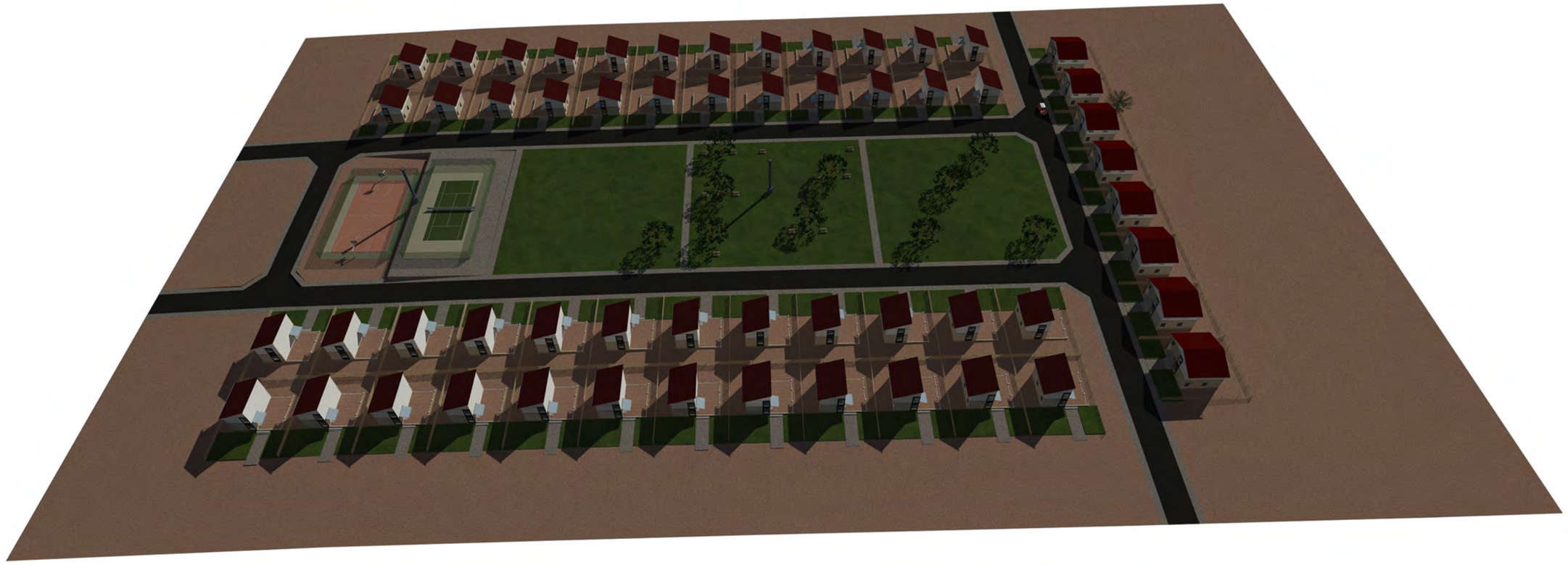
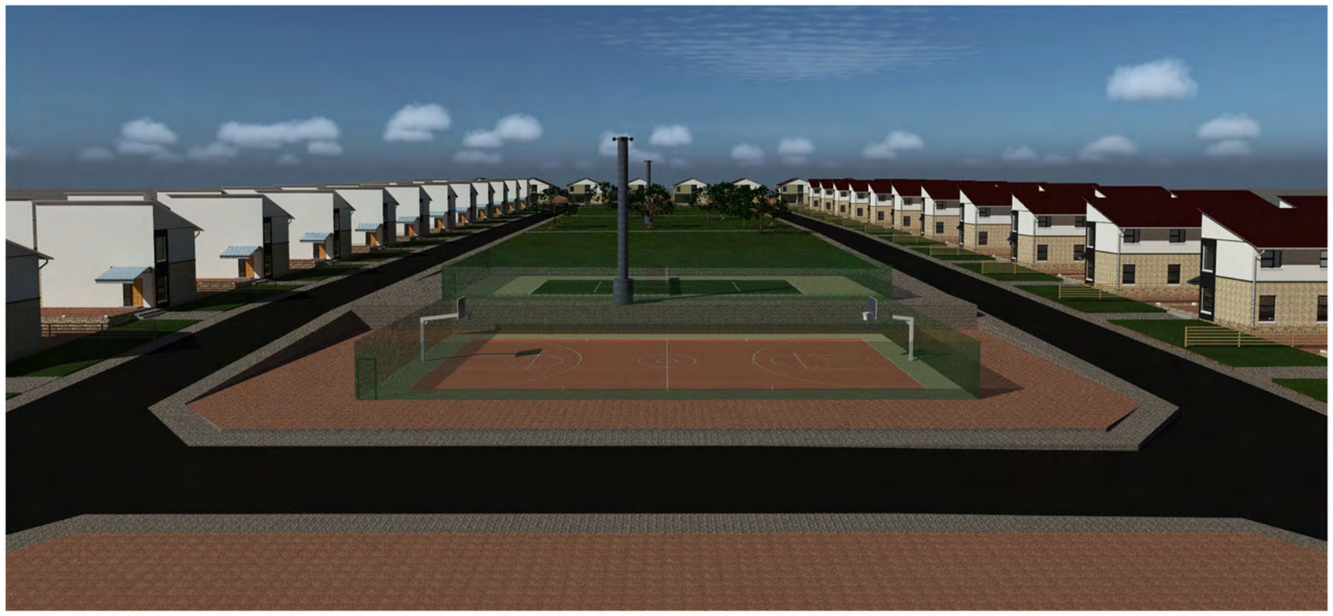
RISE IN THE CITY COMPETITION HALF- HOUSE





CONCEPT

HALF HOUSE Concept make a very efficient use of land and allow easy expansion. Half of a house will be built and a space to “complete the house” after asome time.

ENVIRONMENTAL STRATEGY

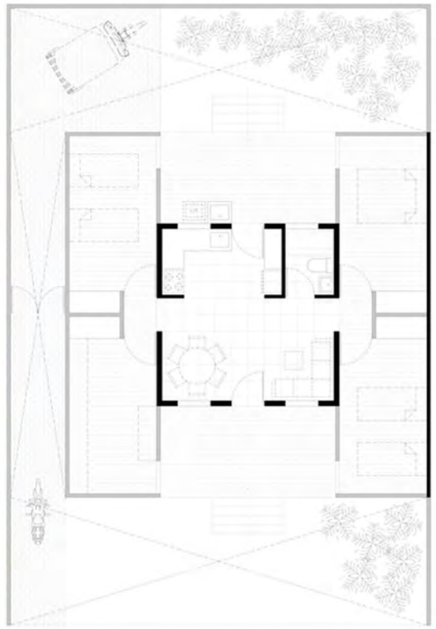
The environmental challenge of designing housing in Lesotho is the extreme heat during the summer and extreme cold during the winter. The strategies to generate comfort in the midst of these conditions were the following:

First, for thermal comfort, the rooms were allocated in the way that they will gain solar radiation from sunrise to sunset. The use of materials are also thermally comfortable. The openings are designed in such a way that during summer they allow vertical and horizontal ventilation.

Secondly, to protect the building from heavy rainfall, the roof is tilted to properly allows rain to evacuate,and can be conserved or redirected to the garden.

PRECEDENT STUDY

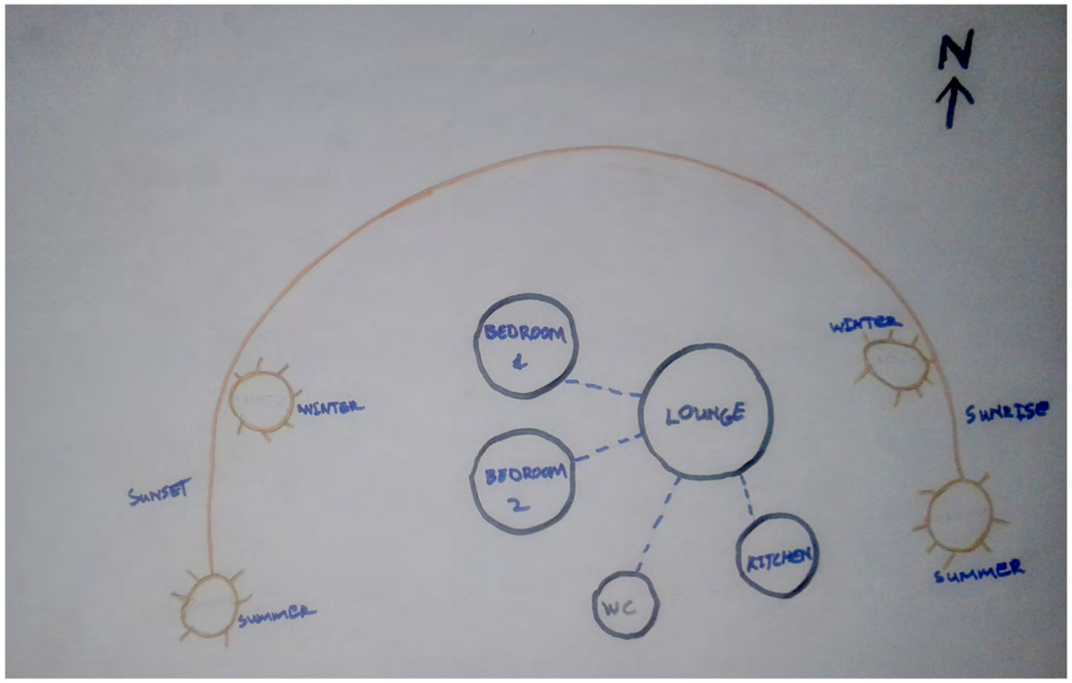
1. Quinta Monroy Housing 2004 Iquique, Chile
2. Villa Verde Housing 2013 Constitución, Chile
DESIGNED BY ALEJANDRO ARAVENA



3. Incremental Social Houses for Iquitos, Peru
Proposal from architects Rafael Arana Parodi, Carlos Suasnabar Martínez, Amed Aguilar Chunga, and Santiago Nieto Valladares

The design of this three buildings allow the building to be expanded to the middle-class standard over the years and they make efficient use of the land and as a house. The built part contains the core needed spaces such as open-plan kitchen with lounge, bathroom and bedrooms.

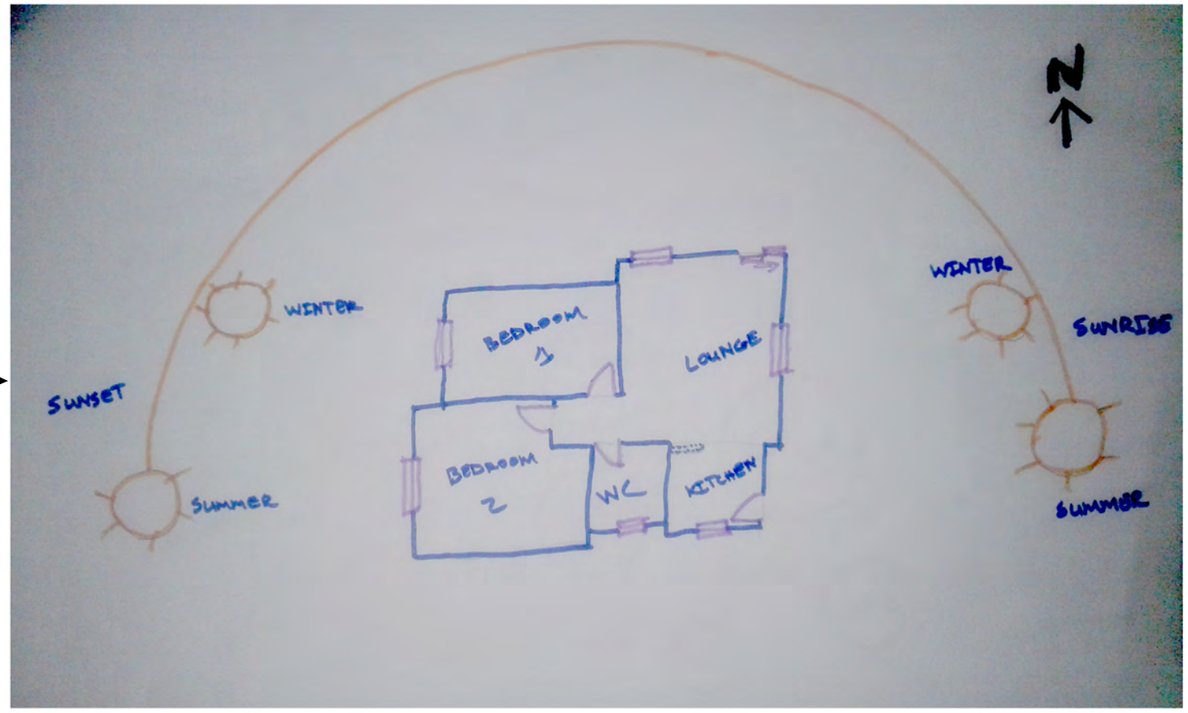
DESIGN PROCESS (bubble diagrams and space alocations)



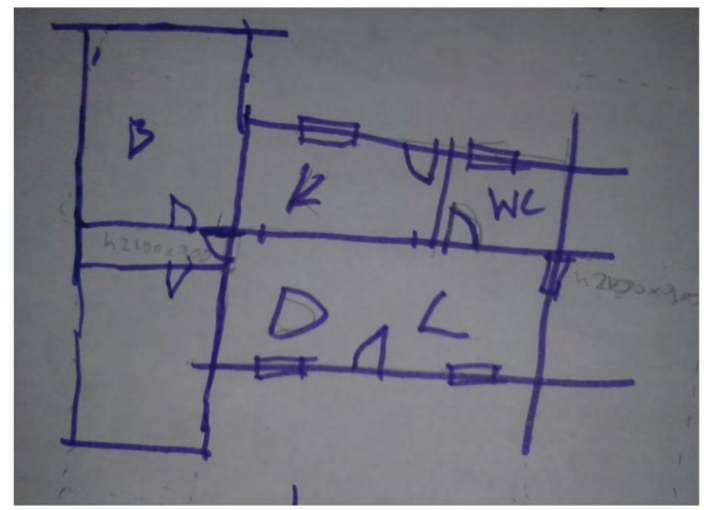
Bubble diagram showing the allocations of space.
kitchen on the east to gain morning solar radiation while bedrooms in the west to gain afternoon radiation to warm up the room in the evening.

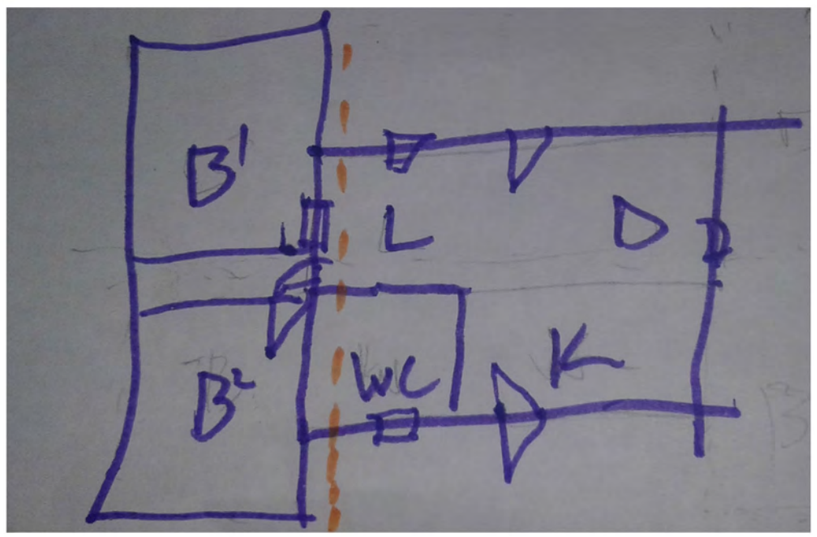
Lounge is placed on the north side to gain light and heat during the day.

showing space allocations on a different floor plans



THE DESIGN STARTED AS A SINGLE STOREY BUILDING

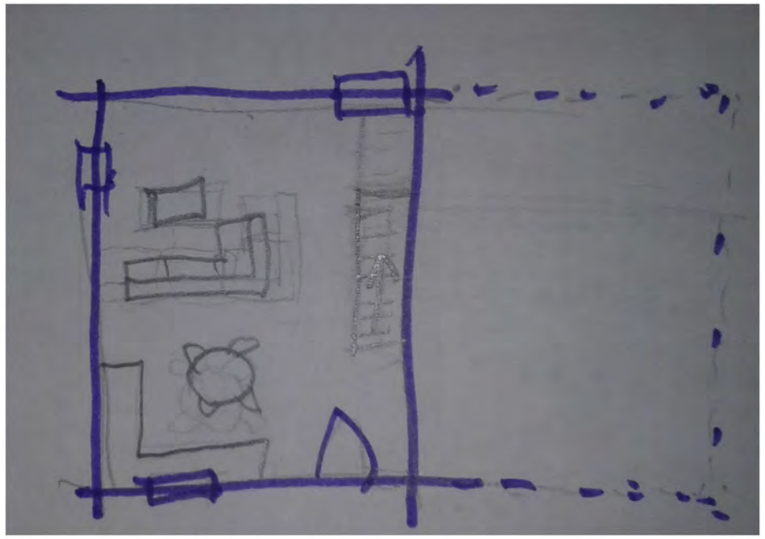




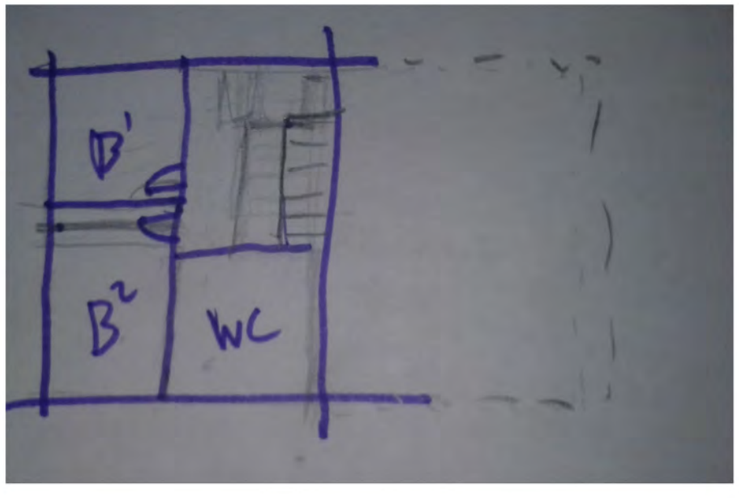
DESIGN PROCESS

The footprint recommended was limiting the sizes of the room and the solution was to design going up.

The rooms mostly used during the day are athe the groundfloor while the bedrooms and the bathroom are the upper floor

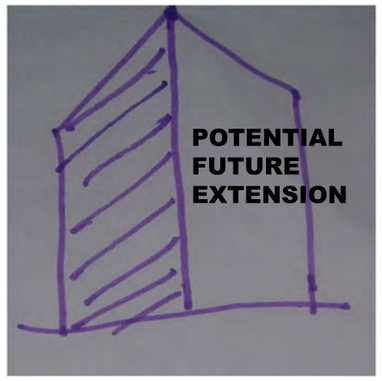


GROUND FLOOR



FIRST FLOOR

Influenced by Alejandro Aravena with his HALF-HOUSE buildings. The design Prototype incoporate the half0house concept to allow easy extension of the house.



FROM SINGLE STOREY TO A HALF HOUSE

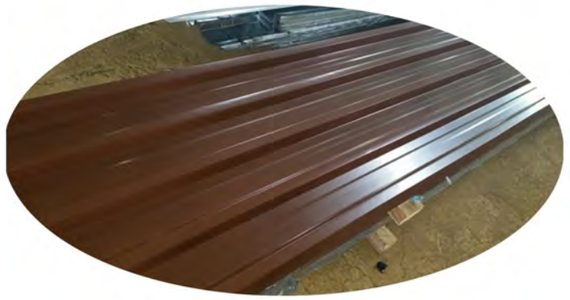
Middle-class standard ca be achieved by the residents themselves.

MOODBOARD

Material used in the design are locally found material which are cheaper and other material like sand stone are free (only transportation can be paid).

WOODEN STAIRCASE
easy to relocate after extantion of a building

RHINOBOARD CEILING
cheaper and easy to install



IBR ROOF SHEETS are durable

STRUCTURAL TIMBER approved by SANS

FIRED BRICKS are cheap, thermally and acoustically perfom well

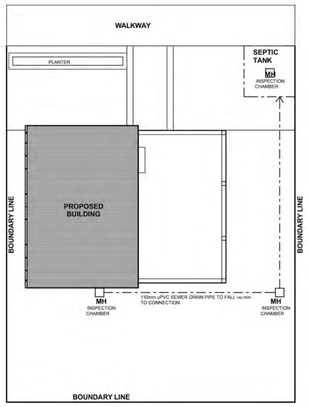
SAND STONES are resistant to weathering and easy to work with

VYNIL TILES are cheap and easy to install

PROJECT COSTING ESTIMATES

DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (M)
GROUND WORKS				
Strip Footings and slab	m^3	-	-	-
MASONRY				
Foundations	m^2	-	-	-
Superstructure				
Brickwalls	m^2	-	120.00	-
Precast concrete lintels	m^2	9	110.00	990.00
Brick reinforcement by brickforce	m	120	2.00	240.00
Waterproofing of walls and floors	m^2	67.6	45.00	3,042.00
ROOF COVERING				
IBR pre-coated sheets	m^2	62.71	140.00	8,779.40
Rafters	m	85.28	24.00	2,046.72
OPENINGS				
Doors	-	-	-	7,500.00
Windows	-	-	-	4,600.00

PROPOSED HALF-HOUSE



SITE PLAN
SCALE 1:200

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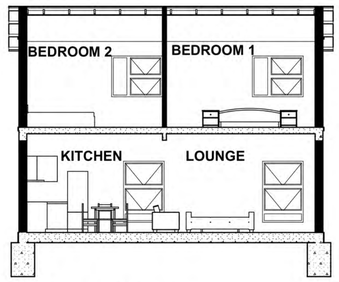
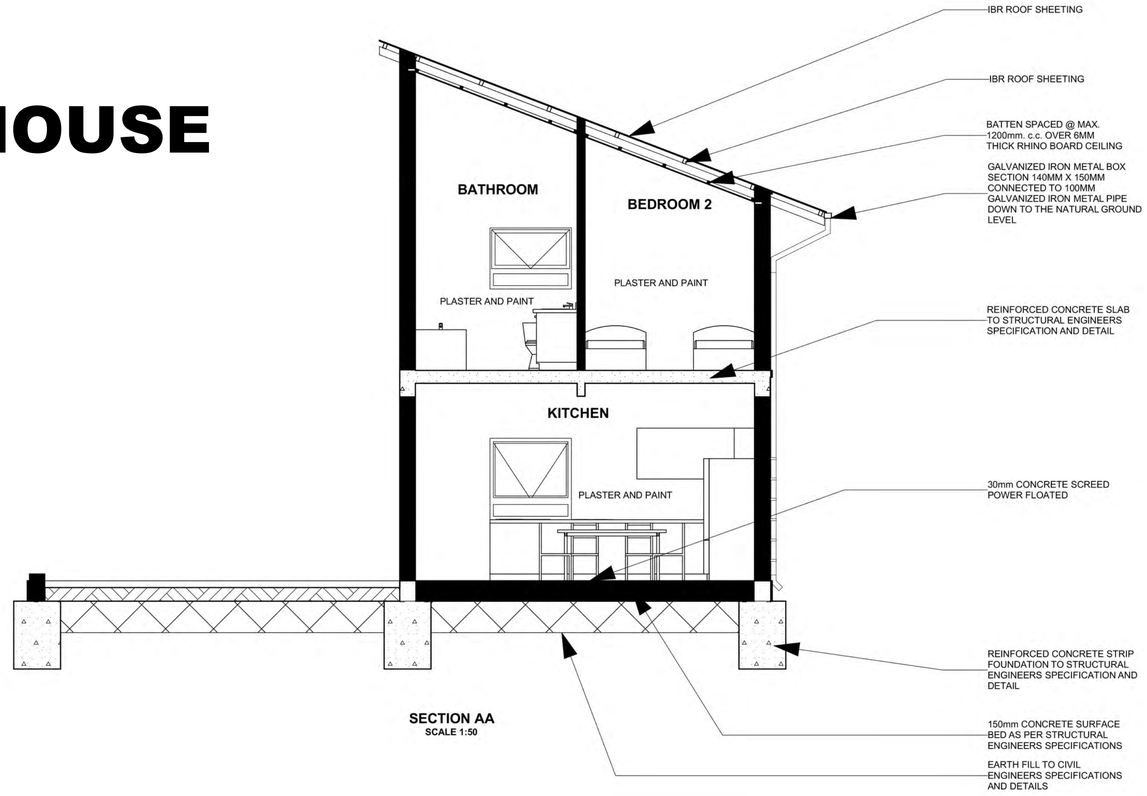
ROOM AREAS SUMMARY

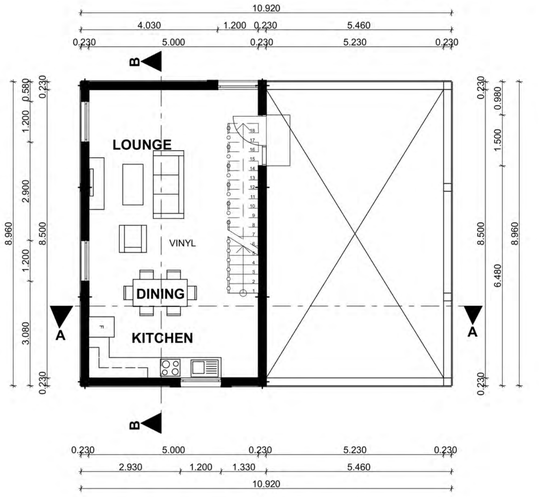
GROUND FLOOR	------- 42.50M²
BATHROOM	------- 7.16M²
BEDROOM 1	------- 12.65M²
BEDROOM 2	------- 10M²
HALLWAY	------- 6.86M²
FOOTPRINT AREA	------- 48.92M²



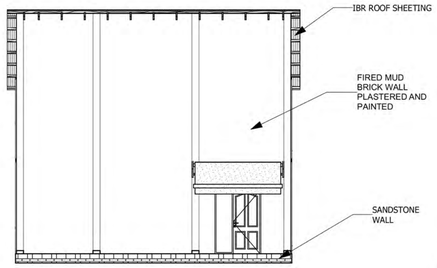
SECTION BB
SCALE 1:100



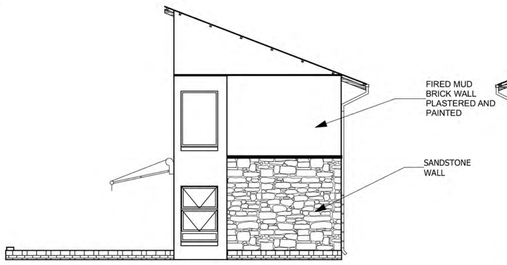
SECTION AA
SCALE 1:50



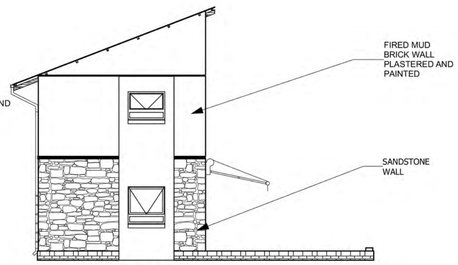
GROUND FLOOR PLAN
SCALE 1:100



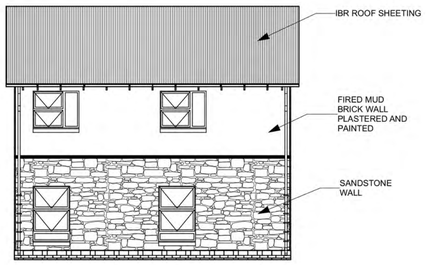
EAST ELEVATION
SCALE 1:100



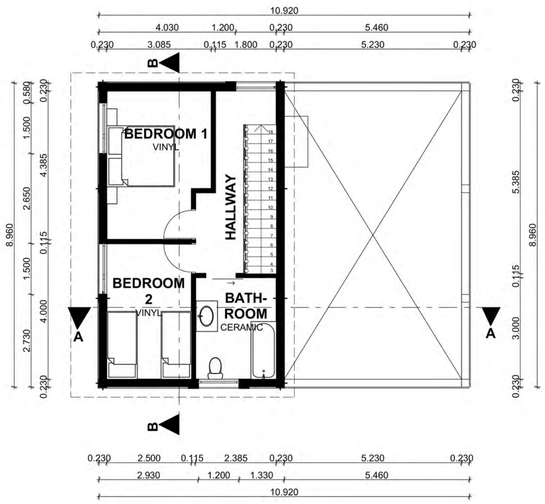
NORTH ELEVATION
SCALE 1:100



SOUTH ELEVATION
SCALE 1:100



WEST ELEVATION
SCALE 1:100



FIRST FLOOR PLAN
SCALE 1:100

3D RENDERINGS