

ECO MOYO MUSHROOM FARM
BUILDING MANUAL - POST DIPLOMA

MYKO STUDIO

Vilde Vanberg & Jan Godzimirski

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Building team



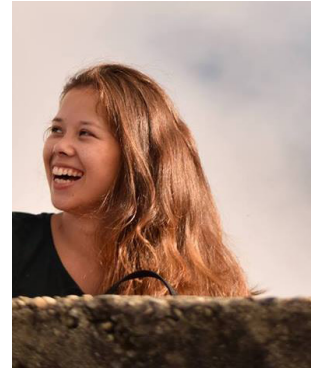
Client:
Lindsay Sanner
Eco Moyo Foundation



Architects:
Jan Godzimirski
Vilde Vanberg



Volunteer:
Tord Araldsen
Master in Renewable energy



Volunteer:
Zoe Taylor
Architecture student, UK



Coral stone worker:
Juma



Carpenter:
Ali



Skilled worker:
Kahindi



Skilled worker:
Omari og catna barata



Skilled worker:
Pascal



Worker:
Teddy



Worker:
Michael



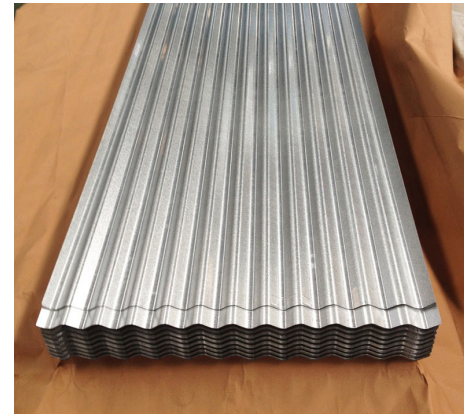
Security:
Karisa

Materials



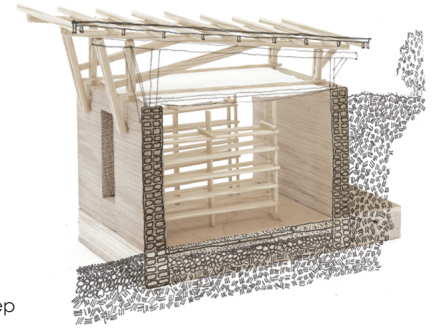
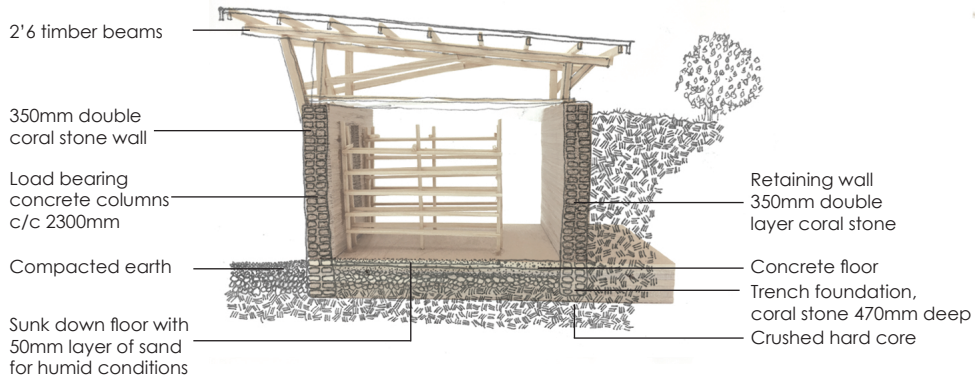
Chosen Materials:

- Coral Stone
- Concrete
- Hay
- Timber
- Render
- Corrugated steel
- Water tanks
- Reinforcement bars

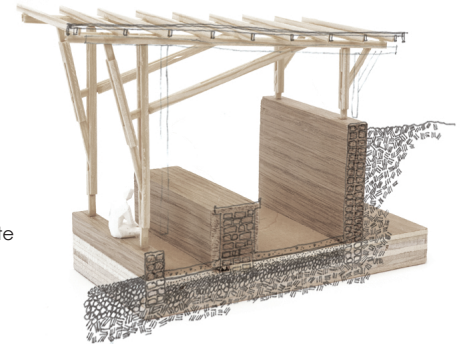
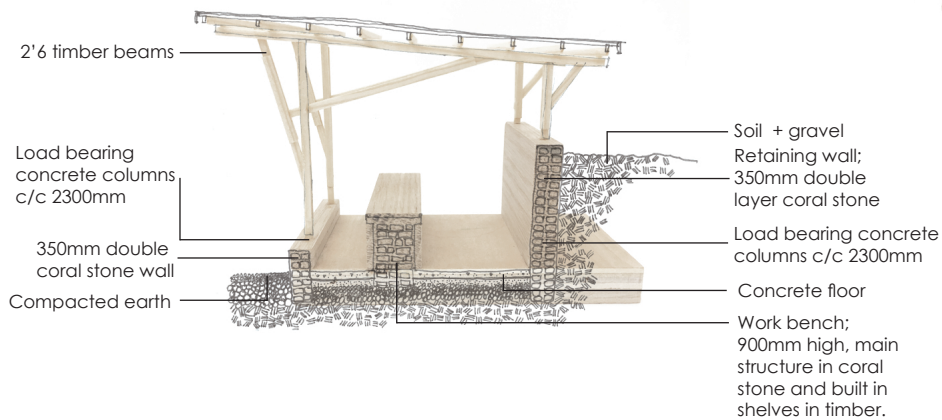


Test models of structural principals

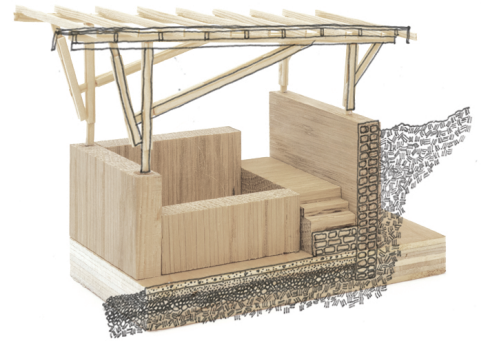
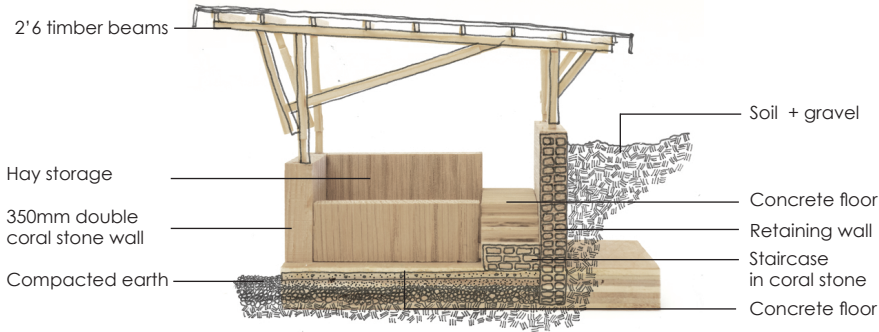
CROPPING ROOM:



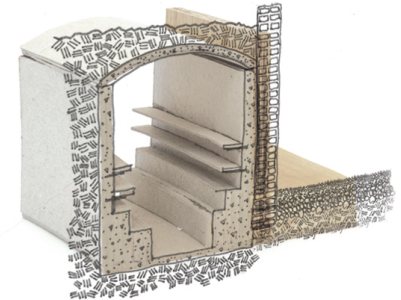
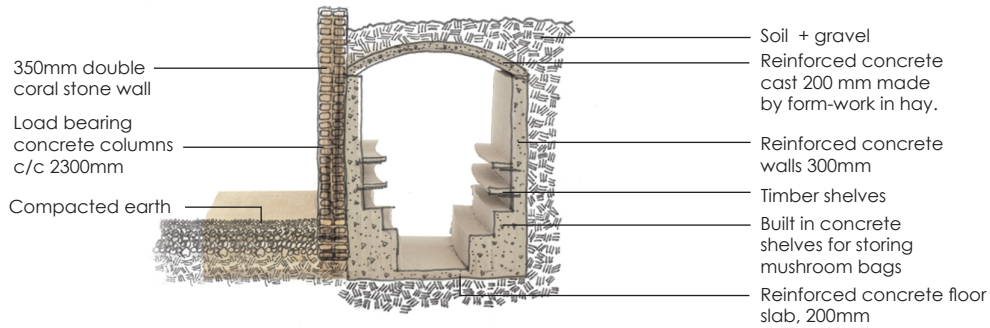
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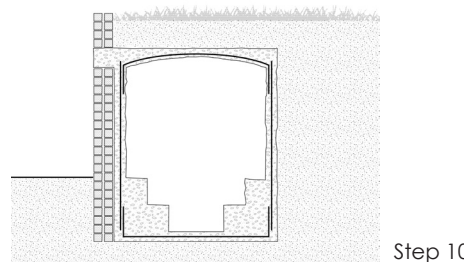
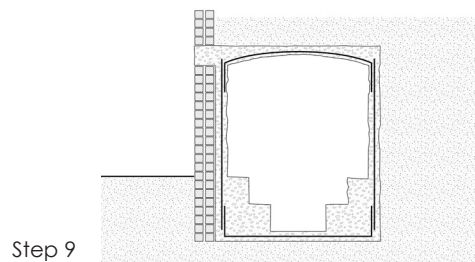
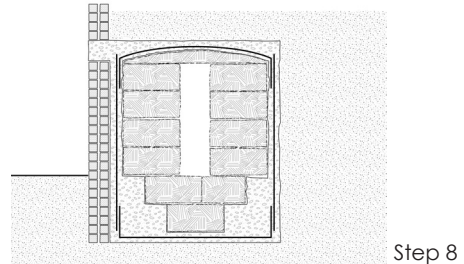
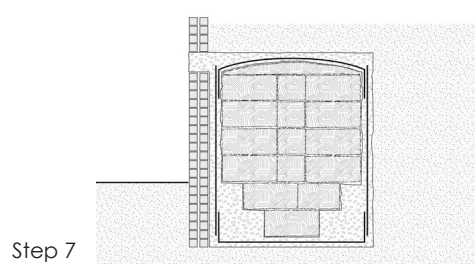
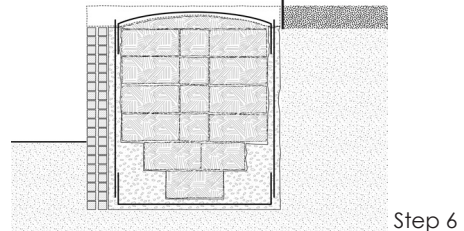
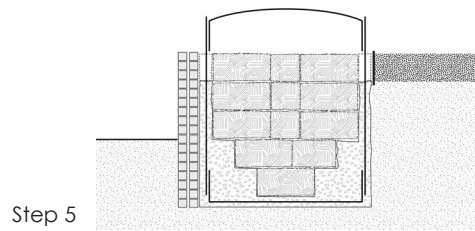
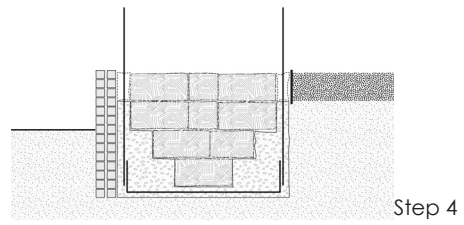
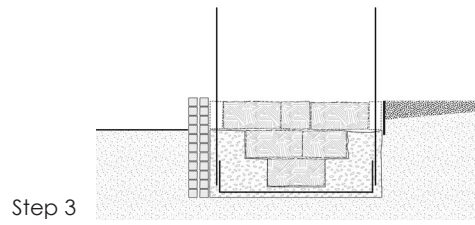
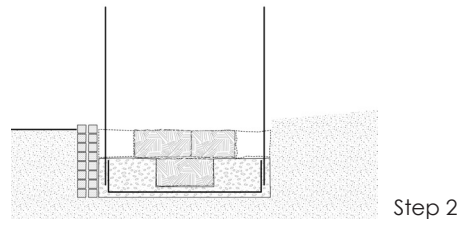
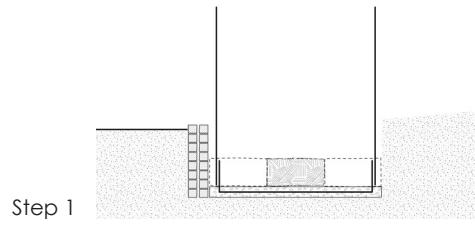


HAY STORAGE:



SPORE RUNNING ROOM:





Using rectangular hay bales as form work

Step 1: The shelves, walls and structure of the spore running room is casted in reinforced concrete in with form work of rectangular hay bales 450 x 450 x 900 mm

Step 2: The walls and shelves are casted in layers. To avoid the hay bales to absorb water from the concrete they are slammed with a thin layer of cement before being placed in.

Step 3: The adjacent coral stone wall will be made according to the height of the concrete wall in spore running room.

Step 4: Each layer of hay and concrete will also be supported of gradually building up backfill of soil and gravel along the back wall.

Step 5: Floor to ceiling height is 2880mm, requiring 7 layers of hey bales where the upper layer is shaped and formed with a slight convex surface to lead possible condensation to the side.

Step 6: The concrete roof slab will be casted in 2 m sections with crawling timber formwork. The slab is extended to stabilize and rest on the coral stone wall.

Step 7: The double layer coral stone will continue as retaining wall over the concrete slab and 350mm of soil and gravel will be placed over the roof + thin waterproof membrane.

Step 8: When the concrete has dried the hay will be removed by manual labor. Waste product of hay can be used for mushroom production or compost.

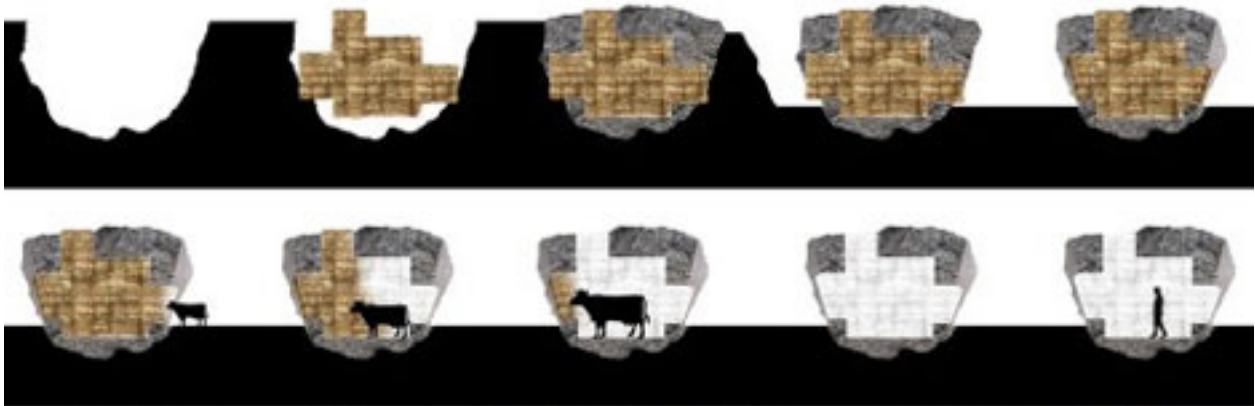
Step 9: The walls and shelves will have imprints of hay texture mimicking the texture of the mushroom growing bags.

Step 10: The 350mm layer of soil above the room will gradually be covered with vegetation which generate shade to prevent heat radiation on the soil mass.



Referance project by Ensamble Studio, Trufa House

The project is cast in the earth and hollowed out by a cow.
The room is created by pouring concrete over hay bales stacked and buried
inside soil from the surroundings.
Imprints and rough texture



Coral stone



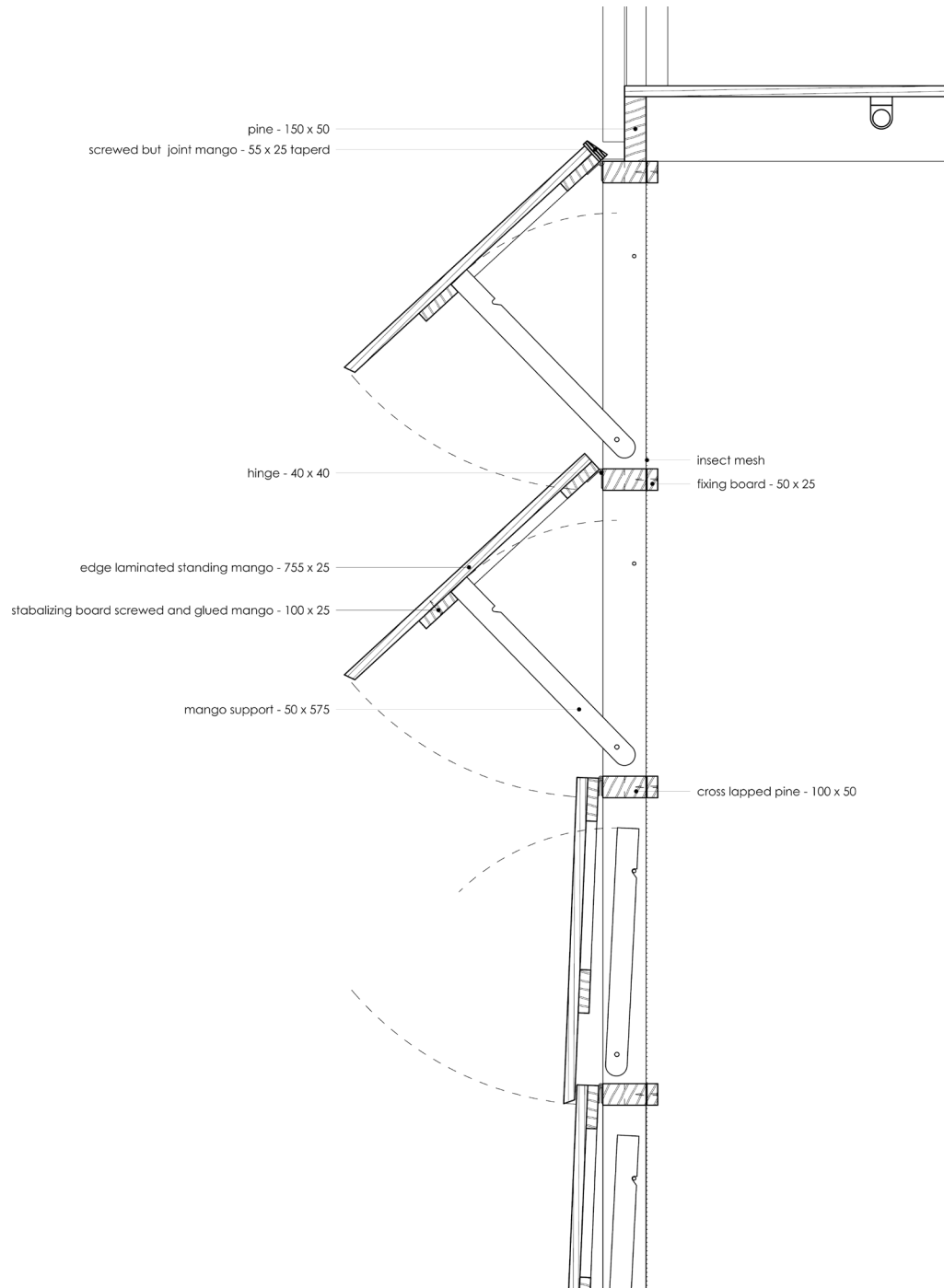


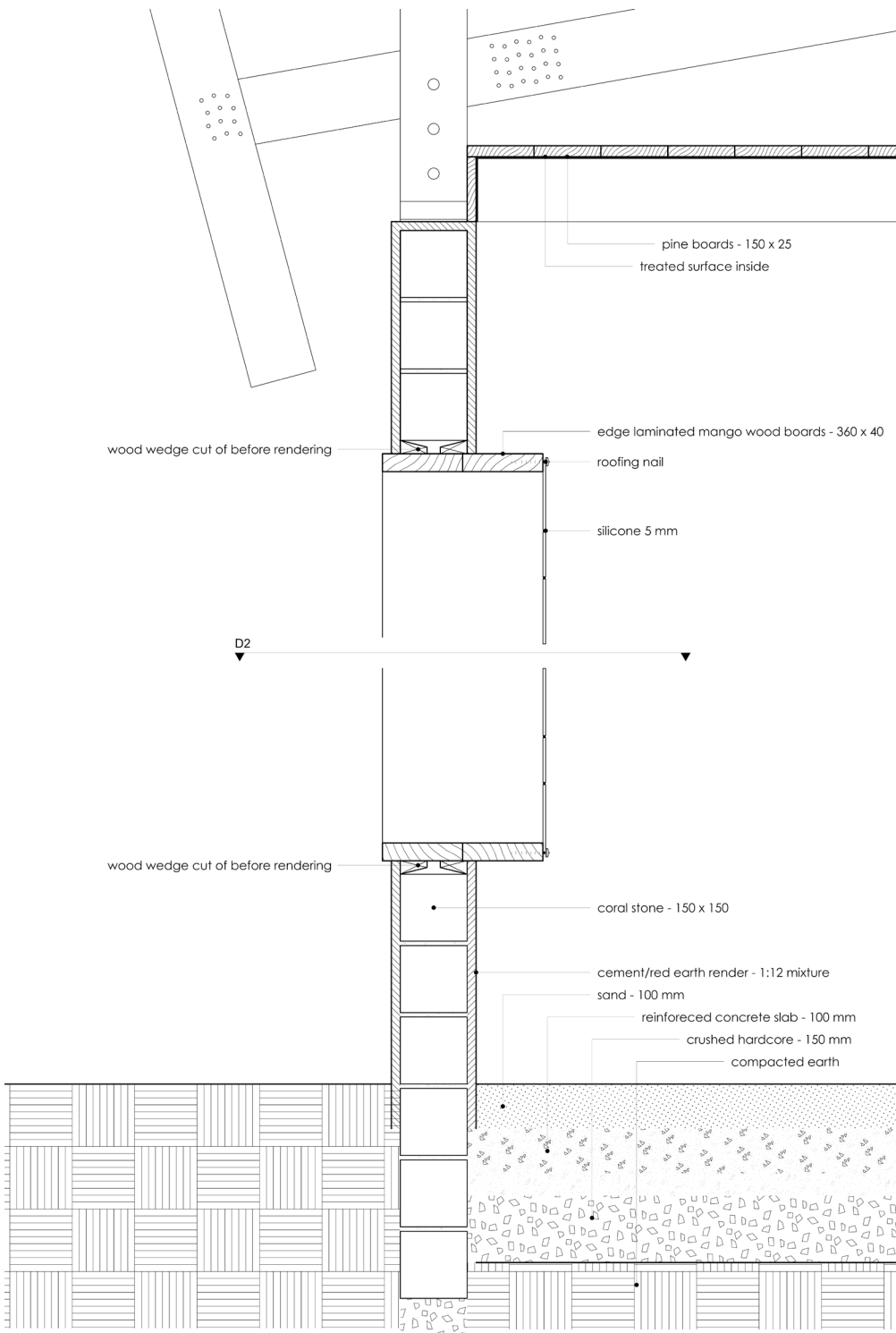
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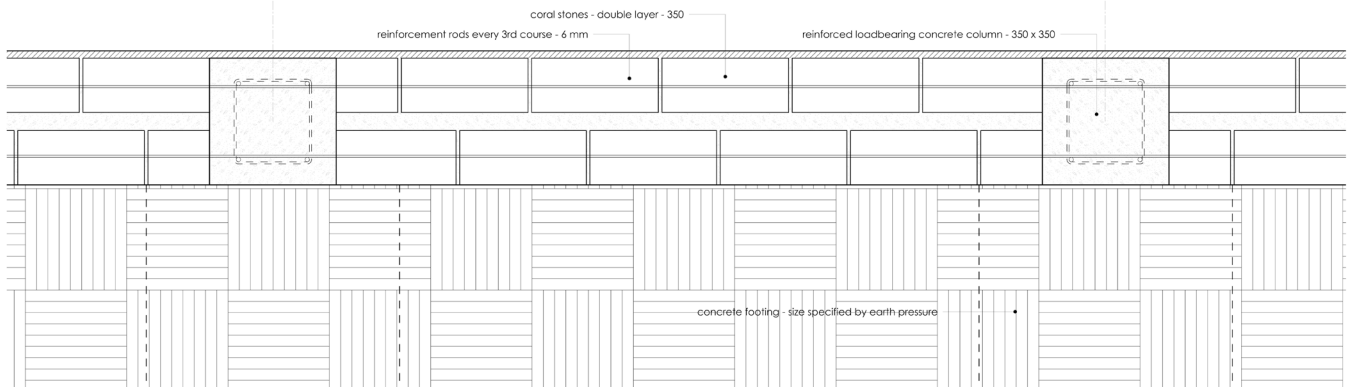
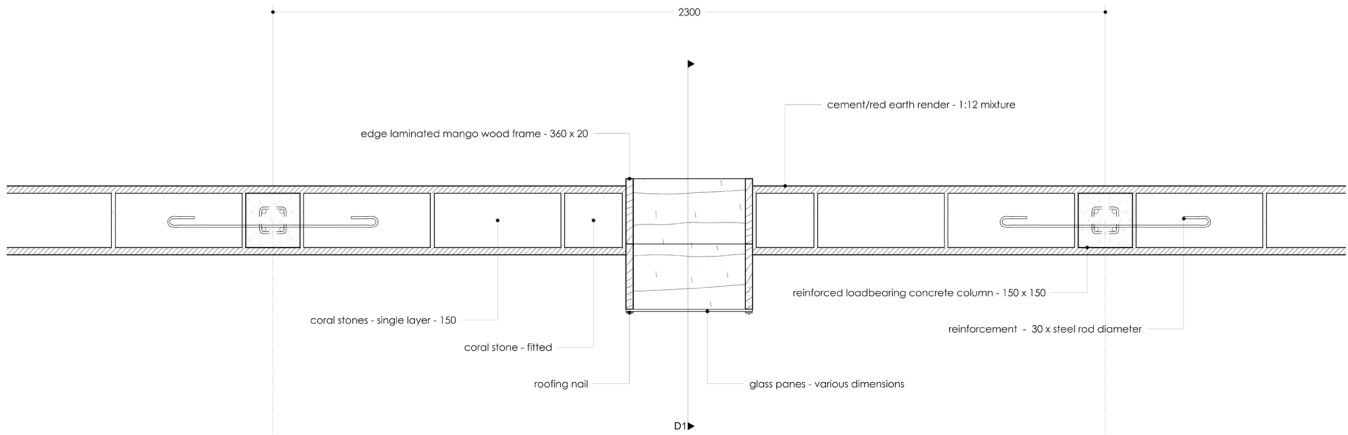




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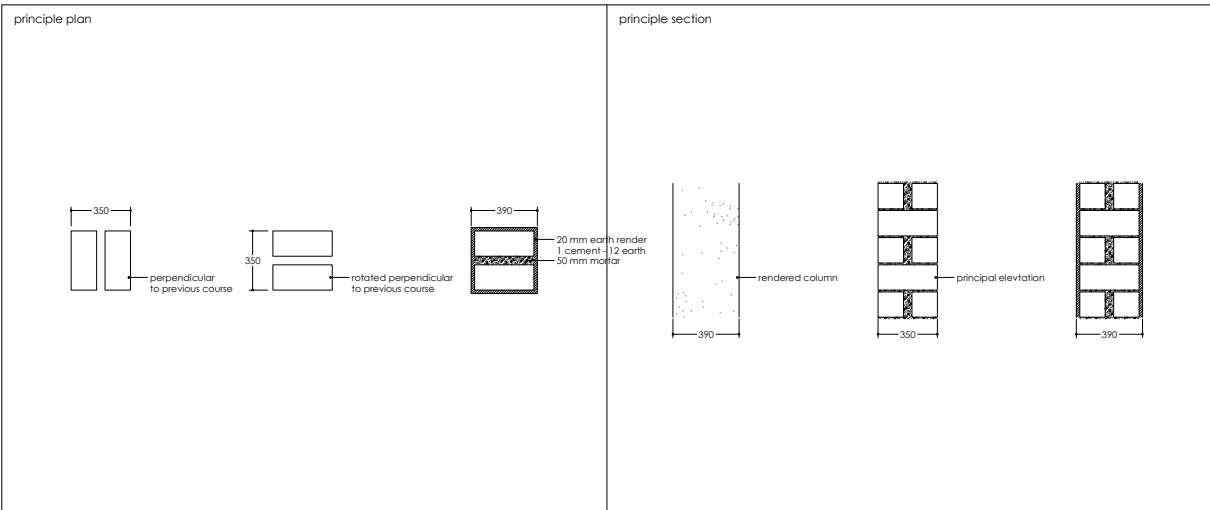






coral stone column

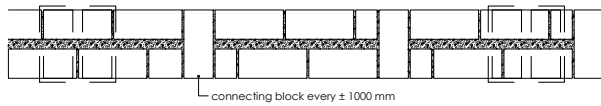
scale 1:25



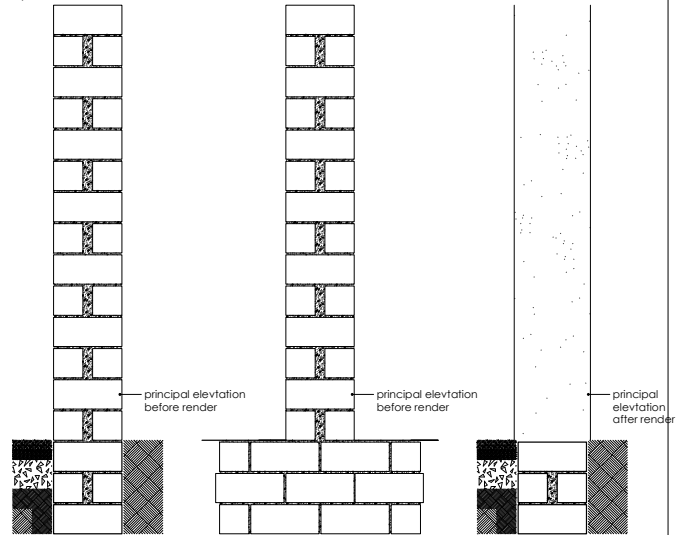
coral stone column on trench foundation

scale 1:25

principle plan



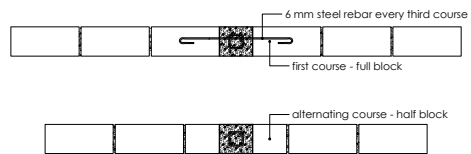
principle section



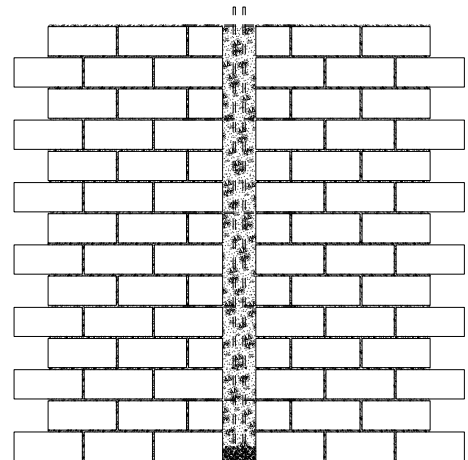
concrete column in coral stone wall - single layer

scale 1:25

principle plan



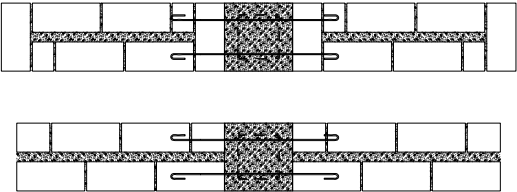
principle elevation



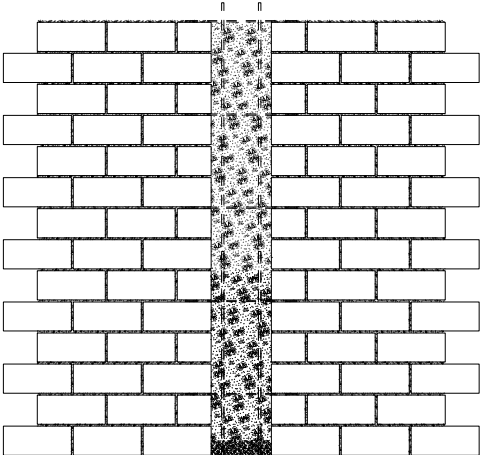
concrete column in coral stone wall - double layer

scale 1:25

principle plan



principle section



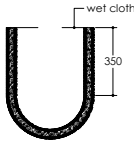
pot-in-pot refrigerator

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principle plan



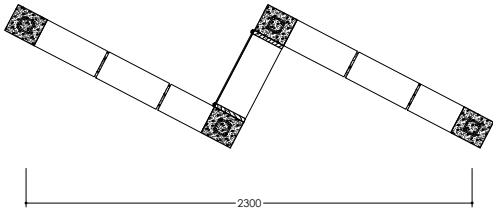
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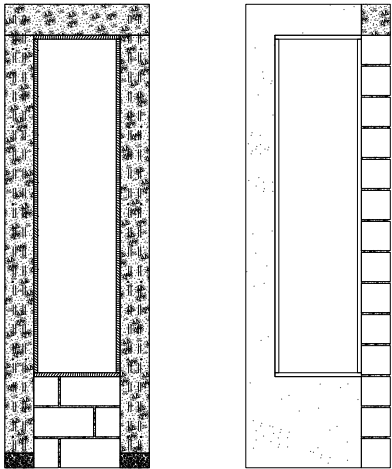
tilted coral stone wall with concrete pillars - single layer

scale 1:25

principle plan



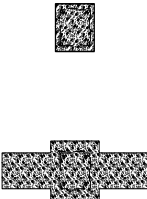
principle section



concrete column

scale 1:25

principle plan



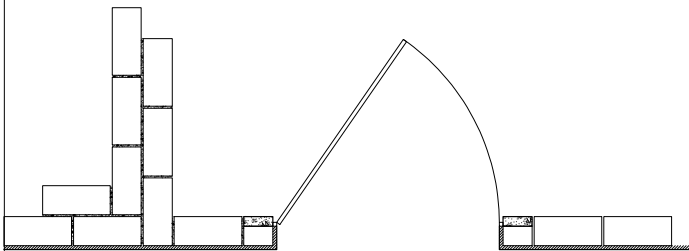
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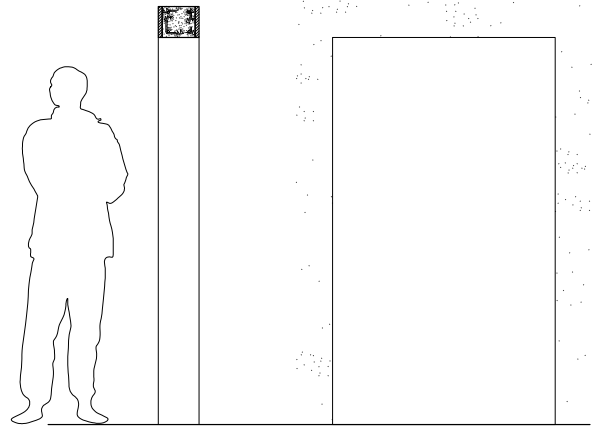
door opening in retaining wall

scale 1:25

principle plan



principle section



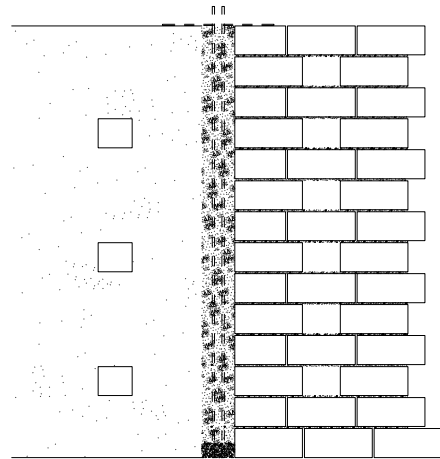
ventilation opening in retaining wall

scale 1:25

principle plan



principle section



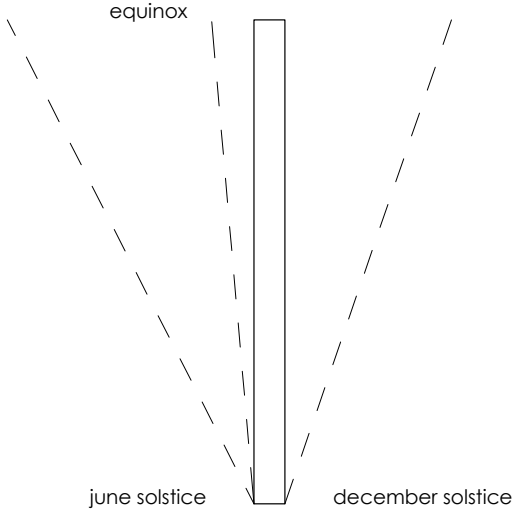
solstice angles

scale 1:25

principle plan



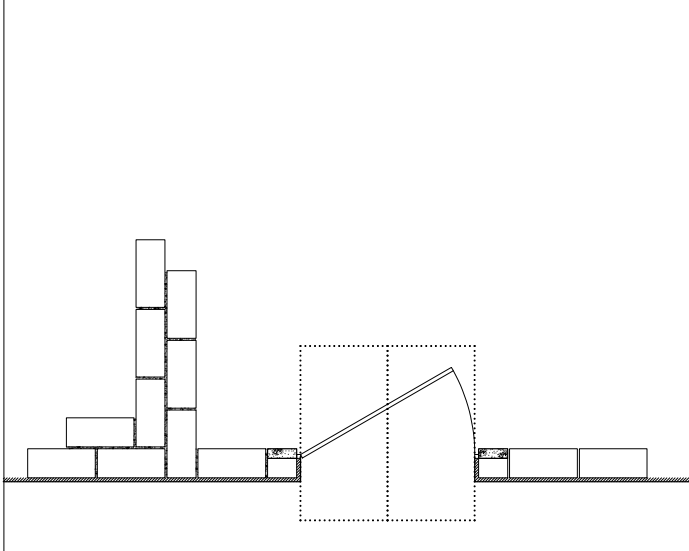
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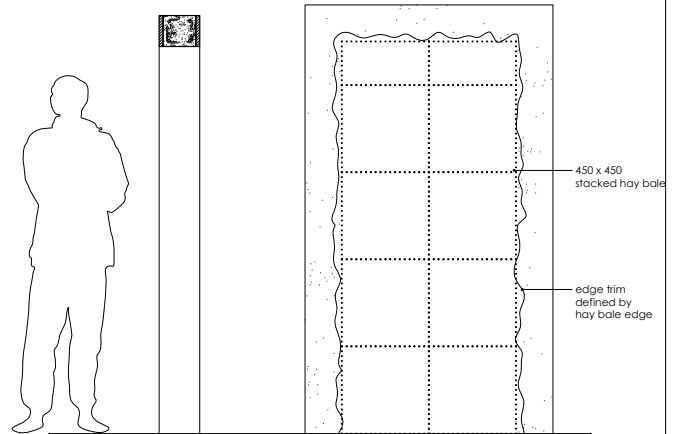
door opening in retaining wall - hay bale

scale 1:25

principle plan



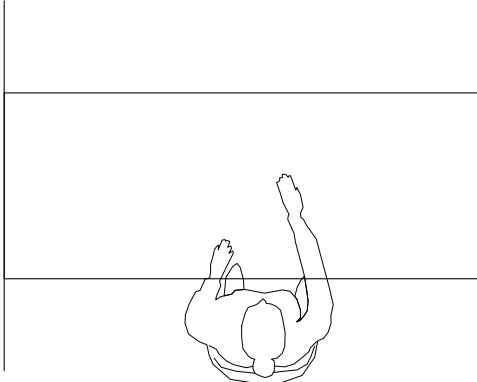
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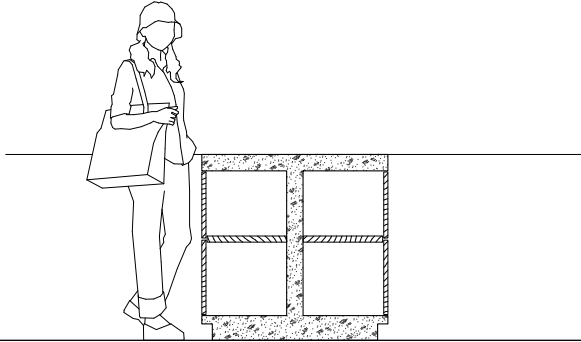
workbench

scale 1:25

principle plan



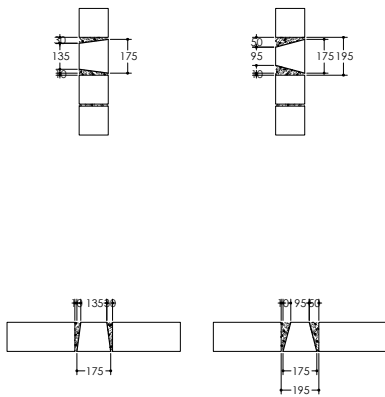
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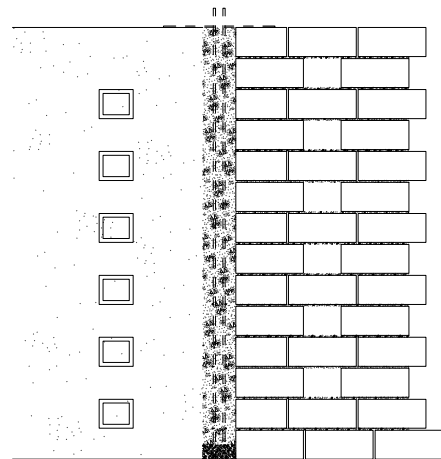
trapezoid opening - single layer

scale 1:25

principle plan



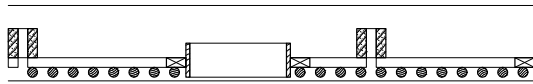
principle section



facade

scale 1:25

principle plan



principle section

