

Project Initiatives

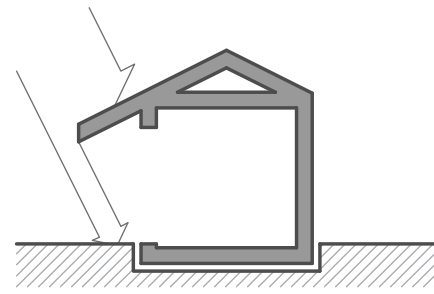
- Opportunity for contentment
- Embrace traditional culture
- Provide adaptable variations
- Graft project into site context
- Incremental Phasing

Phase 02

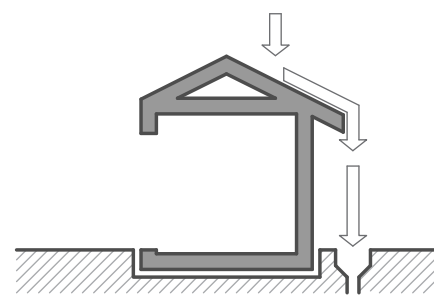


To preserve contextual form and instil innovative function						
Traditional Solutions			Innovative Design Solutions			
Regional Resources		Intentional Design		Flexible Materials		
Traditional Materials	Local Craftsmen	Climatic Strategies	Family Patterns	Seismic Design	Building Methods	Life Cycles
Masonry Bamboo Rammed Clay	Masons Weavers Farmers	Cooling Rainwater Migration	Nuclear Extended Community	Prevention Education Reinforced	Standards Assembly Materials	Phasing Variations Expansion

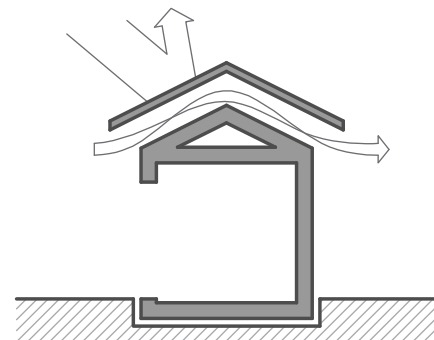
Climatic strategies



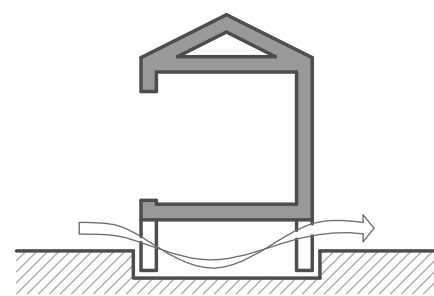
deep overhang



rainwater collection

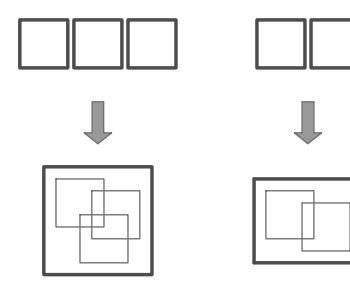


double roof system

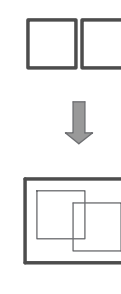


raised floor slab

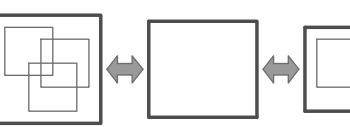
Family patterns



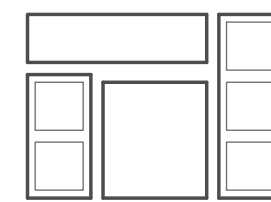
nuclear family



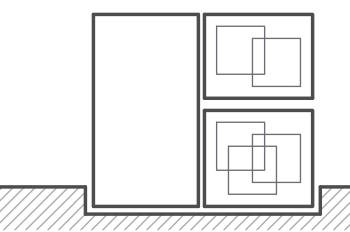
extended family



common gathering space

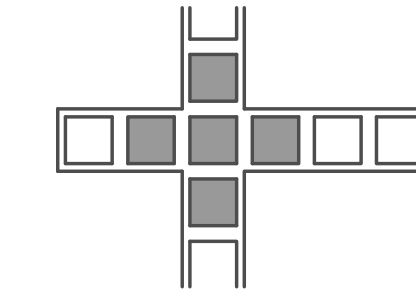


plan separation by gathering space

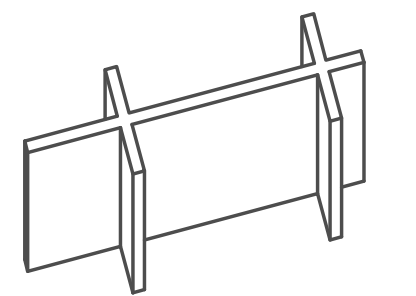


section connection by gathering space

Seismic design



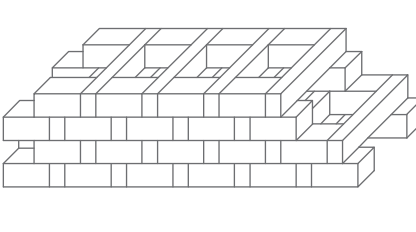
reinforced corner connection



intermediate buttresses

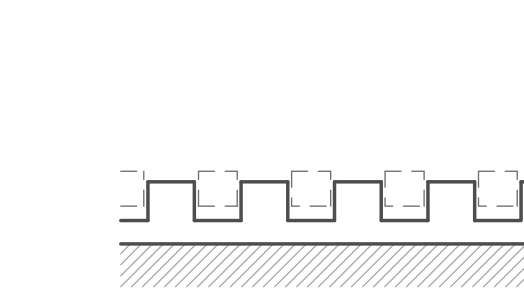


plan heavy / light construction

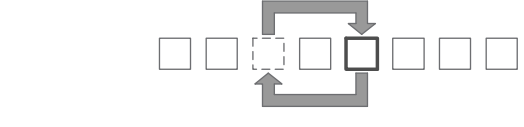


rat-trap brick bonding

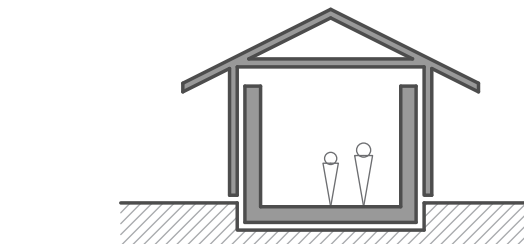
Construction methods



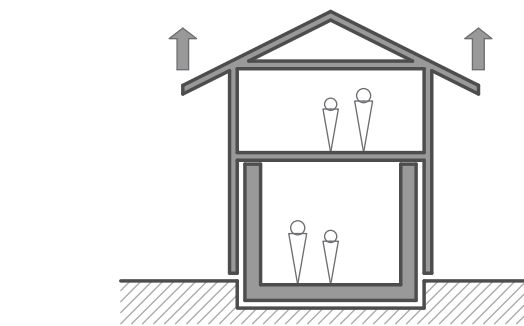
phasing 01
build-out construction phasing



phasing 02
holding house phasing

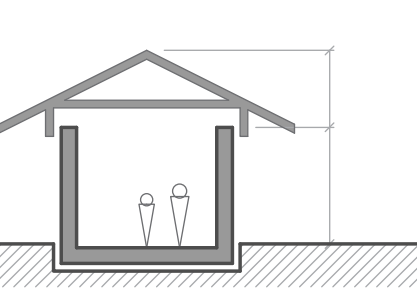


independent roofing system
allows for future vertical expansion

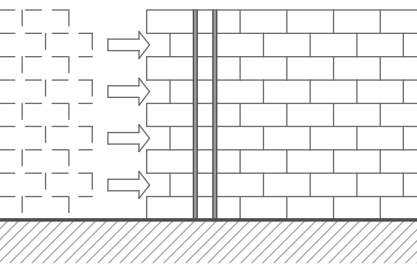


second floor expansion

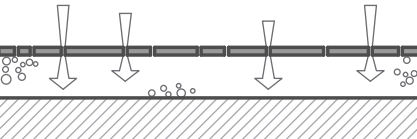
Life-cycles



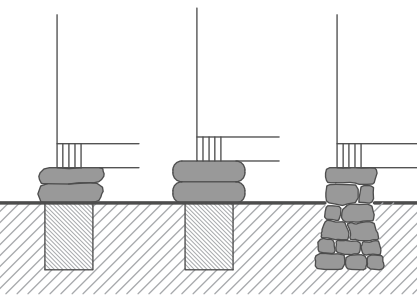
maximum masonry elevation



knock-out block
allows for future wall expansion



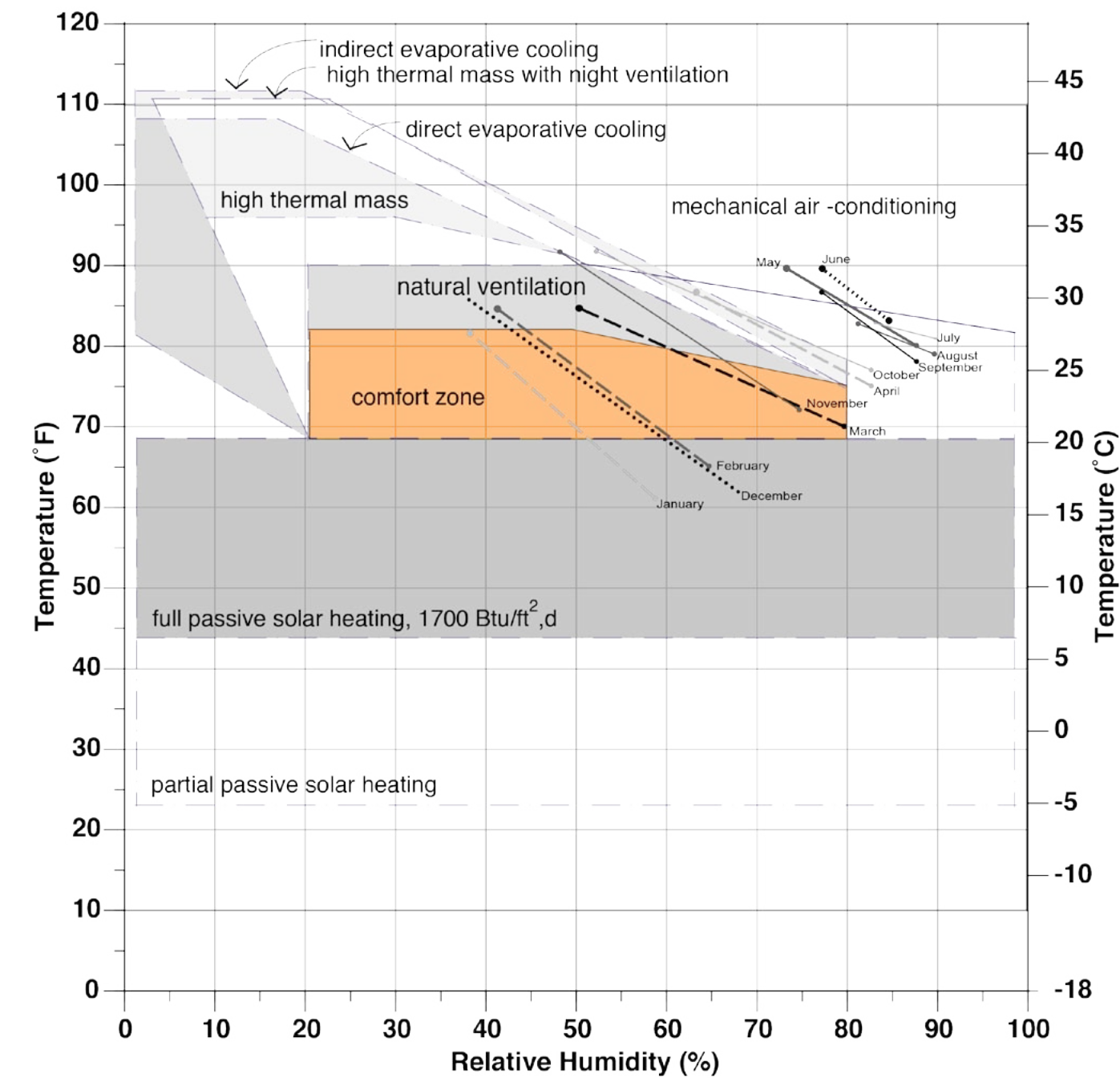
recycled masonry
used for re-infiltration zones in courtyards



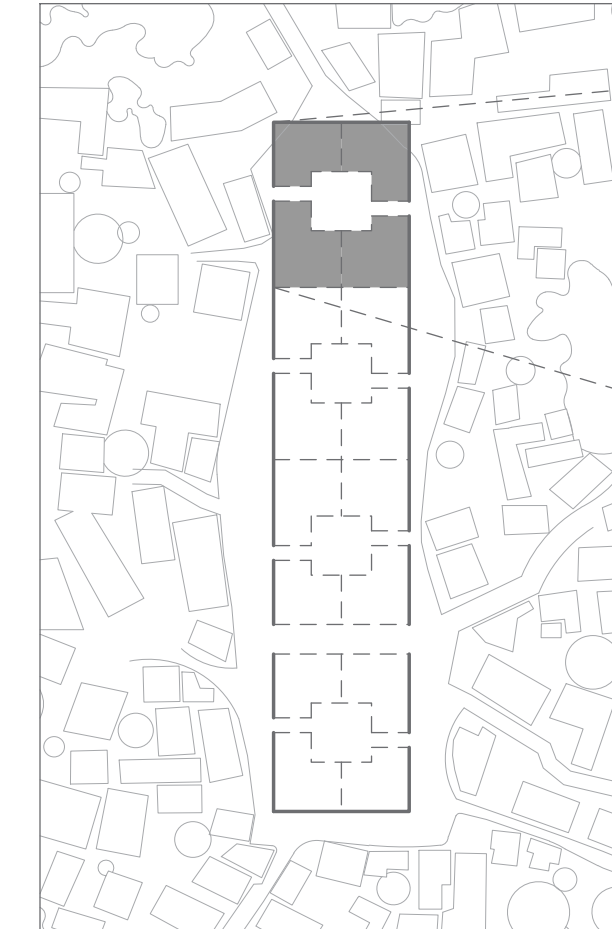
foundations

Strategies

Design strategies focus on the geographical context of West India, the economy of the region, and the local culture in Wagnagar. The strategies focus on ease of construction, materials, community and climate.



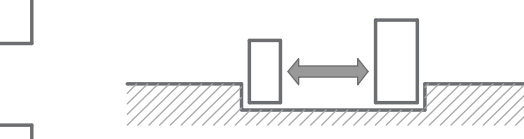
Wagnagar, India - Building Bioclimatic Chart



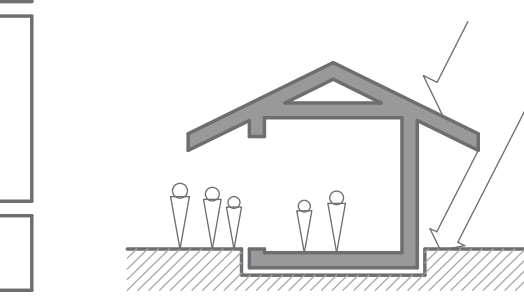
program adjacencies
bedroom-bath-bedroom



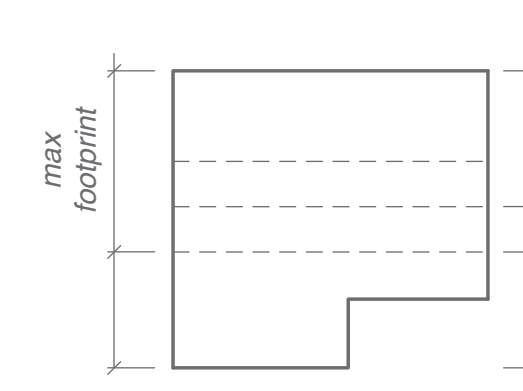
vastu shastra



courtyard proximity



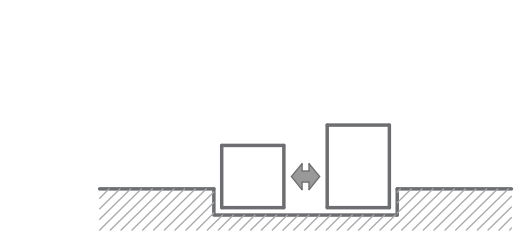
Migration patterns
a.m. climate zone



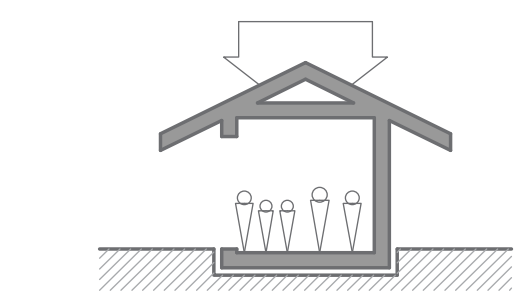
building limits



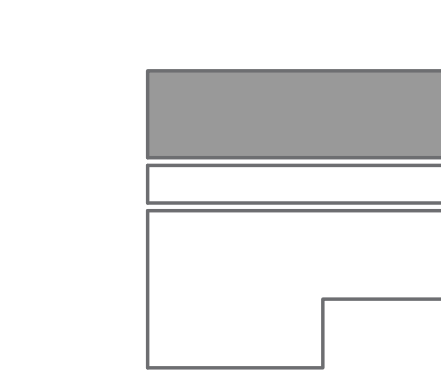
kitchen-storage



passage proximity



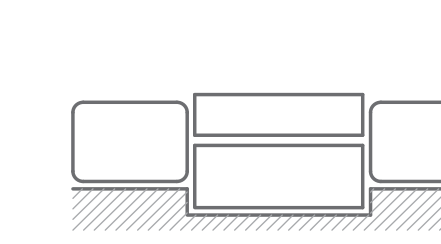
mid-day climate zone



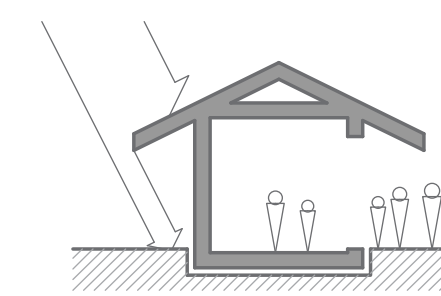
enclosed program



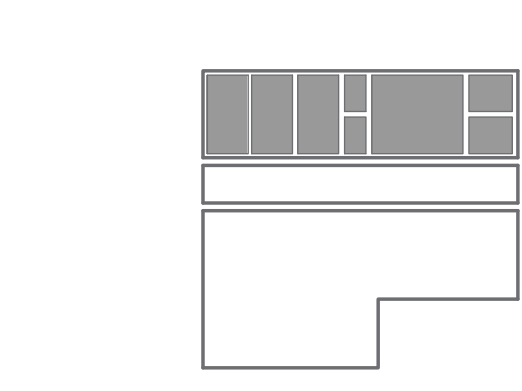
kitchen-courtyard



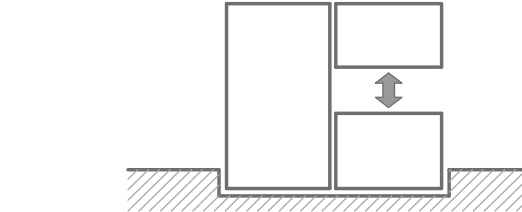
tight boundaries



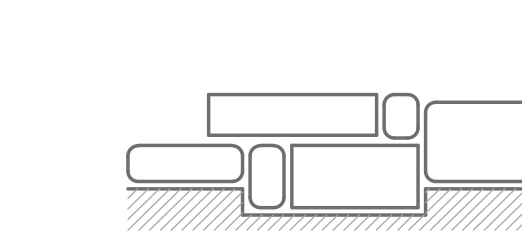
p.m. climate zone



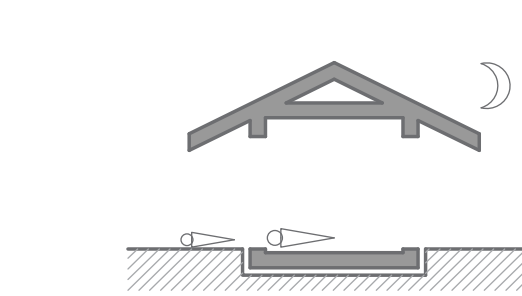
program area



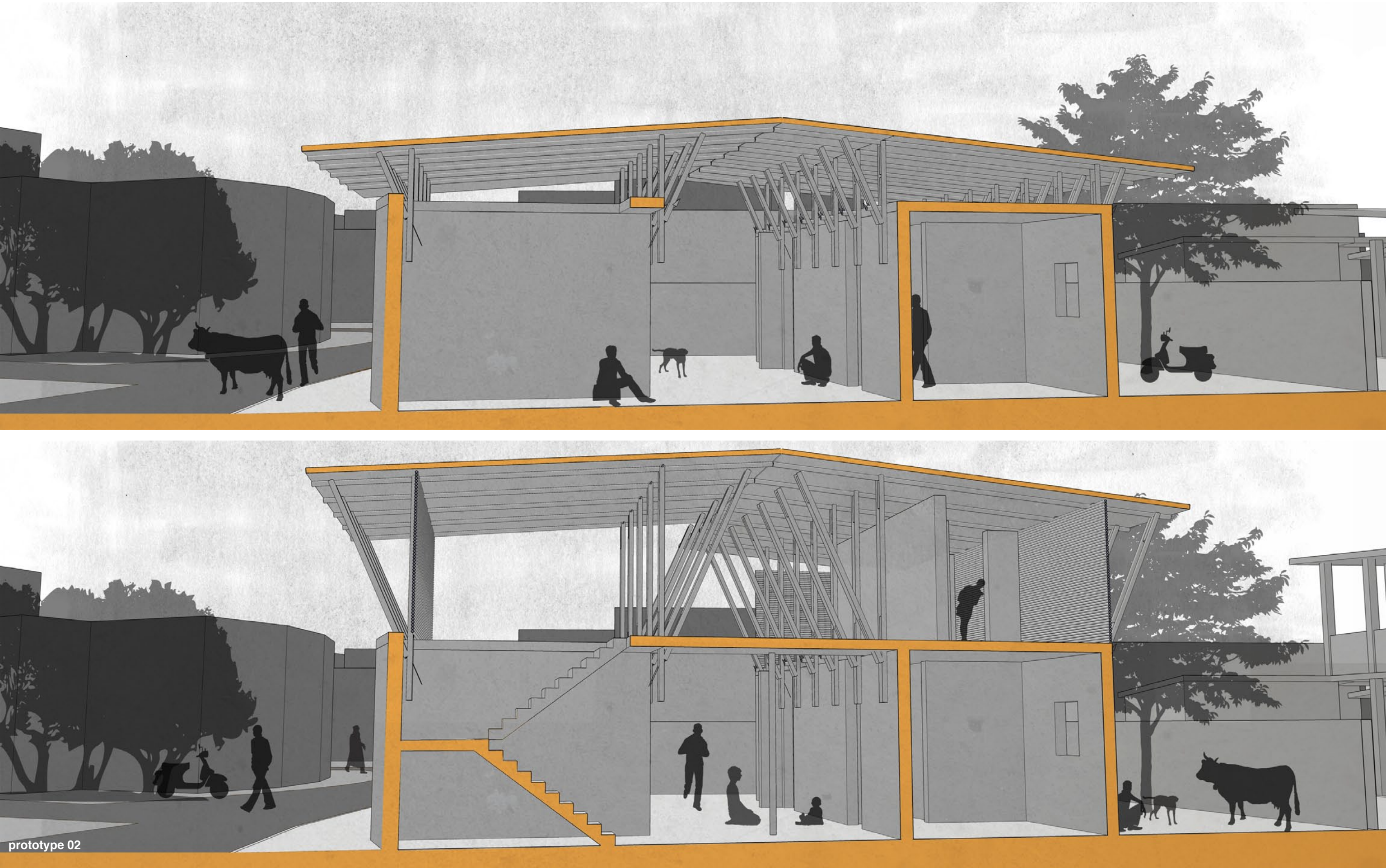
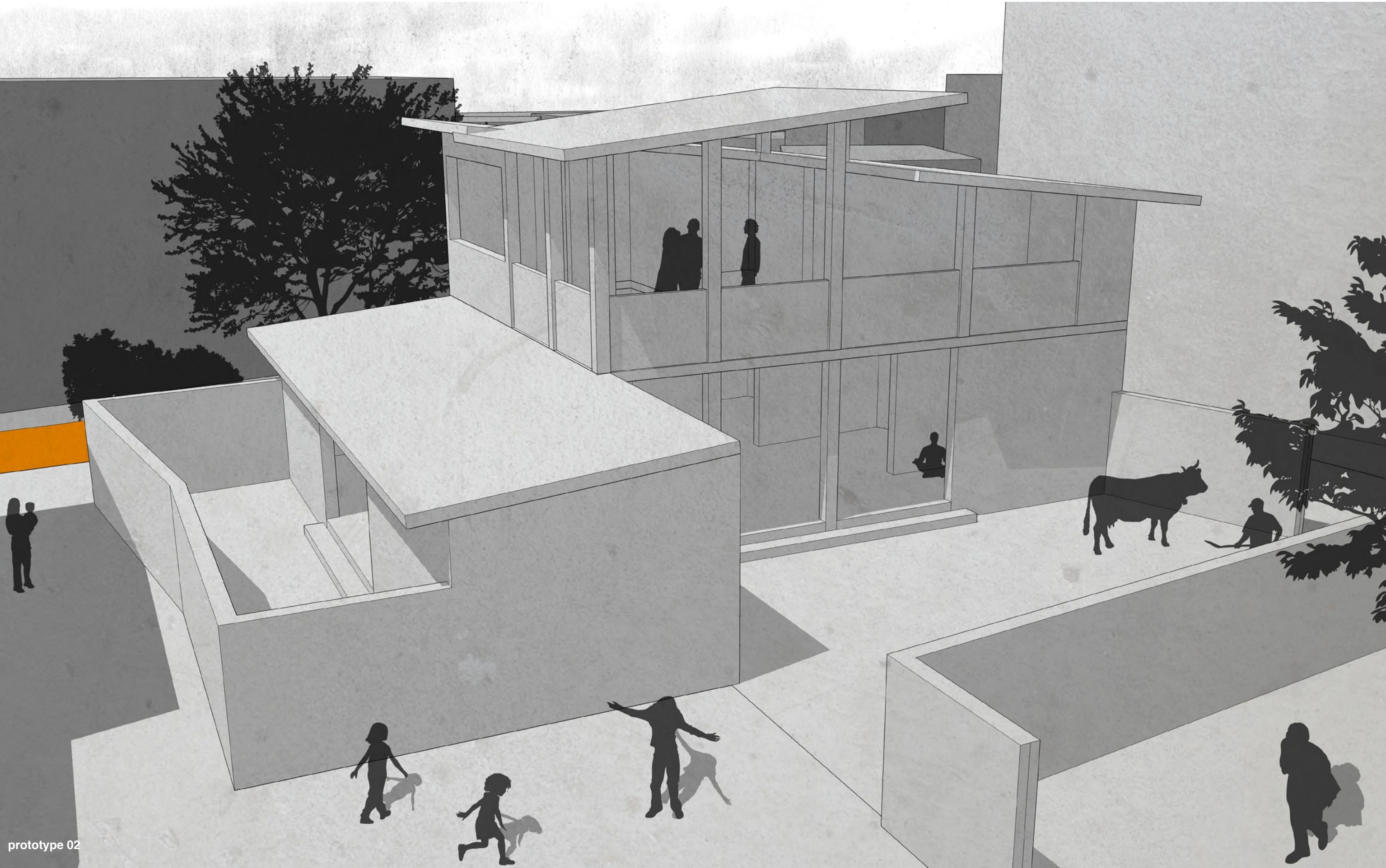
stacked wet program



loose boundaries



night climate zone





Site Planning

The tradition and culture of Wagnagar demands preservation, yet balanced with site planning and design. The site is located in the center of the Wagnagar. The site location provides opportunities for the project to anchor itself into the context and traditional vernacular.



Site context

Grafting new site design into existing density and massing to match context

Site massing

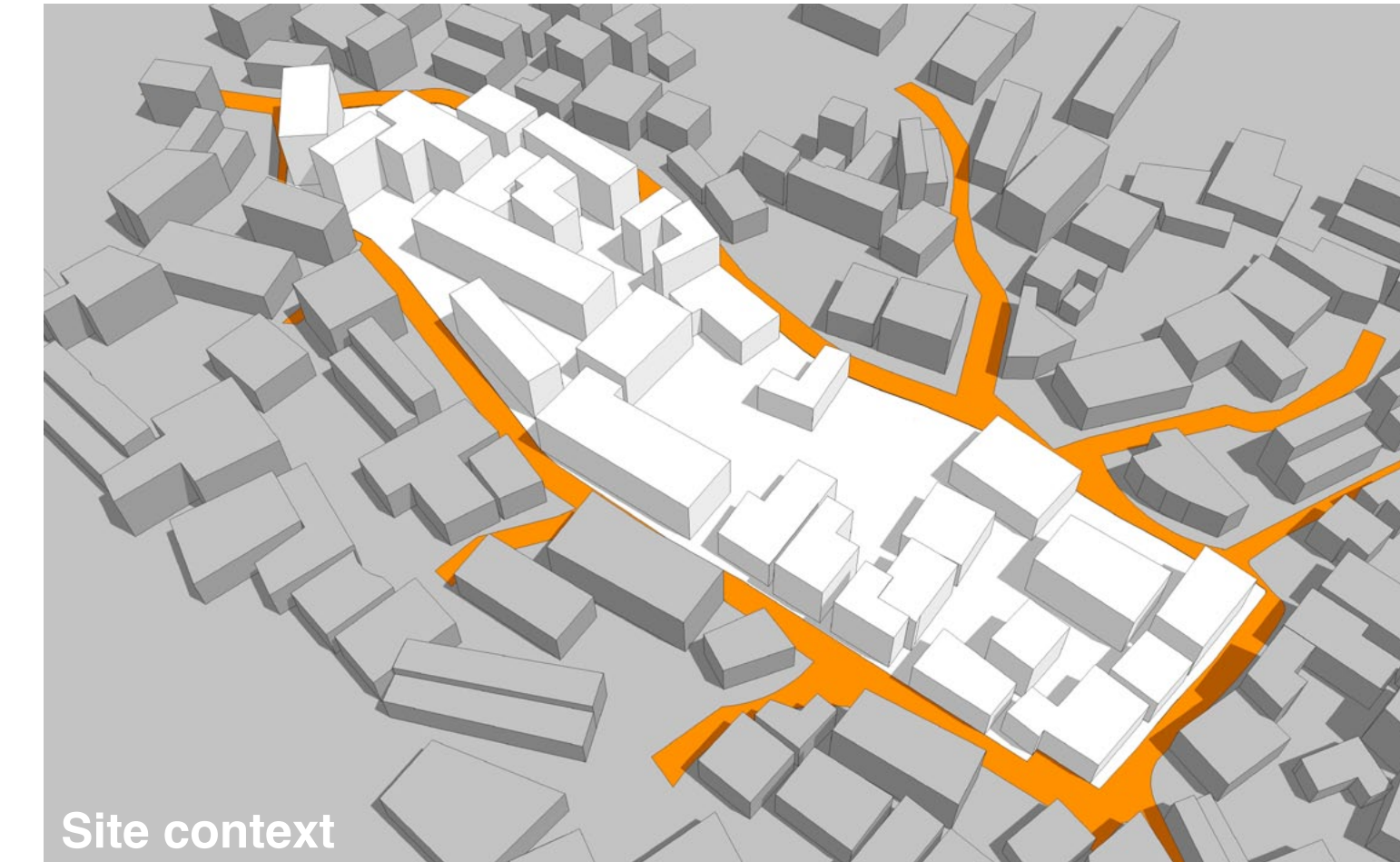
New density and massing sculpted equivalent to the existing site condition

Public space

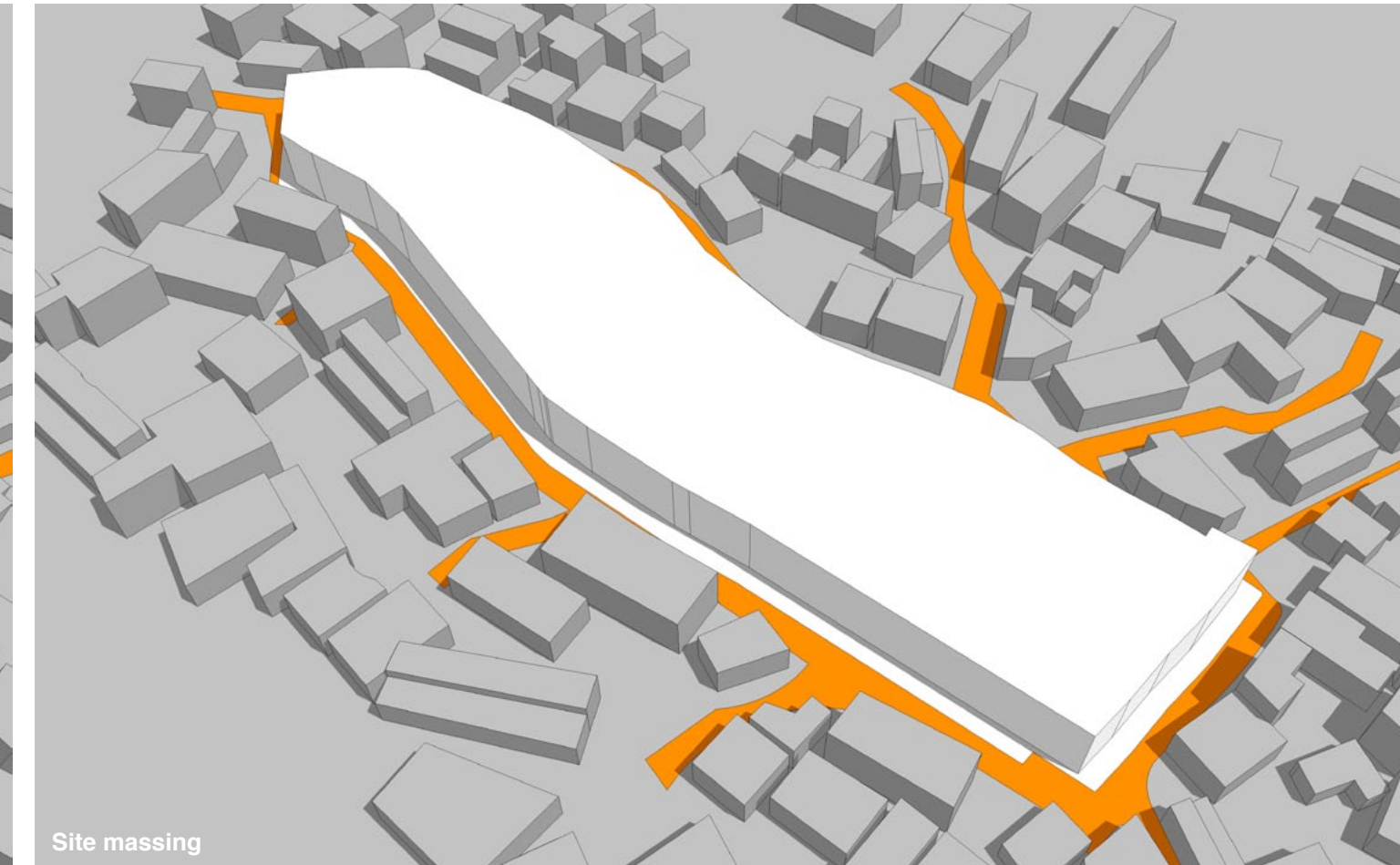
The public courtyards are carved from the mass to serve as cluster courtyards

Building area

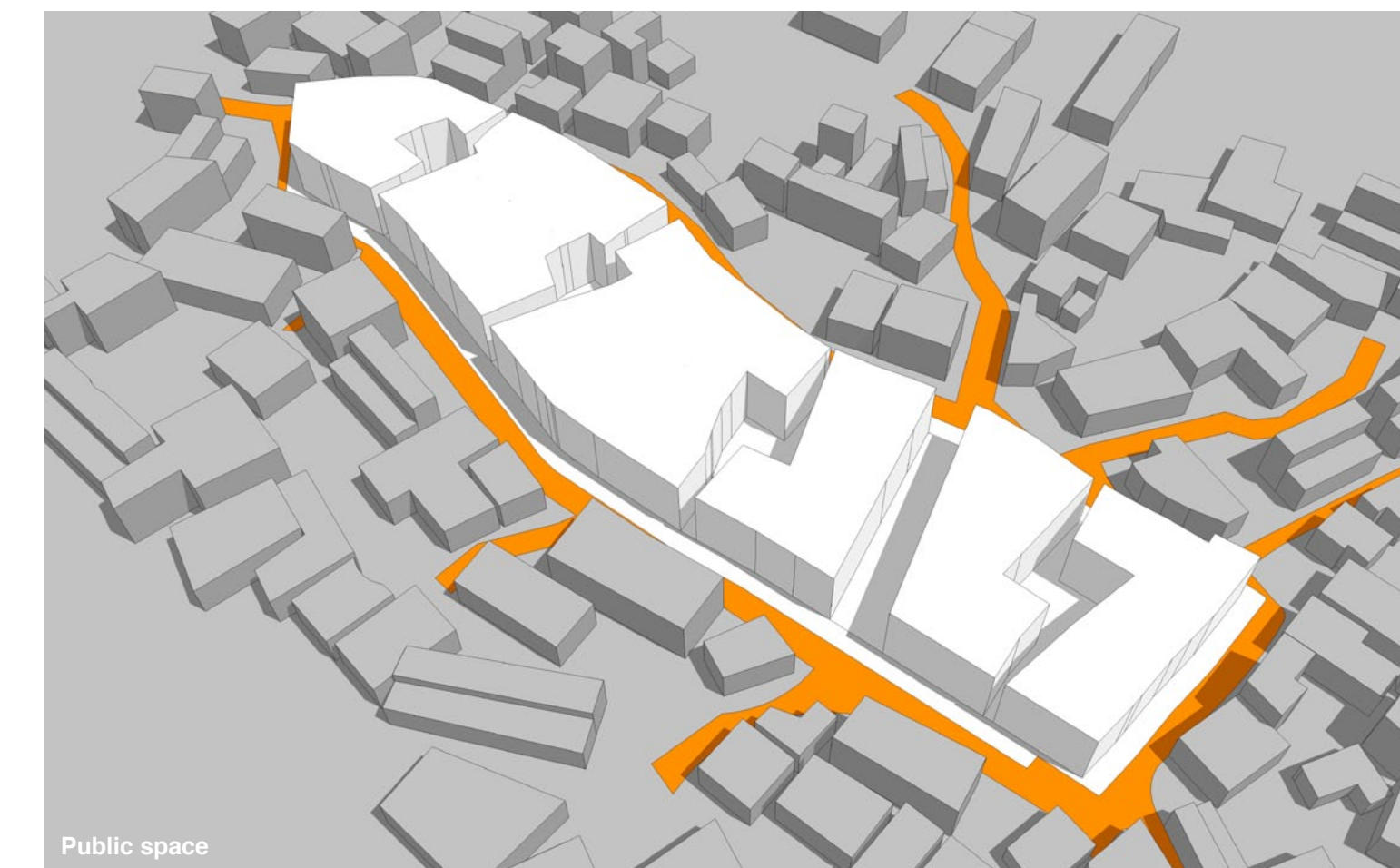
Each individual site is shown with approximate maximum building foot prints based on program



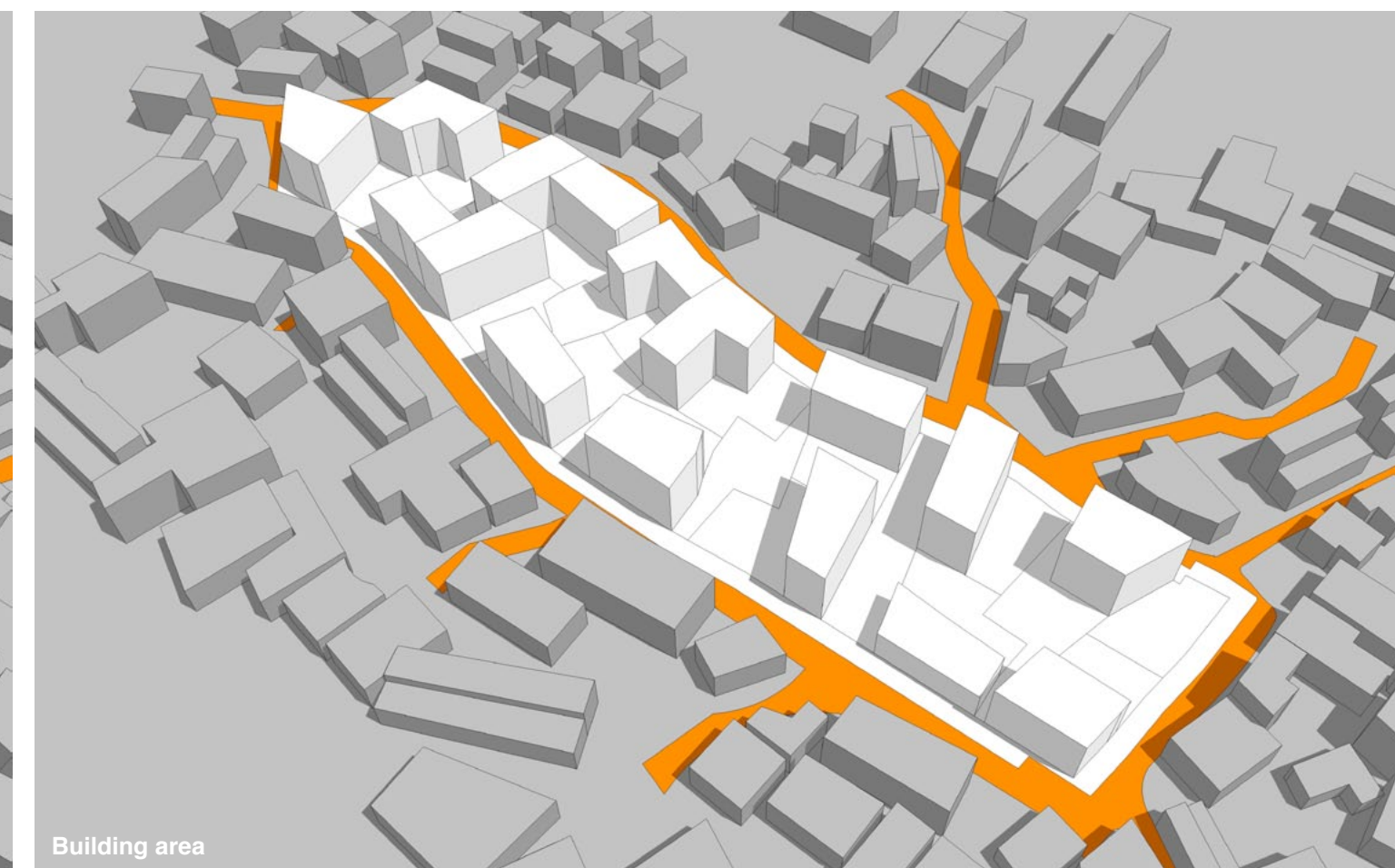
Site context



Site massing

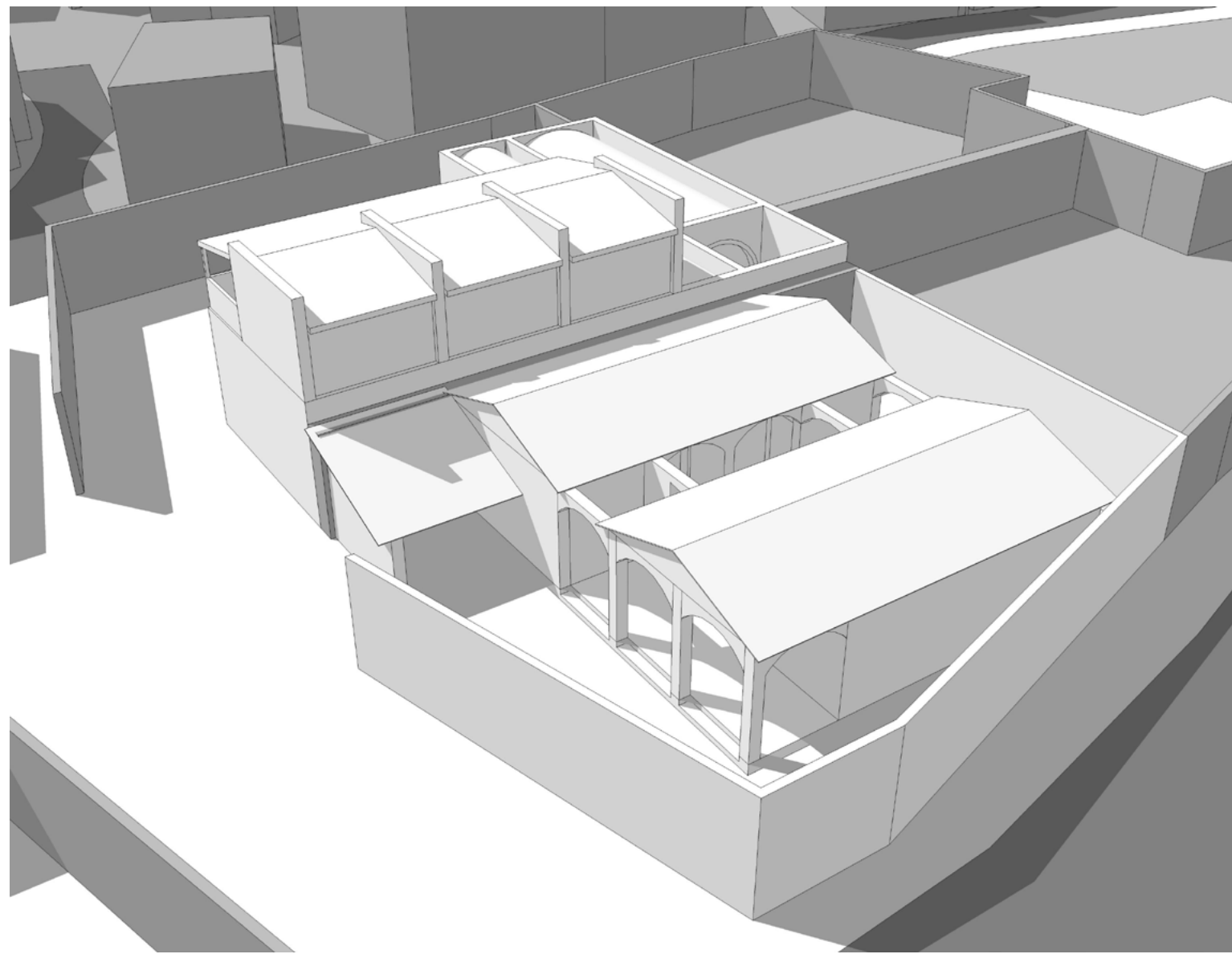
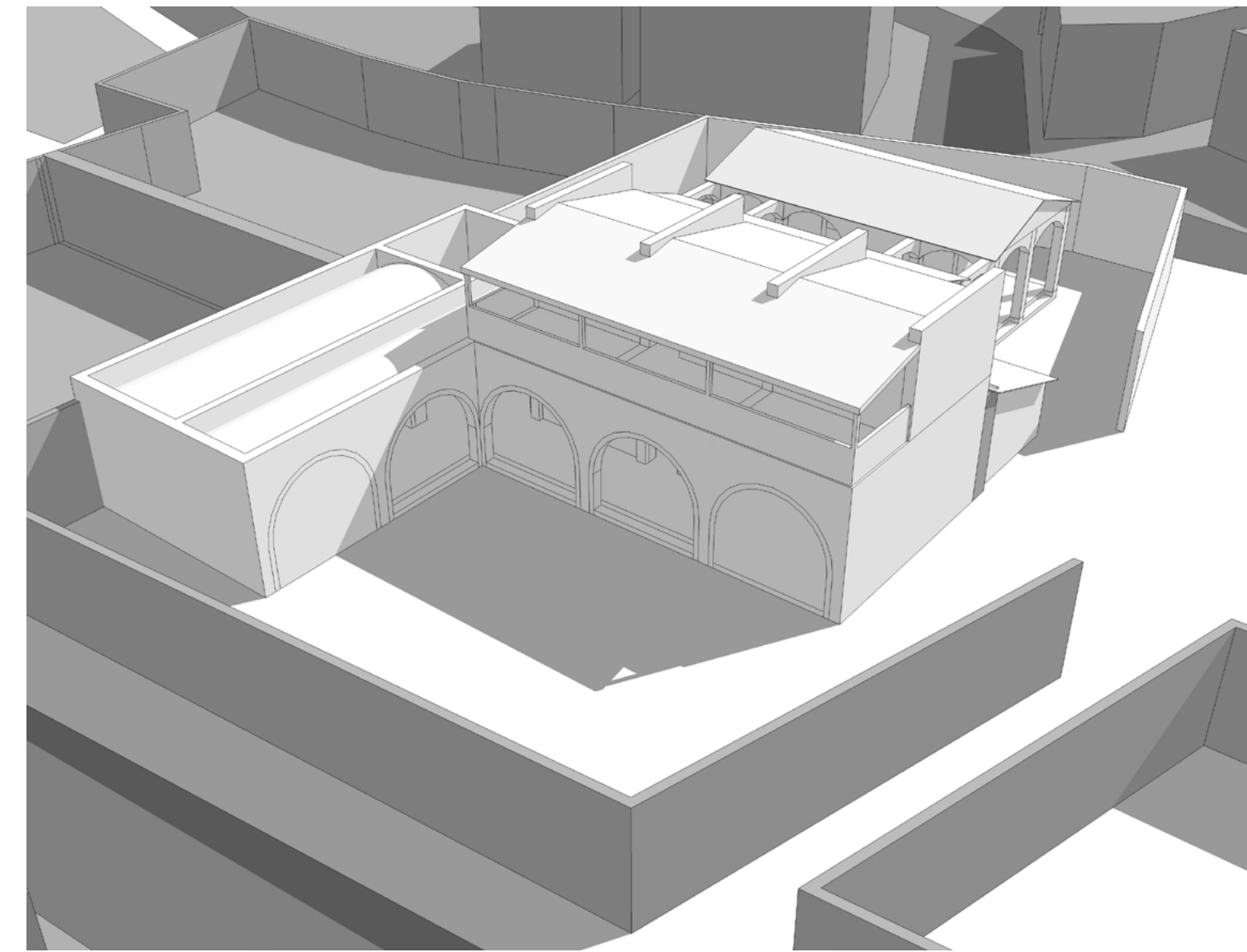
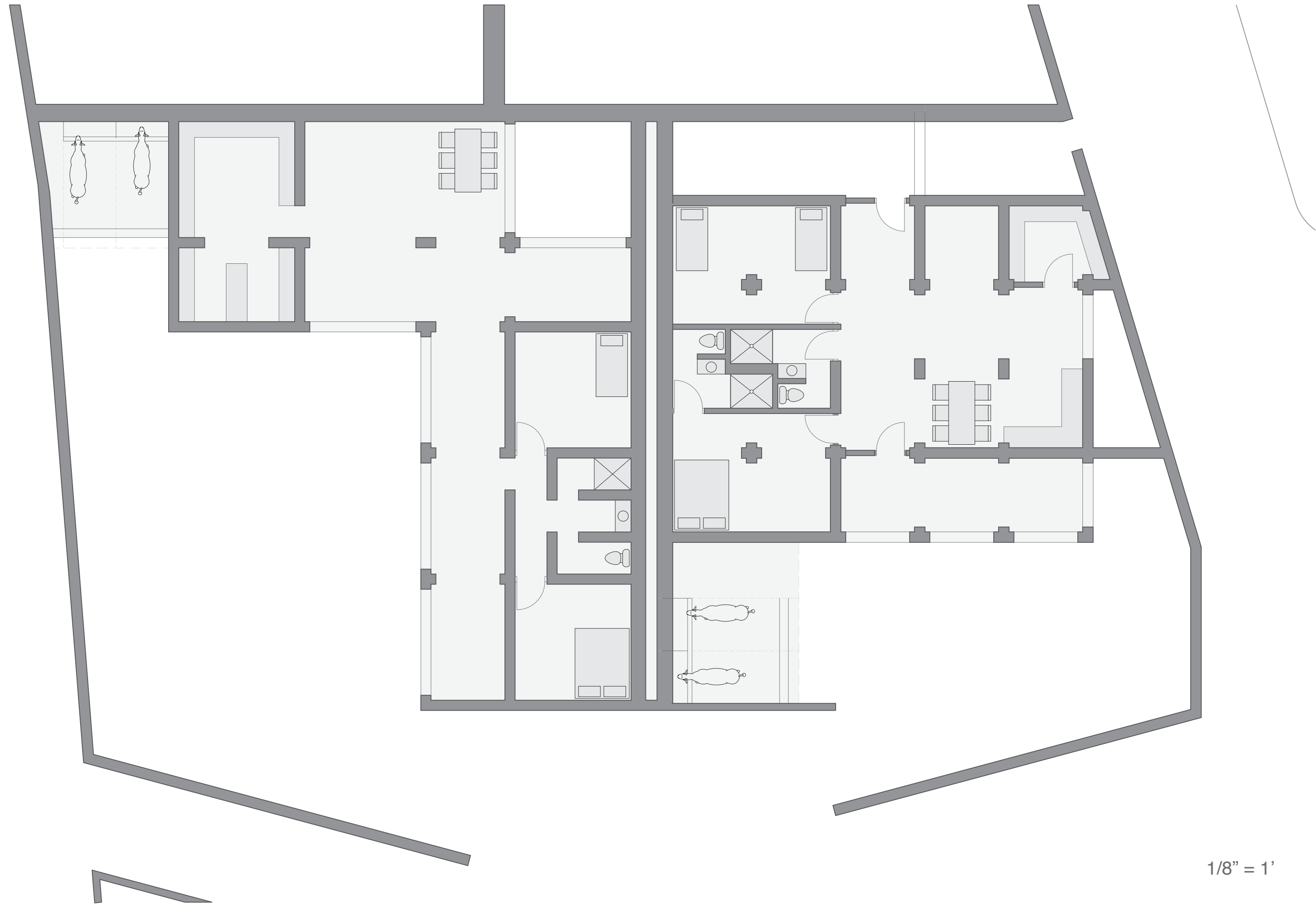


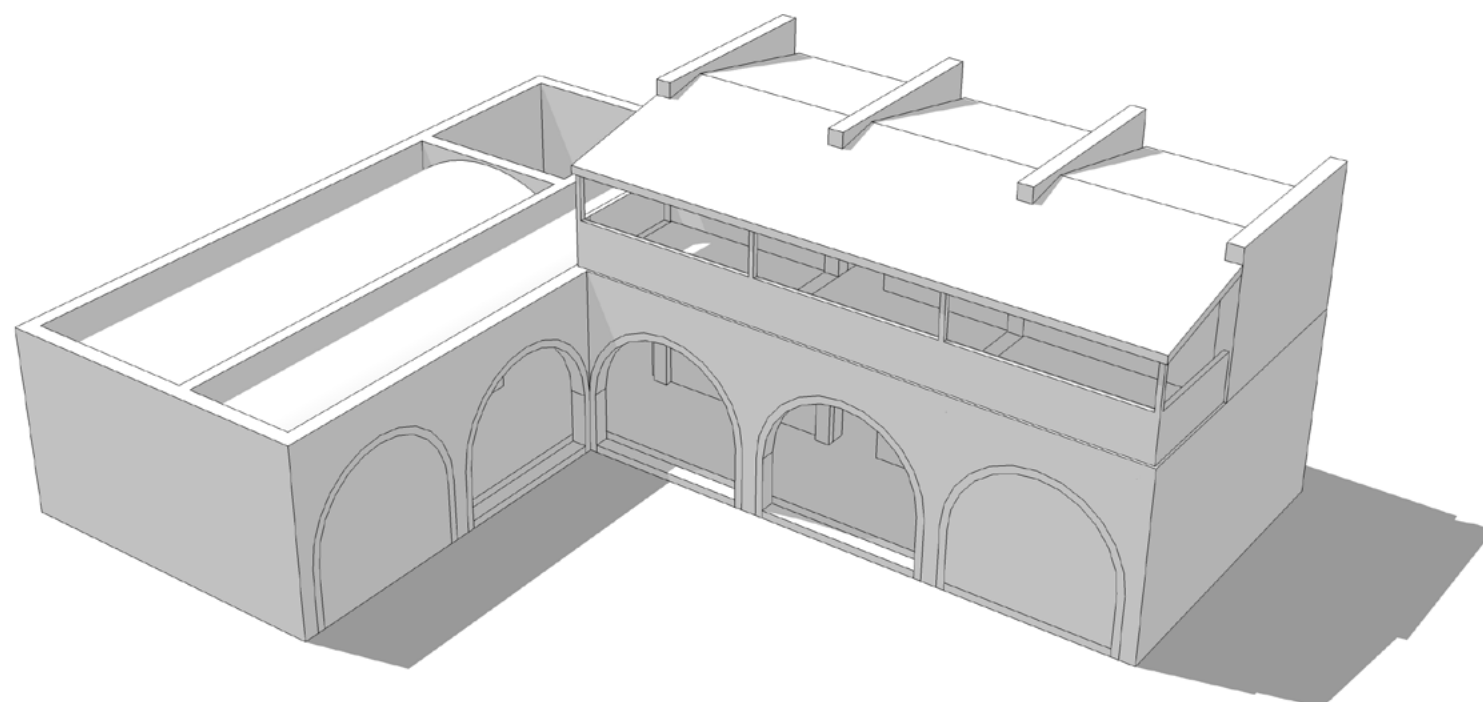
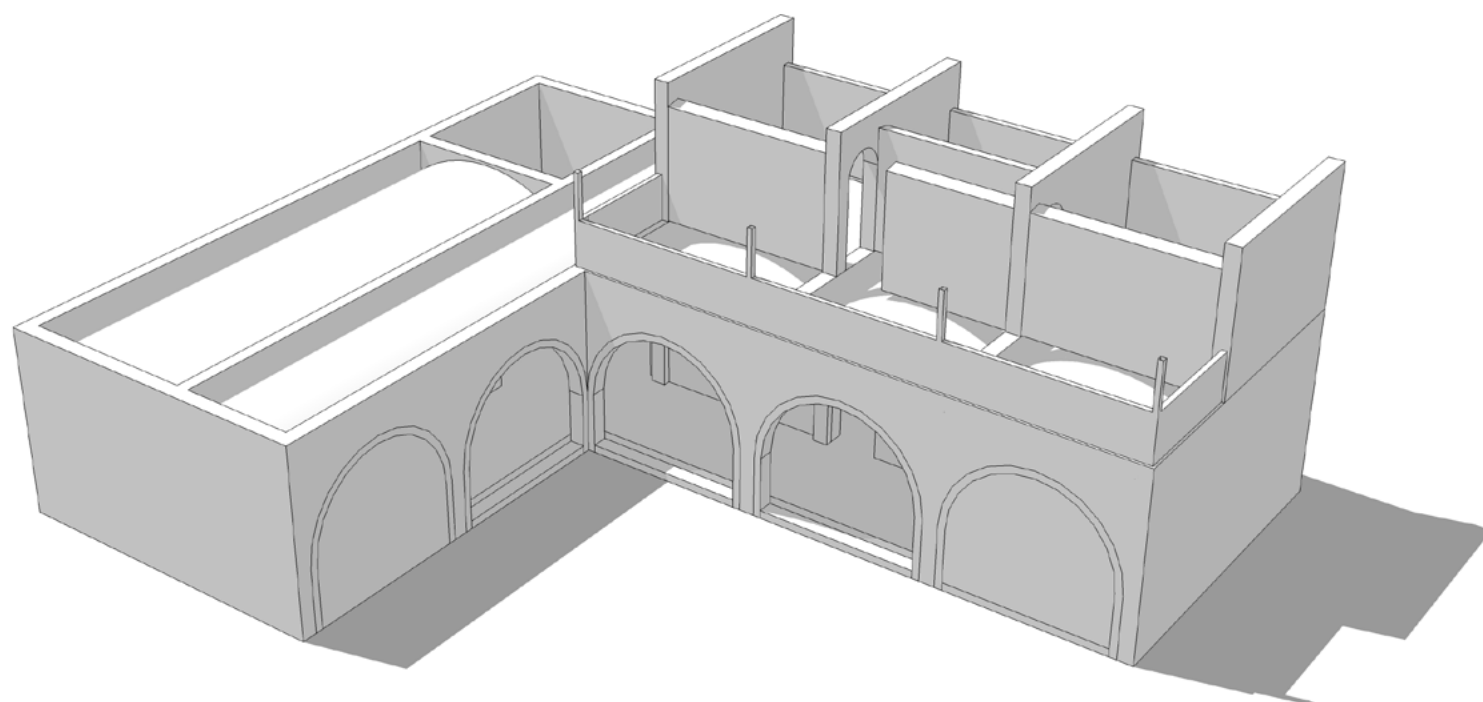
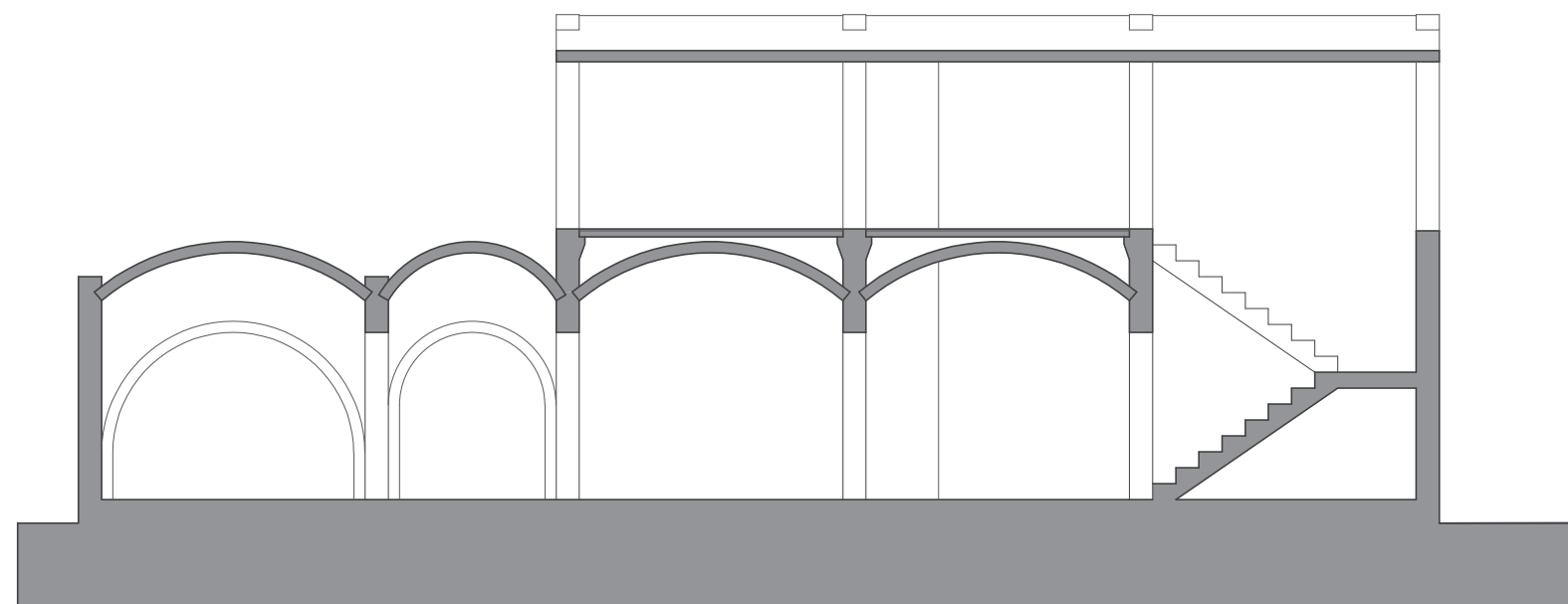
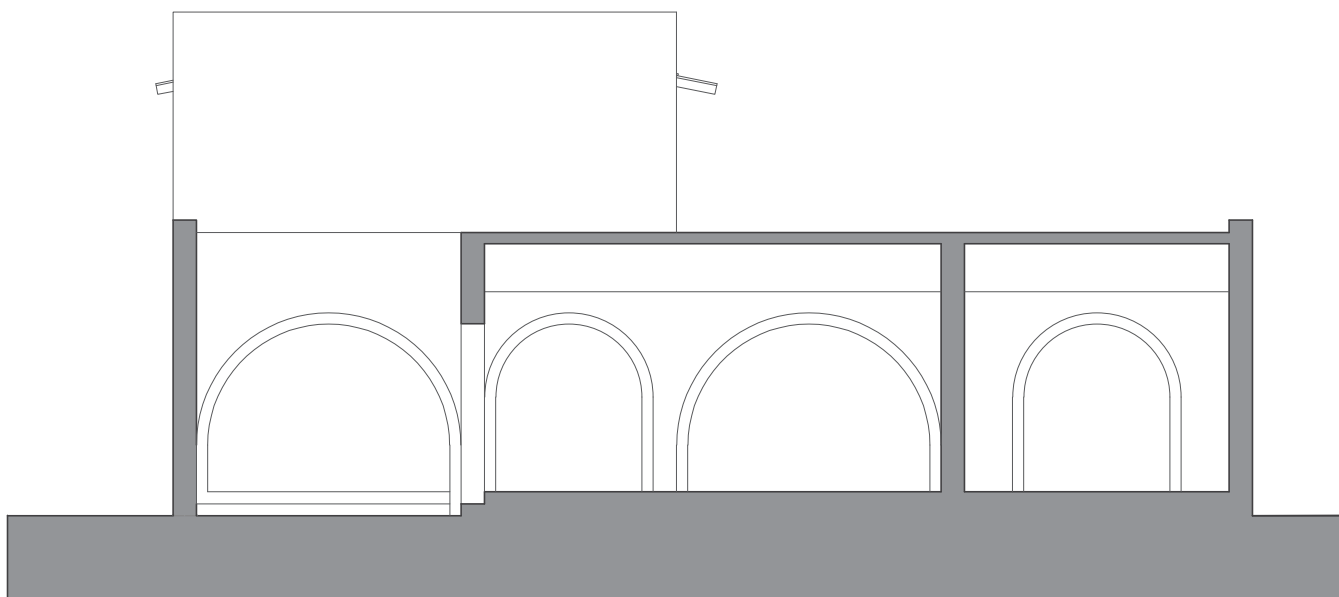
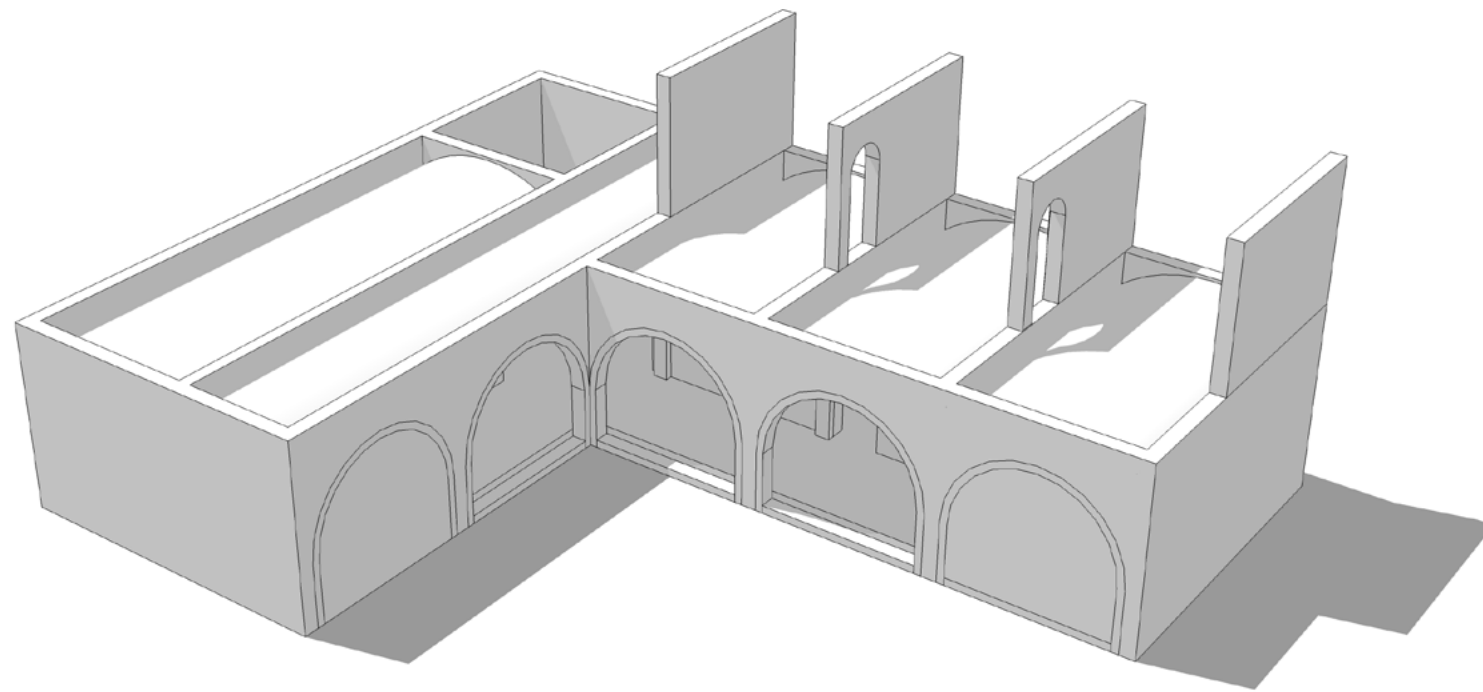
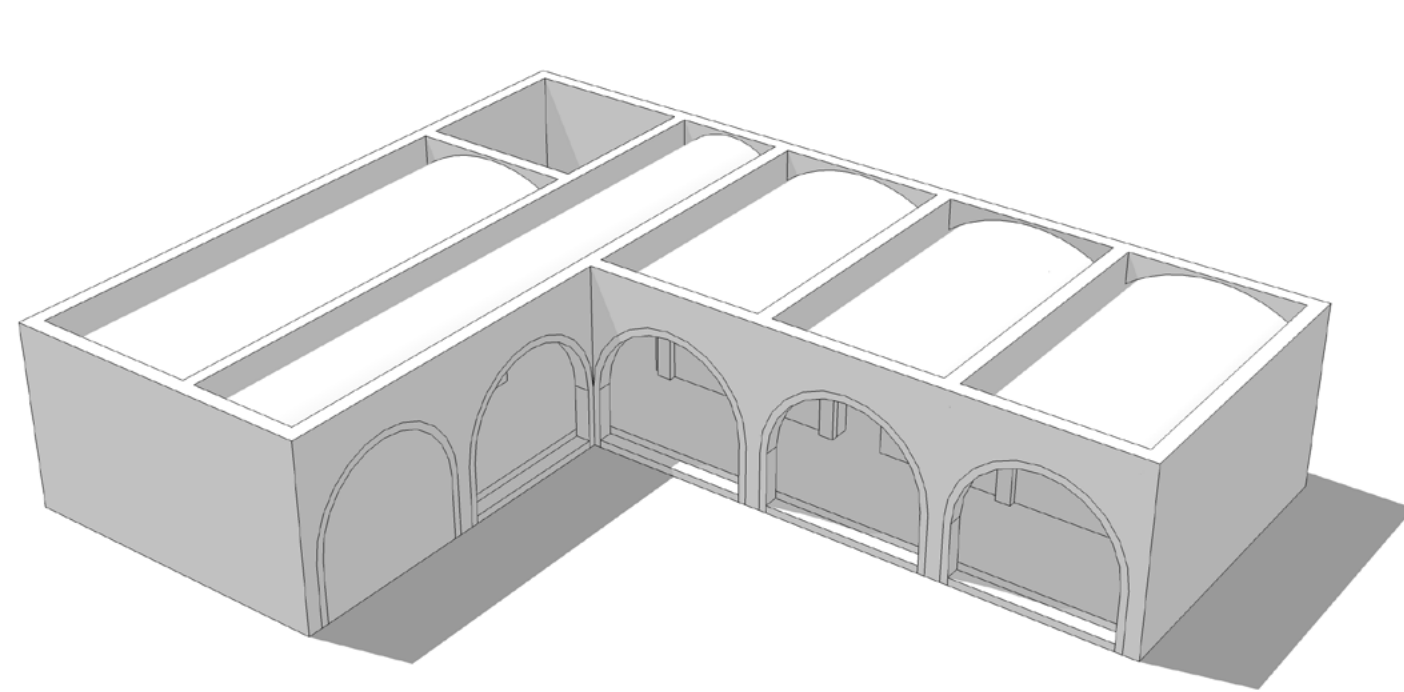
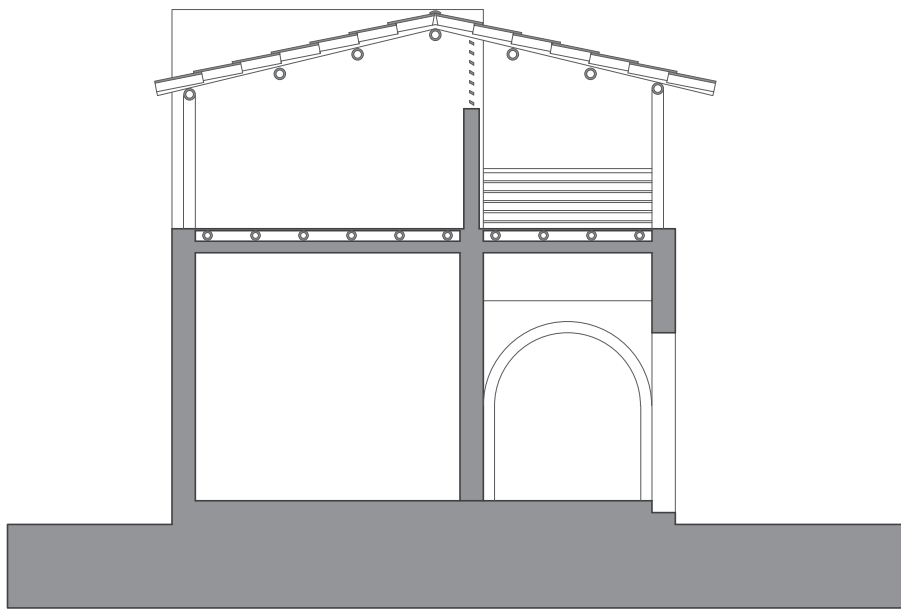
Public space



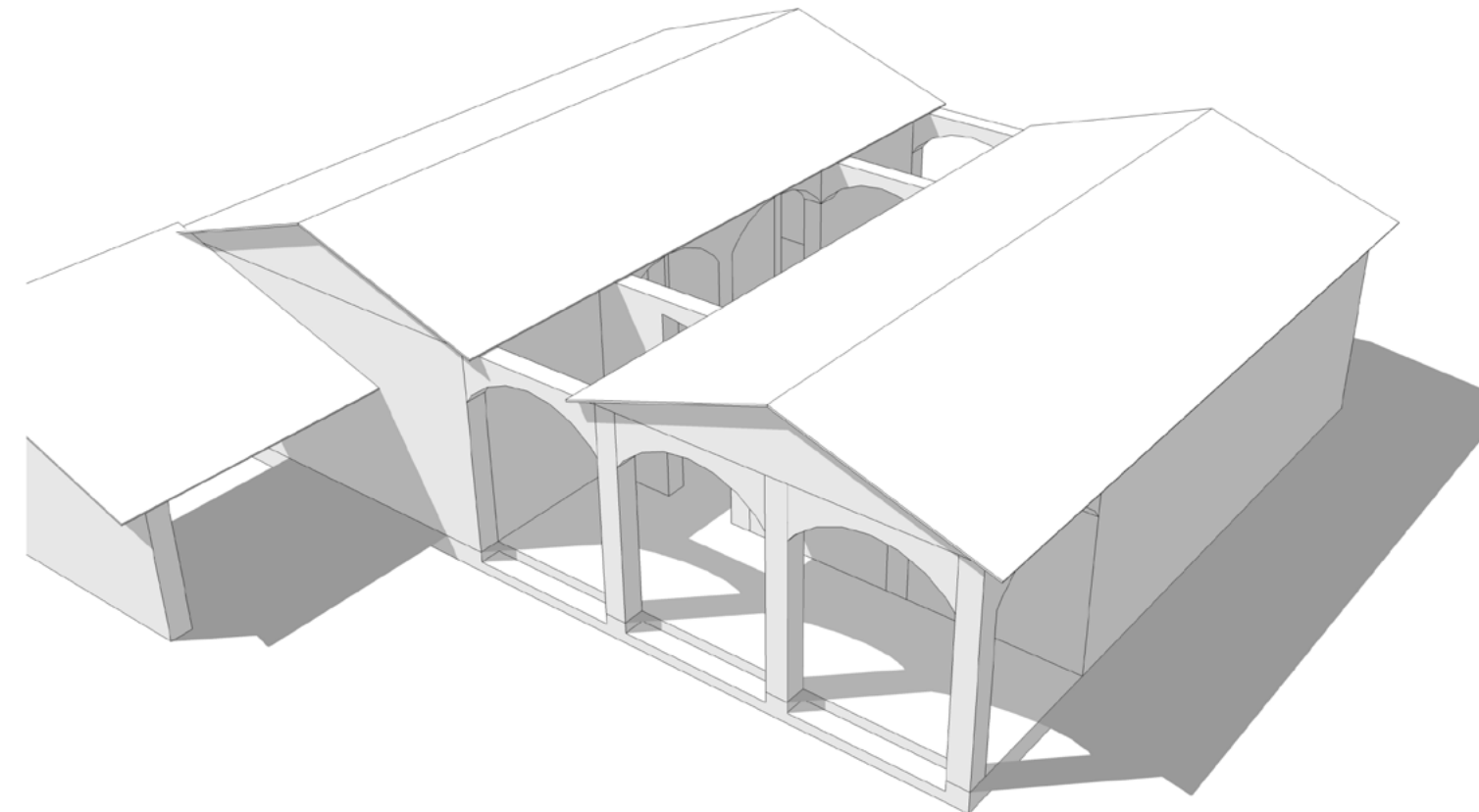
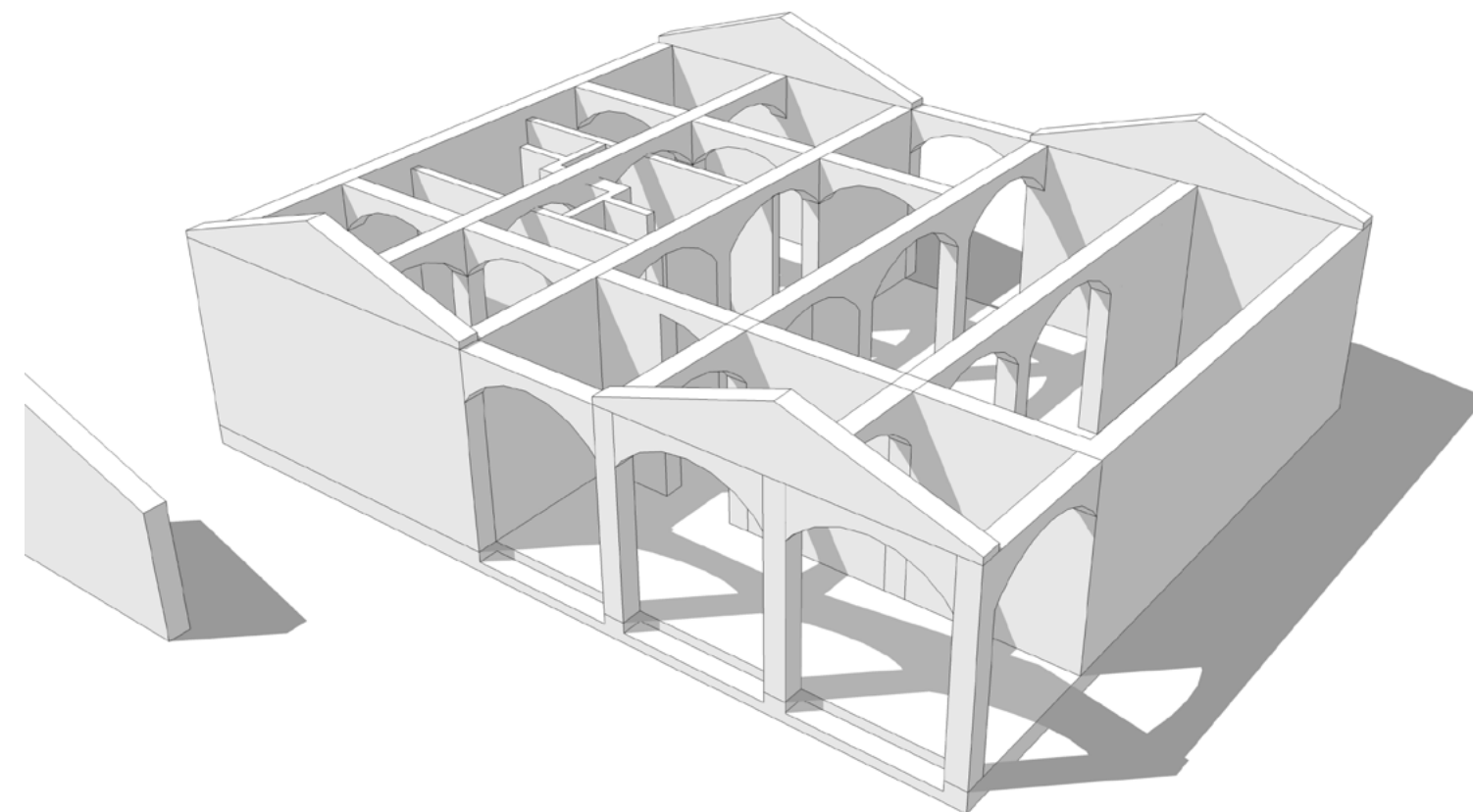
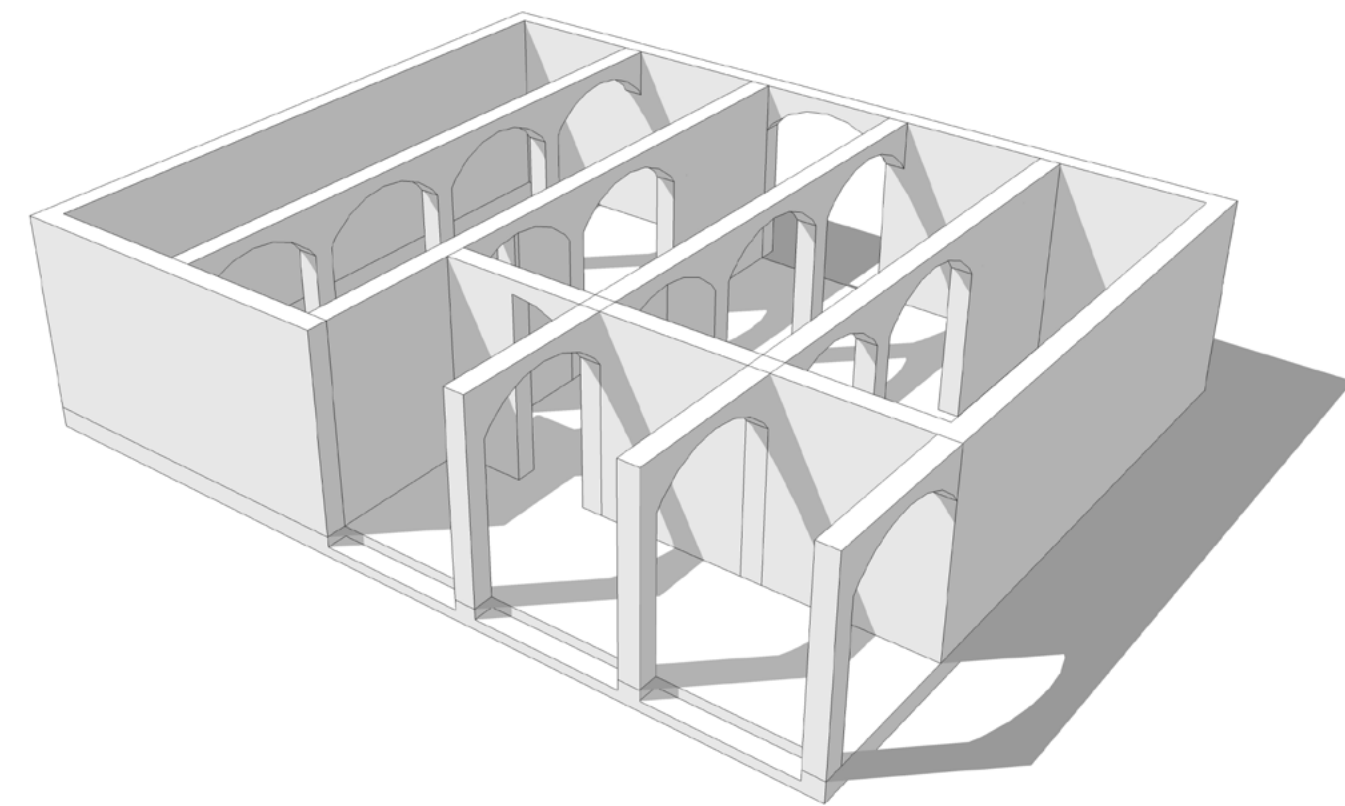
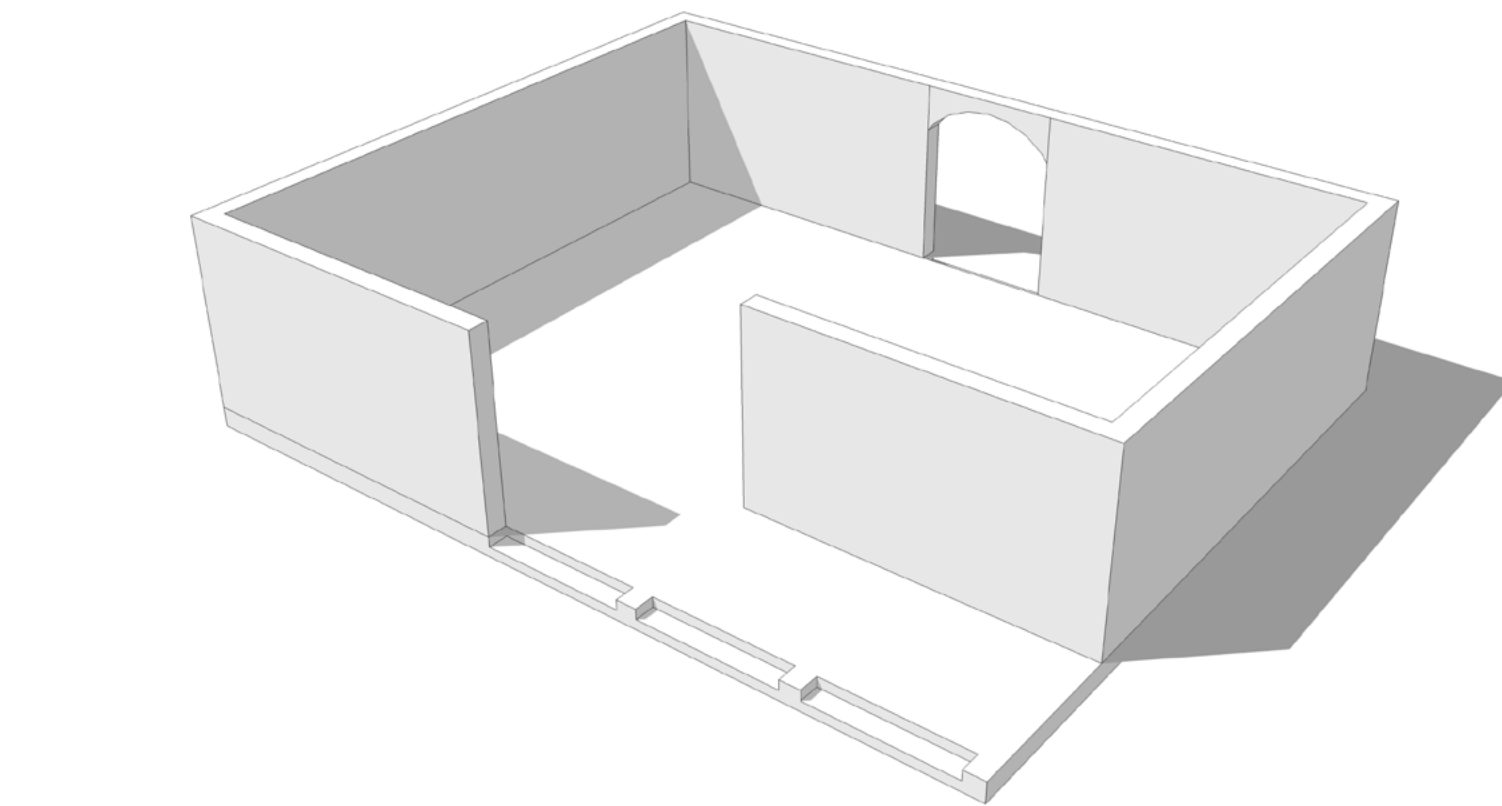
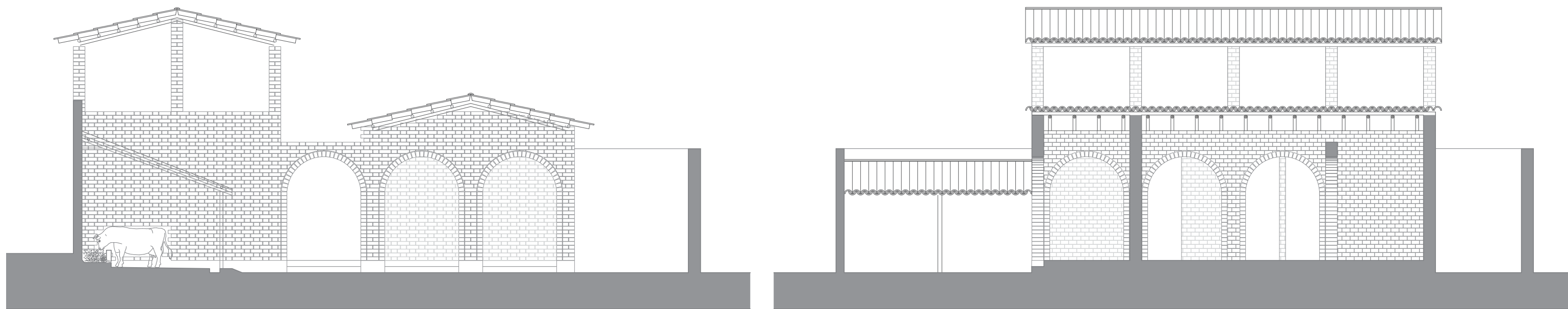
Building area



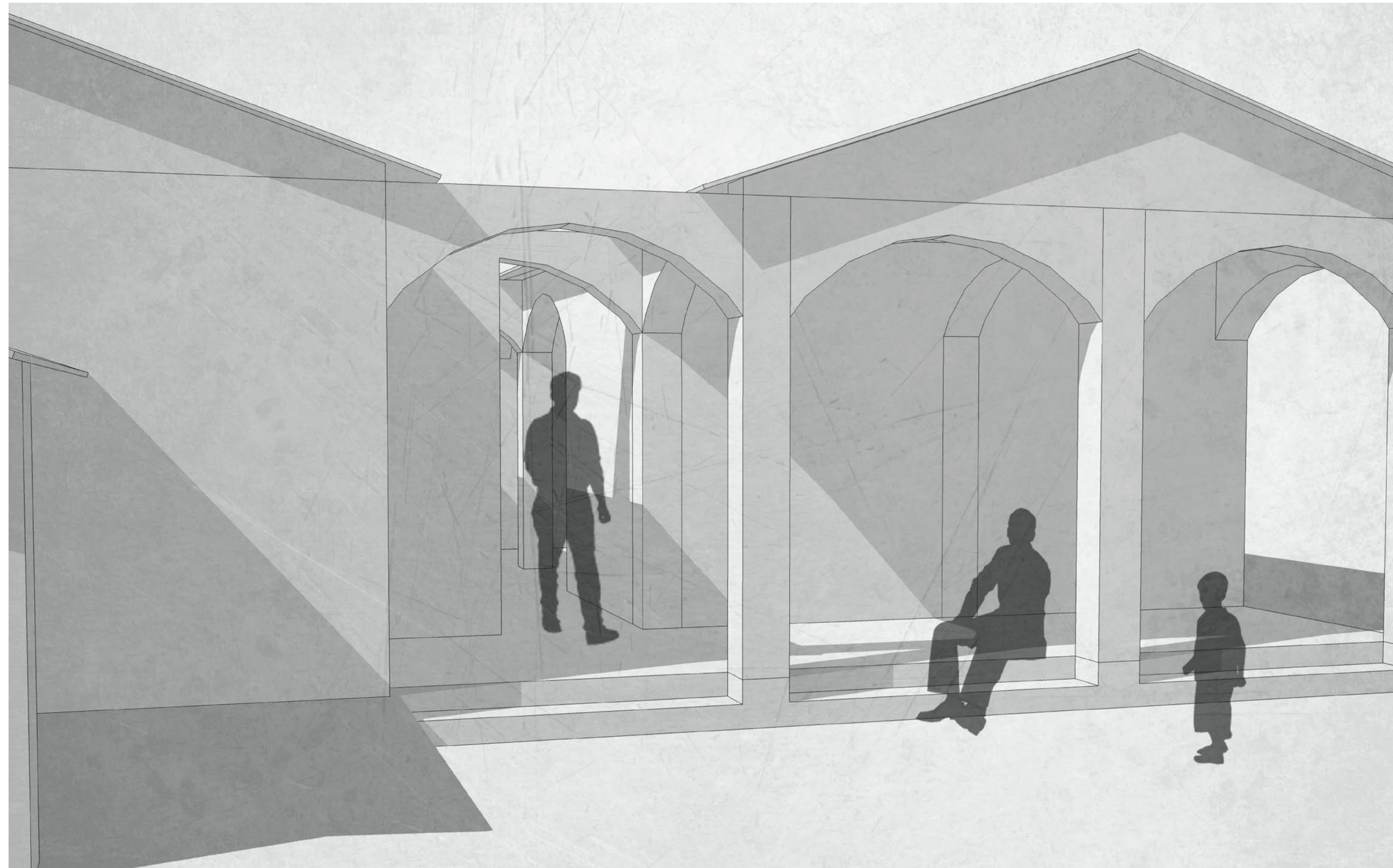


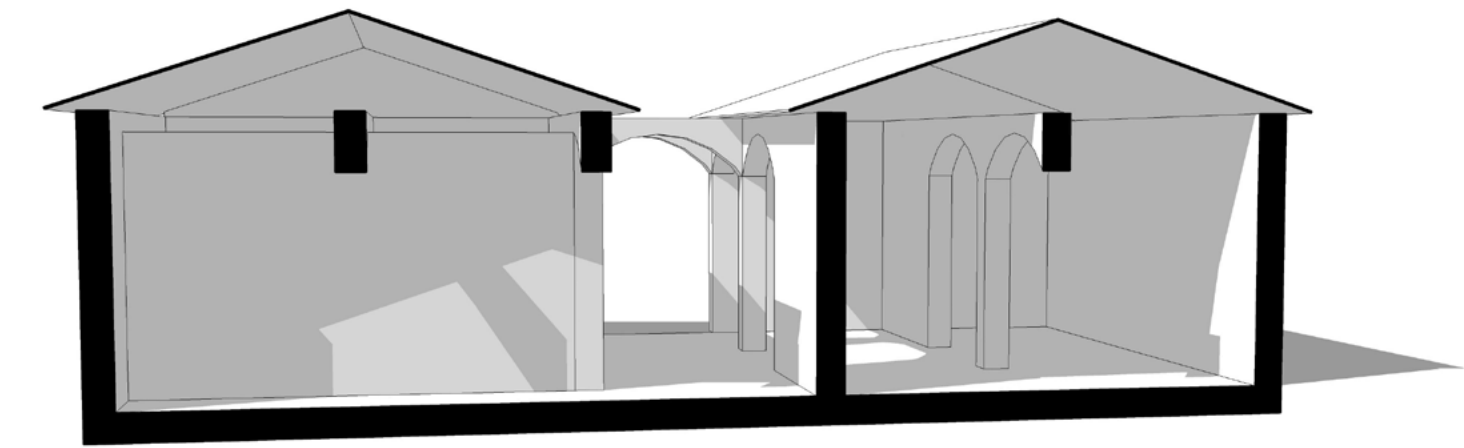
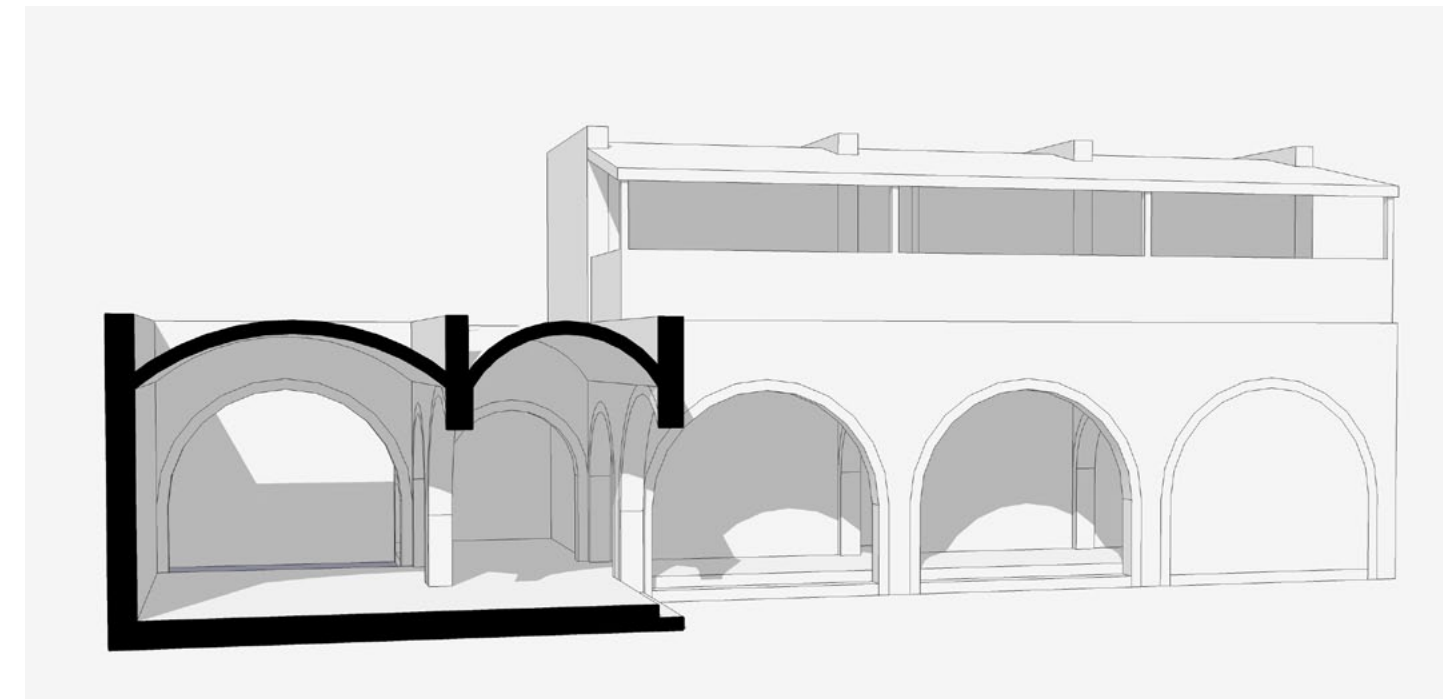
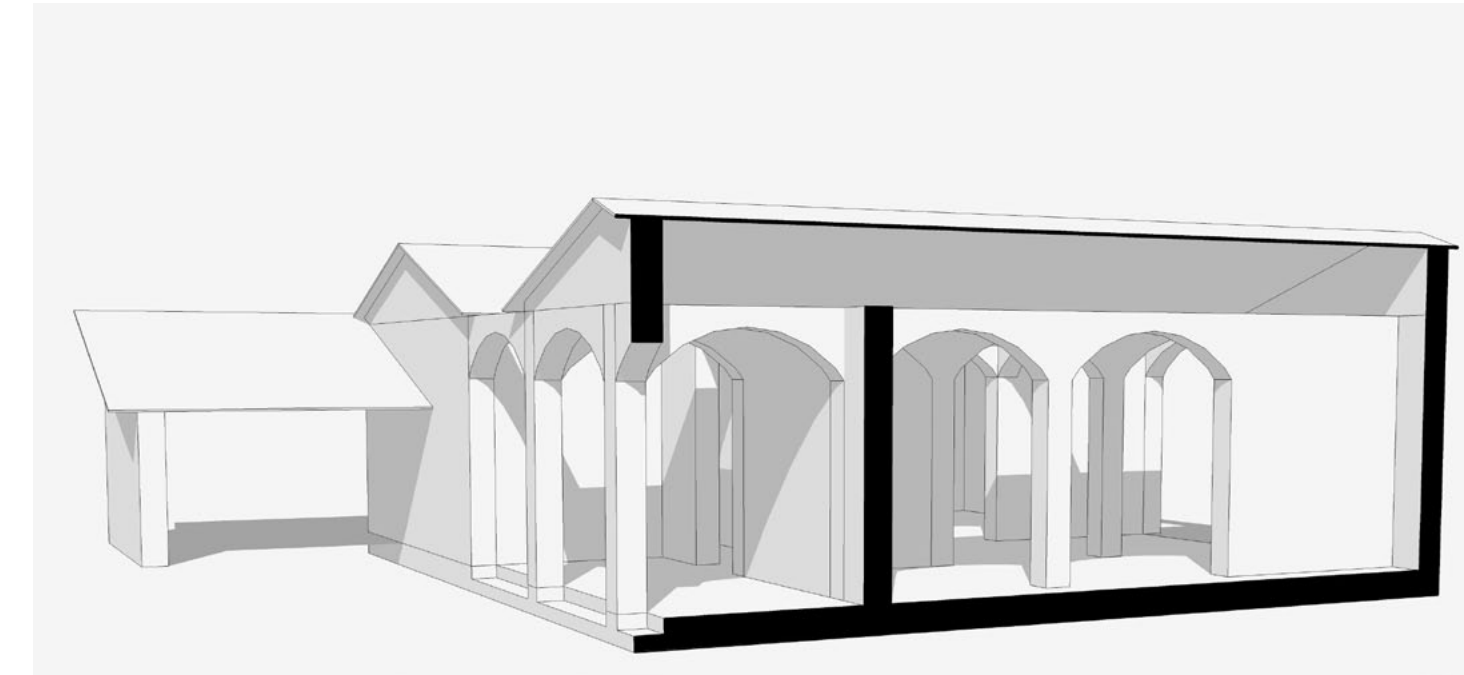
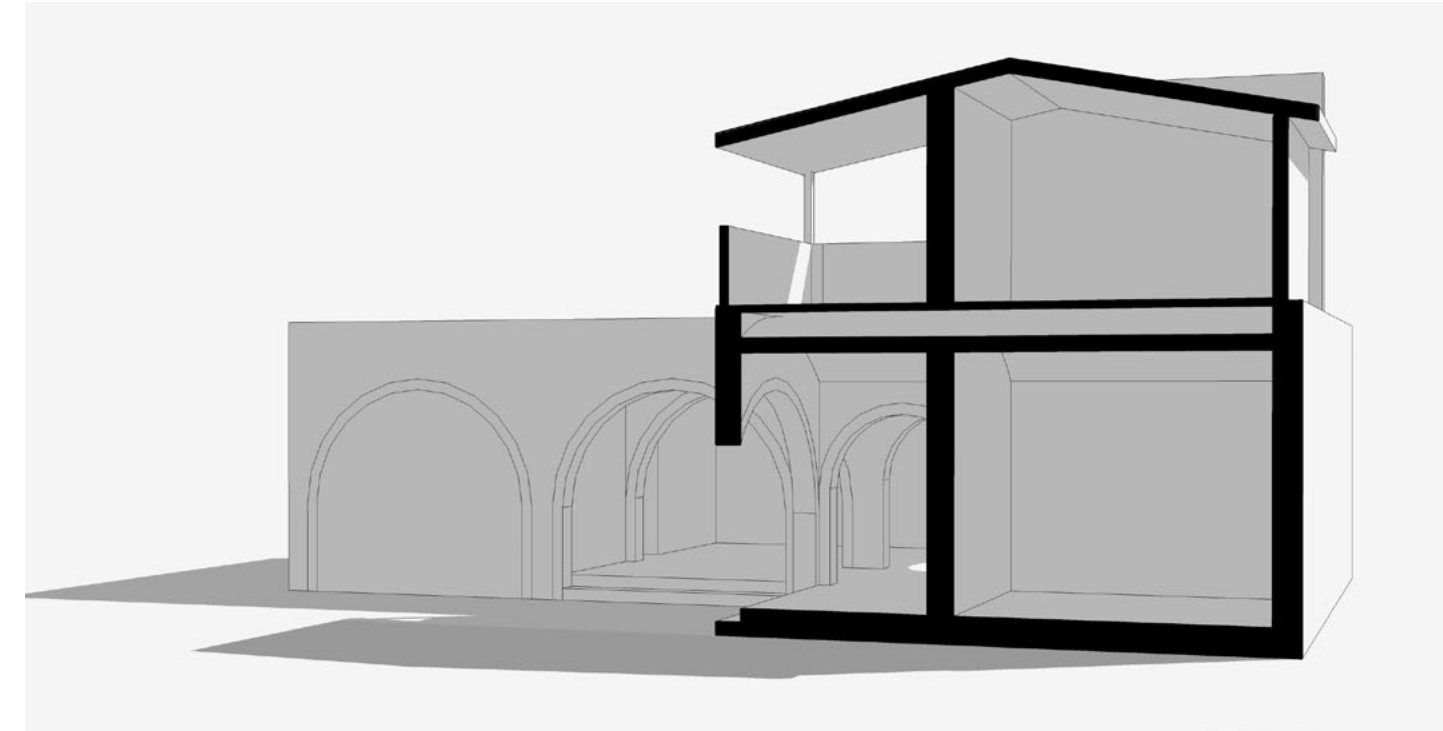


1/8" = 1'



1/8" = 1'







High Thought – Low Tech

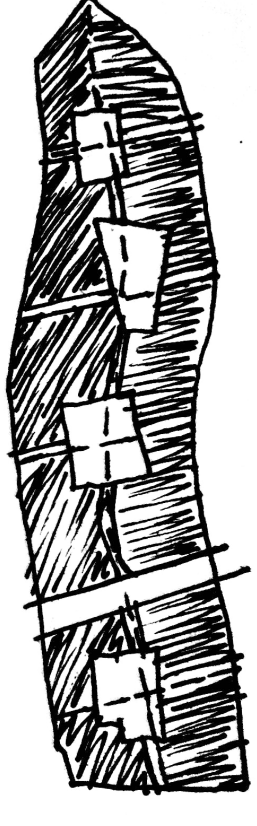
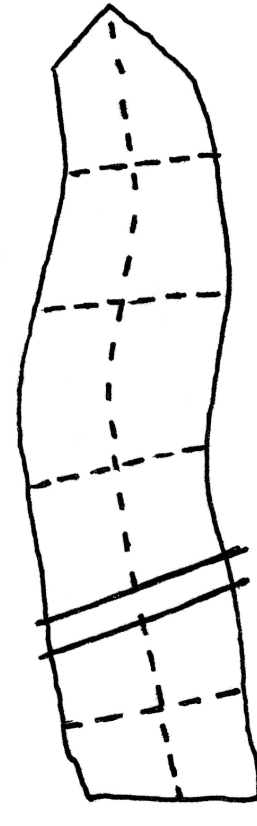
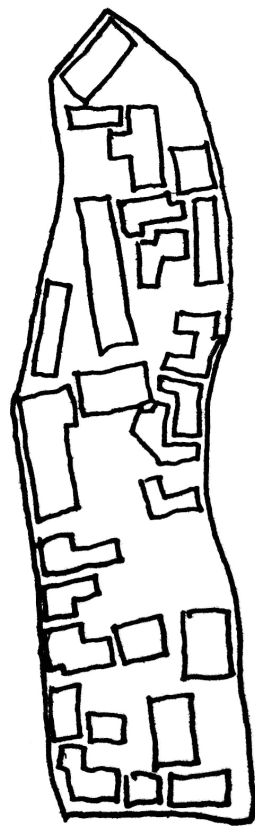
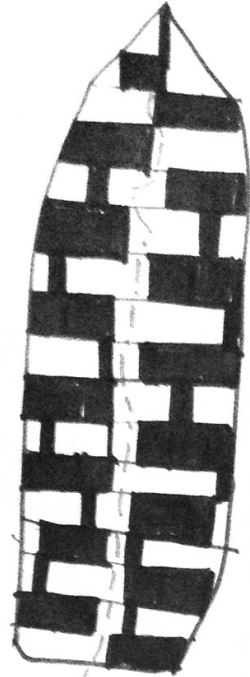
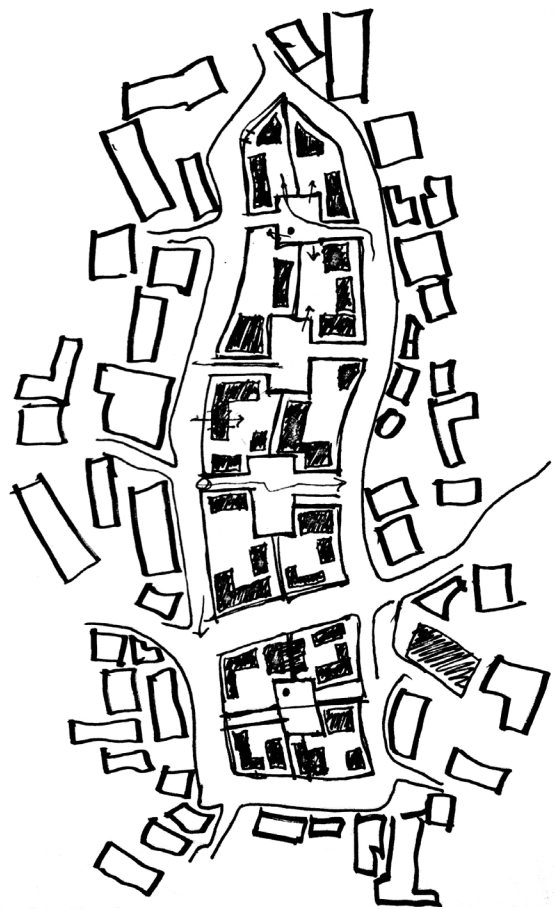
A comprehensive study of housing in rural India
Sam Bouck + Forrest Reynolds
Professor Mark DeKay – Spring 2013

Vision

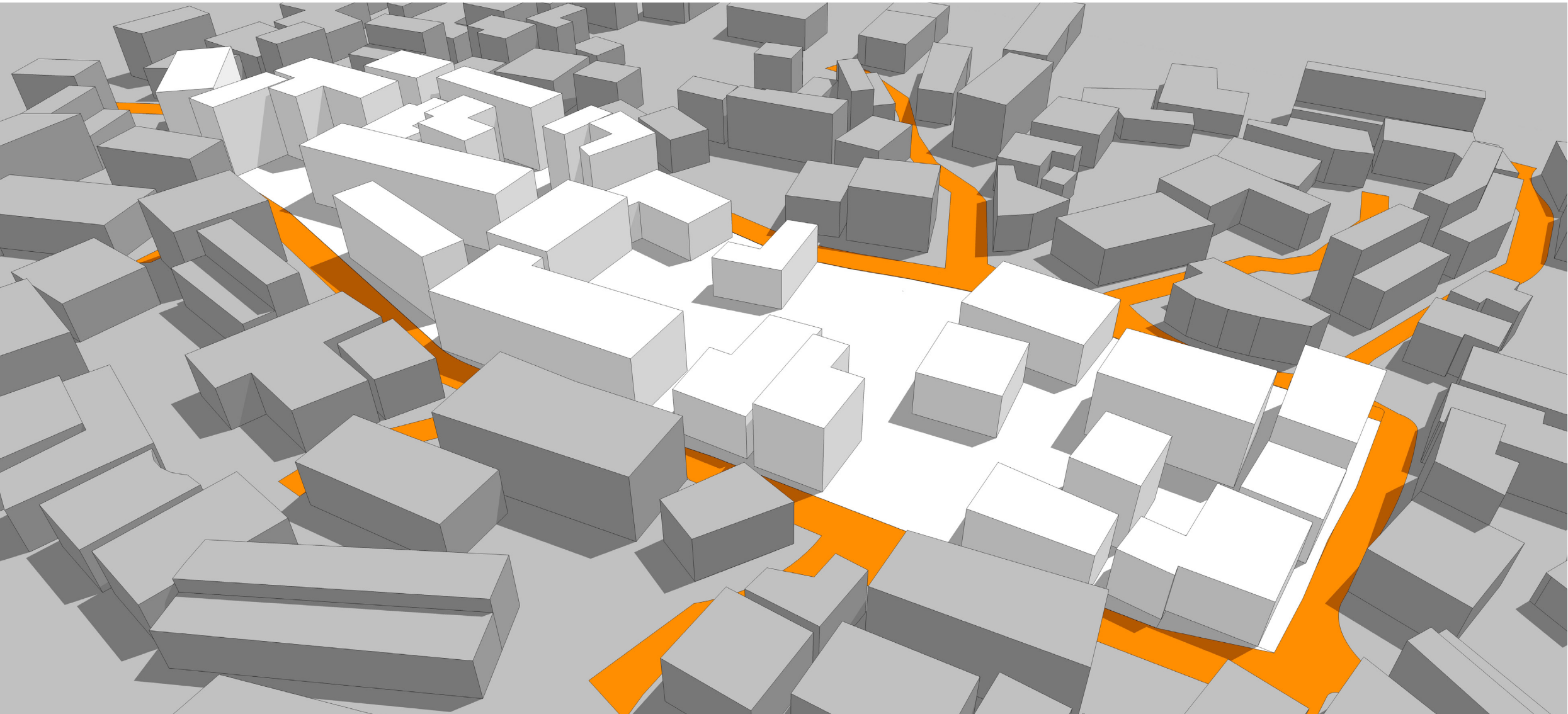
Construct Prosperity through integrated community for the other half.

Intention

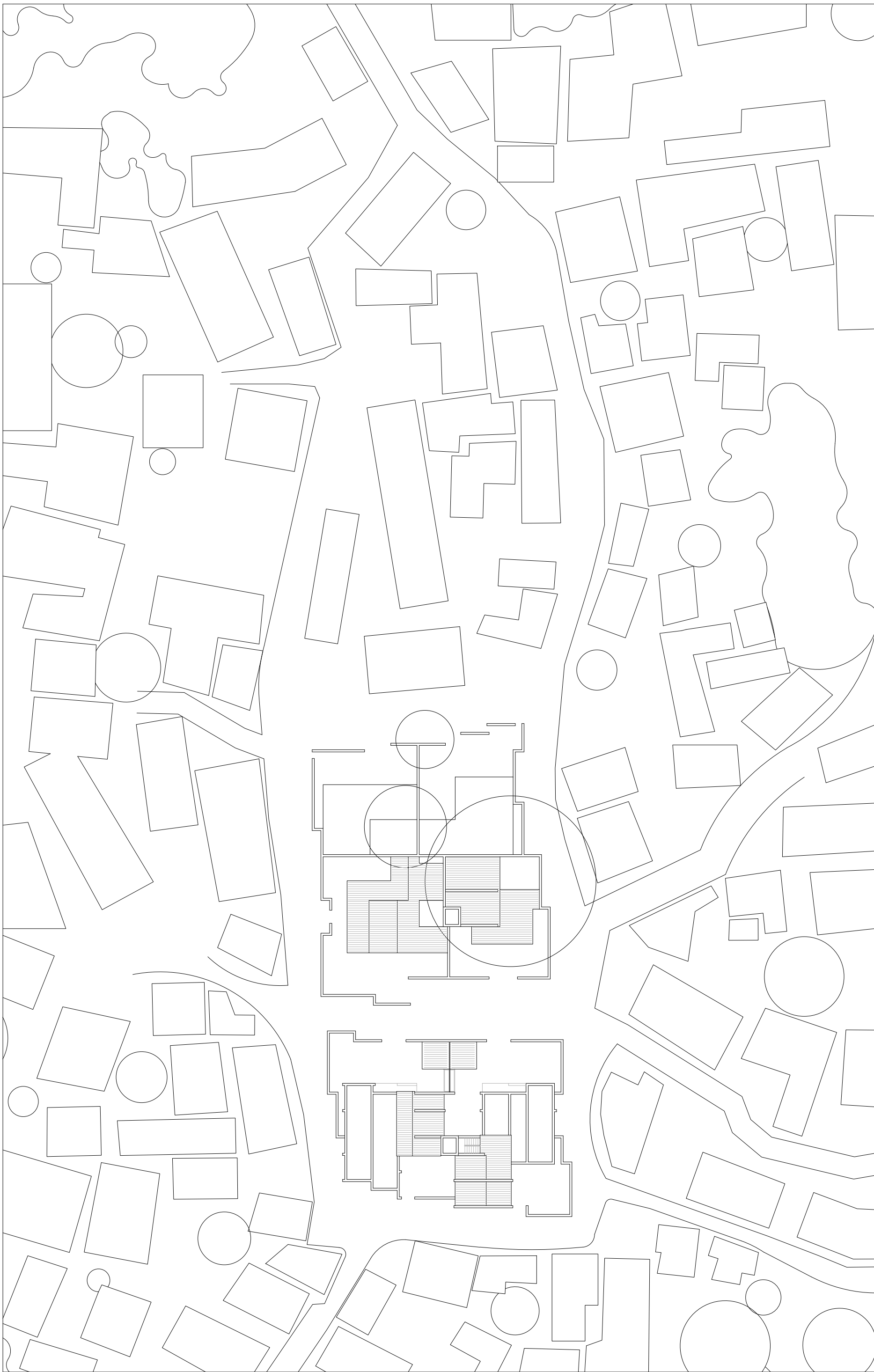
Preserve form and instill function



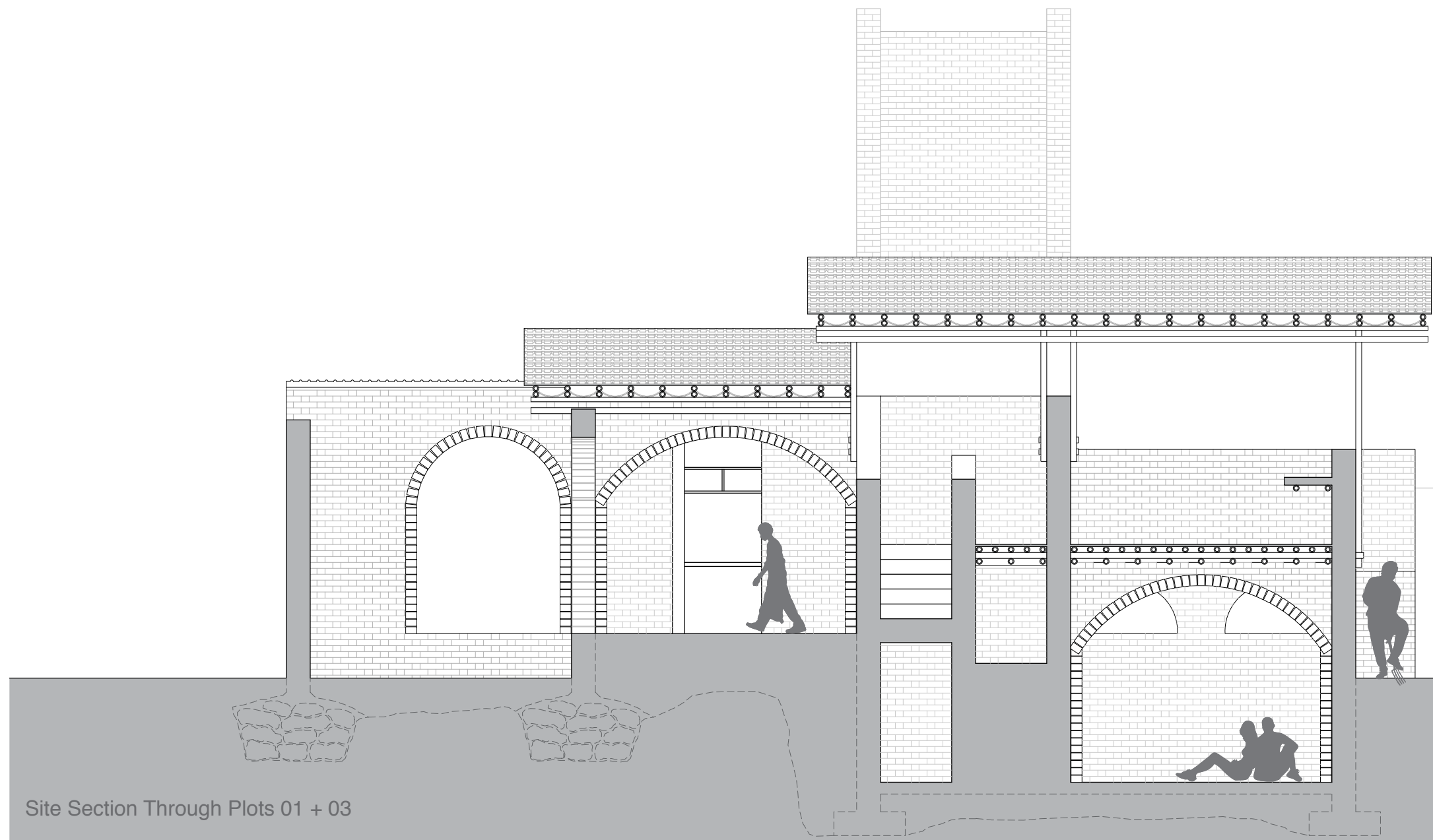
Site Context



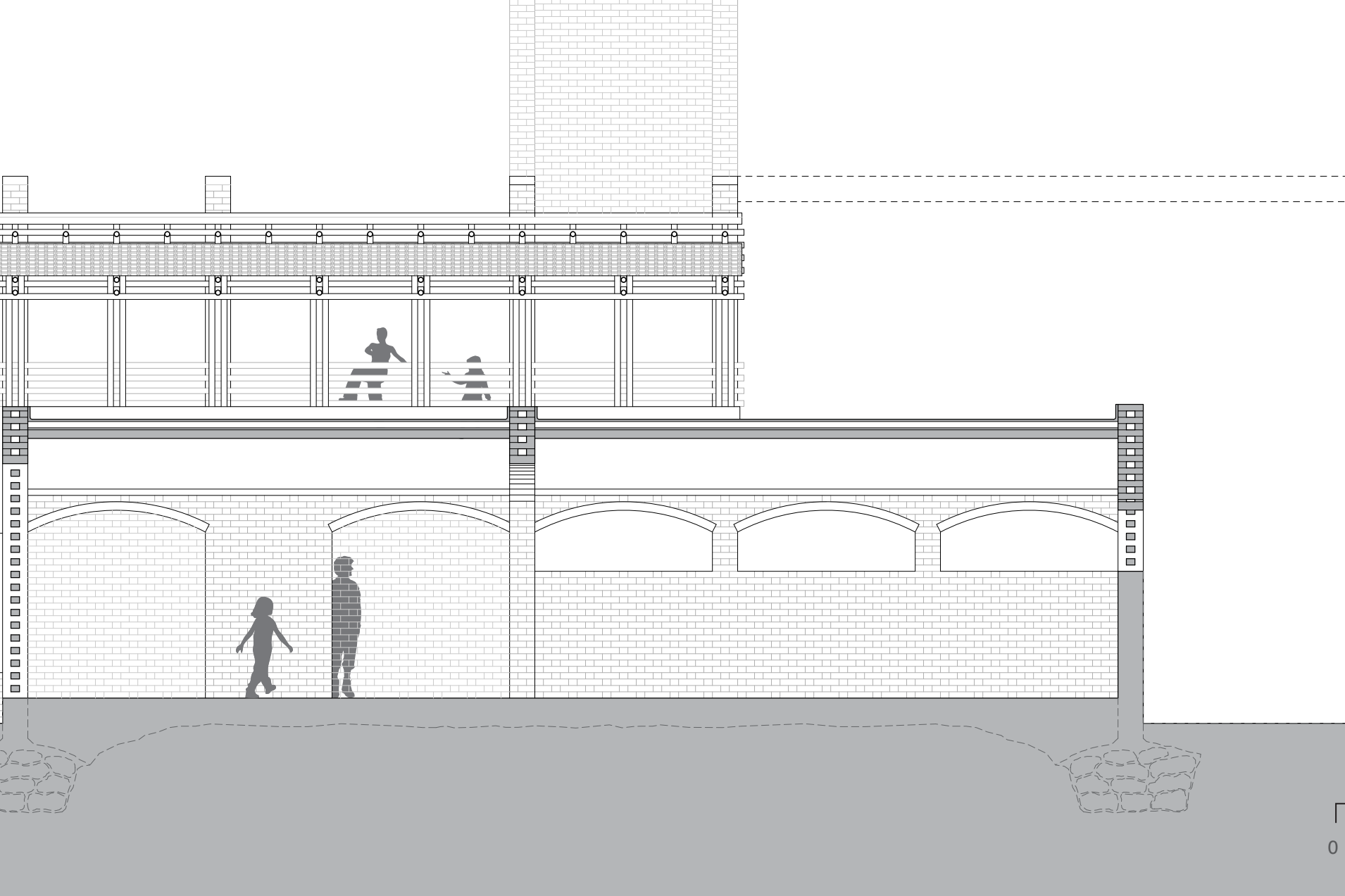
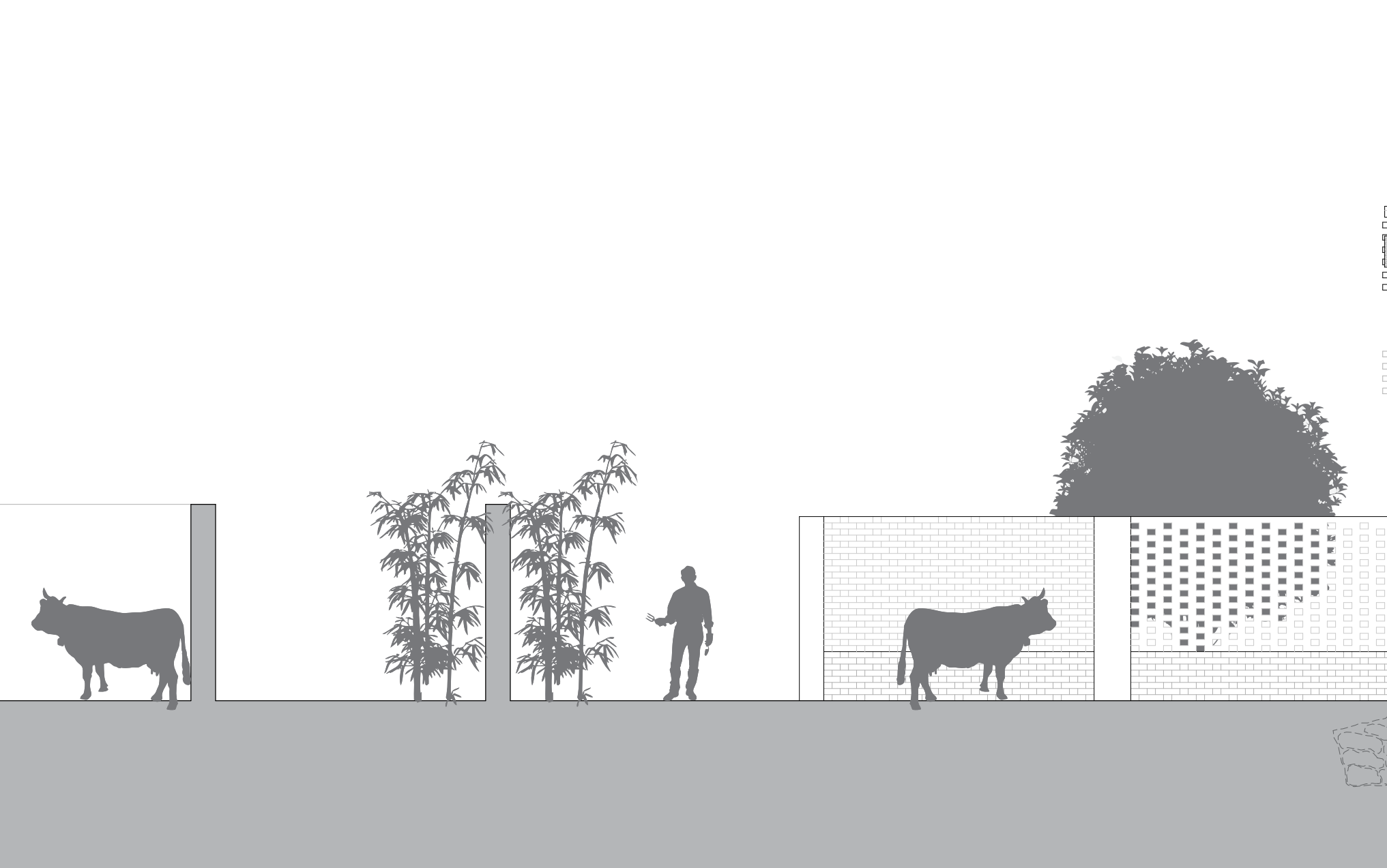
Site Context



Phase One Built Out in Context

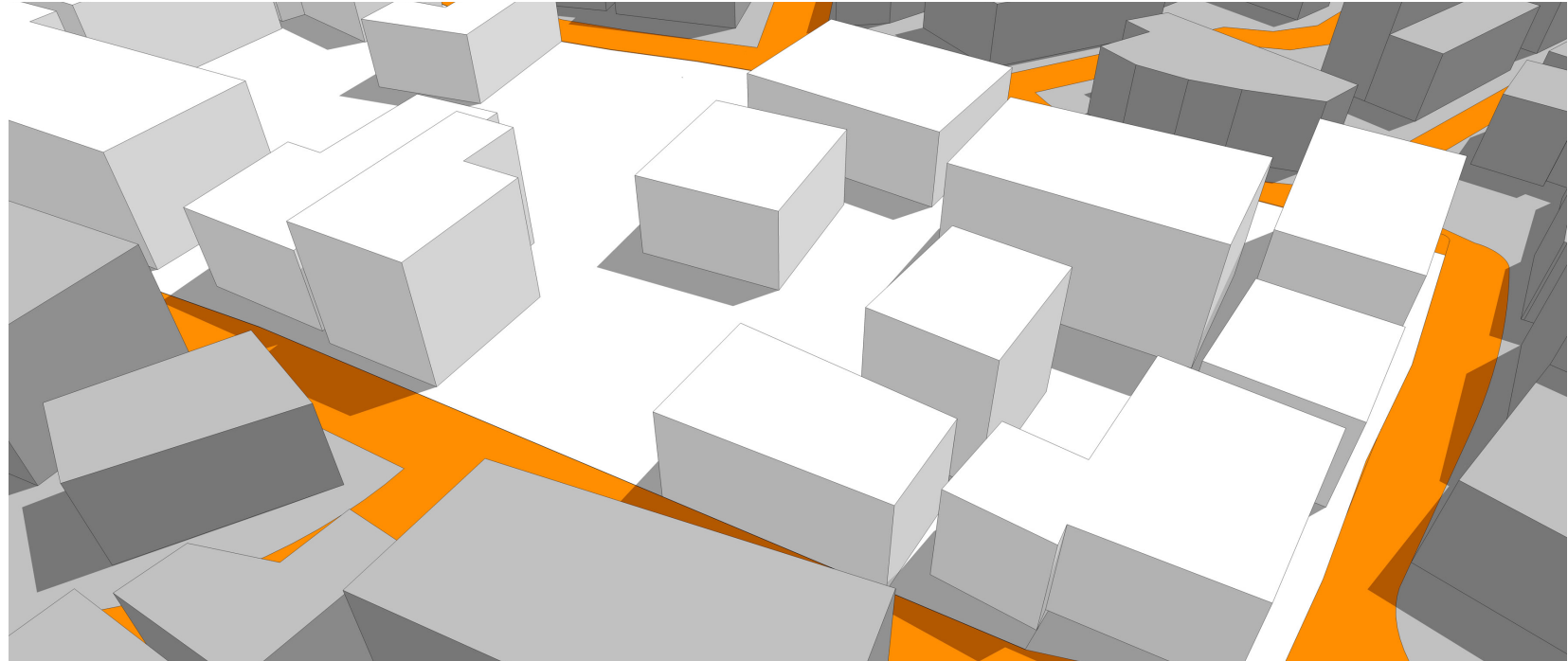
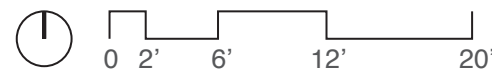


Site Section Through Plots 01 + 03

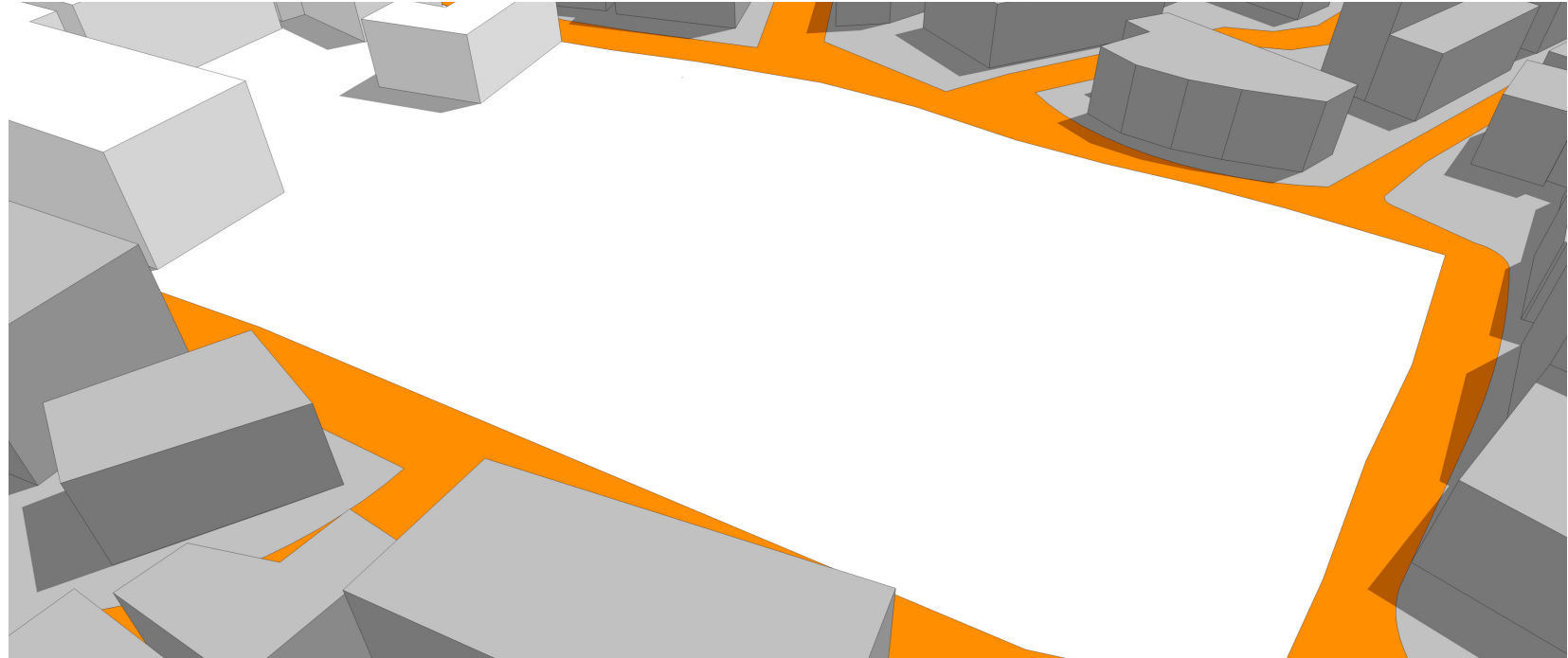




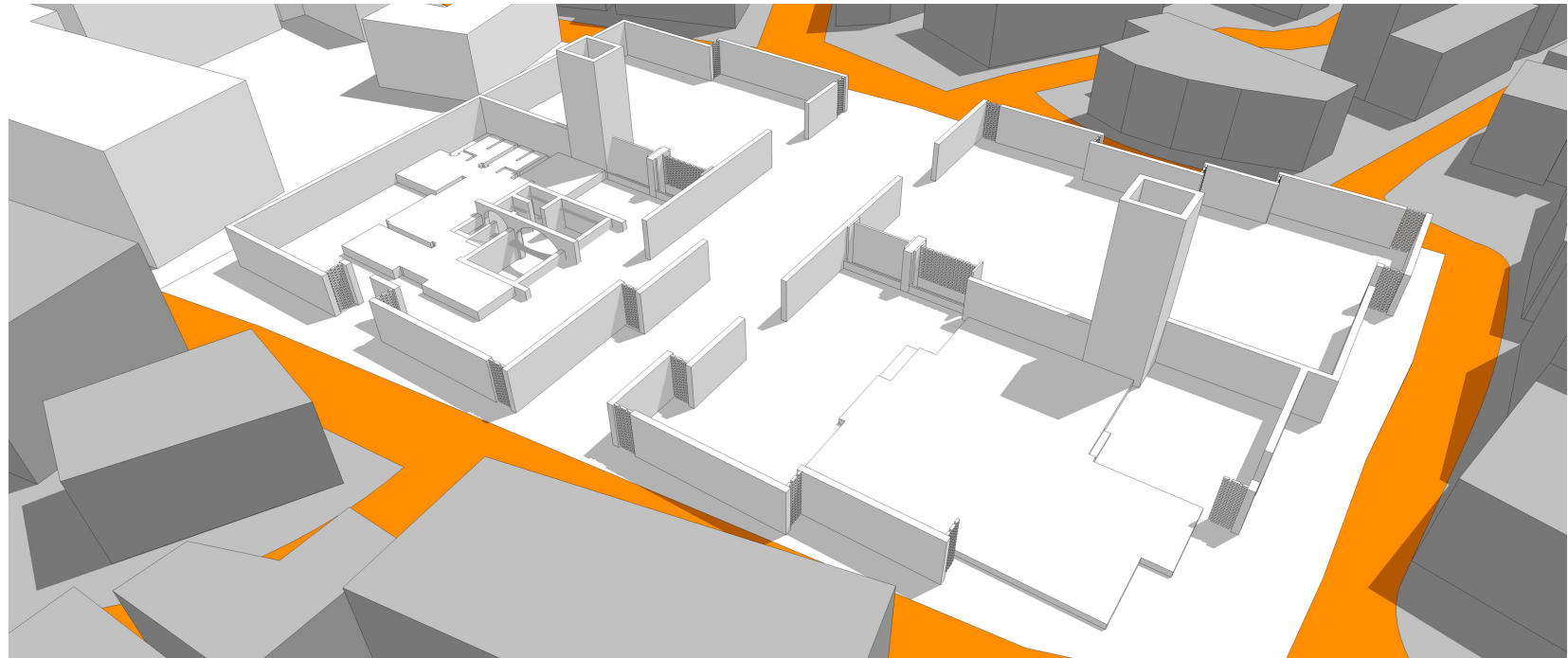
Plots 01 + 02 Roof Plan



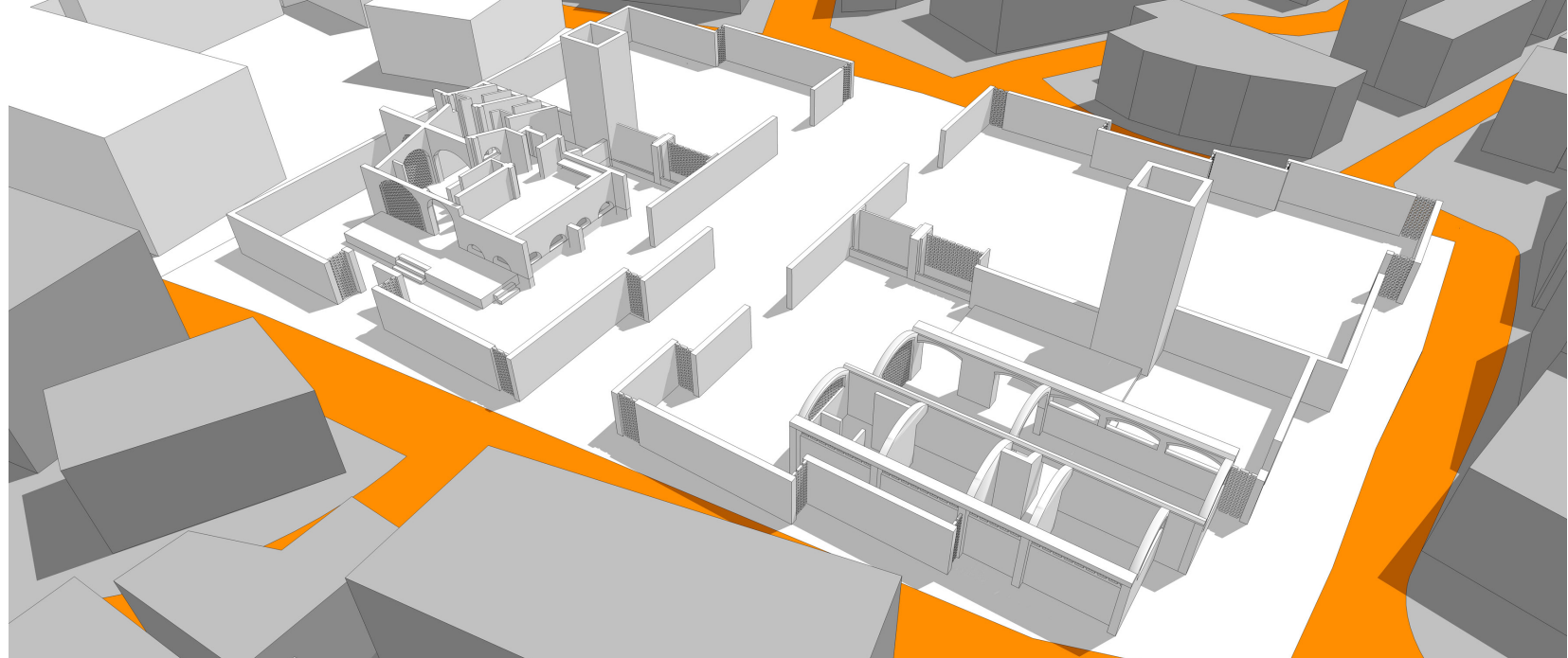
Existing Condition



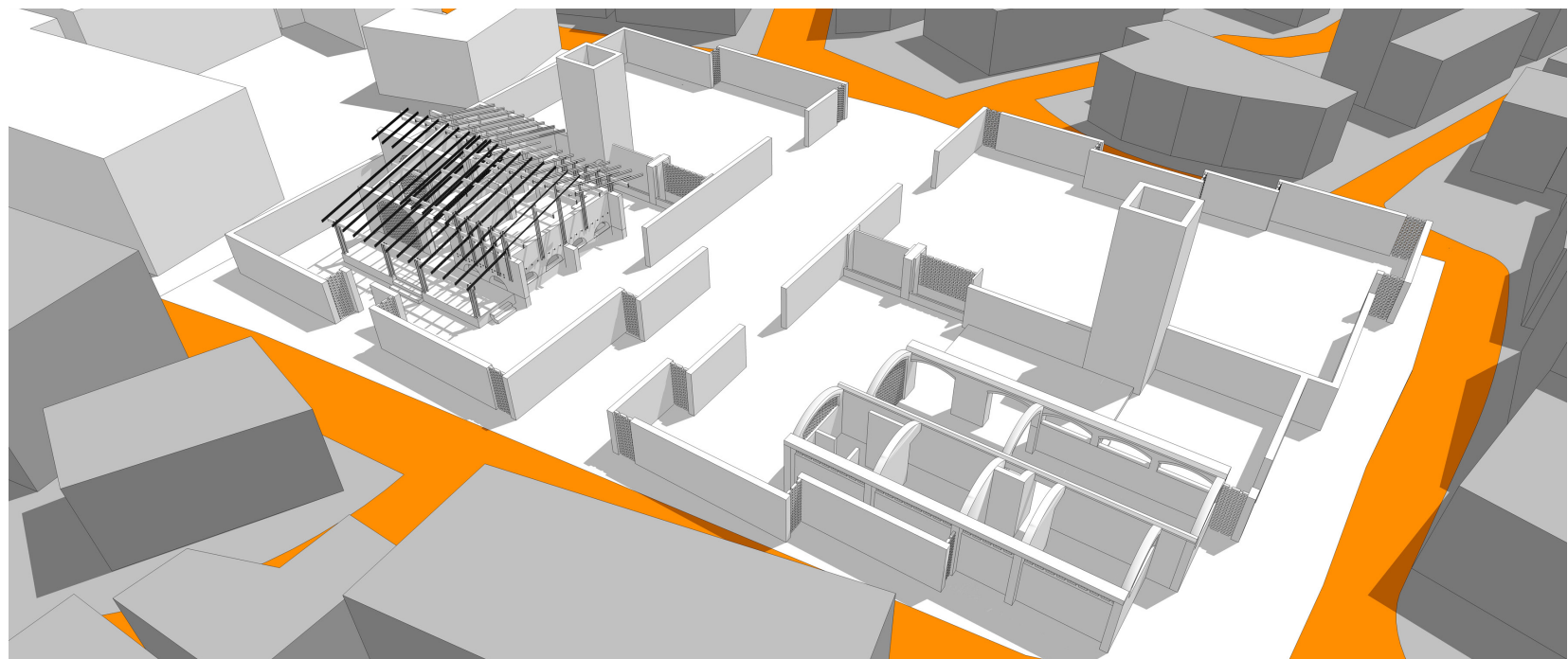
Phased Demolition



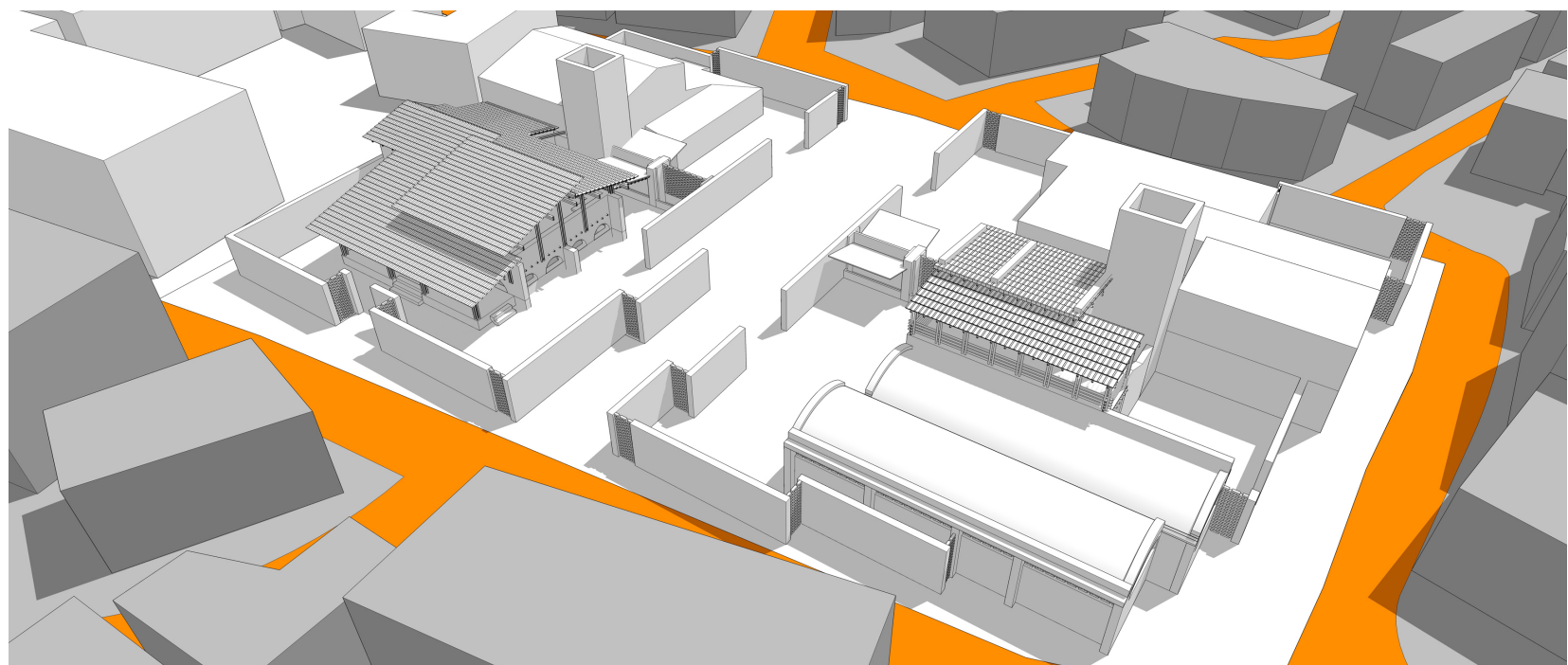
Basement, Plinth, and Site Walls



Masonry Wall Construction



Bamboo Framing

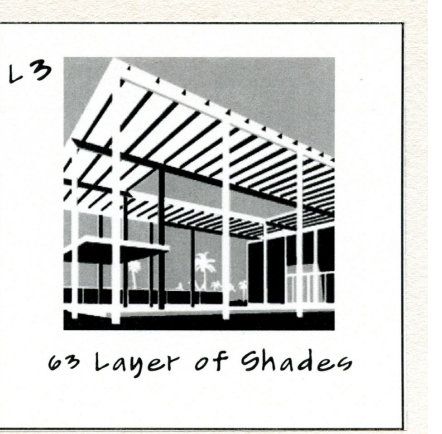
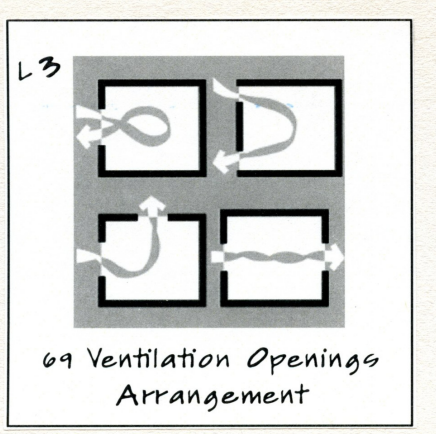
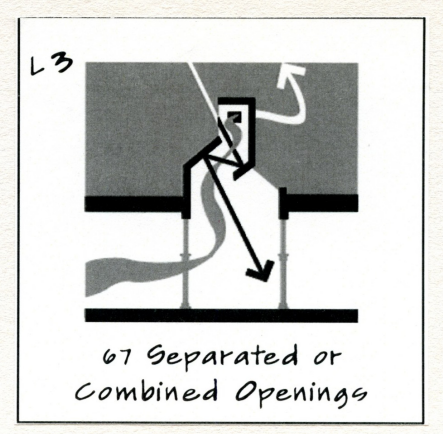
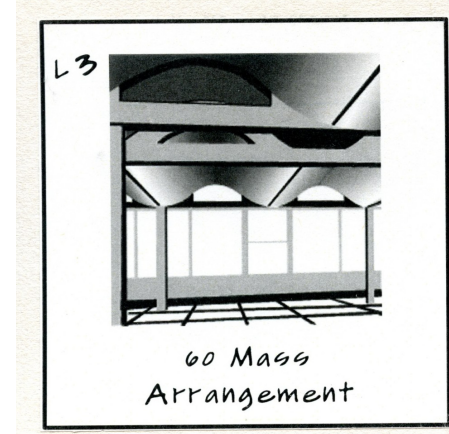
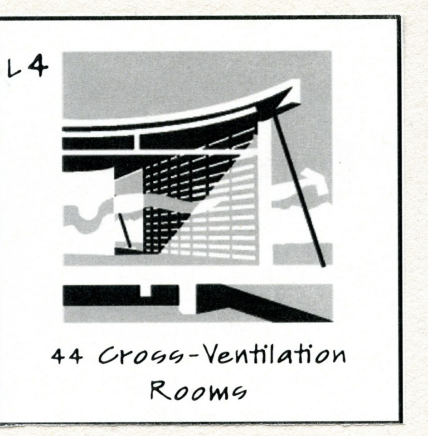
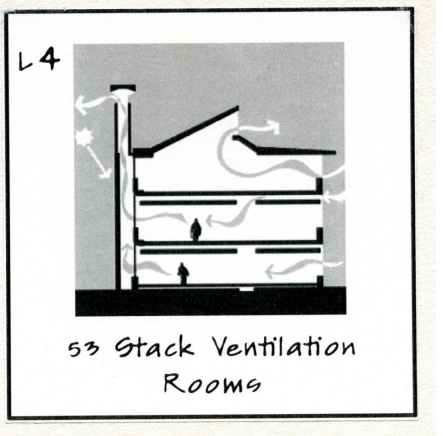
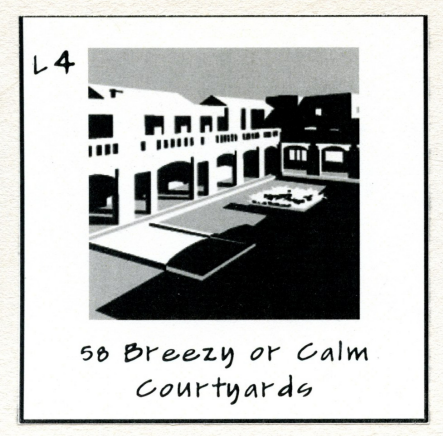
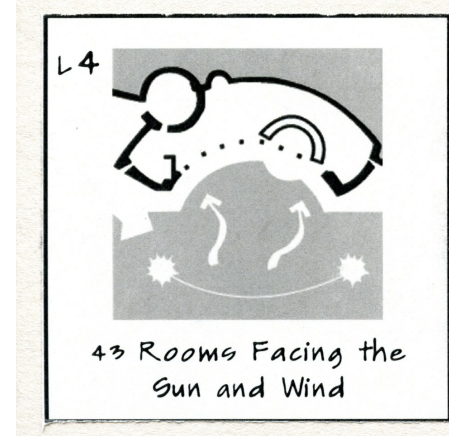
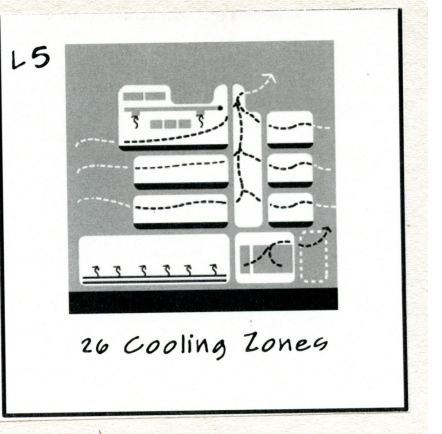
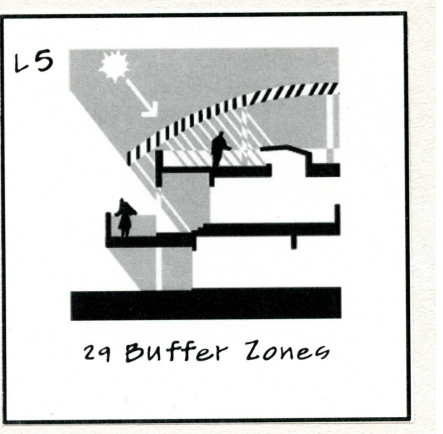
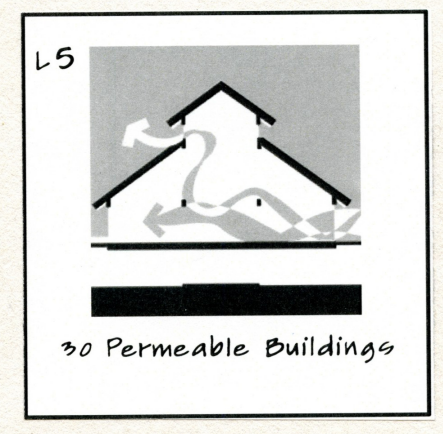
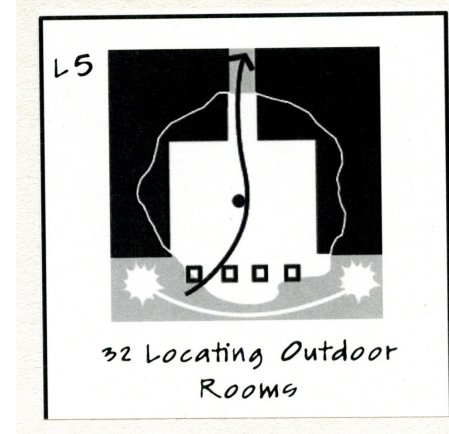
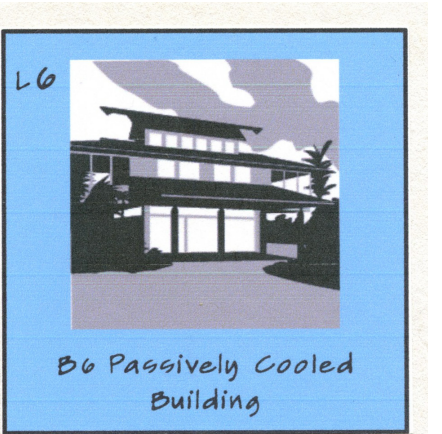
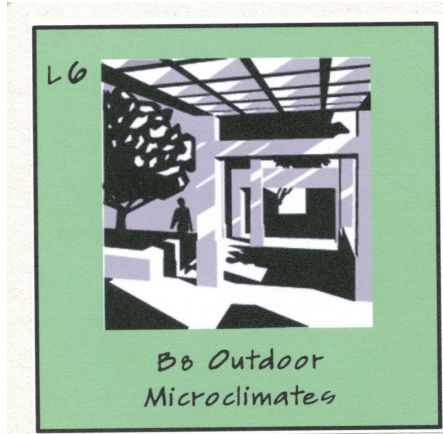


Brick Vaults and Mangalore Roof Tiles



Climatic Strategies Bundle for Design

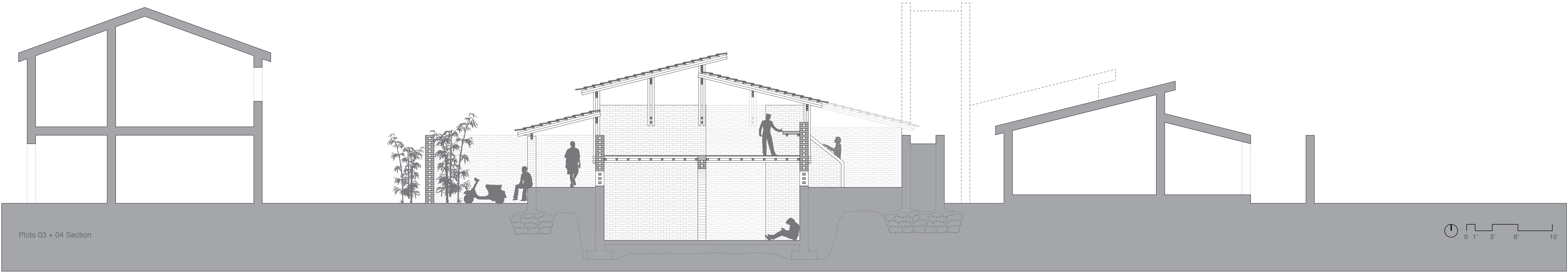
In the hot and humid climate of South Western India, there are several design strategies to consider for creating more comfortable buildings. Through the design of this project this series of identified strategies were considered.



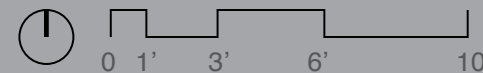
Photographs courtesy of students at the College of Architecture, Sardar Patel Institute of Technology, Vasad, India.
Bundle Illustration Diagrams courtesy of Mark DeKay.

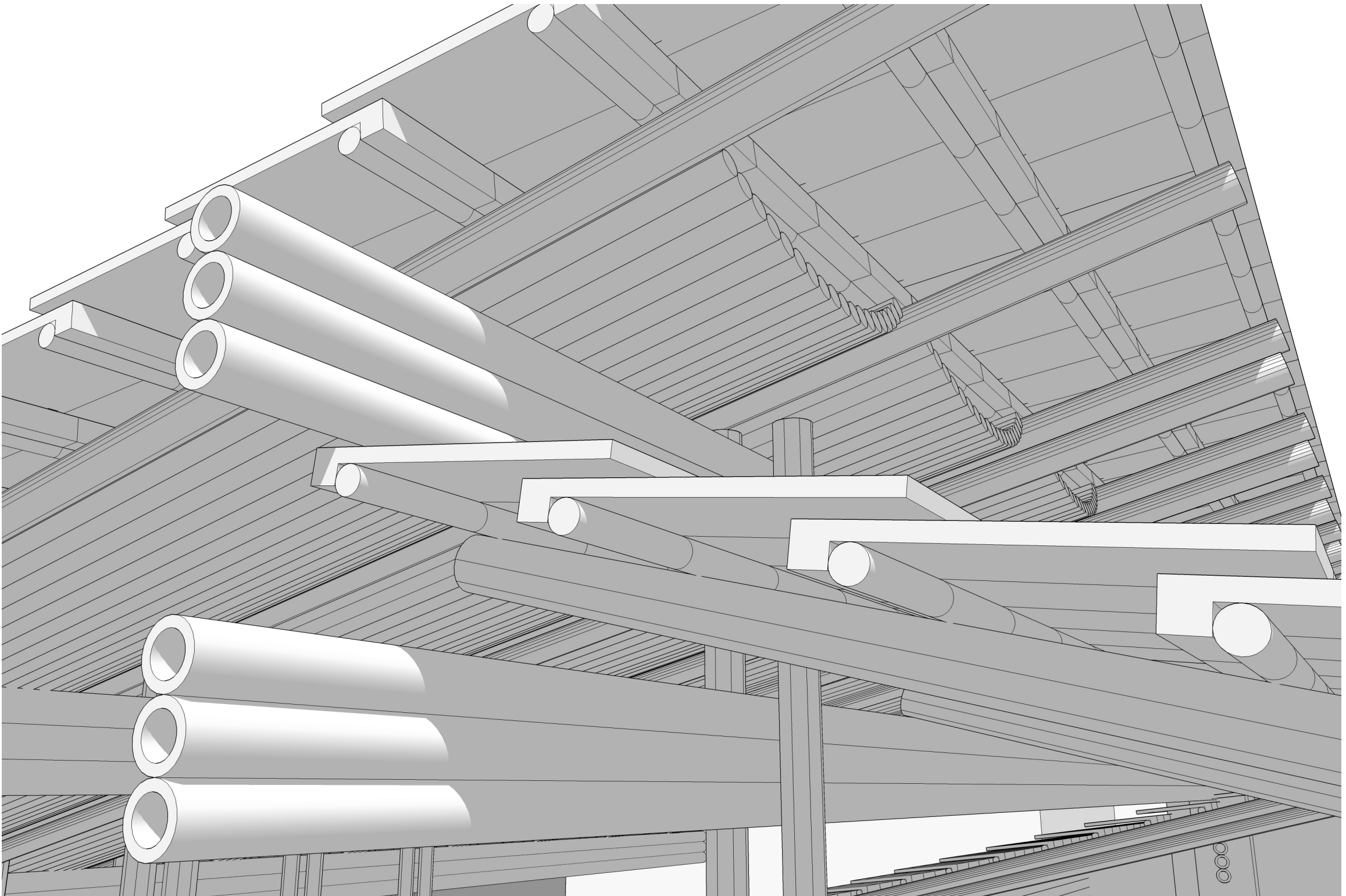
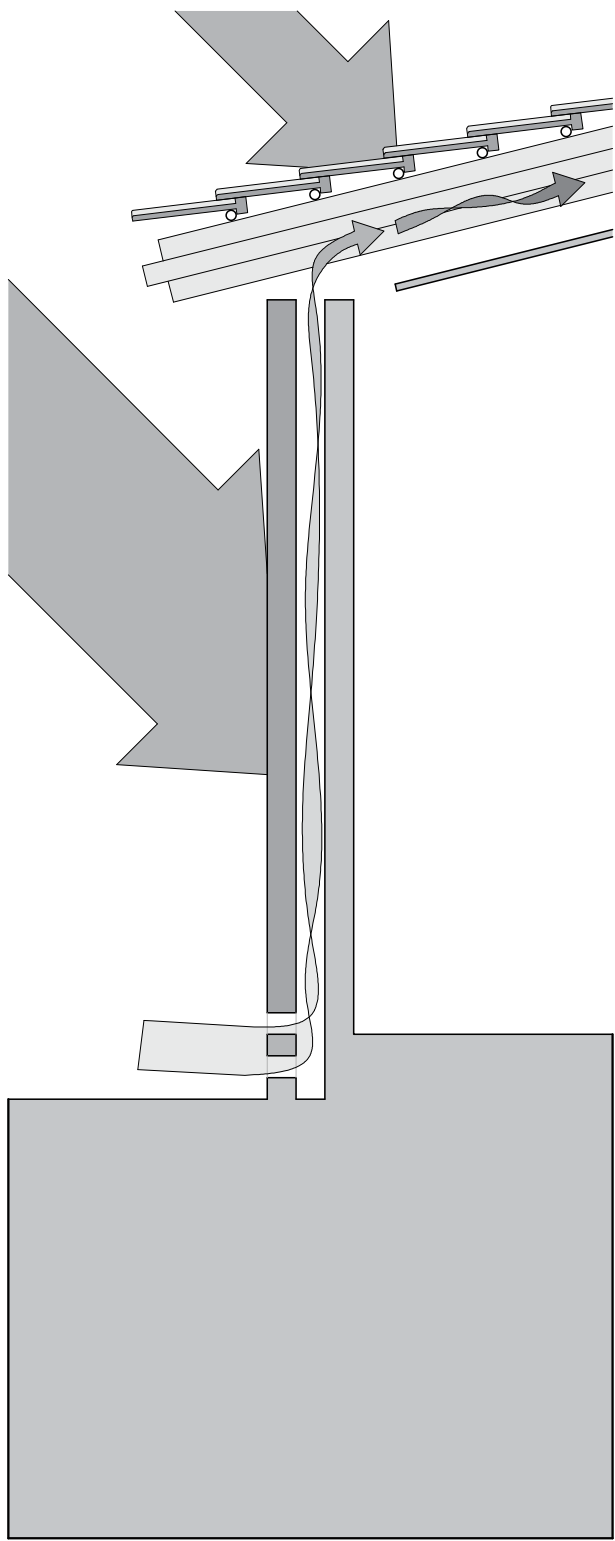
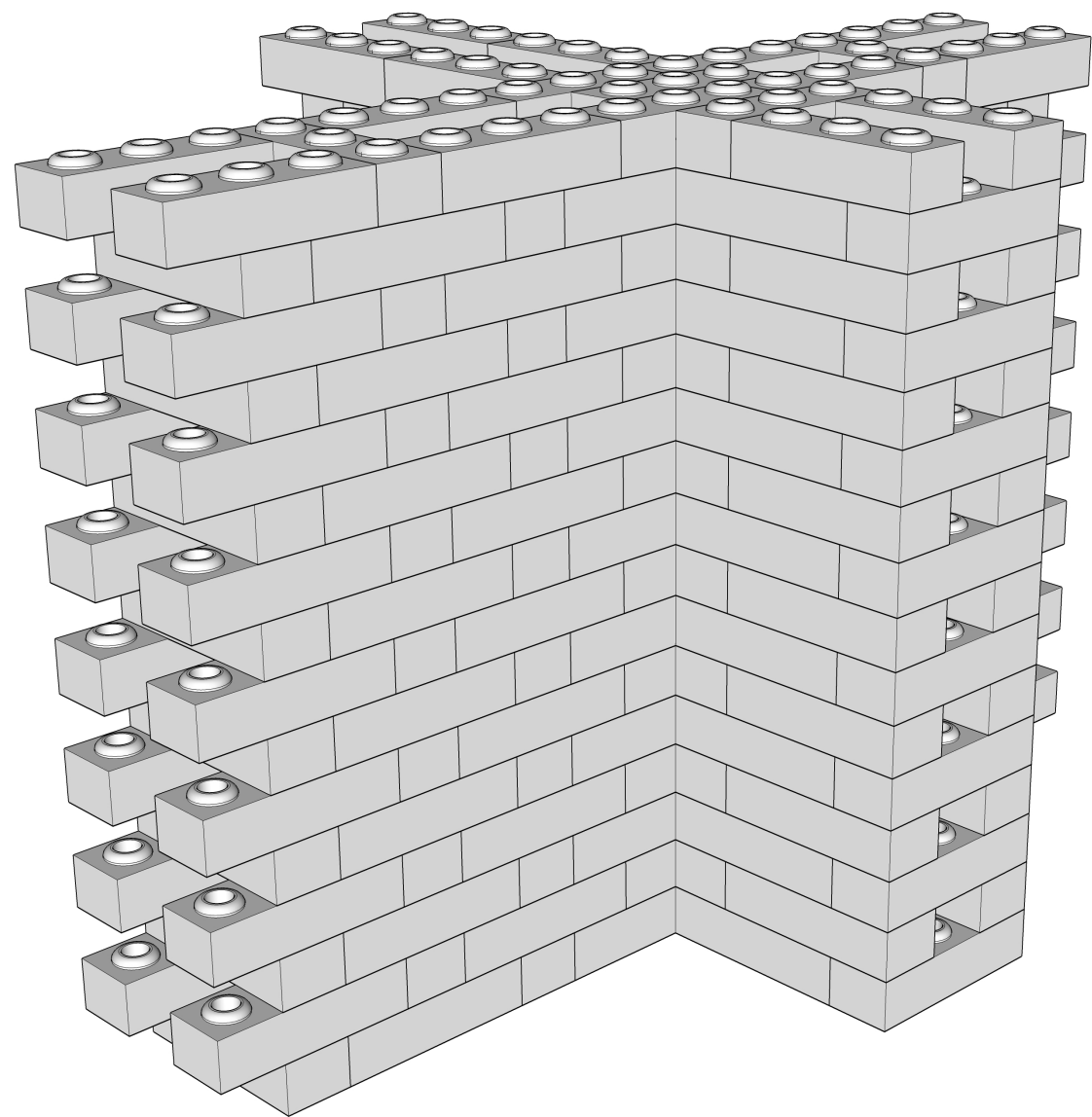
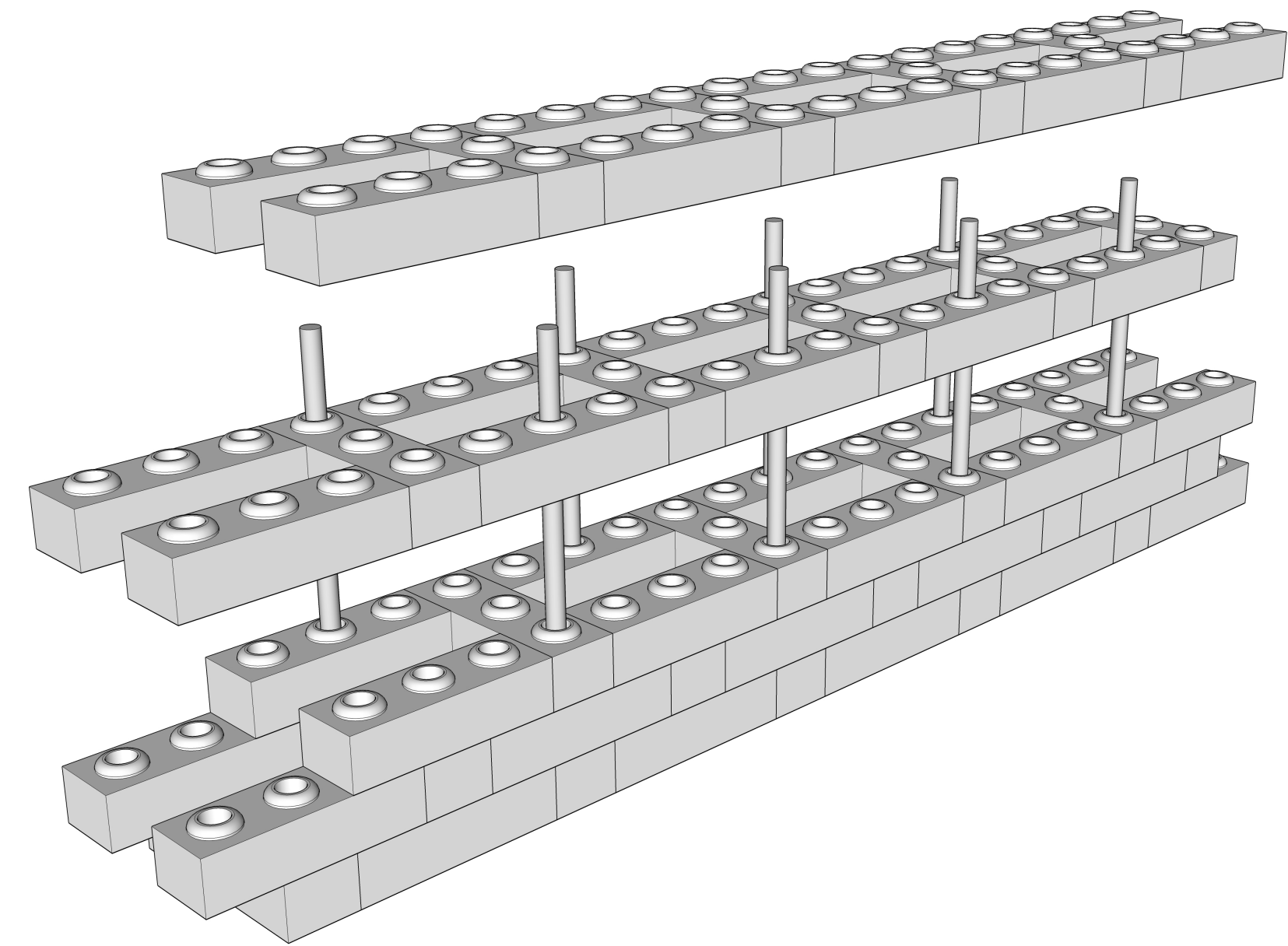
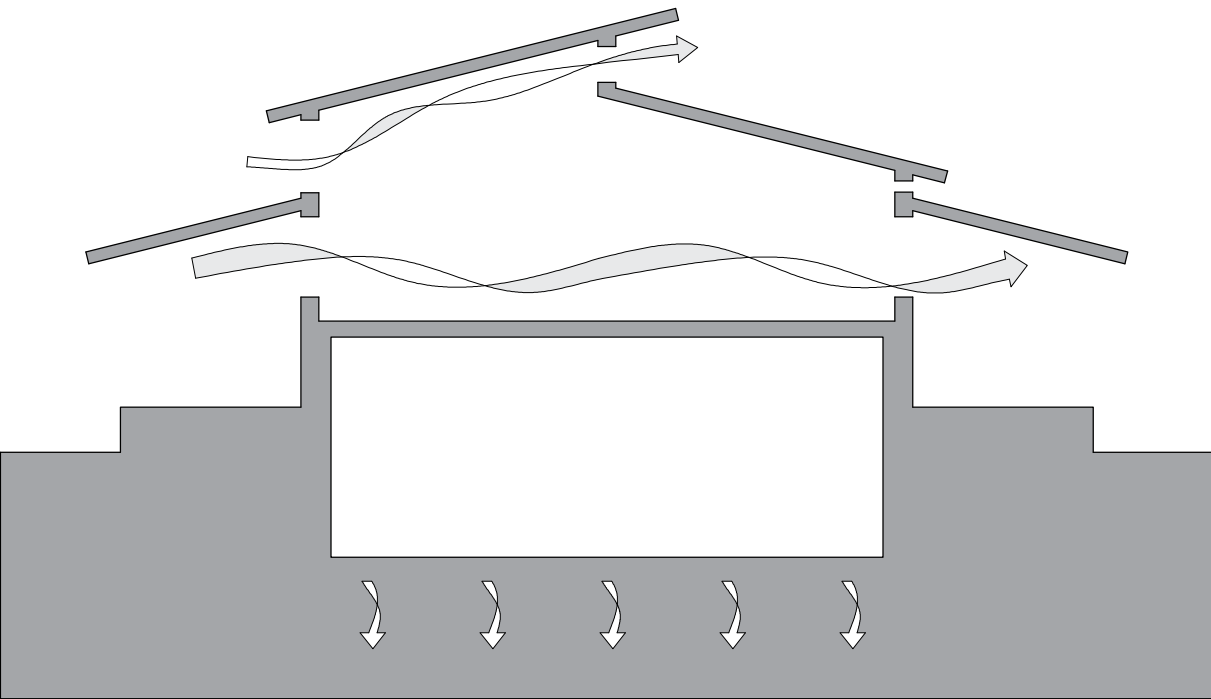
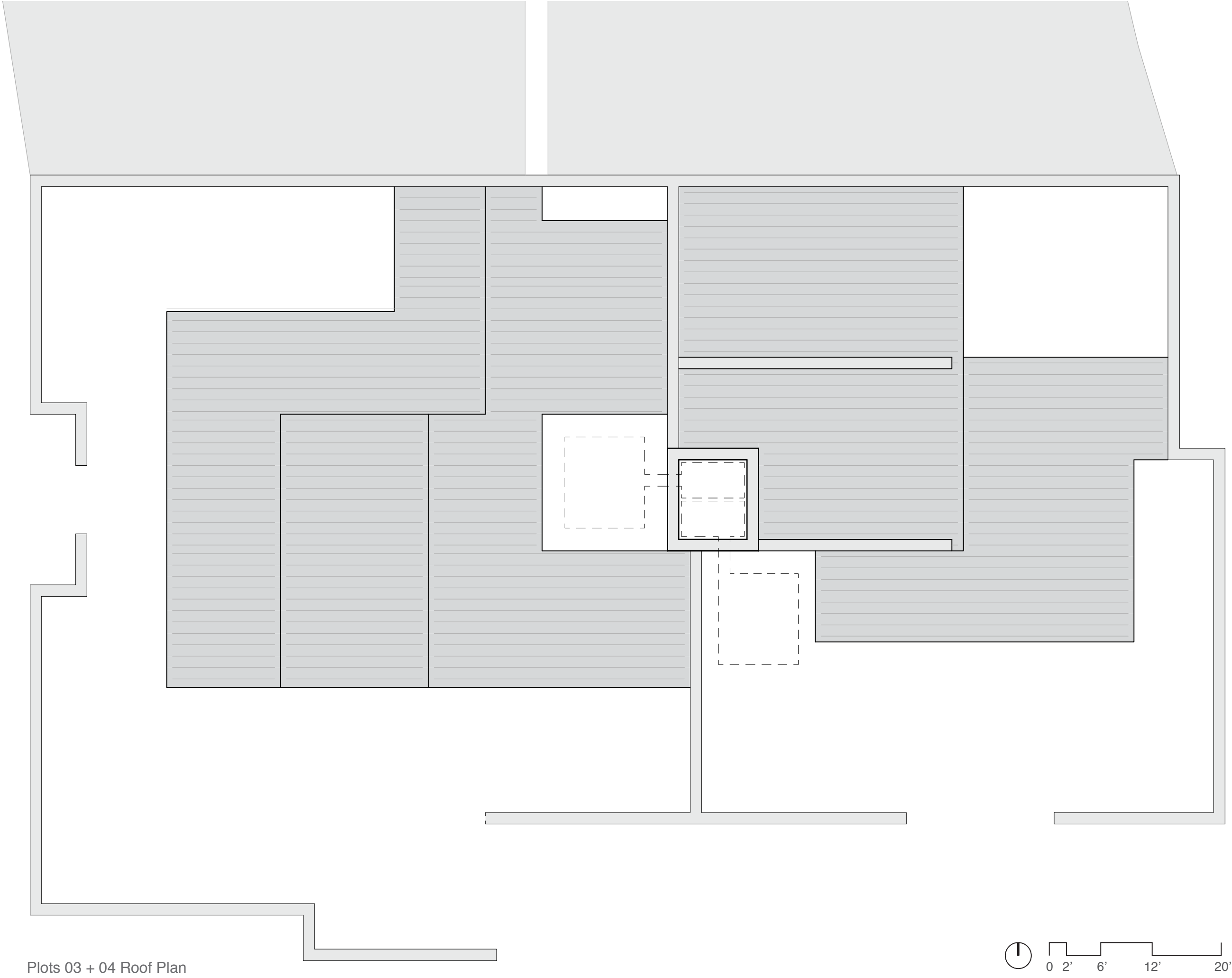
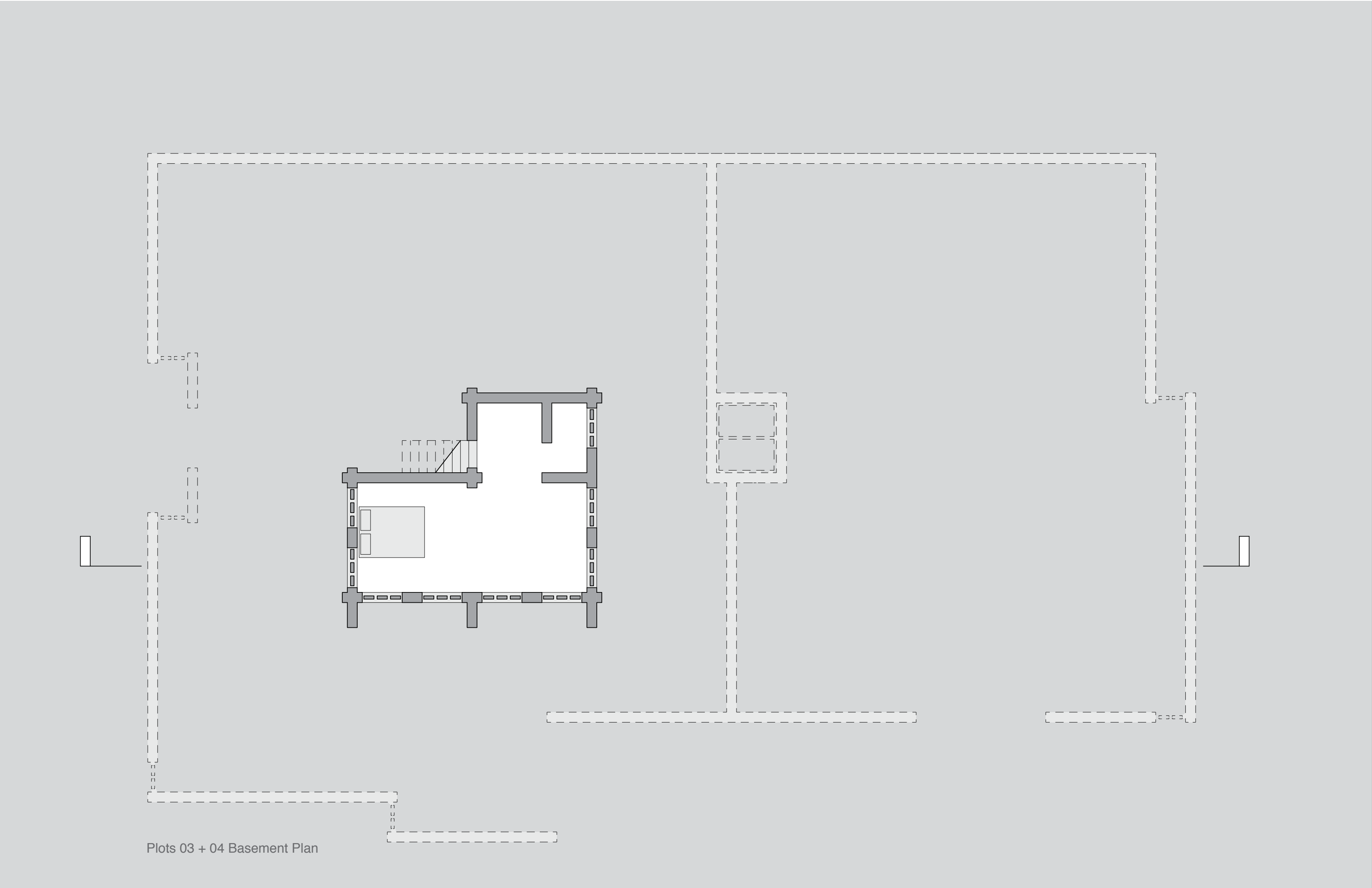


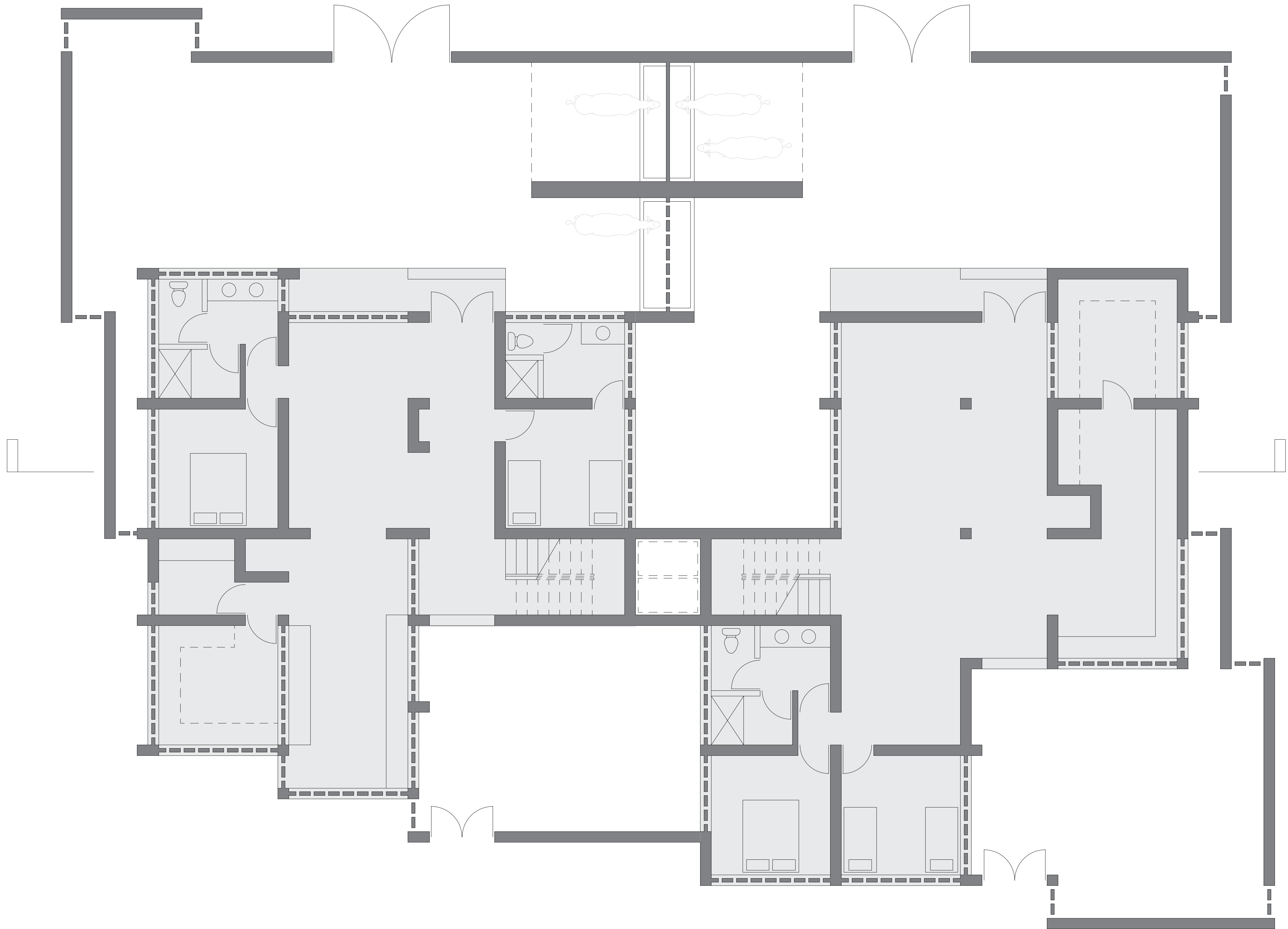
Plots 03 + 04 Plan



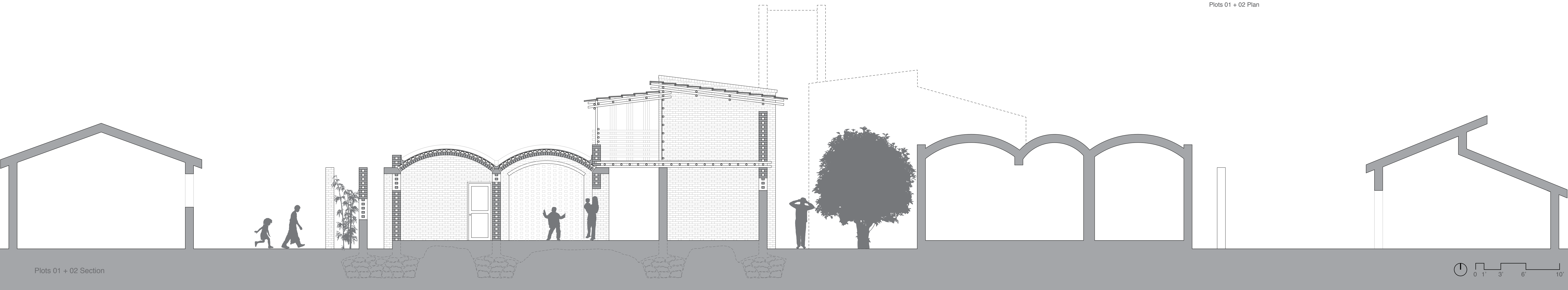
Plots 03 + 04 Section





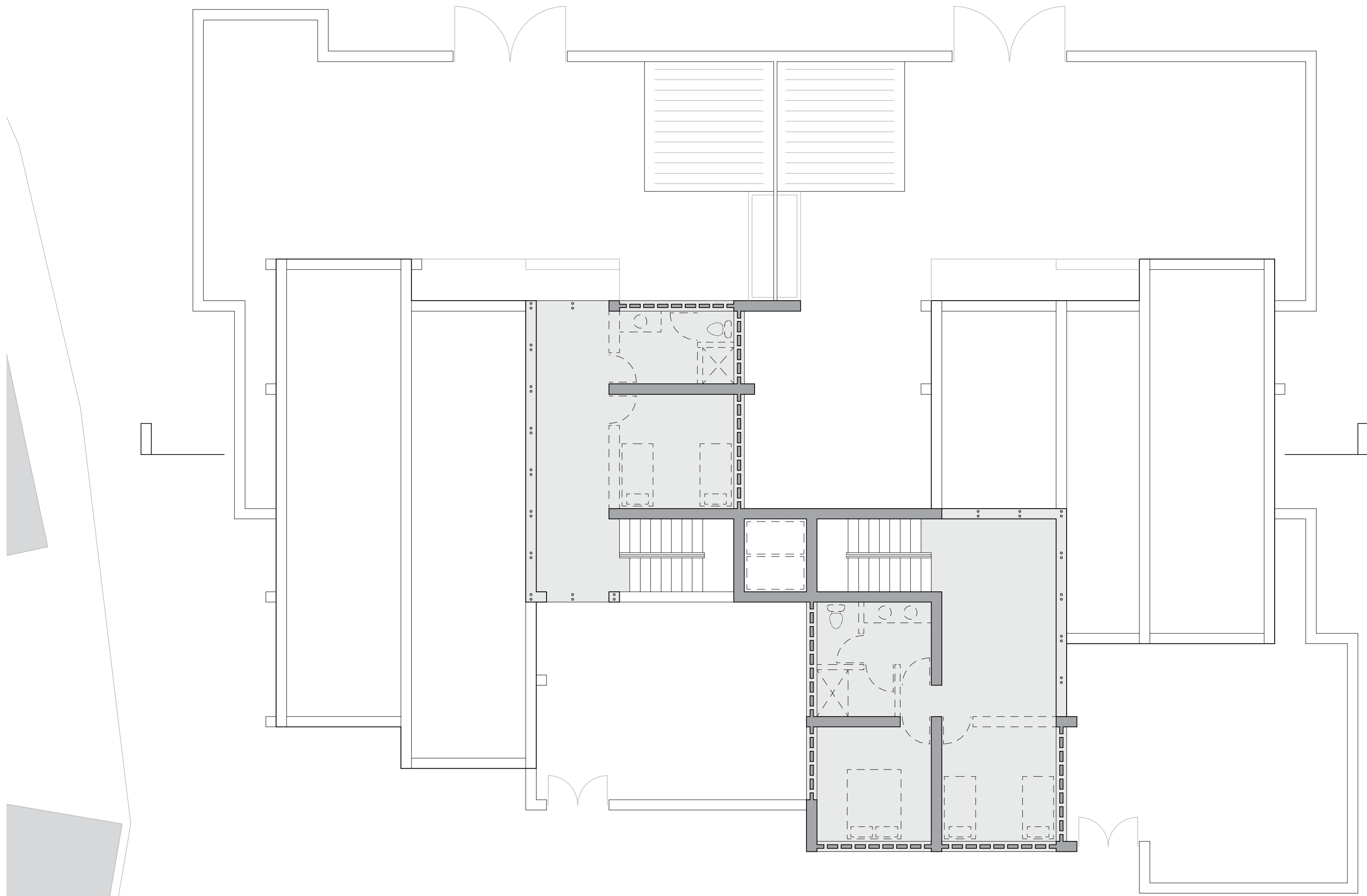


Plots 01 + 02 Plan

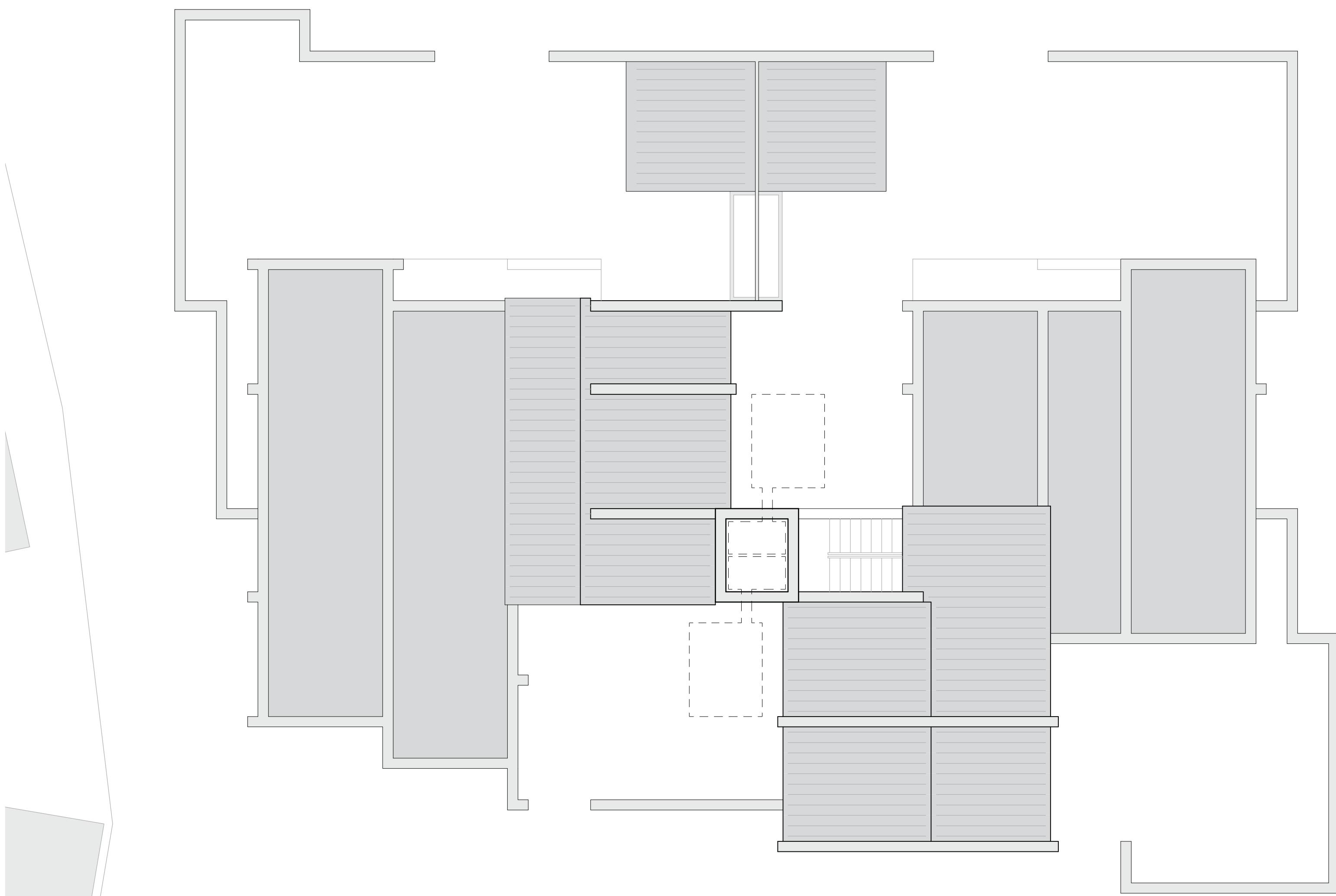


Plots 01 + 02 Section

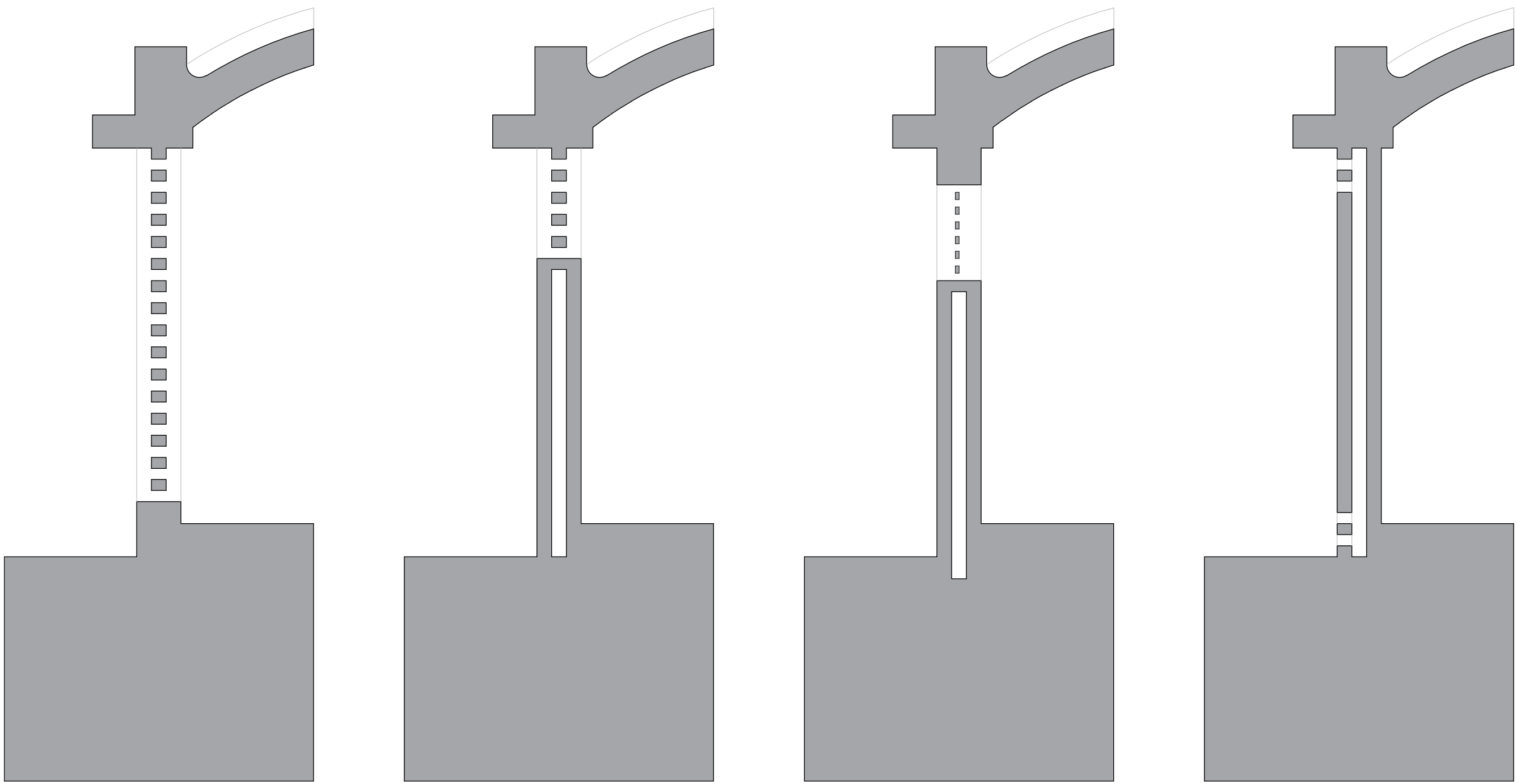
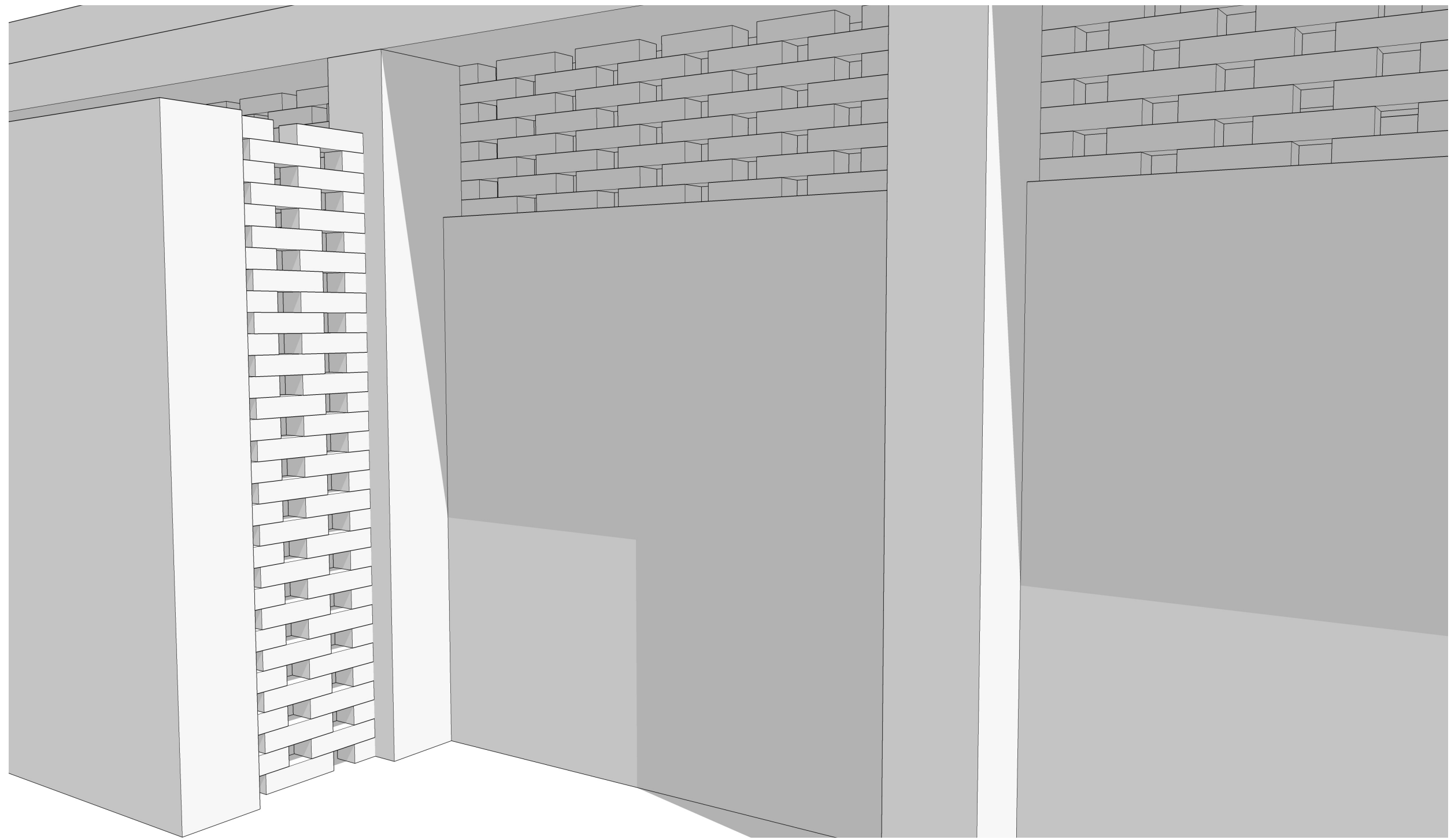
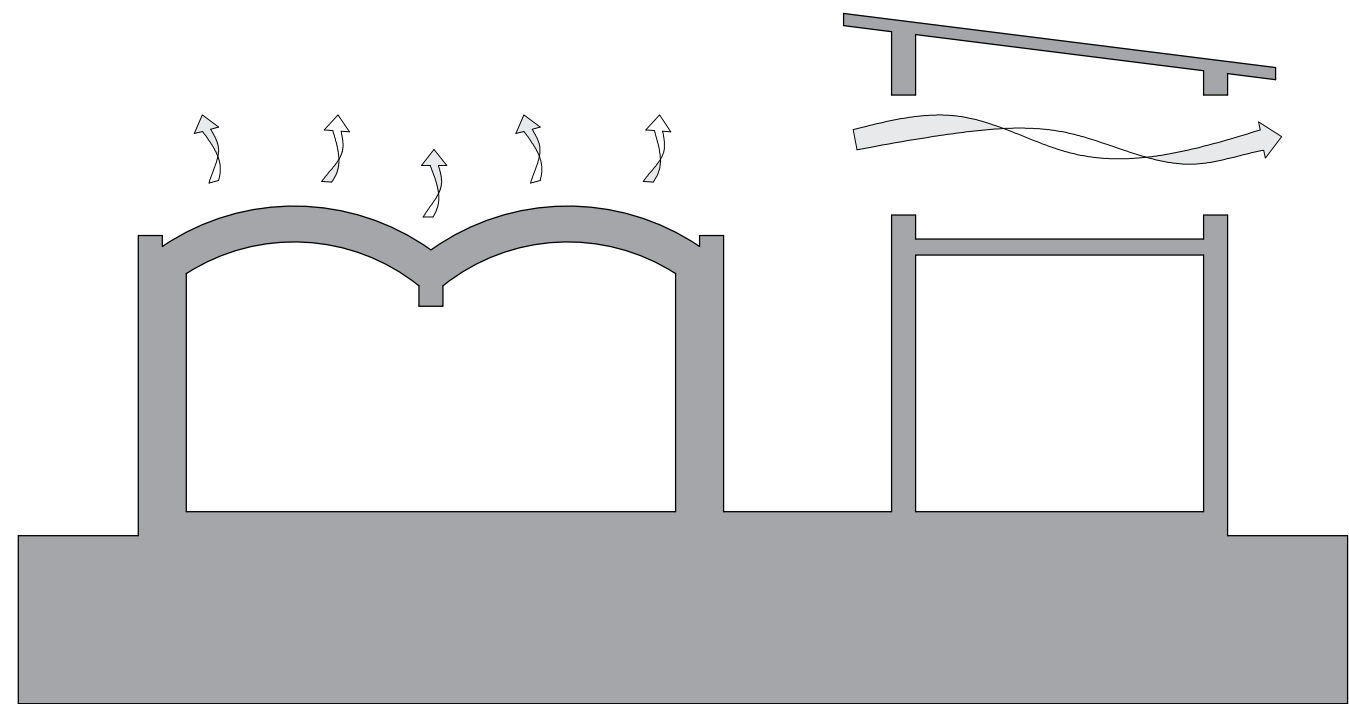
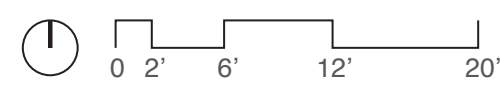




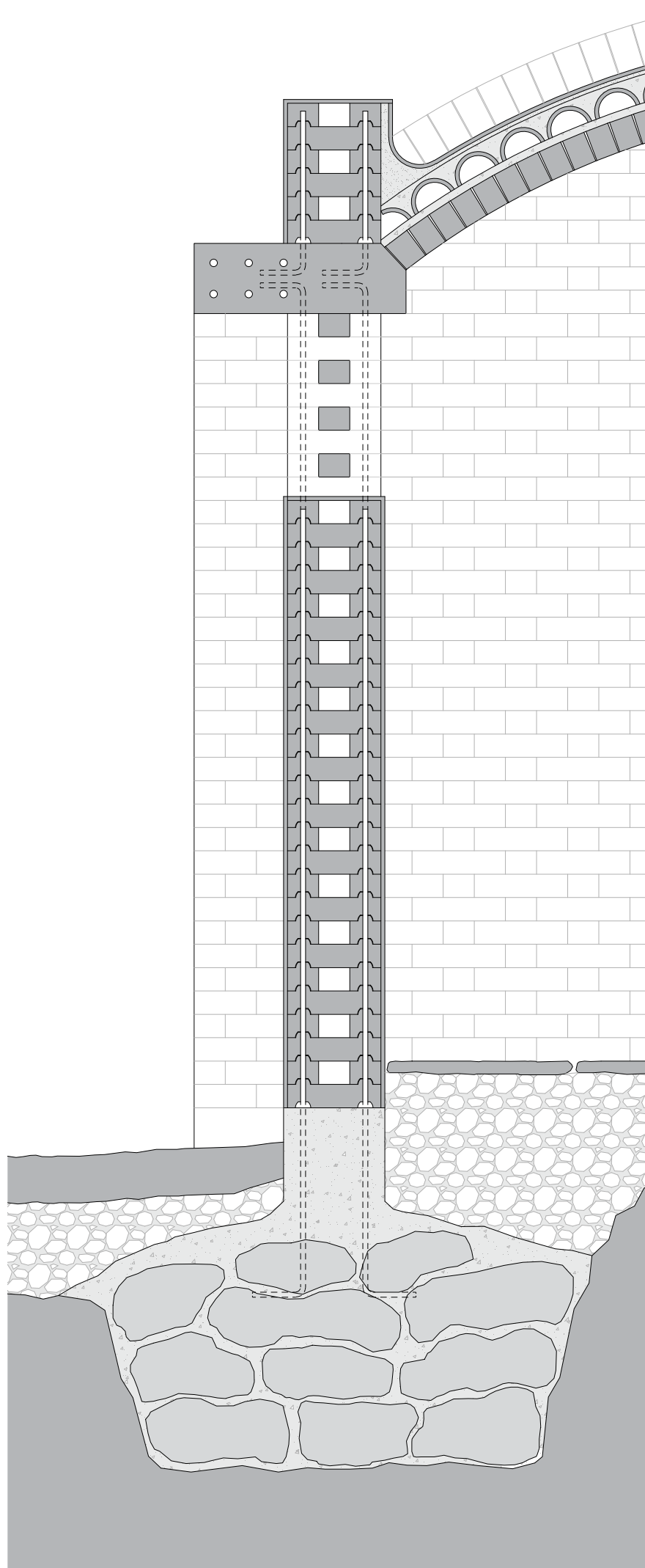
Plots 01 + 02 Top Floor Plan



Plots 01 + 02 Roof Plan



Wall Conditions and Level of Infill



Detail Wall Section

