

THE ARCHITECTURAL INTERMEZZO

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How the liminal place changes the architectural approach of a public building and provides a rite of passage.

Name: Sander Cornelis van Rijn
Student number: 4430999

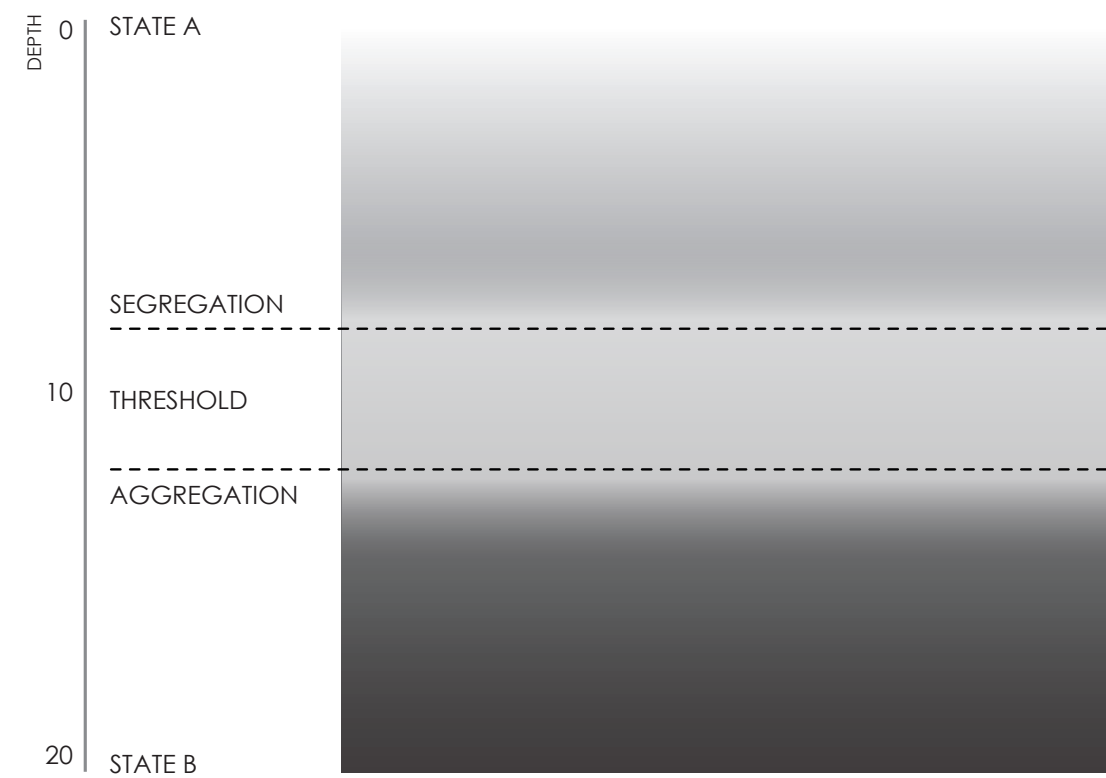
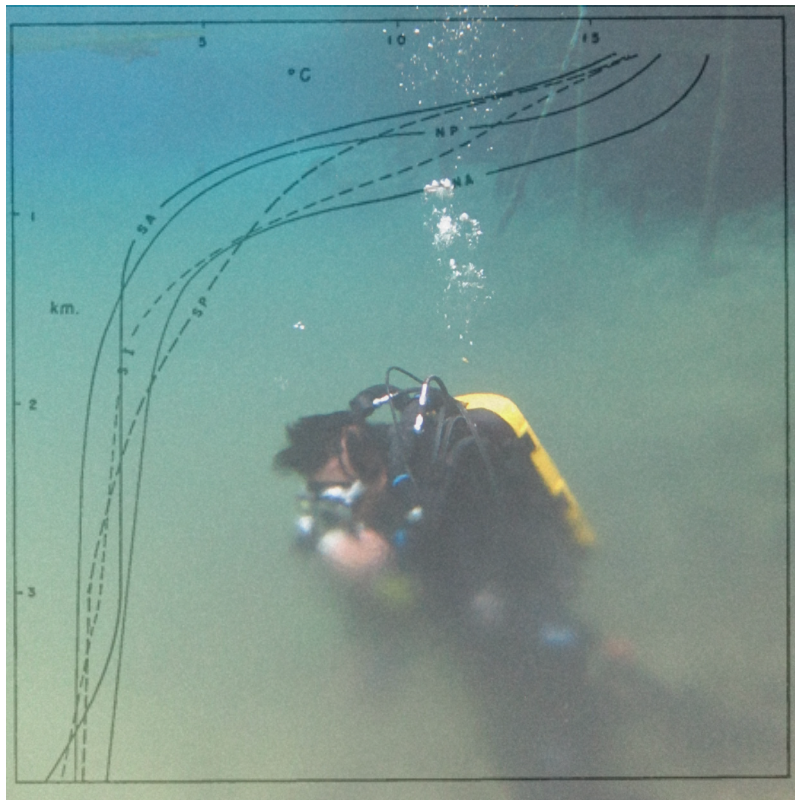
Tutors: Oscar Rommens
Nishat Awan
Mauro Parravicini

Examiner: Arjan van Timmeren



1. Theoretical background
2. Location
3. Building
4. Routing
5. Intervention strategies
6. Water technique
7. Details of the elevated pool
8. Salt water filter
9. Ventilation strategy
10. Algae production and filtration system
11. Conclusion

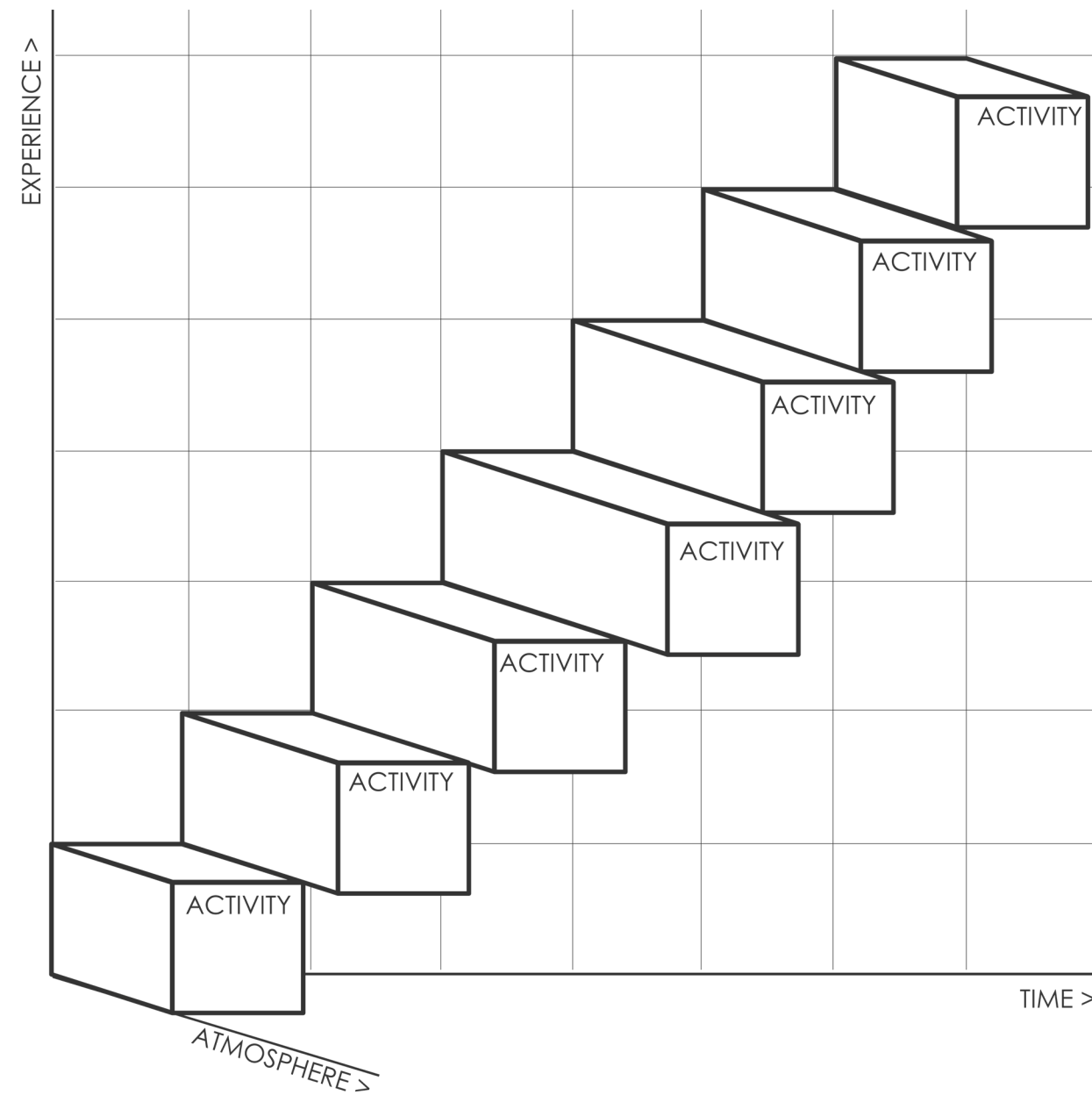
Background - Inspiration



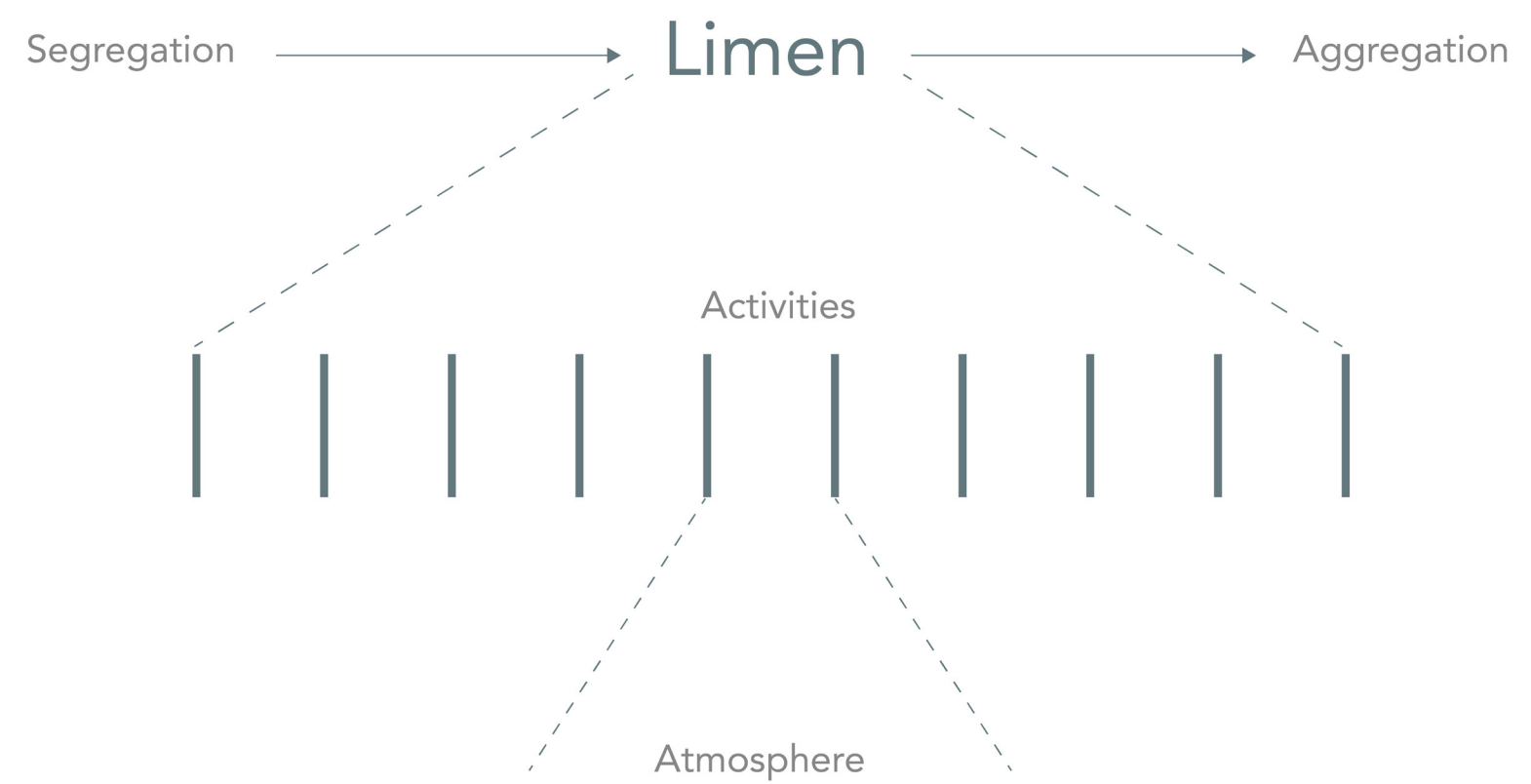
Background - The Liminal Place

"A place that is in a transitional phase where it has passed the point of no return and has segregated from its previous state but is not yet aggregated to the next state. This place does still have elements from its former status and begins to show signs of its future status, but in its place becomes something particular with its own characteristics."

Background - The Liminal Transition



Liminal place



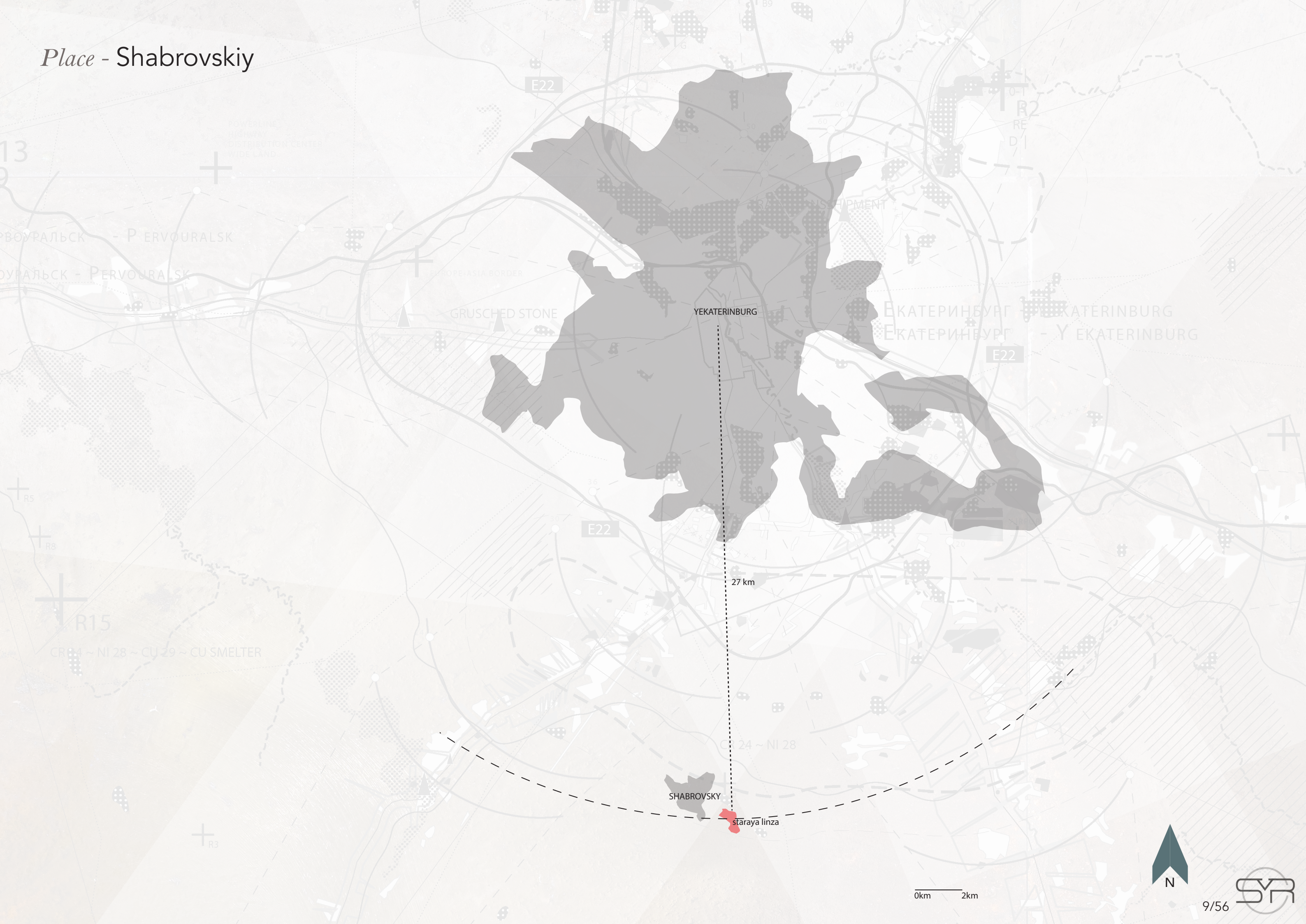
Place - Yekaterinburg



Place - Shabrovskiy



Place - Shabrovskiy



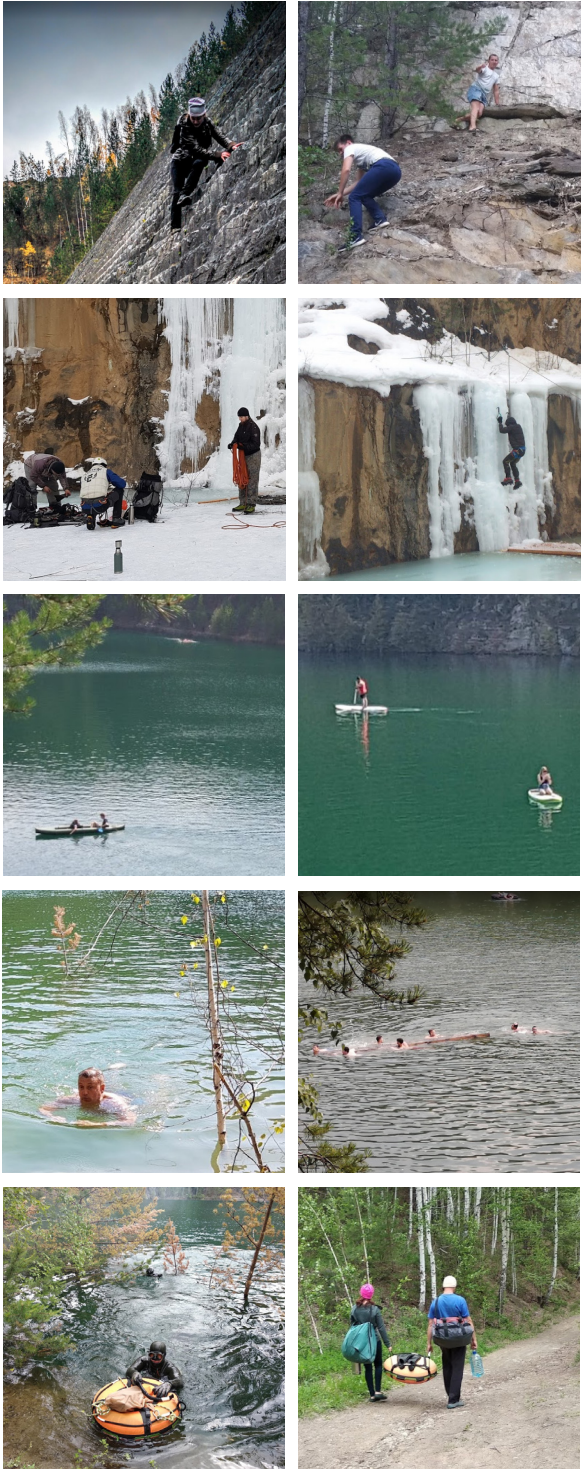
Place - Shabrovskiy Tal'kovy Kombinat, 1:5000



1:5000
10/56



Place - Existing building



Place - Shabrovskiy Tal'kovvy Kombinat, 1:5000

Segregation

Limen (Liminal Place)

Aggregation

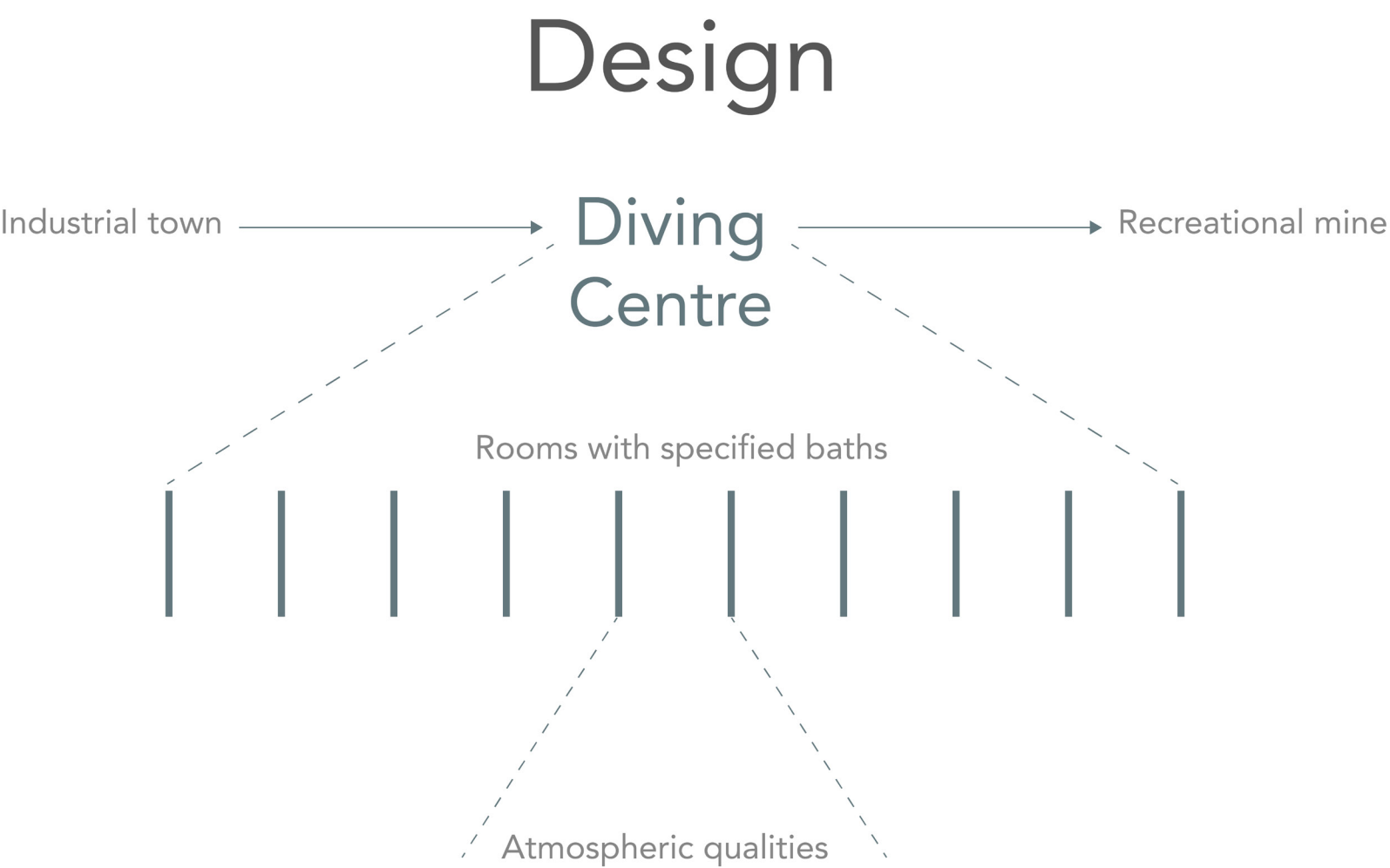


1:5000
12/56



Place - Existing building/Current situation





Background - Types of Diving Specialties

Naam _____ Datum _____

Open Water Diver Course

Kennisboets – Hoofdstuk 1

Antwoordbladen

Beantwoord de volgende vragen en breng deze kennisboets ingevuld mee naar je volgende les.

1. Waar of niet waar. Een voorwerp heeft een neutraal drijfvermogen als het een hoeveelheid water verplaatst die minder weegt dan het eigen gewicht.

Niet waar

2. Leg uit waarom uittrimmen, zowel aan de oppervlakte als onder water, een van de belangrijkste vaardigheden van een duiker is.

Aan de oppervlakte: *Om energie te sparen tijdens het rusten en het zwemmen.*

Onder water: *Om contact met de bodem te vermijden en zo het fragiele onderwaterleven te sparen.*

3. Vul de lege plaatsen in de zin in met de woorden: zoet water of zout water.

Hetzelfde voorwerp zal meer drijfvermogen hebben in *zout water* dan in *zoet water*.

4. Waar of niet waar. Aangezien de dichtheid van water groter is dan die van lucht, zijn de drukverschillen bij een opstijging of afdaling in water aanzienlijk groter dan in lucht.

Waar

5. Maak het volgende schema af voor een afgesloten flexibel vat dat aan de oppervlakte geheel met lucht gevuld is.

Diepte	Druk	Volume	Dichtheid
0 m/0 voet	1 bar/ata	1	x 1
10 m/33 voet	<i>2 bar/ata</i>	1/2	<i>x 2</i>
30 m/99 voet	<i>4 bar/ata</i>	1/4	<i>x 4</i>
40 m/132 voet	5 bar/ata	<i>1/5</i>	x 5

6. Omcirkel de letter van de zin die het beste een „squeeze” omschrijft.

☐ a. Een toestand die een onaangenaam gevoel of pijn veroorzaakt als de druk buiten een luchthoudende holte lager is dan de druk binnen die luchthoudende holte.

☒ b. Een toestand die een onaangenaam gevoel of pijn veroorzaakt als de druk binnen een luchthoudende holte lager is dan de druk buiten die luchthoudende holte.

Night Diver

Specialty Course

Instructor Outline

DUTCH VERSION



Product No. 70226DU (Rev. 12/10) Version 1.05

Deep Diver

Instructor Guide



Deep Diver

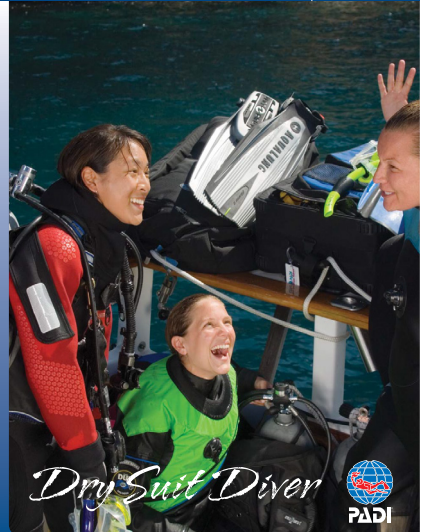
PADI

Specialty Course Instructor Guide

Product No. 70214DU (Rev. 13/16) Version 3.05

Dry Suit Diver

Instructor Guide



Dry Suit Diver

PADI

Specialty Course Instructor Guide

Product No. 70230DU (Rev. 3/07) Version 3.01

Wreck Diver

Specialty Course

Instructor Outline

DUTCH VERSION



Product No. 70232DU (Rev. 12/10) Version 1.06

Ice Diver

Specialty Course

Instructor Outline

DUTCH VERSION



Product No. 70233DU (Rev. 12/10) Version 1.05

Drift Diver

Specialty Course

Instructor Outline

DUTCH VERSION



Product No. 70231DU (Rev. 12/10) Version 1.05

Underwater Navigator

Specialty Course

Instructor Outline

DUTCH VERSION



Product No. 70222DU (Rev. 05/05) Version 1.05

Background - 'Atmospheres' by Peter Zumthor (2006) to 'Atmospheres' of the Design

Magic of the Real

The General Atmosphere

The Body of Architecture

The Body and structure

Material Compatibility

Compatibility to water

The Sound of a Space

Sounds in a Space

The Temperature of a Space

Temperature varieties

Surrounding Objects

Surrounding objects

Between Composure and Seduction

Movement through the Space

Tension between Interior and Exterior

Interior and Exterior Tension

Levels of Intimacy

Levels of Communitas

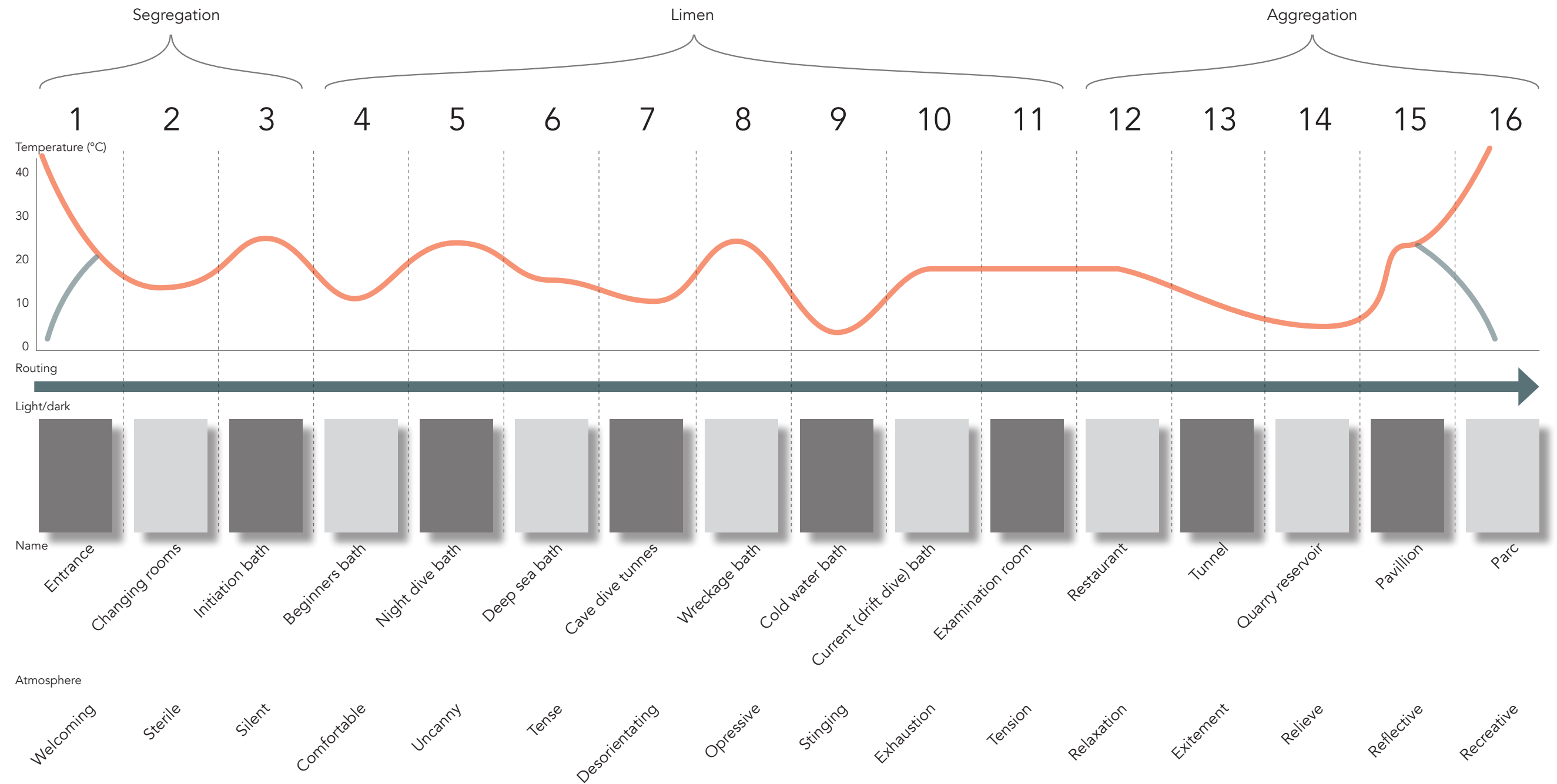
The Light on Things

Lighting of a Space

Background - Atmospheres in Design

Room	General atmosphere	Body	Compatibility (to water)	Sound	Temperature Varieties	Surrounding objects	Movement	Interior/exterior tension	Intimacy /Communitas	Light
Entrance	Welcoming	Strong structure	/	Full of voices, echoing	Warm in winter Cold in summer	Tidy, well shown information	Multi-directional, guided by signs	Chaotic surroundings to strengthen the order	Gathering spaces for groups	Natural light or warm tones
Changing rooms	Sterile	Worked away structure, rounded edges	/	Echoing, hollow	Slowly dropping just below body temperature	Minimalistic and regularly cleaned	One-directional, guided by perspective	Complete seclusion	No intimacy, individualistic	Artificial bright lights
Initiation bath	Silent	Heavy structure	Soft materials	Completely silent	Water much warmer than surrounding	Empty	One-directional, guided by light	Complete seclusion	Individual going into the water, first communitas	Dark surrounding with only the water illuminating
Beginners bath	Comfortable	Light structure	Naked structures, visible concrete	Full of voices, echoing	Warm water	Facilities for safety well visible: first aid, lifelines, etc.	Multi-directional, guided by activity	Inside/outside relation tangible	Together with buddy and instructor	Natural light with clear water for activities
Night dive bath	Uncanny	Mix of structures	Old elements submerged in water	Silent with metal sounds	Cold water	Machines from old factory + existing structures	Multi-directional, guided by compass	Complete seclusion	Together with buddy and instructor	Total darkness
Deep sea bath	Tense	Overhanging slabs	Overhanging slabs	Echoing	Body temperature	Existing structures	One-directional, guided by light	Windows giving overview	Together with small group	Natural light + light coming from above the tube
Cave dive tunnels	Desorientating	Mix of structures	Natural stones	Silent	Below body temperature	Natural materials	One-directional, guided by light	Complete seclusion	Together with small group	Dark with some faint light coming from the distance
Wreckage bath	Opressive	Heavy structures	Corroding in the water	Clicking sounds	Body temperature	Wreck	Multi-directional, guided by shapes	Exterior shapes interior	Together with group	Pool being light, wreckage being dark
Cold water bath	Stinging	Open structures	White colors	Silent	Freezing temperature	Sharp edges	Multi-directional, guided by activity	Inside/outside relation tangible	Together with group	Artificial bright lights
Current (drift dive) bath	Exhaustion	Heavy structures	Natural stones	Heavy structures	Slowly rising until quarry temperature	Empty	One-directional, guided by light	Complete seclusion	Together with group	Dark with some faint light coming from the distance
Examination room	Tension	Worked away structure	/	Sounds absorbed	Just below body temperature	Minimalistic,	One-directional, guided by signs	Complete seclusion	Individual and group exam	Light room, natural lighted
Restaurant	Relaxation	Wooden beams visible	/	Full of voices, echoing	Warm room	Big round tables, natural materials, plants	Multi-directional, guided by signs	Inside/outside relation tangible	Reflection on personal examination with group	Natural light or warm tones
Trench	Exitement	Natural structures	/	Silent	Cold in winter Warm in summer	Natural materials	One-directional, guided by perspective	Complete seclusion	Together with group that had examination	Depending on daytime
Quarry reservoir	Relieve	/	/	Natural sounds	Cold in winter Warm in summer	/	Multi-directional, guided by compass	/	Group dives	Depending on daytime
Pavillion	Reflective	Naked structures	subordinate to the water	Echoing	Warm room	Small tables, strong drinks	One-directional, guided by light	Lighted from the reservoir, clear tension	Reflection with group	Lighted from the reservoir, warm lights at night
Parc	Recreative	/	/	Natural sounds	Warm in winter Cold in summer	Corroding industrial relics	Multi-directional, guided by signs	/	Group based walks	Depending on daytime

Background - Routing diagram





1._ ENTRANCE

Data:

Atmosphere:	Welcoming
Structure:	Strong Structures
Water compatibility:	N/A
Sound:	Full of Voices
Temperature:	18°C [SUMMER] 23°C [WINTER]

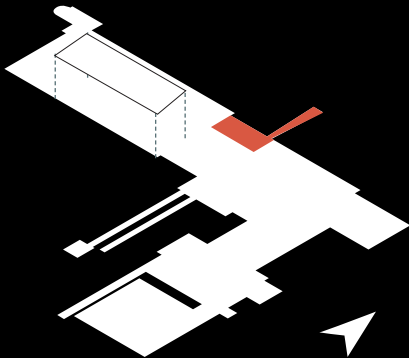
Natural ventilation:

Materials:

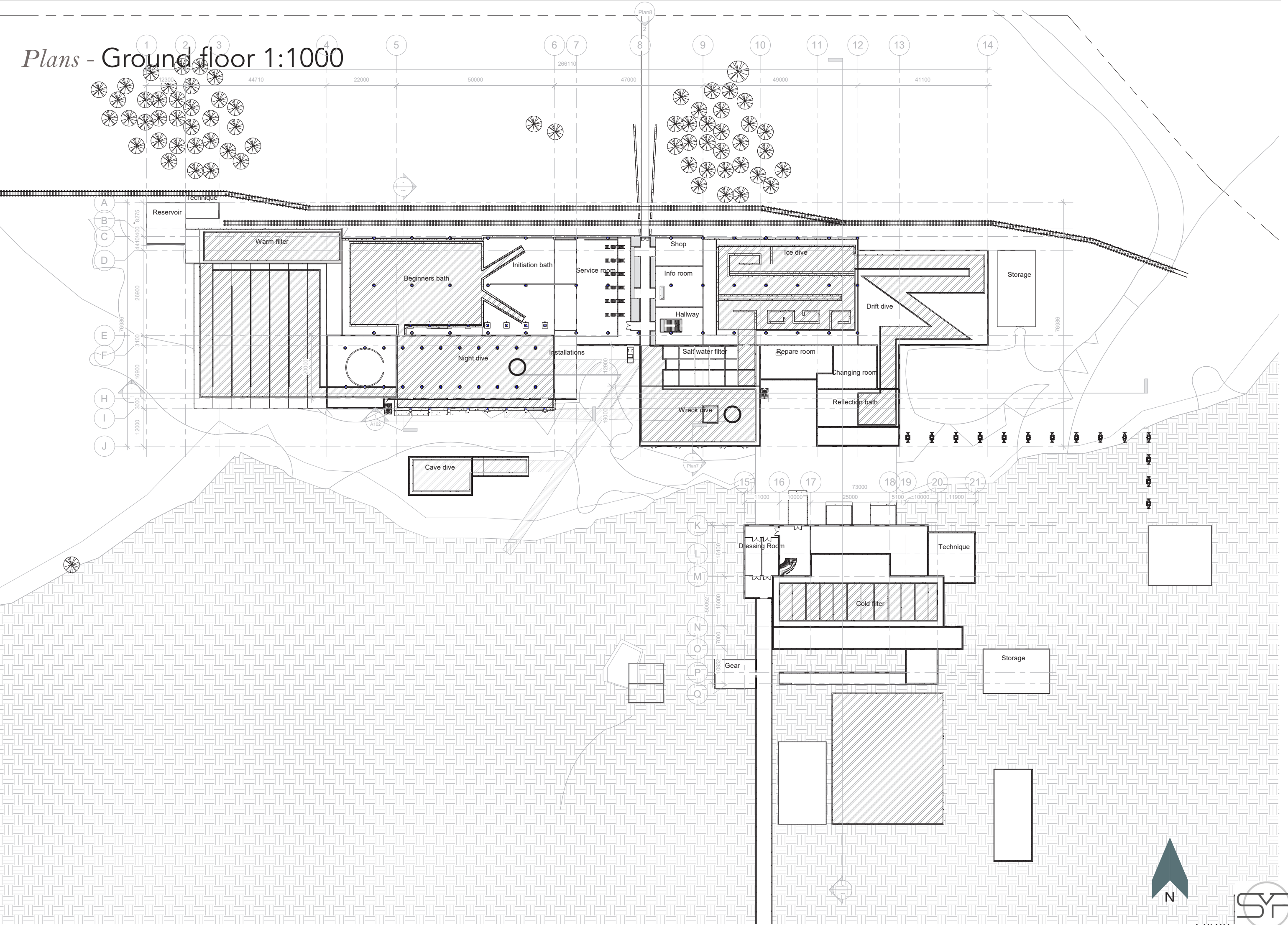


Movement:	Multi-directional
Interior/exterior tension:	From Chaos to Order
Communitas:	Gathering spaces for groups
Light:	Natural Light + Warm Tones

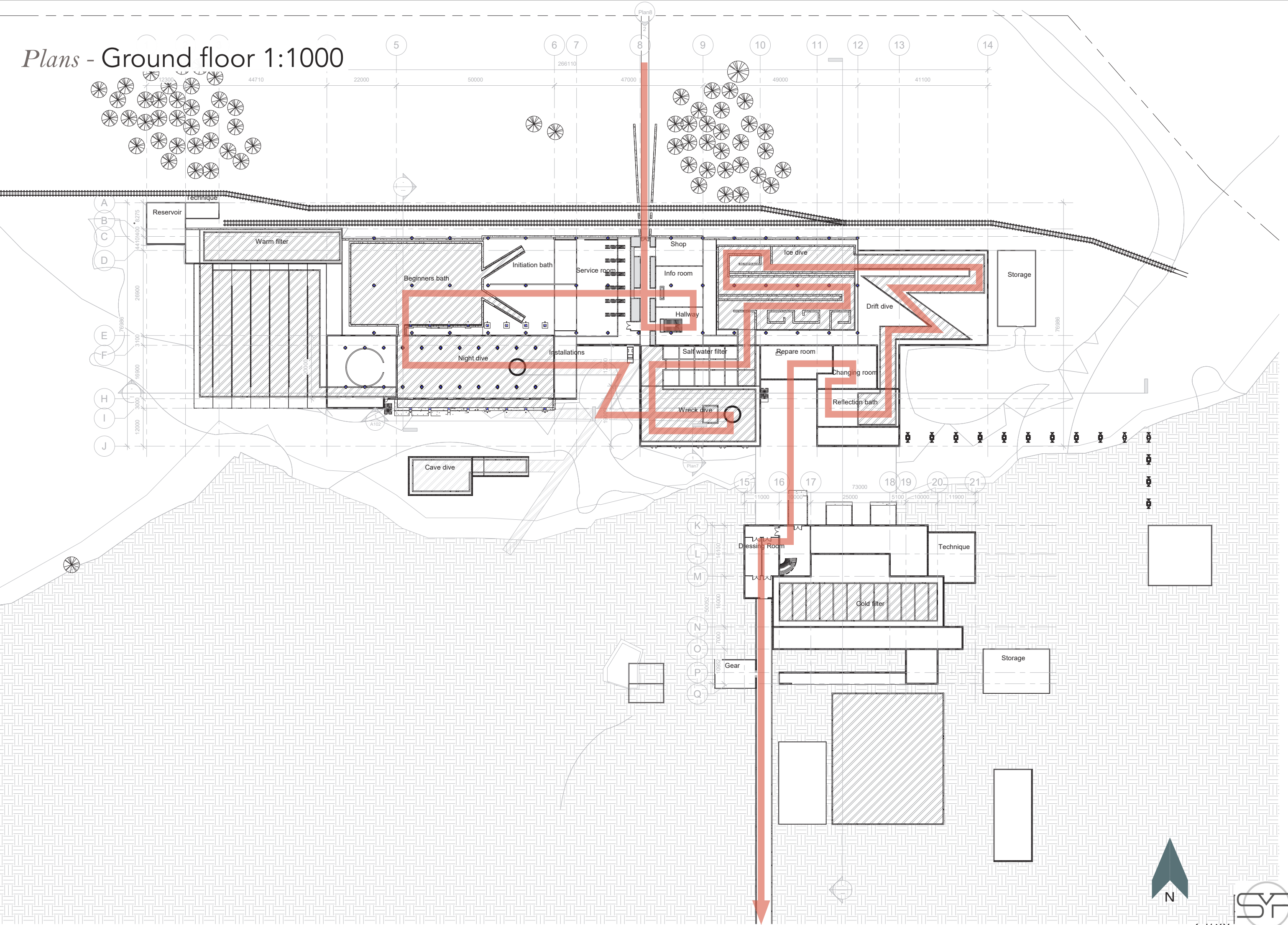
Place in building:



Plans - Ground floor 1:1000



Plans - Ground floor 1:1000



Building Technology - Intervention Strategies

The factory is in a state of decay.

By revitalizing it, there is a possibility to look to its present qualities and use this in an advantage.

3 WAYS OF REVITALIZING THE FACTORY

A] Renovating to the old state

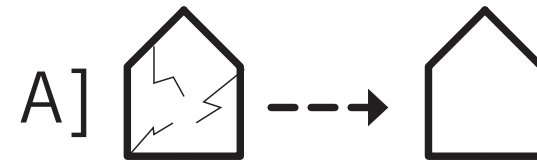
Needs: strong foundation, intact structural elements and most of the facade

Pros:

- * Old industrial look
- * Lesser new materials needed
- * Using the buildings qualities

Cons:

- * 'Stuck' with current layout
- * Lack of the old building materials
- * Climate and isolation values might lack



B] Reusing the structural parts

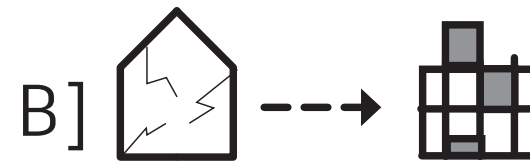
Needs: strong foundation, intact structural elements, new design

Pros:

- * Re-usage of the already available structure
- * No need for new foundation
- * New design according to program

Cons:

- * New materials needed
- * 'Stuck' to the old grid



C] Build new structures inside

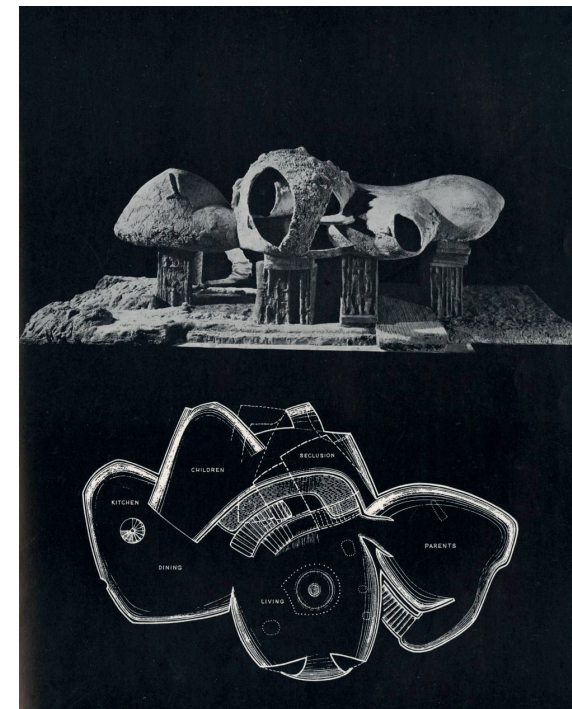
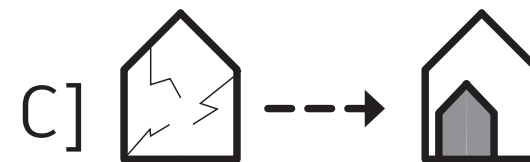
Needs: Intact building, new design

Pros:

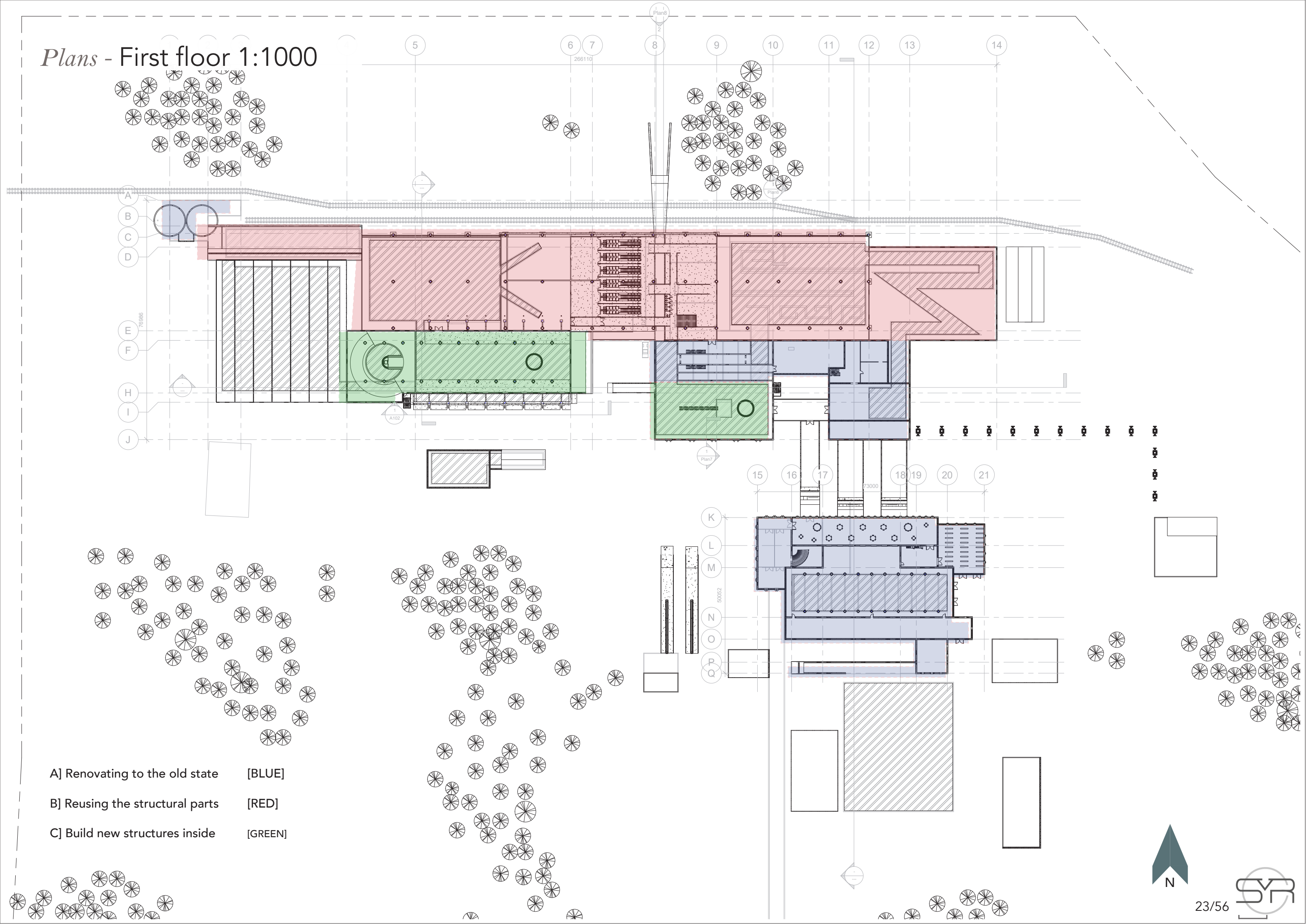
- * Re-usage of the already available building
- * 'Climate' shell > inner structure does not need that much isolation
- * New design according to program

Cons:

- * Building needs to be water tight
- * Structure of the factory might get in the way



Plans - First floor 1:1000

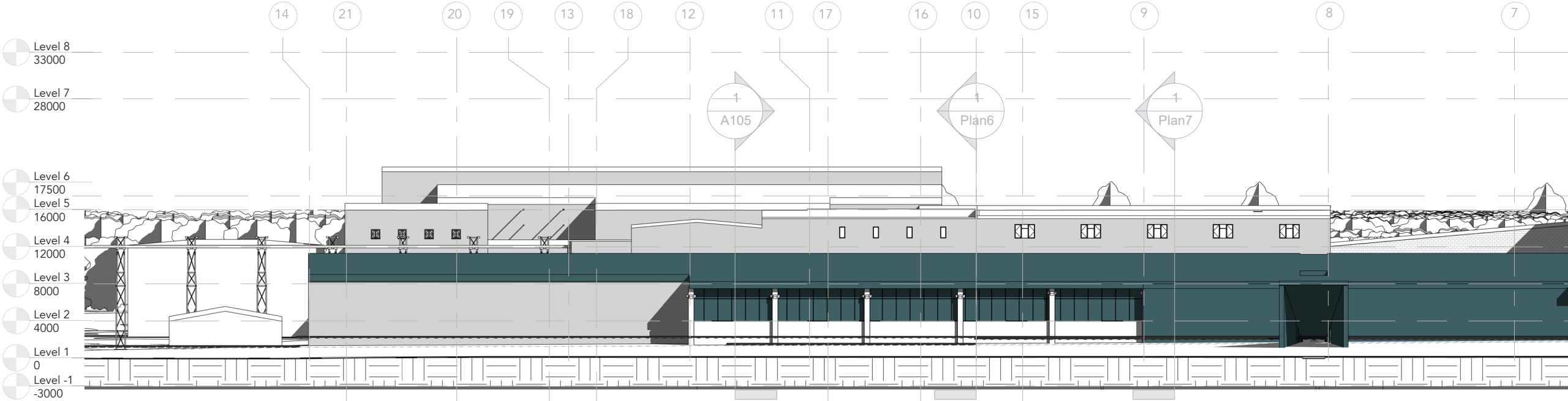


- A] Renovating to the old state [BLUE]
- B] Reusing the structural parts [RED]
- C] Build new structures inside [GREEN]

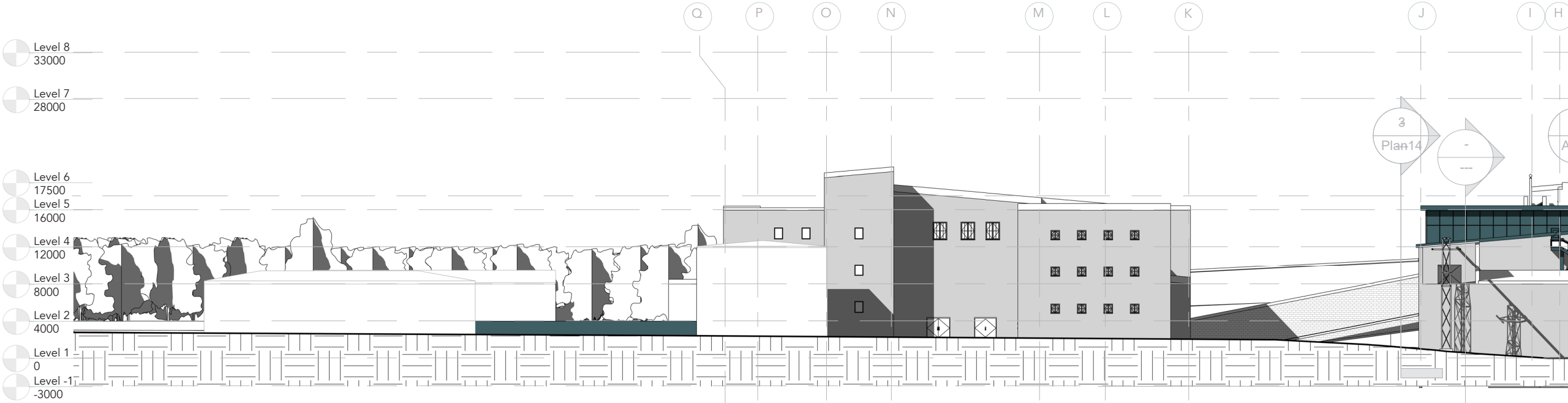


Plans - Facades 1:500

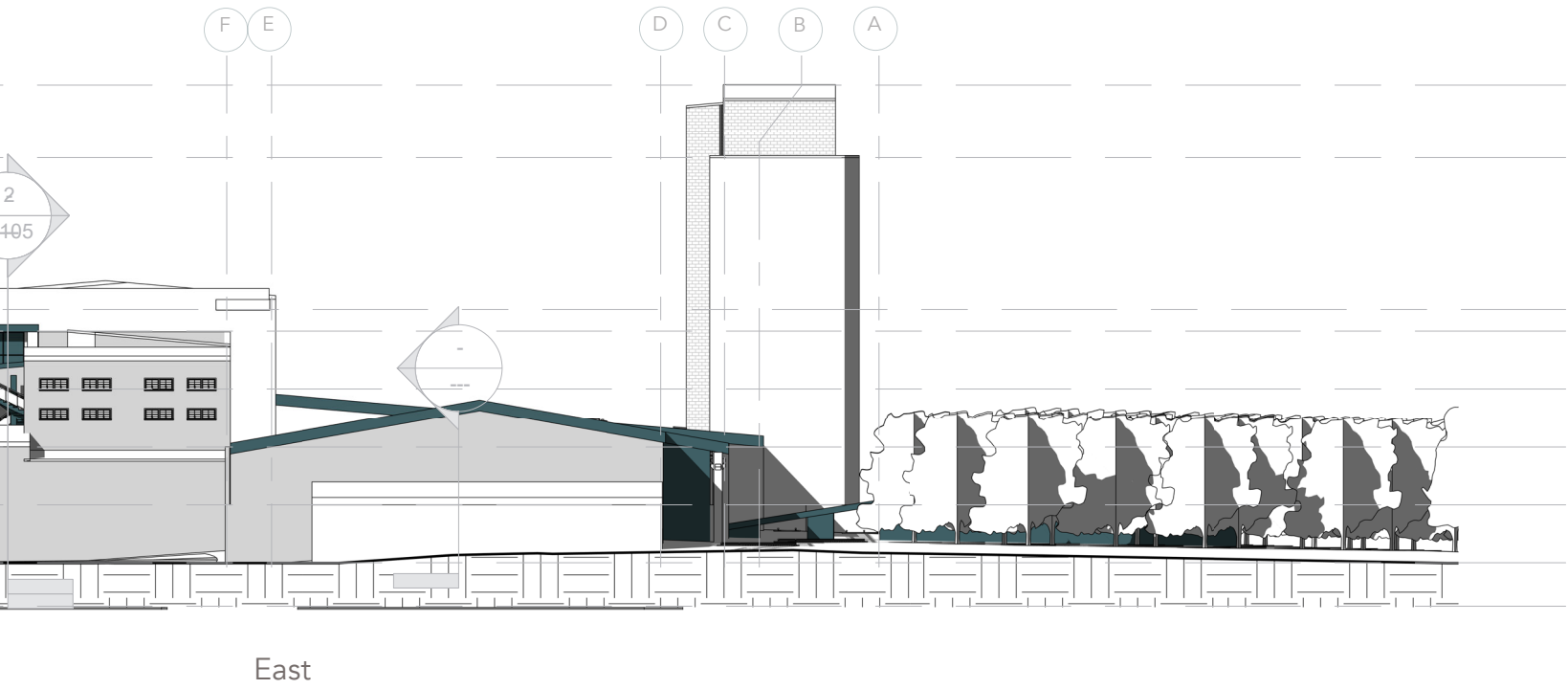
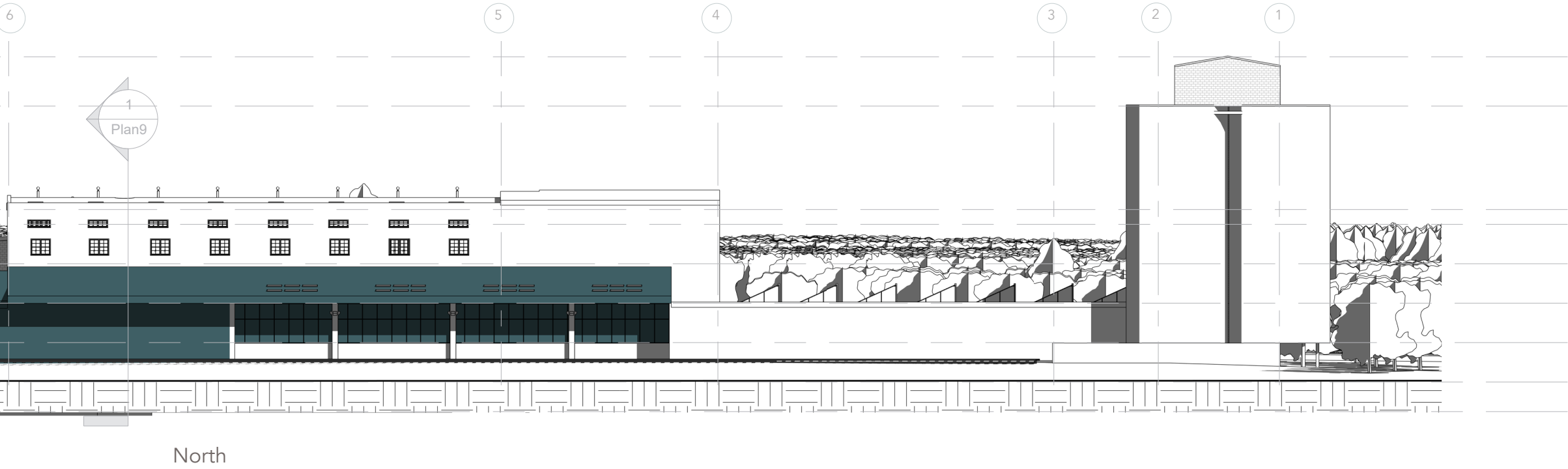
North



East

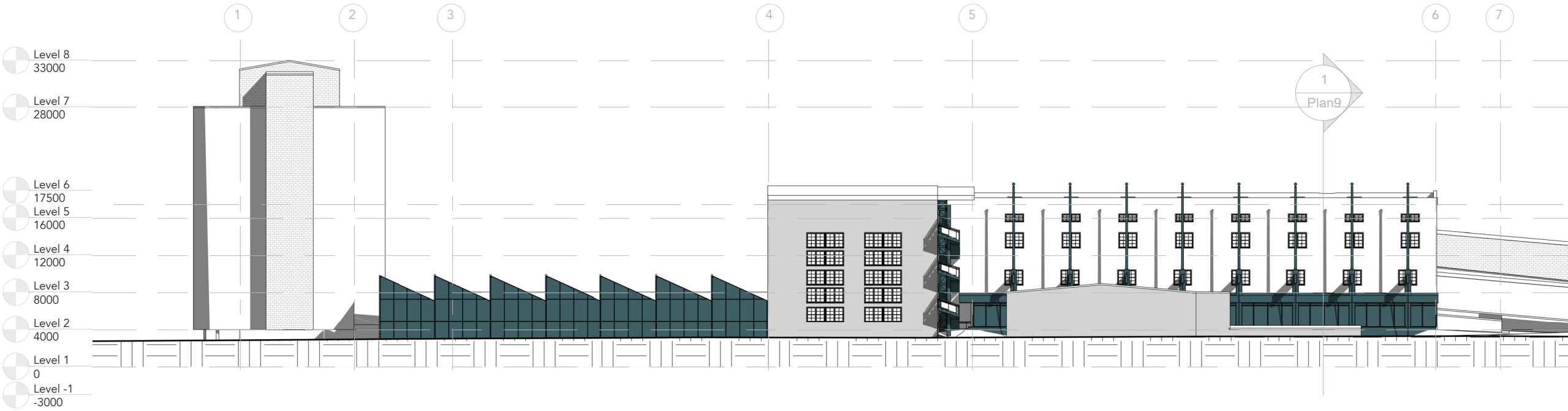


Plans - Facades 1:500

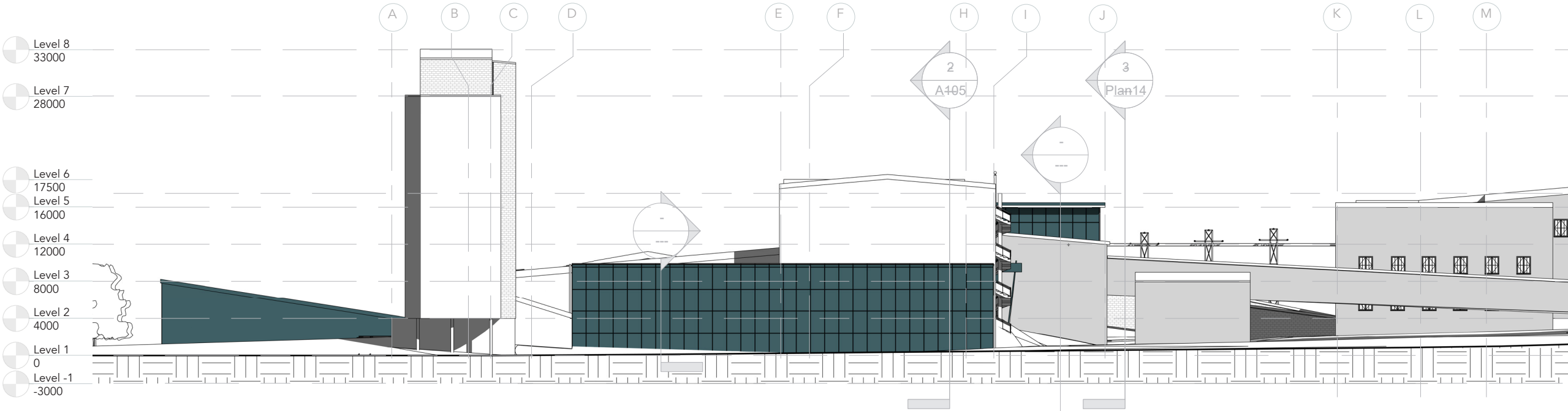


Plans - Facades 1:500

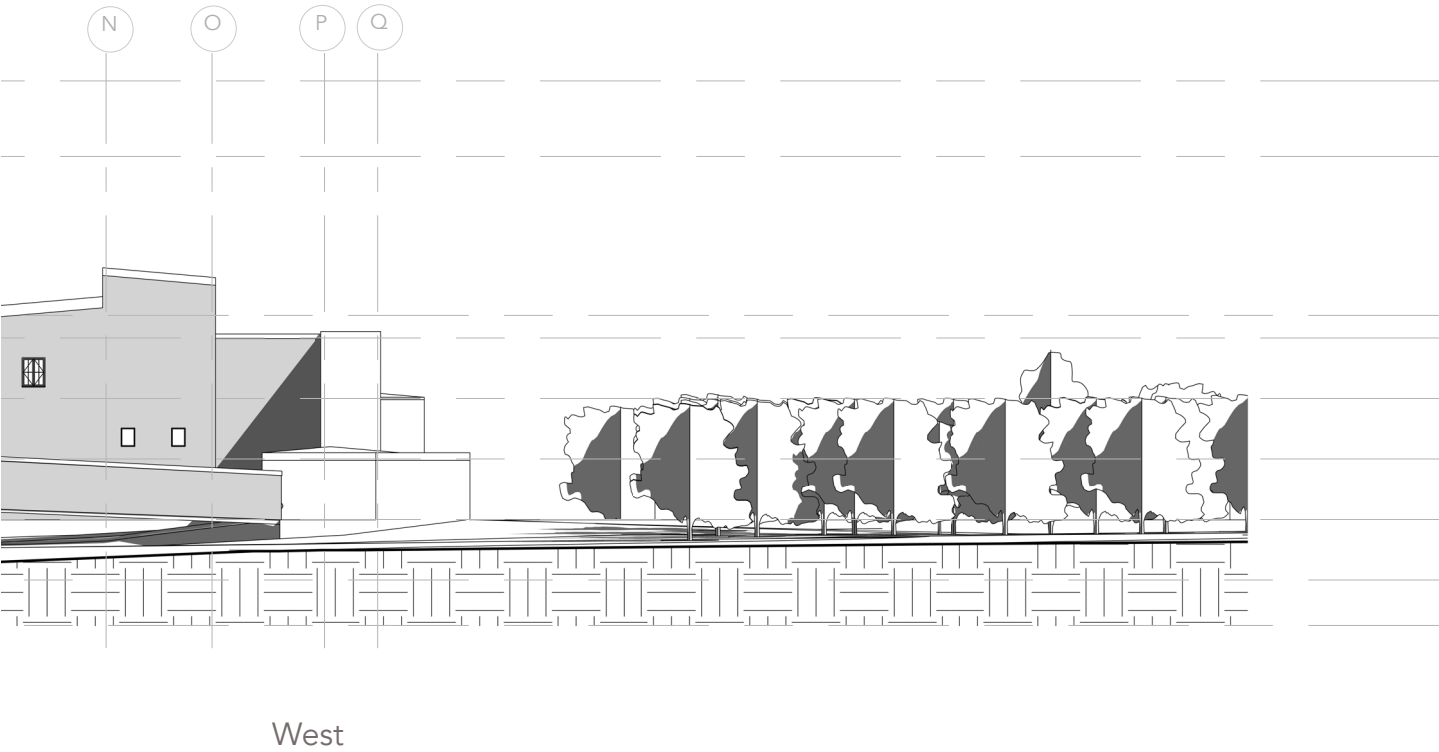
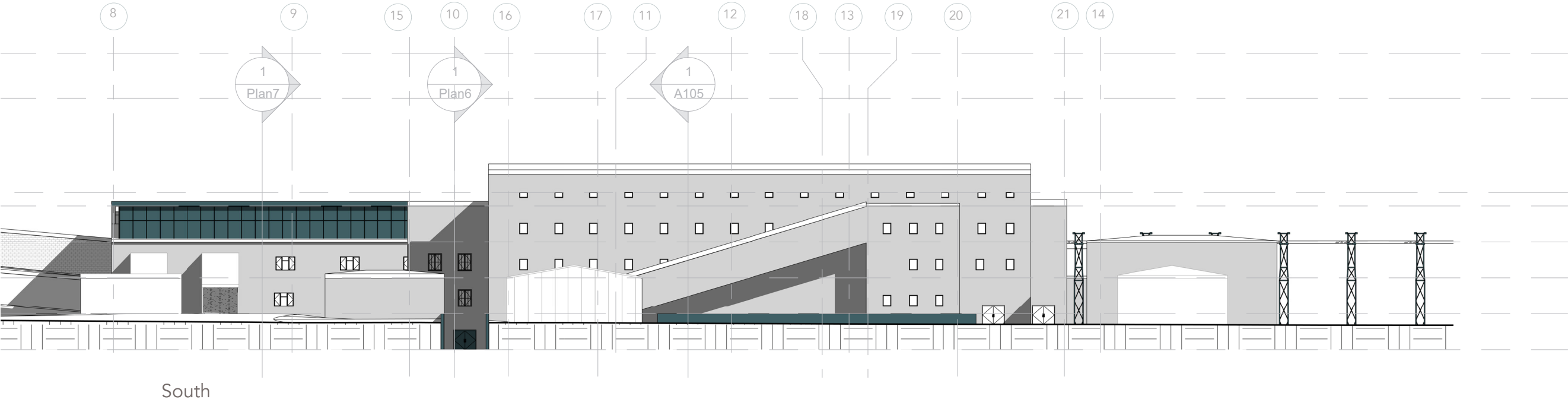
South



West



Plans - Facades 1:500

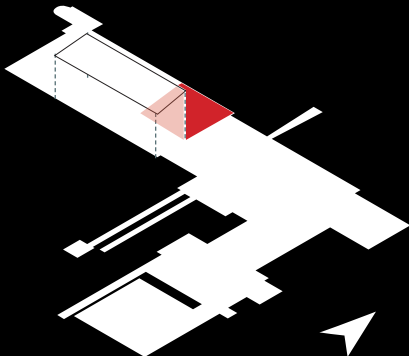




Data:

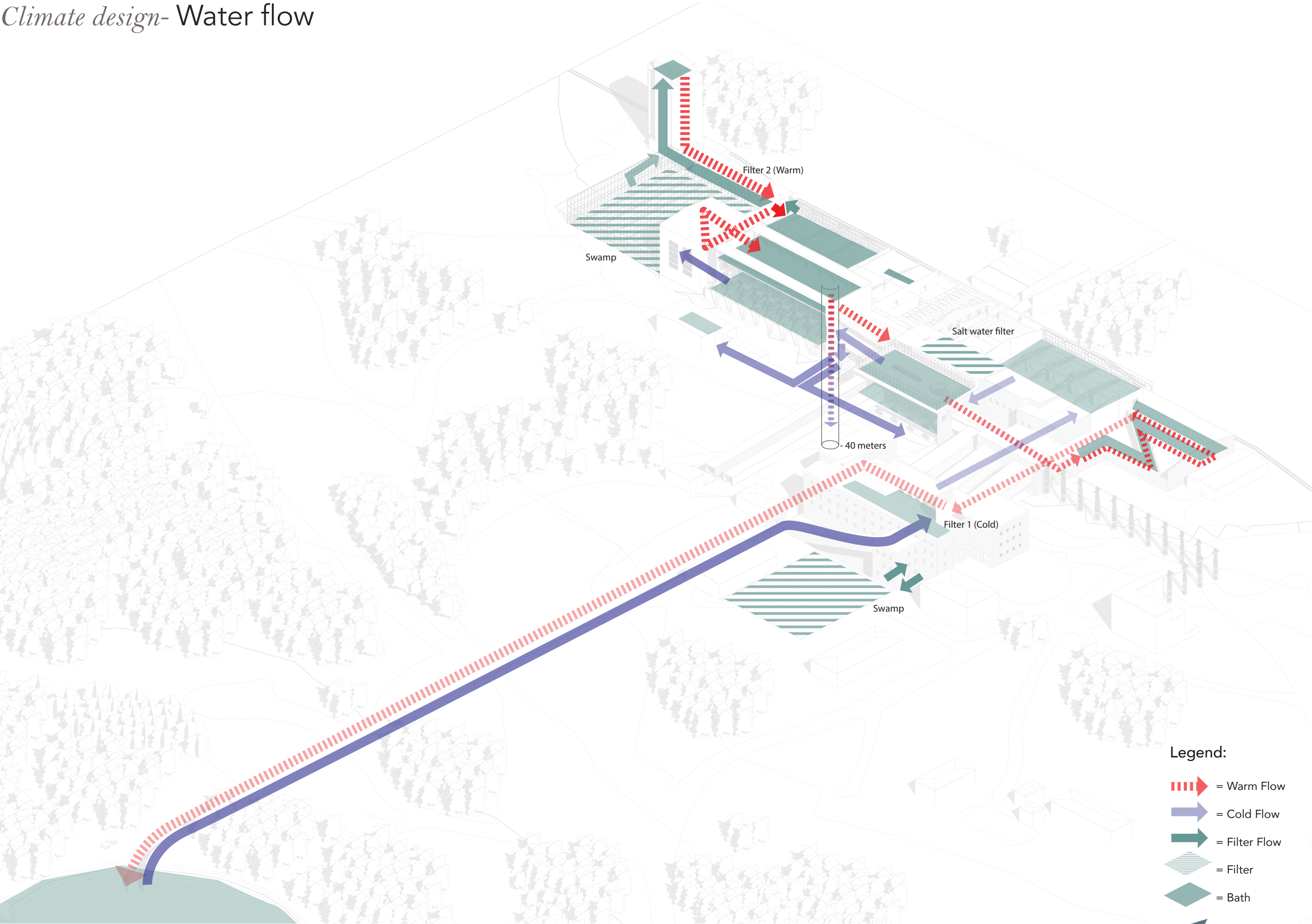
Atmosphere:	Silent
Structure:	Heavy Structures
Water compatibility:	Soft Materials
Sound:	Completely Silent
Temperature:	18°C [AIR] 34°C [WATER]
Natural ventilation:	July and August
Materials:	 
Movement:	Multi-Directional
Interior/exterior tension:	Complete Seclusion
Communitas:	Individually going into the Water
Light:	From the Water only

Place in building:



2._ INITIATION BATH

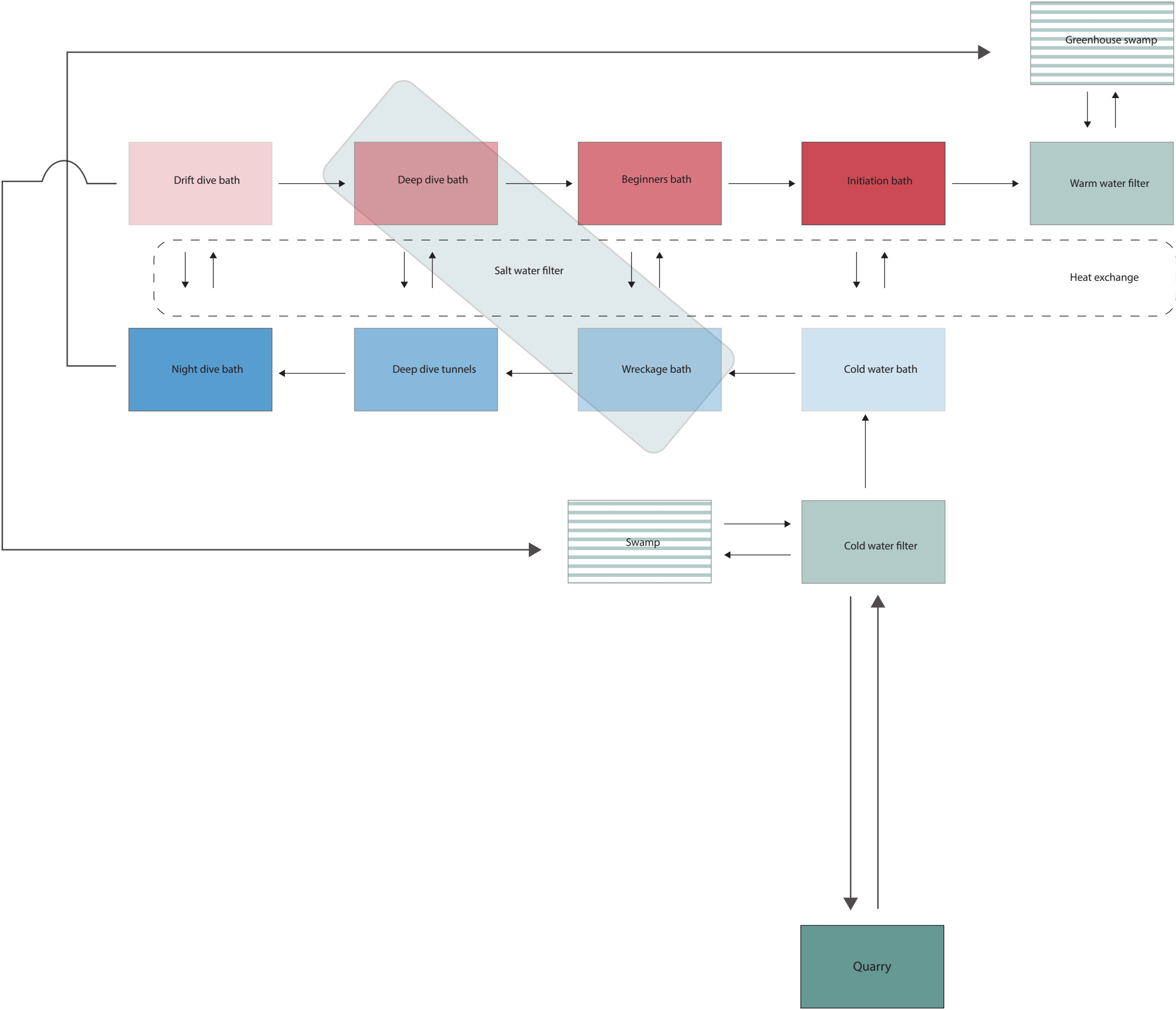
Climate design- Water flow



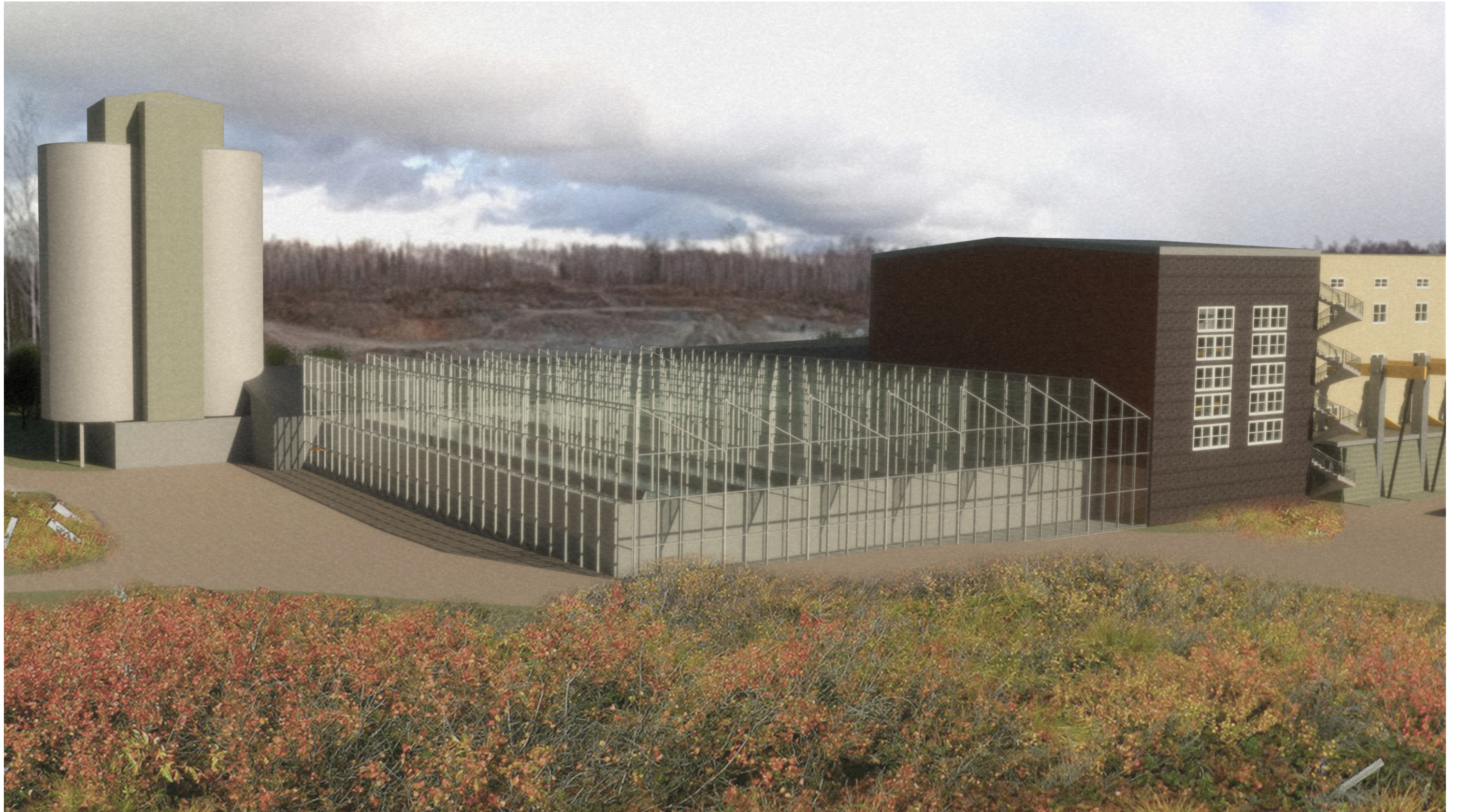
- Legend:
- = Warm Flow
 - = Cold Flow
 - = Filter Flow
 - = Filter
 - = Bath



Climate design- Schedule of flow



Climate design- View upon Warm Water Filtration System



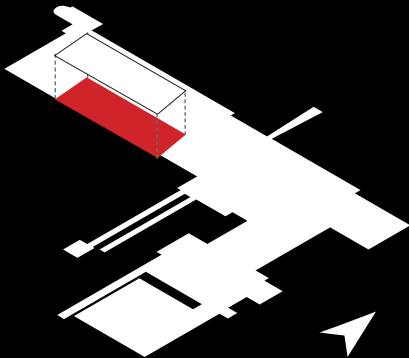


3._ NIGHT DIVE BATH

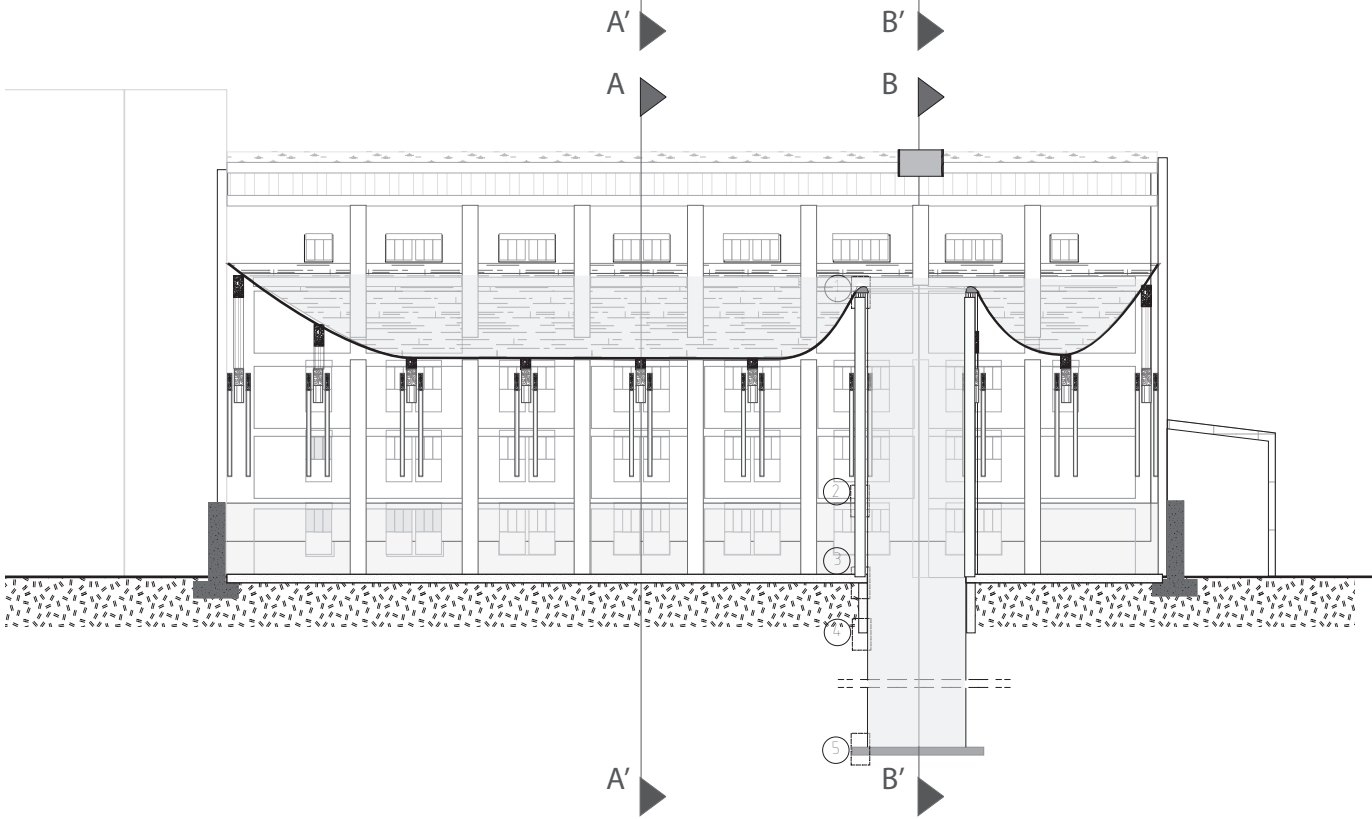
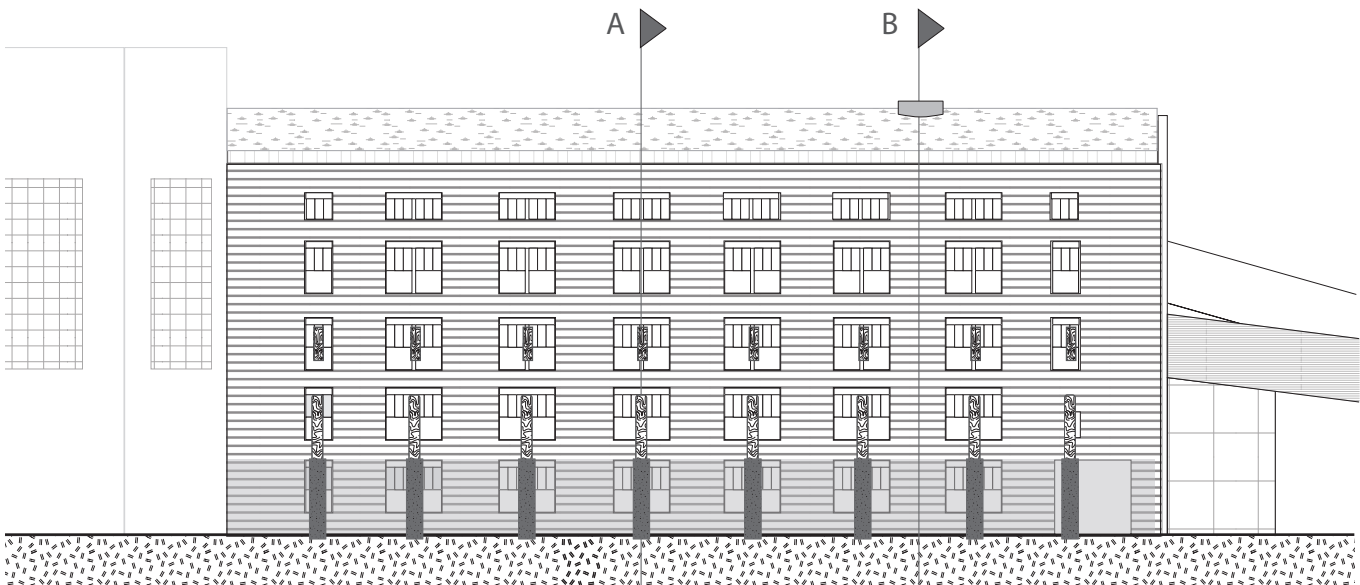
Data:

Atmosphere:	Uncanny
Structure:	Heavy Structures
Water compatibility:	Old elements Submerged in Water
Sound:	Echoing
Temperature:	18°C [AIR] 15°C [WATER]
Natural ventilation:	April and October
Materials:	  
Movement:	Multi-Directional, Guided by Compass
Interior/exterior tension:	Complete Seclusion
Communitas:	Together with Buddy and Instructor
Light:	From the Dive Tube only

Place in building:

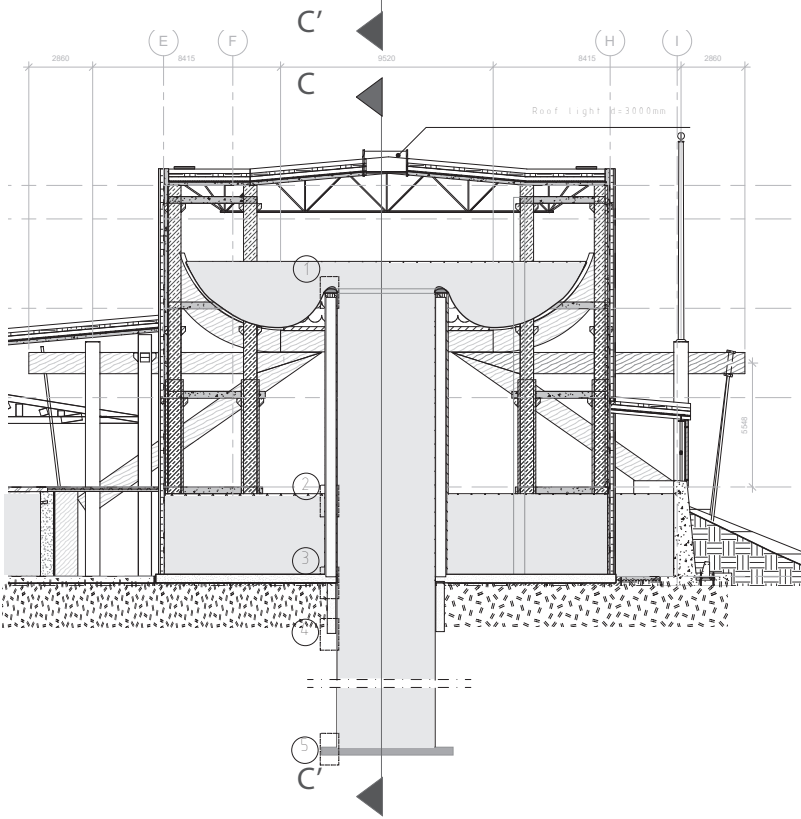
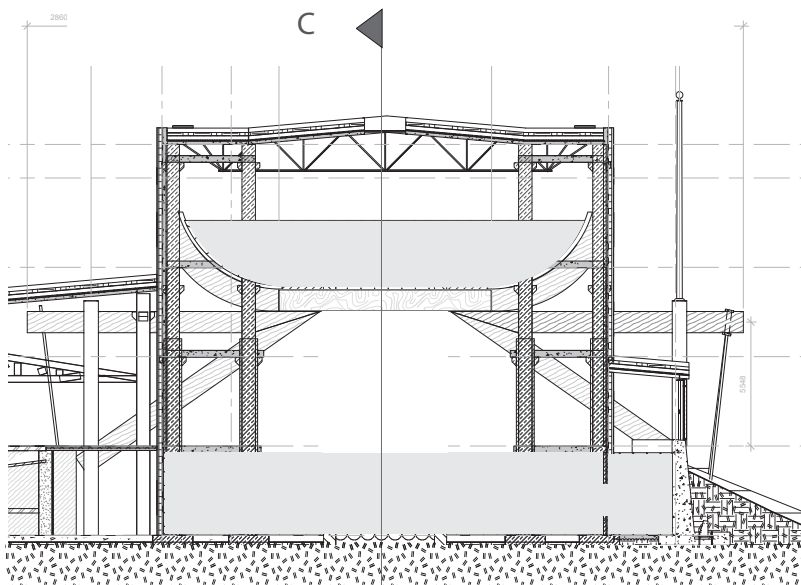


Sections- Facade and sections overview 1:200

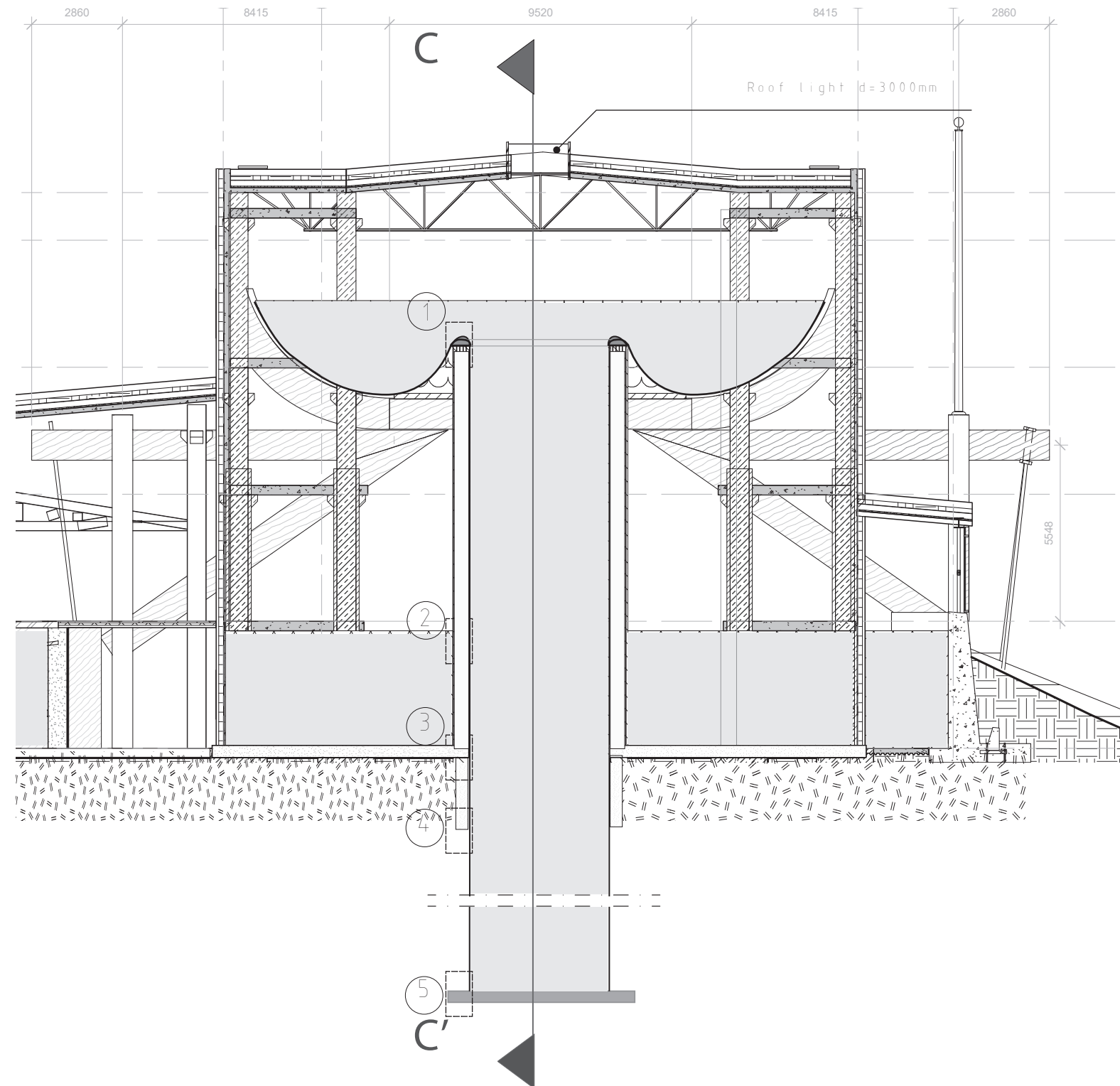


AA'

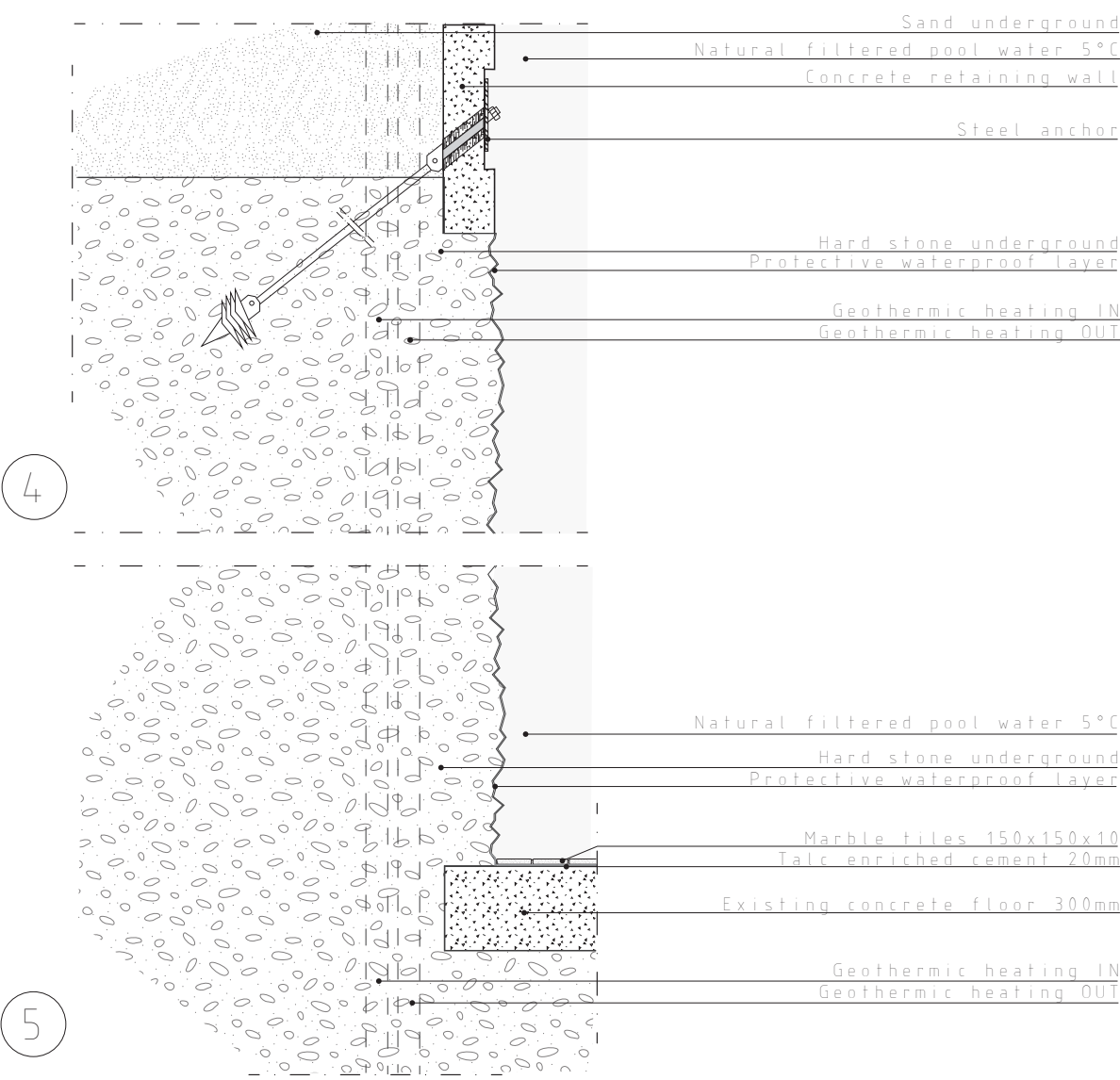
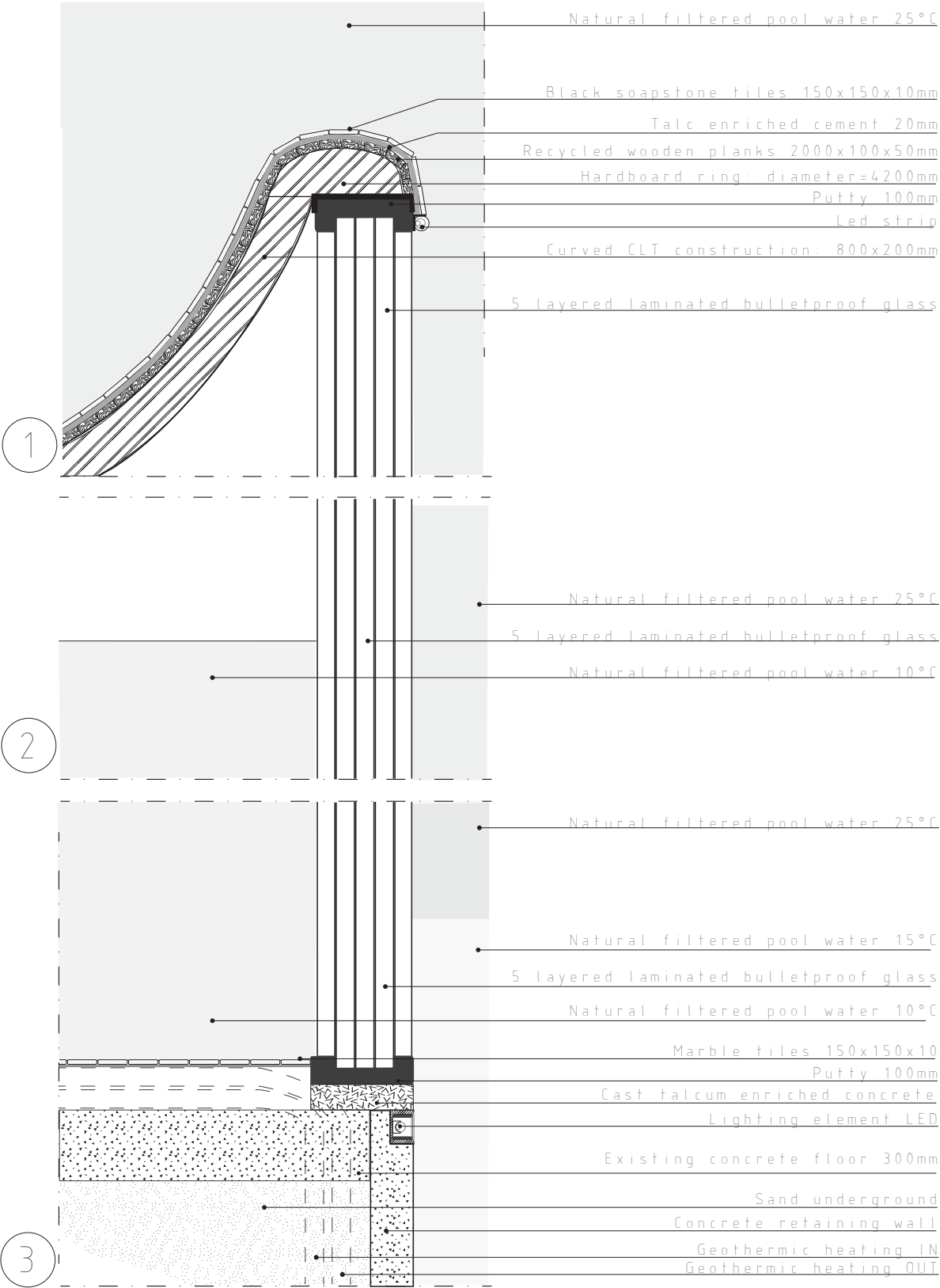
BB'



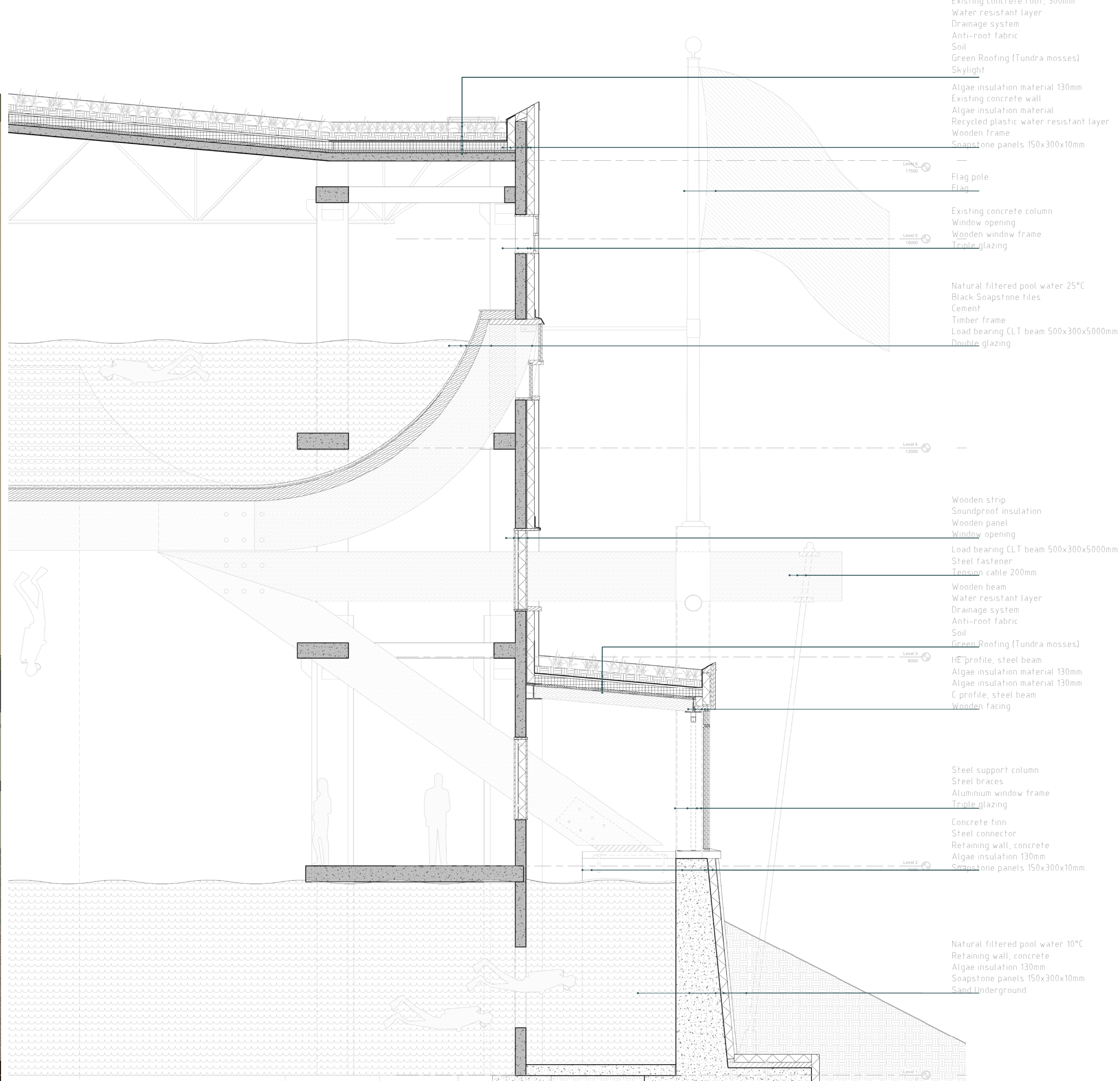
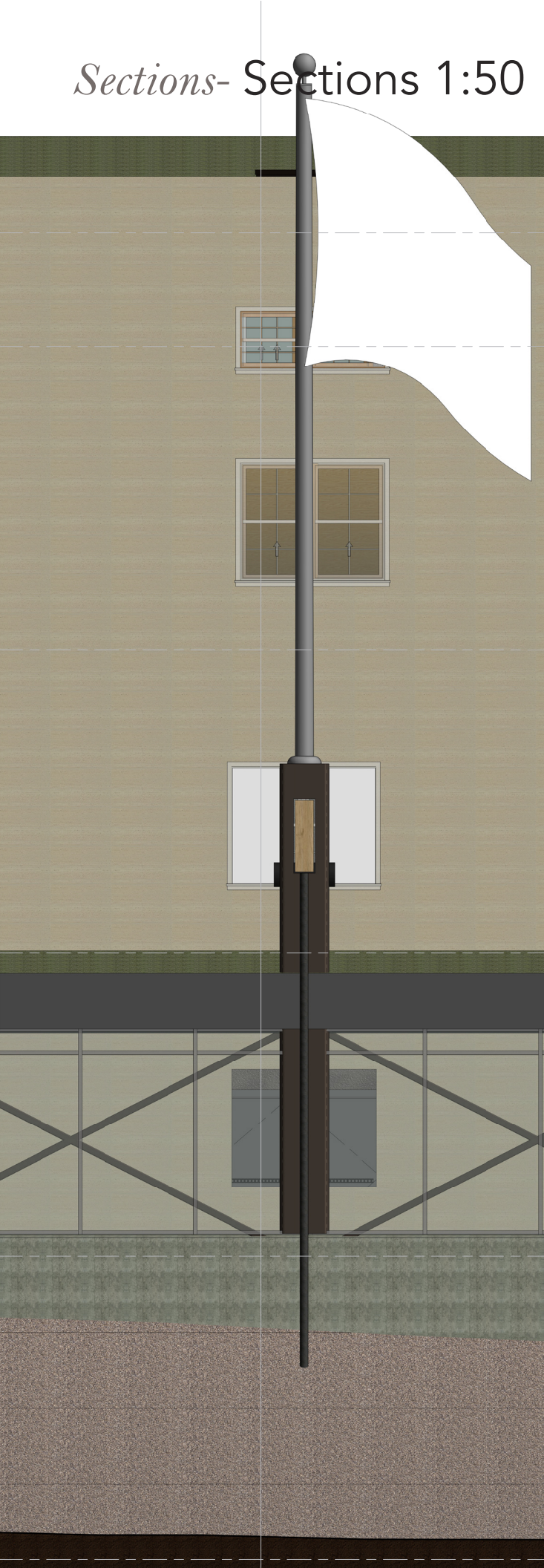
Sections- Sections of diving tube 1:100



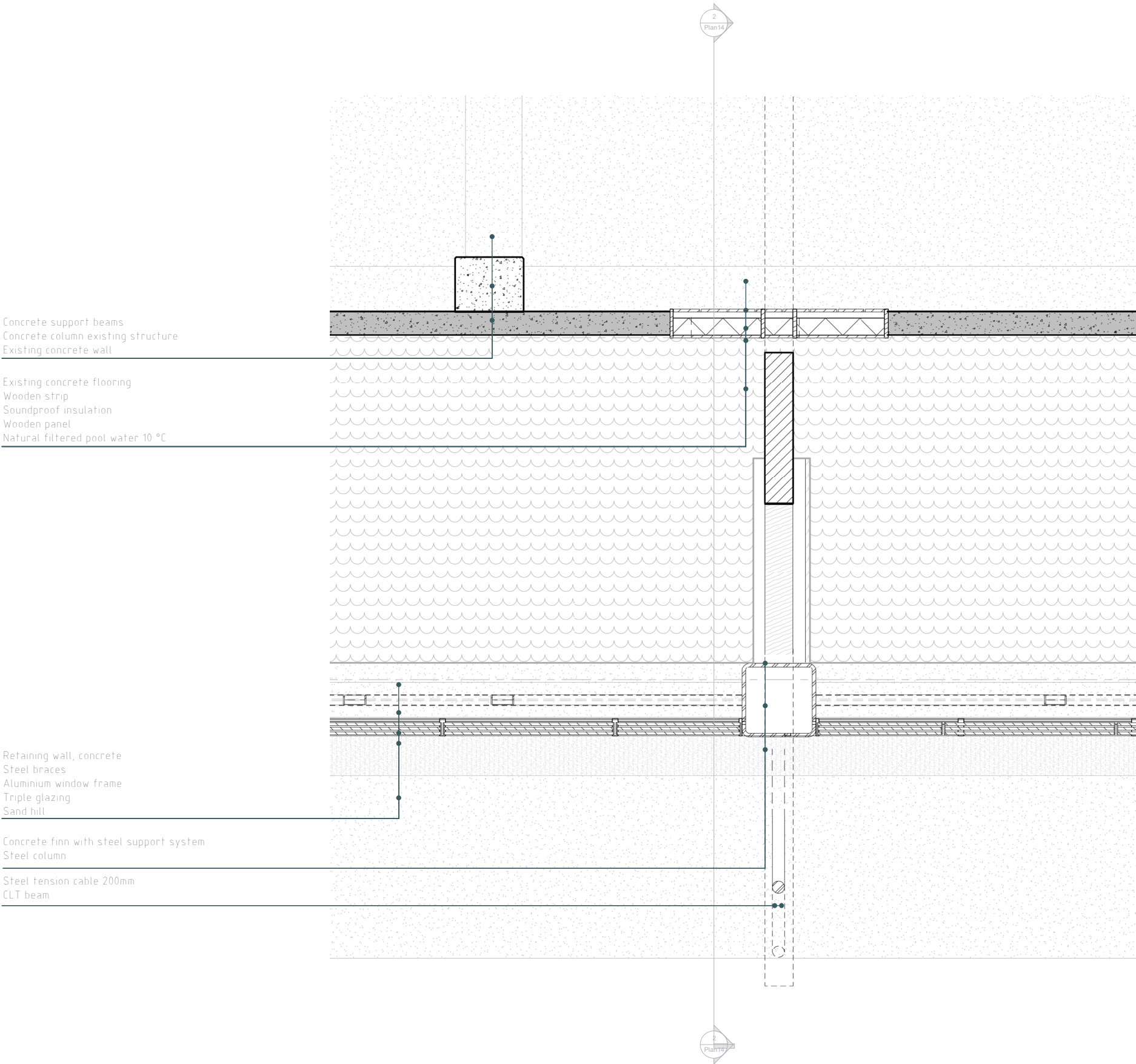
Sections- Sections 1:10



Sections- Sections 1:50



Sections- Horizontal section 1:40





4._ DEEP SEA BATH

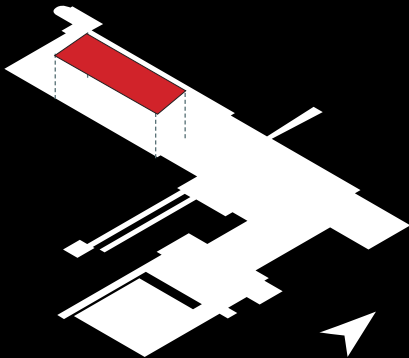
Data:

Atmosphere:	Tense
Structure:	Heavy Structures
Water compatibility:	Old elements Submerged in Water
Sound:	Echoing
Temperature:	18°C [AIR] 22°C [WATER]
Natural ventilation:	June and August
Materials:	

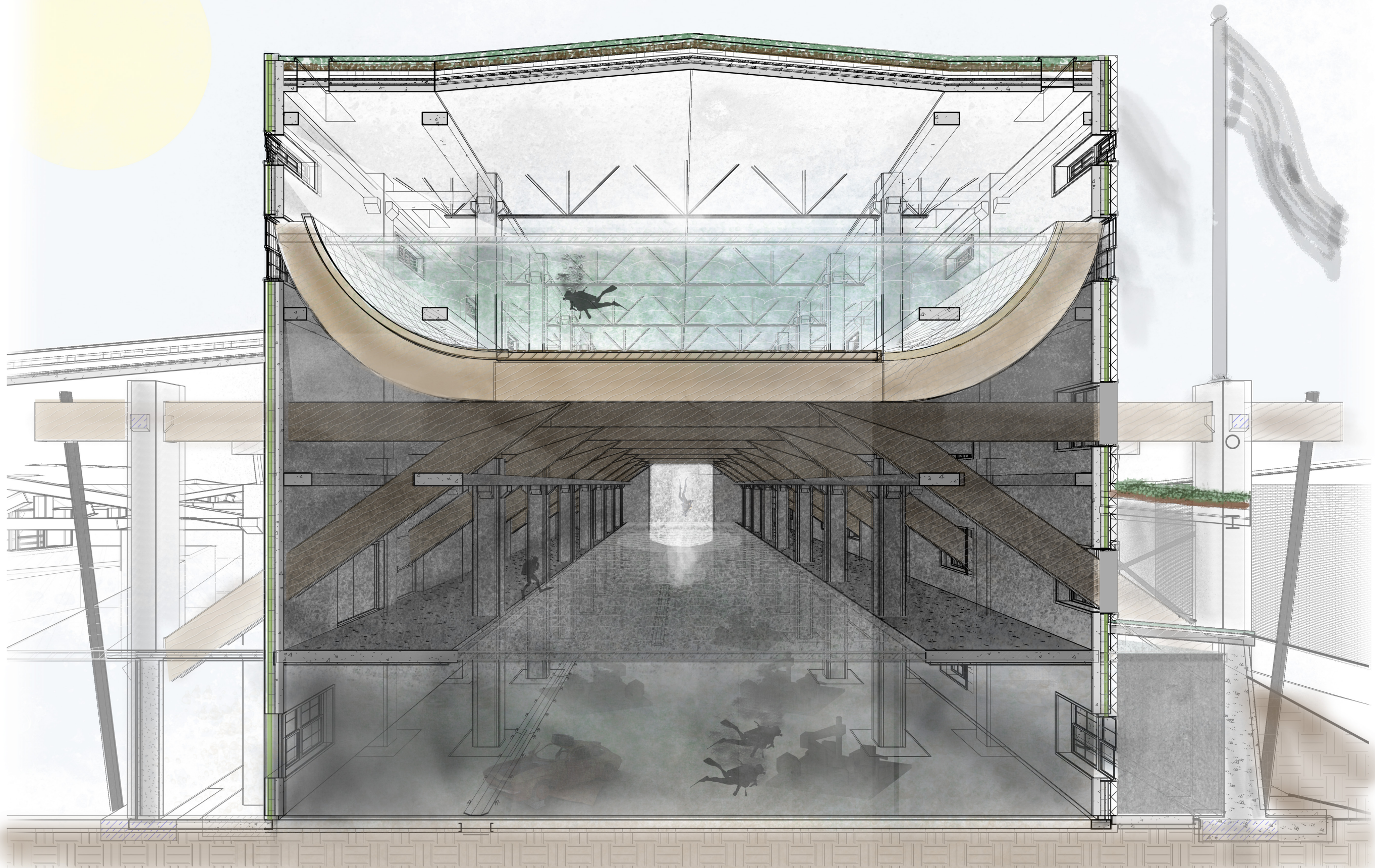


Movement:	One-Directional, Guided by Light
Interior/exterior tension:	Windows giving overview
Communitas:	Small Group
Light:	Natural Light only

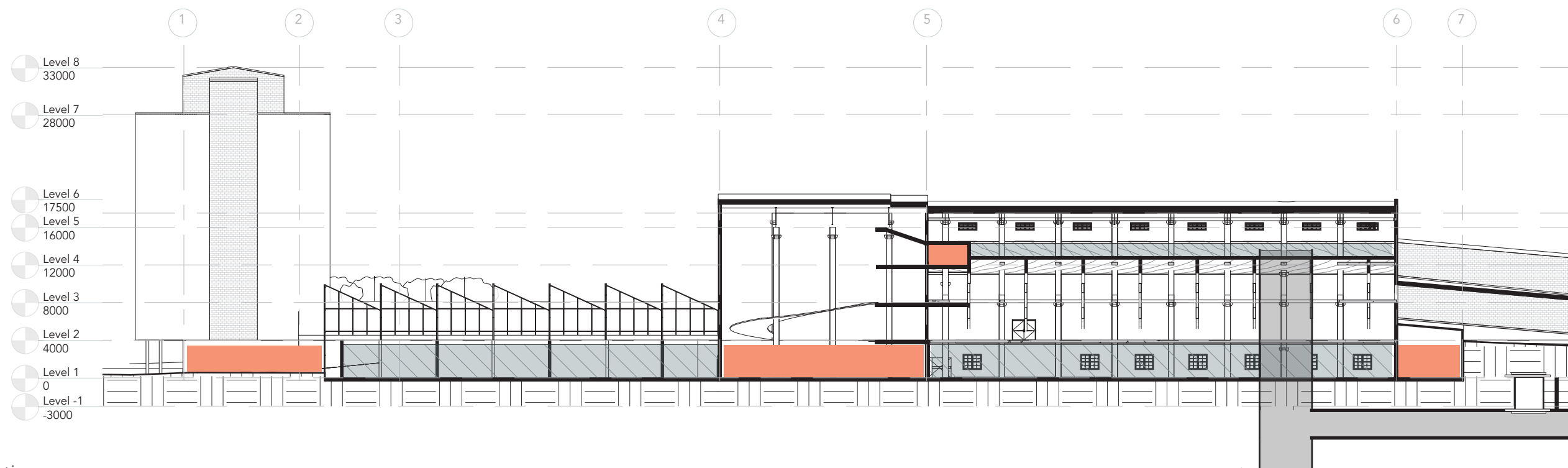
Place in building:



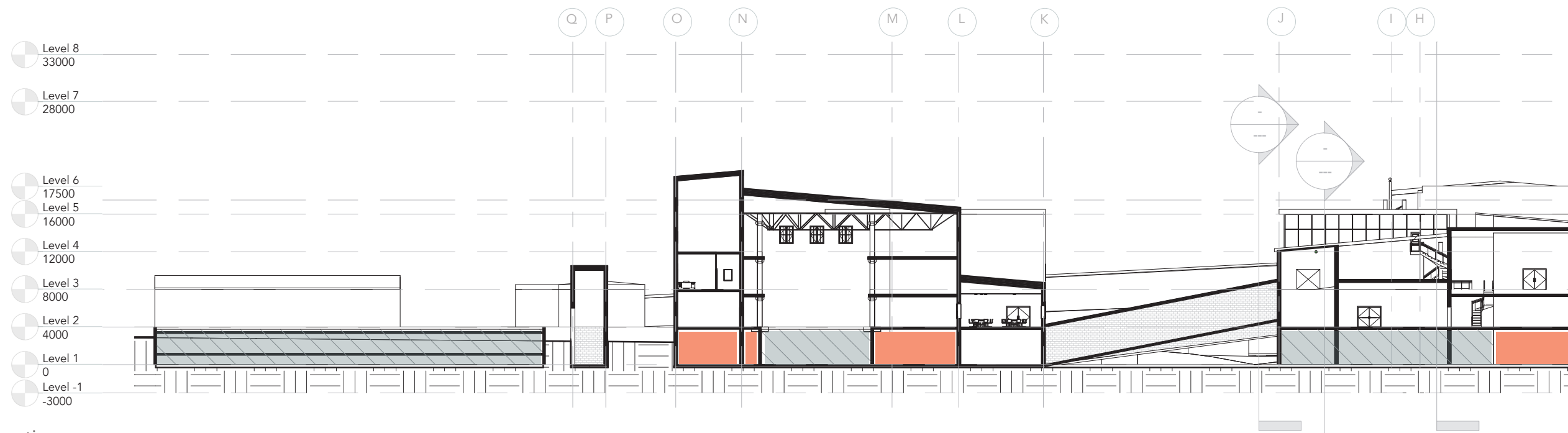
Section- Impression of relation between up and down



Plans - Sections 1:500

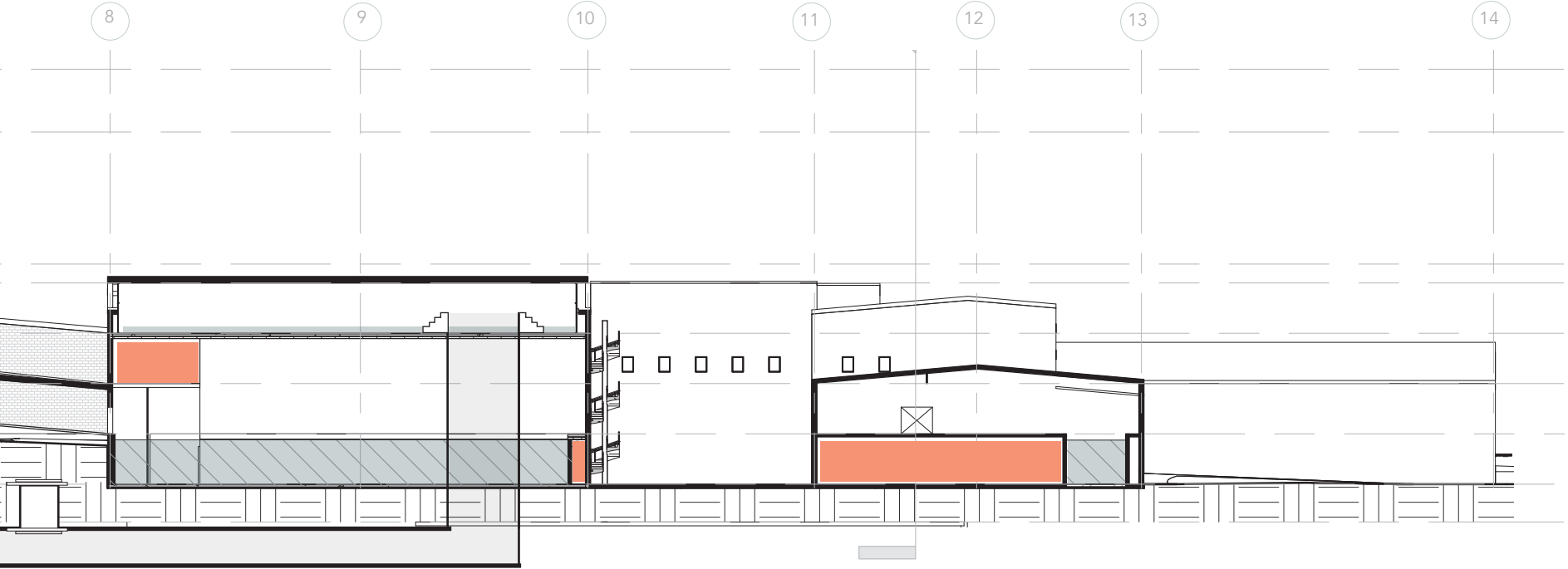


West-East section

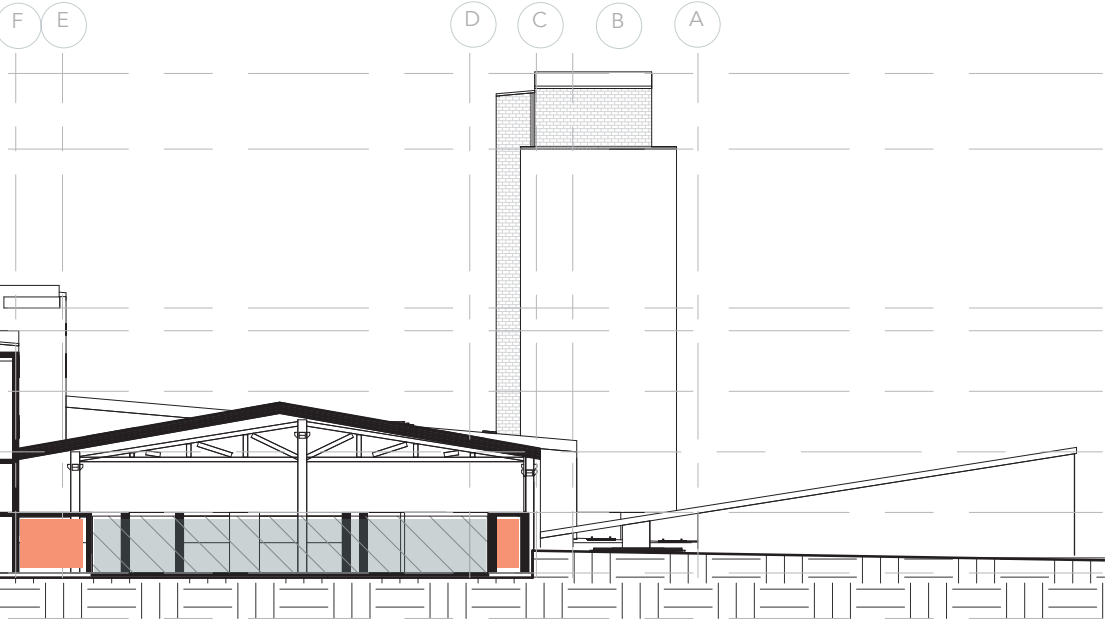


South-North section

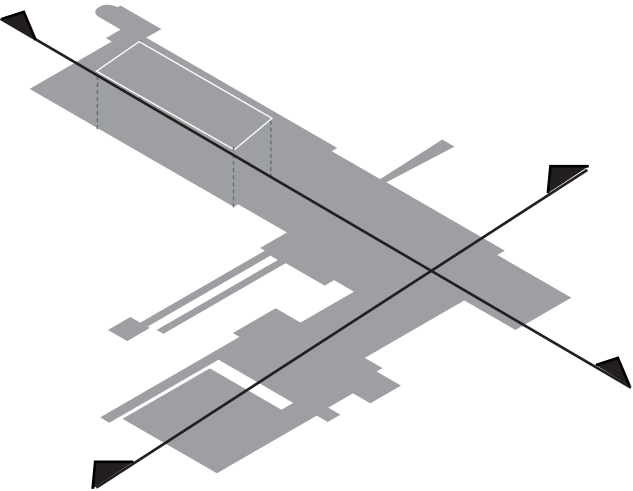
Plans - Sections 1:500

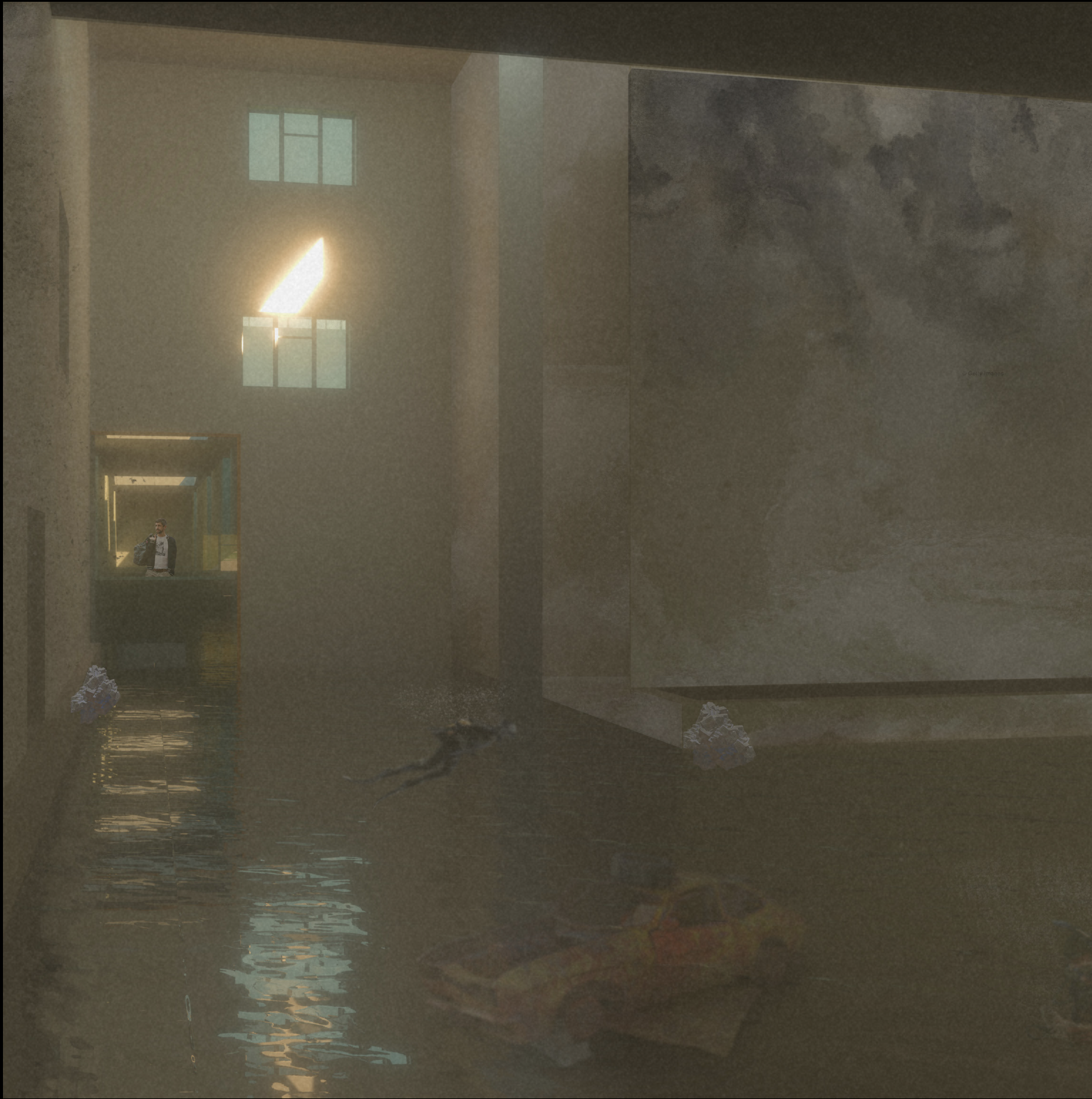


West-East section



South-North section



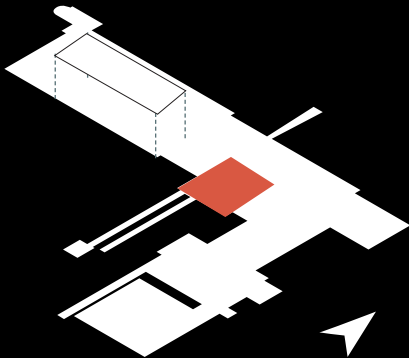


5._ WRECKAGE BATH

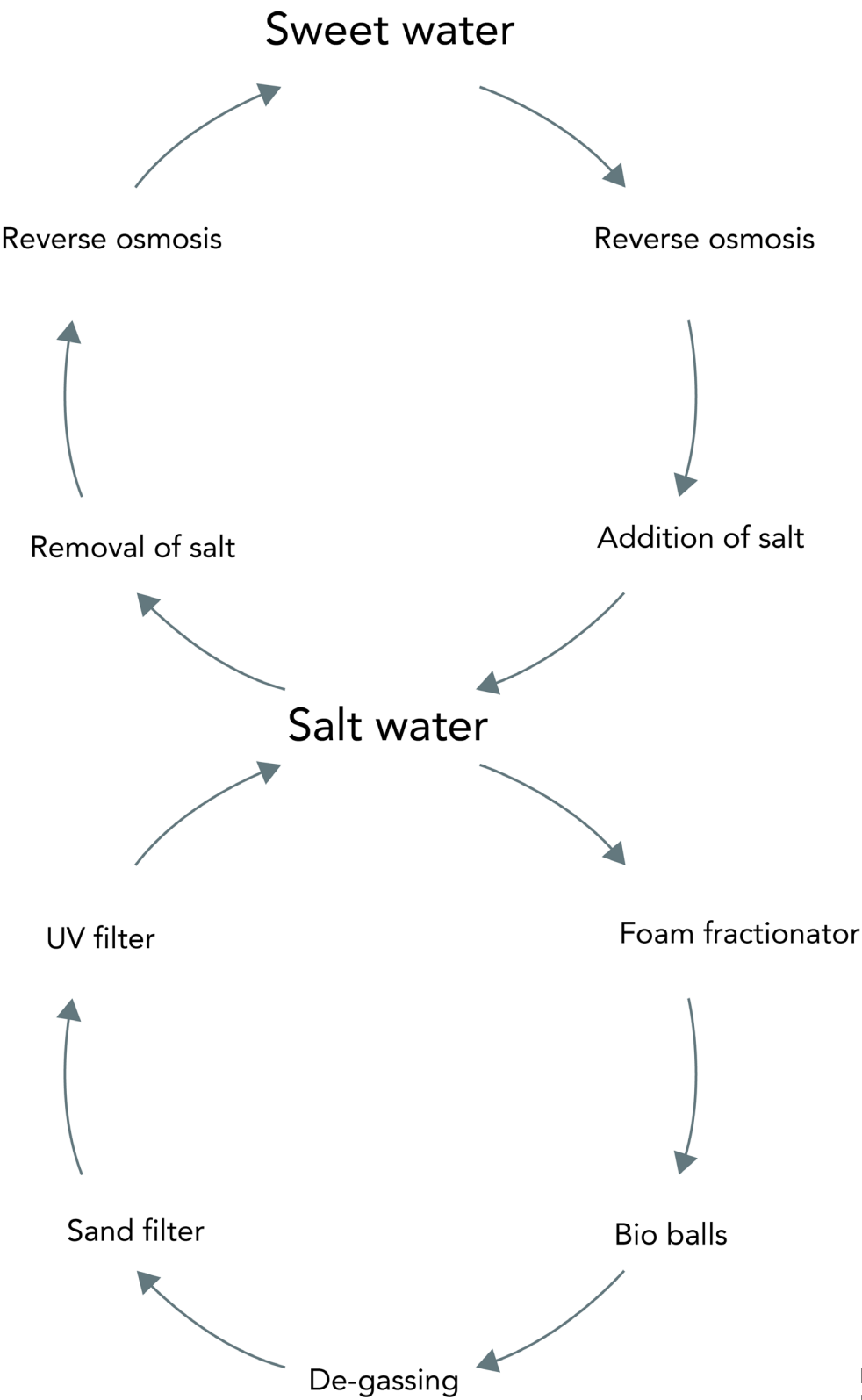
Data:

Atmosphere:	Opressive
Structure:	Heavy Structures
Water compatibility:	Corroding in the water
Sound:	Clicking sounds
Temperature:	18°C [AIR] 20°C [WATER]
Natural ventilation:	May and October
Materials:	 
Movement:	Multi-Directional, Guided by Shapes
Interior/exterior tension:	Exterior shapes Interior
Communitas:	Together with Group
Light:	Pool being Light, Wreckage being Dark

Place in building:

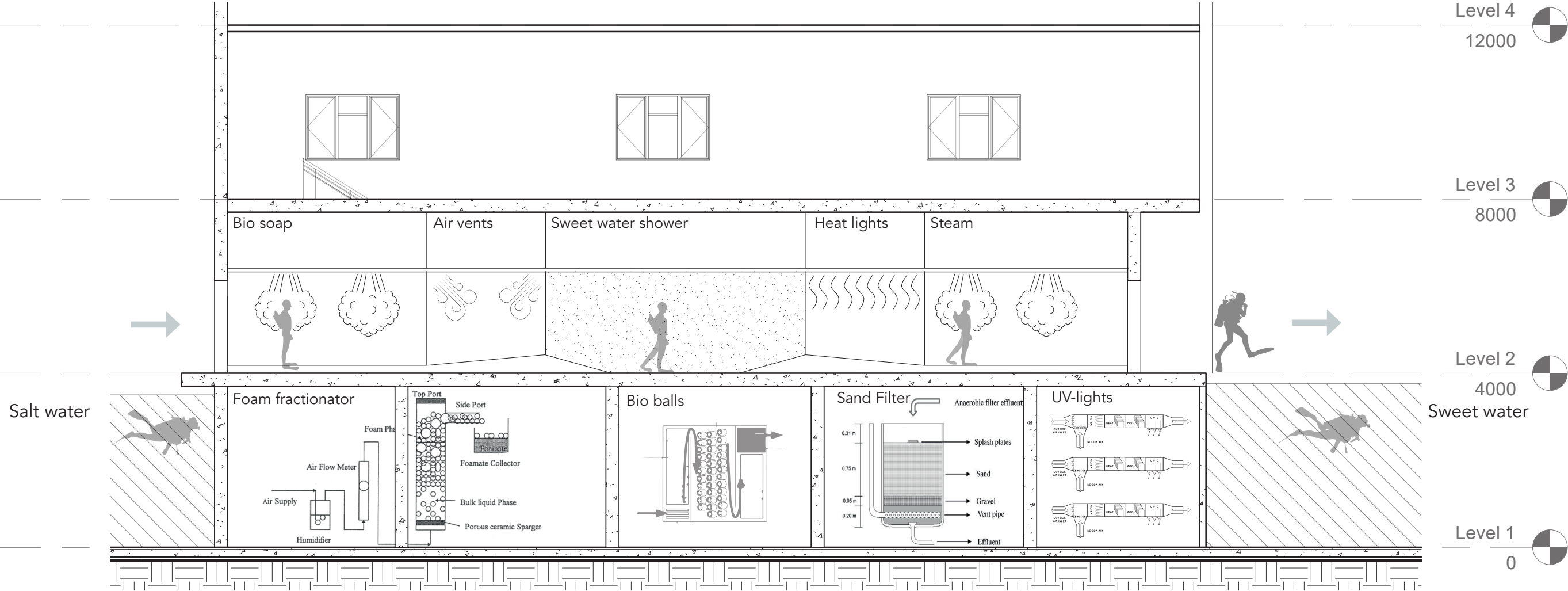


Climate design- Salt water Filtration System Diagram



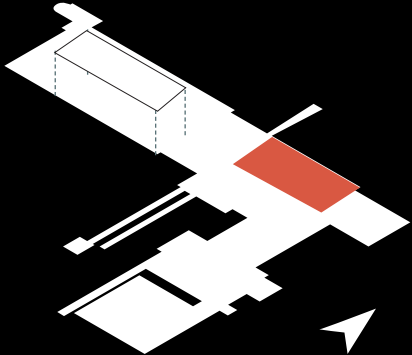
Life support system in The Deep, Hull, United Kingdom

Climate design- Salt water Filtration System and Salt water Shower

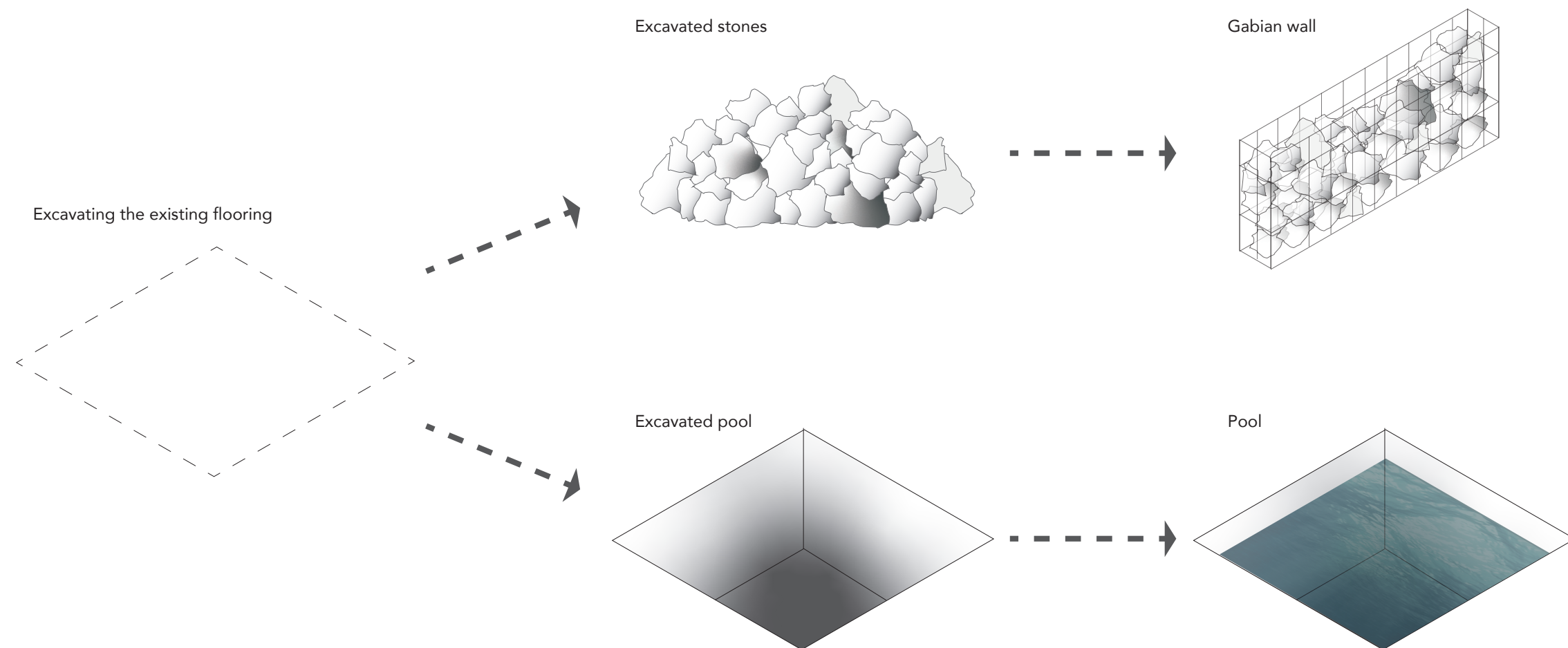


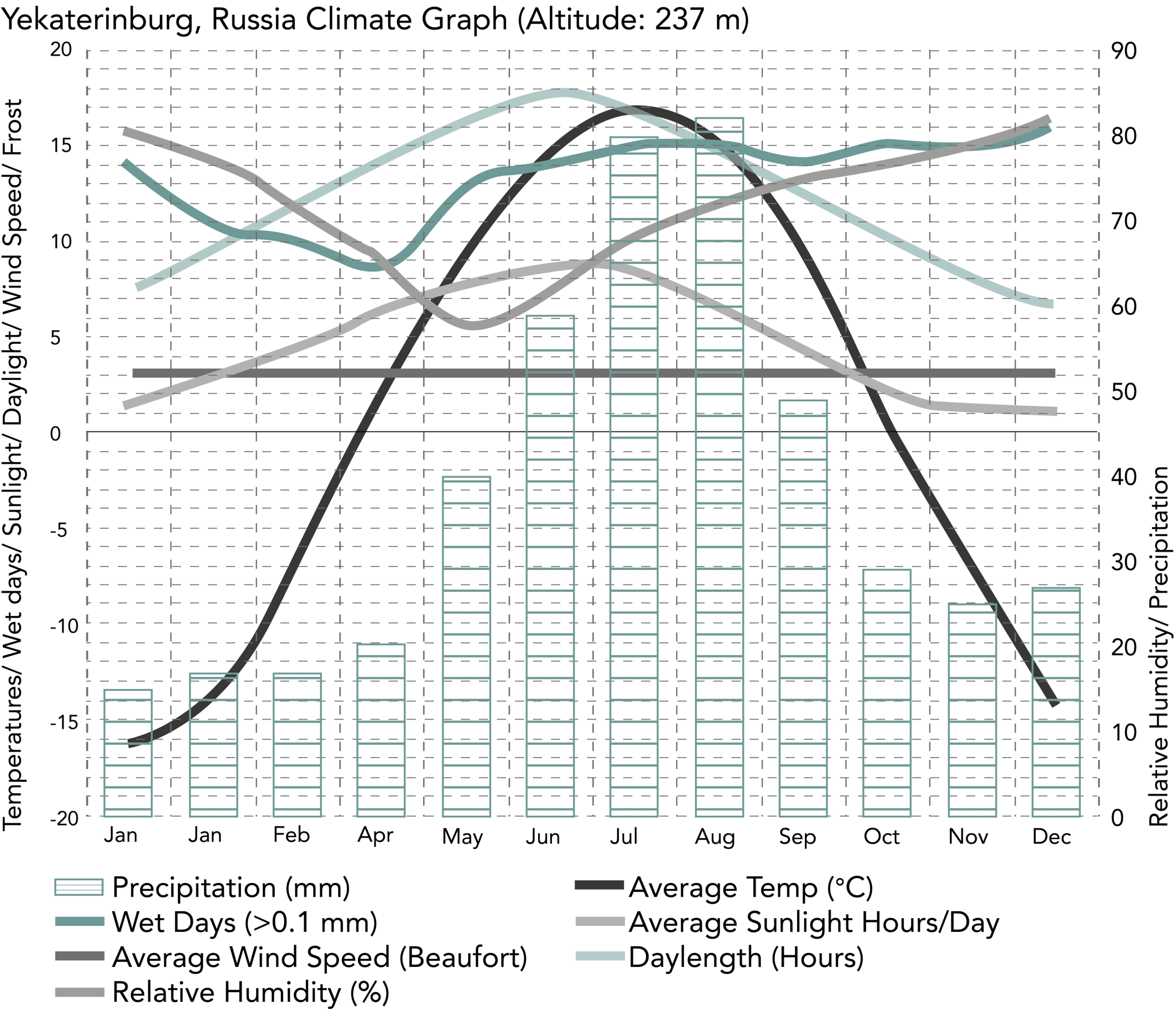


6._ COLD WATER BATH

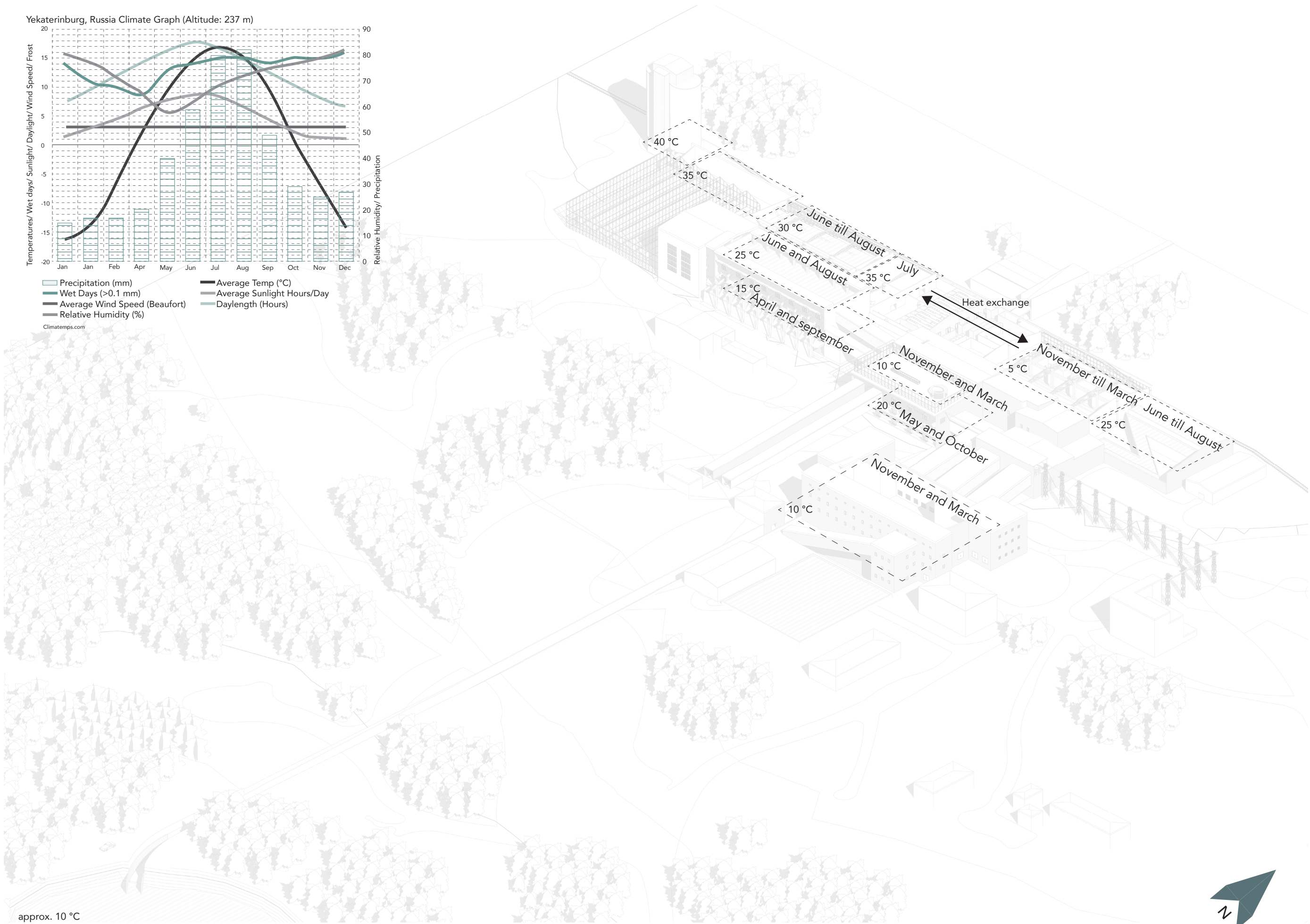
Data:	
Atmosphere:	Stinging
Structure:	Open structures
Water compatibility:	Old elements Submerged in Water
Sound:	Sizzling Sounds
Temperature:	7°C [AIR] 4°C [WATER]
Natural ventilation:	November till March
Materials:	  
Movement:	Multi-Directional, Guided by Activity
Interior/exterior tension:	Inside/outside relation tangible
Communitas:	Together with group
Light:	Artificial bright Lights
Place in building:	

Circularity- Reusing the excavated rocks to make new constructions



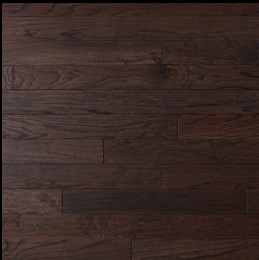


Climate design- Temperatures of rooms and the possibility of natural ventilation

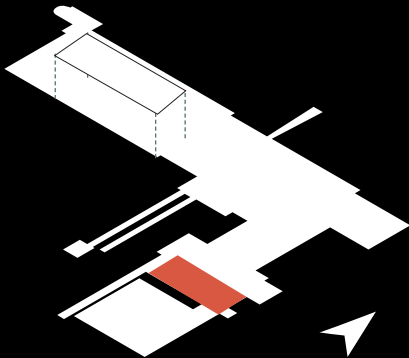




Data:

Atmosphere:	Relaxation
Structure:	Rustic look
Water compatibility:	View upon filtration system
Sound:	Full of voices, echoing
Temperature:	22°C
Natural ventilation:	June to August
Materials:	  
Movement:	Multy-Directional, guided by signs
Interior/exterior tension:	Inside/outside relation tangible
Communitas:	Reflection on examination with group
Light:	Natural light with warm tones

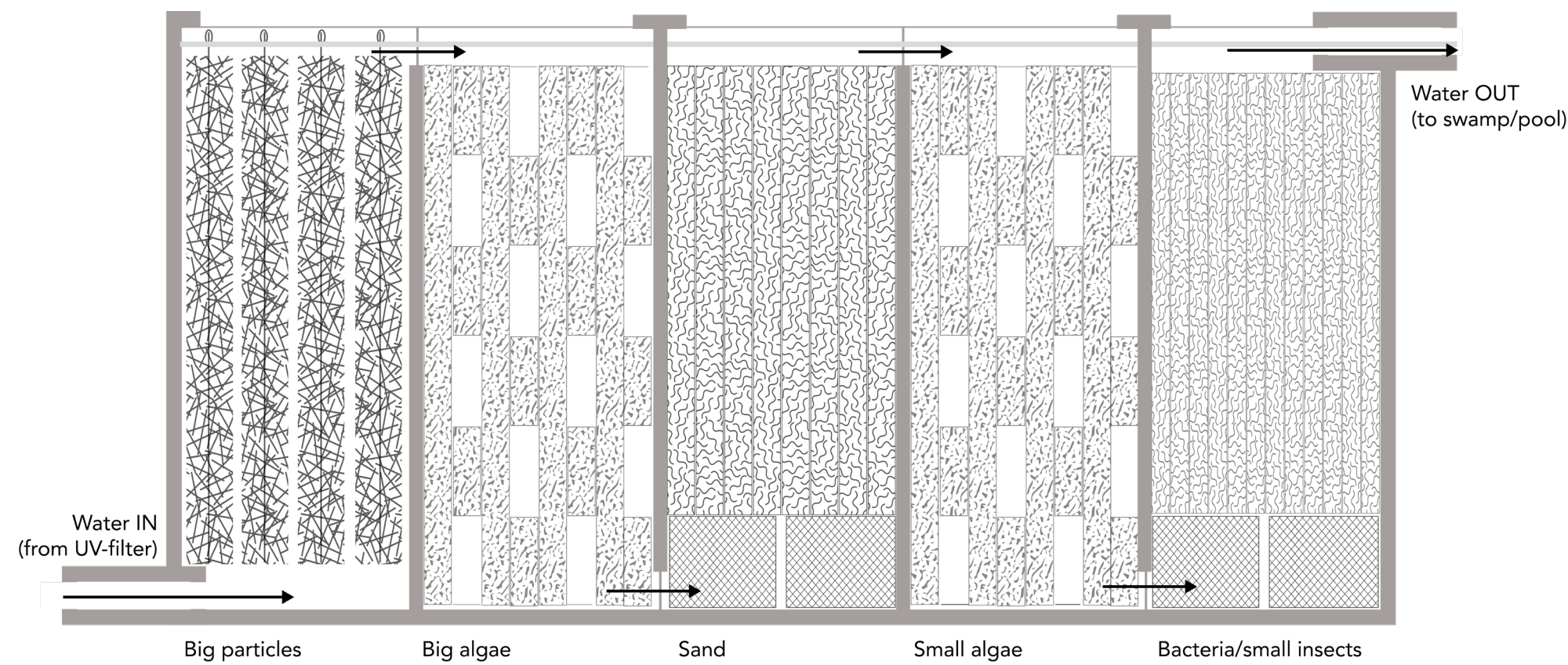
Place in building:



7._ RESTAURANT+FILTER



Climate design- Natural Filtration System Calculation



CALCULATION OF THE POND

POND:	4m x 7m x 1,5m	=	42	m ³
FILTER:	4m x 1m x 1,5m	=	6	m ³
additional swamp		=	1	m ³

			7	m ³

7/42 = 1/6 filter to pond

EXAMPLE

SWIMMING POOL:	50m x 25m x 5m	=	6.250	m ³
FILTER:	6.250m ³ /6	=	1.042	m ³
1/7th is outside swamp		=	149	m ³
FILTER SIZE INSIDE:		=	893	m ³

ALGAE 'PRODUCTION'/YEAR

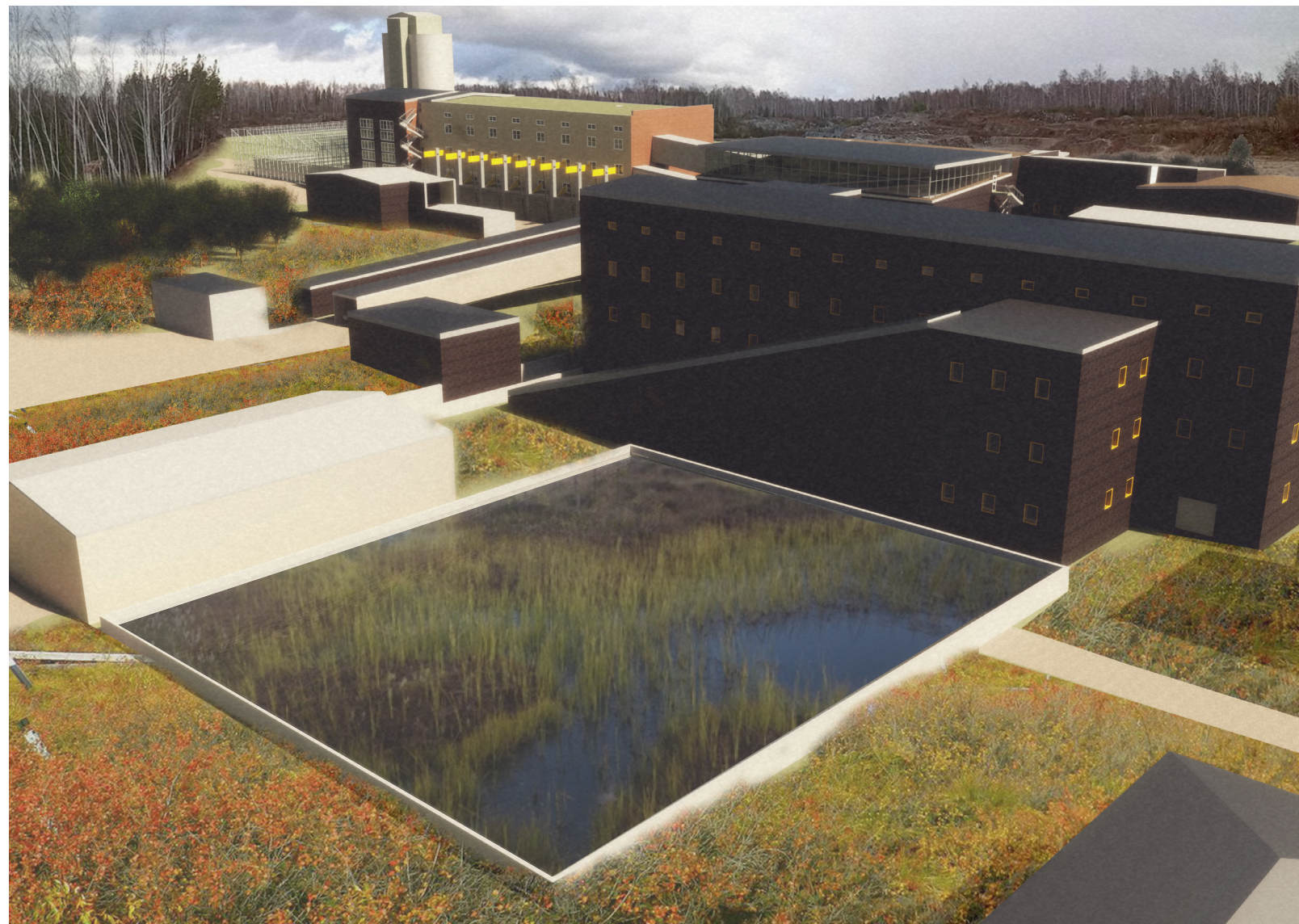
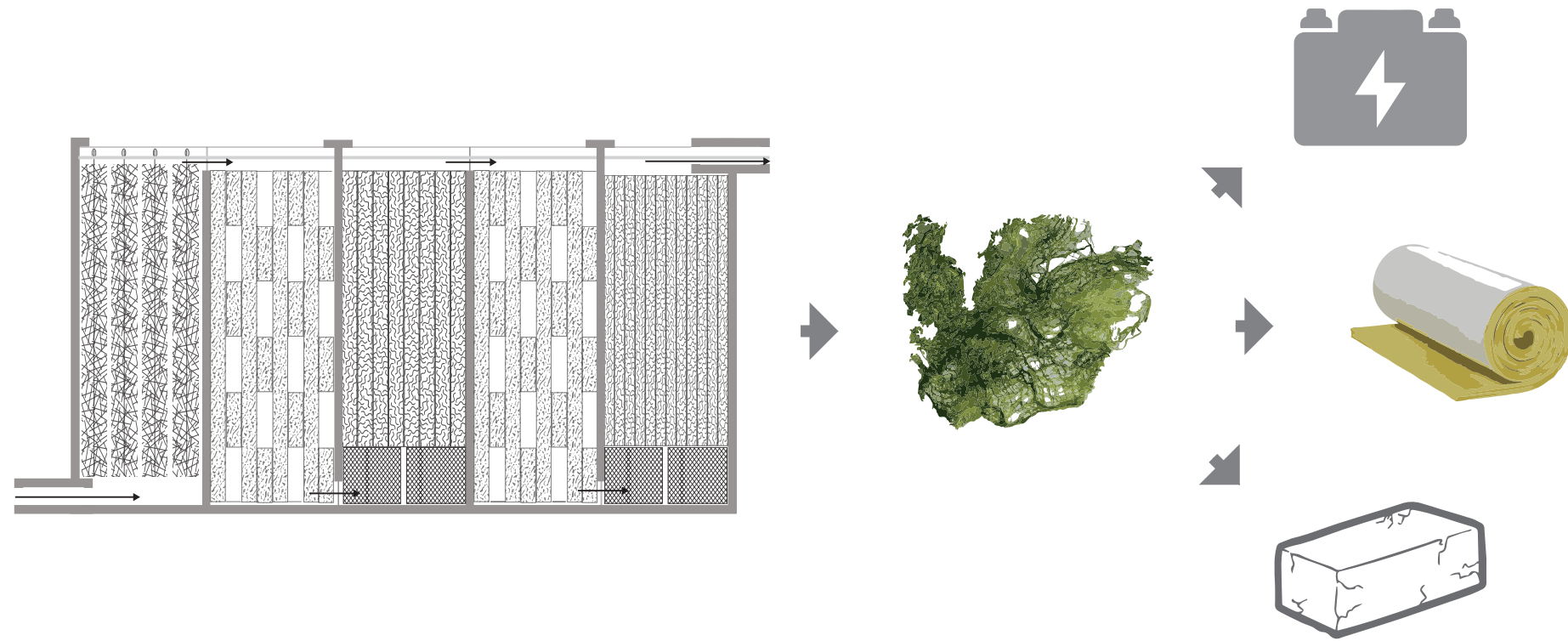
POND:	7	m ³	=	20	L algae/year
SWIMMING POOL:	1.042	m ³	=	2.977	L algae/year

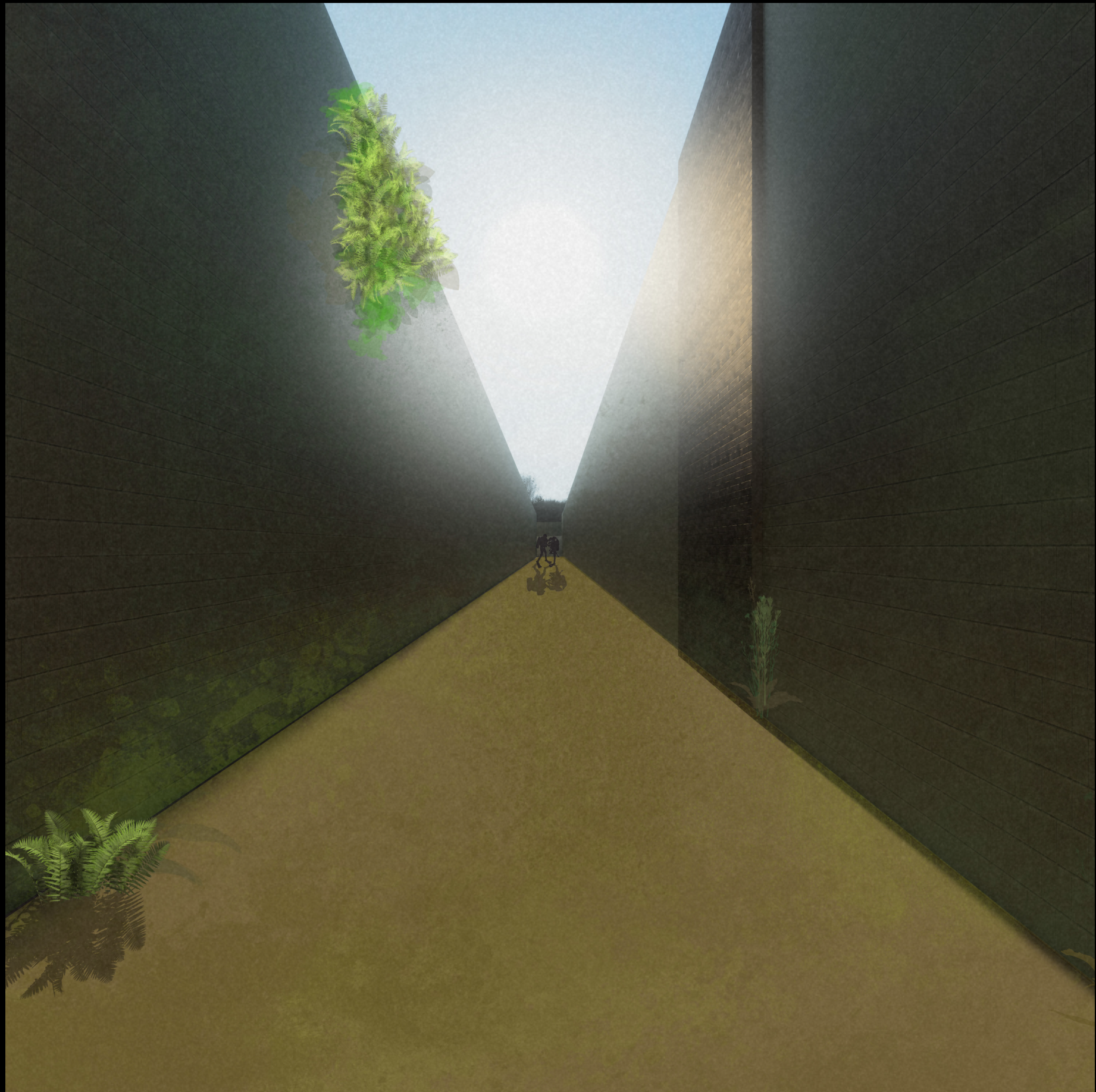
ROUGH AVERAGE OF FILTER

SWIMMING POOL:	6.250	m ³	=	1.042	m ³ filter
QUANTITY POOLS:	7		=	7.294	m ³ filter

ALGAE/YEAR:	7.294 m ³ filter	=	20.839L algae/year
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Climate design- Swamp and algae re-use



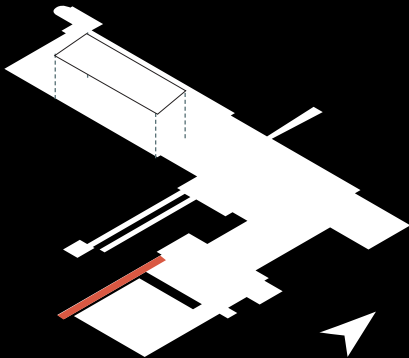


8._ TRENCH

Data:

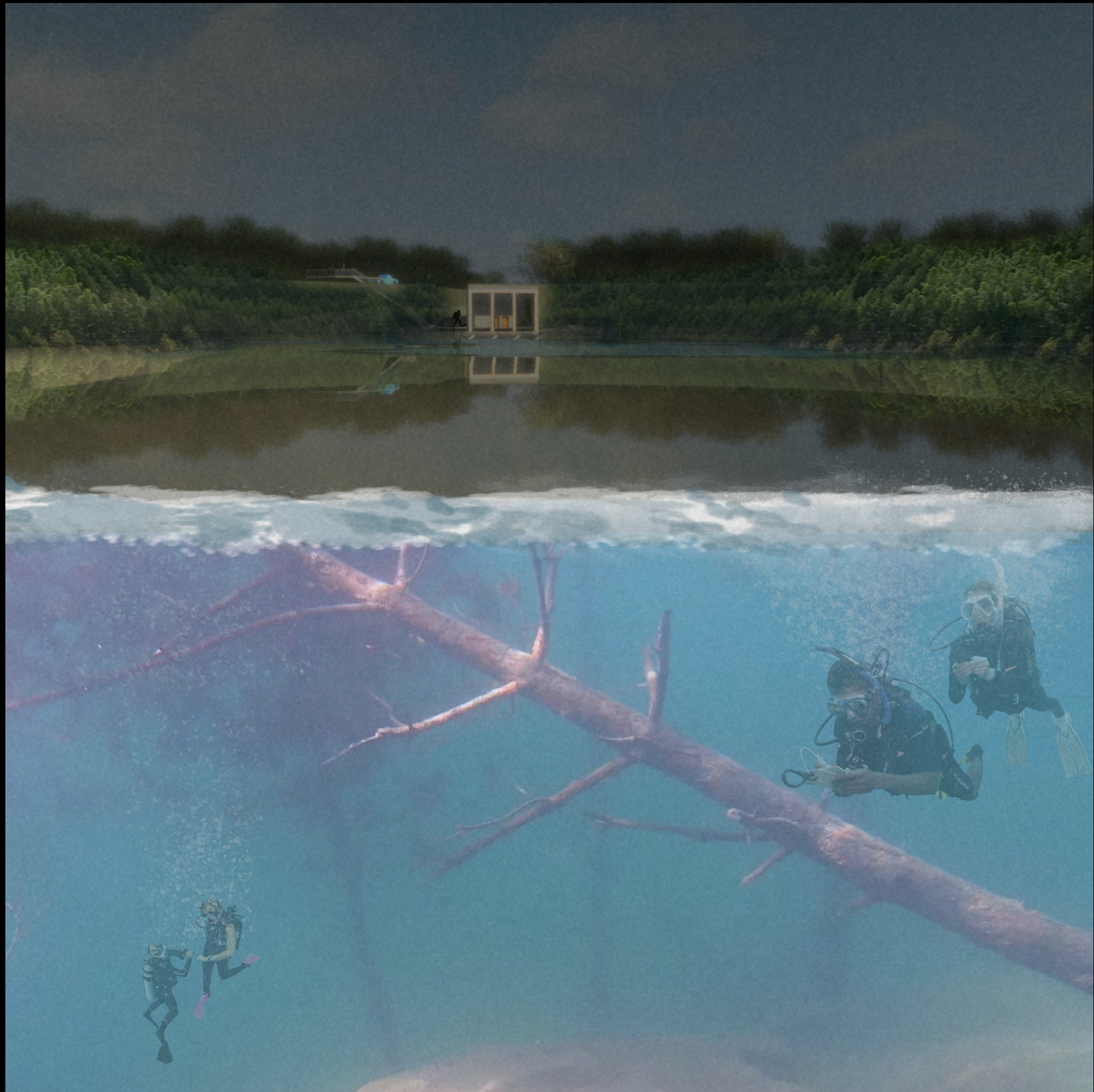
Atmosphere:	Exitement
Structure:	Natural structures
Water compatibility:	N/A
Sound:	Silent
Temperature:	Depending on season
Natural ventilation:	N/A
Materials:	
	 
Movement:	One-Directional, Guided by Perspective
Interior/exterior tension:	Nature slowly taking over artificial structure
Communitas:	Together with graduated group
Light:	Depending on time of day

Place in building:



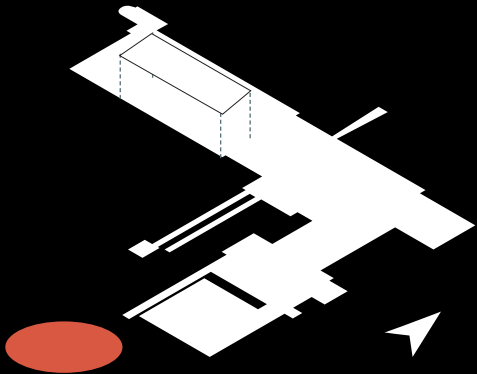
Impression- Modi Operandi Workshop





9._ Quarry reservoir and Pavillion

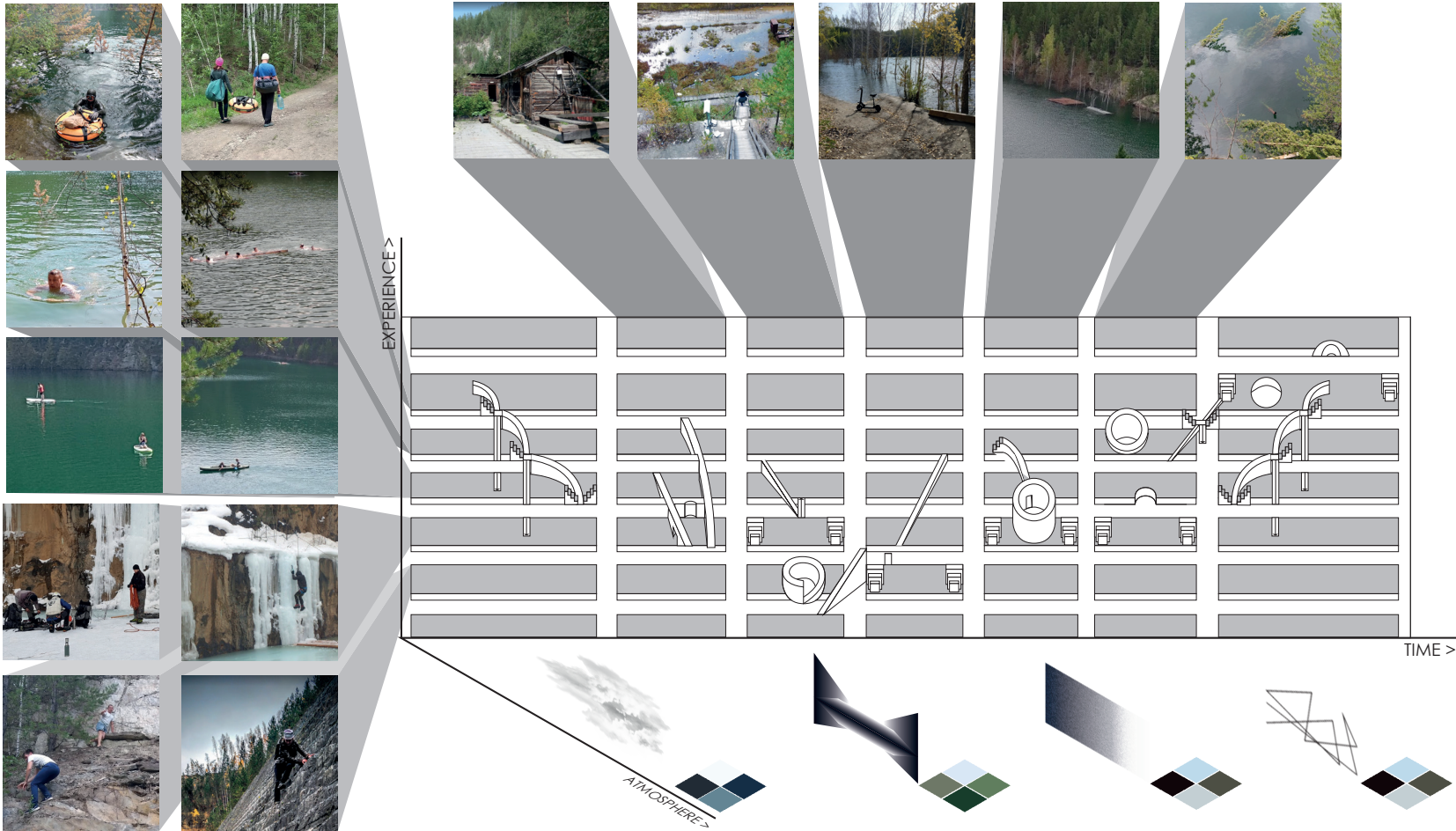
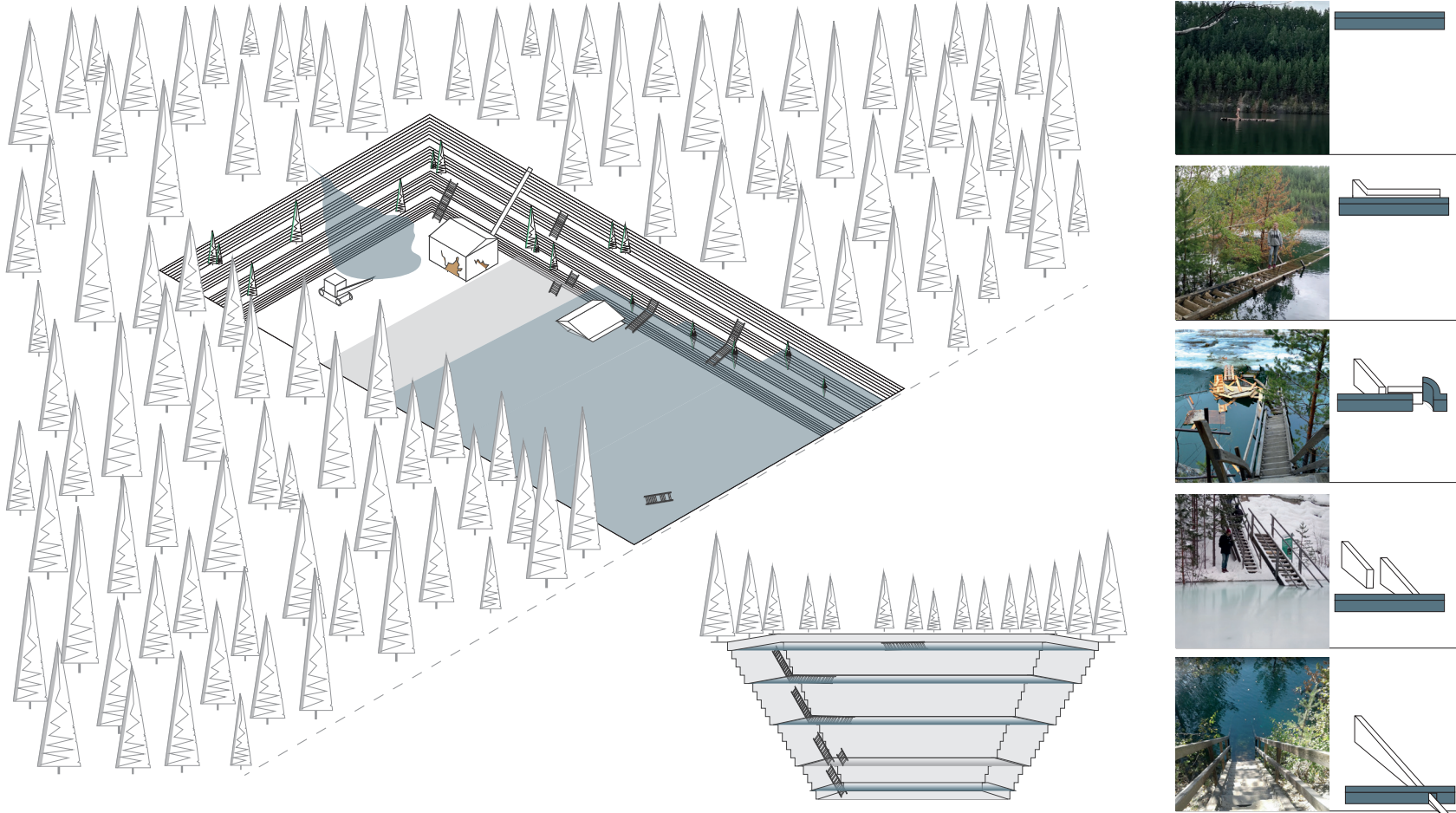
Data:	
Atmosphere:	Relieve/Reflective
Structure:	Naked structures
Water compatibility:	Subordinate to the water
Sound:	Echoing
Temperature:	Depending on season [OUTSIDE] 21°C [INSIDE]
Natural ventilation:	June to August
Materials:	  
Movement:	Multi-Directional, Guided by Compass One-Directional, Guided by Light
Interior/exterior tension:	Pavillion Lighted from Quarry, clear tension
Communitas:	Group Dives and Reflection
Light:	Depends on Day time
Place in building:	



Location- Quarry over time



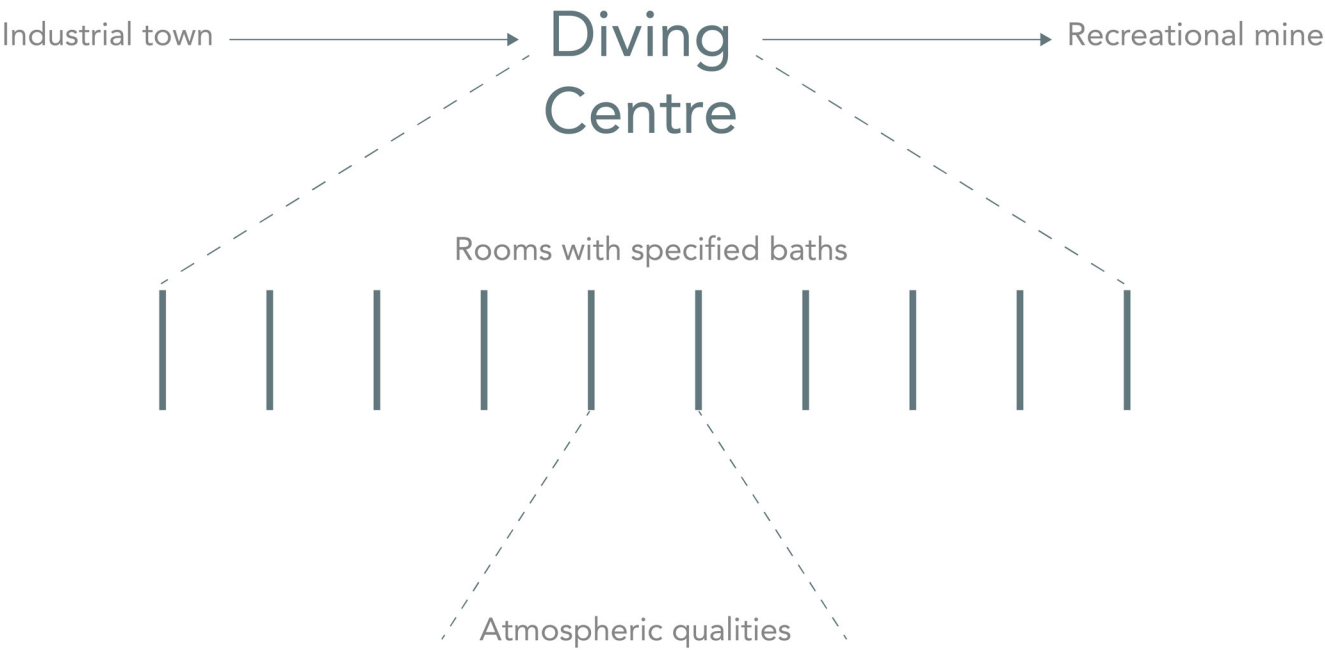
Location- Liminal transition of the Quarry over time



Conclusion - Overview of the building



Design



THE ARCHITECTURAL INTERMEZZO

THE ARCHITECTURAL INTERMEZZO

The end. Thank you for your attention.