

Research Gaziantep area

Site analysis



- No buildings for education
- The city is car-centric
- Few green in the city

Analysis of the population of Gaziantep

The population of Gaziantep

- Young
- Ethnically homogeneous
- Low income
- High crime rates

Targeted audience – Kiriyak Kultur Institute

The institute is set-up to support

- Syrian refugees
- Women
- Ethnic minorities



Problems the targeted audience faces

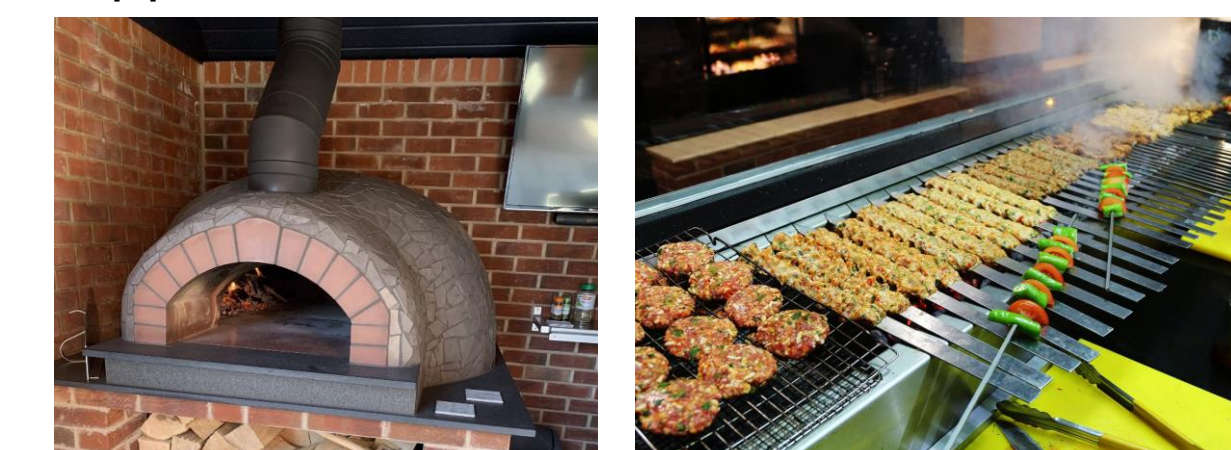
- Education
- Social cohesion



Turkey has a rich culinary tradition

- The kitchen plays a big role in the institute

Appliances needed for the kitchen



Stone oven

Grill

Kırkayak Kültür

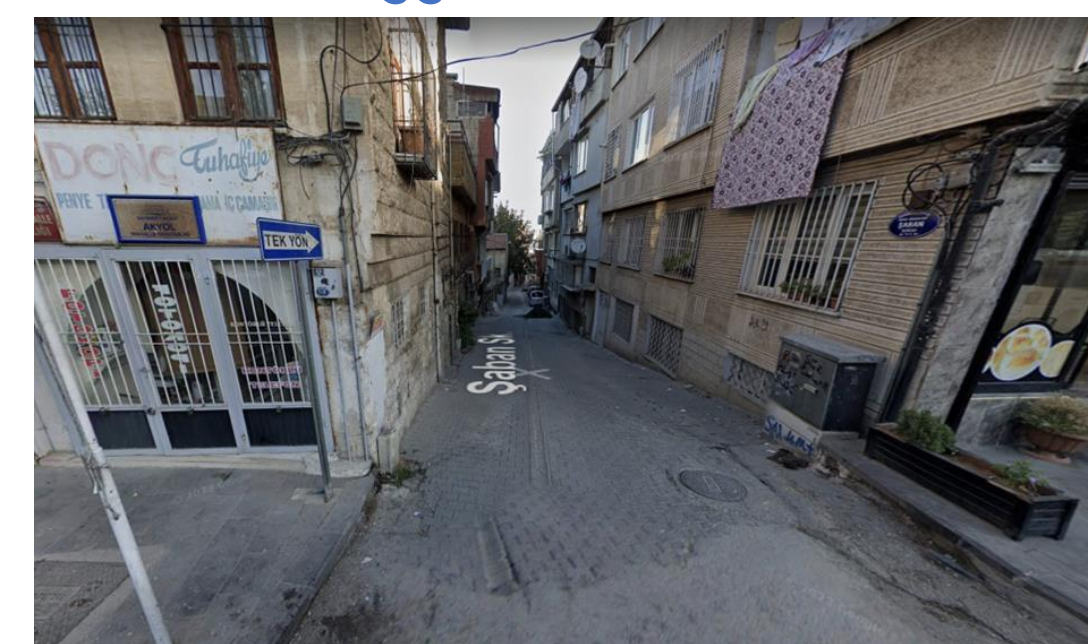
Location



There are two different highways coming around Gaziantep.



In front of the buildings there is street with parking spaces down the road. In front of the stone building there is a bigger sidewalk.



To the side of the building there is a small one way road. You can only enter the road from this side and exit on the other side.



Gaziantep was near the center of the two earthquakes that happend this year in February.



Building methods

Masonry construction techniques used to create cooler living environment.



Figure 11. Use Of Natural Stone Material In WallConstruction (Taştan, 2014)

Local culture

Turkish traditions, social structures, values

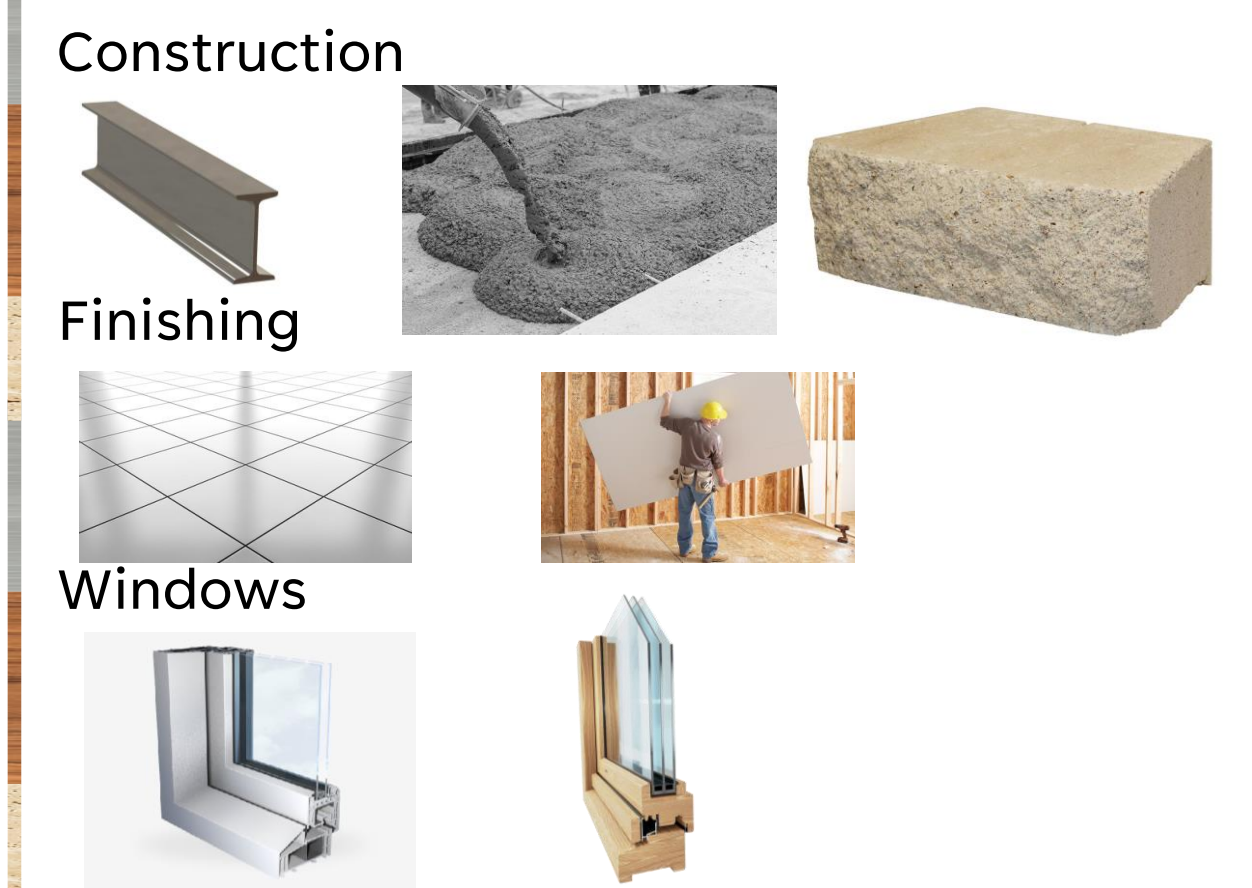
- Hostipable for others
- Family is important
- Traditional gender-roles
- Nationalistic
- Society
- Islamic country

Architectural style

- Gaziantep has many historic buildings
- Local materials are used often (Lime stone, sandstone)
- Arc structures are used often

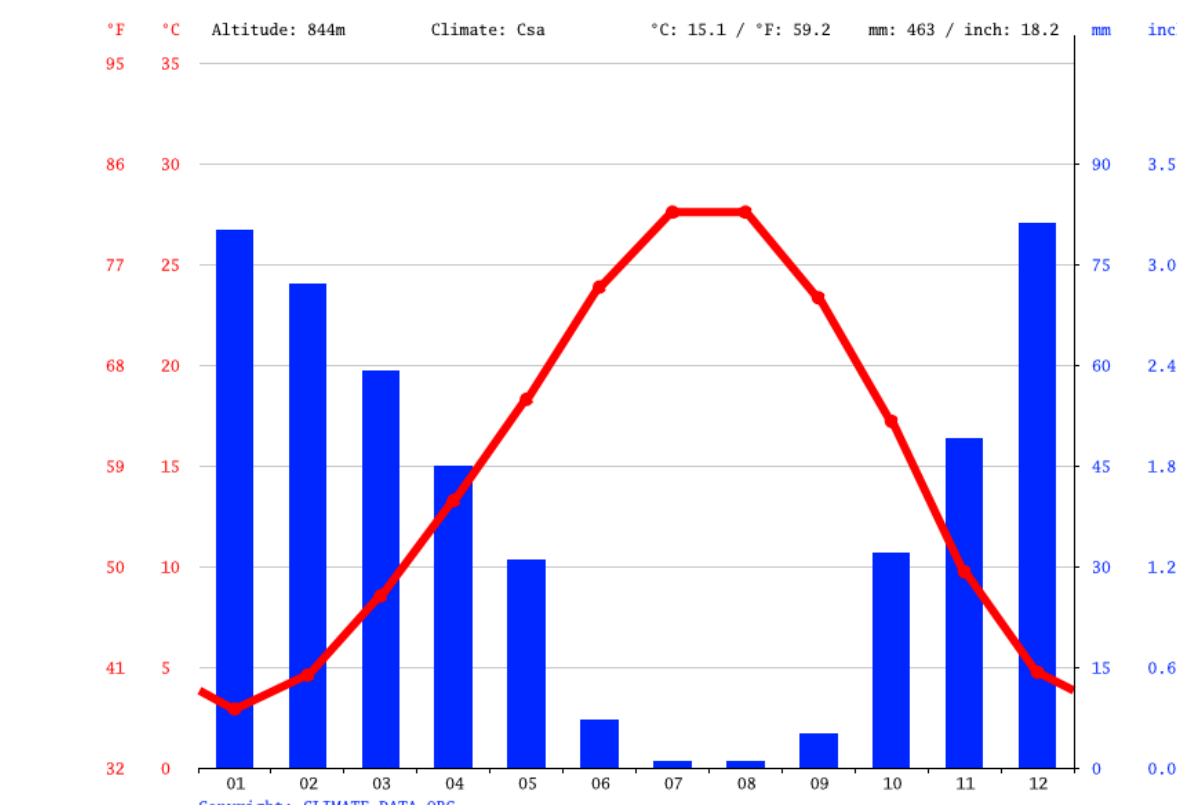


Materials used in that area



Climate

Gaziantep has a hot-dry climate. Max off 70mm rain per month. Which concludes in a lot of workable days and a high need for cooling.



Temperature

Because its always so hot in the summer they use the courtyard to cool.

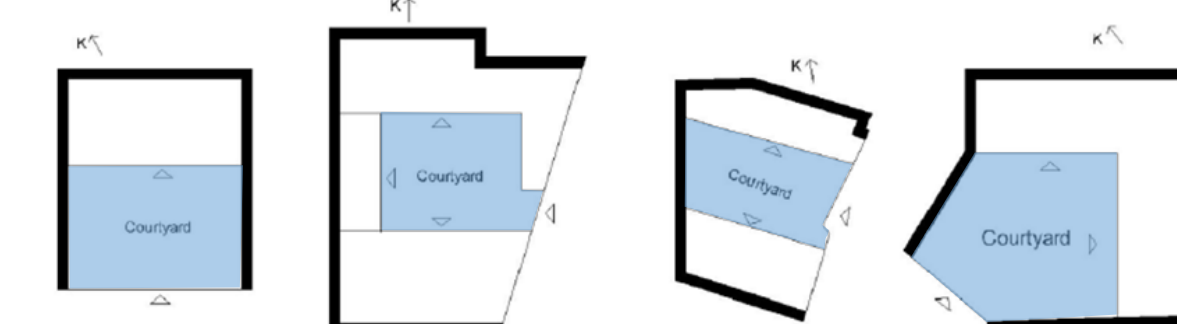
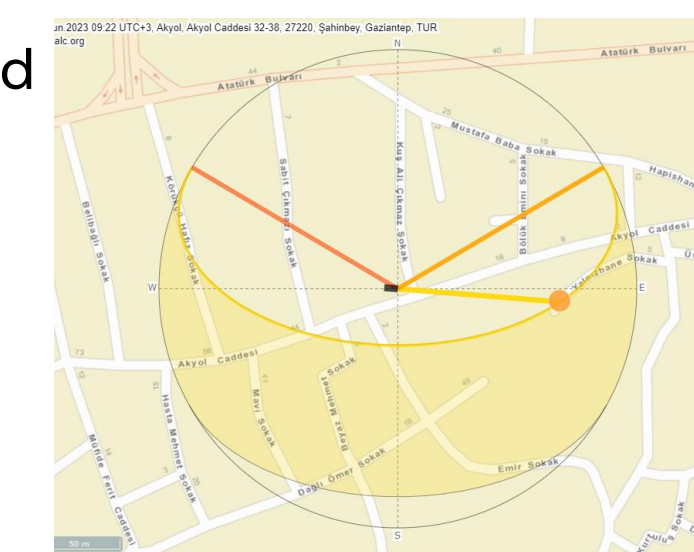


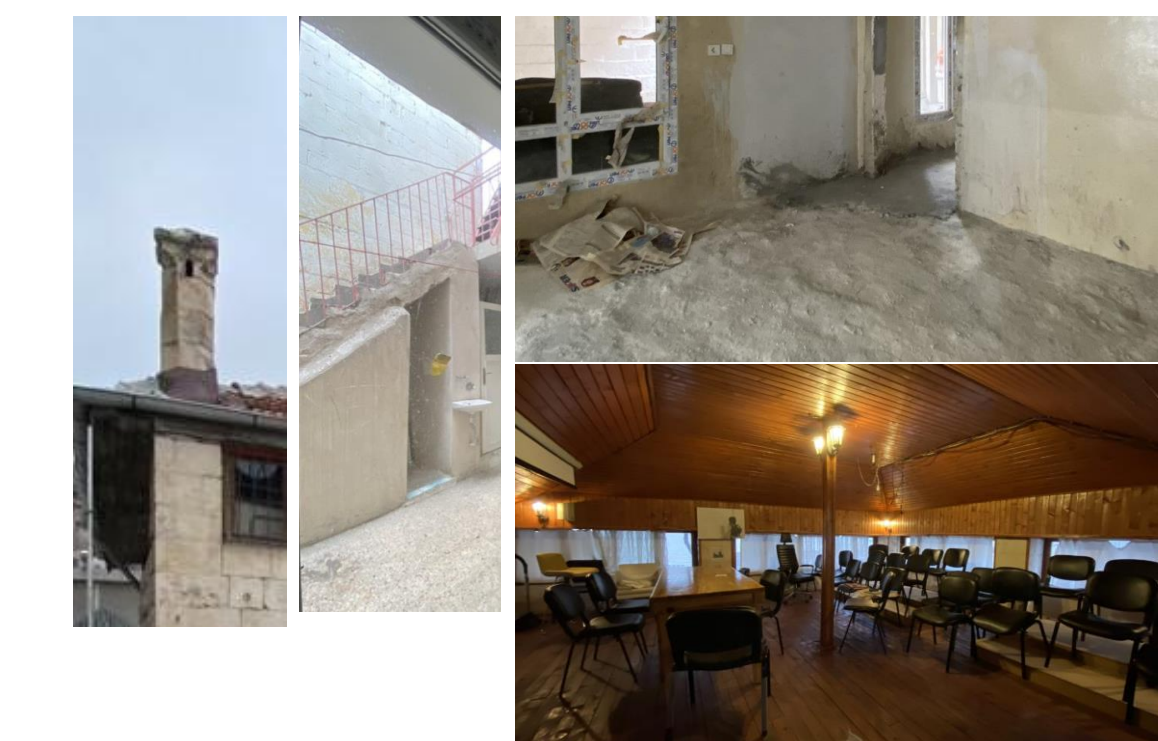
Figure 8. Types of Traditional Gaziantep Houses (Adopted from, Taşdoğan, A. D. 2008)

- Building faced south
- Dominant wind from north-west



Current situation

Found elements that are important for further designing



- Chimney (could be used for ventilation)
- Staircase to second floor, white house
- Unfinished floor, white house
- Dark top floor

Earthquake-resistant roof solutions



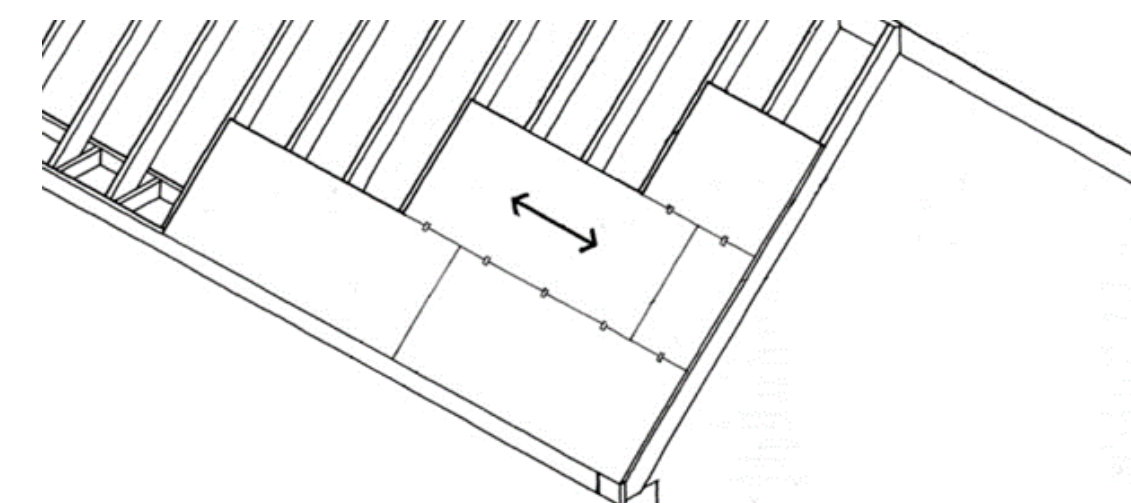
Wooden shingles for roofing. Lightweight solution instead of rooftiles



Fiberglass shingles, lightweight solution instead of rooftiles



Place roof blocks between the rafters. The roof blocks help the roof rafters with transferring the earthquake lateral loads to the walls. this prevents the roof from rotating and falling during the earthquake.



We recommend to use plywood or OSB for the roof sheathing. It is a stronger type of sheathing compared to particleboard. To make the roof earthquake-resistant, the sheathing needs to be placed perpendicular to the rafters.

Kırkayak Kültür

Concepts and research

1. Karsten – Bridge to Society Goal:

Integrate female Syrian refugees into Turkish society

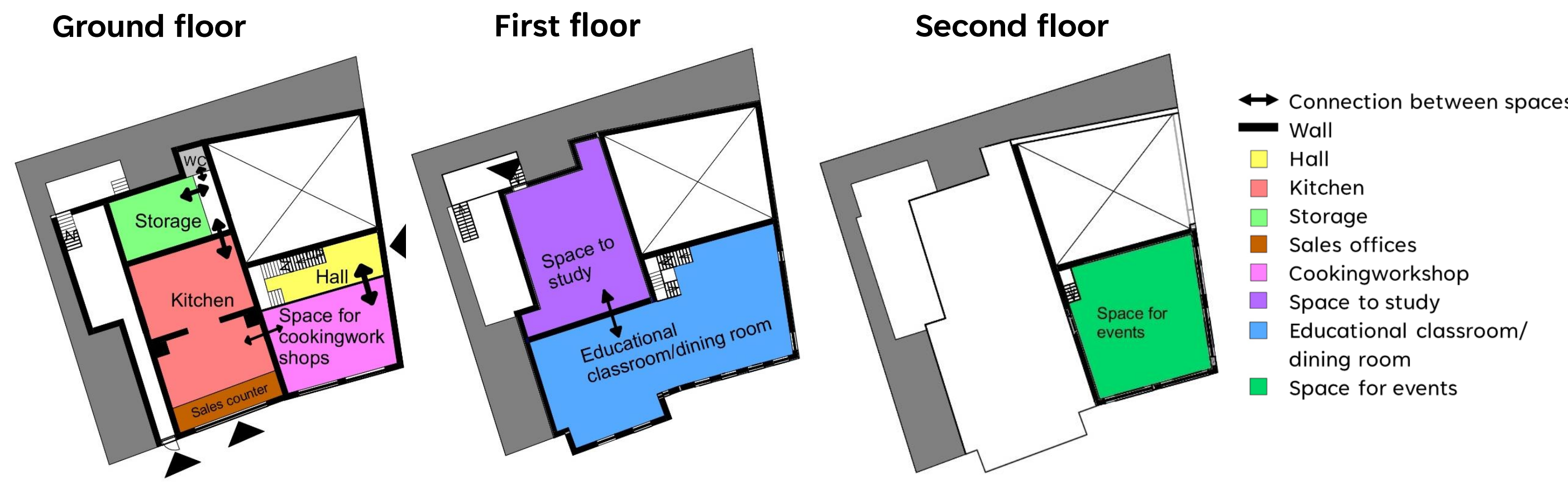
Via: education in Turkish language and culture

Pros

- The workshop space is inviting from the outside.

Cons

- Many construction walls are removed.



Technical information

Base isolation

- Expensive
- Currently the foundation is in a good condition

Insulation

We have decided **not** to reinsulate the building, because the intern climate already succeeds the clients preferences.

If we not reinsulate the building we can save money. This money can be put in our other preferences.

2. Sukran

Goal: cooking together by bringing together Syrian and Turkish cuisine.

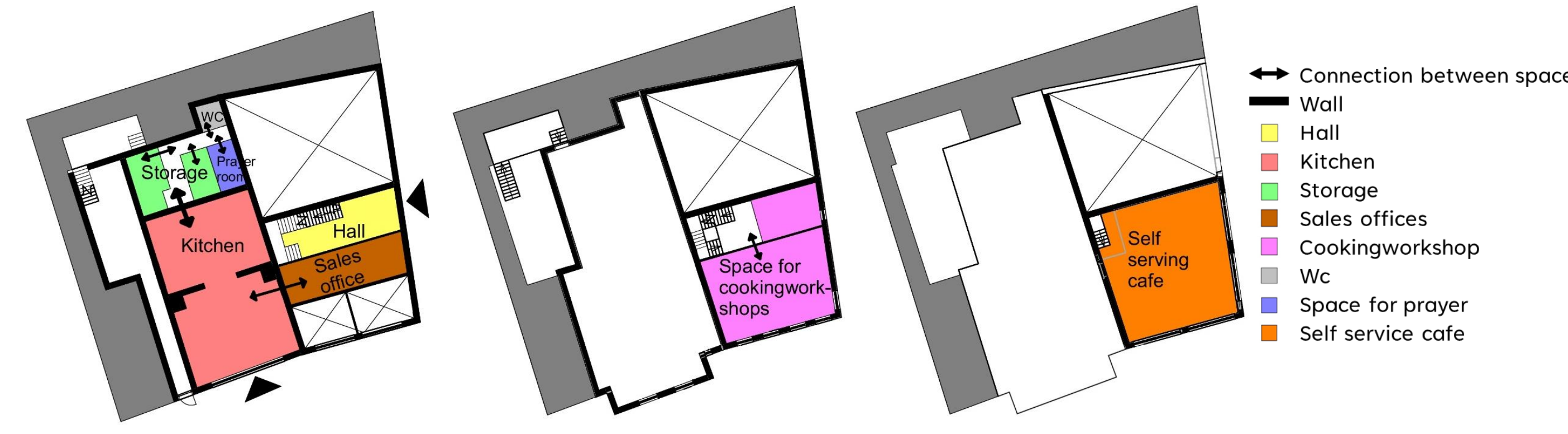
Via: Huge kitchen with different kitchen types.

Pros

- Food can be picked up directly at the façade.

Cons

- no event space available



3. Marit

Goal: Accessible: open inside, kids, cooking inside

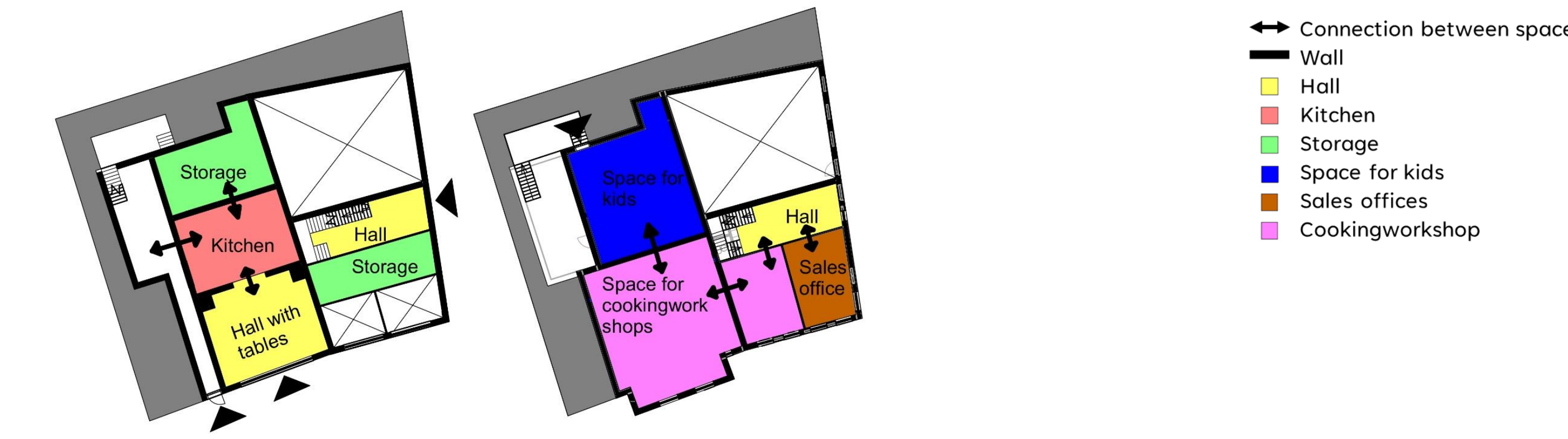
Via: big doors and a huge kitchen

Pros

- Few large openings
- Place for children

Cons

- Doors outside to enter children's place



EDCC (Eco-friendly ductile cementitious composite)

- Same qualities as steel
- Easy to apply
- Can resist an earthquake of 9.1 on the richter scale

Lintel

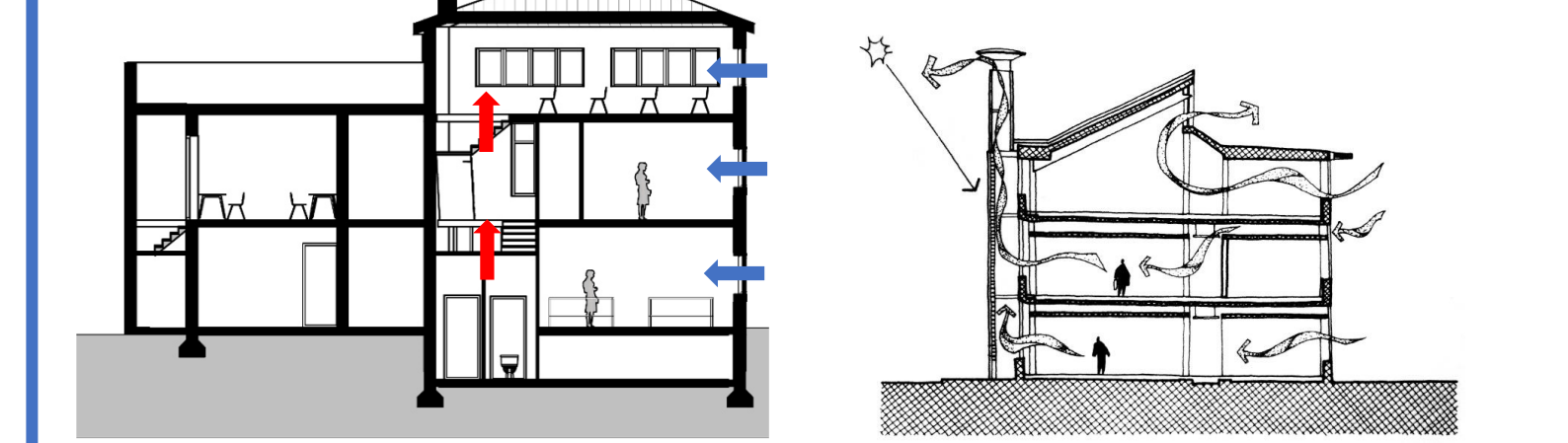
- Requires professional expertise
- Costs around €3000 to €5000

Steel beam

- Very strong
- Heavy weight
- Expensive

Wooden beam

- Lightweight
- Cheaper than steel
- If portable for 2 persons, structurally not very strong



Stack ventilation

- Applied in the stone building
- In the white building we will use mechanical ventilation

Construction plan

In the red you can see the bearing walls. We did this research to know what's possible to change.



Figur 2, Steel beam in opening, white house

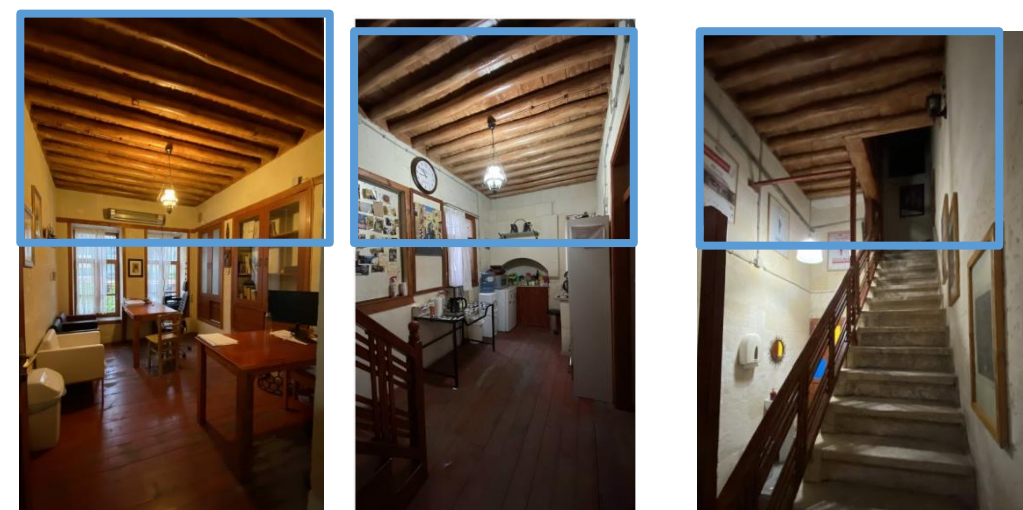
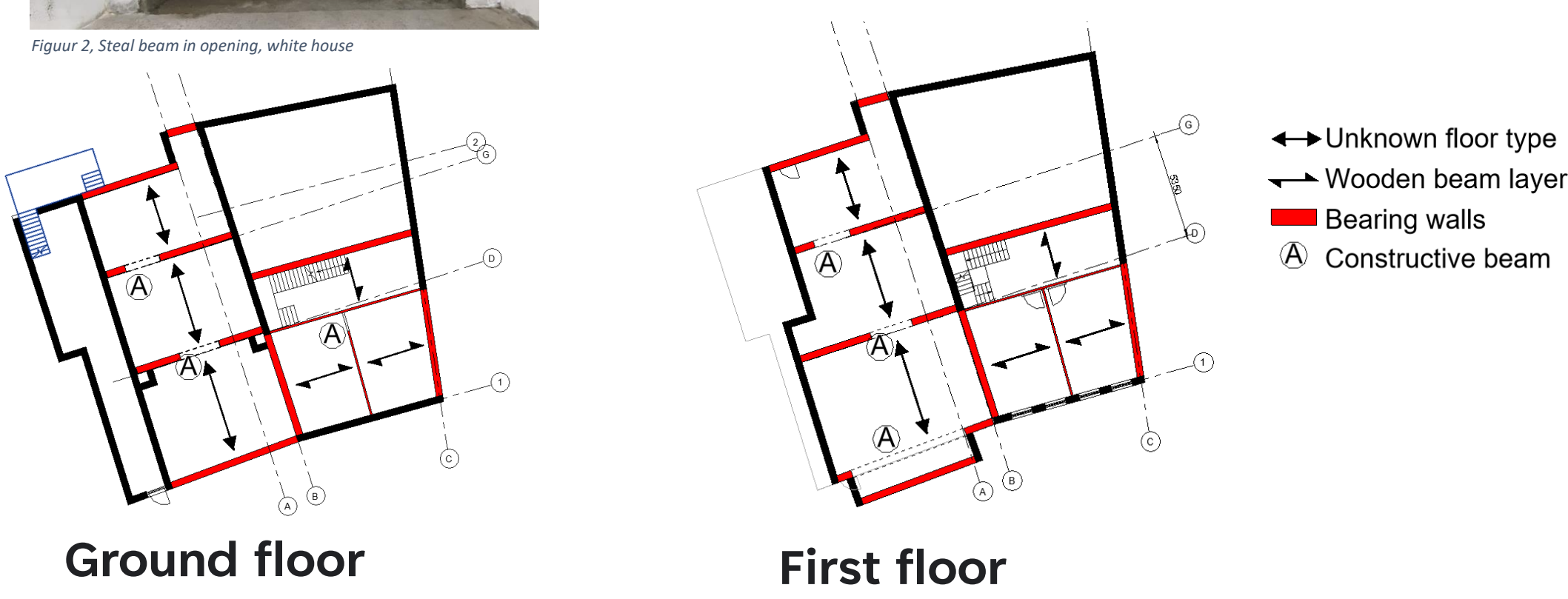


Figure 1, Beam layer room 2, 1st floor
Figure 2, Beam layer Hall 1st floor.
Figure 3, Beam layer ground floor



Maintenance plan

Gevels	Actions	Roof	Acties
Discolored facade stones	Cleaning and restoring where necessary	Gutter	Clean and check connections
Part of the joints are missing	Cleaning and restoring where necessary	Shingles	Check if the shingles are in their original place. Replace damaged or missing shingles.
Drainpipe outside is polluted	Clean the excess dirt for preventing the pipe to break. Check the vulnerable spots for leaking and damage.	Chimney connection on the roof	Check if the connection is waterproof. Recover if needed.
Discolored window frames	Clean, paint and when there is rot fill it up. Stain in current colour.	Bricked chimney	Check the bricks and joints. Repair if needed.
Bars windows	Check the connection to the wall and strengthen where necessary	Bottom of the roofs is discoloured	Paint the stucco and the wood
Hole white house	Has no function anymore, close and stucco.	Missing pieces of stucco	Restore the stucco
		Bottom of the overhang is discoloured and parts are falling off.	Restore the stucco and paint.

Ground floor white building	Actions
Front room, plaster is damaged	Smooth plaster wall
Structural beam not finished	Afwerken met koof en stuken met de rest van de muur
Floor in middle room has no screed	Afstorten vloer, zodat de hele ruimte dezelfde hoogte vloer heeft
Middelste ruimte verschillende kleuren muur	Painting the walls
Doorgang naar achterste kamer slecht afgewerkt	Blijft open, geen deur, dus recht afwerken en stuken.
Gaatjes plafond middelste ruimte	Plafonds bijwerken
Vochtschade achterste ruimte en opslaghok?	?
Afwerken van binnenwanden	Wanden schilden klaar maken, gaatjes en scheurtjes opvullen.
Painting interior walls	Painting the interior walls in RAL9010

Kırkayak Kültür

Chosen design – Karsten

We chose scenario 1 Because

- The concept fits seamlessly with the vision of the Institute
- The facade communicate what happens in the building
- A logical layout of the building

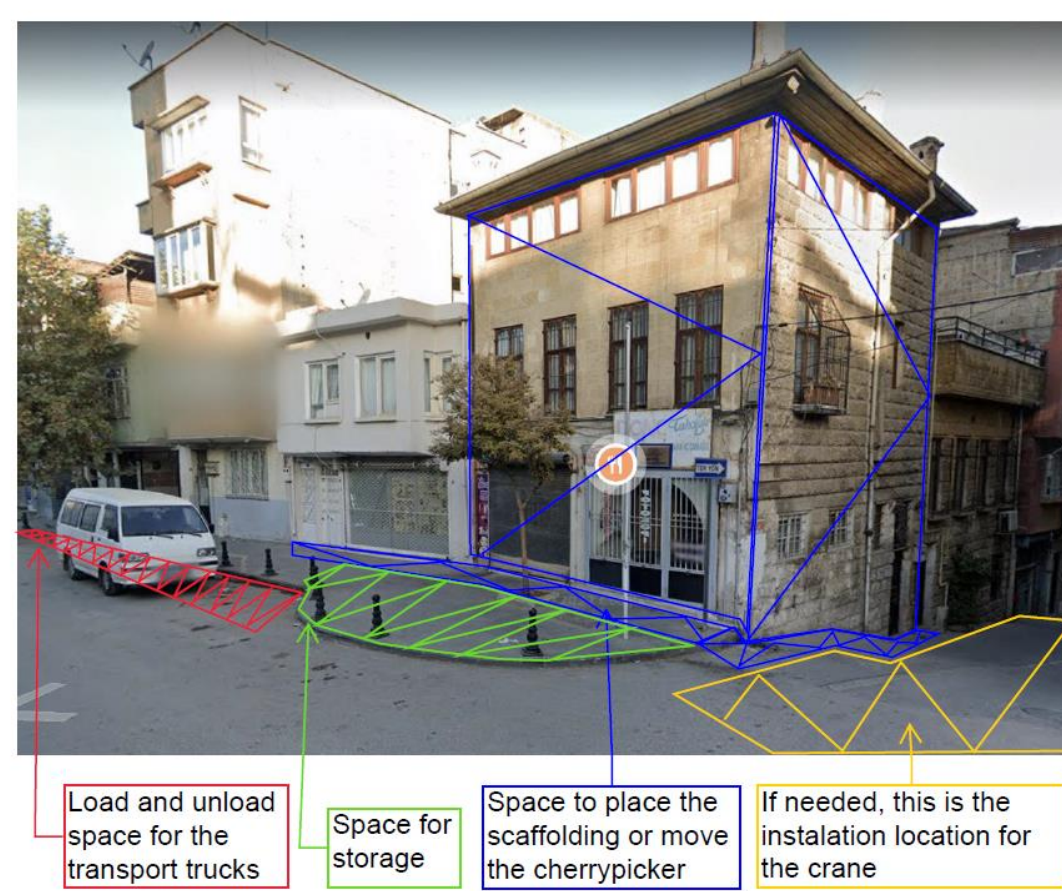
Changed since concept:

- Added playing room
- Added prayer room
- Less bearing walls demolished
- Added library
- Office to first floor

Logistics

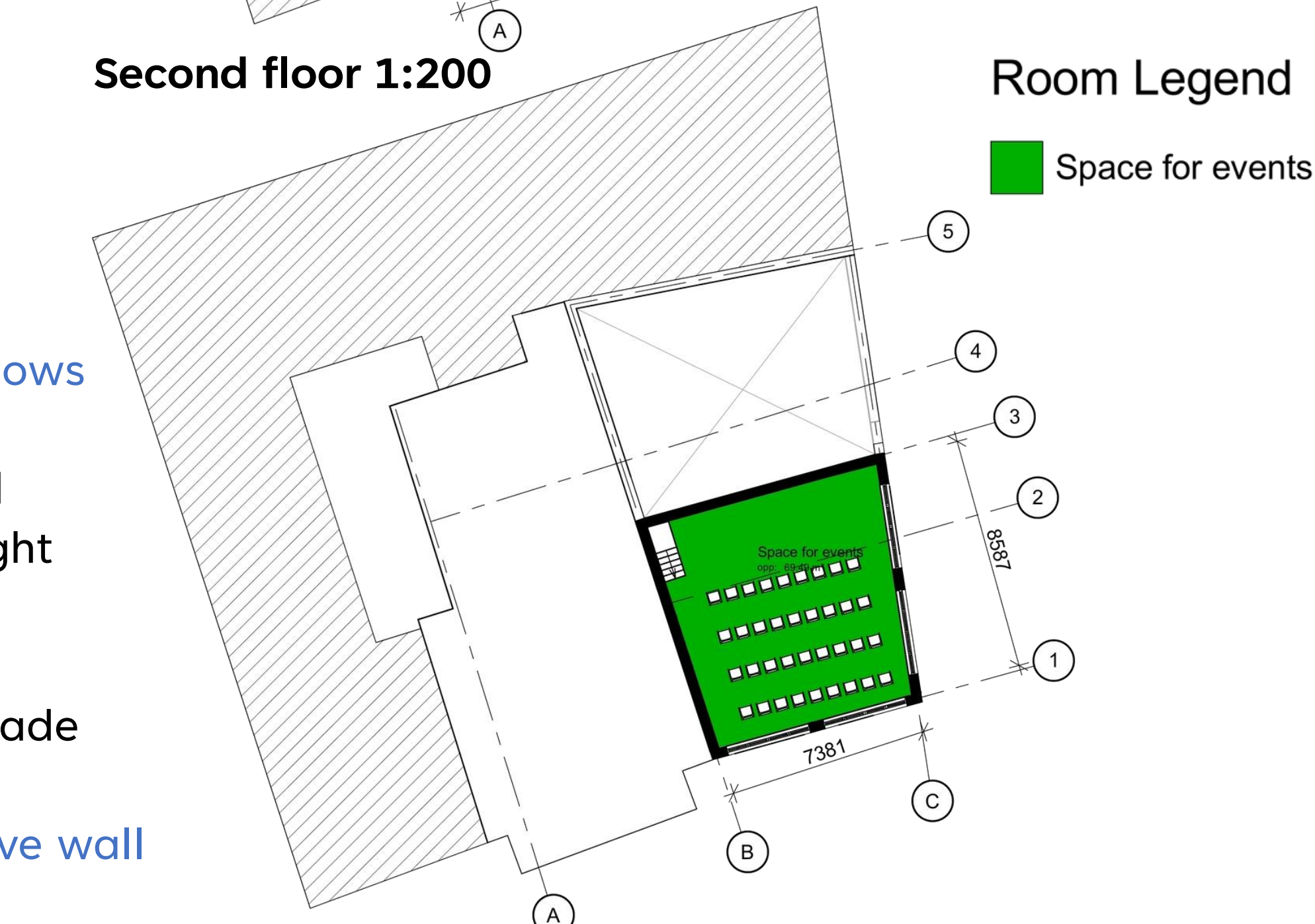
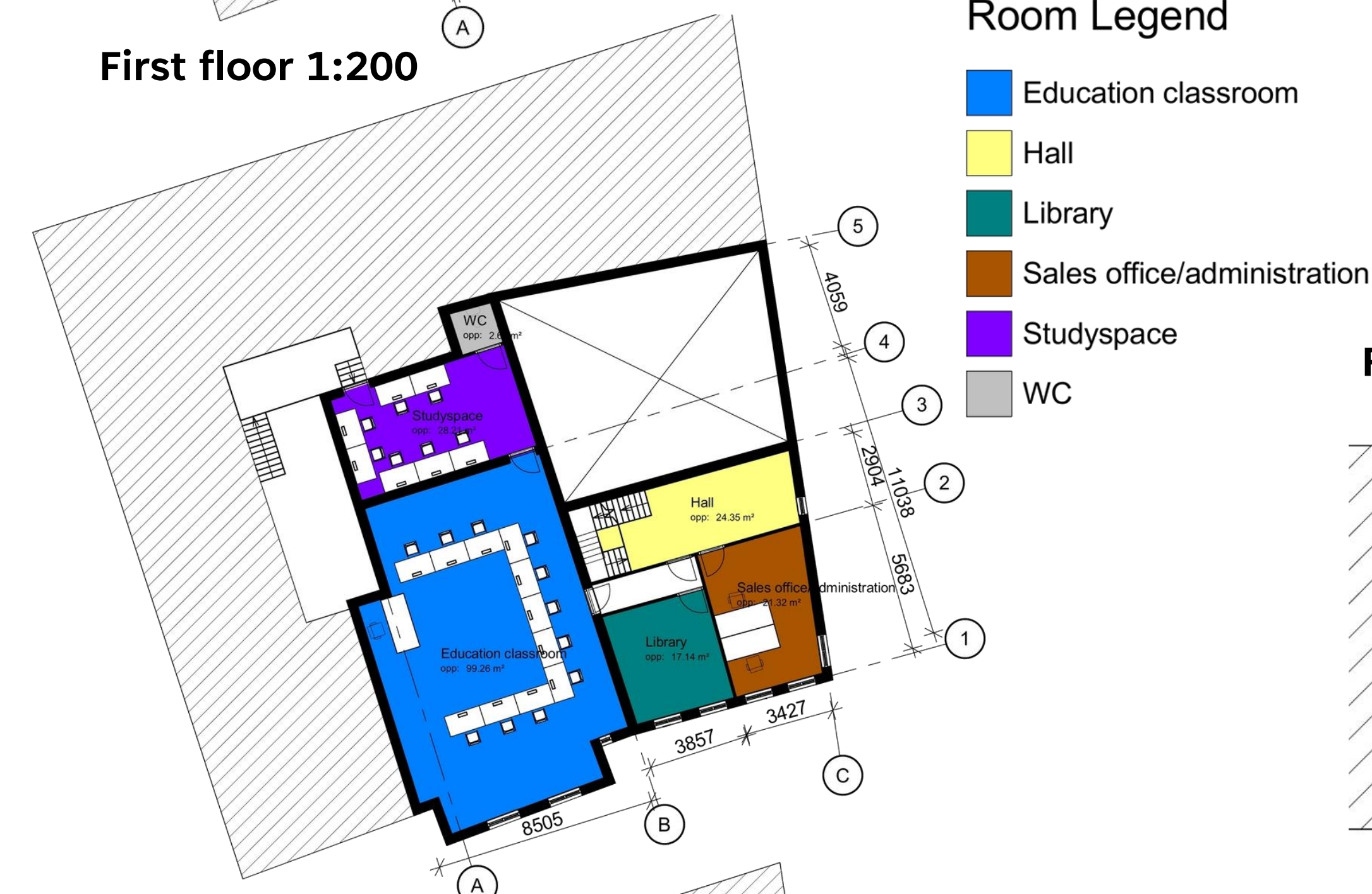
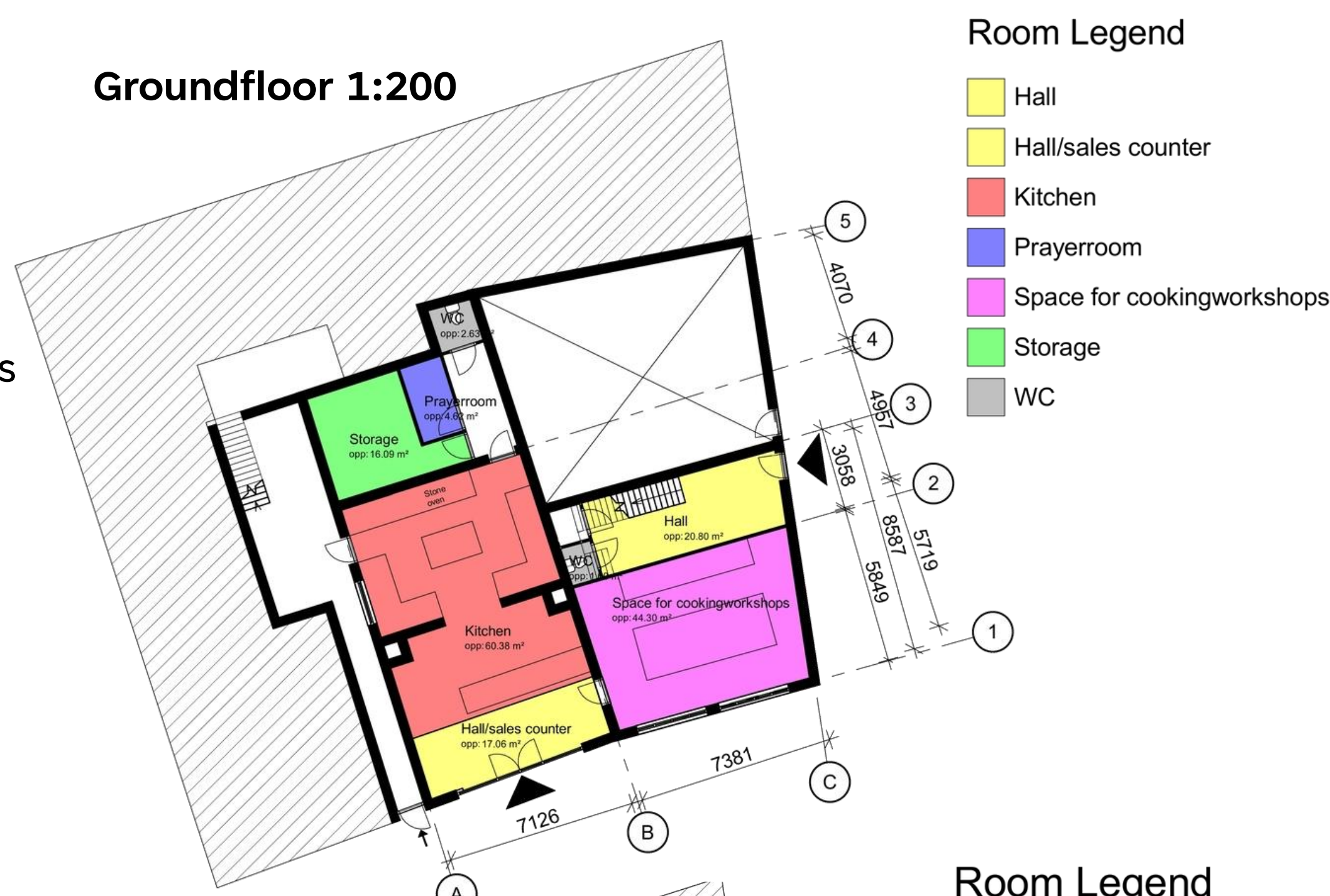


This is the road the transport drivers need to take.



Final Changes

- Front facade white house gets **new windows**
- Front stone house **new windows**
- **New door** from white house to courtyard
- Door inside white house moves left to right
- 1st floor **breakthrough constructive wall**.
- **Roof 1 m higher**
- New inner wall stone house first floor, made from wood.
- 1st floor white house **removal constructive wall**
- Pour concrete second part white house



Renders



Frontfacade 1:200



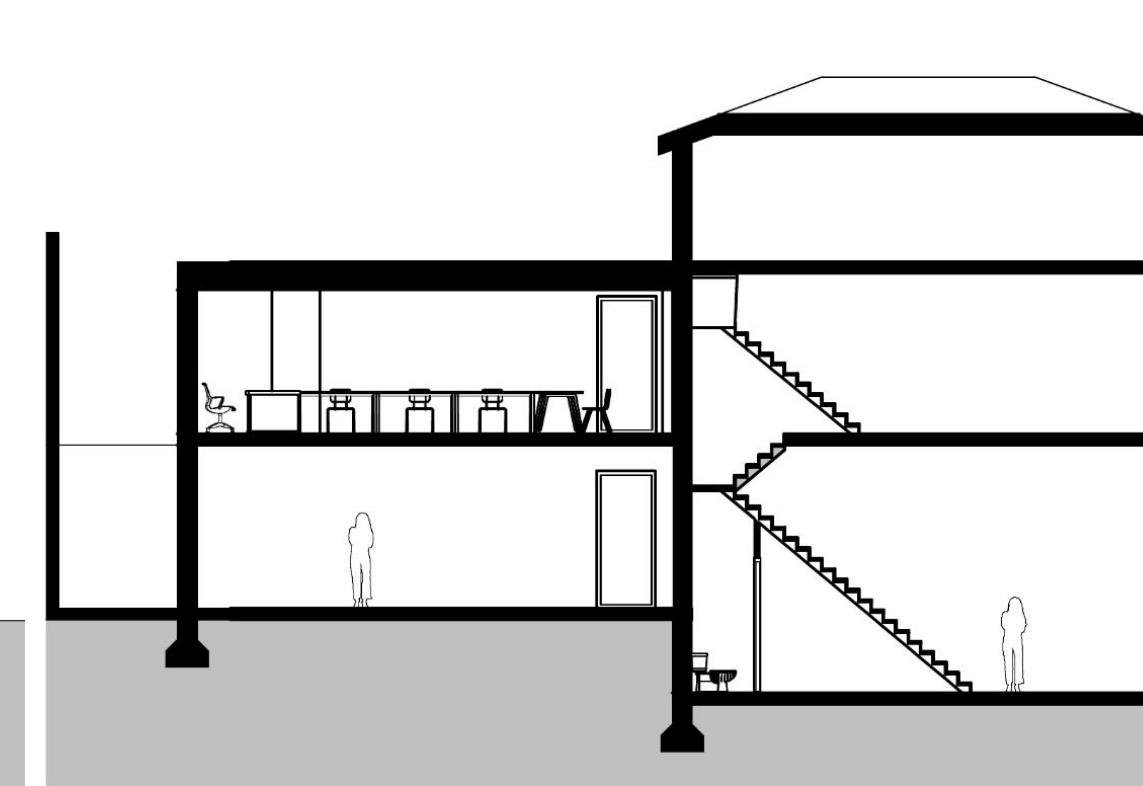
Right-side facade 1:200



Cross section 1 1:200



Cross section 2 1:200



3e Verdieping +10650
2e Verdieping +7650
1e Verdieping +4600
Begane grond +0

3e Verdieping +10650
2e Verdieping +7650
1e Verdieping +4600
Begane grond +0



Mobile kitchen

Used to feed the children. Small and portable and will be parked in front of the white house.