Heike Kaiser

Landscape Design Portfolio

Selected projects 2005 - 2015

"Hi, my name is Heike...

I am an imaginative person who comes up with all sorts of unusual ideas and plans. One of my stand-out characteristics is the unwillingness to follow the beaten track: I pursue originality, progress and advancement.

Being curious and observant by nature, I often know what is going on around me but I am not afraid to ask further questions to deepen my analytical understanding.
My experience in project organization and leadership helps me in making necessary decisions, taking the next steps, and delegating others if necessary.

I can work independently but I prefer a team-oriented approach. My excellent communication skills gained while working in interdisciplinary and international project teams have enabled me to easily adapt to dynamic environments as well as differing work constellations.

While demonstrating a great capacity for work, I am ambitious to overcome hurdles - often with a smile on my face and with humor. I am a fast and self-motivated learner, always interested in solving difficult tasks as well as finding detailed solutions and design alternatives. I have good judgement, an eye for detail, an open and optimistic mind.

My professional work is a vocation and plays a great part in my life. You will find more details about my career and expertise on the following pages as well as on my homepage:

www.heikekaiser.com

San Francisco, June 2017

Heike Kaiser

Contents

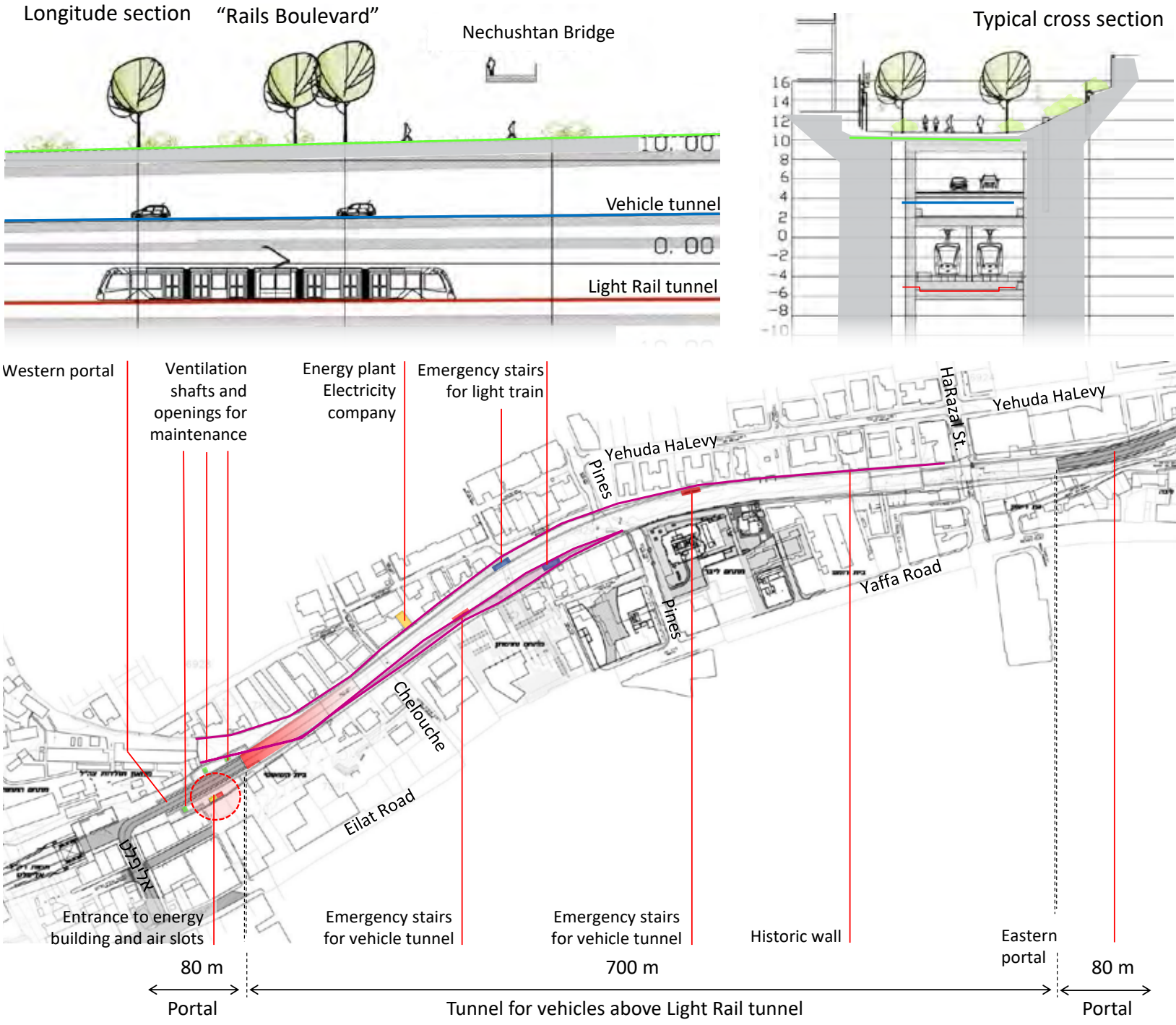
Selected professional projects

Selected academic projects

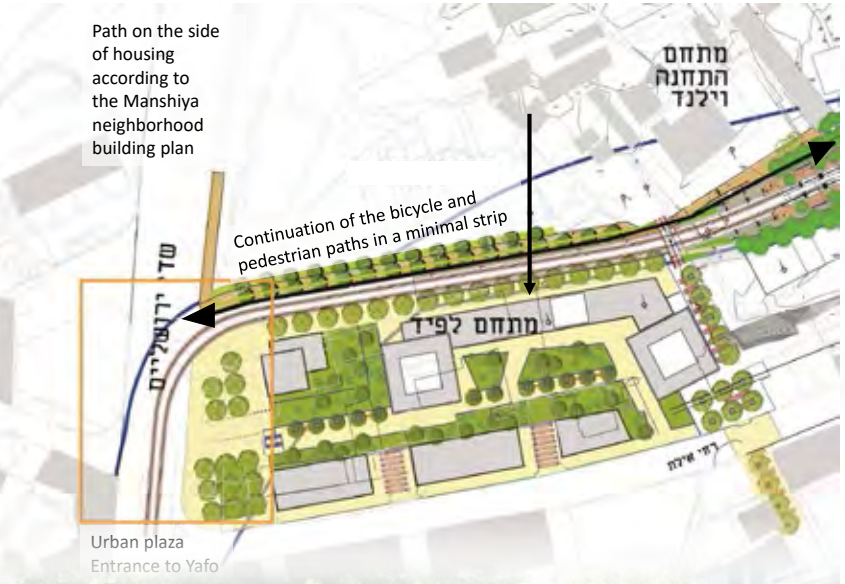
Field	Urban design, Linear parks, Transportation and infrastructure planning, Pedestrian bridge design
Location	South Tel Aviv, Israel
Size	Park: 9 ha / 22 acres; Bridge: 30 m / 23 yard / 98 foot
Year	2012 - 2014
Stage	Concept design, Design development, Preparation for building council permit and international bid
Tasks	Landscape plan, Grading plan, Typical sections, Planting schemes, Design alternatives, 3D model
Tools	AutoCAD, SketchUp, Photoshop, Illustrator, Hand sketching
Team	NTA - Tel Aviv Light Rail, Israel Antiquities Authority, GASH Traffic planning, various architects

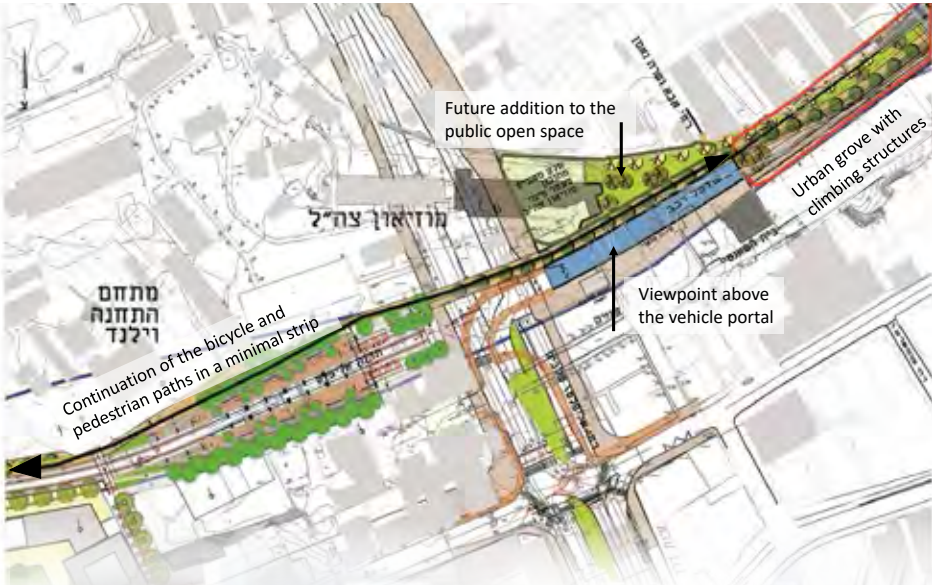
Rails Boulevard & Nechushtan Bridge

View from Nechushtan Bridge towards Chelouche Bridge / Landscape photography.



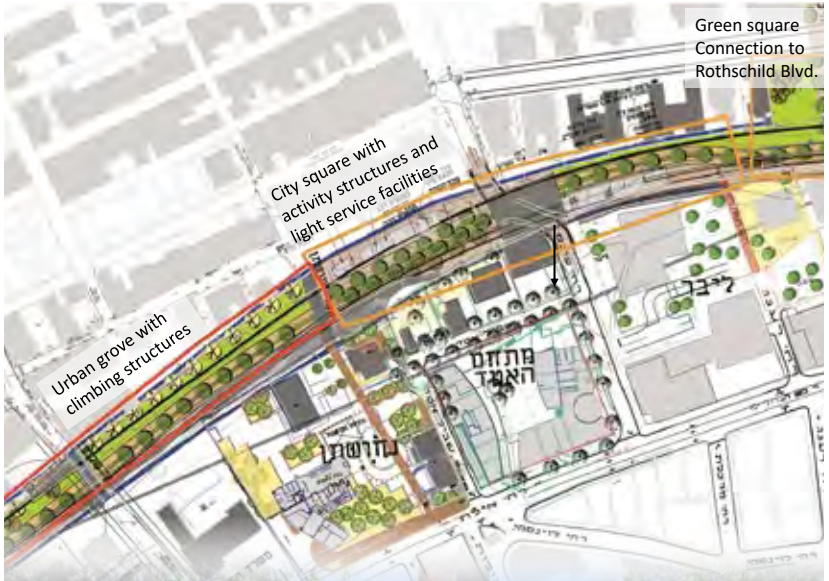
Informational sections and structural plan for the development of a linear park above two tunnels / Illustrator and Photoshop on AutoCAD base.





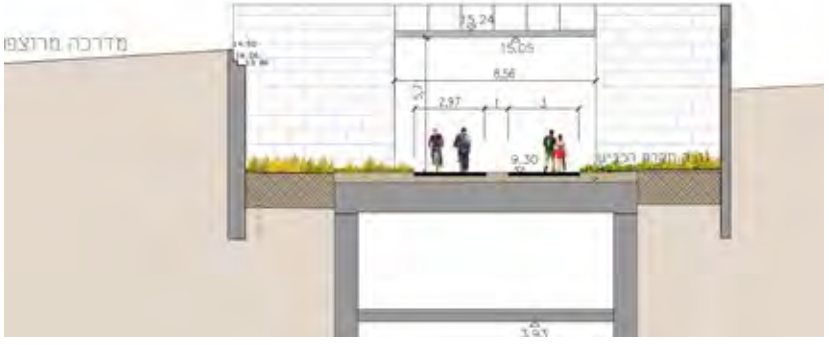
Urban Plaza at the entrance to Yafo

Viewpoint above the vehicle portal

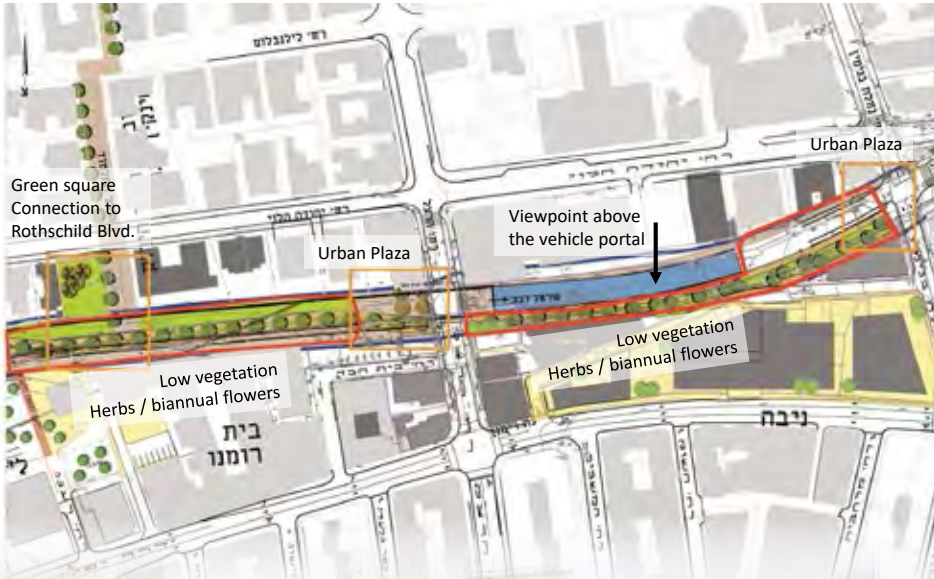


Section 3: Chelouche Bridge - Hichel HaTalmud St.

Gleisdreieck Park, Berlin



Urban square with light service structures / sculptures



Section 4: Hichel HaTalmud St. - Nahalat Benyamin

Hypar Pavilion, New York

Viewpoint above the vehicle portal

8 Landscape development plan, sheet 1: Sections 1 & 2 for international bid / AutoCAD.

Landscape development plan, sheet 2: Sections 3 & 4 for international bid / AutoCAD.

Scheme for soil depth / Illustrator on AutoCAD base.

Scheme for planting design / Illustrator on AutoCAD base.

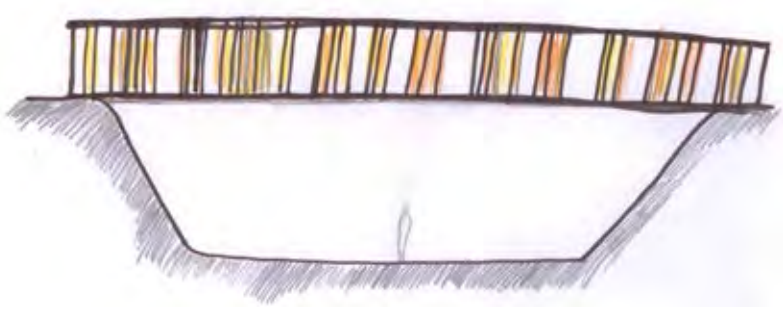
Rails Boulevard & Nechushtan Bridge

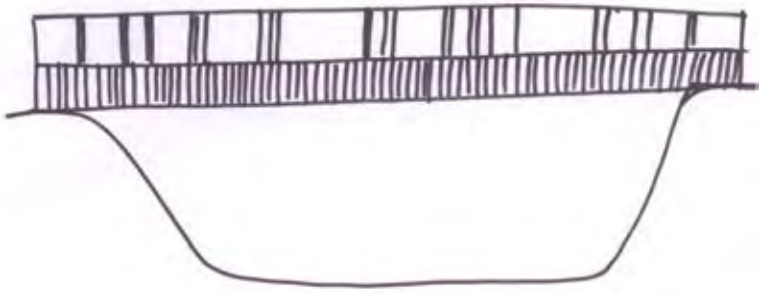
Existing situation: View from Chelouche Bridge towards Nechushtan Bridge / Photo.

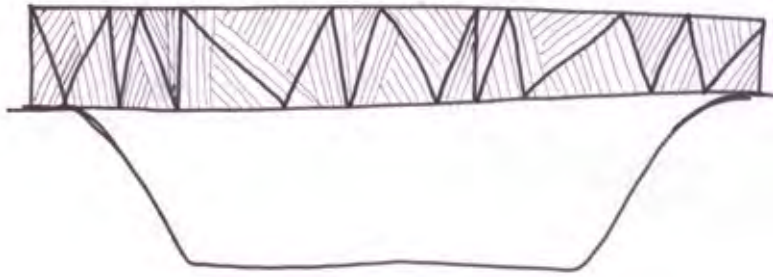
Rails Boulevard Landscape development plan / AutoCAD.

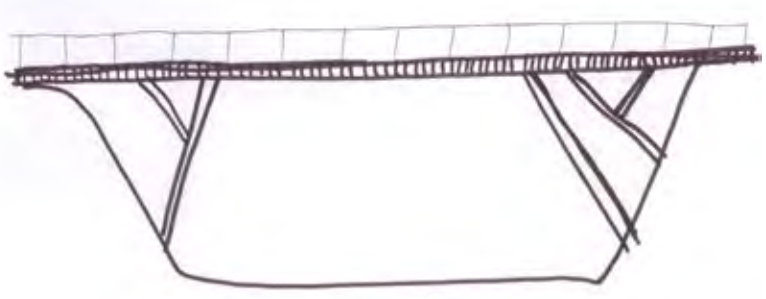
Yaffa - Jerusalem railroad around 1920 / Historic photo.

Proposed design: View towards the new Nechushtan Bridge / Photoshop on Sketchup base.









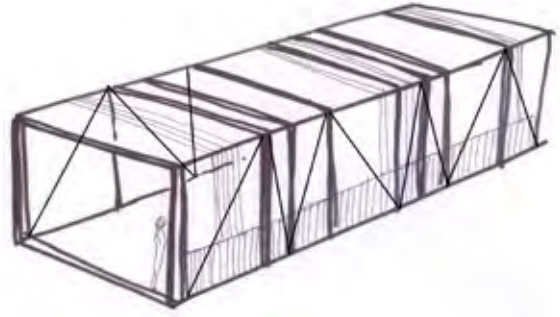
New construction design for a pedestrian bridge between Neve Zedek Tower and Amzeleg Street

The bridge for pedestrians and cyclists connects between the historic Neve Zedek neighborhood and the contemporary Neve Zedek Tower.
The bridge is visible from East to West from a great distance with the historic Chelouche Bridge in the background, and from West to East with the skyline of Tel Aviv in the background.
Nechushtan Bridge has very thick and heavy appearance, it is very dominant in the urban fabric.

Program and design of the "Landscape line"

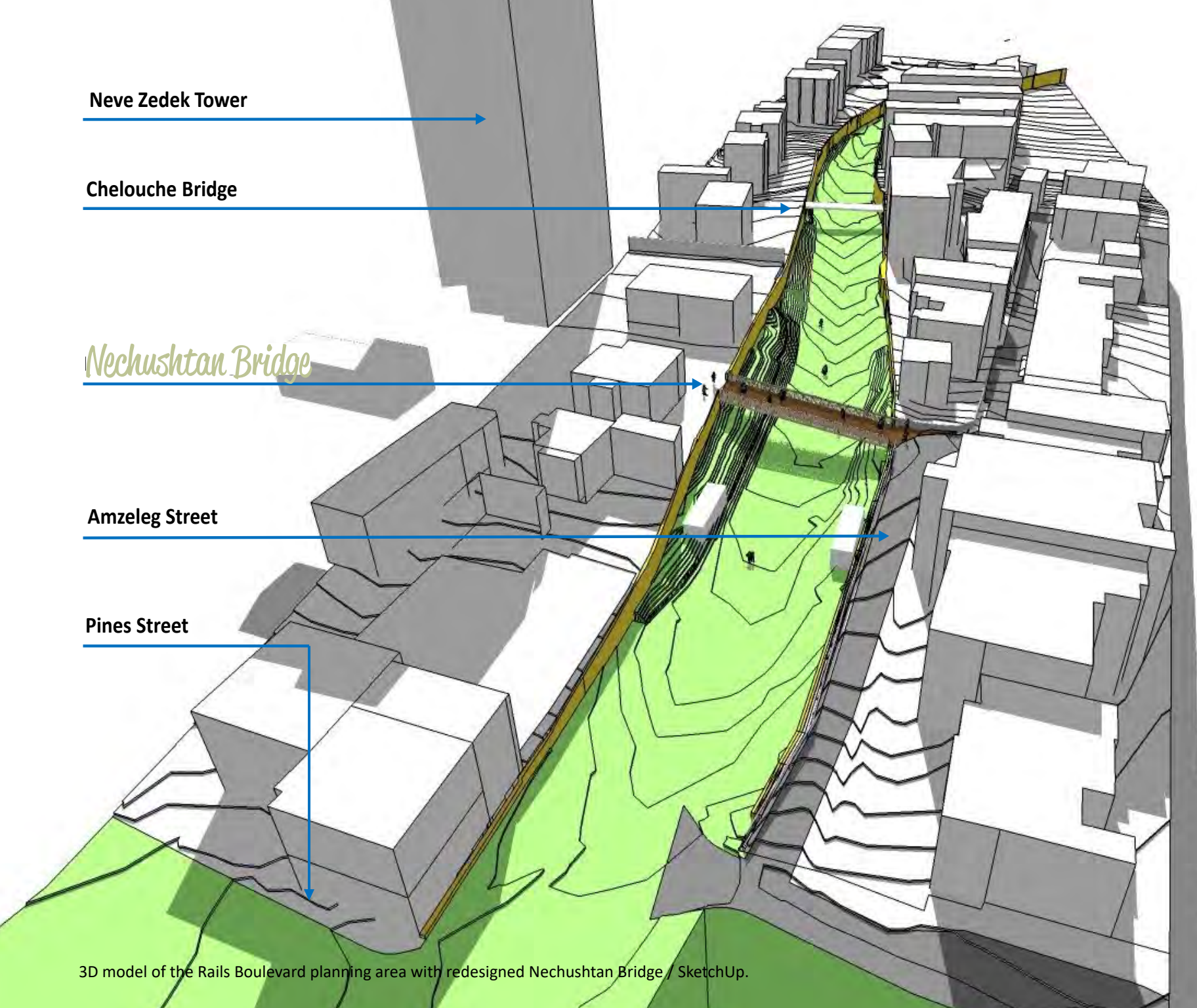
Due to the layout of the bridge and the views together with the historical Chelouche bridge, there is a desire to strengthen its presence in the planning area:
The new bridge is to become "a horizontal line in the urban landscape" without bows or vertical strings attached.

The bridge bottom will be seen by users of the new "Rails Boulevard", that is designed as a linear park on the parking area, and thus requires special care.
Aim of the redesign is a sleeker construction made of steel with a wooden deck and a floating railing to emphasize the horizontal line.



Different approaches for the new bridge design / Hand sketches.

Cut-out wood box / Hand sketch.



3D model of the Rails Boulevard planning area with redesigned Nechushtan Bridge / SketchUp.

Nechushtan Bridge

Length: approximately 30 m / 32 yard / 98 foot

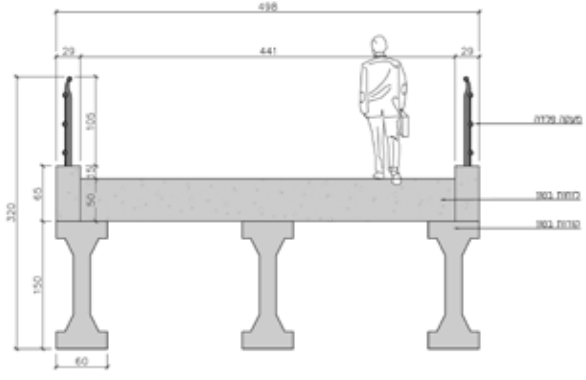
Width: approximately 5 m / 5.5 yard / 16 foot

Height: approximately 3 m / 3.3 yard / 10 foot

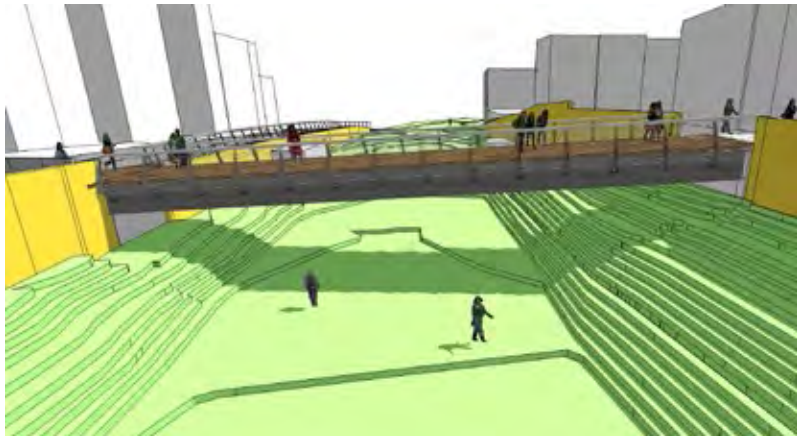
Height difference between the two sides: 1 m / 1.1 yard / 3.3 foot

Longitudinal gradient: 3 %

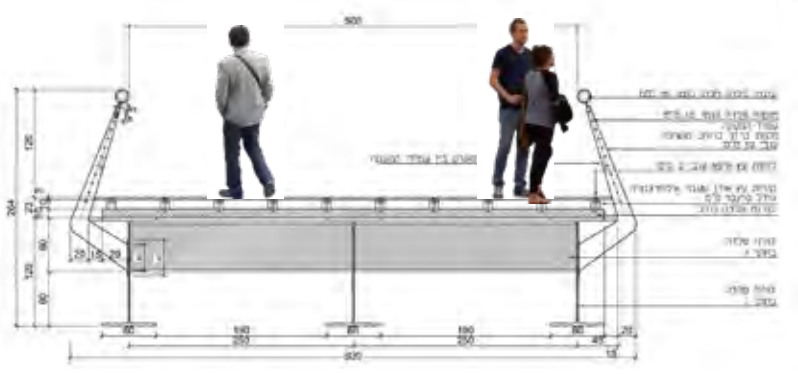
Existing design: Concrete

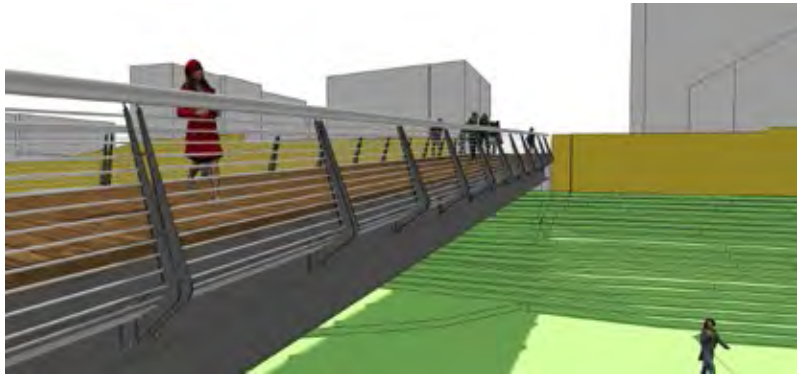


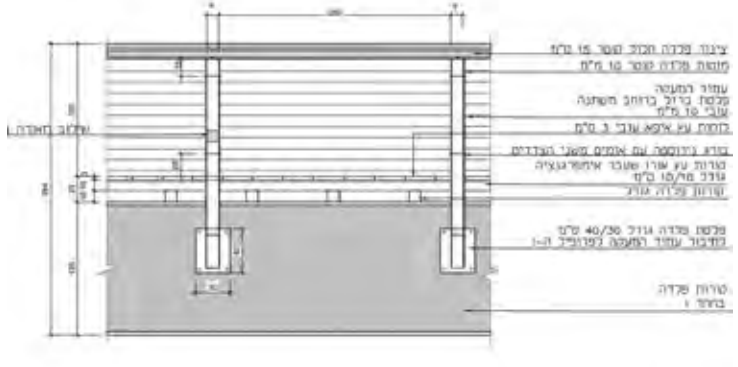
Existing bridge: Massive concrete base and frame construction with a bended steel railing / AutoCAD, Photoshop, Photo documentation.

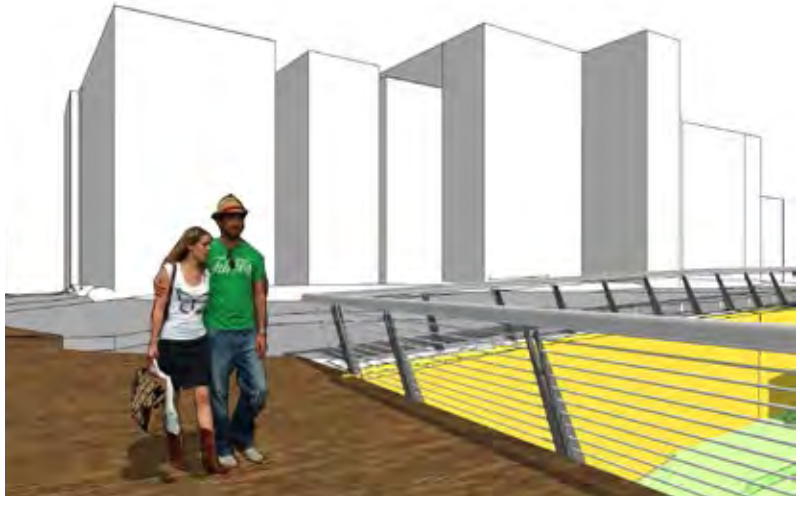


Design alternative 1: Steel

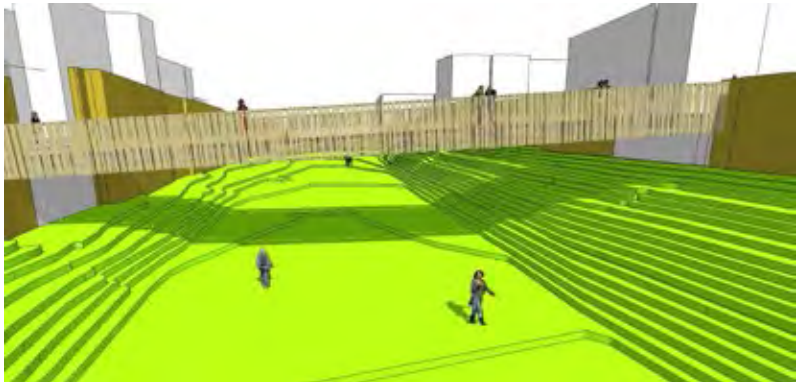




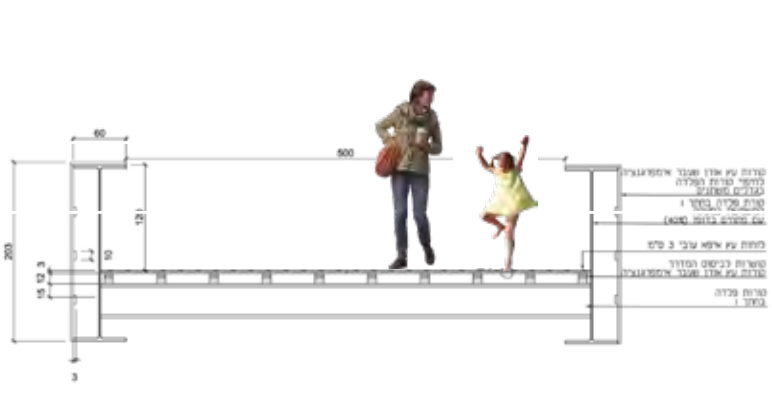


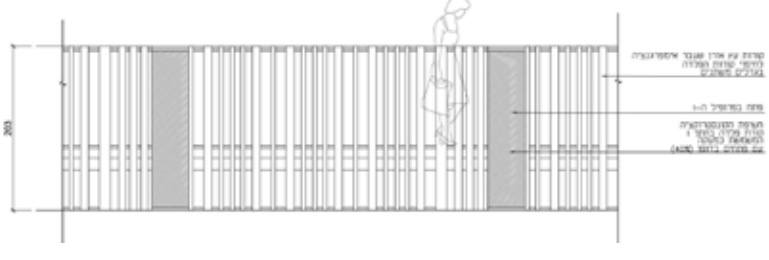


Alternative 1: Simple and minimal I–Profile metal construction with wood deck and bended steel railing / AutoCAD, Photoshop, SketchUp.



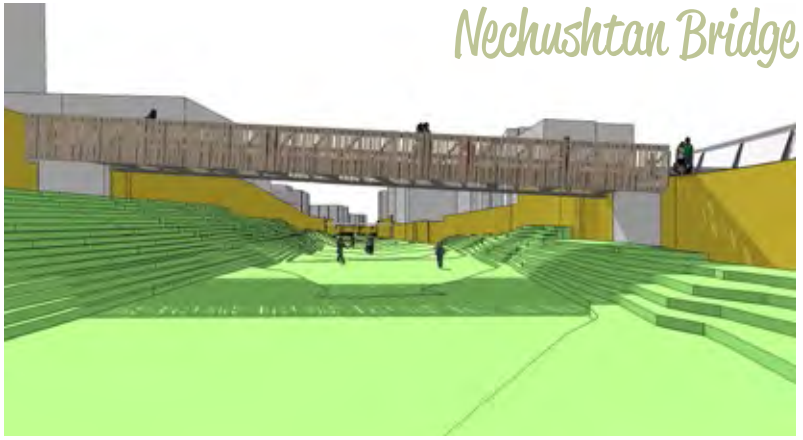
Design alternative 2: Wood box



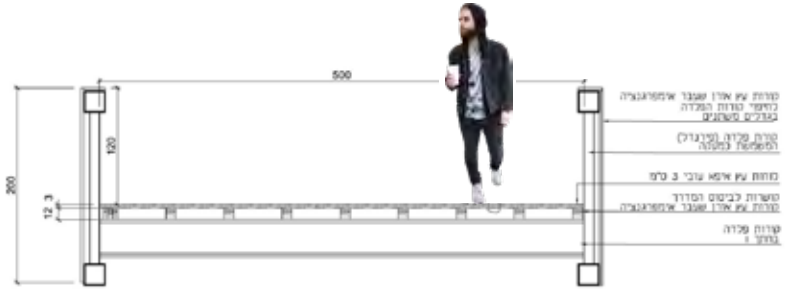


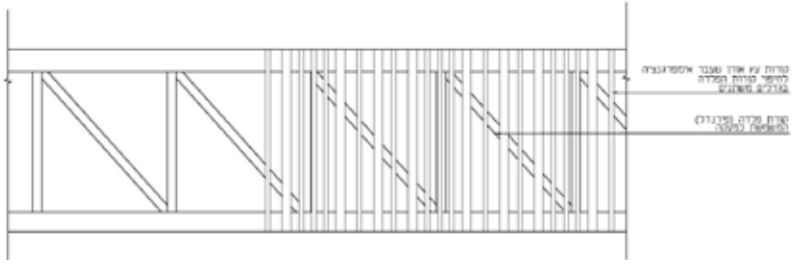
Alternative 2: Simple I–Profile metal construction with wood deck and front cover from pine - a sculpture in the landscape with a floating facade / AutoCAD, Photoshop, SketchUp.

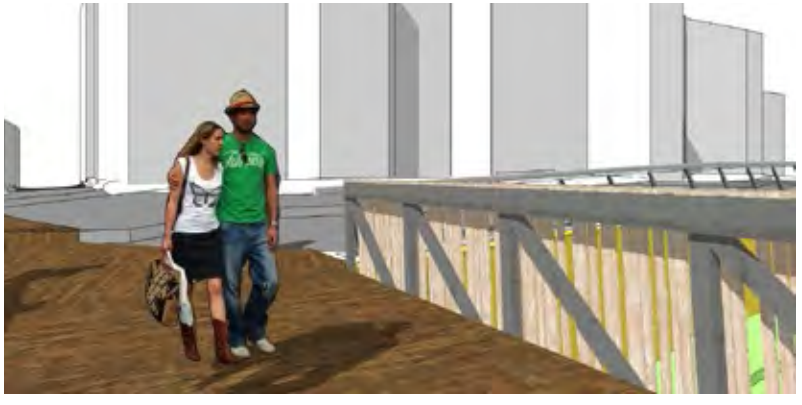
Nechushtan Bridge



Design alternative 3: Zigzag

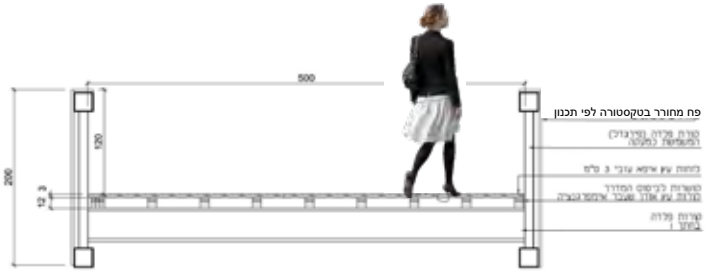






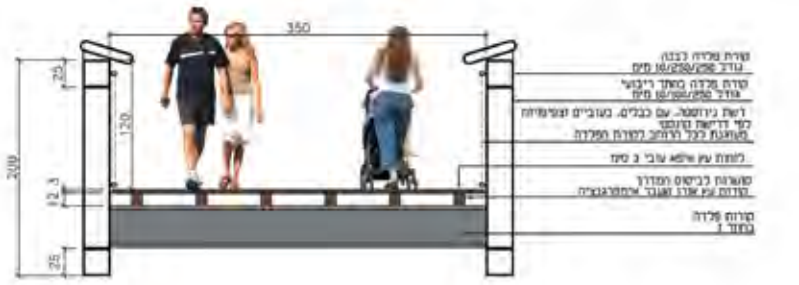
Alternative 3: Firandel construction with wood deck and irregular front cover from pine beams creating a sculpture in the landscape and interesting shadows / AutoCAD, Photoshop, SketchUp.

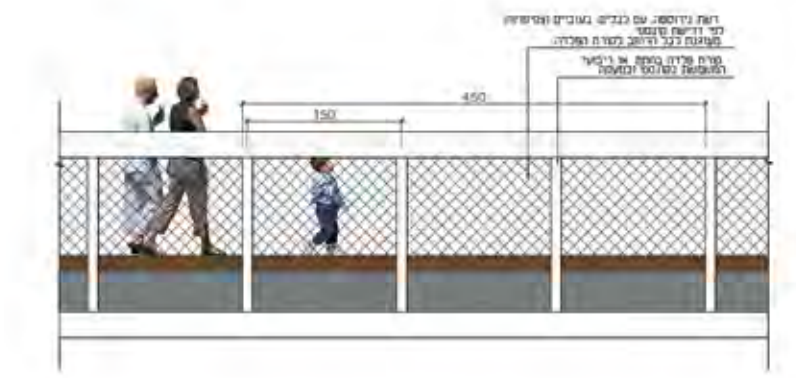
Design alternative 4: CorTen



Alternative 4: Firandel construction with wood deck and front cover from corten sheets in retrospect to the Turkish Railroad / AutoCAD, Photoshop, SketchUp.

Design alternative 5: Squares

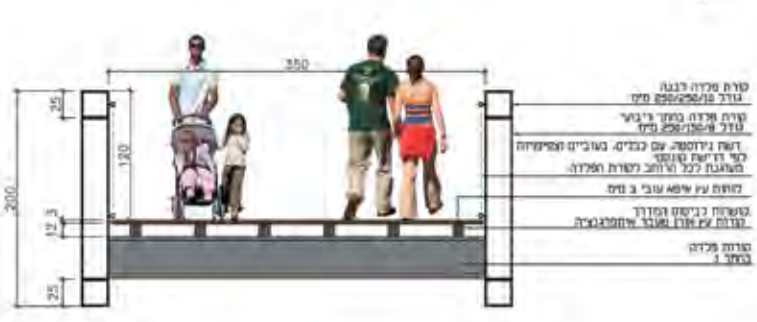


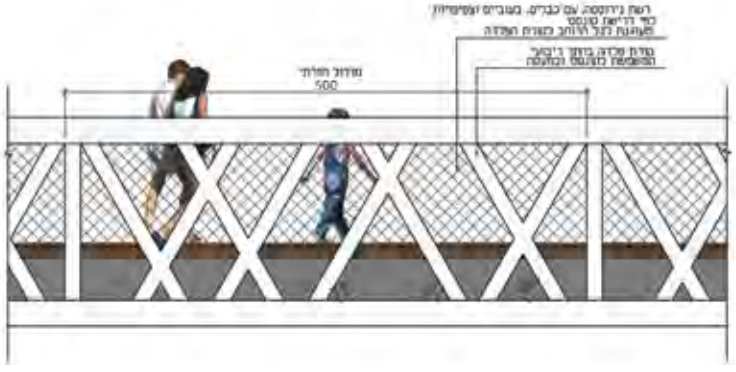


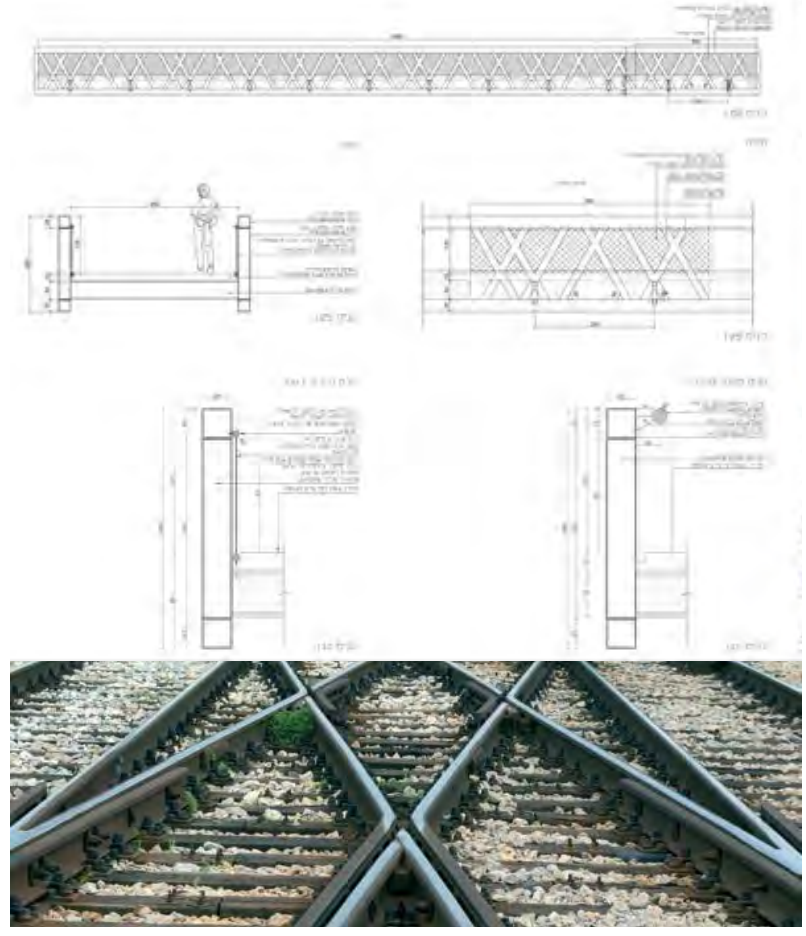
Alternative 5: Firandel construction in white color with orthogonal steel beams covered from the inside with a stainless steel net / AutoCAD, Photoshop.

Nechushtan Bridge

Design alternative 6: Rails







Alternative 6: Firandel construction with diagonal steel beams covered from the inside with stainless steel net emphasizing the railroad history / AutoCAD, Photoshop.

Field	Campus design, Residential design, Urban parks
Location	North Tel Aviv, Israel
Size	4 ha / 10 acres
Year	2012 - 2014
Stage	Concept design, Design development, Construction documents
Tasks	Landscape concept, Design alternatives, Landscape plan, Grading plan, Construction details
Tools	AutoCAD, Illustrator, Photoshop
Team	Moshe Zur Architects, Palmoni Architects, Seminar HaKibbutzim

Kibbutzim College & Residences in the Park

The edcational and residential compound integrated into the urban green fabric / Architectural rendering with landscape design input.

Preservation of existing trees

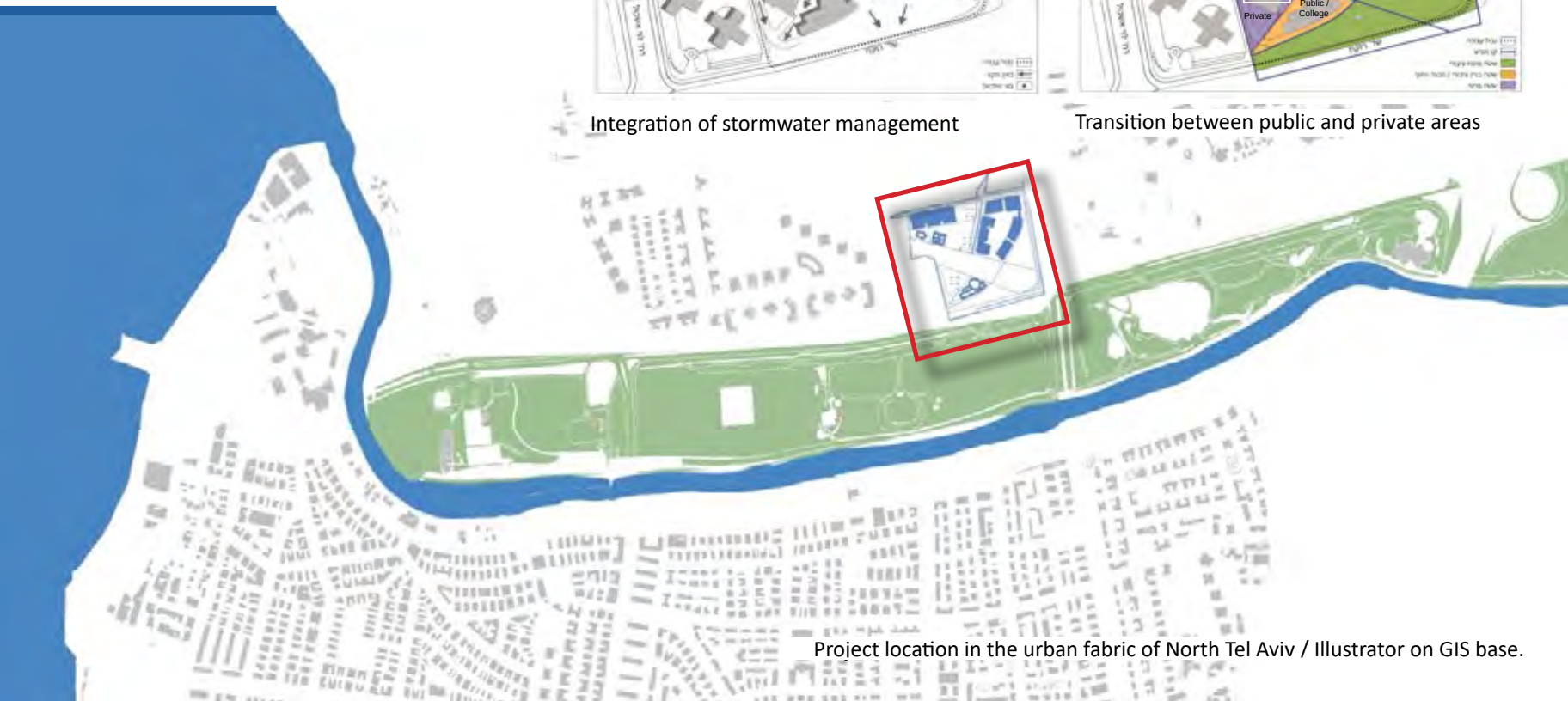
Technical infrastructure in the underground

Implementation of pedestrian and bicycle paths

Planning and design challenges

Integration of stormwater management

Transition between public and private areas



Project location in the urban fabric of North Tel Aviv / Illustrator on GIS base.

Concept of a highlighted path system in an urban forest / Online image research.

Path system within a green fabric / Illustrator on AutoCAD base.

Alternative 1: Paths within a Green Fabric

Stormwater runoff plan / Illustrator on AutoCAD base.

The concept including trees and central meeting areas / Illustrator on AutoCAD base.

Concept of different elevations combined with a geometric pattern / Online image research.

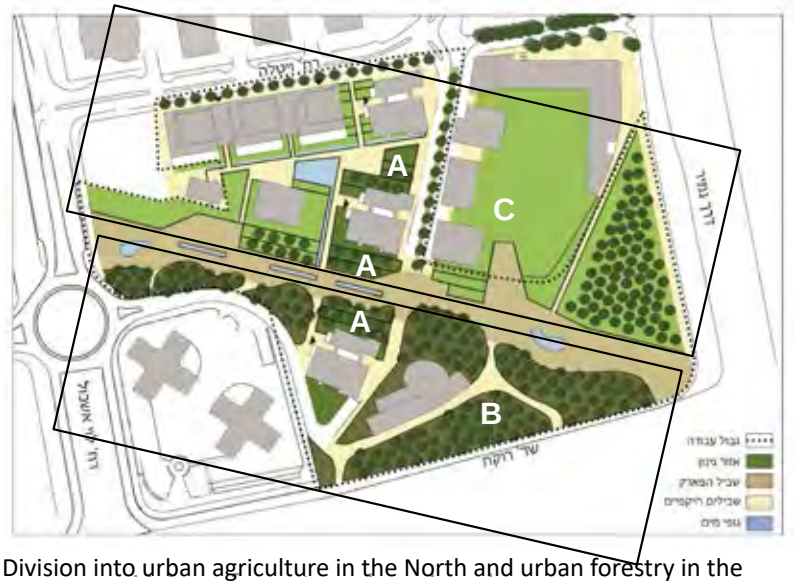
A zigzagging path system like a canyon / Illustrator on AutoCAD base.

Alternative 2: Cracks in the Terrain

Important meeting areas along the paths / Illustrator on AutoCAD base.

Additional water areas for stormwater management and privacy reasons.

Concept of integrating modern urban agriculture with education and leisure / Online image research.

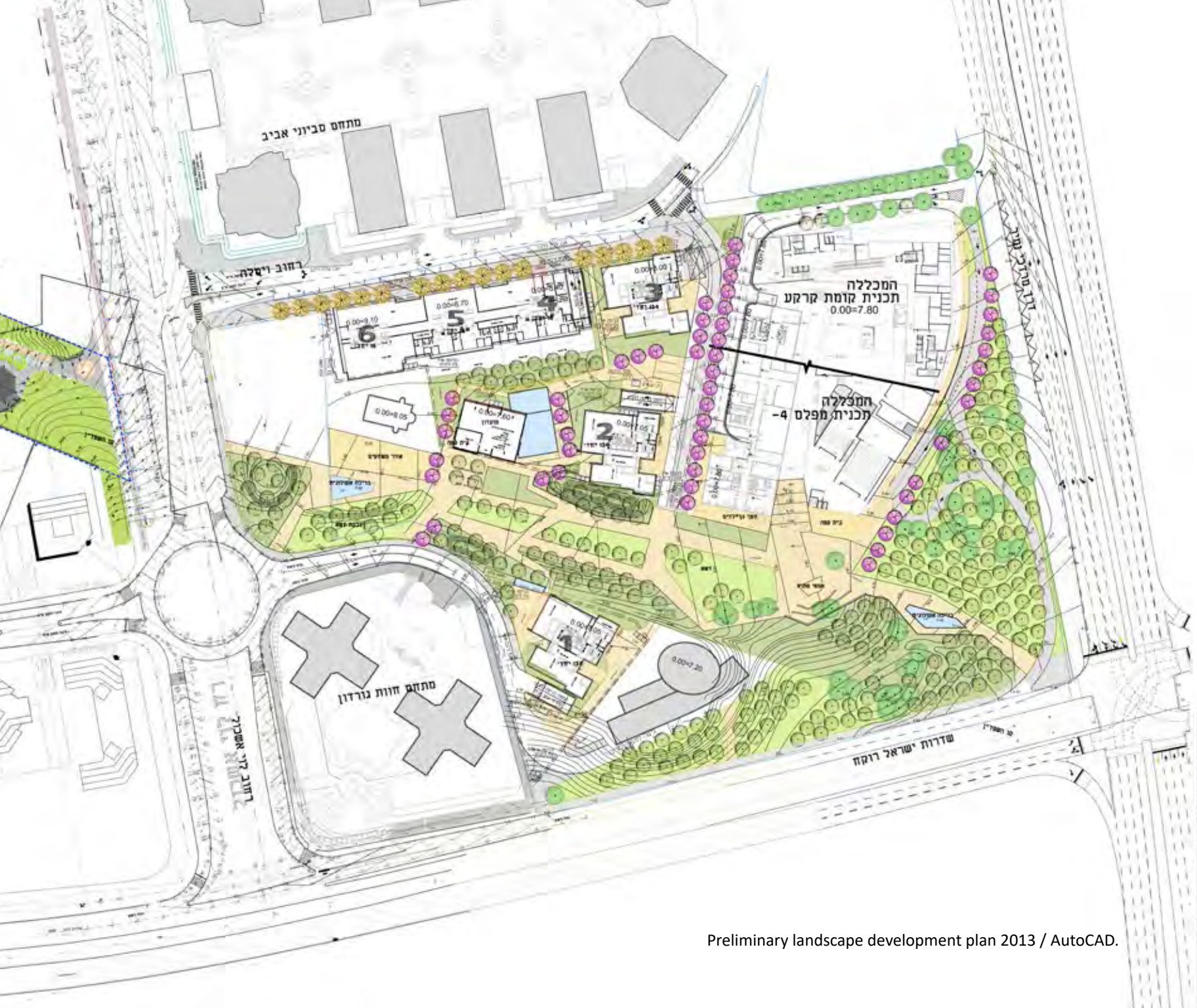


Division into urban agriculture in the North and urban forestry in the Southern part of the compound / Illustrator on AutoCAD base.

Alternative 3: Urban Agriculture & Forestry

Stormwater management combined with public water features.

Public meeting areas in centrtal locations / Illustrator on AutoCAD base.



Preliminary landscape development plan 2013 / AutoCAD.

Transition between public and private

Contact area A: Residential entrances

Paley Park, New York / Online image research.

Alternative 1: Pocket Gardens

Isolating the private entrances both visually and acoustically from the public park by creating “landscape rooms” including tall vegetation, walls with water features etc.

Design principles for the residential neighborhood

- Planned as an integral part to the adjacent public open space
- Fenceless separation between private and public open spaces
- Areas with public access will be characterized by narrow lanes and limited encounter zones
- Gardening on the roof of the parking lot: Trees will be planted by raising the landscaping areas

Design alternatives for the private building entrance areas / Photoshop on AutoCAD base.

Private Garden Design / Online image research.

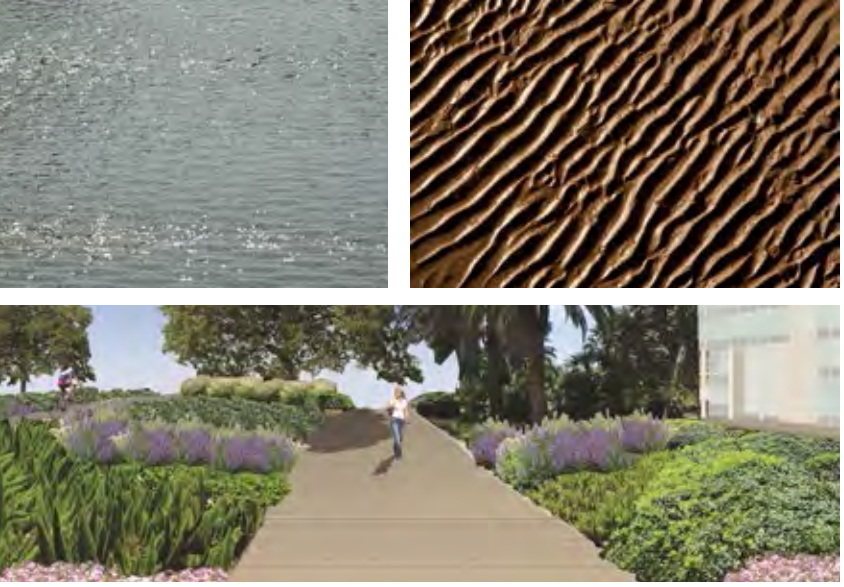
Universidad Polytecnico, Barcelona / Online image research.

Alternative 2: Crossing over Water

Making the private building entrances seemingly less accessible by adding desgned obstacles, such as stepping stone crossings over low level water features.

Alternative 3: Different elevations

Making the private building entrances in the planning area more visually exclusive by means of ramps and enclosed sitting areas.

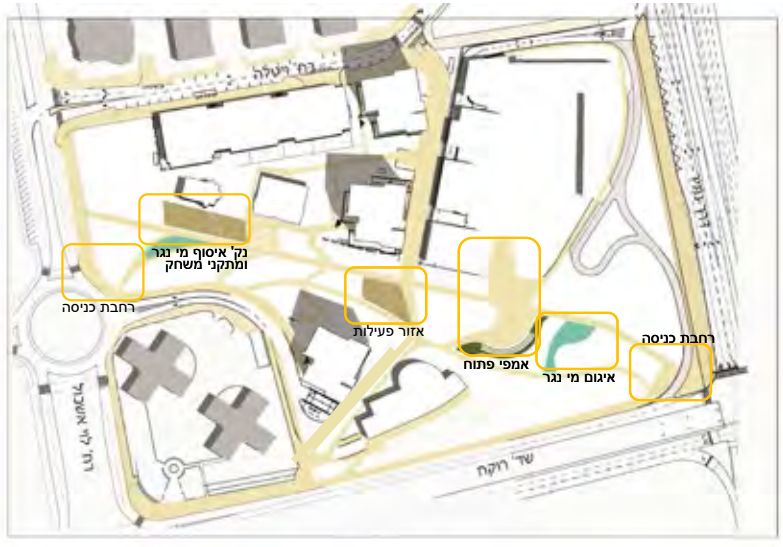


Concept of walking through waves or dunes of changing planting areas / Online image research and Photoshop.

The updated municipal transportation program calls for an additional bicycle path through the park / Illustrator on AutoCAD base.

Redesign: Soft Transition in the Urban Stream

The combined concept design including planting, pathways and plazas.



Creating spaces for temporary uses and expanding sections of the park from an open educational space to the wide public.

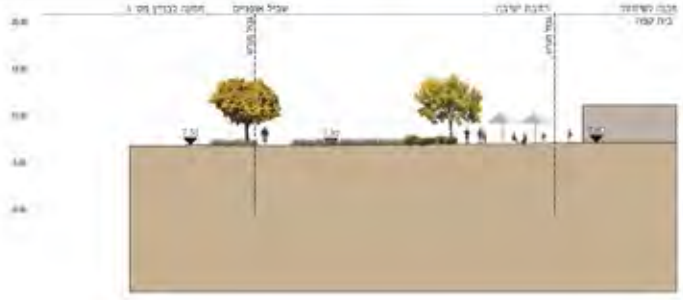
Design principles for the public park

-Planning of wetlands in areas designated for the collection of runoff water
- Integrating areas for sports activities in acoustically isolated zones
- Establishing a public square with an amphitheater as an open-air classroom and meeting area for the Kibbutzim College

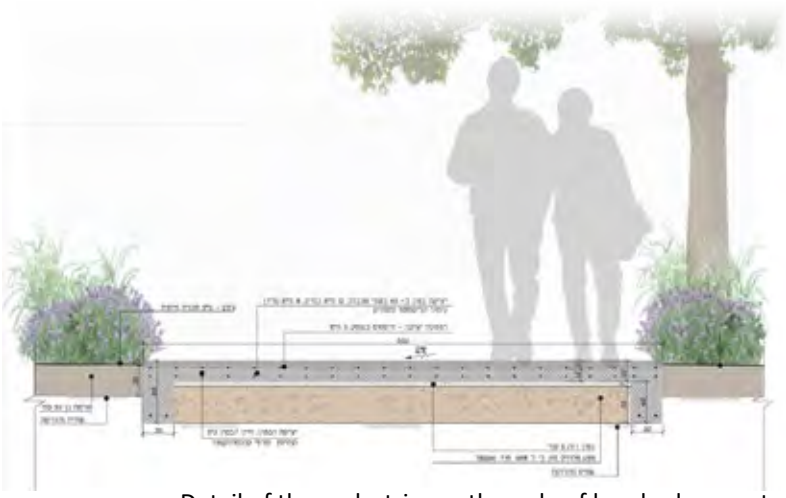
Final landscape development plan 2014 for bid / AutoCAD.

Transition between public and private

Contact area A: Public park



Meeting area in front of the gym / Photoshop on AutoCAD base.



Detail of the pedestrian path made of brushed concrete.

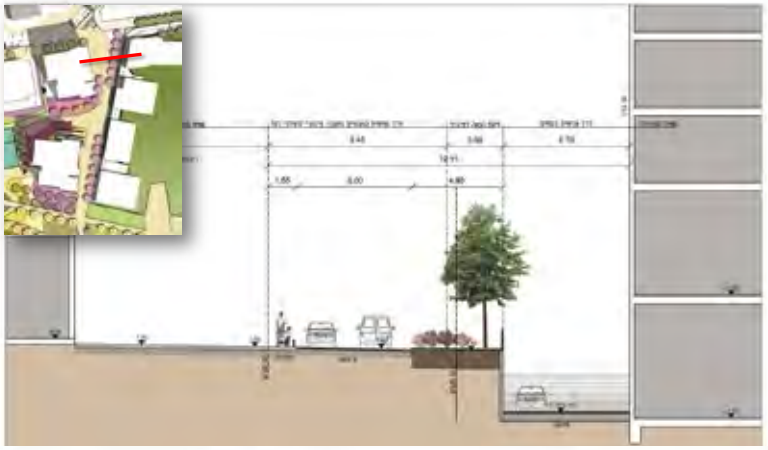
Detail of a curbstone as invisible border.

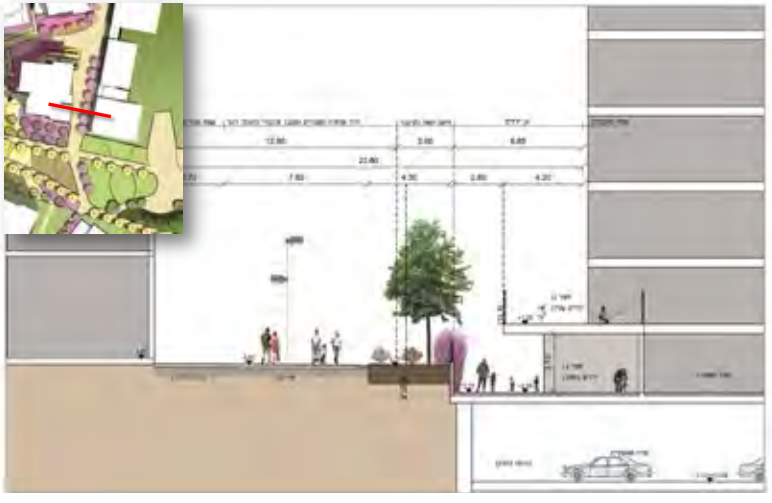
Meeting area in front of the college for students and the public / Photoshop on AutoCAD base.

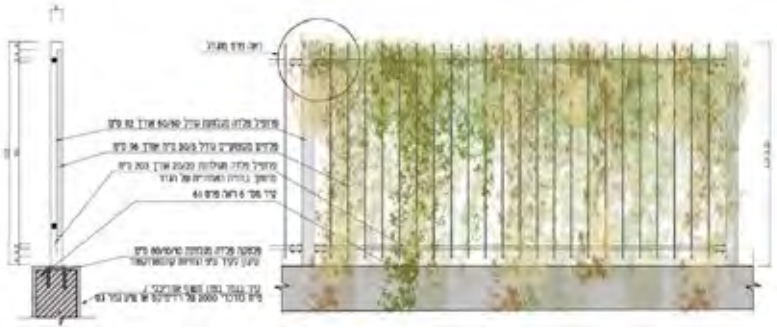
Typical section of the public park with a broadwalk in the center / Photoshop on AutoCAD base.

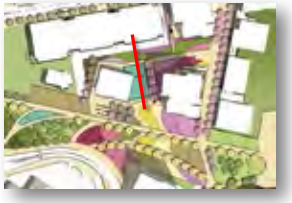
Transition between public and private

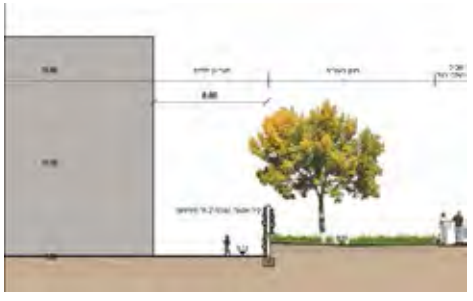
Contact area B: Street towards the college











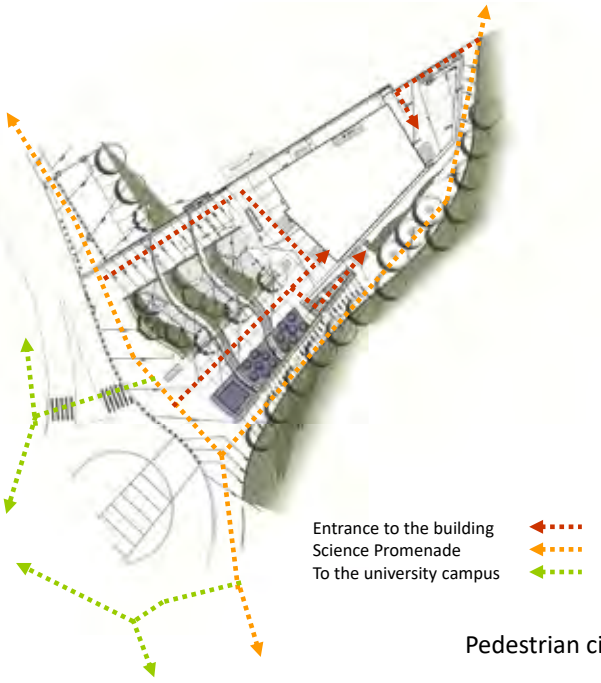
Safety fence as a green buffer / Photoshop on AutoCAD base.

Field	Educational design, Environmental design
Location	Tel Aviv University, Israel
Size	4,000 sqm / 4,784 sq yard / 43,055 sq foot of built area
Year	2012 - 2014
Stage	Design development, LEED certification process, Construction documents, Building observation
Tasks	Landscape plan, Vegetation plan, Construction details, LEED materials, Supervision and Documentation
Tools	AutoCAD, SketchUp, Photoshop, Office, Photography
Team	Axelrod-Grobman Architects, Chen Architects and Architect Dr. Joseph Cory of Geotectura

First LEED Platinum certified building in Israel (92), Israeli Green Building Standard - Diamont level,
2012 Architecture of Israel competition (2nd),
2014 Israeli Association of Builders' Excellence Awards (1st)

Porter School of Environmental Studies

Impressions of the entrance area: Sitting wall, Bustan terraces, Constructed wetland / Photo documentation.



Pedestrian circulation scheme

Landscape development scheme / Photoshop on AutoCAD base.

Cladding:

Pavings, walls and coverings will be in light colors that do not absorb heat and reflect it into the environment.

Runoff water:

The entrance area of the building consists of an entry pathway and other hard surfaces.
Infiltration areas will absorb the runoff water and collect it into an aquifier.
There is another infiltration area on the lower level near the auditorium.

Wood chips cover
Bright color paving
Bicycle Path
Vegetation

LEED principles: Materials design scheme

Vegetation:

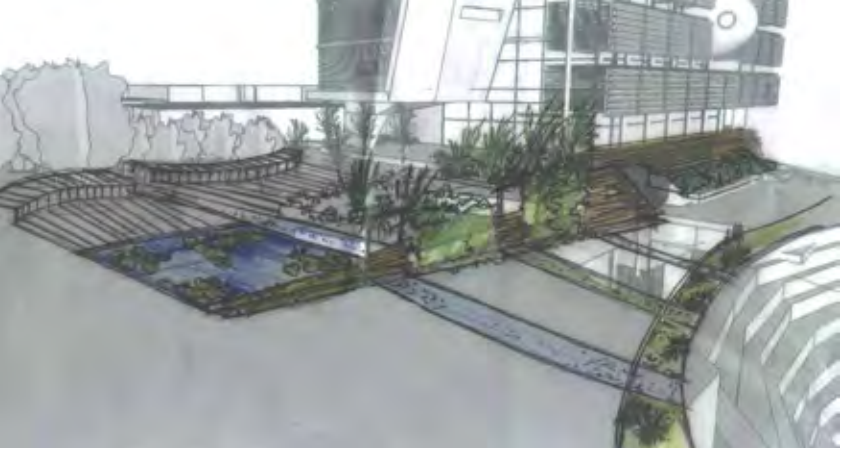
- Maximum use of gardening space for air purification and noise protection
- Use of water-saving local vegetation

The area designated for vegetation is not great but it is important for the sound functioning of public space while maintaining the principles of saving water and providing shade.

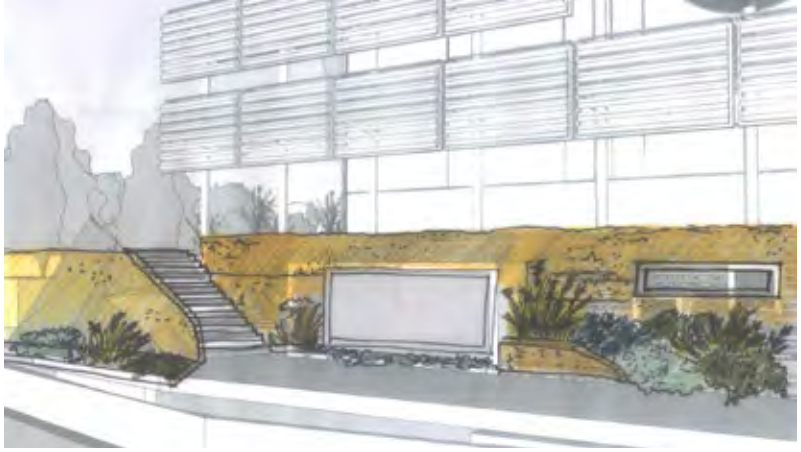
Bustan terraces serve as typical local orchards with sitting walls inbetween.

The additional vegetation at the edge of the kurkar cliff will be carefully integrated into the existing flora.

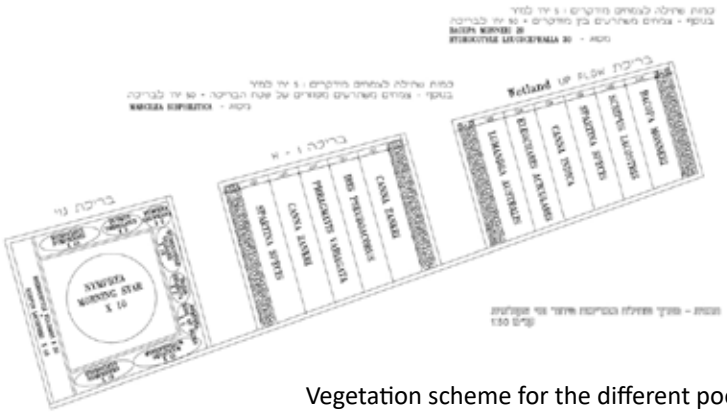
Vegetation design scheme / Photoshop on AutoCAD base.



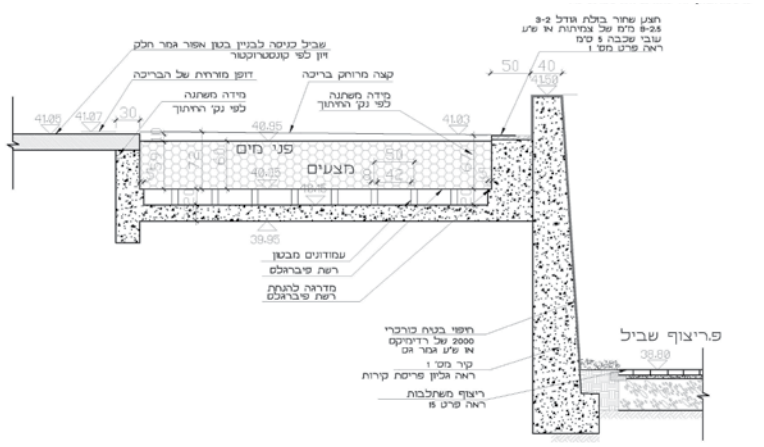
The constructed wetland / Hand sketch on 3D model base.



The kurkar wall with stairs / Hand sketch on 3D model base.



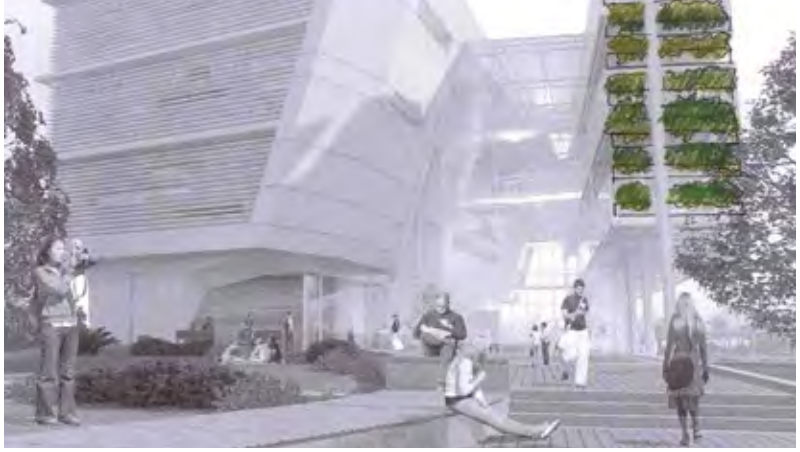
Vegetation scheme for the different pools.



Construction detail of the kurkar wall next to the pools.

Illustration of the entrance / SketchUp and Photoshop.

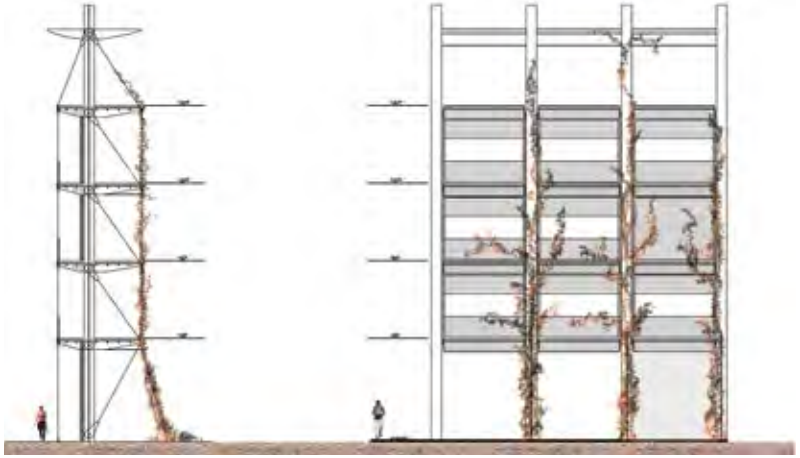
Example of a natural kurkar cliff / Photo.



EcoWall / Hand sketch on architectural render base.

Indoor greenery / Hand sketch on architectural render base.

Vegetated wall with planters. / Photoshop on AutoCAD base.

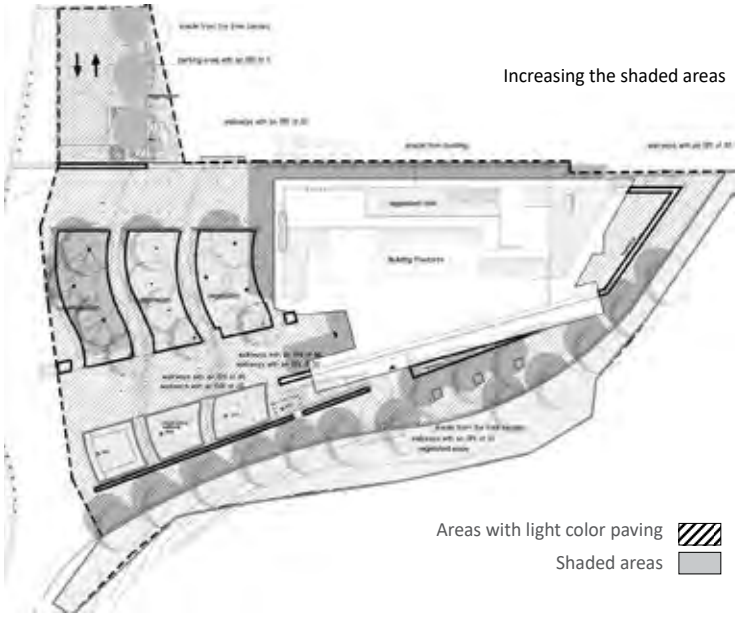


Climbers on the ground level / Photoshop on AutoCAD base.

EcoWall illustration / Photoshop on architectural rendering.

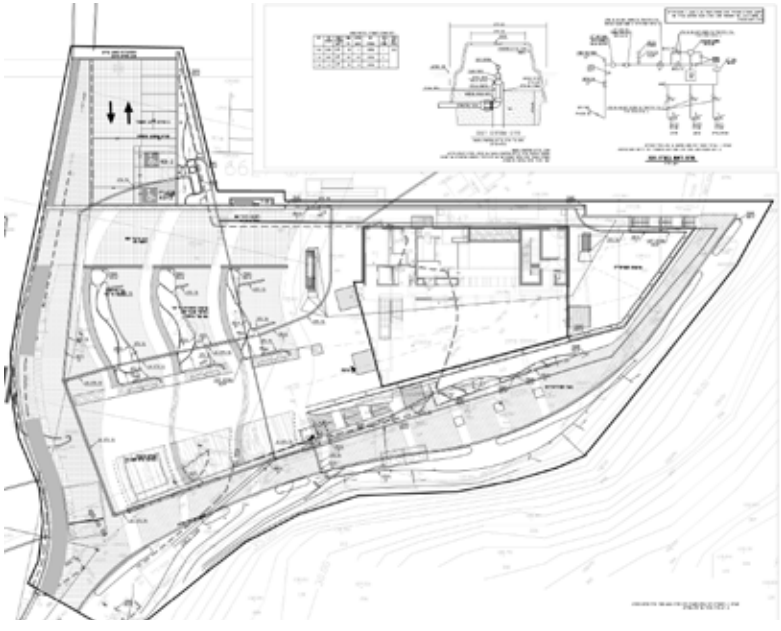
Case study: MFO Park Zurich, Switzerland / Photo.

Landscape development plan / AutoCAD.

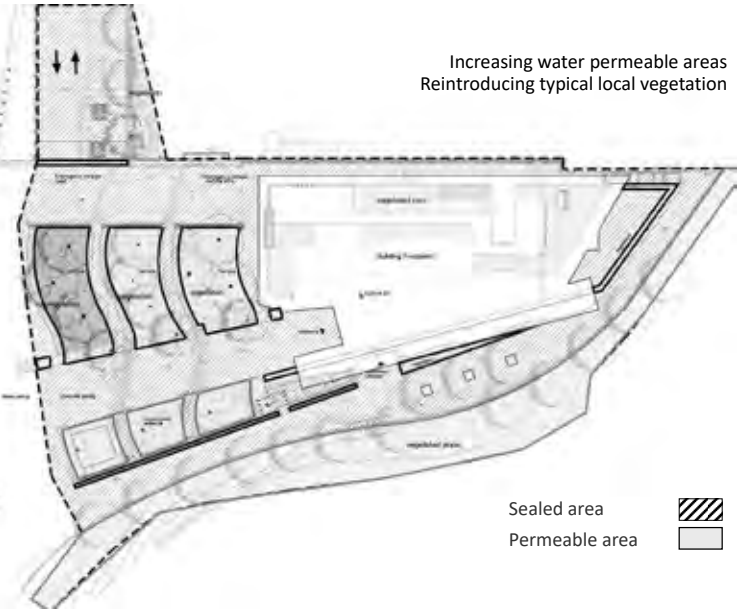


LEED plan: Anti-heat reflection / AutoCAD, Illustrator.

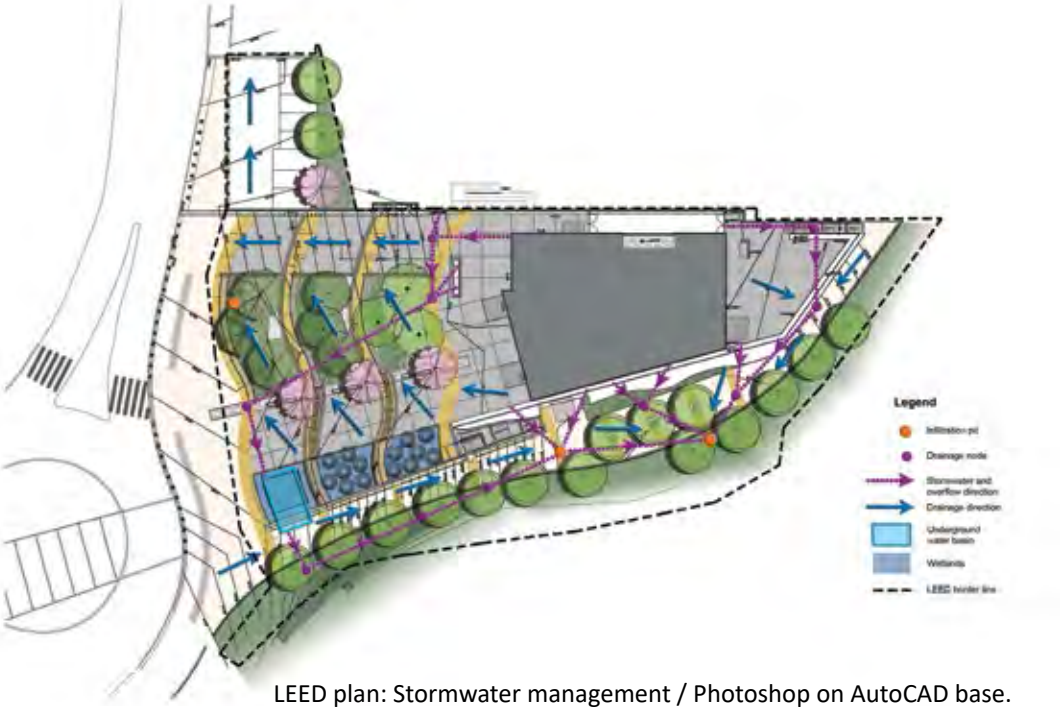
Vegetation plan / AutoCAD.



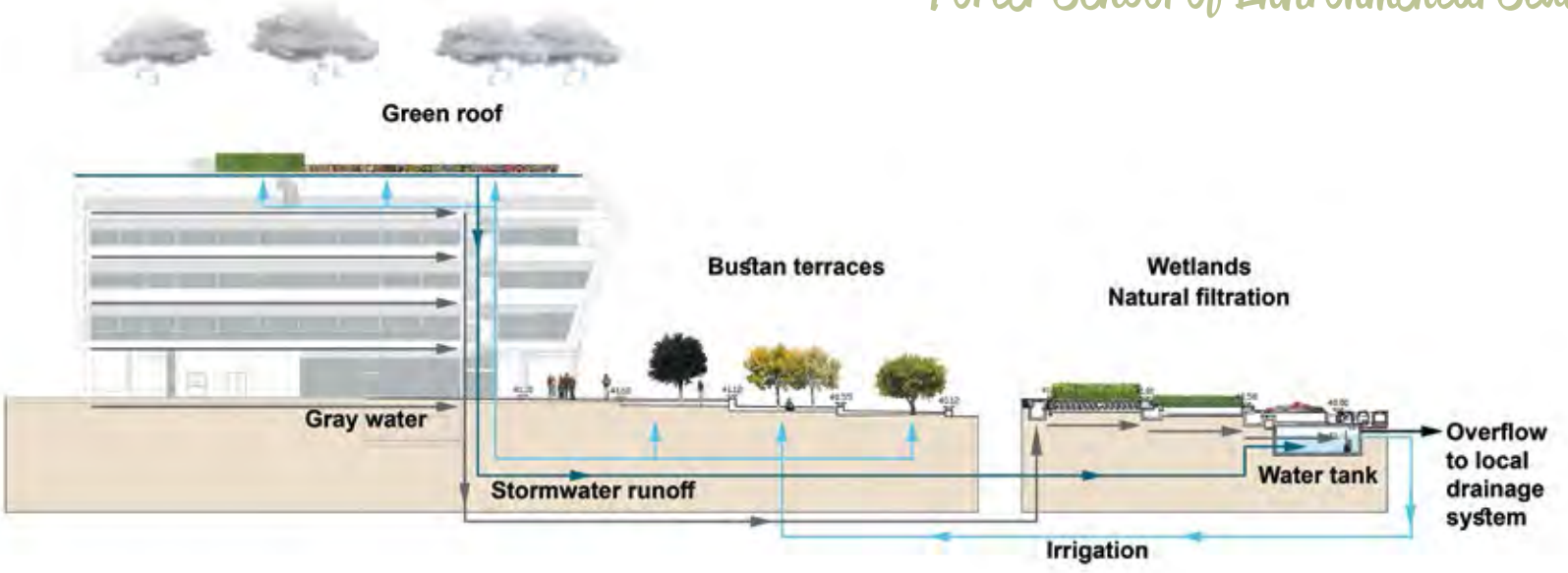
Irrigation plan / AutoCAD, Illustrator.



LEED plan: Ground cover / AutoCAD, Illustrator.

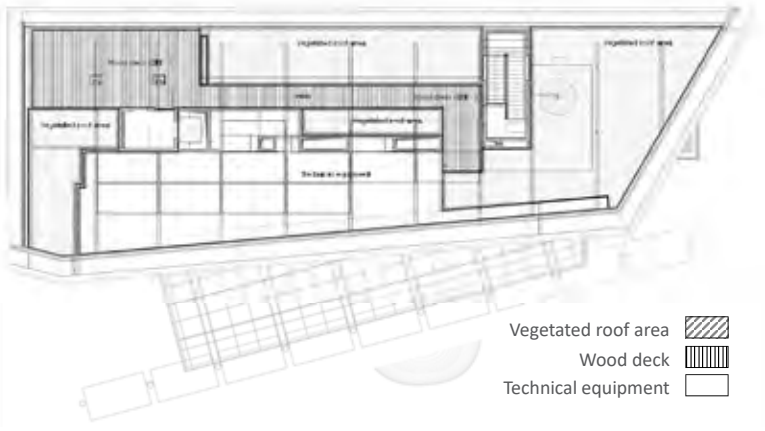


LEED plan: Stormwater management / Photoshop on AutoCAD base.



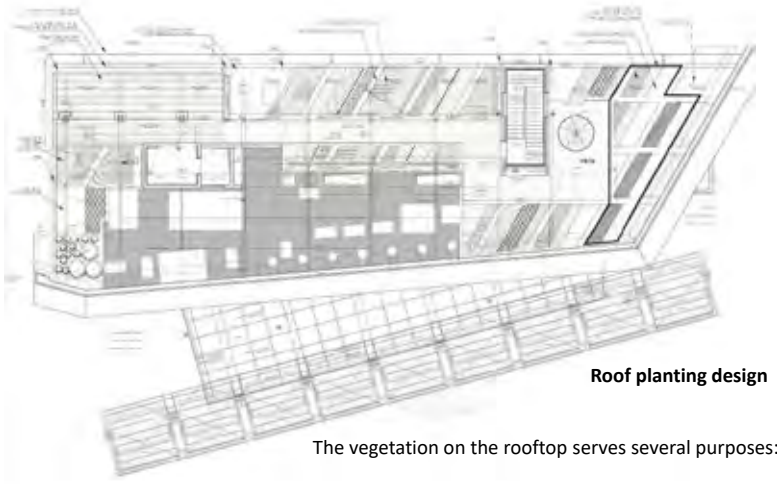
LEED scheme: Water circulation / Photoshop.

Using plants for air purification



LEED plan: Green roof design principles / AutoCAD.

Planting on the roof / Construction documentation.



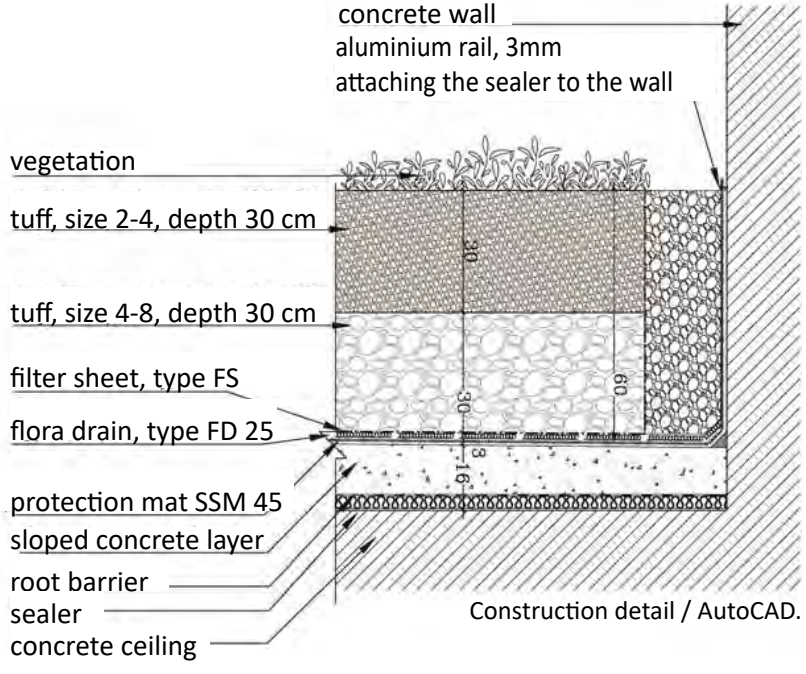
Roof planting design

The vegetation on the rooftop serves several purposes:

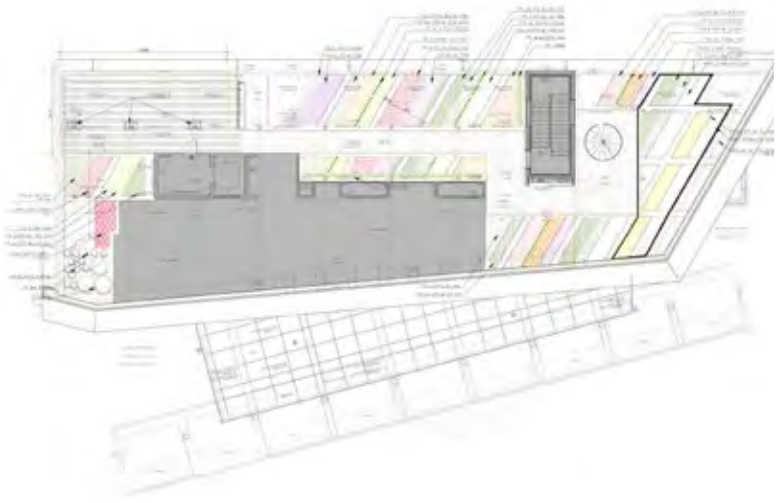
Reducing building heat and reducing the need for artificial air,
experimental areas for students to examine the uses of a green roof in all its components,
garden will serve as a pleasant surrounding
for open air classes on the wood deck.

The use of succulents and local vegetation is cost-effective in terms of water consumption.

Green roof landscape plan / AutoCAD.



Construction detail / AutoCAD.



Green roof vegetation plan and plant list / AutoCAD, Excel.

Plant selection illustration / Photoshop on AutoCAD base.

Name	Amount	m^2	Irr.
Trees			
Plumeria grandiflora	1	1	1
Climbers and ornamental grasses			
Trachelospermum jasminoides	11	11	1
Vitis spec.	4	0.7	1
Cortaderia selloana	3	3	1
Pennisetum setaceum	12	3.0	0
Pennisetum setaceum "Atropurpureum"	16	3.25	1
Succulents			
Aeonium arboreum “Atropurpureum”	411	16.40	1
Aeonium goochiae	180	7.20	1
Aeonium kiwi	331	13.20	1
Crassula coccinea	349	13.90	1
Crassula perfoliata	235	9.40	1
Echeveria carnicolor	167	6.70	1
Echeveria desmetiana	108	4.30	1
Kalanchoe tomentosa “Pussy”	341	13.60	1
Sansevieria zeylanica	118	4.70	1
Sedum nussbaumerianum	283	11.30	1
Sedum rubrotinctum	168	6.70	1
Senecio ficoides	501	20.00	1
Senecio mandraliscae	108	4.30	1
Senecio pyramidatus	73	2.90	1

= Well-adapted plants from origins with similar climates

Colorful and varied succulent selection / Photos.

Field	Historic site design, Hospitality design, Green walls and rooftops
Location	Tel Aviv-Yafo, Israel
Size	1,700 sqm / 2,033 sq yard / 18,300 sq foot
Year	2012 - 2015
Stage	Concept design, Design development, Permitting, Construtction documents, Observation
Tasks	Landscape and planting plans, presentations, bid documents, construction details, supervision
Tools	AutoCAD, Photoshop, Powerpoint, InDesign
Team	John Pawson, London (design architect), Ramy Gil, Tel Aviv (execution architect), Daniela Reuveni (interior architect), RTLD (lighting design), RFR (Real estate holding), Israel Antiquities Authority

W Hotel Tel Aviv

Architectural rendering with landscape design input.

The historic building compound is located at the southeastern entrance to the Old City of Jaffa, one of the most beautiful spots in Tel Aviv, on the historic trading route from Jaffa to Egypt and to Jerusalem that became a major commercial street after the demolition if the city wall.

The French Hospital was established in 1879 as a monastery by Catholic nuns of the order of St. Joseph of the Revelation. It was located at the southwest corner of the city wall above the remains of the English Fort that was built at the beginning of the 19th century as part of a fortification system following Napoleon's retreat. The building served as a hostel for pilgrims, and later it expanded to become Jaffa's first modern hospital.

The entire compound consists of four main components:

- the U-shaped hospital building from 1879 with three stories, two galleries and a basement built in neo-Gothic and neo-Renaissance architecture
- a Bauhaus building extension constructed in 1935
- an L-shaped structure built in 1921
- a perimeter fence enclosing the open areas adapted as ornamental and vegetable gardens whose formal layout reminds of a bustan orchard.

In the 1970s the Government of Israel rented the hospital building as a mental institution until it was abandoned in 1995. Two years later overseas investors purchased the building in order to redevelop it into a boutique hotel and luxury apartment building for the Starwood Resort Group.

Beside the conversion of the historic building into 38 luxury apartments, a six-floor hotel and apartment building with 125 hotel rooms will be built on the site.
The project will have a total of 20,000 square metres of built-up space, including commercial space for the hotel's use.

View towards the French Hospital from the South-East / Historic photo.

View into the corridor and into the courtyard with the traditional bustan garden of the French Hospital / Historic photograph.

architectural concept narrative: continuum

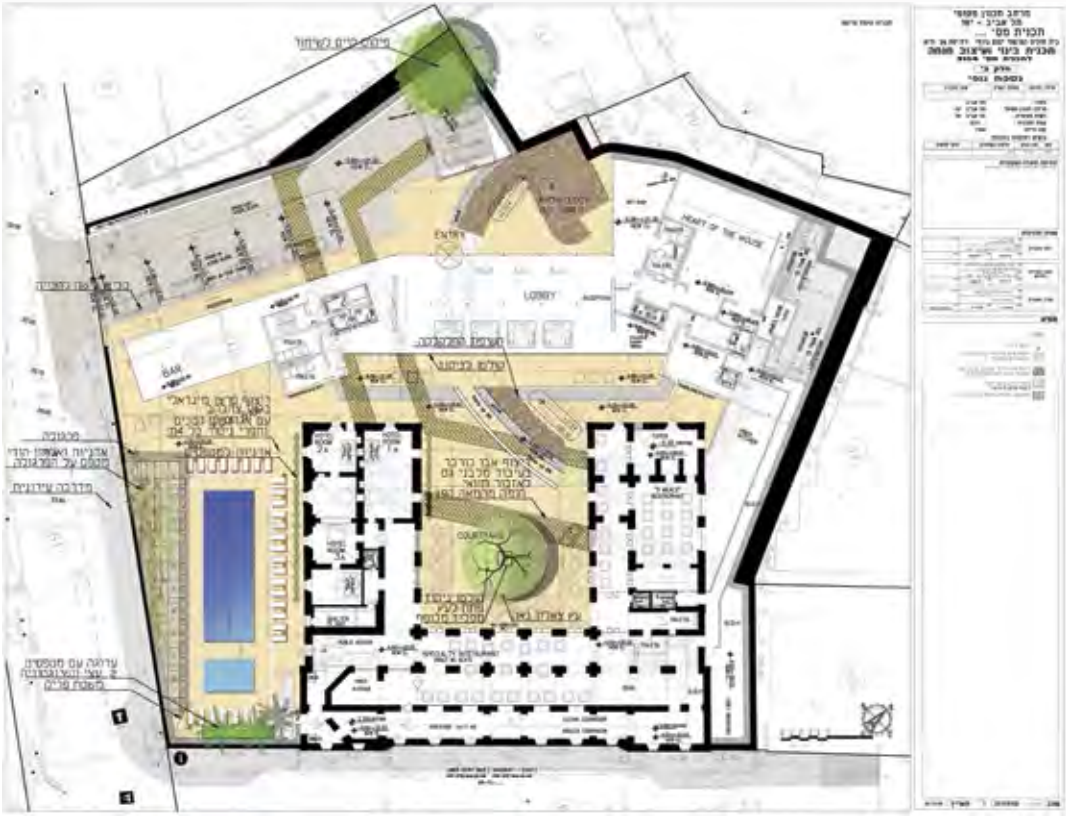
day / shade / night / vibrance
infinite / continuous / experience
nomad / journey / lightness
veils / layers / screens

Remnants of the city wall of Yaffa, Israeli Antiquities Authority / AutoCAD plan.

The fortress wall from the 13th century, partly laying underneath the compound building / Excavation documentation.

landscaping concept narrative: enclosed garden

song of Solomon / smell of the Bustan
rose of the Sharon / lily of the Valley
beds of spices / a piece of pomegranate
standing behind the walls / looking outside the window



Initial landscape concept 2009 / Photoshop on AutoCAD base.

Ideas for the interpretation of the historic walls and the use of contemporary travertine pavers / Online photo research.

W Hotel Tel Aviv

Combination of two design elements:
a. Permanent - Trees, flower beds, green walls.
b. Moveable - Planters of different sizes.

Landscape design concept 2012 / Photoshop on AutoCAD base.

Conceptual design sections: Front of the historic building; the pool area; the courtyard / Photoshop on AutoCAD base.

Landscape design incorporated into architectural renderings for a client presentation / InDesign.

Trees Delonix Regia

Planters Geranium Spec

Climbers Jasminum Grandiflorum

Trachelospermum

Delonix Regia

Lavendula Officinalis

Mandevilla Boliviensis

Pandorea Pandorana

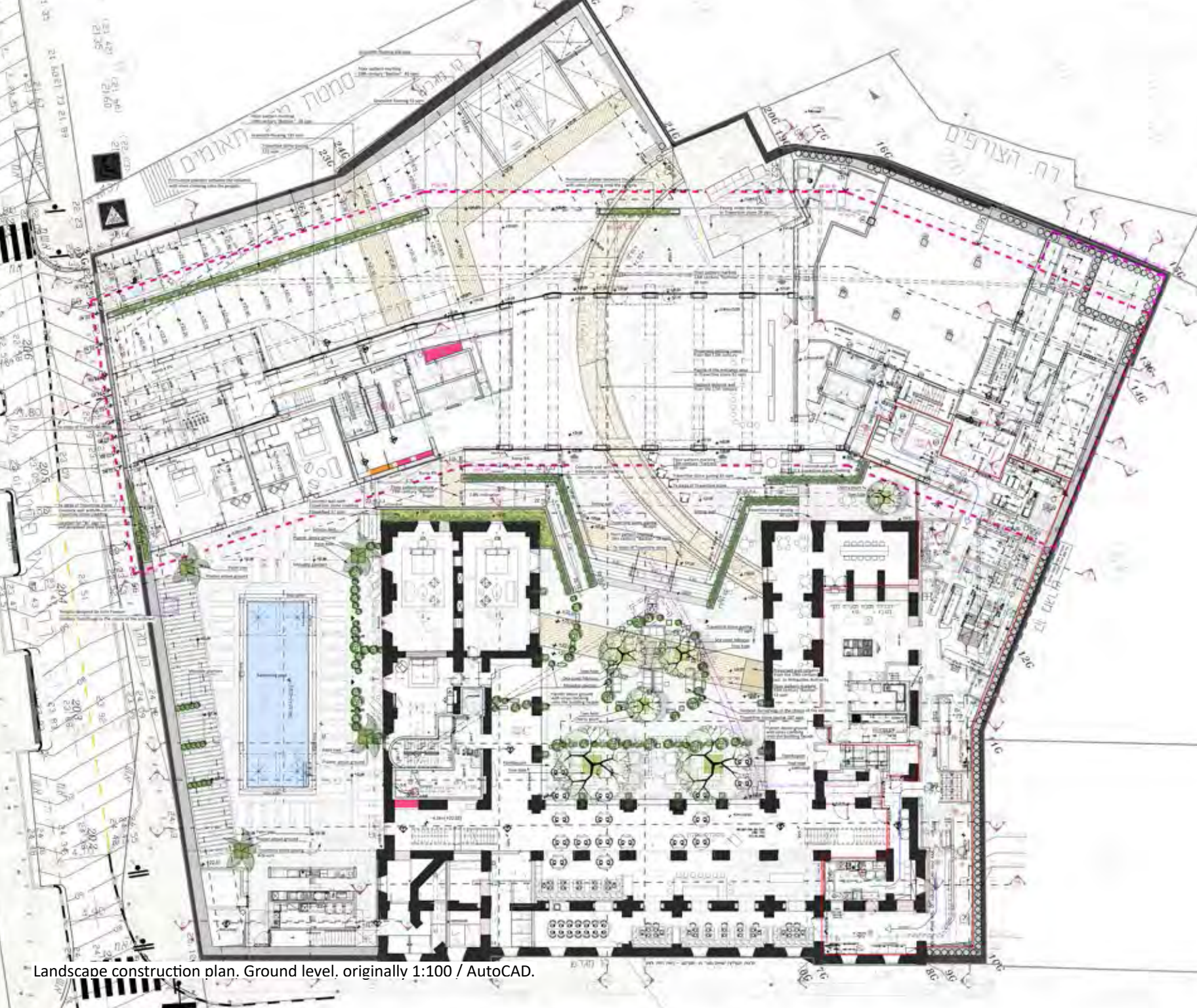
Salvia Spec

Pandorea Jasminoides

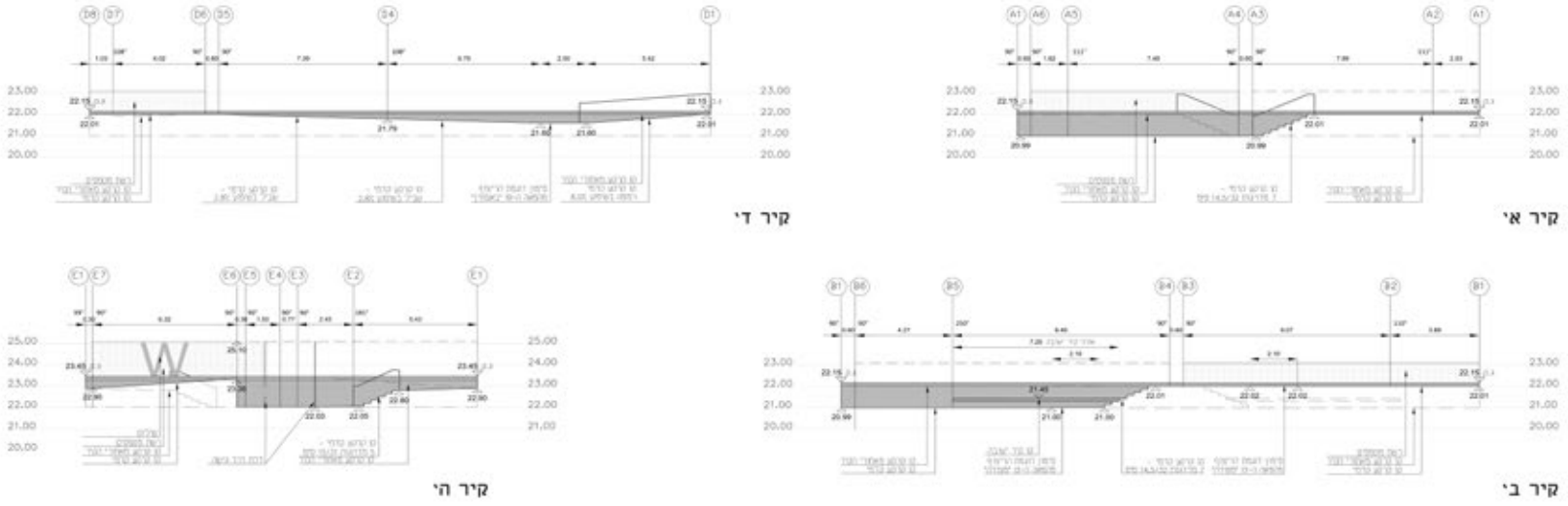
Citrus sinensis

Rosmarinus Officinalis

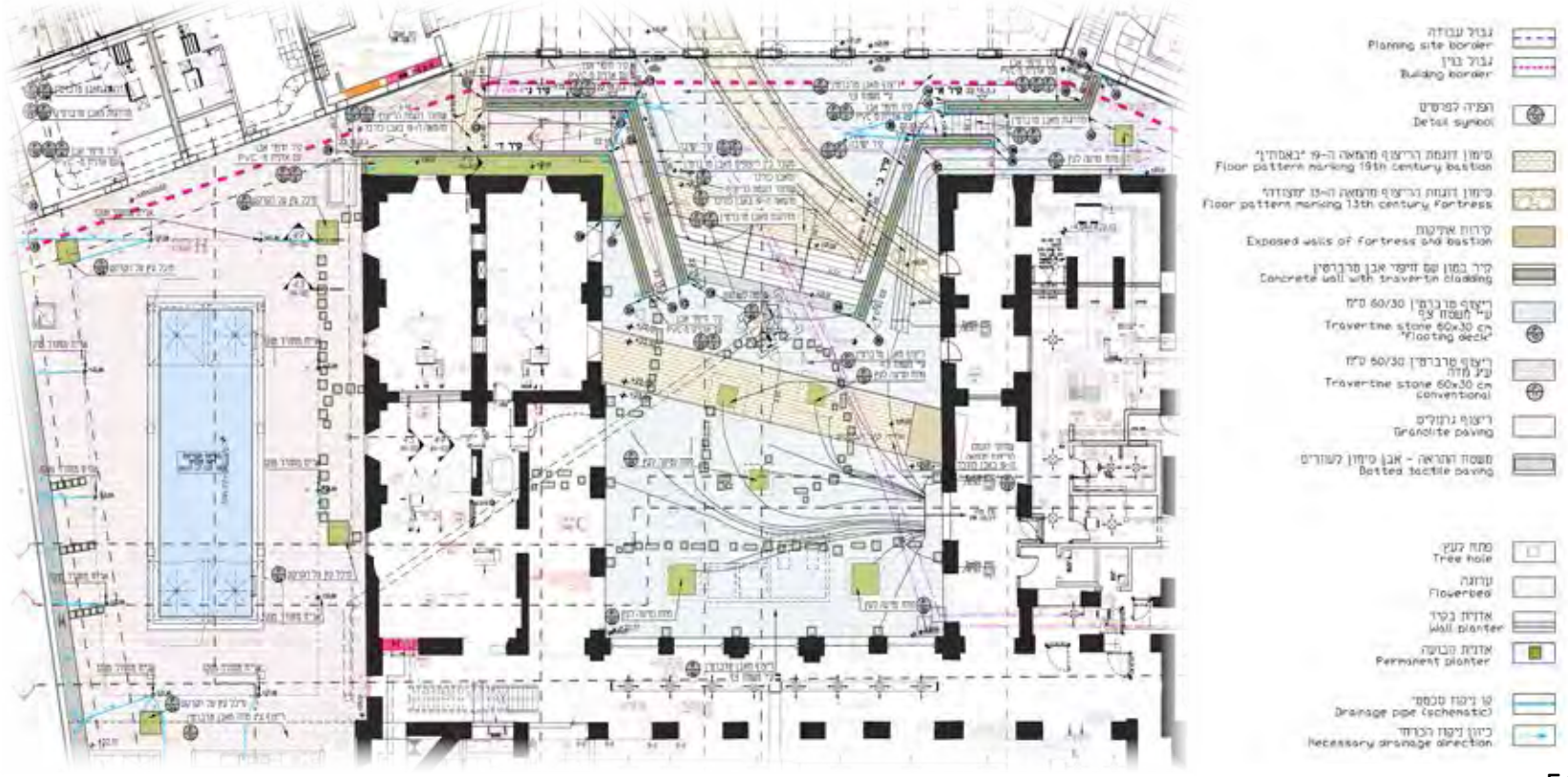
Plant selection / Online image research for client presentation in Powerpoint.



Landscape construction plan. Ground level. originally 1:100 / AutoCAD.

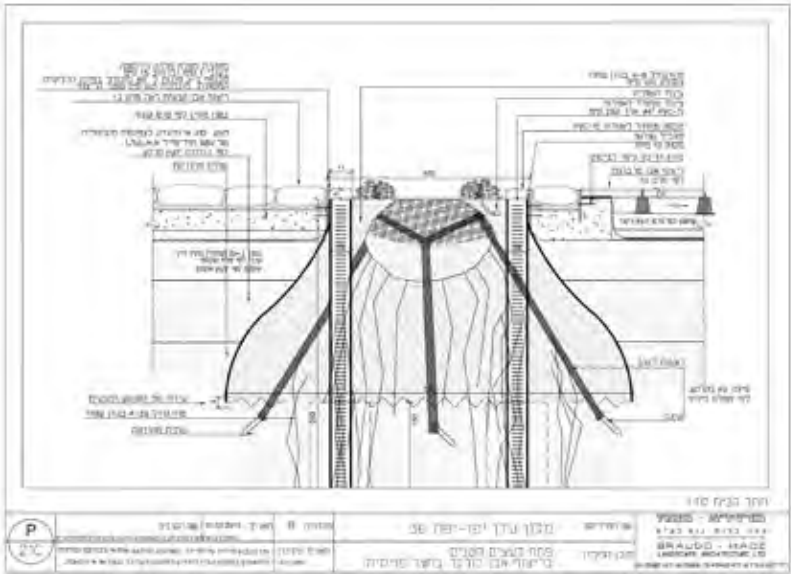


Wall elevations in the courtyard / AutoCAD.

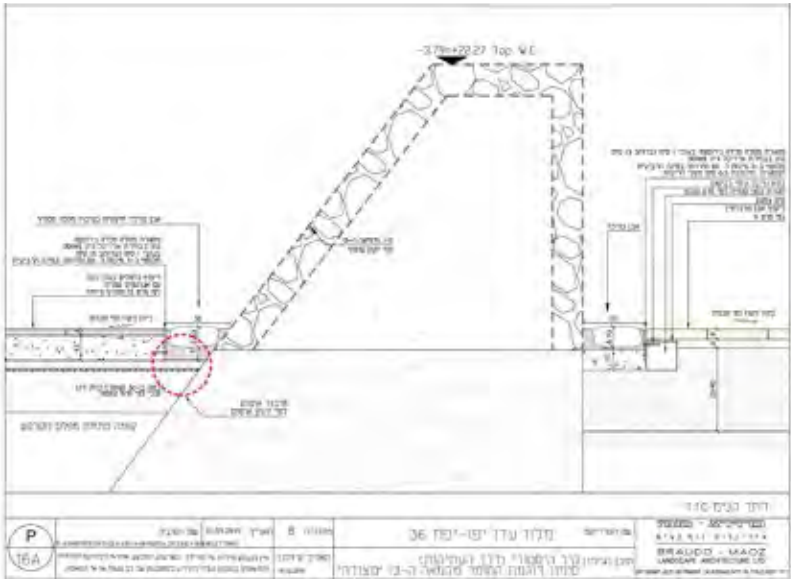


Landscape details plan, originally 1:100 / AutoCAD.

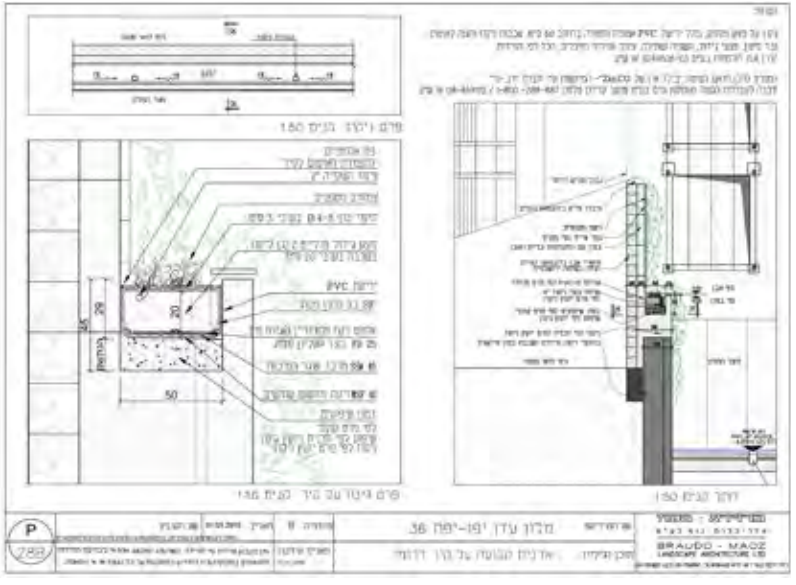
W Hotel Tel Aviv



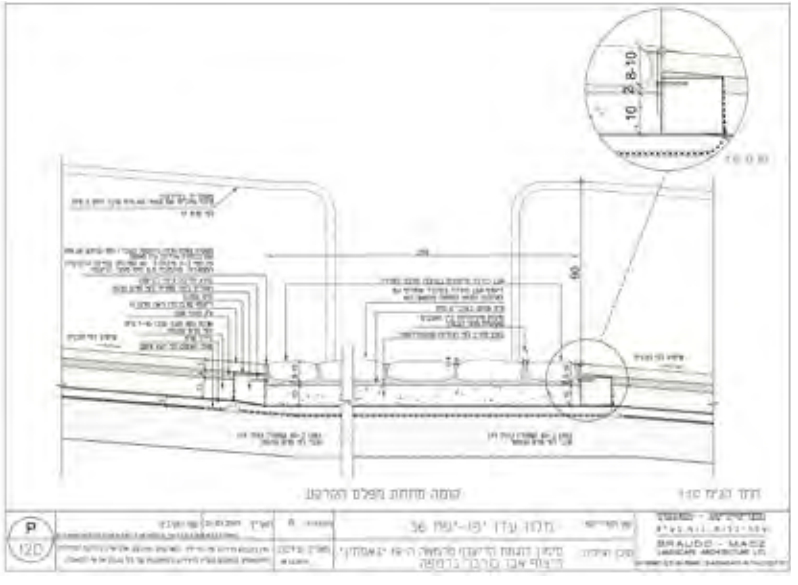
Section of tree hole with anchoring / AutoCAD.



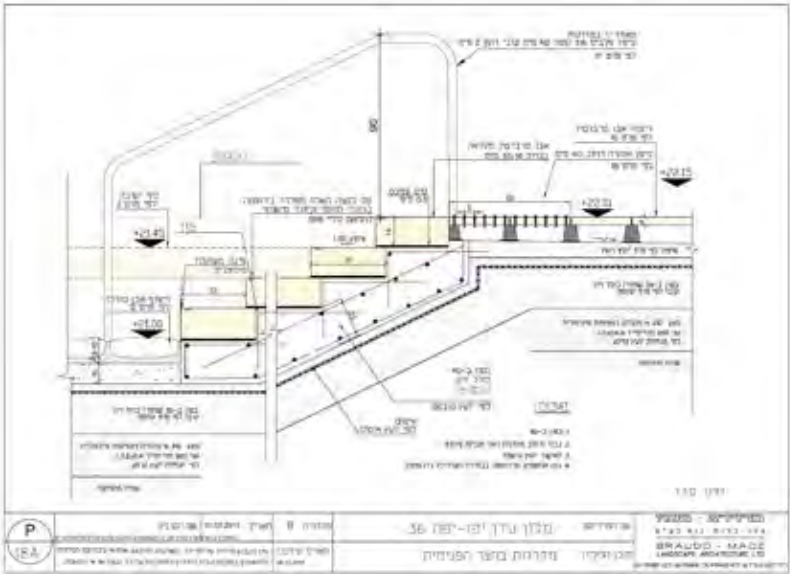
Section of restored historic wall restoration / AutoCAD.



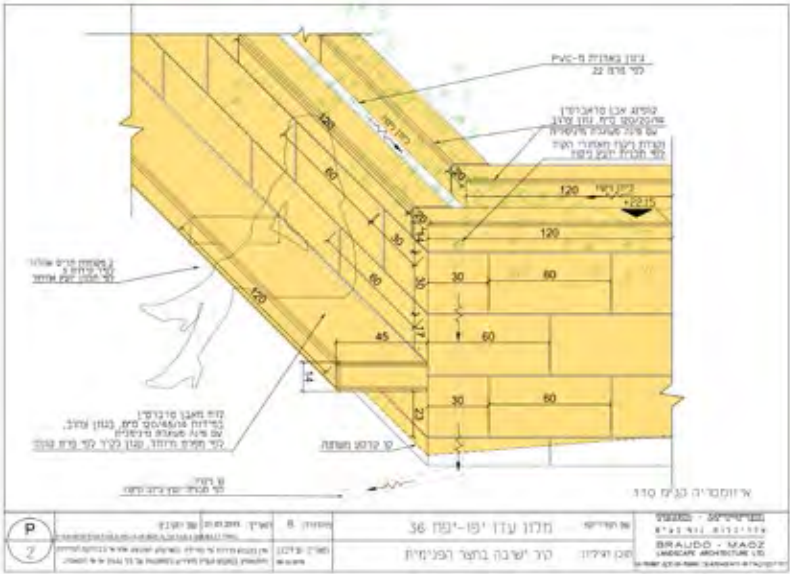
Detail and section of green wall in the pool area / AutoCAD.



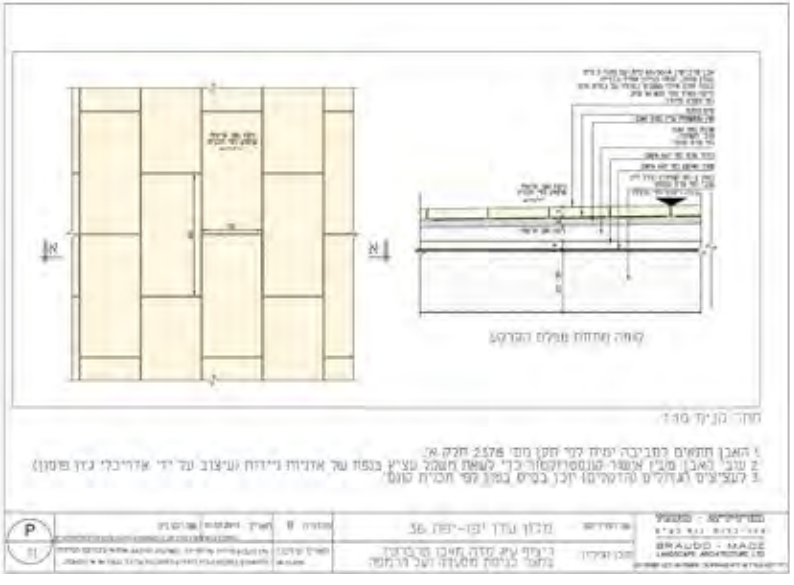
Section of historic wall at the courtyard ramp / AutoCAD.



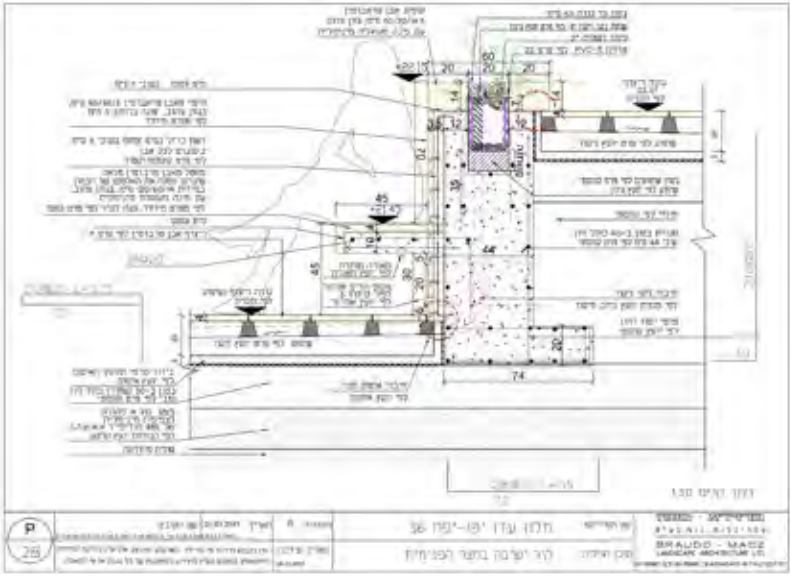
Section of stairs in the courtyard / AutoCAD.



Isometry of sitting wall in the courtyard / AutoCAD.



Plan and section of travertine paving on the ramp / AutoCAD.



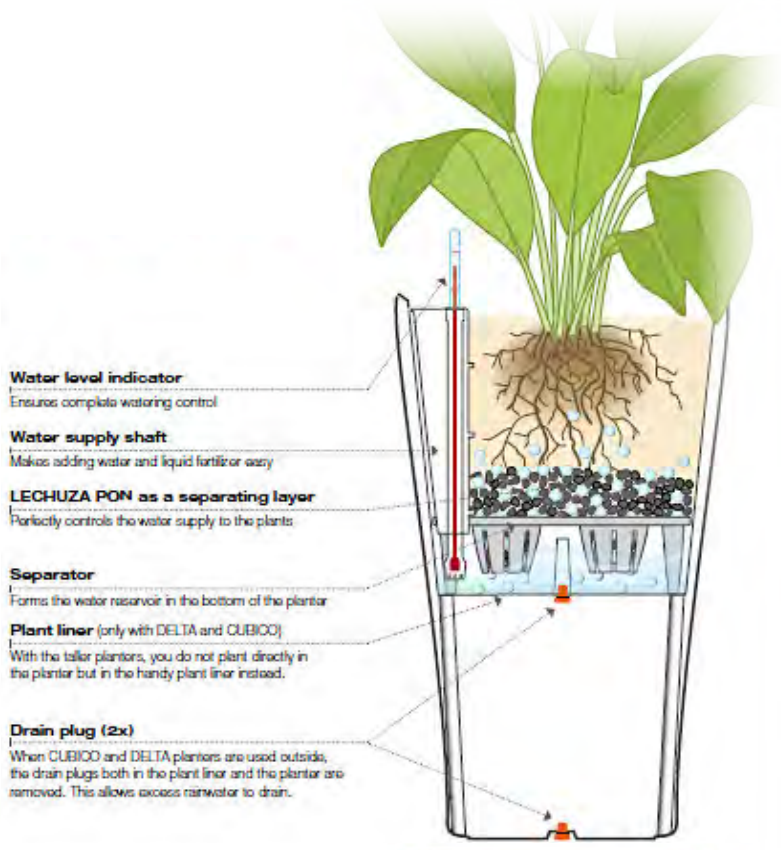
Section of sitting wall in the courtyard / AutoCAD.

Conceptual idea for the movable planters in relation to the cultural history of the planning area: Jaffa Oranges / Online image research.

Conceptual design for the movable planters:

a wooden shell construction that resembles packing boxes of Jaffa oranges, in three differenct sizes, made of recycled pine boards by a local carpenter, and a special irrigation inlet, made of PVC by Lechuza, filled with perlite drain substrate.

Ideas and components for the movable planters /
Online image research, Lechuza catalog material.



Field	Restoration of a historic building from the 19th Century for residential use
Location	Florentin neighborhood, Tel Aviv, Israel
Size	1,000 sqm / 1,196 sq yard / 10,764 sq foot of built area
Year	2012 / 2013
Stage	Schemtic design, Design development
Tasks	Design alternatives, 3D model, Landscape development plan, Presentation to the private client
Tools	Hand sketching, AutoCAD, SketchUp, Photoshop
Team	Conservation architect: Amnon Bar Or

Chelouche House

Four different initial design proposals for the location of the swimming pool / Handcoloring with pencils on AutoCAD base plan.



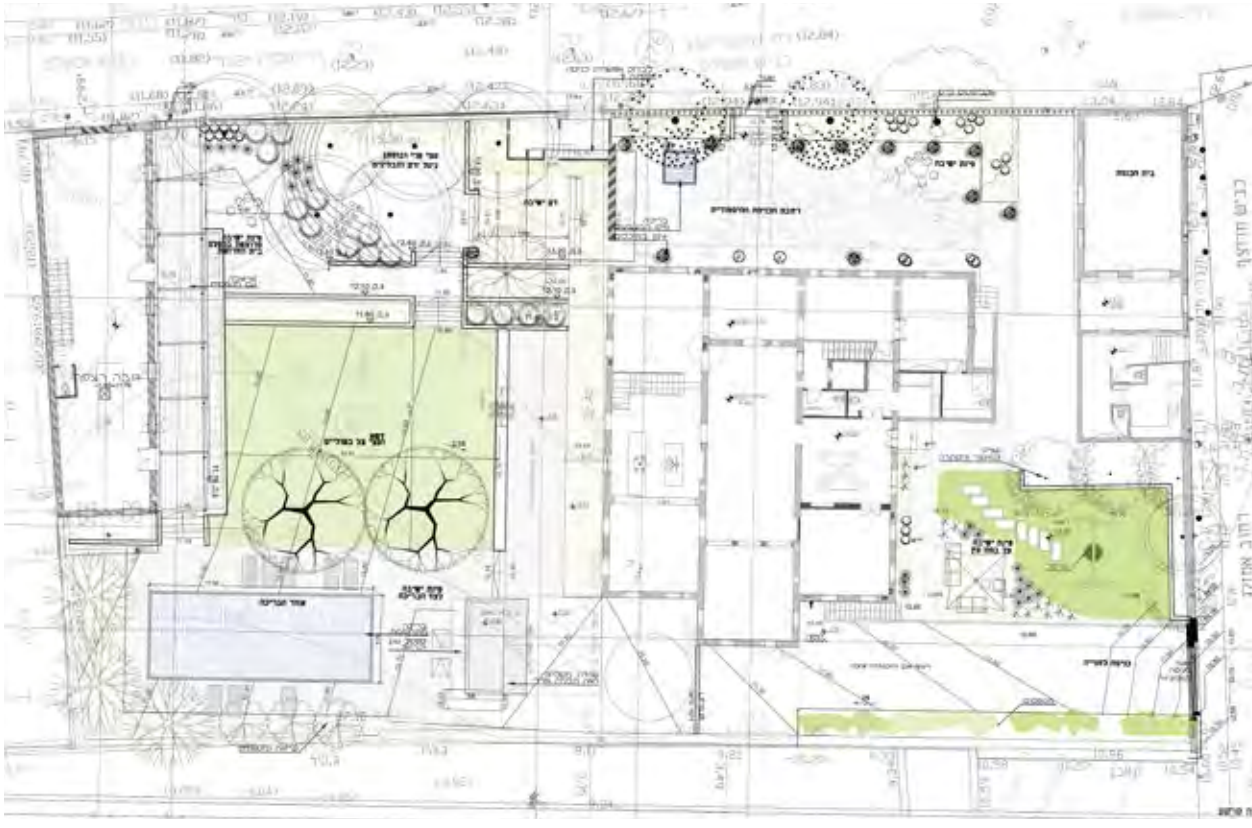
Impressions of the historic elements during the restoration process: Street entrance, house entrance and side passage / Photographs.

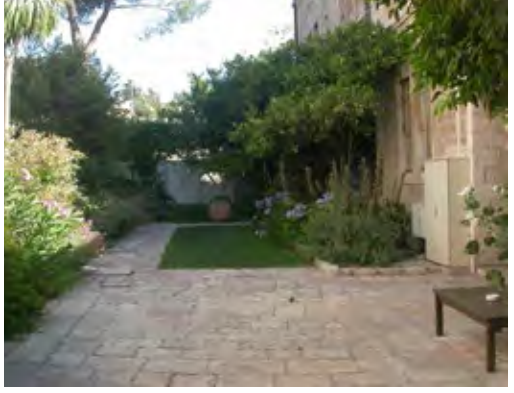
Different views of the shaded SketchUp model:
Bird view, North-Eastern view, Southern view.

Impressions from inside the SketchUp model:
View from the garden entrance,
View from the balcony,
View from the pool.

Idea images of Mediterranean Garden Design / Online image research: Montecito, California; Alhambra, Spain; Porto Zante, Greece;

Design process from color-pen-on-paper sketches to a digital AutoCad landscape plan and a presentation poster with Photoshop.





Villa d'Este, Italy; Zichron Ya'acov, Israel; American Colony, Jerusalem.

Chelouche House

Field	Cultural Landscape, Community Forestry, Environmental Education, Public Participation
Location	Migdal HaEmek near Nazareth, Northern Israel
Size	420 ha / 1,038 acre / 1.62 sq mile
Year	2009 / 2010
Stage	Consultation, Lauch, Conceptual design, Participatory process
Tasks	Landscape development concept, Forest management plan, Workshops, Presentations
Tools	ArcGIS, Illustrator, Photoshop, Powerpoint, Excel, Landscape photography
Team	together with the Jewish National Fund (JNF-KKL) - Israeli Land Use Authority

Master thesis with honors (GPA: 3.9) in Landscape architecture / Landscape planning

Balfour Community Forest

Community Forests

- Play an important role within the overall urban green space
- Represent nature close to where people live
- Offer unique recreational settings
- Provide special educational environments

Professional objective

- To link recreational use and forest management by elaborating a sustainable participatory development concept;

- To illustrate how a better understanding of the interrelations between the local communities and their peri-urban forest is essential for improving forest management and use and for enhancing local identity.

Community forest projects in Israel

Balfour Forest is a pilot project located at a sociogeographic clashing point between the following communities:

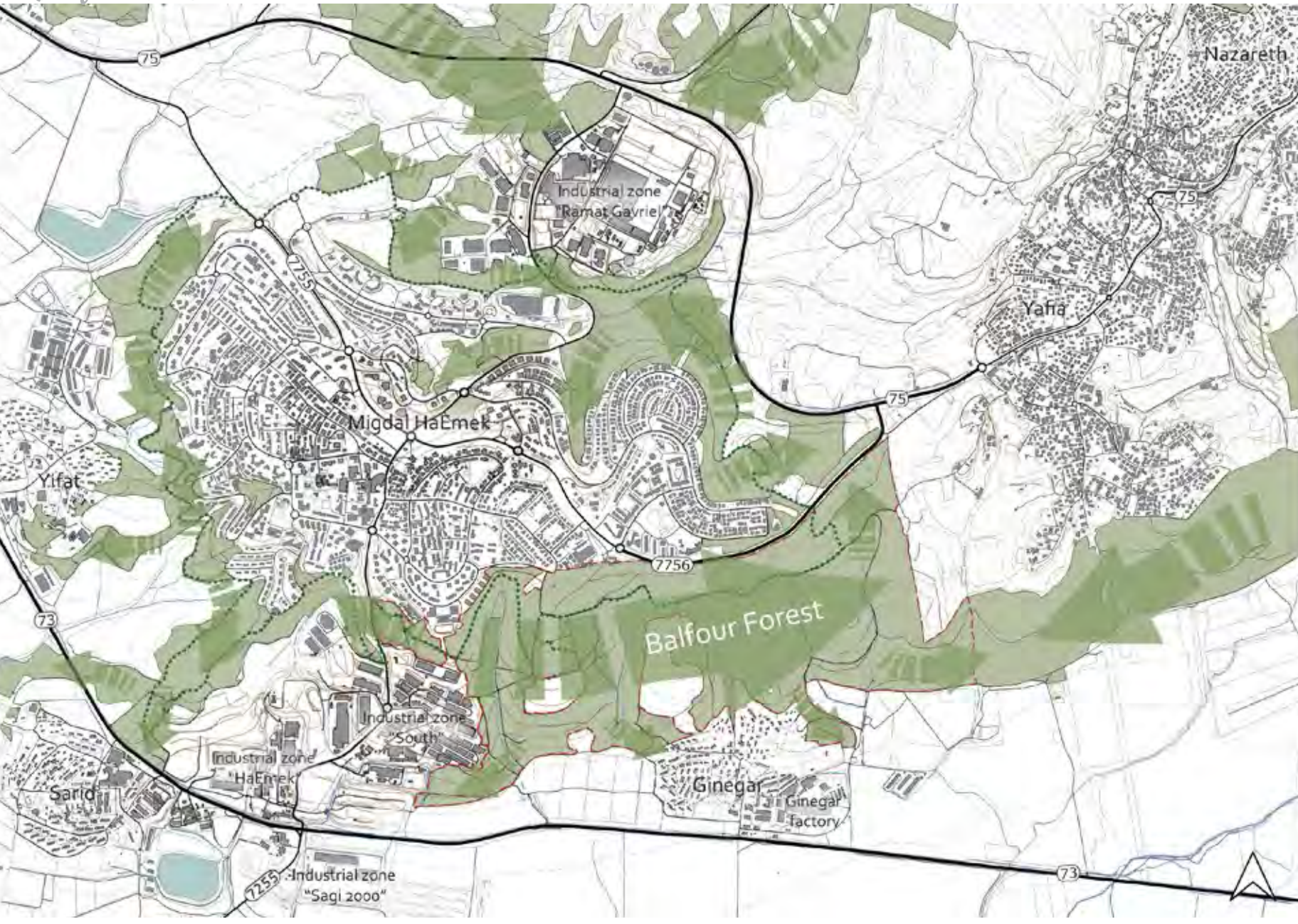
- Migdal HaEmek, a Jewish development town,
  founded in 1953, with 24,800 inhabitants;
- Yafia, a historic Arab town,
  founded ca. 1400 BC, with 17,500 inhabitants;
- Ginegar, a Jewish kibbutz,
  founded in 1922, with 500 inhabitants as of 2009.

There are differing opinions about Balfour Forest:

- “Neglected backyard of the town” proven by garbage dumping, vandalism, insufficient infrastructre;
- “Extended Jewish territory” as the forest was planted by Jewish pioneers on former Arab agricultural land;
- “Spiritual landscape” due to deep bonds to the forest land scape since its establishment.

Multiple layers of landscape analysis provide for a sustainable design / Illustrator and Photoshop on GIS base.

Balfour Forest



Migdal HaEmek - Yafia - Ginegar region

Accessibility / Green belt

Accessibility of the planning area as a part of the green belt around Migdal HaEmek, with connections to the forest network of the Nazareth metropolitan region in the the north and east.

Basics

- Balfour Forest border
- Border of site, stand or field
- Contour line
- Topographical feature

Hydrology

- Water reservoir
- River
- Stream
- Intermittent stream

Land use

- Forest
- Built-up area
- Green link

Transportation

- 75 National road
- Urban main road
- Urban side road
- Residential street
- Kibbutz main road
- Kibbutz road
- Forest main road
- Forest road

Routes

- Cycle Route

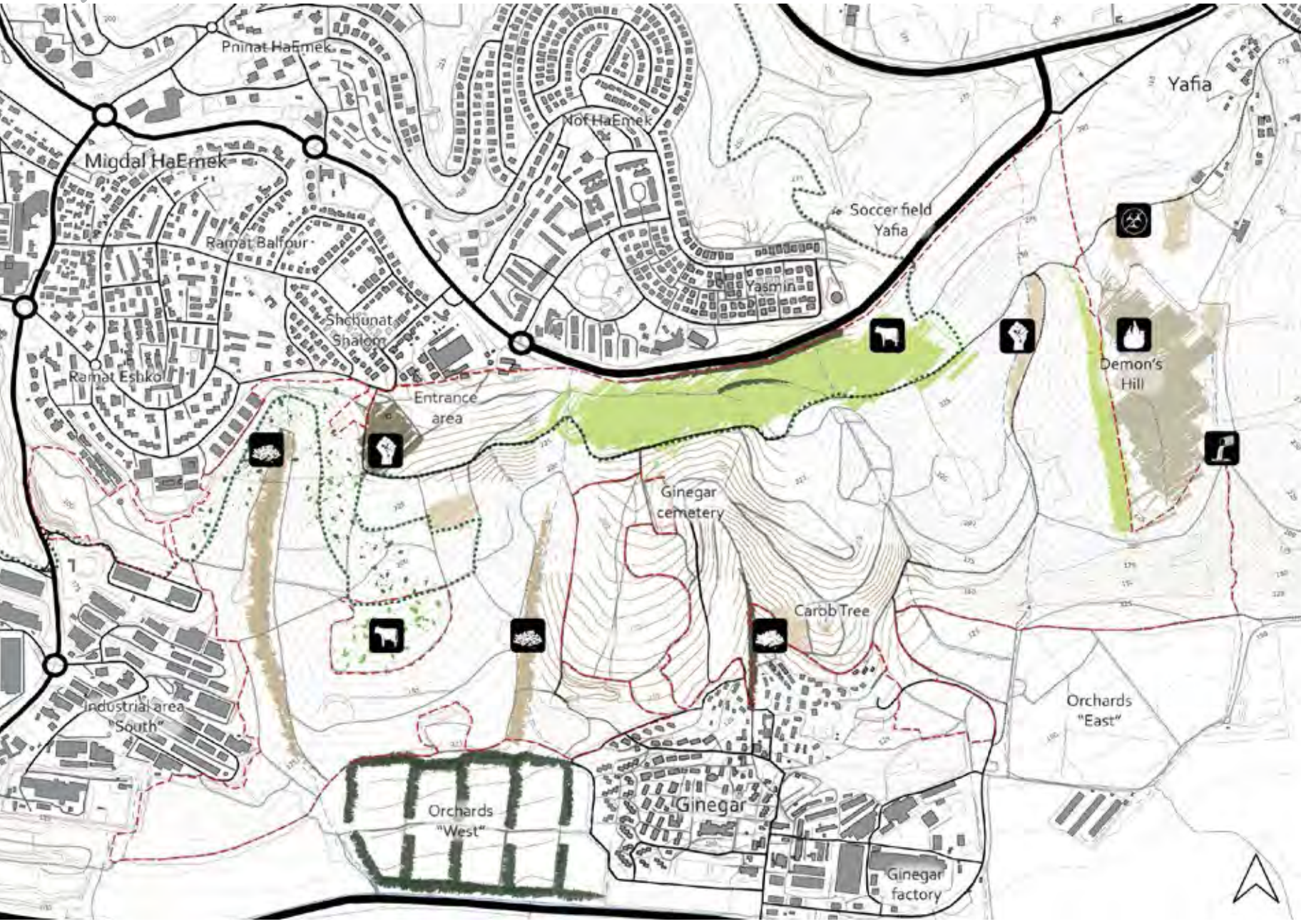
Neglected picnic furniture on the northern fringe.

1948 Arab-Israeli War Memorial in the middle of the forest.

Ginegar cemetery offers tranquility and cultural heritage.

Balfour Forest is part of the Nazareth Hills green belt.

Balfour Forest



Balfour Forest

Strengths / Weaknesses: Landscape features

Conflicts between important vegetation areas, that are worthy of protection referring to their natural and physical values, and human activties in the forest and its adjacent environment.

Border line

- Balfour Forest
- Private plot, stand or field

Topography

- Contour line
- Topographical feature

Hydrology

- Stream
- Intermittent stream

Use conflicts and hazards

- Vandalism
- Over-Grazing
- Flaming
- Common litter
- Hazardous waste
- Untreated sewage

Important vegetation areas

Geophytes

- Persian Cyclamen *Cyclamen persicum*
- Sun's-Eye Tulip *Tulipa agenensis*
- Crown Anemone *Anemone coronaria*
- Nazareth Iris *Iris bismarckiana*

Shrubland

- Batha *var. spec.*

Deciduous trees

- Aleppo Pine *Pinus halepensis*
- Olive *Olea europaea* / Carob *Ceratonia siliqua*
- Red Gum Tree *Eucalyptus camaldulensis*
- deciduous woodland *var. spec.*

Coniferous trees

- Mediterranean Cypress *Cupressus sempervirens*

Listed Persian cyclamen in the western part of the forest.

Illegal grazing in the upper slopes of Balfour Forest.

Natural phrygana area on the eastern forest edge.

Illegal dumping site for construction waste near Yafia.

Balfour Forest

Balfour Forest

Opportunities: Development zones

Development suggestions regarding various activity zones / sites in and around the forest in cooperation with JNF-KKL as well as potential local stakeholders in Migdal HaEmek, Ginegar and Yafia.

Border line
- Balfour Forest
- Private plot, stand or field

Topography
- Contour line
- Topographical feature

Hydrology
- Stream
- Intermittent stream

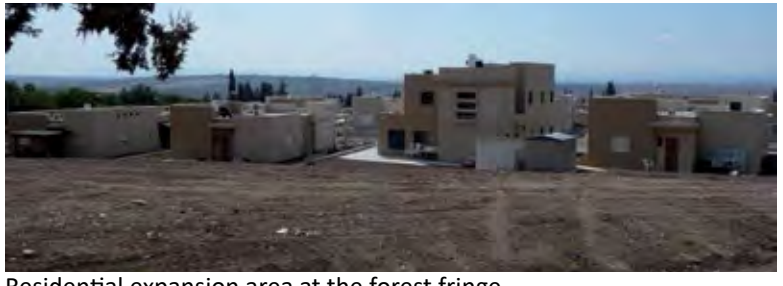
Development zones
- Tourism
- Kibbutz extension
- Road dismantling
- Event zone
- Recreation / Play zone
- Ecological awareness
- Research / Preservation of green links
- Lookout
- Cultural heritage
- Cemetery extension
- Agriculture
- Preservation of cultural landscape elements
- Planar zone
- Parking

Potential development sites
- B&B Ginegar
- Fire Brigade Migdal HaEmek
- Stage
- Sport facilities
- Educational facilities
- Listed monuments in Ginegar
- Farmers of Ginegar and Yafia
- Watchtower

Accessible also for families and people with disabilities.

Semi-pastoral grazing for local goat and cattle farmers.

Meeting place for local teenagers and adults.



Residential expansion area at the forest fringe.

Balfour Community Forest

Balfour Forest

Concept (Part I): Landscape features and scenic views

Implementation of various educational routes with different kinds of lookouts that offer beautiful views into the re-designated and extended landscape of Balfour Community Forest and beyond.

Border line

- Balfour Com. Forest
- Private plot, stand or field

Topography

- Conture line
- Topographical feature

Hydrology

- Stream
- Intermittent stream

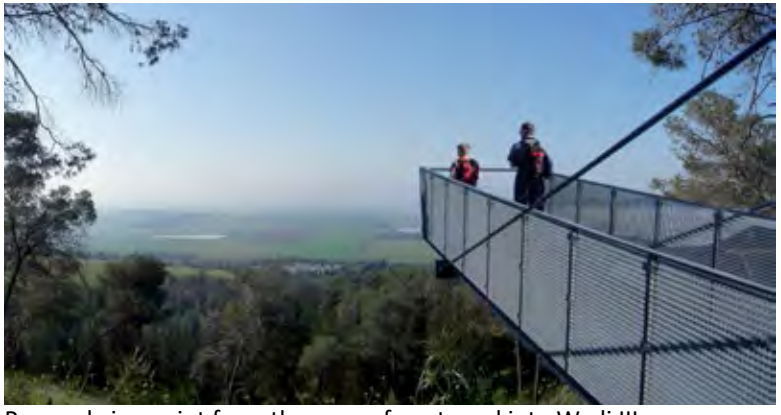
Routes

- Balfour Promenade
  Dismantling of road no. 7756
- Eco Route
- History Route
- Planar Route
- Cycle Route

Forest stands (full / medium density)

- Aleppo-Pine (Jerusalem Pine)
  Pinus halepensis
- Calabrian Pine (Brutian Pine)
  Pinus brutia
- coniferous woodland
  var. spec.
- Mediterranean Cypress (Italian Cypress)
  Cupressus sempervirens
- mixed woodland
  var. spec.
- deciduous woodland
  var. spec.
- Red Gum Tree (River Red Gum)
  Eucalyptus camaldulensis
- Olive Tree *Olea europea* or Carob Tree *Ceratonia siliqua*
- Phrygana (Batha)
  var. spec.

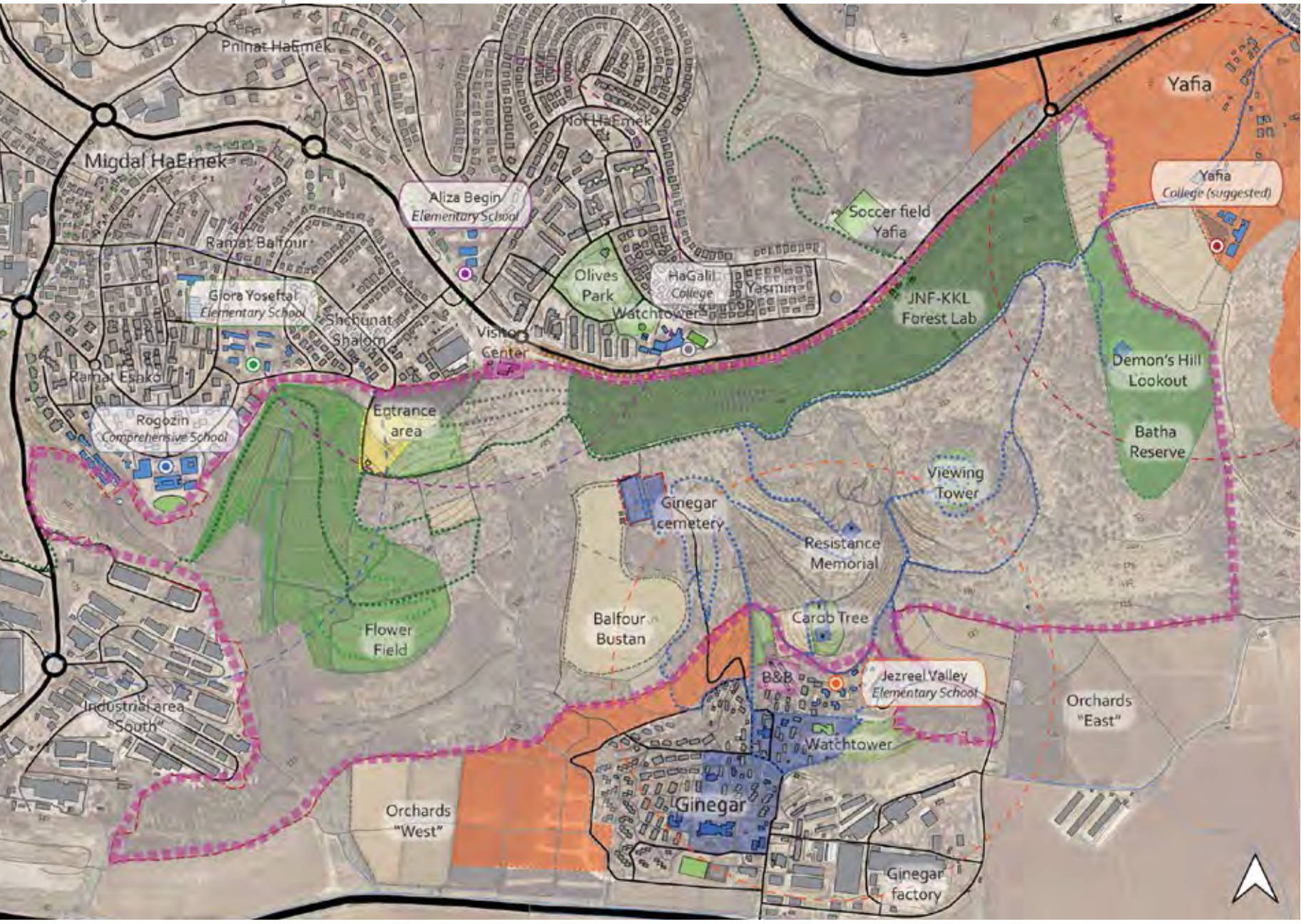
View from the pasture field towards Jezreel valley.



Propsed viewpoint from the upper forest road into Wadi III.

View from the phrygana area towards Balfour Forest.

Balfour Community Forest



Balfour Forest

Concept (Part II): Activity zones and cooperating facilities

Implementation of various activity and development zones along the new routes as well as suggestions for parking and residential extension areas adjacent to Balfour Community Forest.

Border line

- Balfour Com. Forest
- Private plot, stand or field

Topography

- Contour line
- Topographical feature

Hydrology

- Stream
- Intermittent stream

Routes

- Balfour Promenade
  Dismantling of road no. 7756
- Eco Route
- History Route
- Planar Route
- Cycle Route

Activity zones

- Tourism
- Awareness raising / Research
- Residential extension
- Cultural heritage
- Events
- Agroforestry / Intercropping
- Recreation
- Parking

Cooperating public / private facilities

- Visitors' center / B&B
- Forestry & Research
- Fire brigade
- Education
- Stage
- Listed monuments
- Recreation
- Beehives

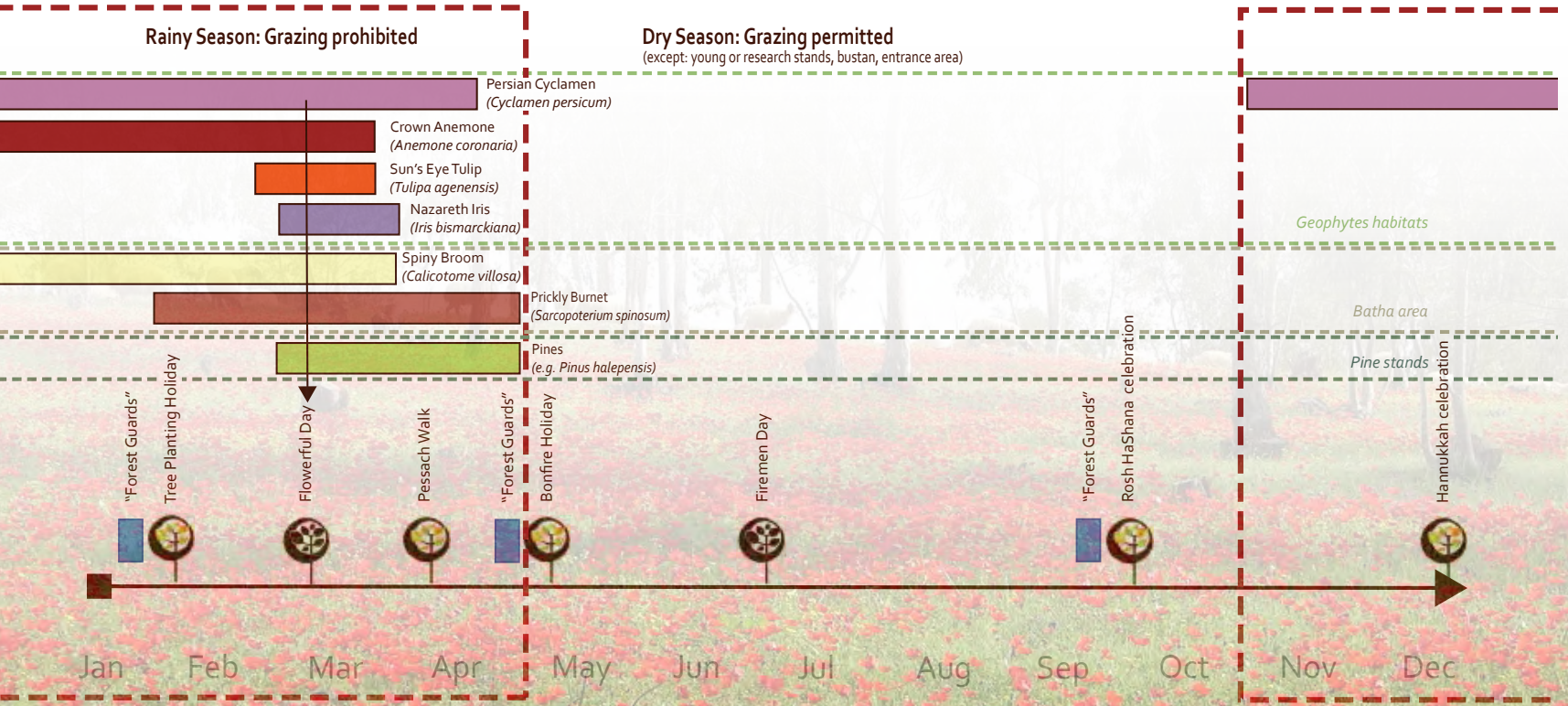
The forest as recreational and learning space for children.

Volunteer group meeting in the forest.

Forest management plans for particular areas / Illustrator and Photoshop.

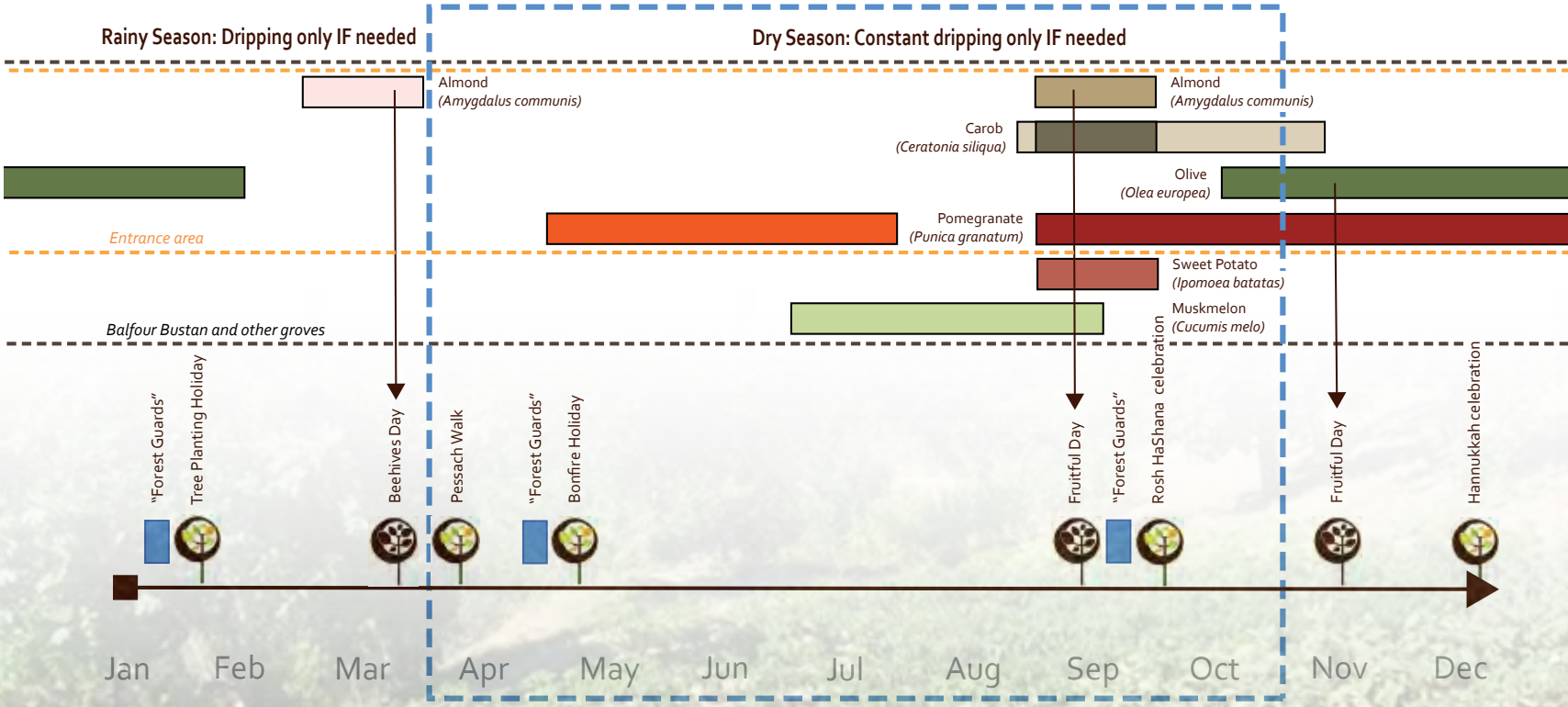
blossom

Annual Management Planning - *Geophytes habitats, batha and pine stands in general*



harvest

Annual Management Planning - *Bustan, entrance area, groves and orchards in general*



Balfour Community Forest

Balfour Forest

"Eco Route" and entrance area

Implementation of a medium-size educational walking route through various landscapes in the western part of the forest, partly on existing roads, partly on new footpaths.

Basics
- Balfour Forest border
- Intermittent stream
- Contour line
- Topographical feature

Zones
- Entrance
- Event
- Recreation
- View corridors

Public facilities
- Visitor center
- Stage
- Maintenance
- Fire Brigade

Access
- Existing road
- Planar access

Routes
- Eco Route
- Cycle Route

Specific actions
- Protection of geophytes
- Planting of shrubs

Activity infrastructure
- Educational Route *here: Eco Route*
- Viewpoint
- Forest Classroom
- Eucalyptus Bridge
- Cycle Route
- Picnic Grove
- Adventure Grove
- Drinking Tab
- Toilets
- Parking
- Bus stop

Forest stands
- Aleppo-Pine *Pinus halepensis*
- Calabrian Pine *Pinus brutia*
- coniferous woodland *var. spec.*
- Mediterranean Cypress *Cupressus sempervirens*
- mixed woodland *var. spec.*
- deciduous woodland *var. spec.*
- Red Gum Tree *Eucalyptus camaldulensis*
- Carob *Ceratonia siliqua*

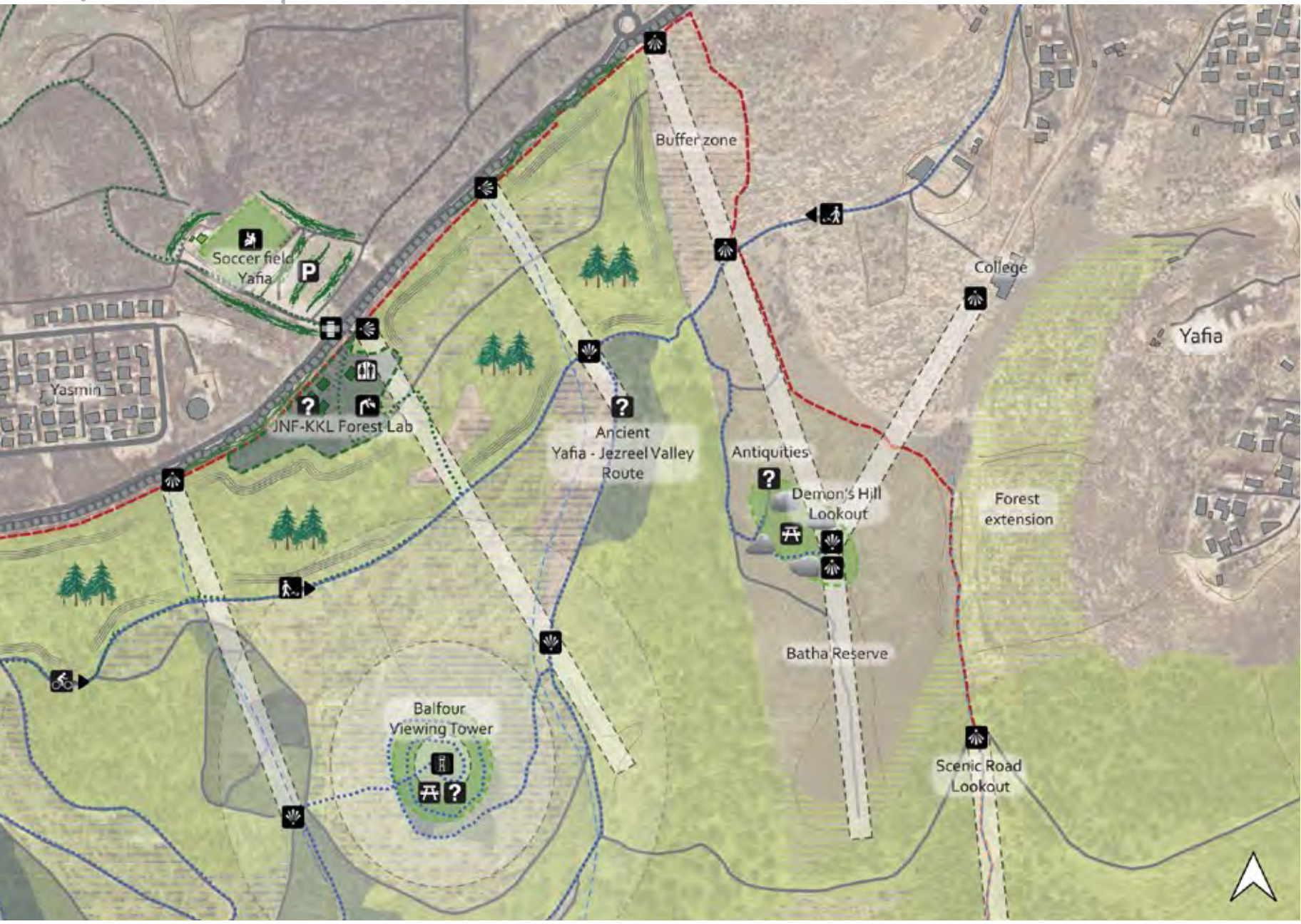
A welcoming place for cultural events and festivities.

Open air classroom for local schools and youth groups.

Hammocks inside the Adventure Grove playground area.

The Flower Field cluttered with anemones in the winter.

Balfour Community Forest



Balfour Forest

"Balfour Viewing Tower" and "Demon's Hill Lookout"

Implementation of a 360° viewing tower and a lookout platform on two ridgetops in the eastern forest part along a large-size educational route through local cultural and spiritual landscapes.

Basics
- Balfour Forest border
- Intermittent stream
- Contour line
- Topographical feature

Zones
- Research
- Recreation
- View corridors

Public facilities
- KKL Forest Lab
- Soccer team Yafia

Specific actions
- Research open-air
- Protection of sensitive areas
- Planting of shrubs
- Placement of local rocks

Access
- Existing road
- Planar access

Routes
- History Route
- Cycle Route

Activity infrastructure
- Educational Route *here: History Route*
- Forest Classroom
- Viewing Tower
- Viewpoint
- Road crossing
- Cycle Route
- Drinking Tab
- Picnic area
- Toilets
- Parking

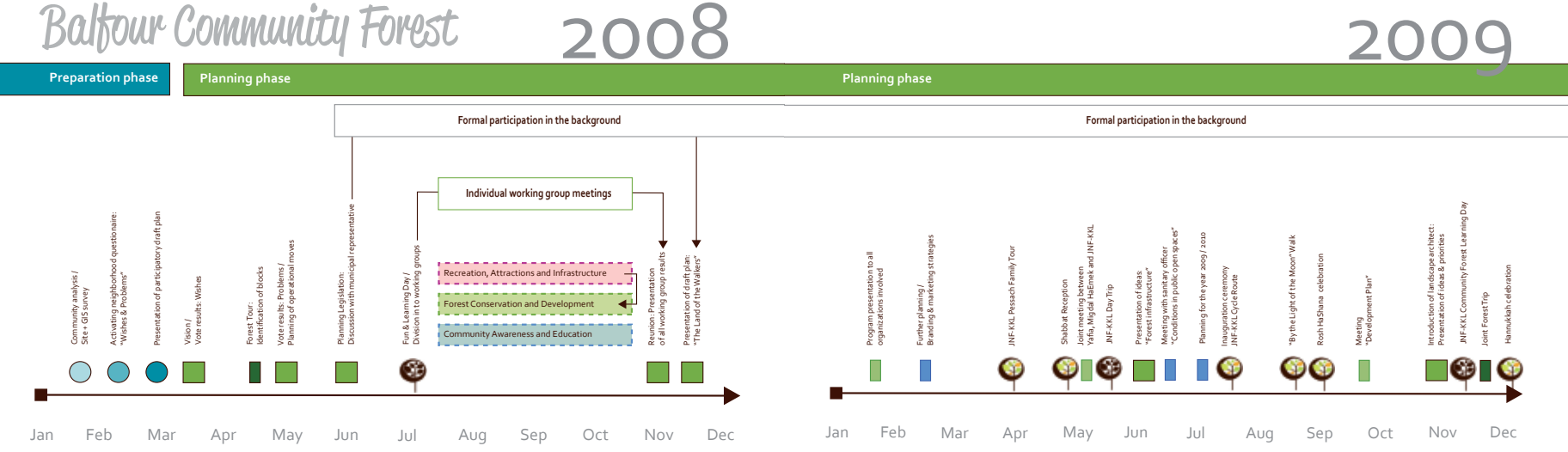
Forest stands
- Aleppo-Pine *Pinus halepensis*
- Calabrian Pine *Pinus brutia*
- coniferous woodland *var. spec.*
- Mediterranean Cypress *Cupressus sempervirens*
- Carob *Ceratonia siliqua* / Olive *Olea Europea*
- Garrigue / Phrygana *var. spec.*

Sturdy picnic tables near the JNF-KKL Forest Lab.

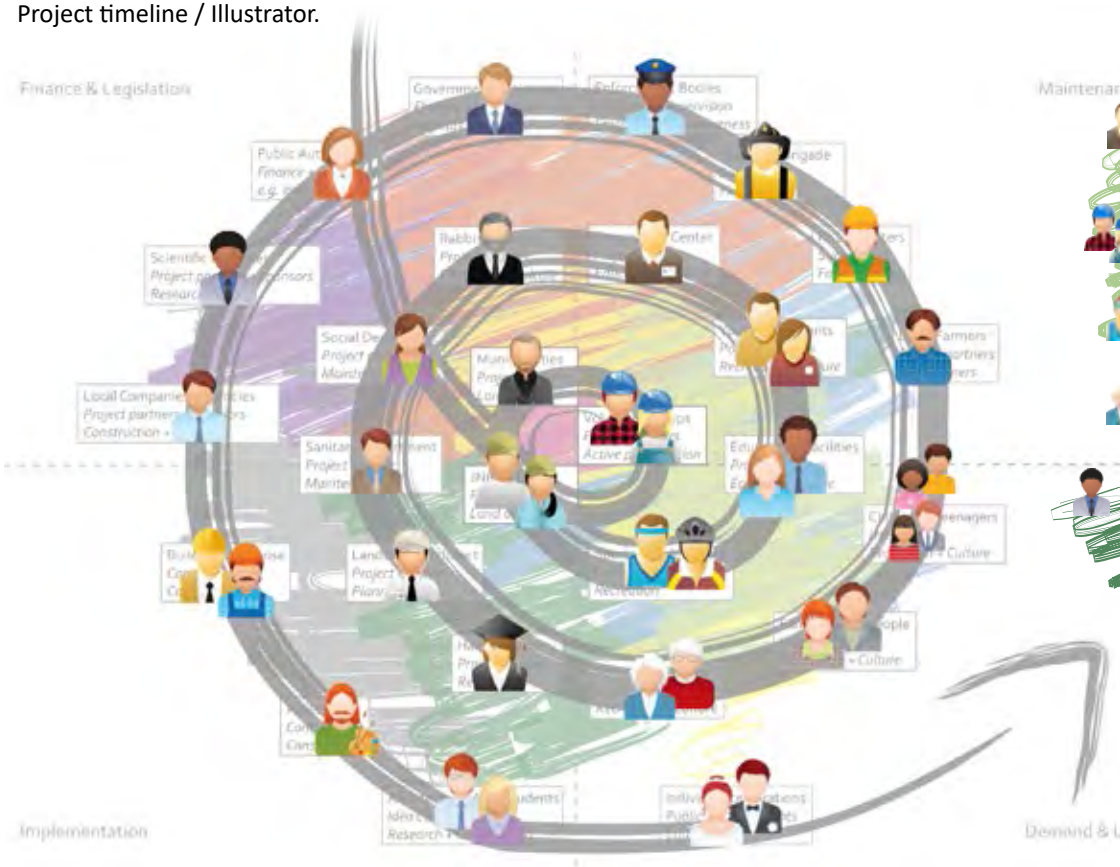
Paths lined with rocks.

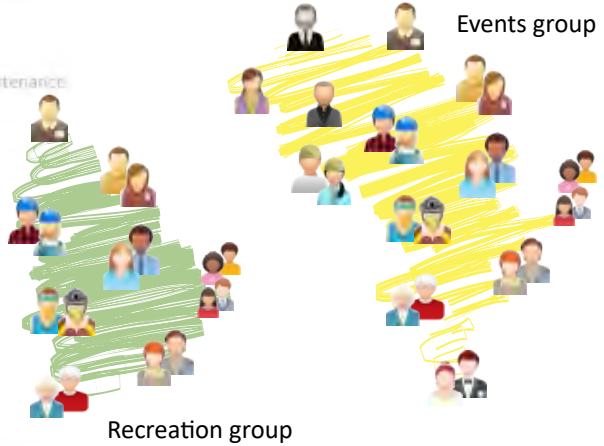
Proposal for Balfour Tower.

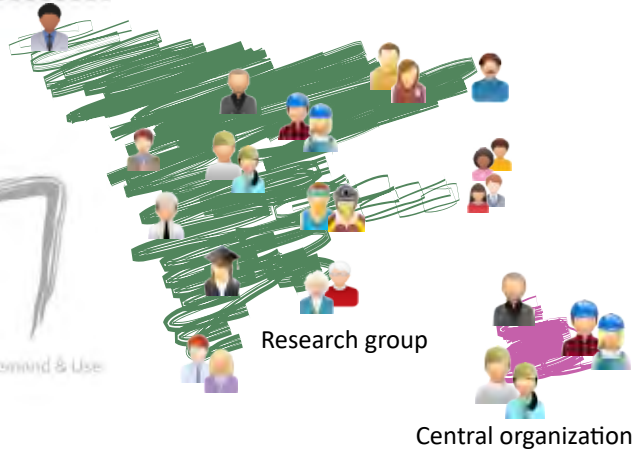
Wooden deck leading through the natur reserve area.



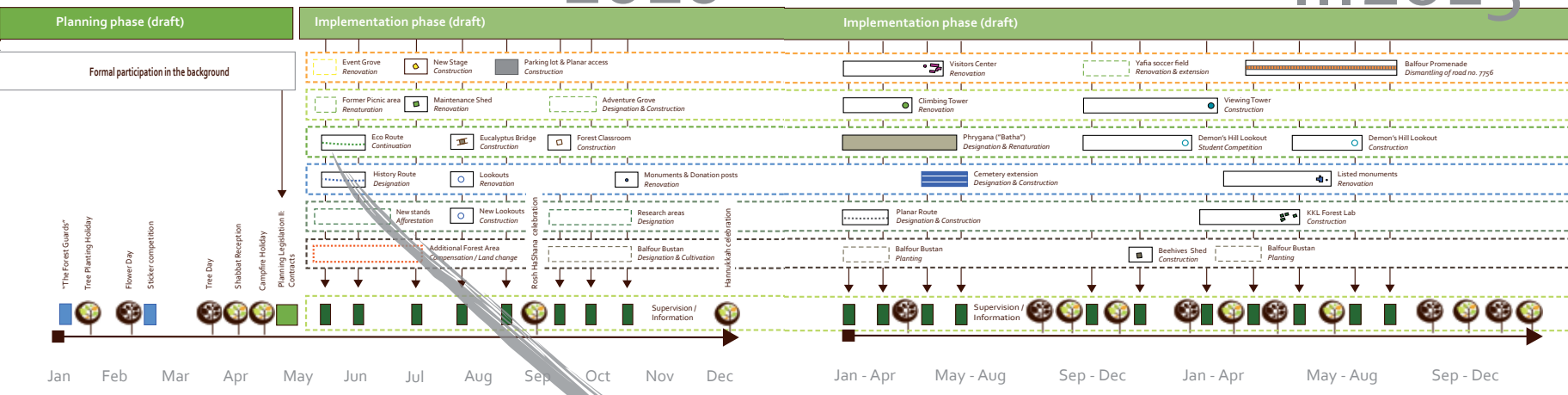
Project timeline / Illustrator.

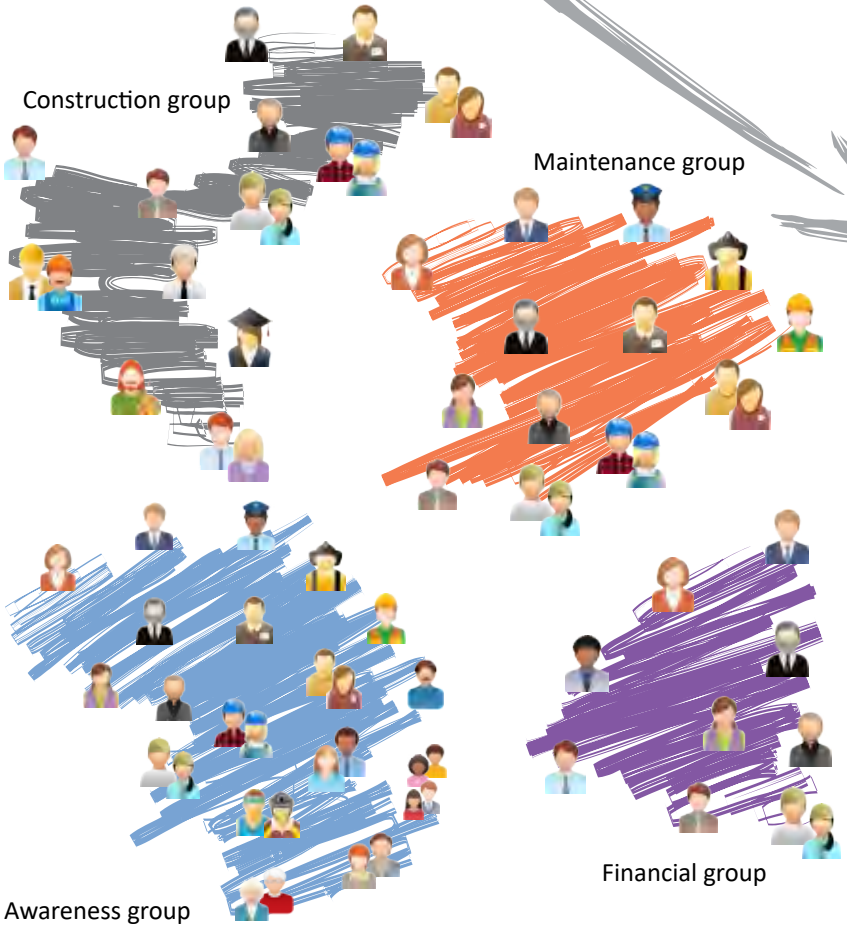






Important stakeholders in the public participatory process/ Illustrator.





Eco Route

3.28: Recommended stakeholders for the implementation of the Eco Route.

Starting / ending point: JNF-KKL rest spot near new open-air forest classroom
Length: about 3,000 m
Walking time: 45 - 60 min
Height difference: 170 - 240 m

Station	*Eco Route habitat*	*Special features*	*Photo no.*
1	*Clearing of Aleppo Pines (Pinus halepensis)*	Starting / ending point; open-air classroom.	(1)
2	*Swath between Calabrian Pines (Pinus brutia)*	Persian Cyclamen *(Cyclamen persicum)*; one end of the view corridor over the wadi.	(2)
3	*Mediterranean Cypress (Cupressus sempervirens) and Calabrian Pine (Pinus brutia)*	Sun's Eye Tulip *(Tulipa agenensis)*; potential place for tree painting.	(3)
4	*Stand of aged Aleppo Pines (Pinus halepensis)*	Proposed simple BBQ site and occasional camp site in the midst of the stand.	(4)
5	*Enclosed field ("Flower Field")*	Crown anemone *(Anemone coronaria)*; former kibbutz grove; proposed site of parabolic dishes for sound experiments.	(5)
6	*Corridor of River Red Gum (Eucalyptus camaldulensis)*	Intermittent wadi; cultural landscape element; proposed site of a barefoot surface experience as well as of the exhibition of art objects.	(6)
7	*Clearing inside the "Eucalyptus Corridor"*	Wooden bridge over the wadi.	(7)
8	*Stands of Calabrian Pine (Pinus brutia)*	Opposite end of view corridor over the wadi; proposed area for a rock sculpture.	(8)
9	*Slope of Aleppo Pines (Pinus halepensis) mixed with common shrubs*	Persian Cyclamen *(Cyclamen persicum)*; potential site for tree arts.	(9)

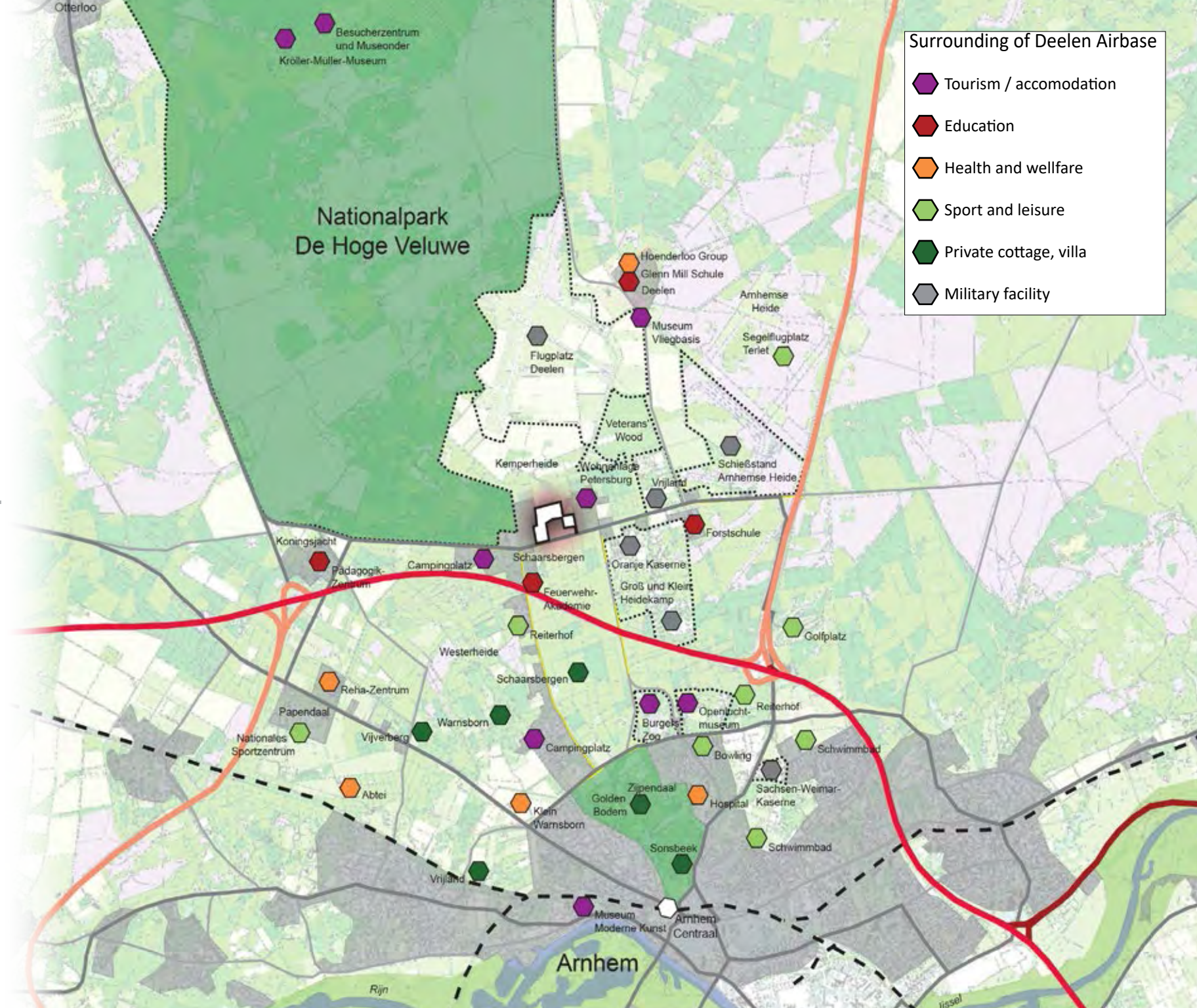
Participatory concept detail / Illustrator on Excel table.

Field	Cultural landscapes, Historic site design, Regional planning, Landscape tourism
Location	Arnhem, The Netherlands
Size	17 ha / 42 acre of 2,000 ha / 4,942 acre / 7.72 sq miles
Year	2007 / 2008
Stage	Consultation, Launch, Conceptual design
Tasks	Landscape development plan, Building redevelopment concept, Regional tourism concept
Tools	ArcGIS, AutoCAD, Illustrator, Photoshop, SketchUp, Powerpoint, Landscape photography
Team	Solitary elaboration as undergraduate thesis work after a student workshop participation

Engineering thesis (GPA: 3.7) in the undergraduate studies of Landscape Planning
The cultural landscape of Deelen Airbase in the context of a 'Visible Past': Redevelopment concepts for the former military bases"Camp Koningsweg North" and "Seven Provinces"

Deelen Airbase

Cultural landscape element: A hangar that looks like a barn at Deelen Airbase / Landscape photography.

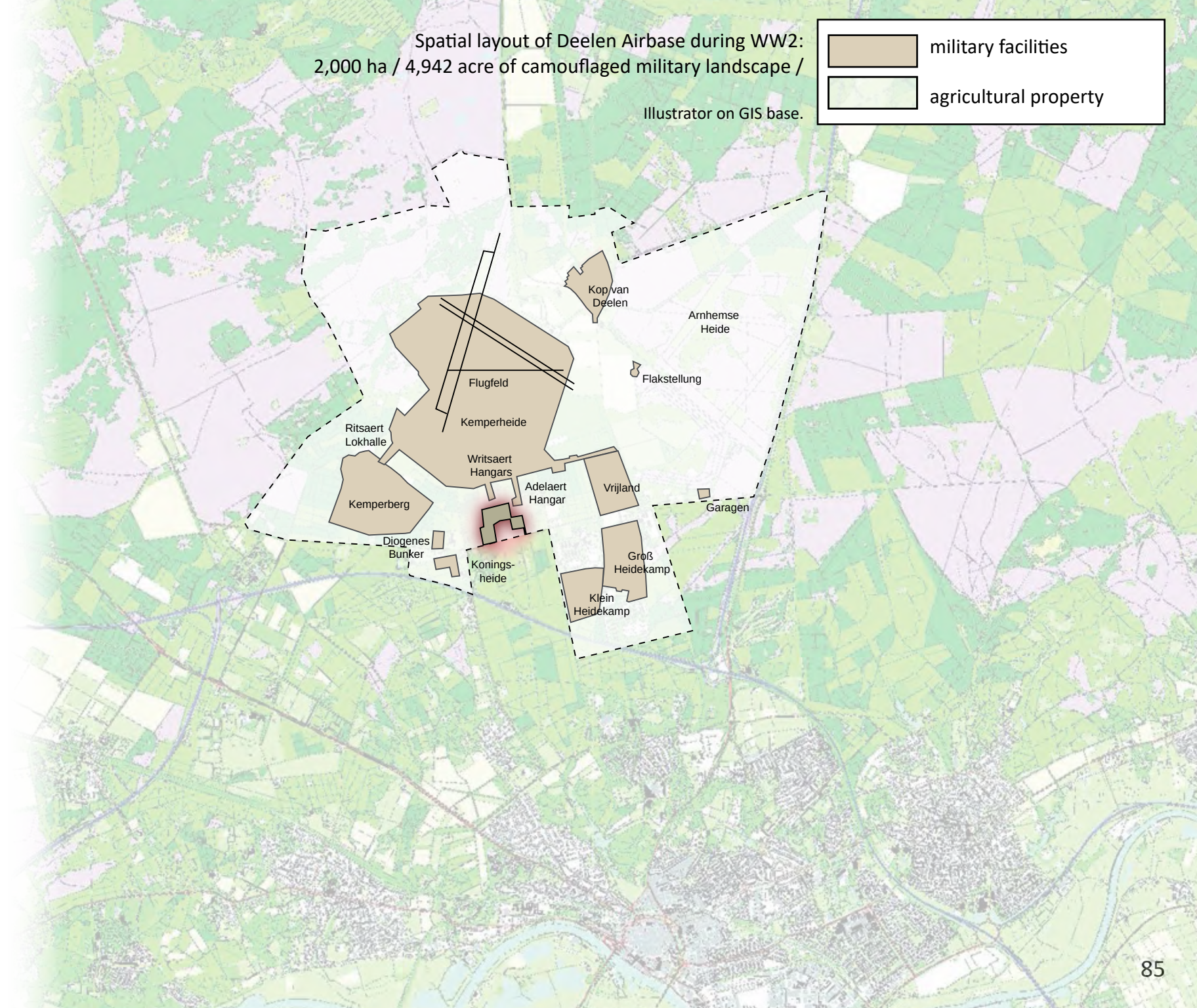

Surrounding of Deelen Airbase
Tourism / accomodation
Education
Health and wellfare
Sport and leisure
Private cottage, villa
Military facility
Otterloo
Besucherzentrum und Museonder
Kröller-Müller-Museum
Nationalpark De Hoge Veluwe
Hoenderloo Group
Glenn Mill Schule
Deelen
Amhemse Heide
Museum Vliegbasis
Segelflugplatz Terlet
Flugplatz Deelen
Veterans Wood
Kemperheide
Wohnanlage Petersburg
Vrijland
Schießstand Amhemse Heide
Forstschule
Koningsjacht
Pädagogik-Zentrum
Campingplatz
Schaarsbergen
Oranje Kaserne
Feuerwehr-Akademie
Groß und Klein Heidekamp
Reiterhof
Golfplatz
Westerheide
Schaarsbergen
Reha-Zentrum
Papendaal
Nationales Sportzentrum
Warnsborn
Vijverberg
Campingplatz
Burgers Zoo
Openlucht-museum
Reiterhof
Bowling
Schwimmbad
Sachsen-Weimar-Kaserne
Abtei
Golden Bodem
Zypendaal
Hospital
Klein Warnsborn
Sonsbeek
Schwimmbad
Vrijland
Museum Moderne Kunst
Arnhem Centraal
Arnhem
Rijn
Ijssel

Documentation of examples of German WW2 camouflage architecture:

officer bunker at Sieben Provinzen;
command building at Koningsheide;
guard building at Klein Heidekamp;
radio station at Groß Heidekamp;
Diogenes command bunker;
workshop at Koningsweg;
Writsaert hangar;
Adelaert hangar.

Spatial layout of Deelen Airbase during WW2:
2,000 ha / 4,942 acre of camouflaged military landscape /

Illustrator on GIS base.

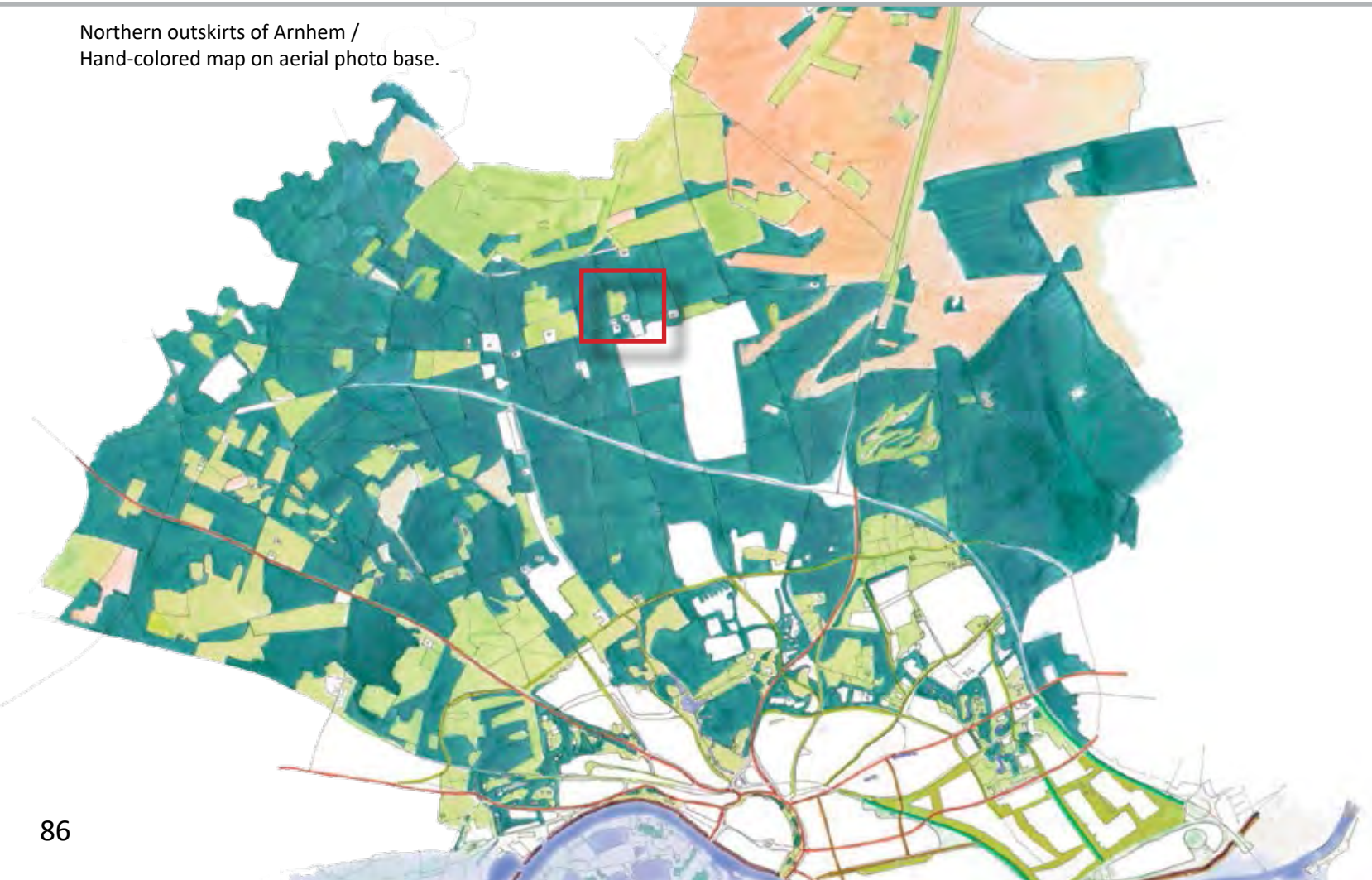


Deelen Airbase

Conceptual design submission at the student competition: The Green Campus

The comprehensive redevelopment concept includes the establishment of a research center and facilities for exhibitions, conferences and environmental education inside the historic buildings on Koningsweg Nord, a state-of-the-art hotel for guests of the Southern Veluwe landscape right on the fringe to the new transient corridor towards the national park as well as modernized and additional dorms at the Seven Provinces site.
The existing cultural elements of the architecture as well as of the landscape will be highlighted and enhanced. The farm at the southern property border will be incorporated intothe Green Campus in terms of a public-private partnership for organic and local agricultural produce.

Northern outskirts of Arnhem /
Hand-colored map on aerial photo base.



The Green Campus: Entrance, Oak Avenue towards the hotel, the dorms in the periphery / Hand sketches with color pens.

Impressions of the student workshop and presentation of the conceptual design / Photo documentation.

Examples of valuable landscape features at Deelen Airbase:

Rhododendron and Juniper (Juniperus chinensis); Umbrella Black Locust (Robinia pseudoacacia umbraculifers); solitary European Oak (Quercus robur); Giant Sequoia groups (Sequoiadendron giganteum); Beechwood rows (Fagus sylvatica); Oak (Quercus robur) and Little-leaf Linden (Tilia cordata) avenues.

Deelen Airbase

Historic elements within the planning area at Deelen Airbase

Building period

- 1940 - 1949
- 1950 - 1959
- 1960 - 1969
- 1980 - 1989

Preservation value

- Listed structure
- Valuable structure
- Demolished structure

Historic landscape features

- Solitaire tree
- Valuable alley or cluster
- Valuable open space

M 1:3000

Current uses and accessibility of the planning area

Buildings

- Residential
- Service / Crafts
- Sports / Leisure
- Storage / Workshop
- Technical infrastructure
- Changing uses
- Derelict

Open space

- Extensive open space
- Sealed traffic area

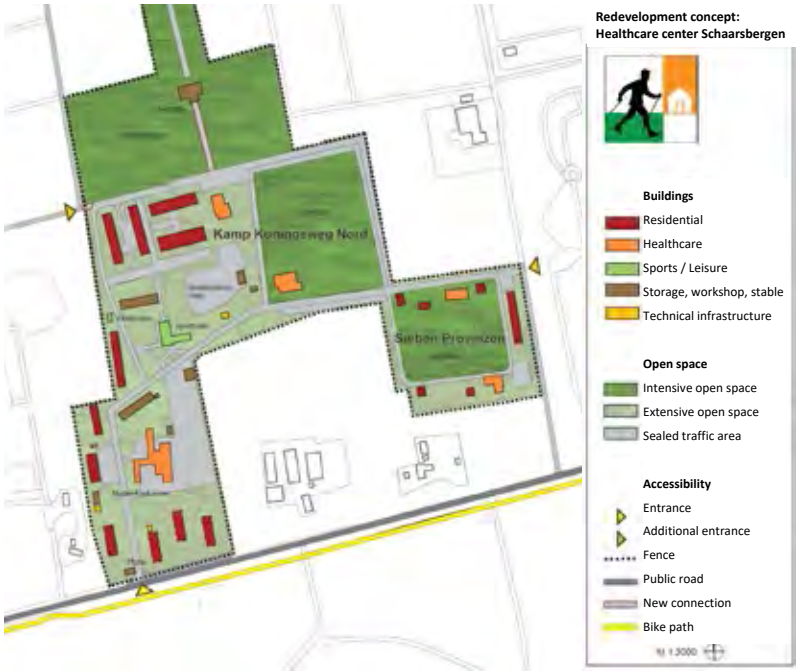
Accessibility

- Entrance
- Fence
- Public road
- Bike path

M 1:3000

Redevelopment alternative 1:
Health, Sport, and Multi-generational Housing

Redevelopment alternative 2:
Aviation, World War History, and Museum



Redevelopment concept:
Healthcare center Schaarsbergen

Buildings
- Residential
- Healthcare
- Sports / Leisure
- Storage, workshop, stable
- Technical infrastructure

Open space
- Intensive open space
- Extensive open space
- Sealed traffic area

Accessibility
- Entrance
- Additional entrance
- Fence
- Public road
- New connection
- Bike path

Redevelopment concept:
Open-air museum Airbase Deelen

Buildings
- Exhibition
- Staged vacancy
- Storage, workshop, stable
- Technical infrastructure

Open space
- Intensive open space
- Extensive open space
- Sealed traffic area

Accessibility
- Entrance / Exit
- Additional exit
- Fence
- Public road
- New connection
- Bike path

Deelen Airbase

Redevelopment alternative 3:
Nature protection, Environmental Awareness

Redevelopment concept:
Green Campus De Hoge Veluwe

Three different conceptual redevelopment alternatives:
Family & Healthcare, Aviation & History, Ecology & Hospitality /
Illustrator and Photoshop on GIS base.

Deelen Airbase

Redevelopment concept:
Experiential Landscapes Deelen Airbase

Building uses

- Exhibition
- Staged vacancy
- Historic building
- Modern building
- Technical infrastructure
- Storage / Workshop

Open space uses

- Intensive open space
- Extensive open space
- Sealed traffic area

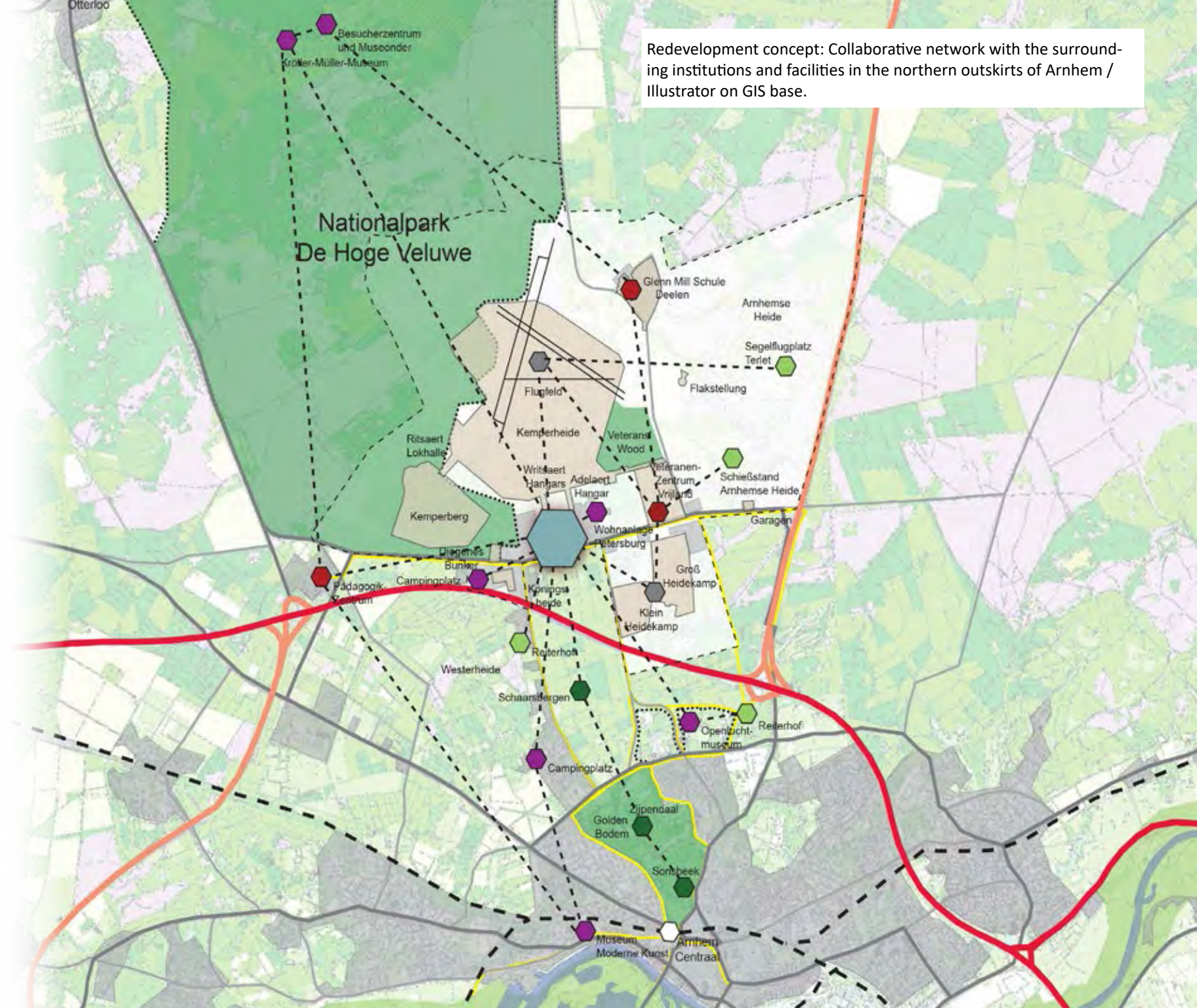
Experiential trails

- Airbase / Nature / Art
- Cross-country trail

Accessibility

- Entrance / exit
- New connection

M 1:3000



Redevelopment concept: Collaborative network with the surrounding institutions and facilities in the northern outskirts of Arnhem / Illustrator on GIS base.

Field	Regional planning, Urban planning and design, Rural landscapes, Demographic change
Location	Naumburg, Germany
Size	66.3 sq km / 16,383 acre / 25.6 sq miles
Year	2005 / 2006
Stage	Consultation, Launch, Conceptual design, Design development
Tasks	Feasable landscape development scenarios, Stormwater management, Landscape tourism plan
Tools	ArcGIS, AutoCAD, Illustrator, Photoshop, Landscape photography
Team	project studio (GPA: 3.9) with 2 other undergraduate students of Landscape Planning

Naumburg Future Scenarios

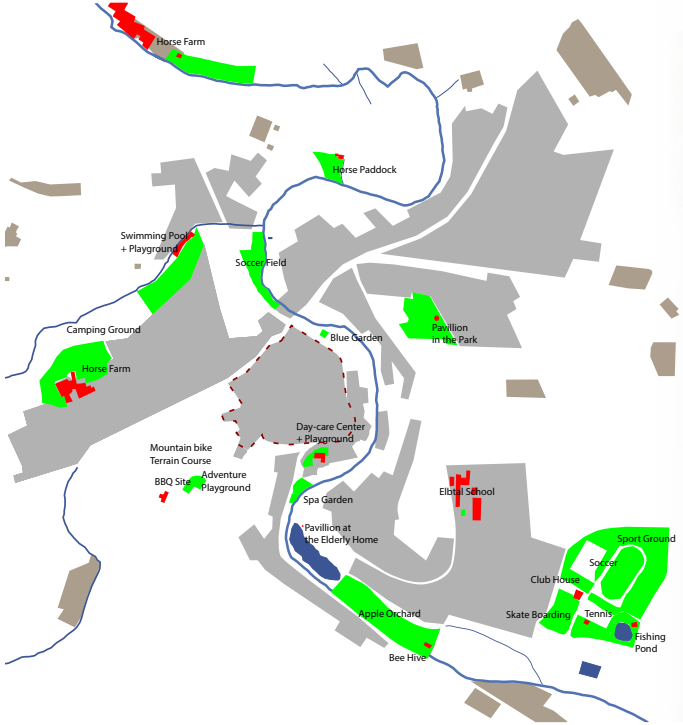
View from the surrounding agricultural fields onto the town of Naumburg / Landscape photography.

Important landscape elements / Illustrator on aerial photo.

Landscape elements

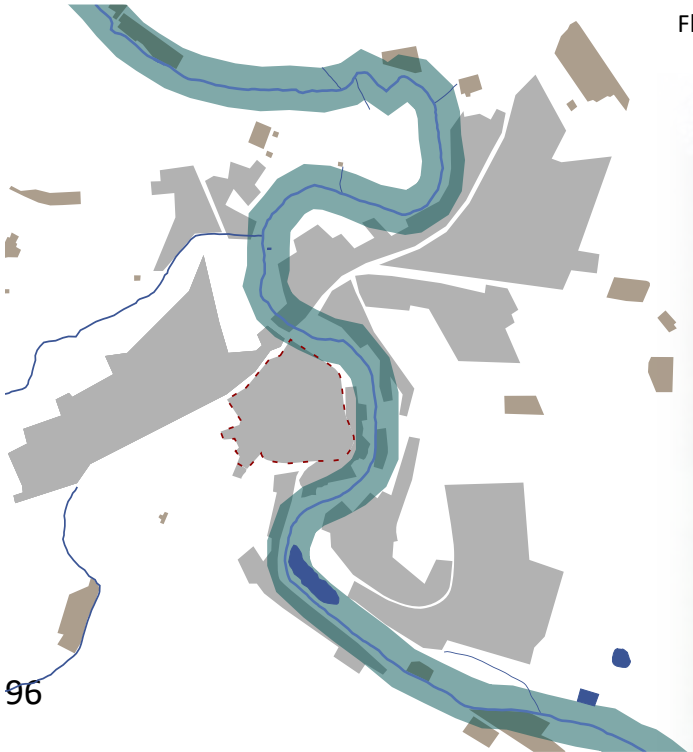
- Forest
- Tree lines
- Park, Cemetery
- Lawn, Orchard
- Private garden
- Terrace garden

em ipsum



Meeting spaces for children and teens / Illustrator.

Temporary skate park on a parking lot / Photo documentation.



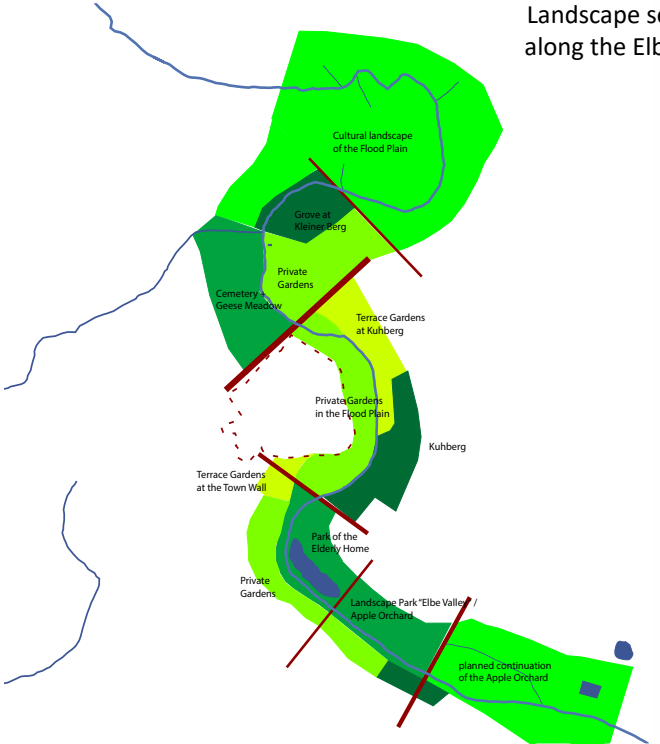
Flood plain

Abandoned garden in the flood plain.

Open space qualities in the historic center / Illustrator.

Private open space in the historic center / Photo documentation.

Landscape sections
along the Elbe river



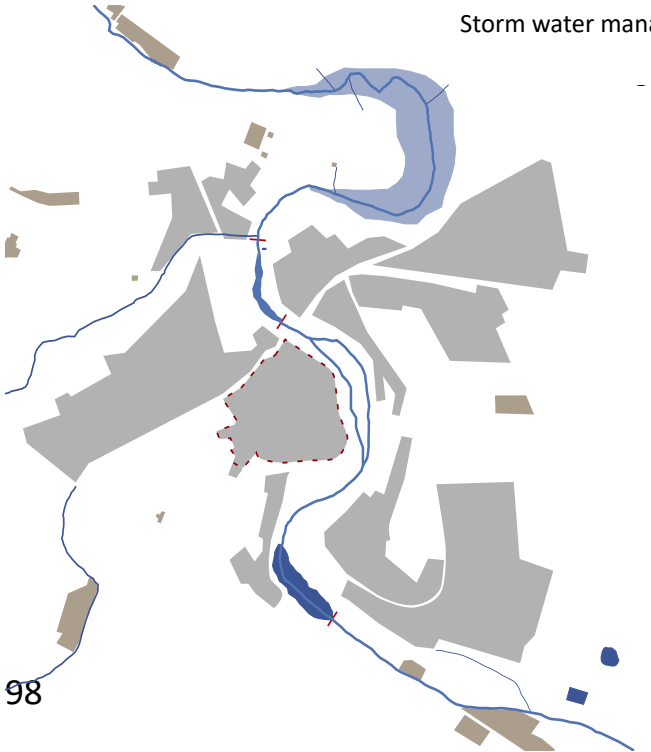
Disconnected road along the Elbe river.

Naumburg Future Scenarios

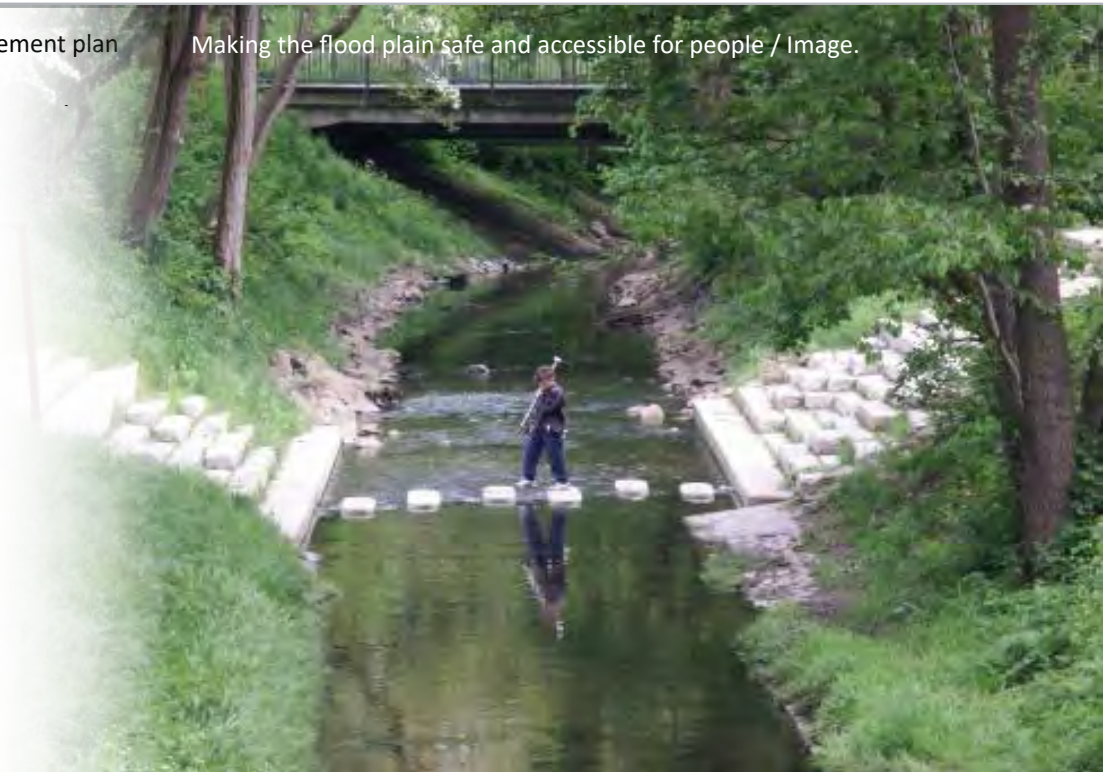
Valuable open spaces for the future / Illustrator.

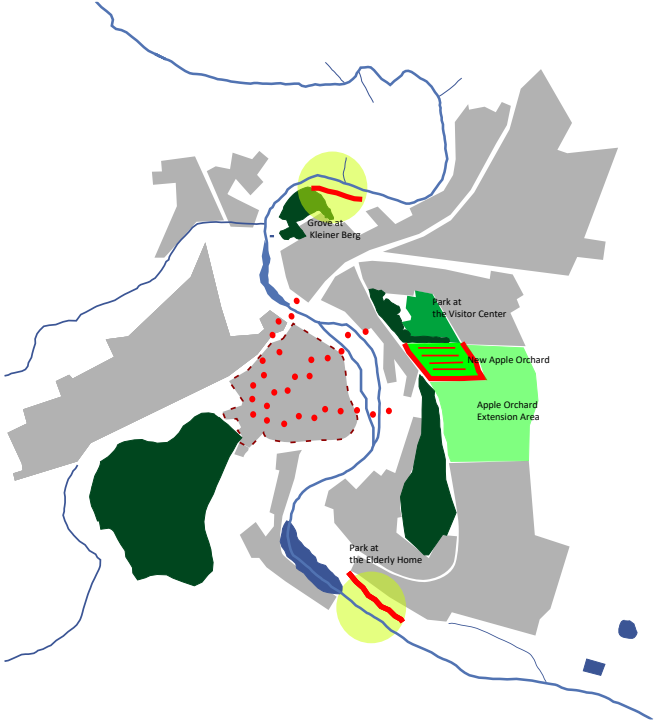
Combining uses for different groups of people / Photoshop.

Storm water management plan



Making the flood plain safe and accessible for people / Image.

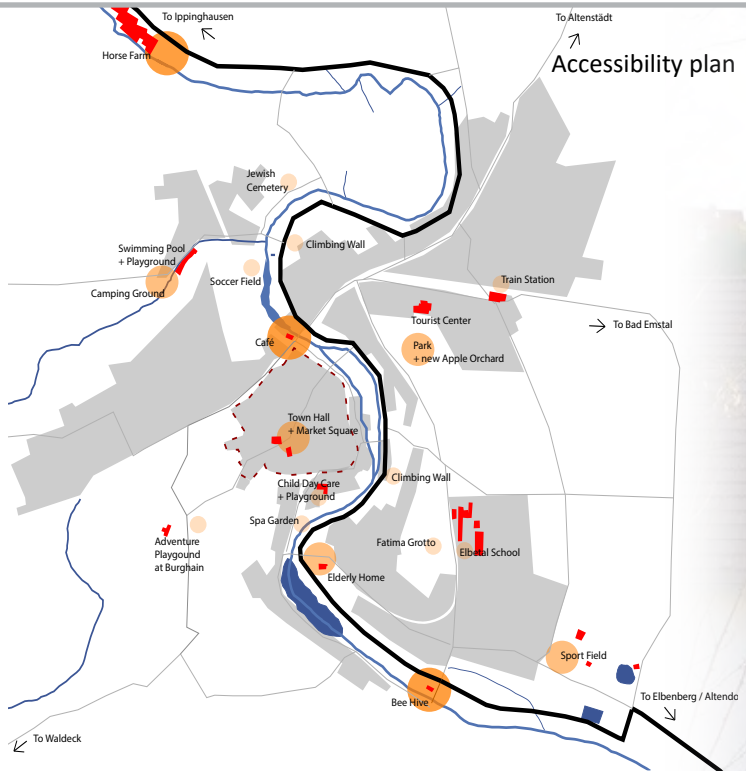




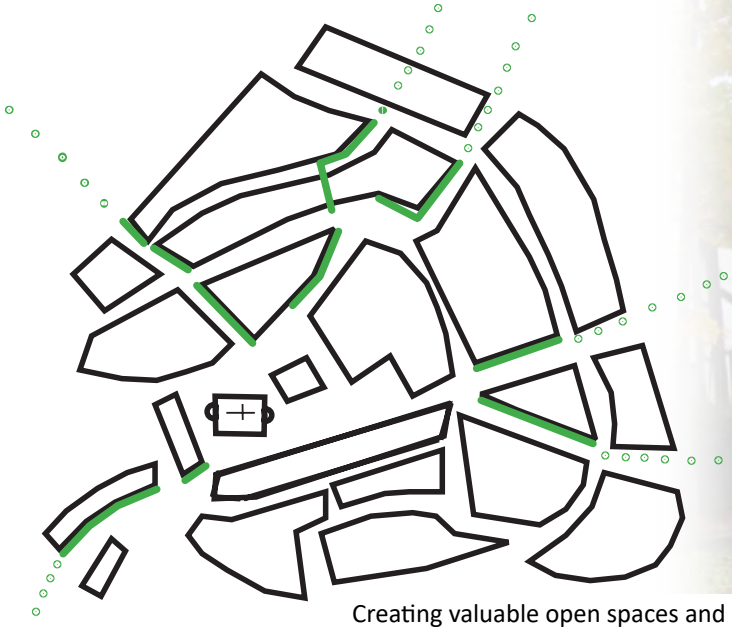
Landscape development plan “Apple Orchard” / Illustrator.

Bringing the apple orchard into the town center / Photoshop.

Accessibility plan



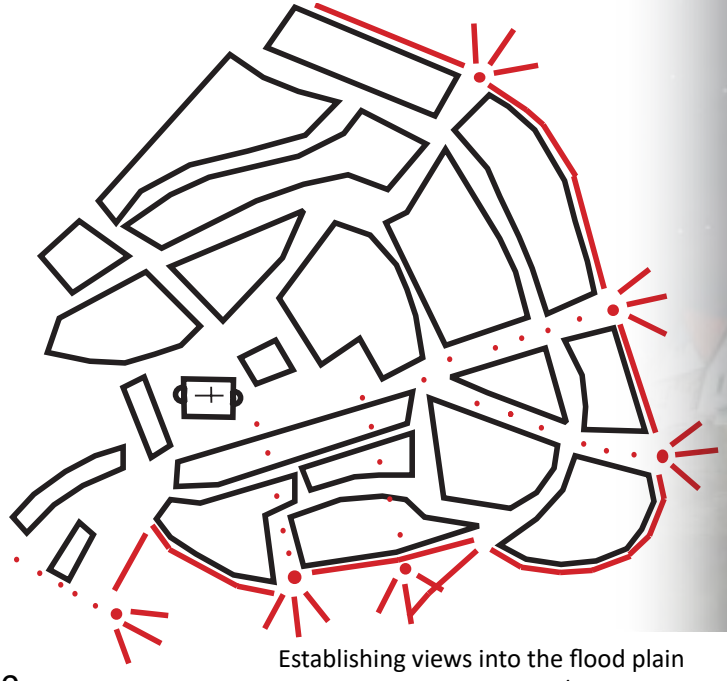
New multi-purpose path along the Elbe River.



Creating valuable open spaces and connections / Illustrator.

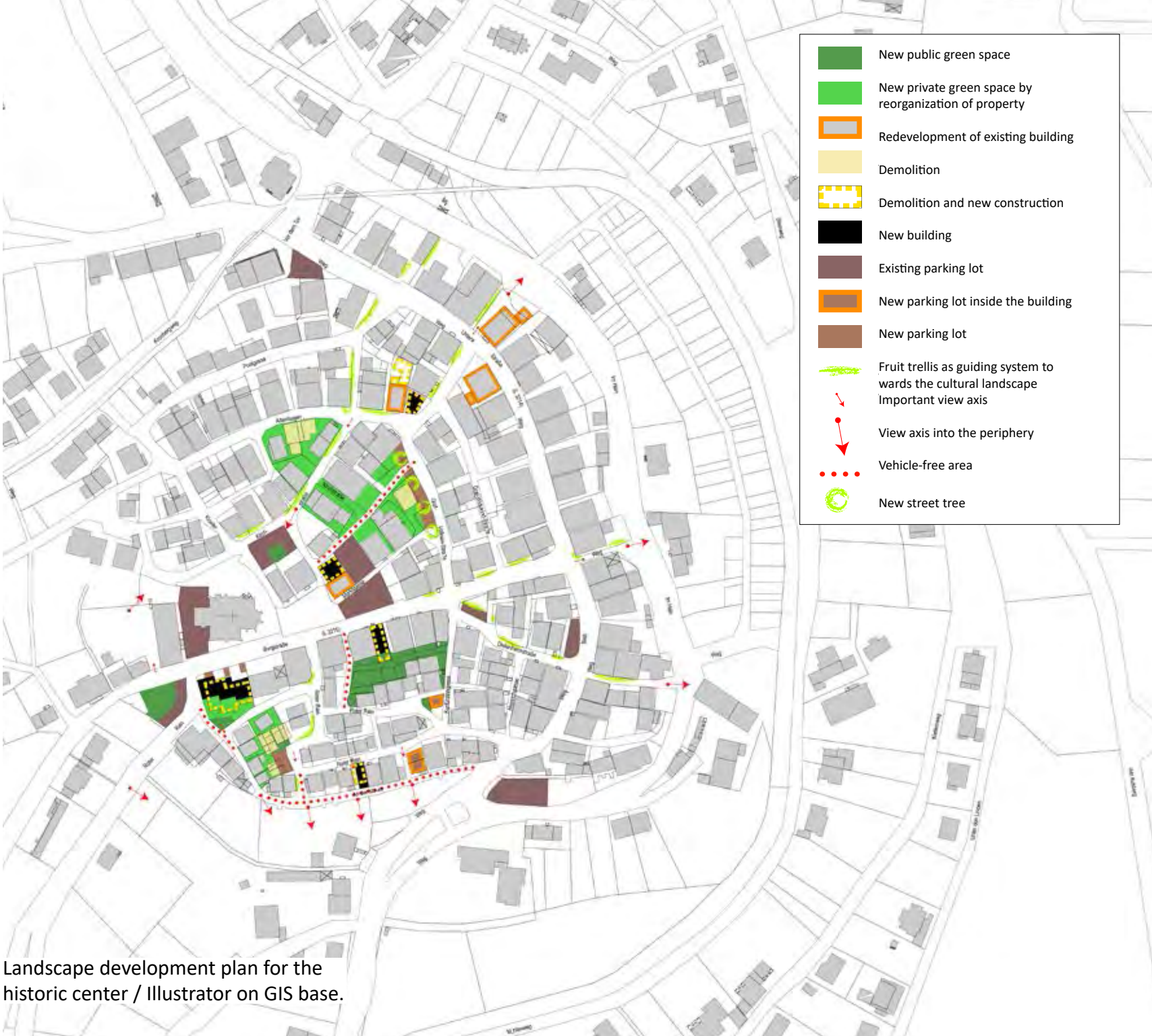
Converting open spaces previously used as parking lots into lush green spaces for the residents of the historic center / Photoshop.

Naumburg Future Scenarios



Establishing views into the flood plain and highlighting the town wall / Illustrator.

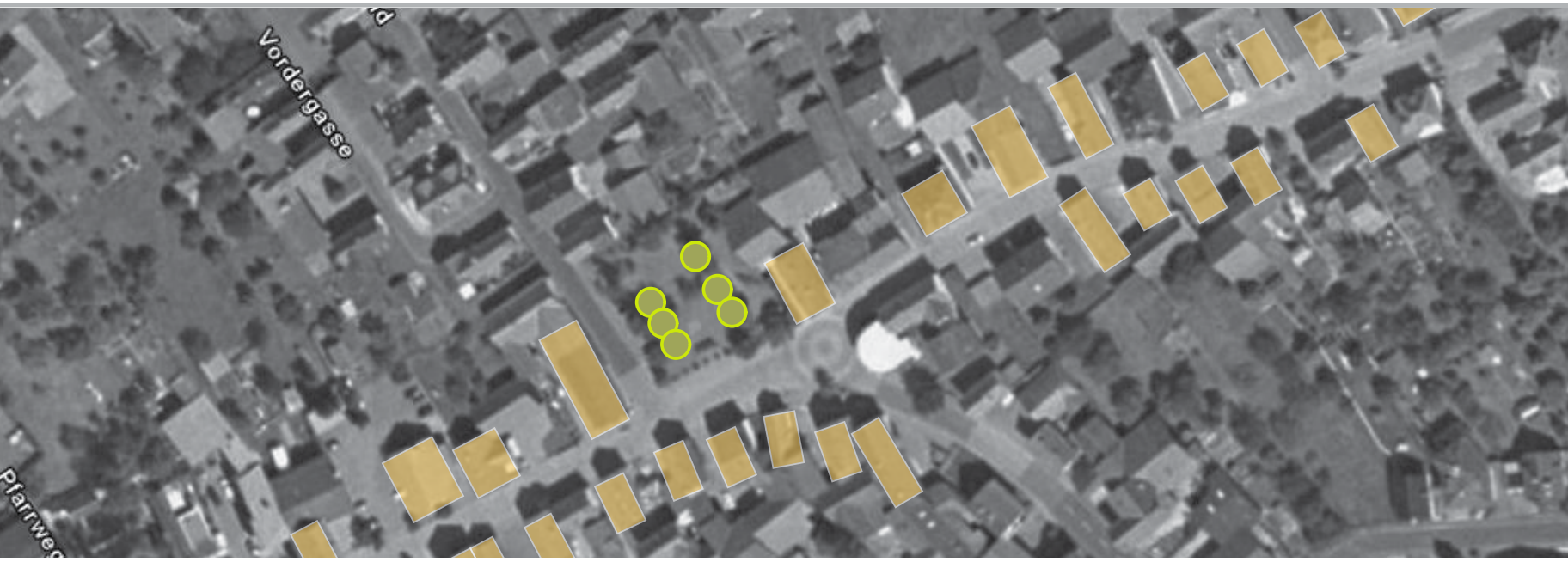
A new lighting concept for the historic center emphasizes the town wall and provides guidance at night / Photoshop.



Landscape development plan for the historic center / Illustrator on GIS base.

Field	Urban design and regeneration, Project development, Design competition, Rural landscapes
Location	Friedewald, Germany
Size	400 sqm / 478.4 sq yard / 4,305 sq foot
Year	2006 / 2007
Stage	Consultation, Launch, Conceptual design, Design development, Construction documents
Tasks	Integrated spatial, landscape and use concept, cost estimation, 1 model, 1 booklet, 2 posters
Tools	Hand sketching, AutoCAD, SketchUp, Photoshop, Indesign, Office, AVA Orca with Excel
Team	design competition (GPA: 3.5) with 2 other undergraduate students of Landscape Planning

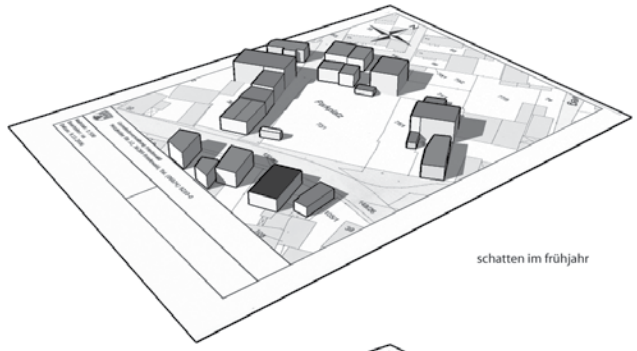
Friedewald Square

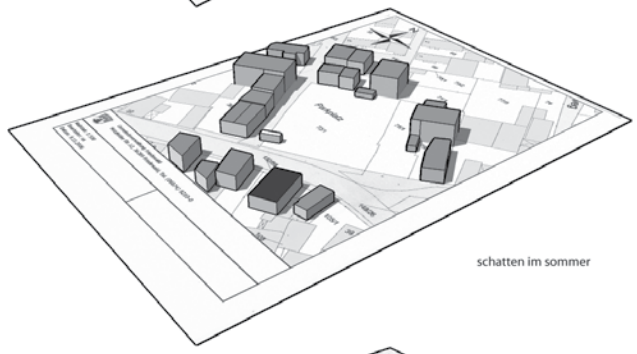


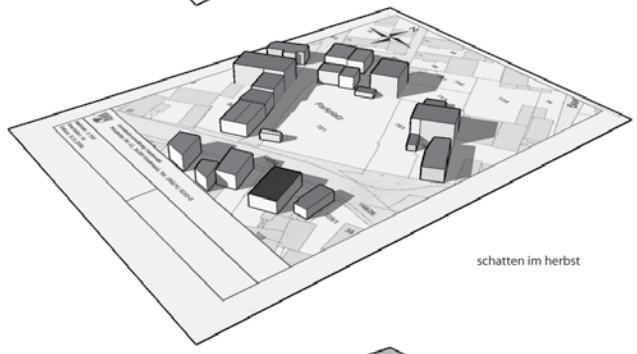
The planning site located in the urban fabric / Illustrator on aerial photograph.

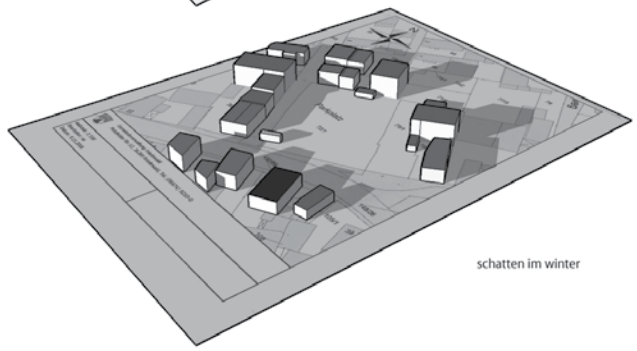
Frontal bird view onto the planning site / Photography.

Municipal survey / GIS map.

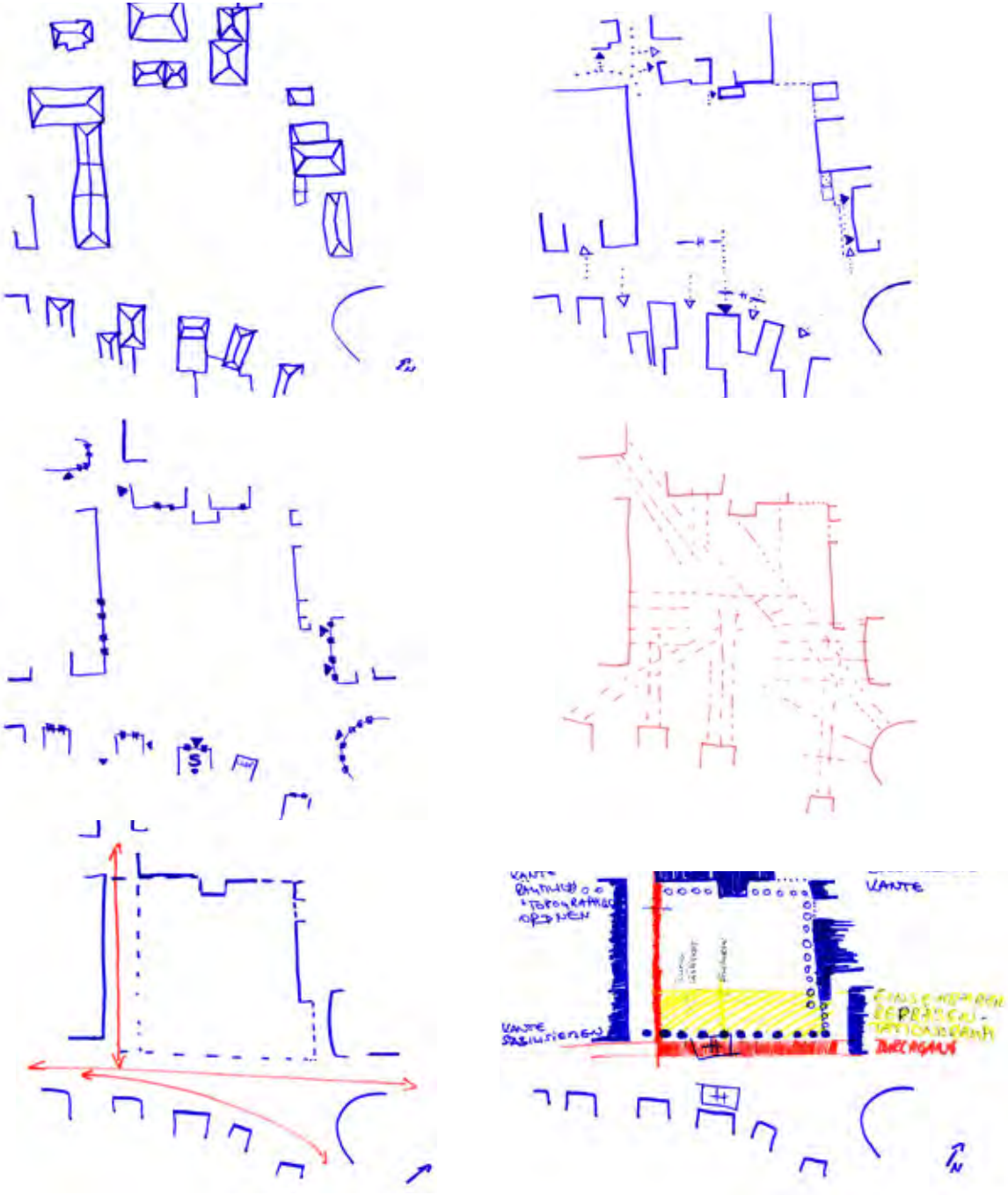




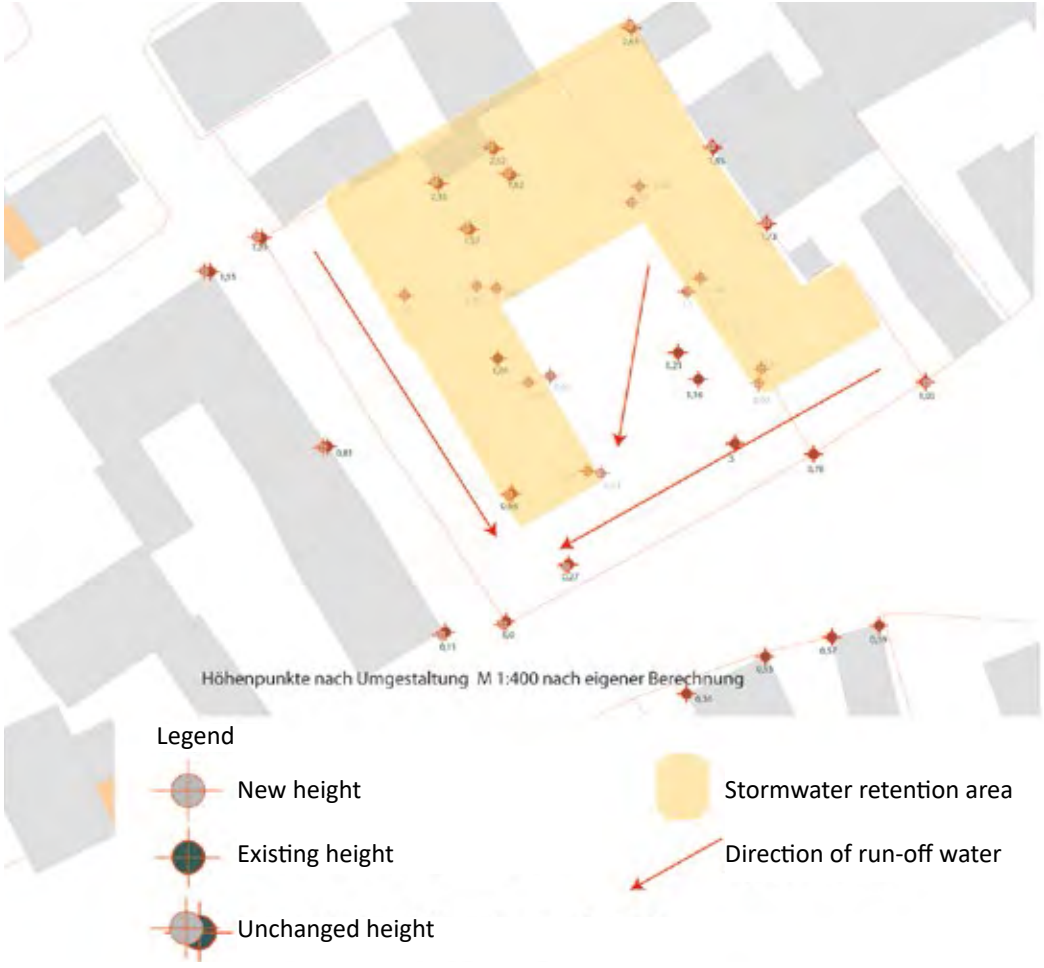




Annual shading model / Sketchup.

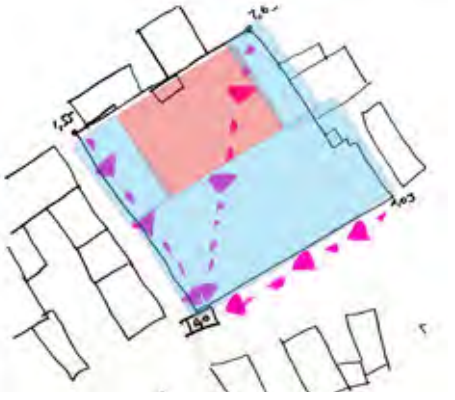


Hand sketches for spatial analysis: roof shapes, entrances, windows, views, accessibility, division and uses. / Ink pens.

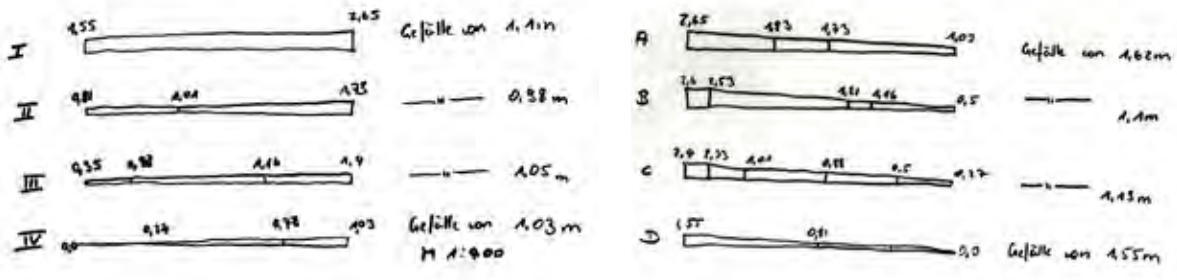


Grading plan, originally 1:400 (resized) / Illustrator on AutoCAD base.

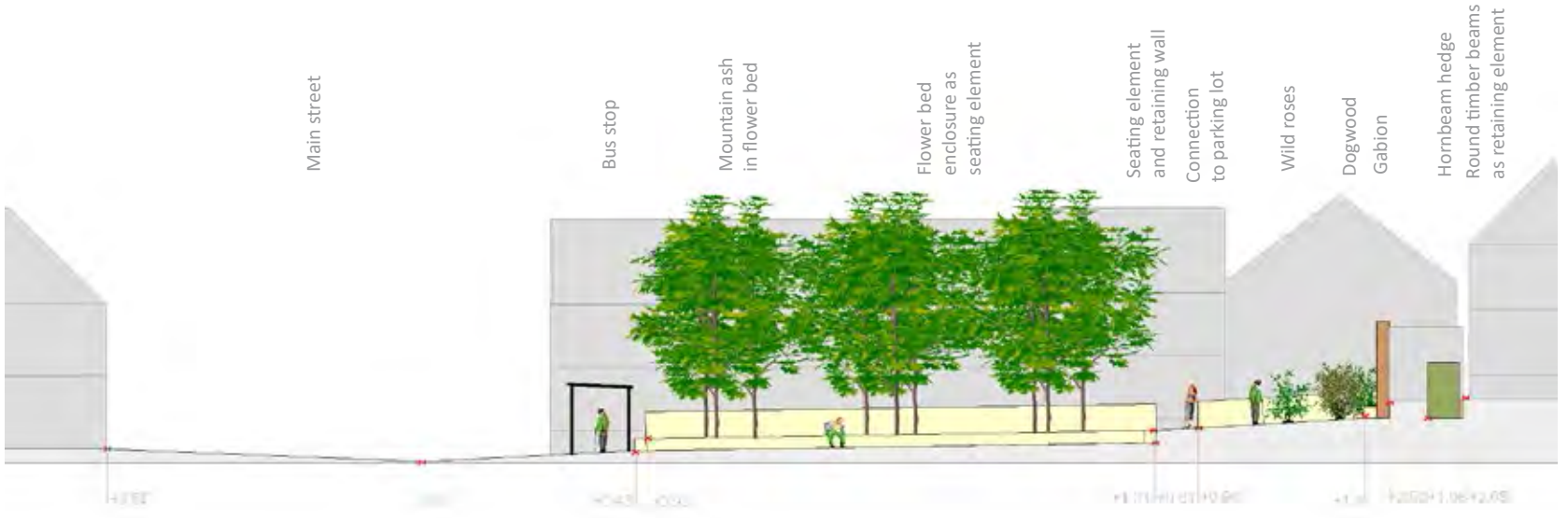
Technical infrastructure / Ink pens.



Storm water analysis / Ink pens.



Grading sketches: East to West, and North to South, plan of grading sections / Ink pens.



Sectional view to the West, originally 1:200 (resized) / Illustrator and Photoshop on AutoCAD base.

Sectional view to the North, originally 1:200 (resized) / Illustrator and Photoshop on AutoCAD base.

Core design materials: Grass, gabiones with recycled local stones, sand stone cladding for surrounding wall, recycled paving stones / Idea images.

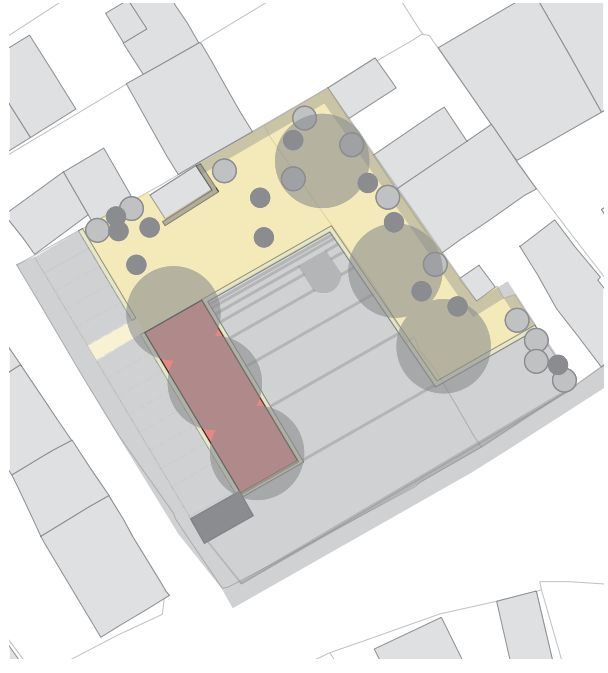
Friedewald Square

Landscape development plan, originally 1:200 (resized) / Photoshop on AutoCAD base.

Vegetation scheme “Countryside” / Illustrator on AutoCAD base.

Form-shaping elements: Mountain ash, hornbeam.

Highlighting elements: Dogwood and wild roses.



Groundcover: Graveled turf and extensive flowerbed.

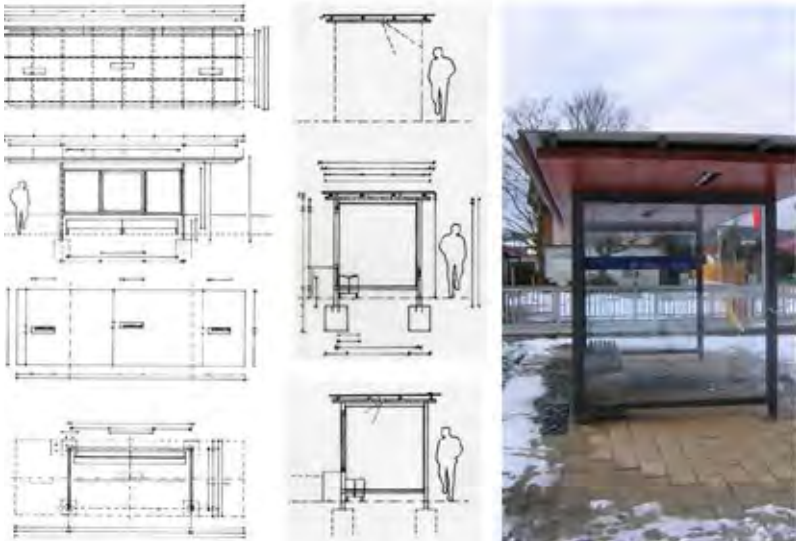
Lighting concept details: Spotlights towards the parking lot, tree illumination, well-lit bus stop / Idea images.

Friedewald Square

Lighting concept plan / Photoshop on AutCAD base.

NR	Kostengruppen	Anzahl	Einheit	€ / Einheit	€ brutto	%
500	**Außenanlagen**				**79.358,00 €**	**100,00%**
510	**Geländeflächen**				**3.490,00 €**	**3,10%**
510	Bodenbearbeitung					
	Bodenaushub und Lagerung	50	m²	10,00 €	500,00 €	0,63%
	zusätzlichen Oberboden liefern und andecken	70	m³	12,50 €	875,00 €	1,10%
	niedrigen Bewuchs roden und umgraben	75	m³	4,00 €	300,00 €	0,38%
511	Pflanzarbeiten					
	einfache Bepflanzung aus Stauden und Zwiebeln	70	m²	1,90 €	133,00 €	0,17%
	einfache Bepflanzung aus Bodendeckern	70	m²	3,00 €	210,00 €	0,26%
516	Hecken					
	Hainbuche (Carpinus betulus), doppelreihig	110	lfm	4,00 €	440,00 €	0,55%
517	Sträucher					
	Rauhblättrige Rose (Rosa jundizillii)	12	St.	6,00 €	72,00 €	0,09%
	Weißer Hartriegel (Cornus alba sibirica)	12	St.	5,00 €	60,00 €	0,08%
518	Bäume					
	Eberesche (Sorbus aucuparia) als Hochstamm im Trio verpflanzt	18	St.	50,00 €	900,00 €	1,13%
520	**Befestigte Flächen**				**34.985,00 €**	**44,09%**
520	Wege, Plätze, Kfz-Stellplätze					
	vorhandenes Betonsteinpflaster, rot, 10/10, aufnehmen, reinigen und neu verlegen	610	m²	20,00 €	12.200,00 €	15,37%
	Betonsteinpflaster, rot, 10/10, einbauen	50	m²	25,00 €	1.250,00 €	1,58%
	Betonsteinschmuckfäche (Wappen) einbauen	13	m²	25,00 €	325,00 €	0,41%
	Betonsteinpflaster, grau, in Parkfläche neu verlegen	210	m²	20,00 €	4.200,00 €	5,29%
	Läuferreihen aus Friedewalder Sandstein, 15/30	150	lfm	30,00 €	4.500,00 €	5,67%
	Rasengittersteine aufnehmen	230	m²	5,00 €	1.150,00 €	1,45%
	Sickerstreifen aus Natursteinpflaster	2	m²	100,00 €	200,00 €	0,25%
	Schotterrasen	558	m²	20,00 €	11.160,00 €	14,06%
530	**Baukonstruktion in Außenanlagen**				**25.151,00 €**	**31,69%**
530	Einfriedungen/Begrenzungen					
	Palisaden versetzen	23	m	28,00 €	644,00 €	0,81%
532	Außentreppenstufen					
	Außentreppen, Stahlbeton, 15x30x150	8	St.	132,00 €	1.056,00 €	1,33%
	Geländer aus Stahl	2	m	154,00 €	308,00 €	0,39%
533	Mauern, Wände					
	Betonstützmauer, incl. Schalung und Bewehrung, D = 50 cm	110,00	lfm	120,00 €	13.200,00 €	16,63%
	Außenwandverkleidung aus Gabionen 50/50 cm, Maschenweite 10/10 cm	20,00	m³	16,00 €	320,00 €	0,40%
	Füllmaterial Friedewalder Sandstein, 80/120mm	20,00	m³	30,00 €	600,00 €	0,76%
534	Bushaltestelle und Infowand					
	Stahlrahmengestell, geschweißt, feuerverzinkt incl. obere Riegel und Stiele aus Quadratrohr, 80x80 bzw. 60x60, Wanddicke 3,6 mm; untere Ringel und Stiele aus Quadratrohr 60x60, Wanddicke 2,9 mm; Elementhöhe 260 cm, Elementbreite 208 cm bzw. 392 cm; incl. Anschlussbleche und Glashaltedeckleisten	1	psch.	4.000,00 €	4.000,00 €	5,04%

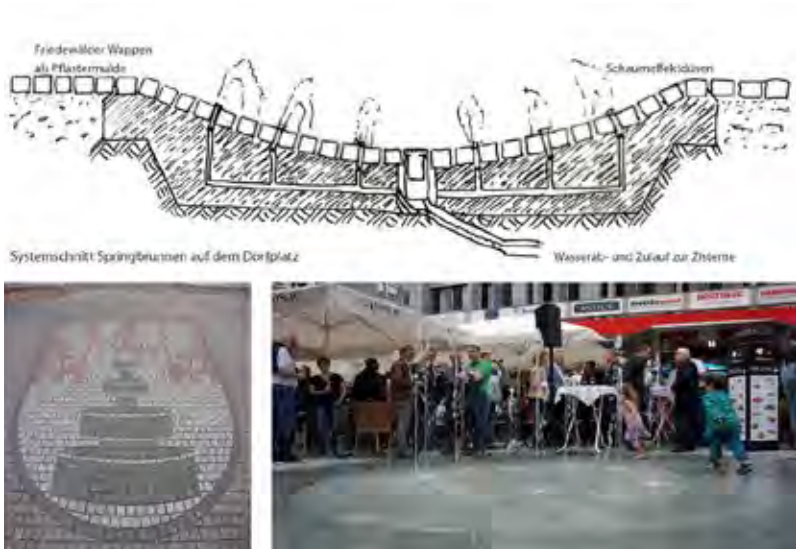
Developer cost estimation according to DIN 276, third level / Excel.



Design for the new bus stop / Hand sketches and idea image.

Friedewald Square

Bird view from the street / Photoshop on model photos.



Construction sketch for the new fountain / Hand sketch, photo of the Friedewald Coat of Arms, idea image.

Ideas for sitting walls and benches / Catalogue material.

Zoomed view to the new fountain and street-level perspective of the proposed sitting walls / Photoshop on model photos.

Field	Parametric design, Landscape construction, Paving materials and patterns
Location	Kassel, Germany
Size	200 sqm / 2,150 sq foot / 240 sq yard
Year	2007 / 2008 (two semester project studio)
Stage	Consultation, Lauch, Concept design, Design development, Landscape construction
Tasks	Design and implementation of a transition from volcanic to sediment structures
Tools	Rhino, Photoshop, Illustrator, AutoCAD, Laser cutter, CNC milling machine, concrete mixing tools
Team	final project studio (GPA: 3.9) with 1 other graduate student of Landscape Architecture / Planning

In a one-week construction workshop, the paving design derived from (partial) results of the first semester was implemented in the surrounding of the campus mensa. Parametric design with the support of animation and 3D modelling software as well as implementation into physical models by means of new construction techniques enabled the creation of continuous complex forms.

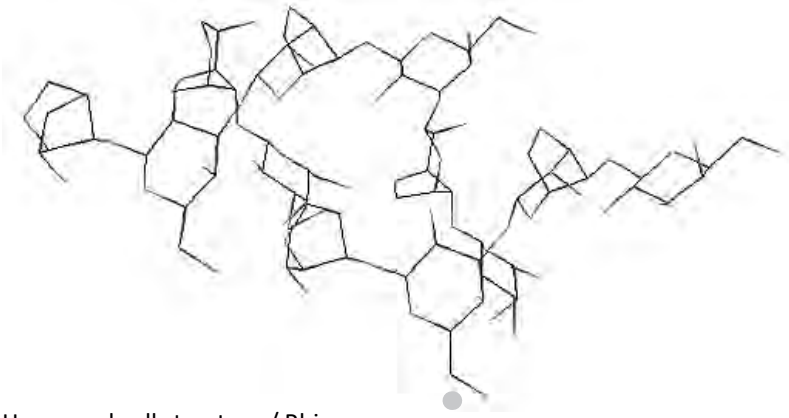
Paving Stones

Sedimentary rock: rather horizontal / lying + dissolving / bright / soft / amorphous / Online image research.

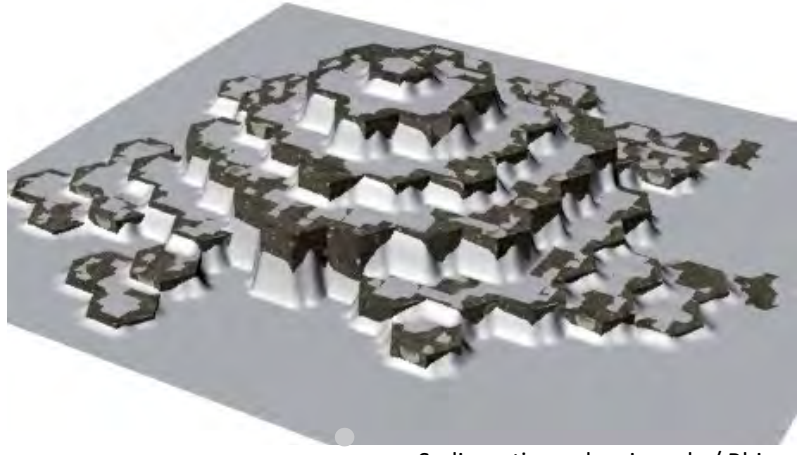
Volcanic rock: rather vertical / erected + hardening / dark / solid / angular / Online image research.

Design task: Sedimentation process of volcanic rock via parametric design

Volcanic rock rises from the earth. By means of multiple transformation processes, sedimentary rock is created which dissolves onto the ground.

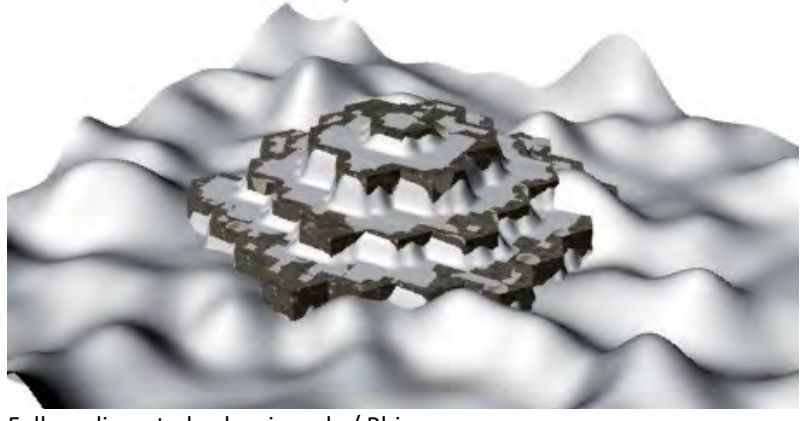


Hexagonal cell structure / Rhino.



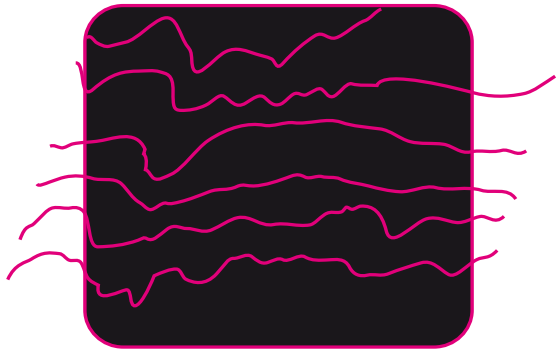
Sedimenting volcanic rock / Rhino.

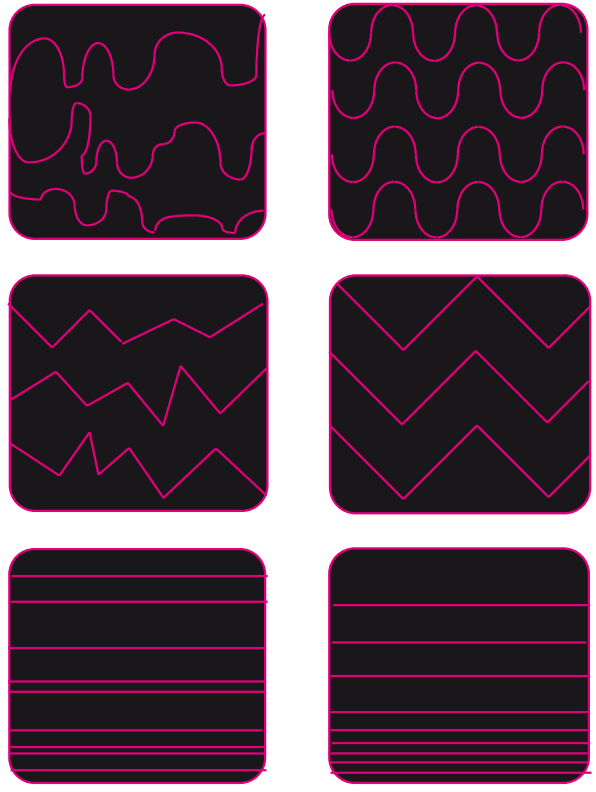
Extruded volcanic rock formation / Rhino.



Fully sedimented volcanic rock / Rhino.

Design derivation and analysis: Sedimentary rock

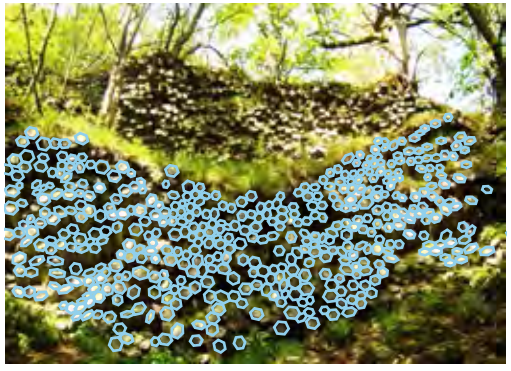


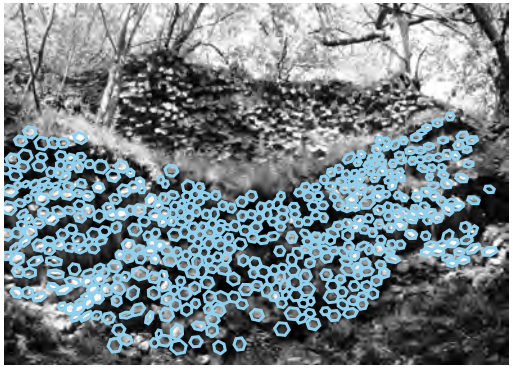


114 Finding characteristics of sedementary rock / Photoshop.

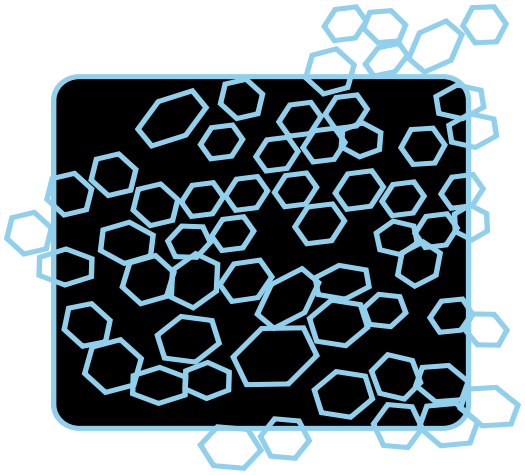
Multiple ways for abstraction of sedementary layers / Illustrator.

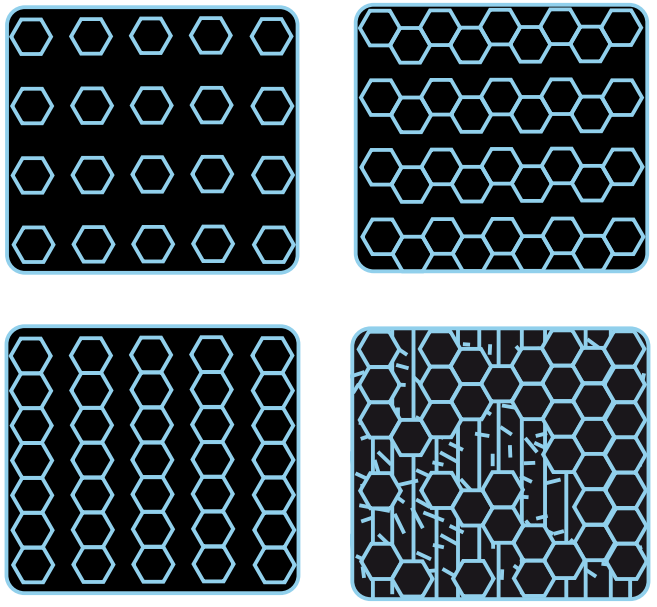
Design derivation and analysis: Volcanic rock I





Finding characteristics of volcanic rock / Photoshop.





Multiple ways for abstraction of volcanic structures / Illustrator.

Design concept: Operative Transparenz

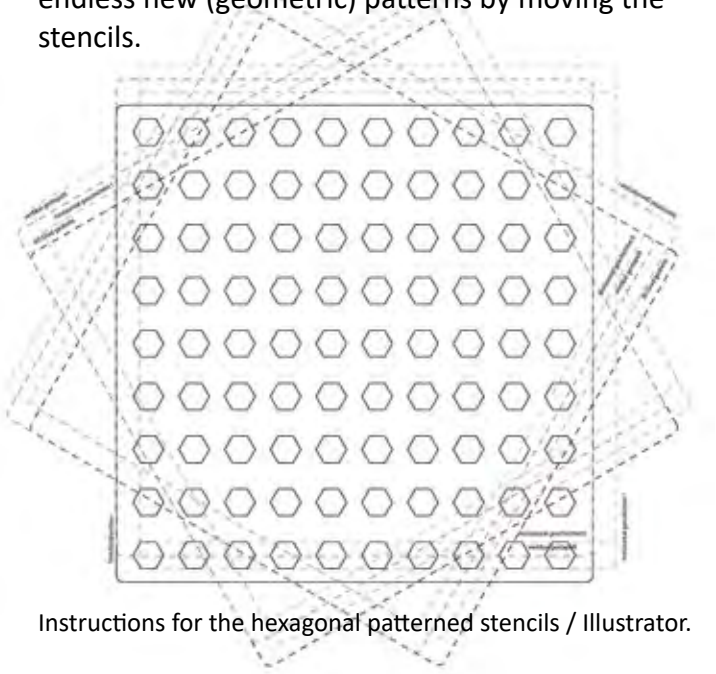
„When you see two or more pieces overlapping each other, and each one claims the common part for itself, one is confronted with a contradiction of spatial dimensions. In order to resolve this contradiction, one must assume the presence of a new optical quality."

Collin Rowe

In this design concept, transparency as a form of order becomes an instrument of form-finding. By moving a single element (a stencil), the present viewpoint changes accordingly.

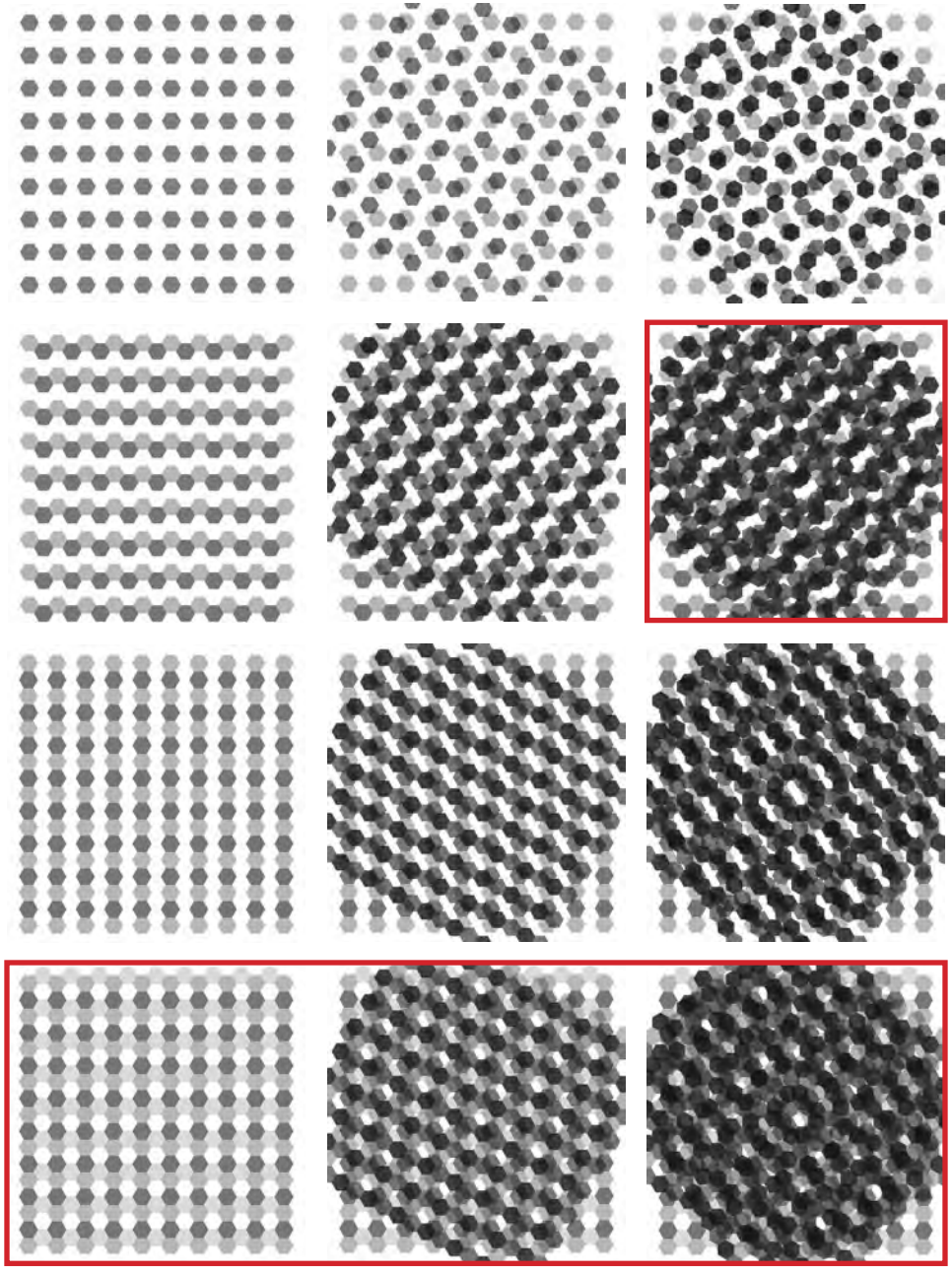
The transparency as being an image changes in its appearance since the object to be observed changes by one move.

By a superposition of different patterns, different density levels are achieved. These increase or decrease the possibility to look through and / or the intensity of light. Consequently, one can create endless new (geometric) patterns by moving the stencils.



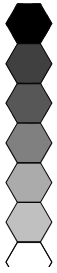
Instructions for the hexagonal patterned stencils / Illustrator.

4 base patterns and another 8 chosen variants, turned by 30 degrees and then additionally by 60 degrees / Illustrator.

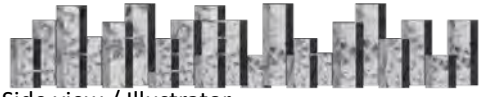


Working steps: Color theory, Parametric design, CNC Milling

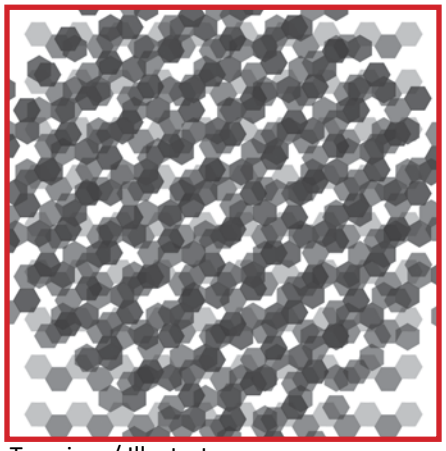
New patterns are being created by superposition of several hexagon stencils with different color saturations. Using a color saturation scale, the individual gray tones are being converted into elevation levels.



100% - 2,00cm
87,5% - 1,75cm
75% - 1,50cm
62,5% - 1,25cm
50% - 1,00cm
37,5% - 0,75cm
25% - 0,50cm
0% - 0cm



Side view / Illustrator.



Top view / Illustrator.

The patterns are being transferred into Rhino 4.0. The resulting surfaces are being extruded topographically and processed additionally so that the sedimentation process can be noticed.

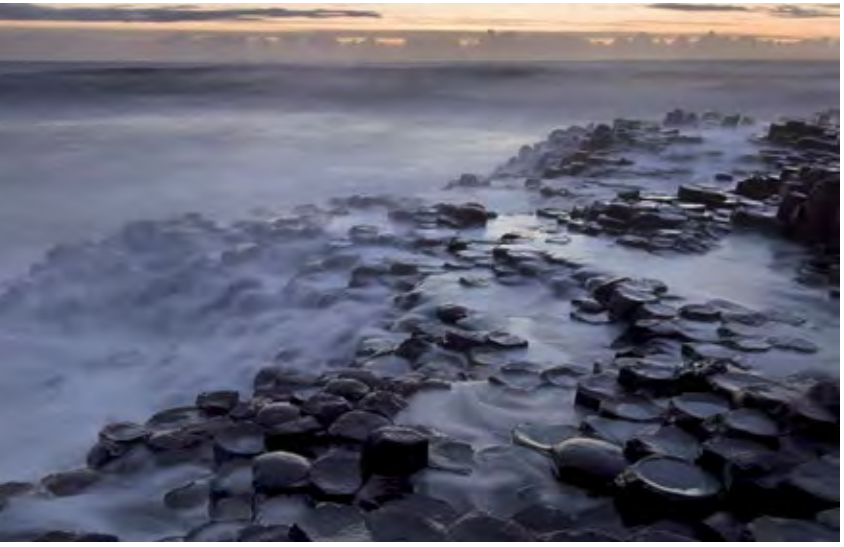
Side view / Rhino.

Top view / Rhino.

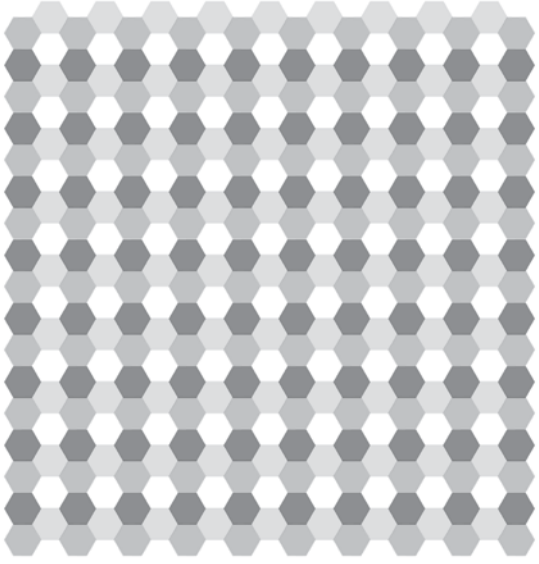
The Rhino plug in for the CNC milling machine converts 3D data into commands for creating 20x20cm hard foam models. Through the use of different drill heads, one achieves differently fine ablation and processing of the surfaces - similar to sedimentation process in nature.

Side view and top view / Model after CNC milling process.

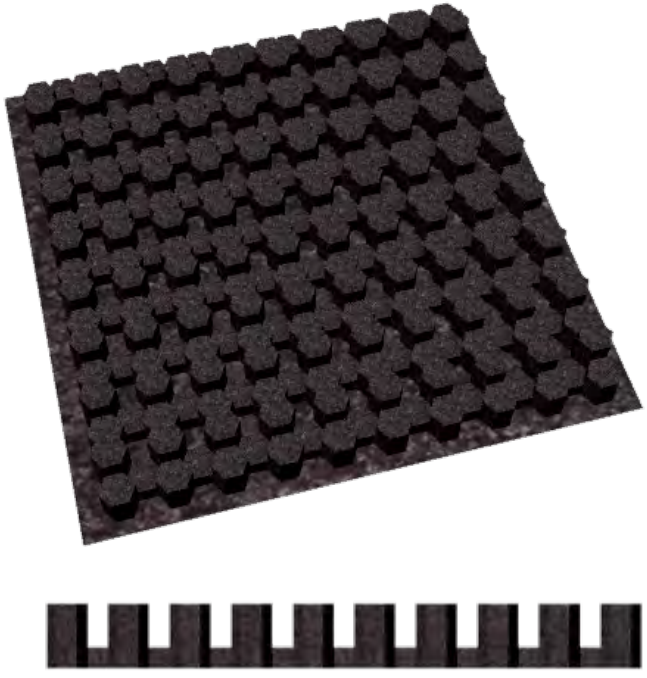
Design development: Metamorphosis of volcanic rock into sedimentary rock



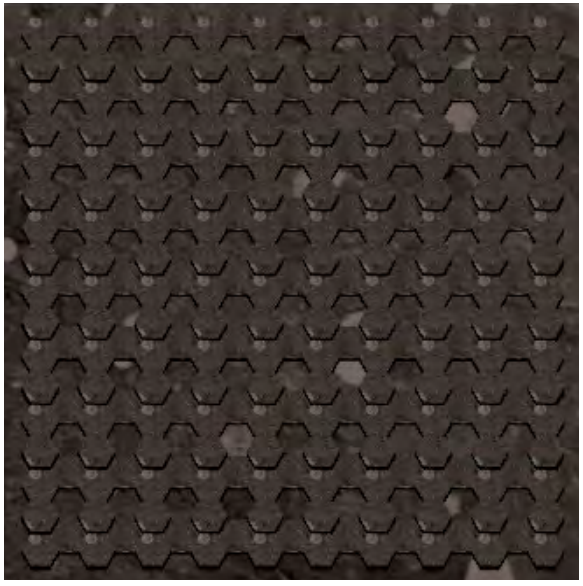
Basalt colums at Giants‘ Causeway, Ireland / Online image research.

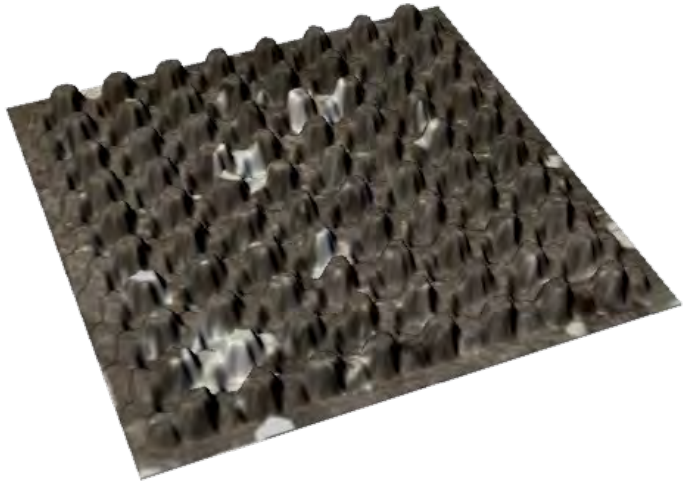


Hexagonal pattern with different gray saturations / Illustrator.



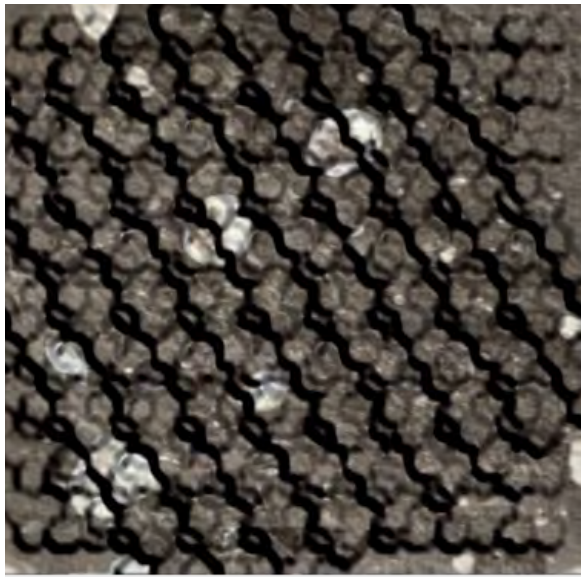
Perspective and side view of hexagonal pattern with multiple elevation levels / Rhino.

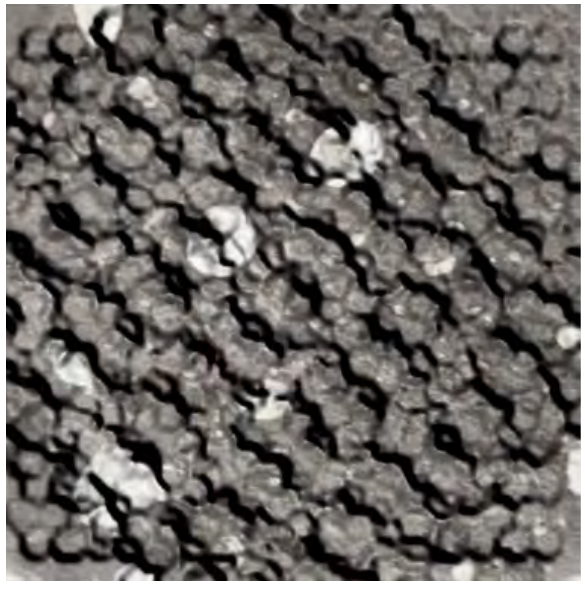


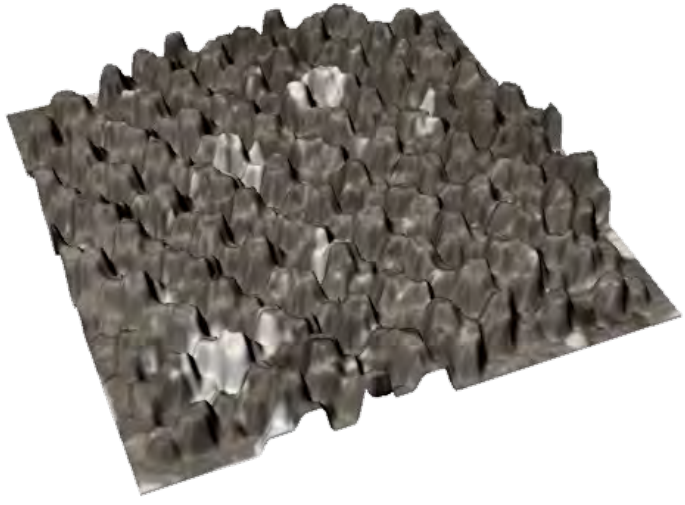


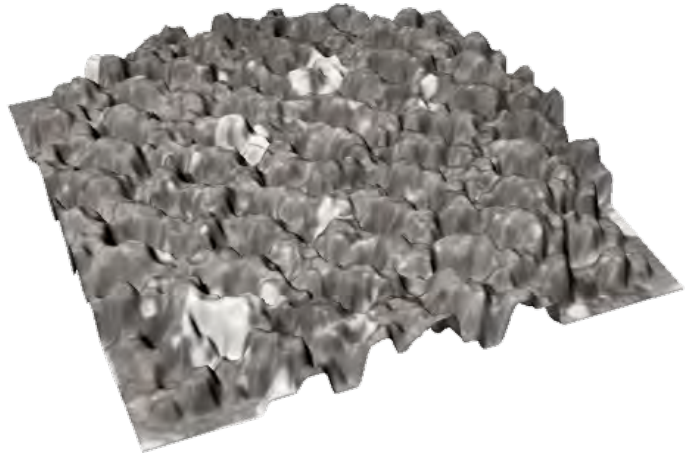
Perspective and side view of hexagonal pattern with image overlay / Rhino.

Perspective and side view of processed structure / Rhino.





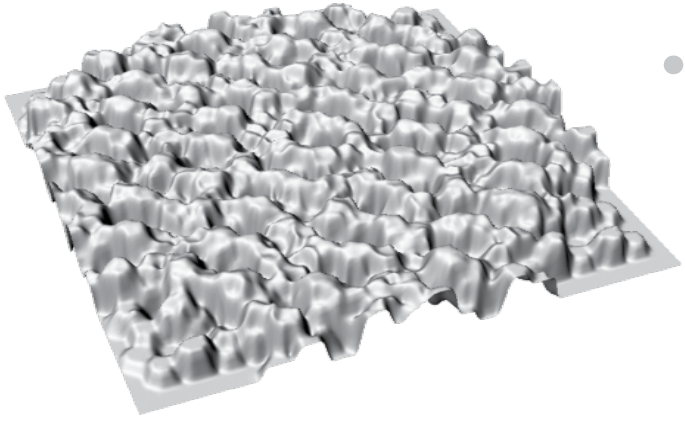


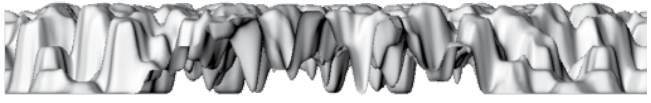


Structure with a 30 degrees turned overlay / Rhino.

Structure with 30 and 60 degrees turned overlays / Rhino.

Karst field near Dent de Crolle, France / Online image research.

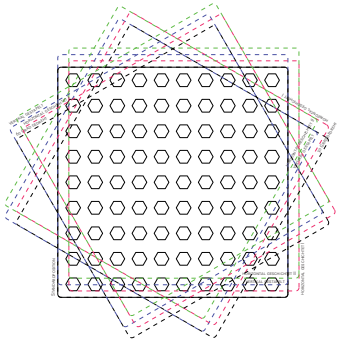




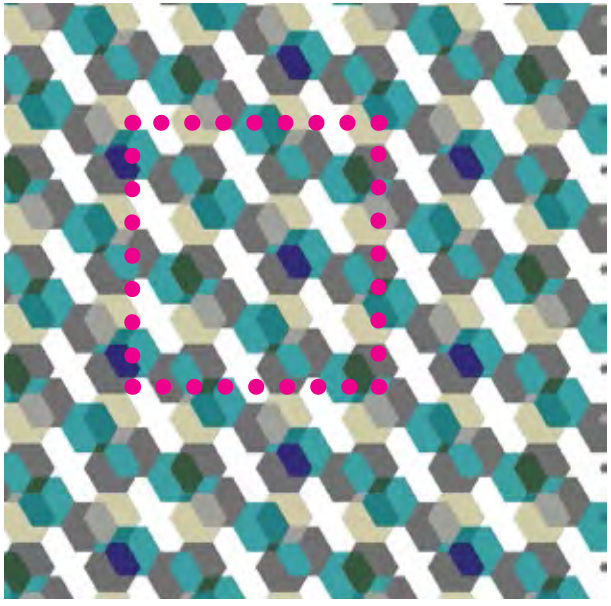
Perspective and side view of finished structure / Rhino.

Top view / Model after CNC milling process.

Design development: Continuation with (partial) results of the first semester

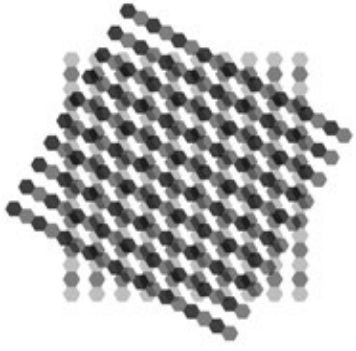


Stencils for pattern generation

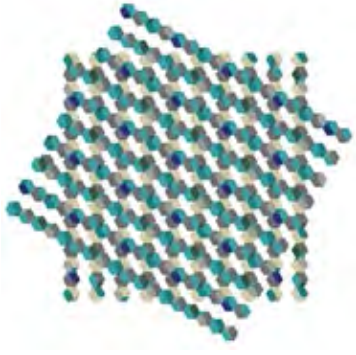


Choice of pattern / Illustrator.

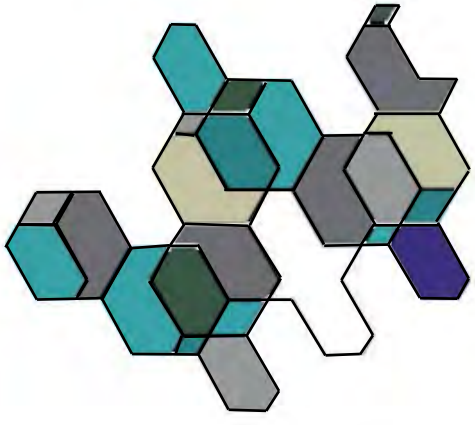
Sample of the paving pattern / Illustrator.



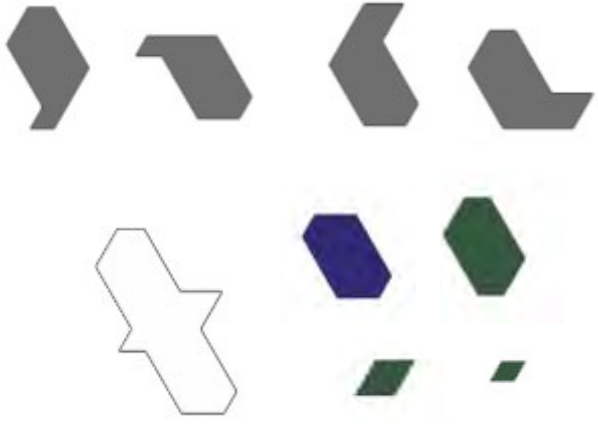
Double layer of hexogonal forms



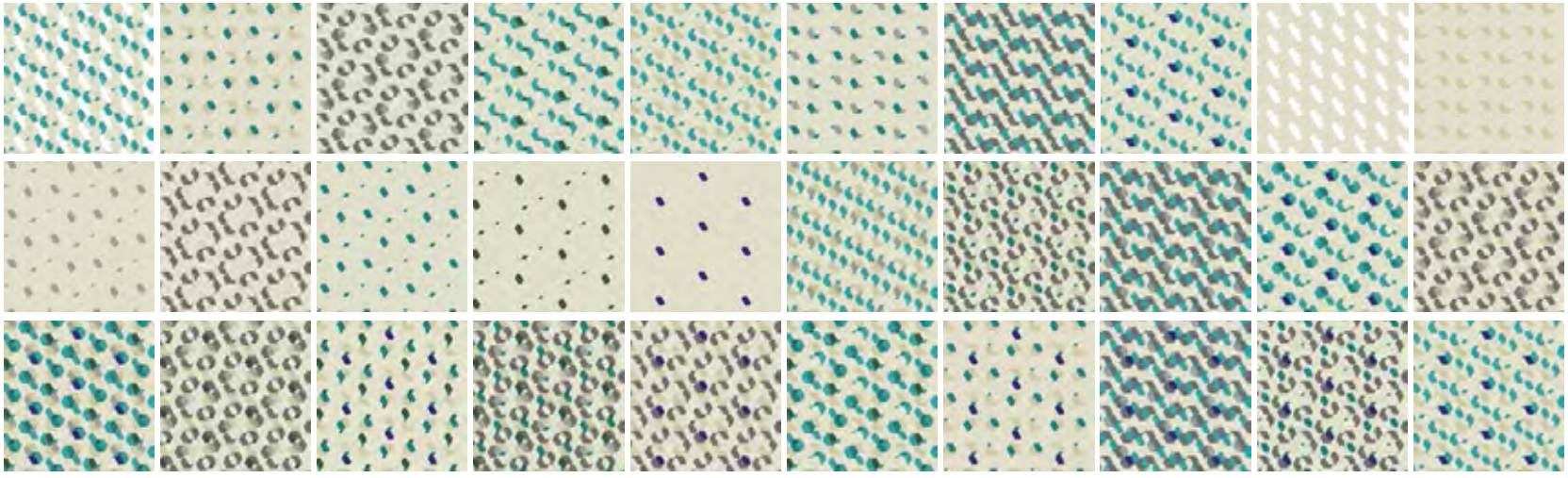
Layered hexogonal forms with specific colour attributes / Illustrator.



Paving pattern / Illustrator.



9 basic components form the paving pattern / Illustrator.



Infinite possibilities for generating new patterns / Illustrator.

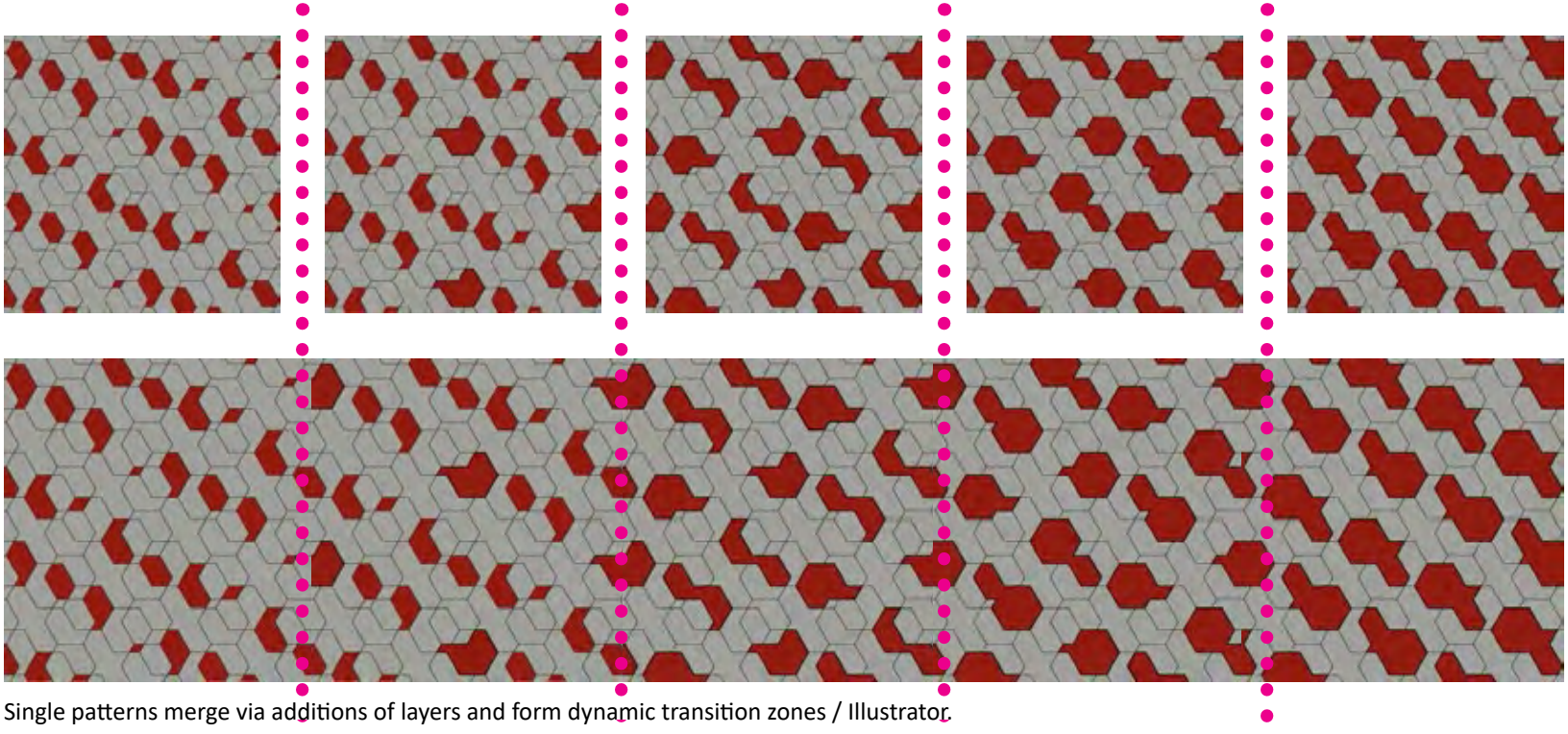
The design idea is based on the findings in the previous winter semester. The approach to solving the first task was the metamorphosis of volcanic rocks into sedimentary rock via several stages. By the superposition of different shapes, new (geometric) patterns were created by means of tranlucence and layering. By rotations of the superimposed forms, new patterns evolved. This basic idea has been accepted as a starting point for continuous design work in the summer semester.

Out of the basic structures, a sample was picked for further processing. Although seemingly complex and opaque at first sight, its pattern can be traced down to 9 basic components. The basic components are repetitive since the entire pattern consists of twisted and layered hexagonal forms which dinstinguish themselves from each other by different gray values.
Through the repetition of its pattern, a laying template could be developed from the above nine basic components. The different basic shapes are being created as digital layers whose colour attributes were subsequently allocated to instead of the gray values in order to enhance optical clarity.

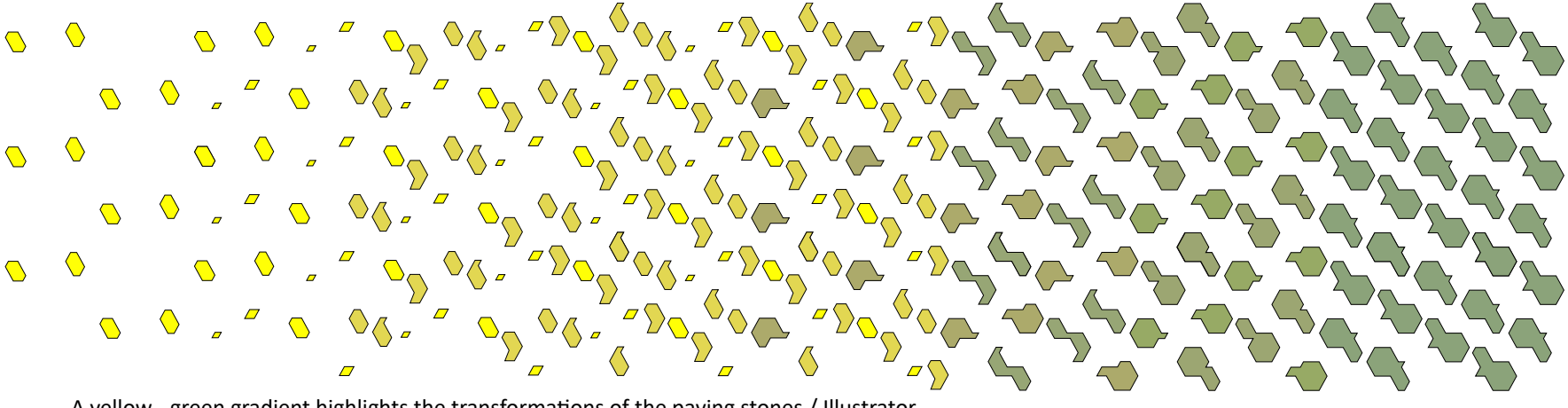
By omitting or adding layers, new patterns can be generated frequently, the pattern formation is infinite. On the basis of equal rotation in 30 ° and 60 ° around a common center, additions arise among the basic shapes. The original hexogonal forms merge and transform into polygons. After each rotation, or after every time one turns the appropriate layer on or off, individual patterns emerge that look ”static“ at first sight: any pattern stands for itself.
By means of the rotation, the addition enables you to experience the transformation of the stones as a single dynamic image, without realizing that there are different patterns. Thus, the laying pattern changes from an initially static to a dynamic image. The basic components between the transformations either remain or change or disappear completely through addition with other layers.

After several experiments with different patterns, the following individual range has been selected. It consists of 16 forms which are determined by the transformation, and 9 basic components which are arranged in a special paving pattern. To enhance the aesthetics of the single transformed forms, a gradient from yellow to green was chosen.

Design development: Creation of a paving stone pattern

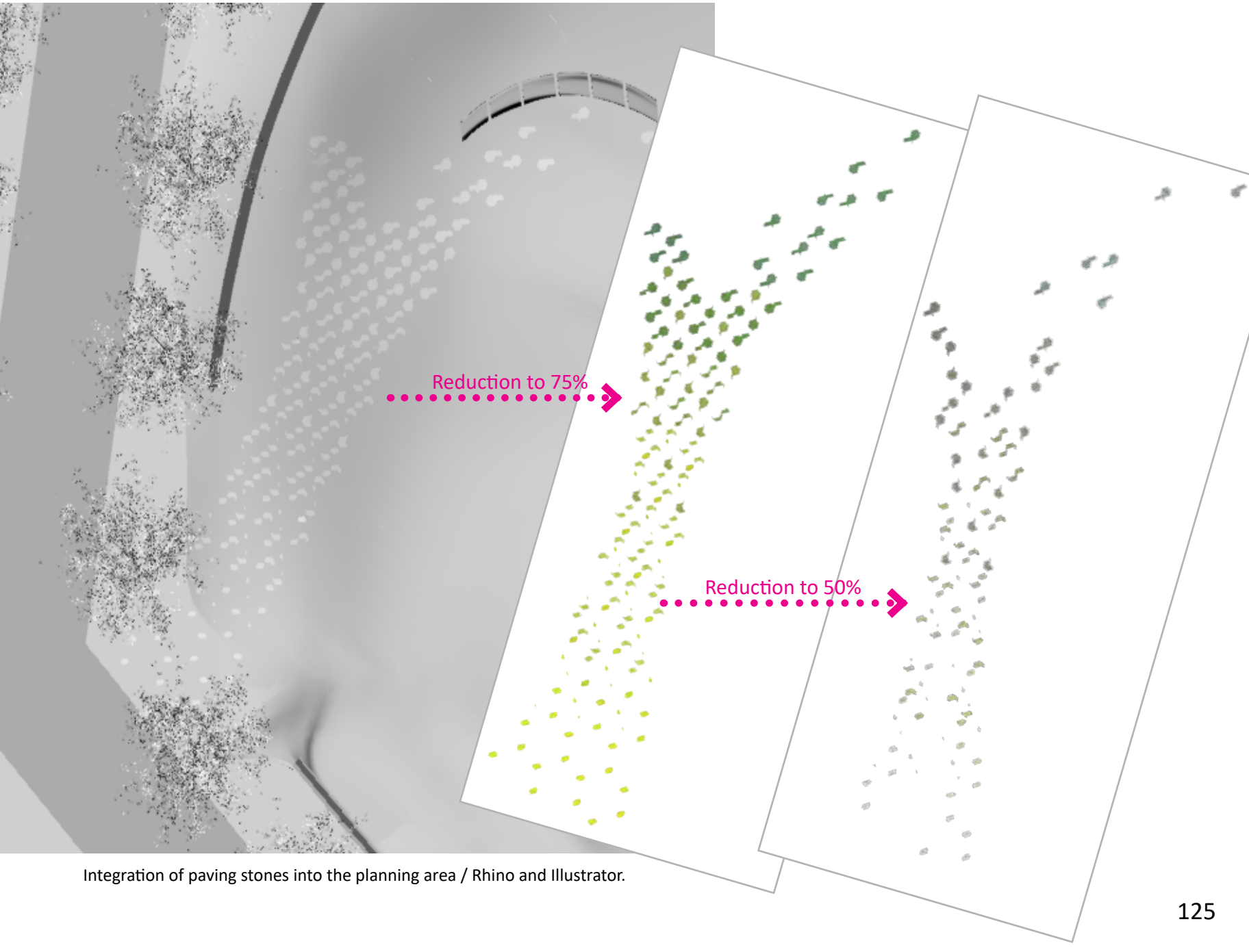


Single patterns merge via additions of layers and form dynamic transition zones / Illustrator.

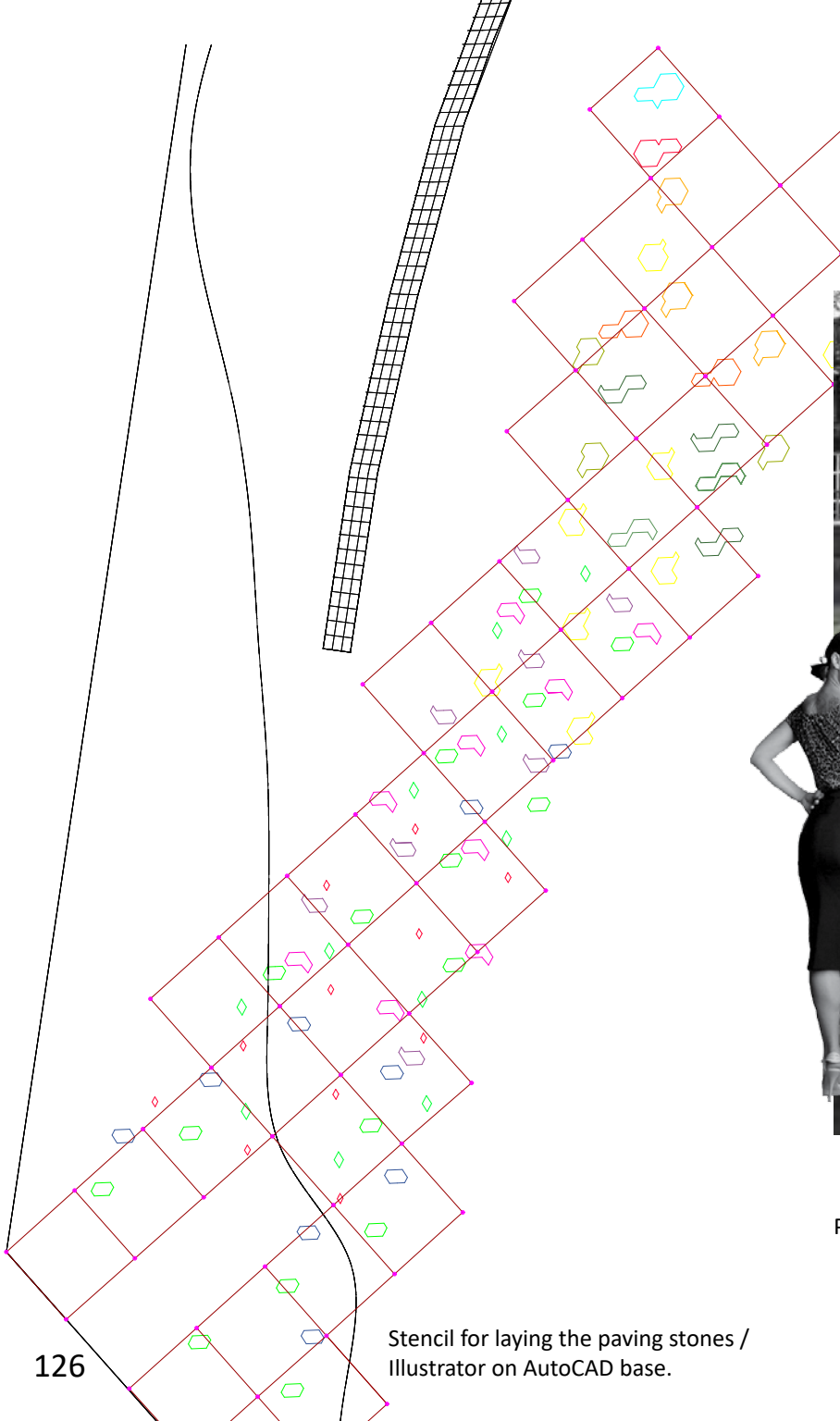


A yellow - green gradient highlights the transformations of the paving stones / Illustrator.

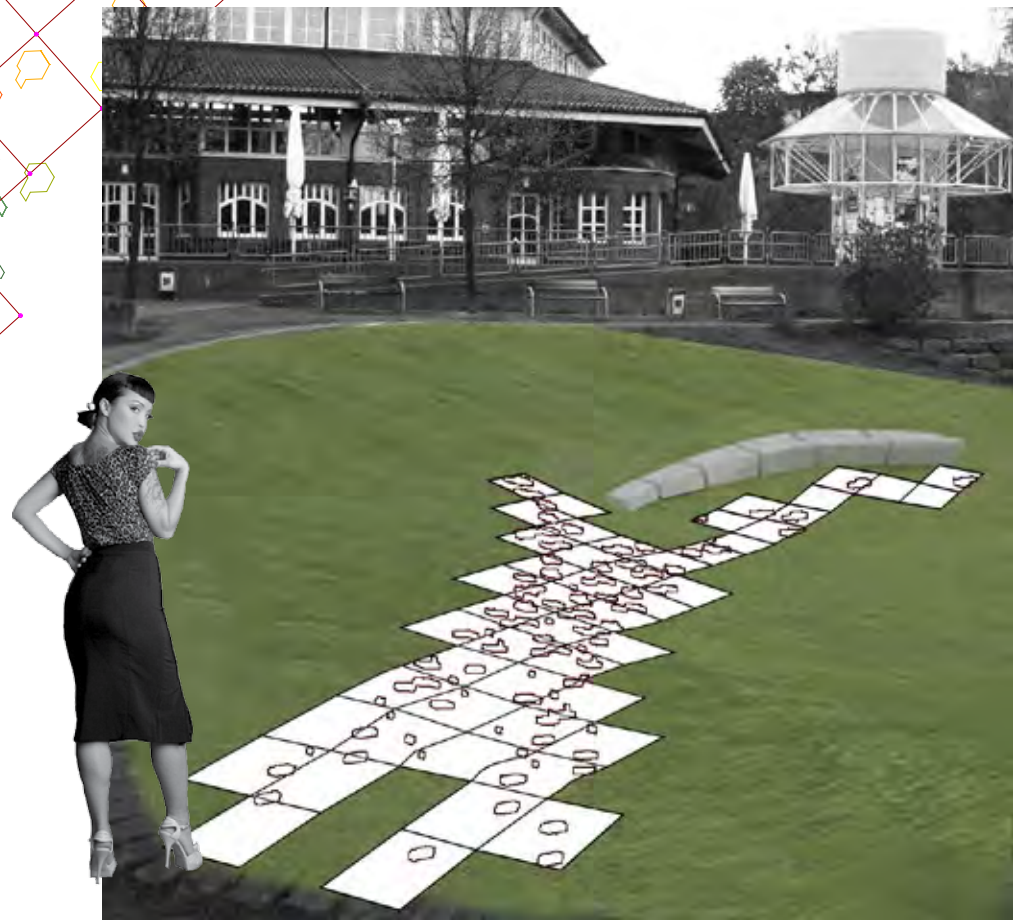
Design development: Reduction to 98 paving stones



Integration of paving stones into the planning area / Rhino and Illustrator.

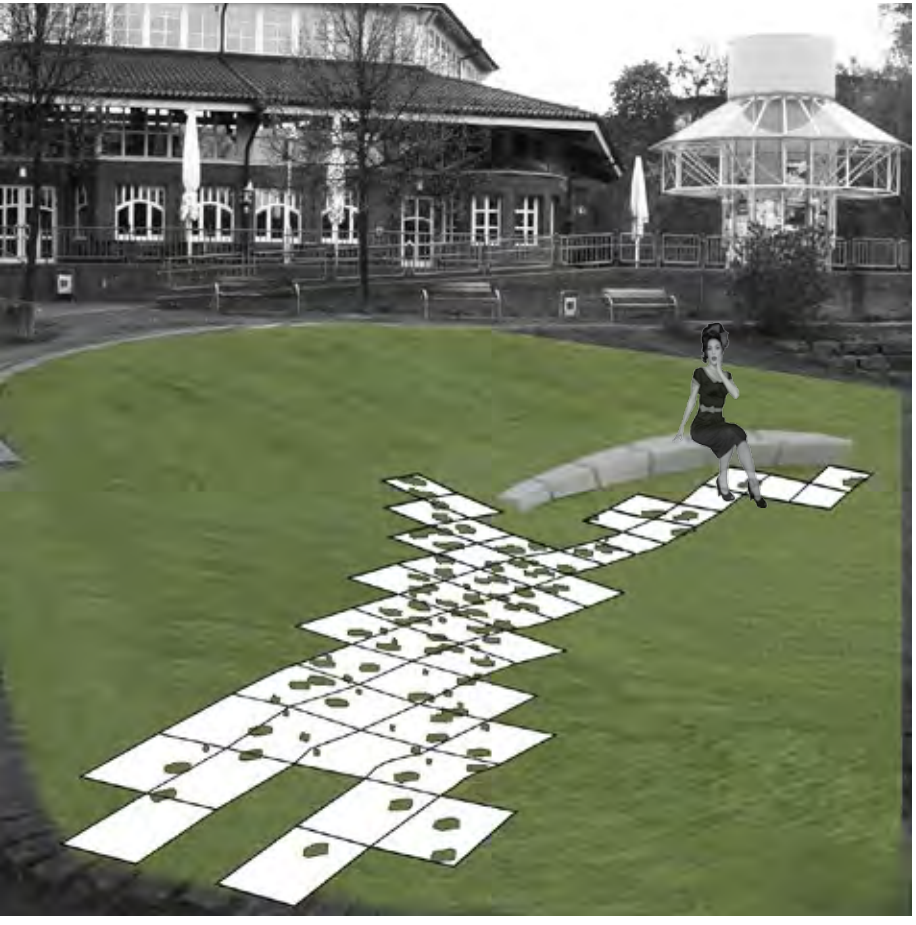


Stencil for laying the paving stones / Illustrator on AutoCAD base.

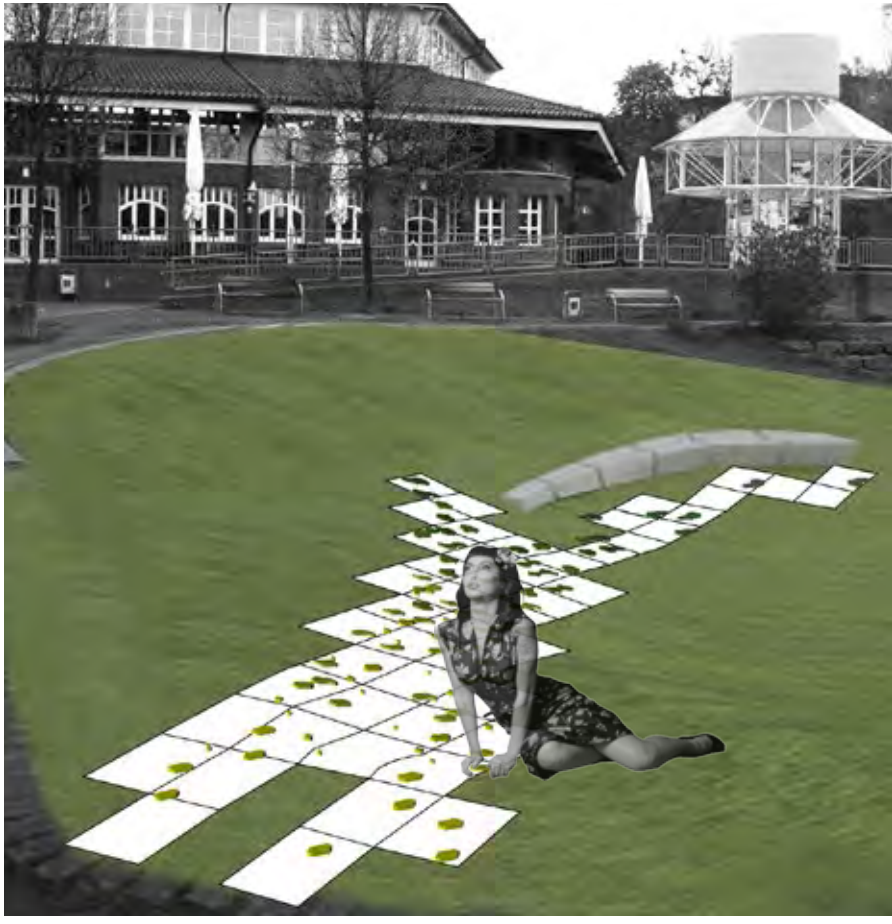


Placing the 1:1 stencil onto the slope / Photoshop.

Construction design: Position of the paving stones



Measuring the exact position of each paving stone / Photoshop.



Postioning the paving stones into individual concrete foundations / Photoshop.

Design presentation: Renderings of the paving stones on the campus slope

Two intertwined strings of paving stones, one leading to the bench “sweep”, the other one connecting to the outdoor seats / Photoshop.

The entrance situation: the “sweep” bench is now connected to the surrounding through the paving and does not “swim” in the lawn anymore.

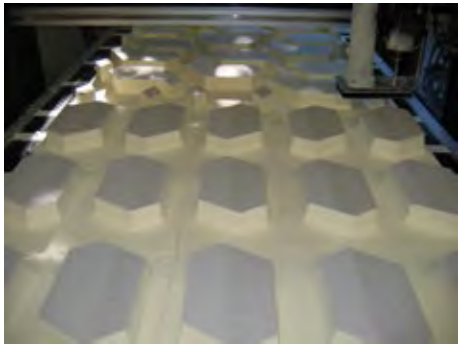
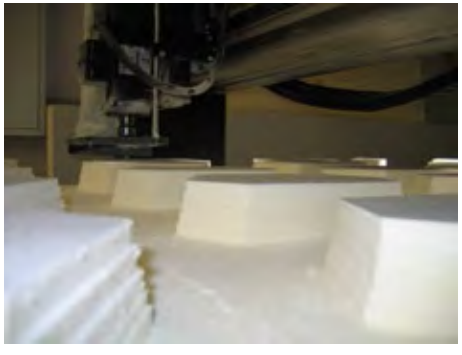
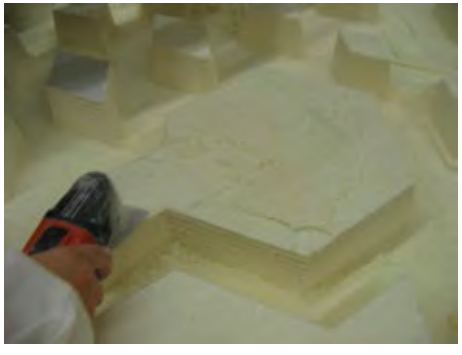
The exit situation: the “flowing forms” connect to the regular campus paving towards the library and the cafeteria / Photoshop.

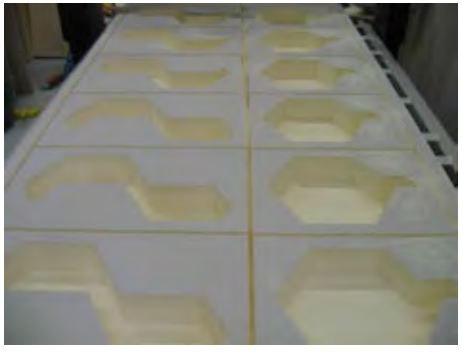
The fresh colour gradient from yellow to green is visible all four directions and invites students to sit and rest on the lawn / Photoshop.

Construction process

1. CNC Milling



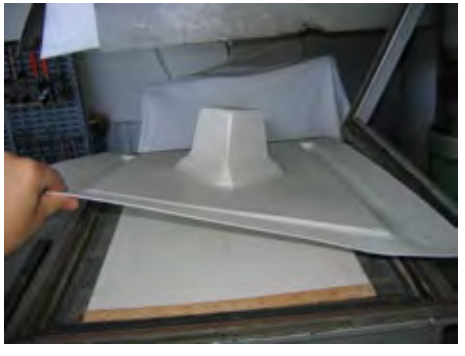
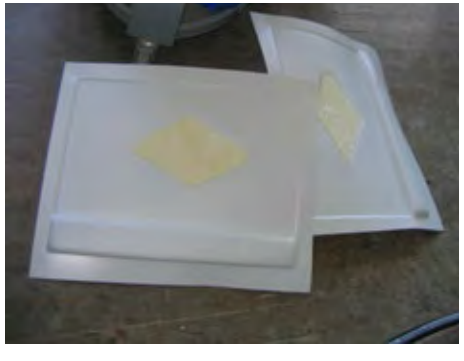





2.Thermo-Forming





Construction process

3. Pigment experiments

Pigment		Yellow 1	Yellow 2	Yellow-Green 1	Yellow-Green 2	Green 1	Green 2
Yellow 910	%	1,00	3,00	2,25	1,50	0,75	---
	g / Mixture	200,00	600,00	450,00	300,00	150,00	---
Chromoxide Green	%	---	---	0,75	1,50	2,25	3,00
	g / Mixture	---	---	150,00	300,00	450,00	600,00
Ratio Yellow 910 / Chromoxide Green		100 / 0	100 / 0	75 / 25	50 / 50	25 / 75	0 / 100

Pigmentation mixture ratio of the 6 color levels, plus 15 kg sand, 5 kg white cement and approximately 5 l water per each mixture. Four of these mixtures (25 l each) were loaded into a concrete mixer (140 l). Between 2 (Yellow-Green 1, 5 big stones) to 6 (Yellow 1, 47 small stones) of these loads were needed for each color series / Excel.

4. Pouring concrete

Construction process

5. Site preparation









6. Laying the stones









Construction process

7. Finishing









8. Maintenance control after one and three months

“Landscapes evolve from the mind...”

- Lucius Burckhardt -