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INTRODUCTION

Our team has been part of an exiting process. A process of producing, testing and evaluating prototypes for strongly sustainable urban districts with Norra Kymlinge as an applied example.

Norra Kymlinge offers unique potential to develop leading edge knowledge and insights relating to truly sustainable districts. On a practical level, use can be made of the existing infrastructure to reduce the housing shortage.

Vasakronan owns the Norra Kymlinge area and is responsible for running this project. The municipality of Sundbyberg holds decision-making power regarding legally binding plans for the area. To date, no decision has been taken to commence formal planning work for Norra Kymlinge as the political parties in Sundbyberg have not been able to agree on a way forward. Certain forces in the municipality are in favour of allowing Norra Kymlinge to become part of the Igelbäcken nature reserve. Others are working to ensure planning commences to create a new city district in Norra Kymlinge.

Using the current conditions at Norra Kymlinge and in the municipal area generally as a starting point, Vasakronan has decided that the goal for the project should be as follows:

'Together with stakeholders and other parties, develop and disseminate knowledge in order to build a district that is at the very forefront in urban sustainability with Norra Kymlinge as an applied example.'

The project work is arranged into three phases:

1. Concept development – a sustainable district at the very forefront in urban sustainability (previous phase).
2. Production of a prototype for a sustainable district – 'Norra Kymlinge 0.7' (current phase).
3. Testing and development of a prototype for a sustainable district

Our team has together with two other international teams been part of an intensive workshop week where we've been focusing on phase 2 of the project work: Production of a prototype for a sustainable district – 'Norra Kymlinge 0.7'. In a period of two weeks after the workshop we have further developed the material into this final documentation: The **SUR + CITY**.

The **SUR + CITY** is our answer to the given task. But it's of course not a complete answer. The task is both global and local and we have tried to push the limits within Norra Kymlinge as far as possible within this limited amount of time. We see that the political discussion about seeing the whole of Kymlinge as a nature preserve demands a focus on the qualities of the landscape as the primary base for an urban development.

Our landscape development strategies, the prototyping toolbox and the strategic development plan are methods to reach all of the goals set out in the Specification 0.7. Our schematic way of illustrating this future life of Norra Kymlinge is a step towards prototyping a new urban typology, where any intervention in place should benefit the foundation of planet and people. This is the **SUR + CITY**!



1. PLANET & PEOPLE

SUR + CITY

THE DOUGHNUT

The conceptual model of the 'Doughnut' is being used as the starting point for the international workshop in Norra Kymlinge and the prototyping of the best sustainable district for the world.

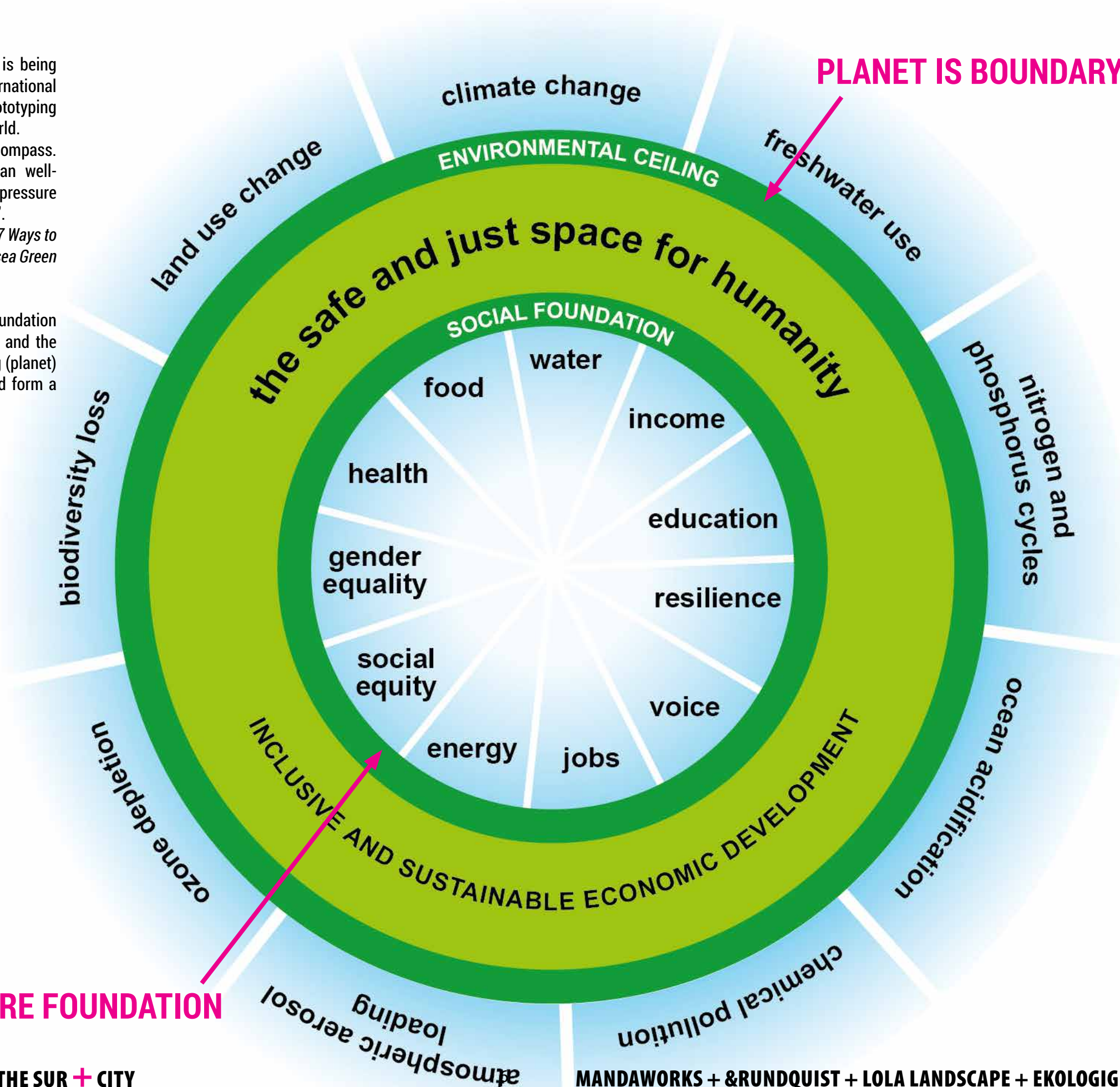
"The Doughnut: a twenty-first-century compass. Between its social foundation of human well-being and ecological ceiling of planetary pressure lies the safe and just space for humanity".

Raworth, K. (2017). *Doughnut Economics. 7 Ways to Think Like a 21st Century Economist*. Chelsea Green Publishing, Vermont, p. 38.

This clear distinction between the foundation being the social dimension (the people) and the boundary being the environmental ceiling (planet) we see as problematic since both should form a foundation that can be strengthened.

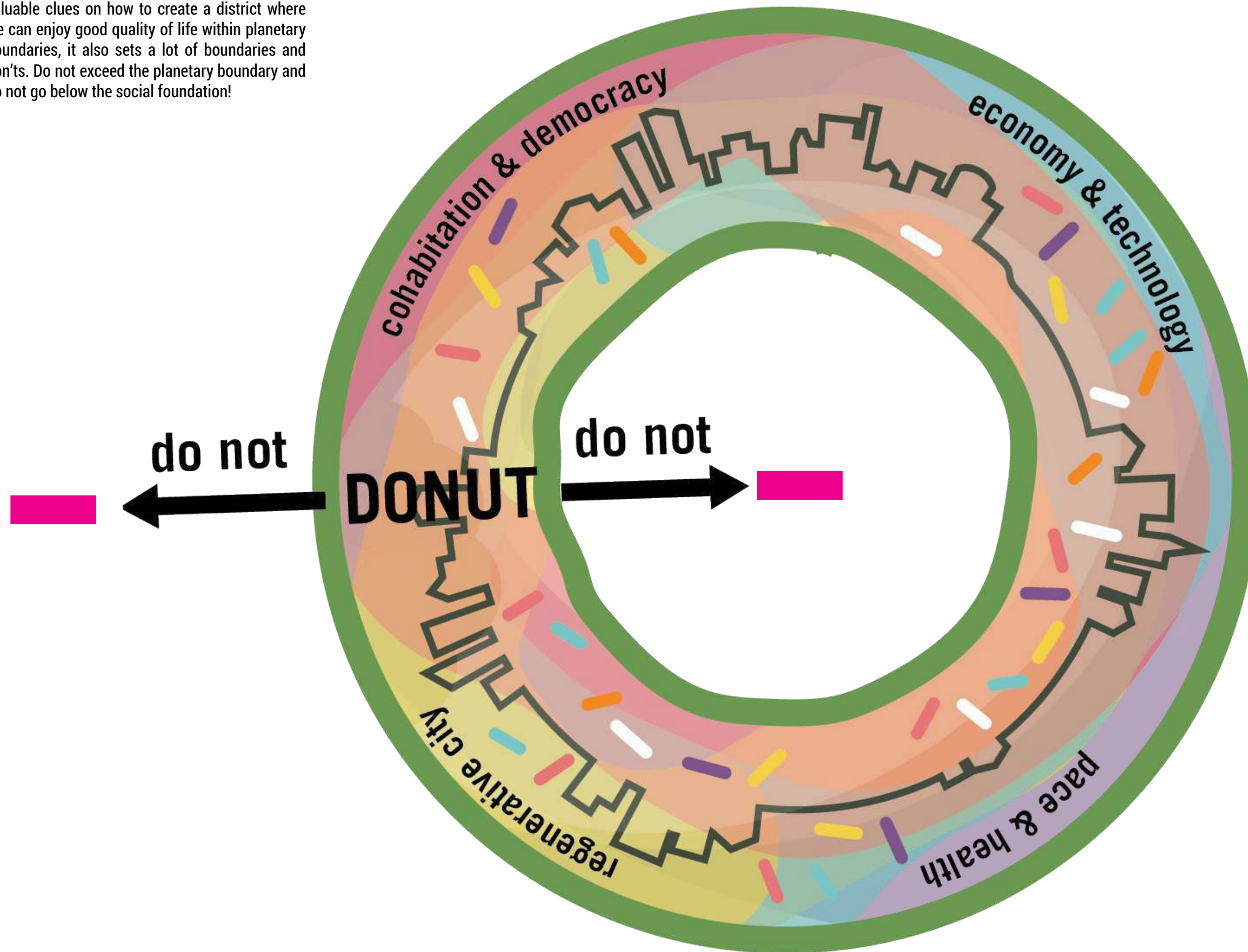
PEOPLE ARE FOUNDATION

PLANET IS BOUNDARY



DO NOT!

While the model of the Doughnut gives us valuable clues on how to create a district where we can enjoy good quality of life within planetary boundaries, it also sets a lot of boundaries and don'ts. Do not exceed the planetary boundary and do not go below the social foundation!

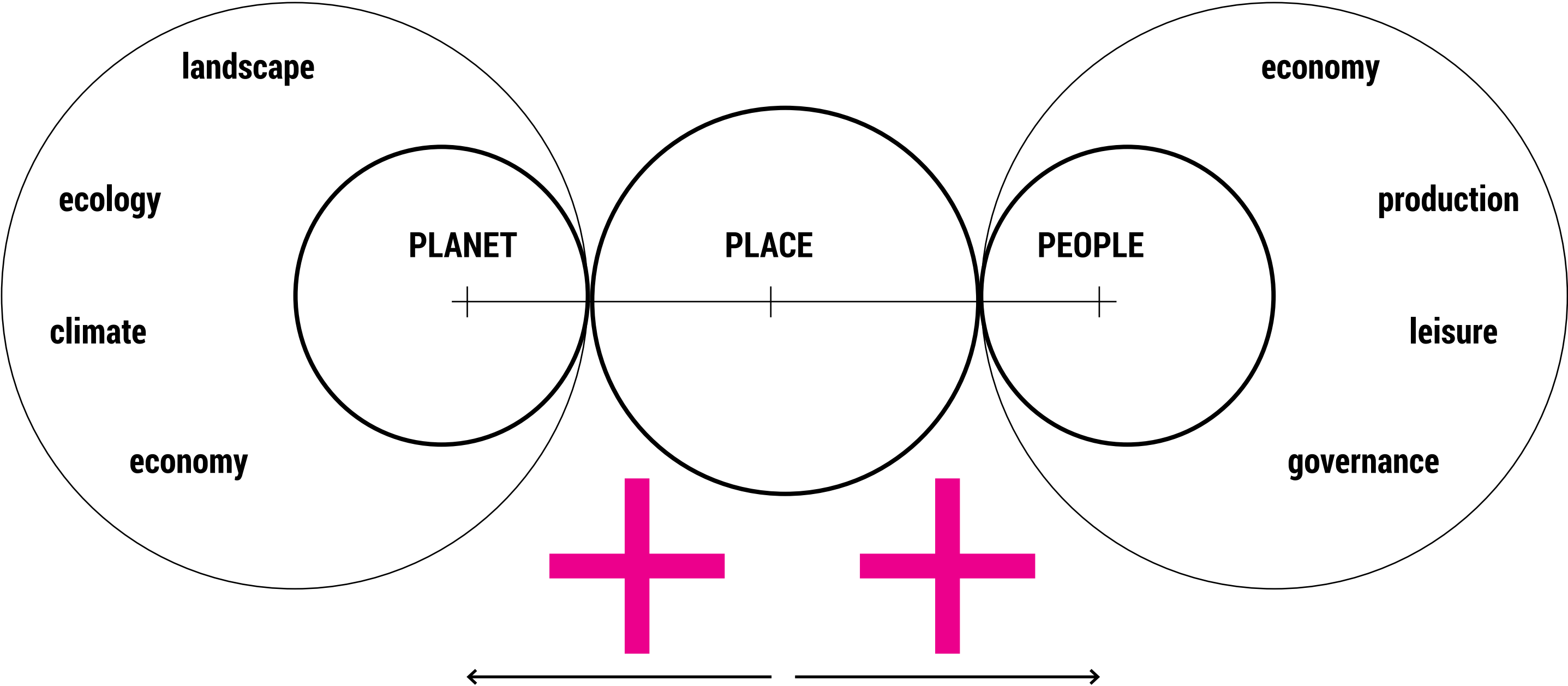


DO! DO MORE! THE SUR+CITY!

So what if we see both the planet and the people as the foundation of the place that can be strengthened by interventions. What if when we do these interventions, and when we do more, we create a city that adds value to landscape, ecology, climate, economy, production, leisure and governance?

That city we call the **SUR + CITY**

Our **SUR + CITY** is an ecosystem in constant state of change. Just like the forest around is constantly evolving and finding new nutrients, so our city will be based on an open model of adaptable & iterative development. **SUR + CITY** is the biggest testing ground for a circular economy and social life where we combine, connect and hybridize functions and uses to create something new all the time. "Beyond material life" **SUR + CITY** will work around socio-economic and cultural acupuncture energy nodes to give every inhabitant the possibility to achieve the best of their potential and a fulfilling life together. **SUR + CITY** is a highly connected environment with free and superfast digital networks reducing travel, joining isolated people, providing entertainment and learning, health and well being services and help new businesses flourish.



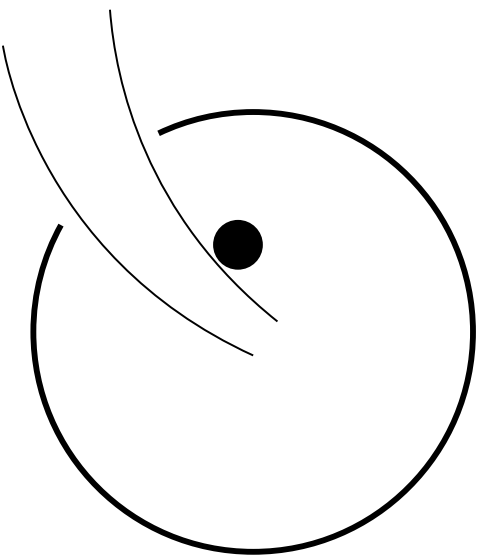
ANY INTERVENTION IN PLACE SHOULD BENEFIT FOUNDATION OF PLANET AND PEOPLE

PLANET: RELEVANT NATURAL CONDITIONS

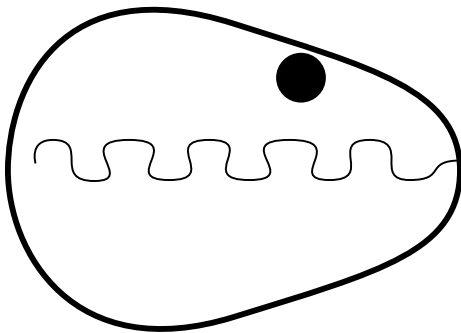
The valuable planetary conditions of Norra Kymlinge are these:

- The green wedge
- The Igelbäcken river basin
- The Sprickdalslandskap

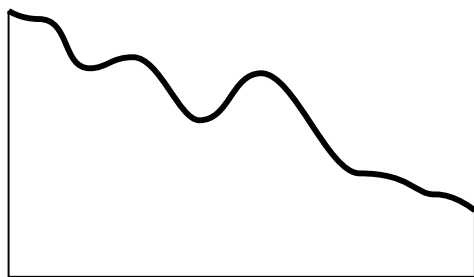
These valuable landscape systems interact with each other.



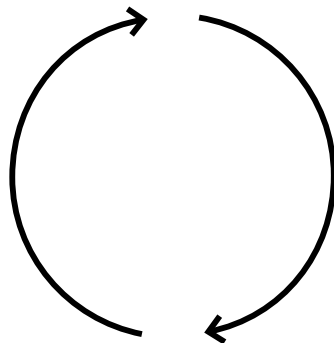
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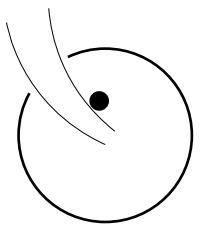
Green wedge

Igelbäcken river basin

Sprickdalslandskap

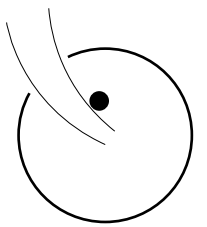
Interactions

THE GREEN WEDGE JÄRVASKILEN

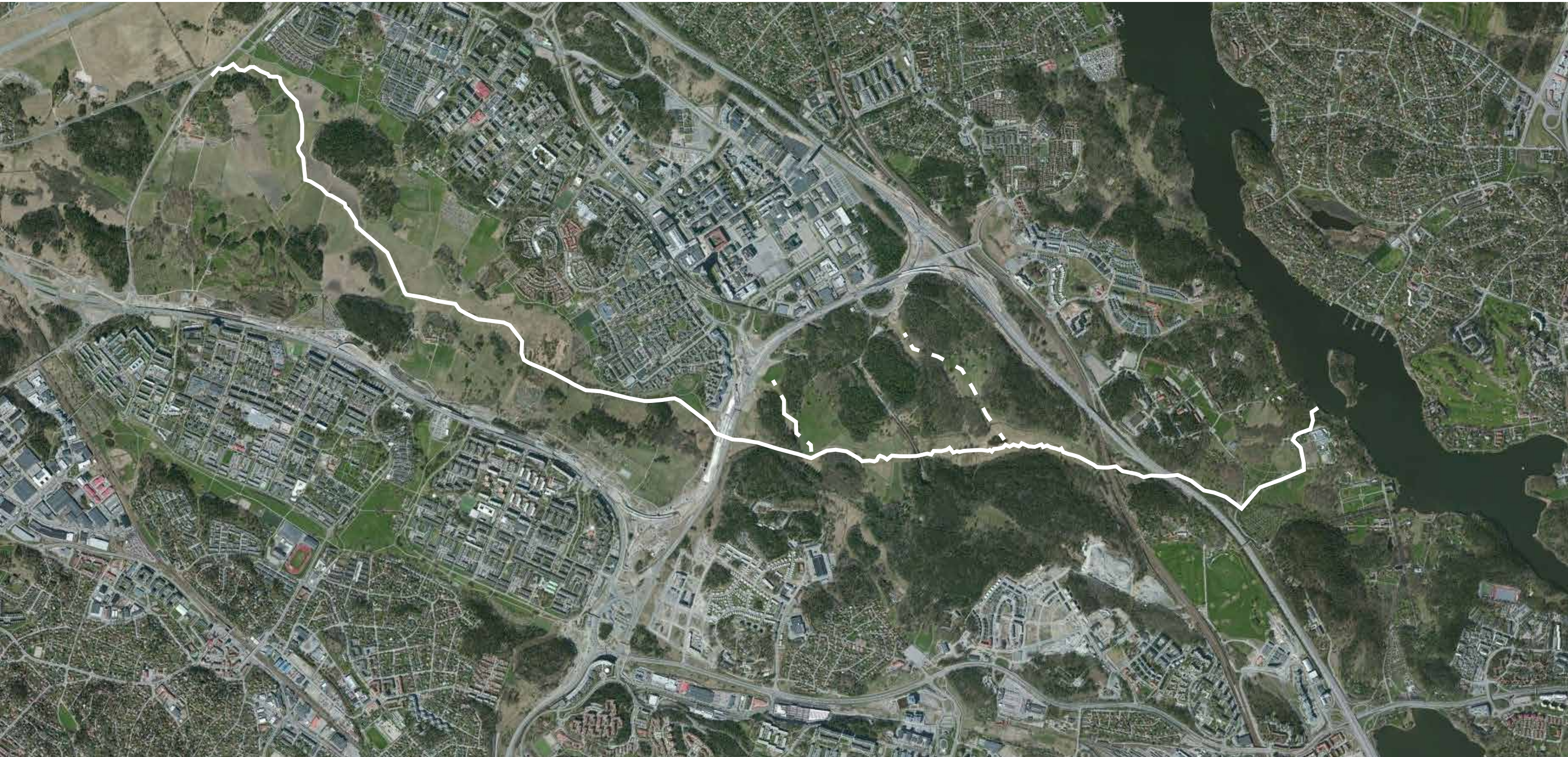
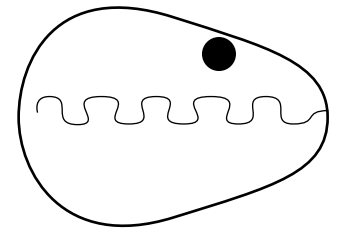


THE GREEN WEDGES ARE ESSENTIAL

- > The green wedges are essential for Stockholm for the quality of life
- > Their success depends on connections
- > It must be avoided that pieces are taken out
- + Their quality can be improved by adding pieces that are missing
- + Or by restoring connections that are lost

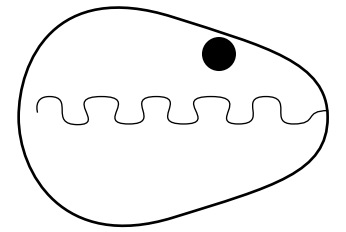


THE IGELBÄCKEN VALLEY IS THE LANDSCAPE BASIS

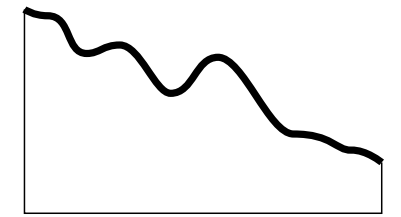


THE IGELBÄCKEN VALLEY IS THE LANDSCAPE BASIS

- > The Igelbäcken valley is essential to the landscape ecology
- > It must be avoided that it will be obstructed (by infrastructure)
- + The quality can be improved by removing the storm pipe underneath for more wet conditions
- + The quality can be improved by providing additional wet conditions/connectings uphill

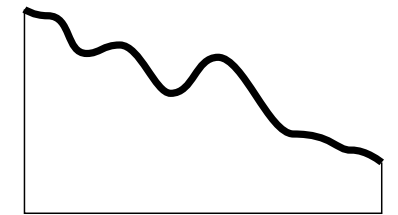


THE NATURAL STOCKHOLM BIOTOPE

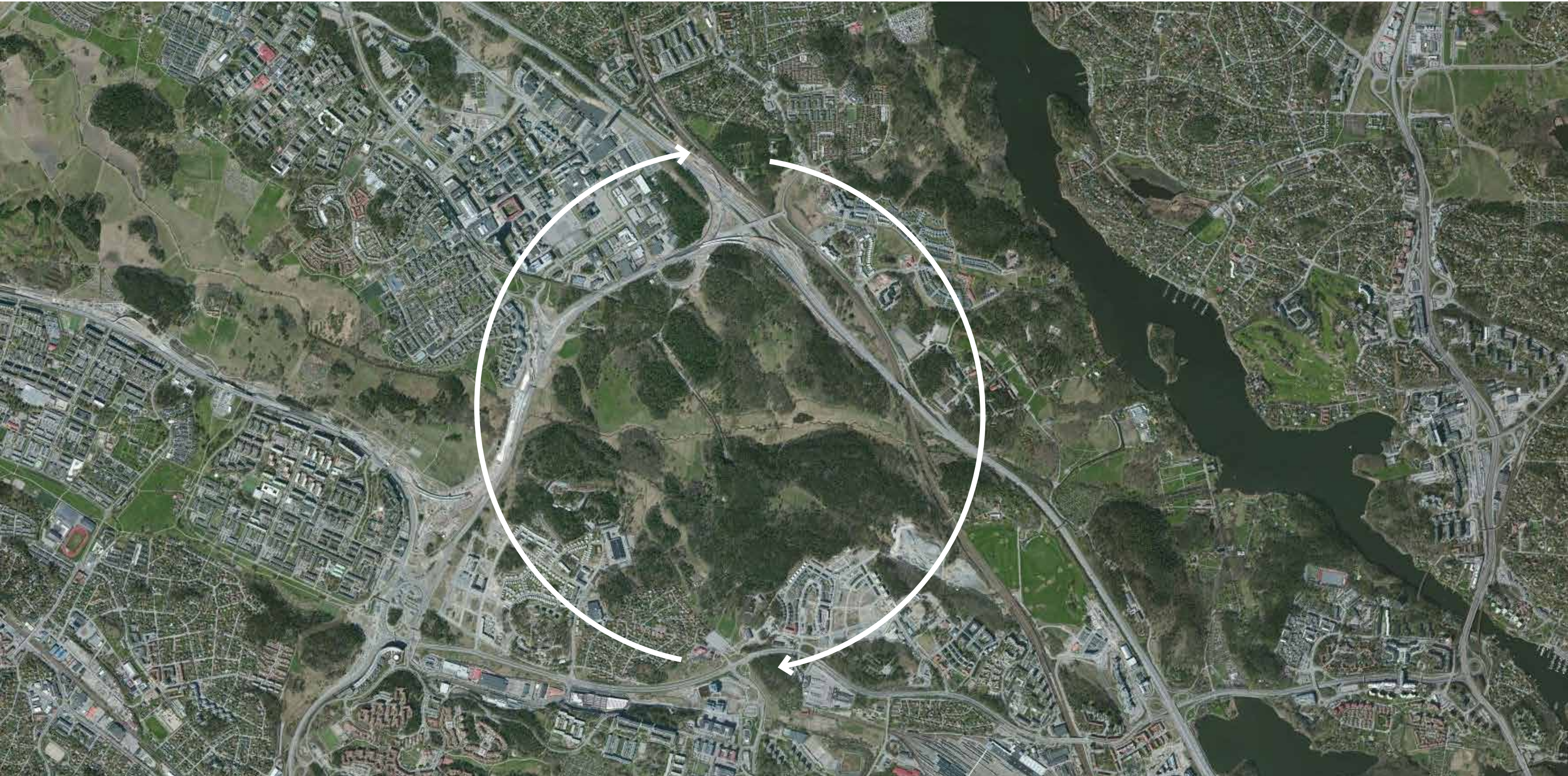
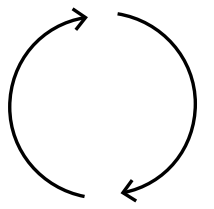


THE NATURAL STOCKHOLM BIOTOPE

- > Unique in many ways: old coniferous forest, 200 years old and old oaks habitats, 100-300 years old natural shores along lakes and seacoast
- > Regional characteristics, so valuable on a national level
- > Sprickdalslandskap is not uncommon. But impossible to replace or recover
- > It must be avoided that the Sprickdalslandskap will be removed
- + It is possible to add to the Sprickdalslandskap by condensating it, enriching it

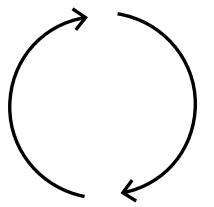


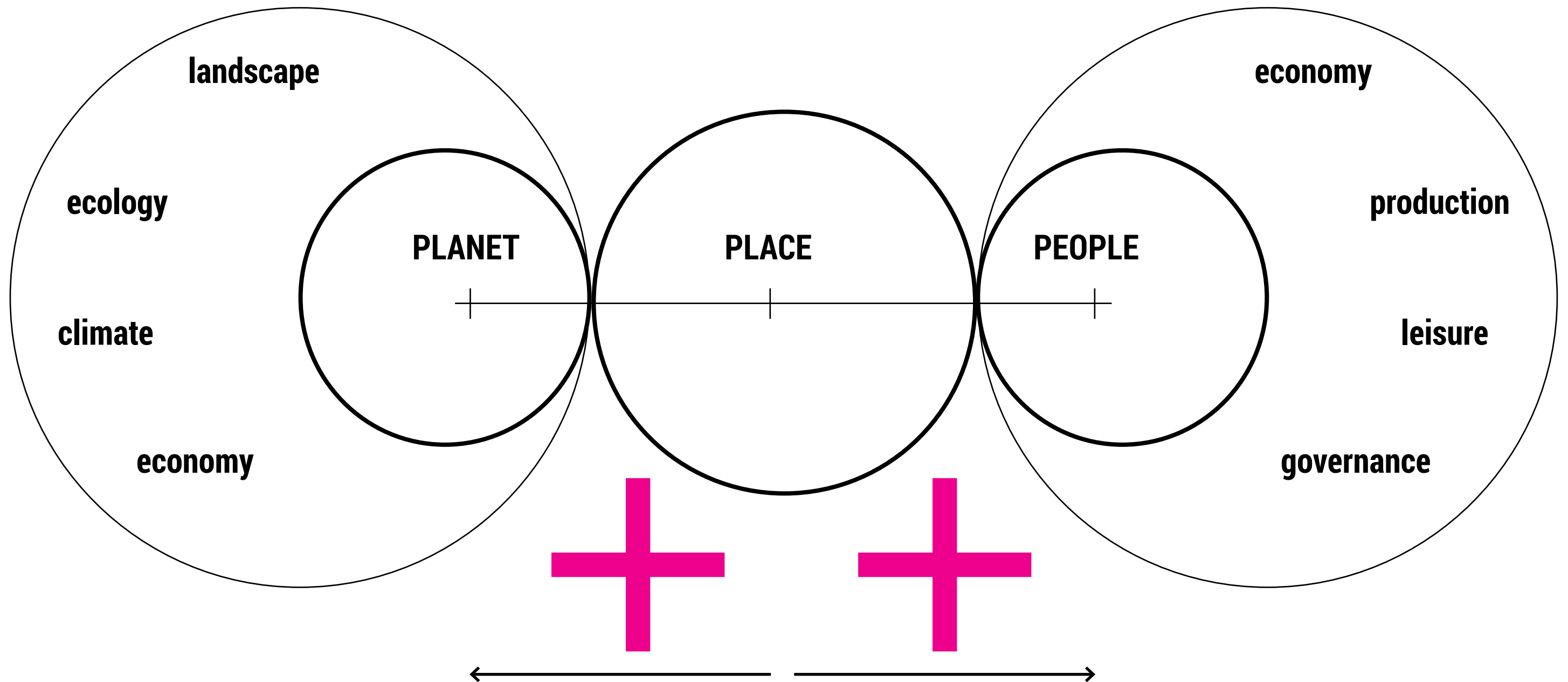
INTERACTIONS



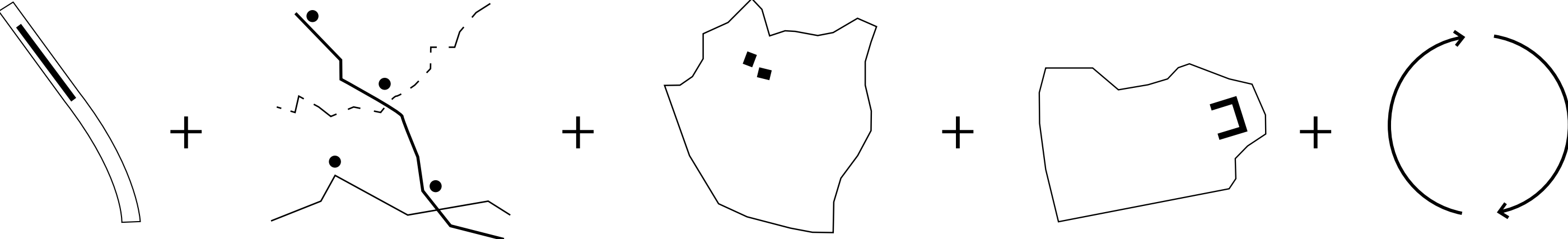
INTERACTIONS

- > There is a green wedge, a bäcken and a biotope present on site
 - > These can provide eco system services. Not only for the site, but also for Kista and Stockholm region
 - + providing of water infiltration, air purification, pollination, noise reduction, heat island effect reduction etc.
-
- > There are flows and cycles available that Norra Kymlinge can tap into
 - > Waste flows, energy flows, water flows, etc.
 - + Norra Kymlinge can use these flows to upgrade and use, or return into the cycle.
 - + energy from waste, cloths out of surplus grass, CO2 into O2, etc.





PEOPLE: CULTURAL ELEMENTS ON SITE



Transport

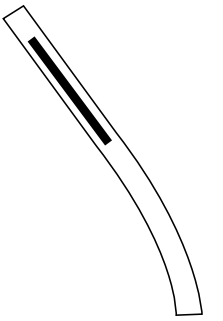
Leisure

Farms

Heritage

Interactions

TRANSPORT

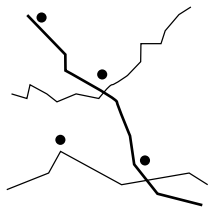


TRANSPORT

- > There is an old, never finished station in the area present
- > This station can be developed and used
- + But it can be so much more it can be a meeting place, a cinema, an open air living room, etc.

The ++ station is our socio/economic core of the circular economy. Here services and civic functions mix. The skiing slope above is a community playground in the snow for children and adults who want to learn skiing while playing together. The civic agora will have a regular market of local crafts and farmers market. The station will also house a space for civic gatherings (open fora decision making), concerts and performances.



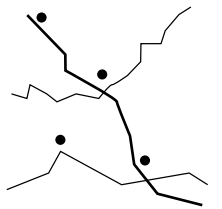


LEISURE

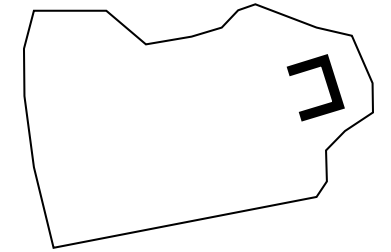
- > There is a very diverse leisure network on site available
- > This is a quality that can be further developed.
- + Adding housing can improve the leisure use and quality of the area

As well as well developed paths and opportunities for enjoying nature, our sur + city in the forest is a learning space, a meeting place and a leisure environment. Here we have open air libraries dotted around which use the old military buildings as a base but expand in wooden structures into the forest.

Noise barriers are sports' halls in the open air with climbing walls, exercise sculpture parks, secluded spots for meditation and prayer.



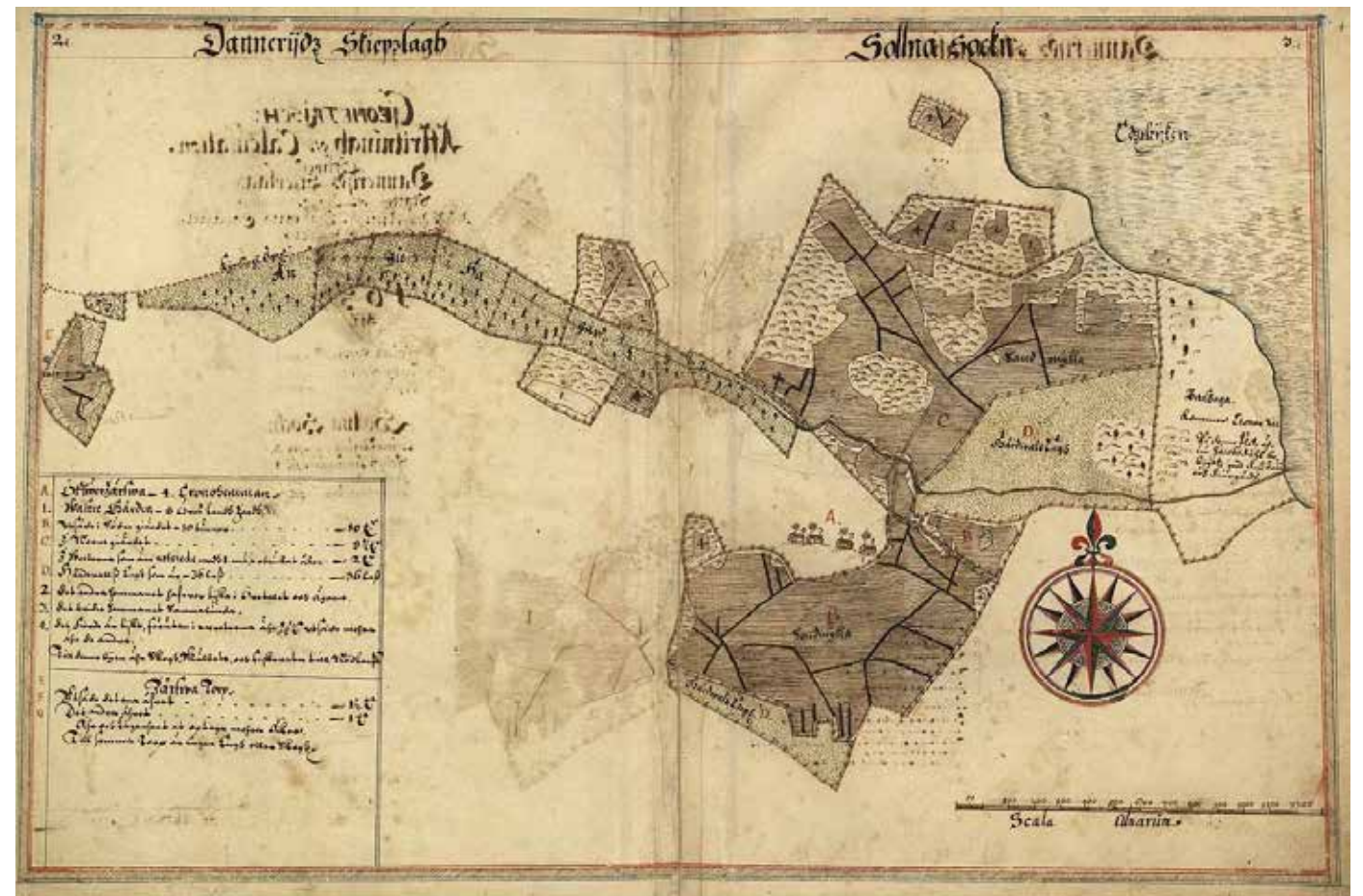
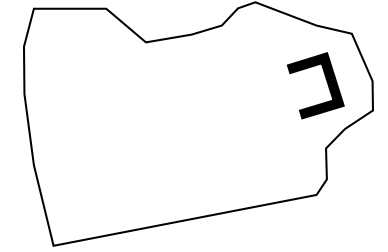
HERITAGE



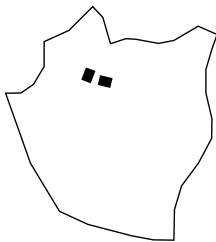
HERITAGE

- > There is a castle nearby Ulrikdal Slott
- > The Igelbäcken valley is (said to be) also the former hunting grounds of the King
- > The broken connection between the hunting grounds and the castle could be restored

The castle is well used and loved but the grounds are not. The sur + city uses the ground as connectivity between the old and the new and creates an ecomuseum in the grounds and a science centre dedicated to the study of human ecology.



FARMS

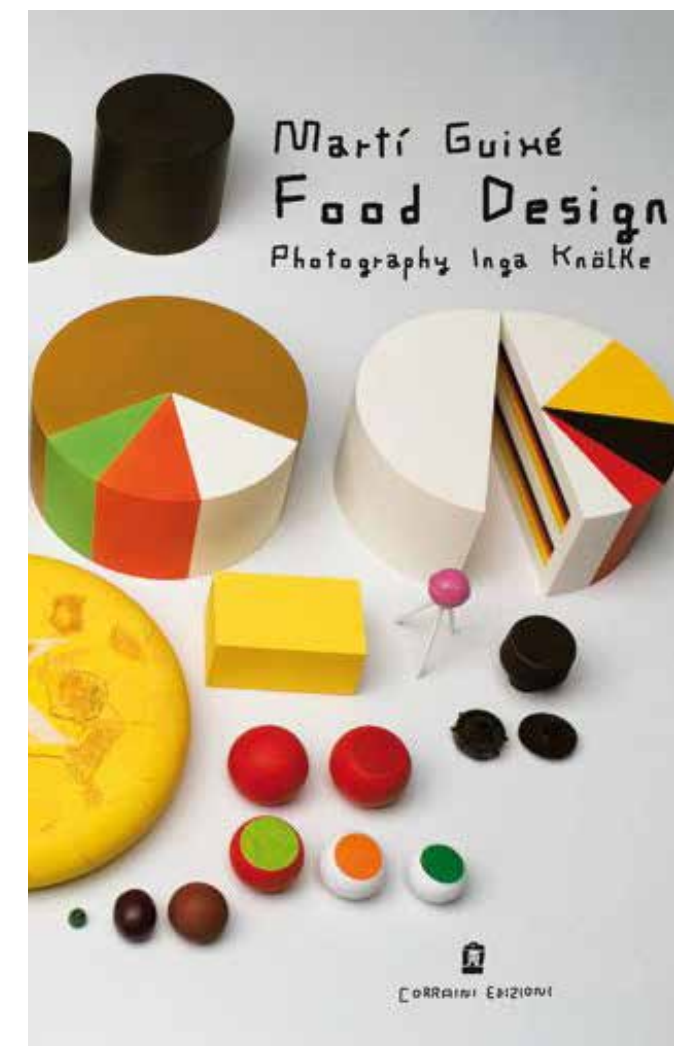
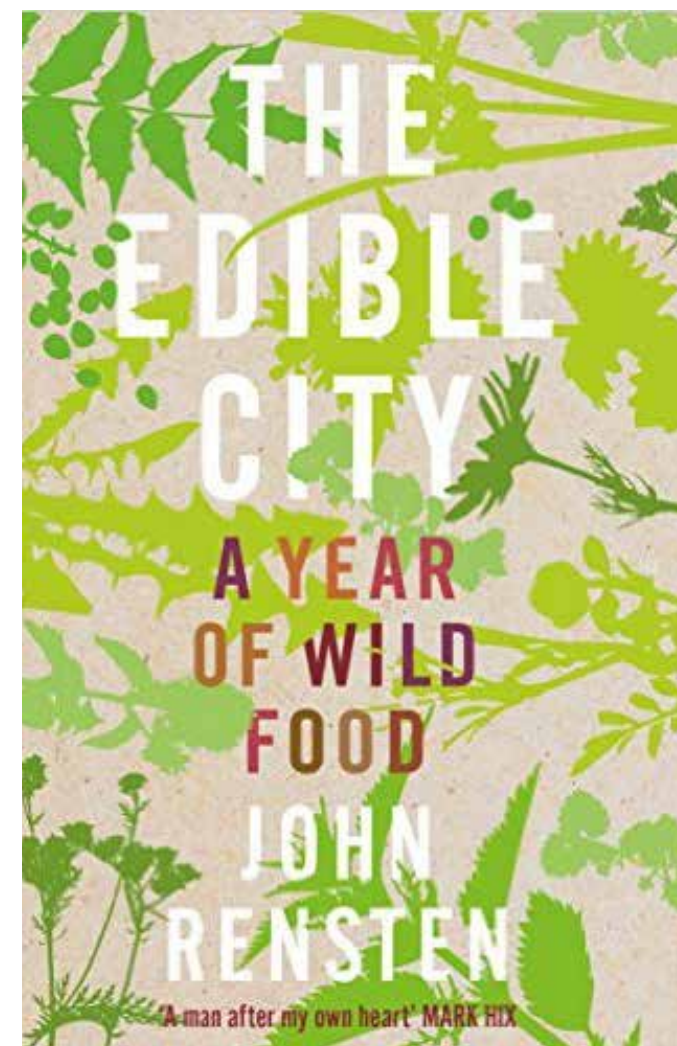
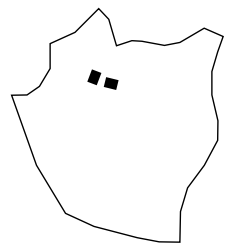


FARMS

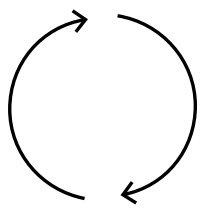
- > There are several farms present in Norra Kymlinge
- > It is important to keep these farms on site available
- + best would be if these farms produce for the city: food, leisure, nature, textiles, carpets, pottery, etc.
- + the resources for the production would be out of site our local interactions

Sur + city is an edible city. Every block built will have communal gardens, spots for growing vegetables, dedicated spaces for open air communal dinners and celebrations. Schools will also plant the food for their meals and raise animals in dedicated farms.

Sur + is about urban agriculture and a food sharing community. Agriculture in sur + city is about specialist food incubators, reviving old small scale crop productions, food growing training and chefs schools. Farm houses are work live studios for the production of new forms of crafts and design products. They are also up-cycling centres where local people make what they need: furniture, clothing and other.

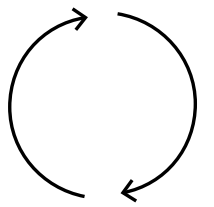


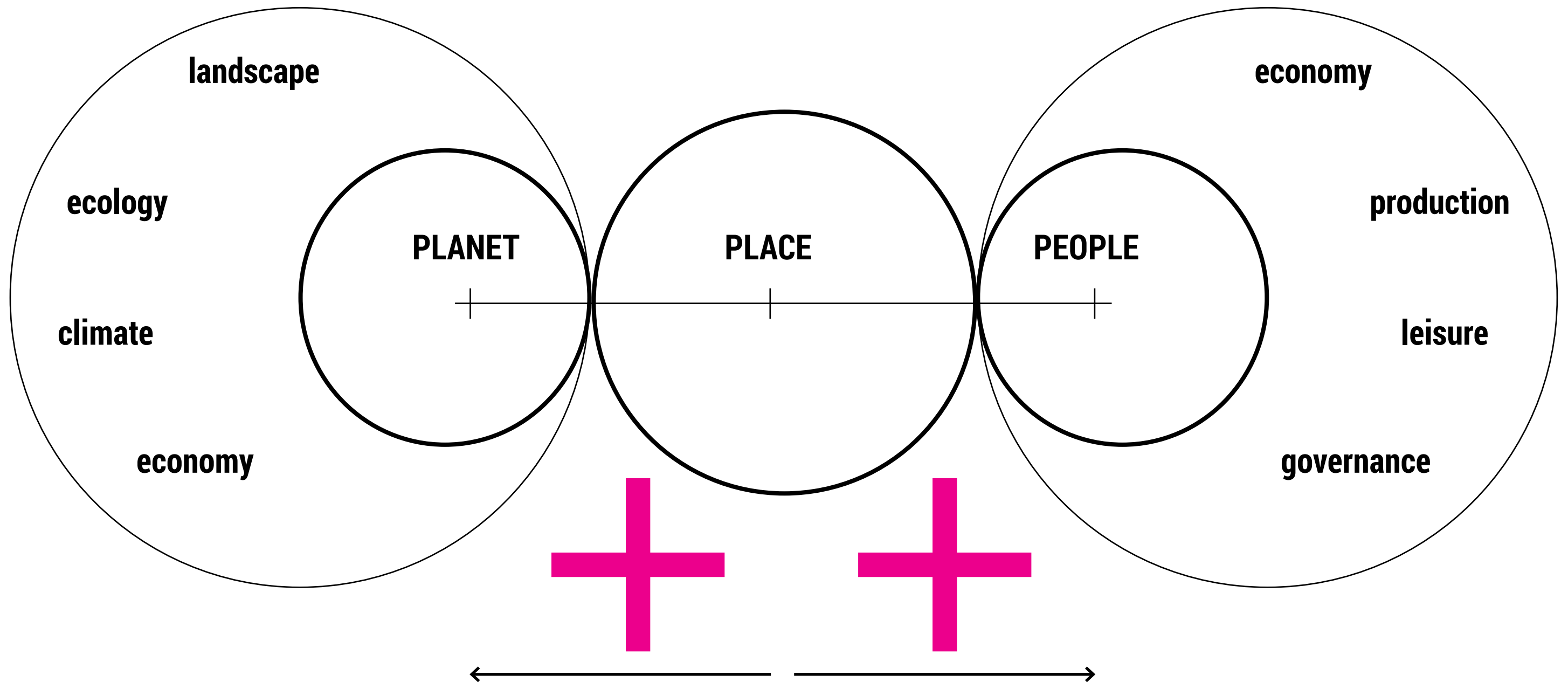
INTERACTIONS



INTERACTIONS

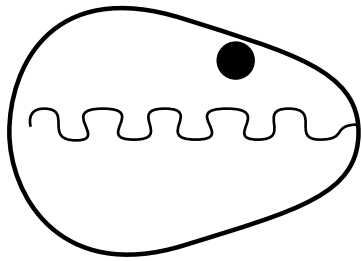
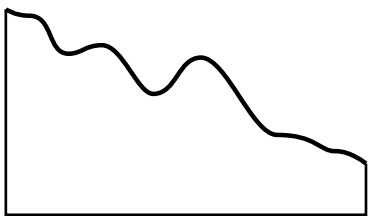
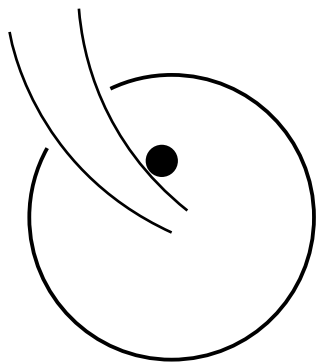
- > There are several social and cultural networks and services available in Kista
- > Shops, healthcare, parking space, etc.
- + best would be if Norra Kymlinge would interact with Kista for optimal use
- + Norra Kymlinge could provide social and cultural services for Kista as well



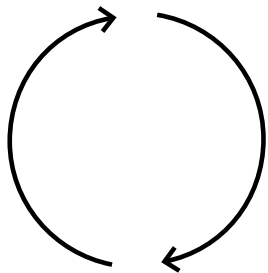


THE AMBITION

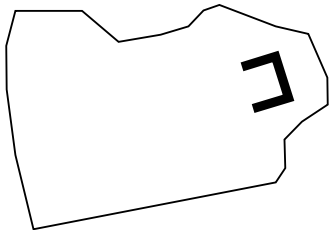
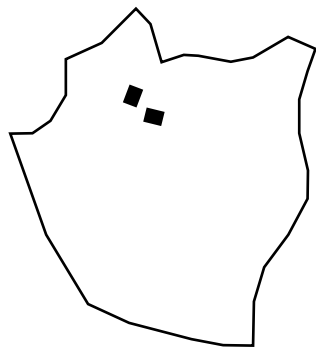
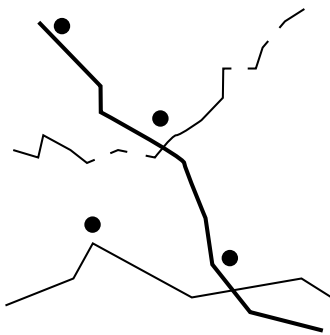
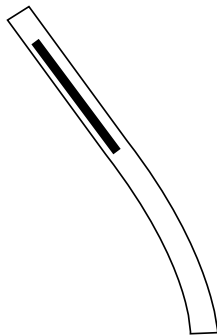
Planet



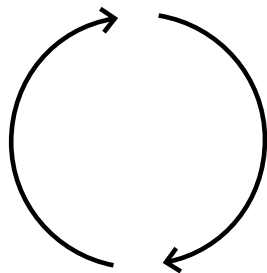
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People



+

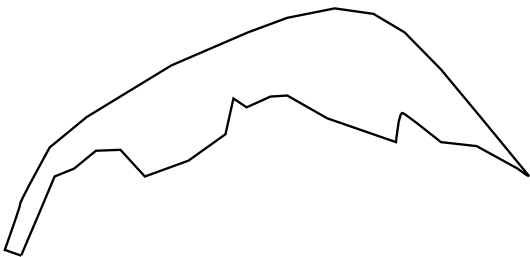


Program

7000 houses

- 25 restaurants, bars och cafés
- 1 library
- 1 museum
- 1 sports center
- 4 primary schools
- 12 preschools
- 40 shops
- 5 supermarkets
- 14.000 people living there
- 6.000 people working there

Site



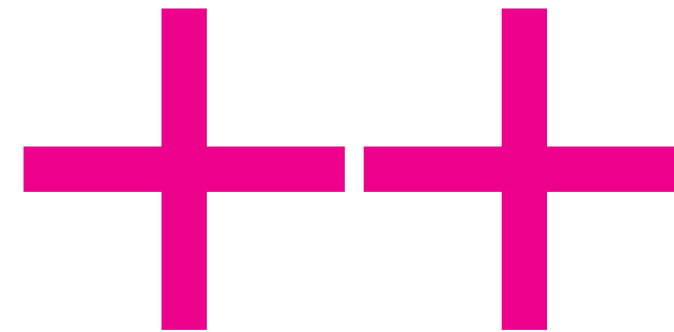
THE AMBITION

The stakes are high:

- > The best city district for the world**
- > That sets an example for the doughnut**
- > And doesn't harm people nor nature**
- > But at the same time consists of approx. 7000 dwellings**
- > Located in an old landscape with existing natura and cultural values**

In SUR+CITY:

- + Biodiversity is the base for life
- + Waste does not exist, just resources
- + There is no ecological footprint
- + There is more output then input
- + Surplus goods and services are shared



So far SUR+CITY describes the ideal city. But how to achieve this?

+ The house as a means to achieve all sustainability goals, ecological as well as social

My house:

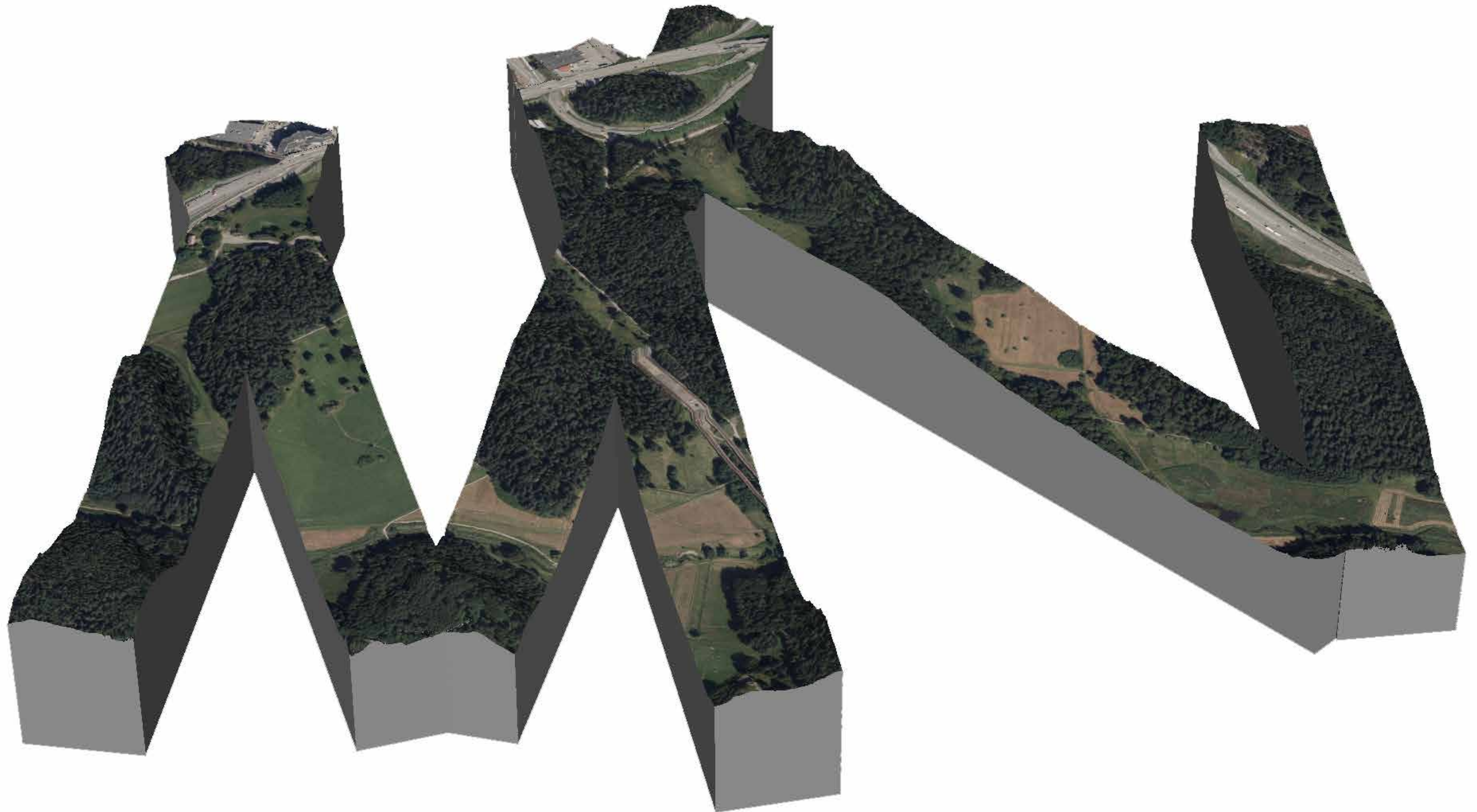
- is a power plant**
- is a landscape**
- is a farm**
- is a habitat**
- is waste**
- is my home**



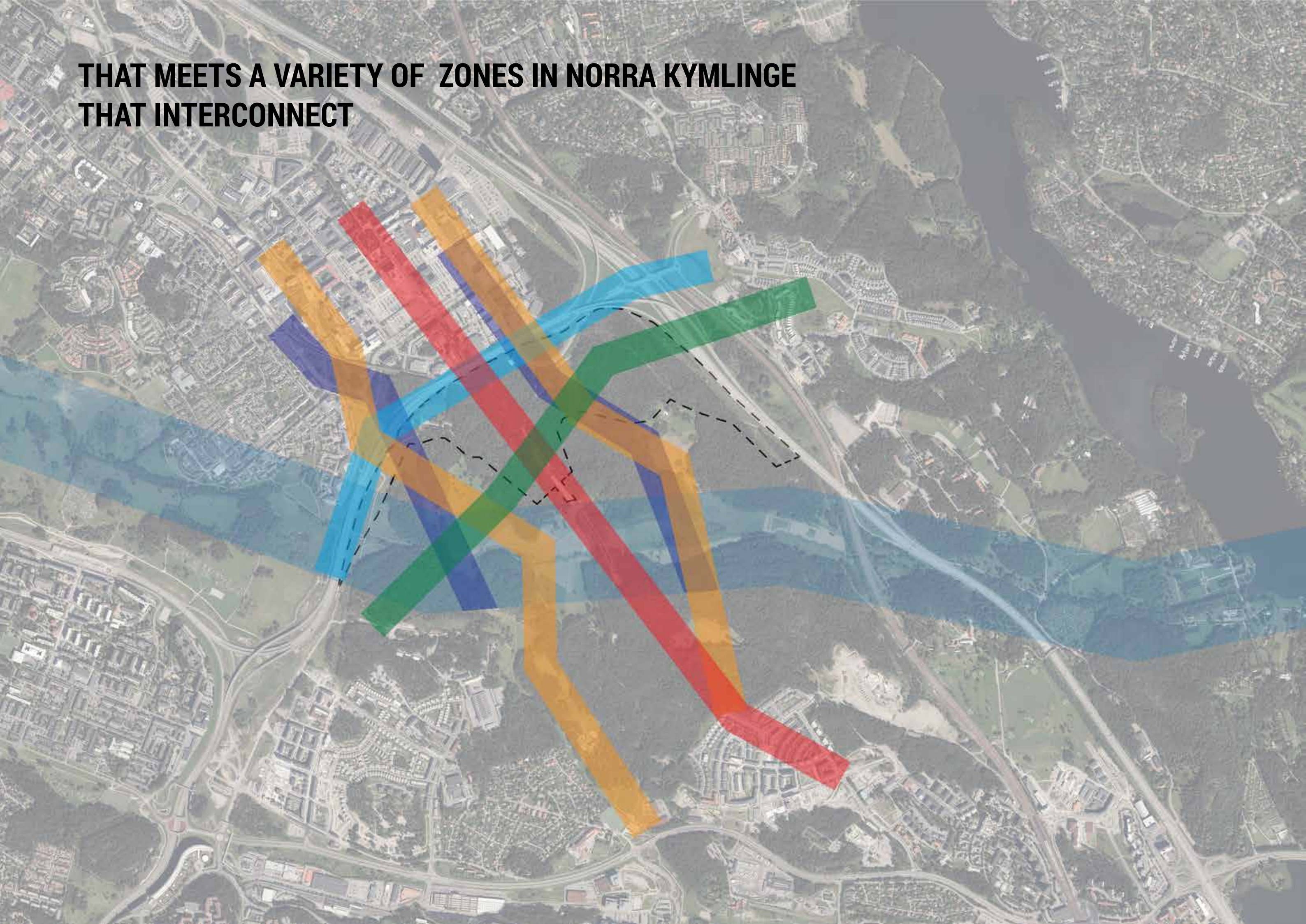
2. PLACE SUR + CITY

SO BACK TO NORRA KYMLINGE: WHAT DOES THE PLACE GIVE US?

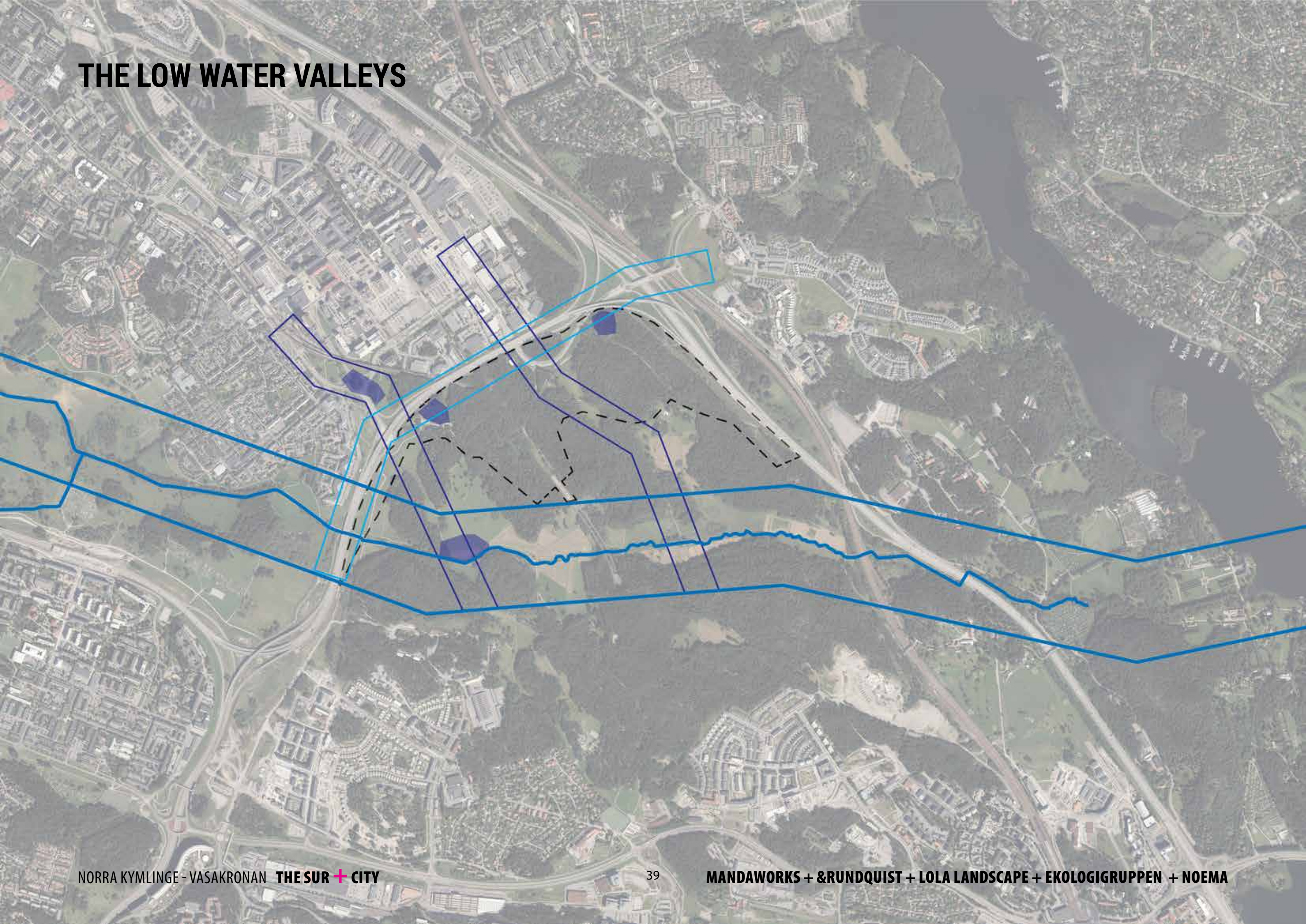
THE STOCKHOLM BIOTOPE OF THE SPRICKDALSLANDSKAP OFFERS A GREAT VARIETY OF PLACE IN NORRA KYMLINGE



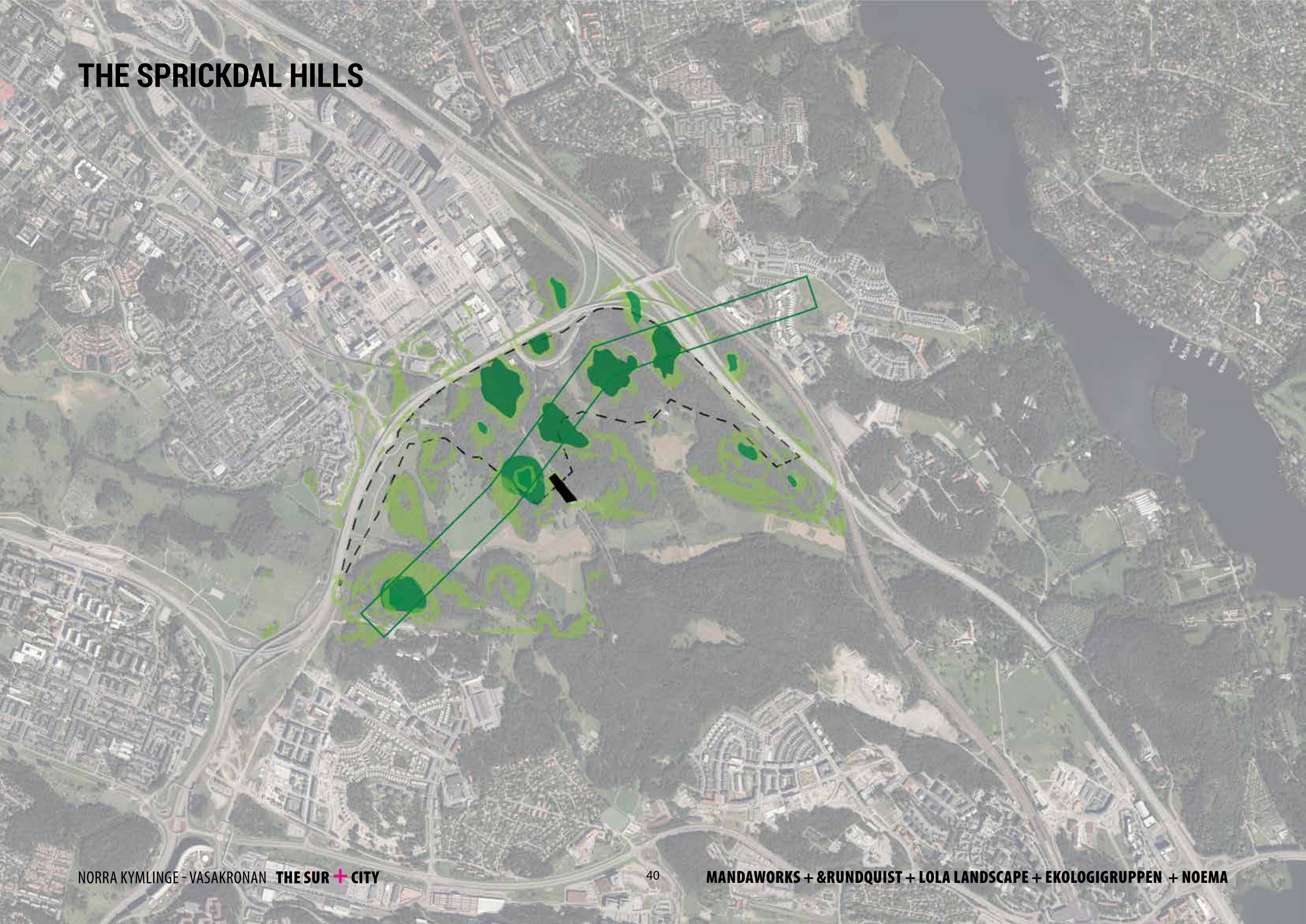
**THAT MEETS A VARIETY OF ZONES IN NORRA KYMLINGE
THAT INTERCONNECT**



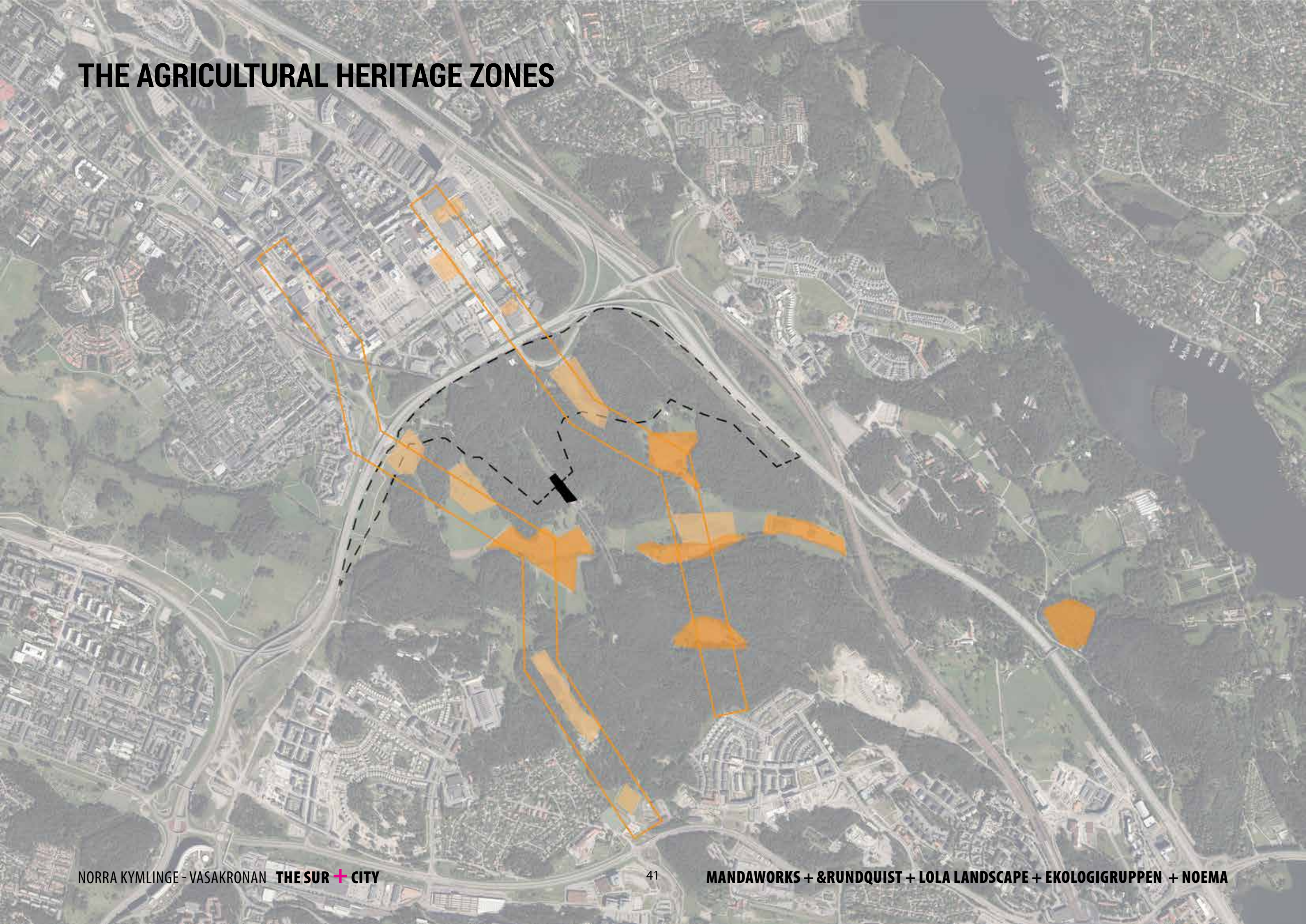
THE LOW WATER VALLEYS



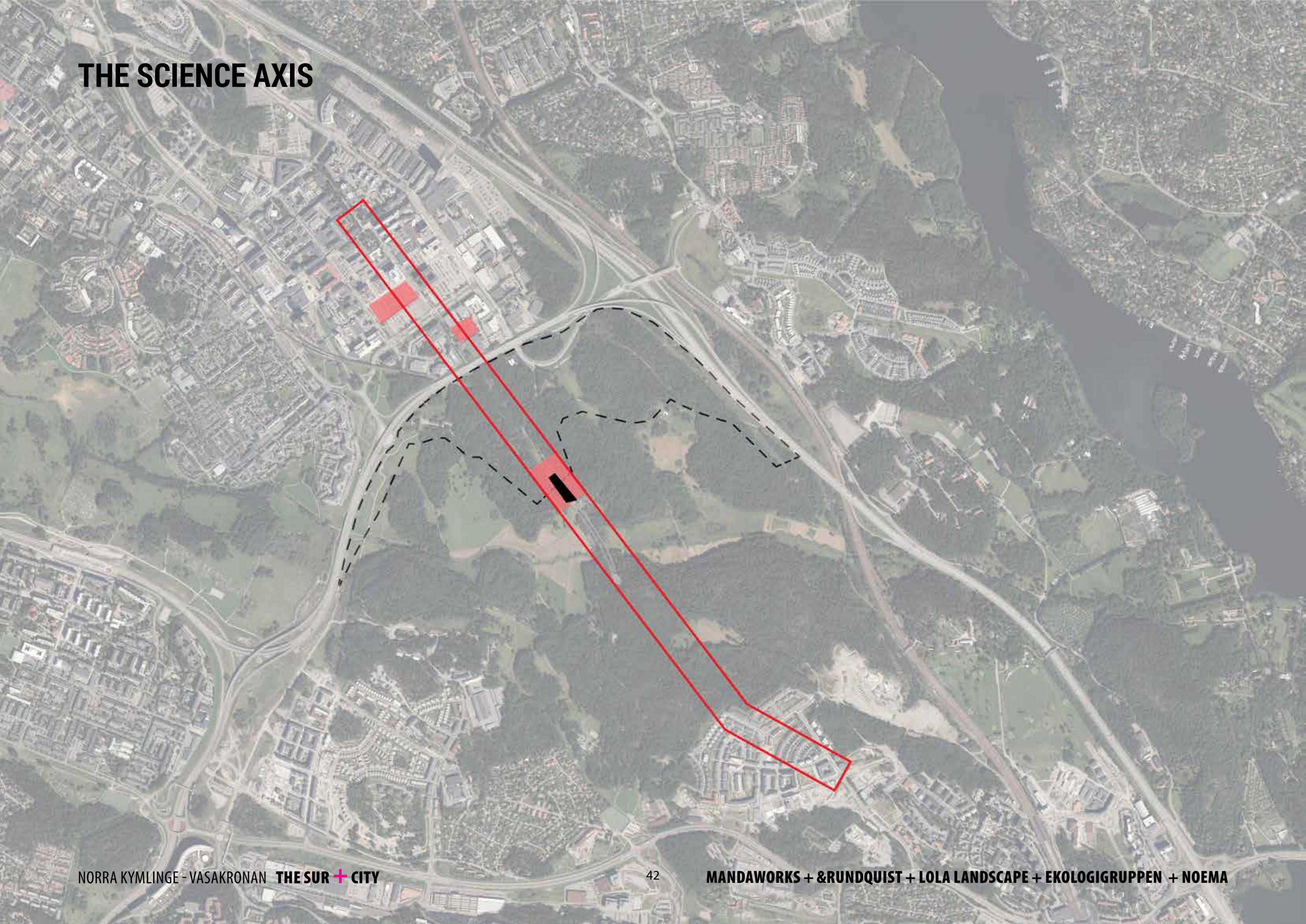
THE SPRICKDAL HILLS



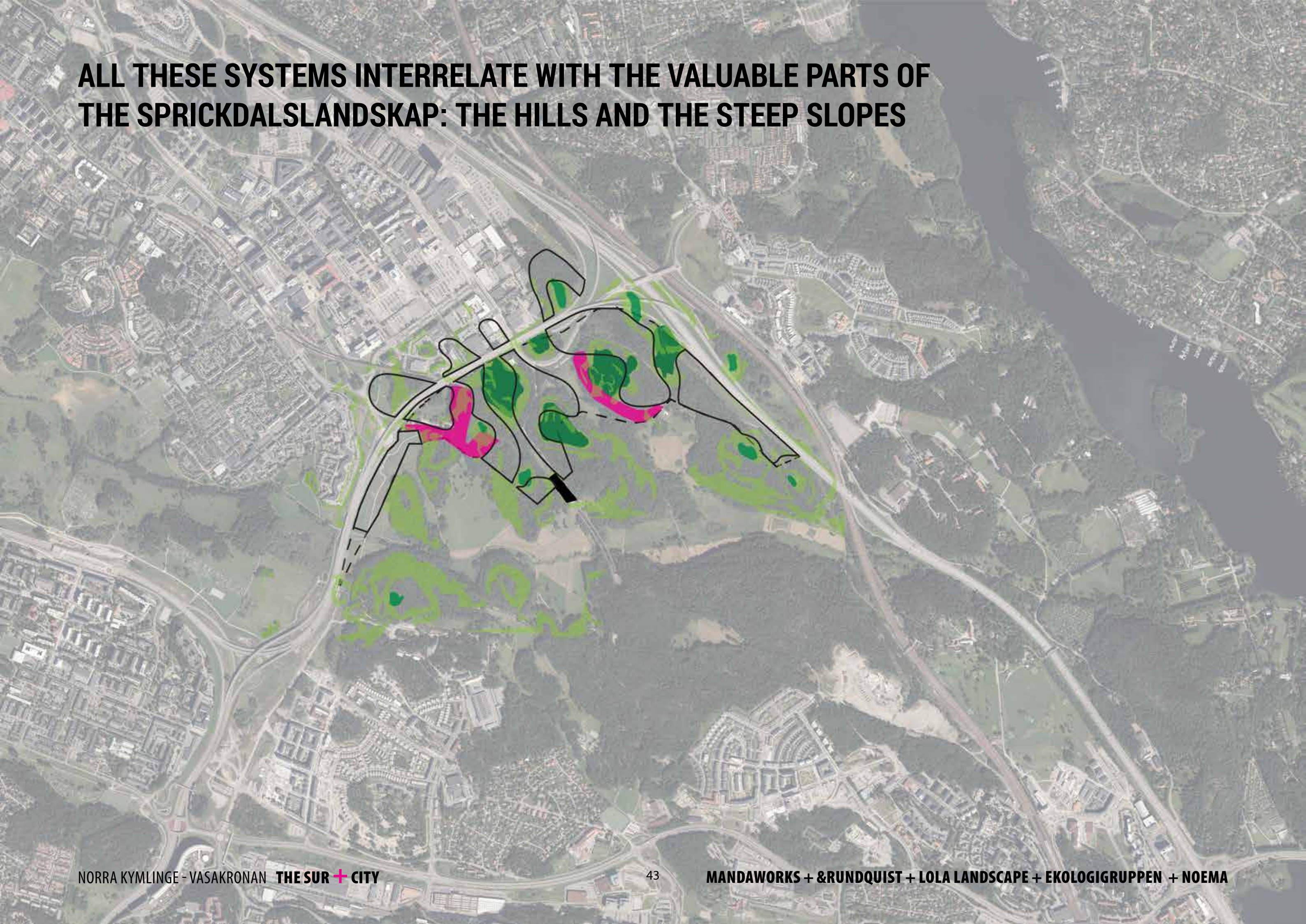
THE AGRICULTURAL HERITAGE ZONES



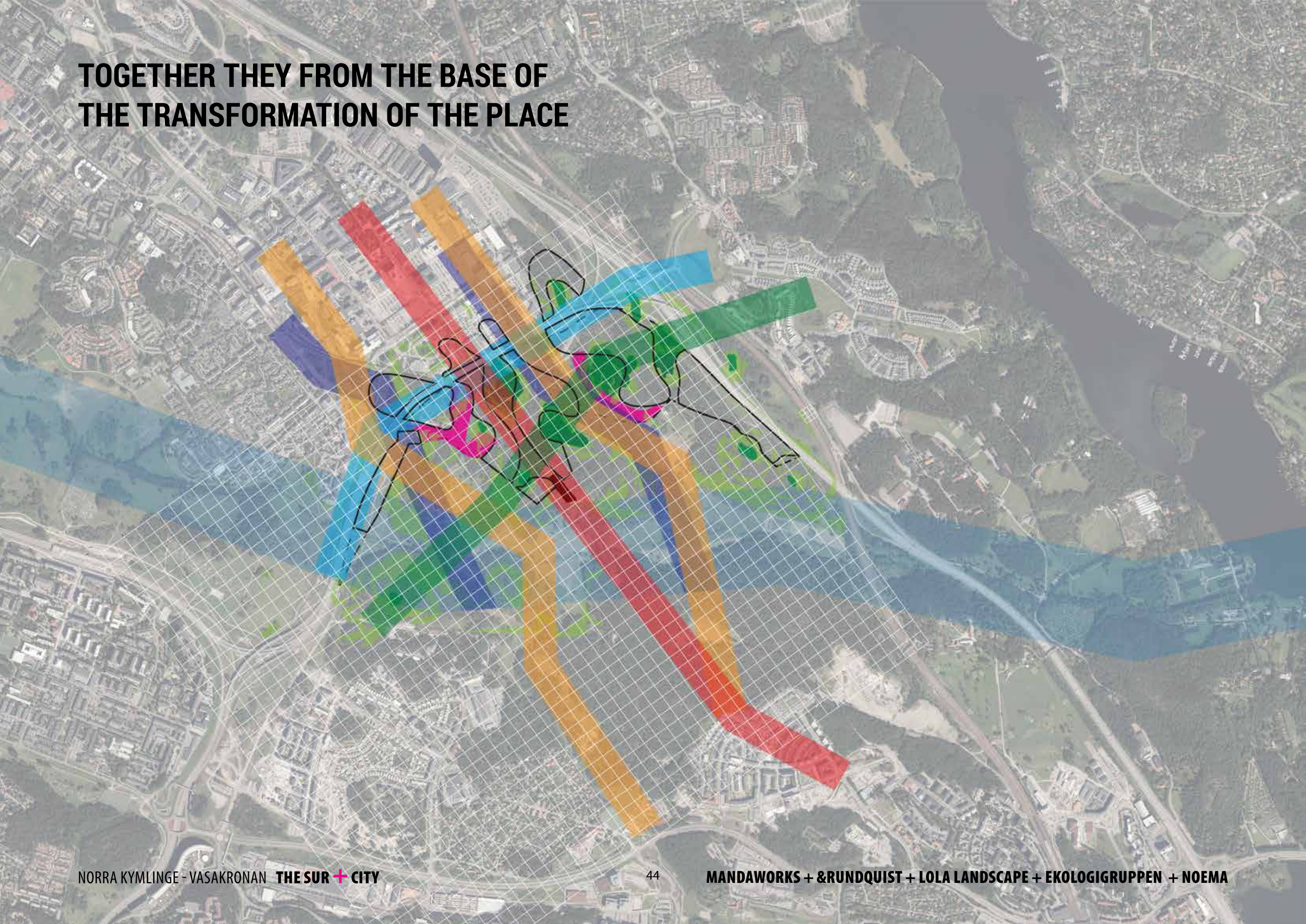
THE SCIENCE AXIS



**ALL THESE SYSTEMS INTERRELATE WITH THE VALUABLE PARTS OF
THE SPRICKDALSLANDSKAP: THE HILLS AND THE STEEP SLOPES**



**TOGETHER THEY FORM THE BASE OF
THE TRANSFORMATION OF THE PLACE**





3. THREEFOLD LANDSCAPE DEVELOPMENT STRATEGY SUR + CITY

A THREEFOLD LANDSCAPE DEVELOPMENT STRATEGY

So now we know what the base of the transformation of the place is, we start to define what type of landscape development strategy we see fit for Norra Kymlinge within the framework that any intervention in place should benefit the foundation of planet and people.

Natural context considered

A sustainable city must be planned based on the biological functions present at the site today or that can be created for the future. For a city to be within the biodiversity planetary boundary no loss of ecological function can occur. Some functions may be possible to move or create in other spaces, but as a whole No Net Loss can occur. Building cities will undoubtedly mean taking some biologically active land in possession, turning the conversion into a local ecological loss, but also a small loss for the whole ecosystem surrounding the new city. A modern city must therefore learn how to produce biodiversity instead of just consuming.

Biodiversity in a new city can have different forms:

1.
The preserved nature. High ecological values, often biotopes that act as a base for threatened species can in some cases be preserved within a city structure. The typical example is old trees that have a value as a substrate for insect, fungi, lichens and such. Preserve these and you will have a base for a rich ecological life connected to the substrates.
2.
The bulk of nature. Large chunks of nature preserved or in some cases created will mean that species that need a lot of space can live within the city. New or preserved natural areas can function as these "chunks".
3.
The connected nature. All biological life needs to find food and a home. To be able to move between patches, sort of go house-viewing, you need to move around. Green in cities can function as road in which the individuals can move around in. Some want to move around in old nature, some can move around in all sort of flowering plants, some just need a free spot to settle in.

When looking at the possibility of developing Norra Kymlinge for housing, it's context should be considered very carefully. This is not a redevelopment in the city, or an abandoned piece of agricultural land: this is an old landscape with high natural and cultural values. These values might in part be conceived as irreplaceable.

First of all, it is part of a green wedge that connects Stockholm to the landscape and the countryside. This green wedge is considered to be very valuable for the quality of life of Stockholm people, function as a base for recreation and nature. Developing a piece of this, could lead to a loss of area and the introduction of obstructions like infrastructure. It must be avoided that pieces are taken out of these wedges. However, the quality of the connections can be improved by adding pieces that are missing or by restoring connections that are lost.

Secondly: Norra Kymlinge is part of a river basin, that of the Igelbäcken. These rivers are basically the veins of life, and should be fully functional. This is not the case with Igelbäcken: the river runs dry regularly. This is because of lack of wet areas that feed the river, and because of the presence of a stormwaterpipe that flushes out the water to prevent flooding. The ecological quality of the area can be improved by increasing areas which are temporarily flooded in the valley and by providing additional wet conditions/connectings uphill in the Kymlinge neighbourhood.

And third of all, the landscape of Norra Kymlinge is part of a very specific, regional biotope: that of the Sprickdalslandskap. This landscape of hills and valleys has high natural values and is the home for many species of flora and fauna. The biotope is unique in that it contains a lot of old coniferous trees, some more than 200 years old. At the valleys and the slopes forest with old oaks are often found. This type of nature is valuable on a national level, since many of the old forests around Sweden has been used for forestry.

Building in this landscape would mean a loss of biotopes and habitats which is something to be avoided, since the characteristics of the sprickdalslandskap takes long time to replace, and in some aspects can be considered irreplaceable.

Next level building with nature

Would it even be possible to build in this area, and create a surplus of nature? The ambition is set very high. In a way, the result of this ambition should represent a next level of building with nature. Not only to pursue to save or conserve nature, or to live in harmony with it. Next level would be to even enrich nature. To produce more habitats, for more species. To increase biodiversity, and biomass, while living in this landscape.

We've pointed out the house as the object of experiment for this ambition. Logical, since many houses 'need' to be build. We've put need between brackets, because it is actually not sure if this is the right place for these houses to be build. Another place might be much easier, more logical, and would make a sustainable result more likely to achieve.

But anyway: we're studying 7000 houses on this location, the hilly landscape of Norra Kymlinge. A house is the smallest programmatic object, and it is also a very repetitive object. Being small and repetitive, it makes an ideal object for prototyping. The question: how to make the house into an object that not consumes landscape and ecology and produces waste, but does completely the opposite. What we are studying is a house that consumes waste and produces landscape, ecology, energy, leisure and produce.

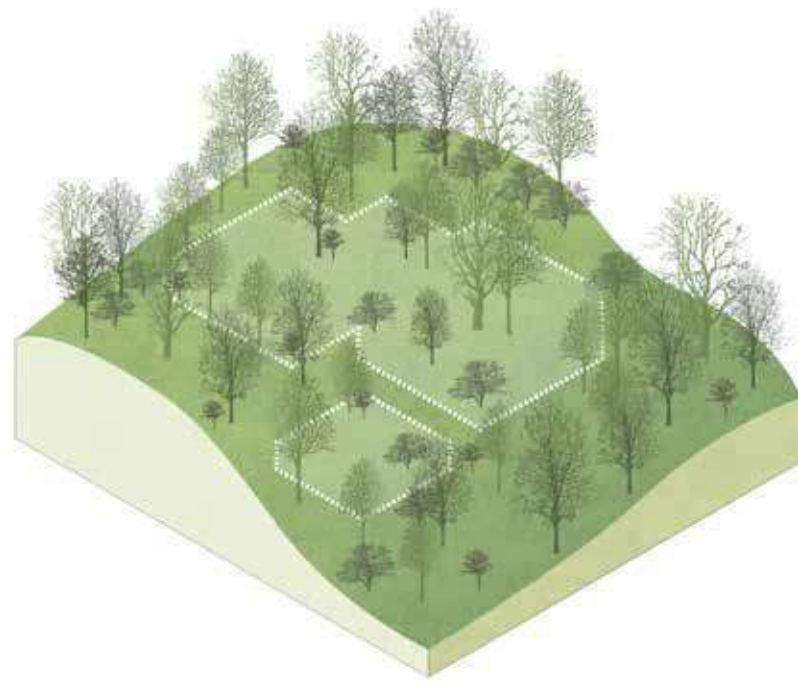
Dealing with landscape: leave no trace

Footprint is one of the hardest problems to solve. Because when building houses and roads, the amount of landscape and nature will become less: being replaced by pavement and the bases of houses. Not in Norra Kymlinge: no landscape will (should?) be lost here. We present a threefold strategy.

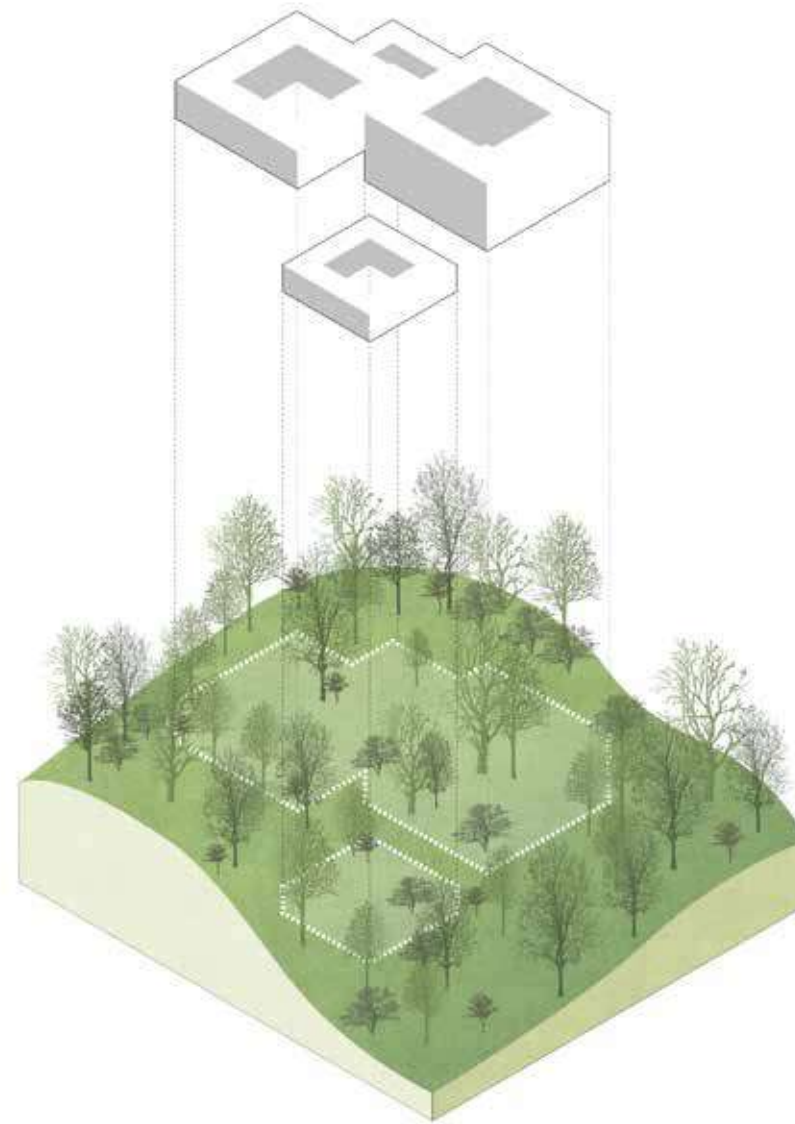
INSERTION

Gentle

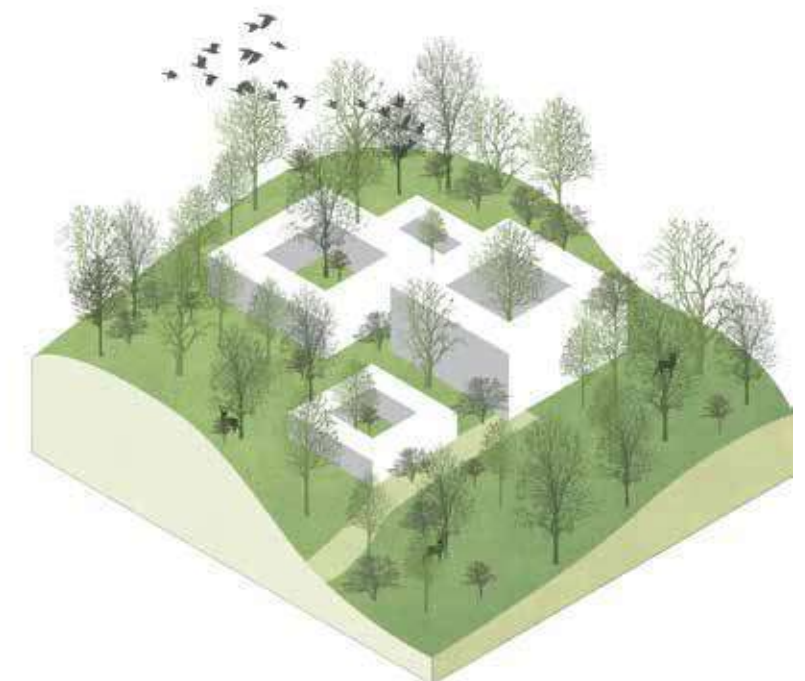
1. To be extremely gentle and precise. Don't blow hills with dynamite, but build around those hills. A traditional and successful way of building with nature in fact. The hills and rocks that remain in the houses and building blocks are the perfect substrate for vegetation, insects and animals. There are many examples in Stockholm houses and blocks of the 1950s.



A



B

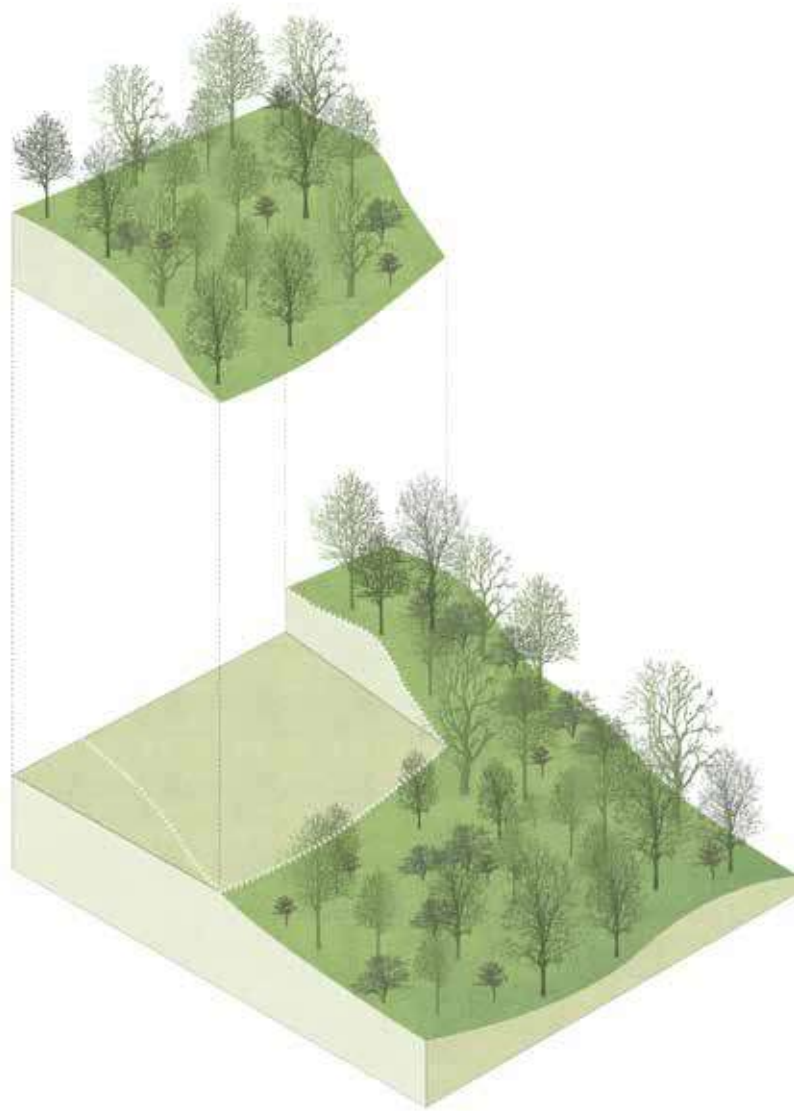


C

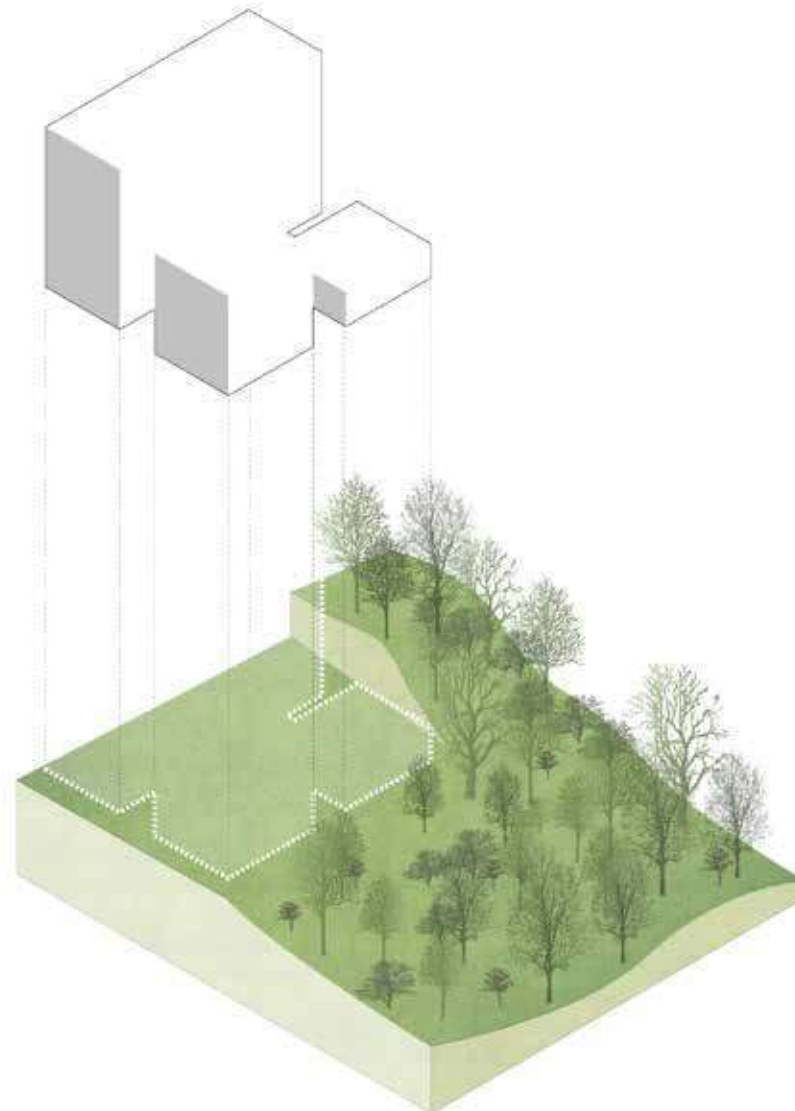
TRANSPLANTATION

Radical

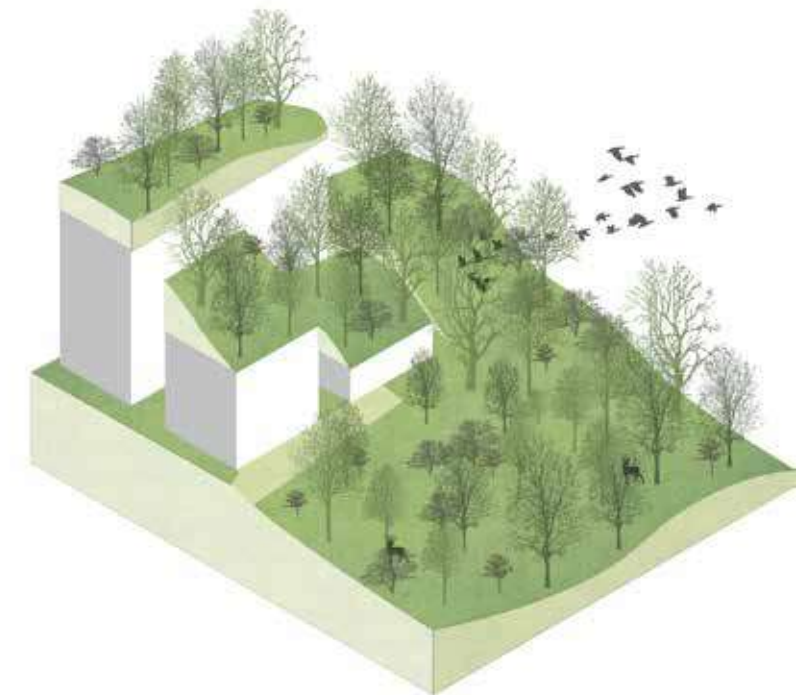
2. To temporarily store landscapes and restore them later in houses and building blocks. If a terrain needs to be leveled, do it in a different way. A way that doesn't throw landscapes away. This is the way it could be done: take away a top slice of landscape and temporarily store it. Then, when the houses are being developed, reinstall the stores pieces of landscape in the houses and building blocks. If it is possible to do heart transplantations, why wouldn't it be possible to do landscape transplantations?



A



B

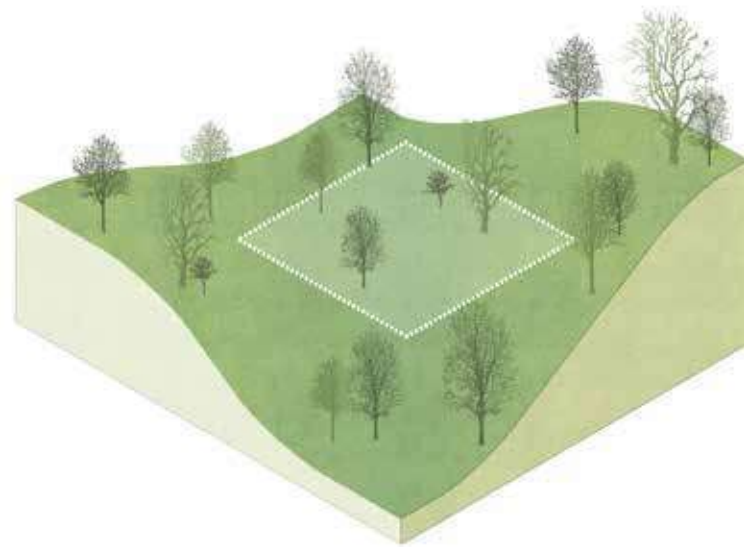


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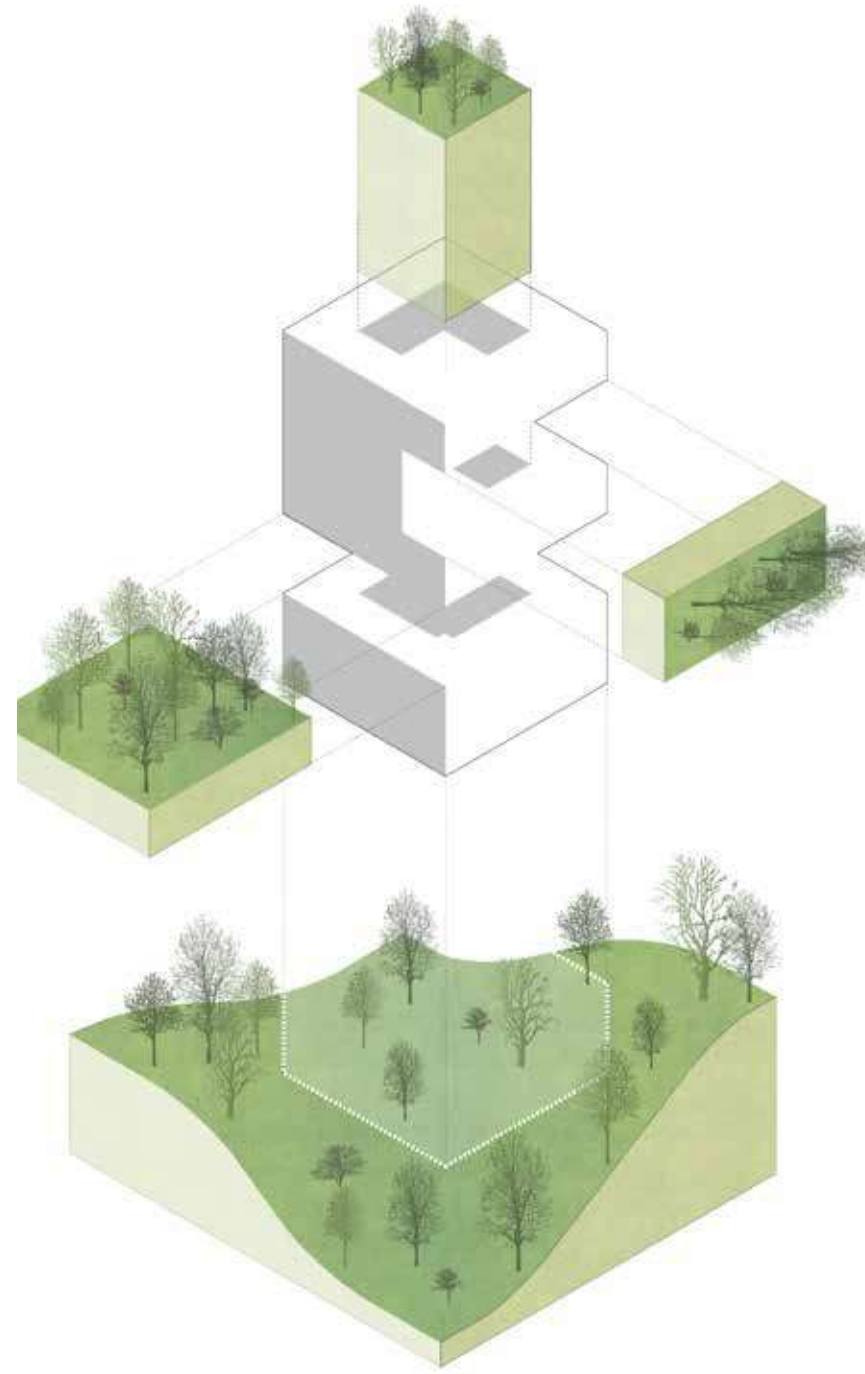
CONDENSATION

Visionary

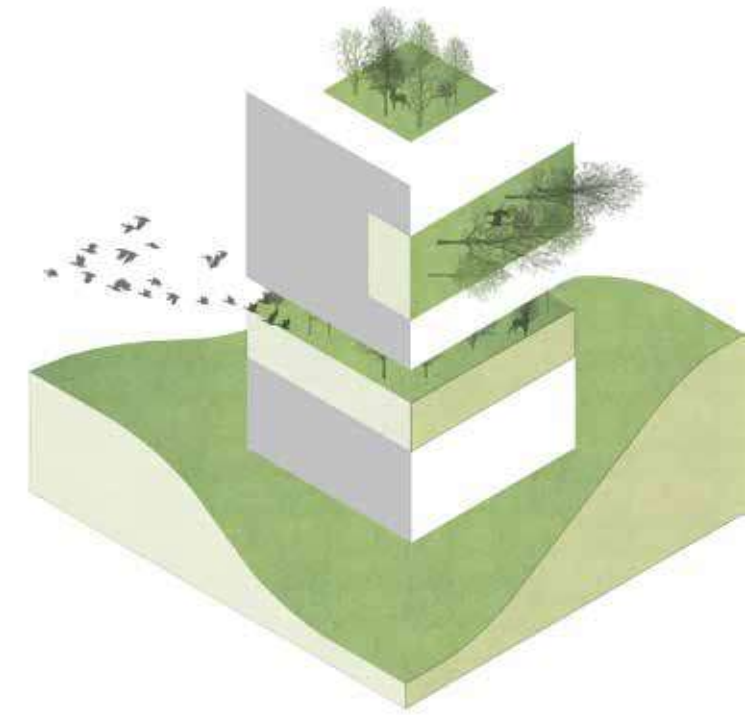
3. To integrate sublimated pieces of landscape and nature in buildings and building blocks. Nature could be more condense, more efficient. Like an eau de Cologne, it could be condensed into new, artificial residue that could be integrated in houses and building blocks. A good example is the animal totems of Poelzone Park, The Netherlands. Another very interesting local example is that of the Mulmholk: artificial structures that mimic the characteristics of old hollow trees.



A

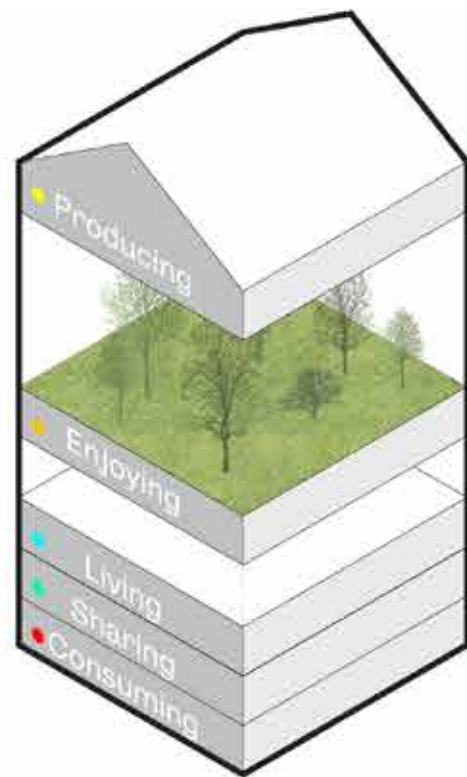


B

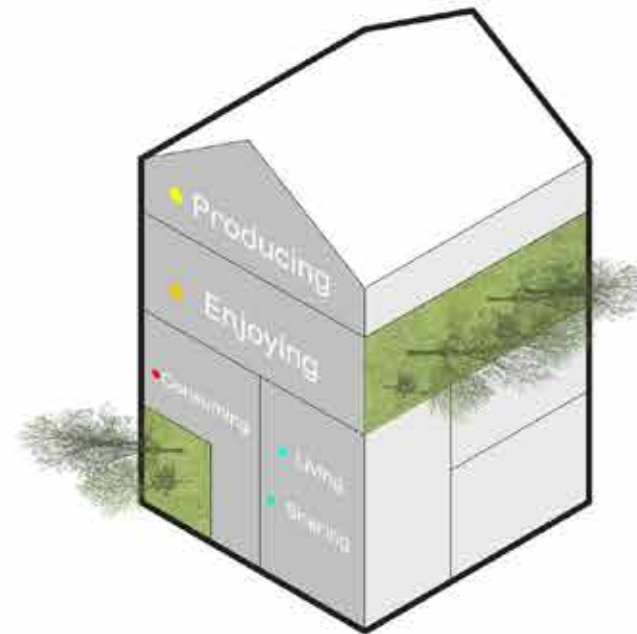


C

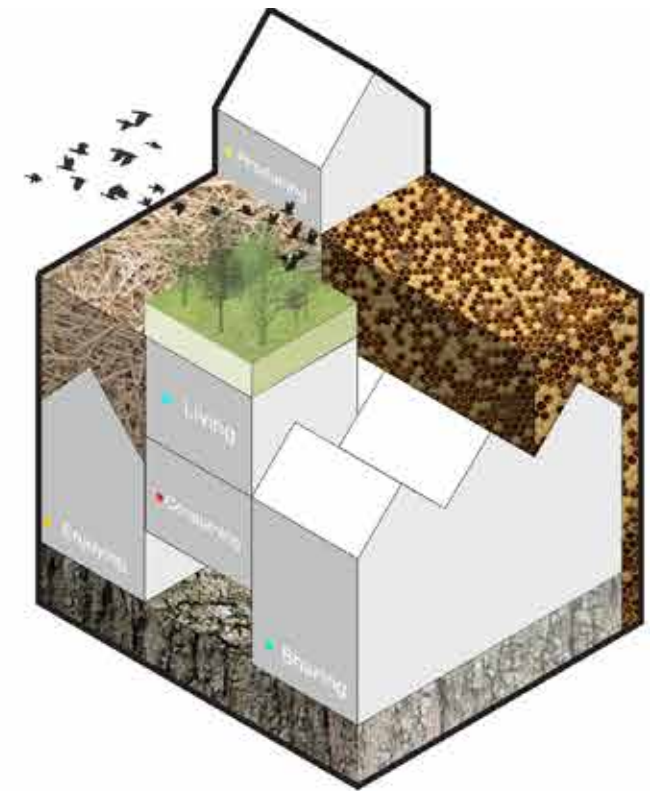
By integrating this threefold strategy in the landscape development, it could be made possible that no landscape is lost. Actually, we'd like to turn things around. If this landscape development strategy is deployed at full scale: how many houses could be built while no landscape is lost? This strategy has got at least two modes for prototyping: prototypes of performing landscape transplantations, and prototypes of sublimated biotopes and ecosystems.



Layered Approach



Modular Approach



Integrated Approach

EXISTING PROTOTYPES

The Mulmholk

Old hollow trees have declined in Europe and many saproxylic (i.e. wood-dwelling) invertebrates living on them are threatened. To mimic the conditions in tree hollows, constructed wooden boxes can be filled with different combinations of substrates like oak saw dust and oak leaves. Studies have shown that among beetles found in hollow oaks that were either tree-hollow species, bird nest species, or wood rot species, 70% were also found in the boxes. The prospects for using artificial environments for boosting substrate availability, or to fill spatial and temporal gaps therein, for saproxylic beetles have shown to be good. This prototype should be able to enhance and use for species typically present in sprickdalslandskap.



The Nendo nesting box

Japanese designers Nendo have built an enormous woodland nesting box with 78 entrances for birds on one side and one big door for humans on the other. The treehouse was built for observing birds at the Momofuku Ando nature centre in Komoro, in Japan's Nagano Prefecture. People can reach the Bird-apartment by climbing up a ladder and through a circular hole. Spy holes across the back wall of the apartment allow a discreet view into the 78 bird boxes on the other side.

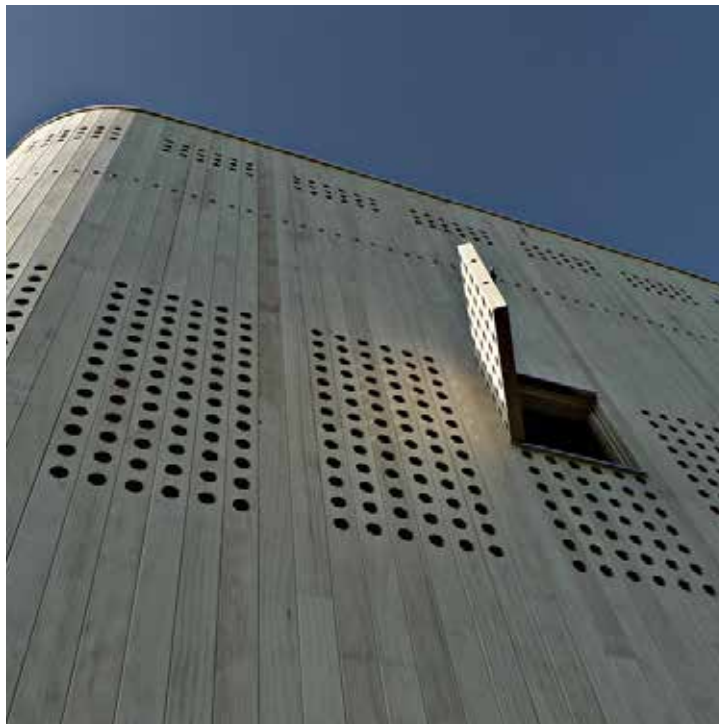


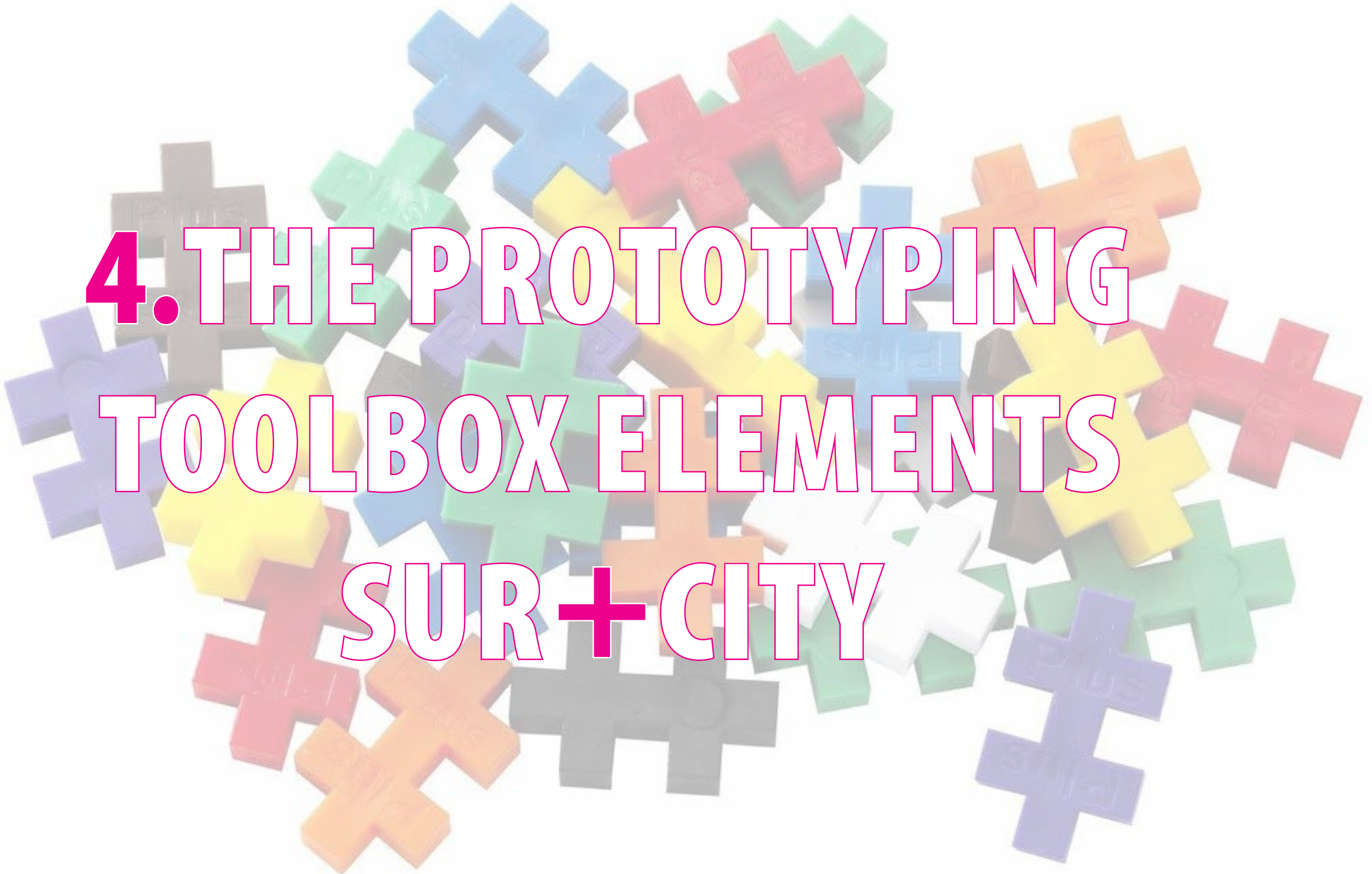
The Melarium

The Melarium (of Latin: melis, honey) in The Netherlands is an accommodation for nine bee colonies and at the same time viewpoint, work space and meeting place for beekeepers, scientists and visitors. On the ground floor, nine hives can be housed. On the first floor beekeepers can meet, relax, work. The roof terrace offers looks out over the flower meadows on average fly height of the bees. In the summer there are lectures, presentations and tours. Like the facet eyes of bee queen, the facade is perforated with four thousand holes.

No landscape lost

By integrating this threefold strategy in the landscape development, it could be made possible that no landscape is lost. Actually, we'd like to turn things around. If this landscape development strategy is deployed at full scale: how many houses could be built while no landscape is lost? This strategy has got at least two modes for prototyping: prototypes of performing landscape transplantations, and prototypes of sublimated biotopes and ecosystems.





4. THE PROTOTYPING TOOLBOX ELEMENTS SUR + CITY

A PROTOTYPING TOOLBOX OF THE FUTURE LIFE OF NORRA KYMLINGE

With the three landscape development strategies and the base of the transformation of Norra Kymlinge in mind, we can start to create our prototyping toolbox elements, the + systems, that will strengthen the foundation of the place where my house:

- is a power plant
- is a landscape
- is a farm
- is an habitat
- is waste
- is my home

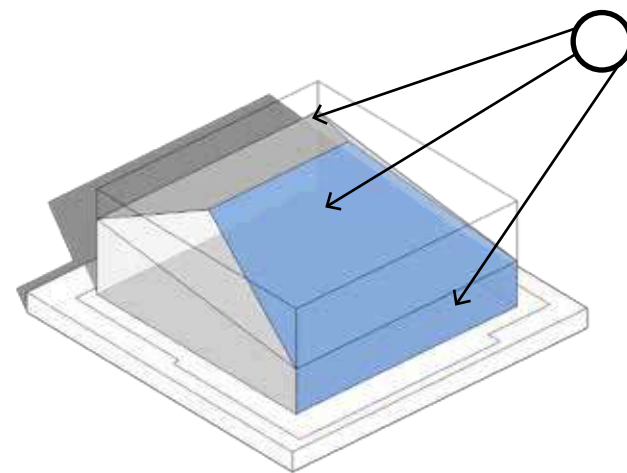
These six prototypes are examples of housing- and working typologies that combine the implementation of the three landscape development strategies with the circular, productive and collective systems of food, energy, leisure, biodiversity, waste, heat, etc. They create the sur + systems within the future life of Norra Kymlinge. These are one of many possible prototypes that need further investigation when the plan for Norra Kymlinge is taken to the next level.



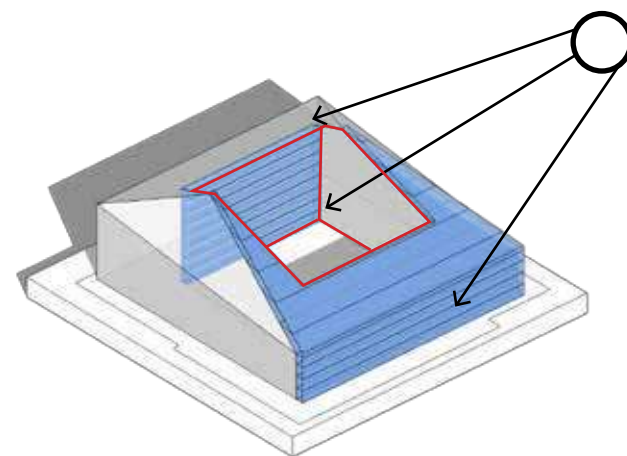
MY SPRICKDALSHILL

My Building Block is integrating the hill, composing architecture with landscape and creating variety: the open landscape, the covered landscape, the preserved landscape. The general envelope of My Block is shaped by the intention to maximize sun incidence and generate possibilities for energy productive systems. At the same time, the energy productive surfaces are part of the collective social life.

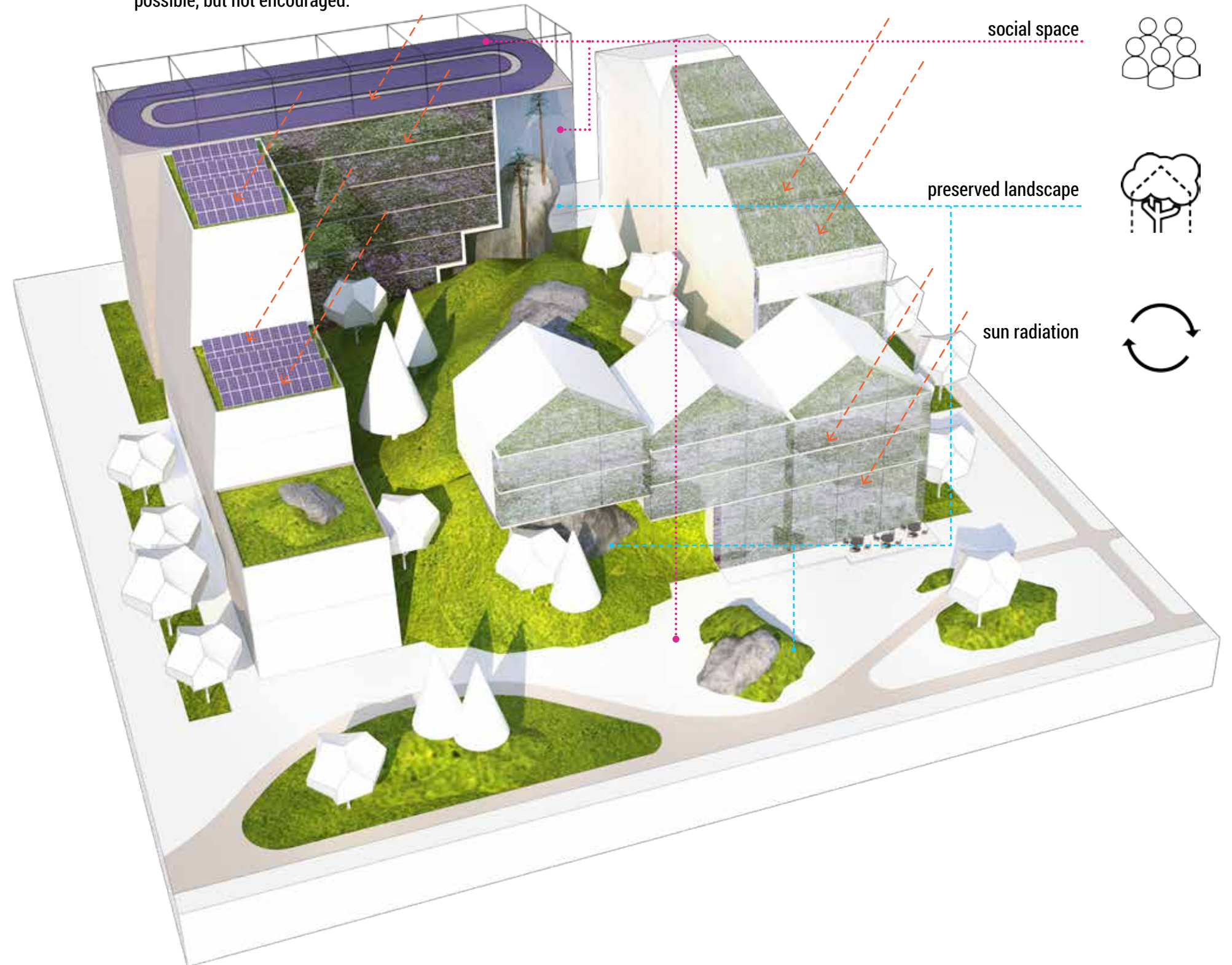
Double skin facades are the building's thermostat, provide natural ventilation and are vertical vegetable and berry gardens. Solar cells cover the floor of the gym on the rooftop. My gym is the solar energy plant and the collective place that benefits of the top view. The street is also blending pathways with preserved chunks of nature. Car access is possible, but not encouraged.



Sun-shaped block envelope

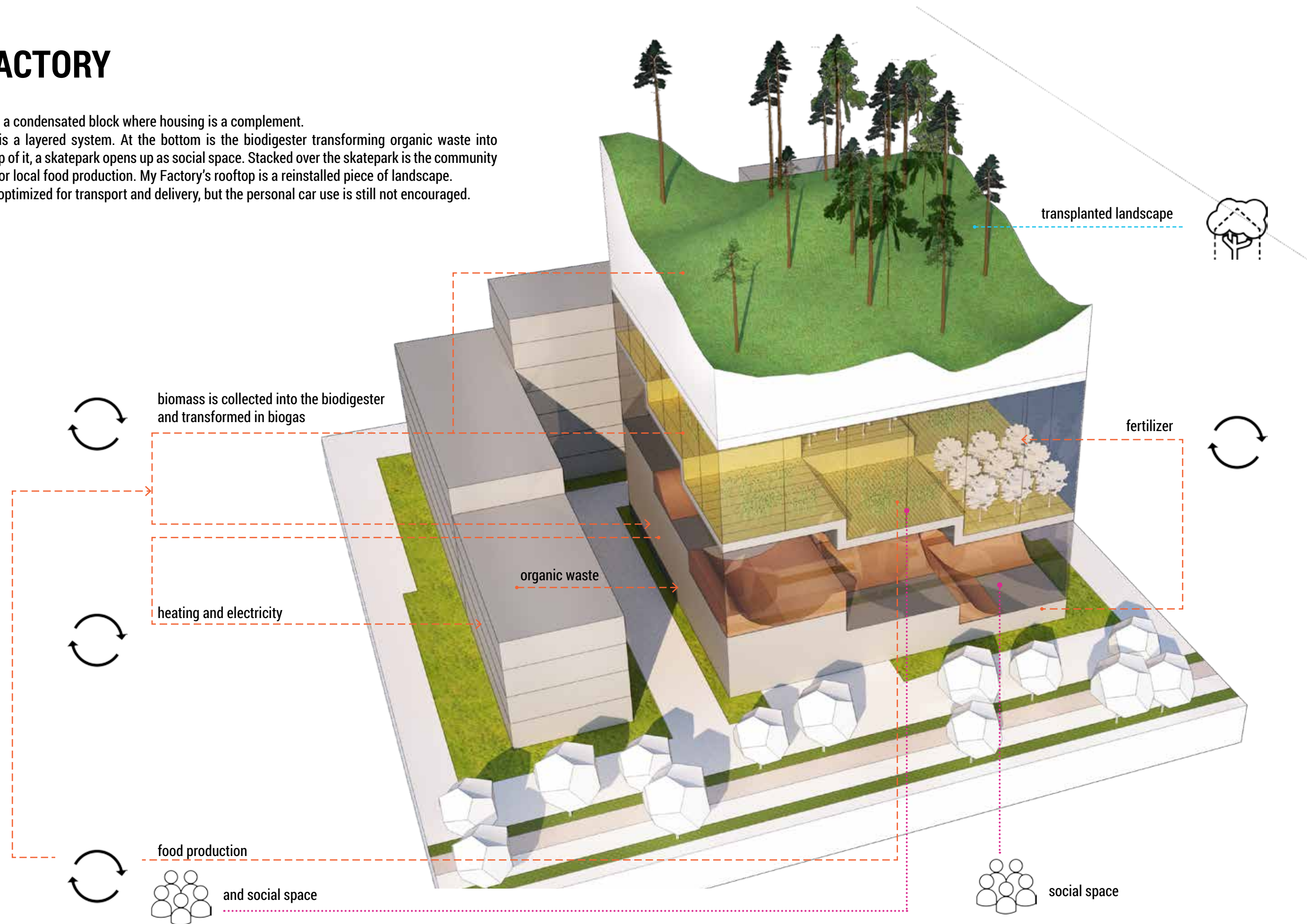


Passive facades with planting and solar courtyards.



MY FACTORY

My Factory is a condensed block where housing is a complement. The Factory is a layered system. At the bottom is the biodigester transforming organic waste into biogas. On top of it, a skatepark opens up as social space. Stacked over the skatepark is the community greenhouse for local food production. My Factory's rooftop is a reinstalled piece of landscape. The street is optimized for transport and delivery, but the personal car use is still not encouraged.

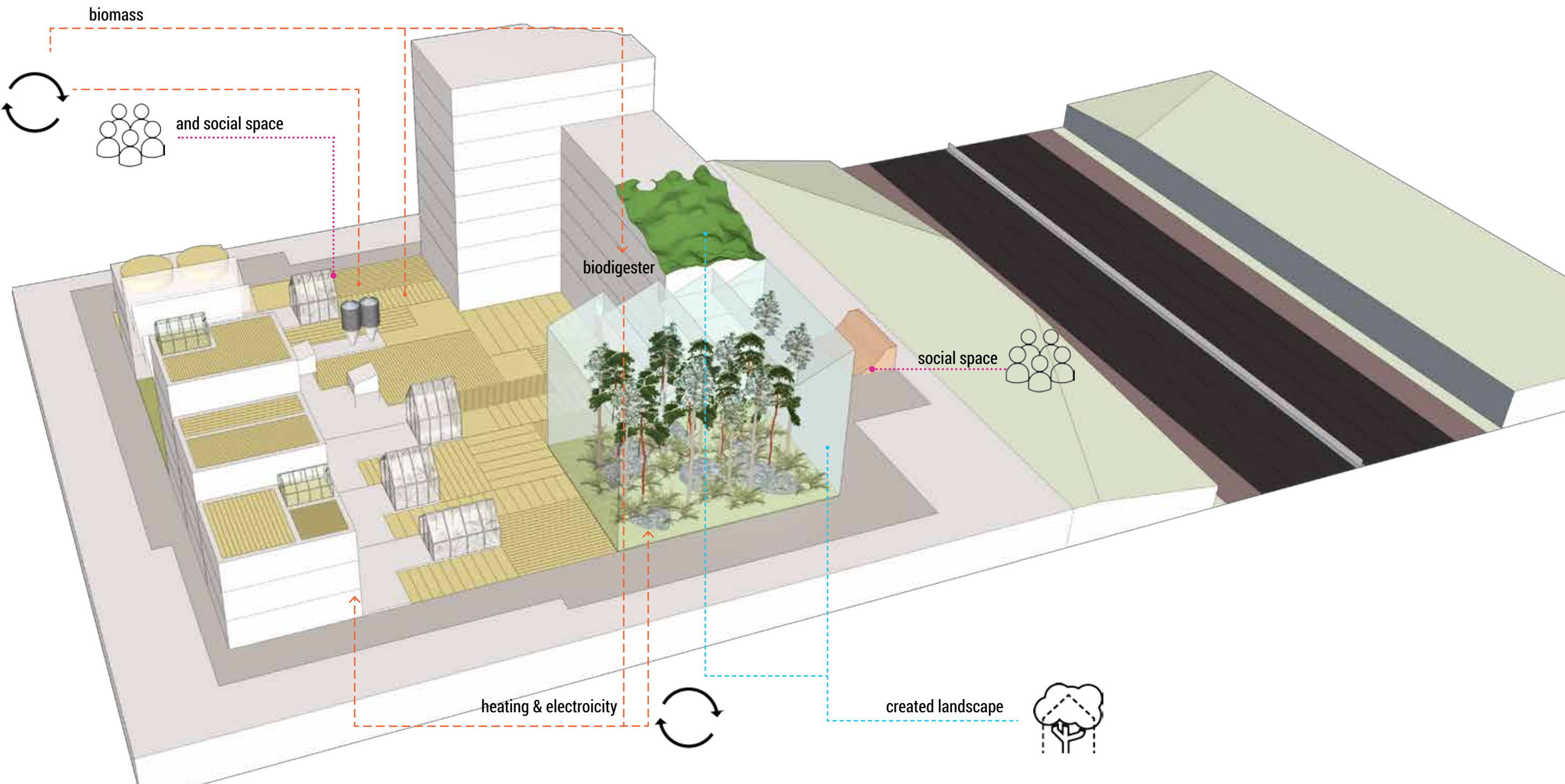


MY FOOD FARM

My Farm is where leisure is also food production. Small scale vegetable gardens and livestock farms like chicken coops take over the yard and roofscape.

Where My Block meets a noise source such as a motorway, taller buildings act as a screen. Technical spaces, biodigesters, the gym occupy space behind blind facades. On top of these facades, green biotopes adhere to the wall and make space for insect habitats. Parts of these green walls are suitable for climbing.

The back yard, towards the motorway, becomes space for active social life that is not as disturbed by the noise.



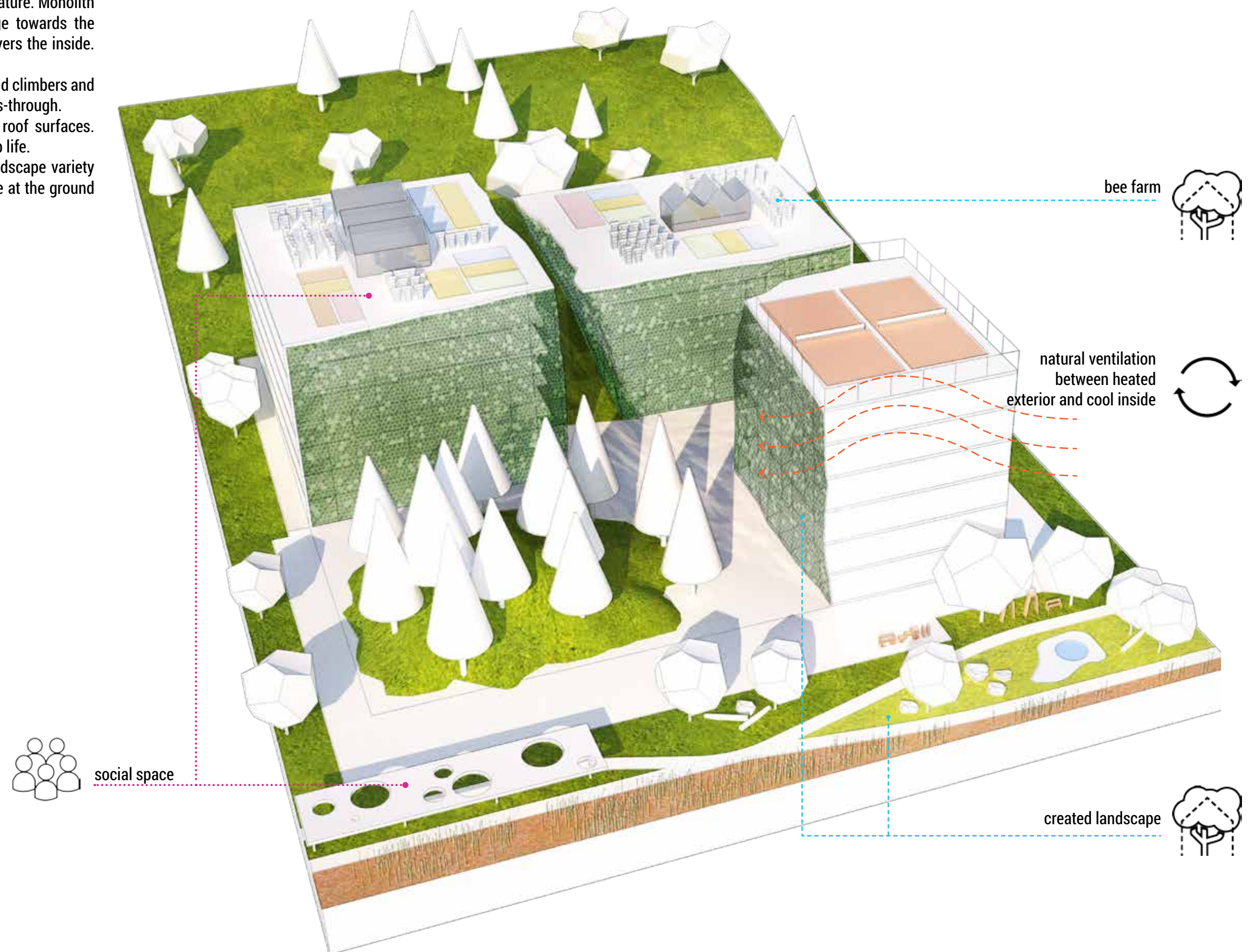
MY SLICE OF NATURE

My Block is sometime an artificial recreation of nature. Monolith buildings turn an artificial, heat absorbing edge towards the outside of the block, while a green soft edge covers the inside. This creates a natural ventilation effect.

The inner facades are vertical gardens of vines and climbers and the porous inside of the block allows wildlife pass-through.

The social space is relocated on the generous roof surfaces. Beehives and flowerbeds complement the rooftop life.

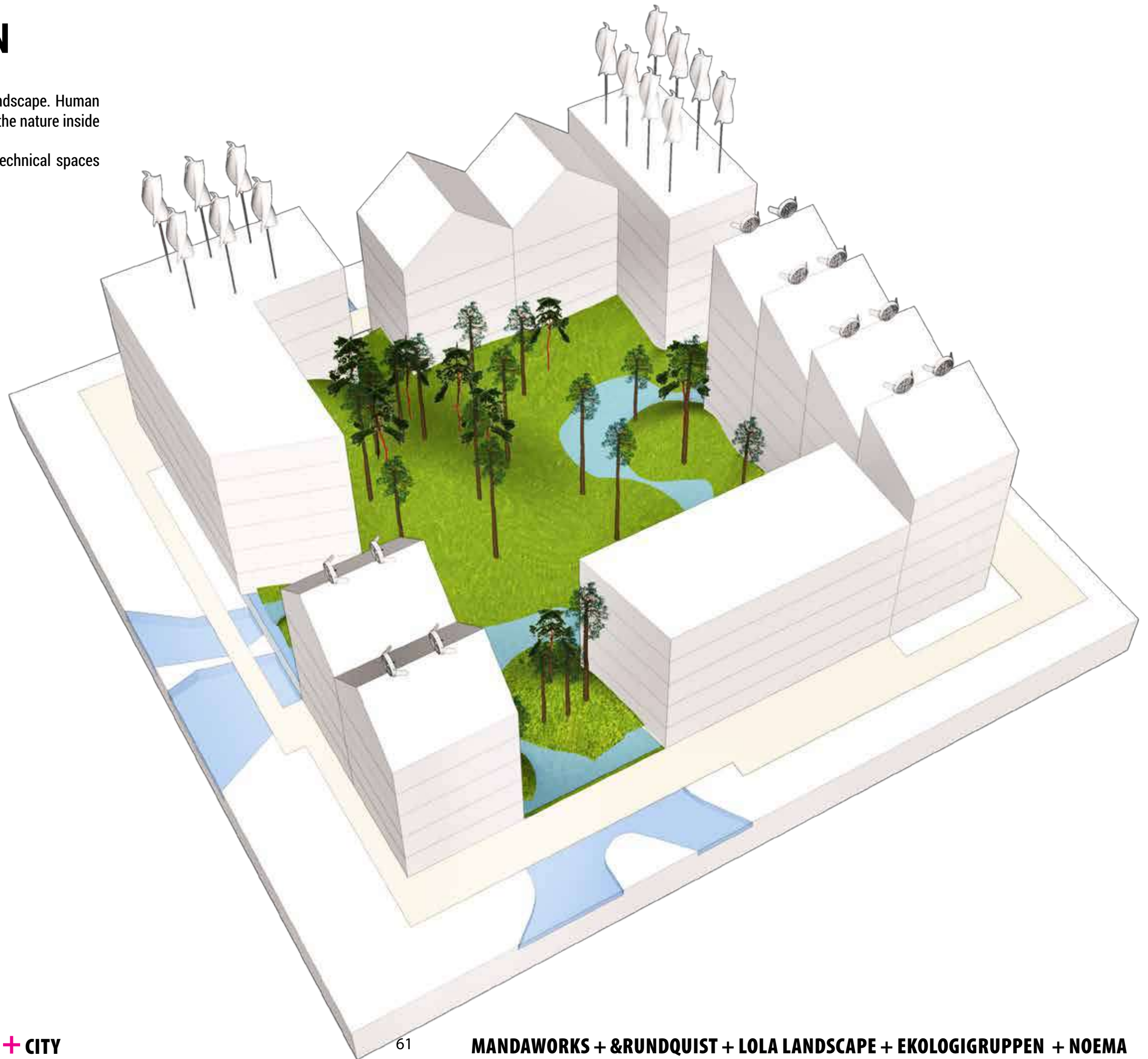
The street is a linear park, contributing to the landscape variety with "tamed nature" and holding the social space at the ground level.



MY ENERGY GARDEN

Other times, My Block is formed by framing the landscape. Human life takes place on the perimeter of the block, while the nature inside is left undisturbed.

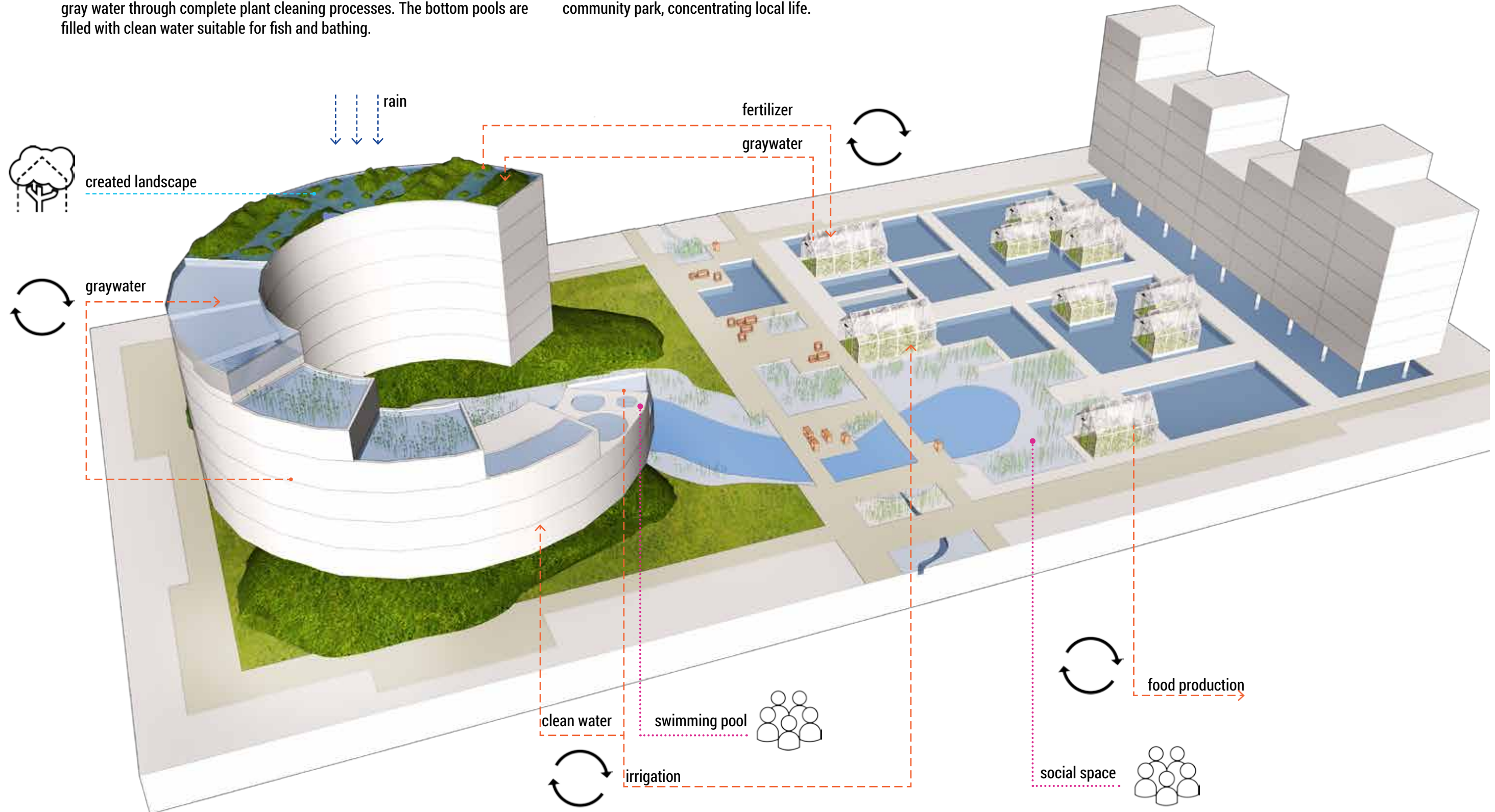
Communication is concentrated on the outside. Technical spaces and energy production are located on the rooftops.



MY SPRICKDALSVALLEY

My Sprickdalsvalley Block is providing additional wet conditions in the valley. Water is an essential and performative component of the block. Built typologies are adapted to the function water plays within each block. A marsh landscape on the roof collects and temporarily stores rainwater. Cascading pool terraces collect and circulate both rainwater and the block's gray water through complete plant cleaning processes. The bottom pools are filled with clean water suitable for fish and bathing.

Another My Block is dedicated to waterponics and small scale aquaculture. Housing is concentrated on one side and protected from occasional water level rise at the ground level. The street is a blue park, enabling water to circulate alongside humans. A freshwater pond stretching between the two blocks makes way for a community park, concentrating local life.



AND WITHIN THAT TOOLBOX WE ALSO CREATE THE SUR + SPECIALS THAT PICK UP THE FOUNDATION



AND PUSH THE BOUNDARIES AT THE KYMLINGE STATION!

Where my station:

- is the sprickdal skihill
- is the city agora
- is the market hall
- is the sports facility
- is the travel center



KYMLINGE STATION

Where my station:

- is the sprickdal ski-hill
- is the city agora
- is the market hall
- is the sports facility
- is the travel center



**WITHIN THE NATURE RESERVE THE TOOLBOX ALSO DESCRIBES POSSIBILITIES TO CREATE
+ SYSTEMS WITHOUT ACTUALLY BUILDING THERE**

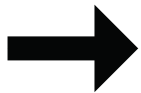
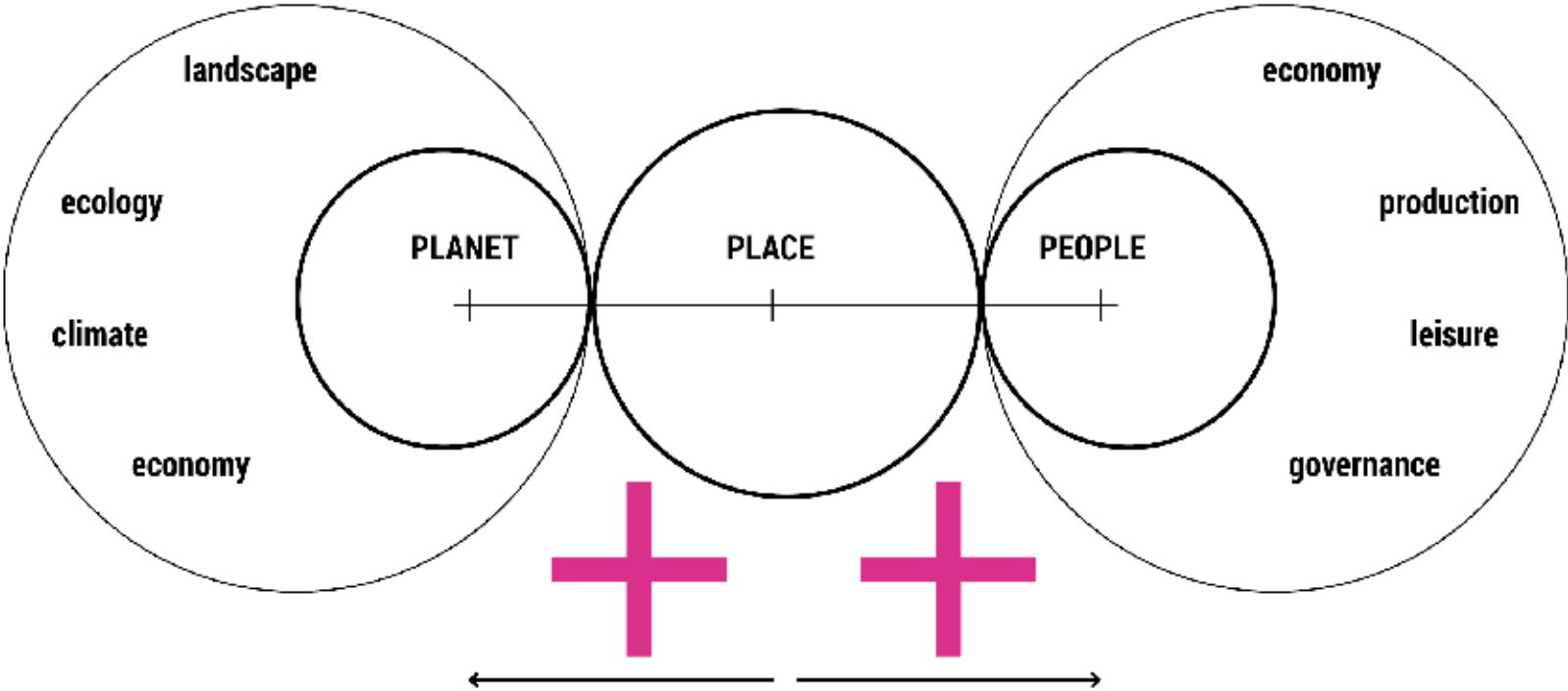




5. HANDBOOK OF THE FUTURE LIFE OF NORRA KYMLINGE SUR + CITY

THE HANDBOOK OF FUTURE LIFE IN NORRA KYMLINGE

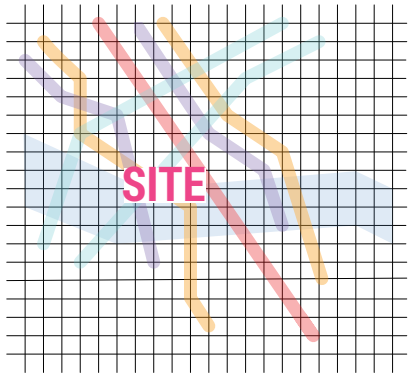
To explain how all the different parts of the SUR + CITY are connected, we created a small handbook that explains the several steps of prototyping the future life in Norra Kymlinge. The prototyping is the first step of creating the SUR + Norra Kymlinge district.



PROGRAM



- BUILT**
- 25 restaurants, bars och cafés
 - 1 library
 - 1 museum
 - 1 sports center
 - 4 primary schools
 - 12 preschools
 - 40 shops
 - 5 supermarkets
 - 14.000 people living there
 - 6.000 people working there



CIRCULAR & COLLECTIVE SYSTEMS



LOCAL PRODUCTION



WASTE RECYCLE



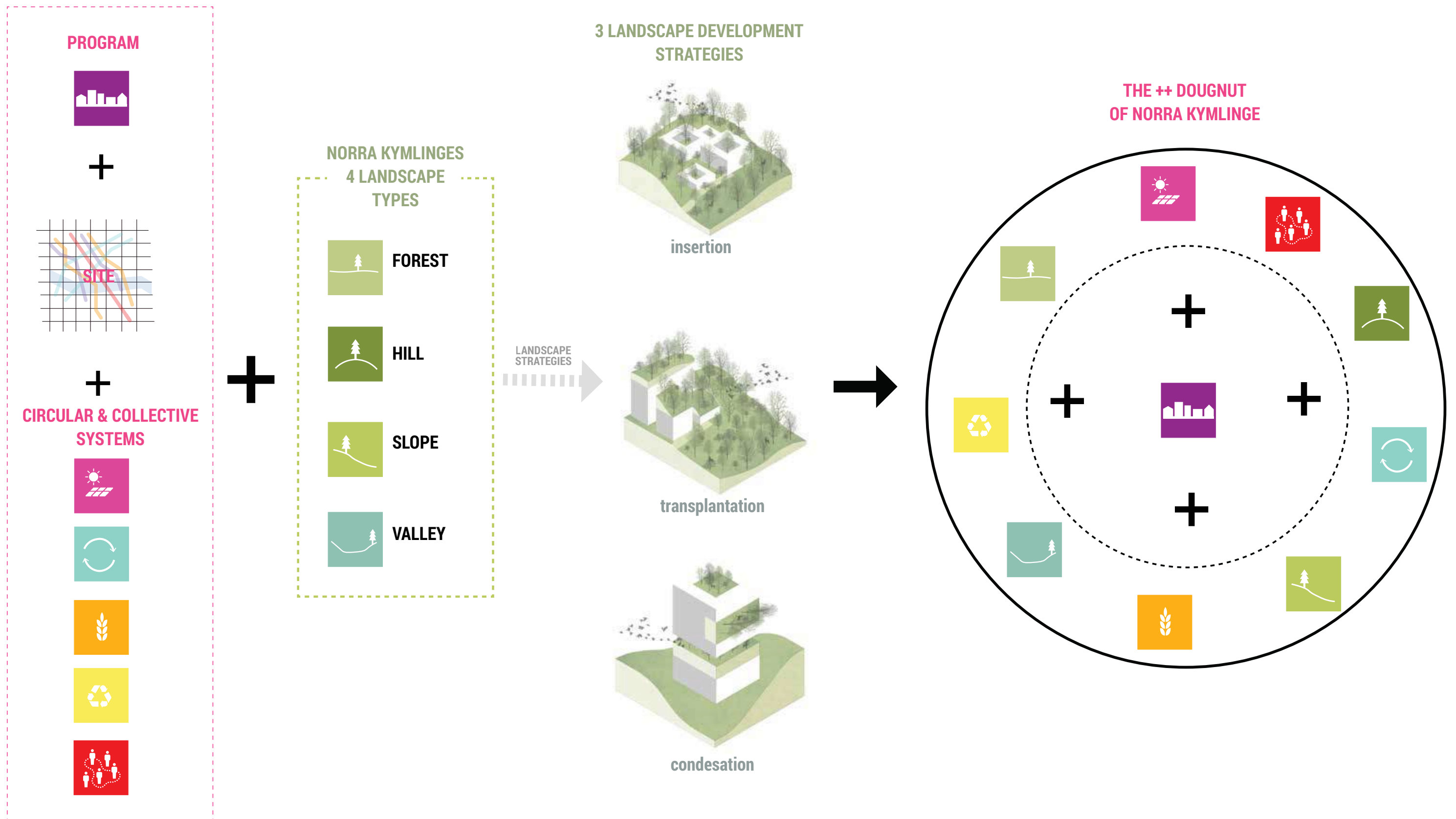
ENERGY



WATER RECYCLE

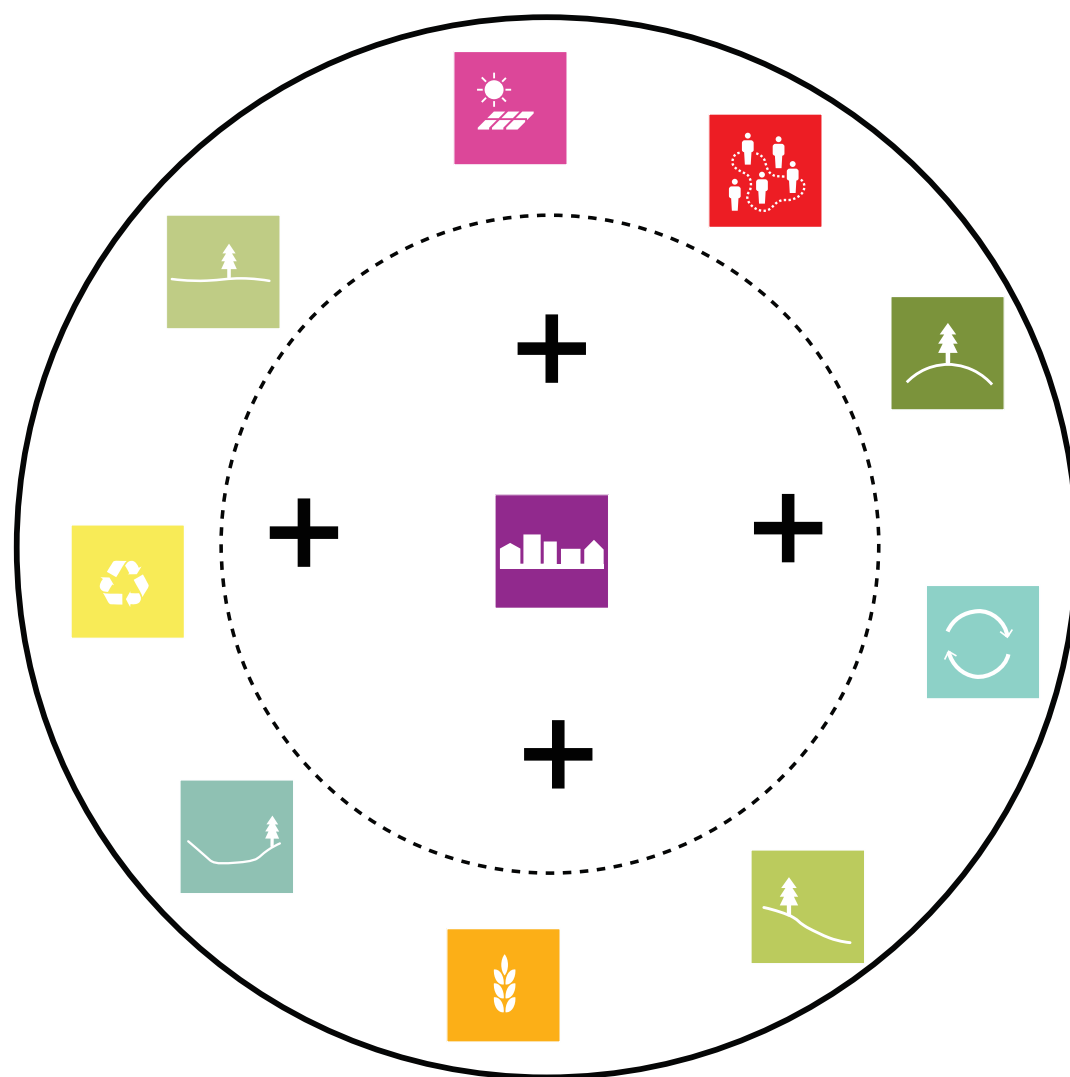
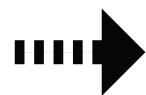
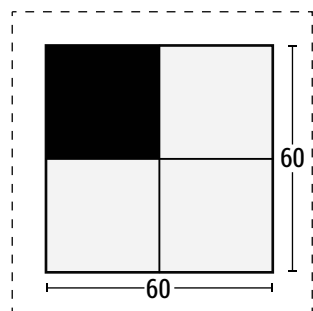


RECREATION



THE ++ DOUGNUT OF NORRA KYMLINGE

BASIC PLOT



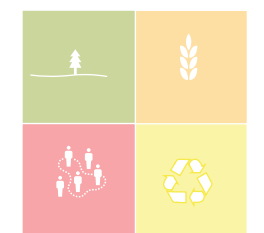
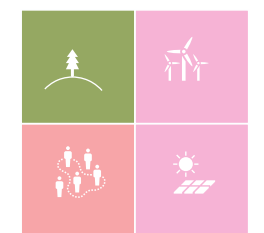
++ SPECIALS: KYMLINGE STATION



+ SYSTEMS: BUILT STRUCTURES

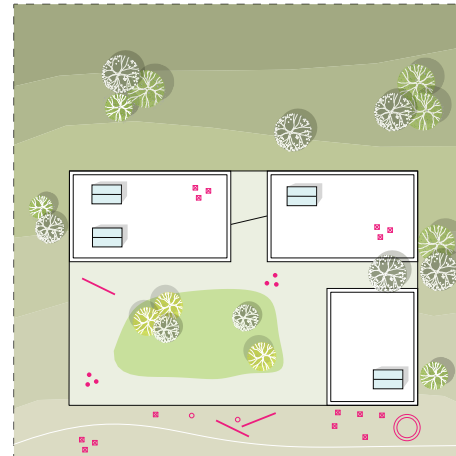


+ SYSTEMS: UNBUILT STRUCTURES

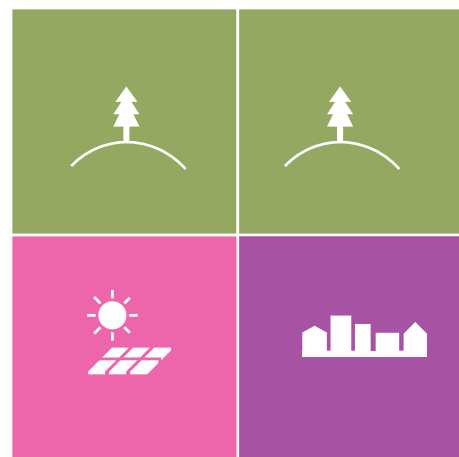


+ SYSTEMS: BUILT STRUCTURES

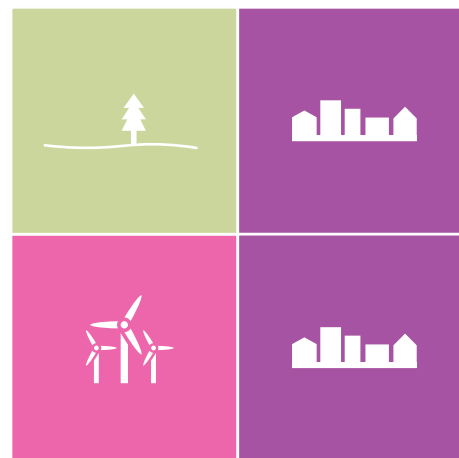
MY SLICE OF NATURE



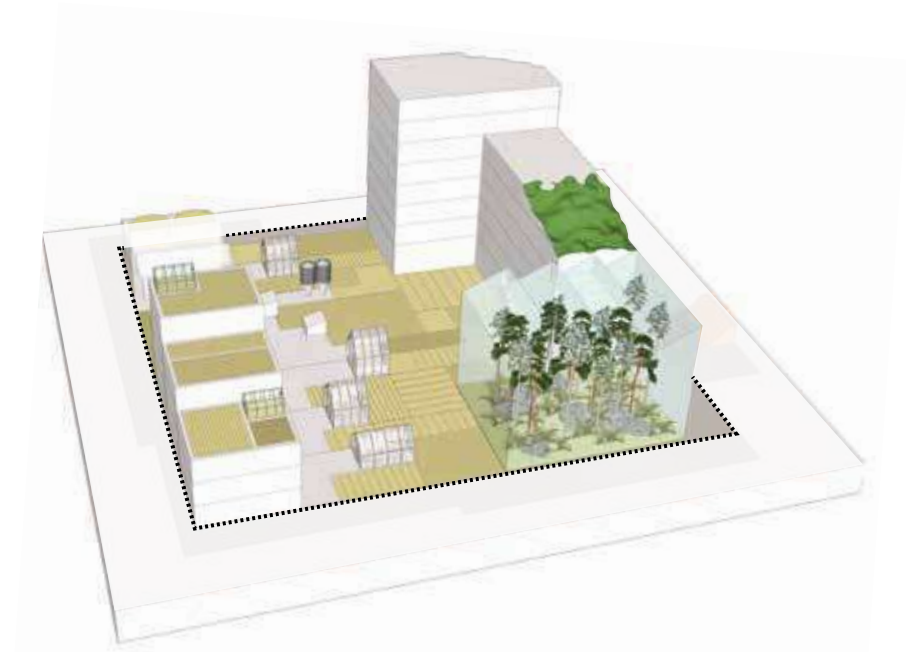
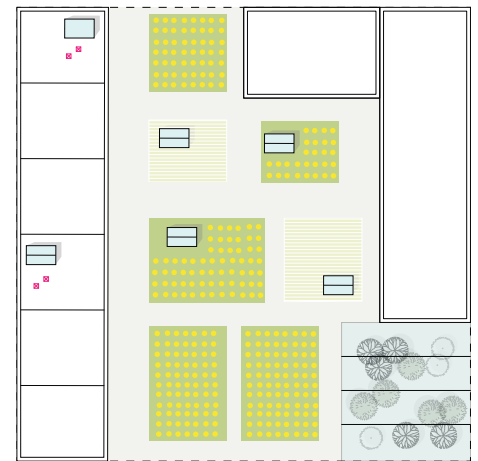
MY SPRICKDALSHILL



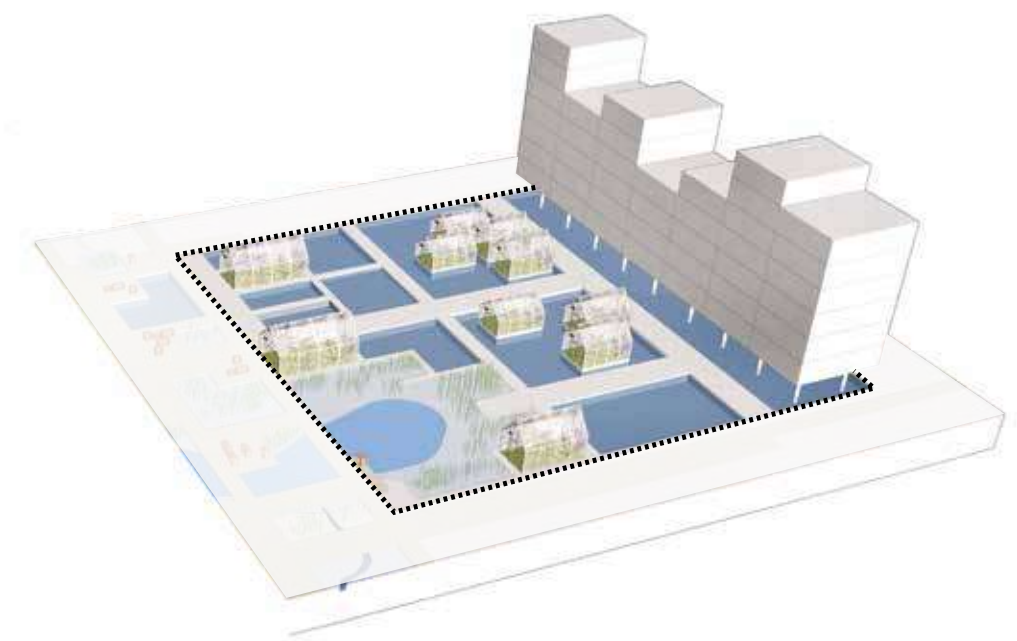
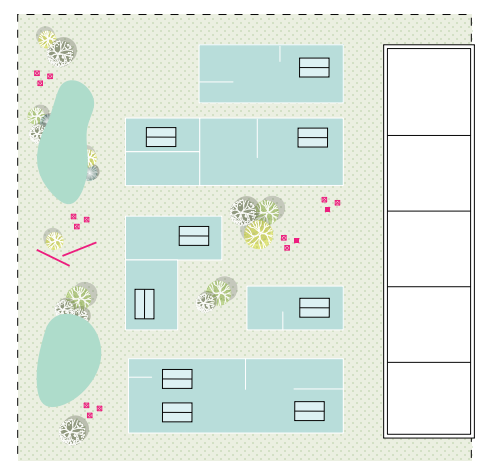
MY ENERGY GARDEN



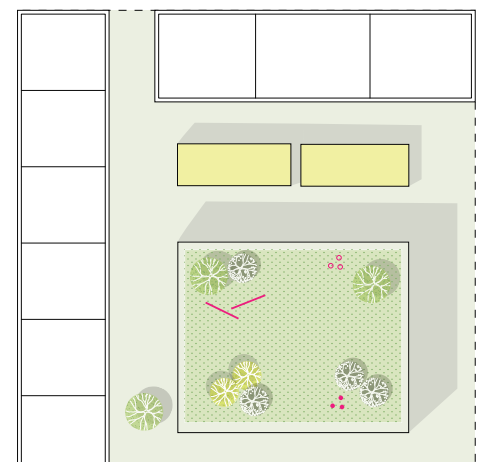
MY FOOD FARM



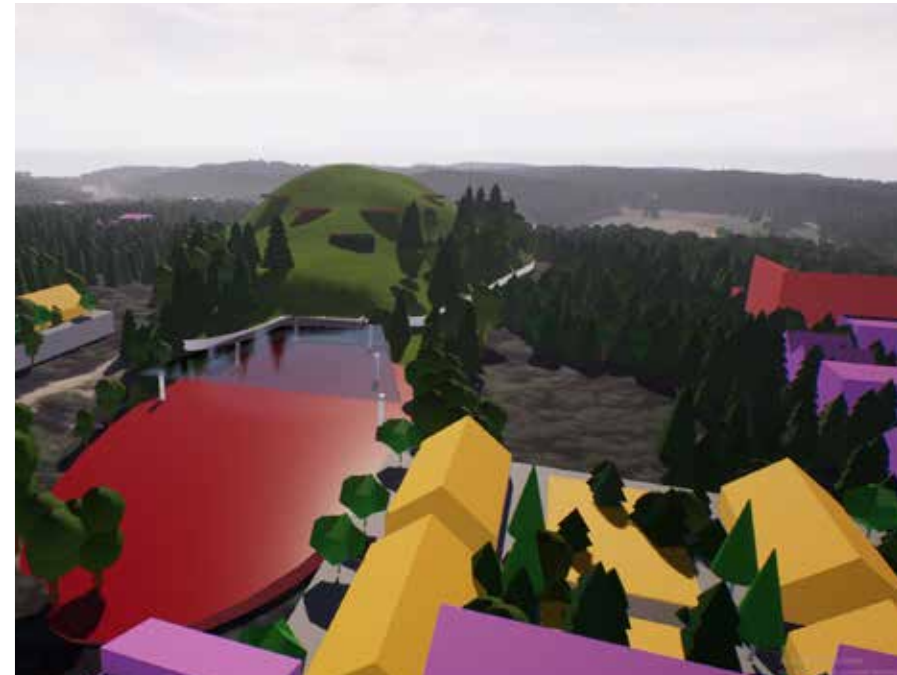
MY SPRICKSDALSVALLEY



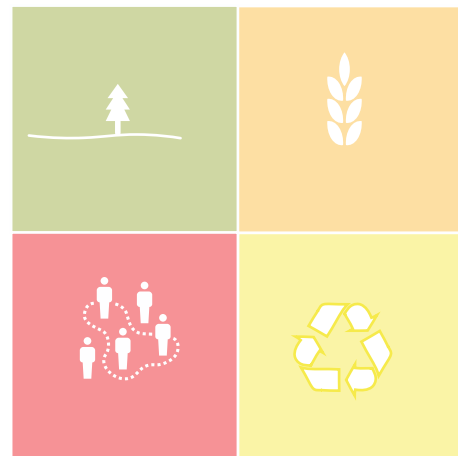
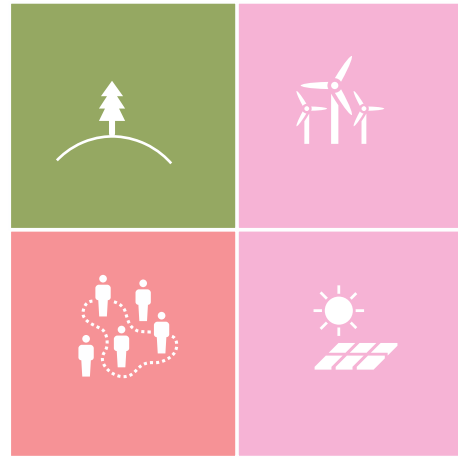
MY FACTORY



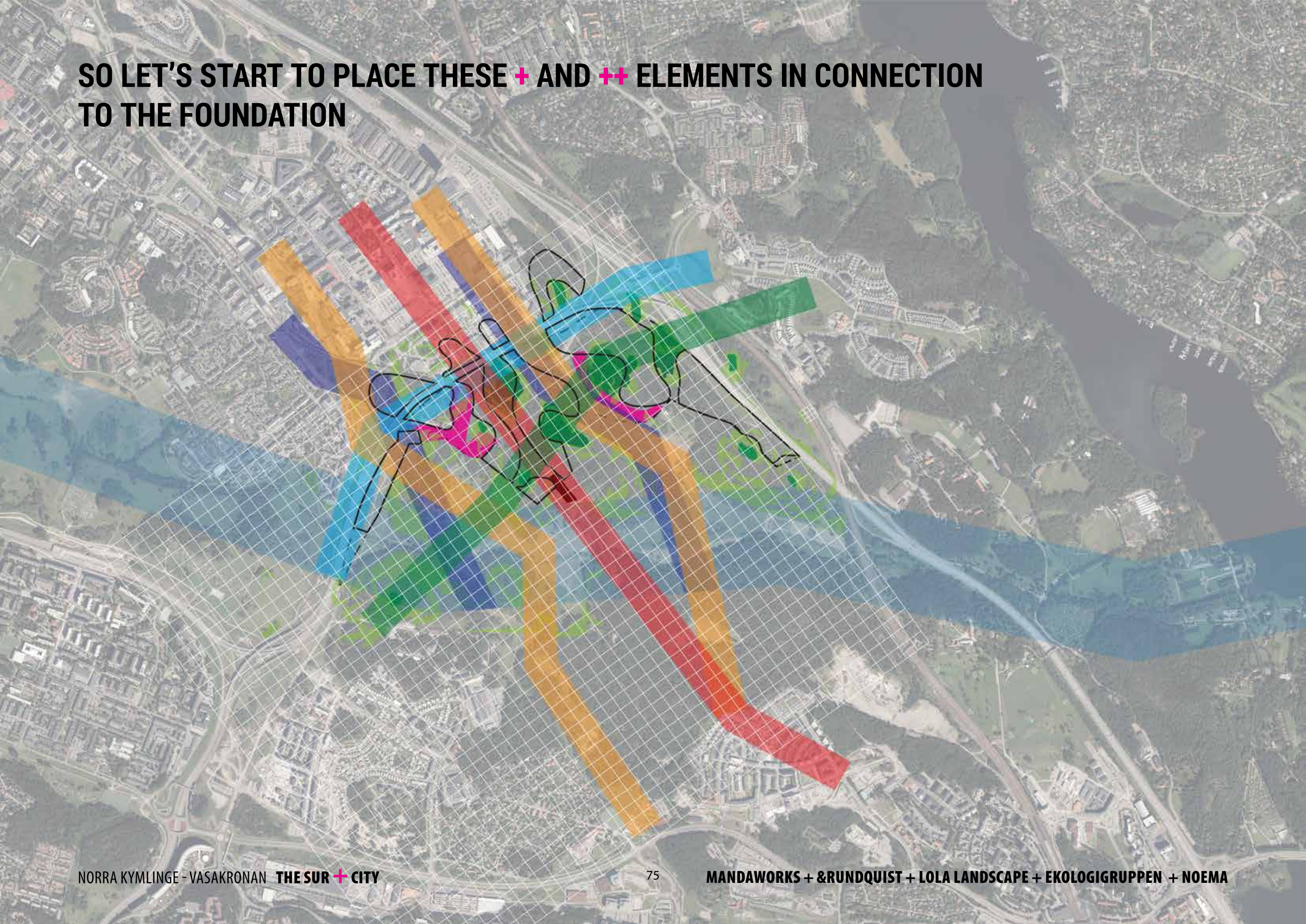
++ SPECIALS: KYMLINGE STATION



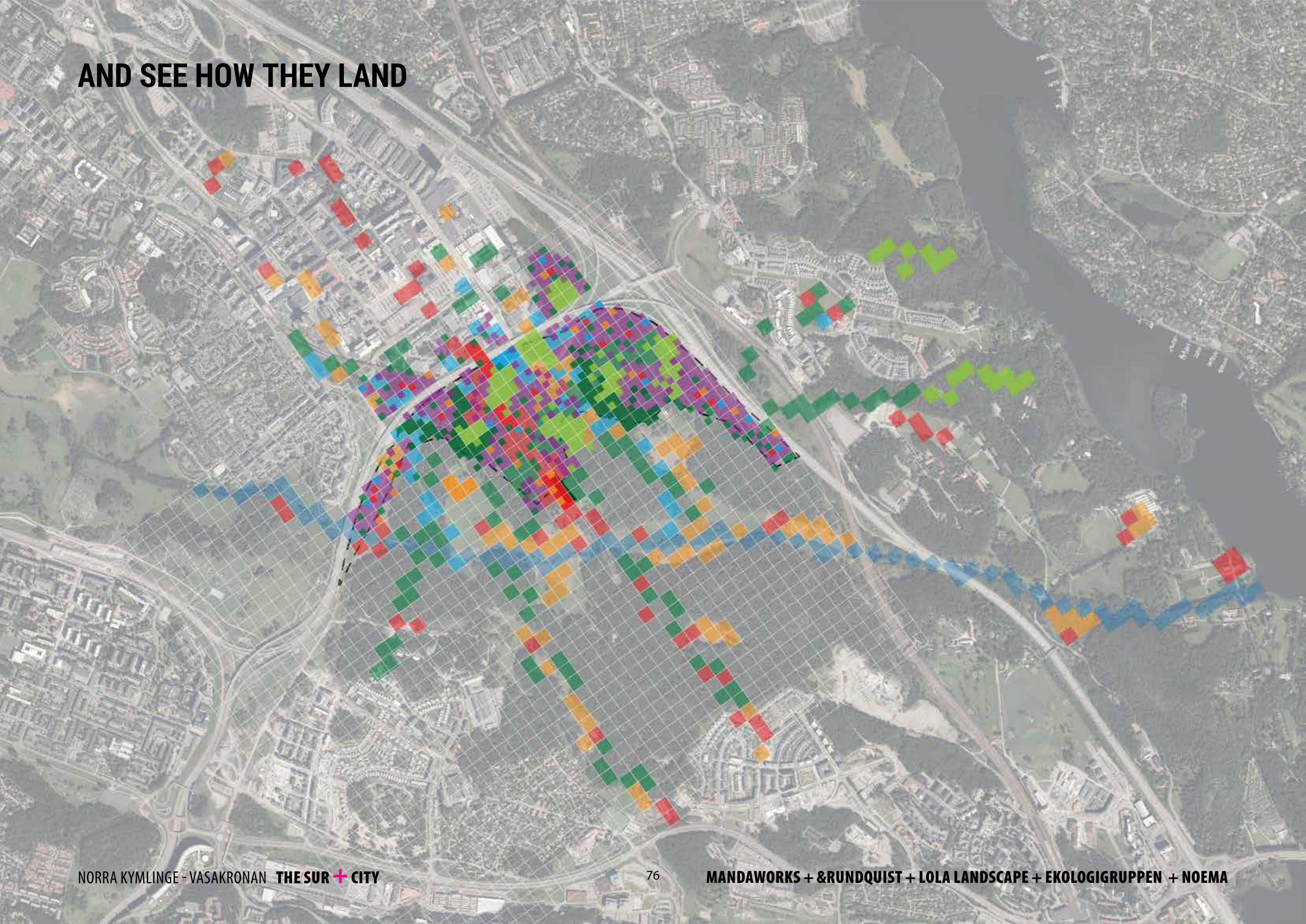
+ SYSTEMS: UNBUILT STRUCTURES



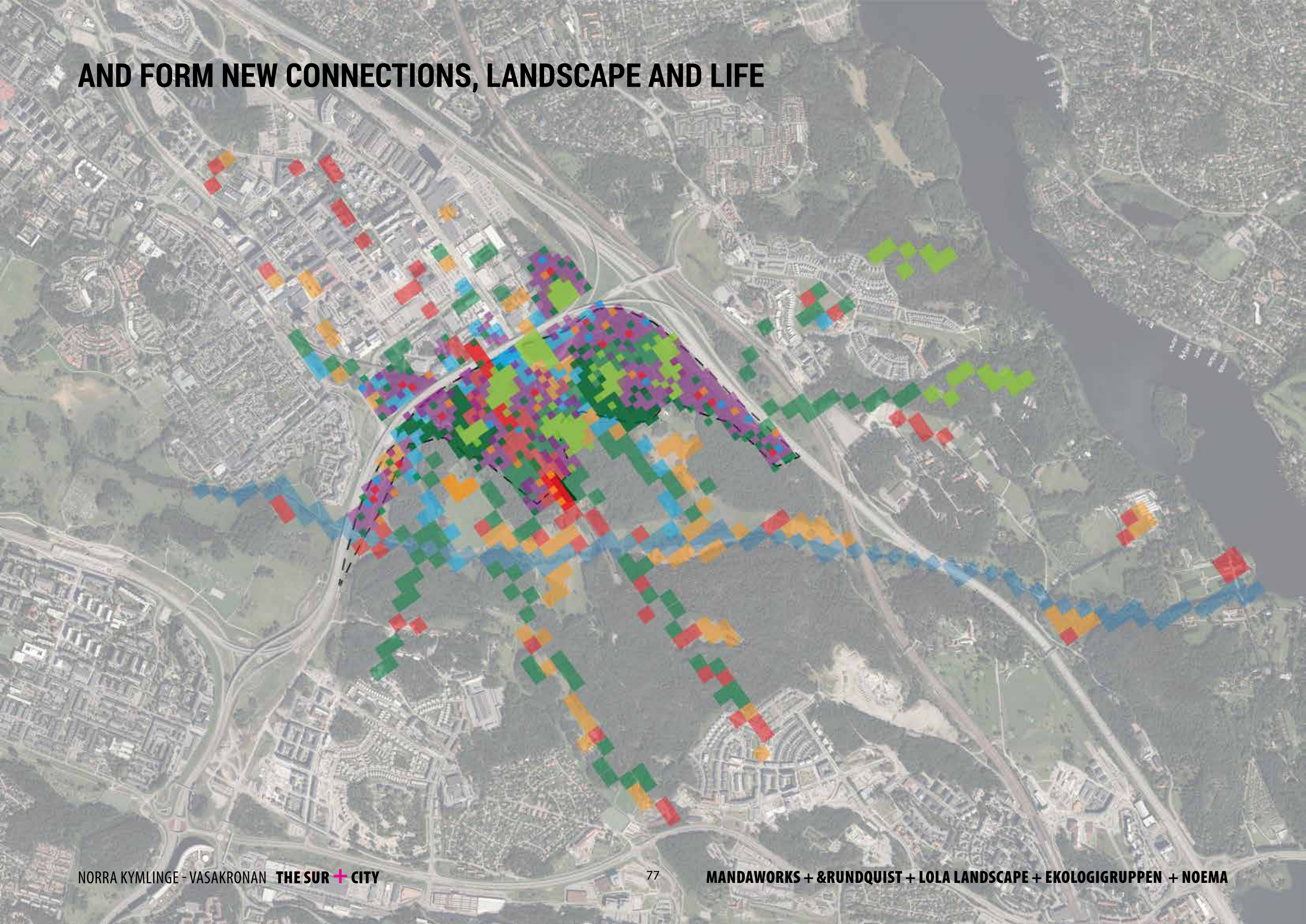
SO LET'S START TO PLACE THESE + AND ++ ELEMENTS IN CONNECTION
TO THE FOUNDATION



AND SEE HOW THEY LAND



AND FORM NEW CONNECTIONS, LANDSCAPE AND LIFE

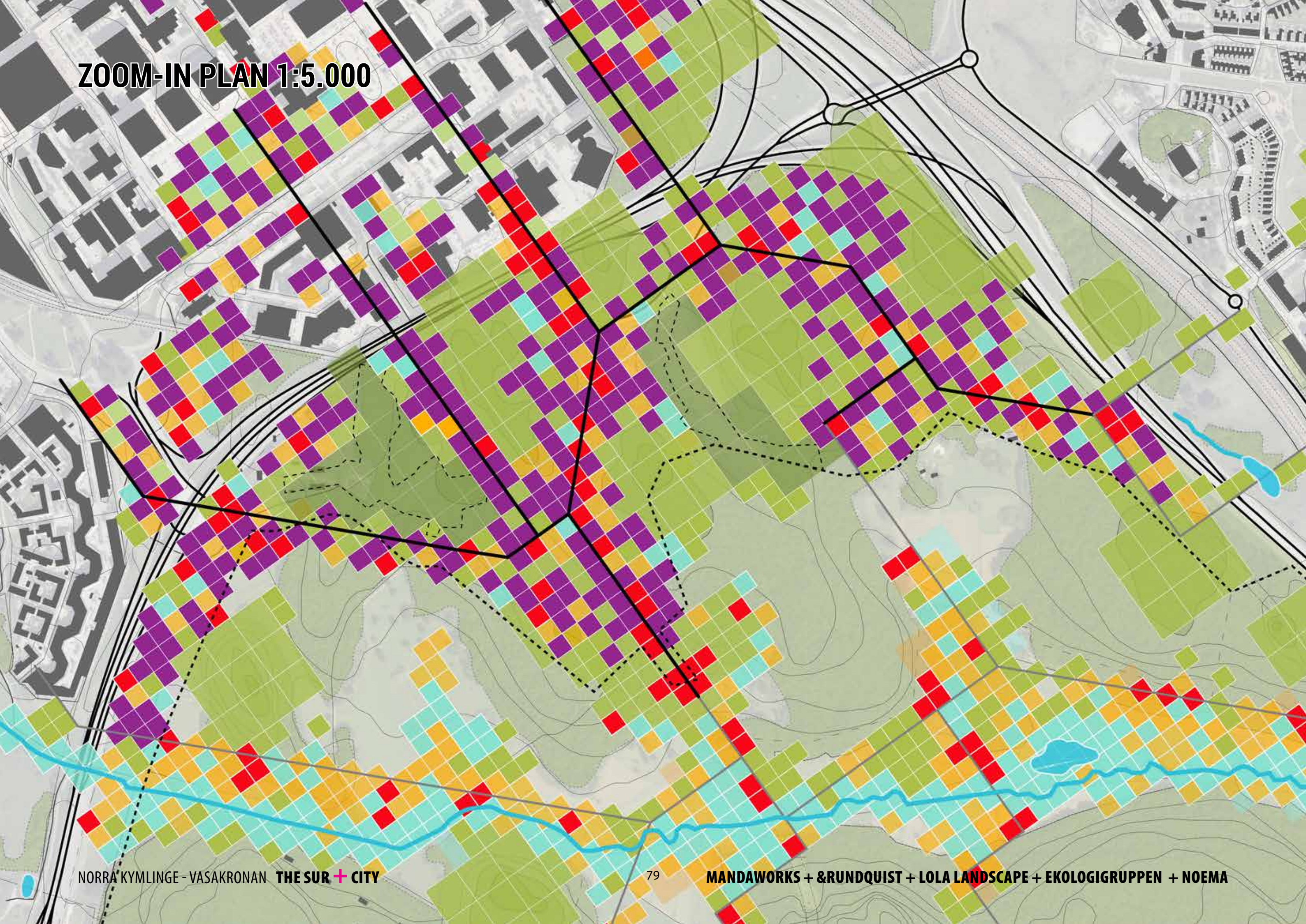


STRATEGIC DEVELOPMENT PLAN OF THE SUR + CITY

This plan is a strategic development plan that shows the possibility of strengthening the foundation of norra Kymlinge while adding a wide variety of the + prototype systems.

1/10,000

ZOOM-IN PLAN 1:5.000



NETWORK AND MOBILITY WITHIN THE STRATEGIC DEVELOPMENT PLAN OF THE SUR + CITY

Intro

We see the existing surroundings with barriers of motorways as something we have to relate to but also as something that can change with another use in the future. That is one example of aspects that are depending on national or/and global change of conditions. Our proposal is not depending on that but will of course be more or less well integrated in a wider urban area that works within the sustainable boundaries. As a prototype it will exemplify the possibilities that both work locally and regionally.

The schematic way of showing the Sur+City in a site-plan means that both the prototype and the site with its existing qualities will stand clear. A deeper interlacing is still to be done but the idea of how a network of different streets/connections, based on the existing network, is also shown in a schematic way.

The potential with the subway station is a considerable quality of mobility by public transport but has to be complemented. Future systems of individual mobility in smaller scale will adapt to the prototyping toolbox.

How the structure connects to the surroundings

The interaction between Norra Kymlinge and the surroundings is crucial for the creation of an urban fabric where social boundaries are challenged and contrasting local qualities made available for everyone.

In the north strong links are established deep into Kista in several positions crossing under Kymlingelänken. They are both effective passages and a way to insert the prototype in the blocks of Kista.

In the east the crossing of E4 Uppsalavägen and the main railroad is a possibility to connect Kymlinge with Sollentuna.

In the south all of the existing pathways and smaller roads will now serve as multiple connections directly to the green wedge and further on to the urban district south of Igelbäcken. Along these connections different prototypes for activities in the nature preserve can be added.

How the structure is connected internally

The proposal takes the existing infrastructure of pathways and roads as a starting point for the internal network. It is meant to be seen as an interaction with the schematic grid of prototypes, as an interference that can adapt the prototype into the specific landscape situation.

The main internal network is the connection between the larger connections to the surrounding areas in all directions. That means a good connectivity for both the inhabitants of Norra Kymlinge and for the greater urban area. The network gives good access to the subway station.

The street within Norra Kymlinge is a part of the prototyping toolbox and appears in different shapes according to the landscape developing strategies. The street as a park, the street as preserved nature, the street as a stream, etc.

How mobility works

Mobility in the Sur+City is of course related to the opportunity of opening the subway station, but can not only rely on that. Both within and in connection to the surrounding areas it has to be a fine mesh of connections for both individual low speed mobility by foot, bicycle, cargo bike and small scale public transport vehicles (Smaller electric busses, for example).

In that way the inhabitants can both interact with larger scale public transports, and with the surrounding urban and green areas in an easy way.

Deliveries will function in this small scale network as well, integrated with hubs adjacent to the main roads, and if possible also to the subway.

Individual/pools of individual vehicles are possible to arrange integrated with the delivery hubs, close to the regional network. Depending on future development in both public and individual transports it might be necessary to house a number of vehicles in these hubs for some time but can successively be transformed to other functions of "my house".

How the Metro station can be opened early

The station is a main function for the urban district of Norra Kymlinge but can be opened even before the area reaches an economic level of inhabitants.

The ++ station is much more than a station. With a content of ++ functions related to sports and outdoor life it can be a hot spot for a wider area of Stockholm, Sundbyberg, Solna and Sollentuna. It makes it possible for the dense parts of the urban area to both reach the green wedge and to use it as a social, recreational resource.

In the early stages of urban development in Norra Kymlinge, close to the station and in connection in the link with Kista there is a possibility to add more ++ systems with the agora and market place as attractions with a wider range than just Kymlinge. It is our socio/economic core of the circular economy. Here services and civic functions mix. The skiing slope above is a community playground in the snow for children and adults who want to learn skiing while playing together. The civic agora will have a regular market of local crafts and farmers market. The station will also house a space for civic gatherings (open fora decision making), concerts and performances.



DIVISION OF PROTOTYPE AREAS

BUILT + SYSTEMS IN
KISTA

BUILT + AND ++ SYSTEMS IN
NORRA KYMLINGE

ZOOM-IN PROTOTYPE AREA

NON BUILT + SYSTEMS IN
NATURE RESERVE

1/10.000

ZOOM-IN PROTOTYPE AREA

1/2.000

NORRA KYMLINGE - VASAKRONAN THE SUR + CITY

82

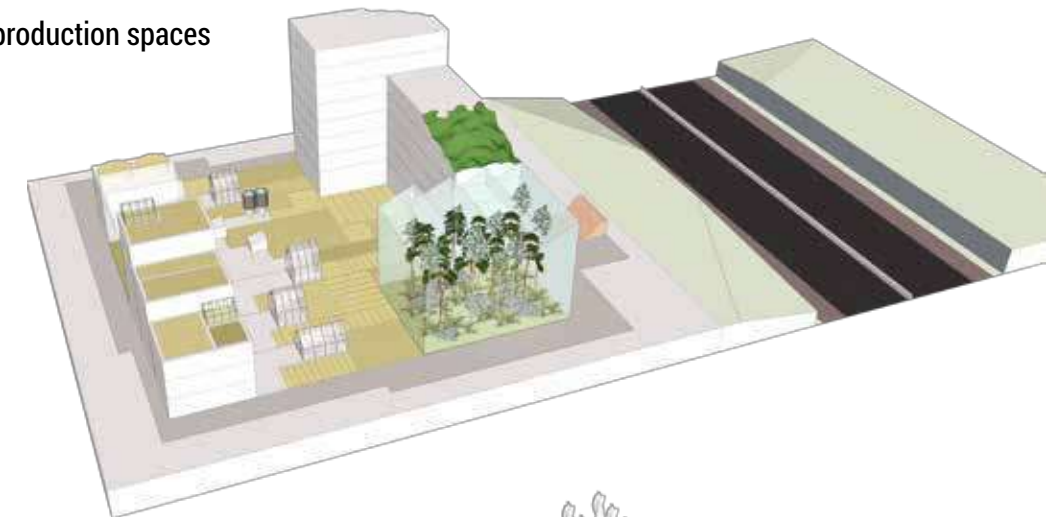
MANDAWORKS + &RUNDQUIST + LOLA LANDSCAPE + EKOLOGIGRUPPEN + NOEMA

SIX OF MANY PROTOTYPES GIVE AN IDEA OF BUILT PROGRAM IN THE SUR + CITY

70 dwellings + 10 working/production spaces



35 dwellings + 110 working/production spaces



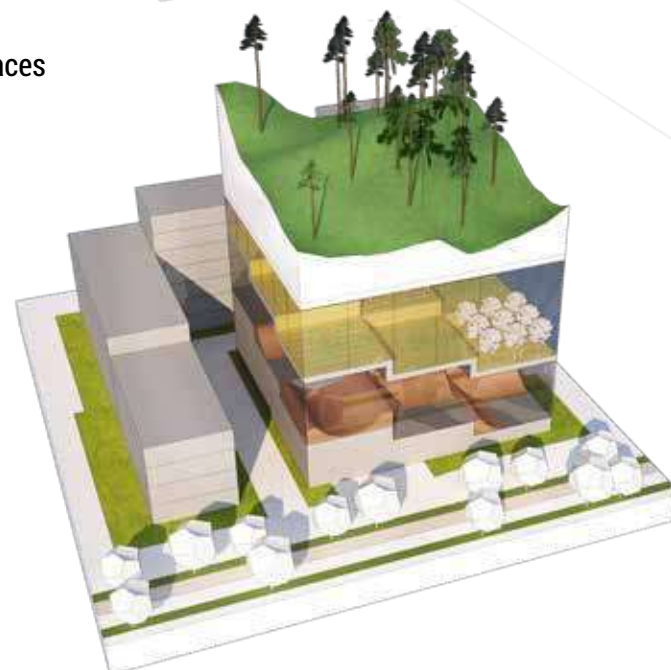
70 dwellings + 10 working/production spaces



70 dwellings + 10 working/production spaces



35 dwellings + 110 working/production spaces



50 dwellings

35 dwellings + 110 working/production spaces



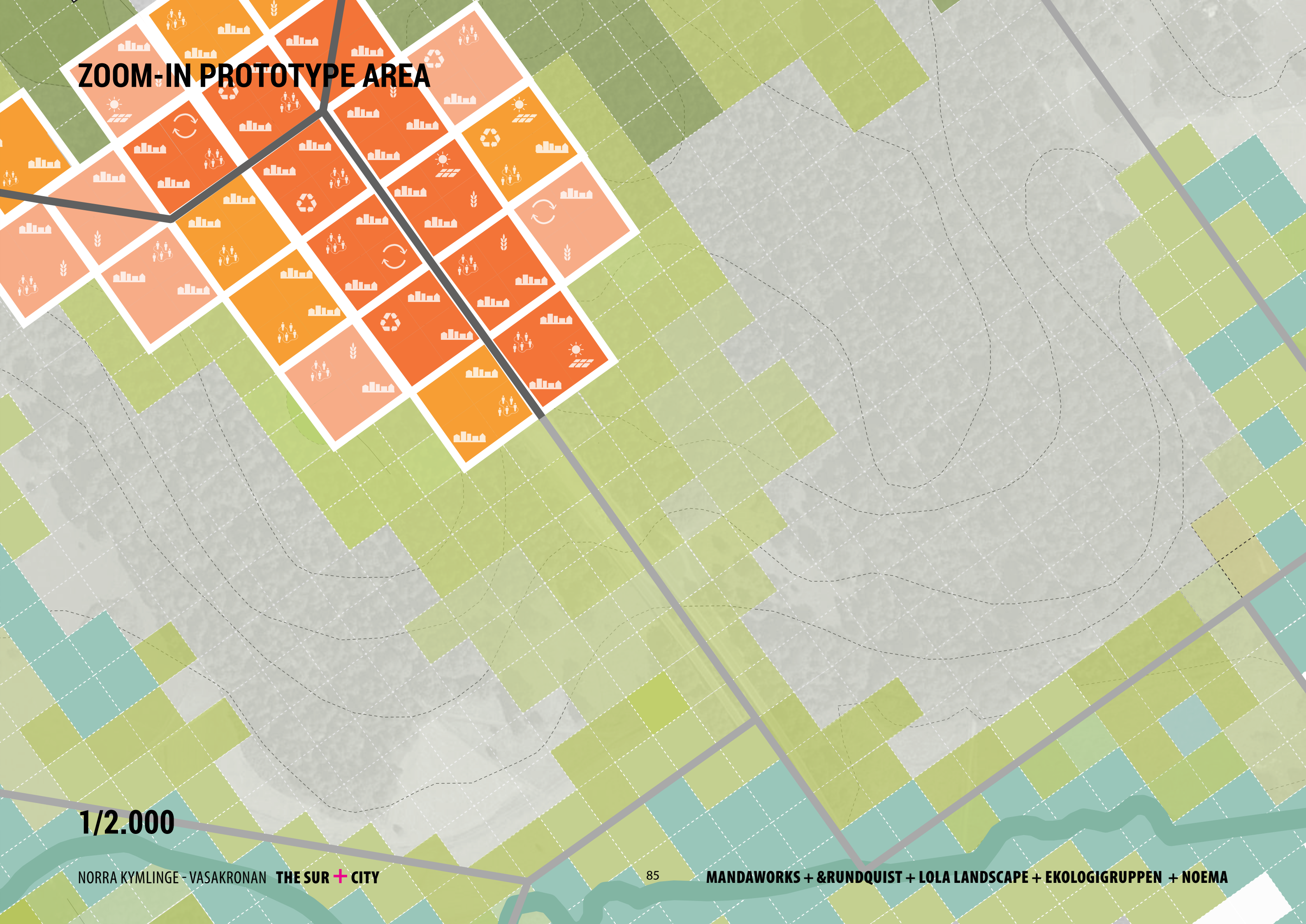
POSSIBLE PROGRAM WITHIN THE STRATEGIC DEVELOPMENT PLAN OF THE SUR + CITY

The new development in Norra Kymlinge can contain
7.000 dwellings and 6.000 working spaces.

- 70 dwellings + 10 working/production spaces
- 50 dwellings + 50 working/production spaces
- 35 dwellings + 110 working/production spaces
- 50 dwellings

1/10.000

ZOOM-IN PROTOTYPE AREA



1/2.000



THE SUR+ CITY

An aerial architectural rendering of a city development. The scene shows a dense cluster of buildings with colorful roofs in shades of pink, purple, blue, yellow, and red. These buildings are interspersed with lush green trees and vegetation. A prominent green field is visible in the lower center, with a small red oval highlighting a specific area within it. The overall layout suggests a planned urban environment with integrated green spaces.

THE SUR + CITY

THE SUR + CITY

TEAM



&RUNDQUIST

Lola
LANDSCAPE
ARCHITECTS
ROTTERDAM

: EKOLOGI
GRUPPEN

: EKOLOGI
GRUPPEN

noema™



Patrick Verhoeven, Mandaworks (Stockholm)



Maria Gregorio, Mandaworks (Stockholm)

+ input after workshop, **Elin Delmar & Mariada Stamouli**, Mandaworks (Stockholm)



Henrik Rundquist, &Rundquist (Stockholm)

+ input after workshop, **Delia Moldoveanu**, &Rundquist (Stockholm)



Eric-Jan Pleijster, Lola Landscape Architects, (Rotterdam)

+ input after workshop, **Juan Gutierrez Beltran**, Lola Landscape Architects, (Rotterdam)



Ulrika Hamrén, Ekologigruppen (Stockholm)



Tim Schnoor, Ekologigruppen (Stockholm)



Lia Ghilardi, Noema Culture and Place Mapping (London)



Fredrik Ekholm, One Reality

Patrick Verhoeven is partner of Mandaworks and will oversee and manage the teams contribution to the project from conception to completion. Patrick brings to the team a deep knowledge of international best practices regarding sustainable urban masterplanning. Mandaworks, led by Patrick and Martin Arfalk, is internationally recognised for its innovative approach to masterplanning, urban design and space making. Patrick is a trained and qualified urban designer/architect (SAR/MSA - Swedish association of Architects) and has over twenty years experience overseeing urban planning and design projects internationally. Patrick's recent work has included several key planning projects in Stockholm and around Sweden that relate closely to the challenges of Norra Kymlinge.

Maria Gregorio Puig is an Architect and Designer at Mandaworks. She is a multi disciplinary designer, with professional and academic experience in architecture and urban design. Maria provides the team with knowledge and experienced related to the masterplanning around infrastructure transformations and thorough knowledge of the interface between architecture and the public realm. Maria is a trained Architect with experience working on urban planning masterplans internationally with Mandaworks. She has been the lead designer in the Alvik Revitalisation, which deals with the transformation of a major Metro line and arterial highway in Stockholm. Her specific experience working with the masterplanning of a complex project brings a deep understanding of the complexities of large scale planning, specifically in relation to the city's sustainable development.

Henrik Rundquist is founder and leading architect of &Rundquist in Stockholm.

Henrik has an unique combination of experiences in the field of urban development, infrastructue and public transport. His views of the urban context is based on the flows of people, how they take the city in possession and how they uses the public space. He has a wide range of selected proposals in Parallel Commissions for different urban areas in Stockholm, Malmö and Linköping. Examples are Vision for Valparaíso in Stockholm Royal Seaport, Program for Norra Hagastaden, former Karolinska Hospital Area and Vision for Alvik, in cooperation with Mandaworks. Some years ago Henrik was responsible for the Vision for Kymlinge "Earth, Body & Mind" and the proposal "Platform Kymlinge" in cooperation with White and Wingårdhs, both commissioned by Vasakronan.

As building architect he has several rewarded project as Pier F at Arlanda Airport (Kasper Salin Prize), The Floating Roof in Vällingby Centre (European Steel Design Award), The Sundsvall Bridge (European Steel Design Award) and Täby C Roundabouts (Trafikverket Architecture Prize and European Concrete Design Award). Henrik is often engaged as member of different prize and competition juries. Since 2012 Henrik is a member of the Royal Academy of Fine Arts.

Eric-Jan Pleijster is partner and co-founder LOLA Landscape Architects, Eric-Jan graduated cum laude in landscape architecture from Wageningen University. Together with LOLA, he made designs for the natural recovery and recreational use of the Netherlands' south-west delta area, including the Grevelingen, the Volkerak and the Haringvliet. He wrote Dutch Dikes and coordinated the book's research and production. Eric-Jan is a specialist in landscape design and he brings imagination and passion into the research and design of complex spatial issues. With two award-winning Eo Wijers-submissions and the Delta Water Award, Eric-Jan shows that on this scale, concrete design of landscape, infrastructure and ecology can give a new dimension to spatial planning. He has wide experience with creative and interactive design processes. His approach is result-oriented and he knows how to monitor the main topic in broad partnerships. Eric-Jan is active as a guest speaker and visiting professor at workshops and design studios. In 2013 he received the Rotterdam Maaskant Prize for Young Architects. On the occasion he co-wrote with Peter Veenstra and Eric-Jan Pleijster the award-winning monograph on LOLA titled 'Lost Landscapes'.

Ulrika Hamrén has a Master of Science (MSc) in biology, is an expert ecologist and senior consultant and partner in Ekologigruppen AB, one of Swedens leading ecology and planning consultancy companies. Ulrika has a wide expertise, mainly in the fields of biodiversity, urban ecology, sustainable planning, ecosystem services, climate adaptation, nature conservation, EIAs (environmental impact assessments) on infrastructure and planning projects, management plans for nature reserves, surveys of flora and fauna, threatened species, ecological offsetting, ecological restoration and reinstatement plans. Ulrika has been working as a project coordinator since 1996 and senior consultant since 2002, with strong communication and social skills, along with time-, group- and project economy management abilities.

Tim Schnoor has a Master of Science (MSc) in environmental science and a PhD in Ecology and is consultant at Ekologigruppen AB. Tim is an ecologist with a wide experience of strategic environmental planning and practical and theoretical nature conservation. His experience includes identifying and developing biodiversity and ecosystem services on a range of scales, ecological offsetting, management of nature and analysis of ecological data. Mainly work in projects where nature meets urban development. Tim has worked as a project coordinator at Ekologigruppen since 2015. He is a communicative, social consultant used to collaborate with different fields of expertise's. Currently a member of the advisory council for the urban development thinktank Movium.

Lia Ghilardi, is a creative polymath, based in London. She is the founder and director of Noema, a UK-based organization working internationally to deliver place mapping and strategic cultural planning projects. Internationally recognized as a leader in the field of cultural urban development, she has worked for more than twenty years with civic leaders, urban designers, architects and arts organisations to provide creative and integrated solutions to the challenges of place making in contemporary cities.

An inspiring public speaker, she lectures widely in universities across Europe. From 2007 to 2013 she was module leader at City University, London, where she delivered the Culture and Regeneration module as part of the MA in Culture, Policy and Management. More on Academia.edu She is a member of the Academy of Urbanism, a network of influential thinkers, professionals and decision makers passionate about creating a better living for people in towns and cities. More recently she was invited to join the RSA as a Fellow.

Lia's background is in urban sociology (Trento University, Italy); she has an MA with Distinction in Arts Criticism from City University (London) and a Diploma in Creative Thinking Skills from the De Bono Seminars Programme (Malta).

