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VIBRANT MORaine

Not characteristically Dutch, but very beautiful, the moraine landscape. The alternation between high and lowness. The contrast between the in the low-lying Ooypolder, and the uprising moraine. These contrasts in landscape with fertile soil provides a large difference in flora and fauna. This extraordinary beauty of little mountain is highly affected near the city centre of Nijmegen. ‘Vibrant Moraine’ will give the moraine a new life based on clean water infrastructure that will provide a stepwise transformation of the current buildings with his environment on plinth level.

The moraine forms a natural connection between Nijmegen and Kleve. Geomorphological, ecological, historical, educational elements are represented making it a unique location. The moraine extends to the city centre of Nijmegen where it highly affected by the existing buildings and infrastructure. The moraine is part of a landscape that has been shaped by the glaciers of the last ice age. The main transport artery of Western Europe, the Rhine, has made his way through this moraine to the sea. This moraine is a geomorphological connection that extends from Nijmegen to Kleve. The moraine is the primary reason for the construction of the city of Nijmegen. A changing climate will cause higher temperatures and more periods of rain. Therefore the moraine will dehydrate more and will be unuseable.

To make the moraine fertile again, a natural water network that ensures irrigation of the moraine will be created by the different municipalities of the moraine. ‘Vibrant moraine’ provides production and consumption of organic for the moraine user.

“Something really beautiful is only beautiful when there is something, that’s in contrast with it.”



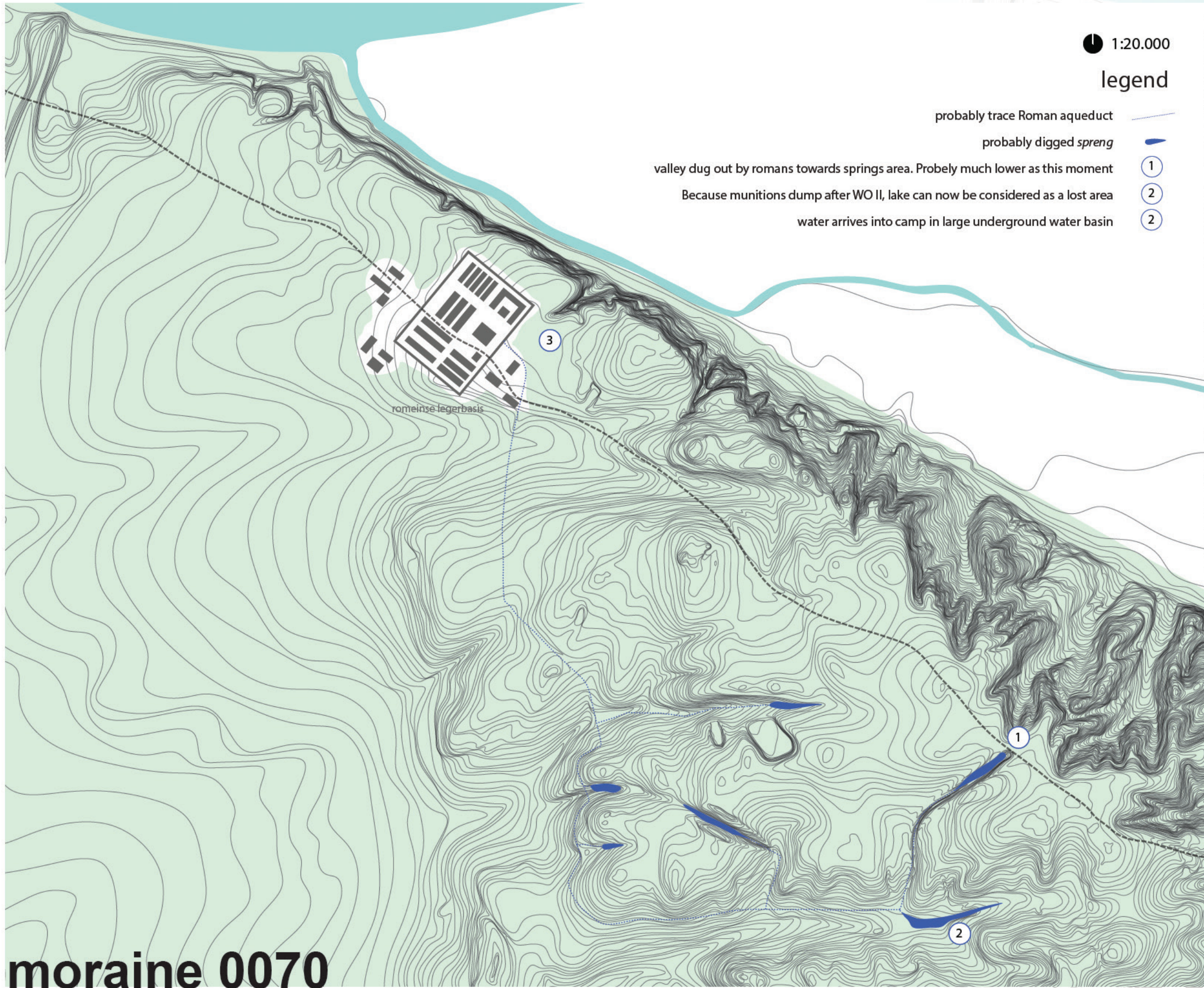
moraine 2014



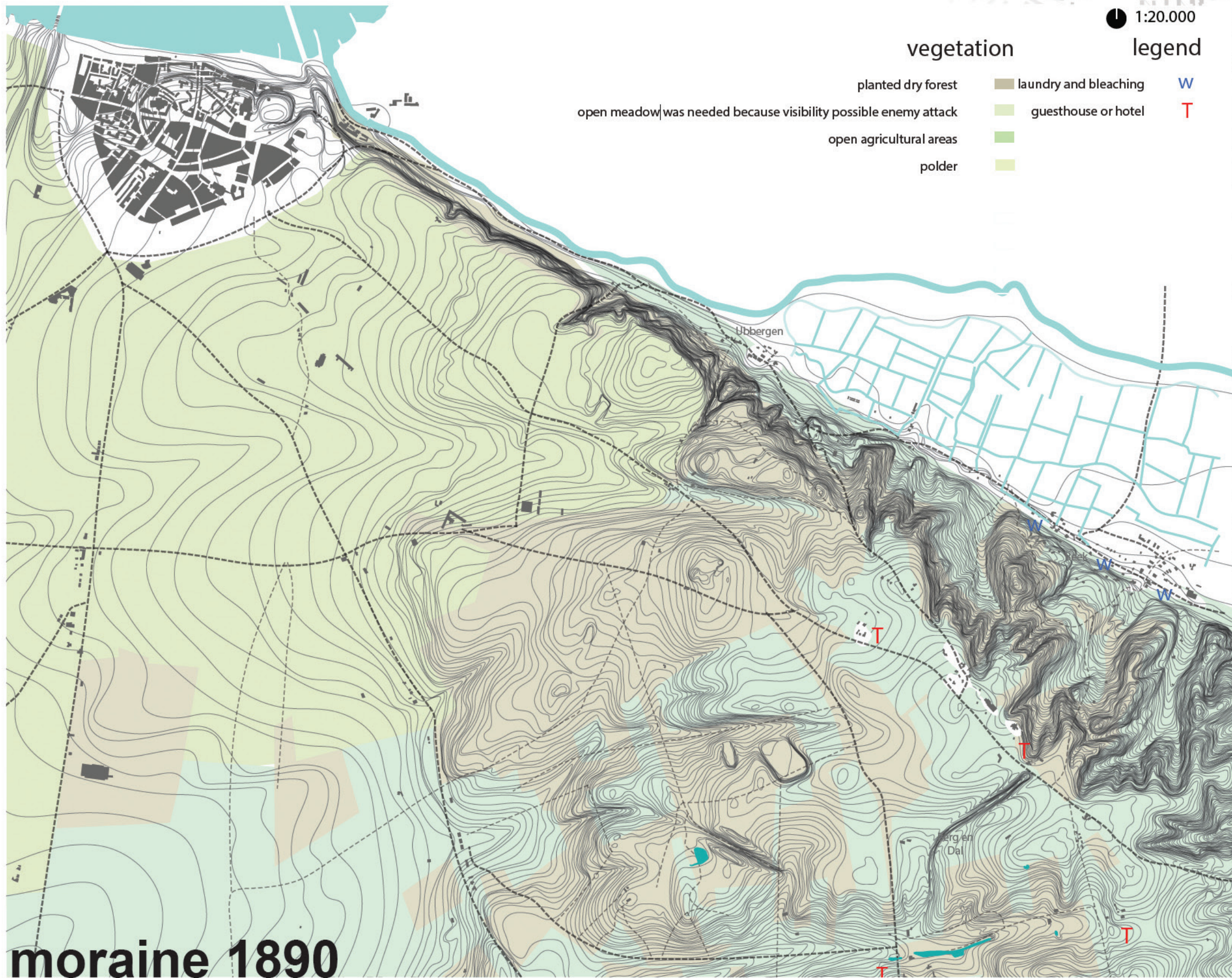
moraine 2020



moraine 2060



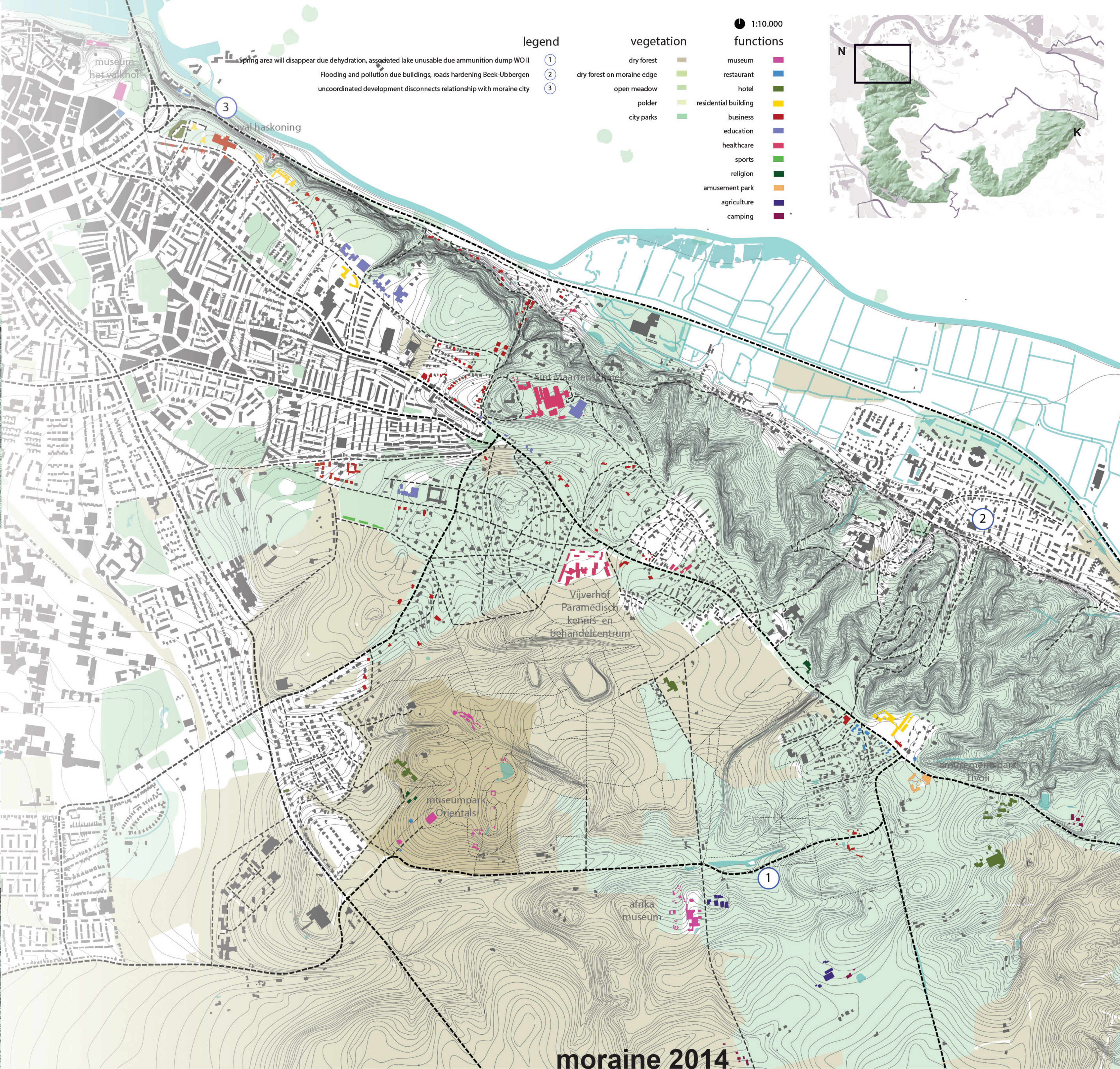
moraine 0070



moraine 1890

1. water in harmony with moraine

0070, Because clean water on the moraine main reason romans started life in Nijmegen. The romans digged a valley in the direction of the spring area (1), later more springs were made when water in the roman city was needed. The moraine accounted for drink- and washing water for the camp and later the Roman city with bath houses. 1890, Large part of people Beek works in the laundry and bleaching industry (wash clothes of rich people of Nijmegen). Moraine for dutch people as a resort, groth of hotels and guesthouses.



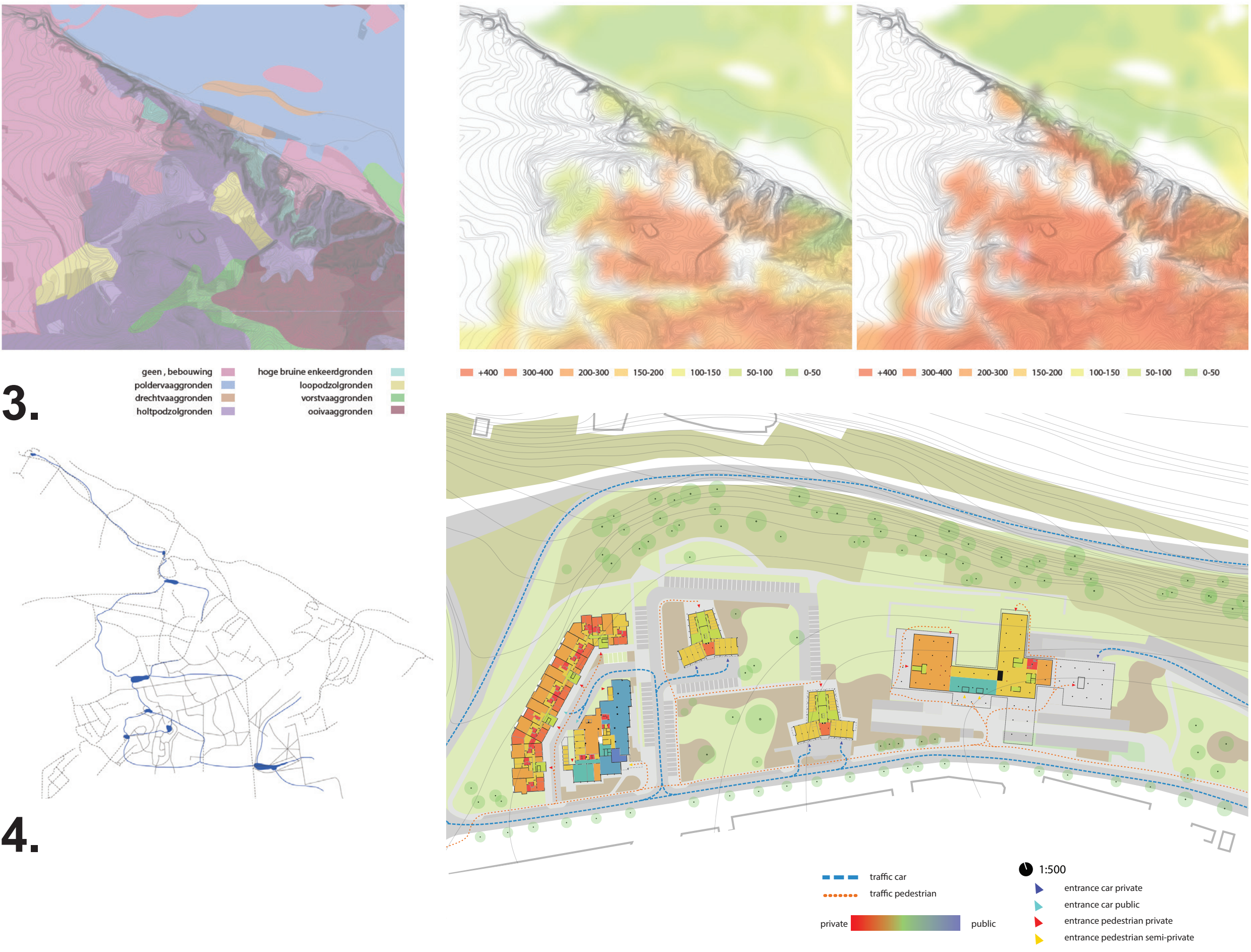
moraine 2014

2. water in disharmony with moraine

Housing: especially villas (Berg en Dal) of its location on top of moraine. Residential buildings on the edge near Nijmegen, 20% for sale at this moment, expensive price range. Work: mostly in creative sector, small business. The only large firm Royal Haskoning moved this year to another location in Nijmegen. Healthcare on moraine due healthy environment. Recreation: Africa museum tourist hot spot due good concept on moraine setting, renovation in 2005. Museum park Orientals (culture and religion) bankruptcy in 2012, reopend this year.

3. dehydration

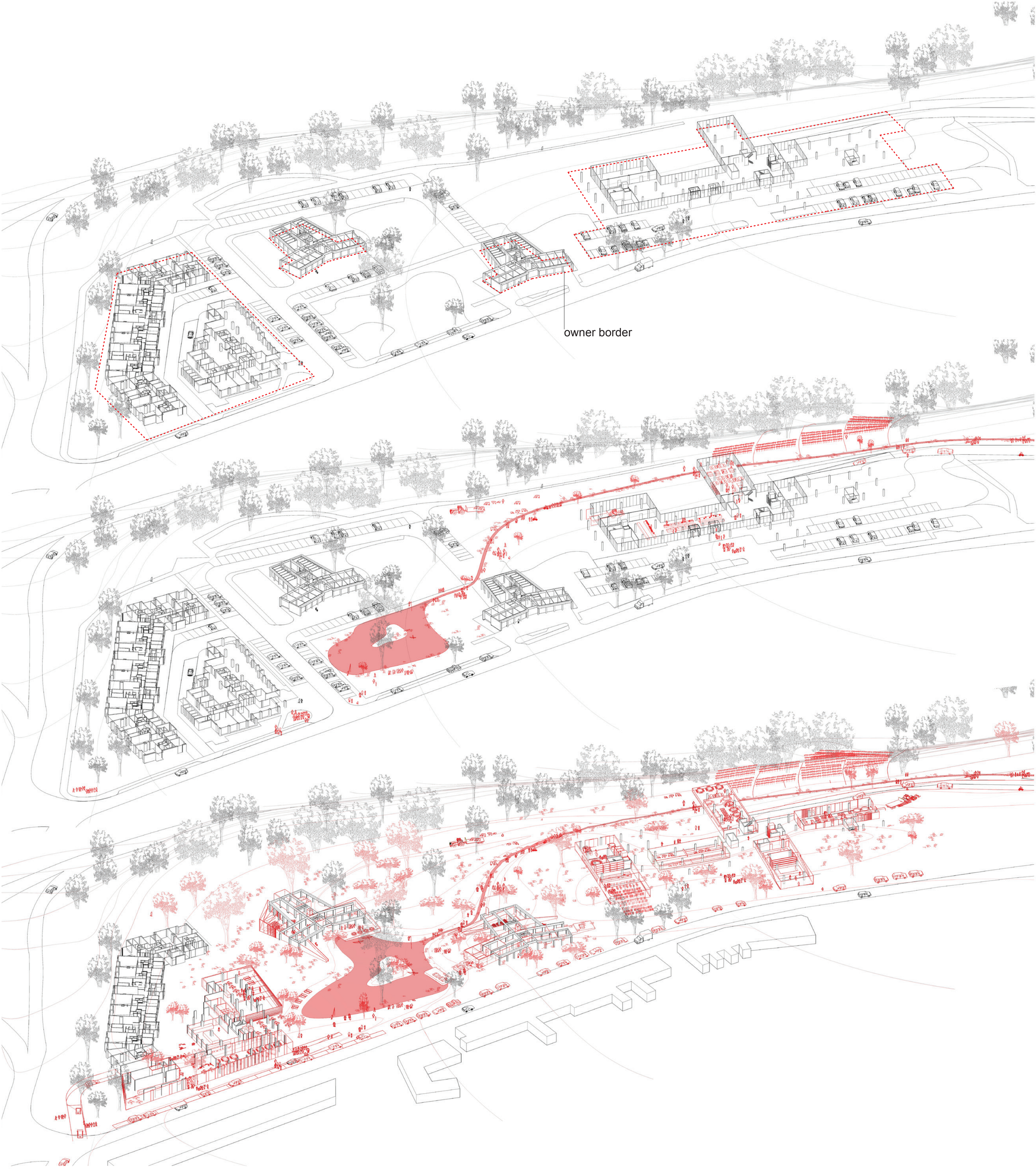
Moraine represents various kinds of different landscapes which are visible as vegetation. On top of the hills grow chaped, dry forests, on bottom water-loving species. In the spring areas grows its own flora consisting of species that tolerate forst due the water from the moraine is a constant 10-12 degrees. Climate change means that we have to deal with moments of heavy rainfall and longer periods of extreme drought, the moraine will dry out further. Spring areas and brooks will concomitantly lost.



4. moraine users plinth level

The moraine is currently a nice place for hikers and cyclists (Nijmegen - Kleve). These have found a way through former and current springs and brooks of the moraine landscape. This exciting infrastructure with nodes will be upgraded or new introduced. The innovative water walking and cycling network will connect Nijmegen with the moraine landscape of the prospective user.

Current buildings are classified as closed rooms in the moraine landscape. The rooms in the landscape as the rooms in the buildings are in disharmony to eachother. The landscape and buildings are not very accessible for public on ground level. As a result, the hotel complex is in financial difficulties and the office complex will be unoccupied in future. Many of the rooms in the current star-apartments are for sale due the high price range. The landscape divided into three types: natural moraine edge, garden and paved parts.

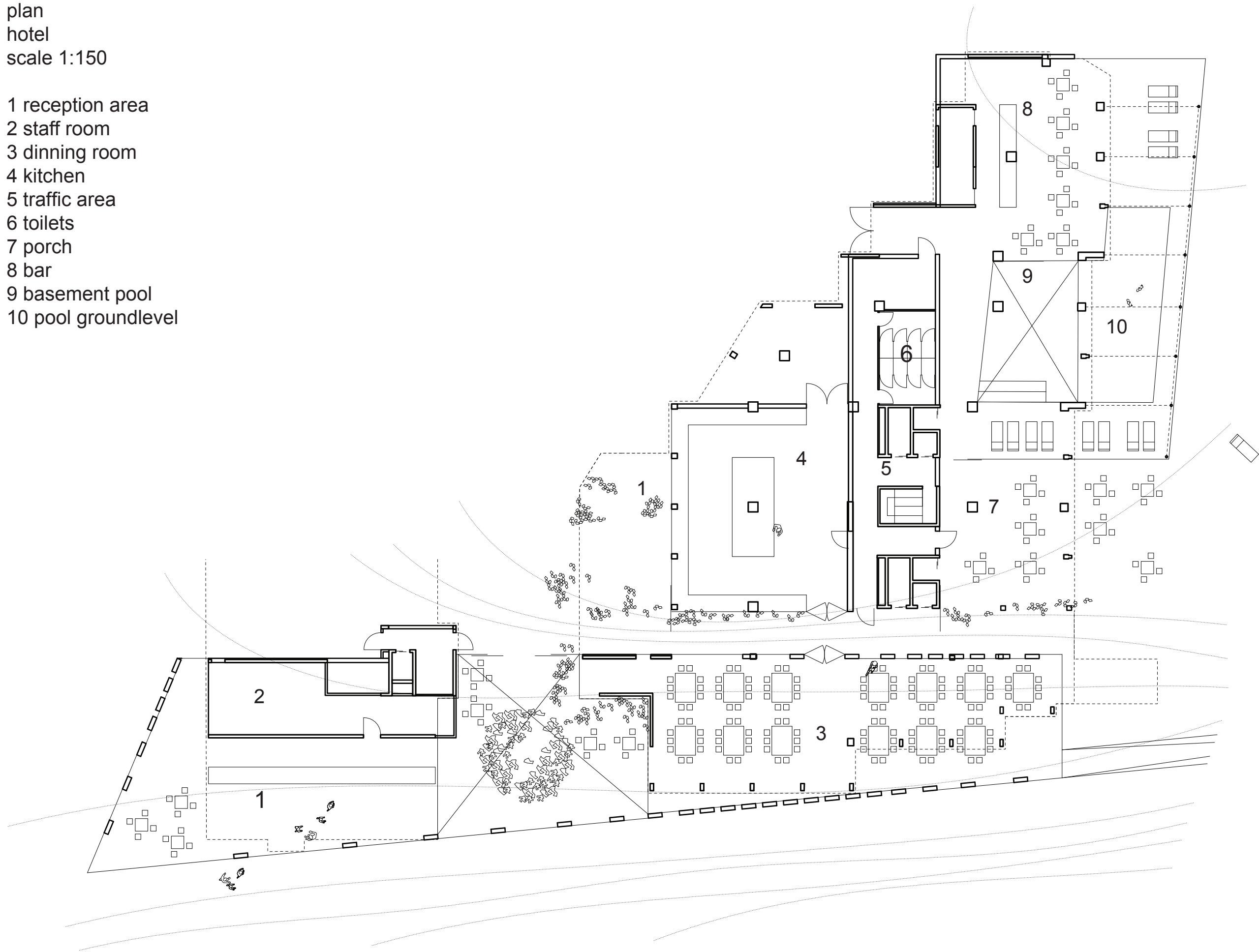


5. first step: from infertile to fertile moraine

Without a constant supply of water on the moraine, the dehydration will increase and the qualities of the moraine will be lost. A water network for a fertile subsoil will create by the moraine users. On this location municipality Nijmegen will take the lead to provide irrigation of the moraine. Like Egypt is 'the gift of the Nile'. The unoccupied Royal Haskoning lends itself excellent for organic food production with an organic market. Moraine related products like wineplants and crops grow perfectly on moraine with new weahter conditions and clean water.

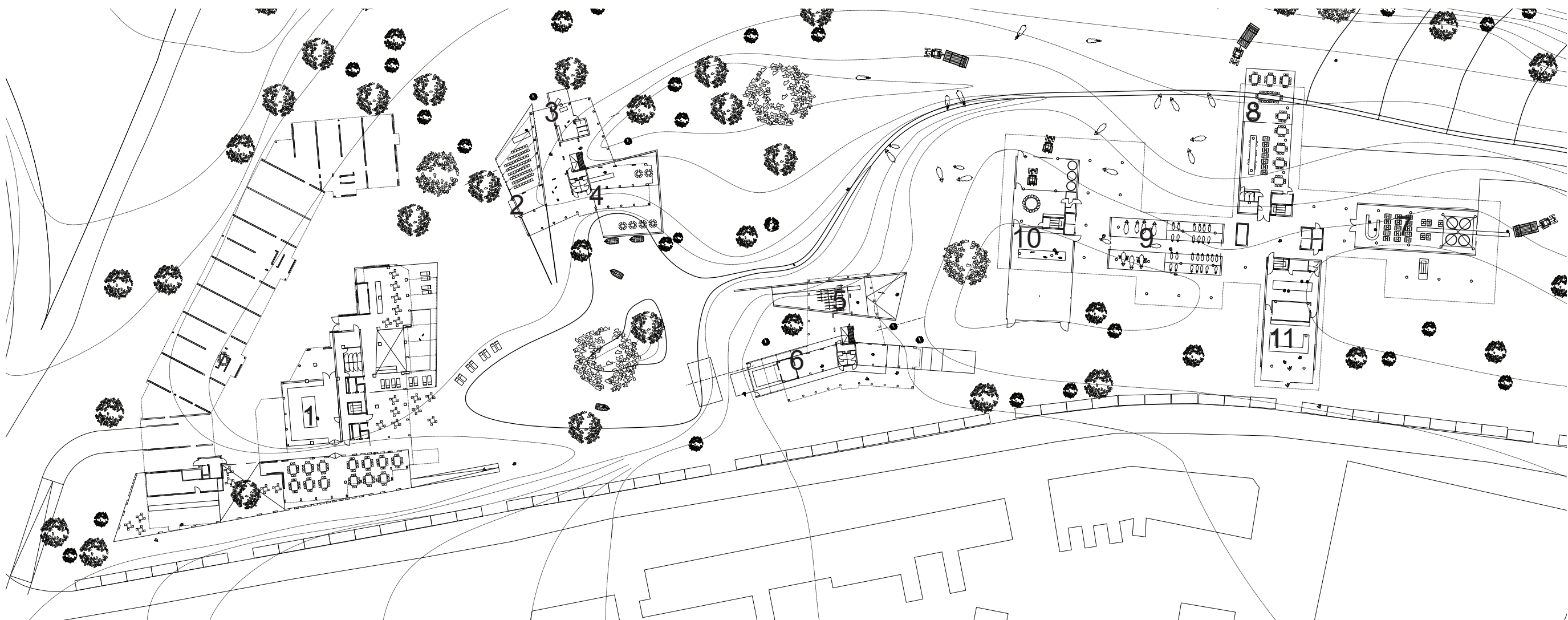
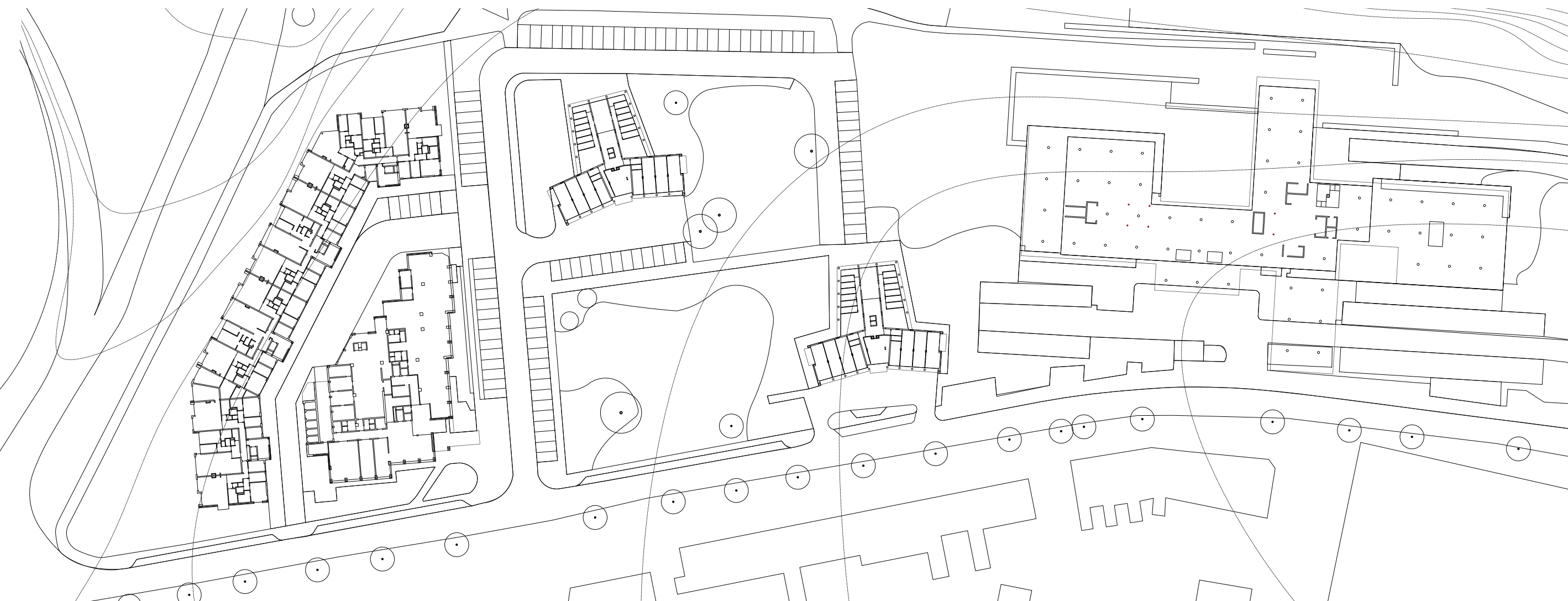
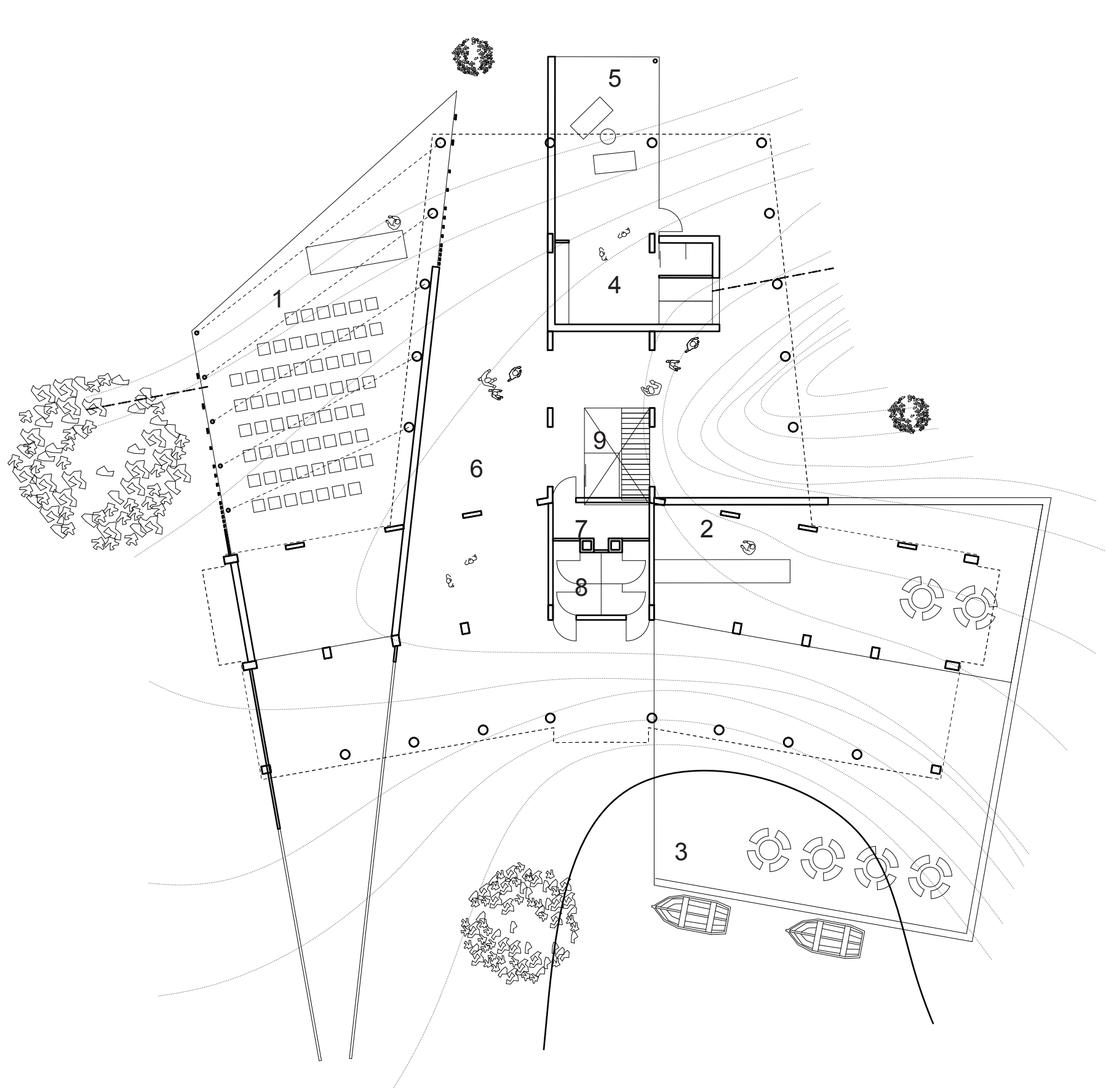
plan
hotel
scale 1:150

- 1 reception area
- 2 staff room
- 3 dinning room
- 4 kitchen
- 5 traffic area
- 6 toilets
- 7 porch
- 8 bar
- 9 basement pool
- 10 pool groundlevel



plan
valkhof pavilion
hotel pavilion
kids pavilion
scale 1:100

- 1 presentation area
- 2 chocolate / ice bar
- 3 water games
- 4 lounge
- 5 sleeping area
- 6 shared outdoor space
- 7 technology
- 8 toilets
- 9 existing stairs / elevator



- masterplan
scale 1:1000
- 1 hotel
 - 2 valkhof pavilion
 - 3 hotel pavilion
 - 4 kids pavilion
 - 5 bike and hike pabilion
 - 6 organic food reataurant
 - 7 wine brewery
 - 8 wine tasting
 - 9 livestock pavilion
 - 10 organic farm
 - 11 butcher

6. concrete structure as the starting point

New owners of buildings with moraine will stand up when the fertile subsoil is read to use. The current structure grid of the existing buildings is used as starting point to design the pavilions. The existing reinforced concrete structure, stairs, elevators and technical spaces will keep intact. Several forms of the pavilions arise from the relation with water, view, urban, rural and natural weather influences like sun protection.

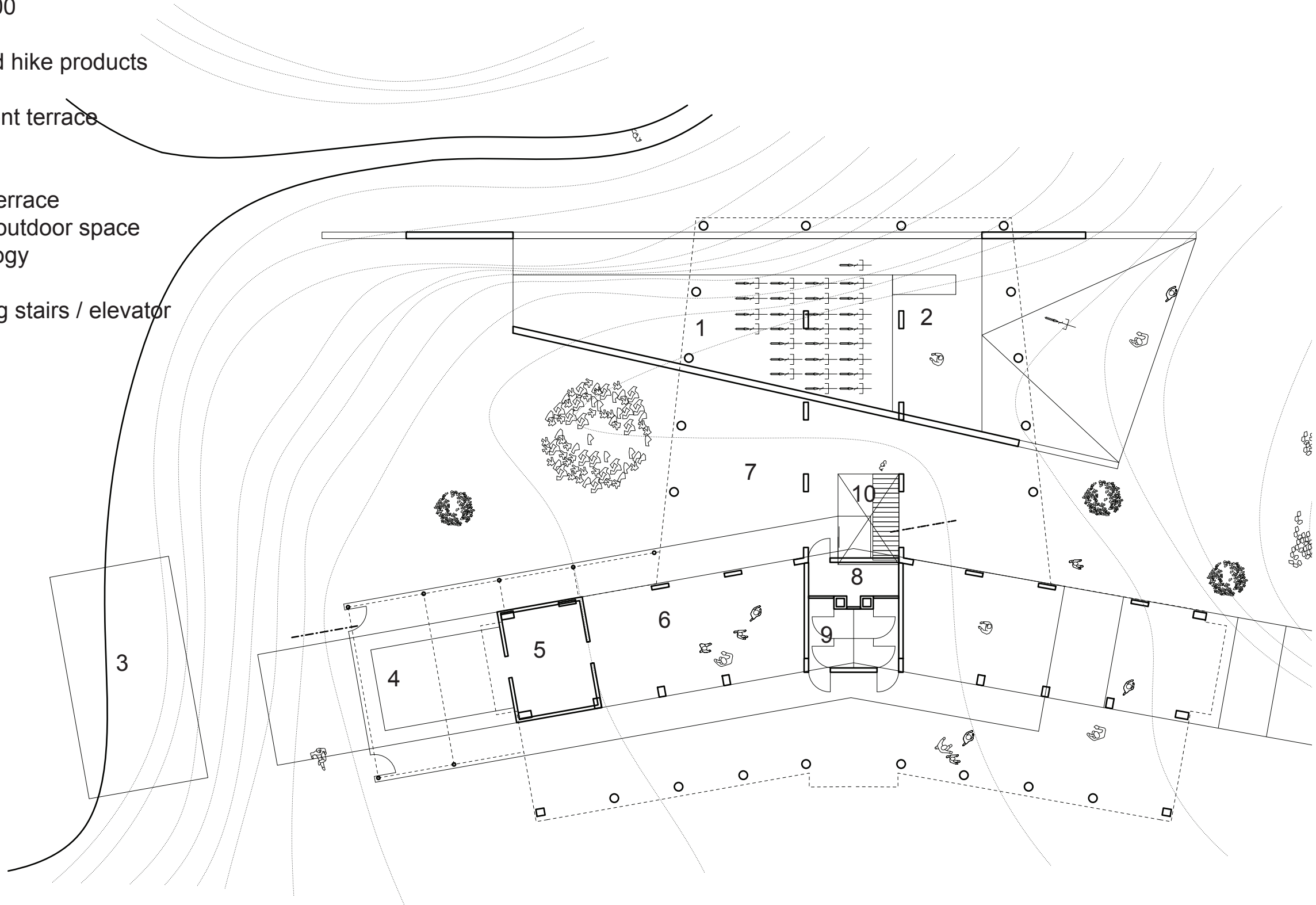
7. moraine architecture

The pavilions provides an open moraine landschape where a free circulation is possible. The shape of the pavilion is based on where the pavilion and the moraine is related to. The hotel is extended to the south. The organic feed restaurant is created on the outskirts of the city where the products will come in contact with people. The hike and bike pavilion will be a start for the recreational visitor of the moraine. The valkhof pavilion is at the spot where the history of Nijmegen will become visible. On the most beautiful locations at the moraine between forest

a prefabricated hotelroom will be created from the hotel. Located centrally between the various pavilions the kids pavilion is located. The productionproces of organic products will be drawn at the largest and last building on the moraine. This building has eather an urban connection as an moraine edge connection. The wine plants will grow better on the moraine slope with automatic water supply. Livestuck, cattle, pigs and sheep that drinks clean water from the river will have a good moraine life.

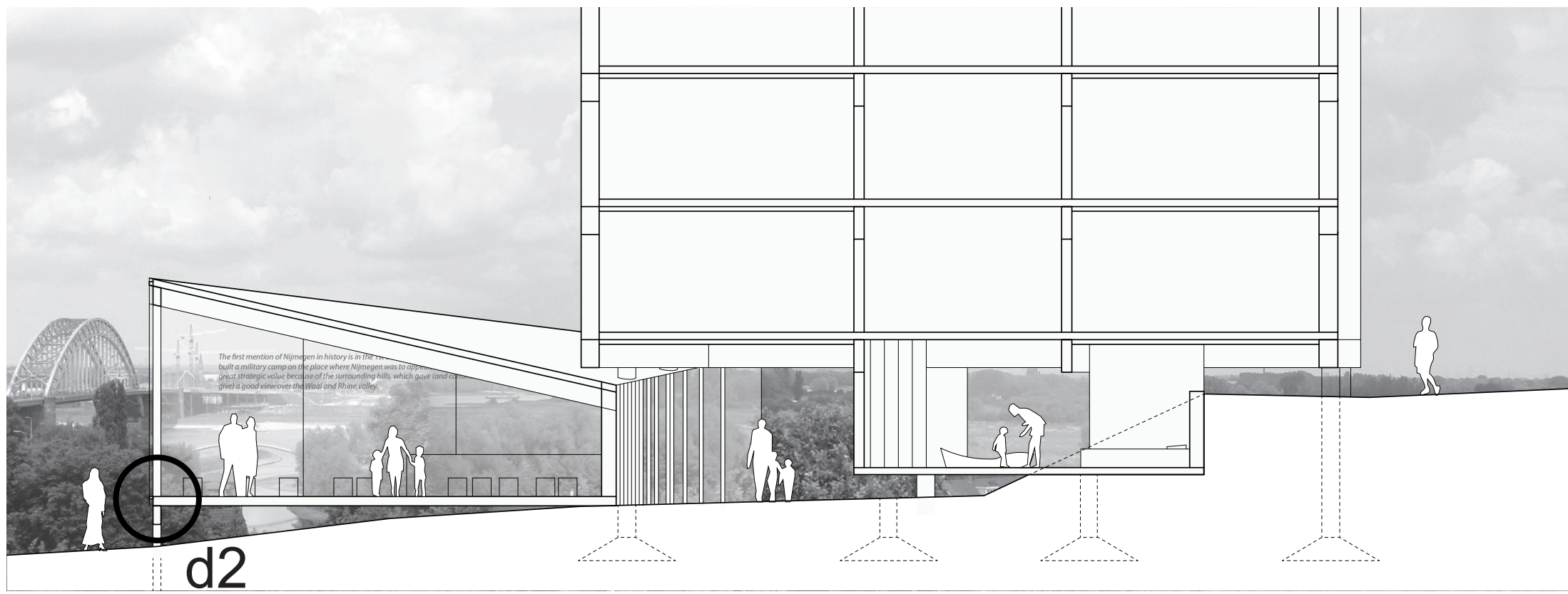
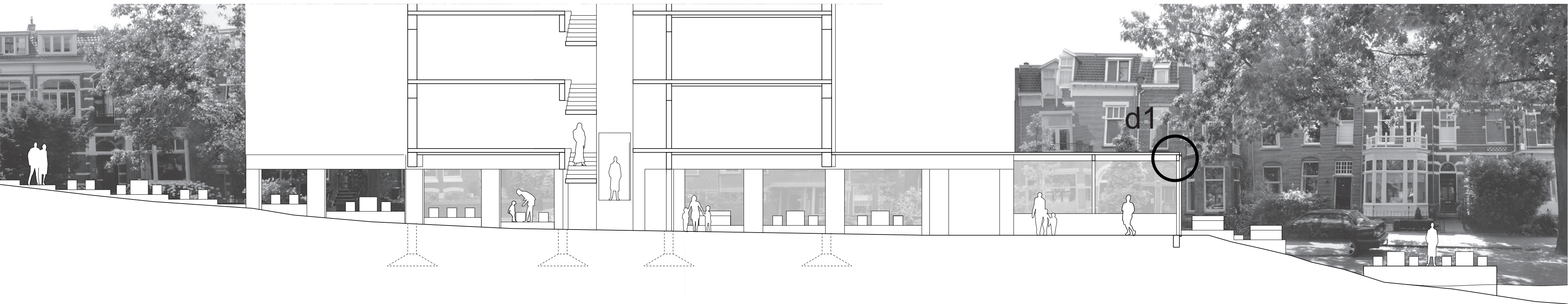
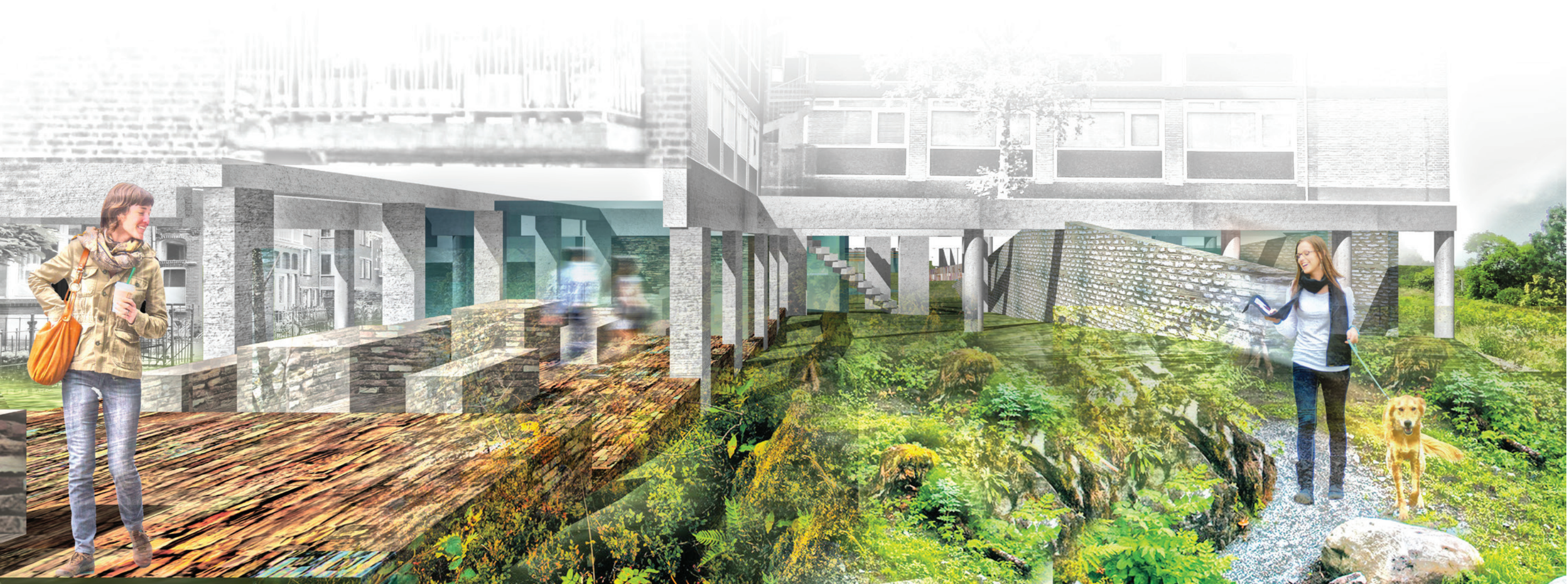
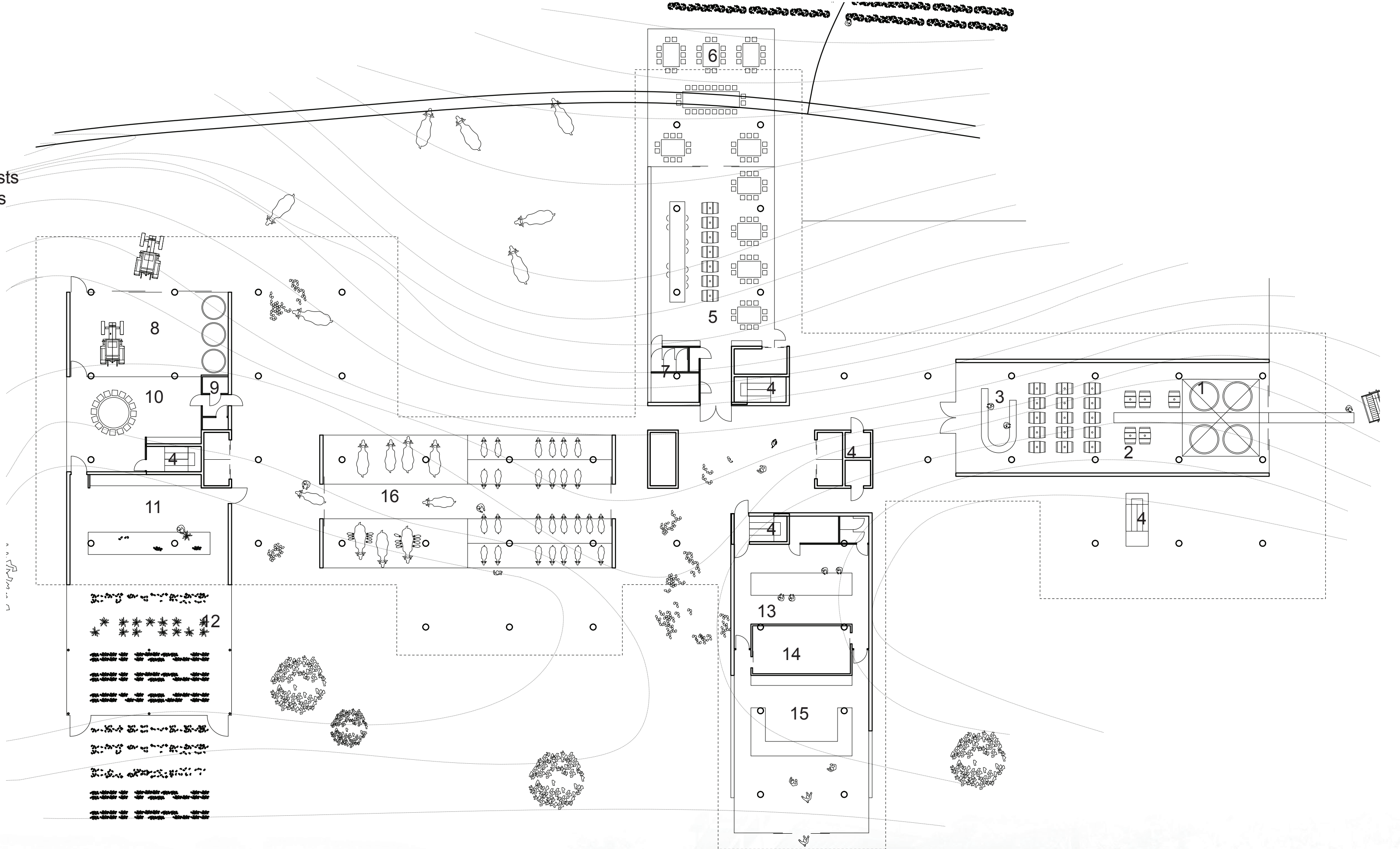
plan
bike and hike pavilion
organic food restaurant
scale 1:100

- 1 bike and hike products
- 2 desk
- 3 waterfront terrace
- 4 kitchen
- 5 staff
- 6 indoor terrace
- 7 shared outdoor space
- 8 technology
- 9 toilets
- 10 existing stairs / elevator



plan
wine brewery
wine tasting
livestock pavilion
organic farm
butcher
scale 1:150

- 1 compressing, cooling, yeasts
- 2 filtering and storage barrels
- 3 bottling and aging
- 4 existing stairs / elevator
- 5 tasting room inside
- 6 tasting room outside
- 7 toilets
- 8 storage, tools, feed
- 9 toilet, bathroom
- 10 meetingroom
- 11 green workplace
- 12 greenhouse
- 13 butcher workplace
- 14 cooling
- 15 sales counter



8 re-use material

The materials are from majority of the demolition of the existing buildings. Stone-like material will be used in pavilions near the city. Different types of recycled wood is applied for pavilions near the moraine edge where more trees are presented. The materials used in existing buildings will be returned to the moraine. The pavilions will unify with the varied forested area of the moraine due the different kinds of color in the material.

9. relation urban and rural

Each pavilion has a various relationship with the moraine. The valkhof pavilion will have a view relation with the moraine edge. When more visibility is needed, he wooden siding opens gradually. The organic food restaurant has both relations by opening the pavilion with a transparant material. The hotel room will hang in the collums like a tree house, and the kids pavilion will "float" on water. Cyclists and hikers will grow out of the moraine with the bike and hike pavilion.

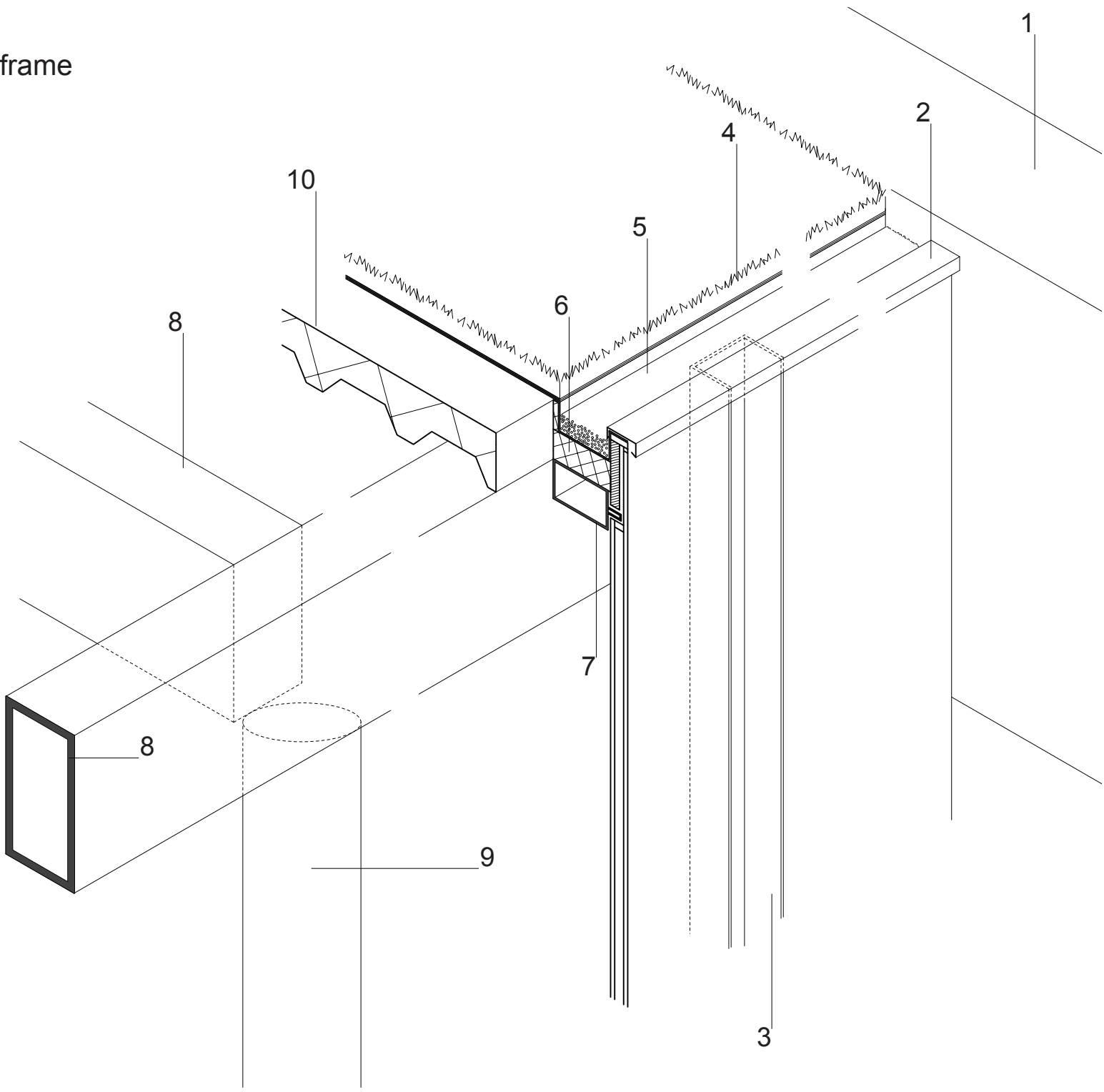
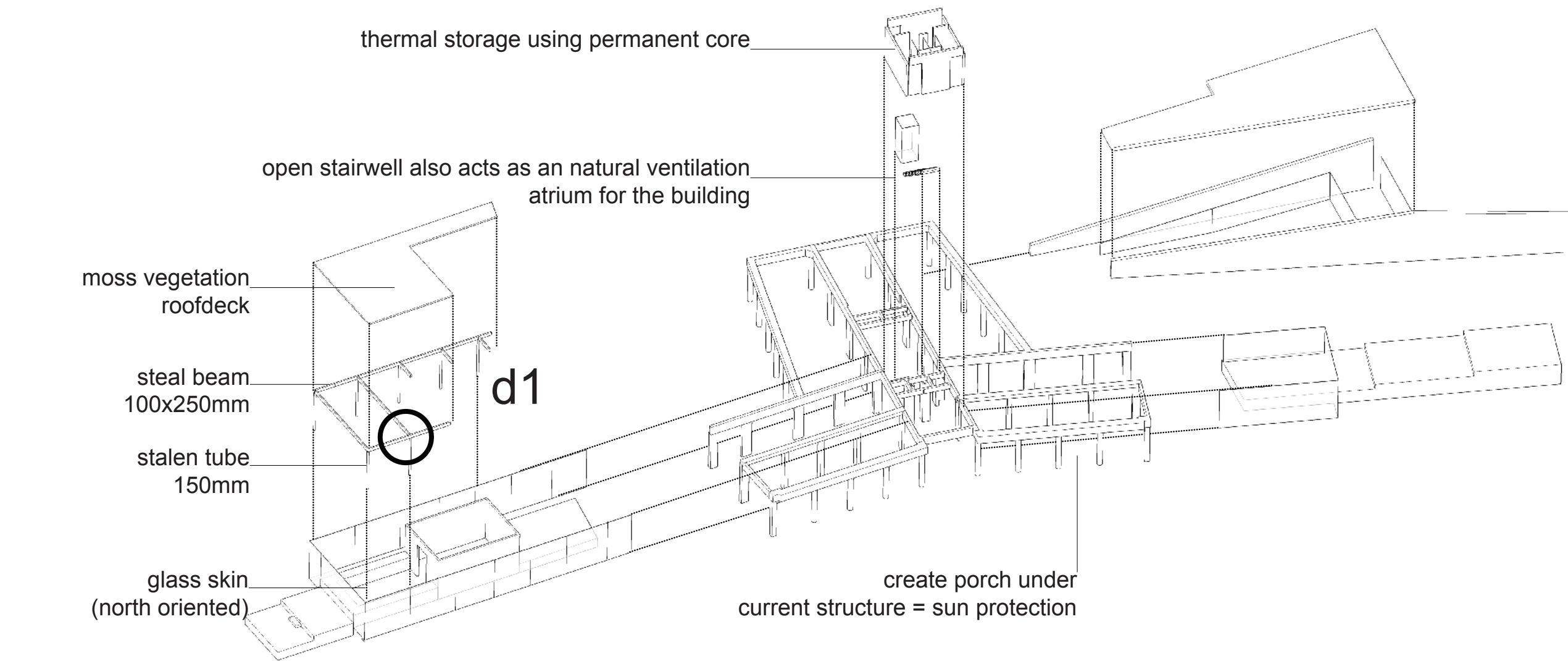
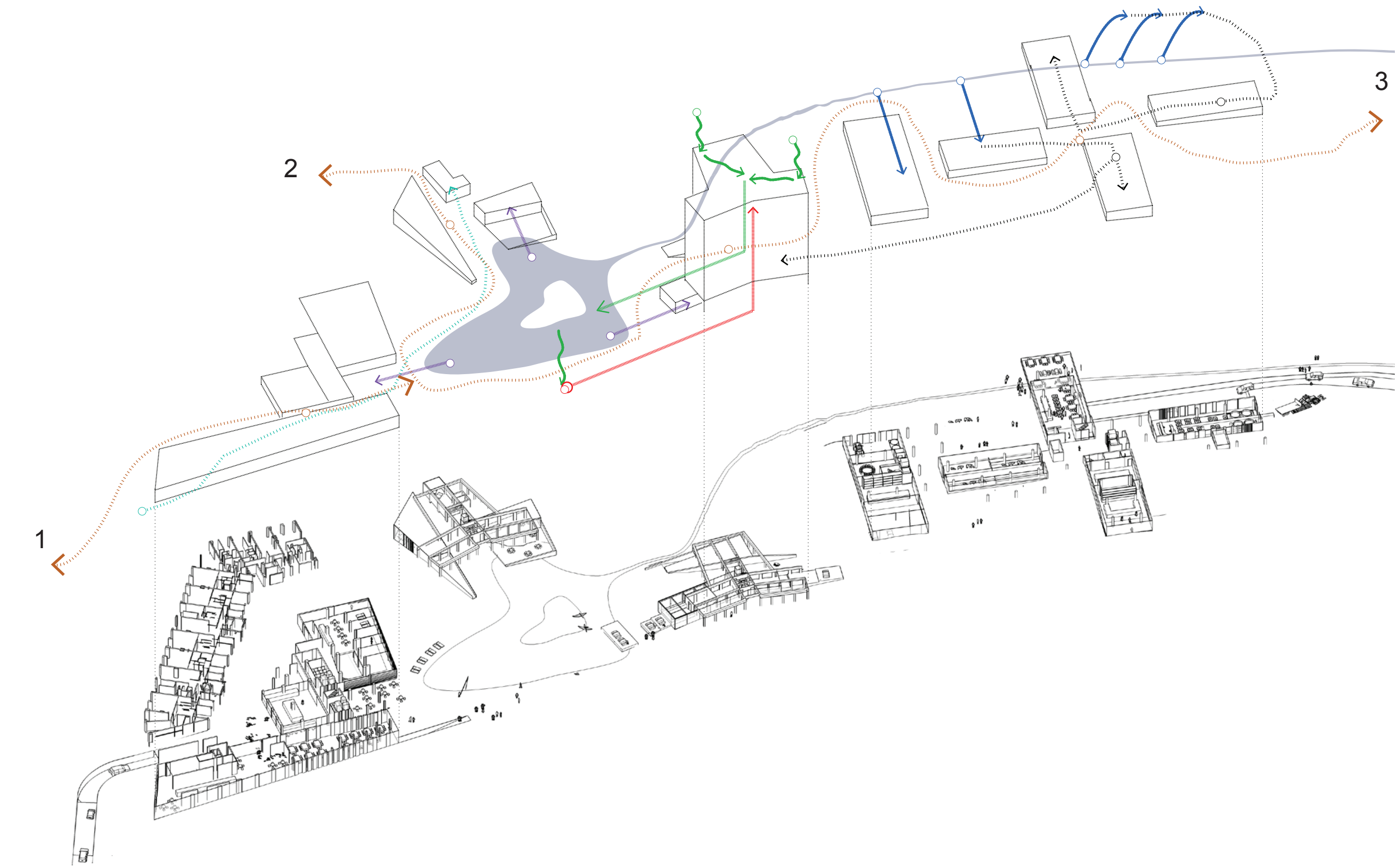
functie schema

- agriculture water
- infiltrate rainwater through open stairwell
- production agriculture
- thermal storage using permanent core
- recreational water
- hotel user
- bike and hike user
- user valkhof pavilion

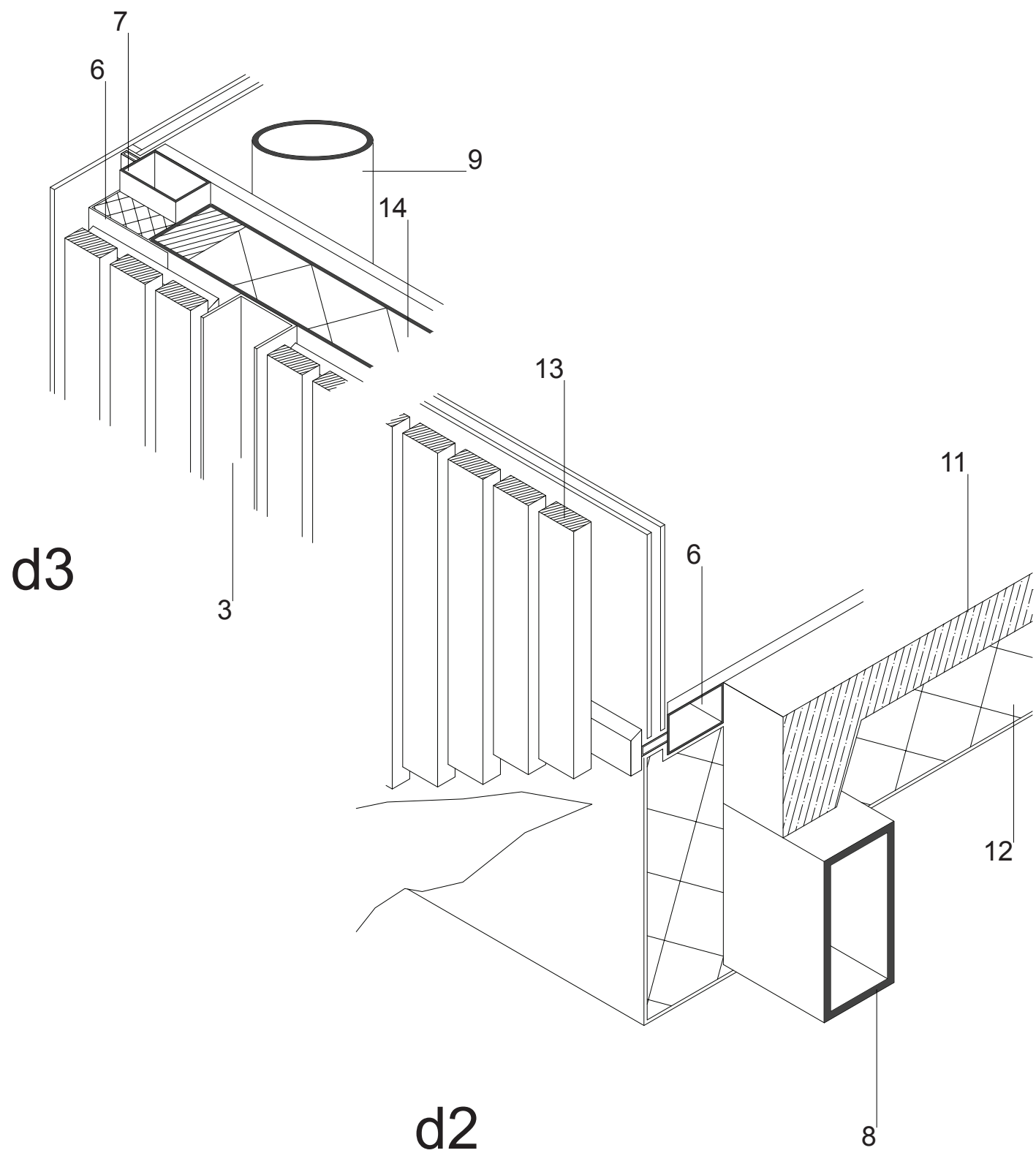
- 1 Nijmegen connection
- 2 Ooijpolder connection
- 3 Kleve connection

detail d1 and detail d2

- 1 existing concrete beam
- 2 aluminium roof trim
- 3 steel rainwater channel
- 4 moss vegetation
- 5 bed of gravel
- 6 high quality insulation
- 7 aluminium window frame with double glazing
- 8 rectangular steel beam 250x100mm
- 9 steal tube 150mm
- 10 sandwichpanel roofdeck 'Kingspan Envirotek' (especially for lightweight constructions)
- 11 reinforced concrete floor
- 12 floor insulation
- 13 wooden cladding, mounted on window frame
- 14 sandwichpanel wall

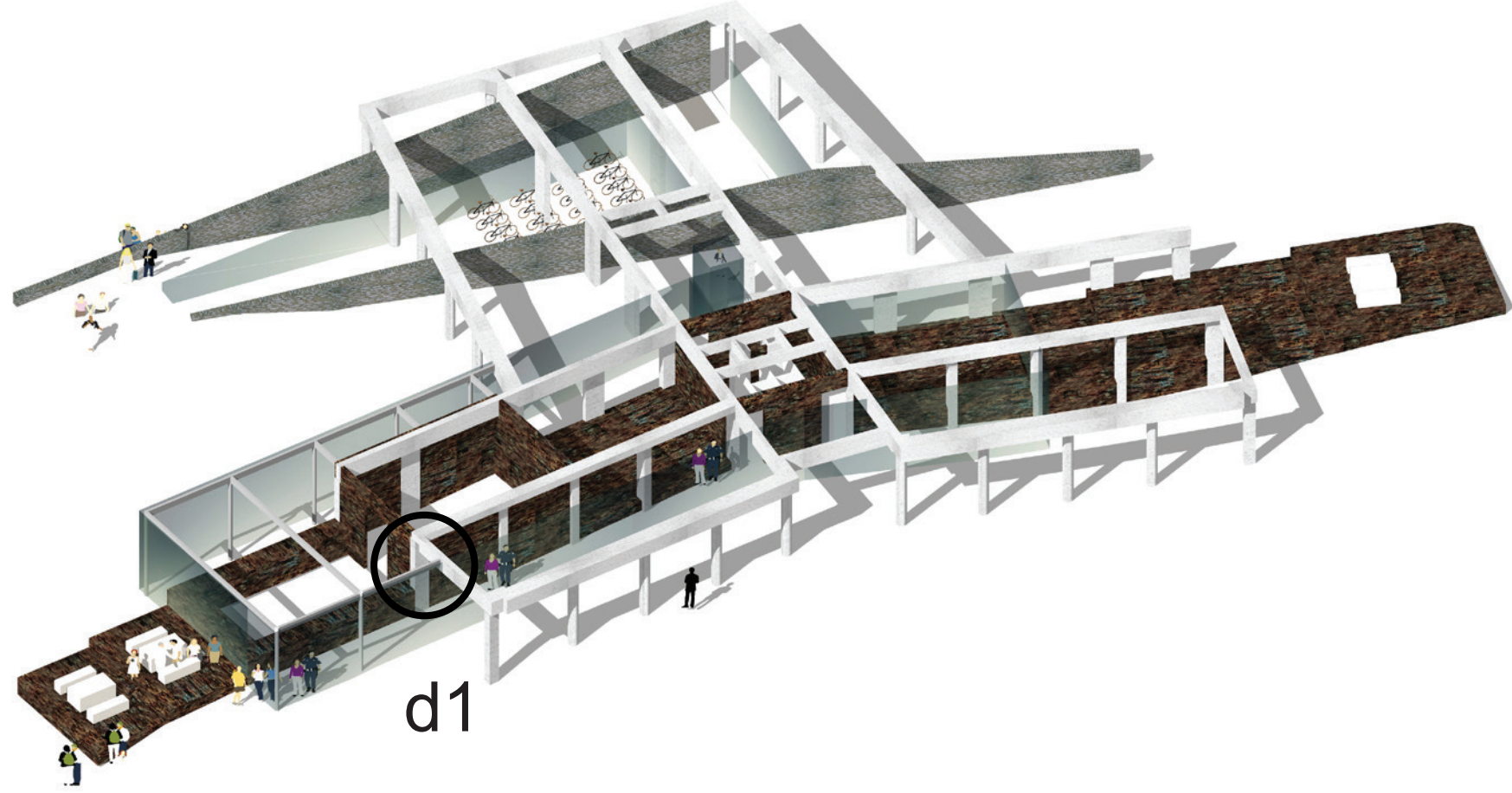
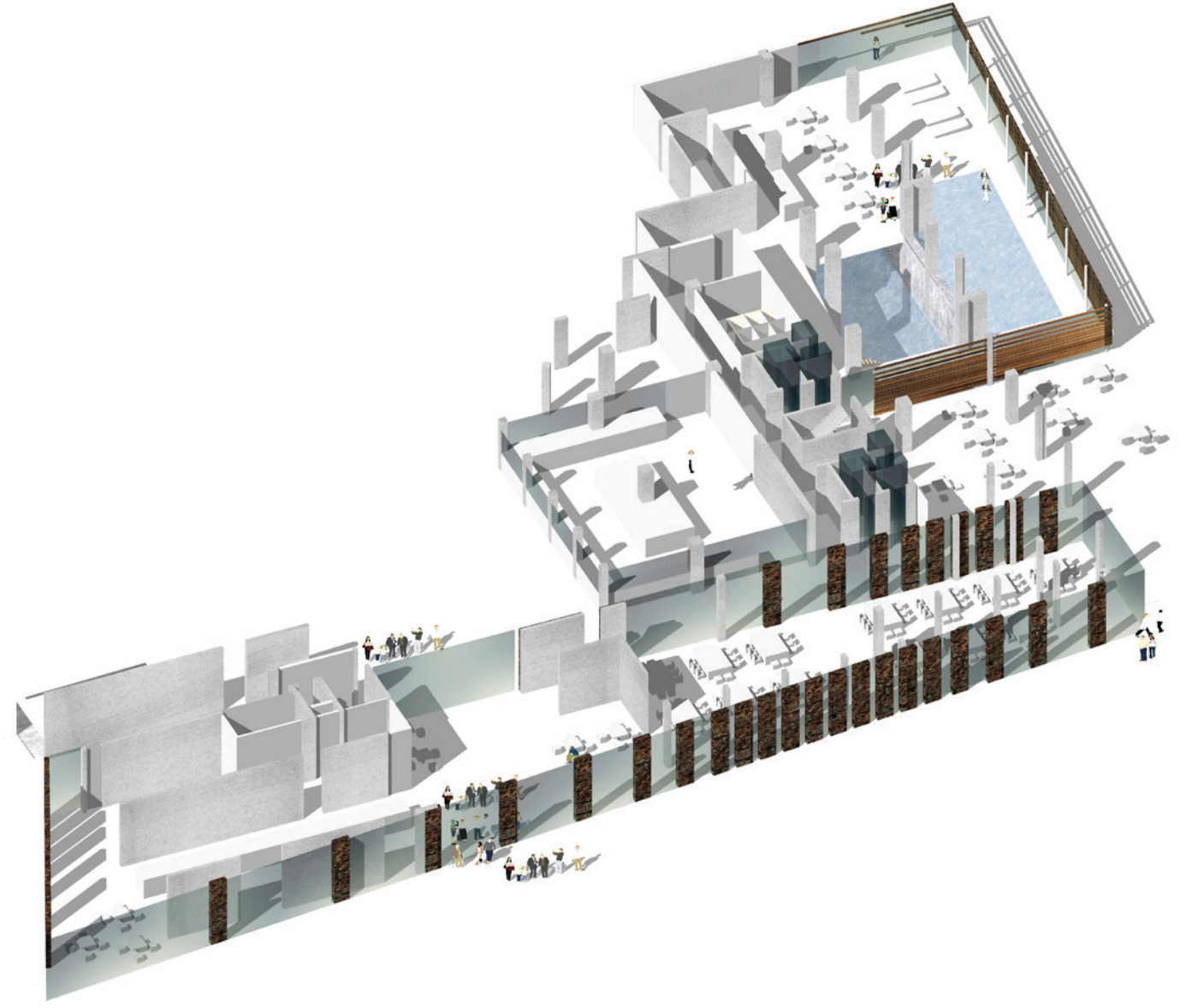


d1

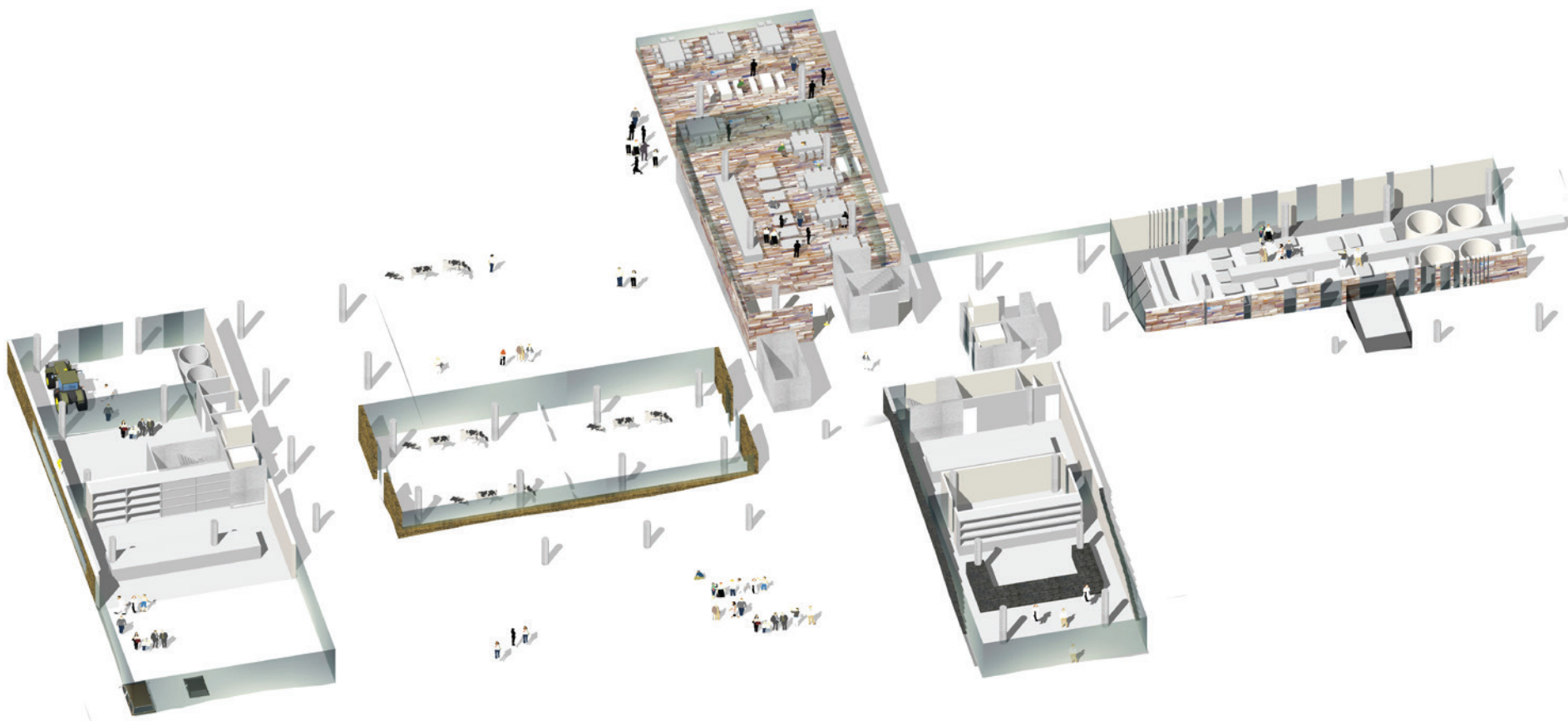


d2

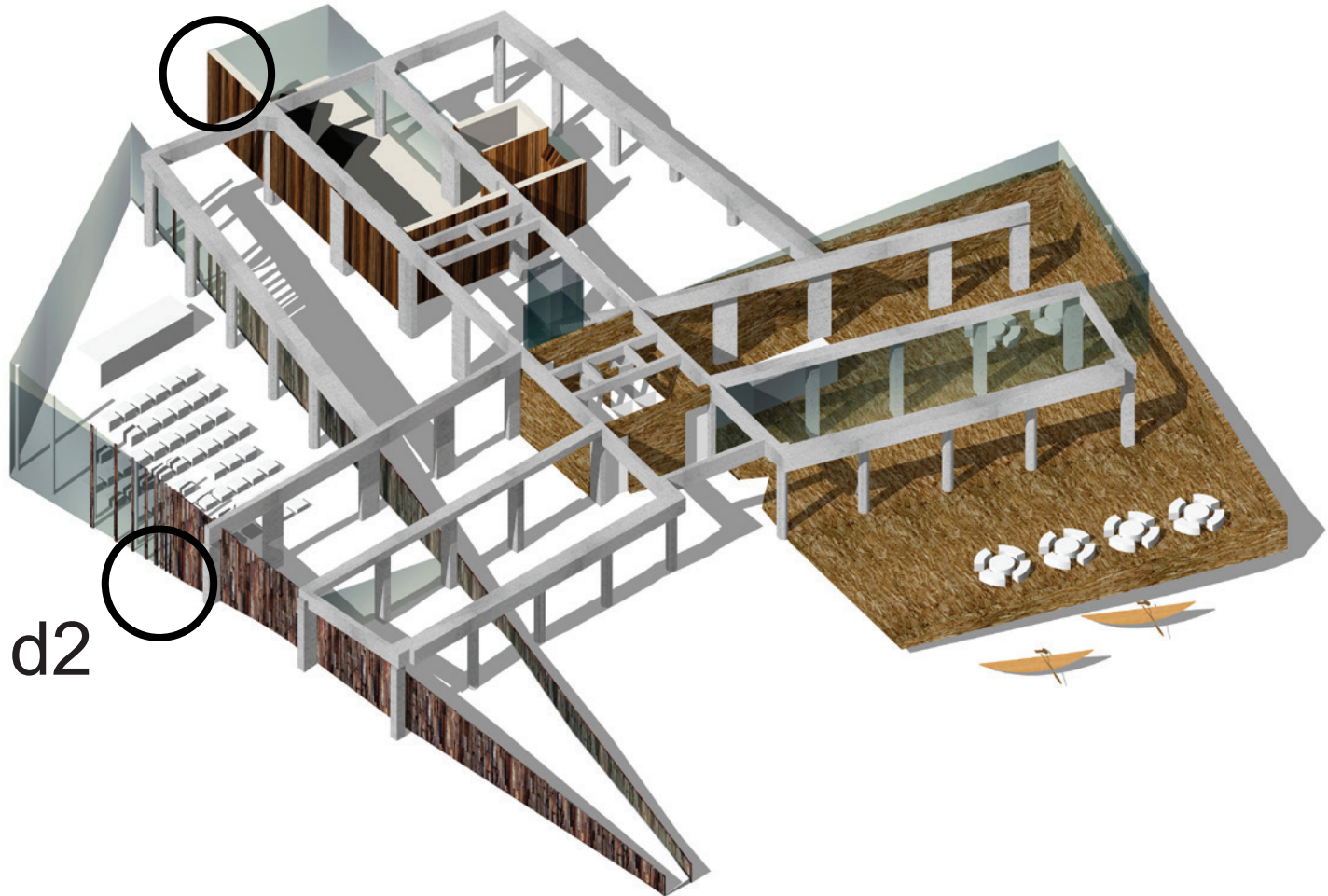
d3



d1



d3



d2

10. detail

Higher areas and lightly loaded foundation will be possible by the construction of a lightweight steal construction for the pavilions. Transparant volumes are north oriented to create porch under current structure. It also create sun protection for the higher summer sun and extra heat in winter by the low position of the sun. The water network will be used for the energy system of the building. Rainwater will be filtered, infiltrated and stored as thermal energy (cooling and heating) for the buildings.

The rainwater will be visibly drained by an open rainwater channel. So the infiltration of rainwater on the moraine will become visible by the moraine user. The steel rainwater channel will be fitted between the glass frame windows and repetition of the vertical wooden cladding.