MAYDAY

TRISKELION TOWER FOR A CARBON LIGHT LIFE

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PORTFOLIO

STUDIO 2
SIMON BEAMES
OMID KAMVARI

MAY DAY

Intangible Heritage

HISTORY

- Celebration of springtime
- Flora, Roman Goddess of spring time, bride of west wind
- Clebrated tody as the May Queen
- Celtic - Beltane -Burning Man
- Green Man - nature growing through the body of mankind
- Neri Oxman - Age of Entanglement
- Krebs cylce of creativity
- Singularity of natural and cultured world
- Biophilic design
- Graft of natural back inot man made world

CHOREOGRAPHY TO MATERIALITY

- Maypole dance creates a woven pattern in the ribbons
- Weaving warp and weft, pattern
- Use of PEEK allows for reincofced fibre to be recycled
- Like timber, carbon fibre is isotropic
- Optimum angle for strength in carbon fibre weave 55*
- Carbon fibre manufactured from petrochemical source
- Emerging timber technologies enable double curvature
- Leaves outperform any human invention for sequestering C
- Application of laminated timber to parametric design
- Engineering timber mitigates its natural deffects
- Laminating timber gives it comparable strength to steel
- Design with fire properties in mind

ABOLITION

- May day celebrations banned by Henry VIII
- 14 rioters hanged but the practice continued
- Oliver Cromwell named it 'heathenish vanity'

INTERNATIONAL DISTRESS CALL

INTERNATIONAL LABOUR DAY

- Hardship of life on zero hours contracts
- Values and interests of dominant groups
- Graft understood as a form of polititcal corruption
- Sandra Harding - 'Objectivity from below'
- Sustainability and eradication of poverty
- May Day said to sound like 'maider'
- Reports of the IPCC
- loss of habitat, prevalence of monocultures
- loss of diversity
- 11,00 scientists tell of untold suffering

CLIMATE CRISIS

- Dependence of human on nature's well being

GREEN MAN

003

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CAPPRICIO - GREEN MAN

004

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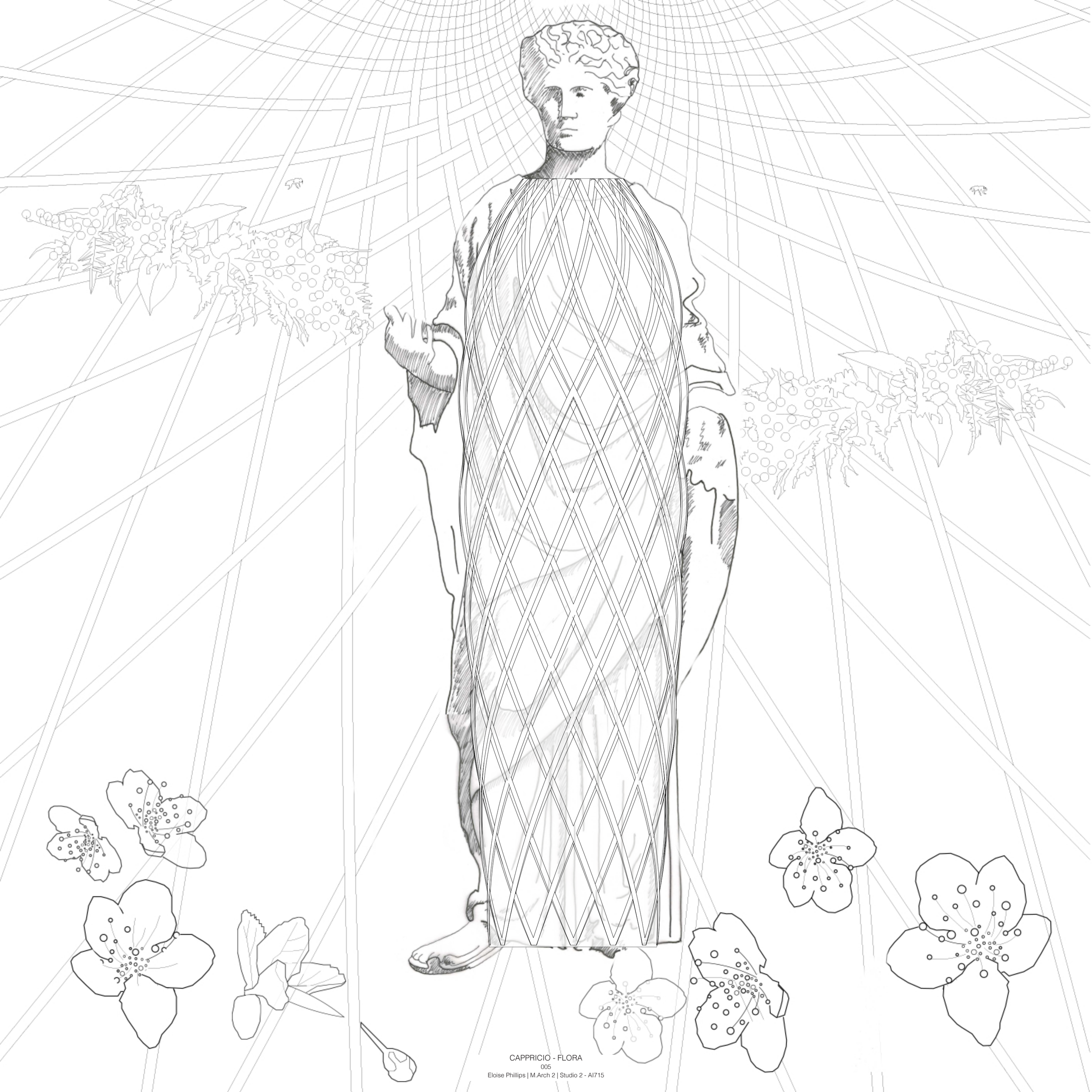

CAPPRICIO - FLORA

005

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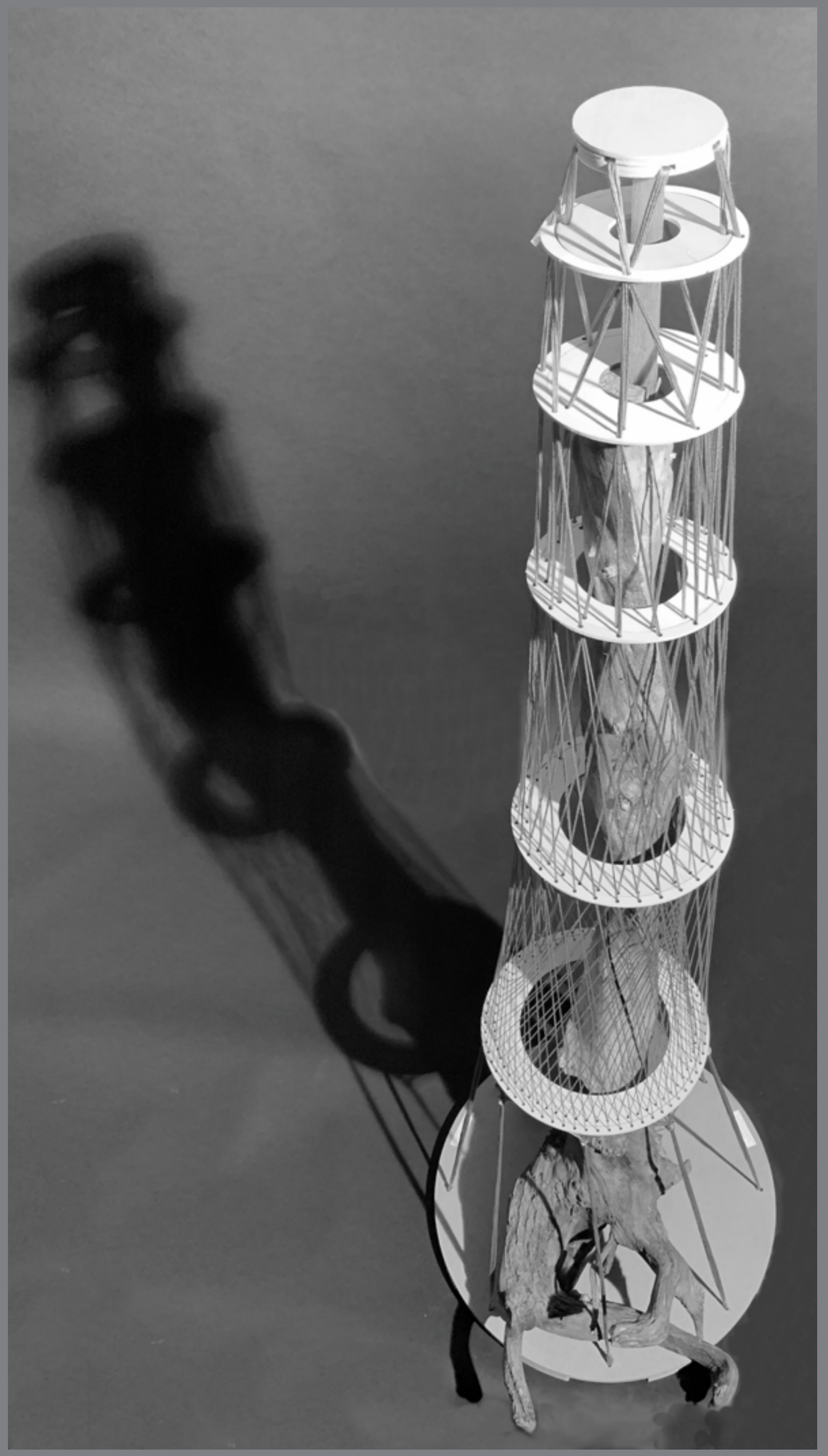

HYBRID TOTEM
011
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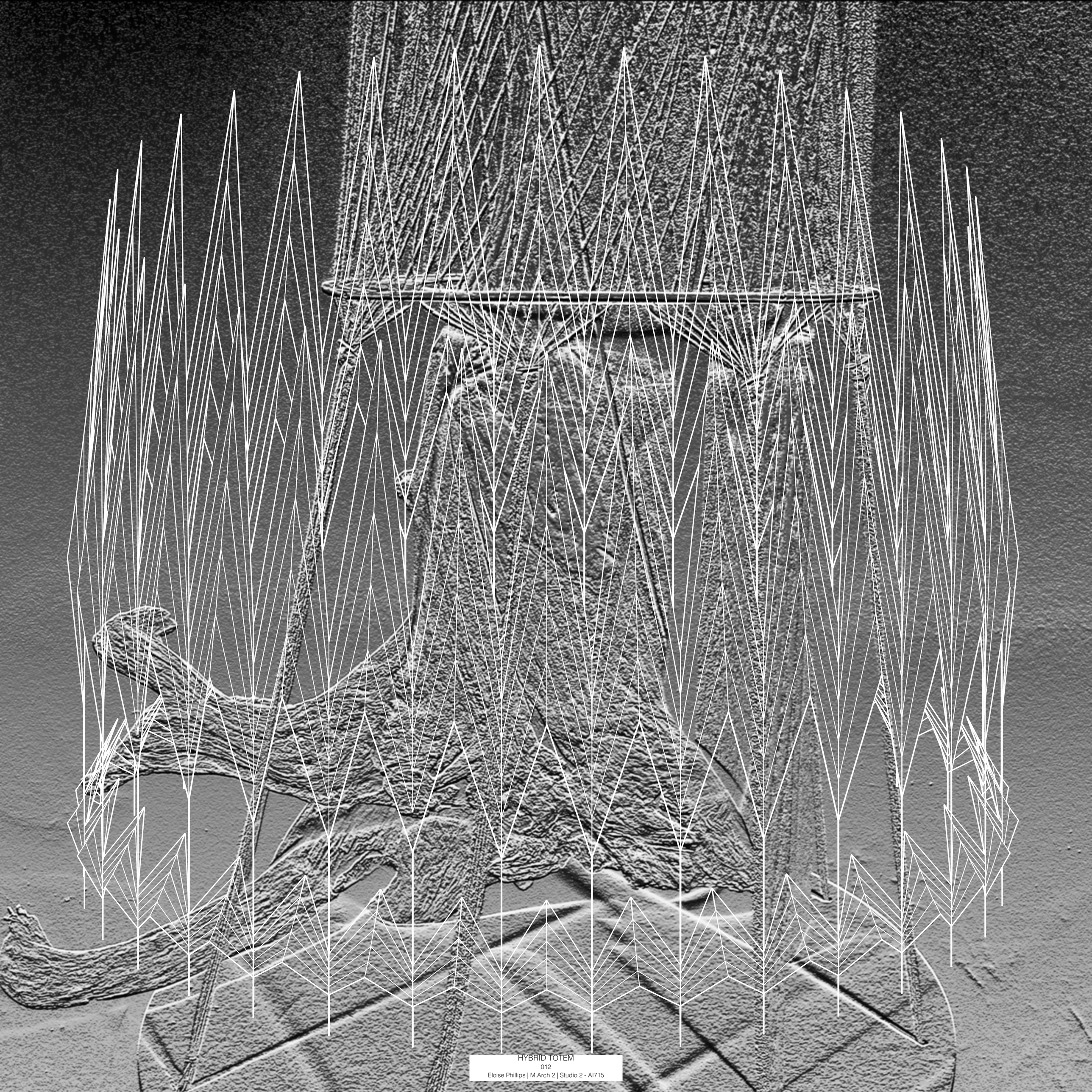

HYBRID TOTEM

012

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to Coleman's Hatch and Forest Row

to Chuck Hatch and Hartfield

Kidd's Hill

Gill's Lap
203m

B2026 Chuck Hatch Road

The Gate House

Tile Lodge

South Lodge

Foresters
Cottage

Celtic tumulus
214m

location for tower

forest border with the Sussex Wildlife Trust

B2026 HIGH ROAD

Greenwood Gate
Clump

reservoir, covered

course of Roman road

BLACK HILL
223m

B2188 to Friar's Gate

Woodcutters

Deerswood Farm

Top Lodge Cottages

King's Standing

210m

Old Lodge
Sussex Wildlife Trust

50 100 200 300 500

LOCATION 1:4000
013
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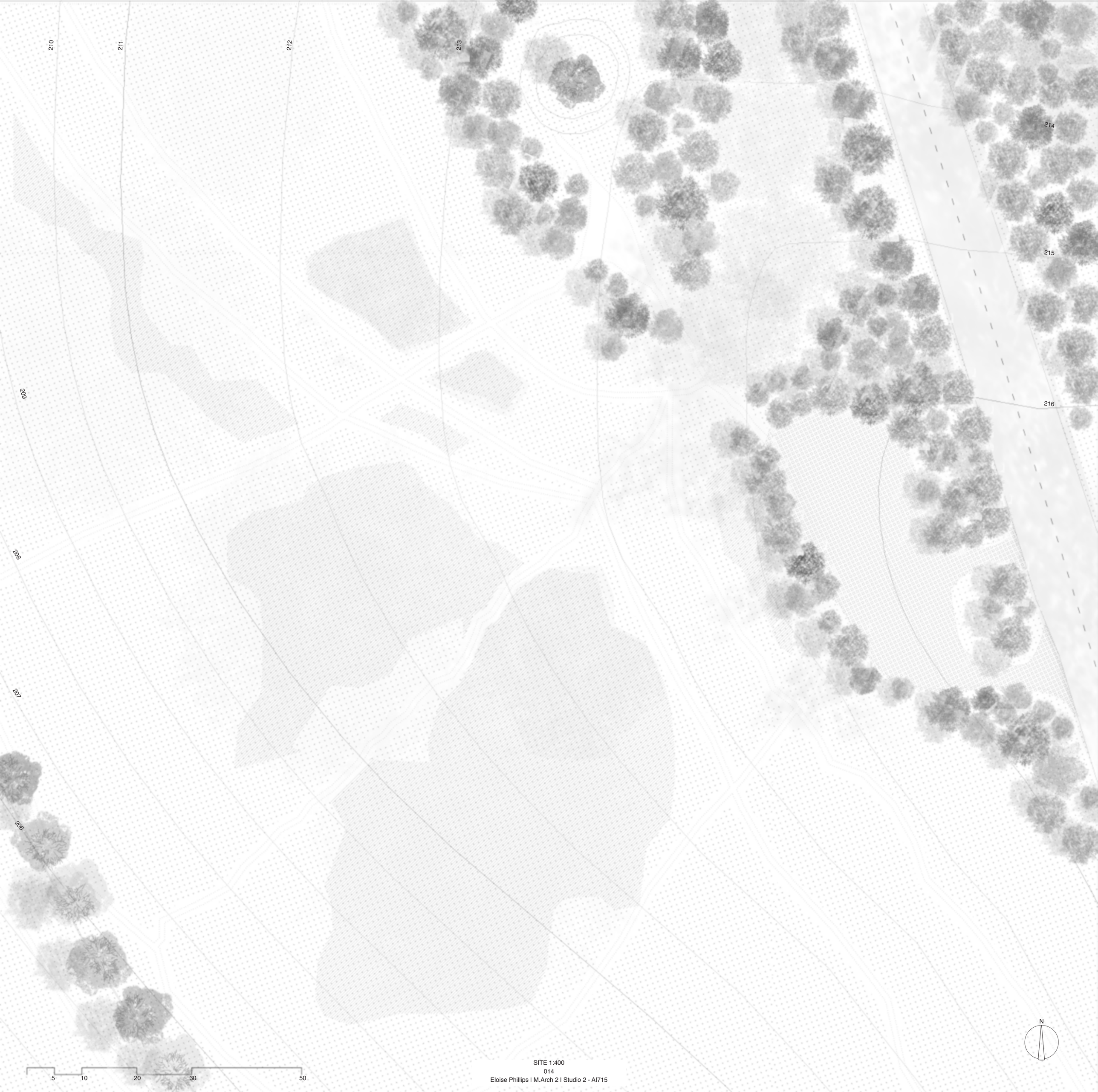
N

To Duddleswell and Maresfield



SITE 1:400
014
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Root Protection Areas:
RPA = 12 x diameter of tree at breast height (m)
capped as an area with a radius of 15m
British Standard 5837

A mature Scot's pine speads to around 12m.
Scot's pine is a keystone species.
A keystone species is an organism that helps define an entire ecosystem. Without its keystone species, the ecosystem would be dramatically different or cease to exist altogether.... The ecosystem would be forced to radically change, allowing new and possibly invasive species to populate the habitat

1m 2m 3m 5m

SITE 1:40

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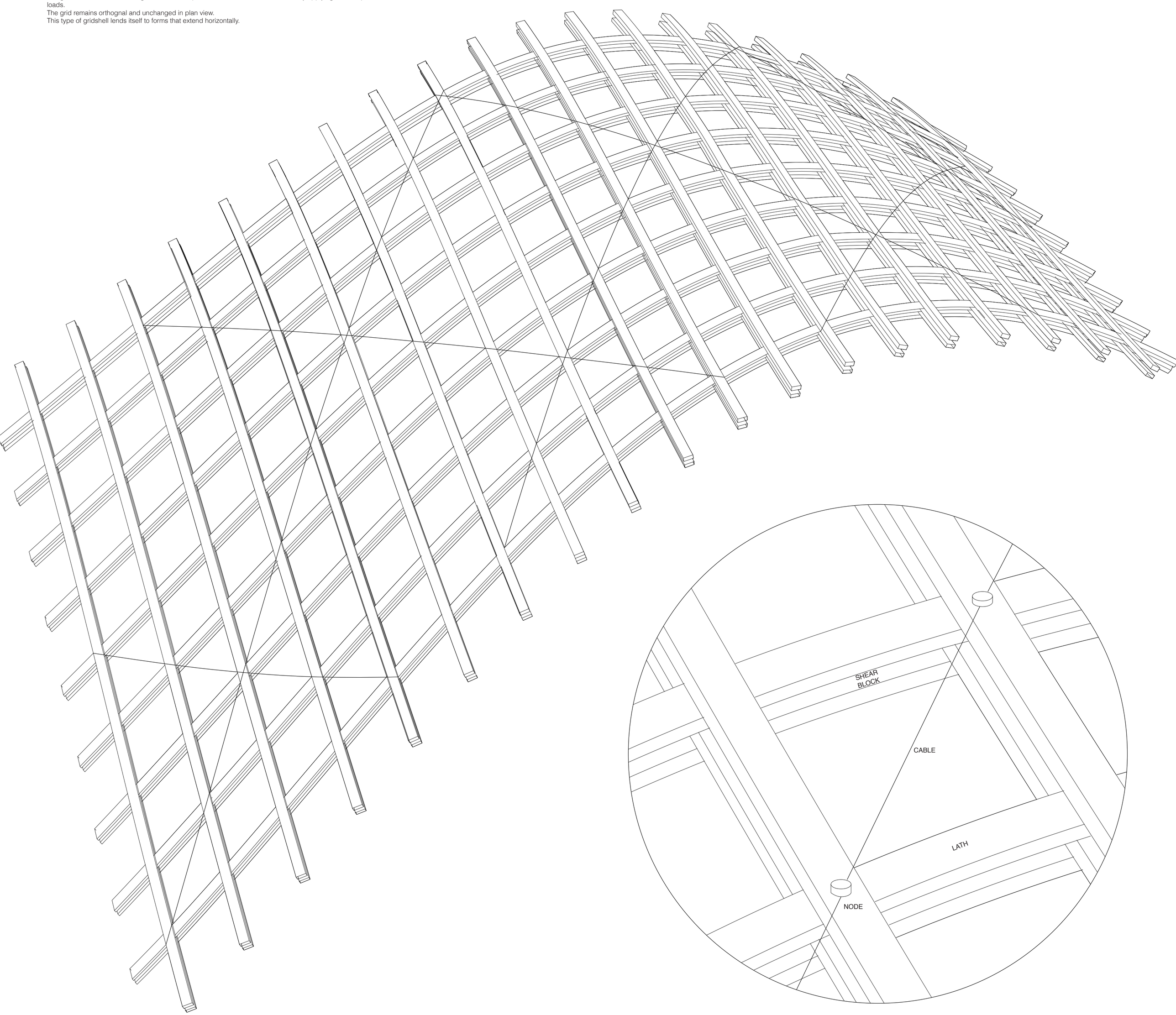
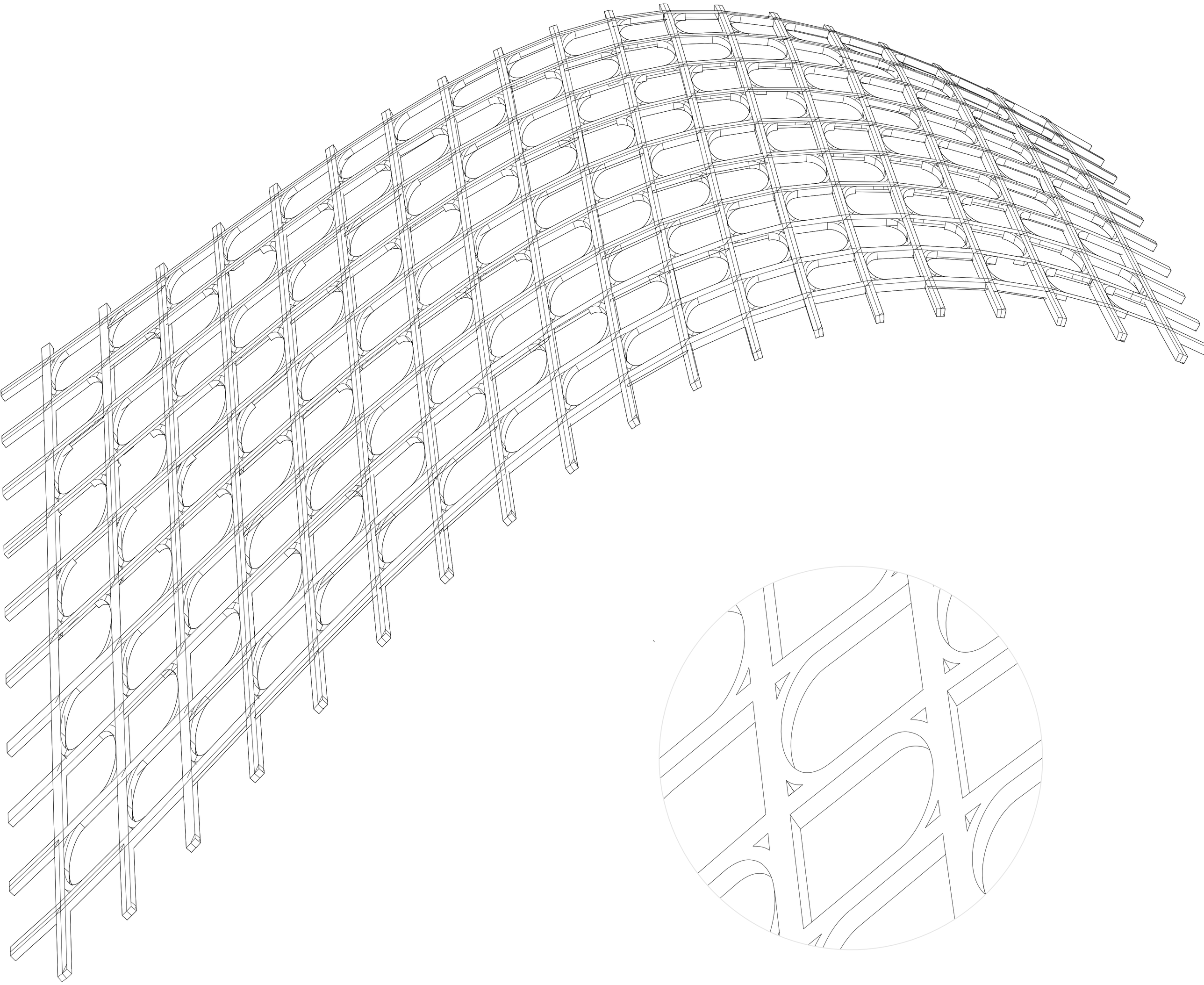
N

Rigid structure is achieved by bracing timber components with steel wires.
This is a horizontal holed gridshell: examples Mannheim by Frei Otto and Singleton by Ted Cullinen.
This drawing was created using a Karamba model with flexible input parameters.
The gridshell corners and or edges have anchor points and deformation is achieved by applying variable point load or loads.
The grid remains orthognal and unchanged in plan view.
This type of gridshell lends itself to forms that extend horizontally.



Vertical slotted gridshell with alternative pattern of timber crossbracing.



50 100 200 300 500 700 1000

The first gridshell placed on the site.

VIEW FROM B2026 - superceded

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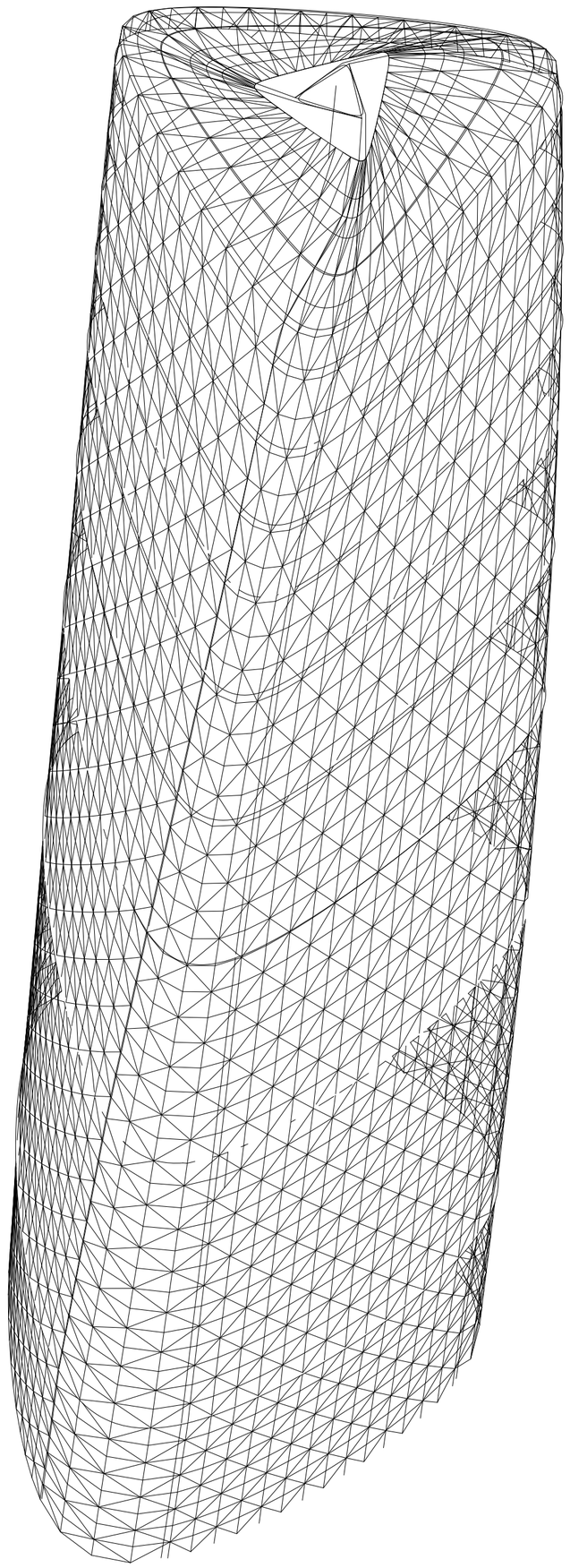
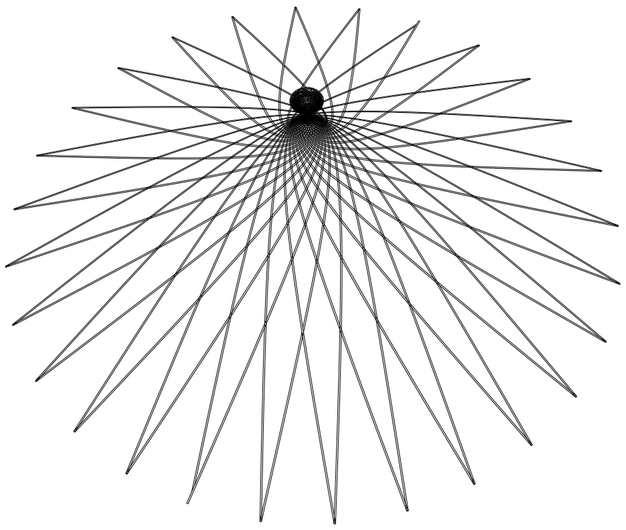
This drawing was created using a grasshopper script which divides a surface into grid with any given odd number of divisions.
The diagonals of this grid are joined to form the lattice of the gridshell.
This script can then be applied to any surface.
If the same input parameters are used on offset surfaces, it is possible to loft between corresponding curves to create a plane, normal to the surfaces which is the basis for the timber components.
https://www.albertopugnale.com/resources/
discretise a nurbs surface into a structural diagrid

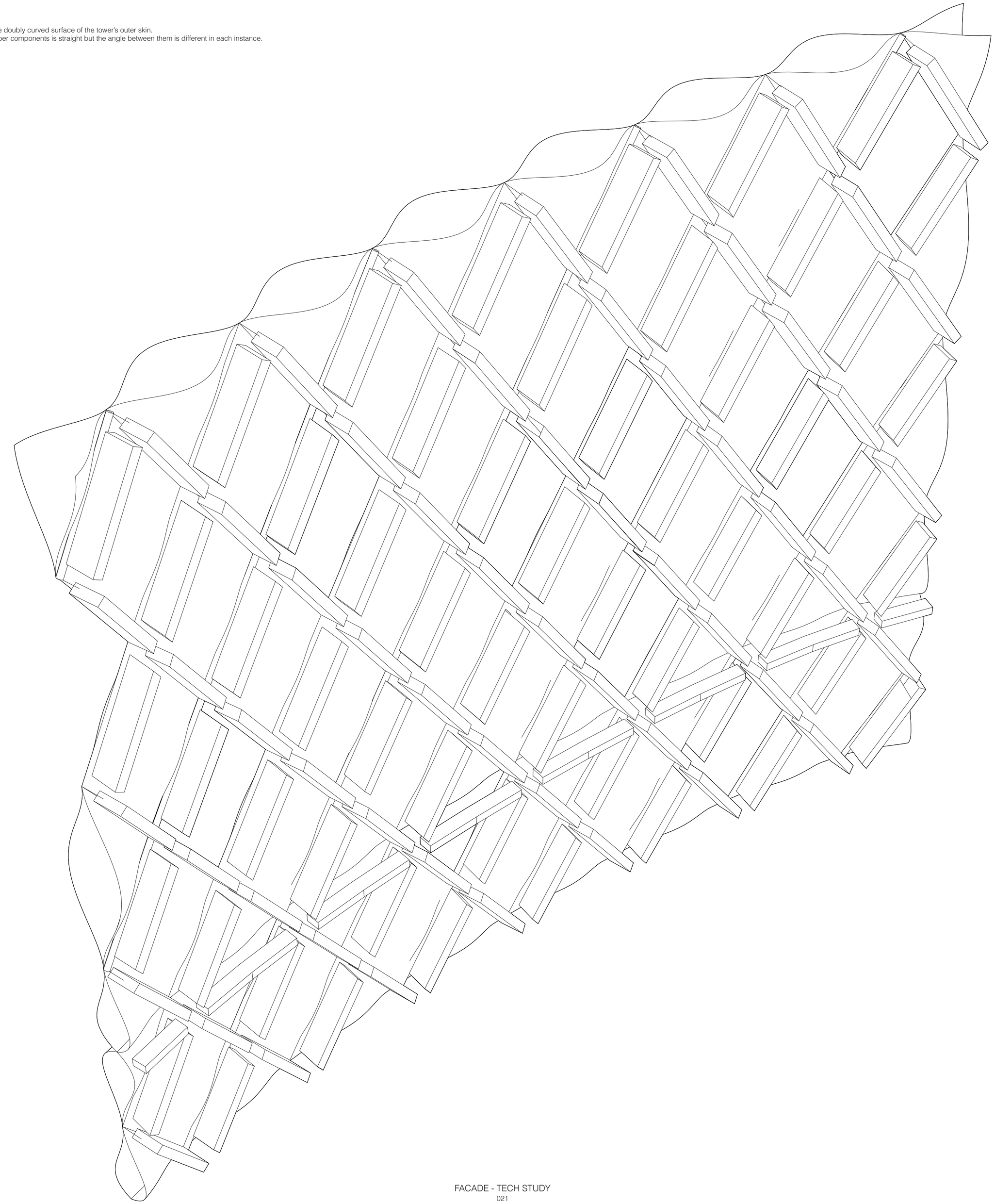


The form of the tower remodelled: derived from the fusion of its two formal roots:

The triskelion, symbol of the primal and primary importance of the earth.
Mayday ribbons used to celebrate springtime.



This drawing shows the doubly curved surface of the tower's outer skin.
Each of the glulam timber components is straight but the angle between them is different in each instance.



FACADE - TECH STUDY

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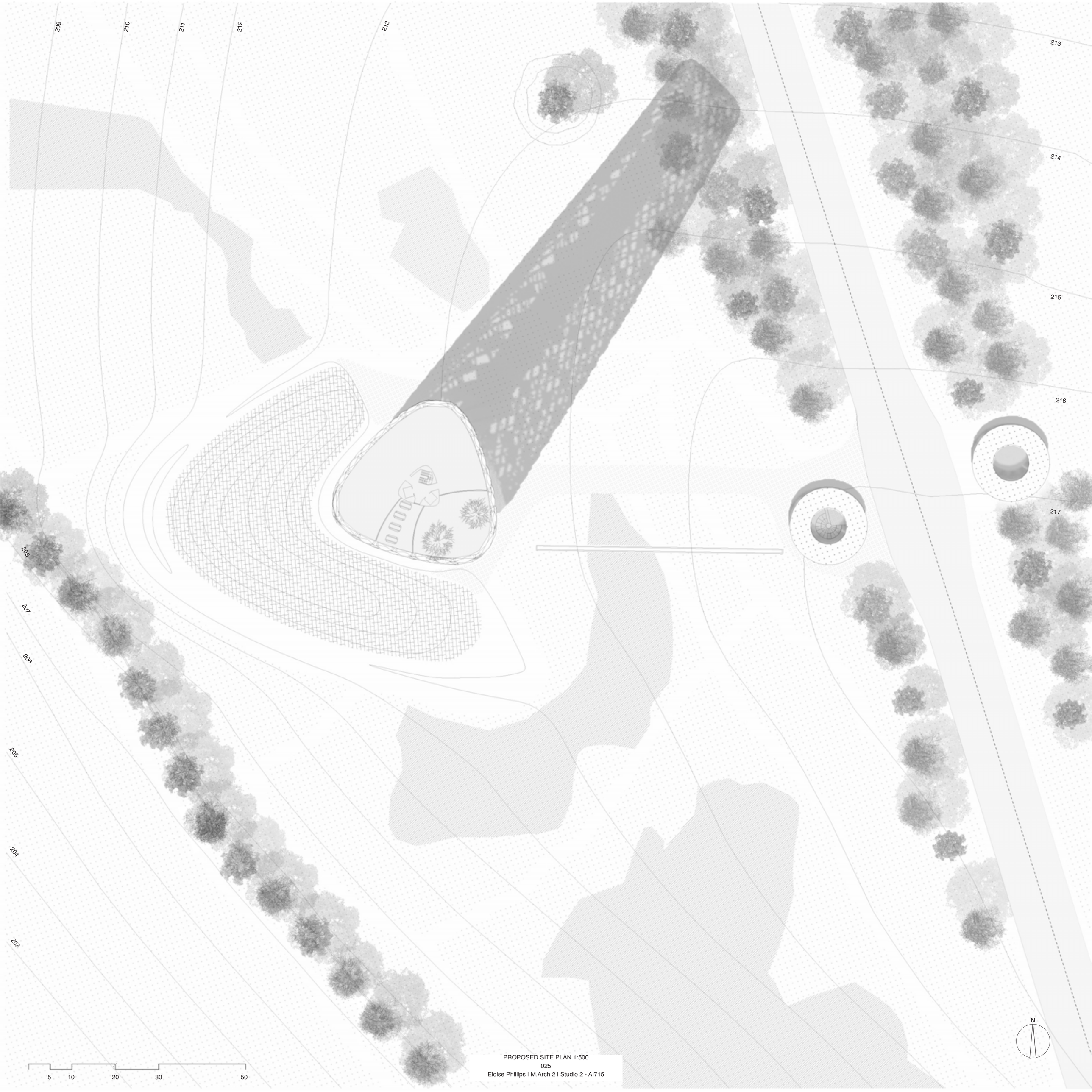
SOUTH FACADE WITH INTEGRATED PV



PROPOSED SITE PLAN 1:500
025
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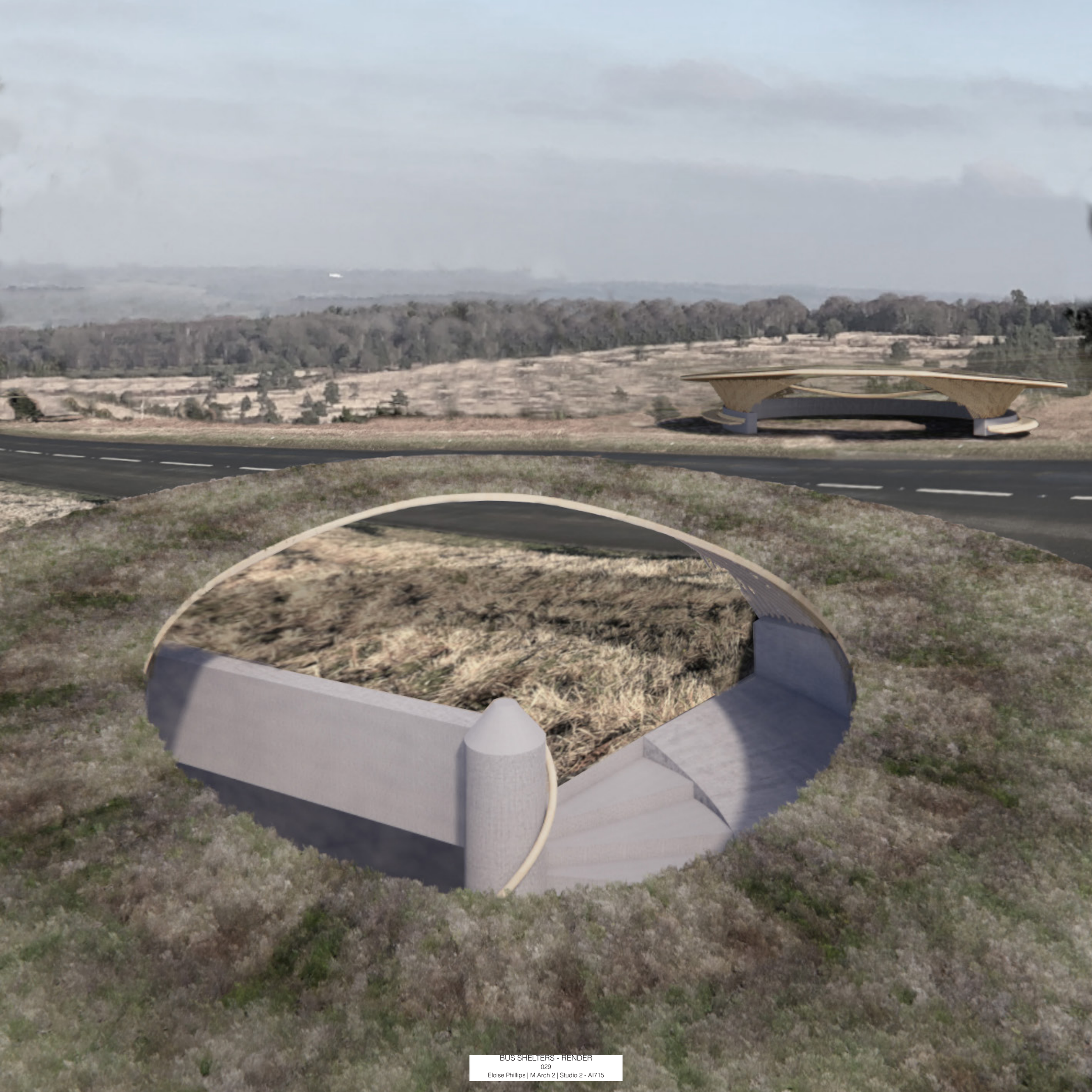

BUS SHELTERS - RENDER

029

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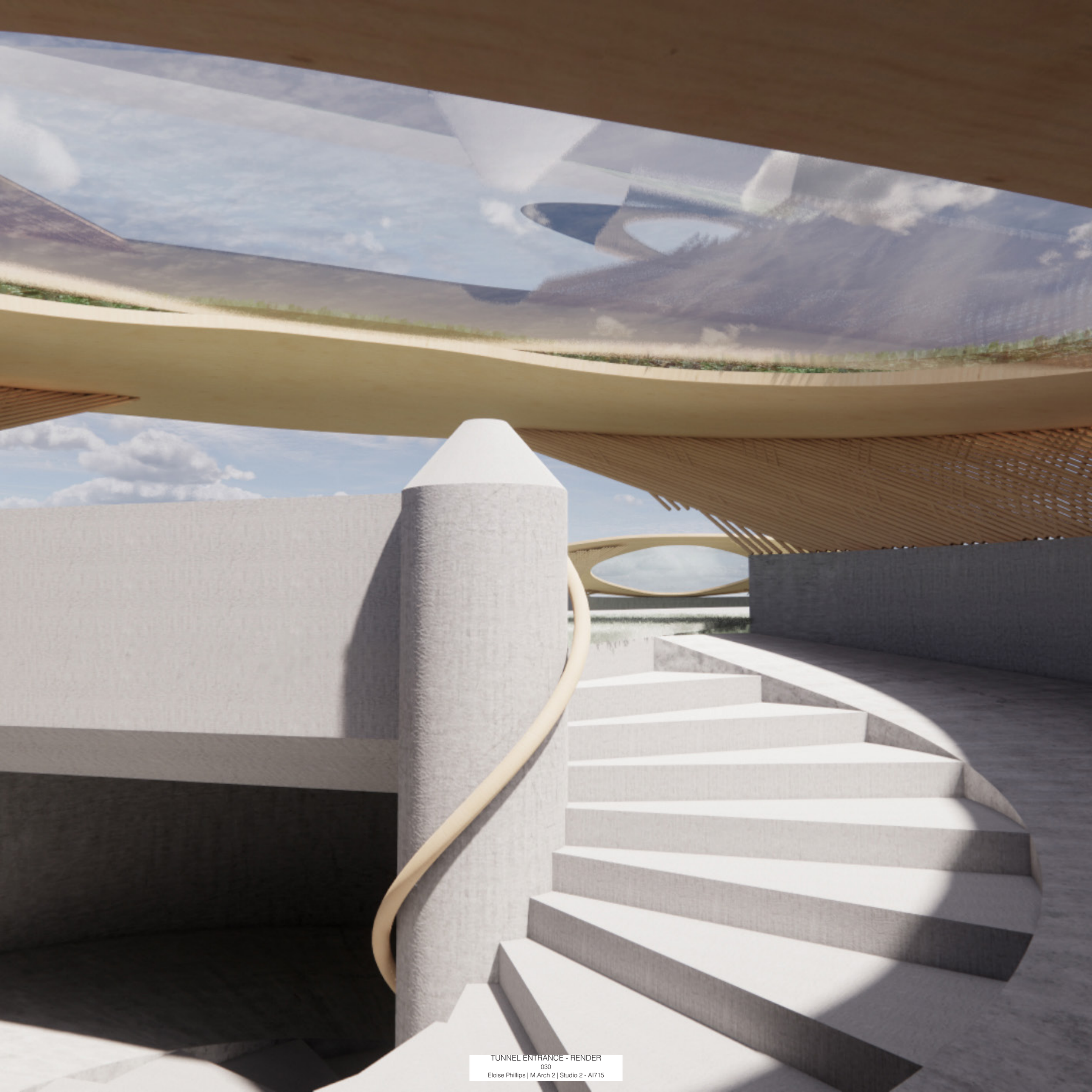

TUNNEL ENTRANCE - RENDER

BIKE STORE/ACCESS TUNNEL - RENDER

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WEST FACADE - RENDER

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NATURAL POOL - RENDER

033

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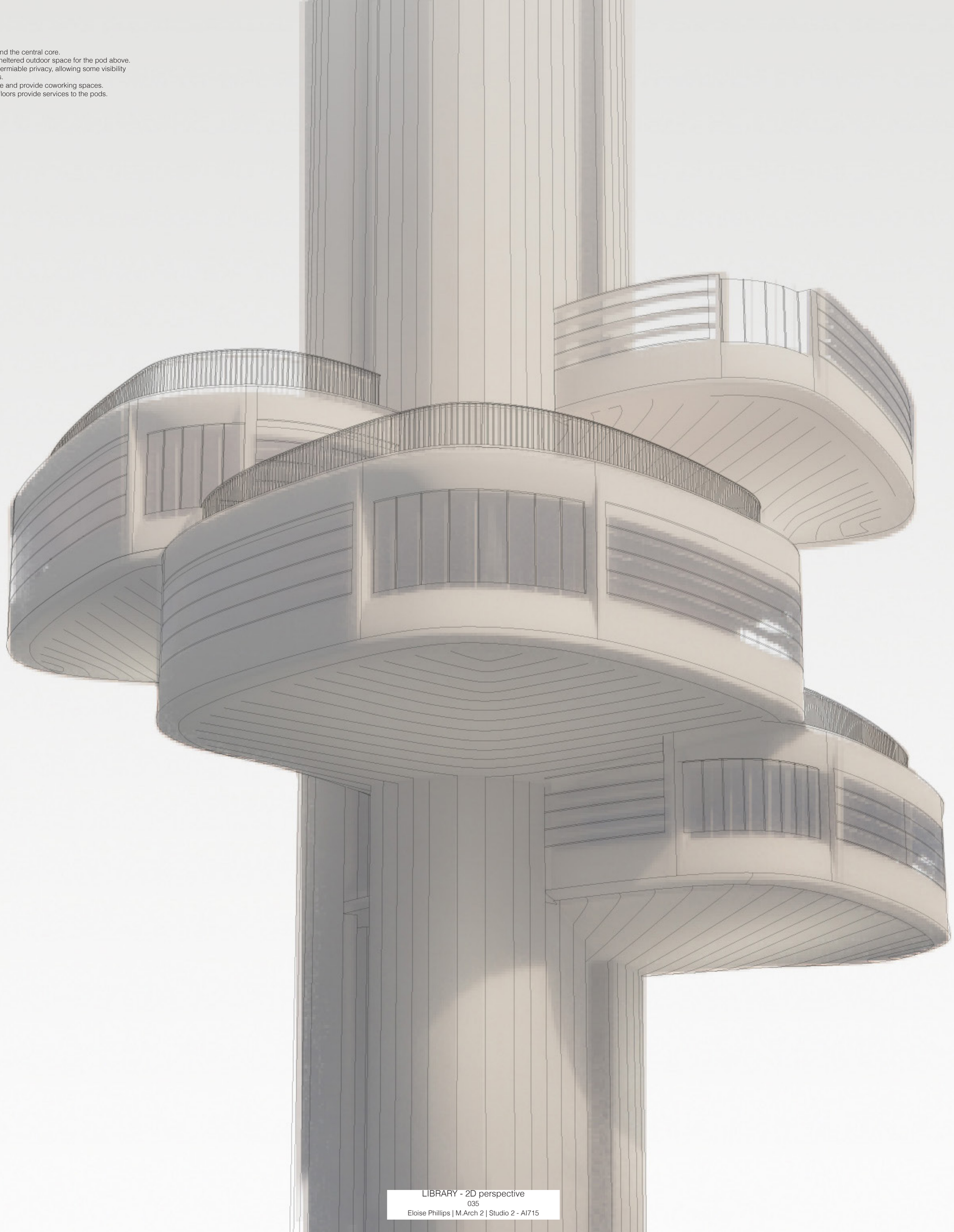
4 library pods cantelever around the central core.
The roof of the first provides sheltered outdoor space for the pod above.
Bookshelves provide a semi permiable privacy, allowing some visibility between neighbouring spaces.
Pods are divided in use by age and provide coworking spaces.
The lower and lowest ground floors provide services to the pods.



LIBRARY - 2D perspective
035
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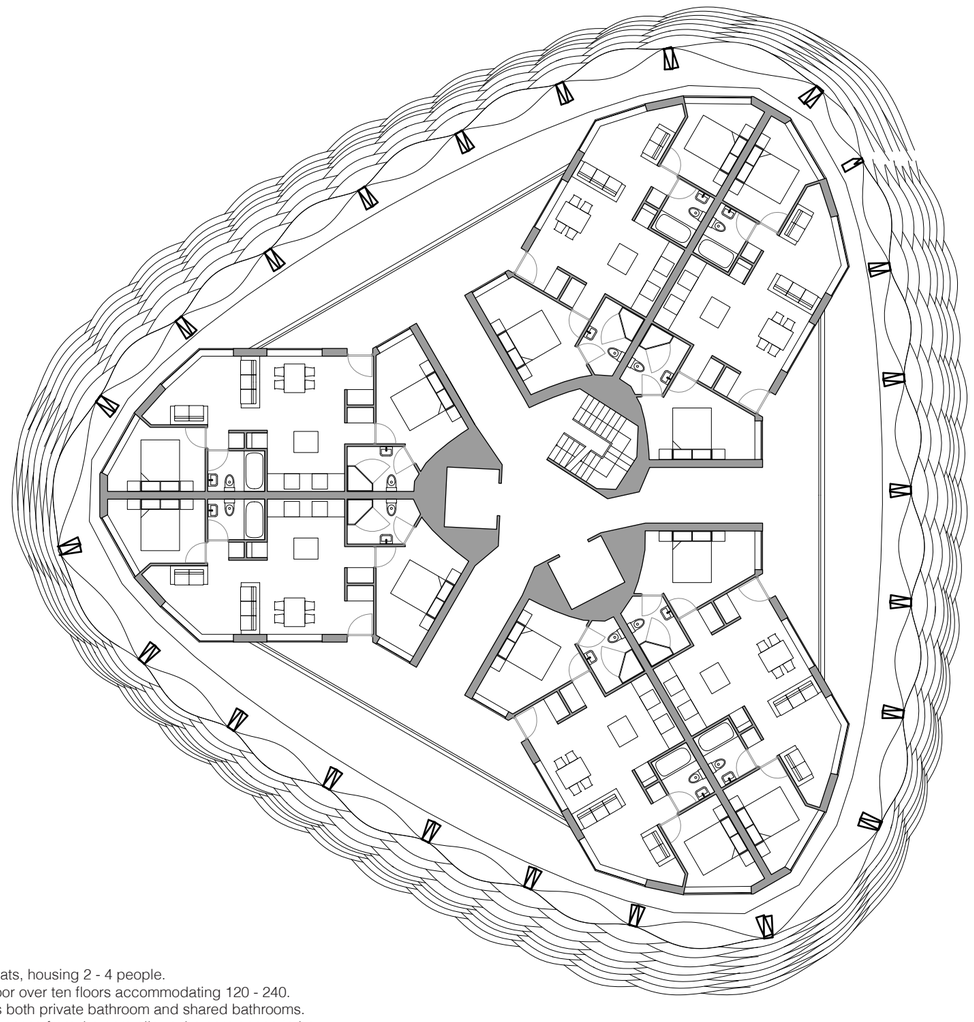
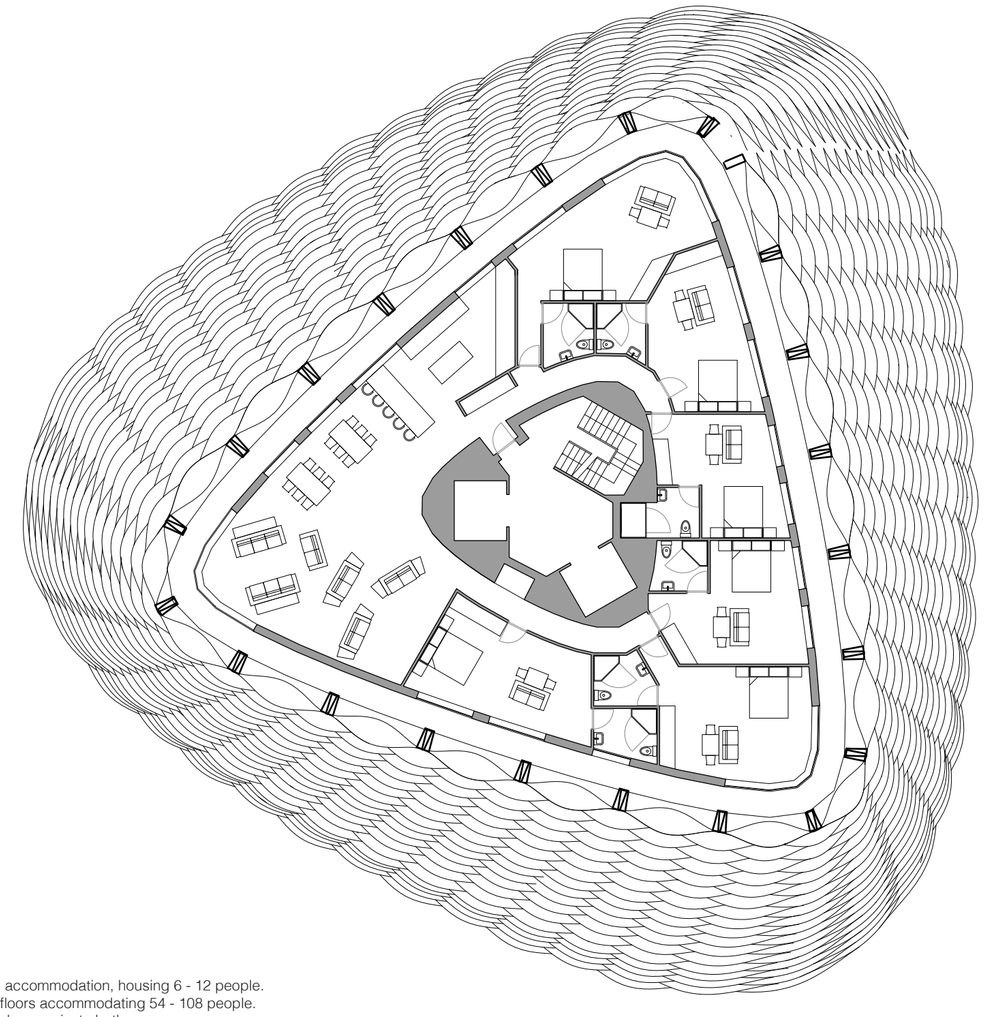
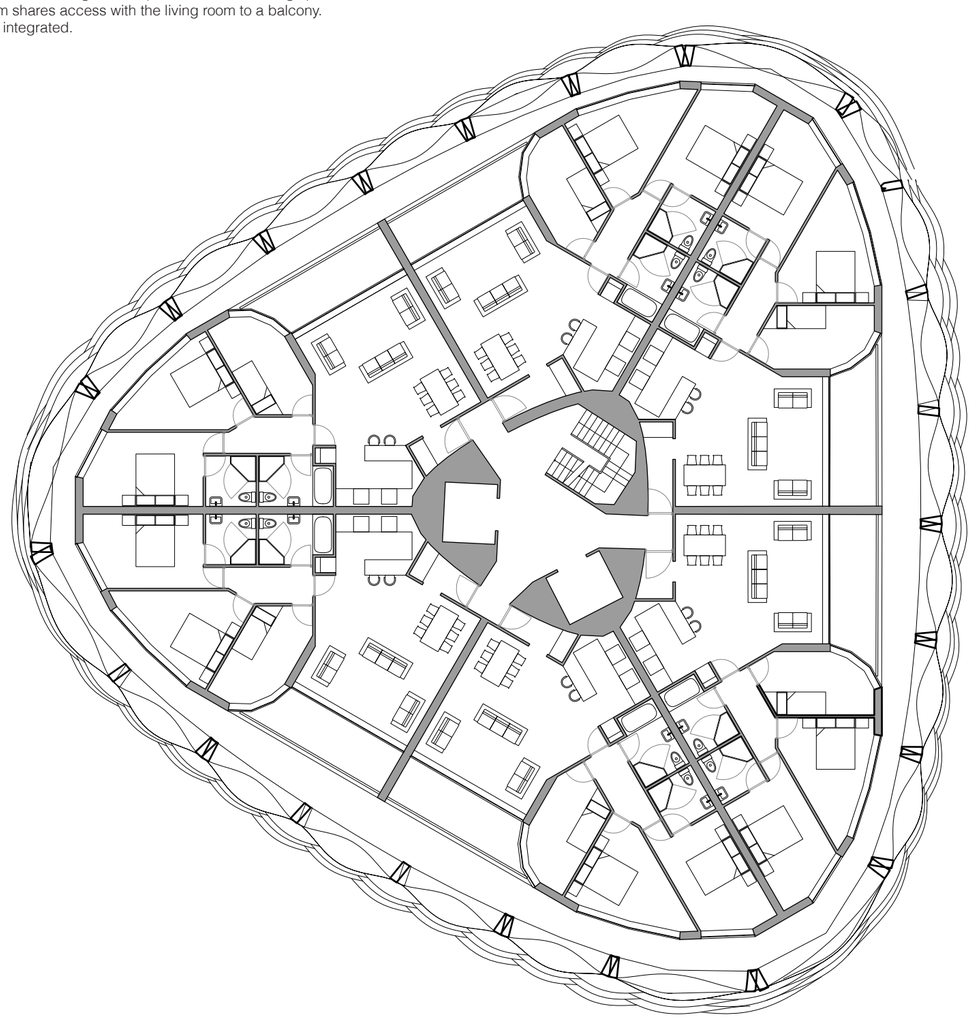


2 bedroom flats, housing 2 - 4 people.
6 on each floor over ten floors accommodating 120 - 240.
Each flat has both private bathroom and shared bathrooms.
The shared access from the core allows the core space to be
naturally lit and provides a shared balcony.
The fridge is integrated.

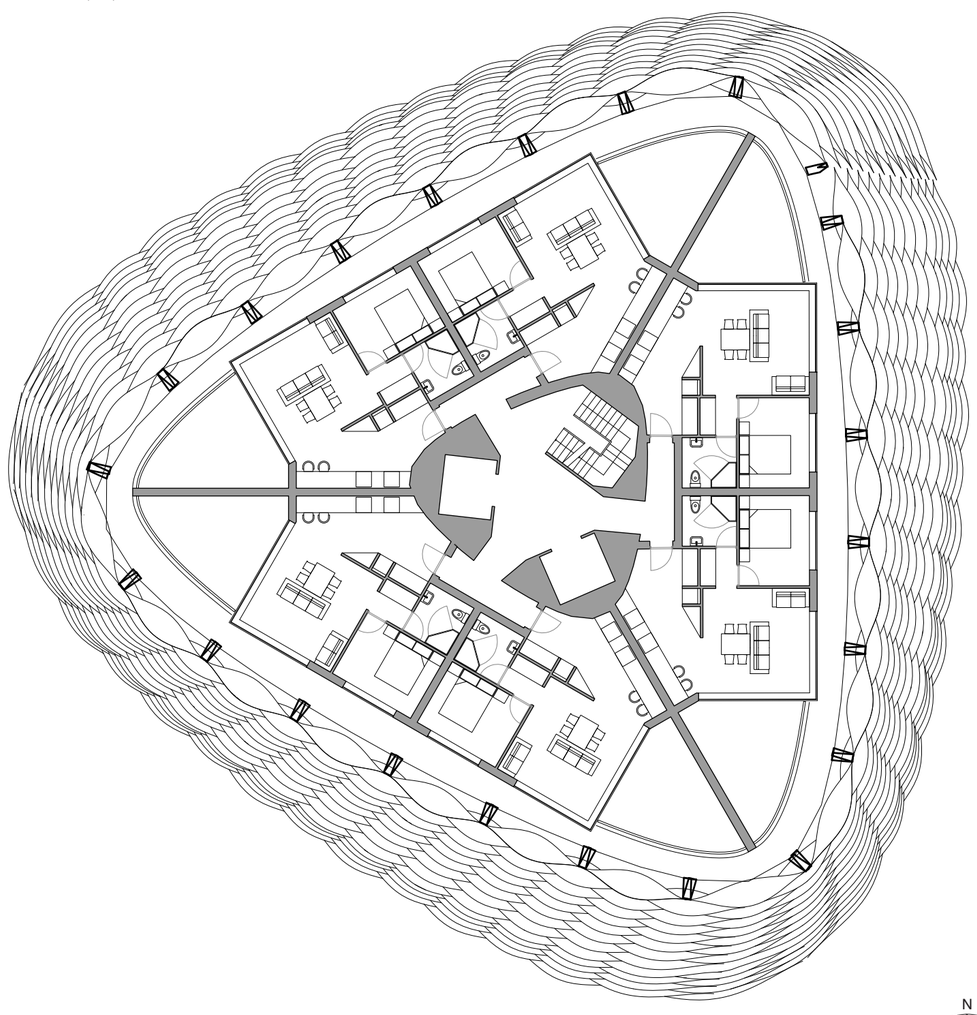


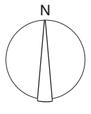
cohousing accommodation, housing 6 - 12 people.
Over nine floors accommodating 54 - 108 people.
Each room has a private bathroom.
Living accommodation is shared.
Access to outdoor space is provided in the communal areas above.

Three bedroom flats, housing 4 - 6 people:
6 on each floor over 9 floors, accommodating 216 - 324 people.
Each flat has both private bathroom and shared bathrooms.
The bedrooms have a degree of separation from the living space.
One bedroom shares access with the living room to a balcony.
The fridge is integrated.



1 bedroom flats, housing 1 - 2 people.
6 on each floor over ten floors accommodating 60 - 120.
The fridge is integrated.
The tower accommodates minimum 450 and
maximum just under 800 people.





HOUSING TYPOLOGIES - PLANS 1:200

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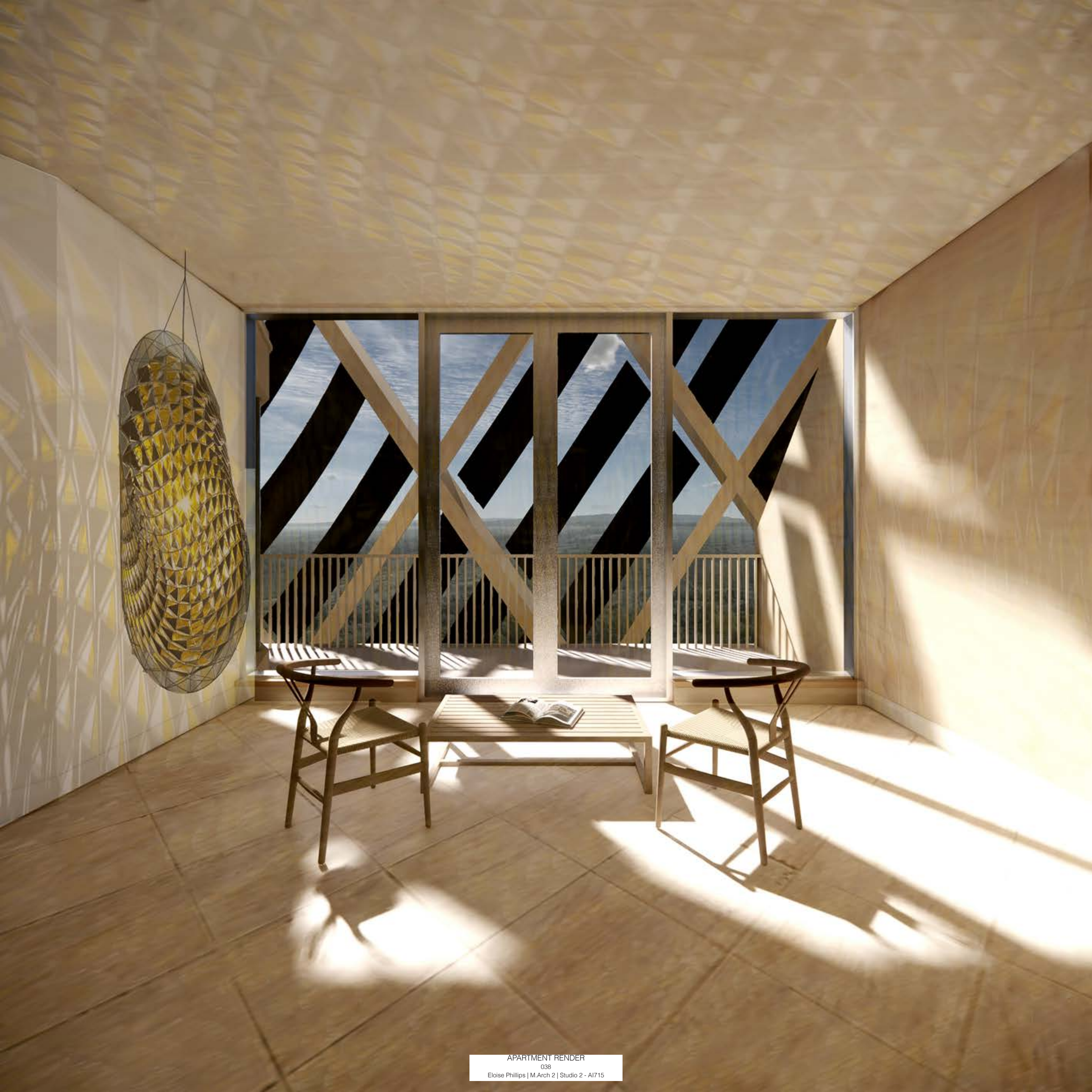

APARTMENT RENDER
038
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COMMUNAL GARDEN - RENDER