



Rise In The City Competition 2018

**MOKOROTLO**  
**SHELTER**

## PROJECT DESCRIPTION

This project can best be described as minimalist Architecture. Minimalist architecture, sometimes referred to as 'minimalism', involves the use of simple design elements, without ornamentation or decoration. The trends of minimalism includes Pure geometric forms, Simple materials, Neat and straight components, open spaces. This project is on a small scale providing small spaces to study, relax and sleep and at the same time satisfy comfort for living.

As later explained in detail, the project is tagged mokorotlo shelter ,a conceptual idea that poses a great cultural relevance. Mokorotlo forms part of the country's flag and carves an identity for the sothos. Therefore, this project is inspired by a strong identity of the country which influences the feasibility of cultural showcase or display in the shelter itself. The shelter house two bedrooms, bathroom, eating and living area. These spaces comply with the idea of minimalist architecture which makes the shelter to be comfy providing adequate lighting and ventilation .

### DESIGN CONSIDERATIONS

- Innovation
- Use of Locally Sourced Material
- Sustainability
- Aesthetics Appeal with cultural relevance
- Row housing suggestions
- Future Aggregations

#### INNOVATION

Innovation is the application of better solutions that meets new requirements or unarticulated needs. This is accomplished through more-effective products, processes, services, technologies. The term innovation can be defined as something original and more effective and new that breaks into the society.

#### SUSTAINABILITY

Sustainability is simply the provision of the present need without compromising the future need. Good design involves design features that provide positive environmental and social outcomes. Good sustainable design include the use of passive designs, provision of greens or vegetation etc.

#### LOCAL MATERIALS

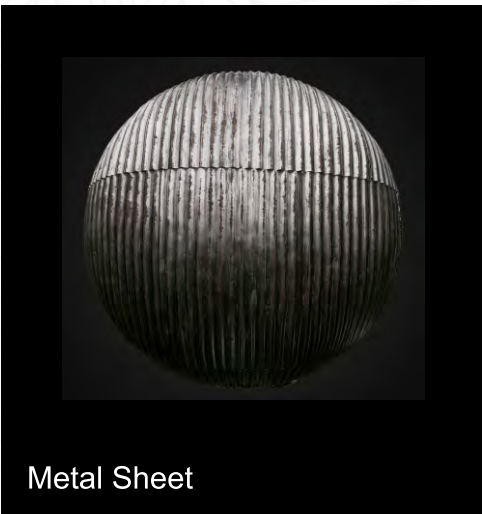
Constructing buildings using locally sustainable materials demands creative and ingenuity. It involves using readily available material for construction. Sustainable materials can be recycled and recyclable and found locally. This project proposes a dominant local material which is earth and processed as rammed wall construction.

#### ROW HOUSING

A row house is simply regarded as one of many houses in a row. This suggests a planned urban areas, where space is limited. Row houses permits easy construction and creation of homes, several of them are built at the same time.



MATERIALS



ADVANTAGES			
Superior thermal mass temperature Noise control Strength and durability Low maintenance Fire proofing Load bearing and pest deterrence	High compressive strength Good amount tensile stress. Fire and weather resistance is fair. more durable Low maintenance Cost Less skilled labor for the erection	Longevity and Durability Energy efficient : it reflects solar heat and can cut back on cooling costs.	Can be made in different sizes Can be coloured or colourless Does not rust Waterproof

DISADVANTAGES			
Not a good insulator Can be used in wetter climates but must protected from heavy rain by an overhanging roof	Low tensile strength Mixing, casting, and curing affect the final strength.	Noisy during rainfall if not well insulated. Colour may fade over time	Breaks easily Melts in high temperatures Pieces may be sharp when broken

WHERE USED			
The walls are constructed with rammed earth	The base of the building is constructed with concrete	The Roofing material is made of metal sheets	The windows are made of glass

RAMMED EARTH WALL CONSTRUCTION

1 BUILDING OF FRAMEWORK

The framework where the earth will be contained should be well framed which could be a wood/steel framework. Care should be taken to avoid collapse of framework due to shear stress and pressure when compaction is taking place.

2 POURING OF EARTH

The earth is poured to fill the framework and it is evenly poured to ensure stability

3 COMPACTION OF EARTH

The earth in the framework is compacted with a rammer which helps in ensuring good compaction and stability of the rammed wall such that it can carry imposed load. Earth is moistened and is compressed successively

4 REMOVAL OF FRAMEWORK


After the earth is set, then the framework is removed leaving the rammed earth wall






SPATIAL ARRANGEMENT/BUBBLE DIAGRAM



 Bubble / Spatial diagram which is based on open design idea

 Translation of bubble diagram into floor plan sketch which is based on open design idea

SPACES

Living Room  
Dining  
2 Bedrooms  
A toilet

SPACES DESCRIPTION

The living room flows with the dining and kitchen and this is the idea of open design. This design approach facilitates the movement of air freely in the shelter (hot air is being replaced by cold air through the adjacent windows) at the same time provide adequate lighting into the indoor space. The two bedrooms are separated by a toilet cum bathroom, the bedrooms provide space for reading, resting and relaxing etc.



### CONCEPT : MOKOROTLO HAT

Mokorotlo Hat is a type of hat used in lesotho for traditional sotho clothing. It is made of woven straw, it forms a symbol for the country by forming part of the lesotho flag. The mokorotlo cap is highly symbolised in the homes of the sothos informing their level of beliefs attached to the customs and the reverence of their bonds with their Badimo. It is also believed that the hat protects the home against danger and other evil influences. The hat is a reflection of national identity and pride

The hat bears a conical look on 3 dimensional perception and relatively triangular on the elevation. The proposed home design which is themed mokorotlo shelter follows a cultural trend of the sotho as such bears a triangular look on the elevation



Mokorotlo hat which is iconic and symbolic for the sothos



Translation of the relatively triangular mokorotlo hat form into the shelter concept which can be perceived on elevation.



Shelter on Elevation



# MOKOROTLO SHELTER

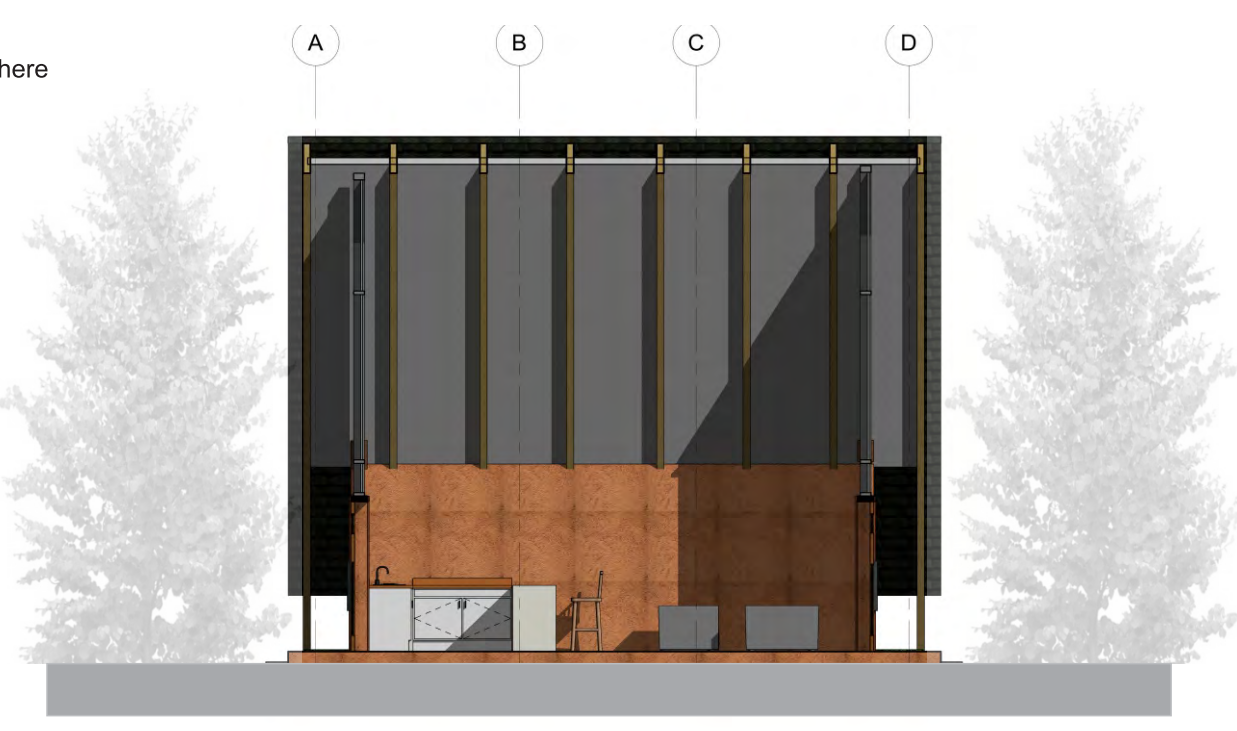
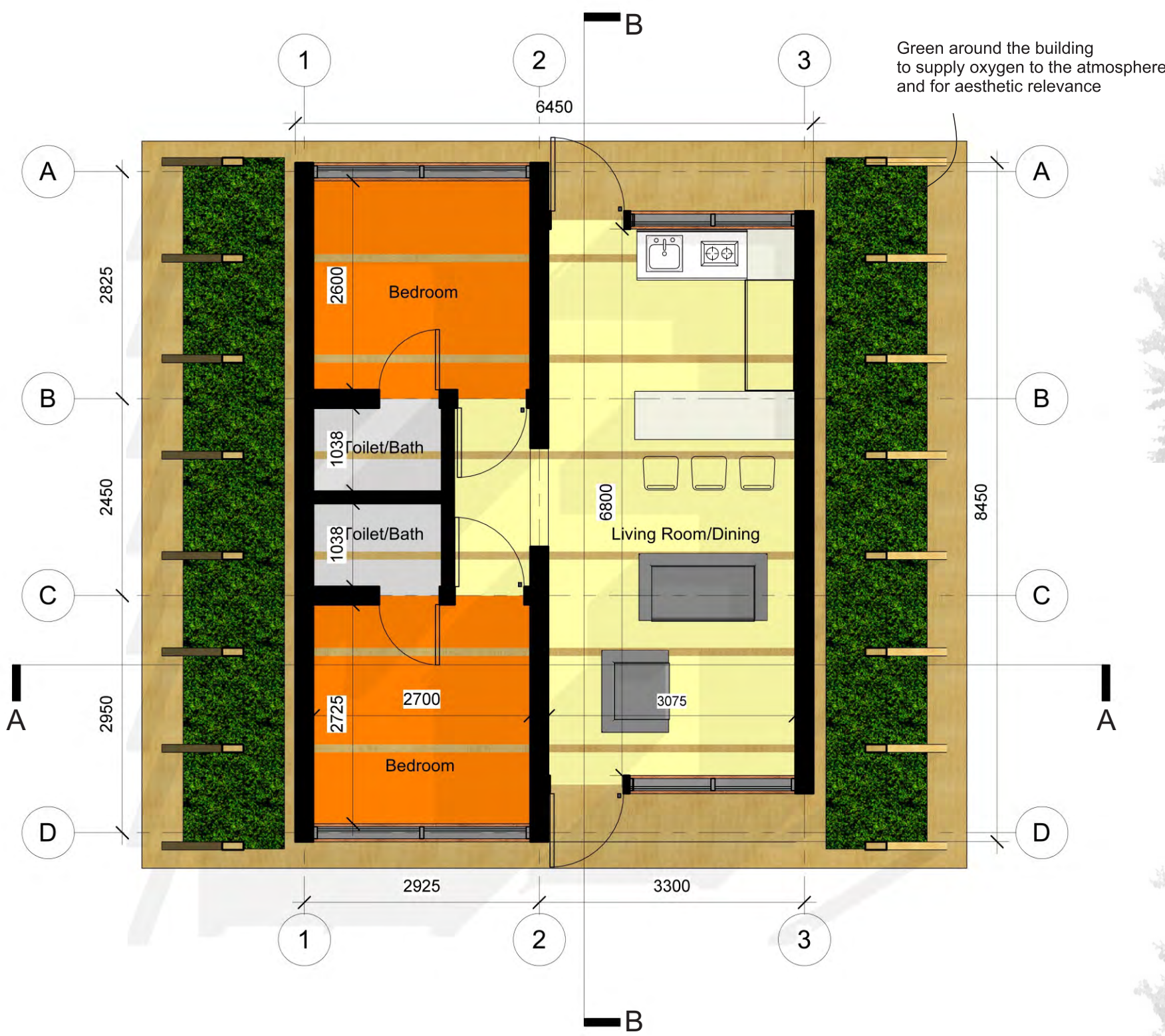
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## SPACES

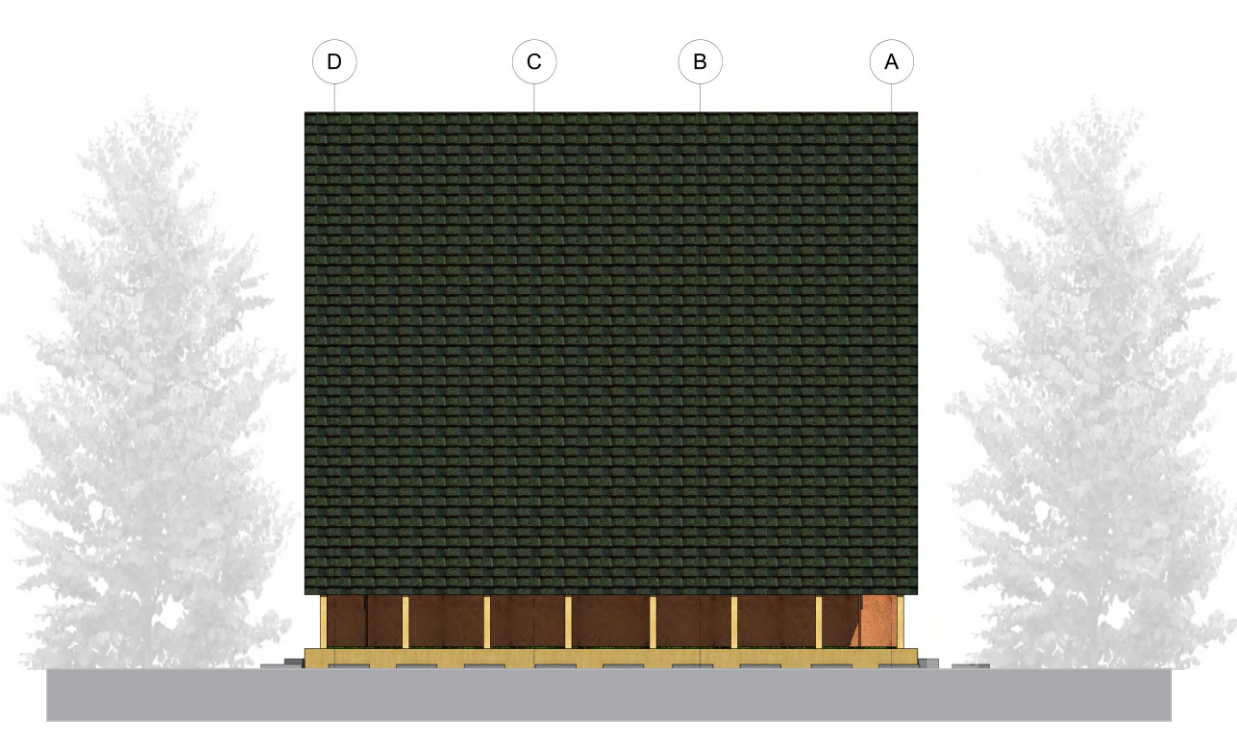
1. Living Room
2. Dining
3. 2 Bedrooms
4. 2 toilets



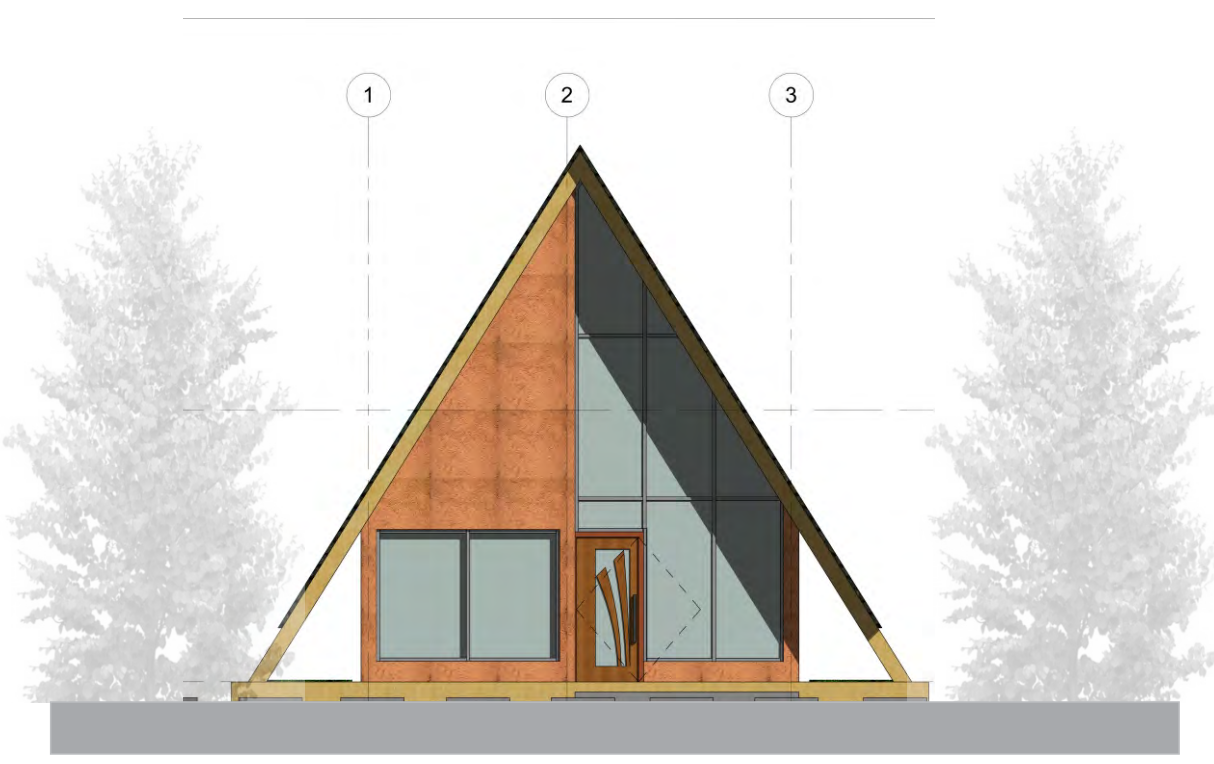
Section A-A



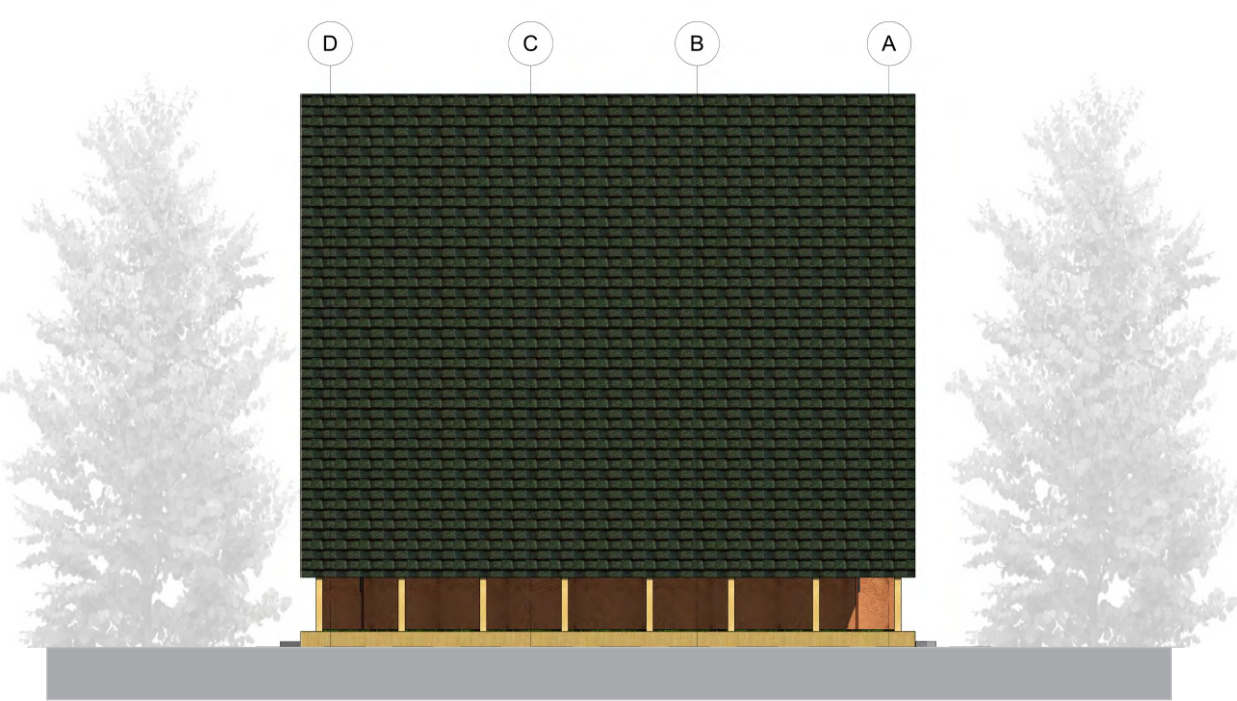
Section B-B



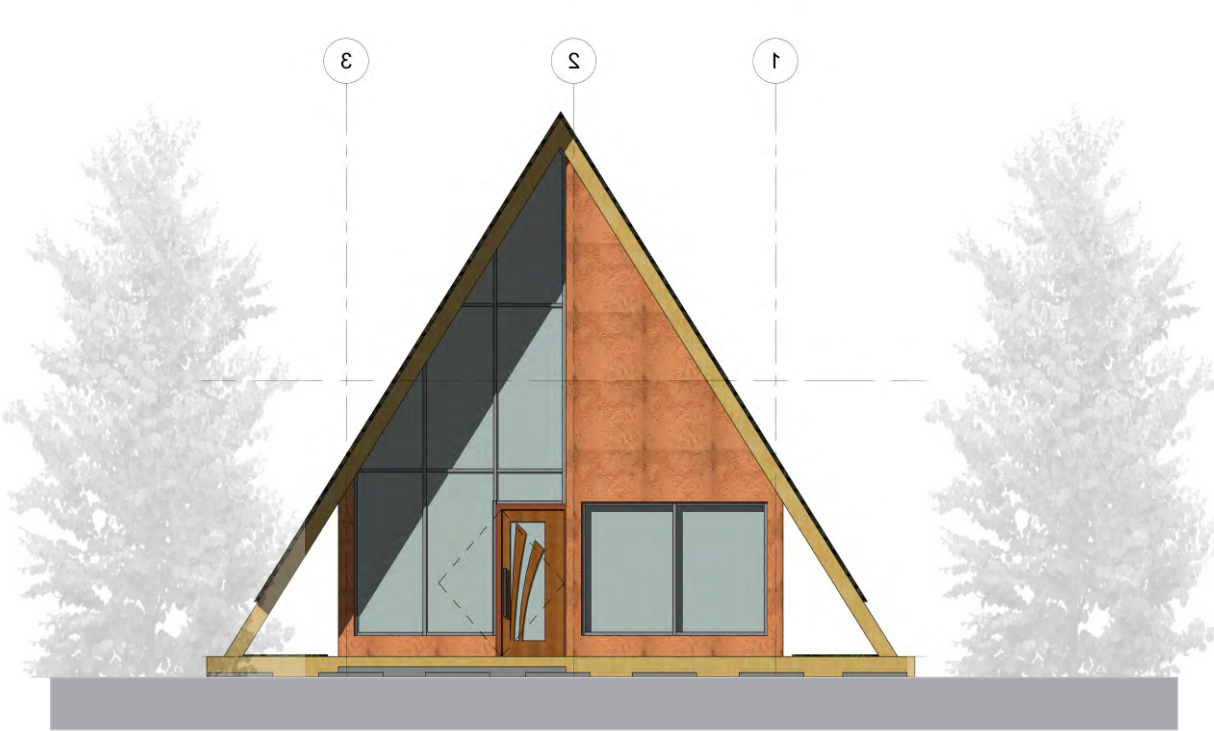
Left Elevation



Front Elevation  
The elevation has the mokorotlo hat form



Right Elevation



Back Elevation  
The elevation has the mokorotlo hat form

