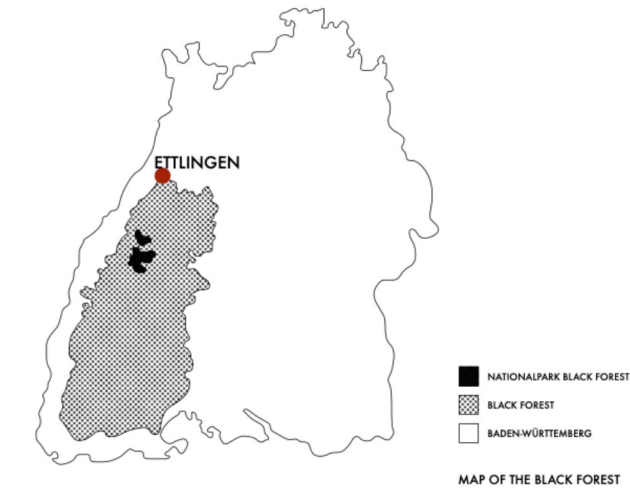


ROTER FADEN

SPINNING MILL ETTLINGEN

BLUE GREEN TRANSFORMATION

ELENA JAWORSKI | LILITH WAGNER



SITUATION & CONTEXT

The area's unique location on the border of the Black Forest marks the transition from the forest's natural landscape to the urban area of Ettlingen. The Alb river reflects this, originating in the forest and reaching the Blies near Karlsruhe. Currently, the area is mainly used for industrial and wholesale purposes, meaning the location's potential remains unused. The design aims to activate the area for tourism and leisure activities, creating an attractive living and working environment. To achieve this, two former industrial sites – the former bleachery and the former weaving mill – will be transformed into gateways to the city and nature. This will involve creating a cultural centre and an information centre about the nature and habitats of the Black Forest. A new path along the Alb, the 'Rote Faden', has been created to serve as the main access and activation route through the area.

FOCUS AREA

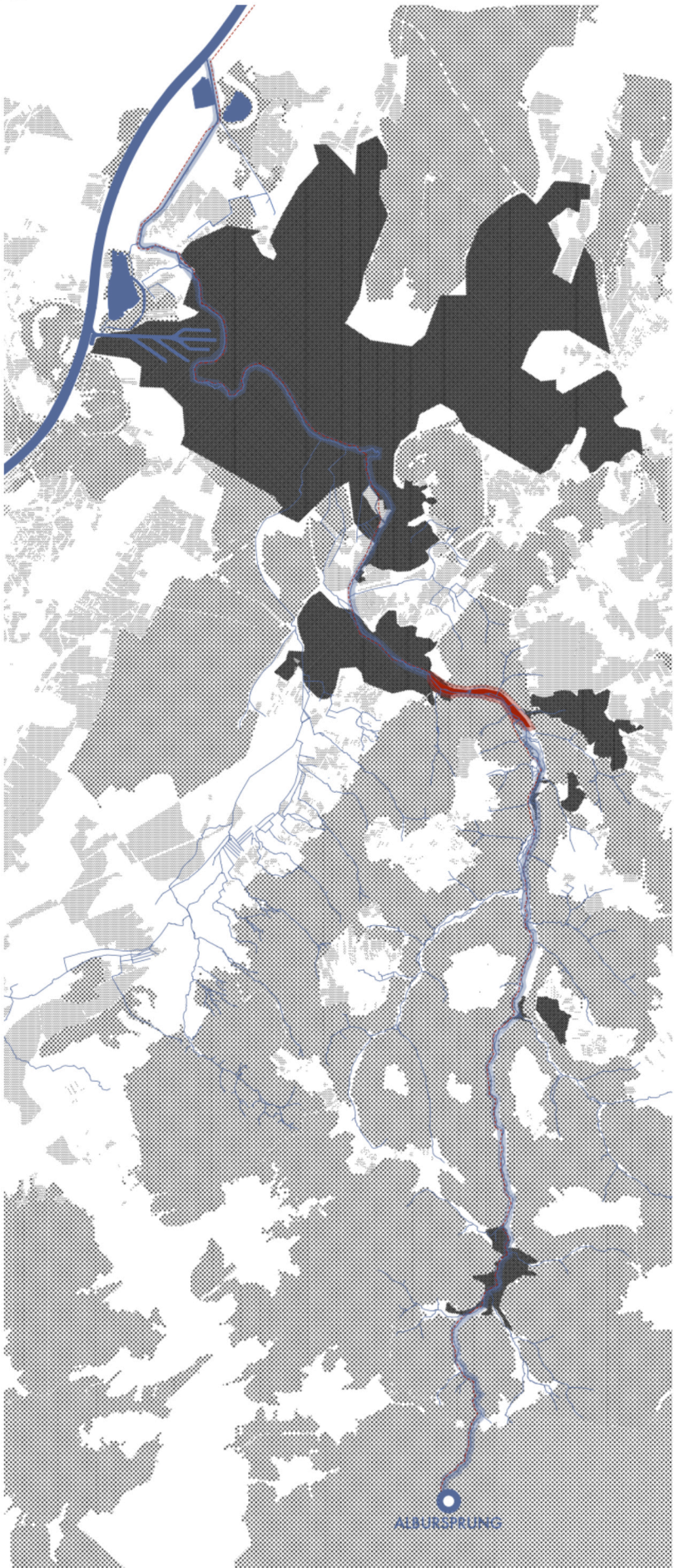
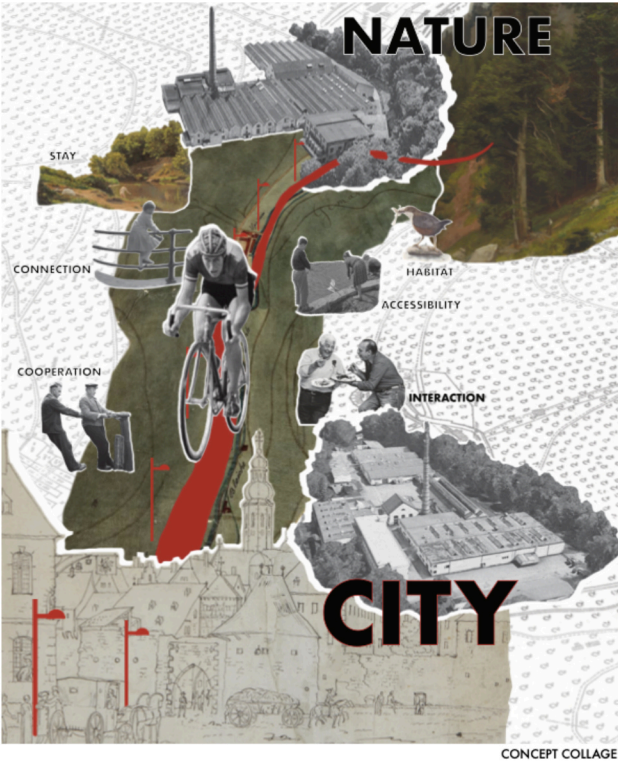
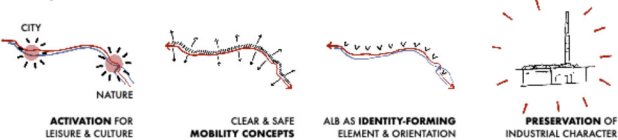
The orientation and activation of the 'Rote Faden' is apparent within the focus area. The former bleachery has been converted into a cultural center offering space for events, restaurants, studios, exhibitions, kindergartens and music rehearsal rooms. On the opposite bank, the path widens into a promenade with a public ground-floor area and providing steps for seating and leading down to the Alb. The promenade provides access to a new business district, where crafts, research and development can collaborate. To the east, a new residential district is under construction, providing 132 residential units of various sizes. These will revitalise the area and provide social monitoring. The V-shaped, staggered layout of the buildings responds to the challenges posed by the noisy street to the north and the tranquil, high-quality Alb to the south of the area. It offers the same living conditions to all inhabitants.

ROTER FADEN

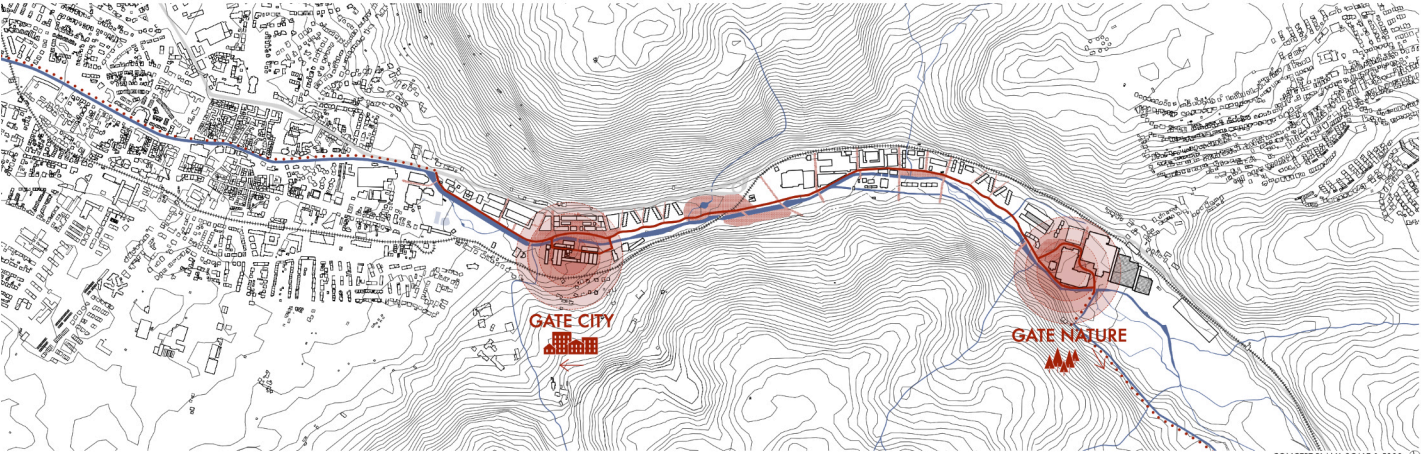
In German, the term 'Roter Faden' refers to the logical connection between various sections of a text, from the introduction to the conclusion. This ensures that the text remains easy to understand and helps the reader to follow the main idea. As a plot and concept, the 'Roter Faden' can also serve as a basic motif or guideline that runs through a series of actions or considerations. Within the design area, the 'Rote Faden' serves as a guide and runs alongside the river – the blue thread – which was historically the connecting link of the original textile industry. All areas can be accessed from the path. Its colour and recurring elements, such as street lighting and furniture, provide a clear and reliable orientation model which continues sporadically throughout the city and forest alongside the Alb. The planting of new trees along the path and at the corners of the transverse axes reinforces clear orientation. The path widens repeatedly to create spaces for lingering and meeting others.

WATER

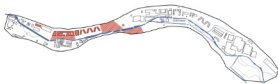
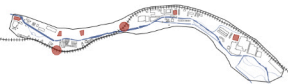
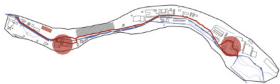
The Alb becomes the central element of the area again. The analysis shows this was also the case historically, as the textile industries used the Alb for hydropower. Later industries and businesses oriented themselves towards the main road, shifting the focus away from the Alb. The river poses challenges in terms of flood protection, with measures being taken such as widened river cross-sections, infiltration areas, and natural bank design. Attention is being paid to accessibility to the water and the quality of the waterfront, in order to exploit the river's potential for local recreation.



CONCEPT



CONCEPT PLAN | SCALE 1:5000



01

POINTS OF ATTRACTION

ACTIVATION OF CULTURAL CENTER (OLD BREACHERY) & NATURE EXPERIENCE & LEISURE CENTER (OLD WEAVING MILL) AS POINTS OF ATTRACTION AND GATEWAYS TO THE CITY & NATURE.

DISMANTLING OF CAR DEALERSHIPS, CONVERSION OF OLD PRINTING WORKS INTO TEMPORARY URBAN MINING WAREHOUSE.

IMPLEMENTATION OF "ROTER FADEN" AS MAIN AXIS AND ACTIVATION STRAND ALONG THE RIVER.

CHANGES TO THE RIVERBANK DESIGN WITH ATTENTION PAID TO ACCESSIBILITY AND INCREASED FLOOD PROTECTION.

02

MOBILITY

IMPLEMENTATION OF TWO NEW STOPS OF THE ALSTADBAHN.

BUILDING OF MOBILITY HUBS, PARKING SPACES, CAR-SHARING SERVICES, COMMUNAL GROUND FLOOR WITH SOCIAL INFRASTRUCTURE.

03

NEW HOUSING & COMMERCIAL AREAS

DEVELOPMENT OF NEW PRODUCTIVE QUARTER OPPOSITE OF THE NEW CULTURAL CENTER (REUSE OF OLD BUILDING PARTS FROM URBAN MINING WAREHOUSE).

TO ITS EAST ESTABLISHMENT OF NEW HOUSING QUARTER WITH COOPERATIVE HOUSING FOR REVITALIZATION & SOCIAL SURVEILLANCE.

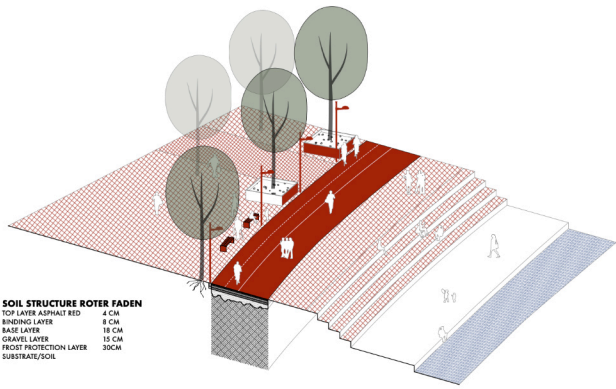
DEVELOPMENT OF CENTRALLY LOCATED PARK AS PUBLIC GREEN SPACE.

04

CONVERSION & EXPANSION

DENSIFICATION OF EXISTING RESIDENTIAL AREA, CREATION OF A NEW QUARTER CENTER, CONVERSION OF INDUSTRIAL HALLS INTO ADDITIONAL LIVING & WORKING SPACES AND MAKING SPACE FOR NATURE.

ROTER FADEN



TOOLKIT

COLOR CODING
ORIENTATION, REGIONAL AND HISTORICAL CONNECTION (QUARRY)

PATH LIGHTNING
ORIENTATION, SAFETY

URBAN FURNITURE
ORIENTATION, QUALITY OF STAY

TREE POT MARKING
ORIENTATION, QUALITY OF STAY

TREE AVENUE
ORIENTATION, SHADE, QUALITY OF STAY

DEFINED MOVEMENT AREAS
ORIENTATION, SAFETY

AXES
ORIENTATION, ACCESSIBILITY

WIDENINGS
ACTIVATION, STAY

ACTIVITY AREAS
ACTIVATION, STAY

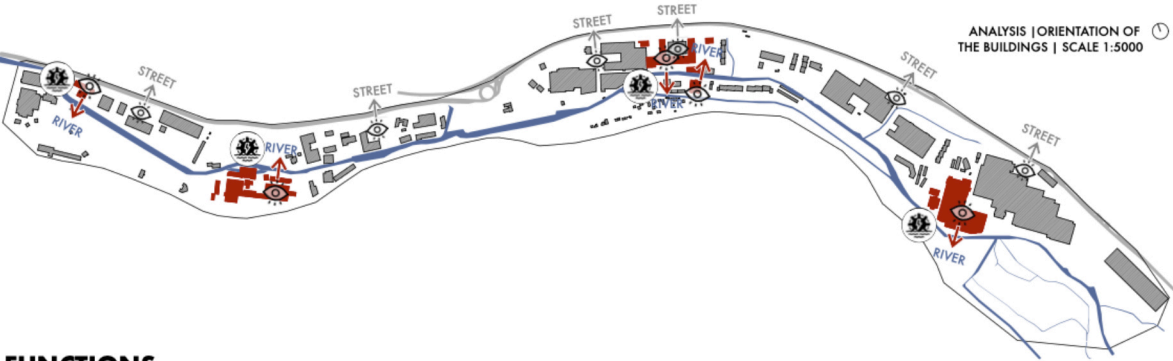
ORIENTATION BUILDINGS
ORIENTATION, ACCESS, QUALITY

CONNECTION TO RIVER
ORIENTATION, STAY, REGIONAL AND HISTORICAL, IDENTITY-FORMING

ACCESS TO RIVER
ACCESS, STAY

ANALYSIS & CONCEPT

ORIENTATION



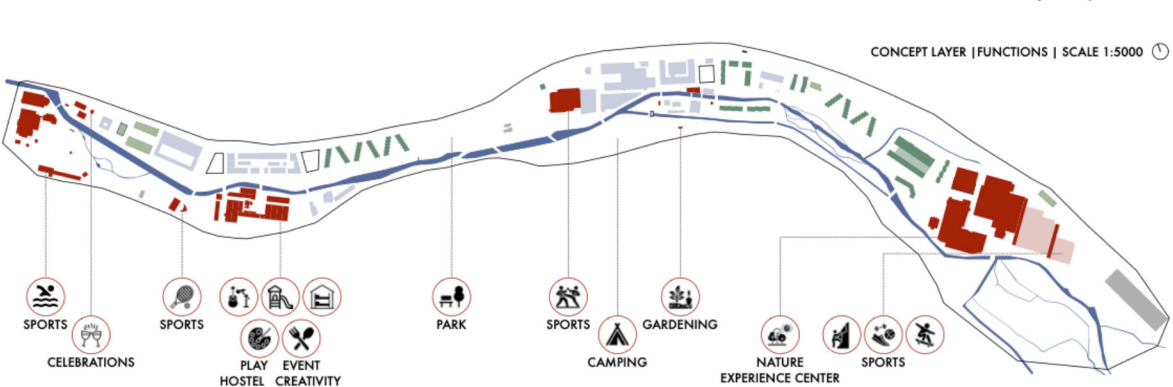
THE RIVER WAS HISTORICALLY THE REASON FOR SETTLEMENT OF THE TEXTILE INDUSTRY IN THE ALBTAL VALLEY. THEREFORE THE FIRST BUILDINGS WERE BUILT ORIENTED TOWARDS THE RIVER USING IT FOR HYDROPOWER. LATER BUILDINGS ORIENTED AWAY FROM THE RIVER TOWARDS THE MAIN STREET SHIFTING THE FOCUS AWAY FROM THE RIVER.

FUNCTIONS



74%
11% 7% 5% 3%

THERE ARE NO CLEAR USAGE REGULATIONS WHICH LEADED TO A PATCHWORK QUILT OF USES. NOWADAYS THE AREA IS PREDOMINANTLY USED FOR INDUSTRY & COMMERCE WITH A LITTLE BIT OF RESIDENTIAL USE. POTENTIAL OF THE AREA IS CURRENTLY NOT USED.

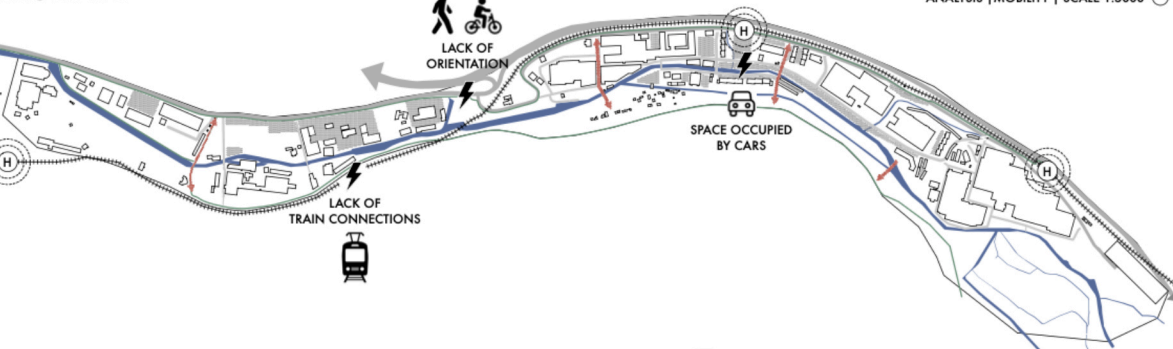


LEISURE/CULTURE
HOUSING
WORK
INDUSTRY/WHOLESALER
OTHERS

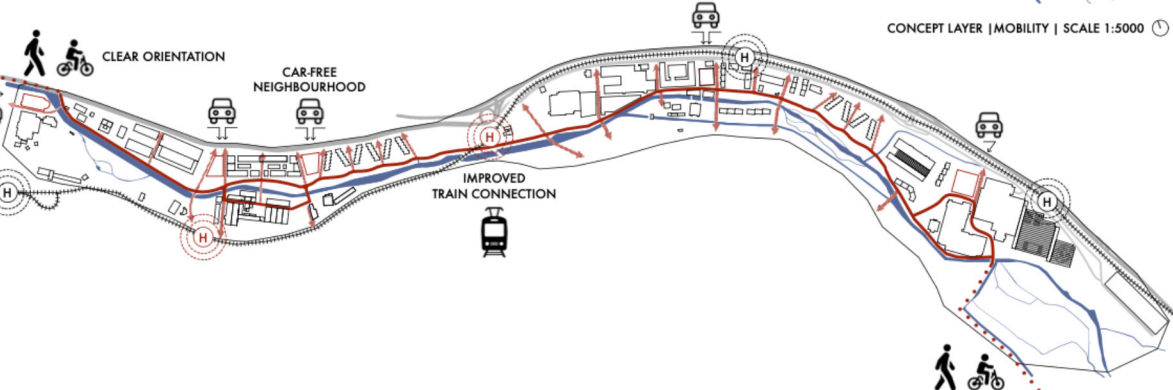
48%
27% 14% 7% 4%

THE NEW USES TAKE FULL ADVANTAGE OF THE LOCATION'S POTENTIAL. CULTURAL AND LEISURE ACTIVITIES IN PARTICULAR ARE BEING STRENGTHENED, AND THE AREA IS ALSO BEING REDESIGNED TO BECOME AN ATTRACTIVE PLACE TO LIVE AND WORK.

MOBILITY



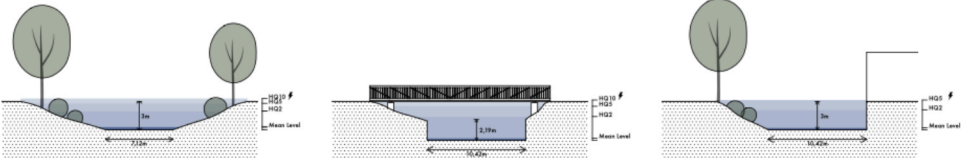
THE PEDESTRIAN & BIKE TRAFFIC IS PARTLY UNCLEAR AND DISTURBED BY UNSAFE CROSSING POINTS & NOT BEING A SEPERATE PATH THROUGHOUT. ONLY FEW CROSS-AXES ALLOW OPPORTUNITIES TO CROSS THE AREA TRANSVERSELY. LONG DISTANCES BETWEEN THE TRAINSTOPS LEAD TO THE WESTERN PART BEING POORLY CONNECTED TO THE LOCAL PUBLIC TRANSPORTATION NETWORK. CARS OCCUPY A LARGE AMOUNT OF SPACE IN FORM OF PARKING SPACES AND ROADS FOR CAR & TRUCK TRAFFIC.



RIVER
PARKING SPACE
TRAINSTOP
TRAINSTOP NEW
BIKE PATH
CROSS-AXES
ALBTALBAHN
MAIN STREET
CAR & TRUCK TRAFFIC
NEIGHBORHOOD GARAGE
ACCESS CAR TO AREA
"ROTER FADEN" - MAIN AXIS

THE "ROTE FADEN" WILL BE IMPLEMENTED AS THE NEW MAIN AXIS FOR PEDESTRIANS AND CYCLISTS THROUGH THE AREA. THE AREA WILL BE KEPT CAR-FREE, WITH CARS BEING COLLECTED IN NEIGHBORHOOD GARAGES WITH PUBLIC FUNCTIONS ON THE GROUND FLOOR. CONNECTIONS TO LOGAL TRANSPORT WILL BE IMPROVED BY CREATING TWO NEW TRAINSTOPS

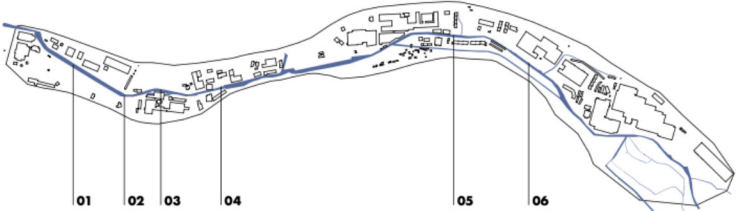
WATER



01 SWIMMINGPOOL
RIVERBED HOLDS UP TO HQ 10

02 TENNIS COURT
RIVERBED HOLDS UP TO HQ 10

03 OLD BLEACHERY
RIVERBED HOLDS UP TO HQ 5



01

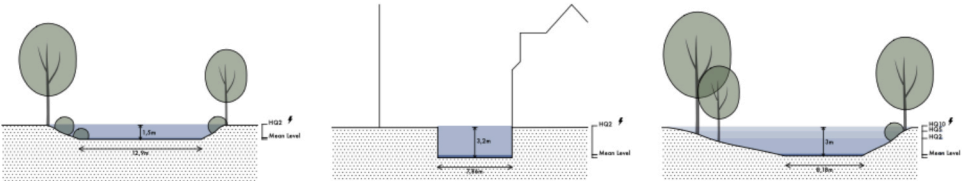
02

03

04

05

06

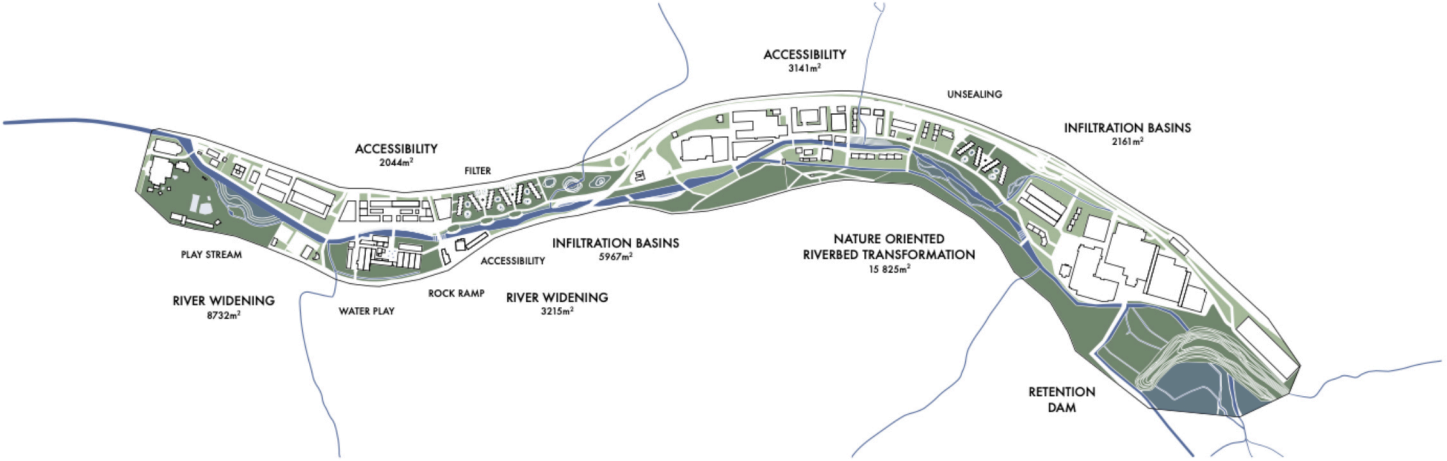


04 CAR DEALER
RIVERBED HOLDS UP TO HQ 2

05 OLD SPINNING MILL
RIVERBED HOLDS UP TO HQ 2

06 INDUSTRIAL BUILDINGS EAST
RIVERBED HOLDS UP TO HQ 10

ANALYSIS | RIVERCROSS-SECTIONS CURRENT STATE | SCALE 1:200



INFILTRATION BASINS
2161m²

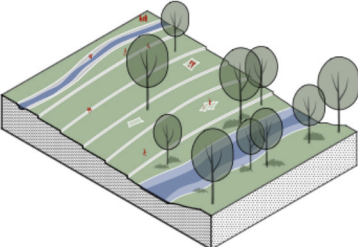
NATURE ORIENTED
RIVERBED TRANSFORMATION
15 825m²

RETENTION
DAM

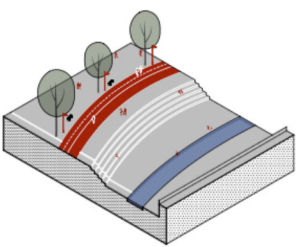
CONCEPT LAYER | USE ZONES | SCALE 1:5000

TOOLKIT WATER

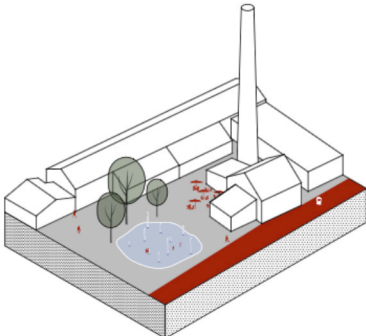
EXEMPLARY WITHIN THE AREA OF SPECIALIZATION



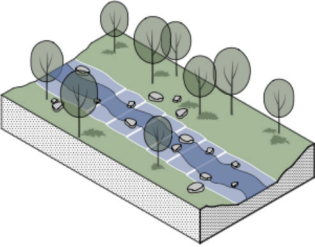
SWIMMINGPOOL
PLAY STREAM AND STEPS DOWN TO THE RIVER. SPACE FOR THE RIVER WHEN WATER LEVELS ARE HIGH AND IMPROVED QUALITY OF STAY.



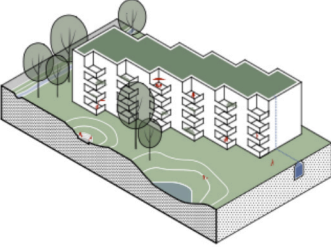
PROMENADE & TIERED SEATING
ACCESSIBILITY RIVER, MODIFIED RIVERBED TO ENSURE WATERLEVEL OF 55CM AT MEAN DISCHARGE.



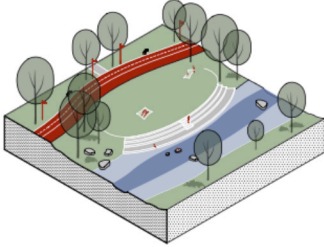
WATER FEATURE DIALOG SQUARE
MEETING POINT, COOLING DOWN, PLAY



ROCKRAMP
REMOVAL OF BARRIERS (WEIRS), MORE NATURAL RIVER DESIGN



HOUSING
INFILTRATION BASINS (MULTIFUNCTIONAL USE - FIRE PIT, PLAY AREA) FOR COLLECTING RAINWATER & FILTERING CONTAMINATED STREET WATER, GREEN ROOFS, WATER COLLECTION IN CISTERNS.



PICNIC ISLANDS
STAY, RELAX, ACCESS TO WATER

CALCULATION

Q = CIA (rational method)

C runoff coefficient: 0,1925

Landuse	Fraction (%)	Coefficient	Contribution
Residential	5	0,5	0,025
Agriculture	5	0,5	0,025
Meadows	15	0,25	0,0375
Forests	30	0,2	0,06
Forests (flat)	45	0,1	0,045

I rainfall intensity (m/s): $7,16666666666667 \times 10^4$
heaviest rainfall over the last 15 years in Bad Hertenalb 25.8mm

A drainage area: ca. 13.900 ha

Q discharge: ca. 192 m³/s

Mean discharge MQ 2.39 m³/s

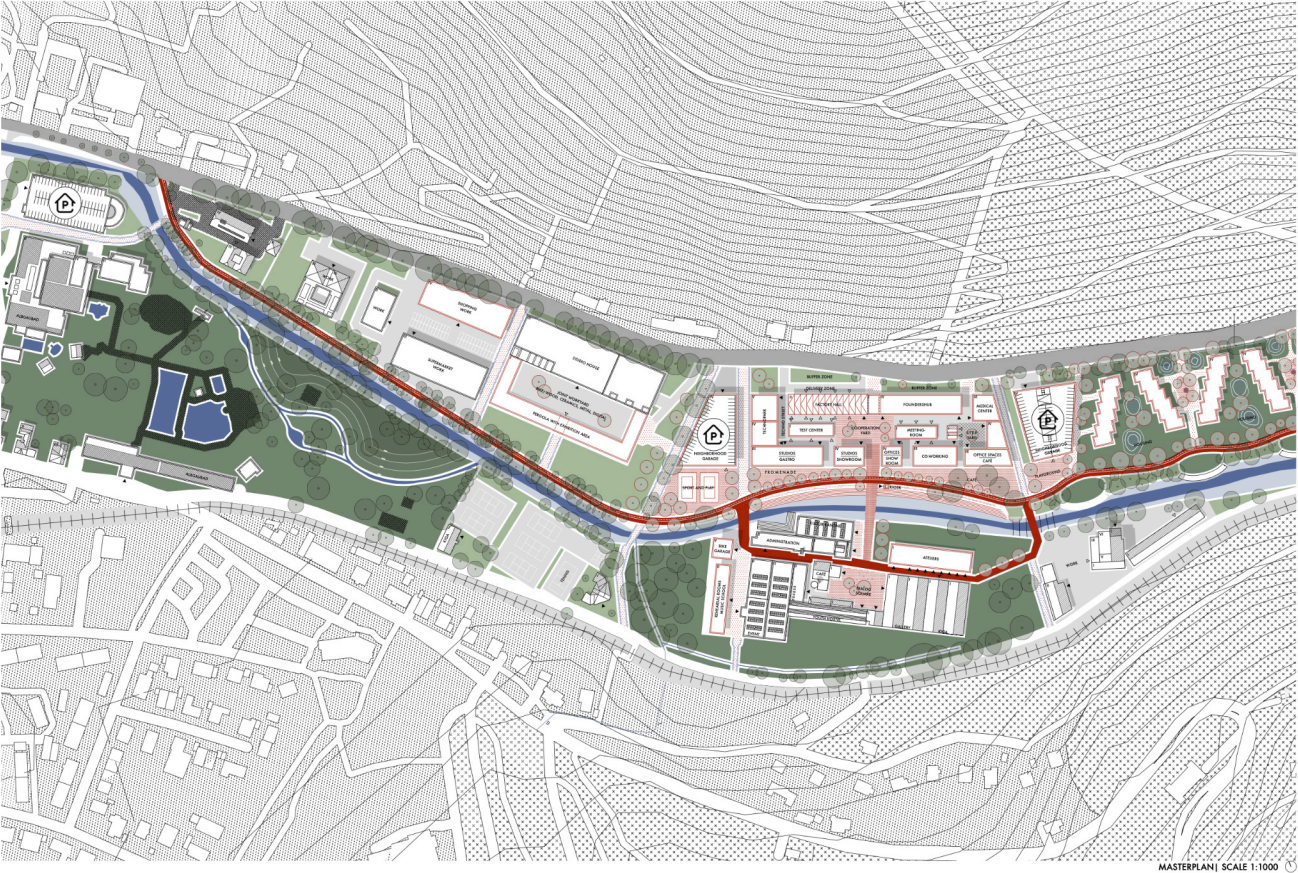
FLOOD DISCHARGE

100-year flood discharge	HQ 100	97.1 m³/s
50-year flood discharge	HQ 50	83.6 m³/s
20-year flood discharge	HQ 20	66.7 m³/s
10-year flood discharge	HQ 10	54.6 m³/s
5-year flood discharge	HQ 5	42.7 m³/s
2-year flood discharge	HQ 2	26.5 m³/s

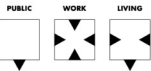
IN ITS CURRENT STATE, THE RIVERBED CAN ONLY HOLD WATER MASSES UP TO A LEVEL OF A 2-YEAR FLOOD DISCHARGE. TO REDUCE THE RISK OF MAJOR FLOODING, THERE ARE PLANS TO BUILD A LARGE DAM AT THE EASTERN ENTRANCE TO THE AREA. THIS CAN EFFECTIVELY HOLD BACK LARGE VOLUMES OF WATER FROM ETTUNGEN AND KARLSRUHE. AT THE SAME TIME, HOWEVER, AN IMPORTANT NATURAL AREA WOULD ALSO BE FLOODED. TARGETED MEASURES SHOULD BE TAKEN TO PREVENT THE CLOSURE OF THE DAM FOR AS LONG AS POSSIBLE.

SEVERAL MEASURES WILL BE TAKEN TO GIVE THE RIVER MORE SPACE AND IMPROVE THE LOCAL MICROCLIMATE. A TOTAL OF APPROXIMATELY 40 737 M³ OF ADDITIONAL VOLUME WILL BE CREATED, WHICH WOULD BE FILLED IN APPROXIMATELY 42 MINUTES IN THE EVENT OF A 5-YEAR FLOOD. FOR MAJOR INCIDENTS AND LONGER DURATIONS, THE DAM WOULD HAVE TO BE CLOSED. THE DEVELOPMENT OF THE AREA COULD HOWEVER ALSO SERVE AS A MODEL FOR OTHER WATER-SENSITIVE DEVELOPMENT PROJECTS ALONG THE ALB, IMPROVING THE FLOODING SITUATION SIGNIFICANTLY. BASIC MEASURES SUCH AS UNSEALING, GREEN ROOFS AND INFILTRATION BASINS PROVIDE IMPROVED FLOOD PROTECTION AND HELP TO STORE WATER LOCALLY IN THE SOIL ON HOT SUMMER DAYS.

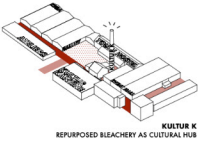
MASTERPLAN



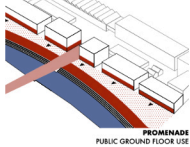
MASTERPLAN | SCALE 1:1000



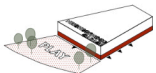
MATRIX
REPETITIVE SYSTEM



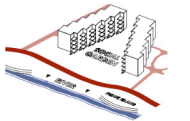
KULTUR K
REPURPOSED BLEACHERY AS CULTURAL HUB



PROMENADE
PUBLIC GROUND FLOOR USE



NEIGHBORHOOD GARAGE
SOCIAL MEETING POINT



HOUSING
EQUAL LIVING STANDARDS
PICTOGRAMS



SECTION A-A | SCALE 1:1000

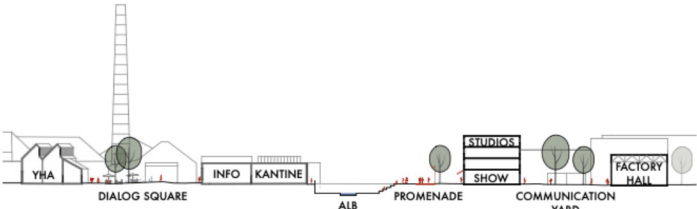
PRODUCTIVE CITY



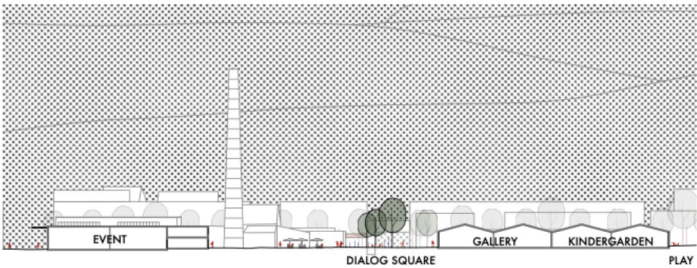
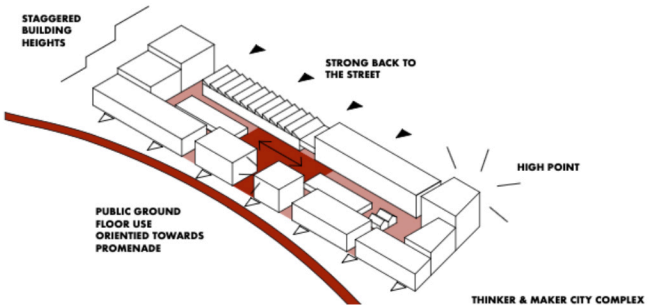
GROUND FLOOR PLAN CULTURE AND WORK | SCALE 1:500



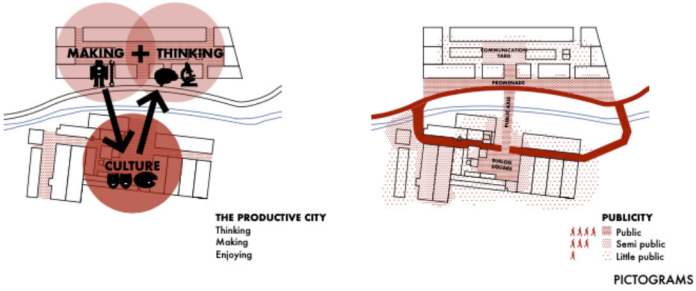
ATMOSPHERE ON THE DIALOG SQUARE



SECTION A-A | SCALE 1:500



SECTION B-B | SCALE 1:500



PICTOGRAMS

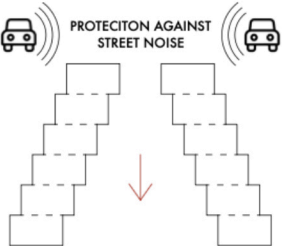
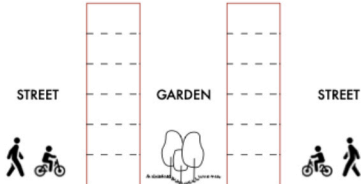
HOUSING



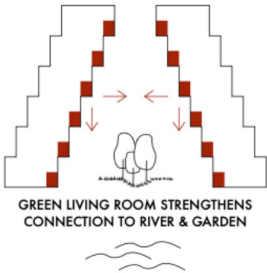
GROUND FLOOR PLAN HOUSING | SCALE 1:200



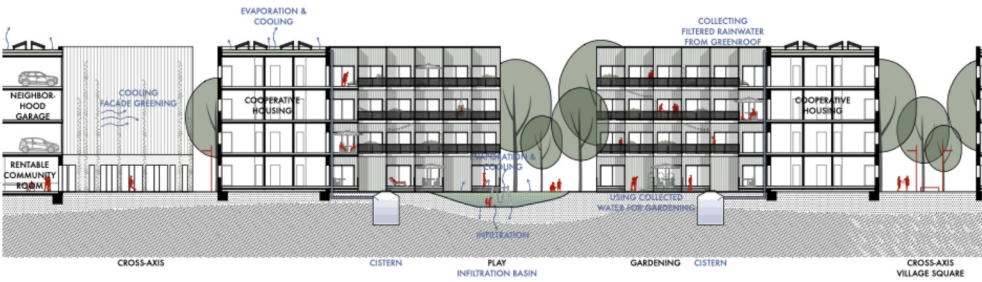
REGULAR FLOORPLAN HOUSING | SCALE 1:200



ORIENTATION TOWARDS THE RIVER



PICTOGRAMS



SECTION CC | SCALE 1:200

