

# SJØSKRENTEN BATH

# SJØSKRENTEN BATH

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01	The research
02	The process
03	The project



## 02 THE RESEARCH

The research includes light studies, water studies and study trip.

Light studies: The sun curve together with the terrain gives information on the exact light conditions on the site. By being from the arctic area myself, I have experience with polar nights and polar days- for instance, I know that it might not be completely dark the entire day during the winter, and I know that when the sun is just below the horizon, the colors almost explode on the sky. This experience and the sun curve have given me clarity on how to orient the bath on the site. I have also looked at different light sources and ways to use light - as inspiration.

Water studies: By looking at baths through history and cultures I have gained an understanding on baths and the ritual of bathing. I have used the case studies as both inspiration and in defining the size and program of Sjøskrenten bath.

Study trip: I went on a study trip to Longyearbyen on the 18th – 20th of September. At the trip, I did site research and I talked to people who live and work in Longyearbyen.

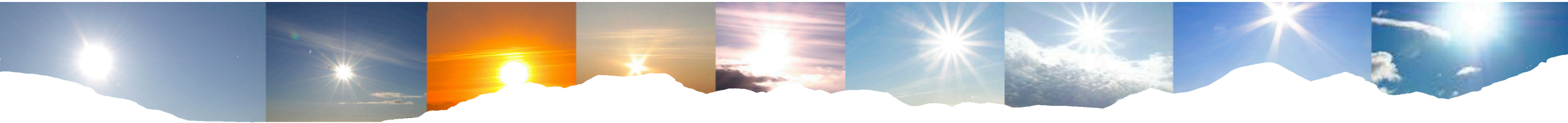
LIGHT STUDIES



the site, 360°



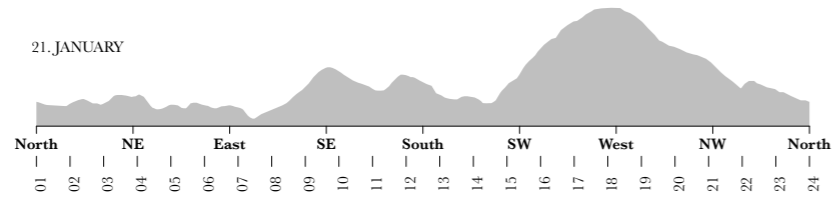
light through the day, end of February



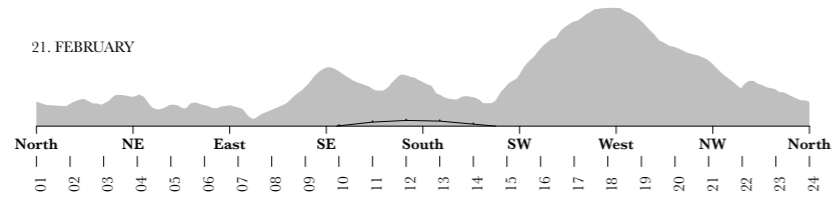
light through the day, end of August

# SUN CURVES

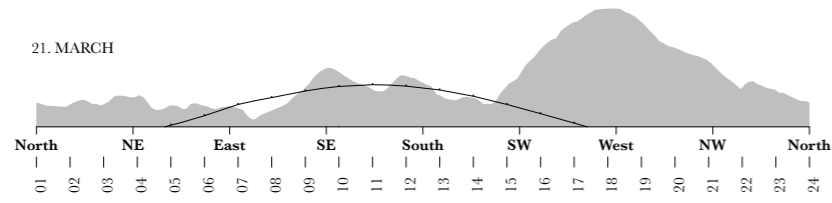
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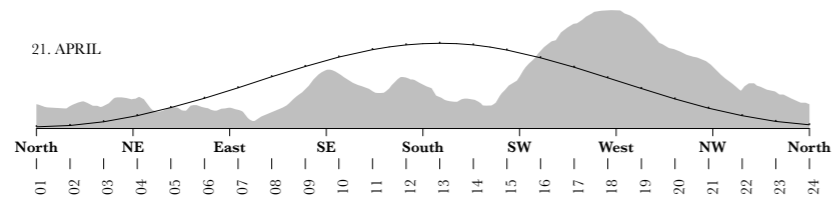
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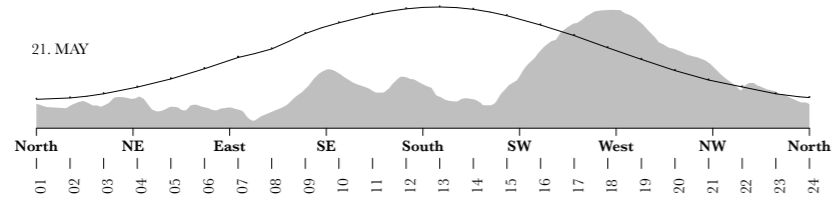
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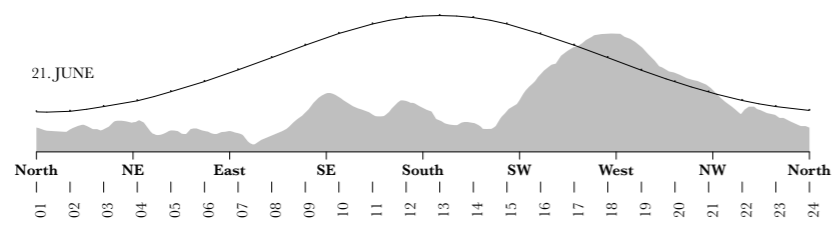
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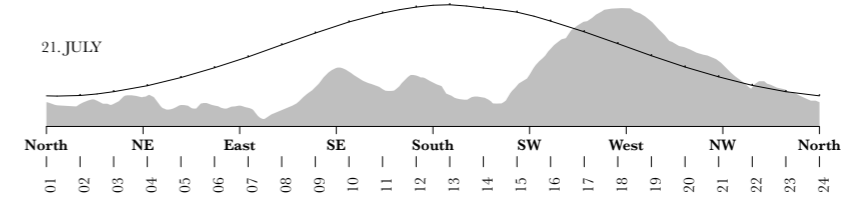
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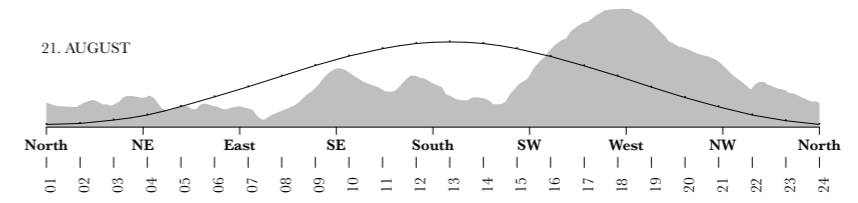
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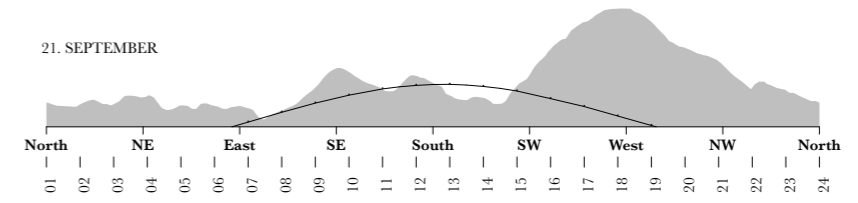
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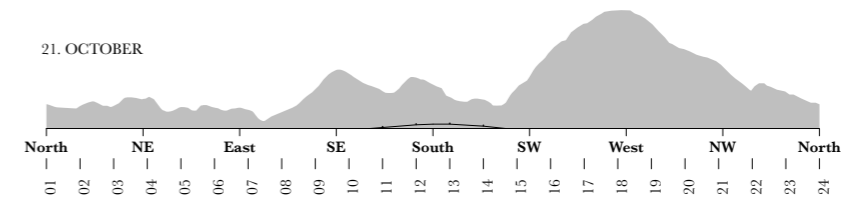
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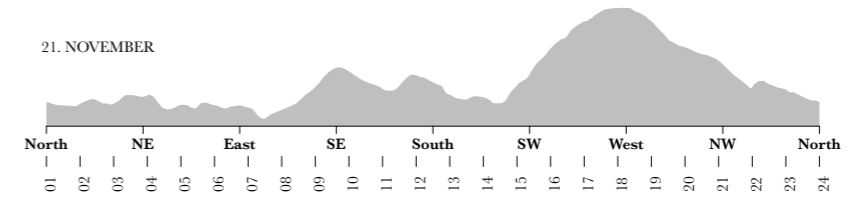
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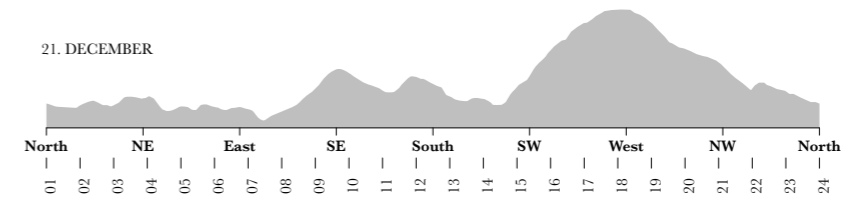
21. OCTOBER



21. NOVEMBER

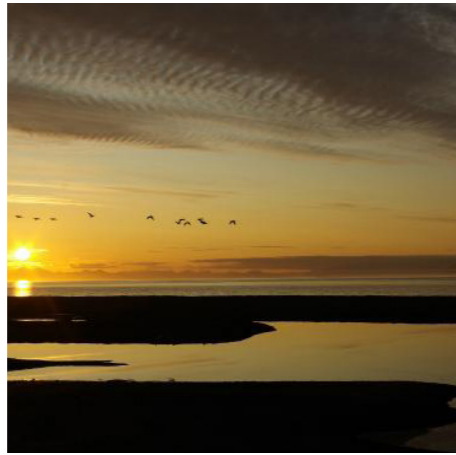


21. DECEMBER





LIGHT SOURCES



midnight sun



city lights



direct sunlight



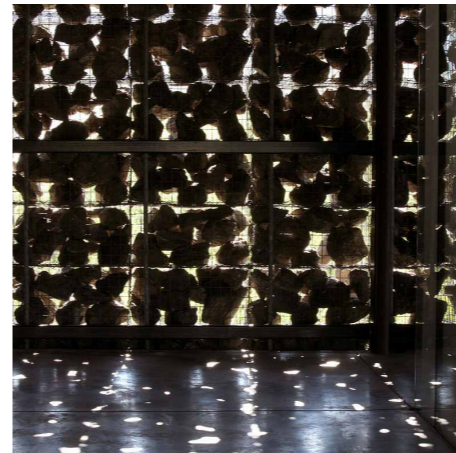
indirectly



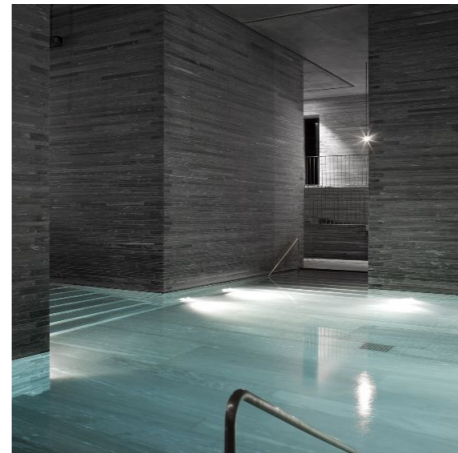
moon light



candle light



filtered



through water



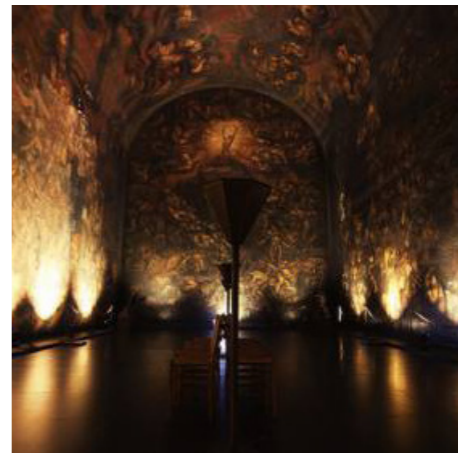
northern lights



electricity



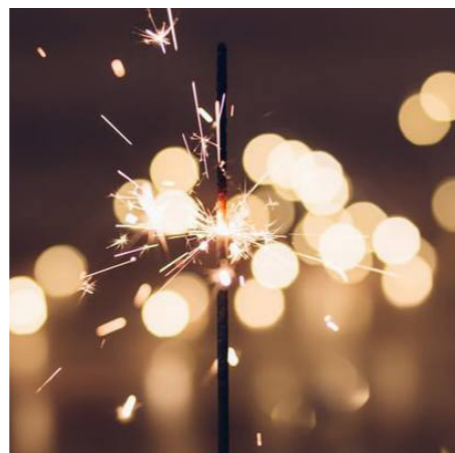
in facades



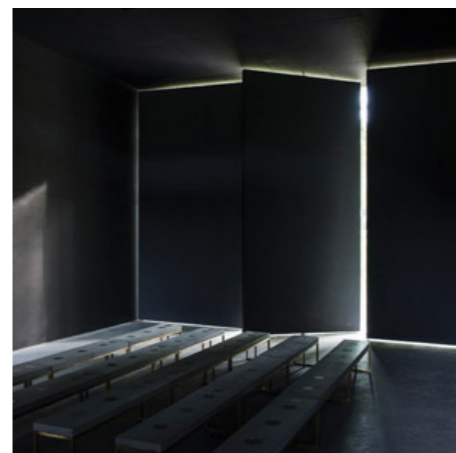
only artificial light



daylight



chemical



close to no light

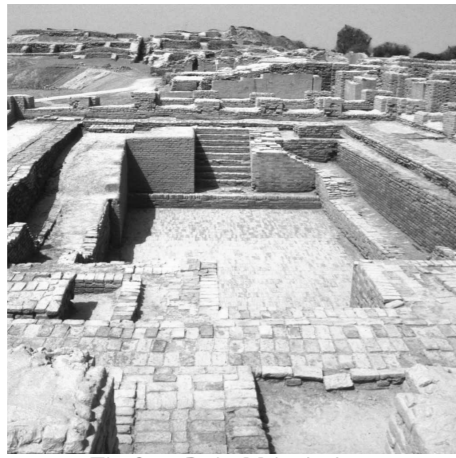


framed lighting

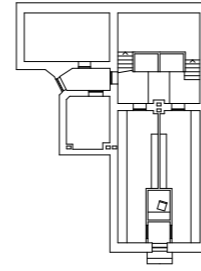
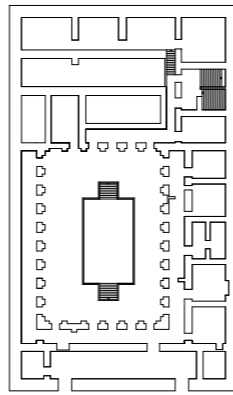
USE OF LIGHT



CASE STUDIES



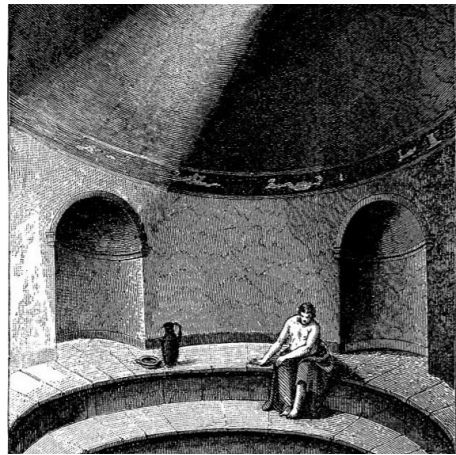
The Great Bath - Mahenjo-daro



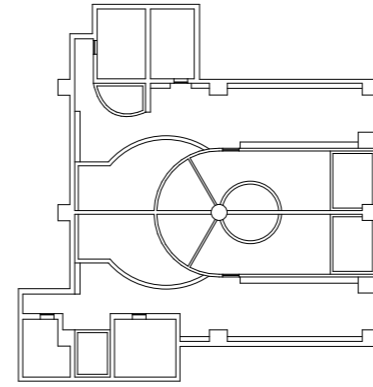
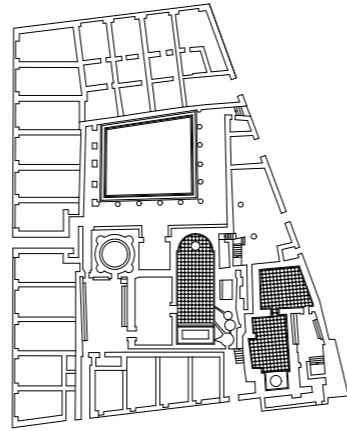
5m



Rajaportin Sauna



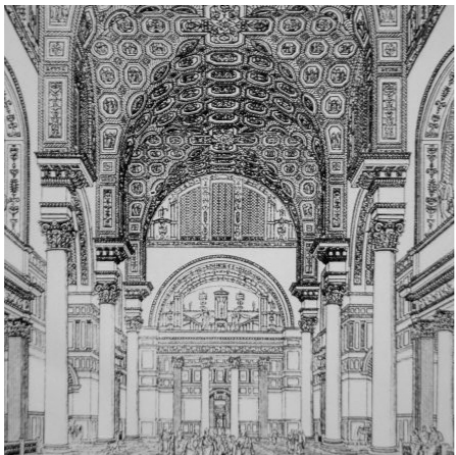
Old Bath in Pompeii



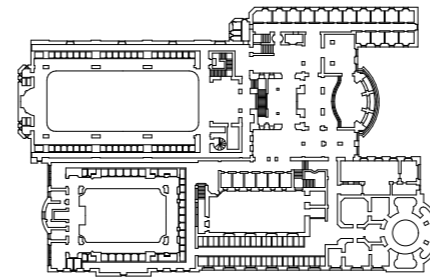
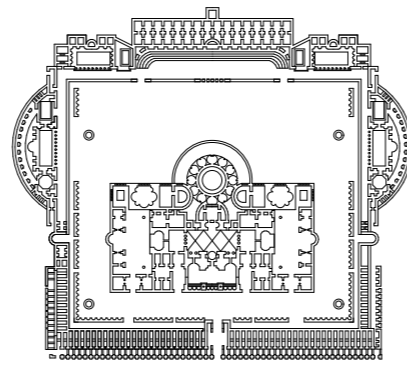
5m



Matsunoyu Sento



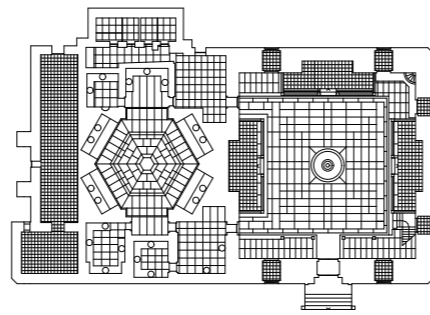
Caracalla Bath, roman bath



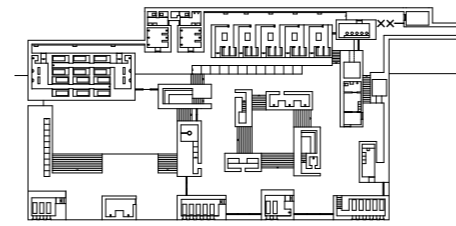
Müller'sches Volkbad, Munich



Kilic Ali Pasa Hamam



5m



5m



Therme Vals



WATER EFFECTS



dripping



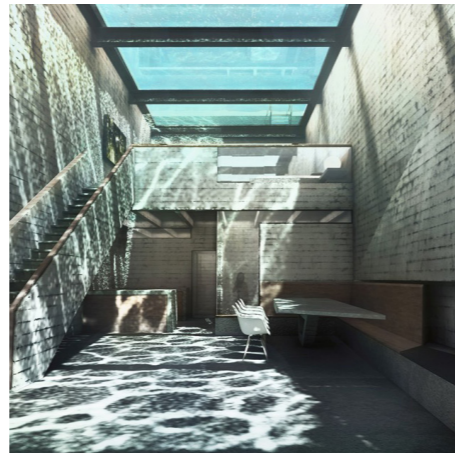
spraying



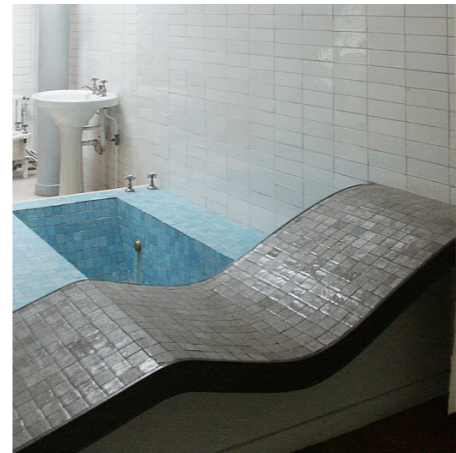
edge pool



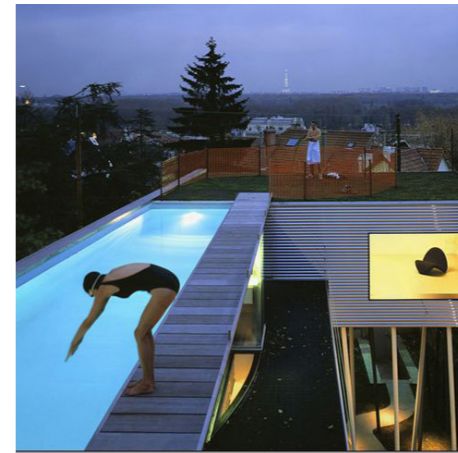
frozen



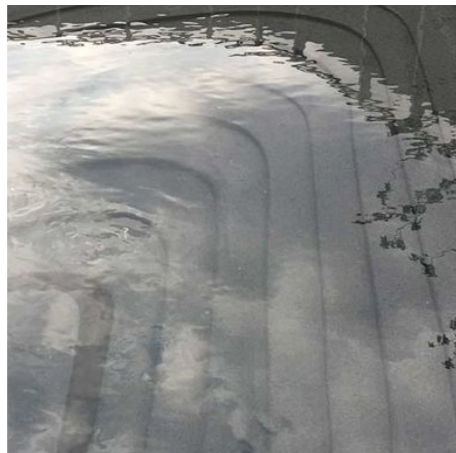
under water



bathbubs



lap pool



transparency



fog



recidential



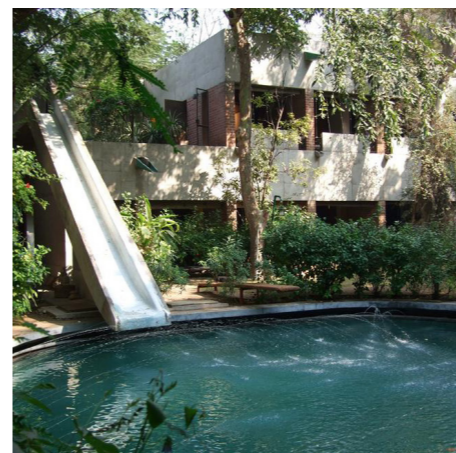
spa / treatment



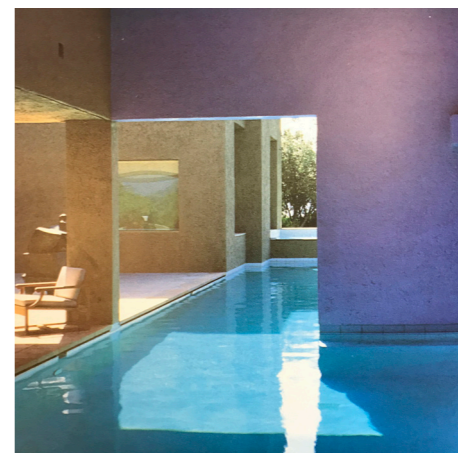
sound



reflection



leisure pool



indoors - outdoors

TYPES OF POOL



## STUDY TRIP - SHORT REFLECTIONS

Svalbard has a rough nature and harsh climate. The landscape is exposed and the mountains are sharp and pointy. The weather is cold and the colors of the light is spectacular, even when the weather is grey.

The architecture of Longyearbyen is simple, as in most of the cities that were rebuilt after the second world war. The most special thing about the architecture in Longyearbyen is that almost every building is placed on stakes to prevent the permafrost to melt. Many of the buildings has "skirts" to hide the stakes, but some has the stakes exposed. Some people will recognize the architecture of Longyearbyen as hostile or unfriendly. Hard materials and protection against the weather might be the reason for this.

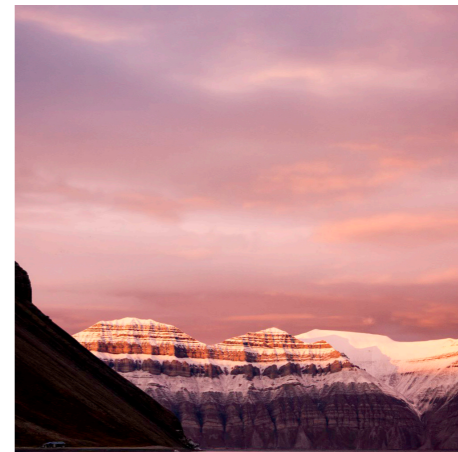
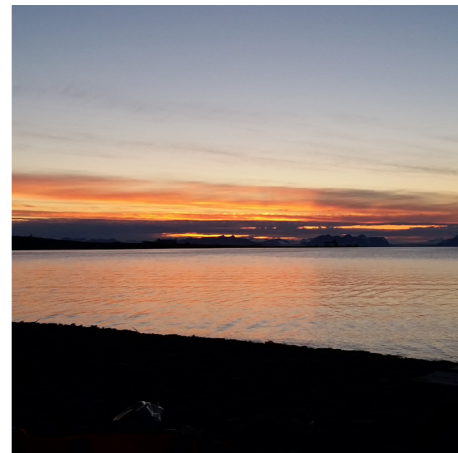
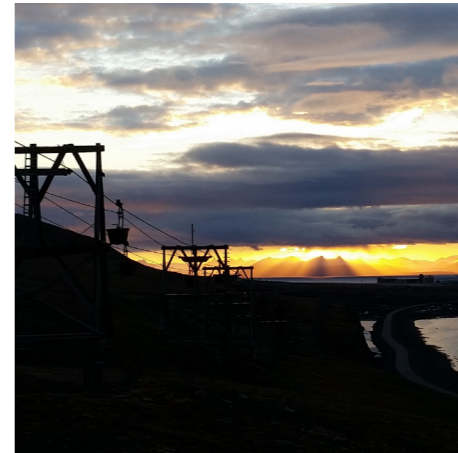
Svalbard has no natural building resources, everything has to be transported to the site. Longyearbyen is in a valley and the last years there has been some avalanches and there is still areas that are in risk. Lokaltstyret and Sysselmannen, the local government, has big intentions for Longyearbyen. More housing is to be built in safe areas, the shoreline is to be transformed from an industrial area to housing and leisure, and the focus has changed from mining to tourism. The river is supposed to be prevented from landslide soon, this makes more land available for building. There is a lot of cultural heritage in Longyearbyen. This heritage include mostly old building parts from the mining industry, but also environmental heritage such as land types.

The site is on the shoreline which is supposed to be transformed, and the program is according to the intentions for Longyearbyen's future.



# STUDY TRIP

- My impression of Svalbard in photos.





### 03 THE PROCESS

Research was the first step in the process, this "chapter" focuses on the design process and shows sketches and important milestones. Sketch books will be available to compliment this part of the booklet.

Important things that I have focused on during the design process has been:

Construction - how to construct in the arctic where there is permafrost.

Light - how to frame different light conditions in one building

Water - how to unify different types of water (temperature, depths +)

Organization - how to organize different functions

Movement - how to enter the bath, and how to move inside the bath

Section - how to unify different levels

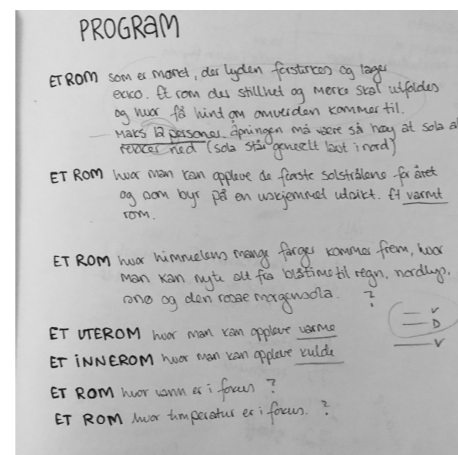
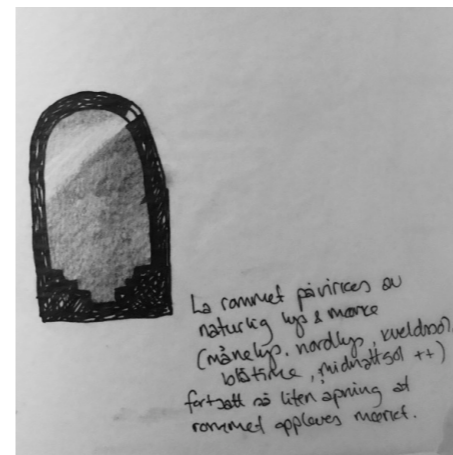
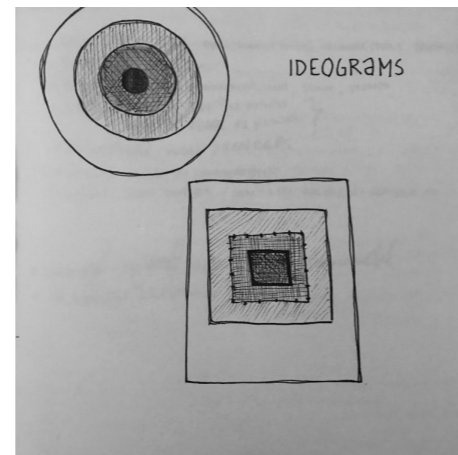
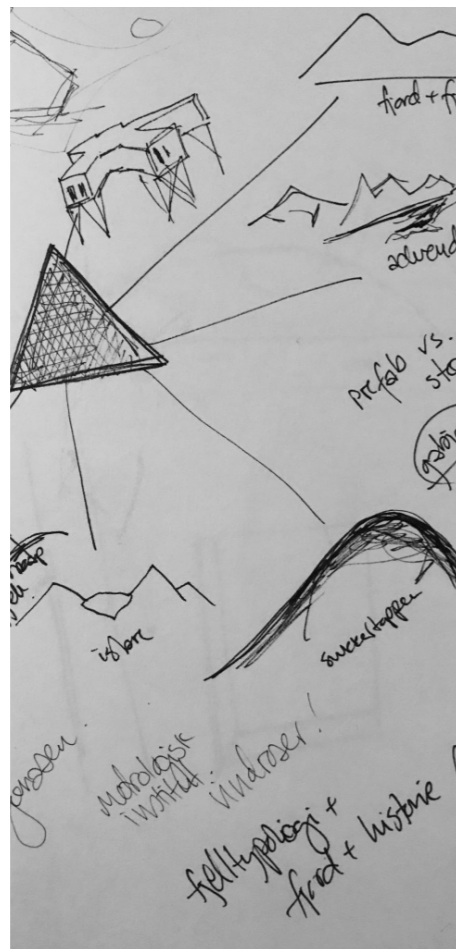
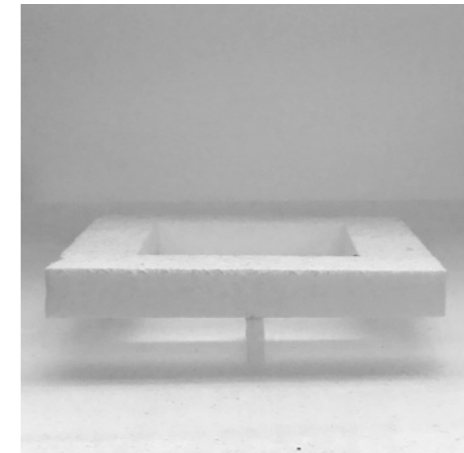
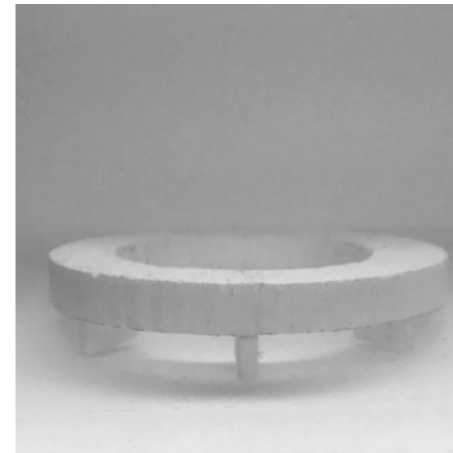
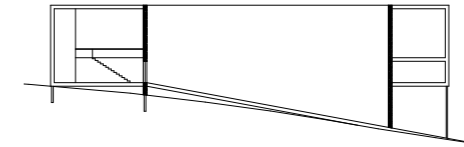
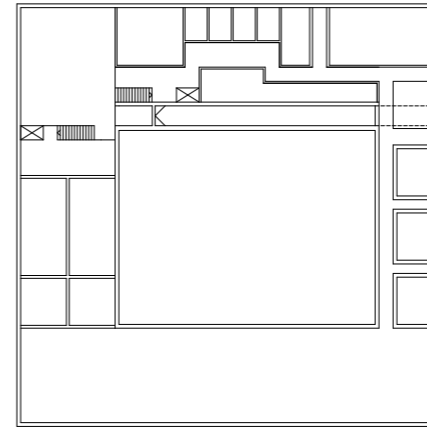
Program - what should and should not be included in the program, and what is the best sizes for the functions

Detailing - interior, facade, construction - which principle would be the best for Sjøskrenten Bath

# SEPTEMBER

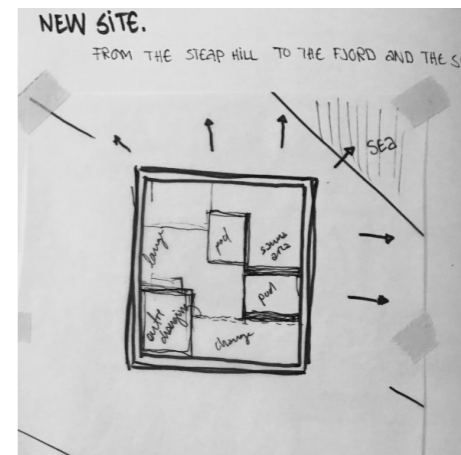
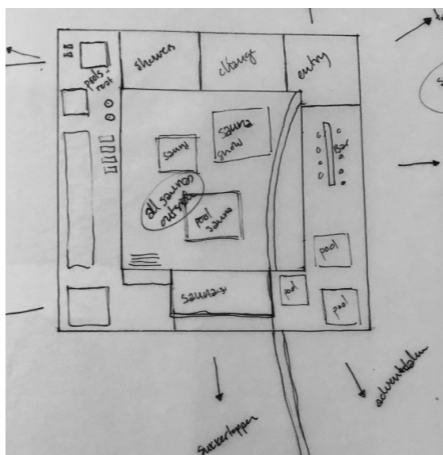
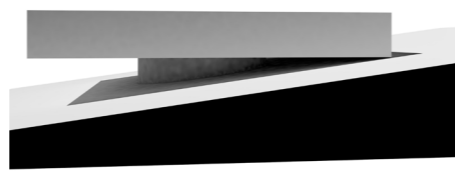
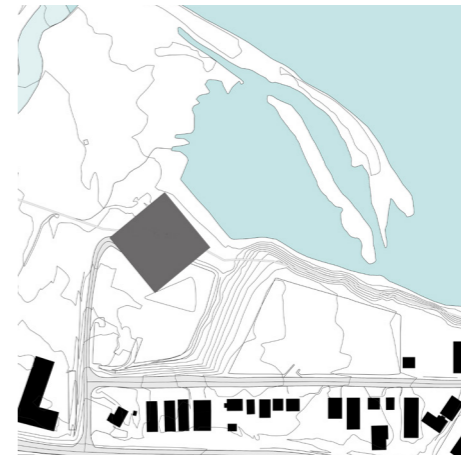
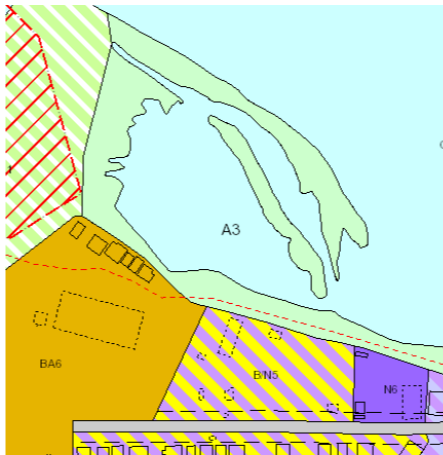
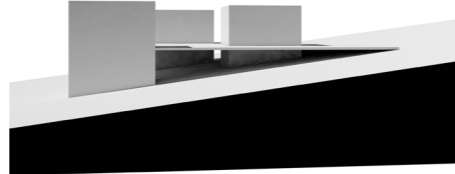
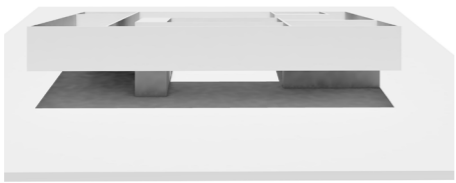
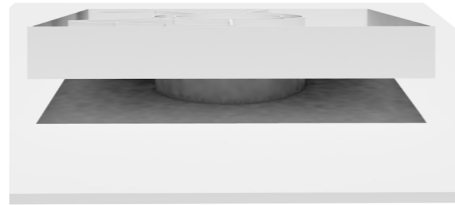
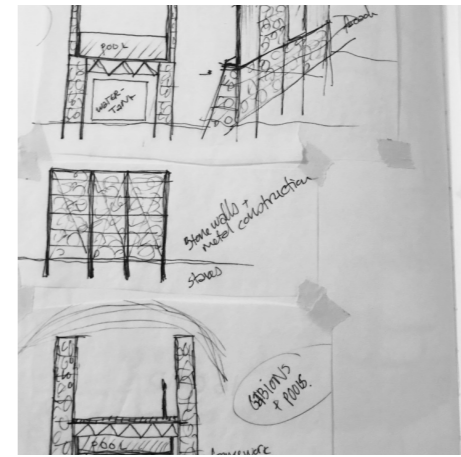
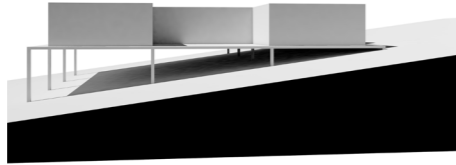
**Keywords:**

Getting the first idea, both when it comes to volum and spaces. I was working on a site on the hillside that has very good light conditions and great views. This site later changed to the shoreline to get more in touch with the water and to follow the intentions of Longyerbyens thought for the future.



# OCTOBER

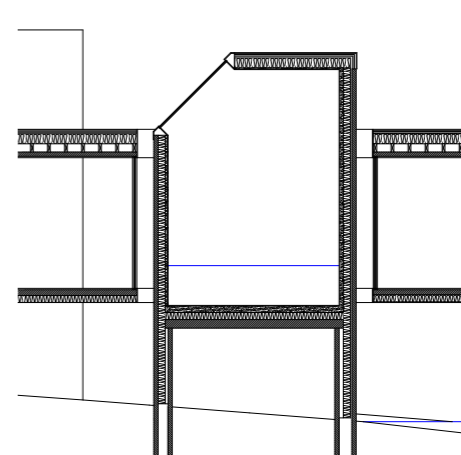
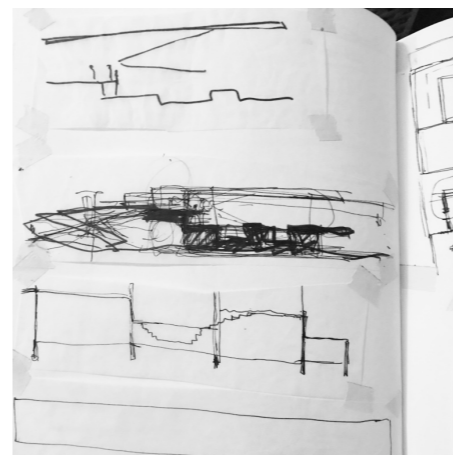
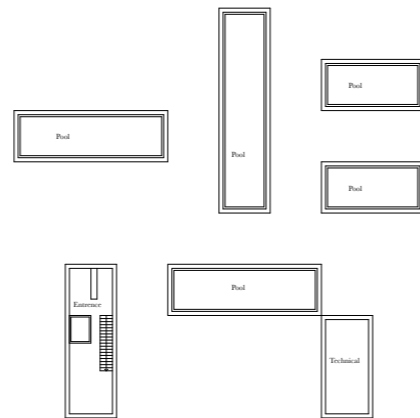
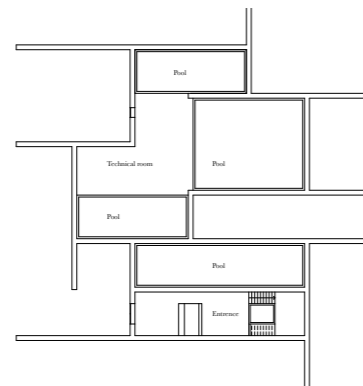
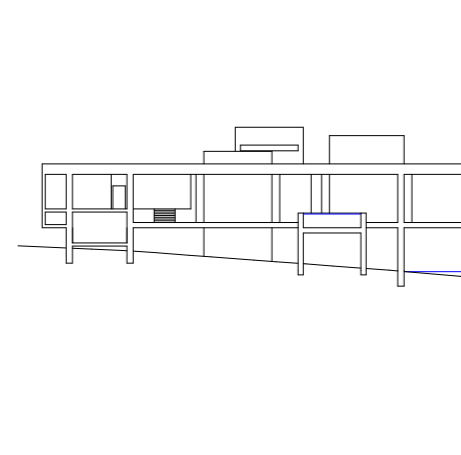
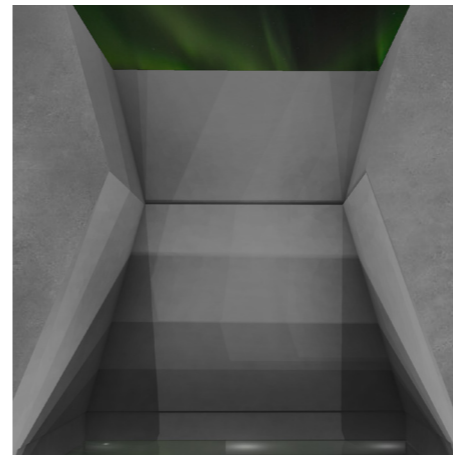
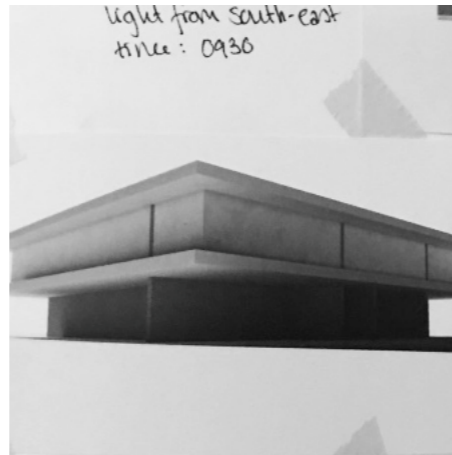
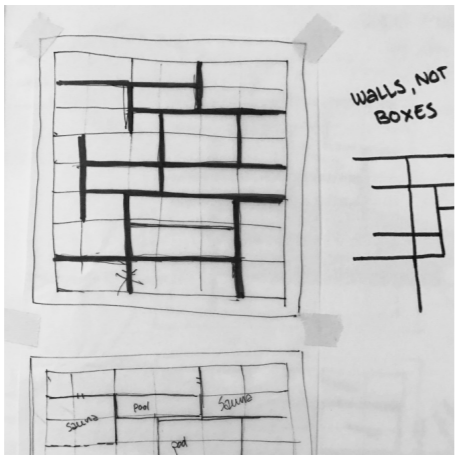
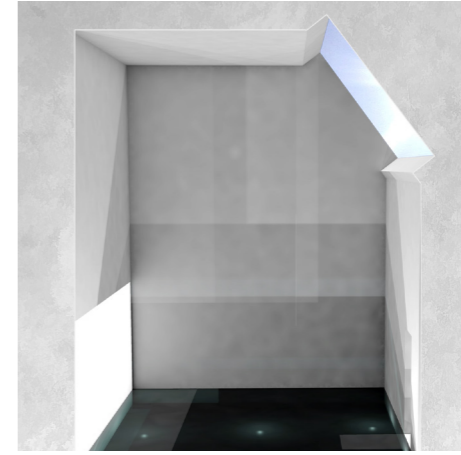
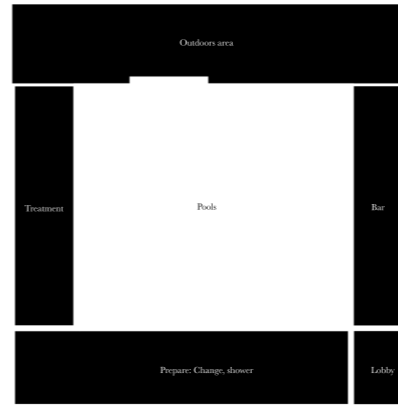
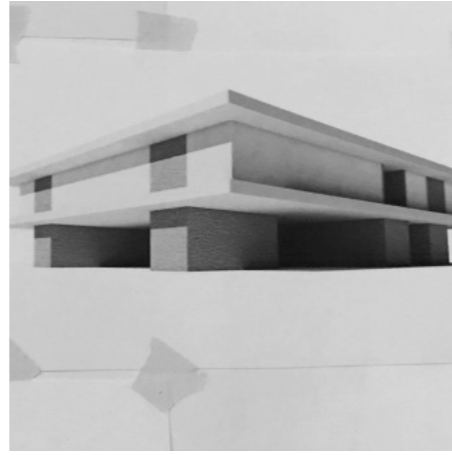
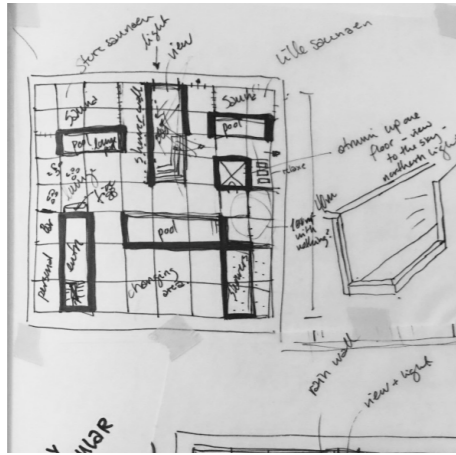
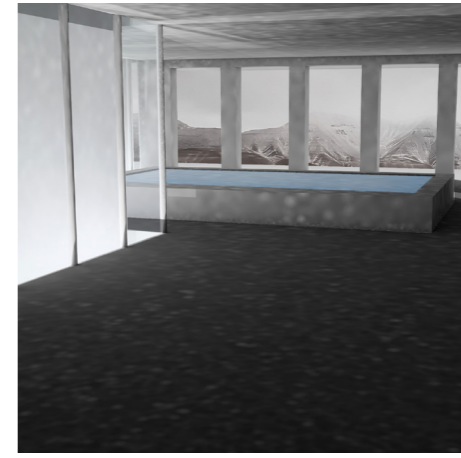
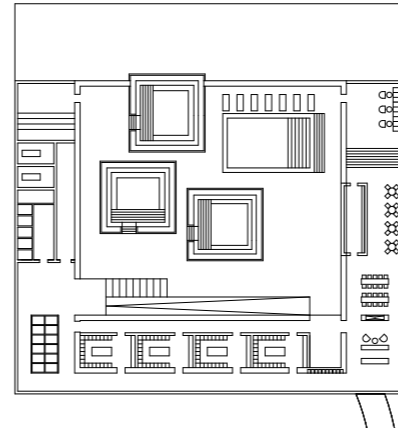
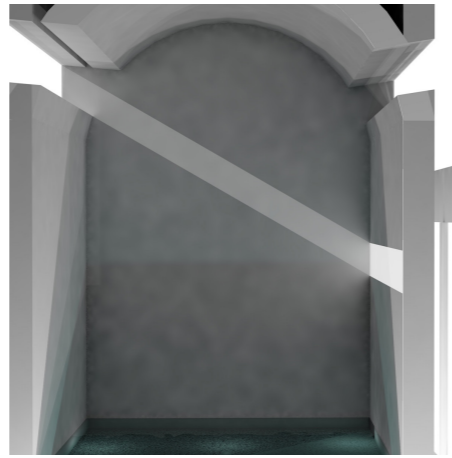
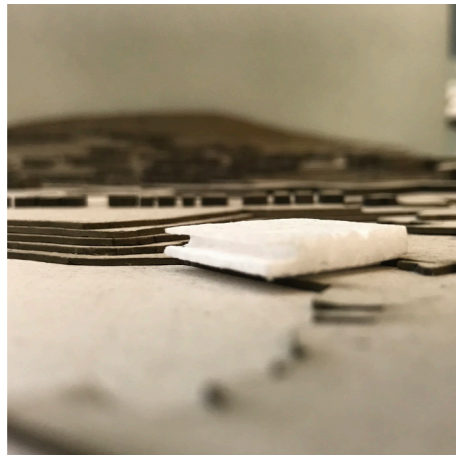
Keywords:  
working with volum and organisation. Plans  
were drawn to the quick renders. Site  
changed from the hillside to the shoreline.



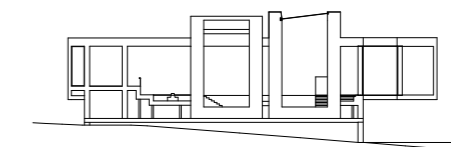
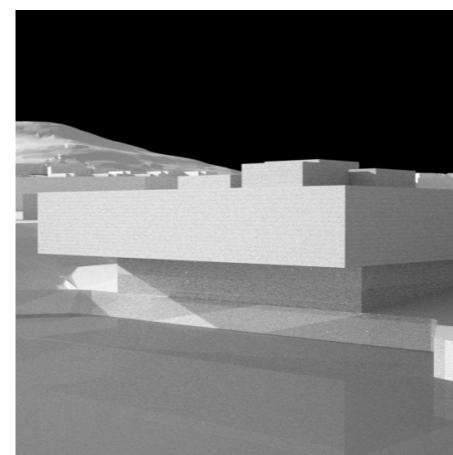
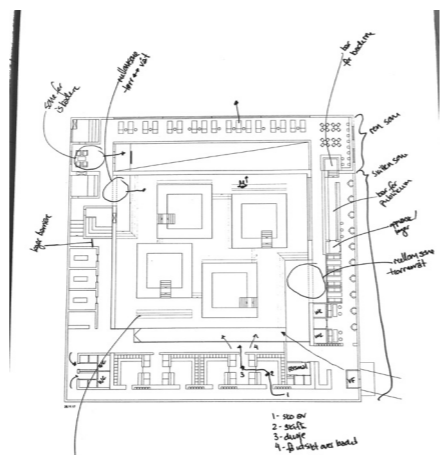
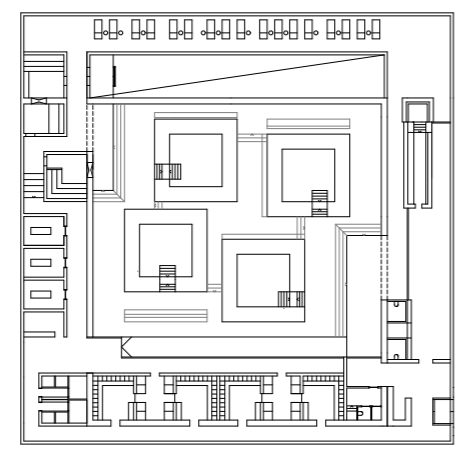
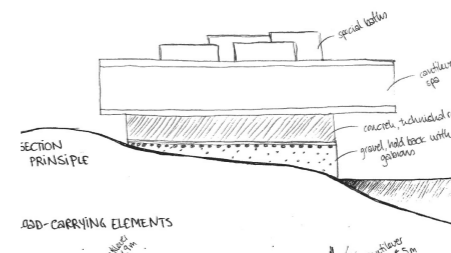
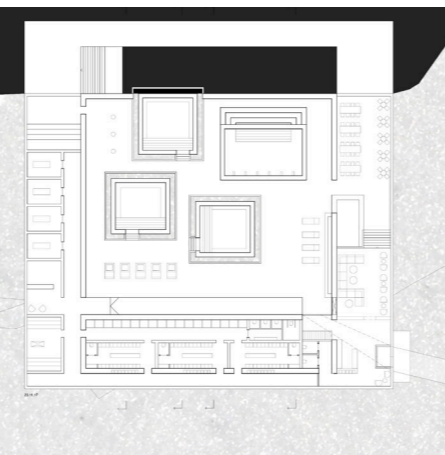
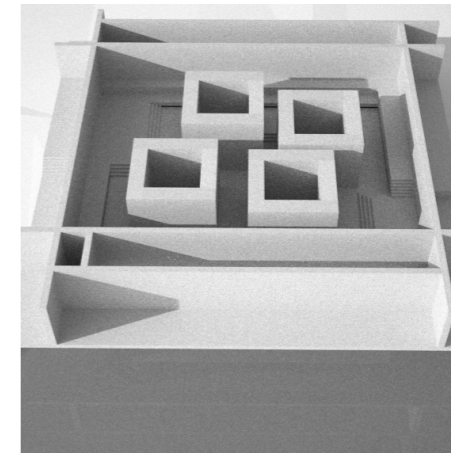
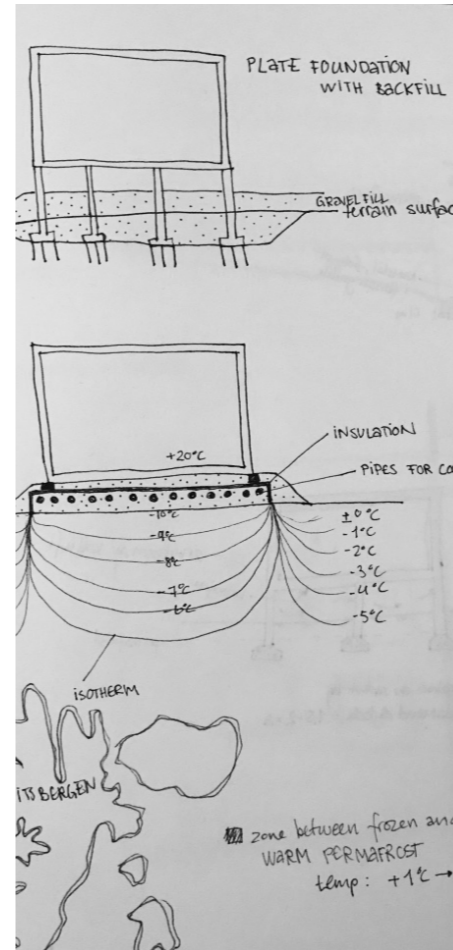
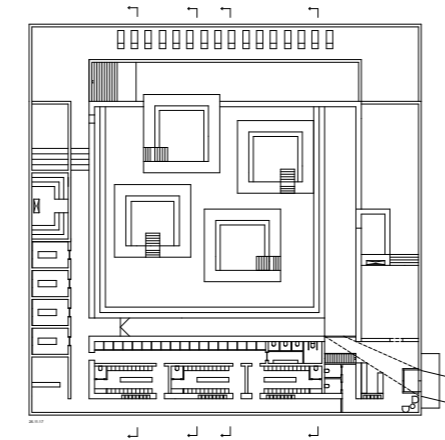
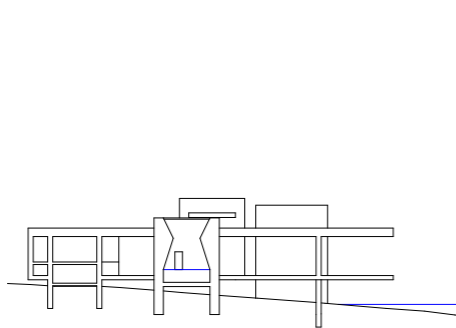
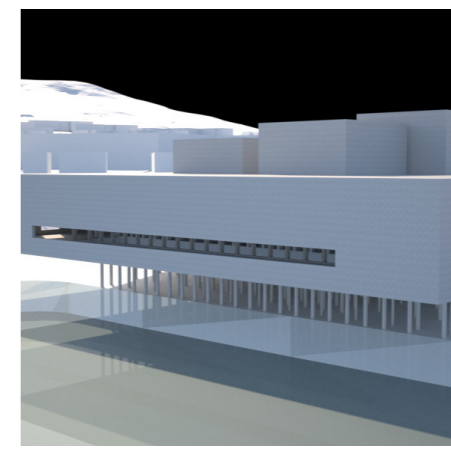
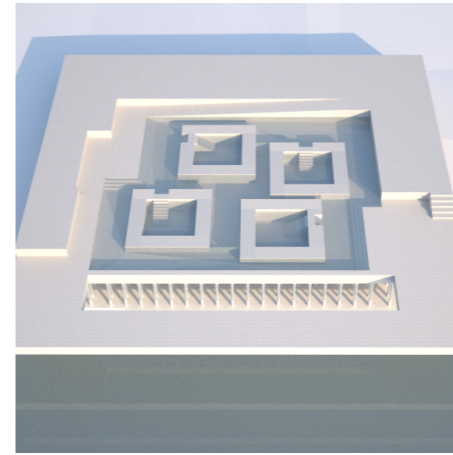
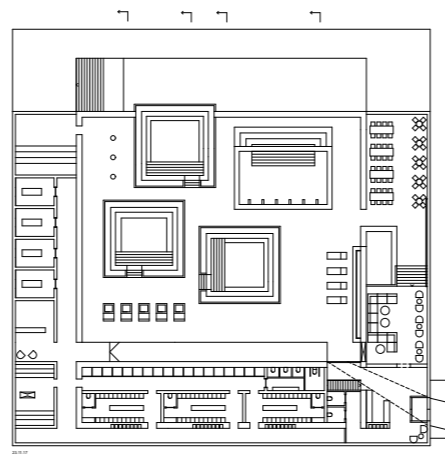
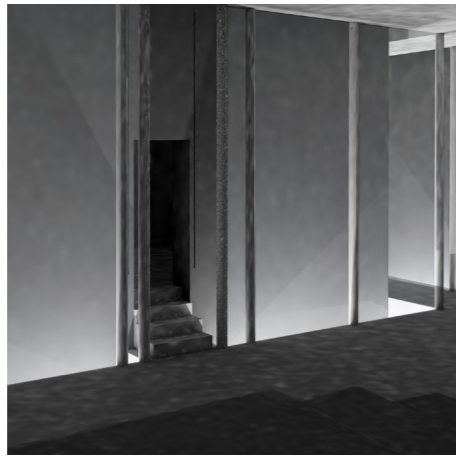


# NOVEMBER

Keywords:  
Organization, light condition, section and construction - new construction principle that uses cool fluid to make artificial permafrost.



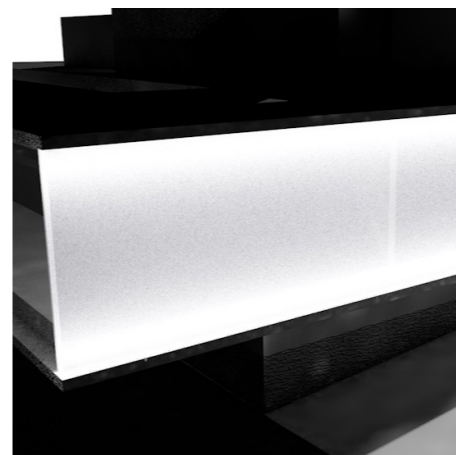
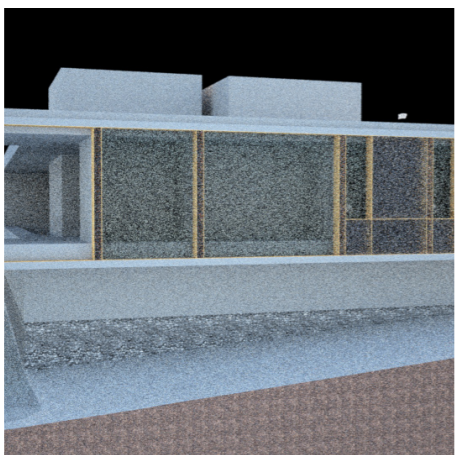
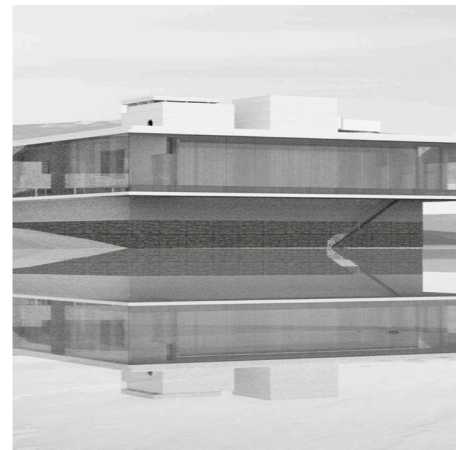
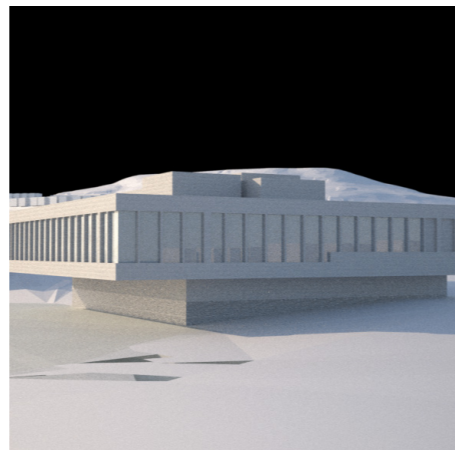
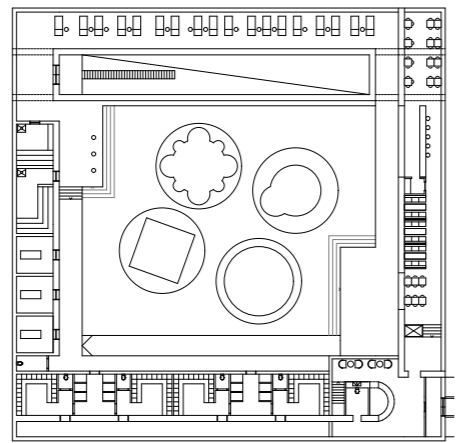
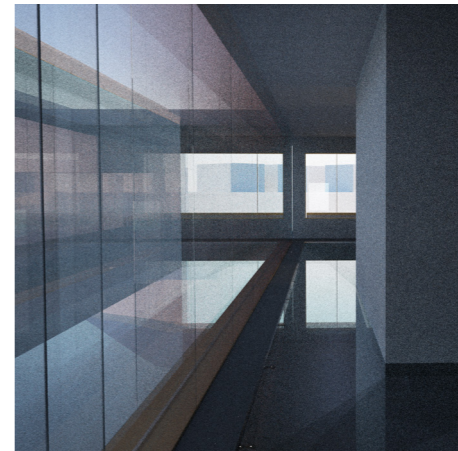
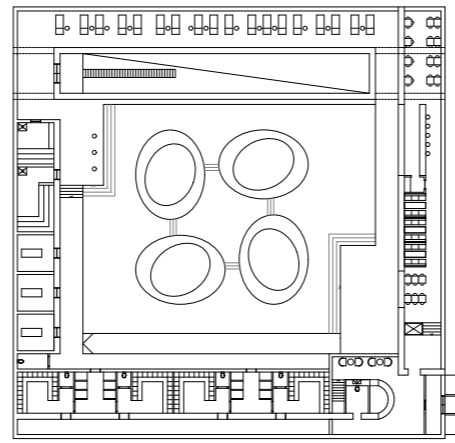
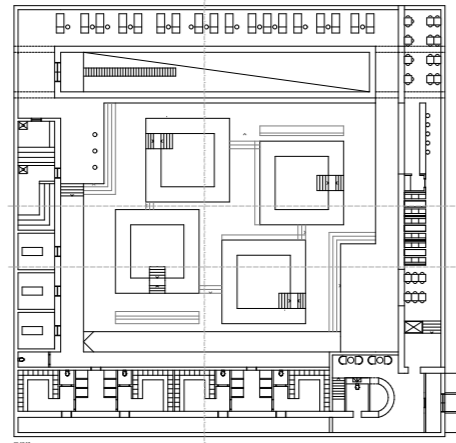
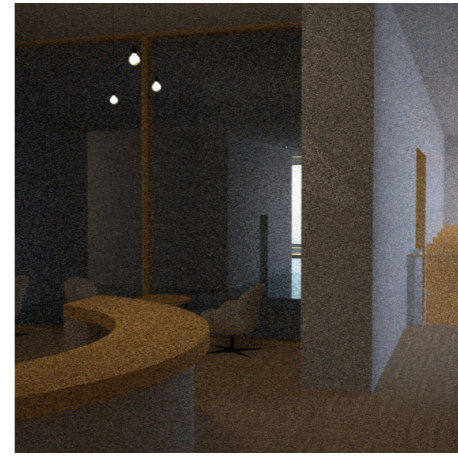
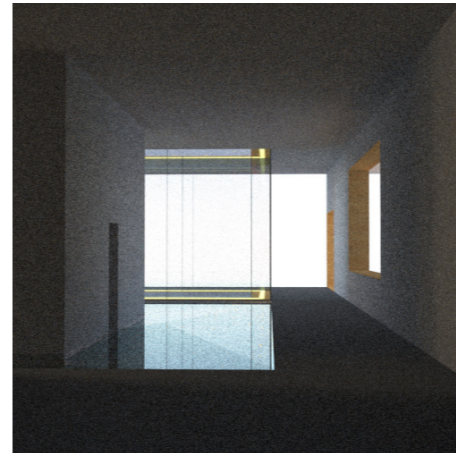
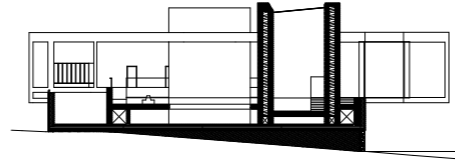
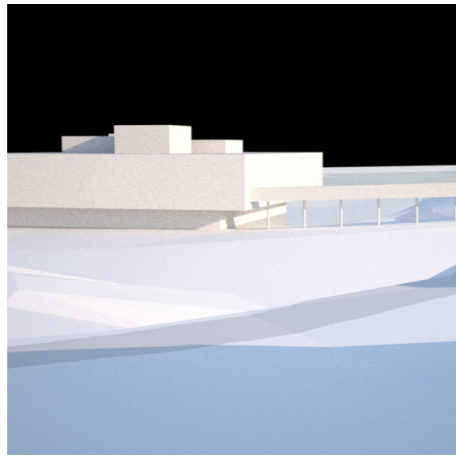
NOVEMBER





# DECEMBER

Keywords: finalizing, rendering, produce drawings, testing.



## 03 THE PROJECT

Sjøskrenten bath is a public bath/ spa, located on Longyearbyen, Spitsbergen, Norway. Longyearbyen is a small community originated from the coal mining industry. Nowadays, there is only one operating mine left, and Longyearbyens new main source of income is tourism. Hotels and restaurants are popping up and many tourists come to Longyearbyen to experience the arctic, rough nature the arctic light: Polar nights and polar days. Longyearbyen has more polar nights and polar days than “regular” days.

Sjøskrenten bath explores the qualities of the extreme, natural light conditions in this arctic area, and contains spaces designed to emphasize the different light phenomena and weather conditions of the Arctic. The bath has an introverted core focusing on light, darkness and water. Extroverted spaces are surrounding this core, cantilevering above the sea and the raw nature. Tourism is the main income in Longyearbyen. The bath will offer tourists and inhabitants a new experience of the Arctic.

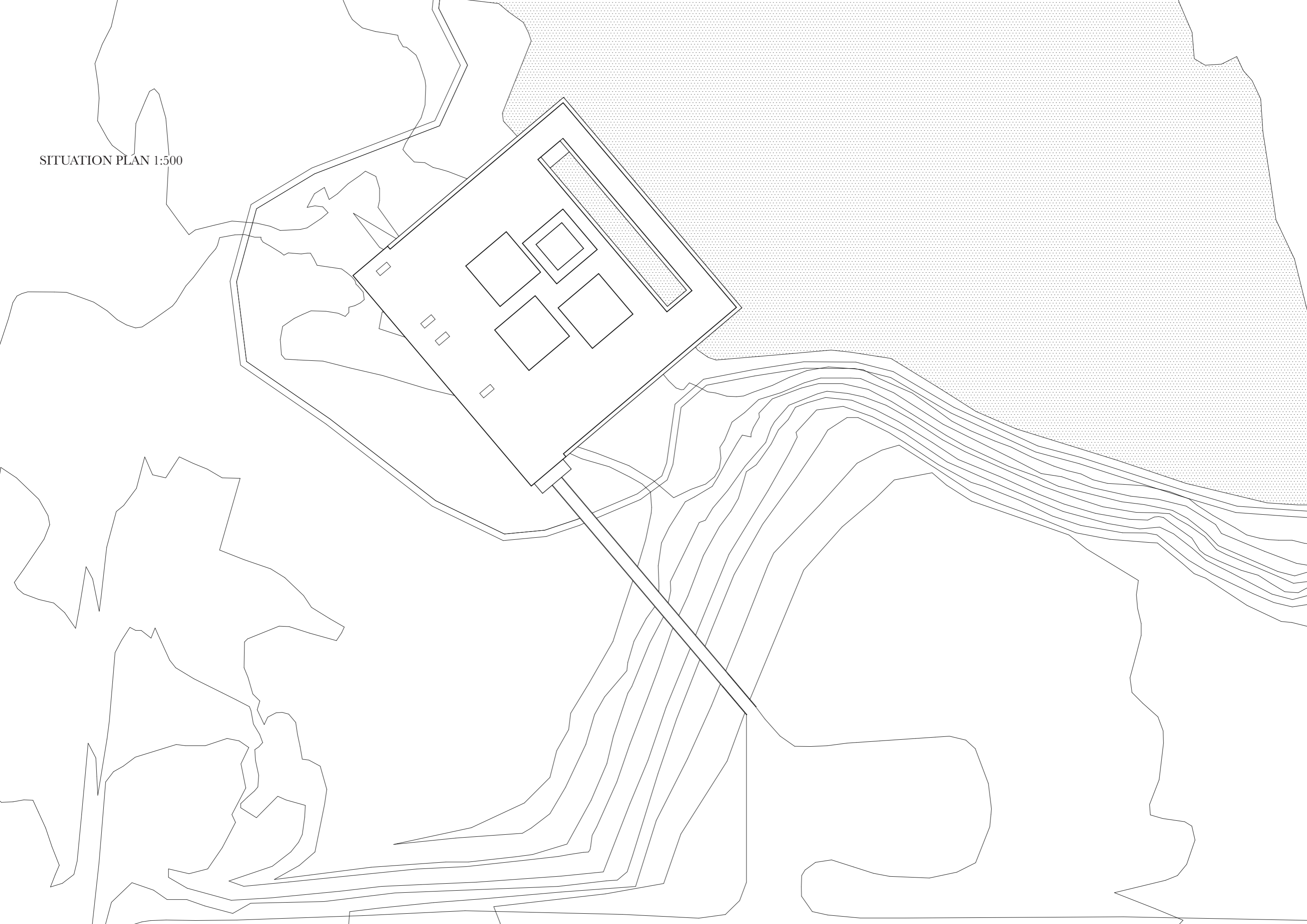
Light, darkness and water has been the main form-giving elements together with the construction: Longyearbyen has permafrost, heat from buildings can make the permafrost melt, resulting in unstable ground conditions. Due to this, the bath is placed on a platform of artificial permafrost made of gravel that are kept cold by pipes with cool fluid.

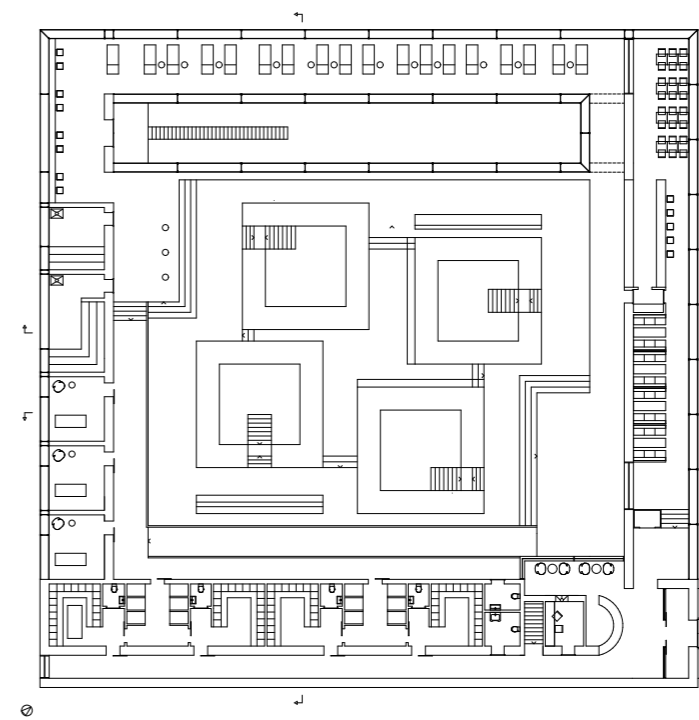
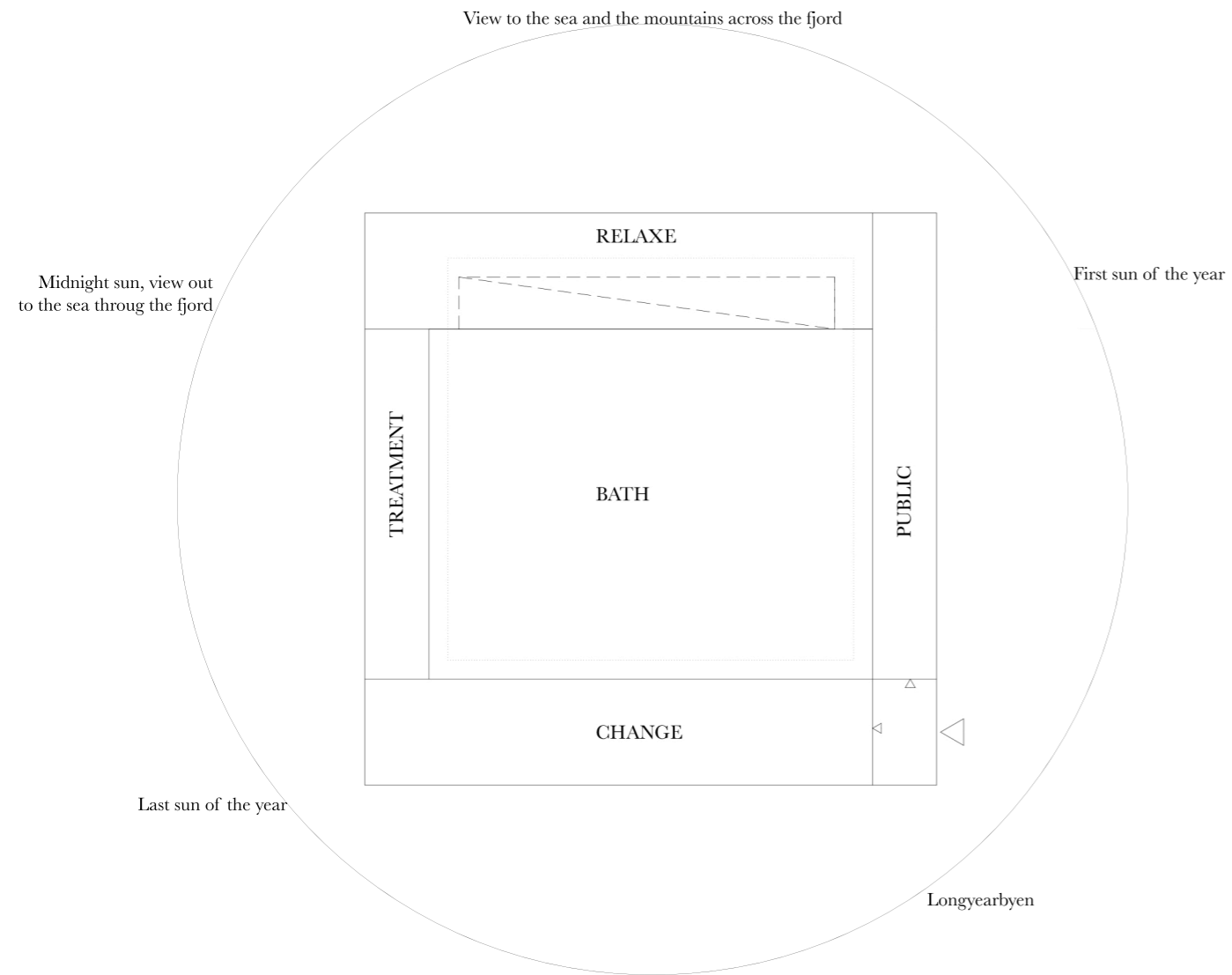
**A QUICK WALK THROUGH SJØSKRENTEN BATH:** On Longyearbyen, there are more snow-mobiles than cars, due to this, the parking area is not defined. You can enter from the road by car / snow- mobile / foot. One enters the bath itself by a walking bridge, inspired by the old mining cableways. From the vestibule you get the view to three functions: The public bar, entrance to the wardrobes and the bath itself with the large pool. **THE PUBLIC BAR** is open to anyone and is separated from the bath. The reason for adding a bar to the bath is both to provide the bathers the possibility for refreshments and to make the bath available and to activate the area. There is a wish to bring people to the shoreline - both for this project and from the local governments real intentions. After **CHANGING AND SHOWERING**, you enter the bath on a higher level to get the overview. From this point you can either walk down to the pool area or to the treatment area to get a massage. **THE POOL AREA** is introverted and focuses on only framed light conditions, while treatment rooms, saunas and relaxing areas is extroverted and focuses on getting as much light and views as possible. The pool area consists of a large pool (700mm and 1200mm deep) with areas for water massages. Inside the pool itself there are four separated pools with different light conditions: one for the first sun of the year (and the morning sun), one for the daylight, one for the last sun of the year (and the evening to midnight sun) and one for the northern lights. From the outside, these pools all look the same, but when entering through the thick wall, you will experience both different roofs, light conditions (both artificial and natural) and temperatures. From the pool area you can access the bar to get some refreshments that you can enjoy in the **RELAXING AREA** which is cantilevering above the sea and has a view straight across the fjord to the mountains. An atrium is separating the relaxing area from the bathing area. The atrium brings light to the bath and it has a small platform with a stair down to the sea - for those who want to ice bathe. **THE SAUNAS** are places close to the ice bathing platform. The sauna closest to the ice bath is a dry sauna, while the second sauna is a steam sauna. There are shower places by the saunas - for those who don't want to ice bathe. **TREATMENT ROOMS** might be the first or the last thing you enter, depending on the route you take. The rooms are kept clean and simple, the main focus is the evening light and the view out the fjord.

Sjøskrenten Bath does not only focus on the light inside, but also to bring light to the community. The facade is a mixture of concrete and a double facade with nanogel and/ or glass. Between the two layers, light fixtures are placed to bring light both to the bath during the polar nights and to the cityscape. The bath stands on a platform of gravel held together by gabions consisting of stones from Longyearbyen to blend in to the surroundings. This platform is frozen by cooling fluid to prevent the permafrost from melting. The energy from the bath is used to cool down the fluid.



SITUATION PLAN 1:500

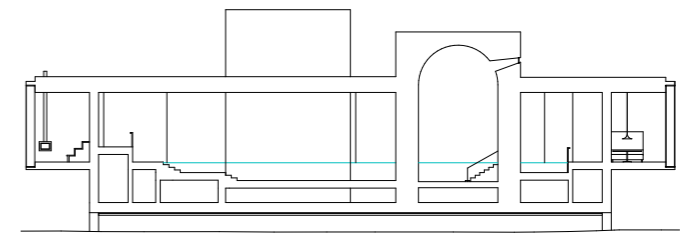
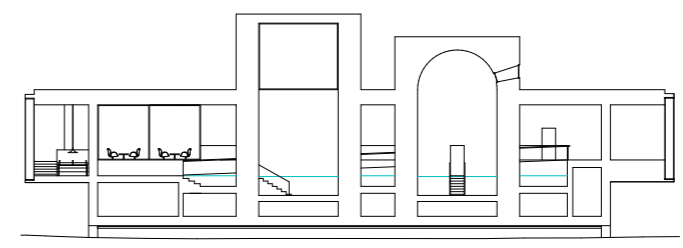
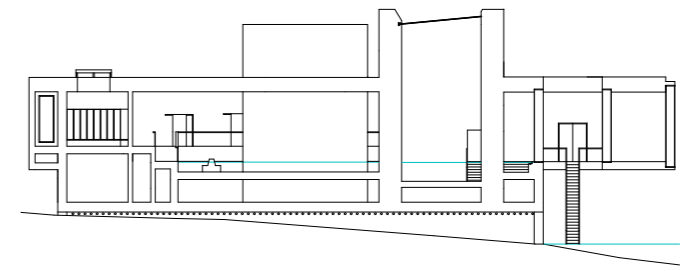






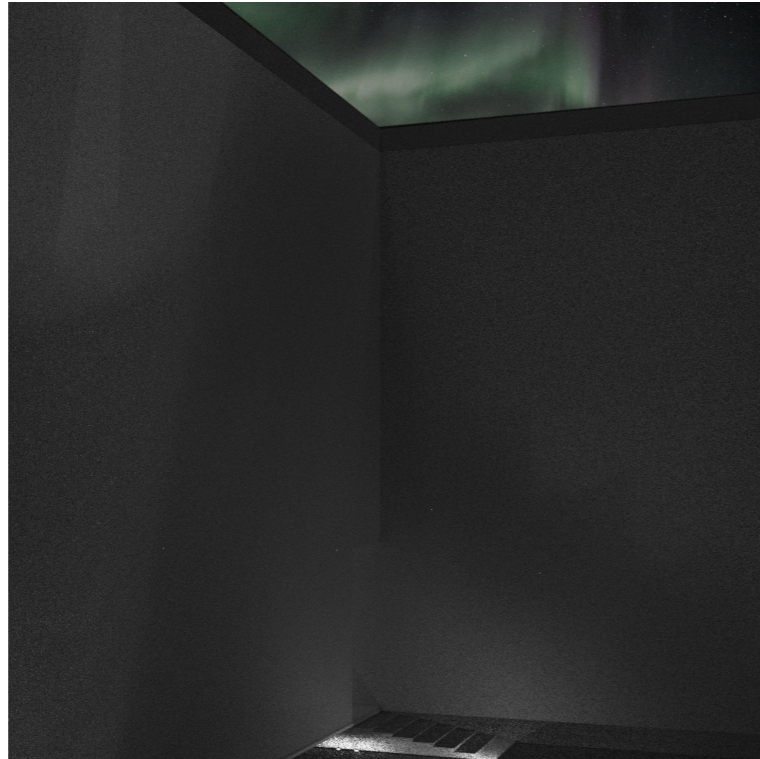


SECTIONS 1:500

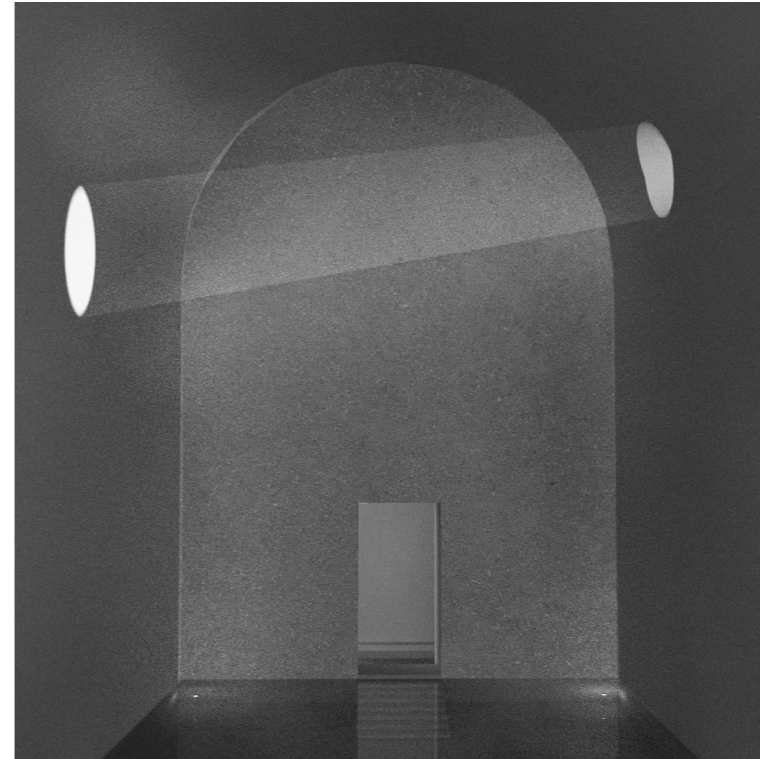




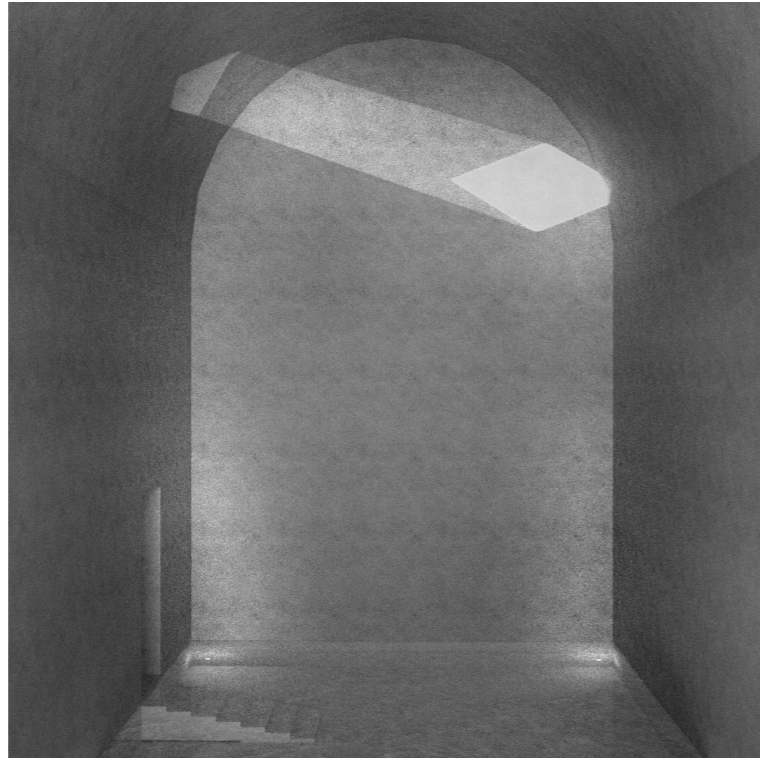
LIGHT BATHS



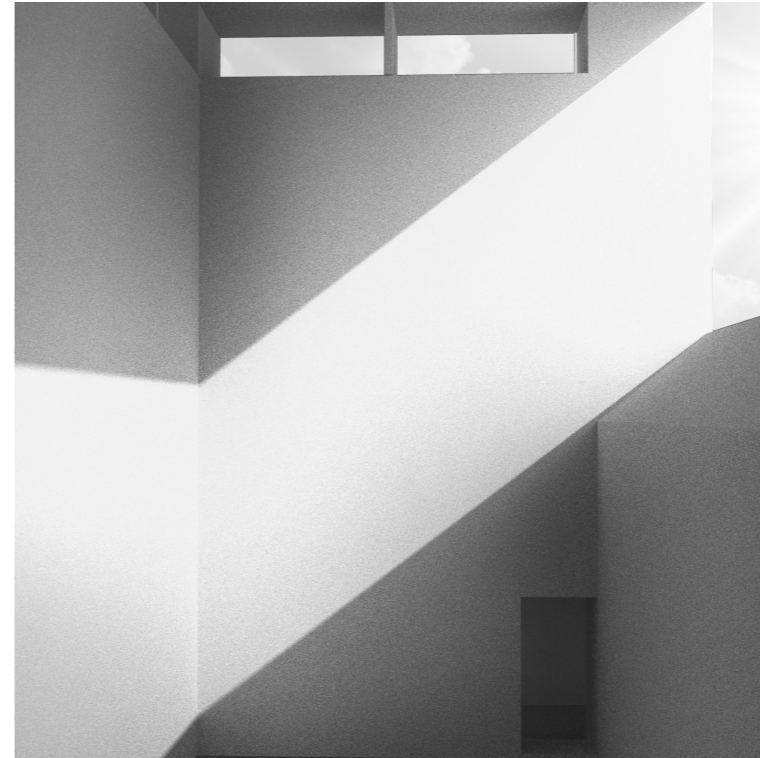
Bath to enjoy the northern lights during winter, and to enjoy darkness during summer.



Bath that frames the morning light - and the first sun of the year.



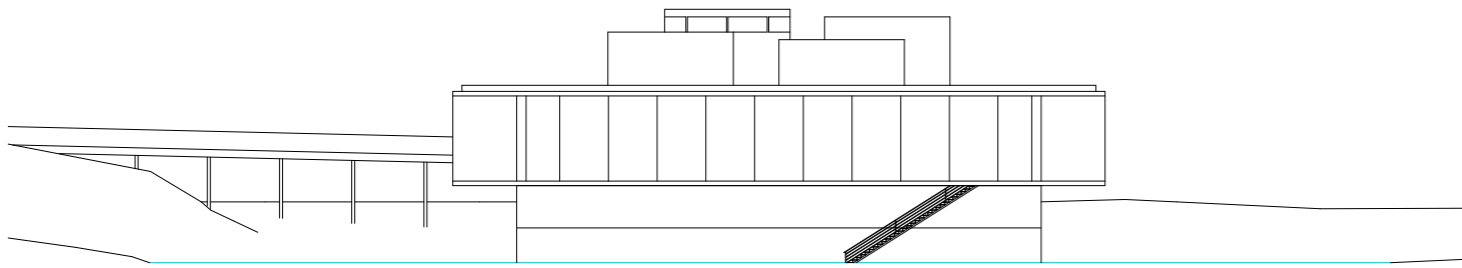
Bath that frames the evening sun - and the last sun of the year.

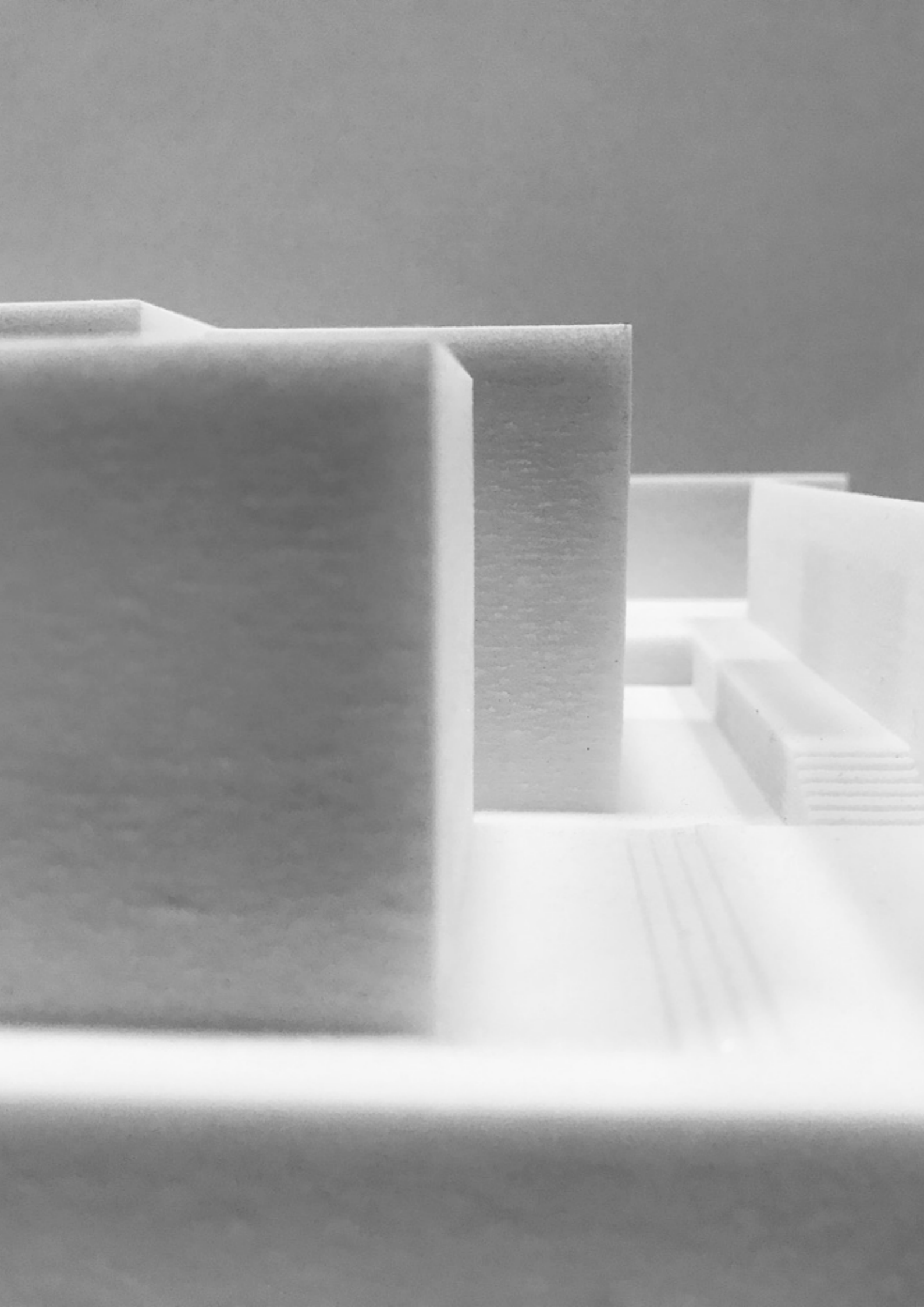


Bath in daylight.

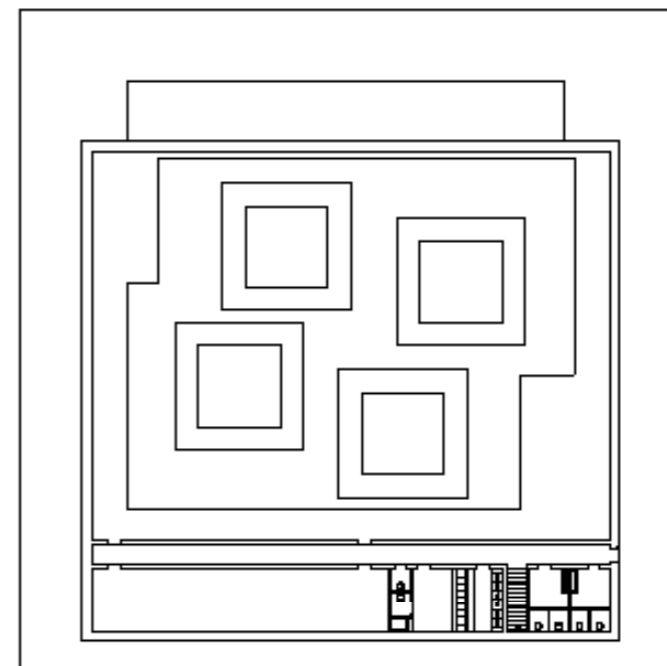


FACADE 1:500





PLAN TECHINCAL FLOOR 1:500



DIAGRAM, BATHS 1:500

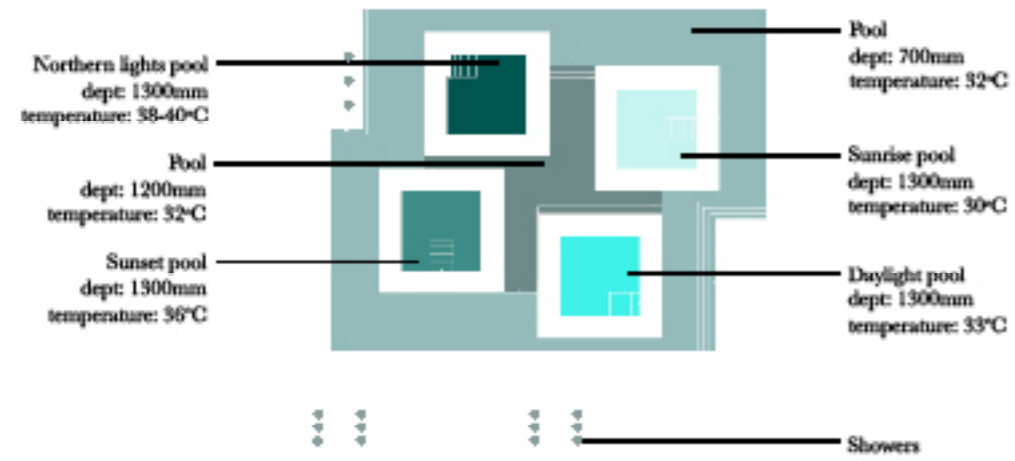
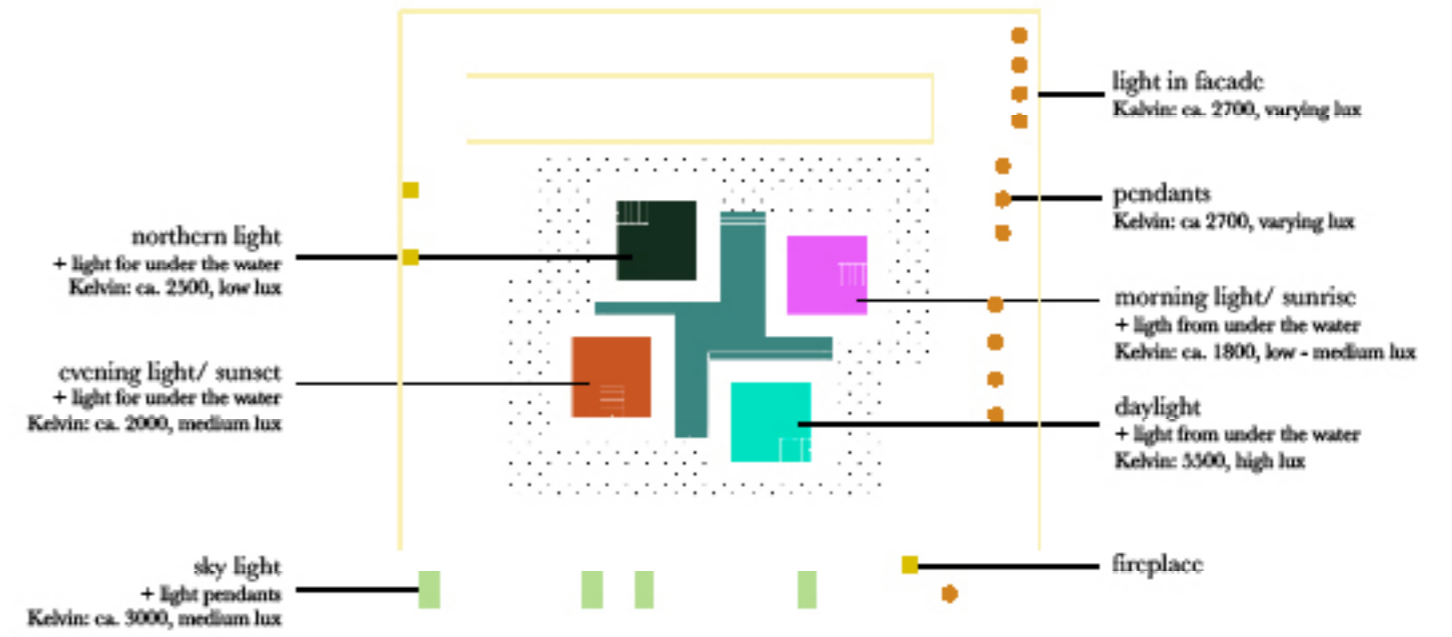
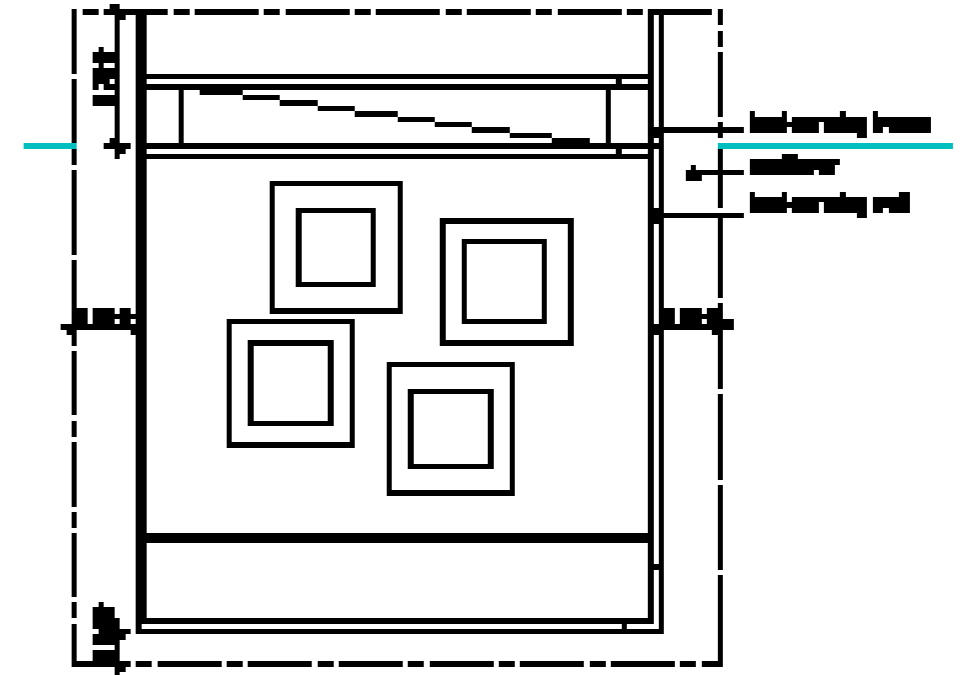
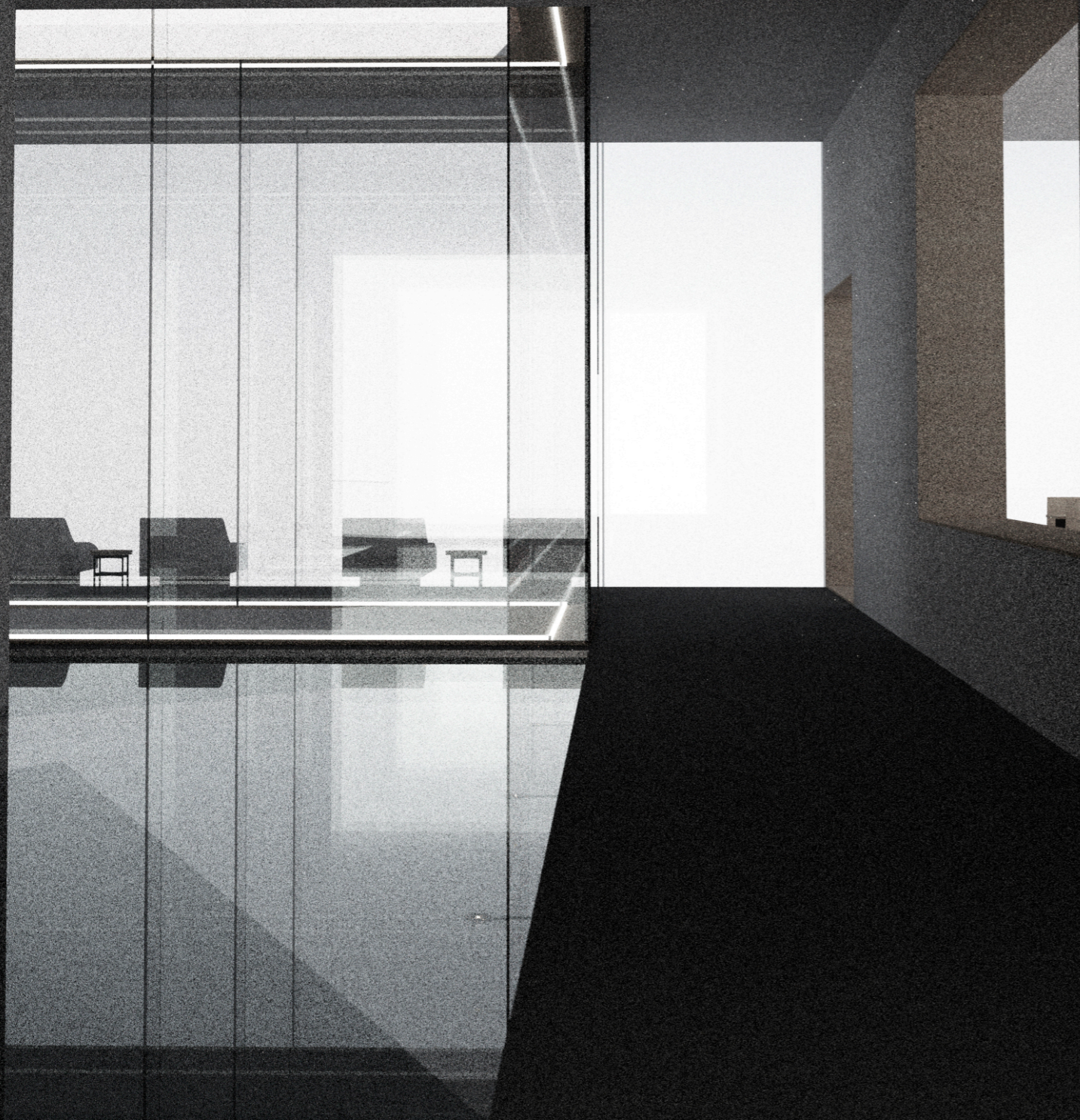


DIAGRAM (ARTIFICIAL) LIGHT 1:500



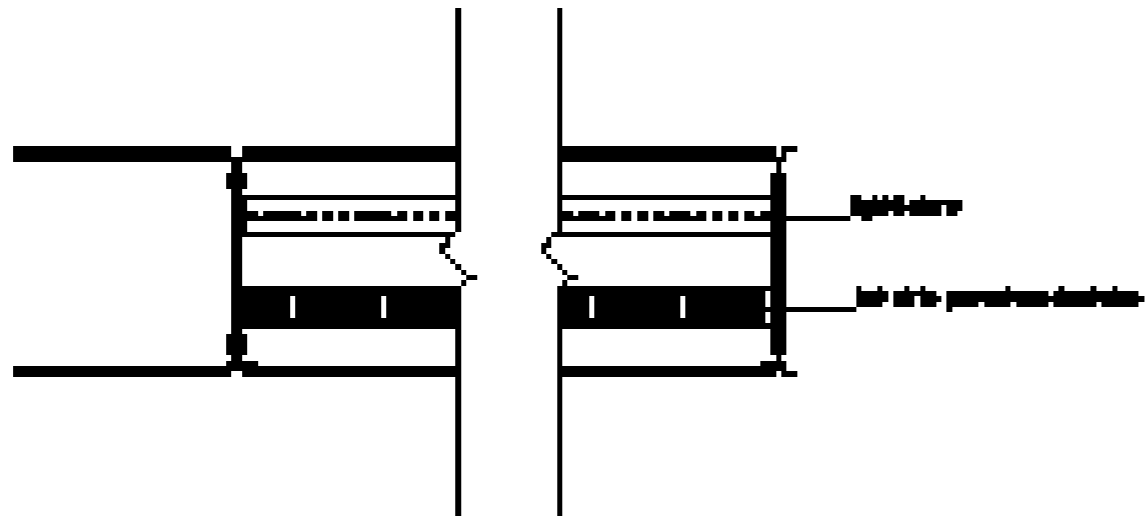


CONSTRUCTION PLAN 1:500

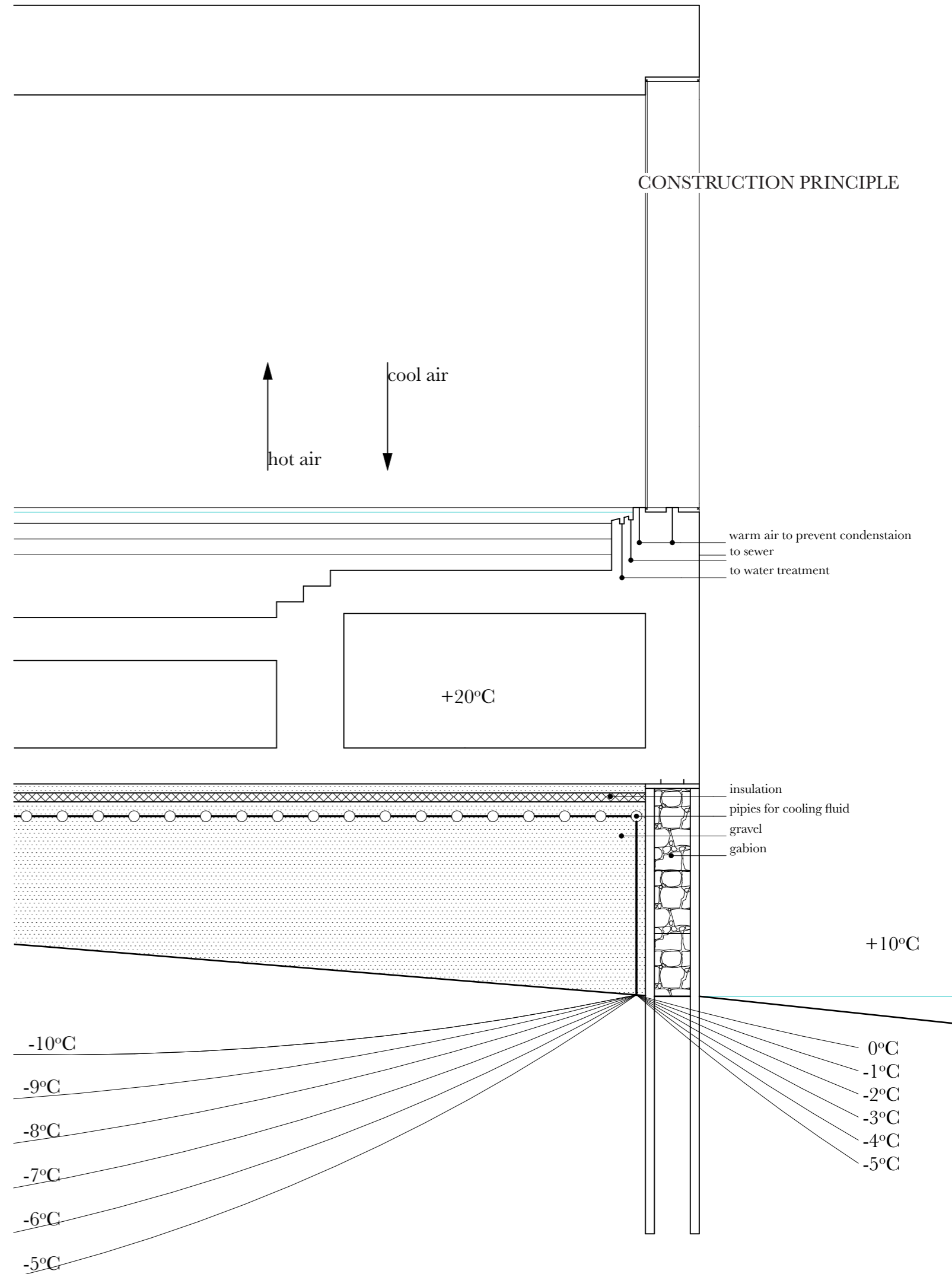




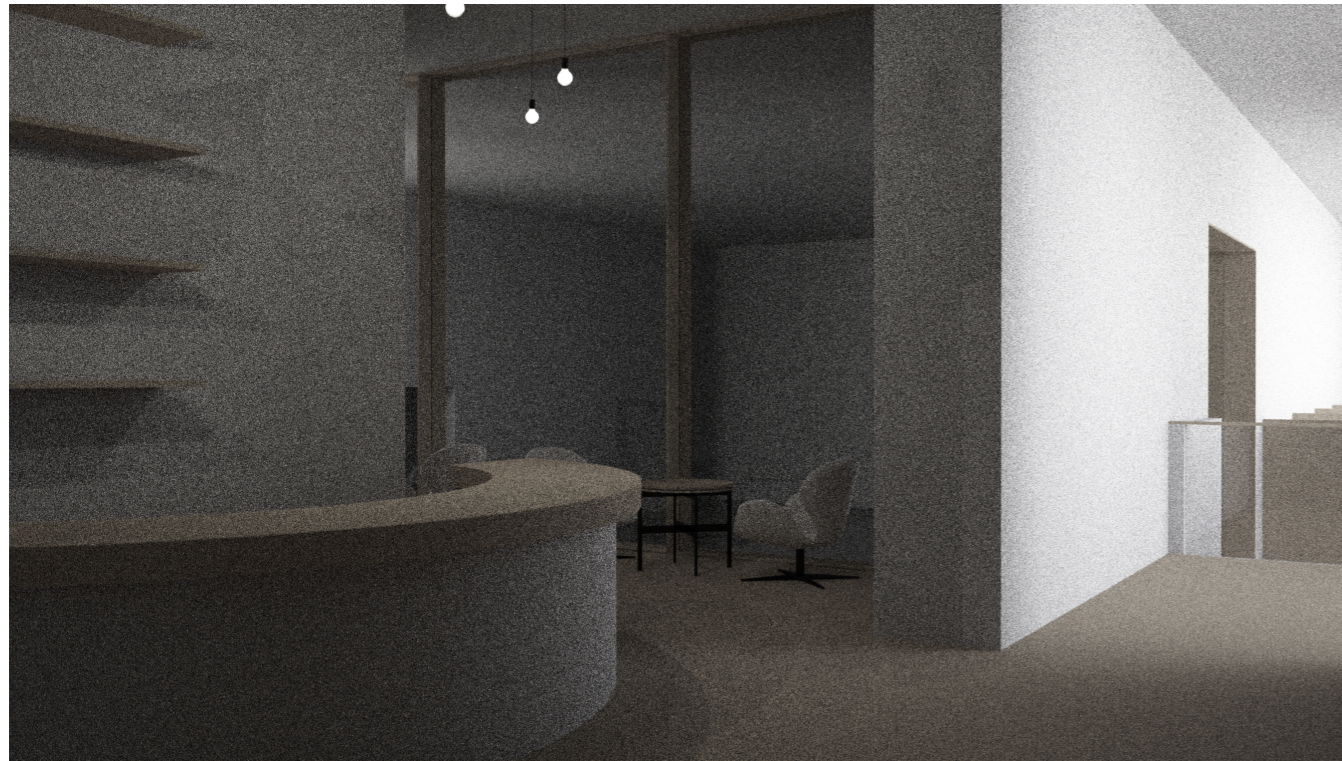
PRINCIPLE FACADE DETAIL, PLAN



CONSTRUCTION PRINCIPLE







Vestibule with view to the bath and to the public bar



Public bar with connection to bath

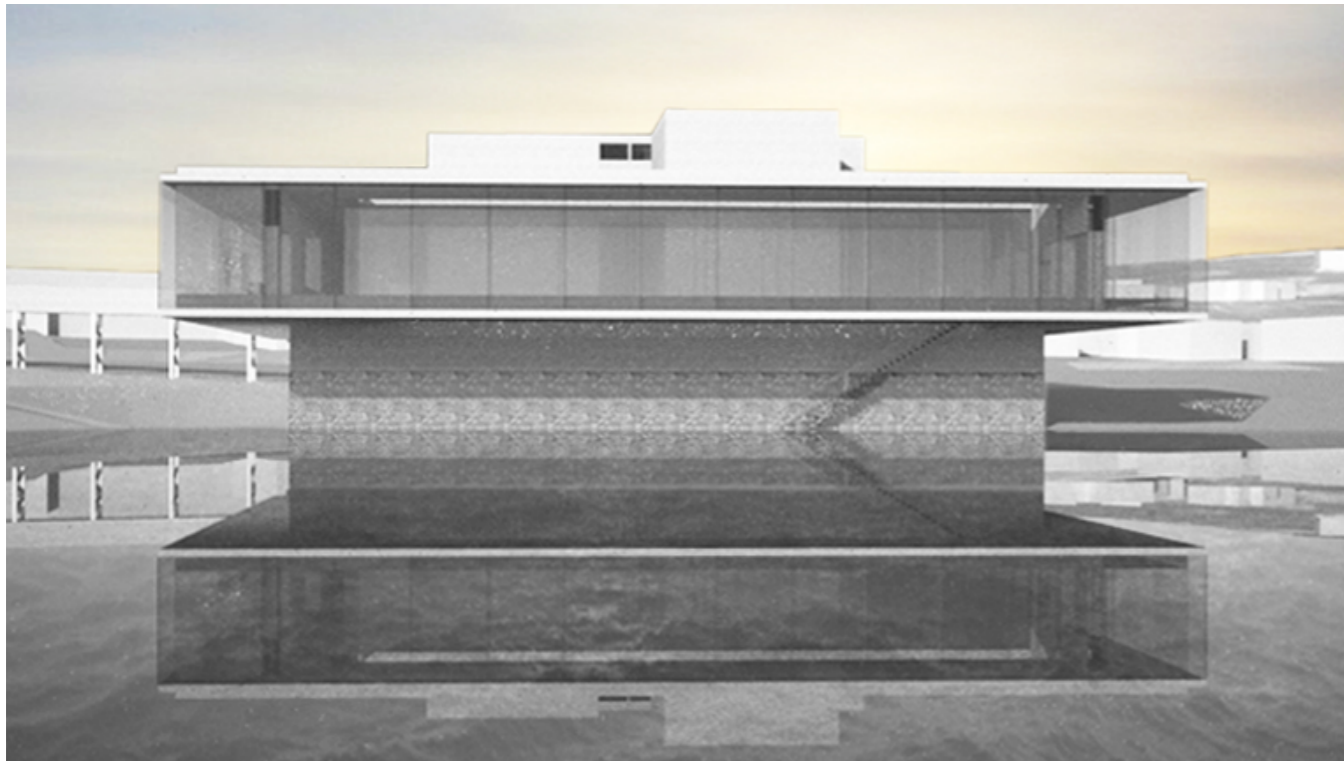


Wardrobes with showers



Saunas with a view to the sea and the evening - midnight sun





Sjoskrenten Bath with entering bridge



Cableways - inspiration for the bridge.

