

A photograph of a residential street scene, overlaid with a magenta tint. The scene shows a paved road curving to the left. On the right side of the road, there is a long, single-story building with a flat roof covered in solar panels. A sign is visible on the wall of this building. Further down the road, there are several multi-story houses. A few cars are parked on the street. The sky is overcast. The text "COMMUNITY LIVING" is centered in the middle of the image in a bold, white, sans-serif font.

COMMUNITY LIVING

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Author

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Jeseník - a town nestled between hills, forests and meadows. A city that combines wild greenery, which suffers from declining population, lack of work, homelessness. But at the same time it is full of beauty and the forces of nature. The wind, the abundance of water and its enchanting nature attract tourists from different countries.

In my proposal, I focus on solving social stimuli obtained directly from people in Jeseník. Many appealed to the height of homelessness and the gathering of a certain group of people. Therefore, I am focusing on this problem and looking for a possible solution that would help to integrate these people into everyday life and at the same time increase safety on the streets. These functions are created in an effort to offer help, but the way it is currently addressed does not bear fruit.

Another essential part is the work with local resources, construction, history and the effort for partial food and energy self-sufficiency using modern technology. In the proposal, I determine ecologically suitable ways that put man and nature into a harmonious relationship, where they form one whole. I focus on the design of community spaces in the form of public spaces and community housing, where I directly apply these principles. The gradual urban wilderness grows into ecologically partly energy and food self-sufficient housing, and in residential complexes full of functions that retain water in the country, purify it and at the same time serve for research, community life, sports, local production and bring the inhabitants of Jeseník a look at new ecologically undemanding way of life.

CURRENT STATE OF THE OTAKAR BŘEZINA STREET

Jesenik boating club

Turning and milling

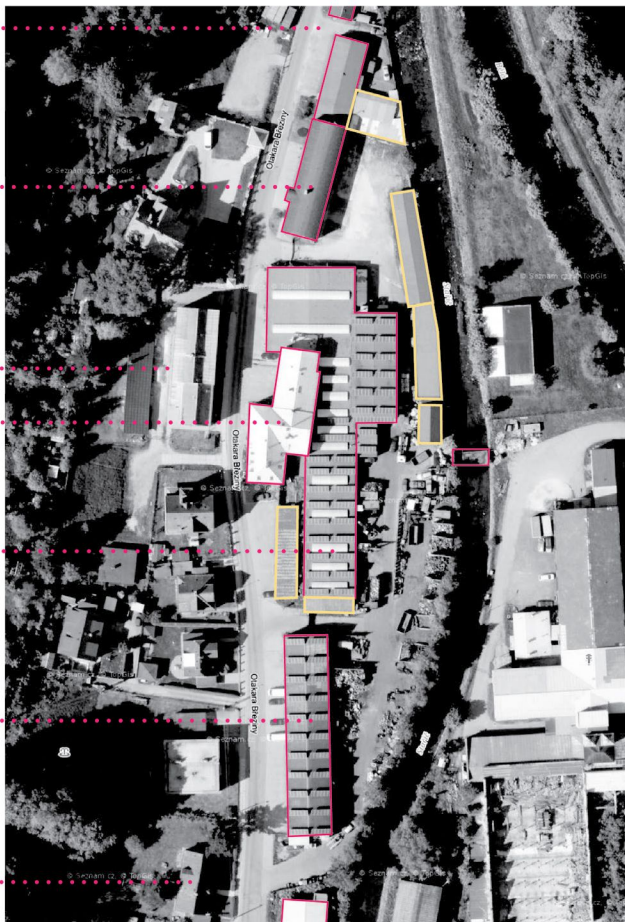
Asylum house

Low-threshold center
for children and young people

Historic production hall

Collection of secondary
raw materials

The rest of the street
is family development



SPATIAL DISPLAY - PHOTO

Otakara Březiny Street is located in close proximity to the landscape and forests. It is on the outskirts of the town at the confluence of the rivers Bělá and Starý. The street itself has several unique spatial moments, which determine subconscious behavior of an individual in space. When we look at the street from the northern part, from where it is directly connected from the town of Česká Ves, we can see the country full of trees, Jeseník meadows and mountains, which make Jeseník so special. At the beginning of this territory, at the confluence of rivers are located on the left side of the paddlers. The volume of their building is the beginning of the street, a line that forms on both sides of the street. On the right side we are led by a line of nature, which grows from the

picturesque mountains to urban areas, through the city. In a common symbiosis, they accompany man down the street.

When I turn around at this point, I feel like in a forest, in a natural landscape, to which man entered. From the opposite side rivers also overgrow the trees they make around the river corridor green. All this part is perceived as relaxing and calm. In harmony of man and nature. Silence, rustling of the river and leaves, this impression still amplifies more. The boating function is therefore into this territory as created.

I have nowhere to go when crossing the street to lose. I am guided by the land border, fences and floor volumes of buildings. In the distance you can see the beginning of the sidewalk, with which comes a higher volume of the building. In this volume there is an asylum house, which talks about the social character of the street. On the right side, the edge of a house that has stood in the street for over a hundred years is slowly drawing our attention.



This edge of the house gradually conquers a person's perception and draws his attention. It is like an impact vertical surface that allows a person traveling through it to gather and lures him to him. The volume of the building is dominant in the eyes of the person passing through. In this building there is a low - threshold center for children, which is in direct contact with the building opposite the asylum house. Spatially, these volumes in the street are very important, but social functions located in close proximity and in connection with the issue of homelessness in Jeseník, make the area for people passing through a dangerous route. These spaces thus become a gathering place for a specific group that supports each other and makes the street an unpleasant place.

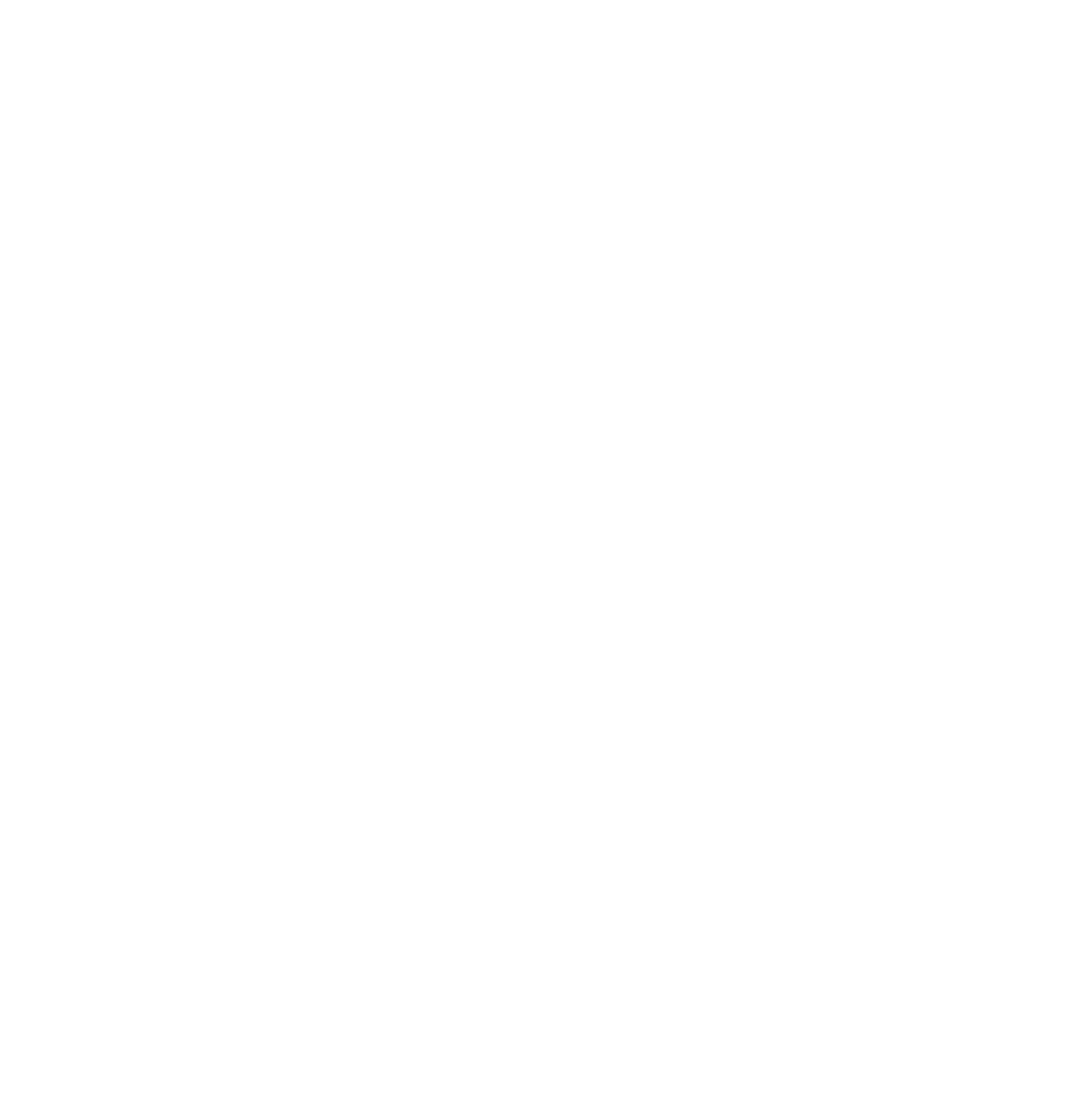


As we pass behind this important building, the street line recedes, it is delimited by the garages and premises of the factory where the collection of secondary raw materials is located. The street line shifts and, following the historic building, re-creates the gathering space. As I continue to walk down the street, my attention is drawn to the vistas on the other side of the river, where the chimney is located, about 60 meters high. I am attracted by the river and other barriers do not allow free transfer.



When I turn across the street, the historic building draws my attention again and draws me to it. He creates a gathering place and seems to lead me to go to the right. I'm limited again and I'll gather in space, but I have nowhere to go.





DECENTRALIZATION OF THE SOCIAL SERVICES

Problems of centralization

At first glance, the street is perceived as a quiet part with houses and a central historical building, which can be observed from the beginnings of both sides of the street. It creates places for gathering and conditions the person's perception so much that it spatially attracts him to his edge and gives him the opportunity to gather.

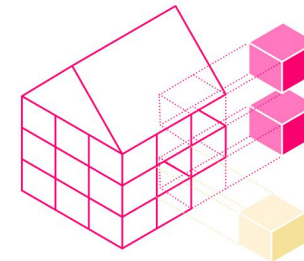
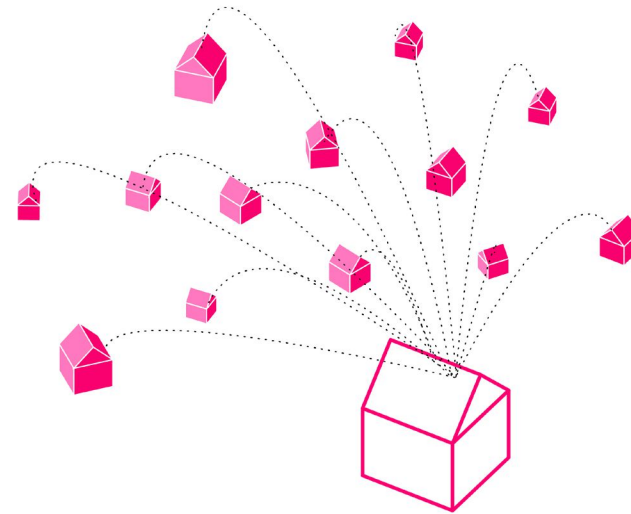
This building houses a low-threshold center for children and youth. In the vicinity of this building there is a collection yard and functions adjacent to it. Opposite the low-threshold center is the function of an asylum accident, which has a large income of socially weaker people and homeless people. Currently, the situation is such that the people living here have the opportunity to gather and are supported by the

grouping of these special functions, but also excluded from the rest of the population. By creating streets that offer services and opportunities aimed directly at one group of the population, we will only cause this group to begin to cluster and begin to create its own community, the so-called „Special places“ for „special people“ - ghetto. It is important to realize what we want to achieve by offering these services and what we really achieve by locating them in our immediate vicinity.

Proposal

The aim of the proposal is to integrate socially weaker families and people into society and the functioning of the whole city. Therefore, I am fragmenting the asylum house and the functions related to it throughout the city into small capacity buildings, which will not allow the grouping of one special

group. Social services, workshops and similar premises are not intended only for them, they are for all inhabitants and they are all over Jeseník, not in one central space. Social housing is divided into a maximum of 2 flats in one place, where they will be preferred. With this approach, we have a chance to strengthen the community that arises within the city and not the social status of the group. With the decentralization of social services, we will achieve that the streets that have been described as special and the places that have made it possible to dehumidify and transform their entire surroundings into dangerous or, in other words, places that have become ghettos will disappear from our consciousness and return to the streets safety and socially weaker inhabitants: the possibility of community growth.



We do not create centers and large buildings for the socially disadvantaged - we integrate them into society by offering them living spaces that are part of commonly available housing in small numbers.

We do not group features that target disadvantaged groups

-we dismantle them throughout the city in small spaces.

It is not for nothing that they say „who you are with, so you are.“ By associating a certain group, we cause their mutual support, which causes separation from society.

By decentralizing, we will support their easier integration into the functioning of everyday life within the community.

2 social flats in one building + 1 consultation room for meetings with professional advisers

The rest are ordinary housing units.

SOCIETY AND COMMUNITY

The need for social relations

It seems that what attracts people the most are other people, he wrote in 1980 William W. Whyte in the book „The Social Life of Public Spaces“.

Social isolation is the result of a lack of social ties in which common activities and interests are shared. Interaction provides stimuli for comparison

and the acquisition of new knowledge and feedback for acts of one's own behavior. We design cities, individual buildings and spaces to increase people-to-people contacts. We strive to improve the quality of public spaces, and thus we want to achieve the socialization of people in the city.

Home nowadays

Home is a place where we don't have to play with anything, a place that, although shared, is still private. It's not so much how many people live there, but how well they know each other. We will find everything we need here. Home is where our loved ones are. I don't think that

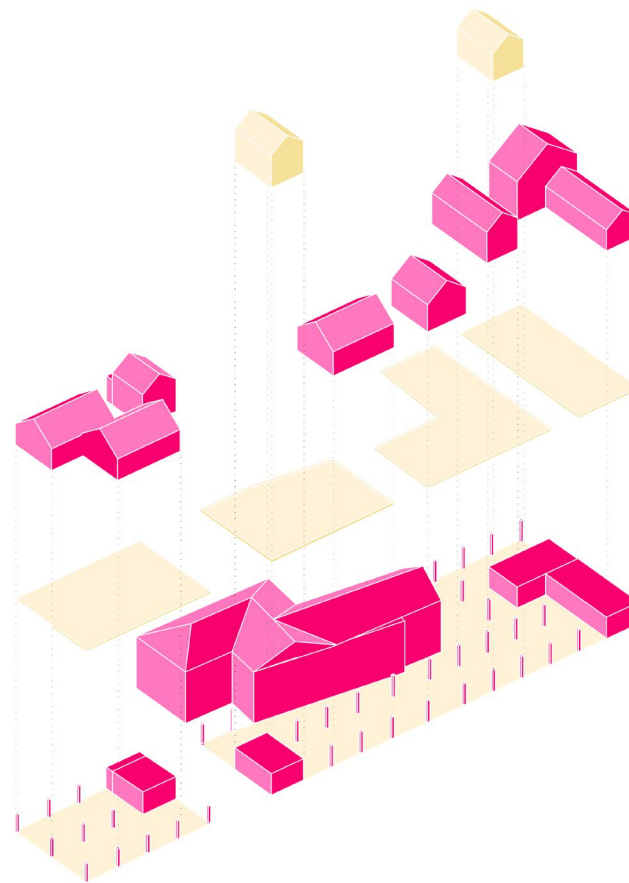
the idea and essence of home has changed over the years, we have just stopped being so fixed on who our loved ones are and we can find a home in foreigners as well.

Community and shared spaces are places that offer us all these needs. Digitization of the time to which we are gradually moving, at the moment, the pandemic, which has trapped people for several days at home, has accelerated. The feelings of people living alone began to deepen and erupted into anxiety and depression, cutting them off from the world limited them mainly from the social point of view. The home in which they lived for a while became their whole event. Working from home has become an integral part of it. It suits some, but for many it means that an environment that was calm and pleasant in the past has been combined with stress, anxiety and a feeling of excitement at work. The uniqueness of home, as a place where we feel comfortable and naturally disappears. In a moment, the domestic violence threshold and the percentage of divorces have risen, in the whole world. Although the limits of comfort pushed by

digitization have many benefits, they can also mean family breakdown. Therefore, I perceive the department of working life in the form of co-working centers as a solution. It is a cost-effective way that eliminates social isolation and creates new and working alliances. It gives a choice to those who need to have their private and professional lives separate.

Meetings, sports

The need for existence is the possibility of sports activities of all communities. Sports infrastructure improves living conditions. In connection with the quality of public spaces, it provides sports, opportunities for cohesion, but also building a relationship or identity with your city. The contribution to improving relations and the health of the population is also significant. By creating a roofed space, we offer space for living, for the community of the whole street and its surroundings. A space in summer for recreation and strengthening relationships with playgrounds, barbecue areas, sports and leisure elements, used in winter as a hiding place for snowy days in Jeseník.



Double-dwelling volumes in which there is one flat in which a socially disadvantaged person is preferred - flats are selected according to the demand for the number of persons (if the endangered person is a mother with a child, a flat for two is chosen for them person)

Small flats, maisonettes and studios are for rent.

Shared semi-private community space for apartment residents.

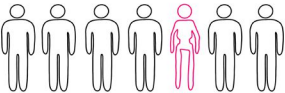
These spaces connect the inner common spaces. These are connected to each other and are complemented by relaxation elements, seating and greenhouses, in which the community is strengthened and at the same time the quality of food growing under various conditions is tested.

The apartments are designed so that it is not possible to look from this common space into the apartment of others.

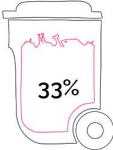
On the ground floor there are shared spaces with a number of social activities. There are two tables as a metaphor for cohesion, taken from the understanding of the family - a table as a place to unite the family, the community. The space is public, allows meetings within the whole area. On the ground floor there is a cafe, which is connected to this residential and interesting part.

FOOD SELF-SUFFICIENCY

Many of us do not realize how dependent we are on food imported from the surrounding countries. It is important to be aware of the path that the food we buy in large retail chains has to take and the consequences of this path alone. We feel the degradation of the country caused by agriculture firsthand. The way we manage our land may also be responsible for the loss of the small water cycle and the drought that comes with it. The efficiency of the economy against other techniques is uneconomical and degrades the landscape and takes up space. Therefore, a few important facts:



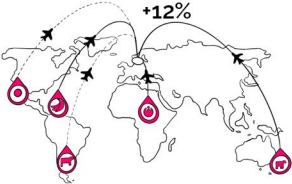
One in 7 people in the world is hungry, while 842 million people are starving. This makes hunger and malnutrition the biggest threat to health in the world.



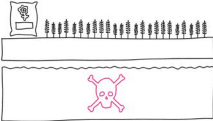
With a growing population and an evolving middle class, the demand for food is constantly growing, which requires a smarter and more resilient solution that will feed the whole world. 33% of all food remains uneaten



Agriculture is responsible for 30% of greenhouse gases and is the biggest polluter of all.



On average, 2,400 km will travel from the farm to the customer before consumption, which will cause 12% of additional emissions.



Fertilizers have more than double the amount of nitrogen and phosphorus. They contaminate soil and drinking water in our environment.



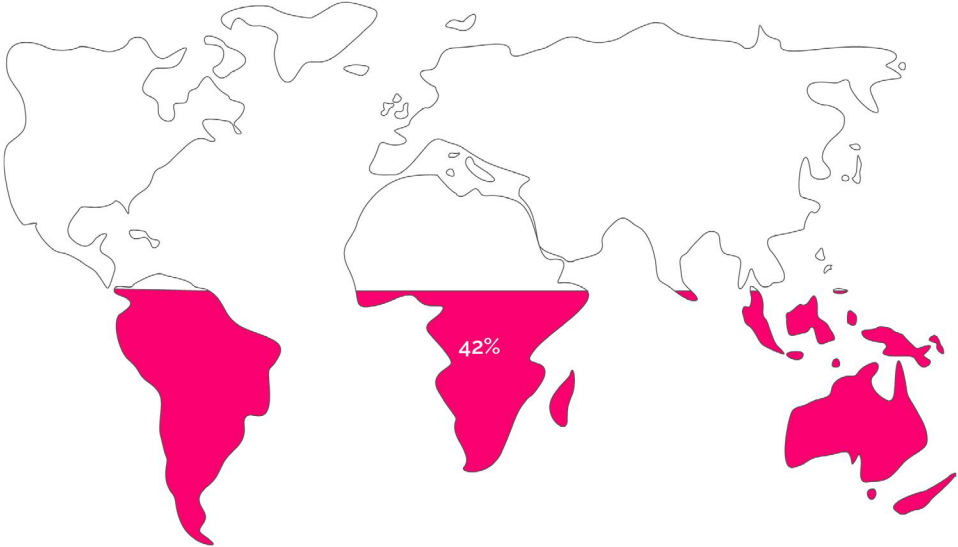
70% of global water consumption is used for agriculture, which causes rivers and lakes to dry up.

Agriculture is the strongest driver of deforestation and biodiversity loss.

42% of the earth's surface is used as agricultural land, which is equivalent to the size of Africa and South America combined.

Let us therefore support cleaner, more efficient and harmless cultivation principles. Let's use a minimum of water and a minimum of soil.

We need to change the direction we are moving.



HYDROPONIC CULTIVATION

Hydroponic cultivation

It is a form of cultivation without the use of soil. With the right way of hydroponic cultivation, the plant grows properly and has vital visual properties. Saves and regulates nutrients. This type of cultivation is recommended in places where plant care is not professional and regular. It is cultivation without pesticides, GMOs and growth regulators. It guarantees year-round production. It is in accordance with sustainable nature. In these systems, water circulates, outside the beds, the returned solution is filtered, replenished with nutrients, adjusted pH and temperature. What is most important to us is that it saves up to 90% of water compared to conventional production. On average per 1m² we grow up to 70

Save space

Hydroponics saves compared to traditional cultivation. Plant roots usually need space to grow in the soil. Instead, they are immersed in a bath of oxygenated nutrient solution.

Water saving

The plant consumes only a small percentage of water. Its roots take up as much water as they need at any time and leave the rest in the tank for later. The same amount of water that was used to water the plants in the soil for one day will suffice for the hydroponic plants for several days, weeks. By switching to hydroponic cultivation, we can save 90% of water compared to conventional soil cultivation.

No weeds

Where there is no soil, there is no weeds.

Fewer pests and diseases

Soil elimination eliminates many of the soil diseases and pests that plague traditional horticulture.

Reduction of time consuming

Plants grow faster. For example, lettuce can be taken from seedlings after a month, while when grown in soil up to two.

Control

We can control absolutely everything related to cultivation. From water, its quality, through the growth rate of plants and nutrients.

Permaculture garden

Permaculture is a permanent self-renewable, sustainable management. It is a method of cultivation that can be recycled on its own - renewed without significant external intervention. This approach leads us to emulate the patterns and relationships we can find in nature. This journey builds skills and resilience at home and in our local communities to help us prepare for an uncertain future with less energy available. It is done without chemistry, respectively chemistry is ruthlessly excluded, secondly, the method of planting and the composition of plants differ. It focuses on maximum planting. The permaculture garden does not need to be ruined, and paradoxically it achieves greater efficiency. Stones and pieces of wood are inserted into this

garden, which absorb water and release it to the plants during the dry season. There is no need to water it.

Waste composting

Composting is a way we can make our own quality compost from biological waste - an organic fertilizer that is ideal for growing plants. We use it to return nutrients back to the soil. Composters are located in public areas. We use them to eliminate the amount of waste.

Permaculture orchard

Planting trees is an important step in tackling climate change. In addition to oxygen and beautiful landscape elements, planting fruit trees also bears fruit. The whole set is designed to allow the simultaneous use of the meadow.

PERMACULTURE

Biodiverse meadows

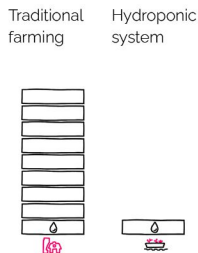
It is a system that benefits important pollinators such as bees, bumblebees and butterflies. The occurrence of biodiversity meadows in cities is very much needed due to the death of bees. Not only the elimination of monoculture cultivation is important, but also the early mowing of meadows, on which the flowers often do not even manage to bloom.

Original trees, plants

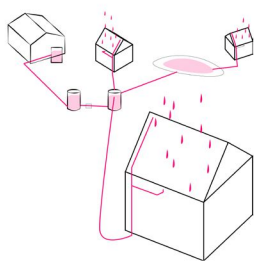
By planting native fruit trees and plants, we are sure of their fertility and at the same time we help to create a landscape living gene pool.

Butterfly beds, hotels for insects

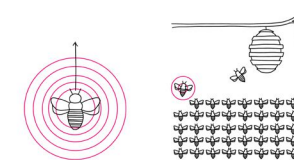
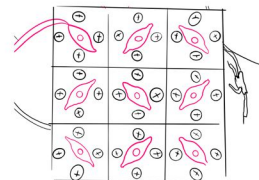
The city is full of deserted green areas with low biodiversity and areas that could be green. Bees, butterflies and bumblebees help flowering plants to reproduce and are responsible for every third bite we put in our mouths. Insect hotels offer shelter for pollinators and useful insects without the need to take care of them. Butterfly beds will beautify the city and increase the number of flowers.



By using a hydroponic system, we save up to 90% of water and eliminate transport, thanks to direct access to food.



Scheme of water capture using green roofs, direct use in the building and purification of excess water for use in hydroponic systems.



The bee has a range of 5-7 km, that is about 28 square km.

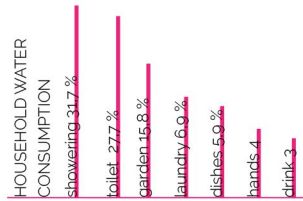
1 hive = 50,000 bees

The bee pollinates on average 73% of 80% of insect-pollinating plants.

It has 4000 m² of fruit trees.

It flies at a speed of 15 km / h

WATER MANAGEMENT



The reason we are interested in sustainable water management is climate change. The main effects that almost everyone is already feeling are prolonged droughts and floods. The good news is that these fluctuations can be mitigated in a simple and natural way.

On average, a person consumes 150 liters of water a day. Rainwater can replace up to 40% of this consumption.

Root cleaner

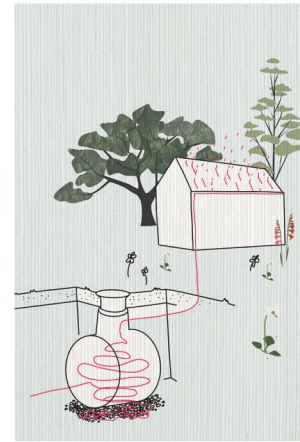
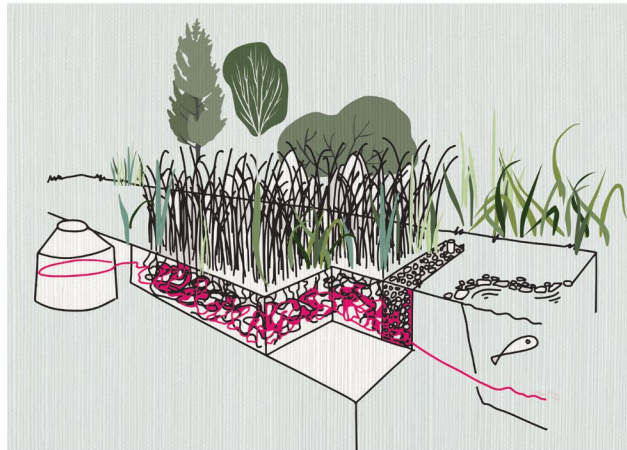
Ecological wastewater treatment plants consist of an insulated gravel field into which polluted wastewater is fed. Aquatic plants are planted in the gravel, used to purify water. Plants purify the water with the help of their roots and aerobic bacteria living around the roots. Bacteria live with plants in harmony and symbiosis. Purified water flows into the pond from where it is used for watering and the excess goes to the inflow. We can say that root wastewater treatment plants recycle water and protect the environment - the treatment function is natural and self-sufficient.

Rain gardens

Rain gardens seek to replace the water cycle and improve its quality. Their goal is to return water to small water cycles. Fresh rainwater has a better chemical composition than local spring water, does not contain chlorine and dissolves nutrients very well, so it is excellent for watering flowers, vegetables or lawns.

Retention ponds

Rainwater is collected in the retention lakes, which evaporates during high heat and has a positive effect on the surrounding microclimate. The retention tongue differs from a classic garden pond in that the water level remains on the surface for only a few days.



Underground infiltration tanks

These are plastic tanks into which purified water flows, which is then used for flushing as required. Next, the water travels to the treatment plant where, after thorough purification, it is used in hydroponics.

To manage gray and black water, we use a septic tank, which then sends the water to the root treatment plant. In addition to rain gardens, retention ponds and green roofs, we use infiltration tanks to capture rainwater, which keep rainwater of longer quality for subsequent purification and use in hydroponic cultivation.

Green roofs

Vegetation roofs make it possible to retain 30 - 90% of atmospheric precipitation, which helps to maintain a small water cycle and prevent drying. Green roofs dampen temperature fluctuations during winter and summer. During the summer, by using natural cooling, it is not necessary to turn off the air conditioning to a greater extent, thus reducing energy costs. Savings can reach up to 70% In winter it prevents heat loss. The green roof captures dust and pollutants, thus improving the air quality. 1 m² of green roof can reduce the concentration of CO₂ per year by up to 5 kg / m². Dust from the surroundings can be reduced by a green vegetation roof by 0.2 kg / m² per year. Using a green roof, we capture rainwater and use it directly for flushing.

Compensation for leakage surfaces

By exchanging impermeable surfaces for permeable ones, we ensure perfect drainage of rainwater into the soil. They are an ecological solution for strengthening surfaces. By exchanging impermeable surfaces for permeable ones, we obtain both a paved surface and a solution for rainwater, however. It helps to replenish groundwater and prevent the land from drying out.

LOCAL MATERIALS

Environmental consequences

By using local materials, the ecological footprint is absolutely minimal.

About 150 years ago, all buildings could be described as natural buildings. They were made of local materials, natural materials. At that time, artificial materials simply did not exist and were not available. One of the reasons why we have deviated from natural materials over the last century with the illusion of protection of life and comfort, but they make it practically impossible to build a natural environment for us. When we look at the natural environment and materials, we see a clear resemblance to the order of traditional architecture.

Impact on our body and mind

Many scientific studies show that a well-organized environment is key to our minds and is essential for our perception. In such a harmonious, natural environment, a person is objectively healthier, more productive, more attentive and calmer.

Upcoming benefits

The use of local materials reduces the price and creates accessibility for the socially weaker.

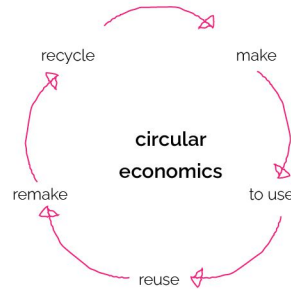
LCA- Material Life Cycle Assessment

It is a method of assessing the life cycle of a product or service in terms

of its impact on the environment. It takes into account processes from the extraction of minerals through transport, production, use to final treatment as waste and takes into account energy and raw material costs and the impact on the environment for each of them. Emissions to air, water and soil and energy and material consumption are particularly important. This method is crucial for the circular economy.

Circular economics

It is a concept that is an integral part of sustainable development. It looks at ways to improve the quality of the environment and human life by increasing production efficiency.

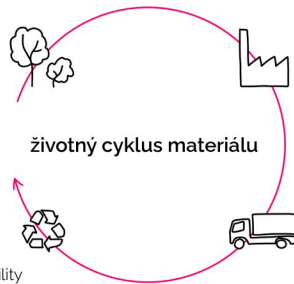


1. Source origin, locality renewable resources

2. Processing CO₂ rate Energy consumption Pollution Minimization of production

3. Transport Distribution Traffic minimization Local materials

4. End of use Material life Reuse, recyclability



CLT PANELS

Its main advantages are that they accumulate heat in winter, prevent overheating in summer, insulate thermally and can be combined with various thermal insulation systems. They are produced from PEFC-certified spruce wood from forests, where the use of cultivation processes aimed at achieving sustainable management and at the same time striving to improve all forest functions for the benefit of the human environment is ordered. Wood as a building material is the most favorable raw material for humans. Its use in construction is also excellent because wood absorbs moisture from the air in the building and transfers this moisture again, when the air is drier. Wood „works“ as a regulator of interior humidity. Wood also has the ability to

absorb electromagnetic radiation, thus protecting us from its harmful effects. Solid wood is more resistant to fire than the general information in people's consciousness. The wooden structure is statically more resistant than concrete or steel for the time required for rescue.

Production

In the production process, the slats are first dried to 11% -15% humidity, sorted, planed and then glued together into single-layer boards. In the next stage of production, the single-layer boards are glued together to 3;5;7 layer panel. Panels intended for both visual and non-visual use are further abraded, thus obtaining a unique appearance of the panel with an acknowledged wood structure; in the case of non-visible panels, this will

allow the plasterboard to be mounted directly on the panel surface. Bonding is carried out with environmentally friendly, environmentally friendly, formaldehyde-free adhesives. The vertical orientation of the individual layers guarantees high static and dimensional stability of the base panels.

Benefits

Thanks to its heat capacity of 0.11 CLT panels are among the less conductive materials, which is a benefit especially in winter. Compared to other building materials, such thorough protection against cold is not required. The CLT system is mainly a construction replacement for other supporting materials. Although it has better thermal insulation properties, thermal insulation in order to comply with thermal standards is necessary. It can be combined with all known thermal insulation systems.

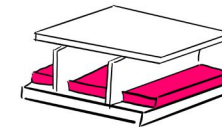
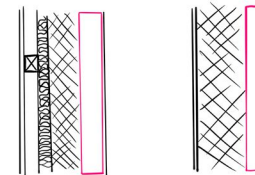
Proposal

In the buildings we work with a standard module set by the company for their production. The buildings are designed to a passive standard with a heat transfer coefficient $U = 0.12 \text{ W} / (\text{m}^2\text{K})$. The composition uses wood fiber insulation.

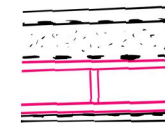
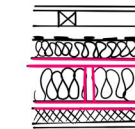
Perimeter wall with wooden cladding

Perimeter wall with plaster

The composition of the roof on which the biological panels are placed



The composition of the ceiling



Roof composition with backfill / green roof

TRADITIONAL HISTORICAL ARCHITECTURE

It is necessary to protect the local traditional construction method and the local lifestyle of the inhabitants by only improving the already established customs and constructions and creating a simple strategy with the use of local materials. Traditional architecture has a character that blends harmoniously into the environment in which it grows. We observe nature and learn from the deep wisdom of tradition. We find beyond today's superficiality what is deeply timeless. We find a state where everything fits into the whole and everything has its right place.

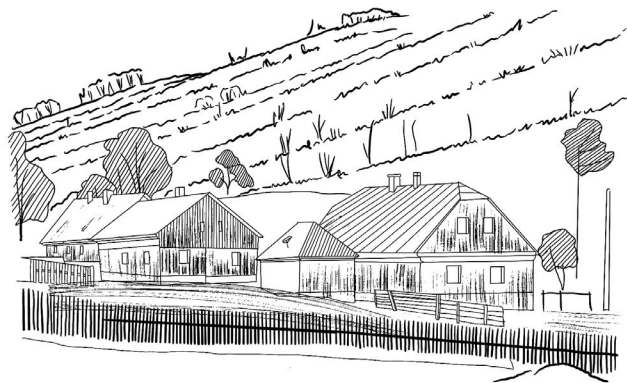
Jesenik house

The Jeseniky House is a typical element occurring in the vicinity of the Jesenik, which determines the character of the development both in the city and in the mountainous parts. Half of the town of Jesenik is located in the Protected Landscape Area and construction in these parts is allowed only on condition that it corresponds to the character of a typical Jesenik house. There is no PLA in the area I am dealing with, however, it is necessary to pay attention to the character of the city and help it build its own identity. Therefore, I try to adhere to these principles and apply not only visually but also functional and historical ways, which have always been connected with Jesenik and its inhabitants.

The constructions of the Jesenice house are timbered or brick or even mixed. The floors are wooden or stone. The interiors of timbered and brick houses are plastered. The outer walls were plastered and bleached. The layout of the house has a rectangular floor plan and stands on a stone foundation. The attic spaces were ventilated for hay storage and through small roof openings.

Proposal

From the functional and visual aspects, I take over the fact that I create the structure from ecological local material - wood. Its processing into CLT panels helps it to be ecological and sustainable. I use a gable roof and place storage spaces in the highest parts. I create skylights on the south side and illuminate the space. The outer walls in the Jesenice house were always bleached, but according to the principles of the Protected Landscape Area, they should be lined with wood or all-wood. Therefore, I combine these two methods. The houses have a rectangular shape also taken from the principles of the Protected Landscape Area and the Jesenice house. I always wrap the building on the first floor in structured plaster, which visually resembles the stone ground floor of this traditional house.

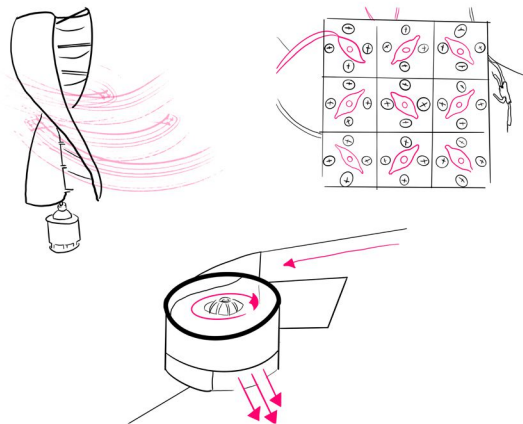


ENERGY

Using the force of wind, sun or water, we feed households, grow food and regenerate the environment. Sustainability is about using all the resources we have at our disposal. Jesenik has strong wind conditions and an excess of water, which it tries to retain with the help of landscape and trees everywhere in its vicinity. Therefore, it is necessary to walk these unique qualities and make full use of them. By using renewable energy, we enable the reduction of dependence on exhaustible resources. Their essence is the constant renewal of energy by a natural process. They do not endanger the environment and are a way out of the gradual depletion of fossil fuels.

Biological solar panel

It is a panel in which they convert the energy of bacteria. This microorganism is very common and is found in almost all wet and humid environments. The panel produces electricity continuously in 12-hour cycles thanks to photosynthesis and bacterial respiration. In a given configuration, it produces 5.59 microwatts of energy at 1.28-volt voltage. I place the panels on the south side of the roofs and store and use the energy.



Vertical wind turbines

Vertical turbines are quiet, small and can be used even at lower wind speeds. In the city, the current wind speed is 2.75 m / s, while wind turbines up to 1.5 meters are enough for 2.15 m / s. The turbines are located in the streets on lamps, they are quiet and visually pleasing. Many people perceive their work as calming and often mistake them for art. One 1.5 m large turbine can produce a maximum of 80% of daily household consumption per day, depending on the stability of the wind. In the street I use the Savonius type, which is located on the lamps.

Vortex water turbines

In the stream we use vortex turbines, which collect energy on a diverted arm. The current of the river spins the turbine and it spins the generator. It does not affect the animals in the stream or the stream itself. The turbine serves as a support for the footbridge that connects the banks of the river. The energy obtained from the water travels to the battery, where it is stored.

Energy storage- Nant energy- Zinc battery

The battery works by reacting with oxygen in the air and taking energy from zinc. Zinc is widespread, has the right stability and is not expensive. The use of a battery guarantees the stability of the energy supply. I am placing this battery in the building, as it has been tested for 7 years and will be released on the market soon. However, I know that in the future we can replace it with more effective, as the processes of their research and development are still ongoing, but have not yet been verified.

IOT

The Internet of Things is a network of physical devices that allow you to explore and exchange data. Each of these devices works independently. Thanks to this concept, devices such as smartphones and also any daily necessities - kitchen appliances, cars, central systems of residential houses, irrigation monitoring, irrigation and many other things. That information can then be sold.

I use these data collectors in almost everything in buildings. Jesenik has great potential in the used IoT system, as there is a great demand for information collected from the harsh environment.

Smart home

Home automation - connected car, entertainment, home automation, wearable technology of daily necessities, connected medical condition, appliances (washers and dryers, robotic vacuum cleaners, air purifiers, ovens, refrigerators, freezers that use Wi-Fi for remote monitoring, help improve the quality of life.

Infrastructure management

Operation of urban and outdoor infrastructure, monitoring of events and changes that may compromise security. Using IOT to monitor and operate infrastructure improves accident and emergency management, service quality, time and operating costs. Only reducing the number of physical checks will save travel costs and time, and this will also reduce waste.

Home automation

The aim is to create energy-efficient and intelligent IoT-controlled buildings. It is monitored in real time to reduce consumption and energy.

Economy

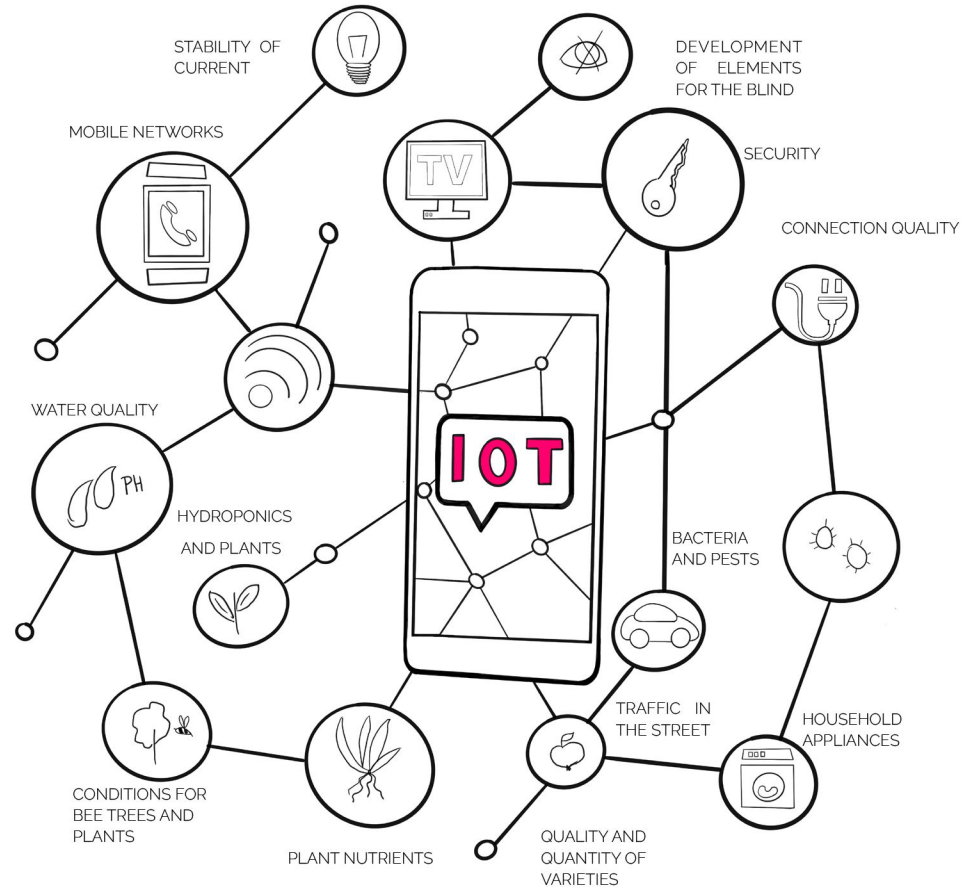
It contributes to the innovation of economic methods. It helps to gather information about the surrounding conditions (heat, precipitation, humidity, wind speed, pest infestation, soil nutrients. It minimizes risks and waste and improves quality and quantity - I use the system for hydroponics and greenhouses.

Hydroponic cultivation

The system observes the necessary parameters for perfect plant growth. In hydroponics, everything revolves around water. IoT examines its aeration, solution dosing, water sufficiency and quality, its PH, starts pumps and replenishes water.

Energy

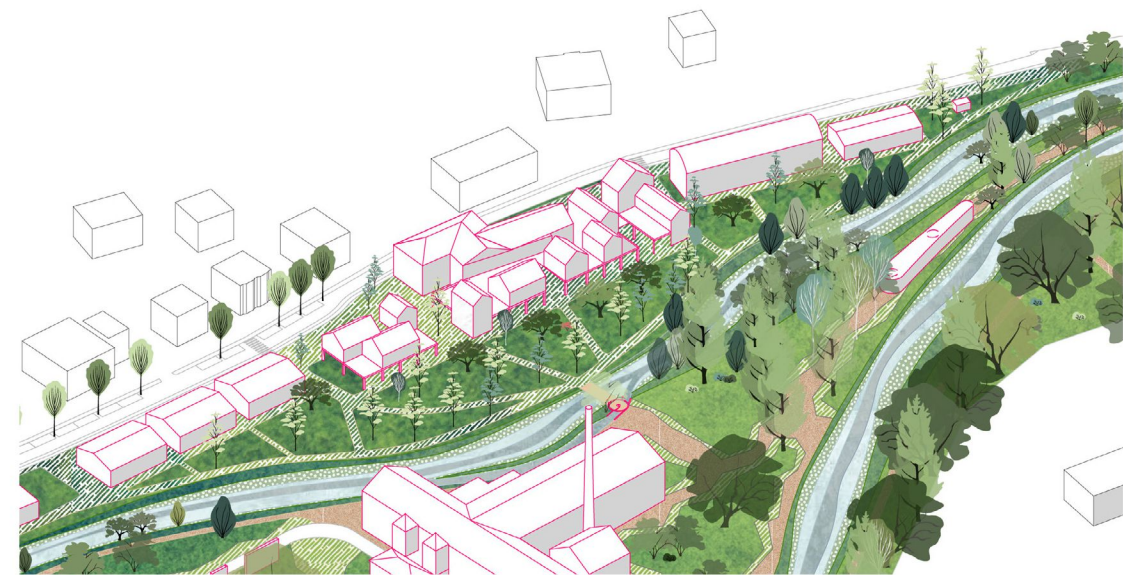
The system controls and senses the optimization of energy consumption. The aim is to balance energy production and consumption, improve the efficiency, reliability, economy and sustainability of electricity generation and distribution. In the design, I monitor a system of wind turbines placed on street lighting, which is stored on the lower floor of community housing. It also examines the water turbine in the stream and its transfer to the reservoir, as well as the reservoir itself. It examines energy storage and its length of retention and energy loss.





COMMUNITY HOUSING

Public spaces and small flats, including social housing



Urbanism

With the establishment of the new EXPO Jeseník congress center at the confluence of rivers and a new railway station, the importance of the surrounding land is changing. Industrial functions are moving to more suitable areas to the south of the city and the surrounding area is beginning to develop. The shelter and the low-threshold center are fragmented throughout the city, and the dangerous atmosphere that has made the street gradually disappear from the street through the clustering of social and social services. It is transformed into a residential area with a rich public space with many community activities. In the design, we work with maximum permeability through the area, where we connect the surrounding areas with a

new cultural center. Therefore, based on spatial analysis and feelings conditioned by the perception of a person walking down the street, I create a place that is accessible to all and helps to strengthen relationships. We destroy barriers that have limited contact with the environment and offer quality space for everyone. Public spaces offer space for sports, relaxation, space for grouping groups, but for work they also capture water, clean it and reuse it. Bees attract butterflies and other insects. They provide food in the form of orchards and permaculture but also from hydroponic cultivation, which does not degrade the landscape. They support local production, research, use renewable energy sources and unite the community. The paved space turns into an oasis of life, profit where the landscape

and man live in symbiosis and support each other. In connection with the original functions and the issue of Jeseník in the form of a lack of small flats and a number of socially disadvantaged people, I create living spaces for the community. I raise these spaces to the level of the second floor where the residents of rental apartments share terraces and social spaces. We are placing two social flats here, which are to be an example of how to approach the issue of exclusion of people from society and at the same time a demonstration of how to build with the least impact on the landscape, environment and public space.

Animals of all kinds

There are apiaries in the area, for which there is a flower meadow in the area. There are also butterfly beds that attract butterflies. In the green part there is a root cleaner which is an attraction for insects such as mosquitoes, dragonflies. I place insect hotels near it.

Playground

Game elements are located throughout the space. There are swings, rope segments and ping pong tables. With the help of paved surfaces, we create a chessboard and a jumping doll. In the natural part there are also game elements, in the form of ropes, fields and workout elements.

Social places

In the space I place two barbecue points with an element of the interior - a table, which is a metaphor for family and reunion. In the natural part there are orchards for joint cultivation, sitting by the pond and many other areas for sitting and relaxing. In front of the Co-working center, I place outdoor working in the form of small elements for sitting in nature.

Sports

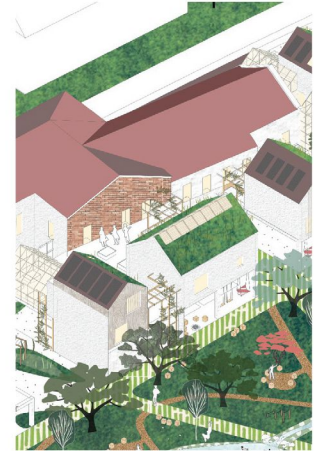
In the green oasis you can find elements for exercise, incorporated into the natural environment. Workout elements, climbing frames, swings, rope nets are naturally inserted between orchards, flowers and rain gardens as part of the whole.

Nature

The orchard is planted with cherries and apple trees, which have always thrived in Jeseník. I bring cultivation with a biodiversity function and thus attract bees and insects. I create places for relaxation and stay. The root scrubber, rain gardens and ponds create a space as fresh and wild as Jeseník itself. At the same time, we treat wastewater from the home. The rest of the trees are formed by willows, partridges, hornbeams, alders, hawthorns and birches.

Community

Healing the community takes place basically everywhere. Only intimacy and privacy change, at the level of the first floor the space is publicly accessible. At the second floor level, the preist is defined as a community living here.



PUBLIC ASSEMBLY AREAS

The historic building in the middle of the street, with its location and spatial perception, forms a natural gathering space on both sides. It is public spaces that allow people to gather. The main barrier between these assembly points is the walls of the building themselves, which on the one hand attract the attention of the passer-by but on the other prevent the permeability of the territory, which I support in the proposal. That is why I am demolishing the walls of the buildings and creating a naturally open corridor for the flow of people through the historic building. I reveal the original brick character of the building in the interior and thus reveal its true face with all the scars. This part is completely open, there are grass tiles on the ground and plants growing out absorb the

whole brick wall. This moment can be seen in Jeseník regularly in the original brownfields of factories, to which no one goes very much today and therefore they cannot appreciate the uniqueness of this natural phenomenon occurring in Jeseník.

I apply a system to public paved areas, which we apply in public spaces (see the Between the Houses project).

Using green areas, I divide the space according to the flow of people. Green areas contain seating and play elements. They guide a person on the way through the place and help him in orientation. I plant trees here, which are broken down and shaded for sitting. Rainwater is drained into them and it keeps the soil moist and does not dry it out.

The wooden houses are as if wrapped in a white cloak, which protects the wooden part of the building and wraps around it along with the staircase. This moment is inspired by the Jesenice house, where in the past the lower stone part protected the higher wooden part from the water.

Wooden slats placed on the facade of buildings are not just an aesthetic element. They complete the atmosphere of flats, where light penetrating the bottom comes through vertical openings in the rays, centered with the shadow, behind which the lamellas can just. The passage of time and the movement of the sun emphasizes the very being and flow in space, and the person living in the room experiences a certain awareness at a given moment.







Sets and relaxation

The green oasis accompanies all the functions that the place provides. It is a place to enjoy not only people but also animals. There is a root reader, which cleans the waste water from the buildings and cleaned it travels to the ponds where it seeps into the soil. Water attracts pouches, insects, but also ducks and other birds. The orchards are planted with local fruit trees such as apple and cherry trees, which support the living gene pool of the Jeseník, provide food, and create a pleasant shade for people who spend time here. Tiny sports elements for outdoorworking are scattered everywhere. The place thus does not become a center of sports, but a functioning living organism for the enjoyment of all and at the same time it is in harmony with the surrounding nature.

In the area I plant rhododendrons, domestic apples, bird cherries, white willows, alders and shrubs like juniper.





Before the hydrofarm

The honey bee has a very important position in the cycle of natural life. It is the most numerous and most important pollinator of cultivated and wild plants. Without it, up to 20,000 plant species would probably become extinct in a short time. It would reduce biodiversity, disrupt the ecosystem and the food chain. Thus, the existence of man would also be seriously endangered.

That is why I place apiaries in the design, which the community takes care of. They support each other. Bees pollinate trees in orchards, plants and flowers of Jesice meadows. They help to keep the local component constant in the form of a living garden. This means that native and endangered species do not disappear, quite the contrary. Their number is growing. Bees are at the forefront of the food chain and keep wild birds and animals that feed on the seeds and fruits of plants alive.

Detailed design of apiaries - see project Kopec - Alžběta Jansová.



ATMOSPHERE OF THE PREMISES

From the beginning of my work, I have been asking myself whether feelings in architecture can be objectified and captured as one constant constant, which I could apply together with variable influences. I believe in the need to deal with this phenomenon, as I perceive it as essential in clarifying the ideas that will express what will accompany me in designing in the future. When designing housing as the main reason to build, I tried to define how space affects me, what feelings it brings, what I expect from it and what atmosphere it must radiate, based on its function and relationship to the place. The atmosphere that the space has to bring also brings with it a feeling, an immediate reaction that affects our first impression, thanks to which we can assess where we are, whether the place is

pleasant or unpleasant. And we, absorbed in this impression, respond to it. Space engulfs us in the first moment we enter it and evokes immediate reactions of our subconscious feelings. So the question for me was what all affects us so naturally that we can immediately estimate what impression we have of space. There are obvious feelings, material, which brings shape, matter, proportions, scale, material, its shape and the like. However, all this combines the most important thing, an element that works everywhere and always will be. Eternal and constant and at the same time flowing and bringing a fleeting moment. Light, sunbeams flowing through the holes. Light is an actor who can say more about space than any material intervention. However, light is never alone. It brings with it a

shadow. They work together, in contrast, clarify matter, space and underline the importance of self-action. How we let light into space, how it behaves in space, and how we allow it to behave, will create an impression, a feeling, an atmosphere that will direct our feelings, satisfy them or confuse them. Light can be a magnet of vision, a barrier, it can even cause anxiety, but it can also provide a feeling of absolute relaxation and harmony. He can underline the meaning of one thing, a story or he can drive it into a corner and darkness, into the background. In the design, I specified the light for living rooms, where I think of a small apartment as the atmosphere of a bedroom, of shared spaces as the atmosphere of a living room. Next I defined the atmosphere of the hallway, children's room and study.

ATMOSPHERE OF THE APARTMENT

The perception that space represents

For me, the bedroom is a room where we quietly think with our partner or ourselves about things that are happening around us. A place that looks to the future. It is infinite and unique. A place that is the beginning and end of each day. We think about the future here and plan our lives. It is a place that hides the most private secrets. This room hides complete confidence and relaxation. Space is a continuation of something bigger. Like the plans that are formed outside, the space looks at what's going on around it, but it still remains its own. I therefore take the transfer of the country's influence into this area for granted. It reflects the unique character of the place

around it and is not played on anything that is not, on the contrary, it supports the truth of oneself and the relationships that follow it.

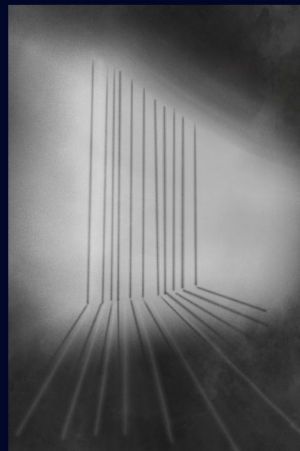
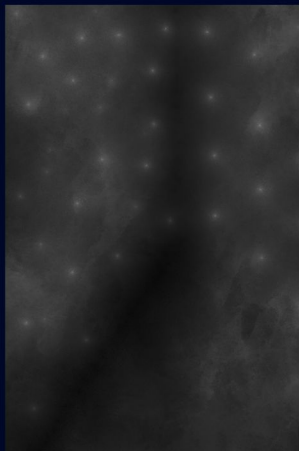
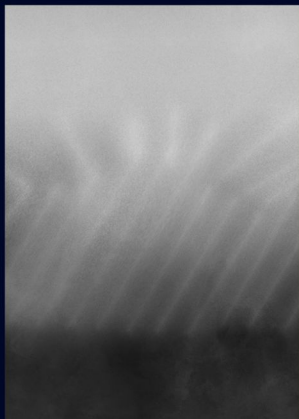
Light in space

When I imagine getting up in such a space, I see an endless landscape, light shining through the windows and coming right down my face. This place is a space where I can sit in silence and not think about anything, just be.

The truth of this space is confirmed by its context to the surroundings. Therefore, the light atmosphere of the exterior is the one that most influences the feelings at the beginning of a new day.

Proposal

In the bedroom in the apartment I achieve an atmosphere of flow, as it is a place where we plan for the future, where we are completely natural and do not have to have any barriers. The passage of time marks our stay in this space. That is why I apply here the elements that highlight these moments. I create openings for the transmission of light, which connect to the landscape, open towards it and the light with the landscape enters the bottom again. At the same time, they are divided into vertical, horizontal, lines, which emphasize the passage of time in space in our eyes. The one I use depends on the orientation to the sides of the world and therefore on the flow of the sun's rays.



ATMOSPHERE OF THE LIVING ROOM AND COMMON AREAS

The perception that space represents

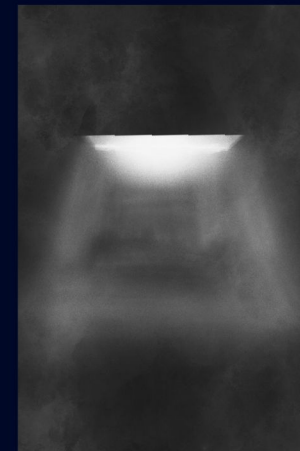
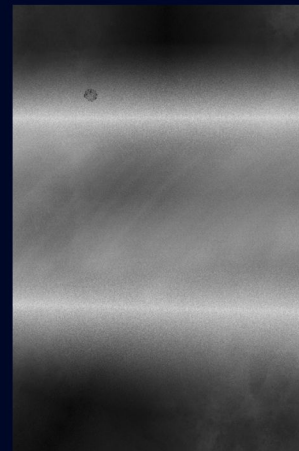
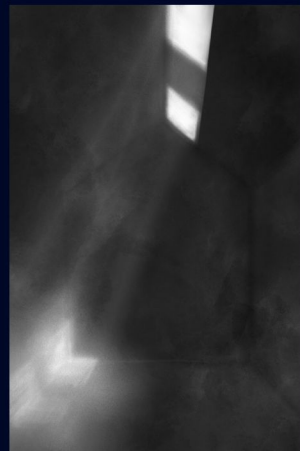
The living room is a place of well-being, a place where everyone meets. It is a common space where we spend time together. A kitchen can become a similar center. It is a room that is full of group mood and joy, a space where we create relationships, where we strengthen them and where we support each other. We look at each other, we look together, we do things together or we just discuss them. We strengthen society here and form a whole.

Light in space

The idea of this space revolves more around what is happening in space. Therefore, I perceive light as a magnet that highlights the essence of this event. The light in space is intended to draw people's attention to this shared atmosphere, to highlight it and to underline the essence of these moments.

Proposal

In shared spaces, where the whole group meets, where we strengthen the family, society and form a whole, what is happening to me is the most important thing. The plot itself. That is why I use light to highlight and alert the part of the room where these moments take place. This causes the attention of the inhabitants who pass by to be captured by this very event and to join the group, which is also my goal.



ATMOSPHERE OF THE OUTDOOR

CO-WORKING

The perception that space represents

It is a place where we create, think without boundaries. A place where we rewrite our person into something new, unique. This room is not confidential, it is open, but without being disturbed by unpleasant aspects such as noise. There is silence, our minds resound and there are ideas and thoughts. I don't see limitations in space, I don't see boundaries. This space is changeable, unique, different every day, but always real. Changing the environment encourages creativity and direct contact with the world and nature has a positive effect on our minds. I see the space as the most open room in the house. A space that is set to the surroundings and does not close. His character changes every day and connects a person with the outside environment. The external environment brings it variability.

Light in space

This space is not so much a way of bringing light into space. It's more about bringing a person out even when he's still in space. Therefore, I think of this space in such a way that the character and brightness of the exterior try to match the variable space outside.

Proposal

I defined work as infinity. I perceive it as a place for creation, a place without borders, which opens towards inspiration, towards the landscape. Therefore, I open the room as much as possible and let the

light pass through the whole space. Then we are absorbed in the environment, the perception of borders disappears and our work becomes unlimited and infinite.



ATMOSPHERE OF A CHILDREN'S ROOM

KID'S ROOM

The perception that space represents

The children's room is a refuge for me. It is the room that shapes our perception. A room that becomes variable over time and is transformed according to our own ideas. It is a space that reflects but also determines the direction of my perception and also talks about how I will perceive the feeling of security. He is the creator of the path that will accompany me in life. My own bubble.

I therefore perceive this space as variable. A space that can adapt to current living requirements and that can support my mind development during adolescence.

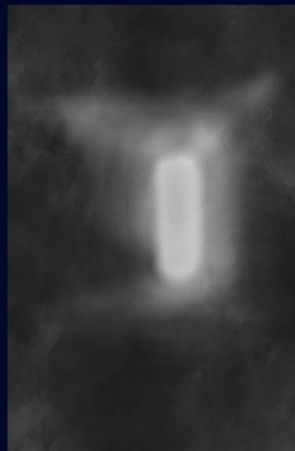
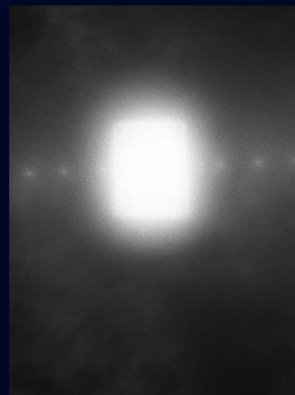
Light in space

The room is not a reflection of the surroundings, although it admits its penetration, but its primary feature is security and refuge. In this space I see one primary opening, which directs the flow of my thoughts. One light source, which allows the observation of the changing environment, the observation of what is happening around and only partially completes the atmosphere of the room.

Proposal

By creating one opening in the space, I create a border on all sides, which creates a feeling of security and at the same time a larger area for the reflection of the personality residing in it.

ATMOSPHERE OF A CHILDREN'S ROOM



ATMOSPHERE IN THE CORRIDORS

CORRIDOR

The perception that space represents

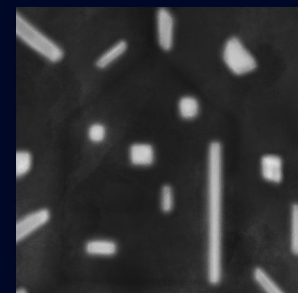
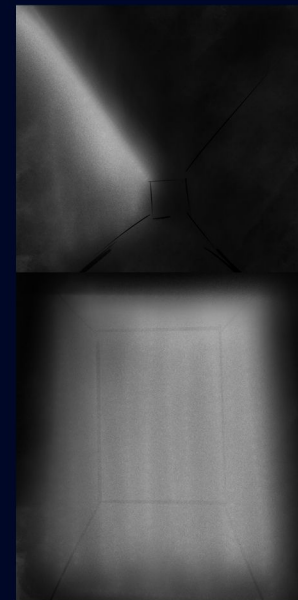
The corridor is the connection of all rooms and its task is to lead. It stimulates the direction of our movement and leads us to the apartment.

Light in space

I see the role of light in the pistol, in its ability to bring the wanderer where I want. The light closed in the lines helps us in orientation. The light can also be a visual shortening, for example in corridors that are too long. By letting in the light of the bottom, we get not only a view magnet, but also a visual game of a variable element.

Proposal

I bring light through the line that guides me. I perceive its visual end, which I illuminate. However, it does not have to be the end and can end the floor-like spaces earlier by playing with light - this visually divides the space into smaller sections and in the perception of the person passing through, the space becomes more interesting and more physical. However, by introducing these elements, I lose the line of light, so I make sure that the second second part remains clarified by the shadow, so that there is no confusion in the feelings of the passer-by.



COMMUNITY HOUSING

In the design, I work with small flats for one or two people plus a child.

CAPACITY

Number of apartments

for one person: 9

floor area: 25 - 42 m²

for 2 persons: 6

floor area: 50,5 - 70 m²

For 2 people and a child: 2

Floor area: 70,5 - 75 m²

of which social dwellings: 2



1.GF

The legend

- 1.01 Reception
- 1.02 Cafe
- 1.03 Cafe facilities
- 1.04 Public toilets
- 1.05 Reception facilities
- 1.06 Staircase
- 1.07 Energy storage
- 1.08 Apartment
- 1.09 Tech. background of dw
+ storage space
- 1.10 Warehouse

- Community public space
- Greenhouse
- Biodiverse cultivation +
permaculture
- Root cleaner
- Lake
- Rain garden
- Entrance
- Niva river
- Lawn mowers



2.F



3.F



4.F

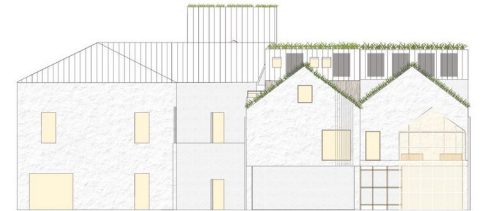
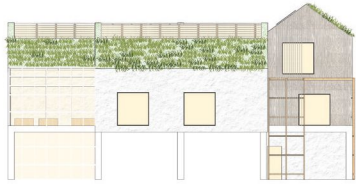


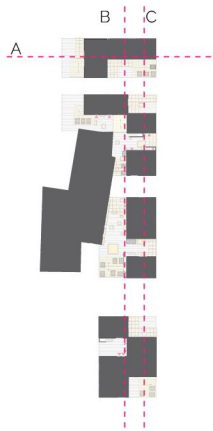
Legenda

- 2.01 Byt
- 2.02 Čítareň
- 2.03 Pracovňa
- 2.04 Žehlenie
- 2.05 Počítačová miest.
- 2.06 Spoločenská miest.
- 2.07 Schodisko
- 2.08 Chodba
- 2.09 Skleník
- 2.10 Zdieľaná terasa

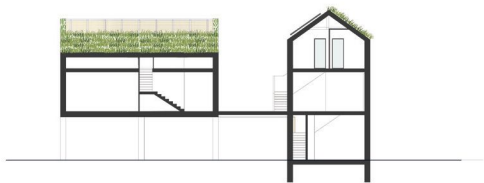
- 3.01 Byt

- 4.01 Byt





cut - B



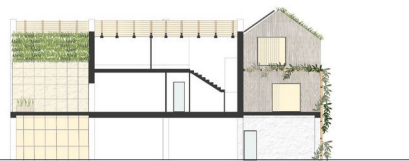
cut - B



cut - A



cut - C



cut - C



Outdoor co-working

Elements arranged in the green, for sitting and working outdoors complete the functionality of the green space. They provide a refuge for those who do not want to work from home and want to have their private and park life a little separate. This public function is a continuation of the co-working center, which is a cheap equivalent of a café and similar operations.

Public community space

Spaces are created according to the feelings I expect from their function. In shared spaces, I direct the light to sit. A place where people meet and where community relations are strengthened. With the help of light, I highlight the story that is happening



here. The skylights are located above the tables - an element of the interior where the family usually meets, the community meets, so I draw attention to this event. Another large skylight is above the checkerboard, created using two different types of tiles. In addition to the historic building, the skylight allows light to penetrate from the southern part and thus completes the atmosphere of the fleeting moment that occurs in space. In these places there is a sitting area from the cafe and the walls are lined with burnt brick from the original walls of the hall.



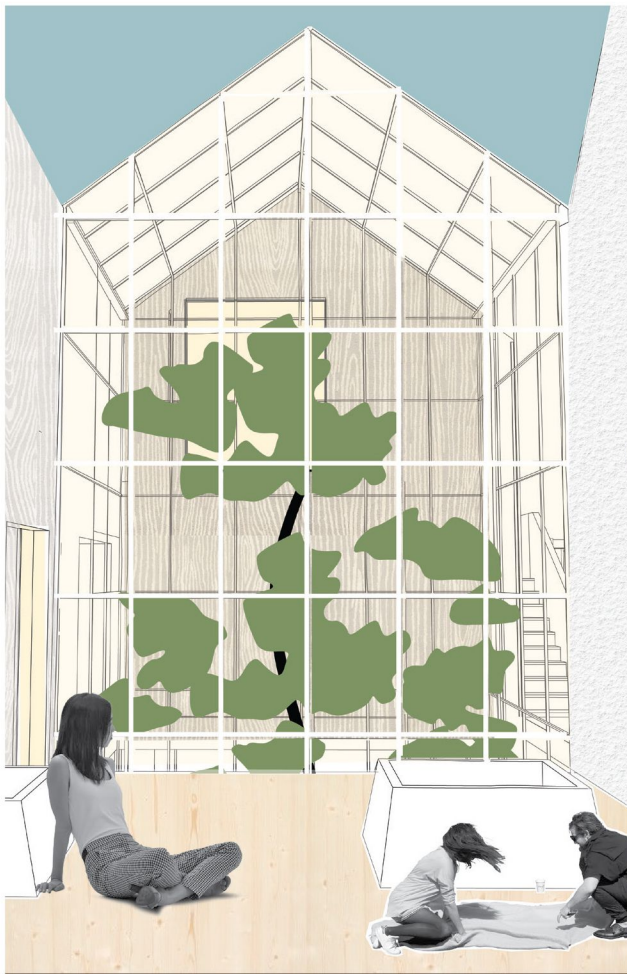
Partly public community space

This part is at the level of the second floor and connects apartments and social spaces within community housing. The space offers a range of social activities where people can relax, communicate, strengthen relationships or spend time working in greenhouses.

Greenhouses give people the opportunity to grow their own fruits, vegetables, herbs and beautify their surroundings. At the same time, they supplement a healthy diet and thus contribute to the health of the population. They are formed using hydroponic cultivation, but also small community gardens. Thus, cultivation takes place throughout the year and provides fresh vegetables even for the lazy inhabitants.

Greenhouses are placed in the most diverse conditions that the place offers. They are connected to the IoT system and thus produce not only food but also sales information data.

They are heated by the residual heat from recuperation. The greenhouse in the middle of the two buildings has a fruit tree that grows between the buildings, and thus connects the community semi-private part with the public part on the first floor. It helps to illuminate the roofed part in the lower floor and bring an element of nature even where no one would expect it. It is an example of Jeseník itself, where nature grows through and through.



Private community space

Private spaces are created in the same way as spaces in a publicly covered part - with the help of light and feelings.

I draw attention to the corridor with the help of lines of light in the ceiling or wall, which direct the person and help him in orientation.

The stairs are designed in an L-shape and in the second part, behind the landing there is a darker atmosphere, which is disturbed by the play of light beams, which, thanks to the lines in the first arm of the stairs, will lead the traveler on the way to the apartment. At the end of the second arm are the illuminated entrances to the apartments. The apartments are illuminated as much as possible by means of 2×2.1 m openings and a skylight in the roof. On them are placed lamellas, which intensify the passage of time in space.



