

P5 Presentation 30-10-2009
Sjors Verhaar b1169807

Olympic Games in the Netherlands

designing a multifunctional stadium



TU Delft
Technische Universiteit Delft



ARCADIS
Infrastructure, environment, buildings

Introduction

OLYMPISTISCH VUUR ALLIANTIE OLYMPISCHE PLAN 2028

OLYMPISTISCH VUUR ALLIANTIE OLYMPISCHE PLAN 2028

Onze Missie

We gaan met sport in de volle breedte heel Nederland naar Olympisch niveau brengen. Daar hebben we allemaal profijt van, nu en in de toekomst, op sociaalmaatschappelijk, economisch, ruimtelijk en welzijnsgebied. Het is mogelijk, resultaat de Olympische en Paralympische Spelen in 2028 in Nederland.

OLYMPISTISCH VUUR
ALLIANTIE OLYMPISCHE PLAN 2028





Research questions

- **How can you develop a compact Olympic Games that also can be reused or redeveloped for the period after the Olympics?**
 - research how other major (sports) events or developments can be part in the process of developing the Olympic Games?
- **How can you create a (sport) accommodation that can be used for multiple functions (and on different locations) by using the water as an advantage and quality?**

Research

Introduction - Research - Principles - Concept - Experience - Routing - Location - Construction - Water - V.I.P.box - Facade - Image

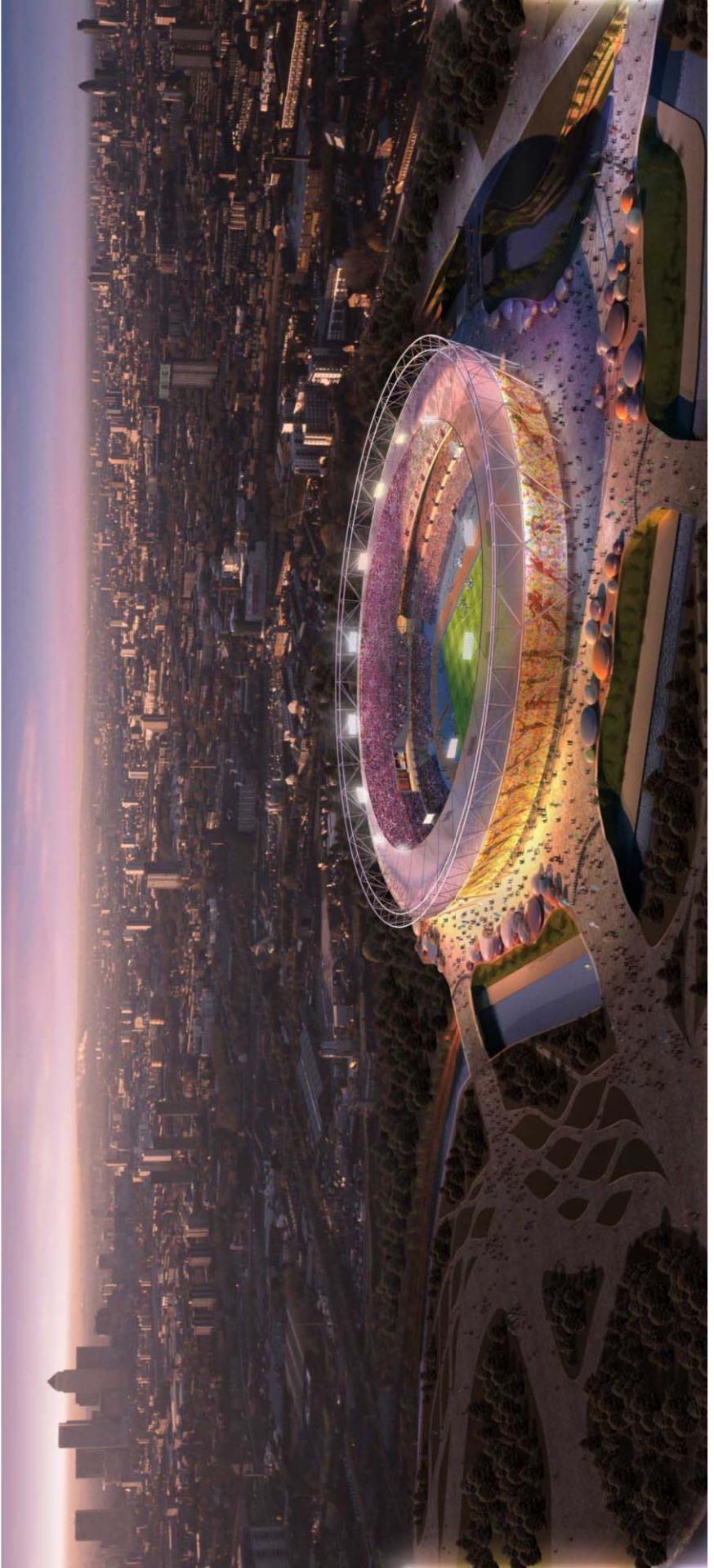
Conclusion research

- Well organized Olympic Games can have a positive influence on the organizing city, which can improve structurally, as well the infrastructure and public spaces can benefit majorly.



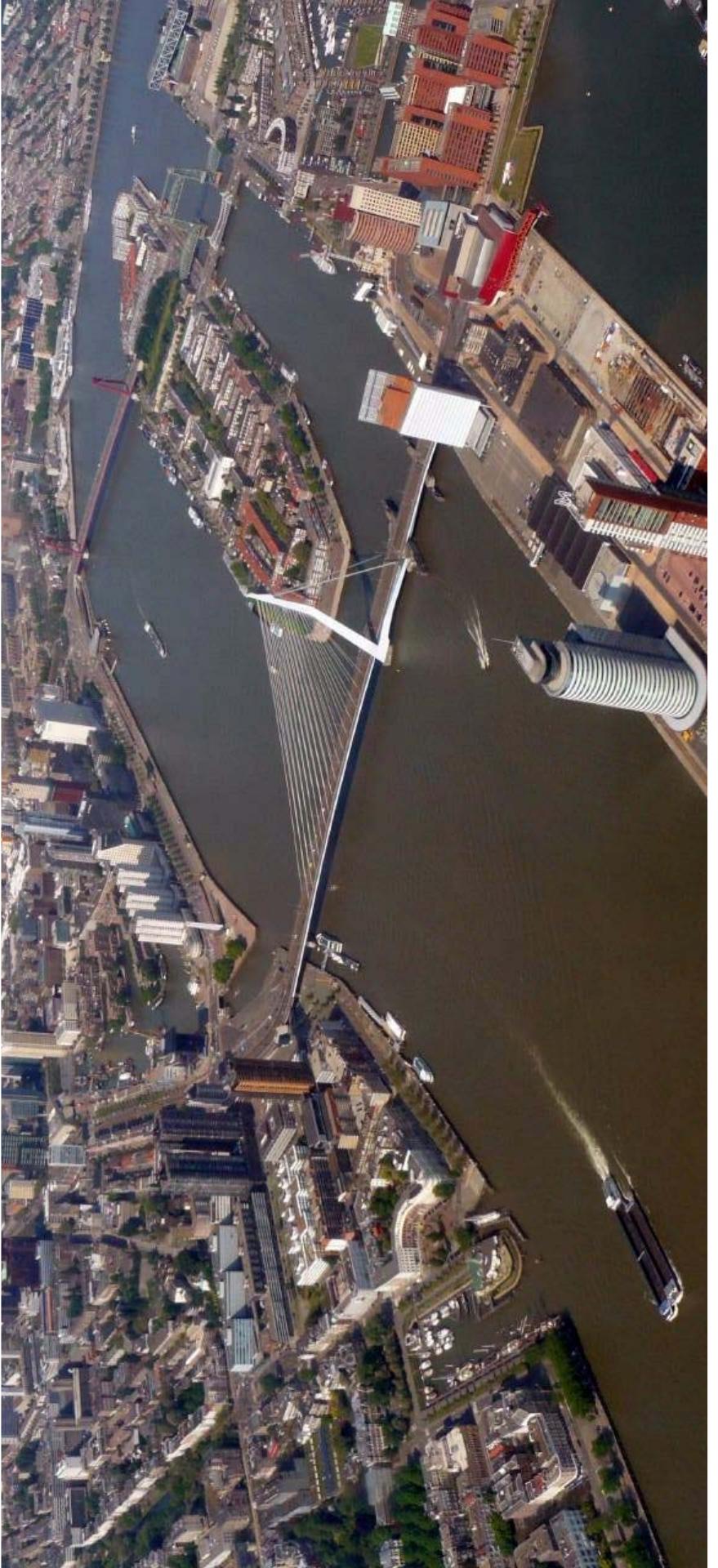
Conclusion research

- Thinking ahead on a long term base can prevent unnecessary investments; especially by focusing on the building scale; the use and re-use of facilities after the Olympic Games.



Conclusion research

- Two interesting options for hosting the Olympic Games; Amsterdam & Rotterdam.
The Rotterdam harbor is chosen to become the location for the Olympic Games.



Conclusion research

- The water has enormous spacious qualities and offers a lot of possibilities for flexible use and movement

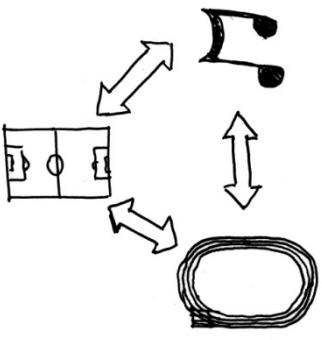


Principles

Introduction - Research - Principles - Concept - Experience - Routing - Location - Construction - Water - V.I.P.box - Facade - Image

Principles

- **Multifunctional and flexible use must be one of the leading aspects.**
 - Stadium must be designed within thought of long term use.
 - The Olympic Stadium and Park must be the icon of the Olympic Games and can show the Netherlands as one of the leading countries in water development. The Rotterdam harbor offers the possibilities for this.
 - The stadium must have a strong relation with the water and therefore must be used as an advantage for the urban and building concept.
 - The floating aspect of the water is the most interesting one for the building. Especially the movement over the water gives opportunities for the concept.
 - Optimal experience of games or other events by the spectators. The form of the stands and the distance to field play a big role in this.



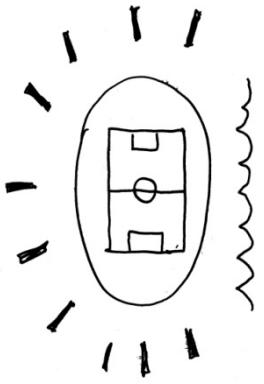
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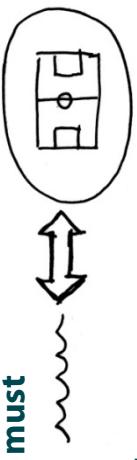


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The diagram illustrates a stadium structure floating on a body of water. A horizontal arrow points from left to right, and a wavy line arrow points from right to left, indicating movement or interaction between the stadium and the surrounding water environment.
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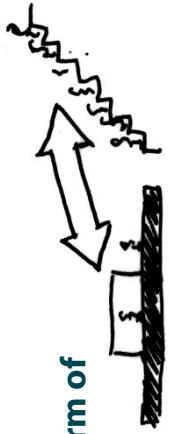
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Concept

Introduction - Research - Principles - Concept - Experience - Routing - Location - Construction - Water - V.I.P.box - Facade - Image

Concept

- Multifunctional
- Flexible
- Water
- Icon
- Routing

Concept

process concept

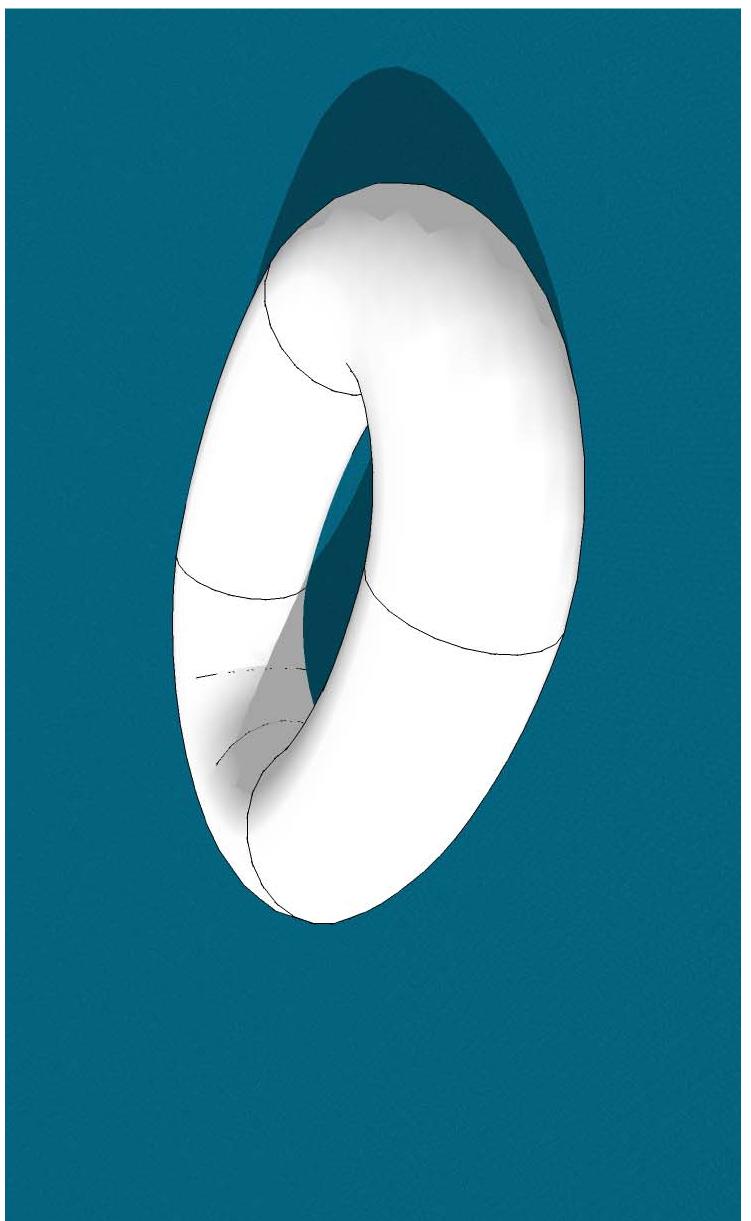


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Concept

process concept

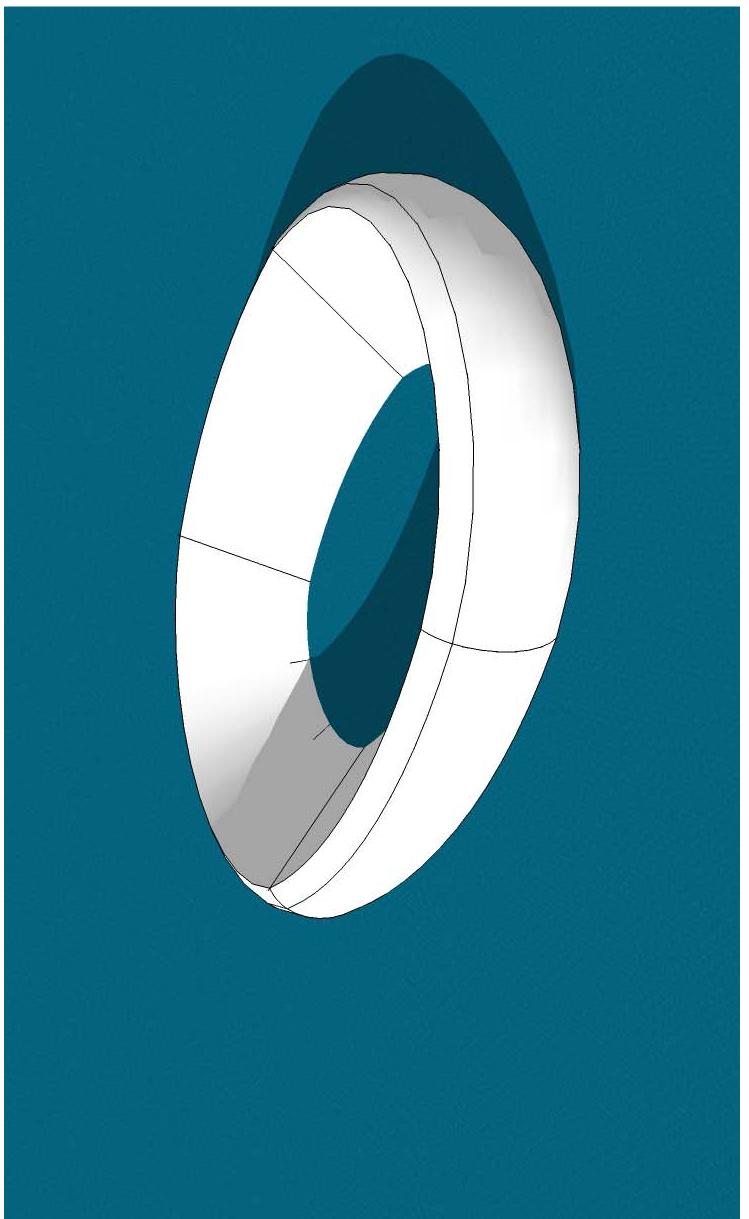
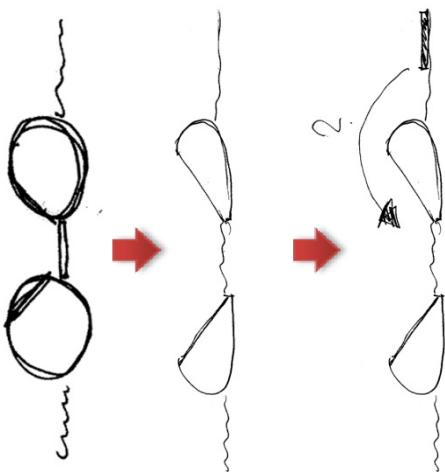


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Concept

process concept

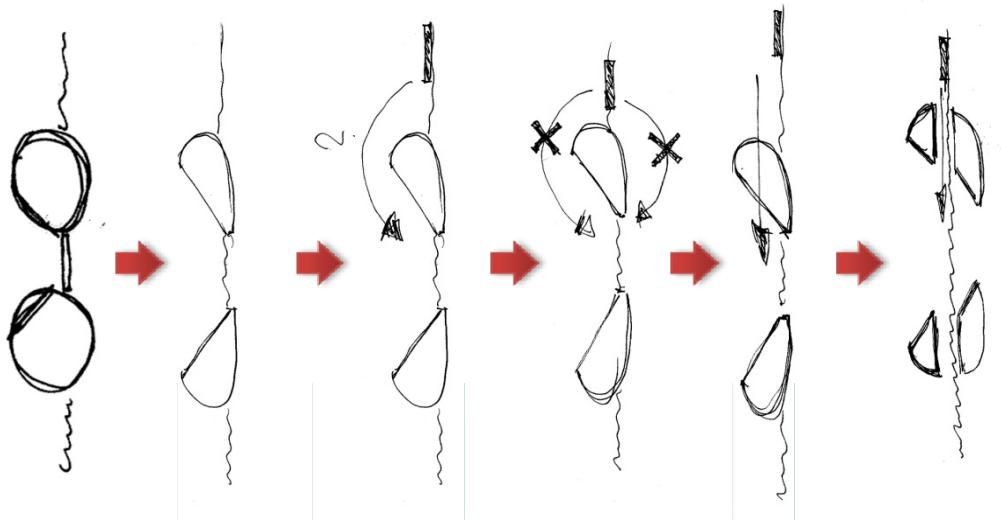


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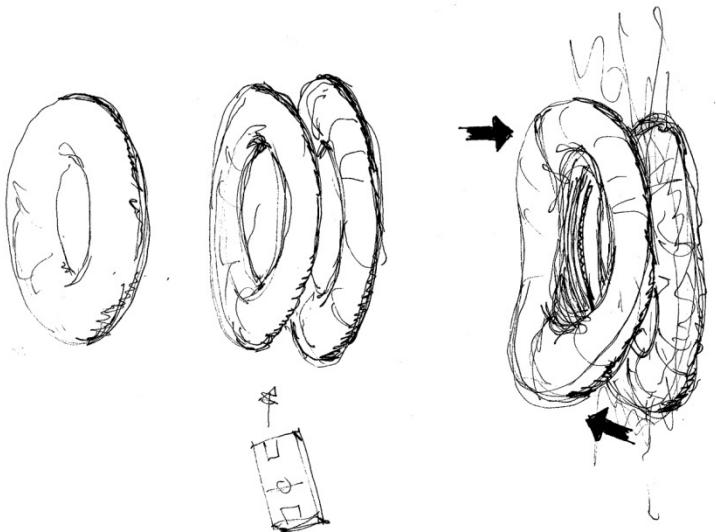
process concept



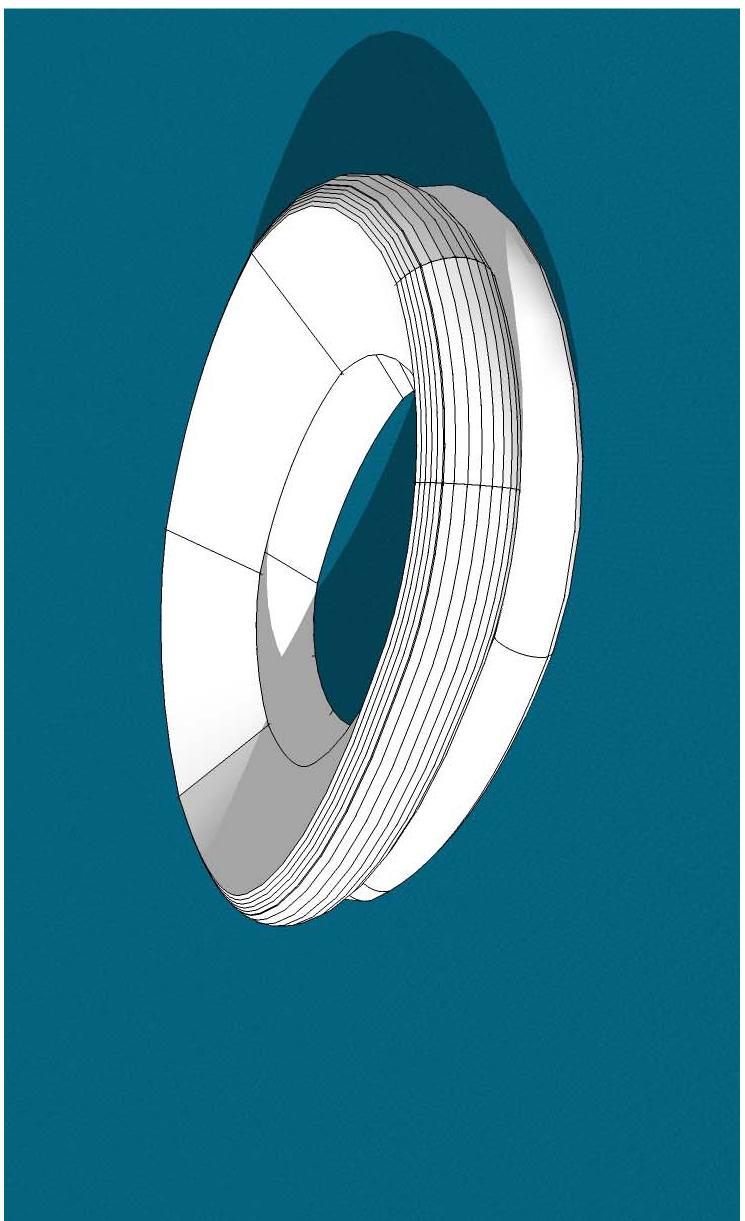
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process concept



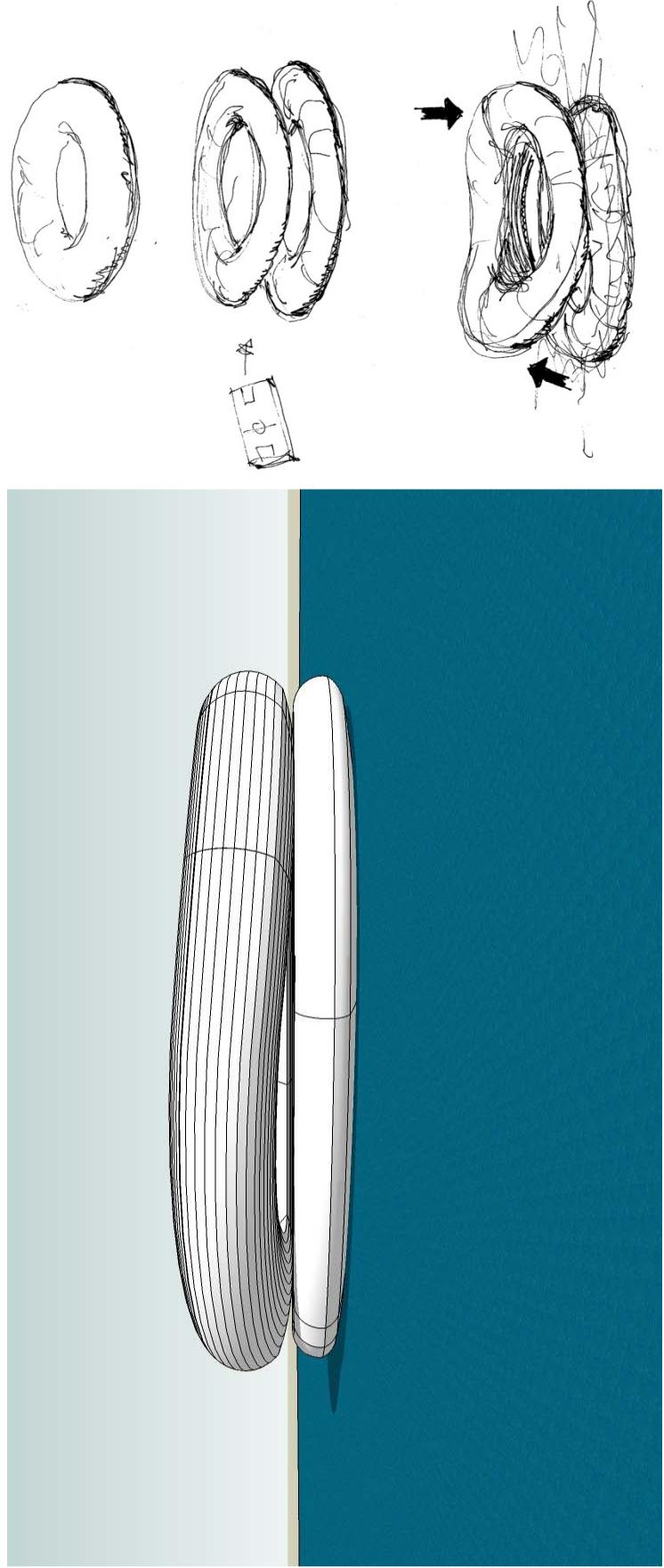
Concept



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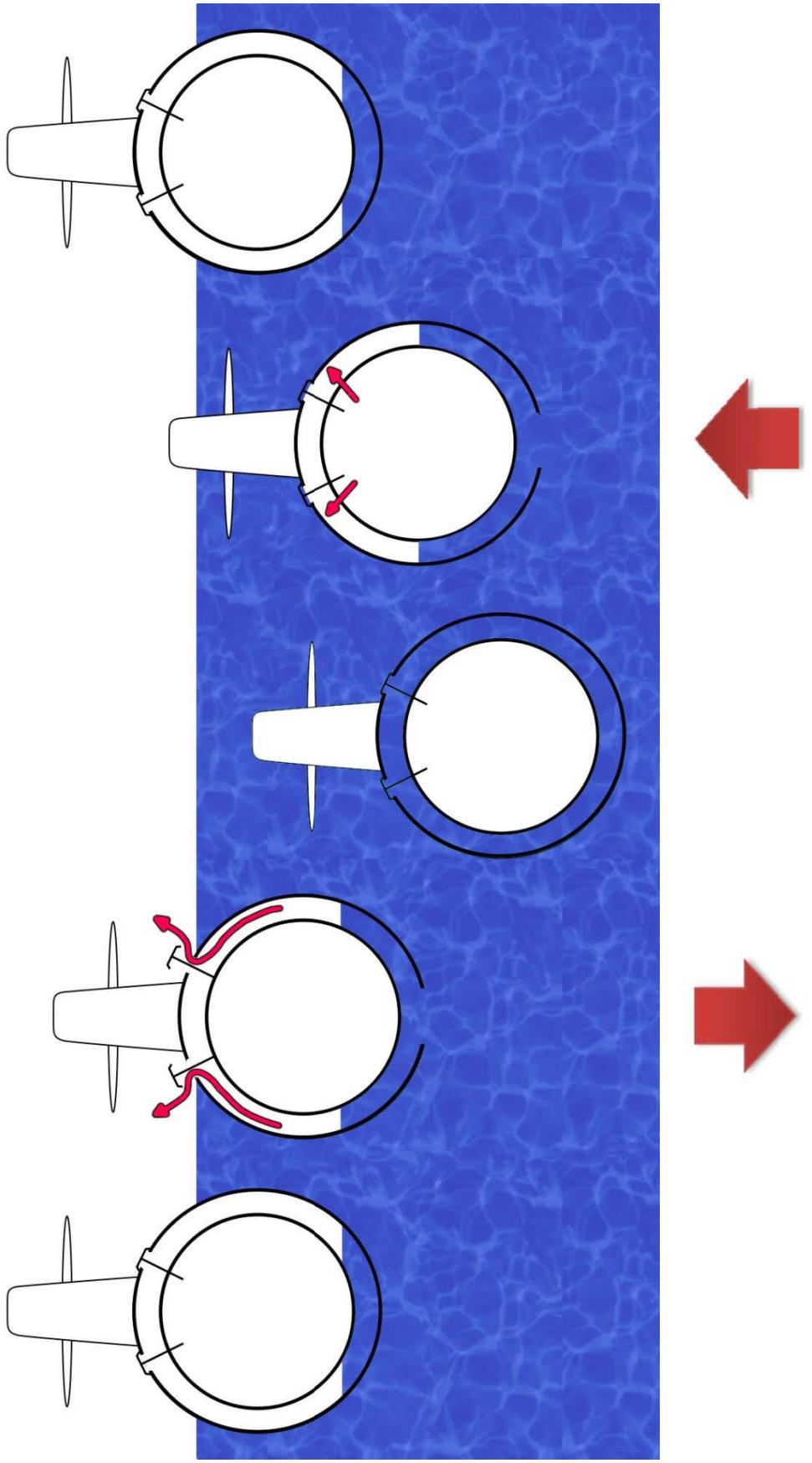
Concept

process concept



Submarine

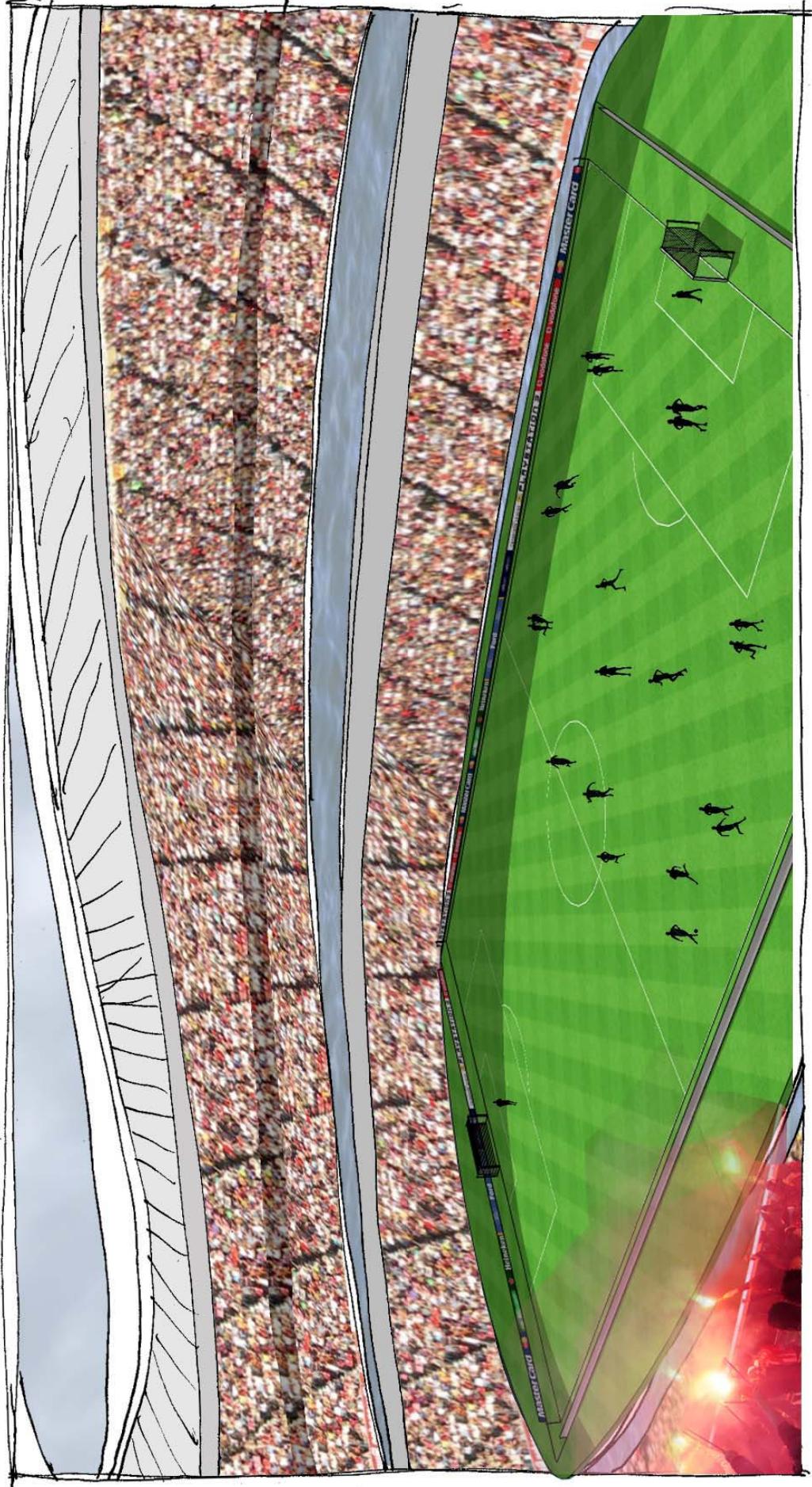
Principle submarine



Concept

Introduction - Research - Principles - Experience - Routing - Location - Construction - Water - V.I.P. box - Facade - Image

Images

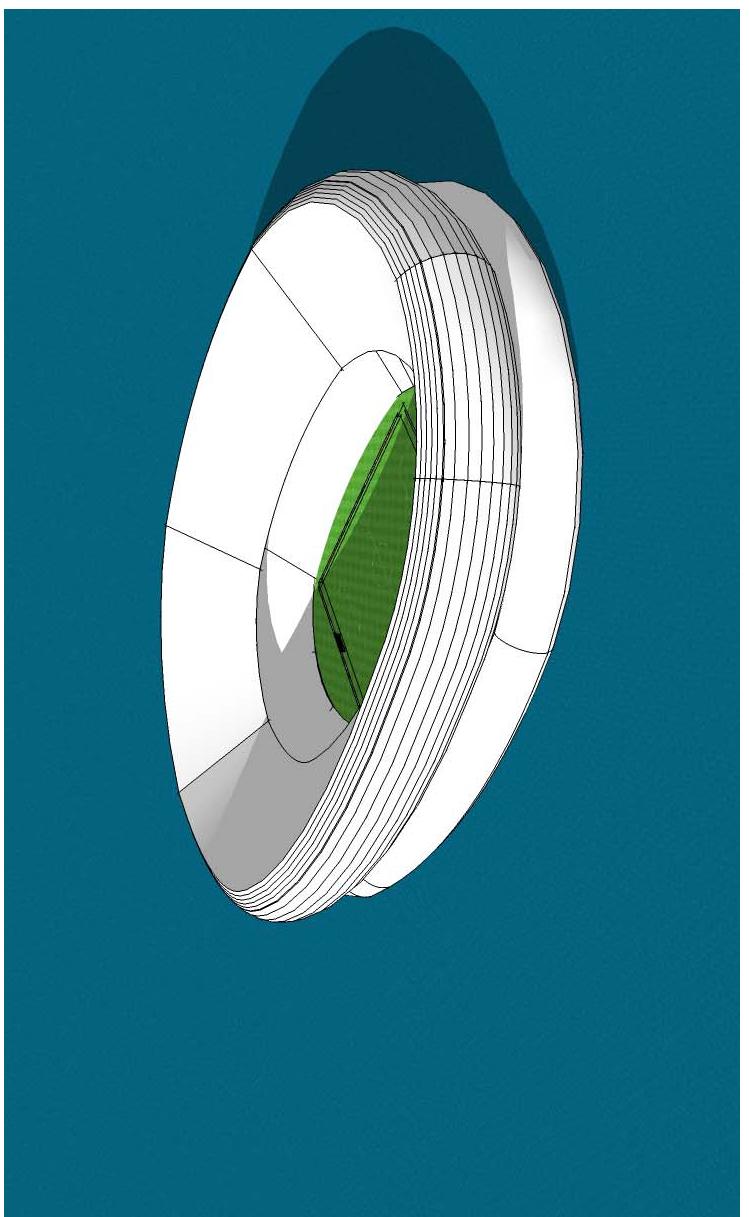


Concept

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Concept

process concept

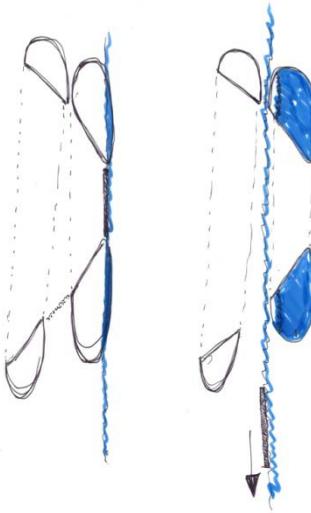
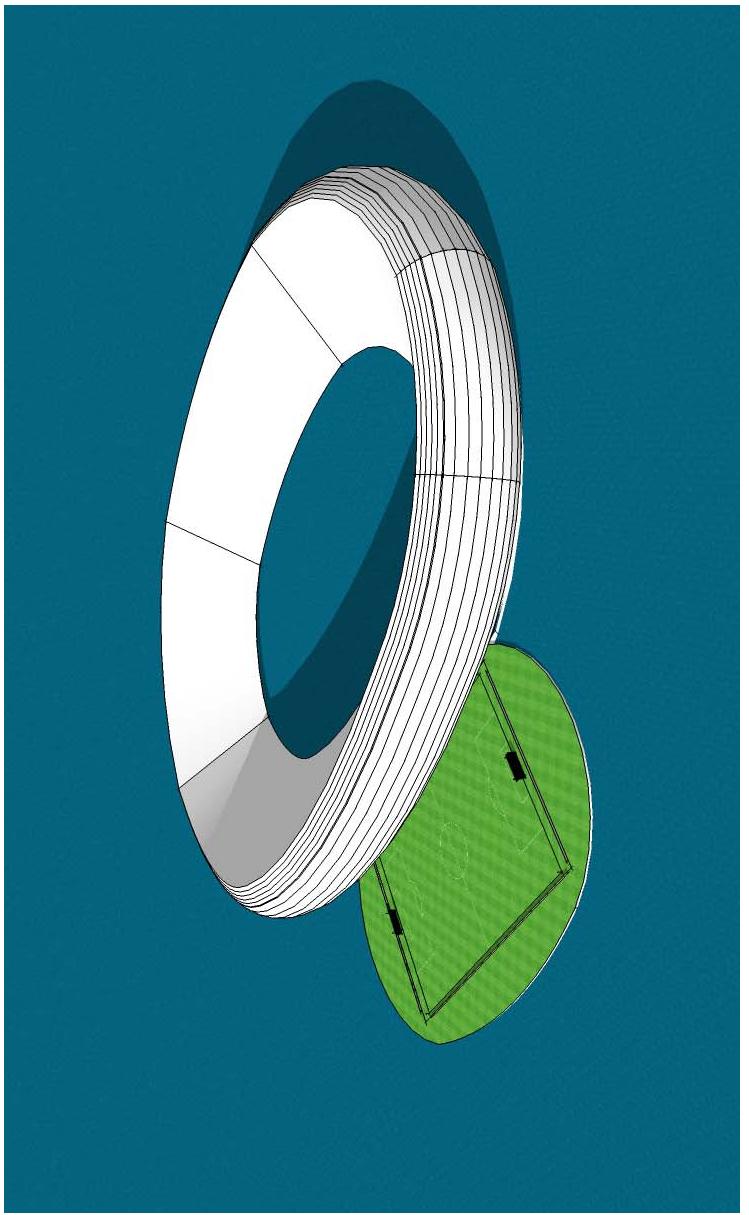


Concept

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Concept

process concept

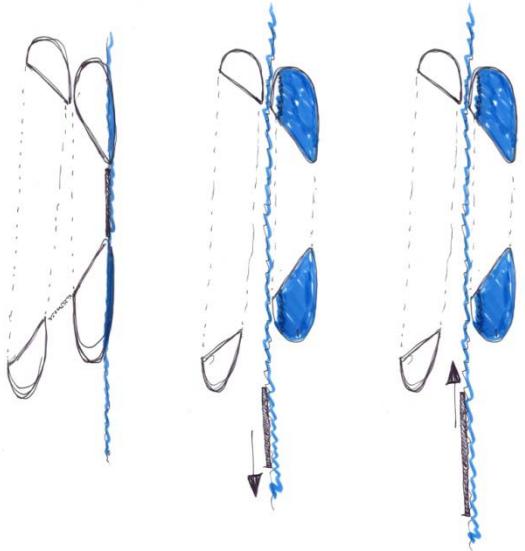
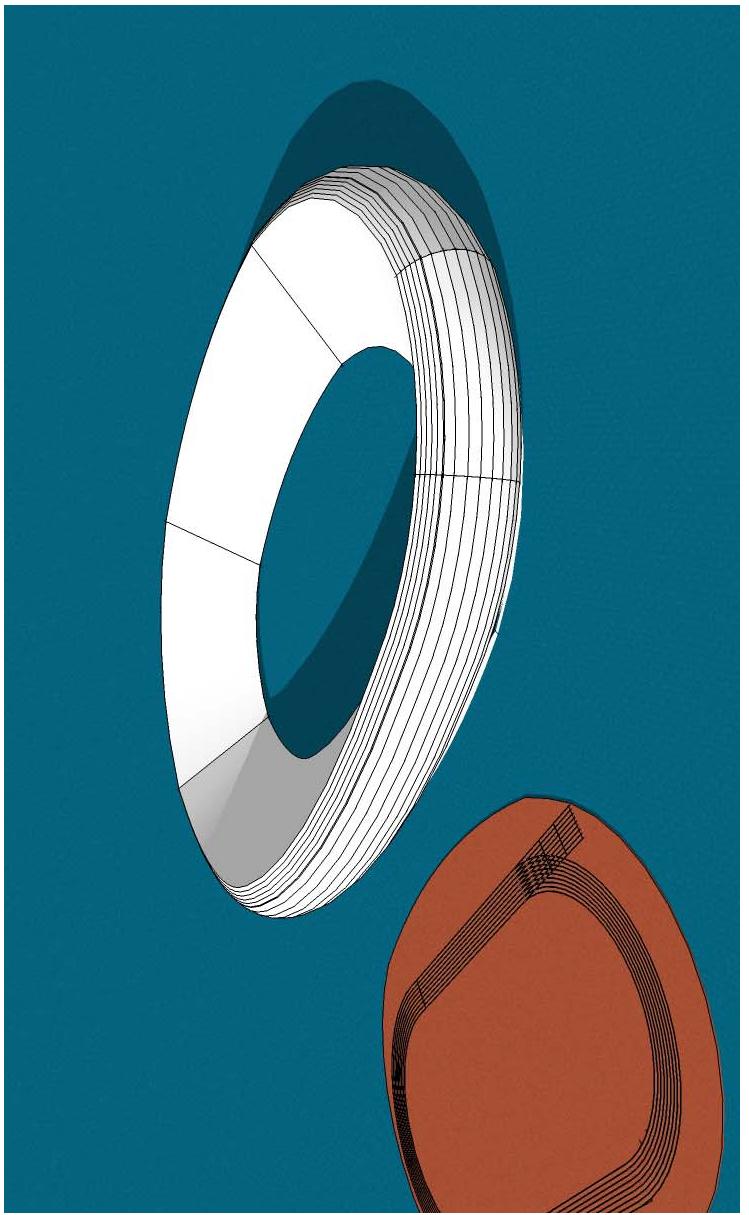


Concept

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Concept

process concept

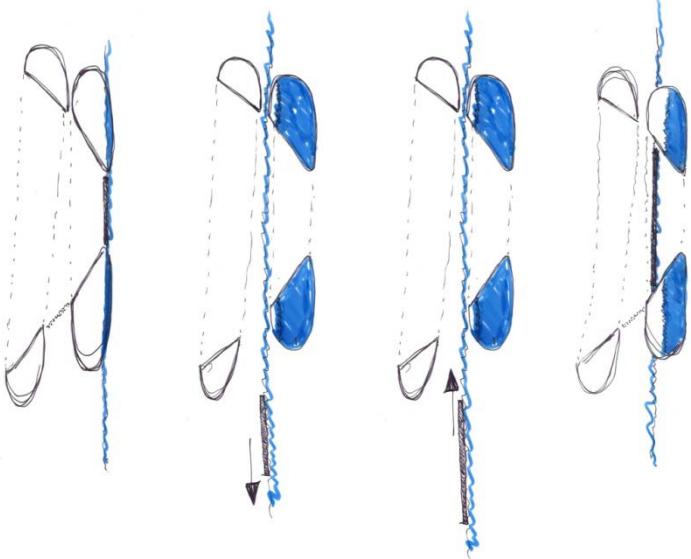
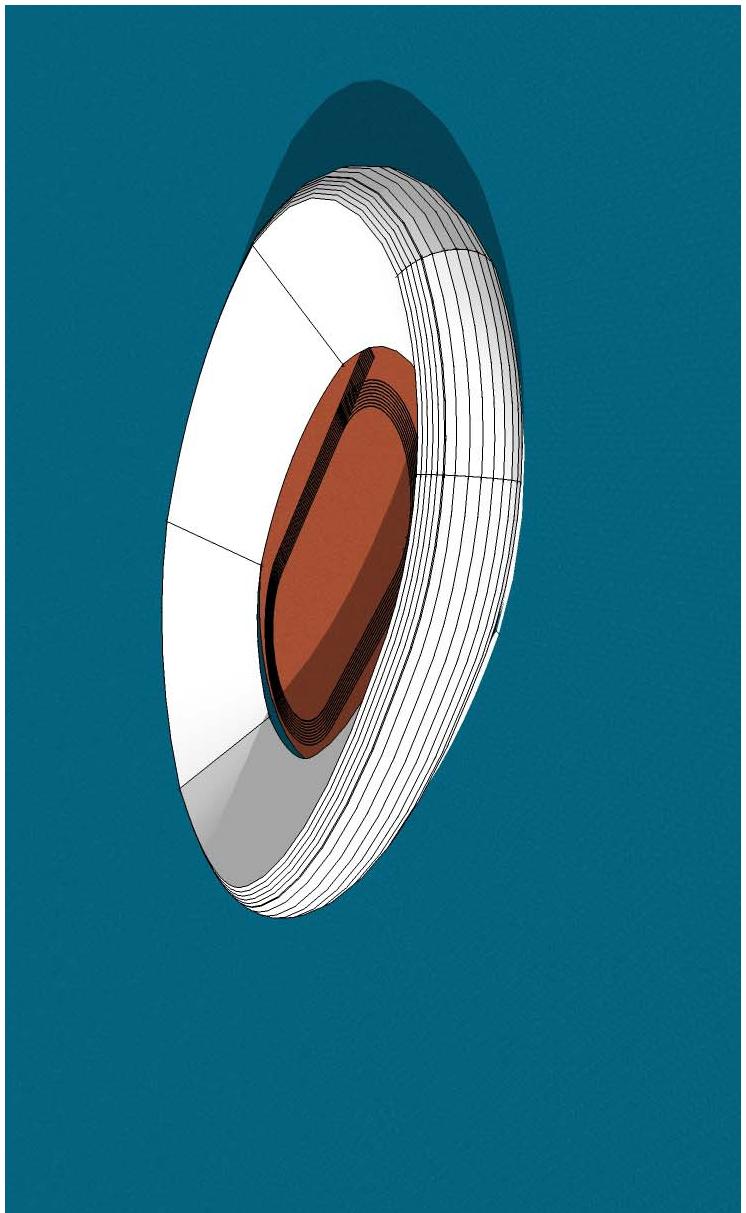


Concept

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Concept

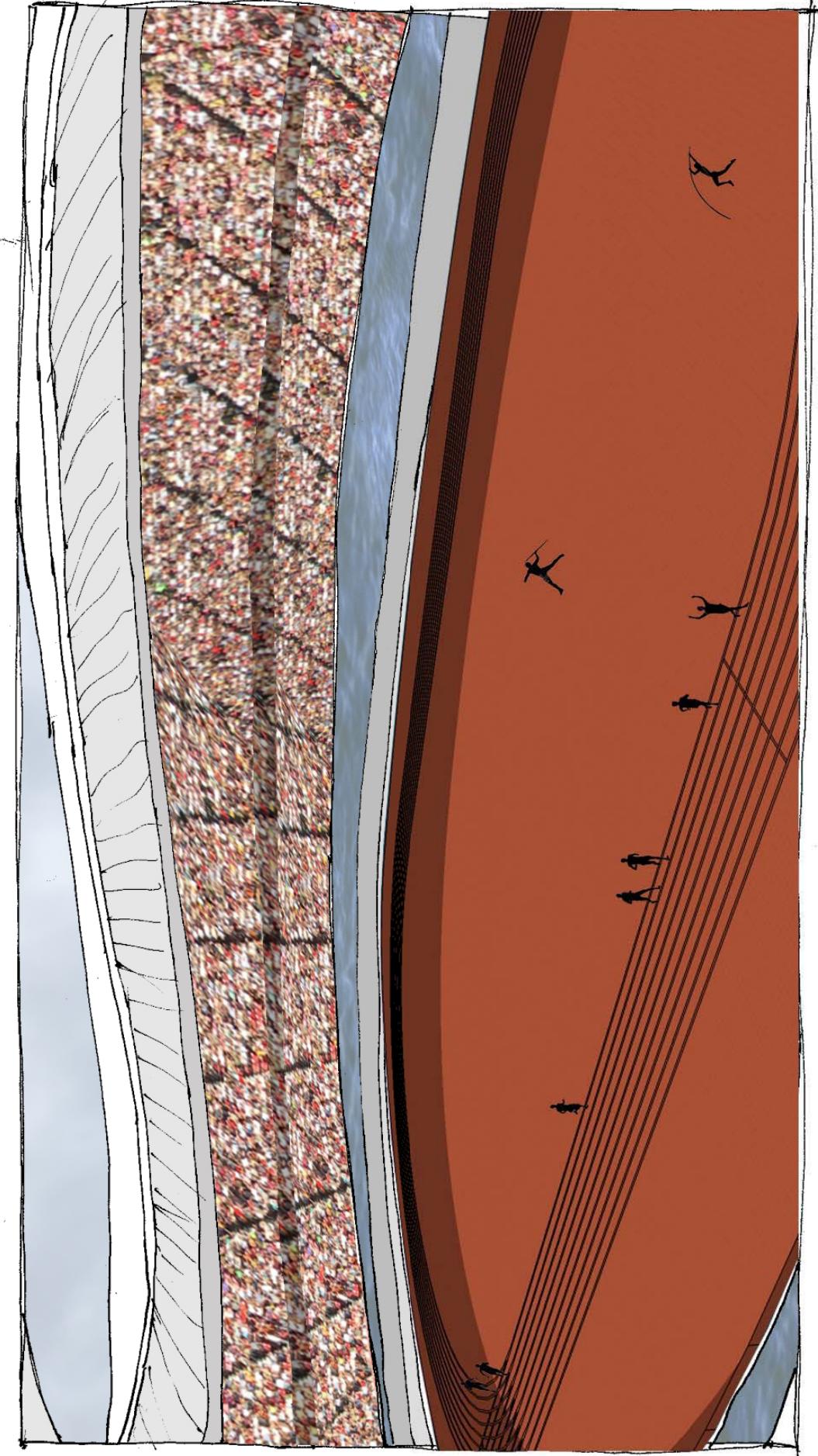
process concept



Concept

Introduction - Research - Principles - Experience - Routing - Location - Construction - Water - V.I.P.box - Facade - Image

Images



Concept

Introduction - Research - Principles - Experience - Routing - Location - Construction - Water - V.I.P.box - Facade - Image

Experience

Introduction - Research - Principles - Concept - Experience - Routing - Location - Construction - Water - V.I.P.box - Facade - Image

Routing



Supporters 1st ring

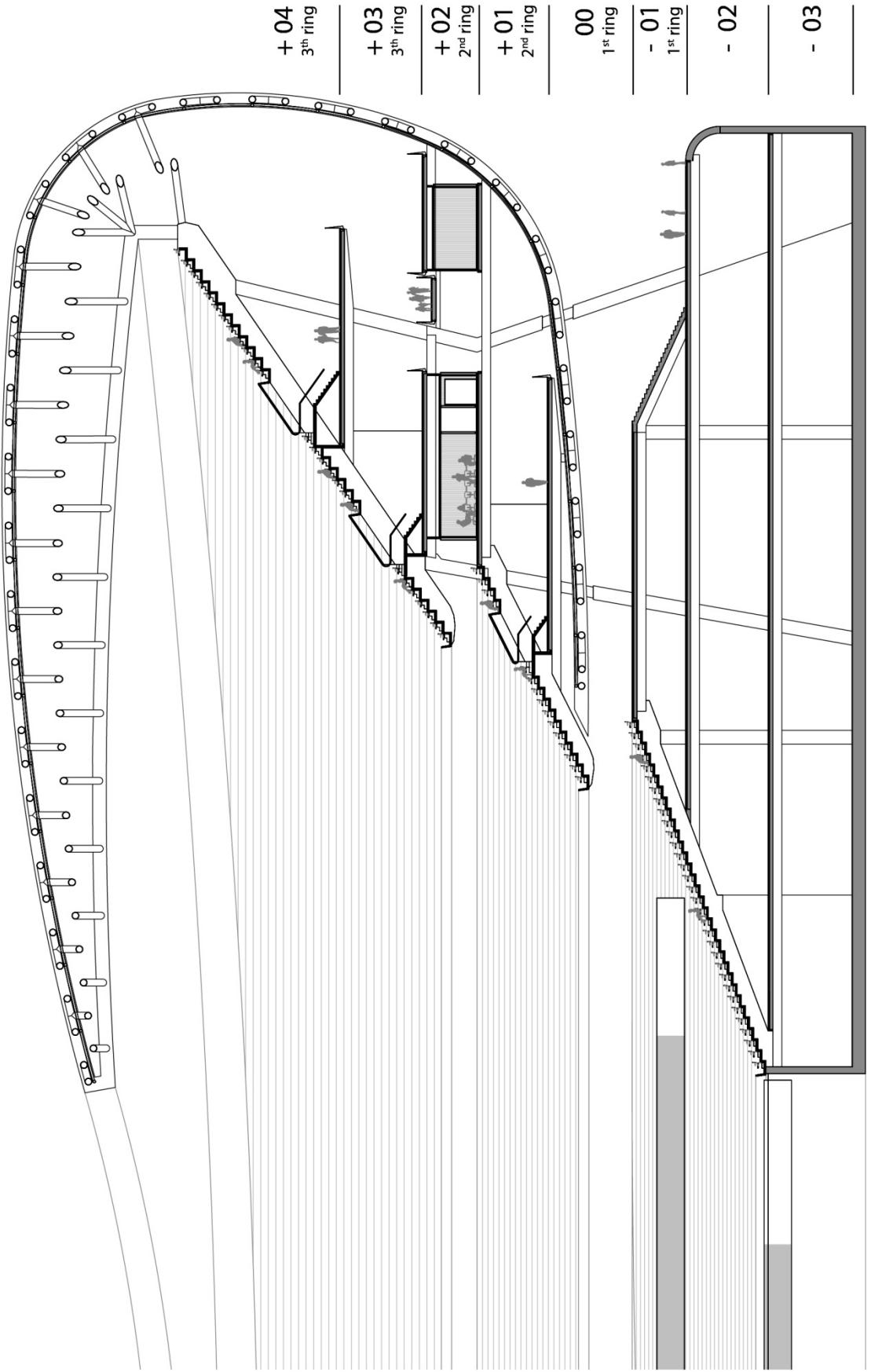
Supporters 2nd & 3rd ring

V.I.P's

Routing

Introduction - Research - Principles - Concept - Experience - Location - Construction - Water - V.I.P.box - Facade - Image

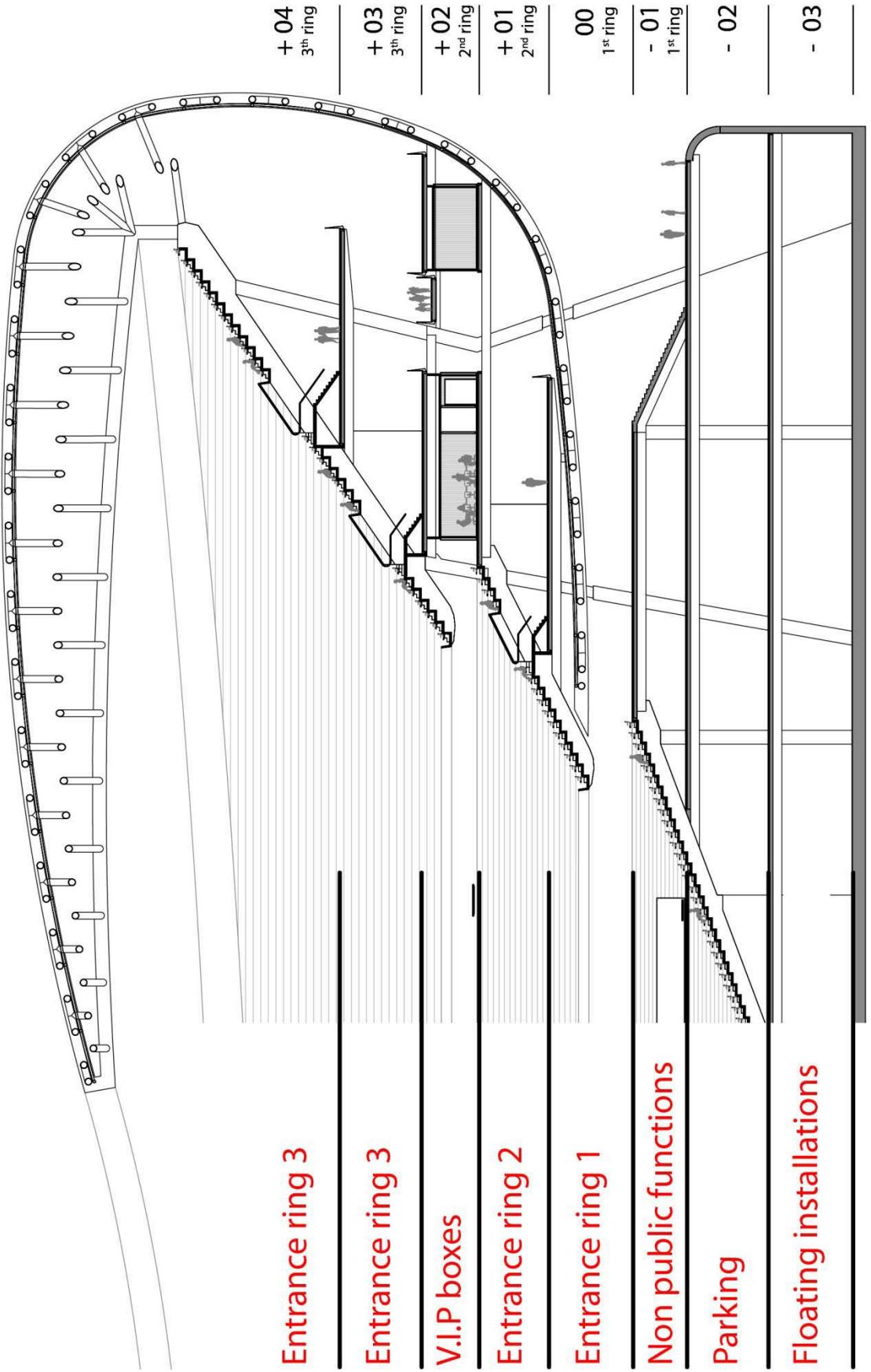
Floors



Routing

Introduction - Research - Principles - Concept - Experience - Location - Construction - Water - V.I.P. box - Facade - Image

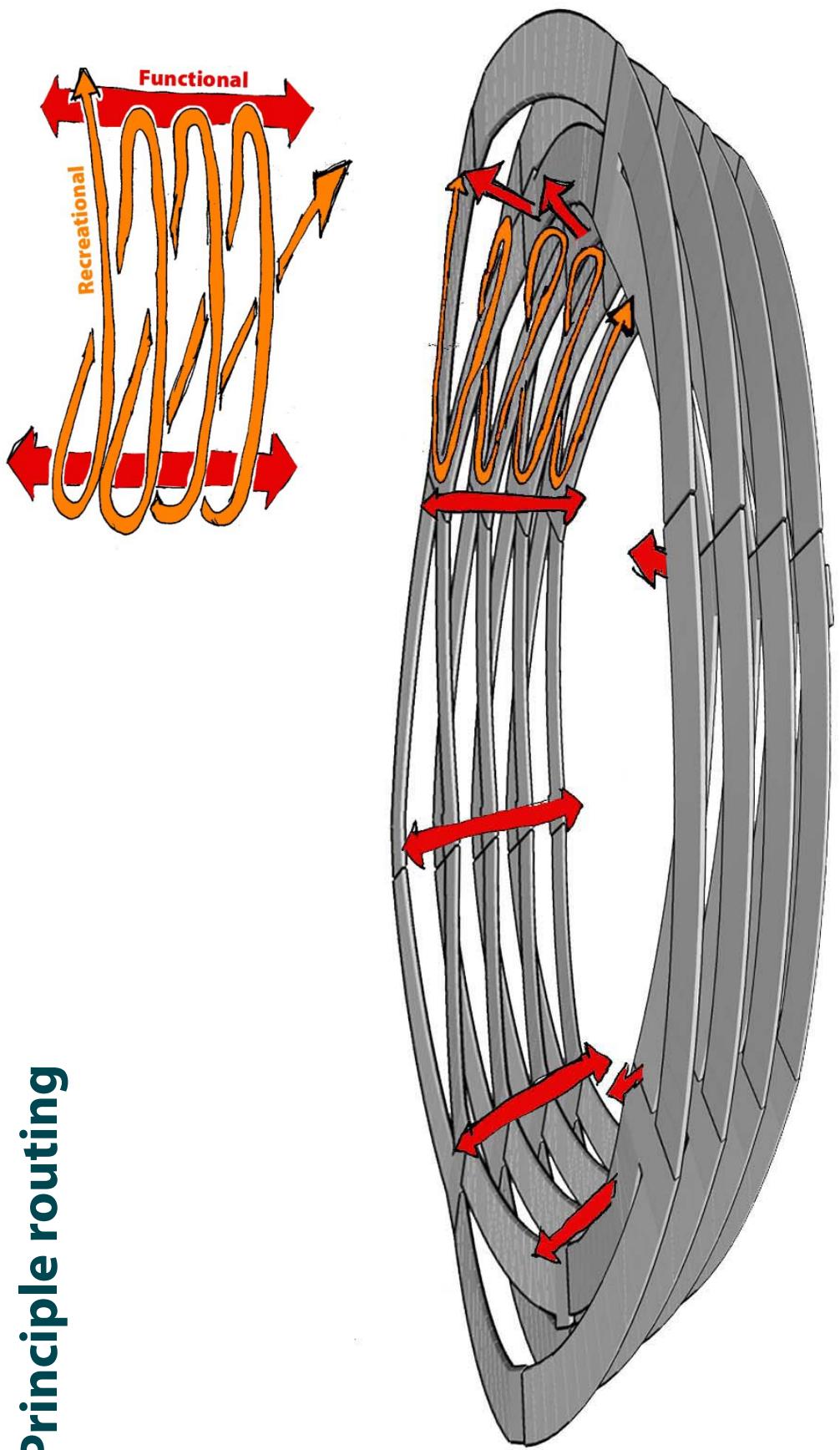
Floors



Routing

Introduction - Research - Principles - Concept - Experience - Location - Construction - Water - V.I.P.box - Facade - Image

Principle routing



Routing

Introduction - Research - Principles - Concept - Experience - Location - Construction - Water - V.I.P.box - Facade - Image

Routing

+ 04
3rd ring

+ 03
3rd ring

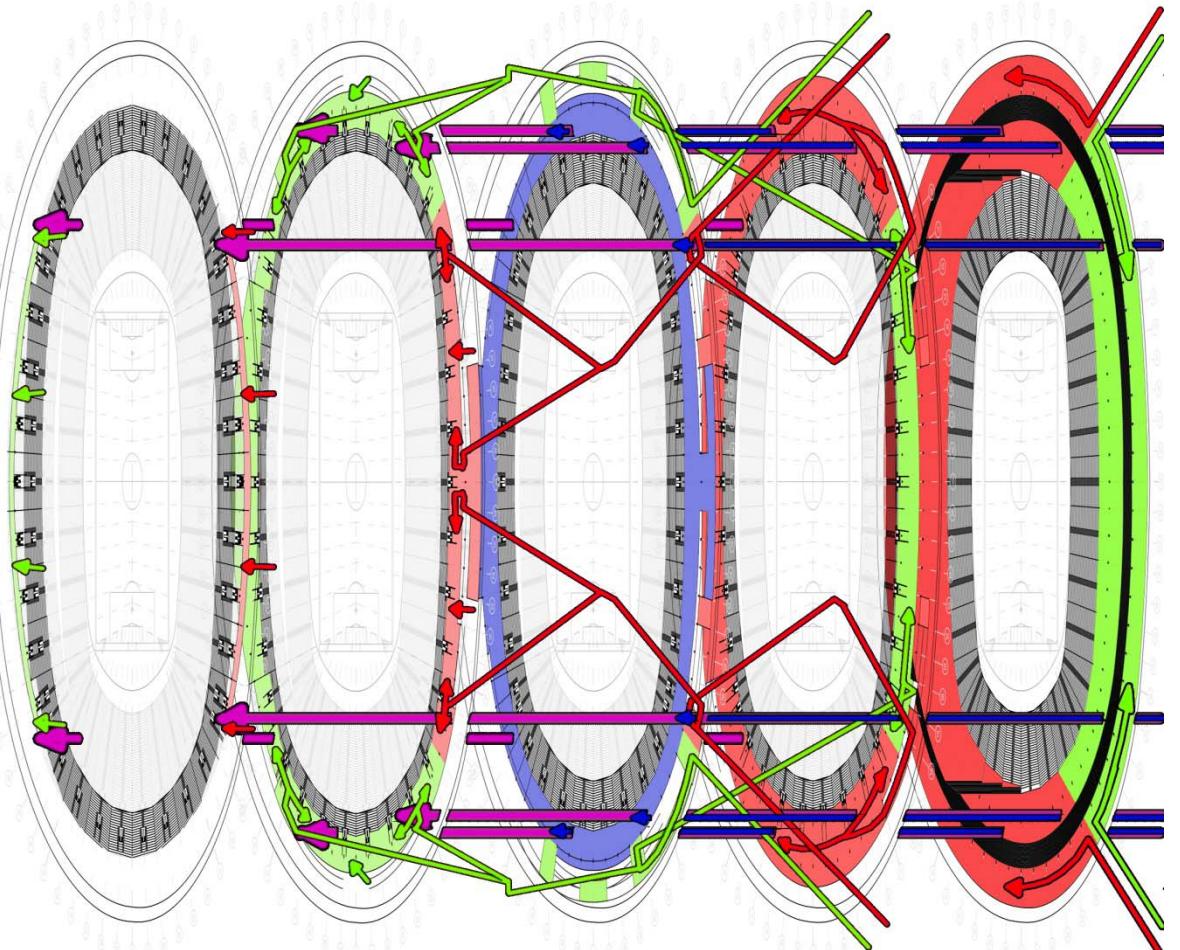
+ 02
2nd ring

+ 01
2nd ring

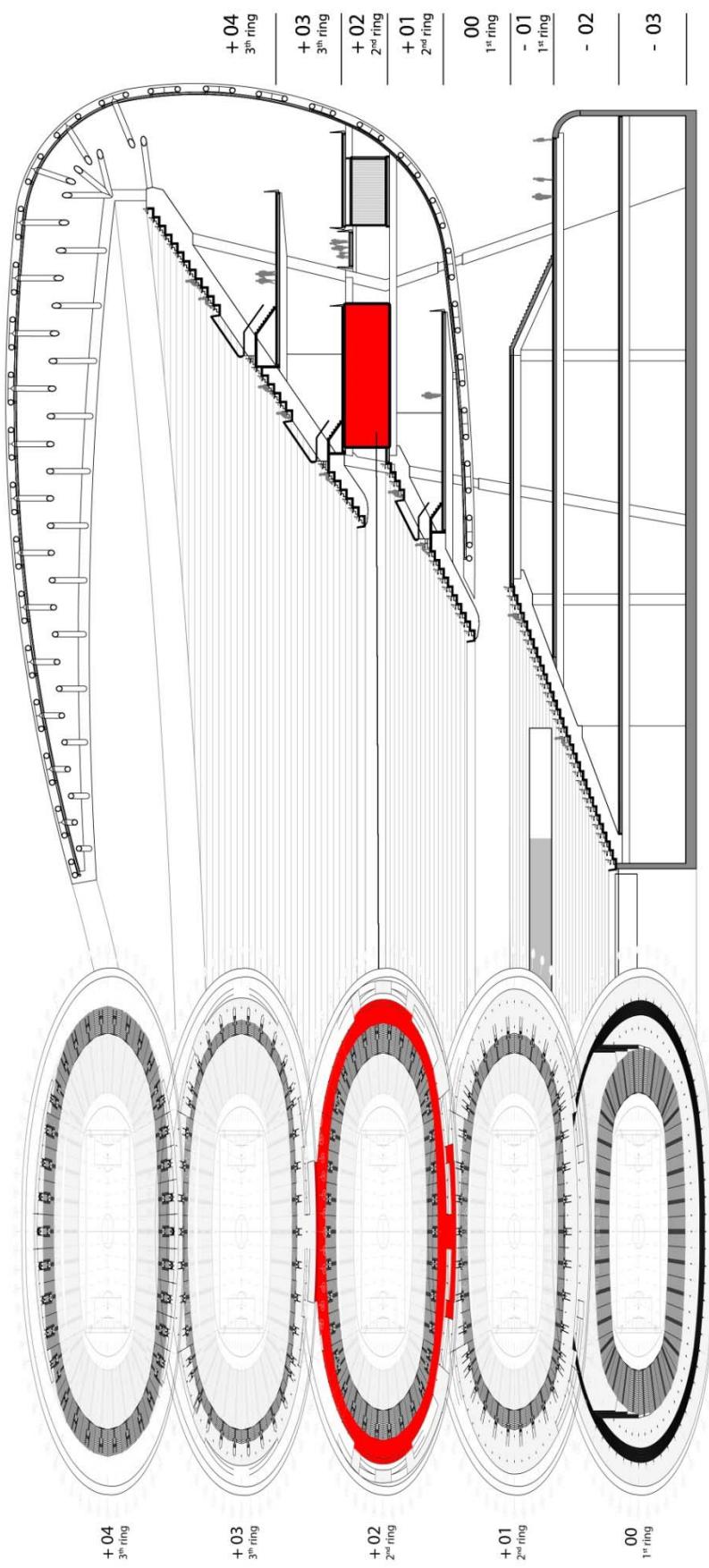
00
1st ring

Routing

Introduction - Research - Principles - Concept - Experience - Location - Construction - Water - V.I.P.box - Facade - Image



Routing



Routing

Introduction - Research - Principles - Concept - Experience - Location - Construction - Water - V.I.P.box - Facade - Image

Routing

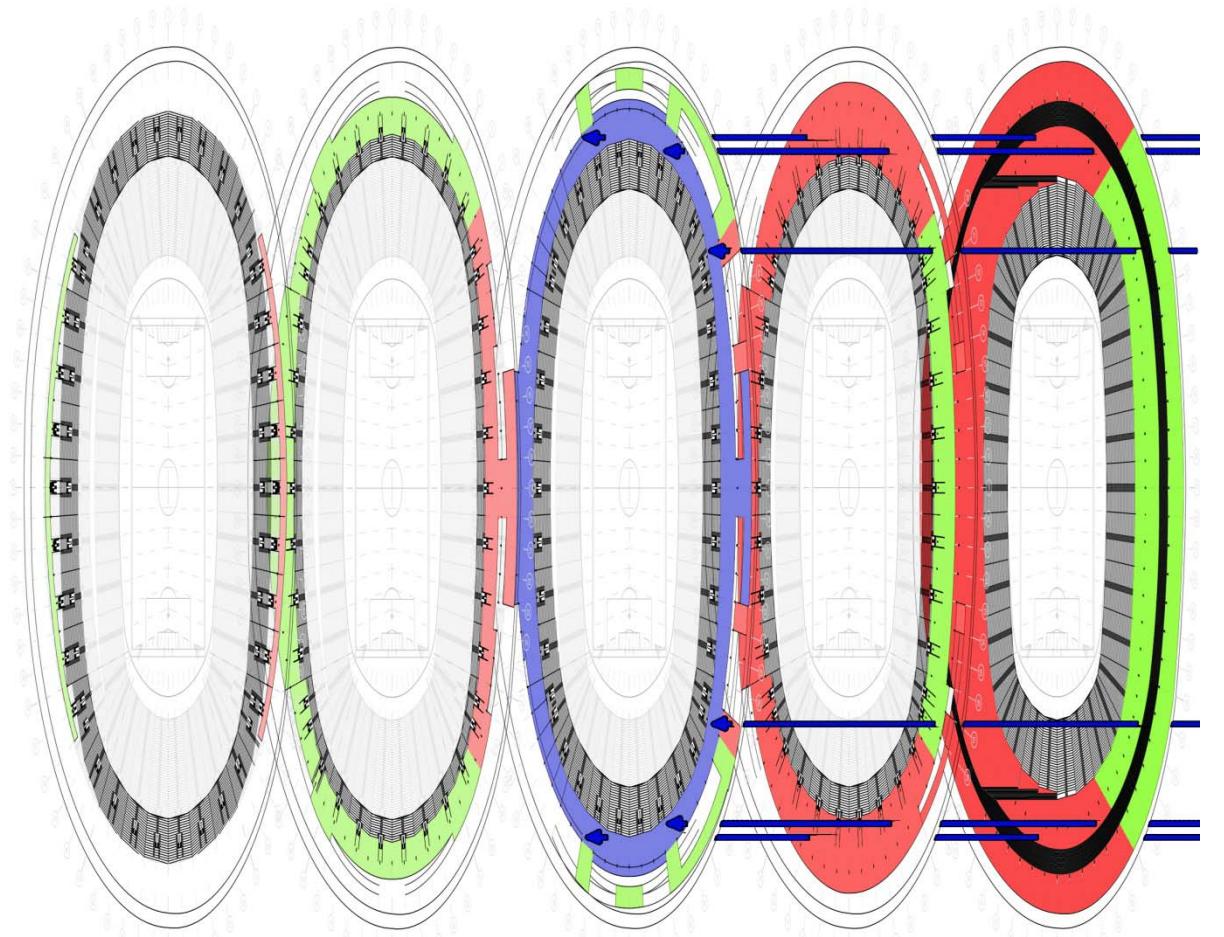
+ 04
3rd ring

+ 03
2nd ring

+ 02
2nd ring

+ 01
1st ring

00
00

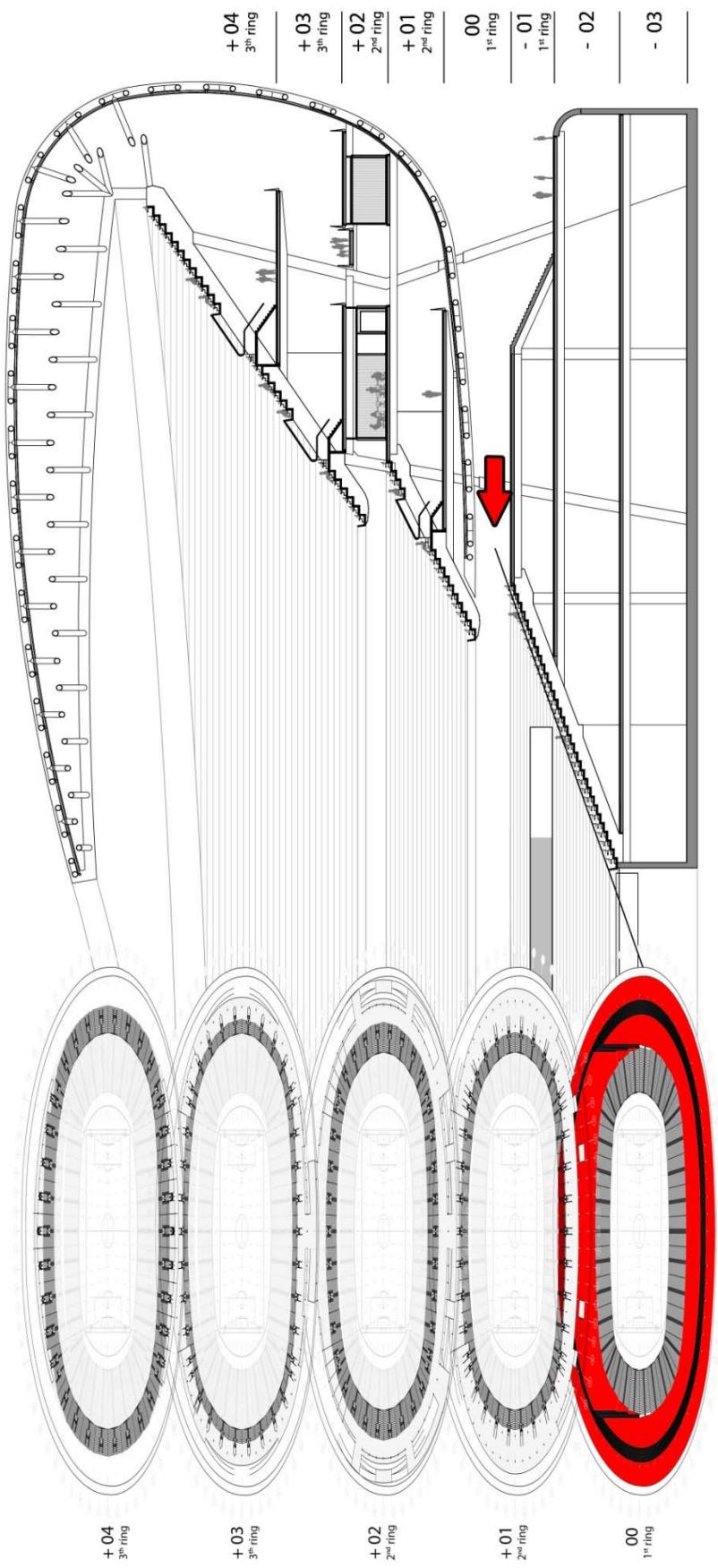


Routing

Introduction - Research - Principles - Concept - Experience - Facade - Water - V.I.P.box - Construction - Location - Image



Routing



Routing

Introduction - Research - Principles - Concept - Experience - Location - Construction - Water - V.I.P.box - Facade - Image

Routing

+ 04
3rd ring

+ 03
2nd ring

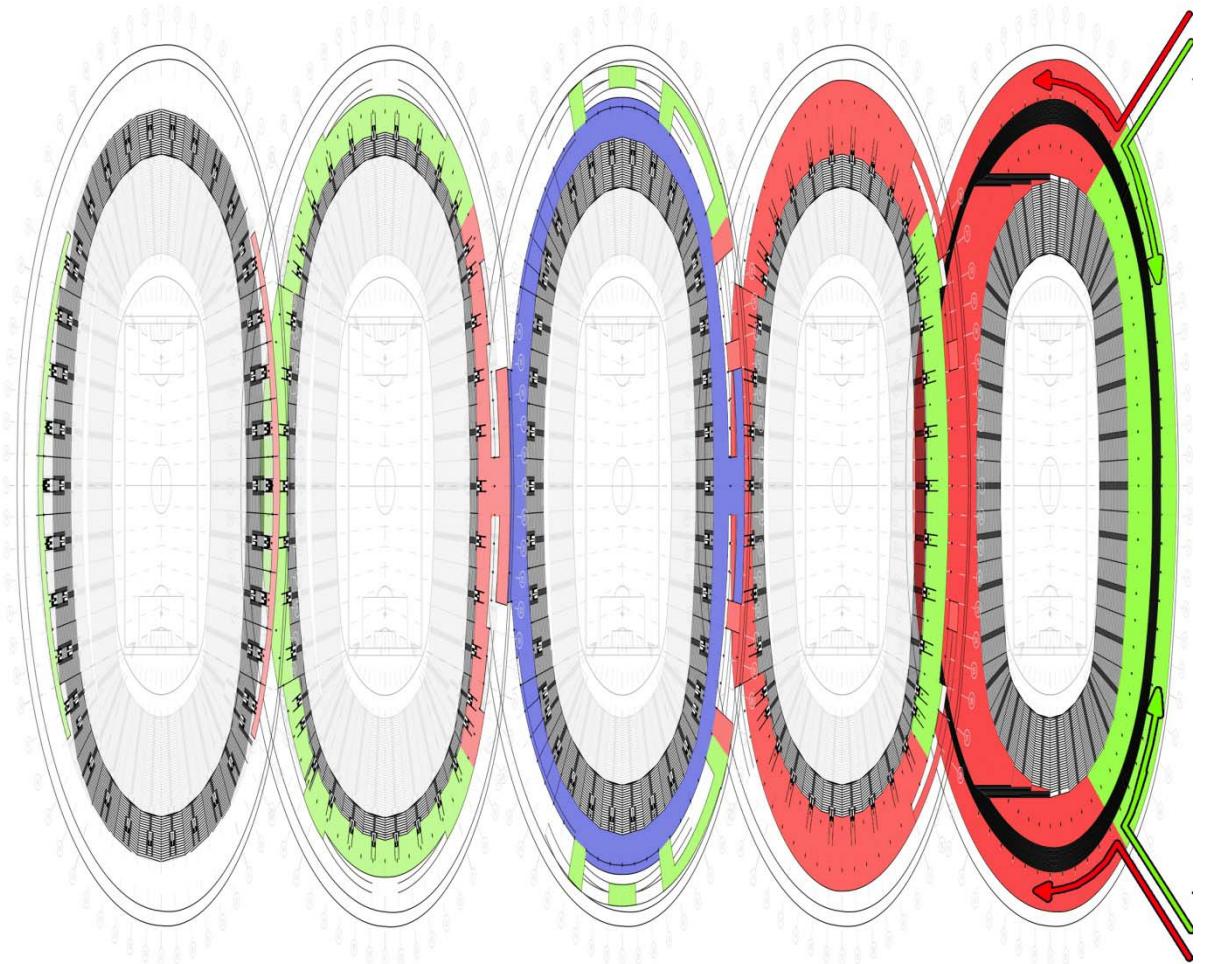
+ 02
2nd ring

+ 01
1st ring

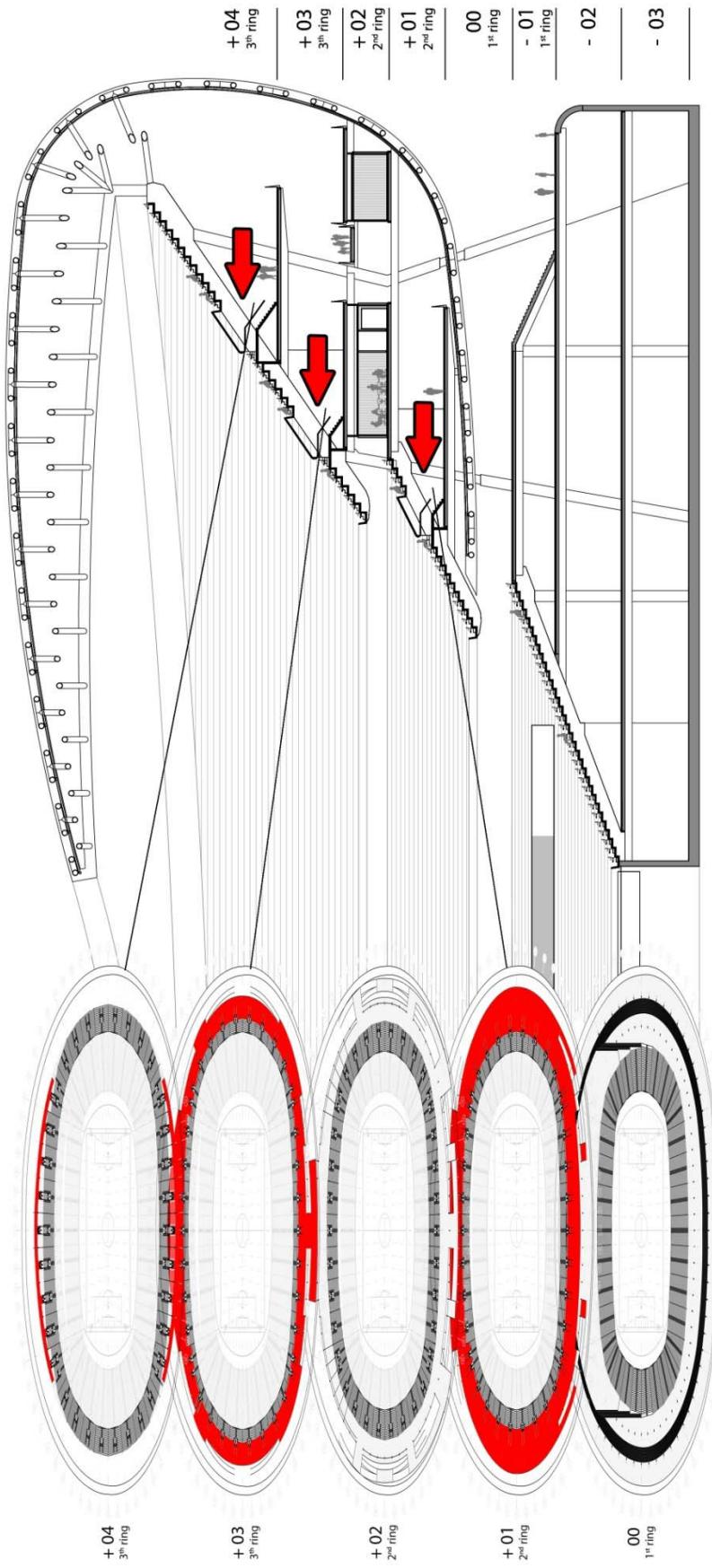
00
0th ring

Routing

Introduction - Research - Principles - Concept - Experience - Location - Construction - Water - V.I.P.box - Facade - Image



Routing



Routing

Introduction - Research - Principles - Concept - Experience - Location - Construction - Water - V.I.P.box - Facade - Image

Routing

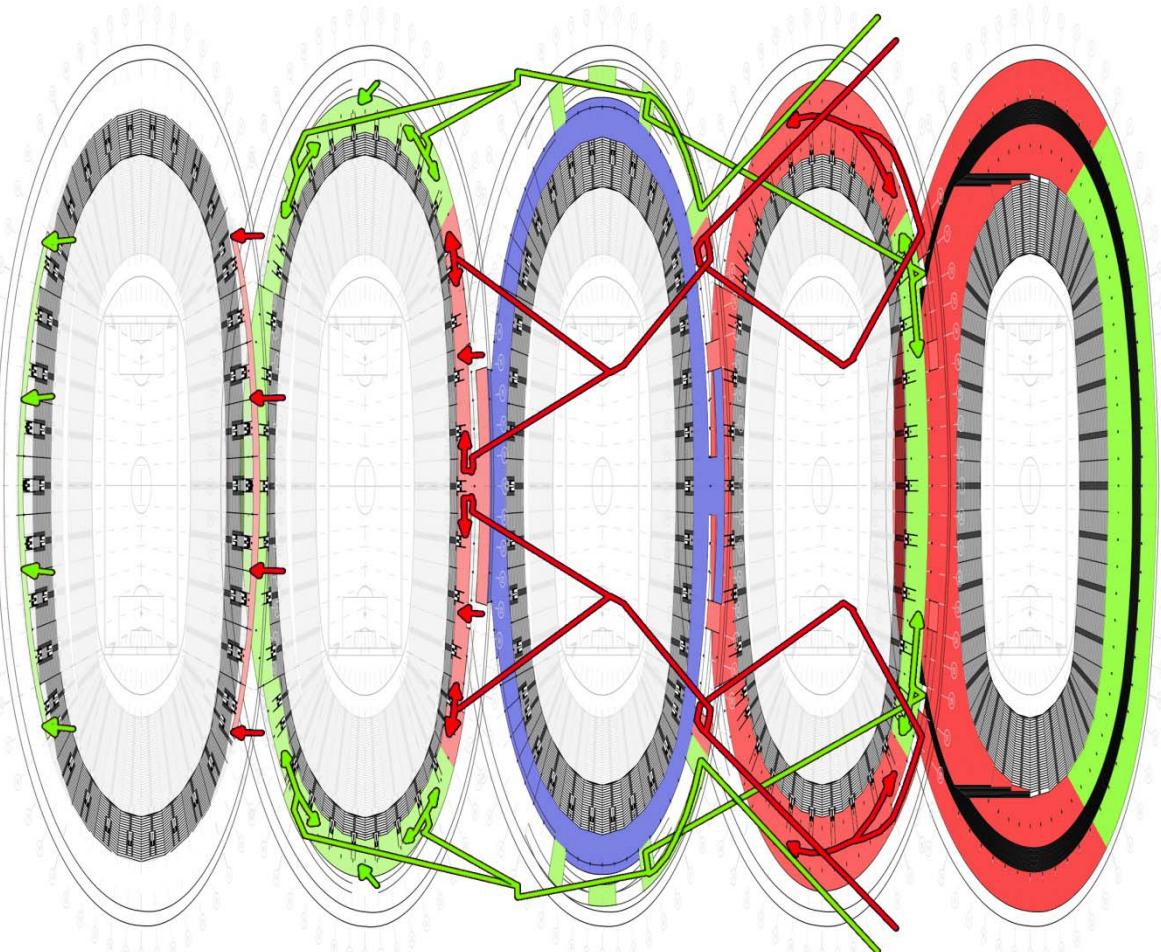
+ 04
3rd ring

+ 03
3rd ring

+ 02
2nd ring

+ 01
2nd ring

00
1st ring



Routing

Introduction - Research - Principles - Concept - Experience - Location - Construction - Water - V.I.P.box - Facade - Image



Routing

+ 04
3rd ring

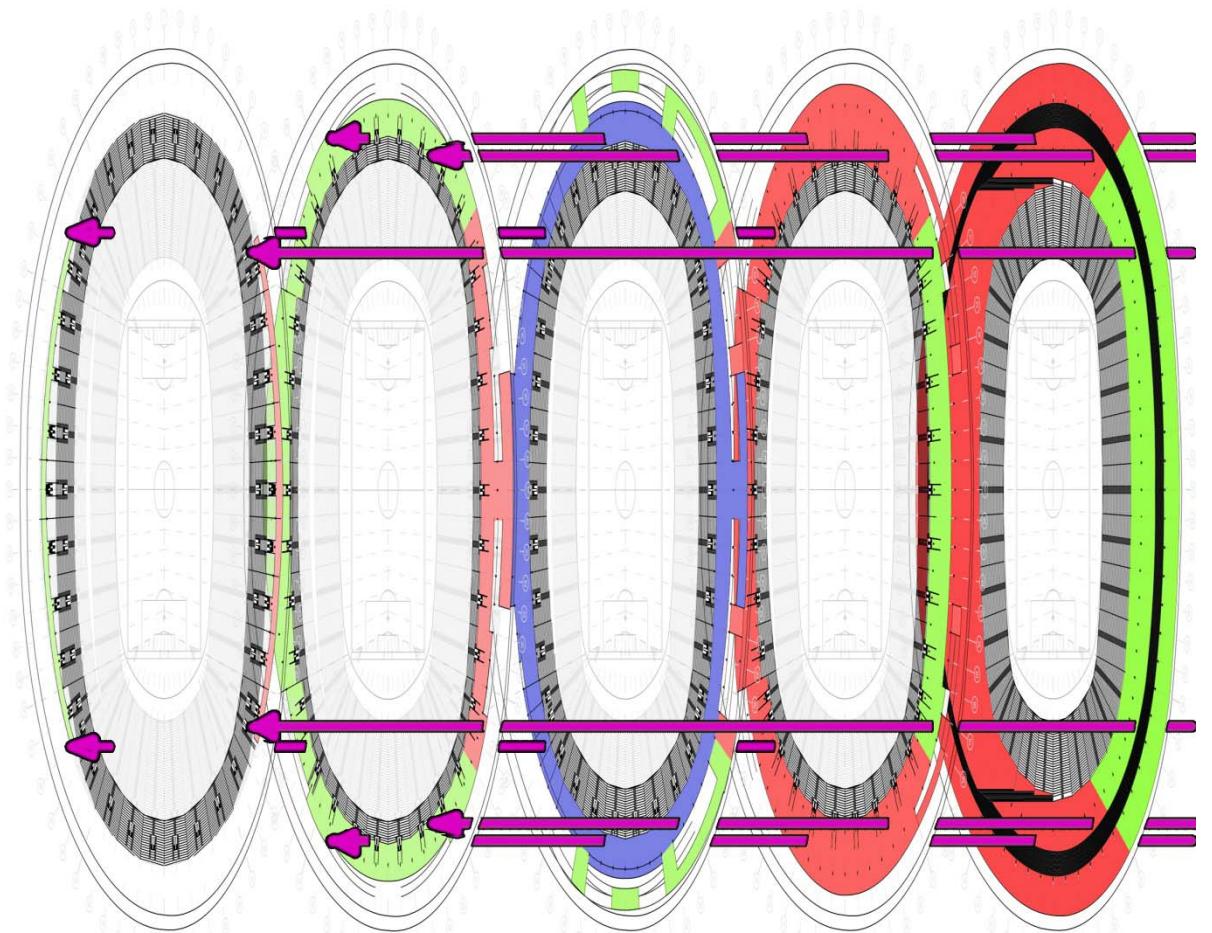
+ 03
2nd ring

+ 02
2nd ring

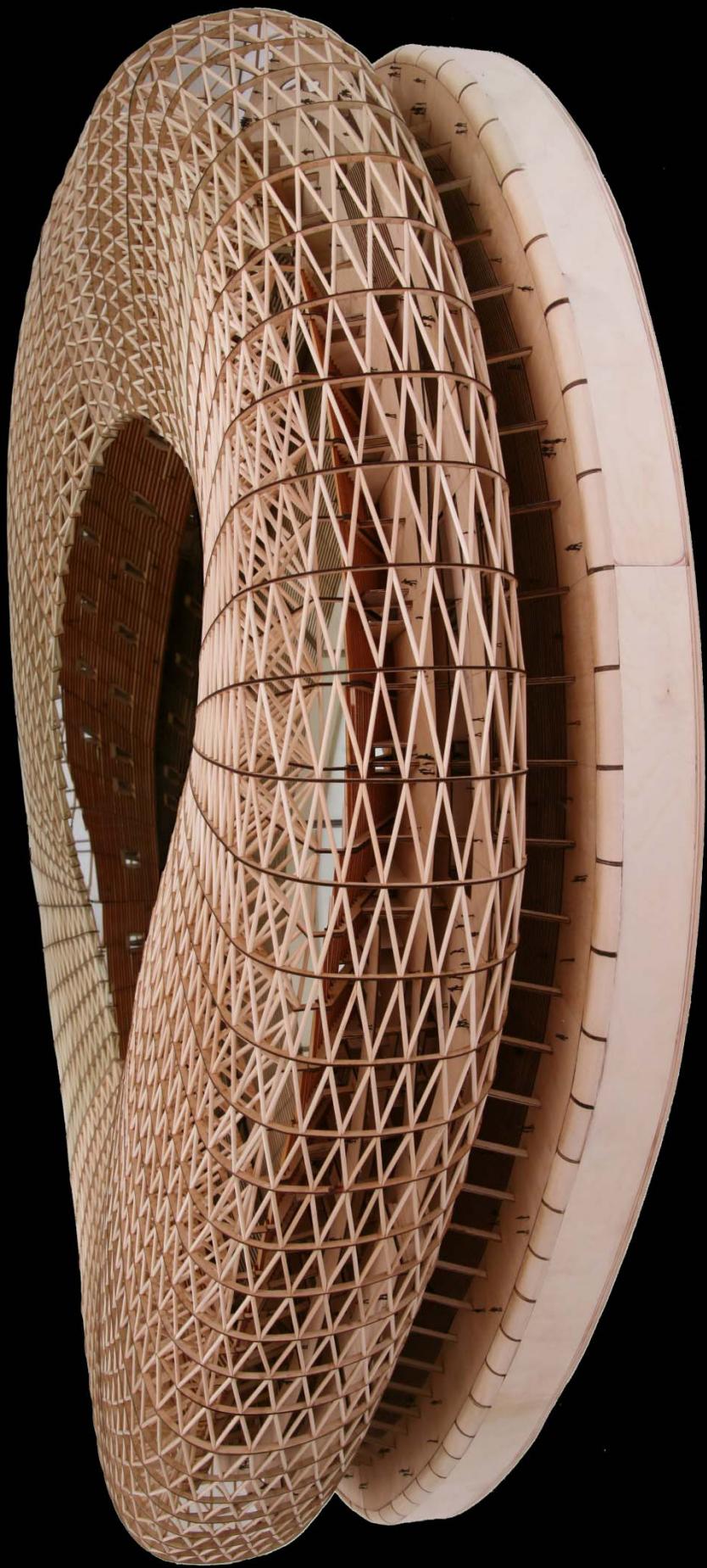
+ 01
1st ring

00

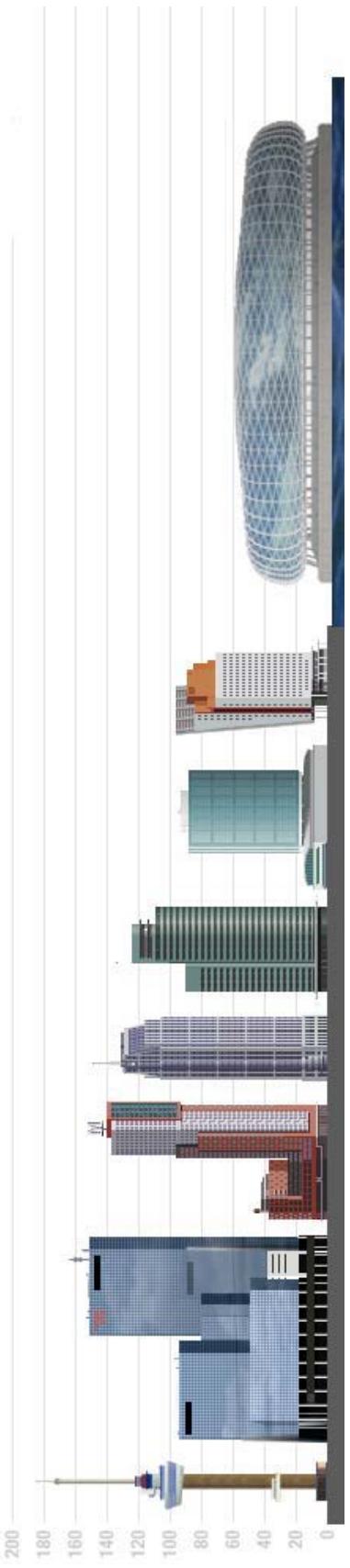
Routing



Introduction - Research - Principles - Concept - Experience - Location - Construction - Water - V.I.P.box - Facade - Image

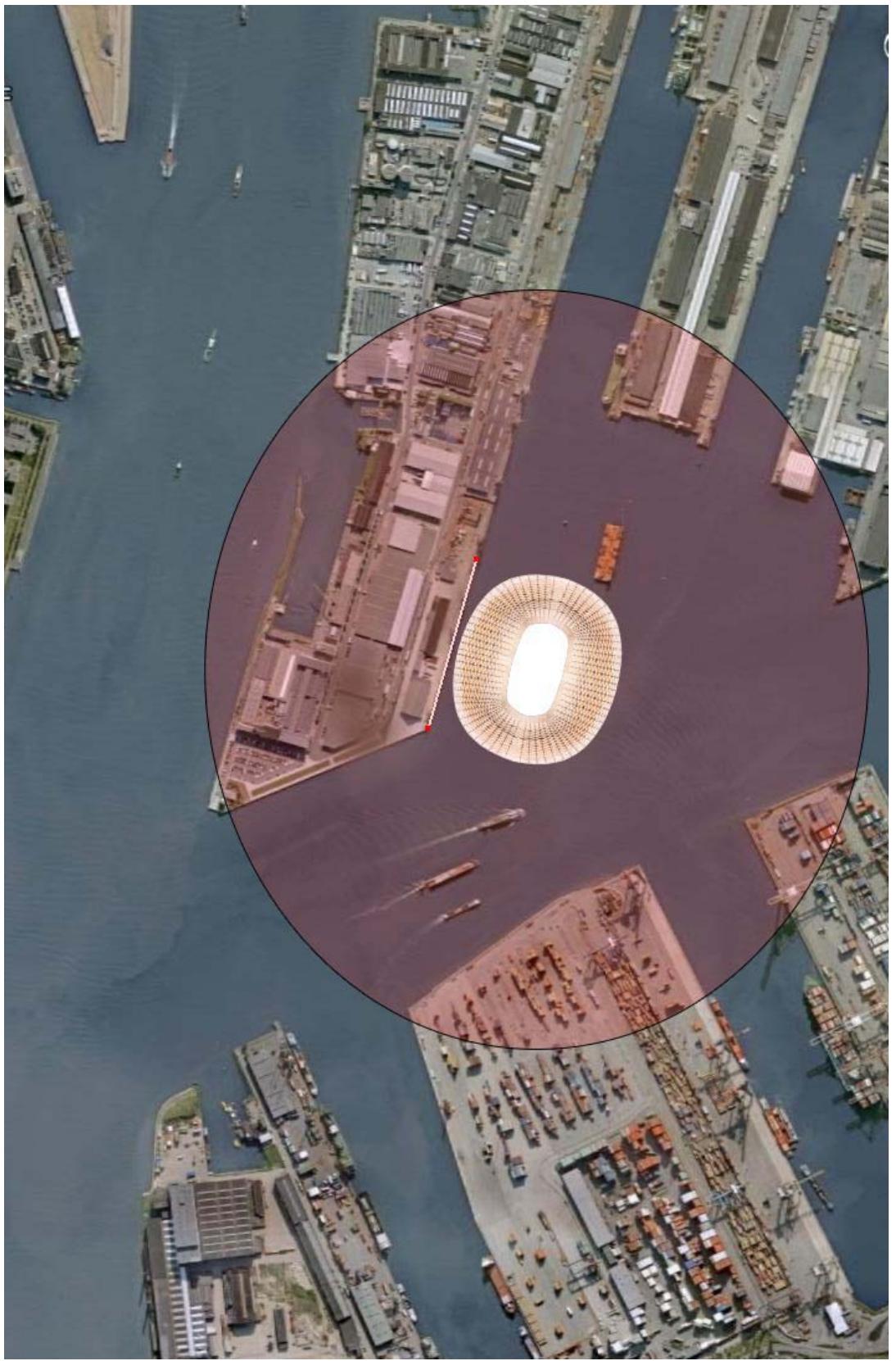


Location - Rotterdam



Introduction - Research - Principles - Concept - Experience - Routing - Location - Construction - Water - V.I.P.box - Facade - Image

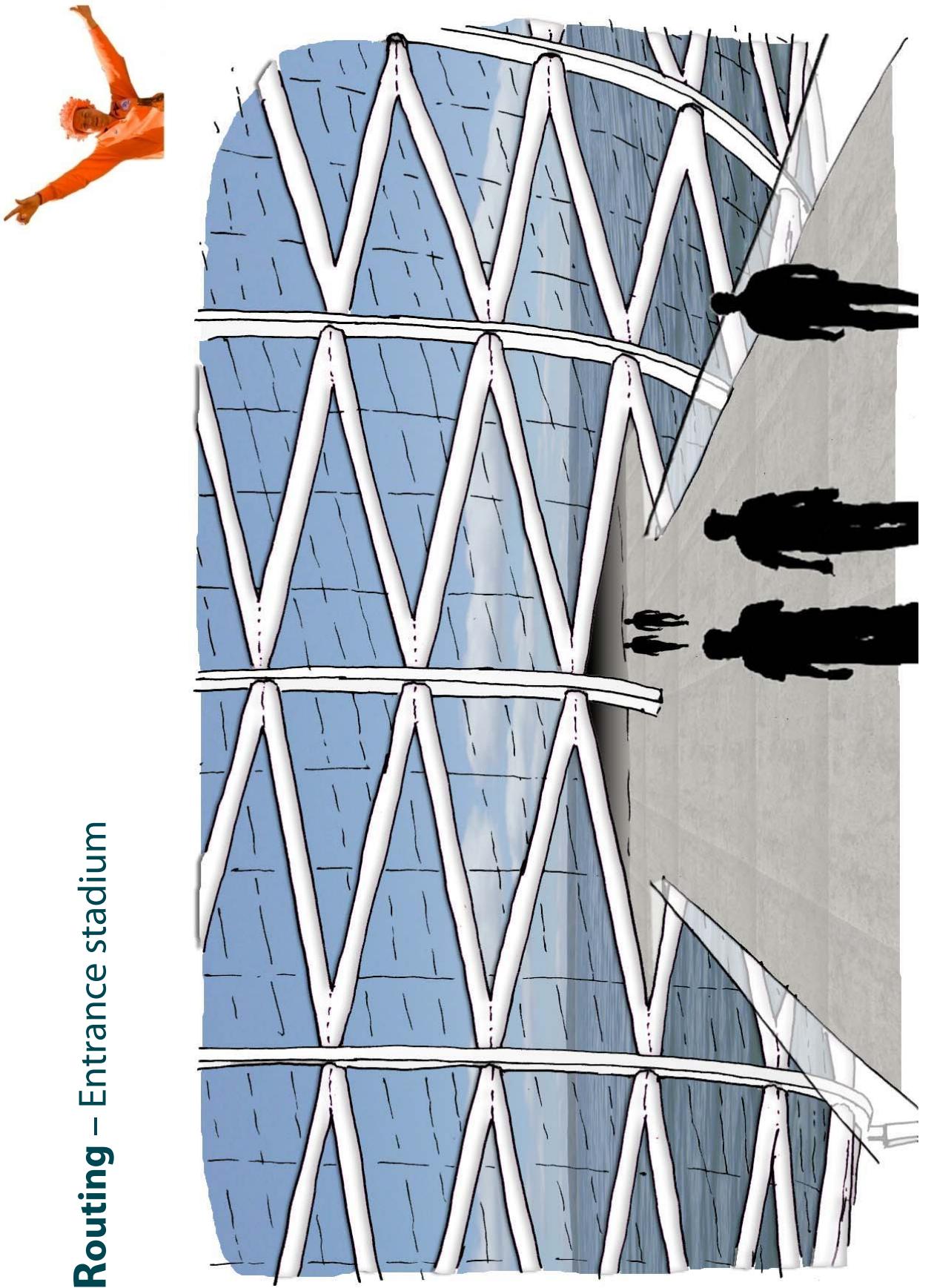
Location - Rotterdam



Location

Introduction - Research - Principles - Concept - Experience - Routing - Construction - Water - VIP.box - Facade - Image

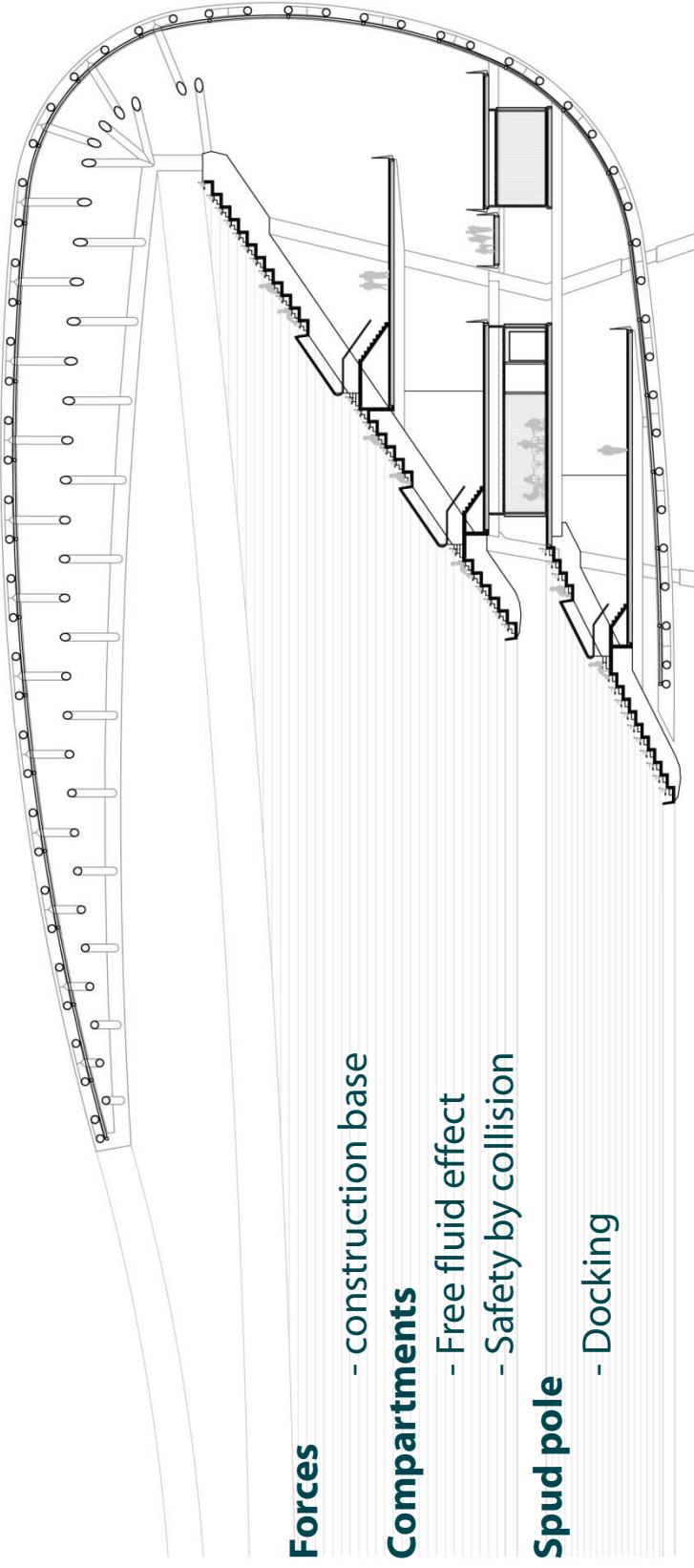
Routing – Entrance stadium



Routing

Introduction – Research – Principles – Experience – Concept – V.I.P.box – Water – Facade – Location – Construction – Water – Image

Construction - **Float body**



Forces

- construction base

Compartments

- Free fluid effect
- Safety by collision

spud pole

- Docking

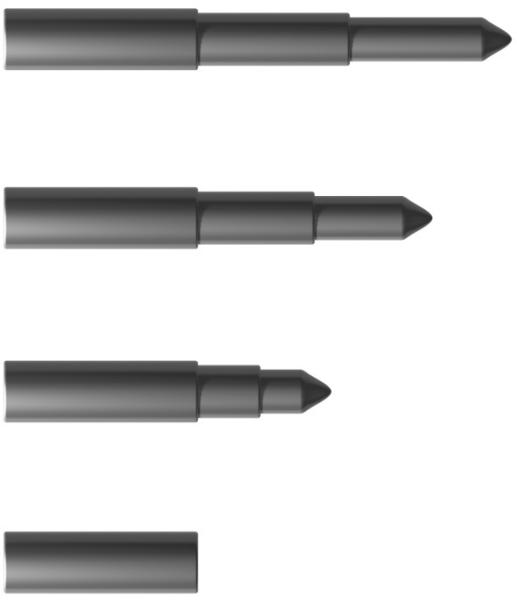
FLOAT BODY

Construction - mooring

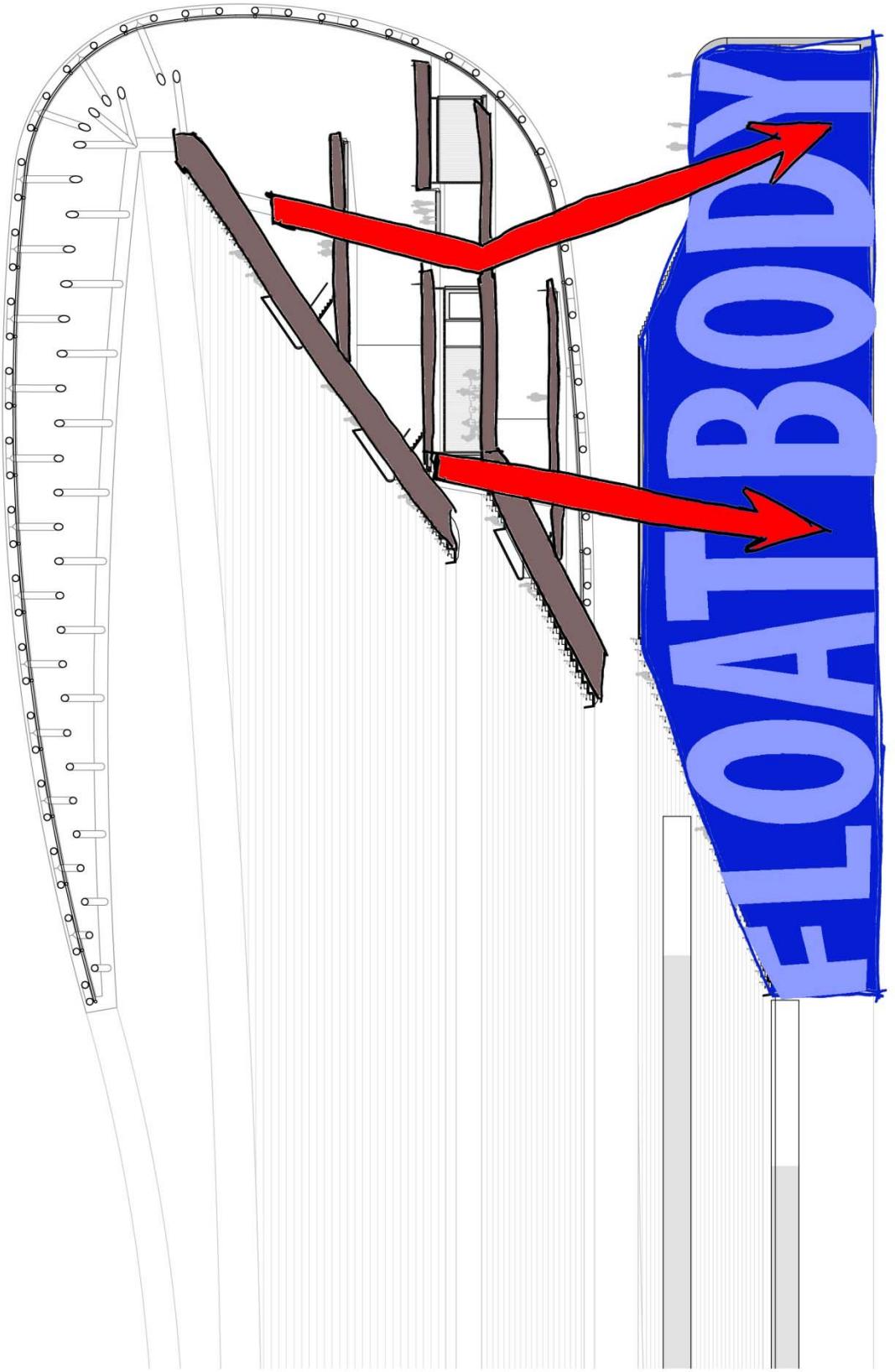


Spudpaal

Een spudpaal is een paal of dikwandige buis die bij werkschepen gebruikt wordt om op de werkplek stevig verankerd stil te kunnen liggen. De palen, meestal één op het voorschip en één op het achterschip steken als masten boven het dek uit en kunnen op de werkplek door het dek (soms in vrije val) naar beneden gelaten worden, zodat het schip stevig vast komt te liggen. De spudpalen zijn ontworpen in samenwerking met TNO en DSM en kunnen ook op bestaande schepen vanaf 10 meter worden ingebouwd. Bovendeks zijn ze onzichtbaar en benedendeks worden ze netjes weggewerkt in een kast of ombouw.



Construction - Tribune

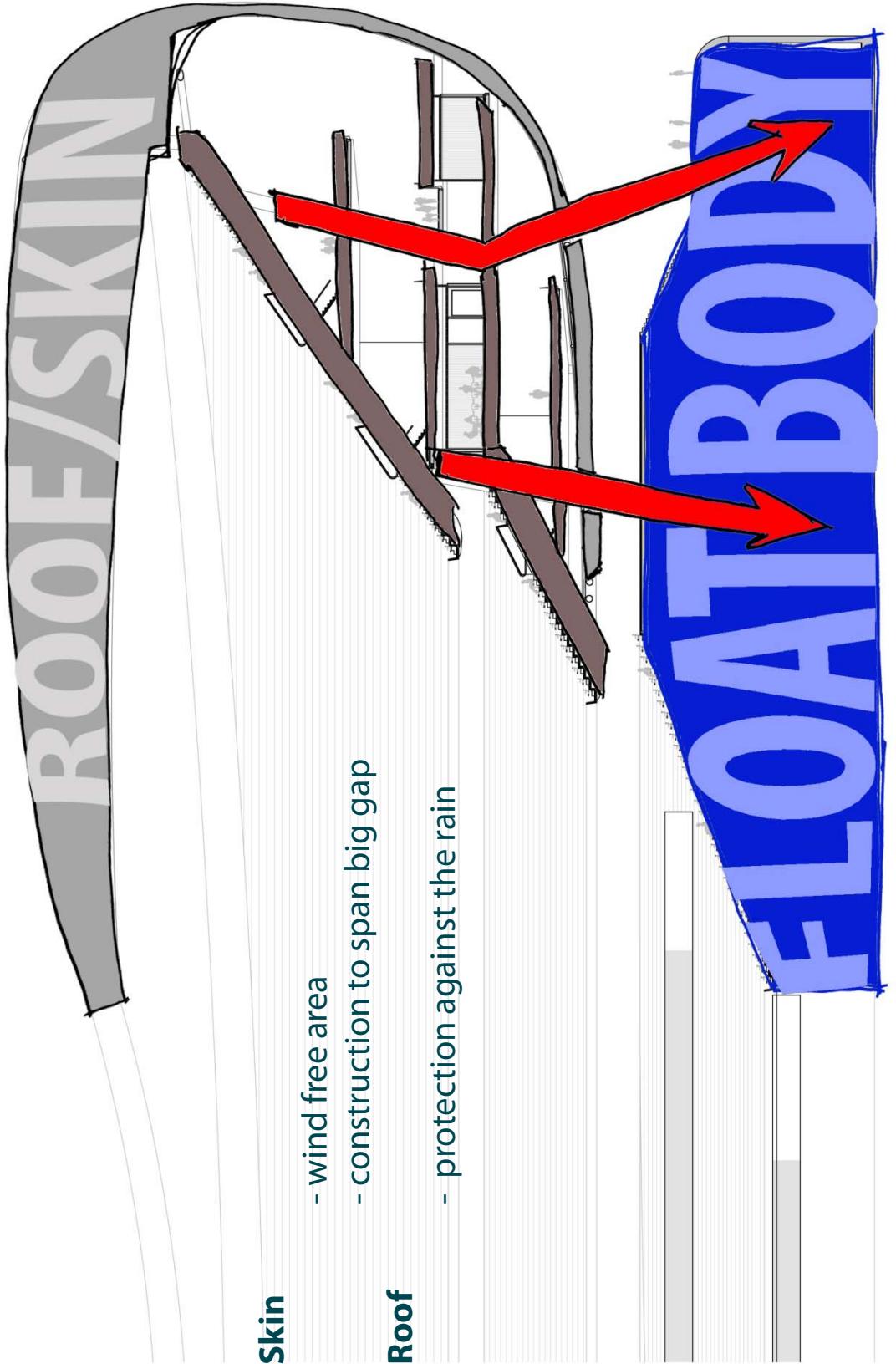


Construction

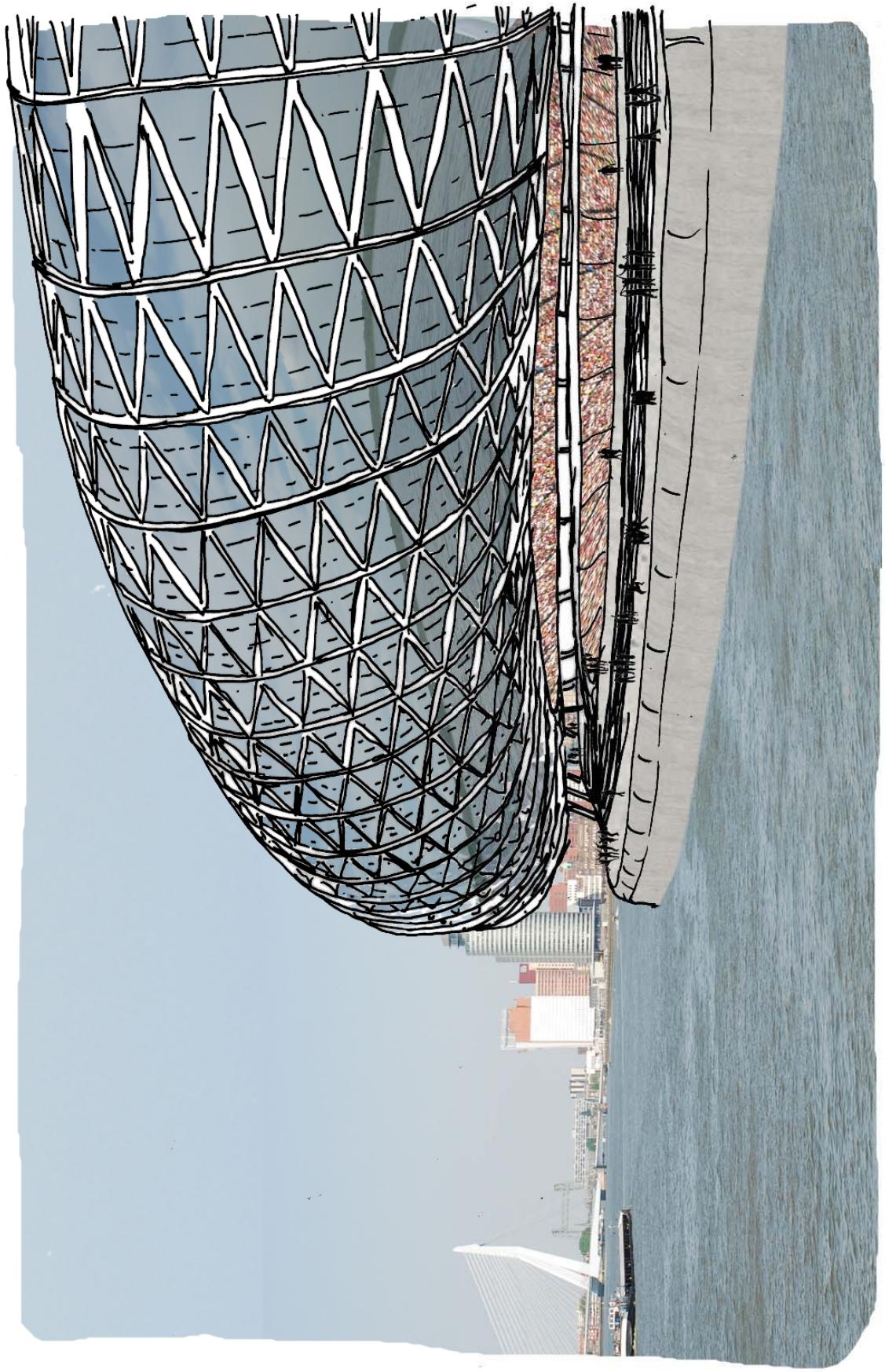
Introduction - Research - Principles - Concept - Experience - Routing - Location - Construction - Water - V.I.P.box - Facade - Image



Construction - Roof / skin



Construction - big span



Construction

- Water - V.I.P.box - Facade - Image

- Location

- Routing

- Experience

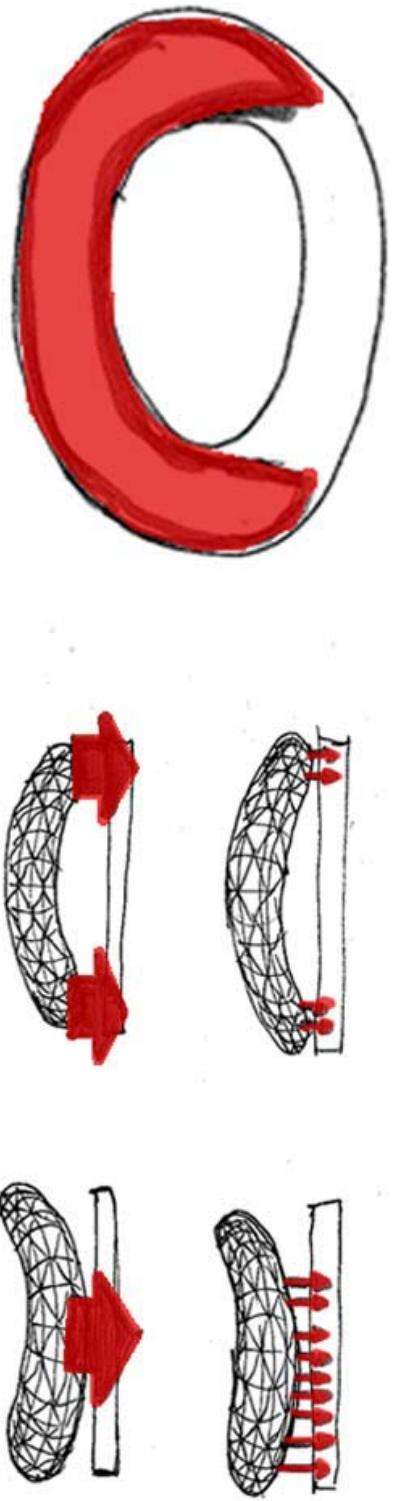
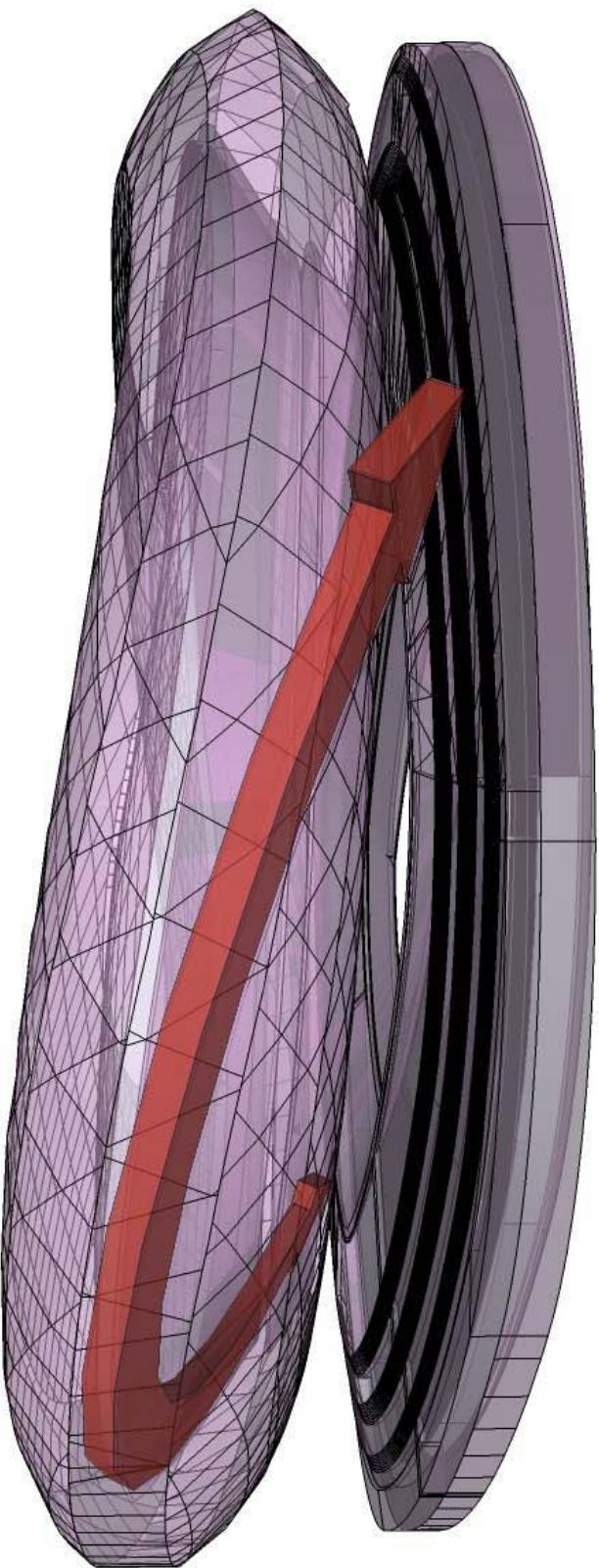
- Concept

- Principles

- Research

- Introduction

Construction – big span

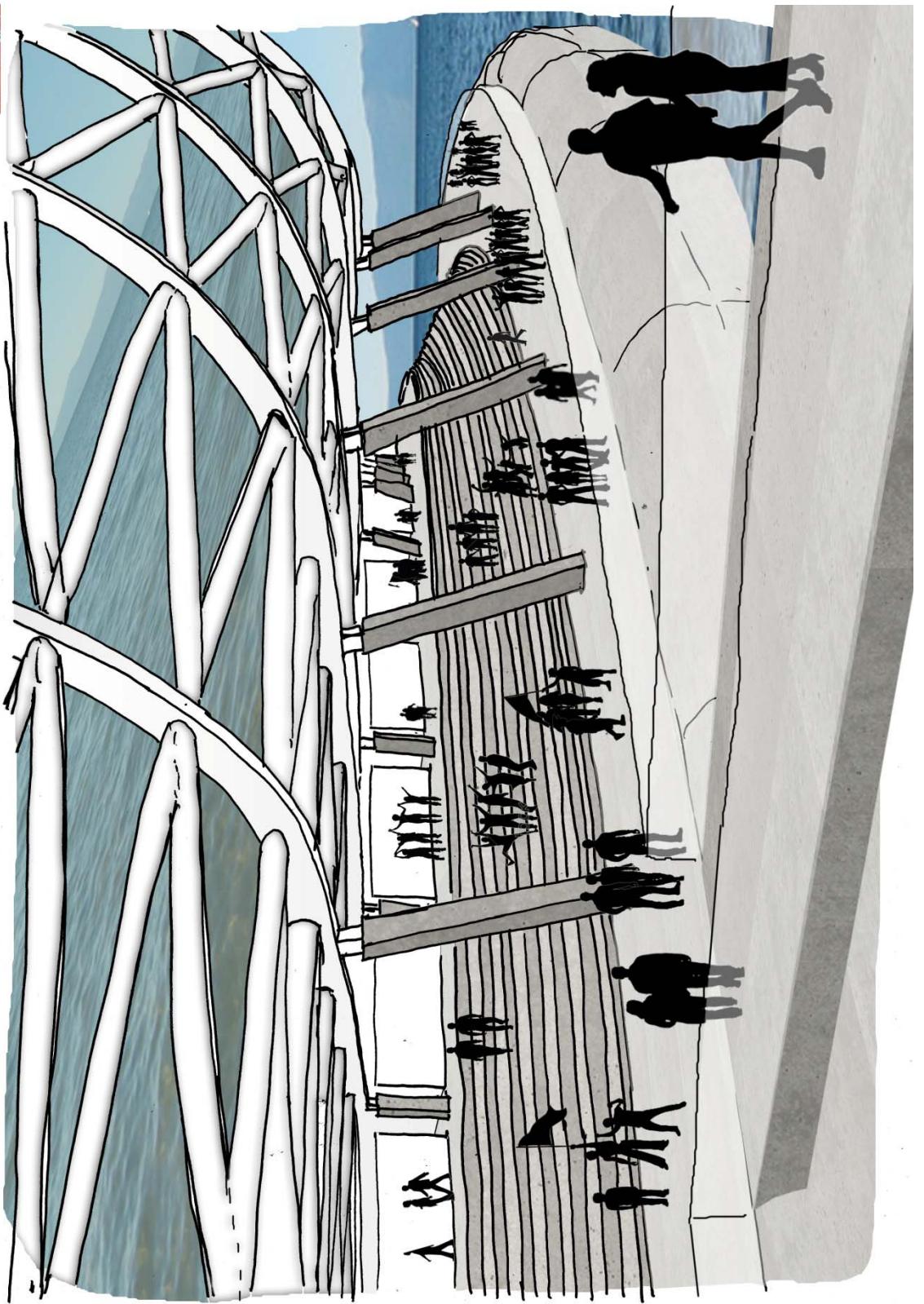








Routing – entrance stadium

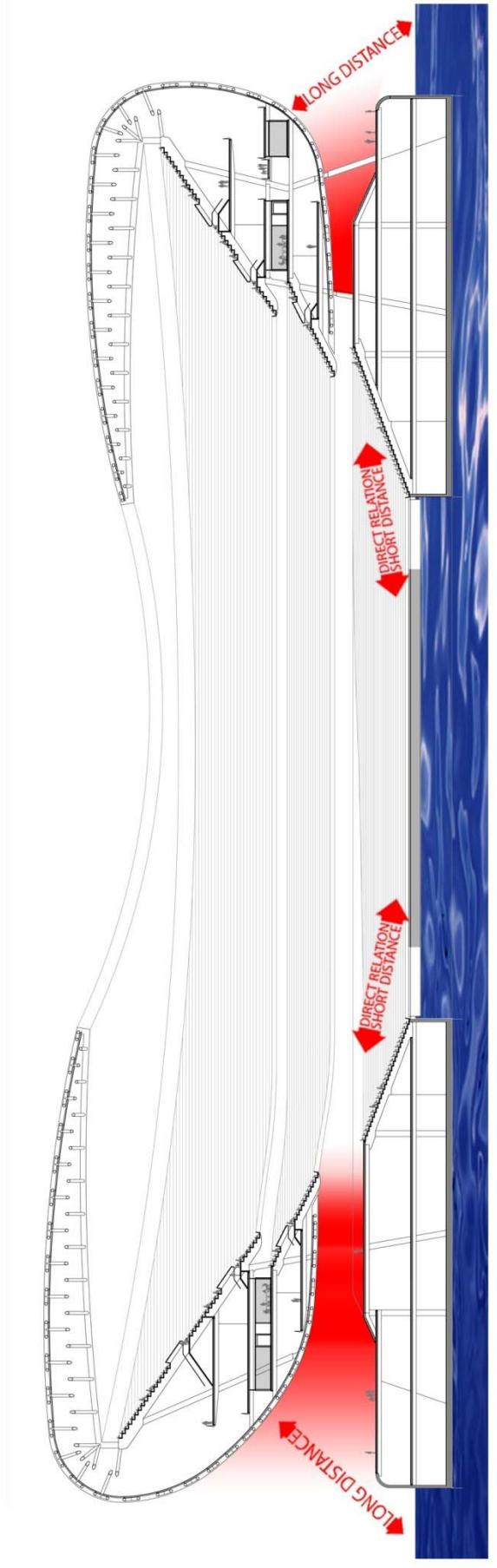
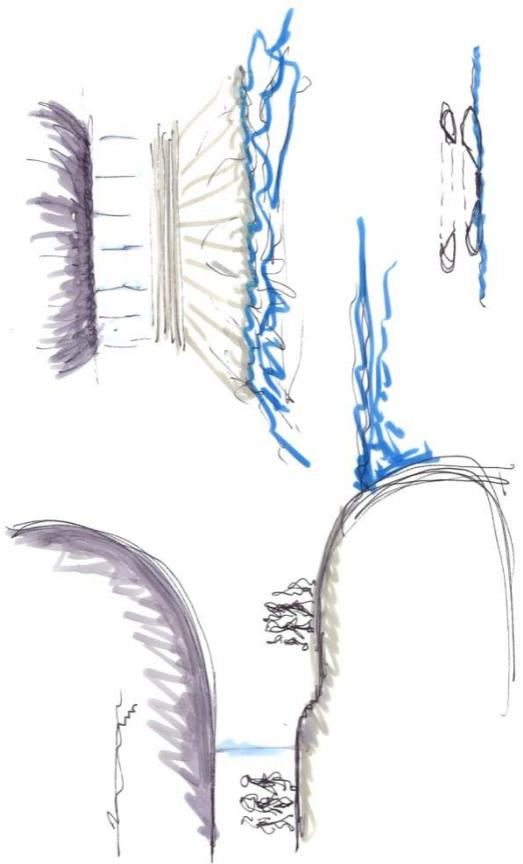


Routing

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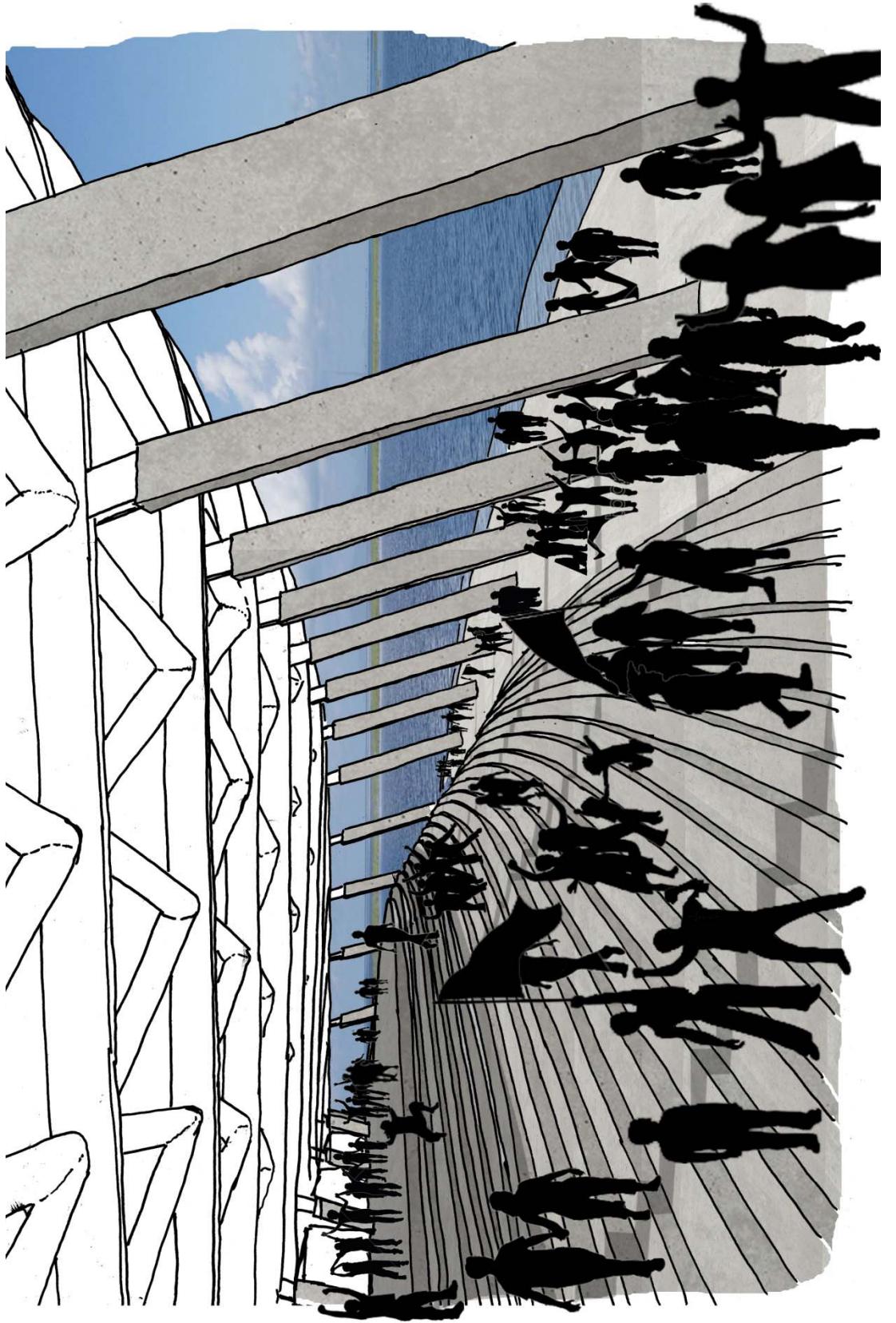


Relation with water



Introduction - Research - Principles - Concept - Experience - Routing - Location - Construction - Facade - V.I.P.box - Image

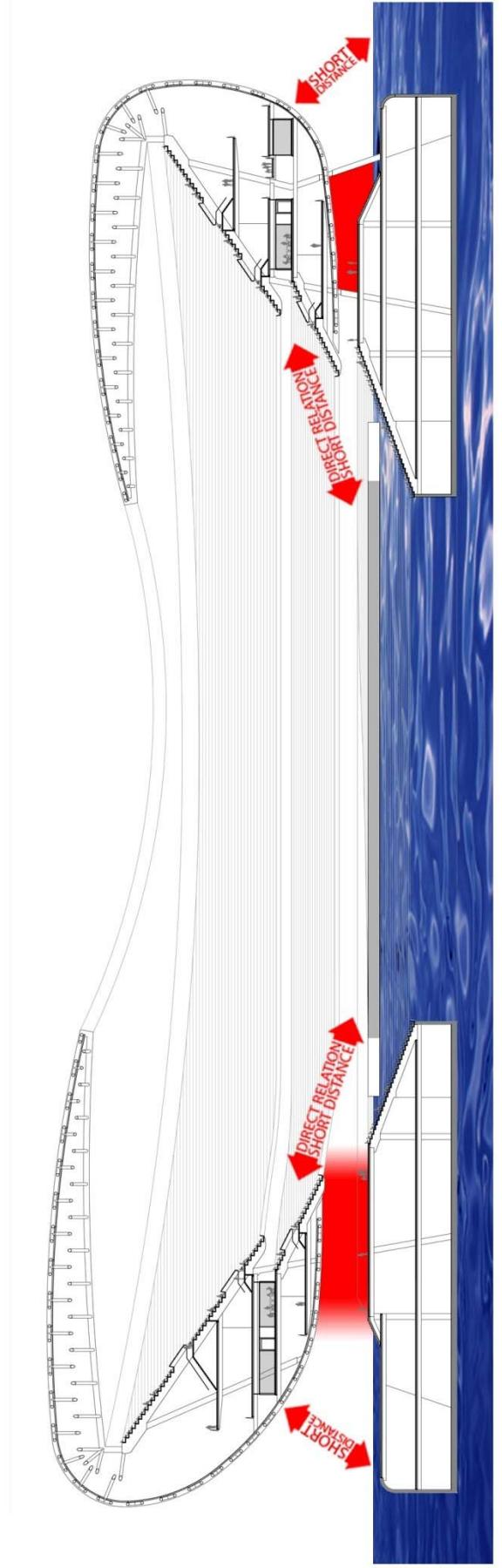
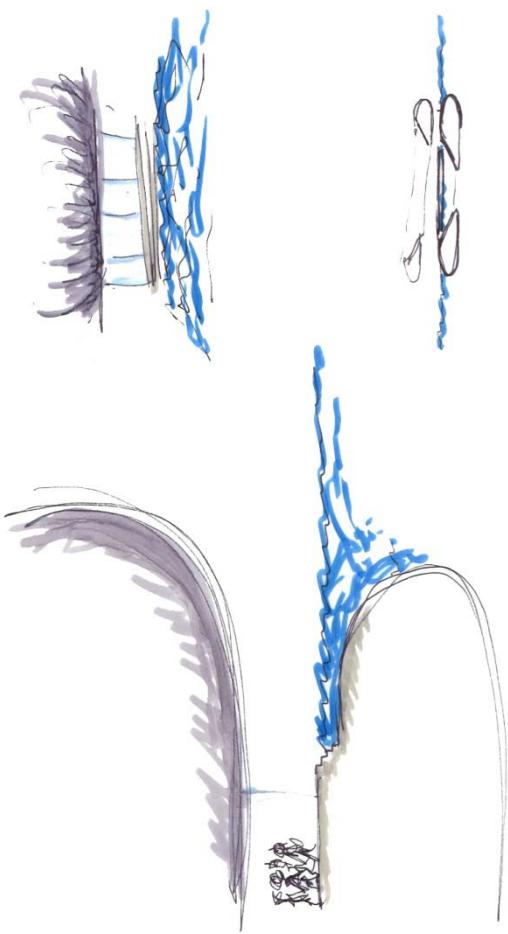
Relation with water



Water

Introduction - Research - Principles - Experience - Concept - Location - Routing - Construction - Image

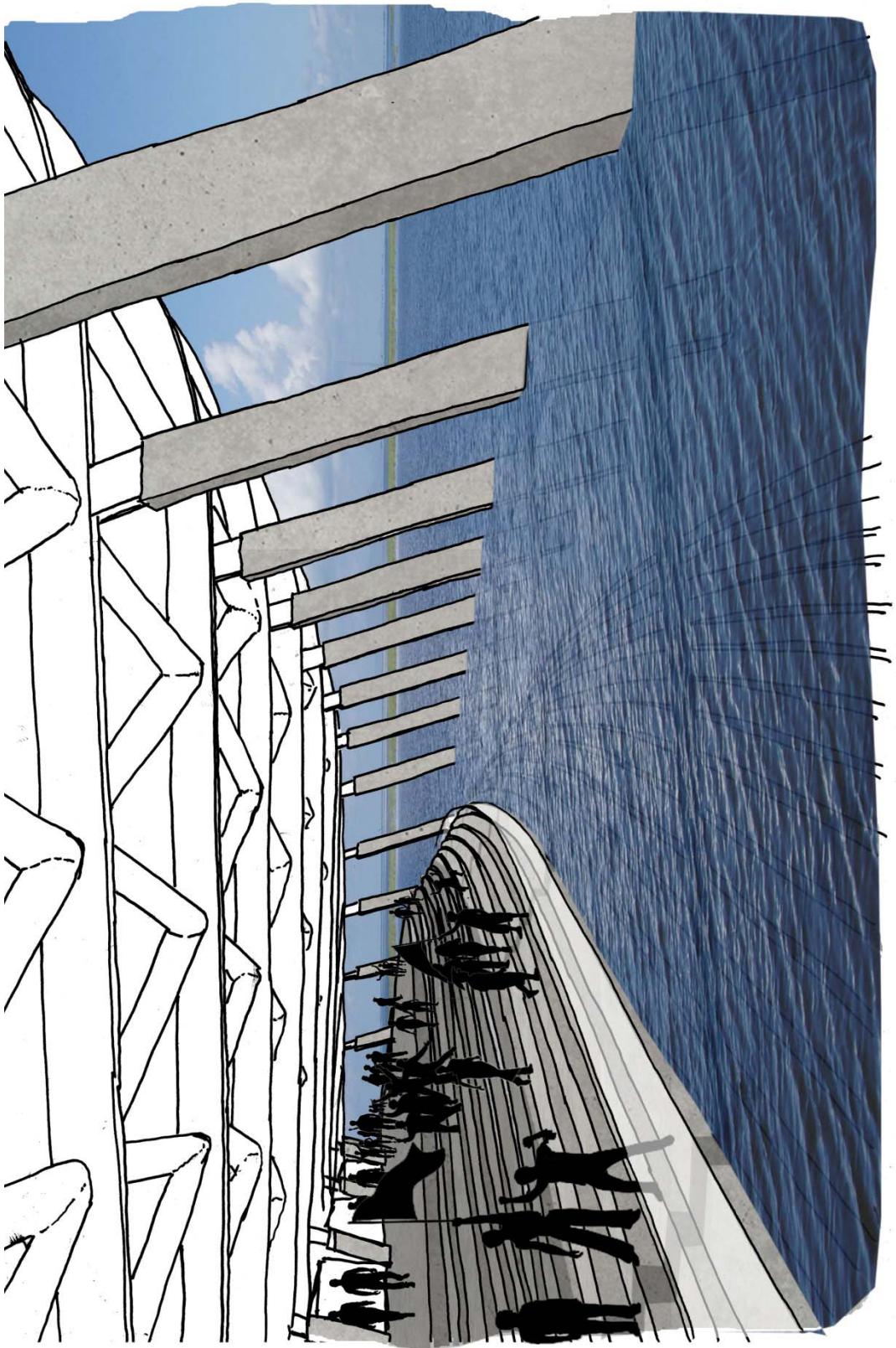
Relation with water



Water

Introduction - Research - Principles - Concept - Experience - Routing - Location - Construction - Facade - Image

Relation with water



Water

Introduction - Research - Principles - Experience - Concept - Location - Routing - Construction - Image
- V.I.P.box - Facade - Water

Routing – Inside stadium



Routing

Introduction - Research - Principles - Experience - Concept - Construction - Location - Water - V.I.P.box - Facade - Image



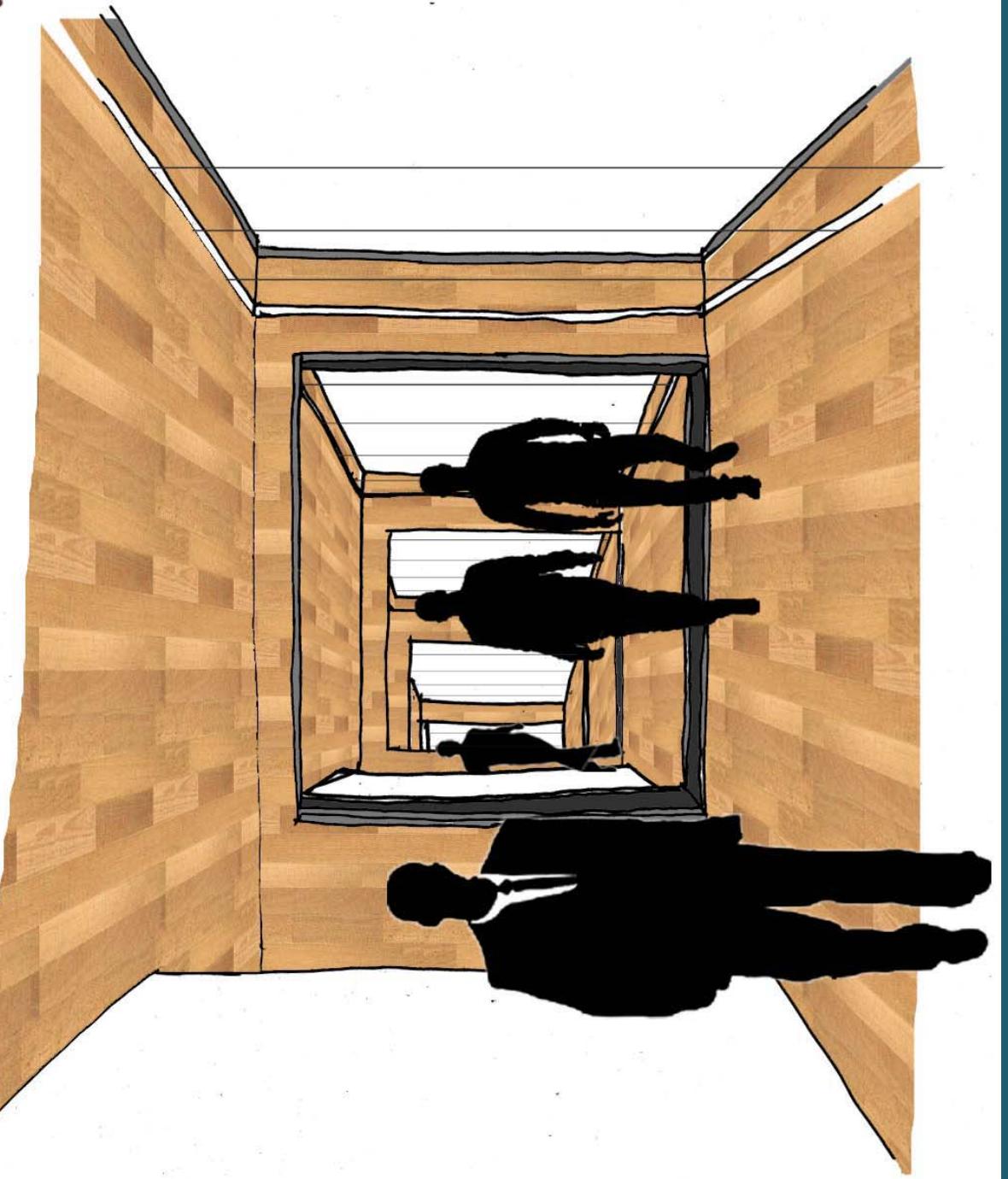
Routing – Inside stadium



Routing

Introduction - Research - Principles - Experience - Concept - Construction - Location - Water - V.I.P.box - Facade - Image

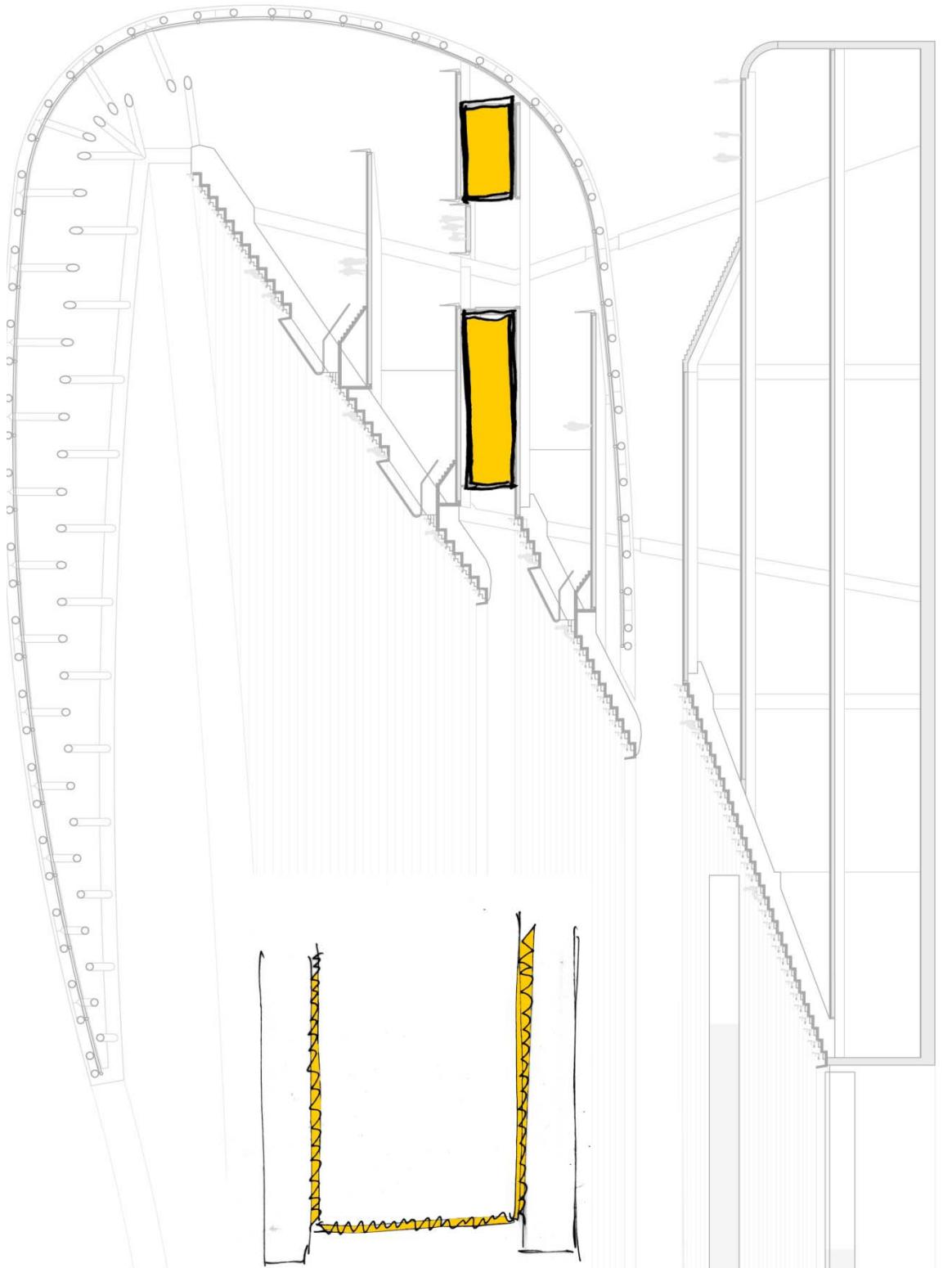
Routing – to V.I.P. box



Routing

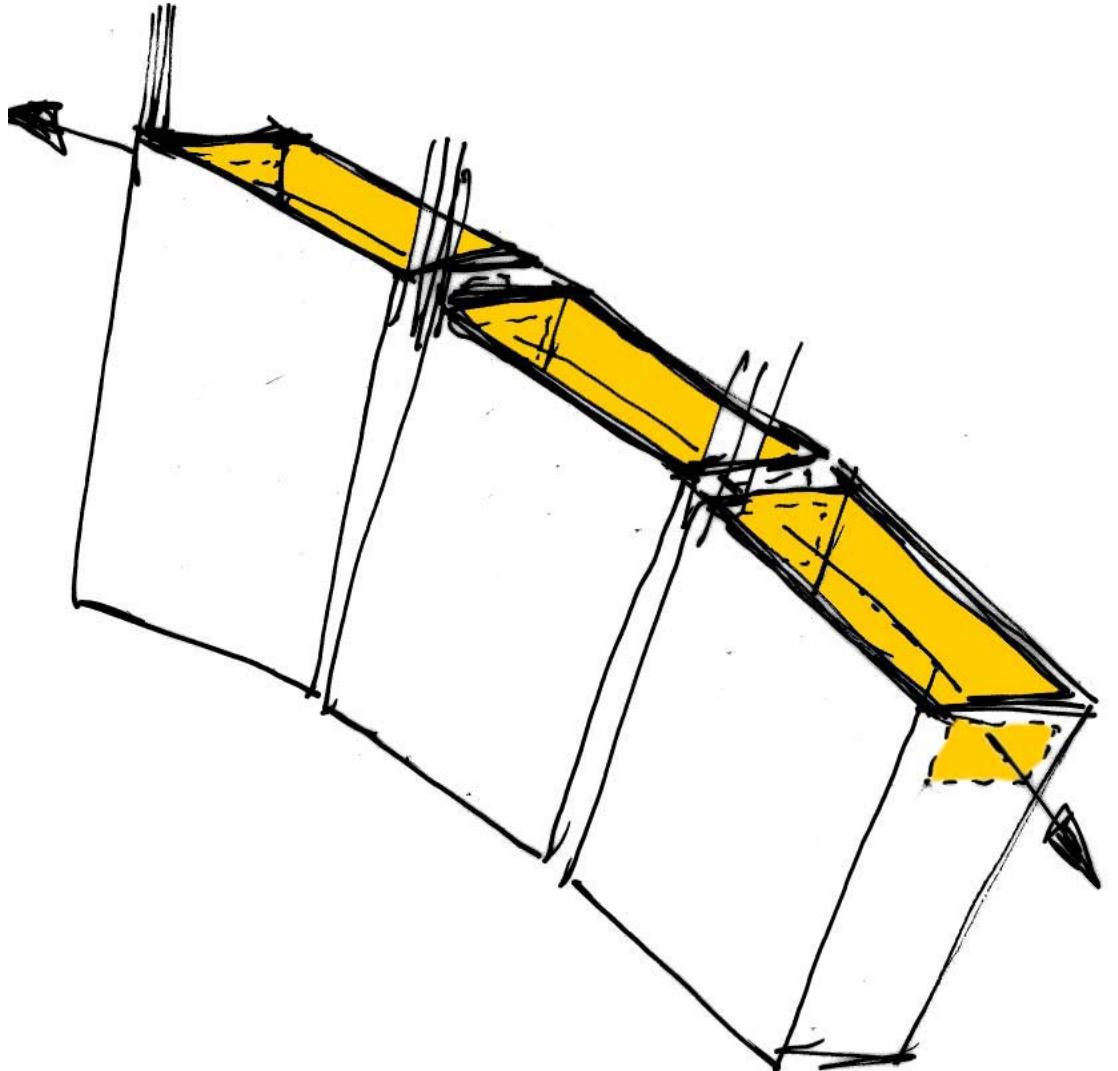
Introduction - Research - Principles - Experience - Concept - Construction - Location - Water - V.I.P.box - Facade - Image

Concept – V.I.P. box



Introduction - Research - Principles - Concept - Experience - Routing - Location - Construction - Water - Facade - Image
V.I.P. box

Concept – V.I.P. box

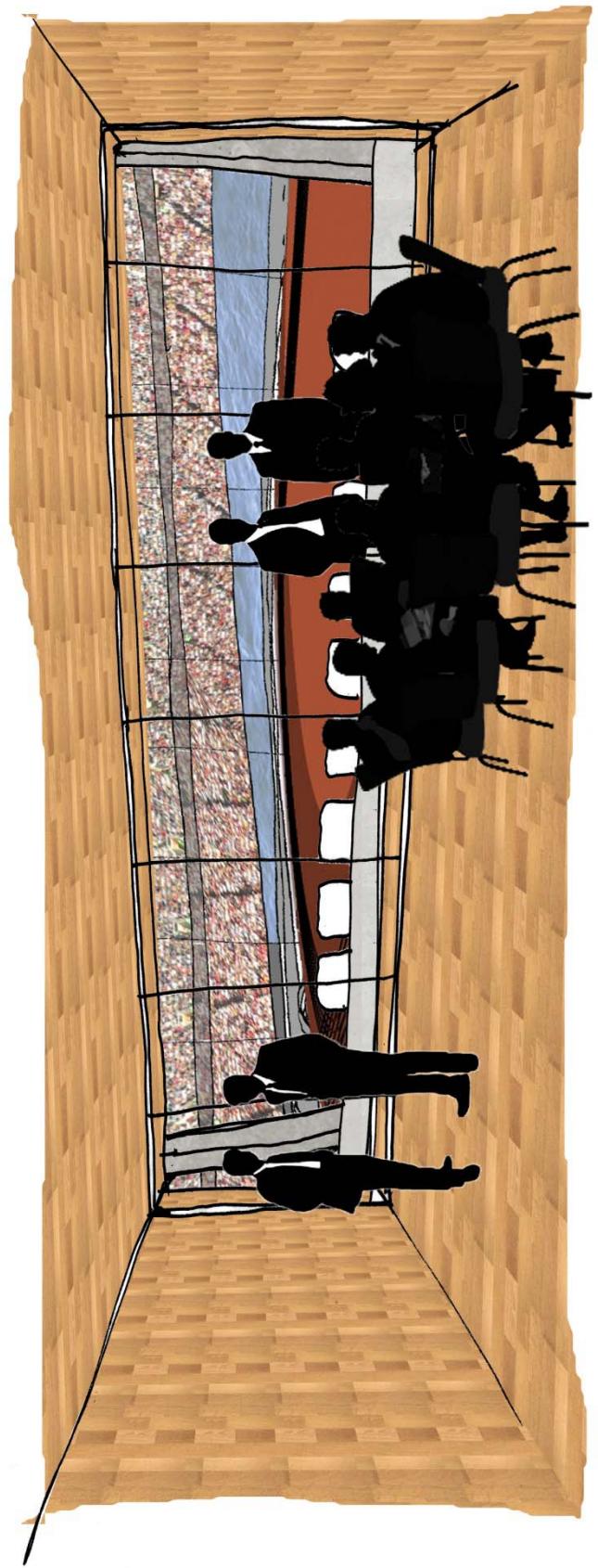


V.I.P. box

Introduction - Research - Principles - Concept - Experience - Routing - Location - Construction - Water - Facade - Image

Introduction - Research - Principles - Concept - Experience - Routing - Location - Construction - Water - Facade - Image

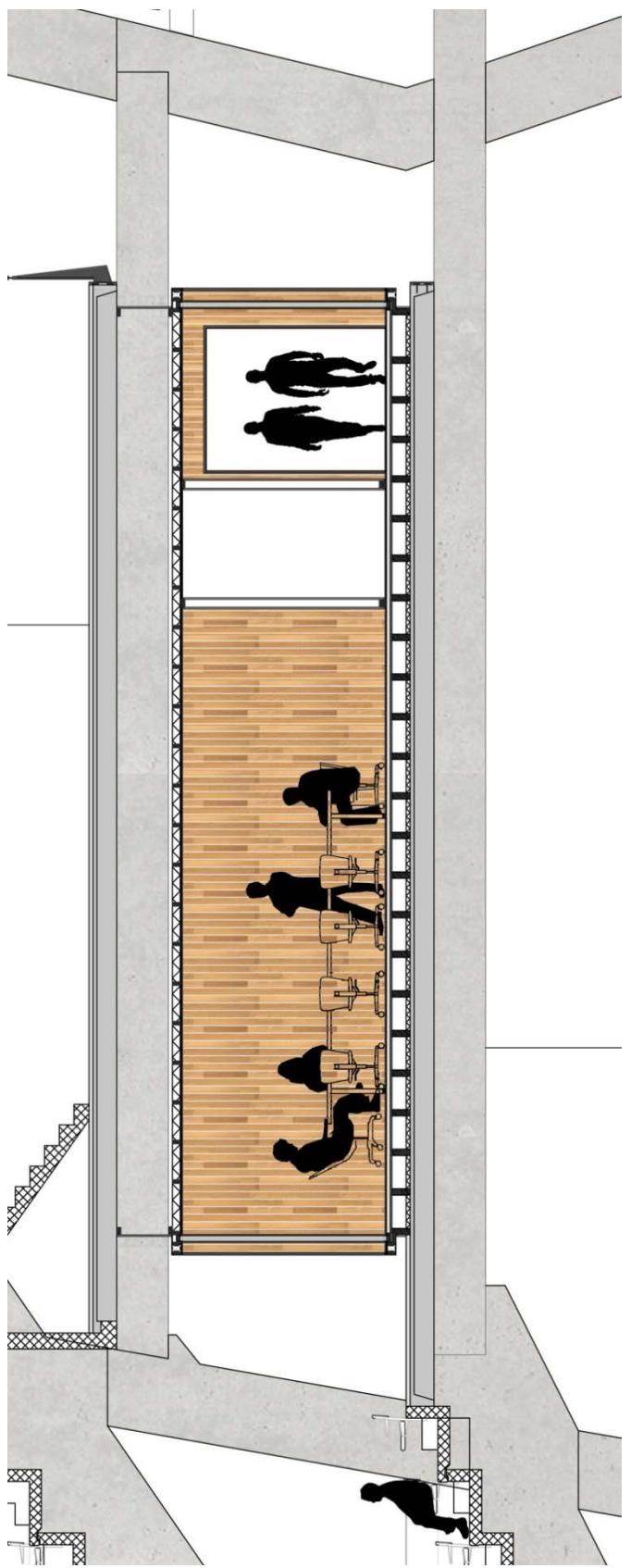
Routing – view from V.I.P. box



V.I.P. box

Introduction - Research - Principles - Concept - Experience - Routing - Location - Construction - Water - Facade - Image

Section – V.I.P. box



V.I.P. box

Facade

Image

Water

Construction

Location

Routing

Experience

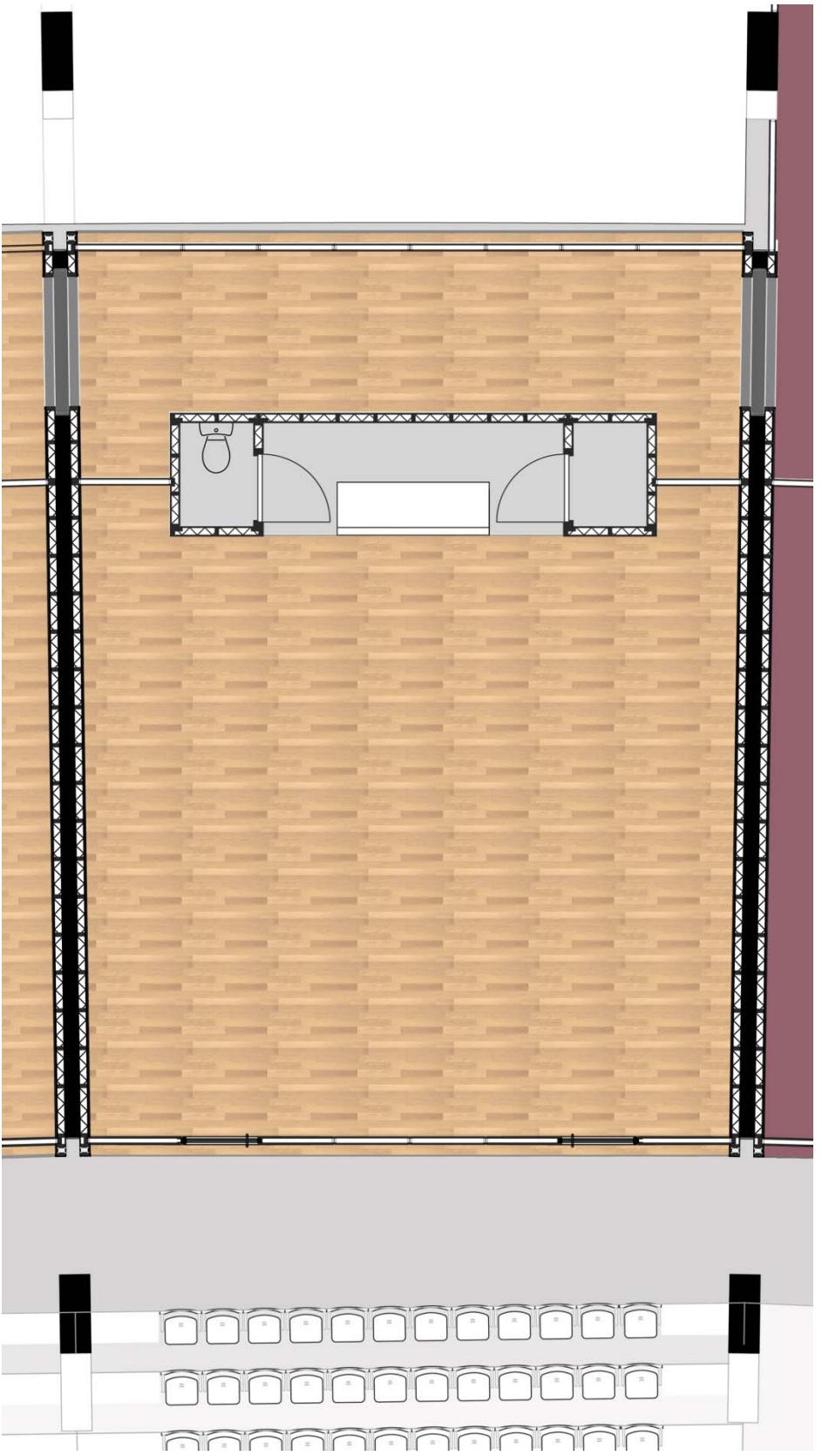
Concept

Principles

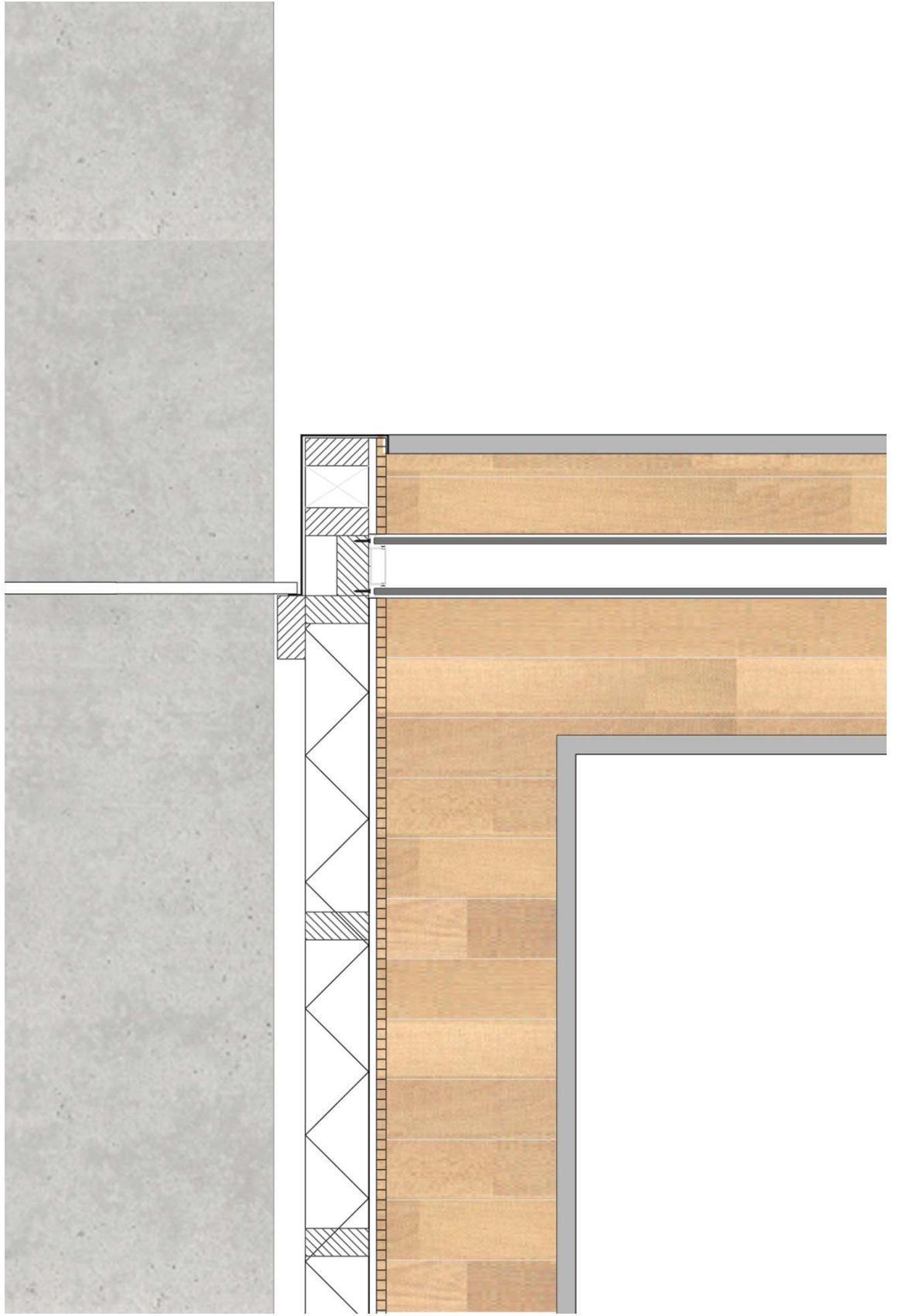
Research

Introduction

Floorplan – V.I.P. box

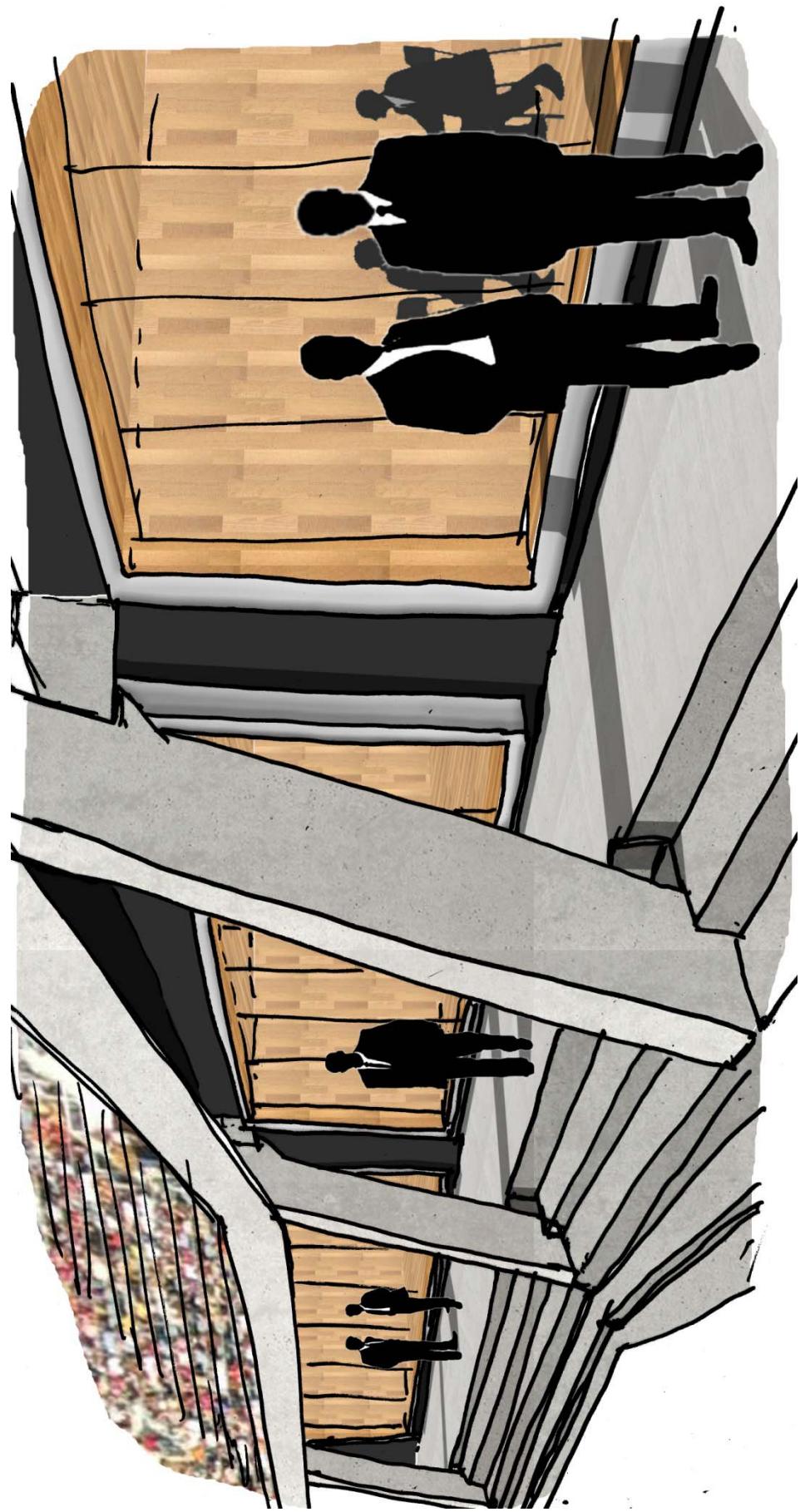


Detail – V.I.P. box



Introduction - Research - Principles - Concept - Experience - Routing - Location - Construction - Water - Image - Facade - V.I.P. box

Routing – V.I.P. box

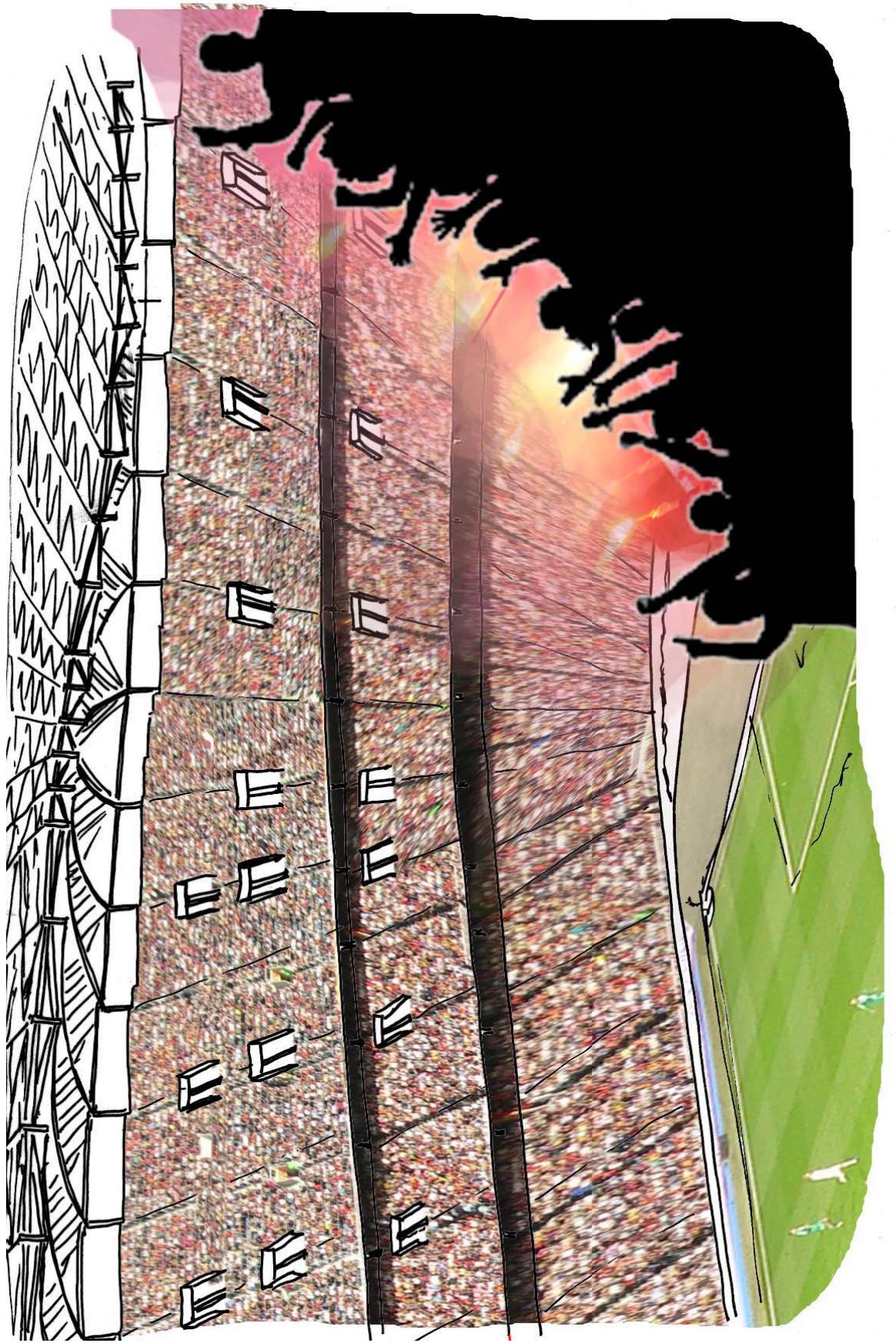


V.I.P. box

Introduction - Research - Principles - Experience - Concept - Routing - Location - Construction - Water - Facade - Image



Experience - inside



Experience

Introduction - Research - Principles - Concept - Experience - Routing - Location - Construction - VIP.box - Water - Facade - Image

Routing – Inside stadium

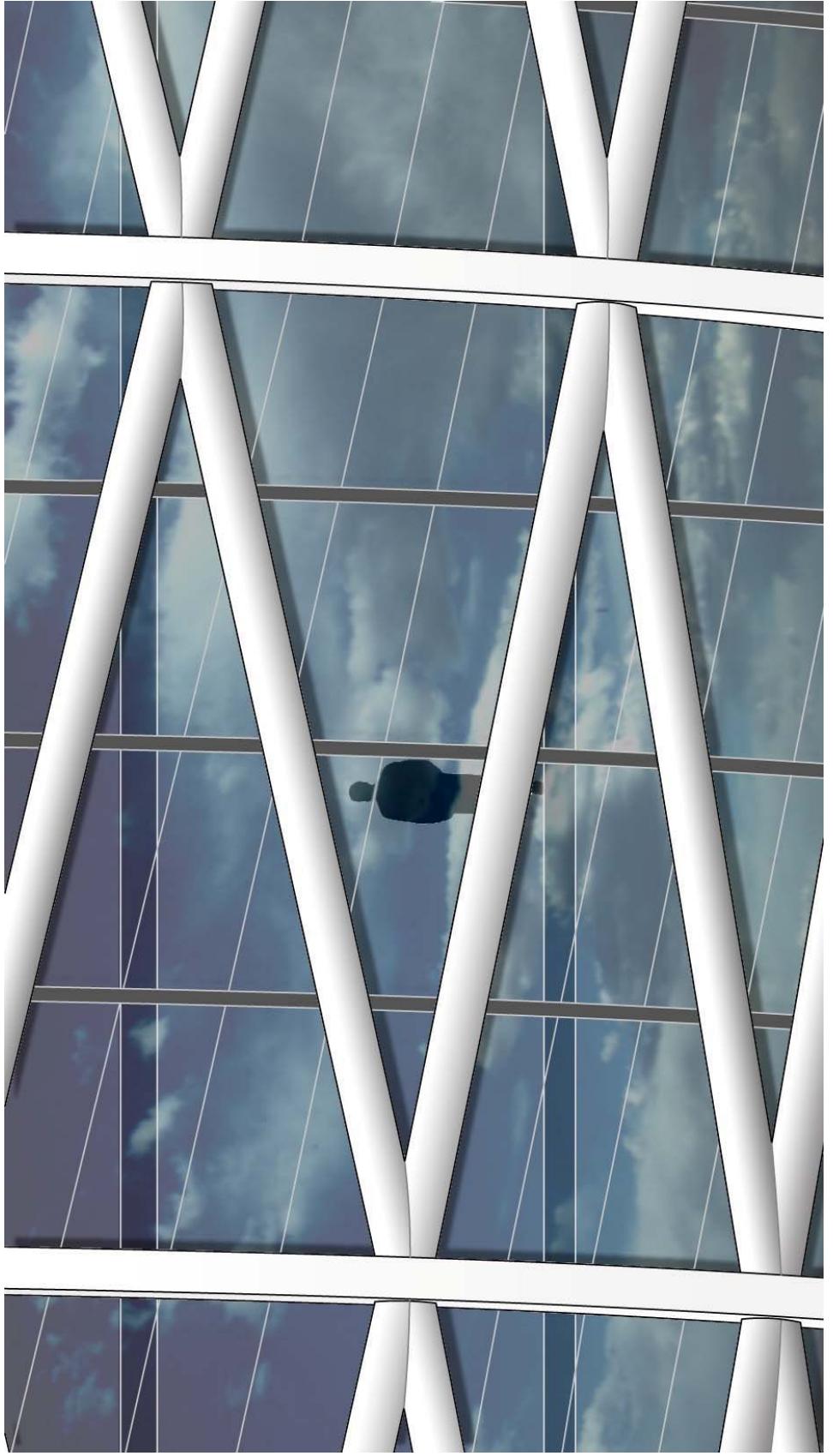


Routing

Introduction – Research – Principles – Experience – Concept – Construction – Water – V.I.P.box – Facade – Image

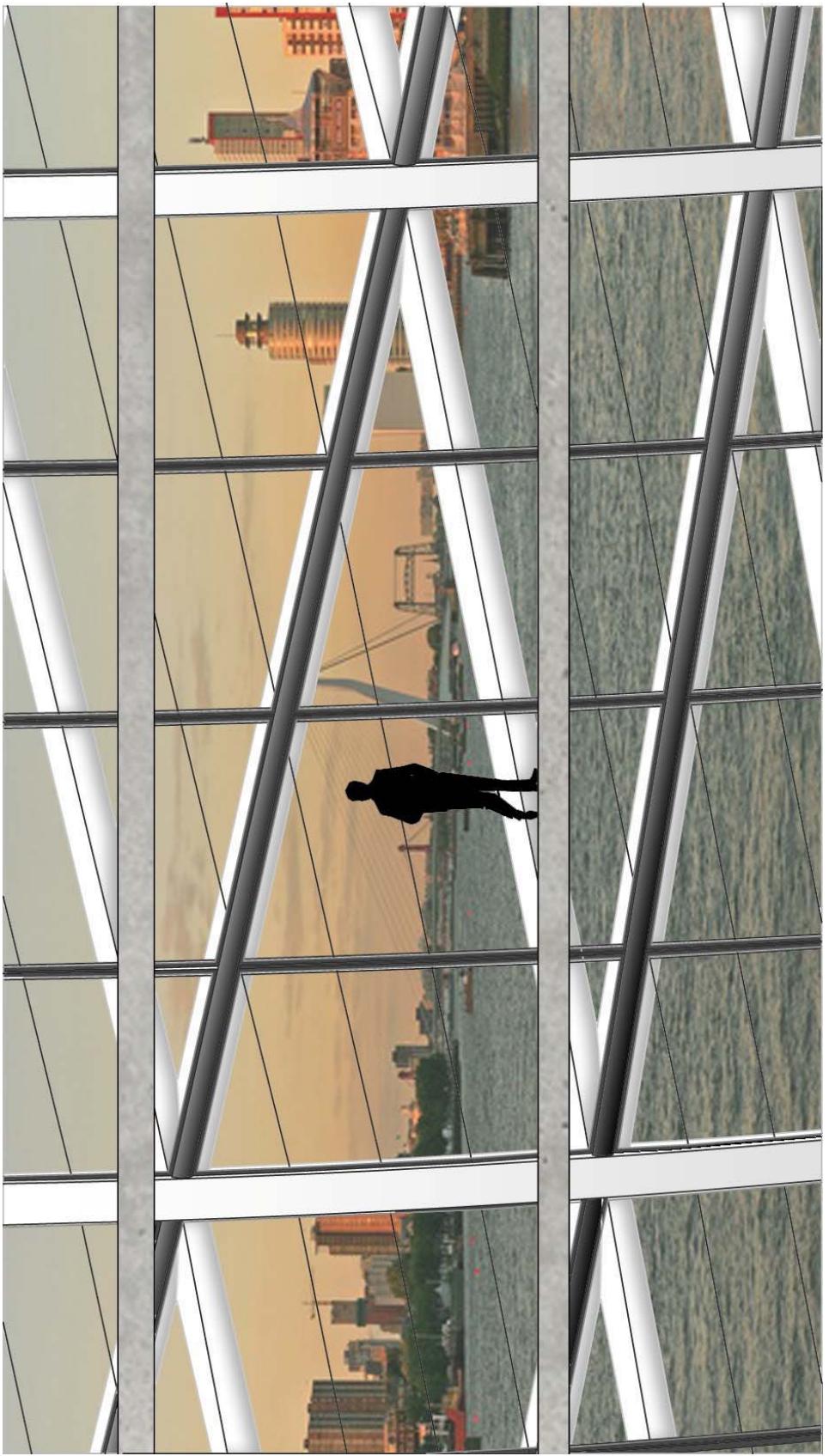


View – Outside facade

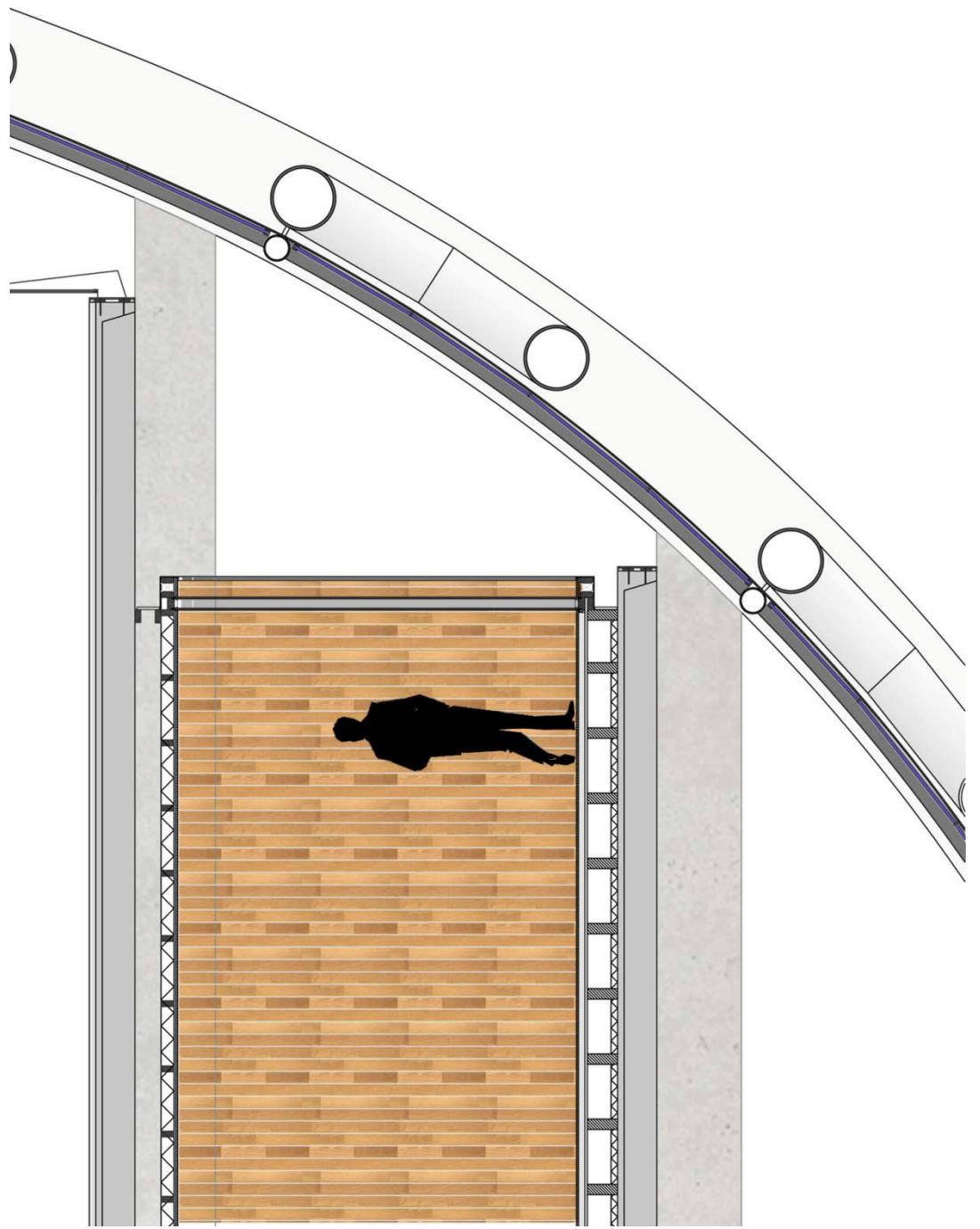


Introduction - Research - Principles - Concept - Experience - Routing - Location - Construction - Water - V.I.P.box - Image - Facade

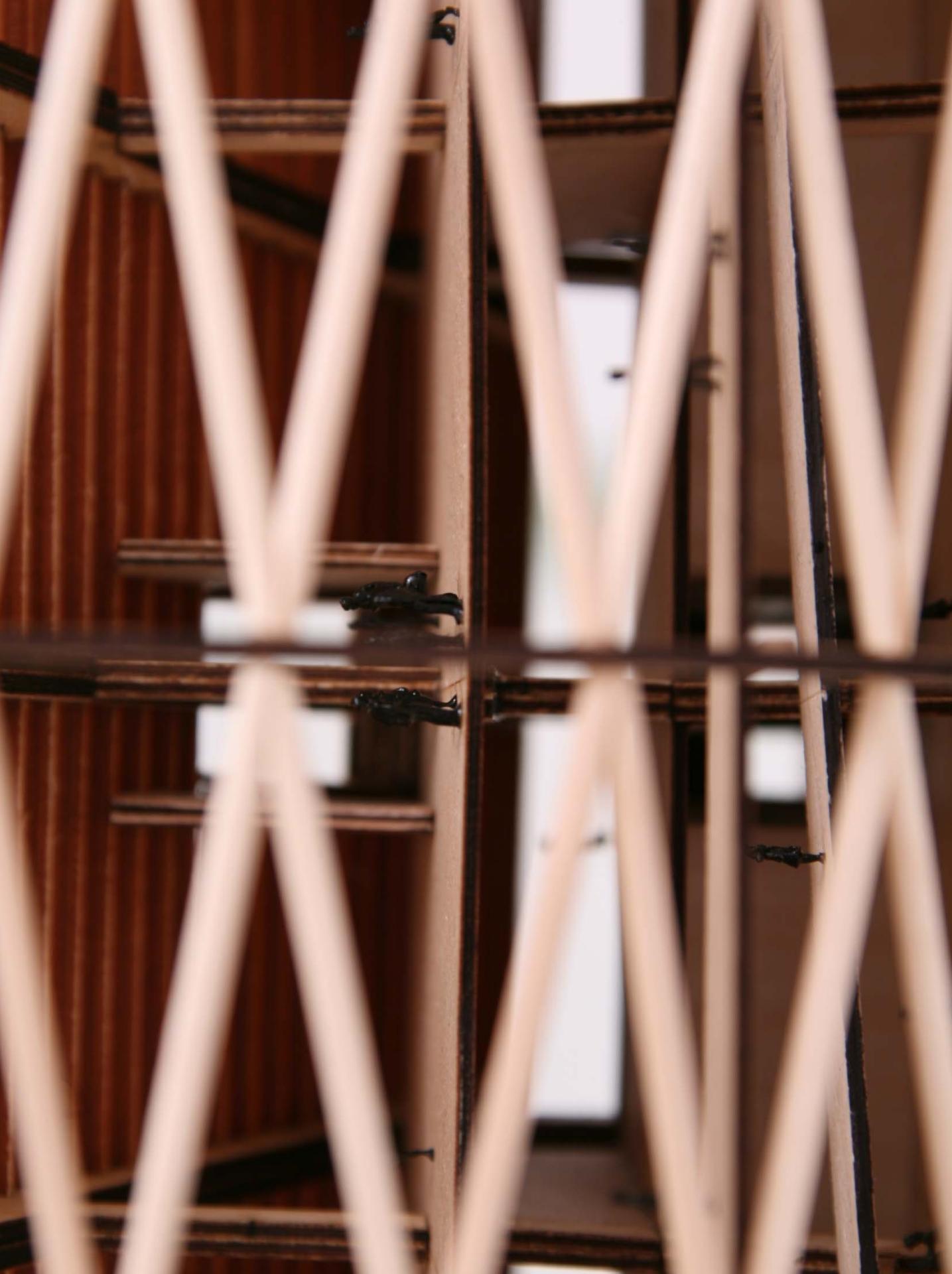
View – Inside facade



Detail – Facade

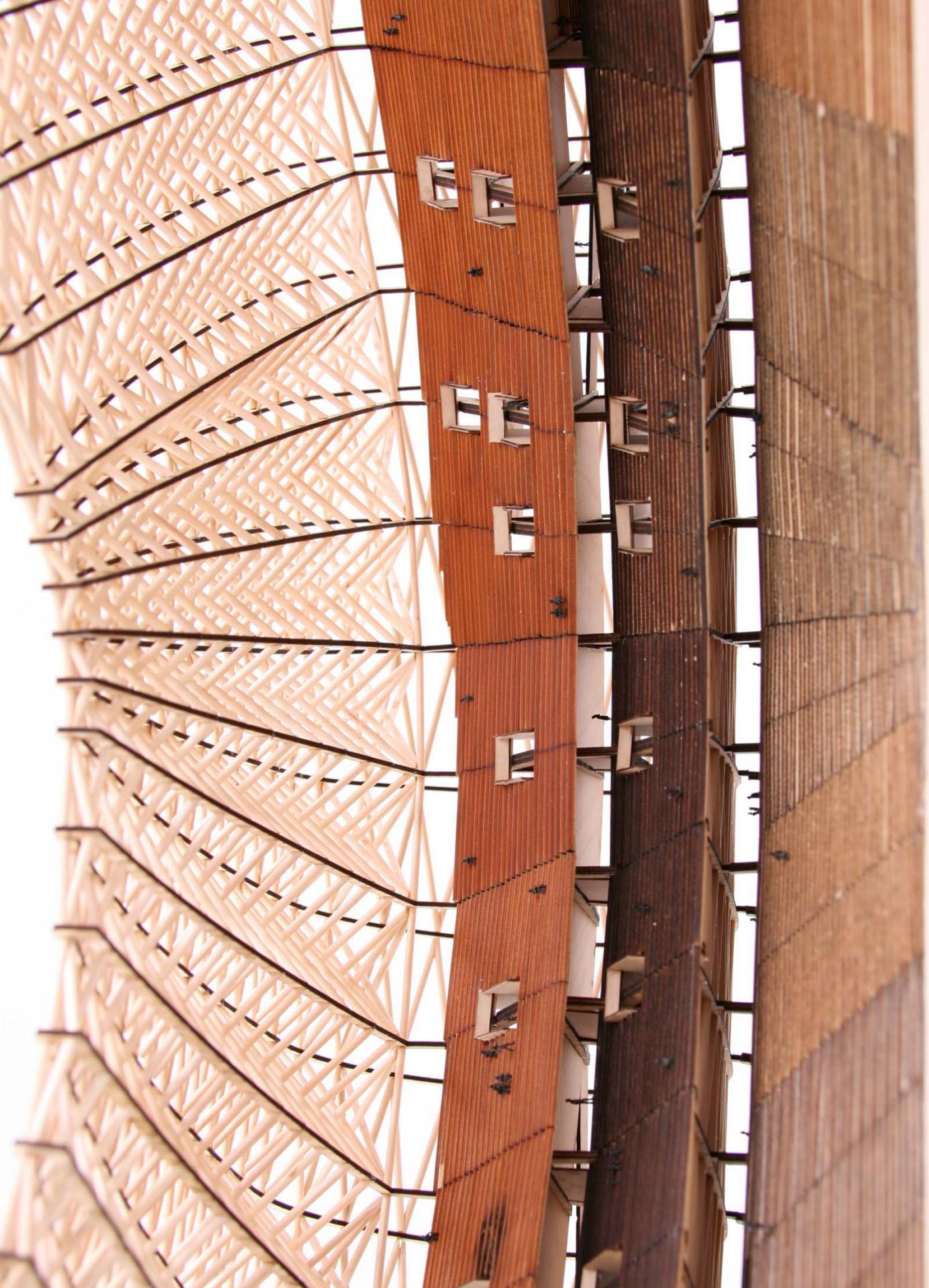


Introduction – Research – Principles – Experience – Concept – Location – Routing – Construction – Water – V.I.P.box – Image – Facade

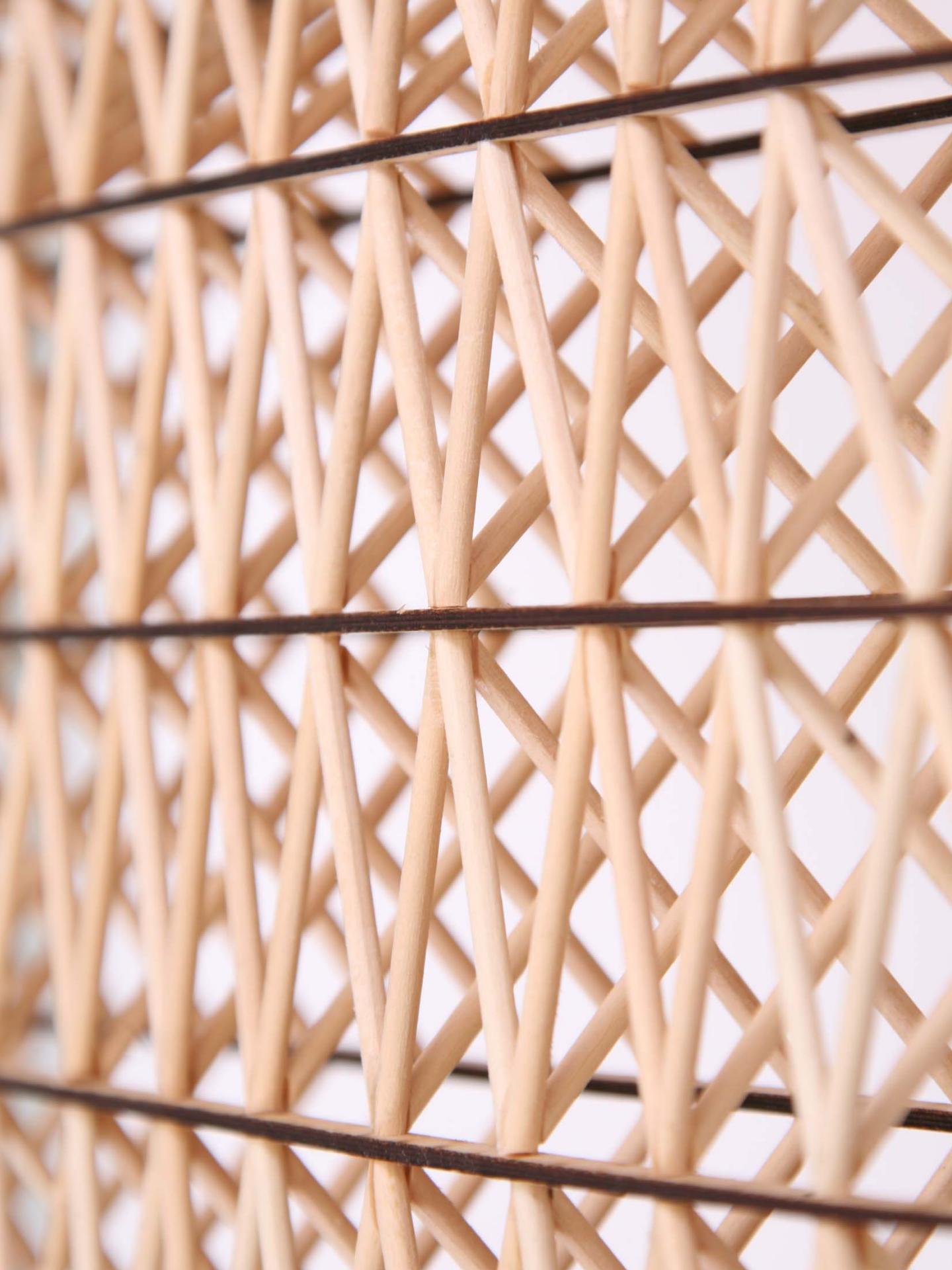


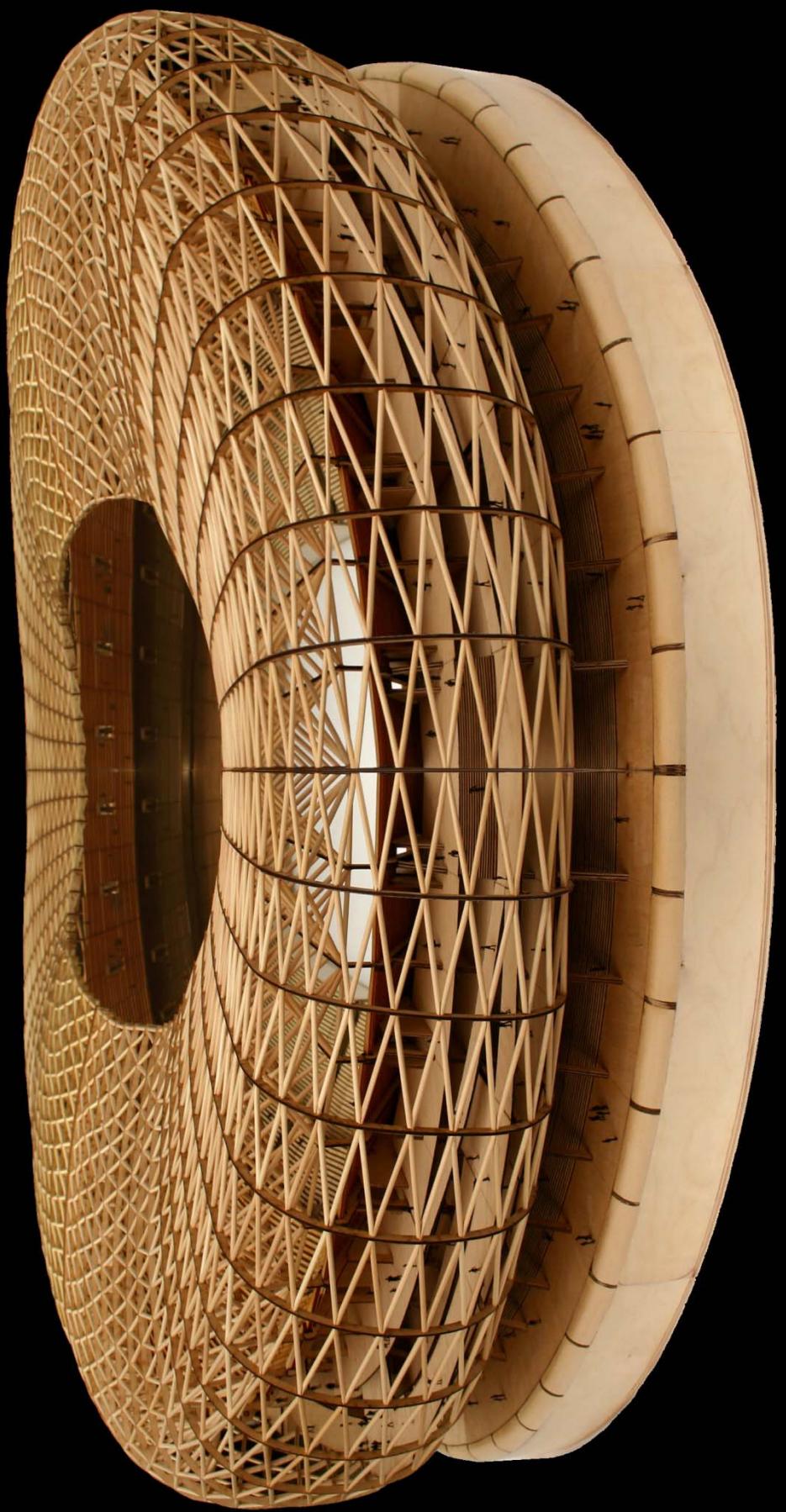




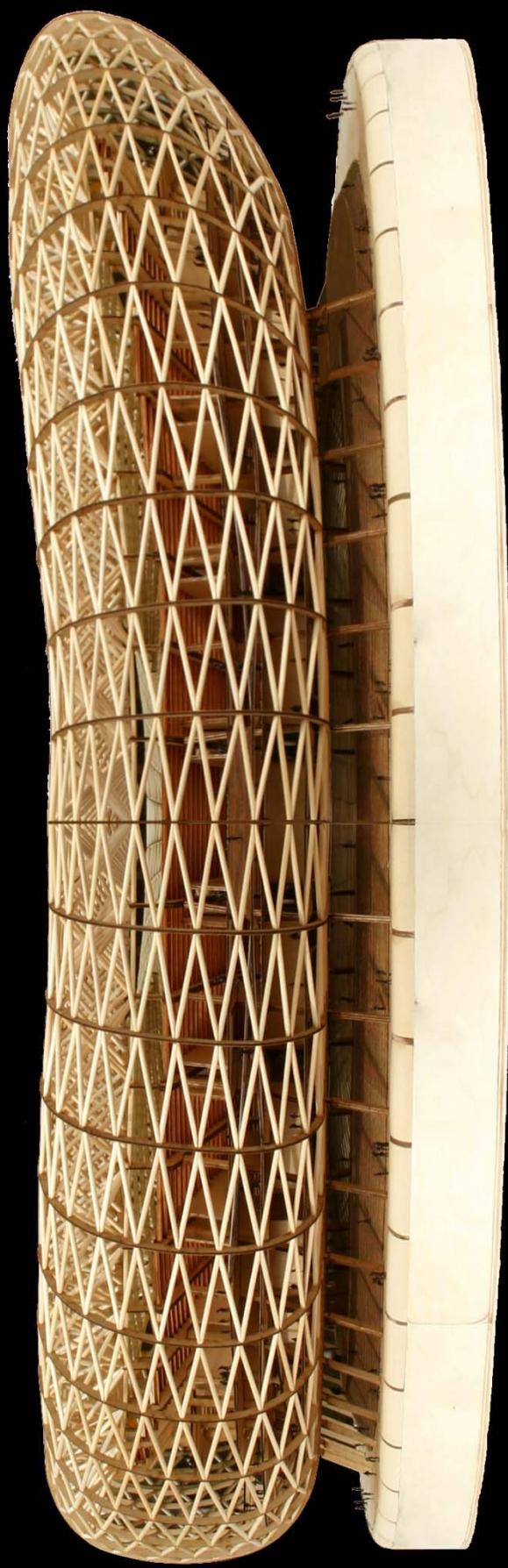




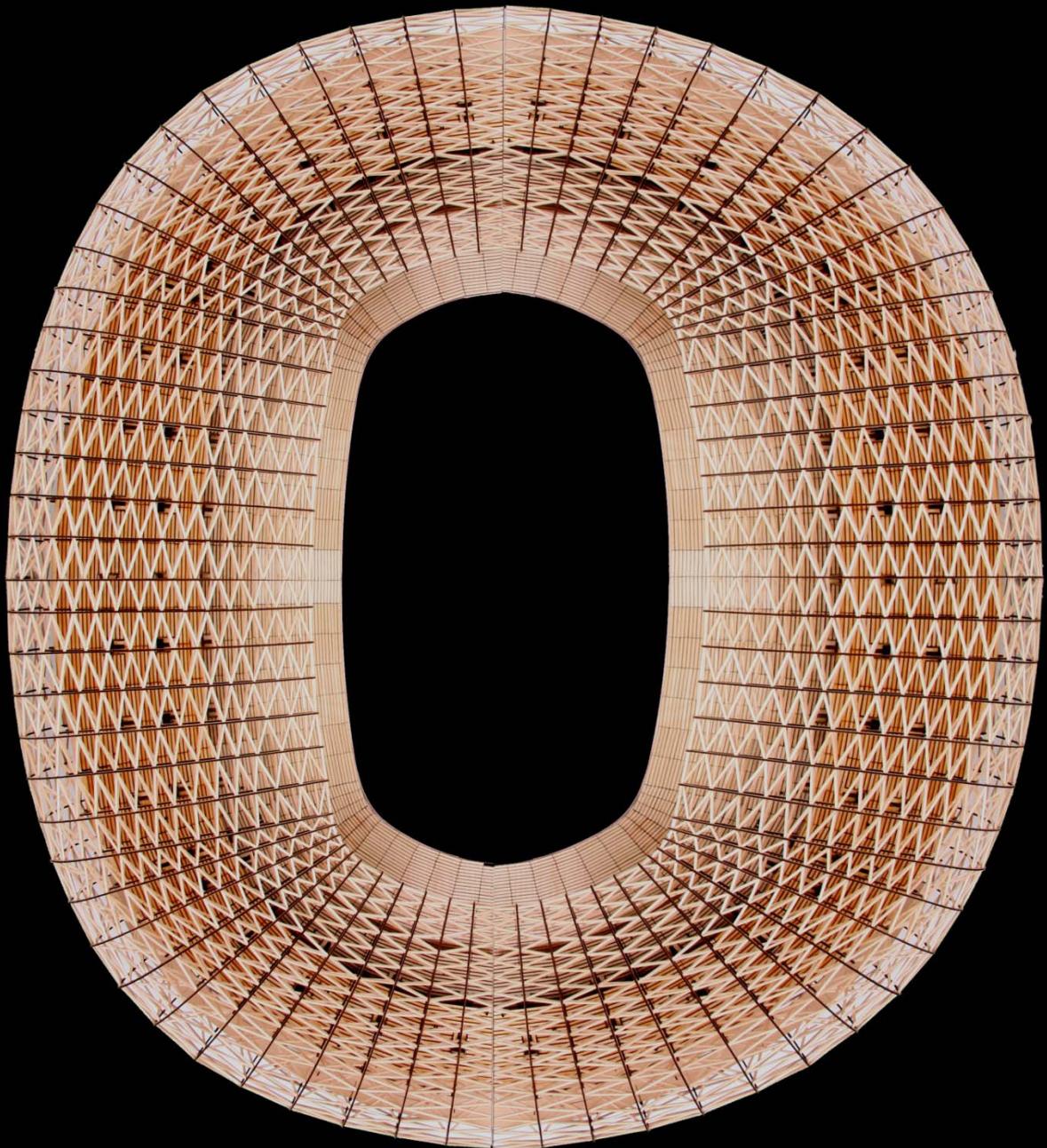




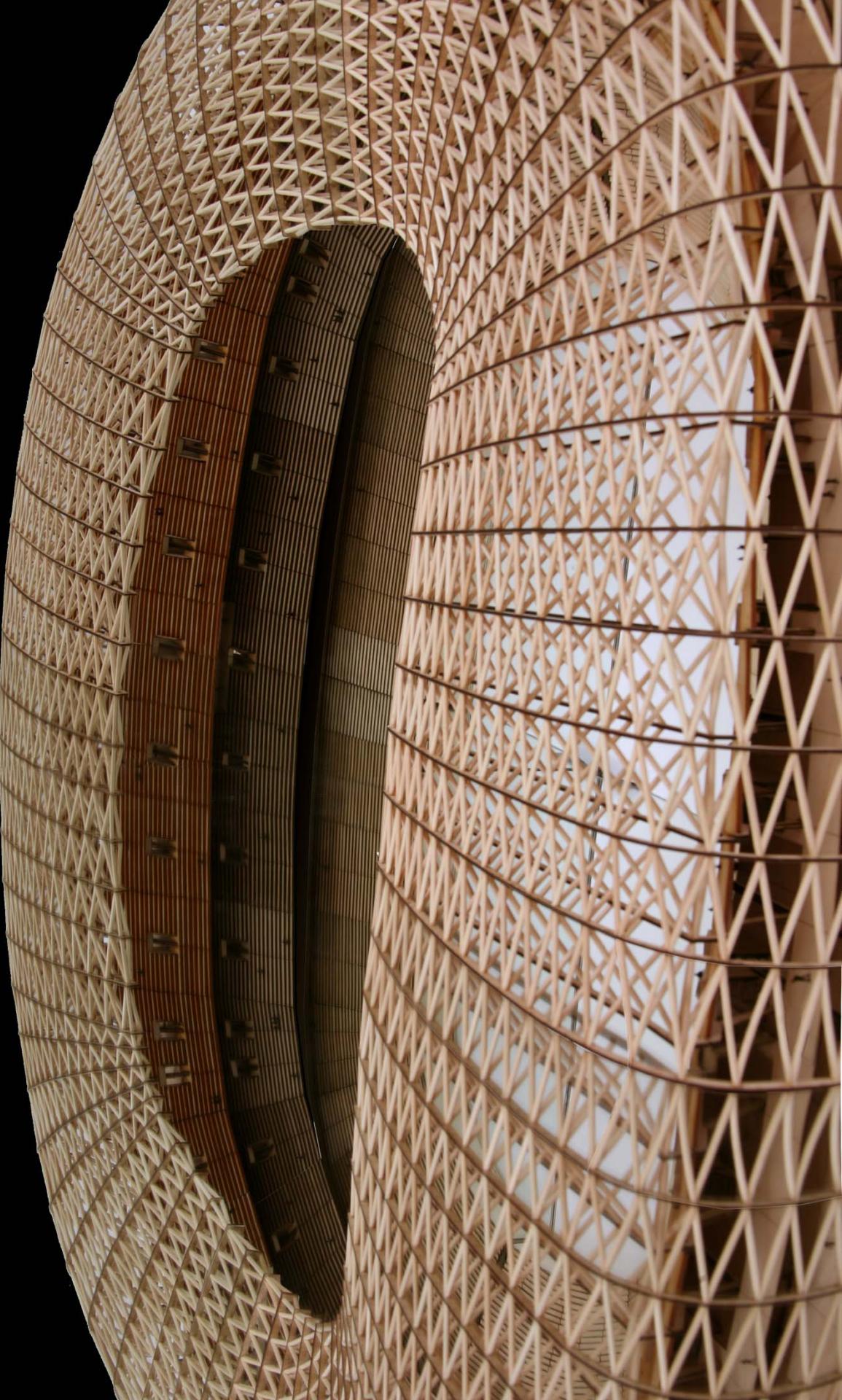












Special thanks to:
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Questions?