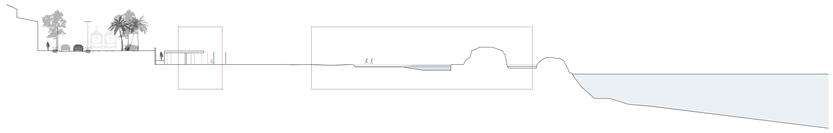
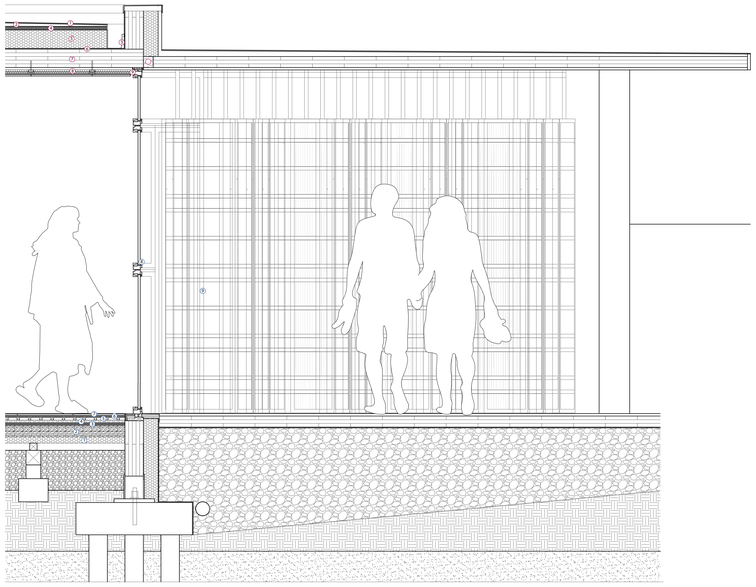
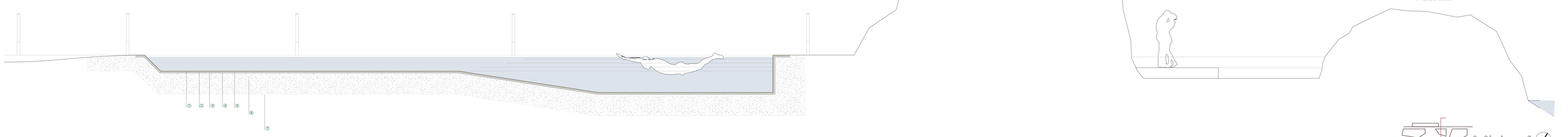
Overall section of the Thermal oasis
1:500



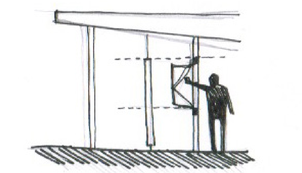
Constructive system of the Pavilion
1:50



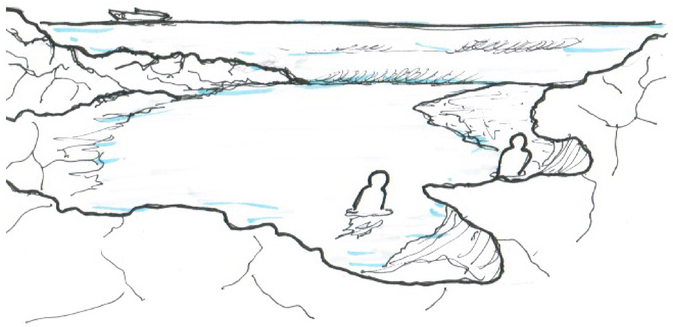
Construction detail of the swimming pool
1:50



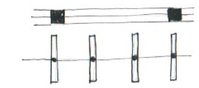
System of operations in relation to the panel



Detail of the façada of the Pavilion
1:50



Rotation of the panels and visibility

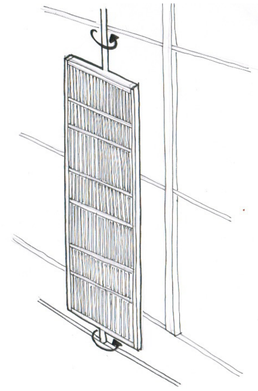


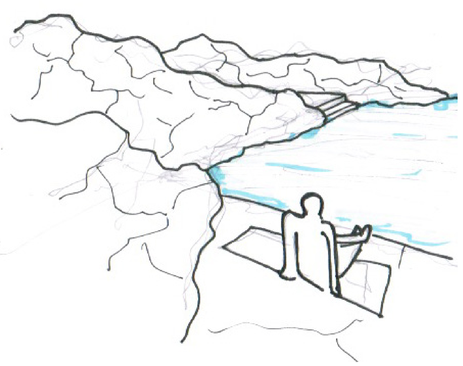
Maximum visibility and illumination

Minimum visibility and illumination

Intermediate visibility and illumination

Functioning of the panels





NON-REVERSIBLE STRUCTURE FOR A REVERSIBLE INTERVENTION OVER TIME

The Pavilion of the oasis and the biopool

The structure and the skin of the Pavilion

The building has a light skin, a dynamic facade defined by a succession of pivoting panels to allow users to always have different views and a greater or lesser degree of privacy.

When we talk about sunscreen walls we are referring to walls or windows of buildings covered with different modules or positioned to create a ventilated wall. The benefits associated with the installation of these panels are many: solar control and shading, thermal comfort and great resistance to atmospheric agents. This solution is functional both in summer and in winter: in the first case they limit the action of ultraviolet rays, while in the colder periods they allow to limit the cooling effect of the wind.

The prerogative for the construction of the building was to have a completely dry construction, consistent with all the construction systems used in the various pilot projects. We therefore used the construction technology of traditional Japanese houses, sensitive and respectful of the natural context in which they are inserted, with foundations on plinths without lean concrete and with a ventilated ground floor slab without the use of the crawl space and concrete cauldron. thrown. The ventilated floor is made up of plinths that support wooden planks that support the upper layers of the floor.

TERRACE ROOF

1. Polyurea waterproofing
2. Slope dry granular screed
3. Sheet metal channel
4. Mineralized wood panel
5. Cover insulation
6. Vapor barrier
7. Xlam slab
8. False ceiling
9. Sliding aluminum opening

SLAB IN CONTACT WITH THE GROUND

1. Thermal insulation, 500 mm: panel in synthesized expanded polystyrene
2. Implant holder screed, 100 mm: dry granular
3. Stiffening of screed, 23 mm: gypsum fiber sheets
4. Housing underfloor heating pipes
42.2 mm: pre-perforated EPS panel
5. Heat transfer fluid transport, 17 mm: radiant panel pipes
6. Thermal conduction, impact sound insulation, 18 mm: gypsum fiber plate
7. Interior flooring, 20 mm: sandstone slabs
8. Lighting, ventilation, 210 mm: lift and slide
9. Blackout, 140 mm: sheet of wooden pivoting panels
10. Thermal insulation, 40 mm: Thermal insulation 40 mm
11. Thermal and acoustic insulation or perimeter desolidarisation, 8 mm: perimeter band in closed cell expanded polyethylene
12. Drainage, 55 mm: galvanized steel channel

The biopool in the sand

For the swimming pool on the beach it has been used a construction technology of bio-pools in EPDM. In order to waterproof a bio-pool or natural swimming pool, a resistant, long-lasting and above all eco-friendly material is needed. A bio-pool is lived in total naturalness, thanks to its healthy purification system that does not include any type of chemical substance, only plants and other pumping systems allow a perfect clarity of the water and excellent bathing A return to Nature that must obviously also take into account the construction system which often does not involve the use of concrete and which uses only natural materials. The only exception to this must be made for the waterproof covering, which however must meet certain environmental requirements (NIBE (Nederlands Istitut voor Bouwbiologie en Ecologie), certifies it compatible for green building). The IMPERMEA EPDM elastoseal sheet can be laid directly on the ground, if the substrate consists of a bed of sand, but in this case it was considered appropriate to insert an additional layer of gravel, to create continuity and an additional barrier, since the pool is located near a public space and the Pavilion.

EPDM BIO-POOL SYSTEM

1. Finishing layer in sand and bioresin
2. Laying layer in small-grained stones
3. Structure metal mesh for laying
4. Waterproof fabric
5. EPDM protective geotextile fabric
6. Gravel layer
7. Excavation

POLITECNICO DI MILANO
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