



REIMAGINING SPATIAL POSSIBILITIES OF INDUSTRIAL BUILDINGS



Lee Min Zhao

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**Graduate
Architect in
KH Architect**



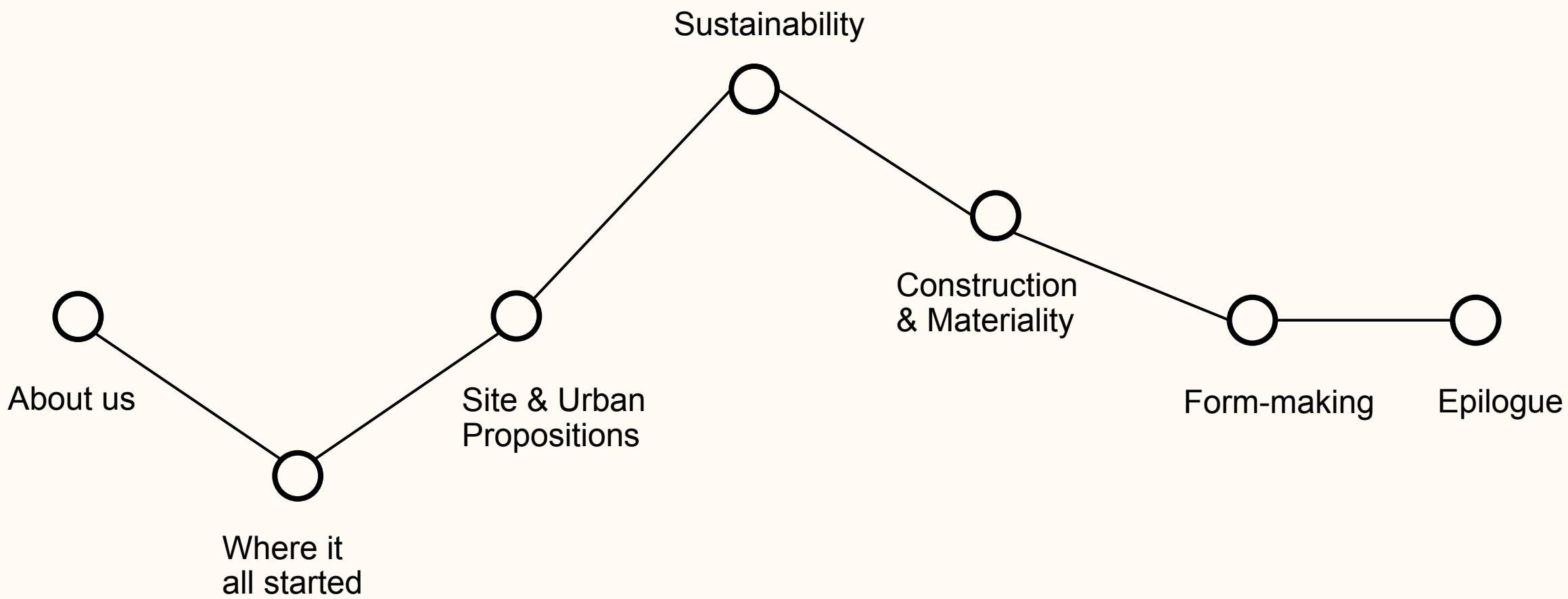
REIMAGINING

**SPATIAL
POSSIBILITIES**

OF INDUSTRIAL
BUILDINGS

An exploration into Award-winning Penang
Island Waste Transfer Station

KH Architect



Waste Transfer Station
Where it all started...



Ampang Jajar Waste Transfer Station (2012)



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Penang Island Waste Transfer Station

A whole new brief, site and approach...

2016

2017

2018

2019 – to present

Design

Construction

Publication, awards, webinar

Site & Urban Propositions



Site



Site



Urban Propositions – The 'DOs'



Urban Propositions – The ‘DON’Ts’



Urban Propositions



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城市的生态基底
成为吸引海内外
投资者的亮点。

Urban Propositions

Sustainability



Building function and planning of spaces



Water



Recycled water for washing



Leachate Treatment Plant



Greywater pond



Rainwater harvesting tank



Nature



Preserving nature on site



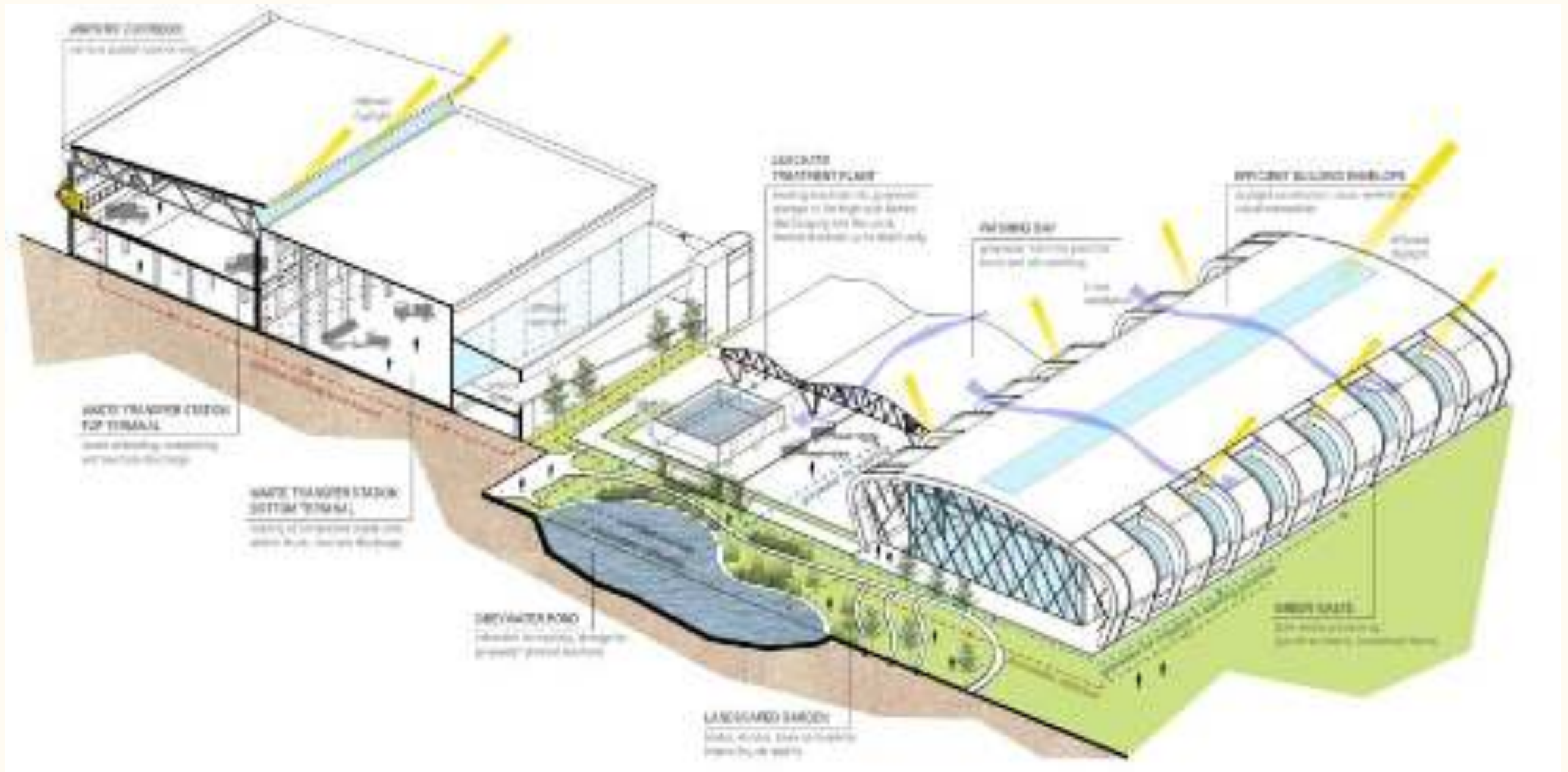
Preserving nature on site



Built form and nature in harmony



Recycled Centre



Sustainability

Construction & Materiality



Pre-fabricated hollow core slab



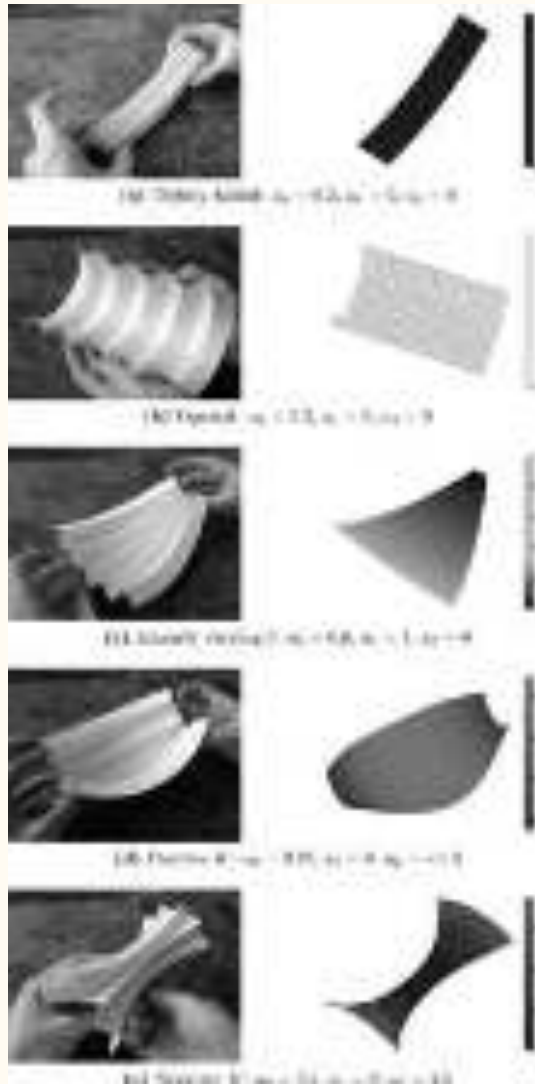
Roof insulation



Steel construction



Steel construction



Metal Corrugation



Materiality



Metal corrugation



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Form-making

Transferring Waste, Transforming Tubes

Function



Form

Reciprocal interaction

via a series of volumetric expression derived from...



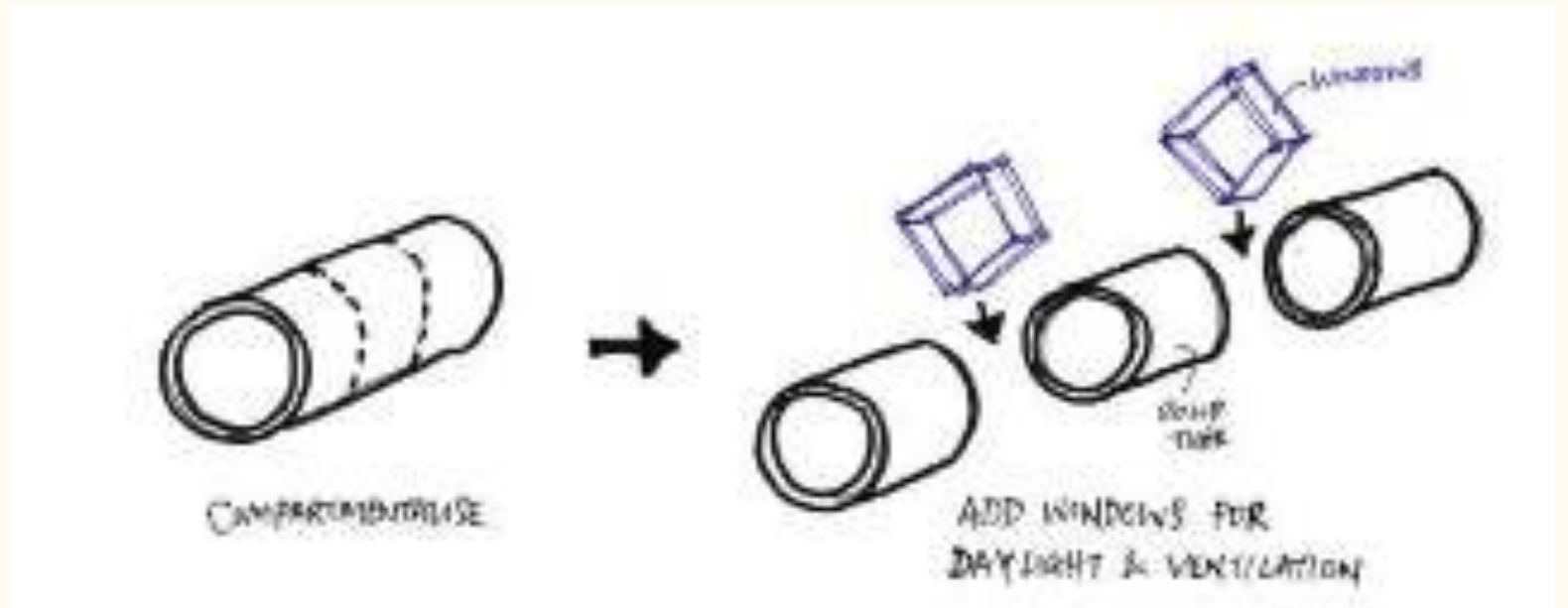
Silo



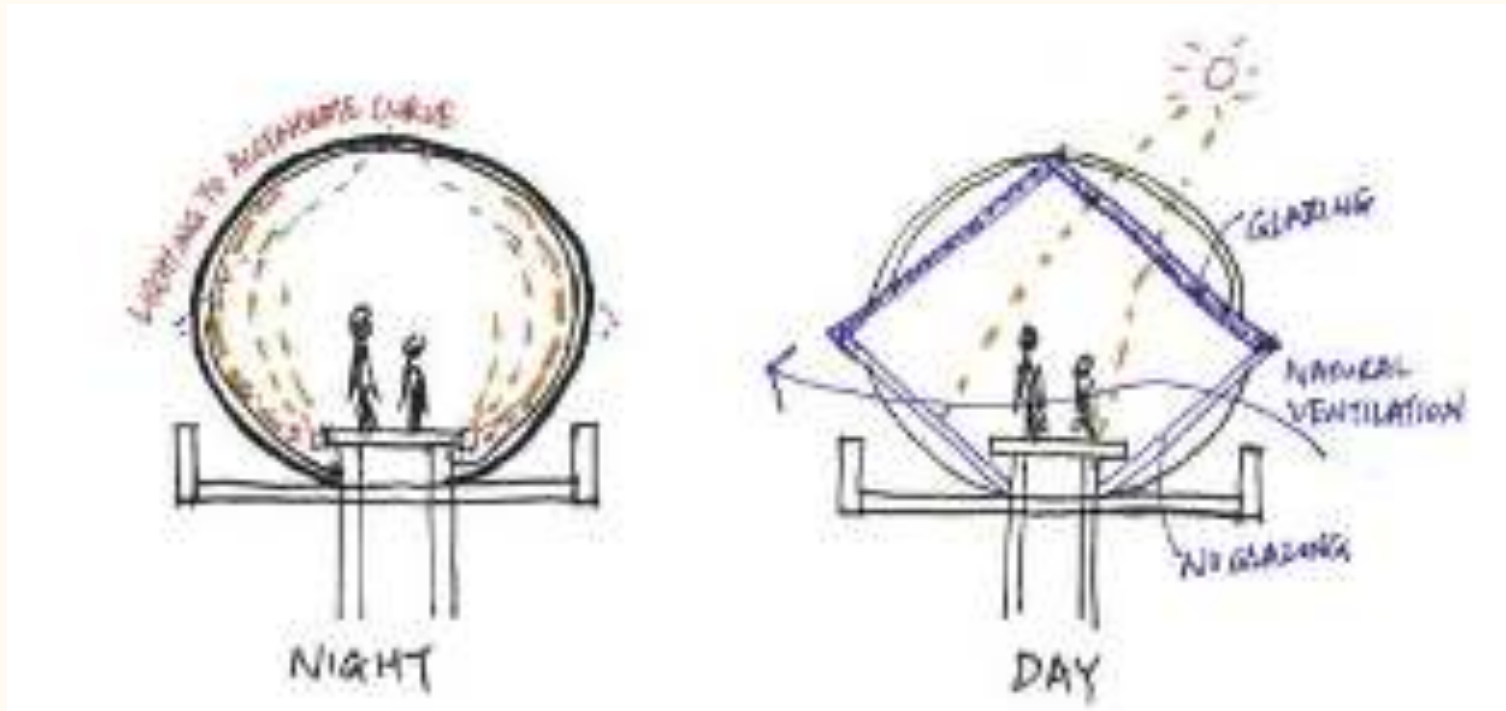
Entrance Statement



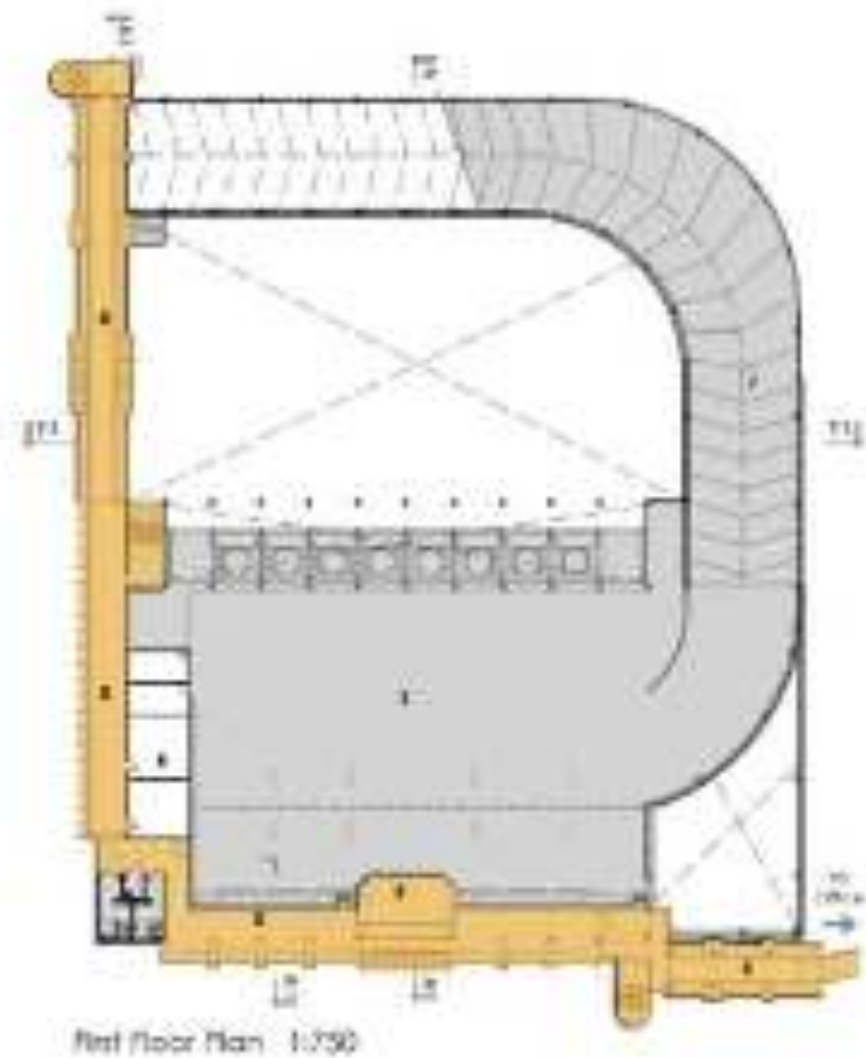
Waste Transfer Station Building



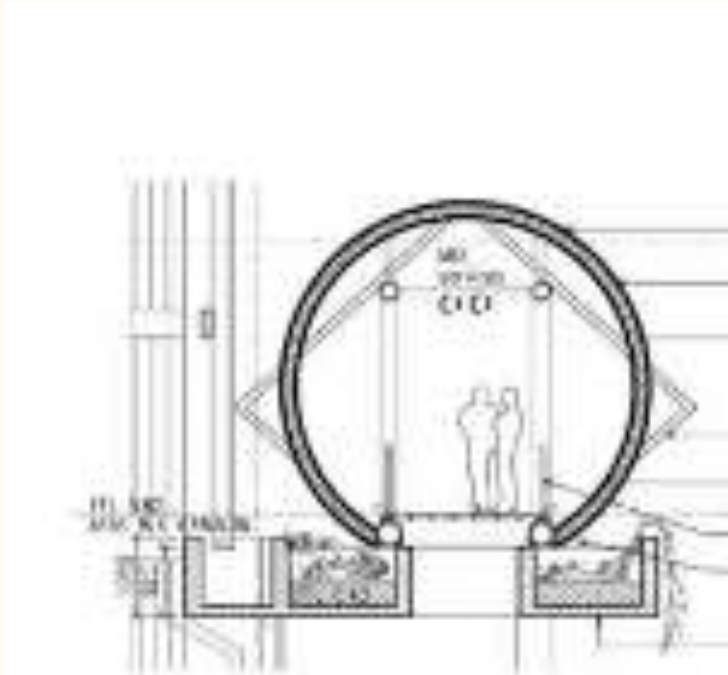
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Visitors' Corridor



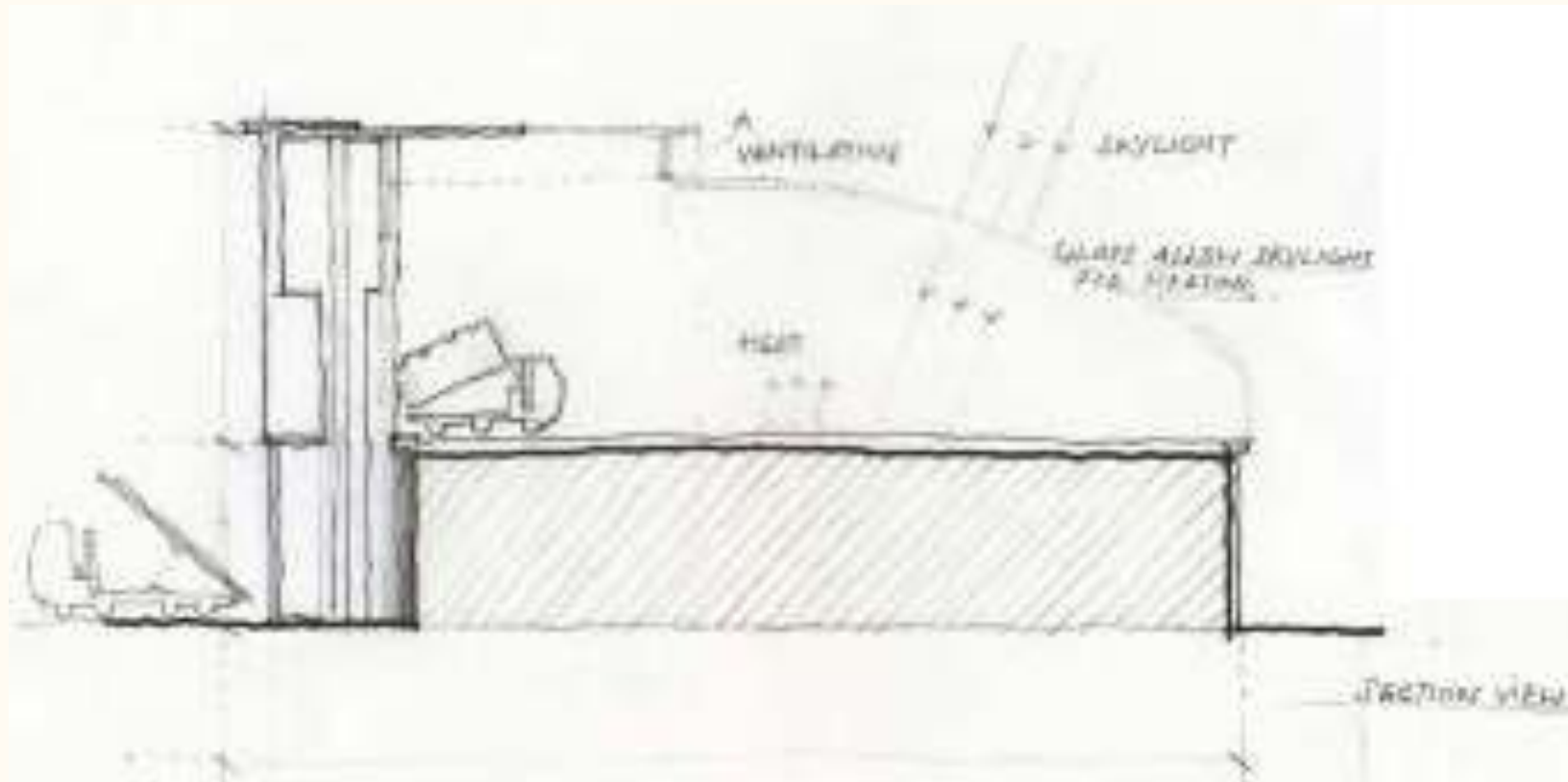
Design Iteration – inhabiting a complete tube



Design Iteration – inhabiting a complete tube



Design Iteration – inhabiting a semi-circular tube



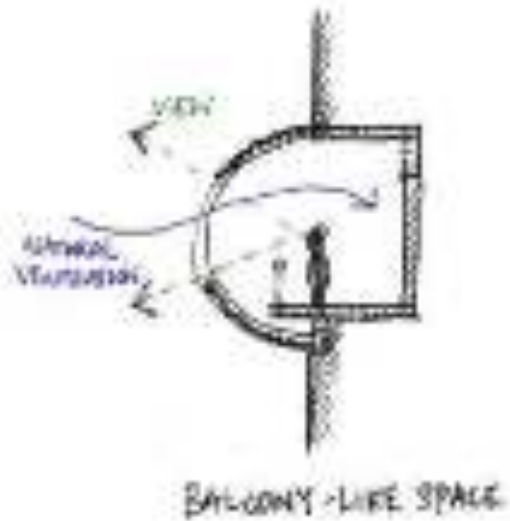
Operation, Light & Ventilation



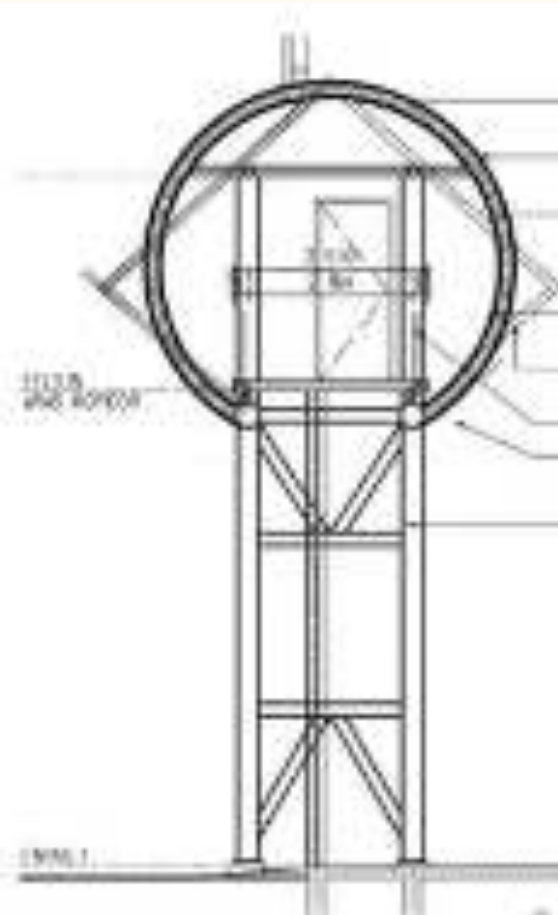
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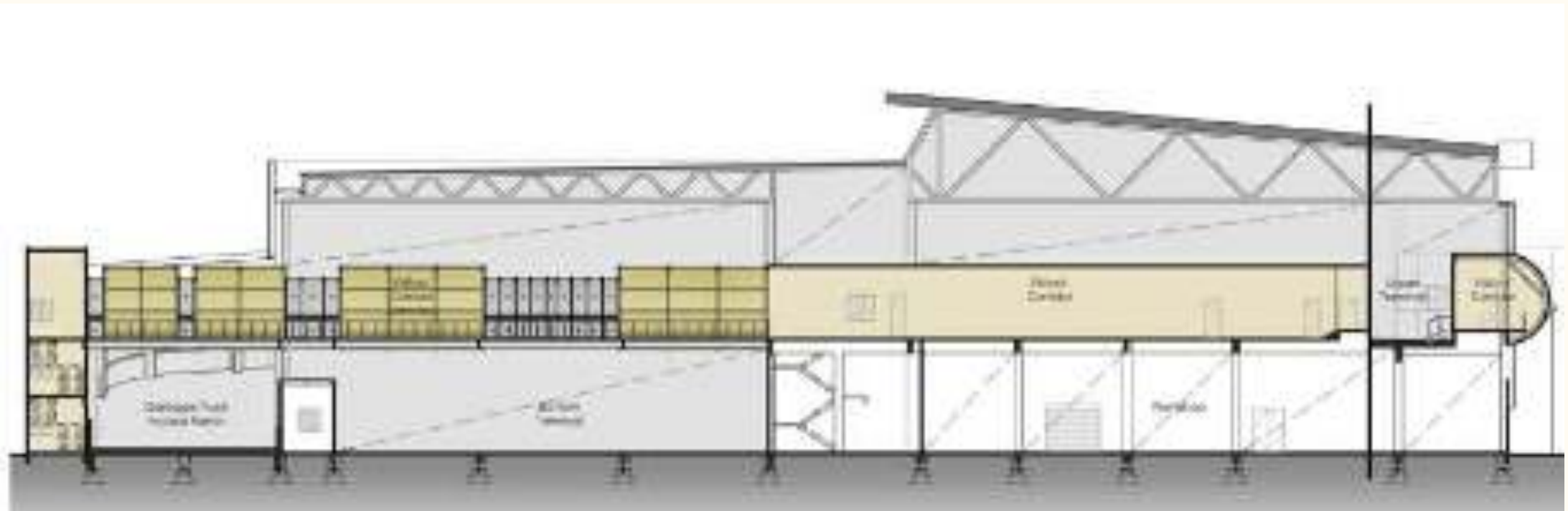
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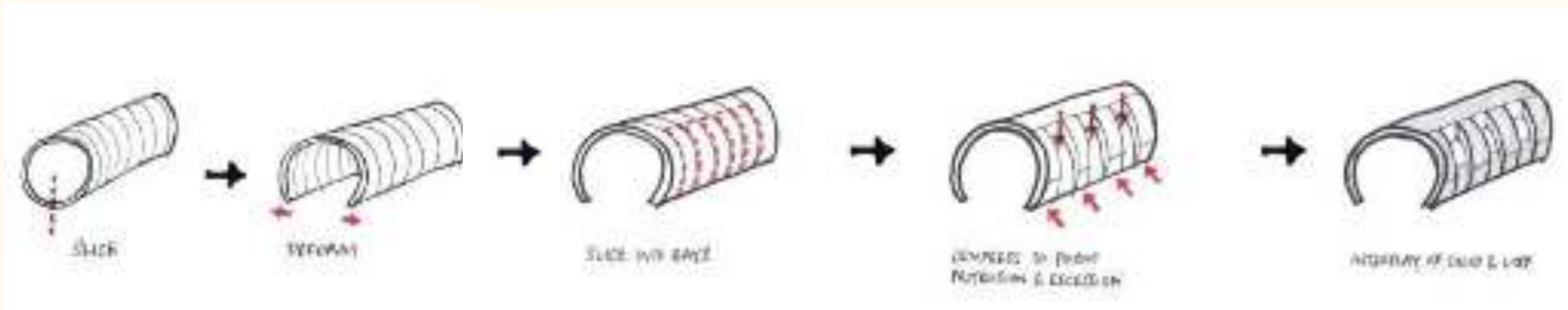
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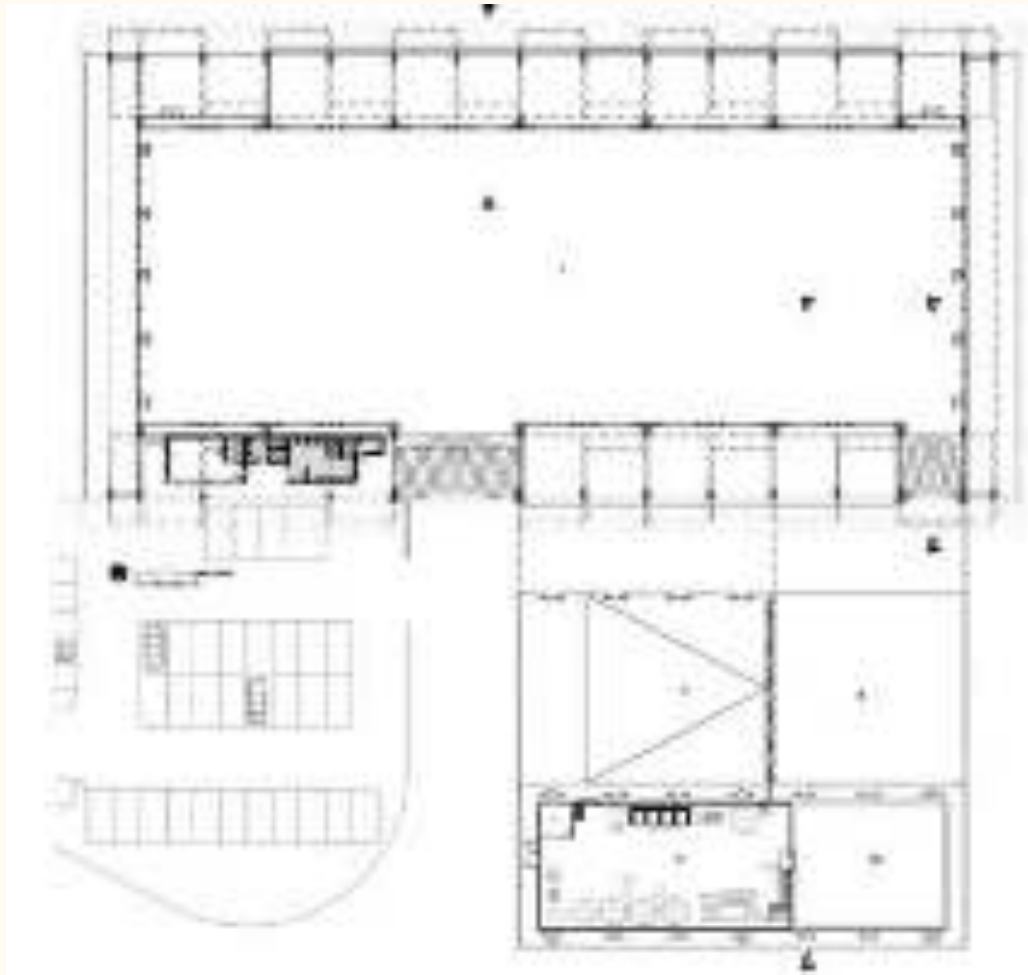
Design Iteration – complete tube as reinstatement of the concept



Green Waste Building, Leachate Treatment Plant, Greywater Pond

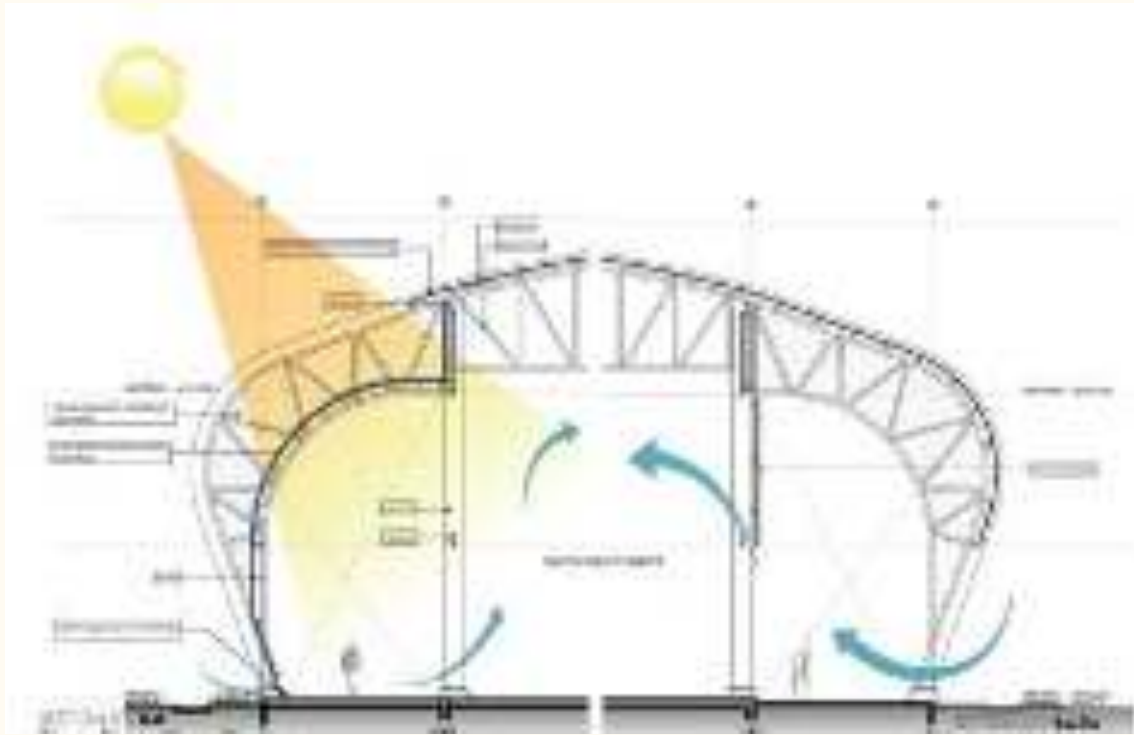


Tube deformation & iteration – Green Waste Building



- 1. Lobby
- 2. Reception
- 3. Waiting Area
- 4. Office
- 5. Conference Room
- 6. Storage Room
- 7. Restroom
- 8. Elevator
- 9. Staircase
- 10. Entrance

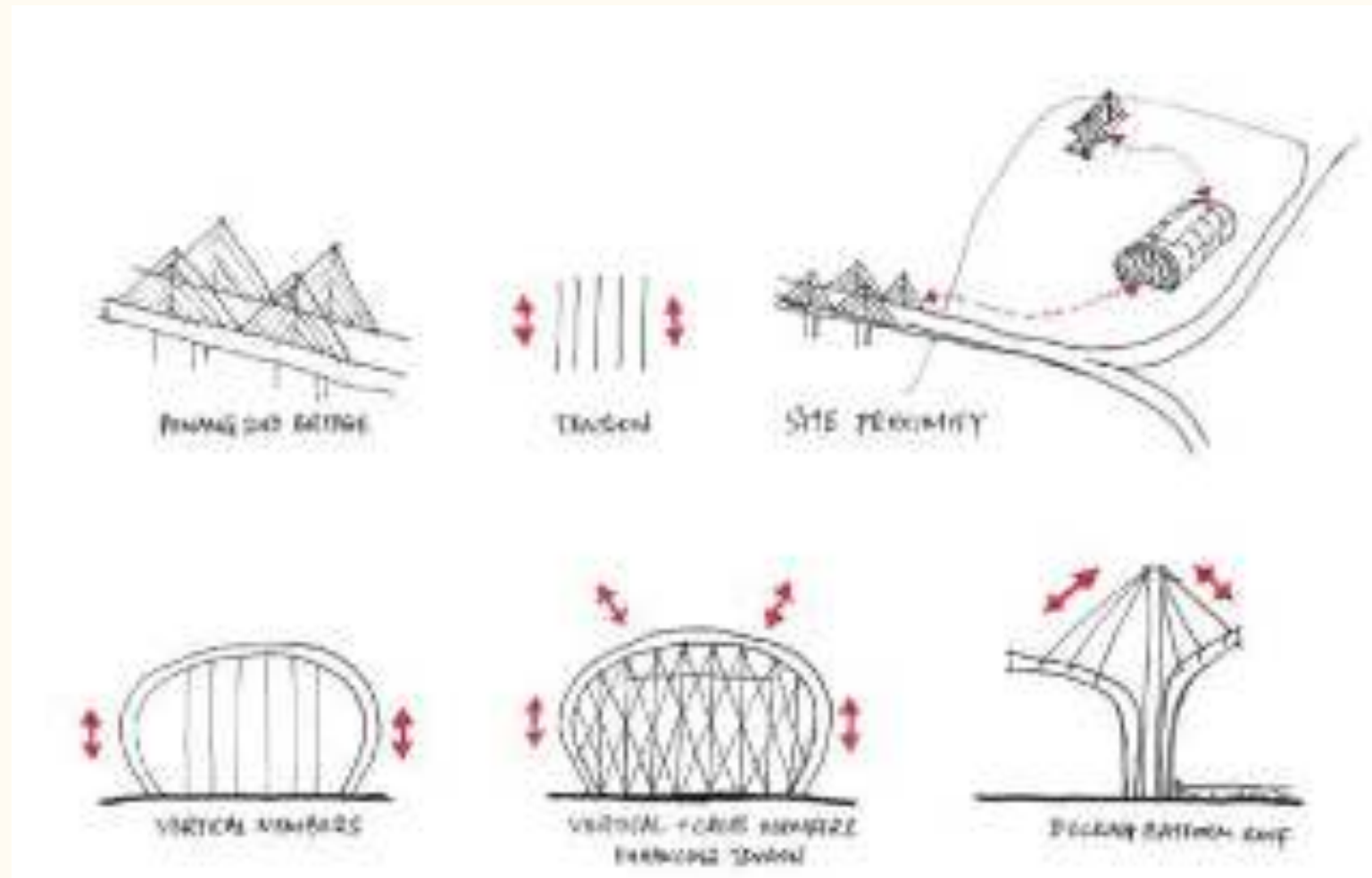
Dynamic and Progression



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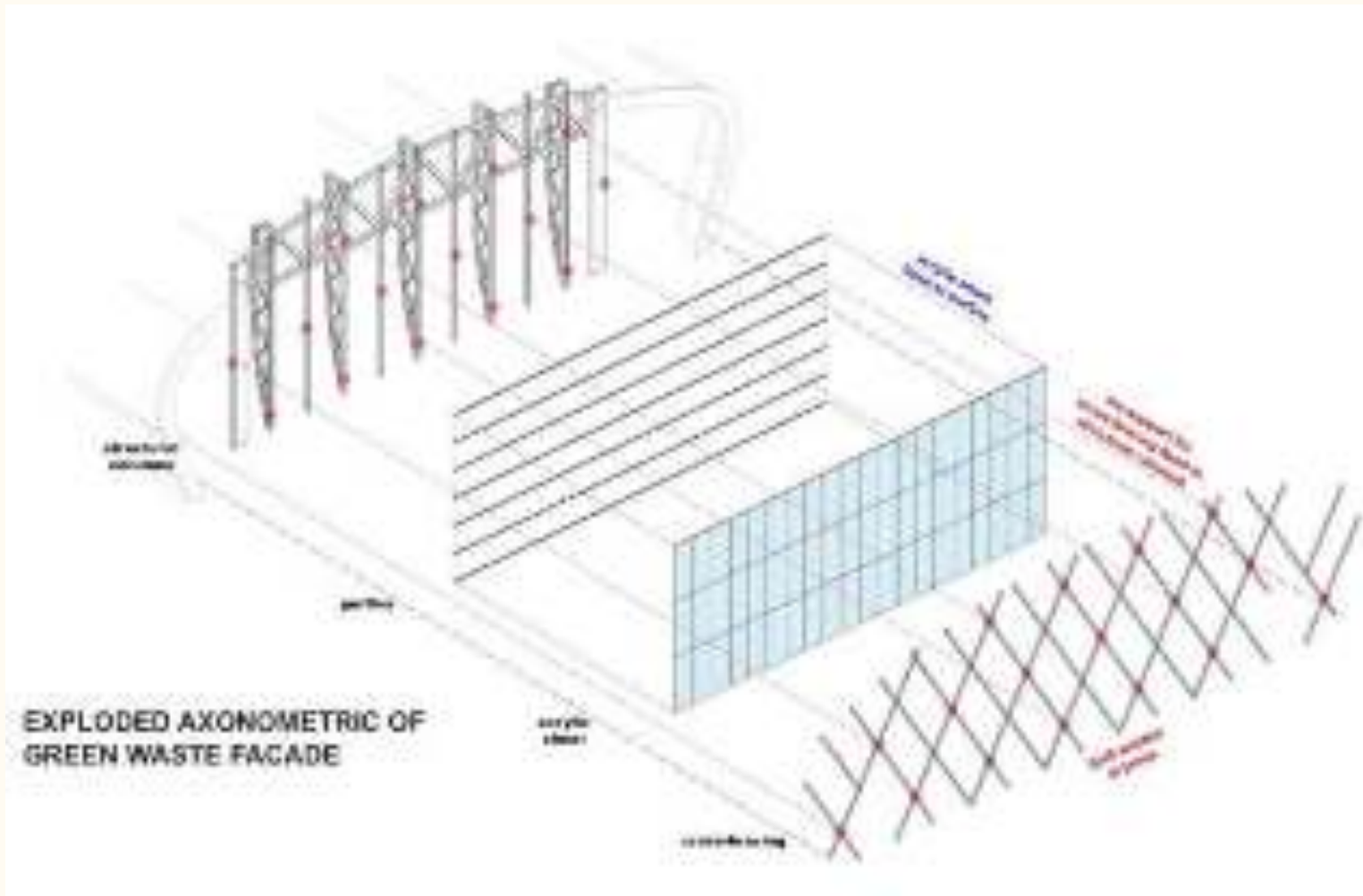
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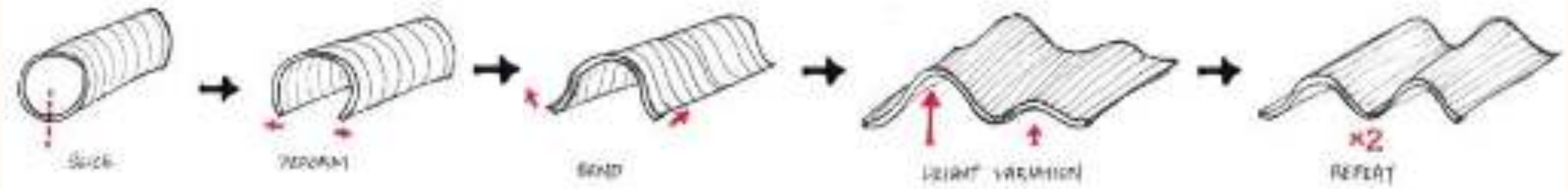
Façade embellishment – Tensile force



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Tube deformation & iteration – Leachate Treatment Plant



Roofscape



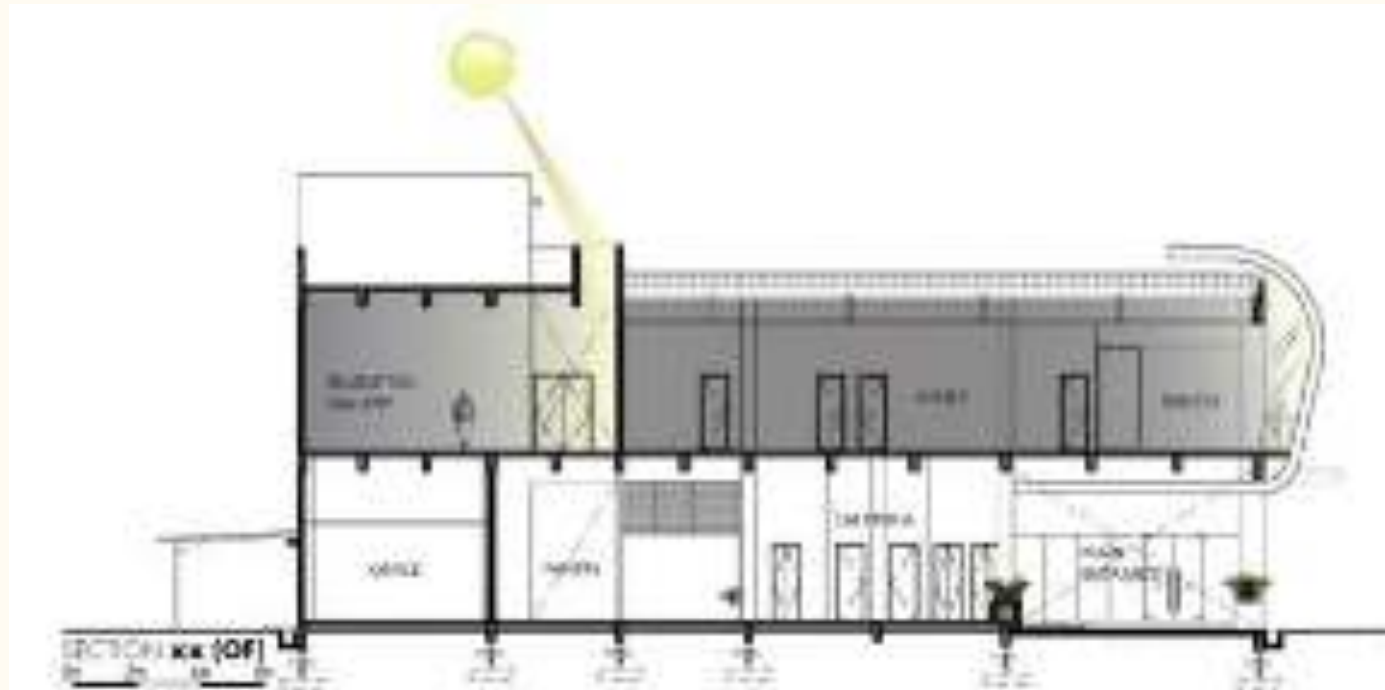
Roofscape



Office Building



Office Building



Office Building



Concept vs Realization



Concept vs Realization



Concept vs Realization



Building in use



Building in use

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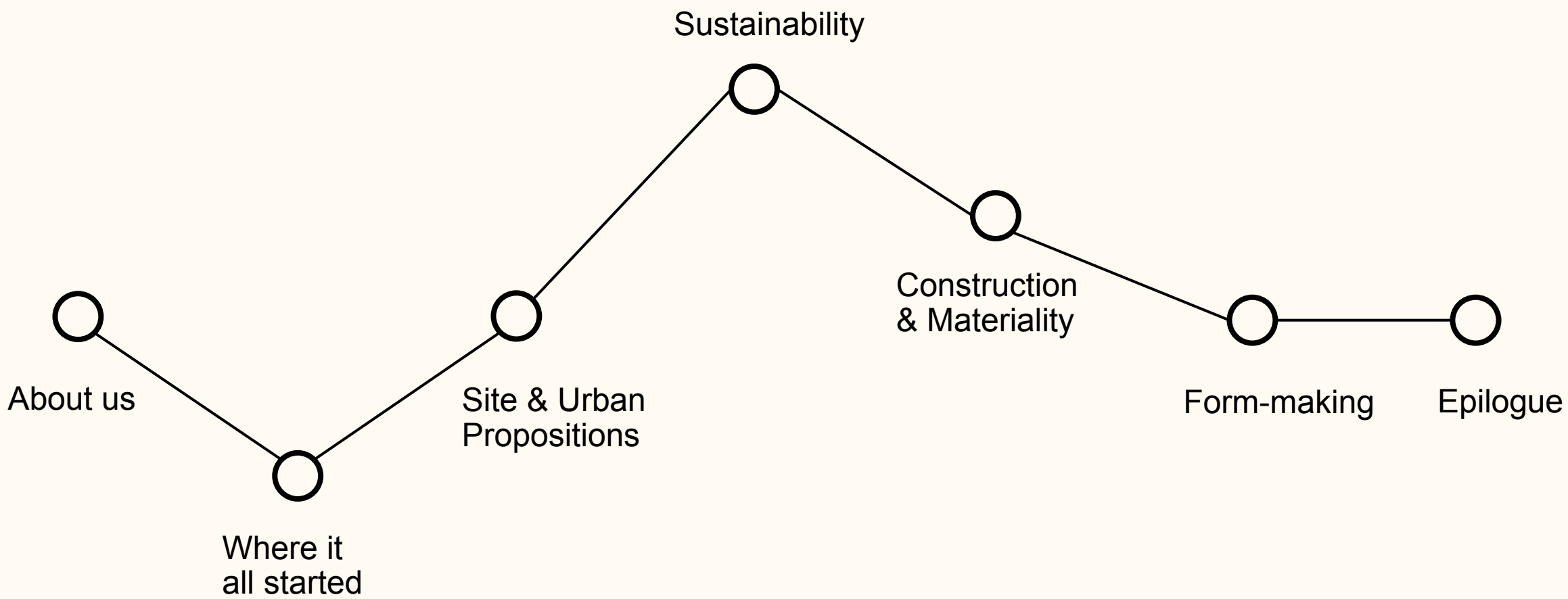
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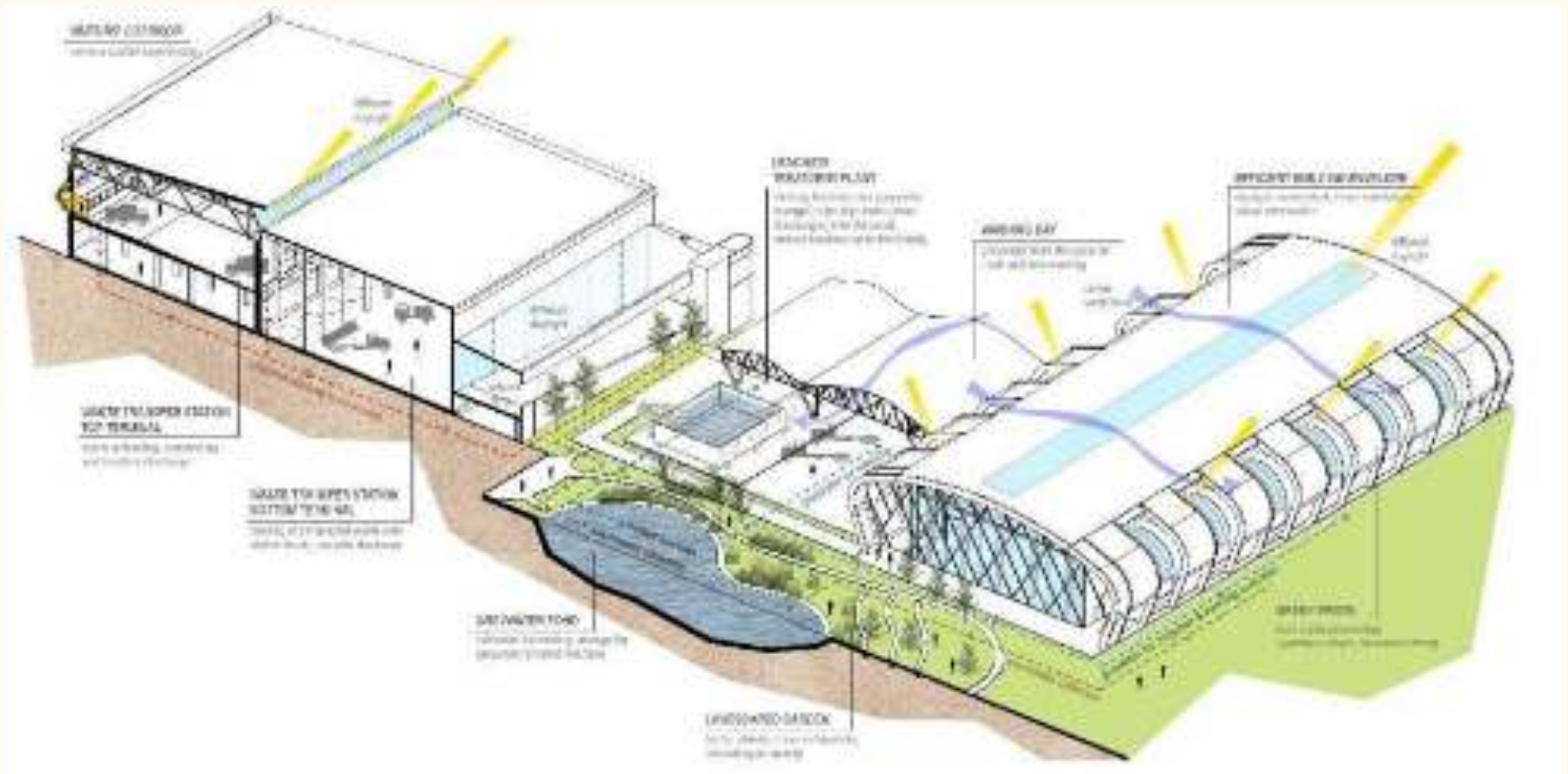
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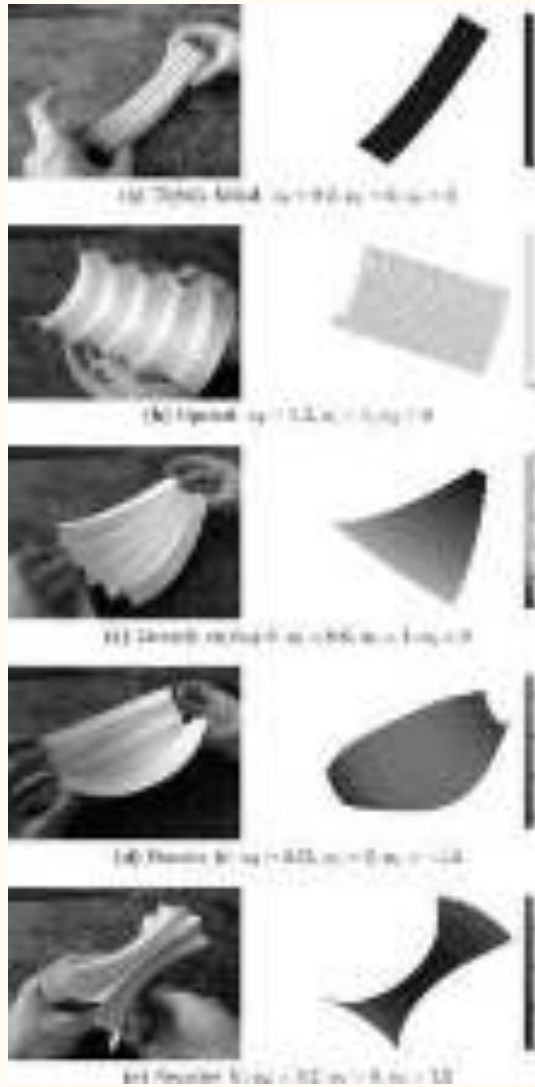
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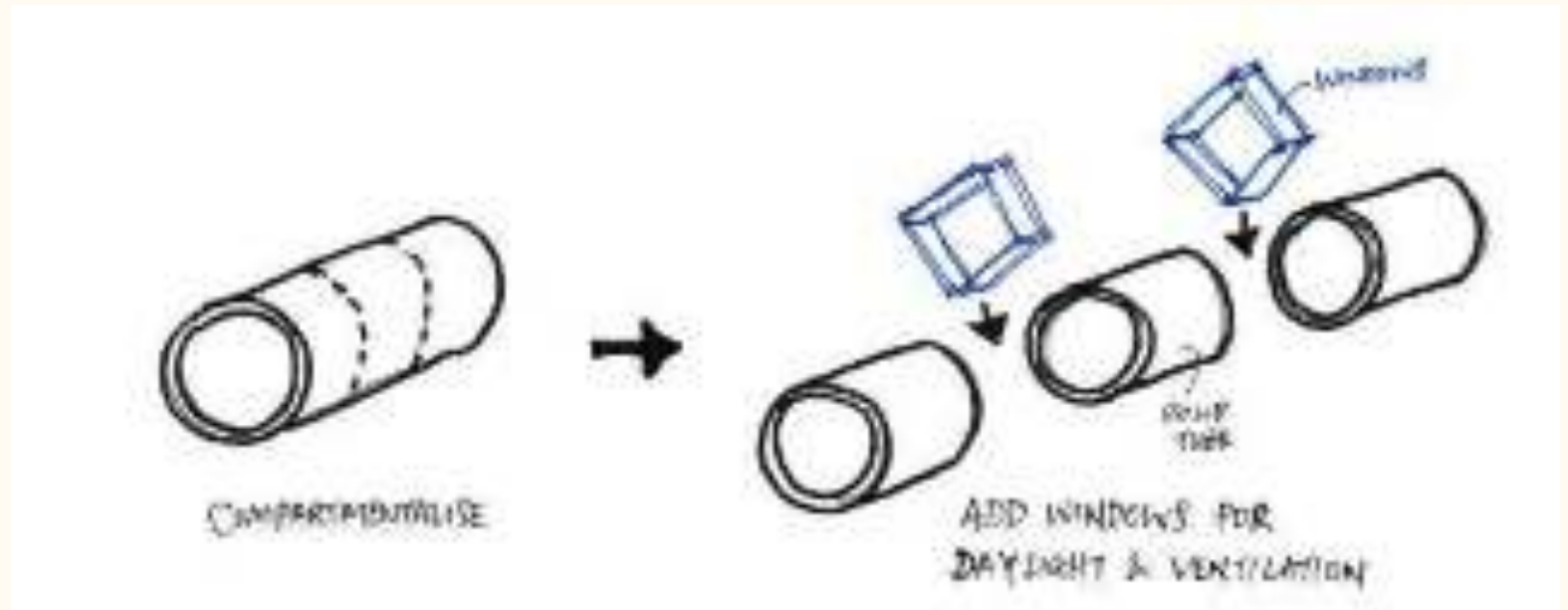
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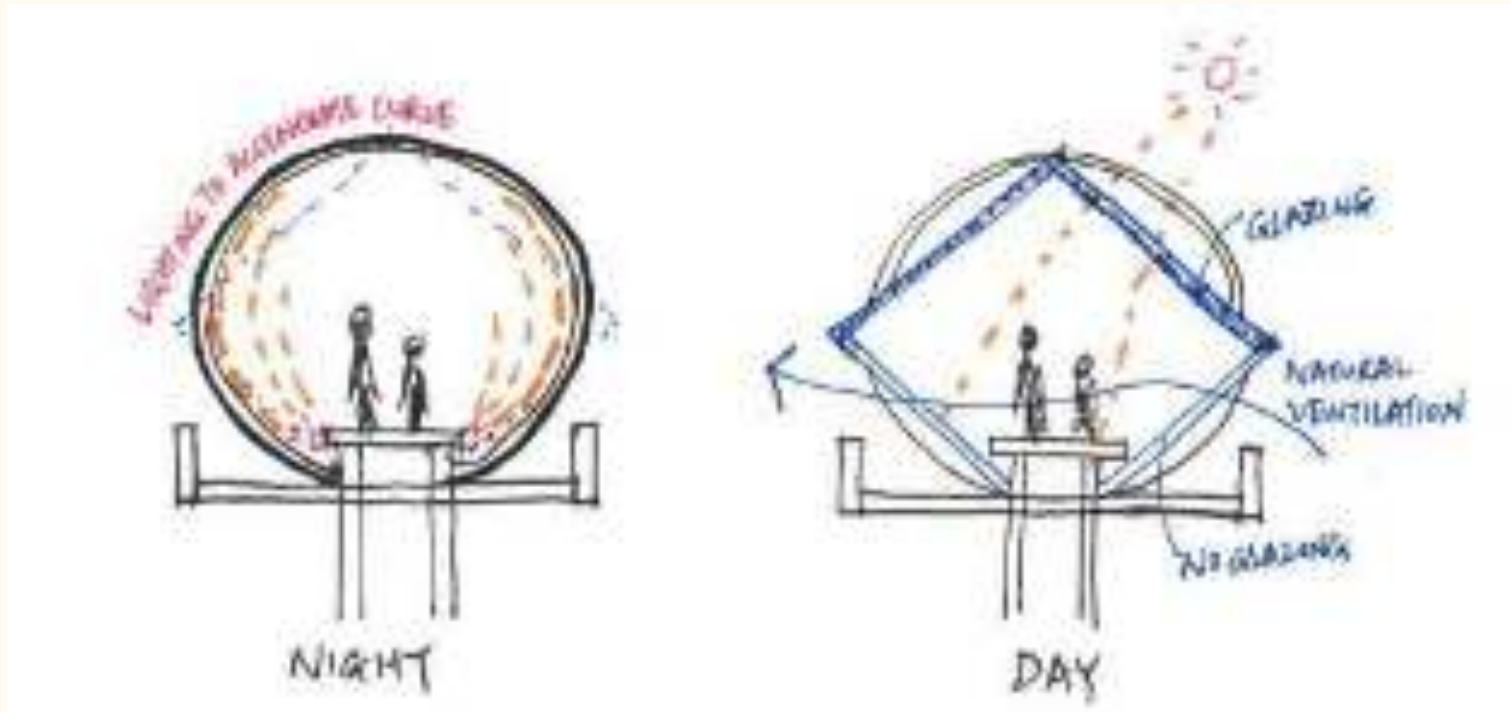
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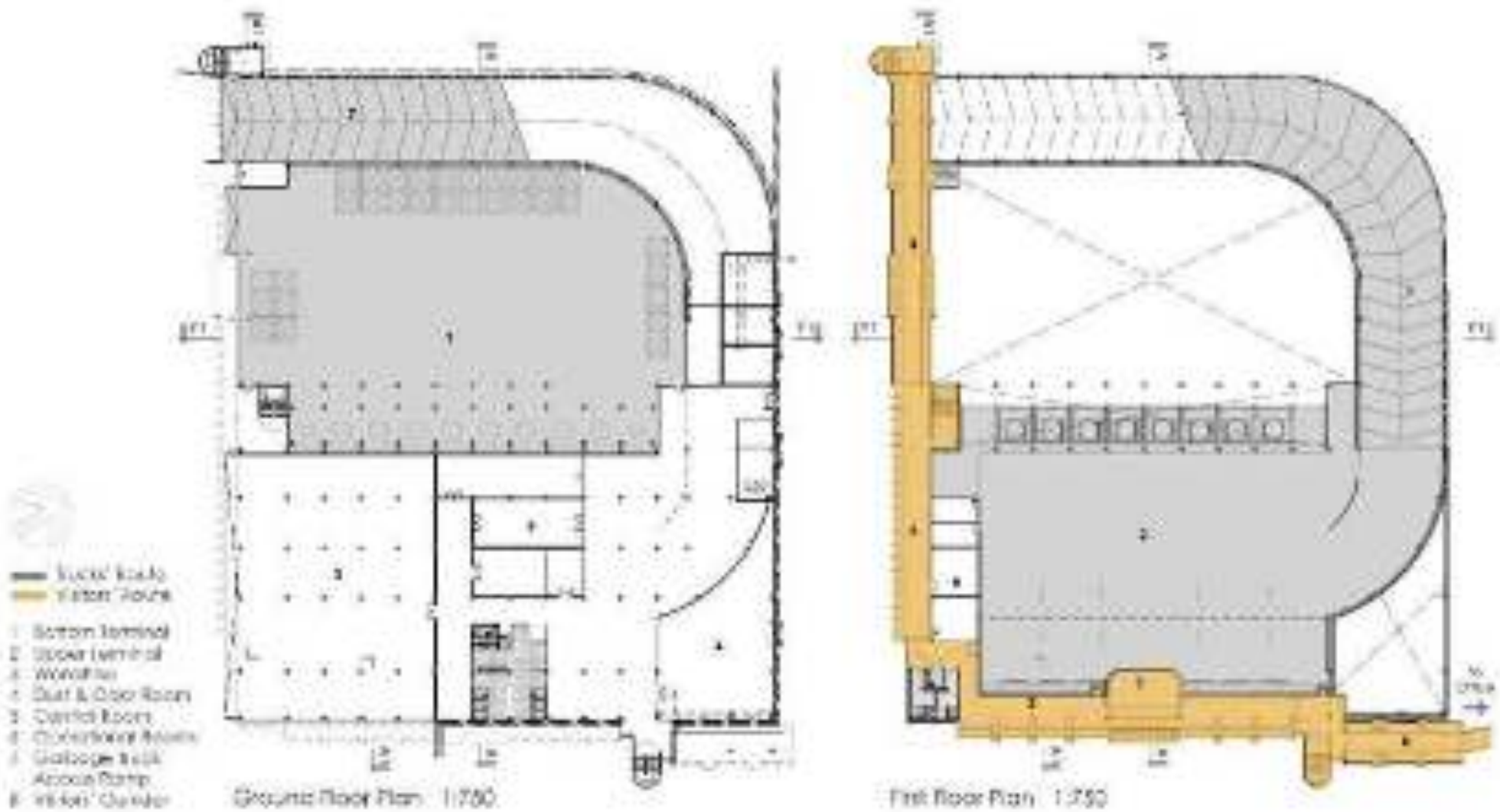
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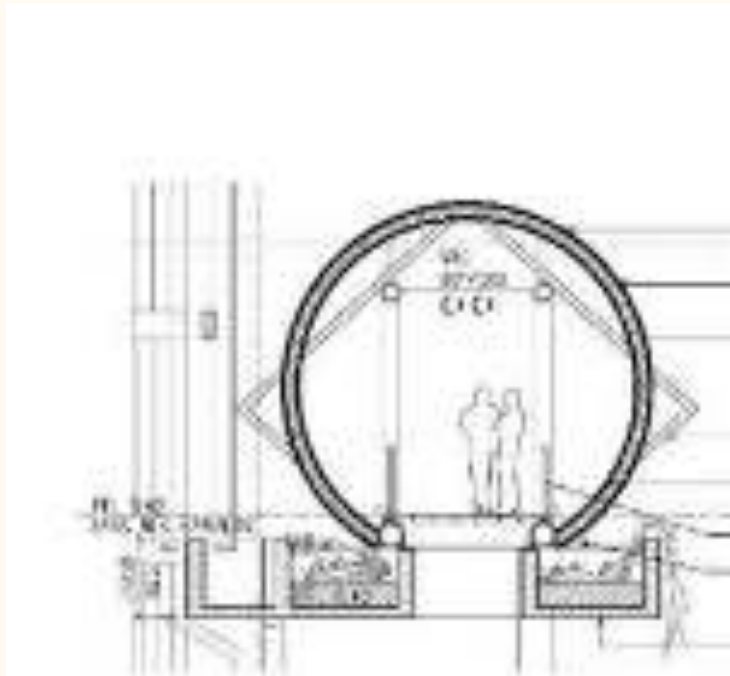
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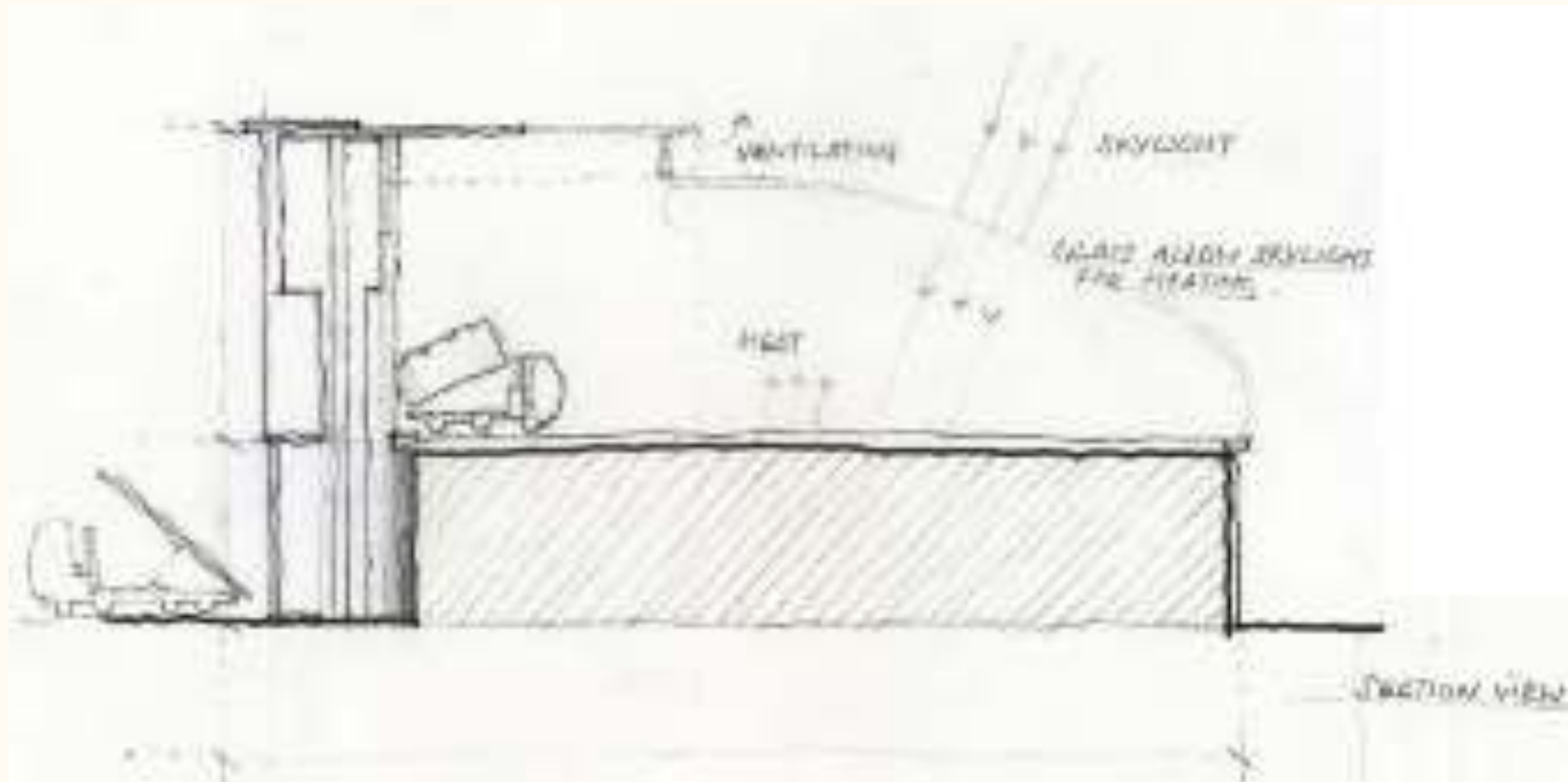
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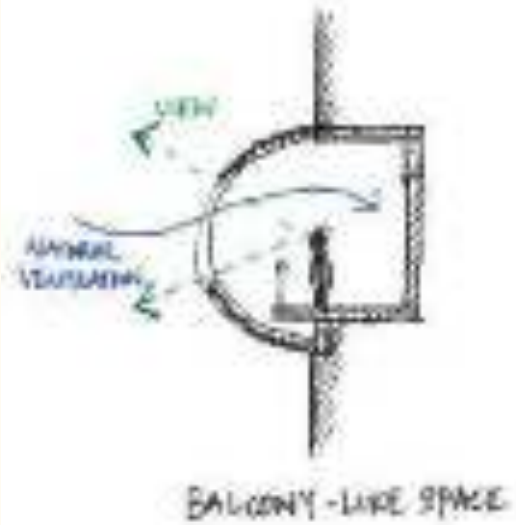
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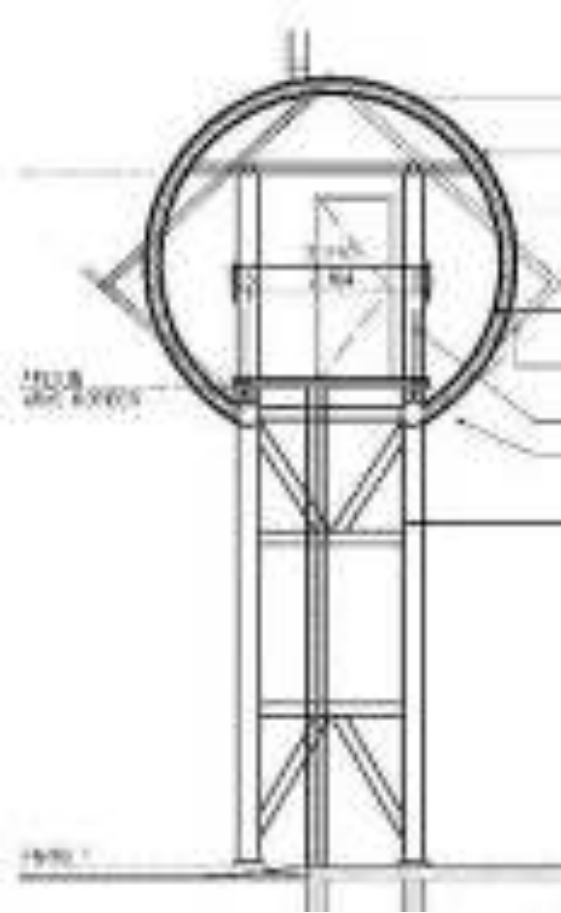
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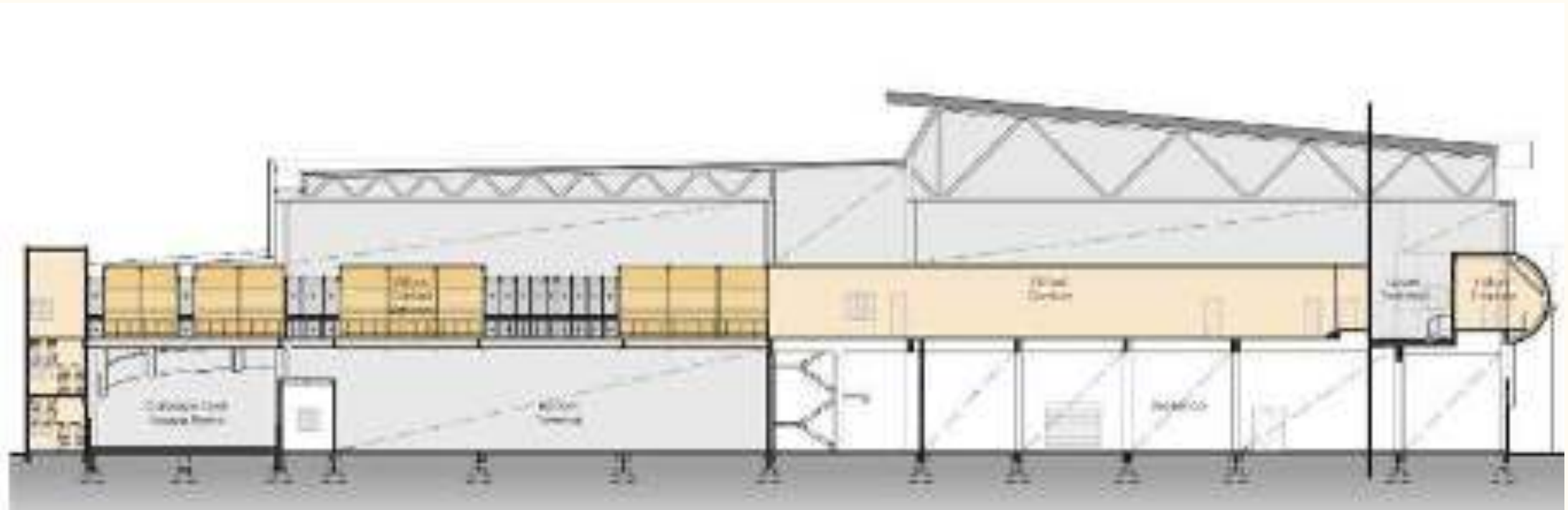
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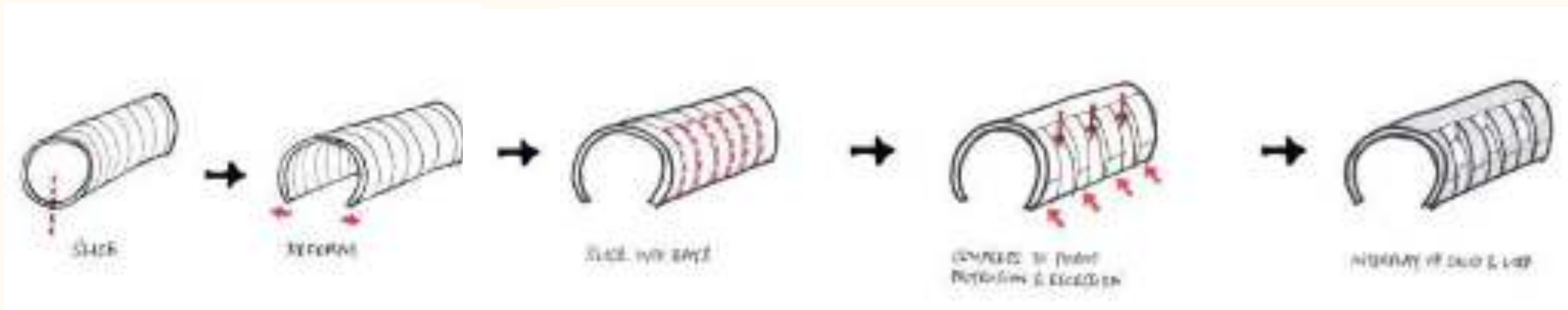
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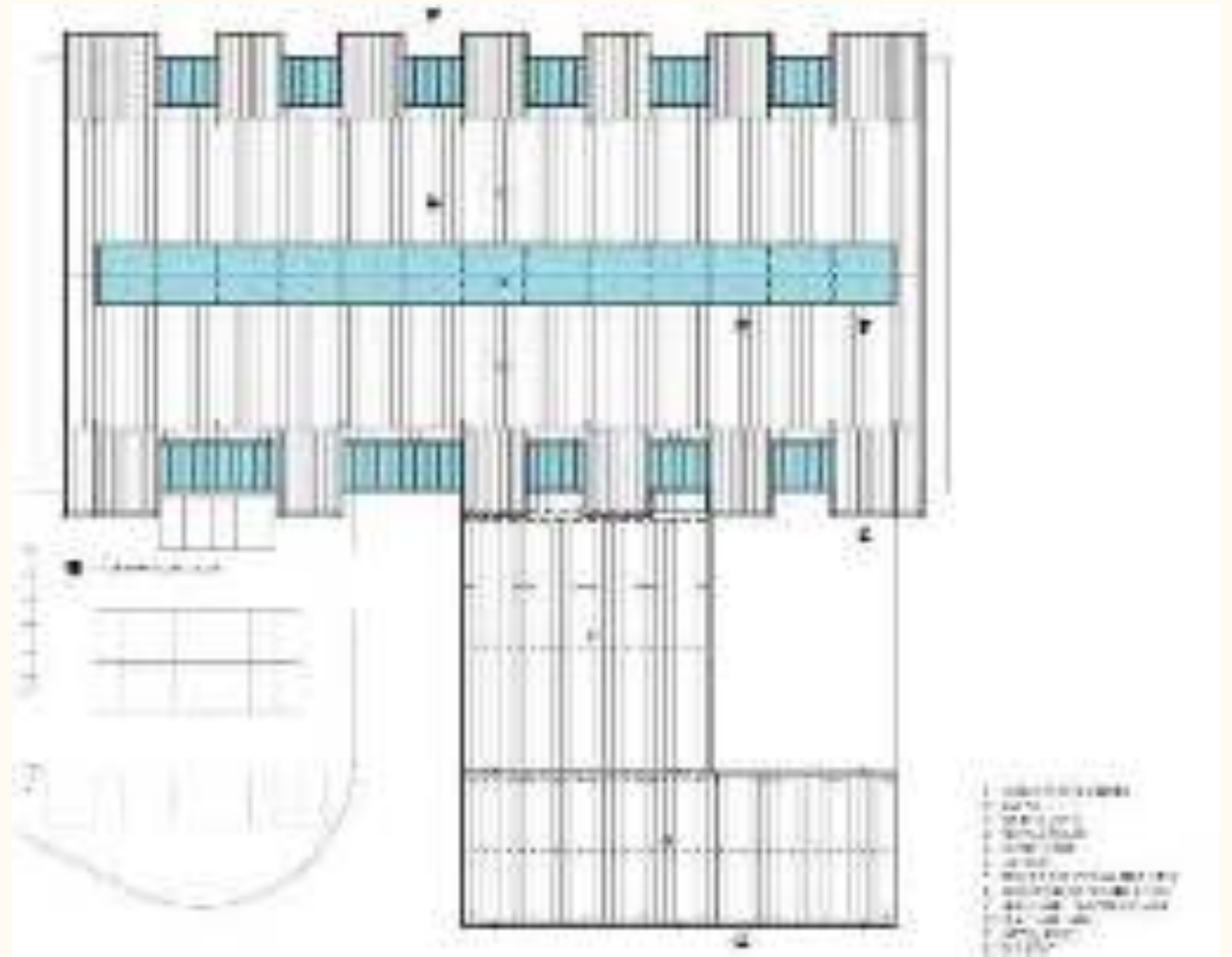
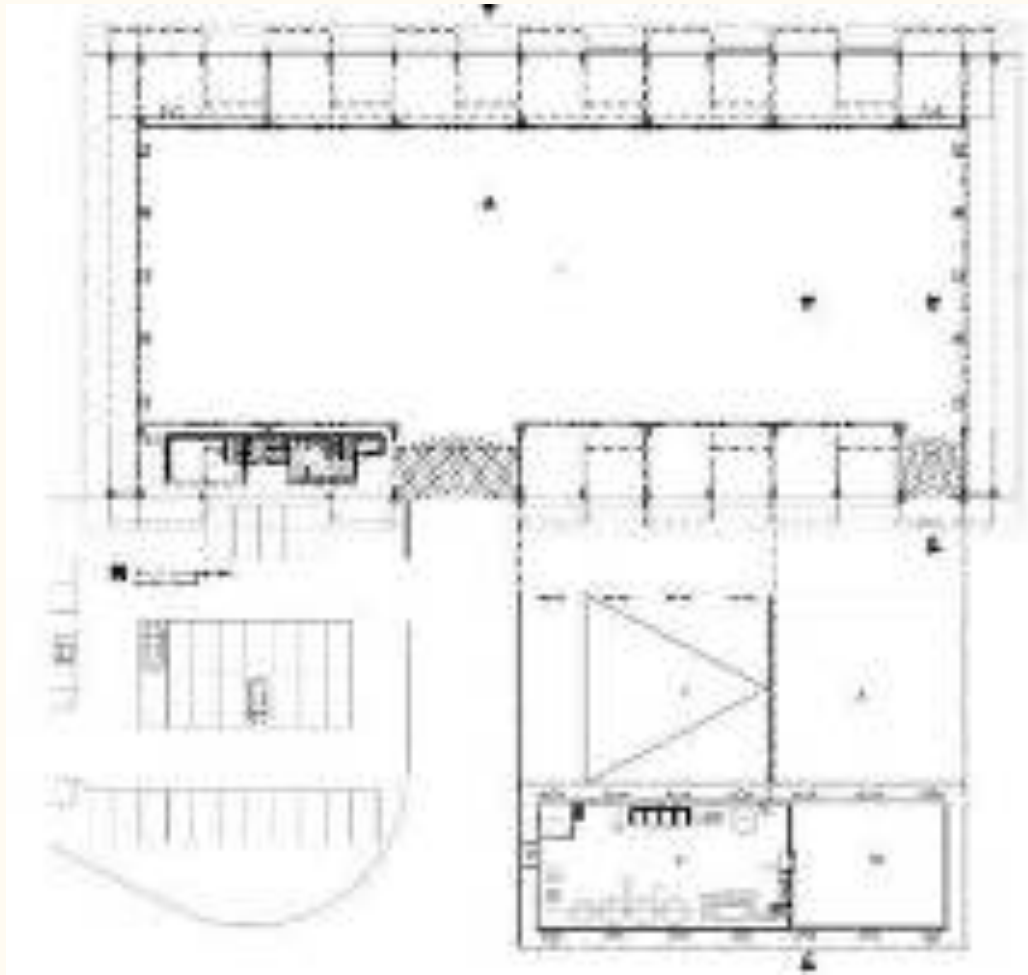
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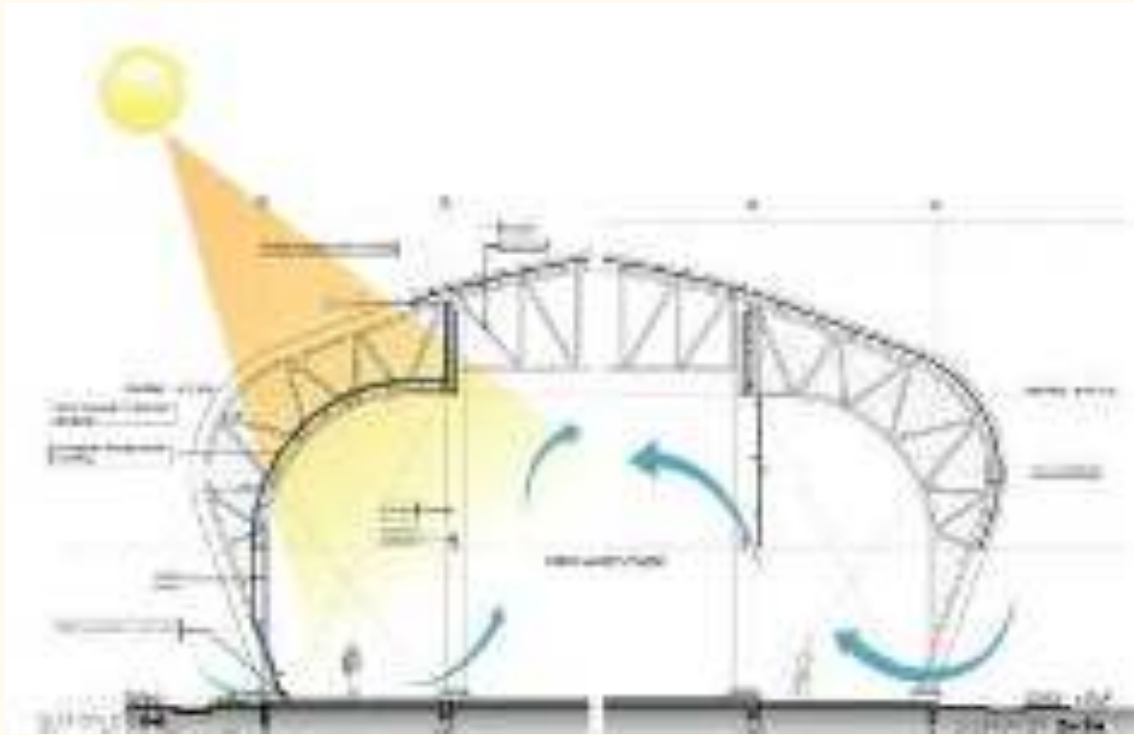


Tube deformation & iteration – Green Waste Building



- 1. COLONNATA A BASSO
- 2. SALA D'ATTESA
- 3. SALA D'ATTESA
- 4. SALA D'ATTESA
- 5. SALA D'ATTESA
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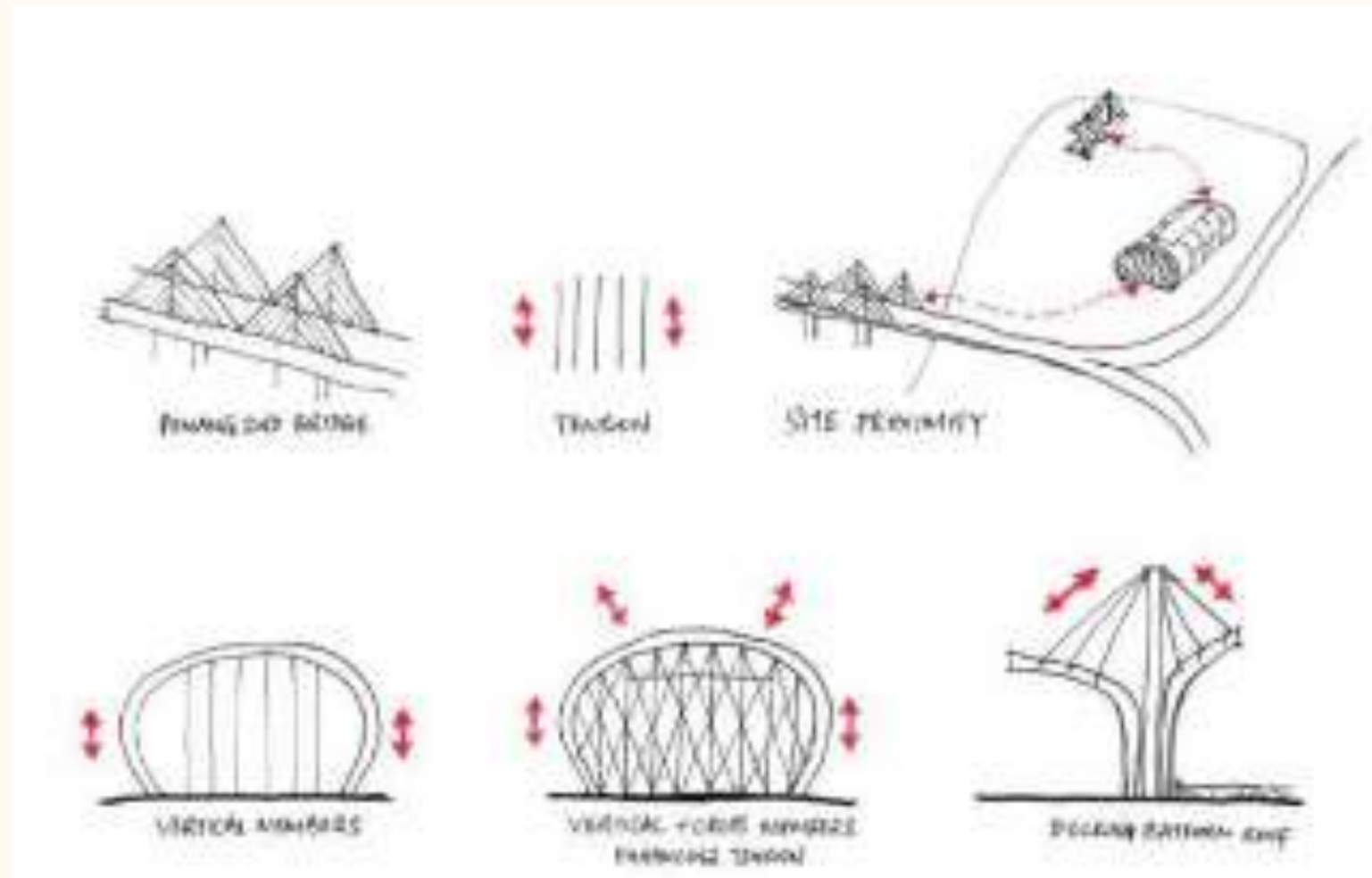
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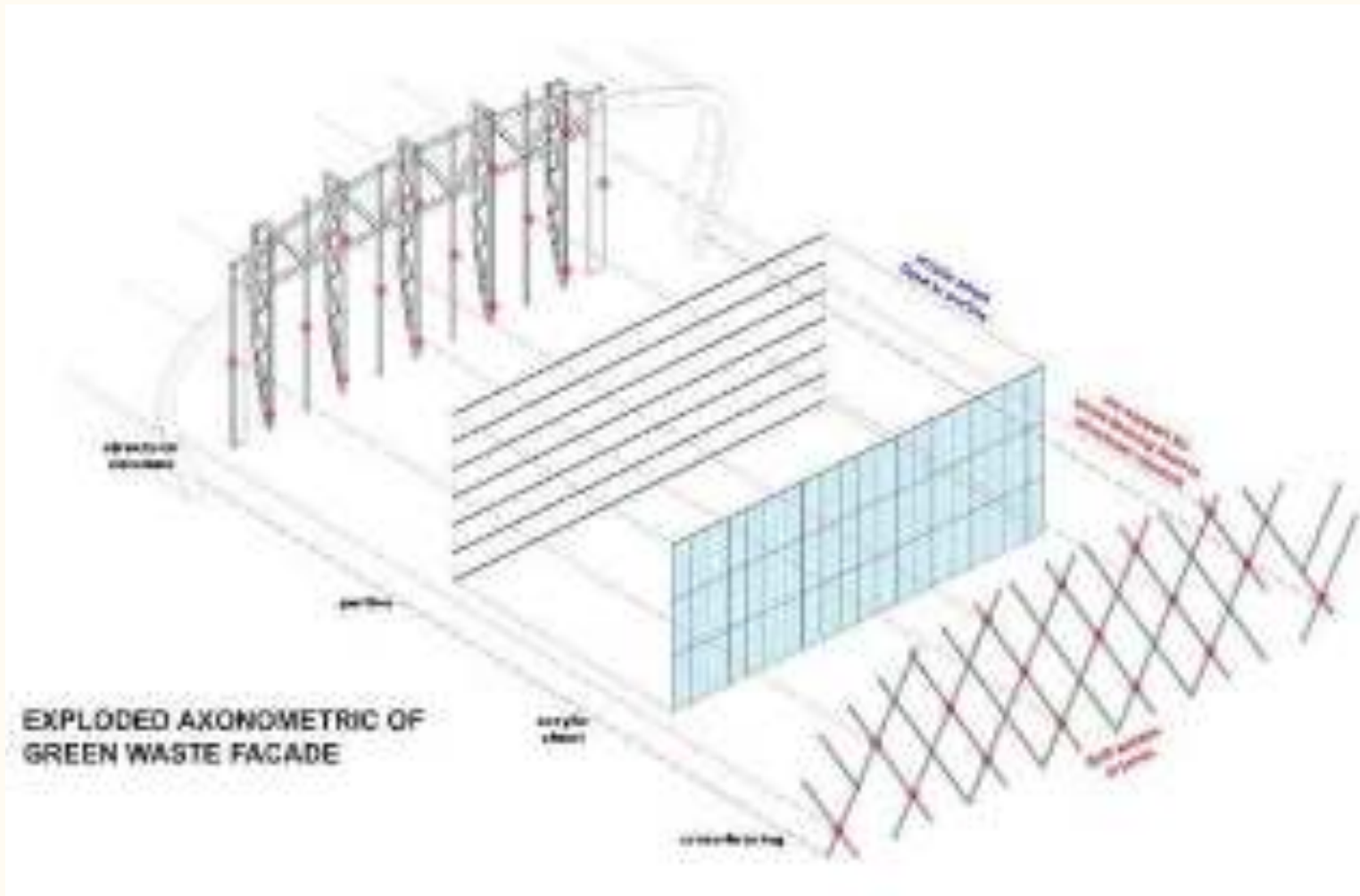
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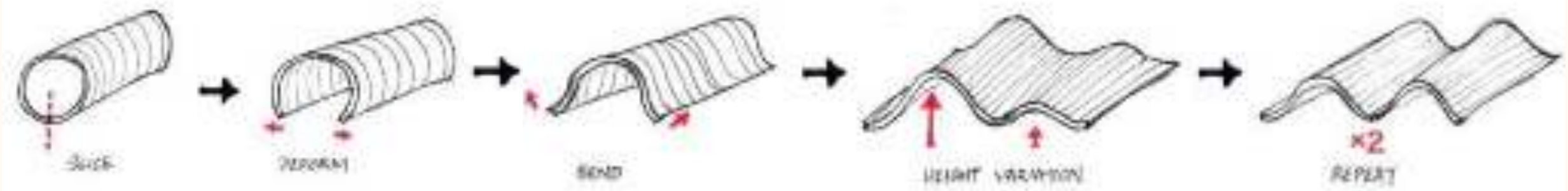
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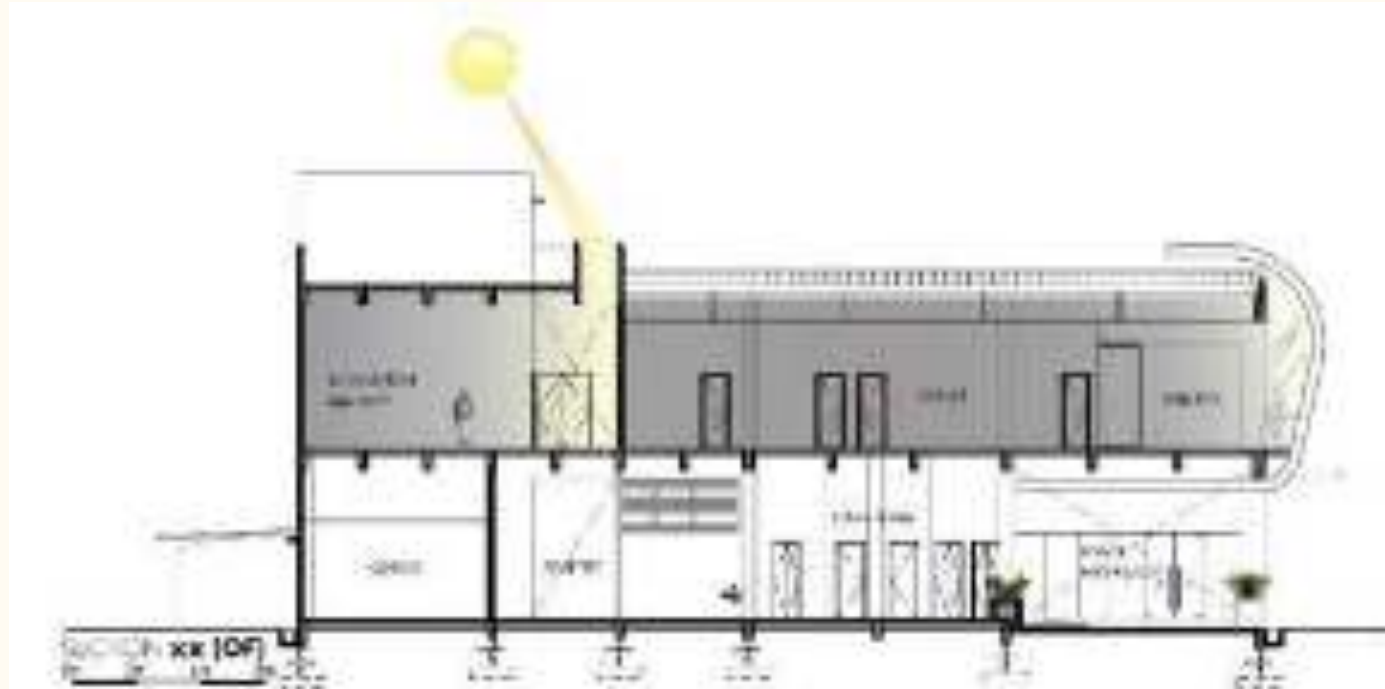
Roofscape



Office Building



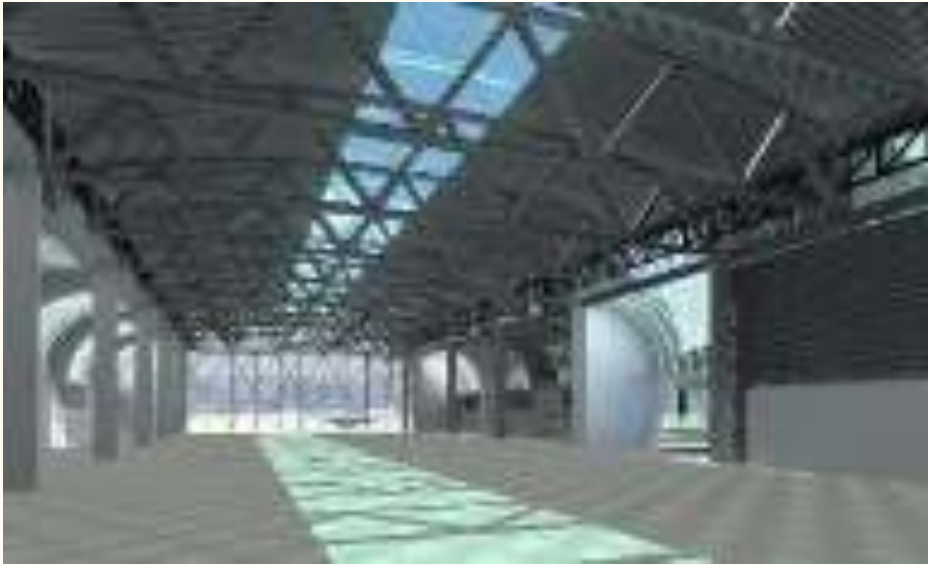
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DIALOGUE SESSION



Breaking away from negative stigmas of waste management



**How did Steel
influence
your overall
design?**



**How did
supplier's
expertise
contribute to
realising your
design?**



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Can you
describe your
colour
selection
journey for
this project?



Can you describe your colour selection journey for this project?



Photo from KH Architect



**ASK US
ANYTHING!**



**IDEAS TO
SHARE?**

**EMAIL TO
events@bluescope.com**





Survey Form



Colorbond

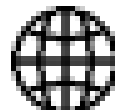
VERMOE

Zincoluma

TrueCore



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