Human needs in urban public spaces
Improving the quality of recreation areas in Olaine, Latvia.

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I am very thankful to a number of people who have supported, inspired, and helped me in many forms on my way towards completion of this project.

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Abstract

During Soviet times, many cities were built to utilize the space in an economically efficient way. Such things as landscape architecture did not exist, and people's needs and preferences were not taken into consideration while planning cities. Some of these cities are still facing problems of low quality public space.

The purpose of this master project is to explore the topic of human needs in urban environments, and to present a proposal for public spaces in Olaine that aims to improve the quality of recreation areas.

To approach this matter, a theoretical background is based on a literature study. The thesis discusses the importance of outdoor recreation in general, and particularly for city dwellers, it discovers human needs in different types of urban settings, and it draws the guidelines for development of urban public spaces. A case study of the context area gives an understanding of the existing recreation possibilities, and describes the conditions of the area, its values, and its weaknesses. The findings from the obtained knowledge and analysis of the study area formed the basis of design guidelines for the proposed development of the area.

The suggested proposal for the 'green corridor' demonstrates possibilities for improvement of green areas in Olaine with regard to human needs, promotion of outdoor recreation, and revival of neglected places. The design solutions aim to provide new public space for people to socialize and interact with urban nature.

This project is not intended to be a final solution for all post-Soviet cities, but rather raises a discussion of how to approach the design of urban places, and how general guidelines can be used as basic principles and implemented in various situations.

Keywords: human needs, urban environment, recreational areas, public space, urban forests, urban parks, urban squares, wilderness, landscape architecture, Latvia, Olaine.

Content

Introduction

Background

Urban environment is a complex and multifunctional mechanism that people move like cogwheels. When the movement slows, mechanism stops and places become abandoned and dead. Public space is the vital part in this mechanism, including everything that surrounds us: paths that we pass everyday on the way to work or school, parks that we use for leisure and interaction with nature, squares and other meeting points where we gather to socialize, as well as quiet places to seclude from the rush. All of these elements are very important in daily urban life. I believe the quality of urban life is very closely connected to the presence and quality of public space, where people feel the bond with the city and its people. In other words, it is like an ancient Greek Agora.

In the USSR, a lot of cities were built in order to provide dwellings for factory workers from nearby industrial enterprises in a very short time. People's needs and preferences were not taken into consideration; therefore, the urban environment of most of these cities was not very welcoming and cozy. I come from Latvia, a former member of Soviet Union, where some towns still remain from Soviet times. My hometown, Olaine, is not an exception. It was established in the 1960s as a worker's settlement. Due to a need for a labor for the rapidly developing chemical industries, multistory living houses were quickly built to ensure crowds of people coming from all the parts of Soviet Union could have housing. In the 1990s buildings were supplemented with green areas. Over time, recreation places created in Soviet time degraded, and they currently do not fulfill the requirements of modern life.

In the recent years a lot of improvements of public space have occurred in Olaine. Main streets, some courtyards and parks were renovated and many playgrounds were built. The newly created Forest Park that was opened in 2012 is a good example of how the recreation possibilities can be improved in Olaine. Offering many different activities for different age groups, it quickly became a popular place for leisure within the inhabitants of the town. Before, people preferred to spend their free time in Riga, where multitude of recreational places can be found.

All my life I have lived in Olaine, and when I grew up I wanted to do something for the town to improve the quality of life there. Due to its proximity to the capital, many people want to live in Olaine. It still offers many job opportunities with industries, and at the same time it is a very green town. It is surrounded by forest and agricultural fields. It also has many parks and other green spaces within the town, but some of them were created in the late 1980s, and later were not well maintained. Some of the green spaces do not attract people; they are either used only for crossing on the way to work or to school, or they are not used at all. These places degraded even more over time, and now they appear to be dead. In order to change this situation, I want to find possible solutions for different parts of green space in Olaine that will improve the quality of recreation areas. Well-designed green areas can motivate people to go out and use outdoor environment for recreation. I believe green spaces have more than just aesthetic values; they can offer social benefits such as meeting places, can improve microclimates, and have a positive impact on human wellbeing.

Objectives

With this thesis, I intend to explore the topic of human needs in urban environment. With this investigation, I want to answer this main question:

How can the quality of recreation places be improved?

The main goal of this work is to summarize obtained knowledge about the particular topic and to draw the guidelines for development of green space in Olaine that will help improve recreation possibilities in the town. Analysis of the current situation in the study case will help to distinguish the main problems and most appropriate places to work with. In order to show how the theory can be applied in practise I will try to reflect the cognitions in the design proposal for fulfilment of human needs in recreational areas in Olaine.

Method

Methodology of this project consists of two main parts, formation of theoretical background through literature study and generation of a proposal for study case. To acquire the objective particular topic is discovered from different perspectives, starting with understanding of benefits of outdoor recreation and importance of its promotion, proceeding to study of human needs in various urban settings. Further research on the context, entire Olaine town and its surroundings, helped to understand recreation opportunities, to evaluate strengths, weaknesses of green areas, and to distinguish problematic areas with high potential to become lively recreation places. This part included investigation of planning papers provided by Municipality of Olaine Region, spatial observations with photo-fixation and study of aerial photographs from Internet sources. To develop the proposal related to theoretical background, more detailed comparative analyses of chosen sites were done regarding the findings of literature study.

To develop the proposal, the findings from literature and case studies were used as basis for design of various sites. Design process in the early stage consisted of hand sketching on aerial photos and maps in the scale of 1:2500 and 1:500, though they are not presented in this thesis in the sketchy form. All plans were digitized by scanning them and developing in computer graphical programmes. The design proposal is presented through the illustration plans and sections as well as perspective illustrations and visualisations showing the ideas in three dimensions.

The work concludes with reflective discussion, in which the process, methods and results of this project are examined (see Figure 1).
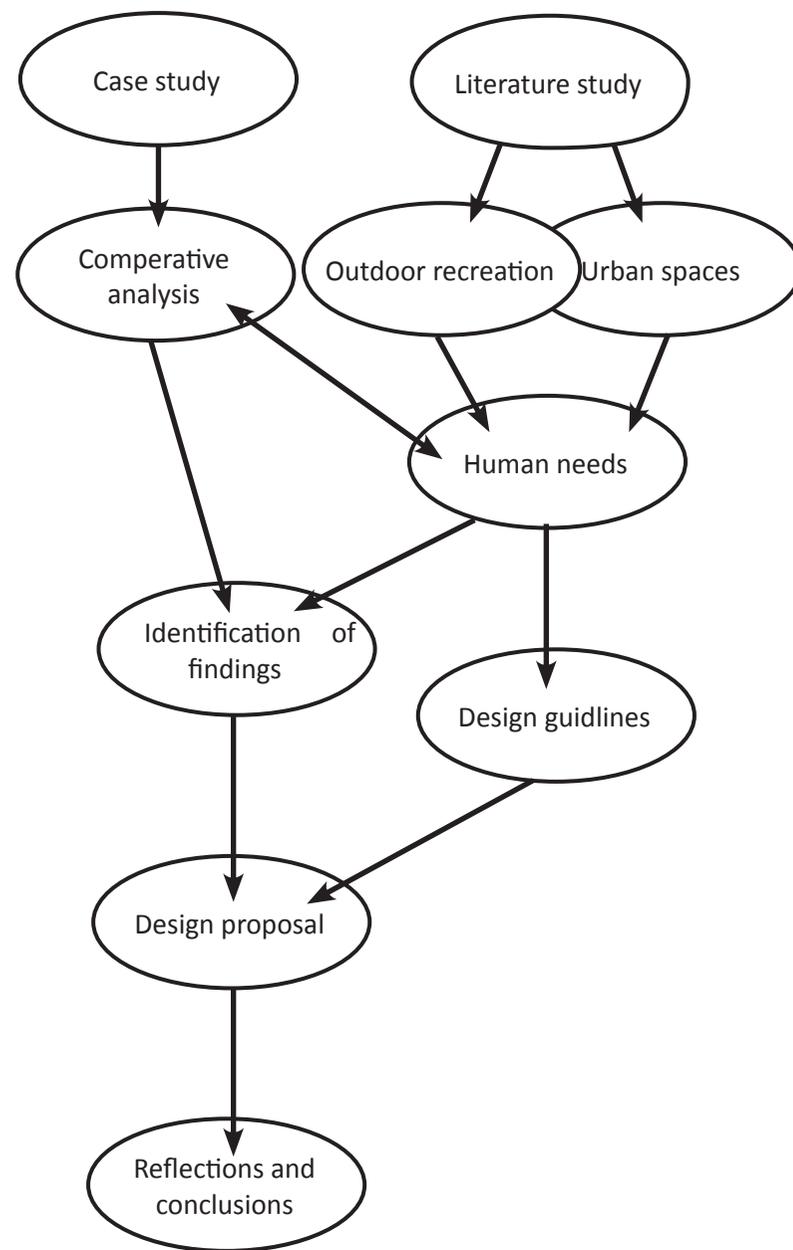

Fig. 1: Thesis methodology

Theoretical background

Outdoor recreation

With the development of civilization, organization and intensification of work has increased leisure opportunities...

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...the 'outdoor recreation' can be seen as a free-time activity complex done for its own sake, and something that involves interaction between the participant and nature (Ibrahim & Cordes, 2008).

Public green space should be accessible by a five minute walk or up to 300 meters from the residence (Nielsen & Hansen, 2006; Grahn & Stigsdotter, 2003).

With the development of civilization, organization and intensification of work has increased leisure opportunities for middle and lower class people. For people earning their living in the countryside, recreation was not really relevant. They followed another rhythm of life, in which recreation came rather recently as something belonging to life. Otherwise, it happened when they moved into the city and became part of the urban culture. With an increased amount of city people the countryside also in the Baltic countries became a place for leisure and relaxation. Agricultural and industrial revolutions were followed by the advent of new railways that ensured better access to picturesque landscapes all around the world and led to popularization of sightseeing tours and adventure trips to the wilderness. More recently mass car ownership has improved accessibility to nature even more for a wide range of people (Bell, 1997).

Present opportunities for recreation have developed a lot, and nowadays there are huge varieties of leisure activities available for everyone. However, the same desire to escape from the city rush and bustle in the modern urbanized world still exists. We are drawn to nature, therefore we are seeking quiet green spaces within the cities and outside of them. When we hear the words 'outdoor recreation,' we often see forested or natural landscapes. Some people might connect these words with leisure activities, but contingently the definition of 'recreation' is described as a sub-area of leisure, where the leisure can be conceived in three main contexts: in terms of time, an attitude of mind or perception of being at leisure, and some kind of activity (Williams, 1995). Thereby the 'outdoor recreation' can be seen as a free-time activity complex done for its own sake, and something that involves interaction between the participant and nature (Ibrahim & Cordes, 2008). Recreation comprises of activities that are performed simultaneously. They can be active or relaxing, and they can stimulate social, cultural, intellectual, and creative development where individuals or groups can be involved (Williams, 1995). Jan Gehl divides outdoor activities into three main categories: necessary activities, optional activities, and social activities. Necessary activities are not applicable to recreation, as they are more or less compulsory and not done for owns sake, but the other two are directly connected to outdoor recreation. Optional activities appear when there is a wish from a participant and the situation allows it. Social activities occur when people communicate (Gehl, 1971). The appearance of these activities is directly related to the conditions of the place. Gehl (1971, p.145) states that: "*the outdoor activities that are particularly dependent on the quality of the outdoor spaces are the optional, recreational activities, and by implication, a considerable part of the social activities*". This means that the quality of public spaces has to be ensured to encourage people to use outdoor space for recreation.

Recent research has also shown the connection between the visiting frequencies of green spaces with the distance to them. Public green space should be accessible by a five minute walk or up to 300 meters from the residence (Nielsen & Hansen, 2006; Grahn & Stigsdotter, 2003). Though some people are seeking natural environments and an escape from the city, which is not often found within five

minutes, cities may provide a lot of opportunities for recreation. Unfortunately, the crime, noise and pollution repels its inhabitants. Wilderness may offer a good opportunity for escape from the city, but it may cause disgust and a feeling of danger as well (Bell, et al., 2001). Many will still prefer to a built setting. National parks may meet requirements for both natural and built environment, but they can't be visited daily due to their remote locations. Many benefits can be derived from implementation of wildscapes within the city.

Everyone knows about the positive impact of outdoor recreation, but, for some reason, we always need an impetus for the start of some action. Modern society highly depends on media technologies, like television or Internet, so people like spending their free time indoors. My personal observation from small squares of Lund has shown that, even while being outside, the majority of people, especially younger generations, are concentrated on their phones and other devises that keep them in the 'cyber world' as long as there is nothing outstanding and fascinating around to attract their attention. Mostly necessary activities occur and being outside is not taken as advantage. Outdoor recreation has to be promoted, and that's the task for city planners, landscape architects, designers and others who shape the urban space. To a large extent, outdoor activities depend on physical planning (Gehl, 2006). To encourage people to use public urban spaces for recreation, we have to provide an attractive environment that will meet human needs and stimulate different activities.

Importance of outdoor recreation

In the modern world, people meet a problem of being negatively affected by urban life. Besides stress, which is so actively discussed nowadays as a major negative impact from city life, there are also effects from overloading, constrained behavior and overstuffing notions (Bell et al., 2001). The implication of natural settings in urban environments or giving 'a piece of nature' to city dwellers could be a solution to the urban problem. There is increasing evidence of the positive relationship between nature and health. The use of natural areas like parks, forests and gardens, helps to improve both physical and mental health, as well as enhance personal well-being (Nilsson et al., 2011). Nevertheless, nature is beneficial to everyone, regardless of gender, age, ethnic background or socioeconomic status. It must be accessible for every citizen, despite where the person lives and if they can afford living next to the park or other open space (Heerwagen, 2009). Considering recent studies on the effects of access and use of natural places and human health, it can be concluded that the distance to green spaces is an important factor determining frequency of visits and subsequent reduction of stress (Nilsson et al., 2011). In connection to the beneficial effects of nearby nature on health, the most mentioned mechanisms are improving air quality, reducing stress, stimulating physical activity and social cohesion among residents. After comparing these four mechanisms Sjerp de Vries (2010, p.89) concluded that "*reduction of stress and facilitation of social cohesion are likely more important than improving air quality and stimulating physical activity.*"

Though growing demand for densification of cities puts immense pressure on the need to use public space efficiently. It is very important to choose the mechanism that offers the most benefits for human health (de Vries, 2010). The study made by Nordh et al. (2009) has shown that the size of green space does not play a crucial role in the restorative qualities of the place; it is rather a matter of design and components of the parks. That means densification is not a threat for restoration. Thus bigger parks might offer more opportunities for restoration to their visitors (Nordh et al., 2009). Results of other research based on self-reported stress has shown that the more often people visit urban green spaces, the less often they report stress-related illnesses (Grahn and Stigsdotter 2003). Nearby green spaces or urban nature is able to embody some values for humans quite strongly. Mostyn (1979 cited in Kendle & Forbes, 1997, p. 320) suggests that people may get the following personal benefits from participation in an urban wildlife areas:

- emotional benefits that include a feeling of escape from the city, opportunities to identify with nature, a sense of freedom, a peaceful retreat to repair emotions, and sense of pride and achievement;
- intellectual benefits include exploring nature in work, gaining knowledge about local history, the variety of flora and fauna, and getting new skills;
- social values come from interactions of people, getting to know new people, pleasure from team and community spirit, and becoming more responsible citizen;
- physical benefits of being in nature appeal to the senses and being in a safe place for physical activity and play.

Research carried out by Rohde and Kendle (1994 cited in Kendle & Forbes, 1997, p. 321) uphold some of the previously mentioned values of urban nature. They classify impacts of nature for people in urban areas under 5 main headings: emotional, cognitive, behavioral, developmental and social. The cognitive benefit is reduction of mental fatigue, the behavioral benefit involves encouraging explorative and adventurous behavior, which may support or build self-esteem, and the developmental impact of nature on humans is represented through encouraging mental activity in higher levels, especially for children. Recreation in natural environment is especially important for development of children. Playing outdoors is beneficial for social, emotional and cognitive development of the child. "*Nature provides both the platform and the objects for play. It encourages exploration and building among older children which aids orientation and wayfinding, group decision making, knowledge of how to respond to changing contexts. Among younger children, small-scale natural environments with props [...] stimulate imaginative play which is considered a cornerstone of social and cognitive development*" (Heerwagen, 2009).

The importance of outdoor recreation is obvious, and to promote it, attractive green spaces have to be provided nearby the dwellings, involving many parks, forests, gardens and other open spaces located close to each other within the city. The attractiveness of a particular place might differ depending on the type of place; therefore this topic should be further discussed for each type of urban public space separately.

Urban public spaces

The need for public space where public life could take place always existed. In ancient Greece it was agora and in Medieval Europe it was the marketplace. Today, everything we find after stepping out of the house: streets, squares, parks, and everything else that surrounds us is our outdoor living area or public space. According to Wikipedia, "*Public space is a social space that is generally open and accessible to people*"; that is a place that anyone can use no matter what gender, age group, social level, or ethnic background you belong to. Public places belong to people (Tibbalds, 1992); therefore they are open to everyone for free and without any special reason for entry. Stephen Carr et al. (1992, p.3) describe public space as "*the stage upon which the drama of communal life unfolds.*" People are the actors and the audience of this theater at the same time; they can observe and be observed. Social and cultural life that occurs in public places promotes human interaction. It is a simple exchange of smiles or conversation that creates the connection between people, as well as a sense of community and something that helps to create bonds in between the town and its inhabitants (Carr et al., 1992).

In the medieval times, public places like plazas were crowded due to the interest in particular building function, such as the cathedral (Marcus & Francis, 1990). Nowadays most of us live in towns and cities, and urban public spaces are our major recreation areas (Williams, 1995). Public space provides channels for pedestrian traffic, meeting points for communication, and sights for relaxation (Carr et al. 1992). The character of the activities is highly dependent on the physical setting; hence the conditions for lively or dead places can be set through design (Gehl, 2006). It doesn't mean by applying certain materials people's behavior can be stimulated.

We experience space through vision first, but then spatial understanding takes place and we can enter the space, not only observe the image (Madanipour, 1997). Nevertheless we perceive the world around us through sensations of smell, sound and touch, and experience the space with all our senses without conscious analysis (Lawson, 2001). Visual appearance adds aesthetic values, but not necessarily ensures the comfort and fulfills human needs in particular place. Public open space is a built environment for people where one demands and preferences can be performed through the functions the place serves. Similar to functionalism in architecture that provides technical and workflow efficiency, functionalism of the outdoor space provides the efficiency of the places in different aspects like pedestrian and traffic flow, hygienic and cost efficient design and fulfillment of basic necessities of life (Lang, 1994). Jahn Gehl (2002, p. 10) sees pedestrian traffic and activities as a key for establishment of successful public space. Whether people arrive to place by foot, by car or by train, they leave the transport somewhere behind and appear in the public places as pedestrians. As long as good conditions for pedestrian flow are provided people will walk which will be followed by recreational activities.

Quality space will encourage people to stop and enjoy the benefits of outdoor recreation (Gehl, 2002). The value of quality public space is not only recreational, it can be considered in other aspects as well.

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The quality urban public places positively contribute to the quality of life.

According to Carmona et al. (2008, p. 7), "*Public space has the potential to influence a wide range of benefits: as a stage to encourage social cohesion and interaction and build social capital; as a venue for economic exchange and element in determining economic competitiveness and investment decision; as an environmental resource and direct influence on energy use; and as an important contributor to the livability of urban places and influence on the health and well-being of local populations*". All these values have major influence in different scales, like human health and social values. Economic and social benefits also affect the life of the city, while environmental value has a positive impact on the planet as a whole. I believe urban public places are environmentally beneficial and positively affect human health only when public space consists of natural areas or natural elements that improve the quality of recreation as well. In general, it can be summarized that quality urban public places positively contribute to the quality of life of residents.

Urban squares

Urban square can be seen as both an area that is surrounded by buildings and an area that is designed to present its buildings to the greatest advantage (Moughtin, 2003).

Urban squares or, as they are often called plazas or civic centers, are most commonly found in the center of cities and towns. They can be different in size, shape, and style, but they are always framed or partly surrounded by buildings where at least one often is of high importance as a municipal or cultural building. According to Cliff Moughtin (2003), an urban square can be seen as both an area that is surrounded by buildings and an area that is designed to present its buildings to the greatest advantage. Marcus and Francis (1990, p. 10) define a plaza as "*a mostly hard-surfaced, outdoor public space from which cars are excluded. Its main function is as a place for strolling, eating and watching the world go by. Unlike a sidewalk, it is a place in its own right rather that a space to pass through. Although there may be trees, flowers or ground cover in evidence, the predominant ground surface is hard; if grass and planted areas exceed the amount of hard surface, we have defined the space as a park rather than a plaza*". It is a place for community gatherings and social interaction. Kevin Lynch (1981) contends that urban squares are activity-focused. Cliff Moughtin (2003) also points out the importance of activity in urban plazas as it contributes to the plaza's visual attraction and vitality.

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Old historical squares are the beating hearts of the cities and towns that often represent the whole country. Kevin Lynch, in his study on the perception of the city structure, discovered that a node is an element that gives a strong image to the city, nevertheless it is recognized and understood by it. Times Square in New York, Piazza San Marco in Venice, Saint Peter's Square in Vatican, Grote Markt in Brussels, Red Square in Moscow, and Plaza Mayor in Madrid, all provide an image of the country, not only of the city. It is impossible to imagine these squares abandoned and empty. What makes them so popular? Can we find out the secret of success for lively squares from the old plazas? Marcus and Francis (1990, p. 9) assert that modern plazas are not the same as the ones from the past, though some functional and contextual parallels between them can be drawn. It is difficult to compare medieval

and modern squares the same as old cathedrals and modern skyscrapers. Today the variety of activities and uses of urban squares are much more limited, they are used for strolling, sitting, and standing combined with observing, eating, listening and reading (Marcus and Francis, 1990).

William H. Whyte (2009) in his research was trying to find an answer to almost the same question: why do some plazas work better than others and can we learn from successful places and apply these cognitions to other places? By observing two similar squares, he compared different factors that might be decisive for success of urban plazas. Sun, aesthetics, shape and amount of space were not found to be the key factors. Central location of the plaza positively influences its popularity, but even this factor does not play a crucial role. The major finding of his research was that seating space is a prerequisite for the plaza's vitality. For an effective use of public squares, we have to provide a reasonable amount of seating areas, which is around ten percent of total open space. Seating can be presented in different forms. This includes not only traditional seating on the benches and integral seating on the permanent objects like steps or ledges, but also includes alternative options for seating that give more freedom, like movable chairs or grass (Whyte, 2009). Besides the seating possibilities, there is a number of other characteristics that enhance the quality of urban squares design guidelines of which are offered by Marcus and Francis (1990). They suggest choosing the location for the plaza in the areas of mixed use, where a variety of different people will be attracted. The size of it may differ depending on the location and context. Francis Tibbalds speaks about the human scale and its application on the design of public space. Places for people have to be proportional to the scale and pace of pedestrians. It is also important that everything in the city is in scale: the person in the public place and the size of the public place in the district or the city as a whole. Both Lynch and Gehl consider the size of square up to one hundred meters as comfortable dimension (Marcus and Francis, 1990). Previous observations have established that visual complexity created by the variety of forms, colors and textures attracts visitors and offers a more pleasing experience compared to usual environments where everything is predictable. Mixed uses and activities encourage people to stay in a plaza with their diversity and complexity (Marcus and Francis, 1990).

Francis Tibbalds (1992) agrees with the various qualities that are discussed above and he claims that mixed use space is more lively and safe, since different people are attracted at different times of the day for different reasons. Sunlight, temperature, wind and humidity define the overall comfort and these factors should be considered while designing for public places. Depending on the geographical location, people seek out different amounts of sun, but in most places people want to be exposed to the sun in the winter and shaded from its harmful effect in the summer. Protection from the wind is also highly appreciated (Carr et al., 1992). A very important condition for a visited plaza is to be perceived as a distinct place and have clear boundaries and good transition. Short distance from the sidewalk, ground level variations, seating areas and boundaries arranged in a way that the plaza is easily visible and accessible, but at the same time has 'inside' and 'outside', encourage visitors to enter and use the place. In the large open spaces people often seek an 'enclosed' place, something that can be

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Smaller **subspaces are** more comfortable for human scale. Good linkage between plazas and other public spaces contributes to pedestrian **circulation.**

Plants highly enhance the experience of a place; they add smell, sound, color and light changes to the scene.

Ground level changes also add aesthetic values, as well as functional and psychological qualities to the site.

Paving of the plaza and adjacent areas can make smooth transitions and play an important role in division of space without physical borders, as well as add diversity and help to guide people through the space.

Programs and **events** promote human involvement and bring life to public spaces all year around.

The need to experience a natural setting and 'wilderness' is one of the basic human needs, along with a need for human communication (Marcus and Francis, 1990).

achieved by division of space into smaller subspaces more comfortable for human scale. Good linkage between plazas and other public spaces contributes to pedestrian circulation, which, in turn, will promote physical activity and health. Pedestrian flow through the inner city places implies less noise, lower pollution and fewer accidents (Marcus and Francis, 1990).

As was discussed before, people are attracted by visual complexity that can be created with the help of vegetation. Plants highly enhance the experience of a place; they add smell, sound, color and light changes to the scene. Planting attracts visitors for its pleasing appearance, giving the impression of an oasis in the city. Ground level changes also add aesthetic values, as well as functional and psychological qualities to the site. With the help of elevation, slight borders can be made (more on a psychological level than physical) for separation of different types of activities, division of space into smaller 'rooms', provision of vantage points for observation, and a seating areas or stage for the events. To prevent the risk of some people's exclusion from public life, disabled people should be taken into consideration when working with level changes. Paving of the plaza and adjacent areas can make smooth transitions and play an important role in division of space without physical borders. Paving of the plaza is an important element that adds diversity and helps to guide people through the space in a more efficient way. Subsequent management should take place in the urban squares after the design process and construction are complete. Maintenance is a mandatory measure for any site as people will care for the environment as long as they see that the place is managed in a good way. Programs and events will bring life to public spaces all year around and promote human involvement (Marcus and Francis, 1990).

Urban parks

People always seek for natural places: forests, mountains, seaside, rivers and lakes. A thirst for natural environment is particularly strong among urban residents. Due to urbanization, about 80% of Europe's population today lives in the cities (Antrop, 2004). Expanding cities demolish forests, fields, meadows, ponds and marshes, covering the earth with asphalt; they change the image of our planet. Unfortunately, residents of the cities often feel a sense of isolation from nature. Transport lines block the way to the rivers and lakes, and national parks are often out of reach. Urban parks can be seen as an oasis in the concrete desert of the city (Marcus and Francis, 1990). Previous research has established that presence of parks and open green spaces improve urban environment and quality of life, providing benefits in health, social, environment and economic issues (Dunnett et al., 2002). Parks and green spaces within the cities help to improve air quality, provide habitat for flora and fauna, reduce storm water runoff and produce the cooling effect. Primary economic benefit of urban parks is increased value of property, while the environment of the town or district becomes more attractive place to live and work (Sherer, 2006). Parks also provide places for physical activity and interaction with nature, which positively affect both physical and psychological health (Sherer, 2006).

As is discussed by Marcus and Francis (1990) the need to experience a natural setting and 'wilderness' is one of the basic human needs, along with a need for human communication. Urban parks are the places where overt and covert socializing possibly happen (Marcus and Francis, 1990). Furthermore, it is a place where children and their parents can spend their free time, and neighbors can get to know each other better in a pleasant environment and create a strong community. Research upholds a belief that human involvement in neighborhood parks helps to reduce crime among teenagers (Sherer, 2006).

In order to receive all benefits from outdoor recreation, parks have to be frequently used. This immediately raises the question of why people visit parks? Marcus and Francis (1990, p. 71) cited two main reasons: "a desire to be in a natural setting and a need for human contact." What influences the use of urban parks? Success of urban green spaces is all about design (Dunnett et al., 2002). When planning for urban parks we have to consider demands of various user groups, which may differ, and create good conditions for fulfillment of their basic needs. Special needs of elderly, retired, disabled and preschool children comprise mostly of accessibility aspects and placement of seating areas. Marcus and Francis (1990) provide some design recommendations regarding neighborhood parks. To meet the desire for a natural setting we have to ensure the environment that will enhance the feeling of interaction with nature. It can be achieved by a variety of colors, textures, forms, odors and sounds as well as allowing some trees to grow their full size. The design of pathway systems and locations of seating areas is of particular importance, as these factors contribute to social interaction. Fairly isolated seating areas should be located in the spots where pleasant views are open to the observer. Benches should be found both inside the park and close to its perimeter for those who have fear, no time, or no power to come inside the green space. Movable seats and a good arrangement of benches will promote social contact. Different type of equipment for individual and group seating, picnicking, grilling, child's play and shelter will make park more usable. A circuitous path system through the variety of natural settings will make the stroll in the park more interesting (Marcus and Francis, 1990).

To make parks accessible and useful for every citizen, special user groups have a number of needs have to be taken into consideration during the design process. For elderly, Marcus and Francis (1990) suggest using smooth, but not slippery surface materials, to avoid using ground level elevations, and where necessary provide ramps. Benches with backs and armrests should be placed in short intervals and just inside the park with an arrangement conductive to socializing, and walls or vegetation behind them for a sense of security both in the sunny and shady locations. Game tables, game courts, programmed activities and community gardens will provide quality outdoor recreation for the elderly. Accessibility issues have to be even more emphasized when designing for disabled people.

For smaller children, tot-lot areas located far away from the street will ensure safe recreation and play. Use of natural elements for older kids will give opportunities for play and interaction with nature. By incorporating un-designed natural parts of the landscape into the design, such as varied topog-

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The design of **pathway systems** and locations of **seating areas** contribute to social interaction.

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Accessibility, features, safety, conditions, aesthetics and climatic comfort strongly influence physical activity (Semenzato et al., 2011).

In a large scale **accessibility** issues comprise of linking parks with other public spaces that will connect with local destinations of interest.

A wide range of **features** will increase the use of green spaces for different activities.

Openness, park layout, type of vegetation and **lighting** afford a **sense of safety**.

Conditions of the landscape and its elements have a strong influence on aesthetics and safety.

Aesthetics contribute to a park's attractiveness through the visual perception and different senses (touch, smells and sounds).

Consideration of local climate leads to successful design in terms of **climatic comfort**.

raphy, low-branched trees, logs and boulders child's play is diversified beyond that of conventional playground (Marcus and Francis, 1990). Considering the ability of green areas to positively influence human health and well-being, they should be located as close as possible to places of dwelling, work, education and recreation. According to Semenzato et al. (2011), accessibility of green spaces is one of the main conditions to promote use of green areas and consequently physical activity there. They suggest that following green space characteristics can strongly influence physical activity: accessibility, features, safety, conditions, aesthetics and climatic comfort.

Planning and design recommendations regarding accessibility issues comprise of linking parks with other public spaces that will connect with local destinations of interest and location, in favor of multilevel trail corridors and within 500m distance from dwellings. This creates easy and safe access to parks and recreational facilities for everyone, regardless of age and disability. A wide range of features will increase the use of green spaces for different activities (passive and active) for different users and make places more easily understandable (clear entrances, connections and signs). Availability of lighting equipment helps directing movement at night and enhances sense of security. Safety matters become crucial when it comes to use of public space in the areas with high crime rates. It's been examined that openness, park layout, type of vegetation and lighting afford a sense of security. The feeling of perceived safety can be improved with help of planning and design where measures in favor of liveliness and visibility take place. A variety of features and activities promote liveliness of public spaces throughout the day and positively affect both actual and perceived safety. Visibility can be achieved by avoiding dense vegetation and solid structures and ensuring good lighting. Conditions that are manly related to the quality of the landscape and its elements have a strong influence on aesthetics and safety. Unmaintained features and trees do not attract people visually and might even be dangerous. Nevertheless, unmaintained places lead to vandalism. Human participation creates a feeling of ownership, which is followed by care from involved inhabitants. Aesthetics contribute to a park's attractiveness through the visual perception and different senses (touch, smells and sounds). As it was discussed before, visual complexity promotes use of public spaces. Appealing scenery can be created also with help of vegetation that will offer dynamics and various changes in shape, texture, color and scent throughout the year and over many years. Consideration of local climate will lead to successful design in terms of climatic comfort. In terms of exposure or protection from sun, rainfall and wind, demands vary around the world (Semenzato et al., 2011).

Urban forests and wilderness

The role of forests

It is difficult to imagine man without nature. From ancient times, the forest was a habitat and a place of harvesting for a large number of ethnic groups. In our time humanity could hardly be imagined without the forest and its products. Looking around, we can see how closely we are connected with the main product of forest - wood. We should not forget also about the spiritual and health benefits of human interaction with forests. Who will deny a walk in the clean air of a bright pine forest, or hugging the living trunk of a birch? Konijnendijk et al. (2005, p. 81) write that "*Trees and forests are, because of seasonal changes and their size, shape, and colour, the most prominent elements of urban nature.*" Besides aesthetic values, forest offers benefits in recreation and human health, social benefits, ecological and economic benefits, as well as climatic benefits. It largely determines the quality of the environment and the extent to which this environment is suitable for comfortable and healthy human existence.

The role of forests as 'green lungs of the planet' is well known. Forests absorb and bind the carbon dioxide from the atmosphere, store carbon in the organic matter of living plants, debris and soil, and release back oxygen, which is needed by all living creatures for respiration. Simultaneously, the forest very effectively cleans the air from dust and other contaminants - they are easily deposited on the surface of leaves and needles and washed away to the ground by rain. Forests, evaporating large quantities of water, increase humidity, protecting from desiccation not only itself but also the surrounding areas. Forests or woodlands in the city may comprise of several benefits of being attractive places for recreation, while reducing the speed of wind and traffic noise, and taking care of the microclimate in the city and contributing to the overall ecology of the planet. "*Healthy cities need effective greenspace networks and woodlands; not just to promote healthy living for city dwellers, but also to sustain wider biodiversity, to promote water and air quality, and to regulate climatic extremes*" (Gustavsson, 2004, p. 184).

Forests offer benefits in recreation and human health, social benefits, ecological and economic benefits, climatic benefits and add aesthetic values.

The functions of urban forests

Forests are considered to be one of the most attractive types of nature among other natural areas (Konijnendijk et al., 2005). Rydberg and Falck (1999) discuss the functions of urban forests in Sweden, which to some extent can be applied to other Northern European countries. The two most important functions of urban forests, in my opinion, are environmental amelioration and recreation. People like to use forests for recreation, which includes exercise, relaxation, social contacts and natural studies, but as cited by Lindhagen (1996) in Rydberg and Falck (1999), walking is the most common recreational activity. People go to forests for a short walk close to home or take a long walk to the wilderness, but,

People like to use forests for recreation, which includes exercise, relaxation, social contacts and natural studies.

Most people are appreciating forests for their amenity and beauty (Rydberg and Falck, 1999).

of course, forests near residences are visited more often. Picking mushrooms and collecting berries in the forest can also be considered as recreation, which is very valuable in the urban areas. Elderly people visit forests to get exercise and enjoy the beauty. Most people are appreciating forests for their amenity and beauty, especially when having a forest nearby their dwelling or having a view of it through the window or from a car (Rydberg and Falck, 1999).

Green urbanism

One of the criteria of green urbanism concept is for a city to be green and function in the same way that nature functions (Beatley, 2000).

The idea of green urbanism is tightly connected with sustainable development, which benefits both the environment on the global scale and quality of life, offering more sustainable places, communities and lifestyles to people. One of the criteria of this concept is for a city to be green and function in the same way that nature functions (Beatley, 2000). The contribution of forests to urban ecology may fulfill this requirement, which means a presence of forests in the city makes them at least one step closer to a goal of green urbanism. *"… the development of sustainable cities by using trees in the best ways to enhance water and air quality, reduce energy costs and at the same time provide human and wildlife habitats"* (Bell et al., 2005).

Wilderness and children's play

Children's play in structurally diverse forests creates a more imaginative and inspiring environment than in any well-organized playground (cf. Berglund et al., 1985; Grahn et al., 1997, cited in Rydberg and Falck, 1999)

For children who usually don't like play areas defined by adults, the forest is a perfect place for play and discover of nature. Children's play in structurally diverse forests creates a more imaginative and inspiring environment than in any well-organized playground (cf. Berglund et al., 1985; Grahn et al., 1997 cited in Rydberg and Falck, 1999, p. 5). Nevertheless, urban places of wilderness, like abandoned churchyards, forests, streets and ex-urban wilderness attract kids. Katy Mugford (2012) discusses the role of urban wildscapes in children's development. She suggests that wildscapes that are often determined by danger challenge children, and children like to take risks, have adventures, and consequently they learn through experience. Absence of parents makes them act independently, make their own choices, open new realms and develops a sense of responsibility. "*Water is used to represent journey and independence, and independent choice is key to strength. Dirt is liberating, predators are exposed, darkness embraced and unsupervised play with found objects enhances the skills and development of each character*" (Mugford, 2012, p. 92).

In the teenage years, the sense of responsibility becomes stronger as all kinds of different fears of the wilderness appear and a feeling of safety becomes more important (Ward Thompson, 2012). Many people may argue that wildscapes are more of a danger than development impetus for children, and letting them access those places might be considered irresponsible parenting, but that is a matter of personal choice and wilderness has a right to exist in urban environments. Urban wildscapes often are the result of a lack of maintenance or disturbance. Compared to flower beds or decorative plantings,

wilderness appears where the conditions are already suitable for a certain habitat; it creates a biodiversity in an urban landscape. Biodiversity of urban forests is often high and interaction with wildlife positively affects the quality of life (Rydberg and Falck, 1999). Although due to human activity some species in urban areas are under pressure and threat. Kendle and Forbes (1997) stress the need for urban nature conservation. "*It is the diversity of interconnected habitats that makes urban areas so valuable for nature conservation*" (Jorgensen & Keenan, 2012, p. xiii).

Due to human activity some species in urban areas are under pressure and threat, therefore there is a need for **urban nature conservation.**

A side of conservation Kendle and Forbes (1997) suggest other measures such as ecological restoration, habitat enrichment and habitat creation for urban sites of value. Habitat restoration may lead to a reappearance of lost qualities, while habitat creation may substitute very different or even unique types of landscape and bring new qualities to a place. To which extent people may appreciate wilderness in the city? Plants growing through the cracks in asphalt or birches on the roof will most likely be considered low quality places; nevertheless it may complicate accessibility or raise a fear of danger, while a patch of grassland in the park or flowering meadow instead of flower-bed next to the house may raise more interest. Implementation of wilderness into design may give better results and lead to a success of the place.

Ecological restoration, habitat enrichment and **habitat creation** for urban sites of value may lead to a reappearance of lost qualities, or substitute very different or even unique types of landscape and bring new qualities to a place.

Woodland design aspects

A designer's work is to change the landscape to a better state that will meet human needs, but save existing qualities and ensure the future vision (Bell et al., 2005). When designing urban forests we should consider that it's a long-term process and think in the long run to ensure good results for the future generations (Gustavsson, 2004). Four main aspects have to be integrated in the design: social, experiential, functional, environmental, and all four have to be balanced and function as a whole (Bell, 2005).

Four main aspects have to be integrated in the design: social, experiential, functional, environmental (Bell, 2005).

To meet human needs in social aspects, forests should provide places for escape from the city, provide the settings for social activities, as well as spaces promoting a sense of solitude, and ensure a feeling of safety and security. These attributes can be achieved with greater visibility and signs of maintenance. Different experiences in urban forests can be performed through its dynamics, different aesthetic qualities, design styles and the non-urban experience of a forest in the city. The main functional requirements are the same as in any other public open space: provision of accessibility and carrying capacity, both physical and visual. Ecological aspects should be present in the design as a reflection of the local ecological conditions, and as conservation and management of biodiversity (Bell et al., 2005).

To meet human needs in social aspects, forests should provide **places for escape** from the city, provide the places for **social activities and** solitude, and ensure a feeling of **safety and security**.

Dynamics, different **aesthetic qualities** and **design styles** contribute to variety of experiences in the forest.

According to Simon Bell (2005) in order to fulfill the four aspects previously discussed, urban forests should embody the concepts of 'nature in the city' and 'composition and structure.' The idea of the first is to give a sense of escape from the city to a natural environment, by screening the city with vegetation without creating a frightening impression. Views from the forest to the main city landmarks will keep the connection and allow orientation. The second concept stresses the need for visual complexity

Accessibility and **carrying capacity** are the main functional requirements.

Ecological aspects should be present in the design as a **reflection of the local ecological conditions**, and as **conservation and management of biodiversity** (Bell et al., 2005).

and diversity of woodlands with regards to plant species, compositional patterns and layers, spatial structure, habitats and spaces of different use. The creation of open spaces can enrich the woodland in many ways: offering different experiences to visitors (open, close; interior, exterior), providing space for recreational activities (picnicking, play areas) and contributing to biodiversity. "*This may include non-woodland habitats, such as a grassland, wetland, open water or heath, where ecological values are importan.*" (Bell et al., 2005, p. 175).

Interior 'rooms' and paths

Roland Gustavsson (2004, p. 185) emphasizes the importance of interior of woodlands "*as rich environments that appeal to all the senses.*" Since the environment around us is visually perceived at eye level, the space and interior of the woodland has to be related to a human-scale. While the canopy in the tall stands plays the role of roof, the understory and field layer offer most qualities and experiences. "*...thinking about the interior rooms, the views, the changes in light, the small birds, the butterflies, the perennial woodland herbs and grasses, the autumn-coloured leaf carpets, but also about the paths, the walks, etc., which will mean as much as the trees themselves*" Gustavsson (2004, p. 187).

Since the environment around us is visually perceived at eye level, the **space** and **interior** of the woodland has to be related to a **human-scale**.

Paths that connect these 'rooms' and give the access to a valuable natural resource also play a significant role. A path system, or in a larger woodland a path network, should be created by a series of loops, allowing pedestrian circulation (Bell et al., 2005). Paths should bend through different types of woodland offering a variety of different experiences. When designing paths, elevation and surfacing should be considered with respect to disabled and elderly people (Bell et al., 2005).

A **path system** should be created by a series of loops, allowing pedestrian **circulation**.

Elevation and **surfacing** of the paths should be considered with respect to disabled and elderly people (Bell et al., 2005).

Fig. 2: Location of Olaine.

Fig. 3: Structure of Olaine.

Case study

Geographical location

Olaine is located near the center of Latvia (see Fig. 2), in the middle of Zemgale plain, near the historical border of the Vidzeme and Kurzeme regions. The town is situated 24 km from Latvia's capital, Riga and 26km from its fourth biggest city of Latvia, Jelgava. National road A8, which connects Riga with the Lithuanian border, as well as the railway line from Riga to Jelgava both run southwest of the town. Olaine is easily accessible by public or private transport.

The town's main street, Zemgales street, is parallel to the motorway and railway line. Other streets and building structures are oriented to this direction. Consequently, the position of Olaine in relation to the road is northwest (see Fig. 3).

Climate

The climate is determined by the location of Olaine, which is in the center of Latvia. It is continental, and due to the maritime influence of the Baltic Sea, average air temperature is a bit higher than in the other parts of Latvia. The average annual temperature is 6.0° C. The warmest month is July, when the average temperature is 17.0° C, and the coldest months are January and February, when the average temperature is between -4.6 and -4.7° C.

Annual rainfall in Latvia is 650 mm. The highest precipitation months are July and August, and the least precipitation occur in February and March. Prevailing wind directions are south, southwest and west. The strongest winds are in November, December and January, and the lowest in July and August (Latvijas Vides, ģeoloģijas un meteoroloģijas centrs).

Population

According to the census taken in May 2011, the population of Olaine county is 20116 where approximately 13000 are living in the county center, Olaine town. During the Soviet times many people from other Soviet socialist Republics moved to Latvia, so today population division by nationalities is obvious. Thus 43% of Olaine's population is Latvian, 40% is Russian, 6% is Belarusian and 11% is a mix of Poles, Ukrainians, Lithuanians and Estonians (Centrālā statistikas pārvalde).

Historical development

The main conditions for Olaine county development were its location near the ancient trading, and the transport and postal road that led from Riga through Jelgava, Liepaja, and Klaipeda, and continued through Lithuania and Poland to Western Europe. However, Olaine's development was based on the presence of bogs and peat resources.

Olaine village was first mentioned in chronicles in 1177 with the name Skadiņi (Skadin, Skadding, Schading). In the 17th century a church was built on the bend of Olainīte River, which was called Olaine (Olaines pagasta teritorijas plānojums).

The formation of Olaine as a settlement began in 1939 due to development of the peat extraction industry, which experienced a boom during the Second World War. The majority of Olaine village's population at that time was working in the peat bogs and peat factory.

The second turn of the town development started in 1956, when a new factory was built and people started moving from Riga. In 1967 the population of Olaine village reached 7000 and Olaine gained town rights. In 1991 the territory of Olaine was doubled to increase green area and ensure land for private houses (Olaines pilsētas attīstības programma, 2004).

Currently, Olaine's buildings mainly consists of high-rise (5-9 floors) residential buildings that were built in 1960s. During the last 10 years, some public spaces were renovated, infrastructure was developed, and systematically everything has been done to make people feel safe and recognize Olaine as their home town.

The image of the landscape

The landscape of Olaine County is rich with forest and wetlands. The natural ecosystem of bogs near Olaine has been changed and degraded. During the peat extraction big areas of bogs were meliorated, therefore many small lakes, ponds and meliorating ditch systems were created. Near Misa River a wide variety of landscape types can be found: meliorated agricultural fields, birch forest, raised bog forest, pine-birch forest, wet forest types, peat extraction fields, as well as rural and urban landscape. One more landscape type can be distinguished around Olaine town – allotment gardens. Most of them were created on the meliorated peat extraction fields, where soil has been improved and enriched with nutrients.

In general, landscape around Olaine can be described as a flat agricultural land with dune lowland forest that has low aesthetic value. However, wetland area has a high aesthetic value, but is not easily accessible.

Fig. 4: A mental map of Olaine.
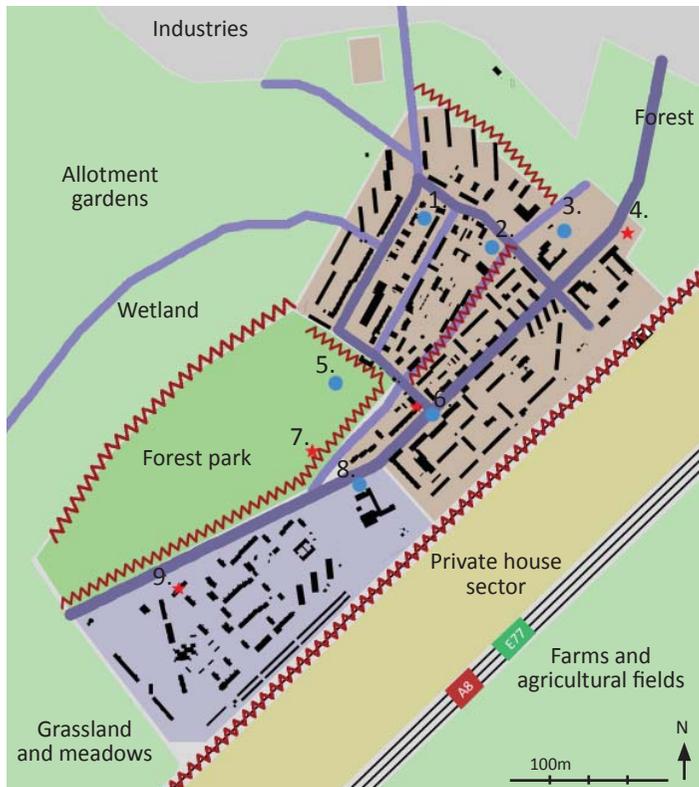
Paths

Edges, barriers

Districts

Nodes

Landmarks

1. Marketplace
2. Park
3. Stadium
4. Church
5. Stage
6. Supermarket
7. Water tower
8. School
9. Supermarket

The image of the town

To build up the image of Olaine town's landscape I emanated from the Kevin Lynch method. He shows that people understand their environment as stable and predictable by forming mental maps, including the five basic elements of the image of the city (Lynch, 1964):

- Paths - streets, sidewalks, trails, and other channels through which people move;
- Edges - the perceived boundaries such as fences, buildings, and banks;
- Districts - a relatively large part of the city, which differs in its identity or nature;
- Nodes – the center of something or intersections;
- Landmarks - easily noticeable objects that help to identify places.

It can be concluded that the urban environment, on the one hand, is full of communication between people, but on the other hand, it is in communication with people. Citizens that live in the town for a long time associate these five elements with some feeling or meaning. They use them to locate themselves in the town, as well as refer to when finding their way. In order to understand how people of Olaine see their town, orientate within it, and find the "hotspots," I decided to build up a model of the town. Since I have lived in Olaine my entire life I decided to make my own mental map of the town, where possibilities for quality improvement of recreation areas will be emphasised.

Paths

The most remembered paths for us are the ones that we pass every day. Sometimes our mood depends on what we see on the way to work, school or home. Attracting, well maintained and beautiful landscapes always have a positive impact on the people's mood; nevertheless, natural landscapes also have a positive impact on people's health and wellbeing. Therefore, people often choose paths that runs through the parks and inner yards or along bodies of water, instead of following monotonous and dull streets.

The net of the most used paths is shown at Figure 4. The most intensively used roads by both cars and pedestrians (painted in dark purple) are Olaine's main streets Zemgales, Jelgavas, Zejferta and Veselibas, as well as the first street of Olaine, Kudras (in Latvian means 'peat street'). The most actively used pedestrian path crosses the whole town lengthways and stretches along the canal and the forest park. This path can be considered the 'green corridor' of Olaine, since it flows through green areas in all its segments; and it has a high potential for recreation for inhabitants of the town. High importance of the paths on the outskirts of urban landscape should be mentioned as well. Since Olaine is an industrial town a lot of people work in the factories that are located further out of the town's center. They use a path that goes up North from the town. As it has been mentioned before, Olaine is very international town and has a lot of people from the former Soviet Union republics, which have a tradition or habit of

growing their own vegetables and fruits. A lot of people have their allotment gardens in the outskirts of the town for this purpose. East and North directed paths are used to reach the allotment garden areas.

Edges

Straight and linear edges do not exist in nature. Different types of landscape gradually flow from one to another. Urban environment is a product of anthropogenic impact, meaning every element of the landscape is influenced by it and has strict borders. Sometimes these sharp borders can be seen as barriers, both physically and mentally, but sometimes the contrast can be used in the landscape as positively impressing element, for example, a glade in the dense forest.

In the Figure 4 red zigzag lines represent edge elements in the town. The strongest physical and mental barrier of Olaine is a railway that separates the town from "the rest of world" (see Fig.5). It is very rarely crossed by foot and is considered as a dangerous object since is very intensively used by both passenger and a cargo trains. Another physical barrier in the town is a canal, which has poor access and can only be crossed in few places (see Fig 6). All the other edges are considered more as mental barriers, and mostly meeting points of urban and natural environments, and well-maintained and wild landscapes. From the southeast and northeast, Olaine is surrounded by forest that creates a sharp edge of the town (see Fig. 7). A strong mental border can be found between the forest park, which is well-maintained and is easily accessible, and wetland area, which is perceived as wild and threatening. The southern part of Olaine is not so densely built and has big open spaces, therefore the border between the town and grassland area is not perceived as a barrier, but rather as an edge of the town.

Districts

Districts are the parts of the town that can be distinguished by the common character. Figure 4 shows that Olaine town is divided into two parts. The northern part of the town (painted in brown) has been built much earlier than the southern part (painted in violet), therefore one is called Old district, and the other is called New district. The real border between those two cannot be drawn, but intuitionally people can recognize where they are located. The old district is built in more dense pattern and is dominated by two and five floor buildings, while the New district mostly consists of high-raised nine floor buildings and big open spaces. The section of land between the railway and highway, painted in yellow, represents the housing district where private family houses are prevailing. Green areas are painted in green on the Figure 4 and represent different types of green space that has a potential to be used for recreation. It includes parks, wetland, forest, allotment gardens, grassland and meadows. Grey area shows the industrial district of Olaine.

Fig. 5: A railway, the strongest physical and mental barrier.

Fig.6: Canal as a physical barrier and a path along it.

Fig.7: Forest edge.

Fig. 8: Newly built stage is a popular meeting point.

Fig. 9, 10: Landmarks of Olaine: the church and the water tower.

Nodes

Nodes are the most important meeting points where social interaction happens in the town. The marketplace is the oldest and most significant meeting point of Olaine (1. in Fig. 4). My personal observation shows that mostly people older than 40 years of age are regularly visiting the marketplace. They go there to buy fresh products from farmers, and to discuss the latest news. Other important meeting places are the park (2. in Fig. 4) where people of all age groups gather to escape from the urban environment and to rest. Two rather new nodes in Olaine are the stadium (3. in Fig. 4) and the stage (see Fig. 8) in the forest park, both used by different age groups. The stadium is mostly used by people doing or interested in sports, while the stage audience is more interested in cultural events. The node next to the supermarket (6. in Fig. 4) is considered a center of Olaine town and is actively used as a meeting point.

Landmarks

Landmarks are often the objects that shape the panorama or skyline of the cities and make it unique. In the small towns, landmarks are used more as reference points and objects that help find a way and locate ourselves within the town. In the Figure 4 landmarks of Olaine are marked with red stars. The most significant landmarks in Olaine are the vertical elements: the church (4. in Fig. 4) building that has never been finished and used for religious purposes (see Fig. 9), and the water tower (7. in Fig. 4) that was built with mistakes and has never functioned (see Fig. 10). Two big supermarkets (6. and 9. in Fig. 4)are often used as reference objects and can also be considered as landmarks of Olaine.

Recreation possibilities in Olaine

In order to understand what types of recreation areas are available and what types of places are needed or can be improved, I decided to list all the possibilities for recreation in Olaine and its surroundings. Olaine County has a big diversity of natural resources; therefore it can offer a wide range of recreation possibilities. The forest around Olaine is often visited by citizens for collection of gifts of nature such as berries, mushrooms and flowers, as well as for walks with a dog or just stroll in the fresh air. Wetland areas are also rich with berries and people like to pick cranberries and cowberries for jams and other winter supplies. Big variety of water bodies (river, lakes, ponds and quarries) around Olaine allow different activities for inhabitants of Olaine and its visitors. Bigger quarries and lakes are very popular for swimming in the summer season, while smaller lakes often gather lovers of fishing. It is also possible to camp out near the quarries and light a fire, and people often use the opportunity to have barbeques in the natural environment. A less attractive for inhabitants of Olaine is a Misa River that bends near the town, but sometimes people can be seen there having a picnic. Very important places for other type of recreation are allotment gardens, where people work with the soil and plants. In Riga Regional Plan Olaine County's forest, most of the water bodies and other areas of historical, aesthetical and ecological value are listed as high recreational potential places for Riga inhabitants too (Olaines pagasta teritorijas attīstīblas programma, 2008).

There are three parks in Olaine town available for recreation. Two of them are newly renovated and equipped with all the necessary facilities to meet the needs of different age and interest groups. The park near the cultural center has a lot of benches and is complemented with flower topiaries, which bring brightness and colors to this wooded place (see Fig. 11). This park is suitable for passive recreation and is often used by older people and young mothers with babies. The big Forest Park was built in 2012 (see Fig. 12). It has a wide variety of places for different activities: promenade, walking paths, stage, BMX paths, outdoor gym, playground and sheltered canopies with barbeque equipment. When the forest park was opened, it came to be a heart of the town due to its central location. All day long this park gathers a lot of people who come here for strolling at the promenade or to spend their free time for both active and passive recreation. Forest Park has a 'pillar hall' structure where all the trees (mainly pine trees) are the same height and create a big open space under the solid canopy. Even though the park is well organized and equipped it still has a feeling of being in the forest and close to wild nature. This park could work as a transition zone between the town and the wetland area, to which access is not provided at the moment. The third park is located on the edge of the town and work as a buffer zone between the urban, industrial and wild environments. This park has not been well maintained for the last 20 years. Most of the paths were trampled spontaneously, benches were destroyed, and the park has an overall look of neglected character (see Fig. 13). Due to the frightening atmosphere of this park, it is mostly used for walks with the dogs or for pedestrian transit to the industrial zone, though it has potential to be a nice recreational place for people from the nearby elderly house and other town inhabitants. The meeting point next to the fountain in the center of town is also

Fig. 11: Park next to the cultural centre.

Fig. 12: Forest Park.

Fig.13: Park behind the shopping centre.

Fig. 14: Banks of the canal lack visual attractiveness.

Fig. 15:Lack of activities at the square next to the shopping centre.

Fig. 16: The forest around Olaine is a valuable resource for recreation.

one of the important recreational places of Olaine. In the warm summer days, this place accumulates people from different age groups such as old people, young mothers with baby carriages, groups of teenagers etc. The value of this place is not in the green area, which contains lawn and one tree, but rather the central location makes it so popular within the citizens of Olaine. There are two schools in the town and each of those has a stadium that is open for everyone. People who like sports often use one of these stadiums for self-training or attend organized classes, and also come to watch football matches or track and field competitions. Tennis courts are also available at one of the stadiums. In the last few years many new playgrounds were built in Olaine. At the moment, three bigger playgrounds and various smaller ones in the inner yards are actively used by children. There is also a skate park next to the cultural center for older children.

In the winter time some recreational activities can be done too. The rink next to the cultural center invites everyone for ice skating and hockey, though some people prefer to use frozen water bodies for the same occasion. Two small hills in the Forest Park are very much loved by kids for sliding and one bigger one that is located in the outskirt of Olaine attracts people of different age groups. There is also a plan to build an equipped skiing resort on the artificial hill on the Southwest end of Olaine. Numerous paths in the forest around Olaine are also used for cross-country skiing in the winter season.

Choosing the places to work with

After some consideration of the brief analysis of Olaine's landscape, I have found areas that have a big recreational importance in the town, but the quality of these places needs to be improved. These places are: the park next to the shopping center, the square in front of it (see Fig. 14) and the area along the canal (see Fig. 15). At the moment, the newly built Forest Park is the most visited place in Olaine, and most of the activities are concentrated there. Improvement of the green space along the canal and around the shopping center will spread recreational activities over the entire length of the town. Selected sites will function as a continuation of the forest park, and will ensure promenade walk through the town. To add new qualities to the town's recreational space, I decided to expand the 'green corridor' of Olaine by including the forest (see Fig. 16) and wetland areas to my project.

Case study analyses

'Green corridor' of Olaine

Public green space that stretches through the town can be considered as a 'green corridor . Different types of public recreation places are located close to each other and are physically connected well. A series of parks, squares, and paths along the forest and canal walk form the 'green corridor,' and it is the most appropriate choice to work with in improving the quality of outdoor recreation in Olaine.

The area consists of a pedestrian zone, and the 'green corridor' intersects with the roads in two places, but pedestrian walks are arranged in those places. Since this path stretches lengthwise through the town, it has one of the largest daily flows of pedestrians. The site adjoins the post office, cultural center, health care center, hospital, schools and other important places for the town's inhabitants. Its central location determines the usage frequency of the 'green corridor' for both pedestrian transit traffic and recreation, as it is located not far from any place in Olaine. At the moment, the 'green corridor' is not perceived as a solid structure, because some parts of it look unattractive and rather neglected, and some parts of it lack visual connection between them.

The current territory of 'green corridor' is an uneven thin line painted with green on the Figure 17 that girds the town like a belt. My intention is to expand the space for recreation and to bring life to the neglected areas; therefore in my analyses I included forest and wetland areas to the 'green corridor' (marked with red line) as well.

I believe by improving the quality of existing green areas the quality of life for Olaine's citizens can be improved. Therefore, the aim of my project is renewal of urban public space, redesigning this zone into an attractive high-quality recreation site, which will be accessible and will offer diversity of activities for different ages and social groups.

■ "Green corridor" area
— Studied area
● Important objects

Fig. 17: Location of 'green corridor' within the town.
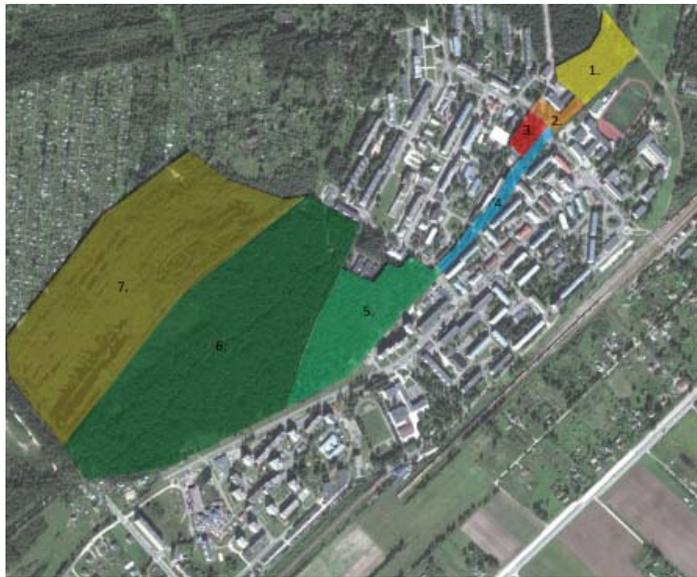
Fig. 18: Division of 'green corridor' by the type of green structure.

Fig. 19.1-19.7: The following pictures represent the walk through the 'green corridor', showing the structure of green space in different parts of it, starting from the park behind the shopping centre (1) all a way down to the wetland area (7).

Green structure

Understanding the green structure can help to distinguish the values and the weaknesses of the green space in the chosen area that can be emphasized in the further design work. The structure of vegetation in the 'green corridor' is rather varied in different parts of it. To reflect the actual situation better, I decided to divide the area into smaller units (see Fig. 18), where each one can be described in more detailed way.

1. The territory of the park behind the shopping center looks rather neglected, but vegetation is in good condition and has a high aesthetic value (see Fig. 19.1). One layered forest creates a 'pillared hall' structure of the park (see Fig. 20.1). Trees have no lower branches; therefore at the human eye level the space is quite open, and long views are allowed. The solid and dense canopy of the trees creates a roof, and the space under it is dark and is perceived as an inner room. The dominat tree species is pine, and a few birches and aspens can be found as well. On the south edge of the park, trees have a different structure; they are lower in height and their crowns are lower. These trees create a spatial wall of the park. Since the air in this park has a scent of pine trees, this place can have a restorative and healing character.

2. The square in front of the shopping center has an open space character with few dominating trees (birches and chestnut trees) in the middle, and it is surrounded by tall maple, oak and chestnut trees (see Fig. 19.2). Groups of lilac shrubs are growing along the paths. A recently renewed alley of lindens along the street creates a buffer zone and separates the square from the park on the other side of the road. The chaotic structure of this square divides it into several rooms that have no function (see Fig. 19.1). Lack of benches and other equipment makes the place feel abandoned. Some of the trees are not in good condition and might threaten human life.

3. After the renovation, the park next to the cultural center was the most visited place in the town (see Fig. 19.3). Today it is competing with the forest park and gathers more people that like passive leisure: young mothers with their kids and old people. The structure of this place is very similar to the park behind the shopping center (see Fig. 20.3), but this one is well maintained and equipped for recreation. The 'pillared hall' structure with some shrubs creates an open space feeling with the roof and few corners to hide in. The dominant tree is pine.

4. Green space around the canal has a chaotic structure (see Fig. 19.4). Randomly planted trees and shrubs make the long views more attractive (see Fig. 20.4). People like to stand on the bridges and contemplate the landscape around the water. Since the vegetation around the canal is exposed to the sun, trees have nice canopies with lower branches that extend over the water.

5. The structure of the Forest Park is similar to other parks in Olaine. It has a light pillared hall type of structure, where the tree's canopies are uplifted and create a roof layer (see Fig. 19.5). The space under the roof layer is perceived as a big inner room or hall (see Fig. 20.5). Trunks of the trees are sparse. The dominant trees are birch and pine. The field layer mainly consists of grass.

6. The border between the Forest Park and the forest can be easily noticeable. The forest has dense vegetation, is not easily accessible, and is perceived as a wild nature place (see Fig. 19.6). The multilayered structure of the woodland, in combination with rich shrub layer, creates a and threatening atmosphere for visitors (see Fig. 20.6). This part of the forest has very few paths that are used mainly for walks with the dogs. The dominant tree is pine.

7. The soil of the wetland area is not very stable; therefore it is not accessible for visitors without special equipment. This fact has complicated my detailed examination of the area. Observing the place from a distance, I have noticed that this wetland mainly consists of lakes, bogs and wet grasslands (see Fig. 19.7). Some parts of the wetland are forested, but large areas are open (see Fig. 20.7). The dominant trees here are birch and pine, but they do not grow very tall. Kemeru bog is not far from this wetland, where its interesting ecosystem is well represented and easily accessible for visitors. The arrangement of Kemeru bog nature trails is a good inspiration for Olaine's wetland area. Since the presence of peat was the main reason for the town's appearance, Olaine's bog can serve an educational function and give the knowledge to the town's inhabitants about the place that they live. If rich flora and fauna of the wetland is accessible, it might attract people from Olaine's surroundings, which will also have a positive impact on the municipality's economics.
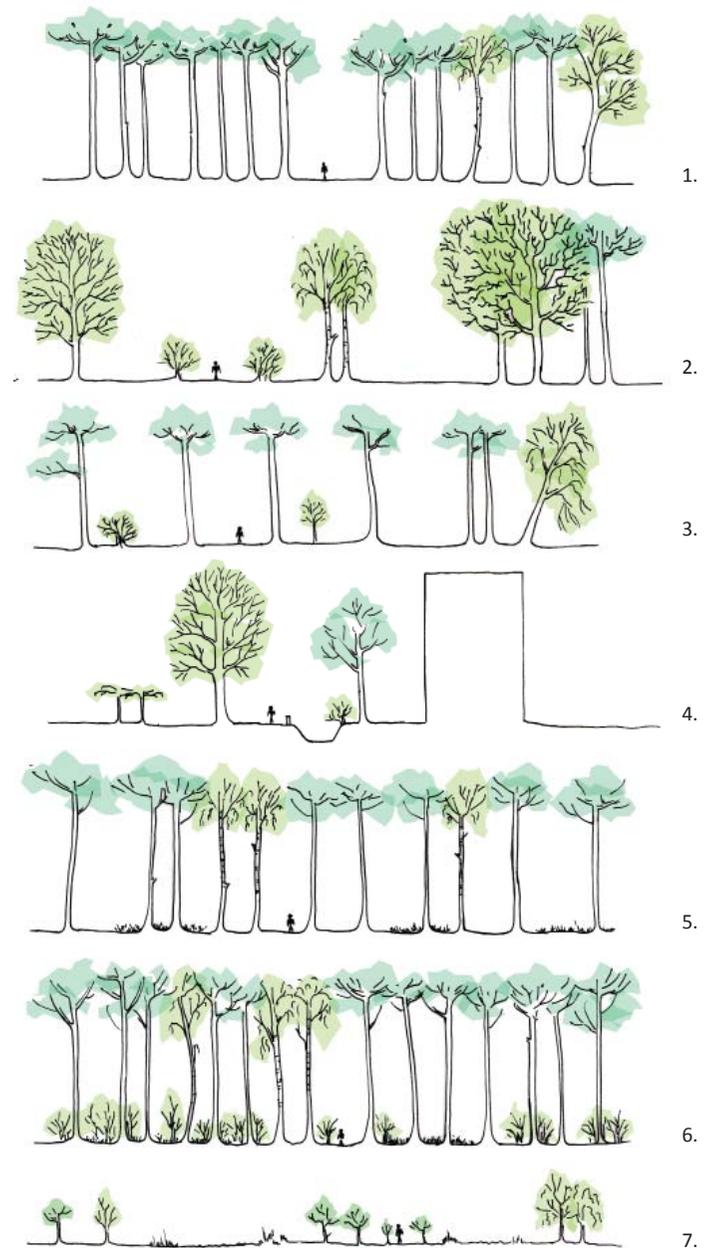

Fig. 20.1-20.7: Schematic sections of the green structure in different parts of 'green corridor'.

- ● Children playground
- ● Pavilion with BBQ area
- ● Outdoor gym
- ● BMX track
- ● Rink/sport fields
- ● Skate park
- ● Hills for sliding

Fig. 21: Equipment in the 'green corridor' and nearby.

Fig. 22: Seating possibilities in the 'green corridor'.

Outdoor furniture and equipment

To make places attractive to users, they have to be well furnished and equipped, so that they will meet requirements of different age groups. Children and teenagers seek sports activities, such as playgrounds and athletic fields, young couples enjoy leisurely walks through the spectacular paths, and old people prefer quiet seating places with a nice view. In order to understand what can help improve the quality of recreational areas in Olaine, and to find out why some places are more popular than others, I decided to create maps that will show visually the amount and density of recreational facilities, outdoor furniture, and equipment in the 'green corridor'.

In Figure 21 blue and red dots show seating possibilities in the studied site. Blue dots correspond to good quality benches, while red once represent bad quality seating furniture that is either broken or uncomfortable in conformity with its height and backrest angle normative. From this image, it can be clearly seen that only the forest park and park next to the cultural center have good seating possibilities. Other places offer very few seating places that are in bad condition or have none of them. Figure 22 shows different recreational facilities and play equipment in the sites. The forest park is the most equipped and it offers a variety of different activities. There is an obvious lack of outdoor furniture and equipment in the northern part of the 'green corridor'. One playground can be found next to the shopping center and two sport activity places are located near the cultural center. The forest and wetland areas are not equipped at all; therefore they are rarely visited for a longer stay.

To assess the opportunities for recreation for different age groups, existing equipment can be divided as following:

- for children: three playgrounds, two of them have division of play equipment for different age groups, in the winter season little hills in the forest are available for sledding and skiing for children;
- for teenagers: BMX track, skate park, sport field (rink in the winter and basketball fields in other seasons), and leisure walks and seating in the parks and forest;
- for adults: leisure walks and seating in the parks, outdoor gym, BBQ places in the forest park, outdoor stage and outdoor discotheques, rink and basketball fields;
- for older people: seating areas in the parks and along the canal.

With regard to a variety of recreational spaces for different age groups, children and teenagers have wide opportunities for recreation, and there are only few activities available for adults. There are no special places for old people in the 'green corridor', though the elderly house is located in the northern part of it, where a lack of seating areas and other equipment is especially notable.

Paths and points of interest

When designing a site, often a landscape architect would like to design the paths according to design style and his or her own ideas, which will most likely cause nonfunctional planning and unsuccessful results. Objects located nearby and people's desire to reach them has to be taken in consideration. People always choose the shortest path therefore every design has to be based on the movement directions. This will avoid trampling of the greenery and make the place functional to its users.

To see how people use the 'green corridor' area, I have done analysis of the pedestrian movement in the context of the whole town. In my analyses I used Gundega Linare's method, which assumes connecting dots between the places where people might appear (doors of the dwelling buildings) with points of interest (nearest bus stop, kindergarten, workplaces, shops and other places that can be daily visited) with the respect to buildings and other objects that cannot be crossed by pedestrians (e. c. walls, fences, water objects). In the spots where several lines emerge to be parallel or intersect with each other in a very small angle, thicker lines appear, which means that daily load on that path is high and a walkway with good surface material has to be designed (Linare, 2001). The results of this analysis have been summarized in the Figure 23. Red lines represent major (daily) pedestrian traffic, black ones – minor. Major pedestrian traffic in the town is determined by daily flow to the workplaces, schools, kindergartens, etc. Because Olaine is the chemistry capital, lots of industries are located north of the town. Many people are working at these factories, and in order to get to work by the shortest route, they cross the town daily. Since Olaine is located between two big cities, many residents of Olaine work or study in Riga and Jelgava. For them the train station is a very important point of interest. In the summer season, daily flow to the allotment garden area can be noticed.

Apparent tendency to bypass the forest is most likely is connected to the lack of equipment such as lighting items and paving, which causes fear for visitors and complicates the accessibility. People instead prefer to walk along the forest line, where it is lighter and visual contact with 'civilization' exists. The walk to the work feels more pleasant when touching natural environment even by eye. Pedestrians cross the forest only for leisurely walks during the daylight and lighted promenade walk during the evenings. The deepest part of the forest is commonly used by people walking their dogs. Untapped wetland area creates a barrier for citizens of Olaine walking to allotment gardens, as they have to walk around the wetland to reach their destination.

The path along the canal that belongs to the 'green corridor' is one of the most loaded by pedestrian traffic after the main street pathway. Being parallel and located so close to the main street, Zemgale, it has a high potential to be an alternative path with more pleasant character for pedestrians moving lengthwise through the town. This path continues through the park next to the cultural center, square and abandoned park behind the shopping center, to the garages where people keep their cars.

■ "Green corridor" area
▬ Major pedestrian traffic
— Minor pedestrian traffic
● Points of interest

Fig. 23: Pedestrian movement and points of interest.

Fig. 24: People's desire to interact with the nature often causes trampled paths.

Fig. 25 : Canal walk, being a central passageway that connects popular recreational places and green areas in the town, has the potential to become a lively place for leisure activities and provide a pleasant space for pedestrian flow.

Fig. 26: Outdoor gym.

Fig. 27: Pavilion with grilling equipment.

Fig. 28: Poor quality seating areas.

Fig. 29: Rest area for inhabitants of elderly house.

Fig. 30: Lack of benches along the canal.

Fig. 31: Neglected places.

Fig. 32: Banks of the canal are in a bad condition.

Fig. 33: Accessibility issues due to lack of maintenance.

Fig. 34: Monotonous character of the buildings.

SWOT

In order to evaluate the findings obtained in the case study analyses visually SWOT analysis were done before the beginning of design work. This way concentrated information about the existing situation and future vision can be observed and used for the decision making. The results are summarized as following:

Strengths

• Olaine's location near the capital as the development facilitating factor
• Central location of the 'green corridor' within the town
• Variety of green space structures
• Aesthetical values of water in the landscape
• Important link between the old and new districts of Olaine

Weaknesses

• Lack of maintenance and neglected places
• Most of building facades have rather dull and monotonous character
• Wall around the canal has aged physically and mentally
• Lack of benches and other equipment
• Lack of variety of activities
• Lack of recreational places for old people

Opportunities

• Creation of promenade through the 'green corridor'
• Bringing life to neglected areas
• Building recreation places for old people
• Canal park can become a landmark of the town
• Diversity of activities in 'green corridor'
• Adding new qualities to existing values
• Access to the wetland area will serve educational and recreational functions as well as it might attract visitors from the surroundings of Olaine

Threats

• Lack of financial sources
• Vandalism

Fig. 35: Early stage sketches.

Design proposal

Design process

"Before designing sites and facilities it is important to put the right kinds to the right places" (Bell, 1997, p. 6).

During the studies of theoretical facts about public spaces and human needs in them, and during analyses of the site, some ideas were already born in my head. The next task was to put them together. I started my creative process by hand sketching on the map of the town, trying to generate a concept that would tie Olaine's recreational areas of varying character into a solidly perceived 'green corridor' with interactive spaces in all parts of it.

Analyses have shown that currently all life in the town is concentrated in one spot. Why is this so? Because the area of Forest Park appears to be an attractive space for recreation, which offers a variety of choices and meets most needs of Olaine's inhabitants, regardless of the varying needs and wishes of different age and social groups. It is a good example how a place can be activated, which I will try to use in the design of other areas included in the 'green corridor'.

Assessment of different parts of the 'green corridor' has shown that two parks, the Forest Park and the park next to the cultural center, are already functioning very well. Therefore, I decided to work with the wetland area, forest, the open space around the canal, the square next to the shopping center, and forest park next to it. I have sketched each part of these public open spaces, discovering the shape and applying theory on practice. The aim is to create an attractive public space that will meet human needs and improve the quality of recreation in Olaine.

After the overall concept was clear and a rough draft of the 'green corridor' was made, I started to work with each part in detail. The first and the most important step was discovering the shape and structure of public places, because the right arrangement will influence functionality of the site. Walking directions, connections between the places of interest, and activities, both existing and planned, were taken into consideration when sketching the form and structure and choosing the style that will more conveniently fit in the surroundings. To ensure use of remote places, I also thought about activities that will attract people and make recreation more comfortable and interesting. The jumping in and out scale approach was used while sketching my ideas for the site. Then final ideas were elaborated into plans, and perspective visions of the sites were digitalized and transformed into computer drawings.

Concept

My proposal is to expand recreational space in Olaine and to improve interaction between people and nature. My idea is **to bring people into the wild, and wild – into the town**. Access to valuable natural resources that exist in Olaine, such as wetland and forest, will serve recreational and educational purposes. Most of the people in Olaine know that the town was formed due to presence of wetlands and the developing peat extraction industry. Often, the stories from older generations about the former look of Olaine can be heard. Wetland landscapes with lakes, where people used to pick mushrooms and berries are now covered by high-rise buildings. Olaine was literally built on a wetland, a reminder of which can be found in the form of cranberry on the coat of arms. The historical connection between Olaine and wetlands is very strong, but many of people have never actually seen a wetland. In my proposal, I want to change this situation by providing access to the wetland located near the town, where people can interact with wild nature, contemplate the beauty of this unique landscape, and study its flora and fauna.

Fig.36: Conceptual sketch for development of 'green corridor', showing the idea of bringing people into the wild, and wild - into the town.
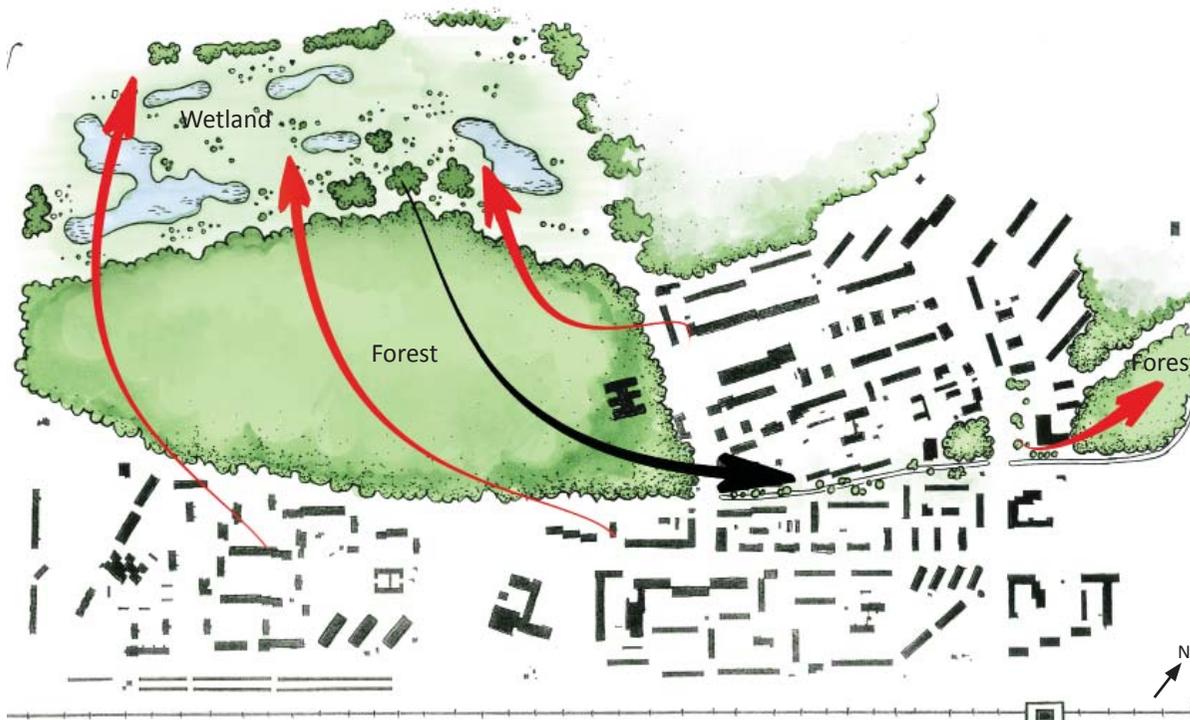
Forest is another valuable natural setting that Olaine has. By providing easy and safe access to it, interaction between people and the nature in Olaine can improve. On the other hand, a stark contrast between the natural environment in the outskirts of the town, and the artificial setting within the town, is not what I am aiming for; therefore, my idea is to implement 'pieces of nature' into the landscape of the town.

Elements of wetland, meadow, and forest can be integrated into the landscape of the town through the design. Instead of the monotonous concrete embankments of canal, wetland and wet meadow habitats can exist there. Instead of lawns with strict edges, flowering meadows can please the eyes of Olaine's inhabitants, giving the feeling of being away from the town, providing interaction with nature, and improving biodiversity and transit corridors for small animals and insects.

Wilderness in the town will bring new qualities, both aesthetic and ecological. It will give a new space for play, education, and contemplation of elements of wild nature for nearby residents. I believe this will create stronger connections between people and wild nature, and between urban and natural. This will result in a public space with more natural character, which can positively impact human health and wellbeing. Successful design of public space can bring life to places, promote physical activity and social interaction, and improve the quality of life.

Fig. 37: Wetland location in the 'green corridor'.
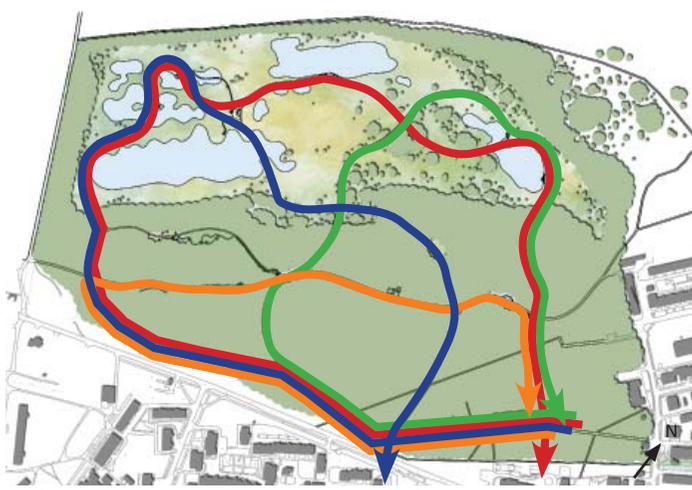
Big circle: Forest – Land of the lakes – Meadow – Wooded meadow

Half circle: Forest – Land of the lakes – Wooded meadow

Half circle: Forest – Wooded meadow – Lake

Art circle: Forest – Exhibition path

Fig. 38: Main trails through the forest and Wetland Park.

Wetland

Wetland Park is a completely new type of public green space in Olaine and the whole region of Vidzeme, opening another face of nature and opportunities for recreation to its visitors. Another park like this can be found 60 kilometers away from Olaine in Kemeri, which makes it appropriate to have a smaller version in this part of Latvia. This type of place may become a popular destination for people from the surrounding areas, in addition to the residents of Olaine.

Wetlands are very fascinating landscapes that are visually dynamic through the year. Blooming plants, water level changes, and autumn's transitioning coloration of grasses and trees, provide a variety of images of wetlands. Moreover, diversity of wildlife in wetlands is amazing. They provide habitat for different animals and play an important role for migratory birds.

Since the area of wetland is very wet and not easily accessible, I could not properly explore the site. Before the construction of design, I propose that a proper evaluation of the wetland should be done to determine a need for nature conservation and enrichment. Habitat enrichment, restoration, and creation are important steps to making a landscape lush, more diverse and interesting to visitors.

In my design proposal, the wetland area located in the outskirts of Olaine is connected with the town by walking paths starting in the Forest park, most popular destination for recreation in Olaine at the moment, and going through the forest area. I have chosen the Forest Park as an entrance to the wetland area because the park is well equipped, it feels like a continuation of the town in the forest, and I assume it is a good point to start a journey into the wild, gradually plunging into the atmosphere of harmony with nature. It is also important that there is available parking next to the Forest Park for visitors from other towns.

While working with the path system I kept two thoughts in mind: make it simple and easy to understand, and make the journey through the wetland more interesting by bending the path through different types of landscapes, very close to the water bodies and over them. Designing an overall structure of Wetland Park and forest, I decided to work with organic lines and shapes. Straight lines are often associated with urban landscape, and in my project I want to achieve a design of wetland that will give a non-urban experience, a feeling of being in the wild with as little traces of human activity as possible. The path network of wetlands and woodland consists of smaller and bigger loops, allowing pedestrian circulation in the park. Since every path starts and ends in the Forest Park no one can get lost in the wetland. All secondary paths branching of the main loops return "explorers" to the main trail. Paths are flowing through the area, waving around the lakes and crossing woodlands, meadows and water bodies. Walking through the Wetland Park, people are able to experience different feelings when they are in the open landscape with long open views, and when they walk through the miniature woodlands, then appear over the water body, and enter dense forest again.

Observation tower

Rest area

Wooden platform

Rest areas

Pavilion

Area 1

Area 2

Pavilion

Legend:
- forest
- wooded landscape
- meadow
- water
- paths
- rest area

50m

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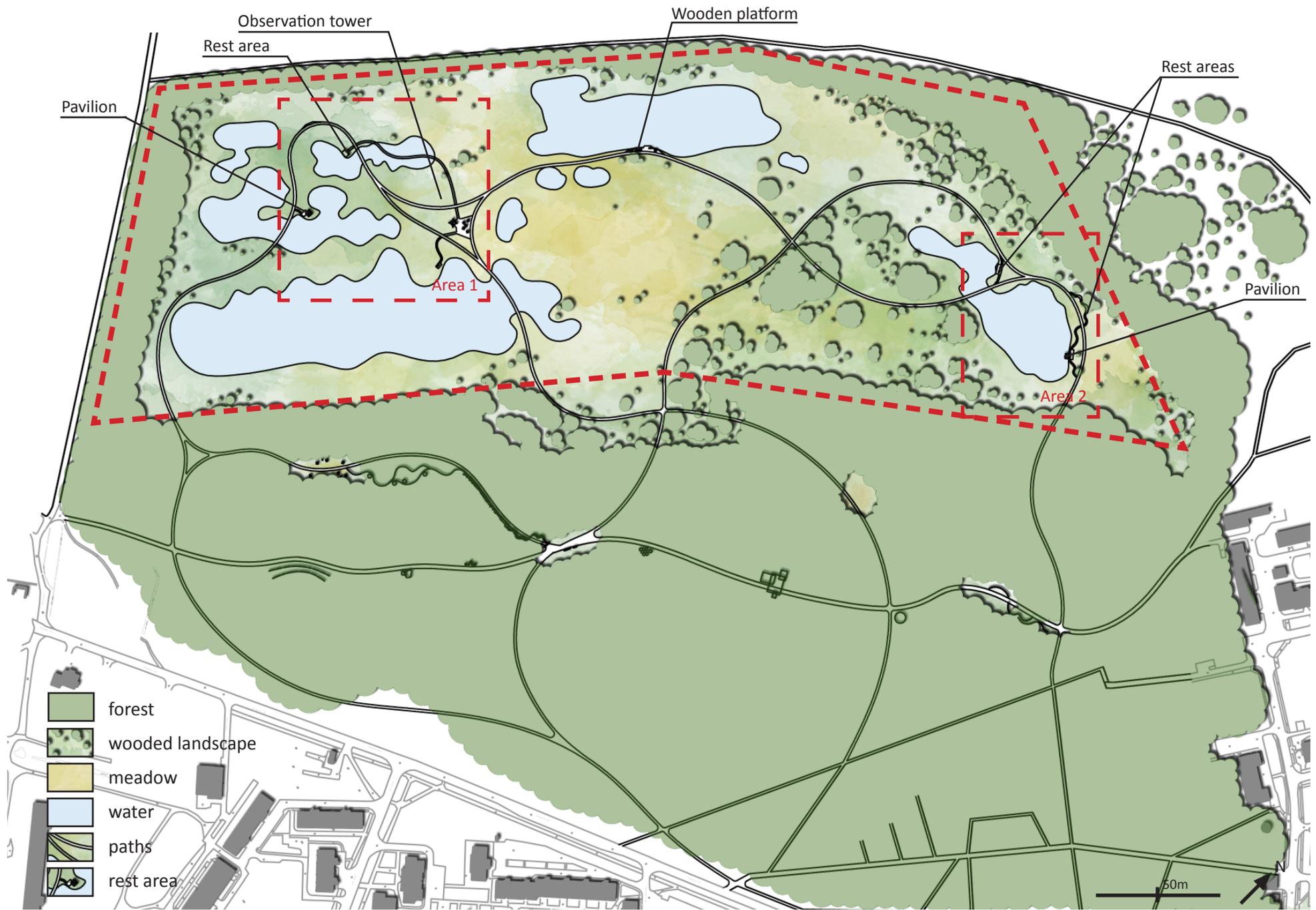
Fig. 39: A conceptual plan for wetland and forest areas.
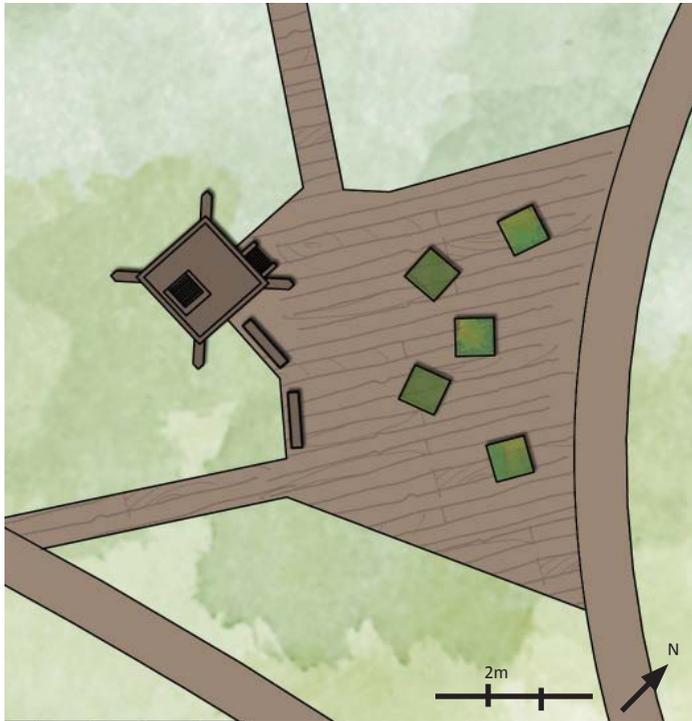
Fig. 40: Plan of educational platform and observation tower.

Fig. 41: A view of observation tower.

Wooden platforms and seating areas in different parts of the park allow for longer stays to enjoy the scenery, have a rest or have picnic. To give people another point of view of the unique wetland landscape, observation tower rises over the miniature trees in the middle of park. Here, people can contemplate the scenic beauty of the landscape, watch birds, socialize with other people or find a peaceful place to relax.

Fig. 42: Detailed plan of area 1.

- wetland landscape
- wooded landscape
- meadow
- water
- paths
- rest area

1.

2.

3.

4.

5.

6.

5.

6.

7.

wetland landscape

forest and trees

water

paths

10m

N
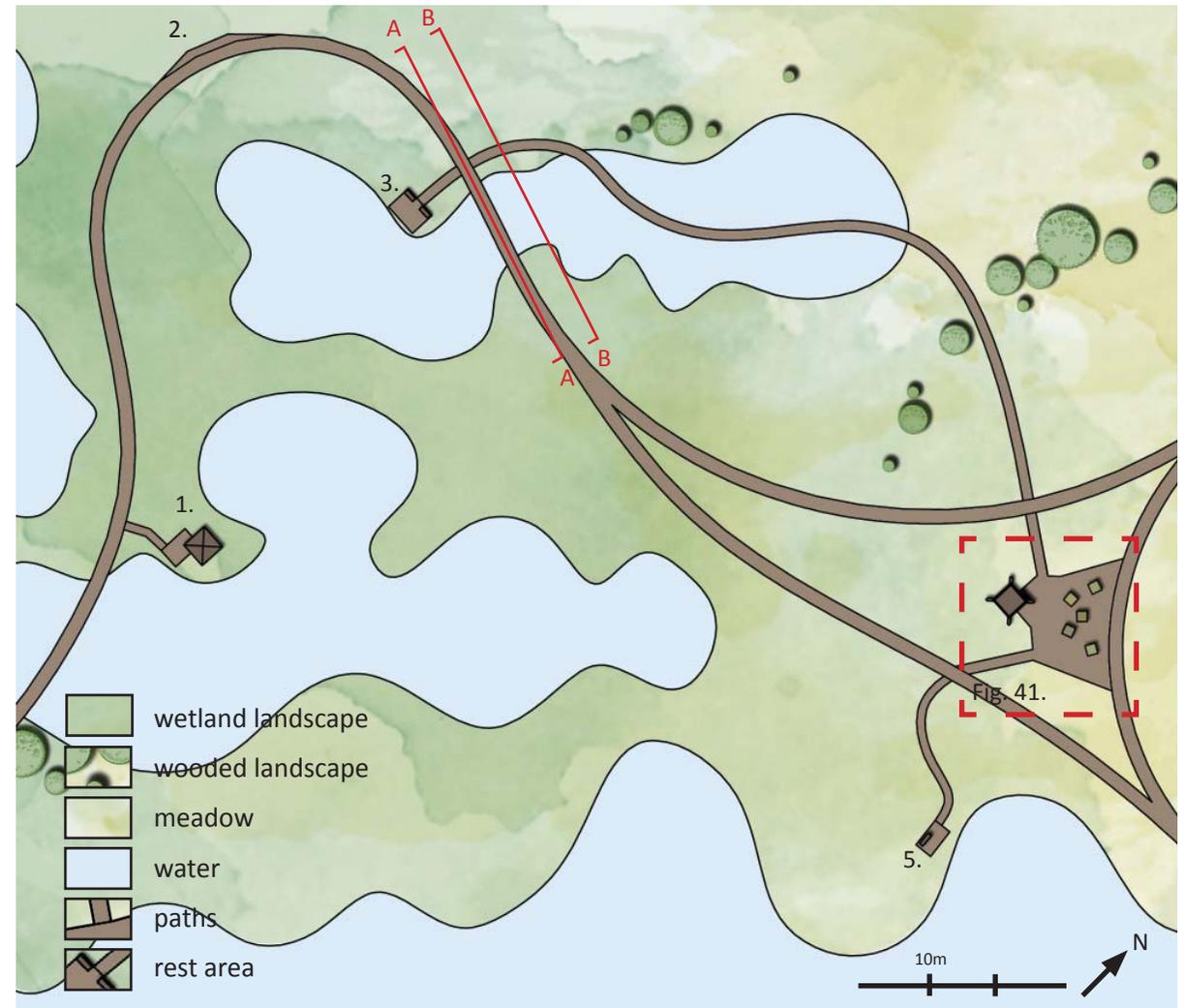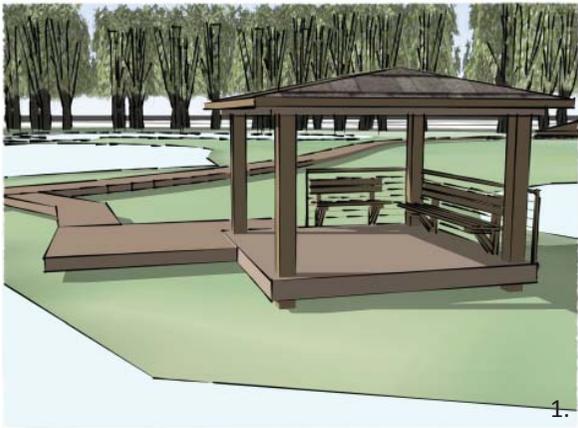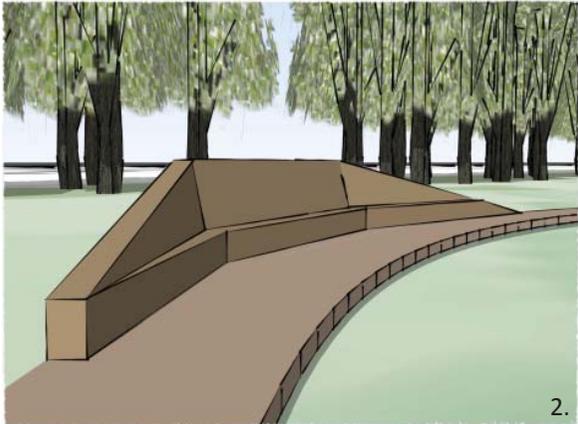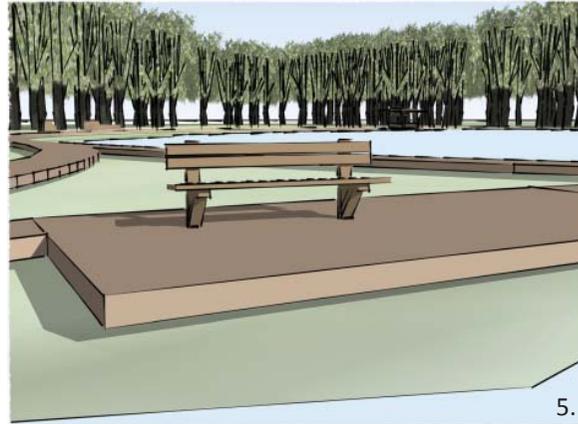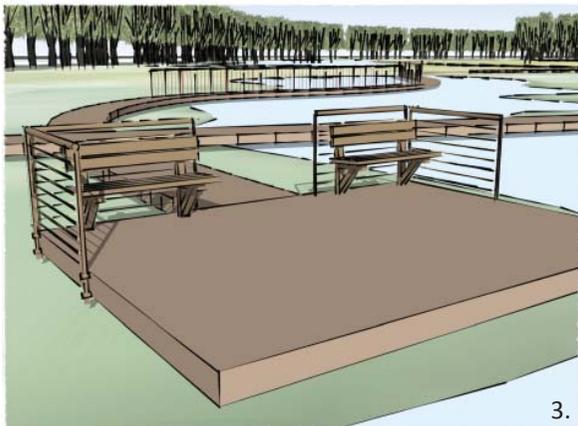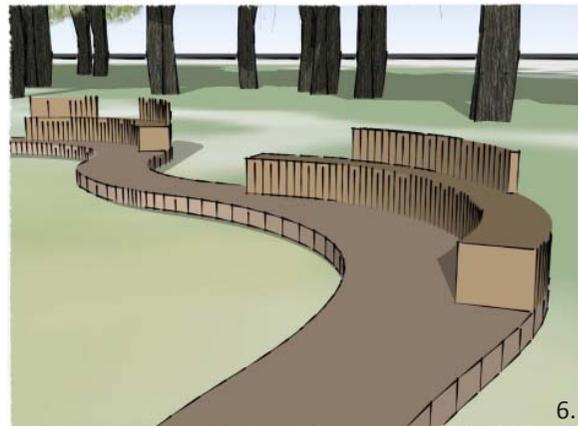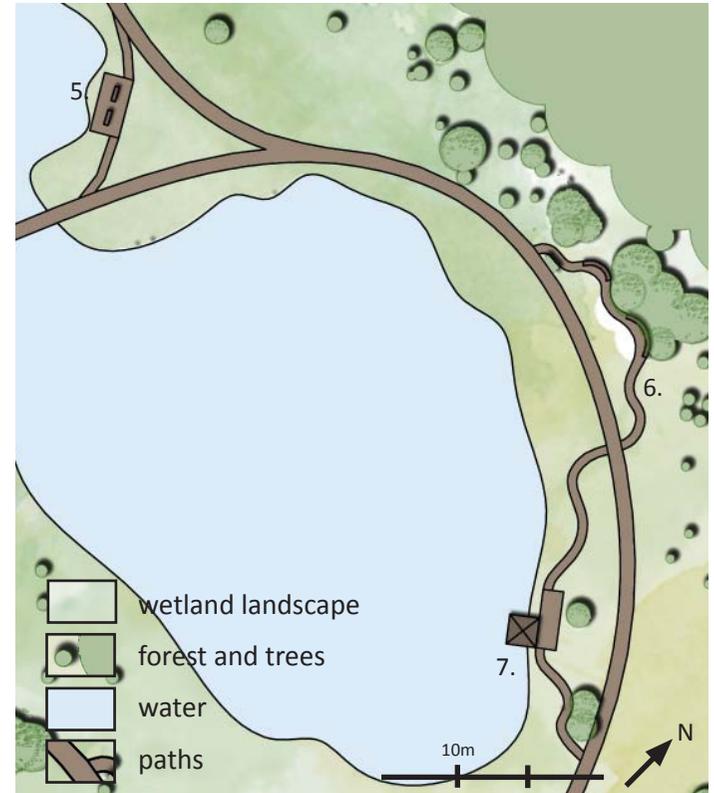
Fig. 43: Detailed plan of area 2.

Fig. 44.1. 44.7.: Rest areas in the Wetland Park.

7
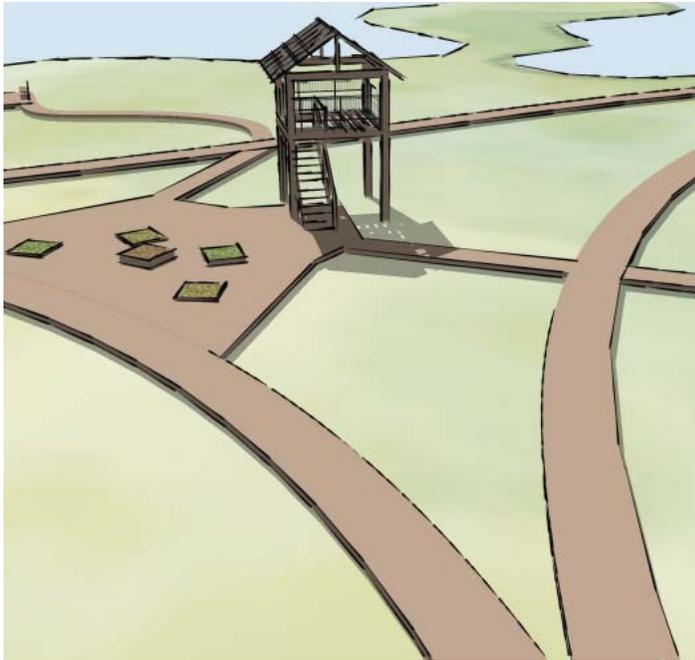
Fig. 45: Decks, platforms and footbridges.

To avoid trampling of fragile wet meadow and wetland biotopes, all paths through the Wetland Park are constructed as wooden pontoons turning into bridges over the water. To prevent risk of flood, all paths are at least 0,2m raised over the ground. To make the area accessible to everyone, decks are planned to be wide enough for wheelchairs, and will have safety edges on both sides to keep out wheelchairs from sliding off. To give the feeling of safety, a handrail on one side of the deck is provided over the water bodies.
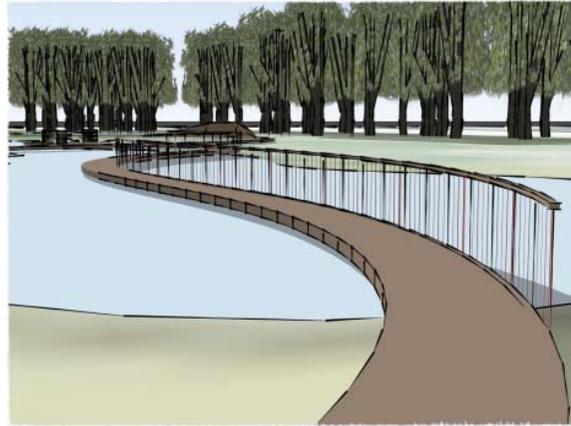
Fig. 46: A view of a footbridge.

Fig. 47: Wooden platform over the lake.
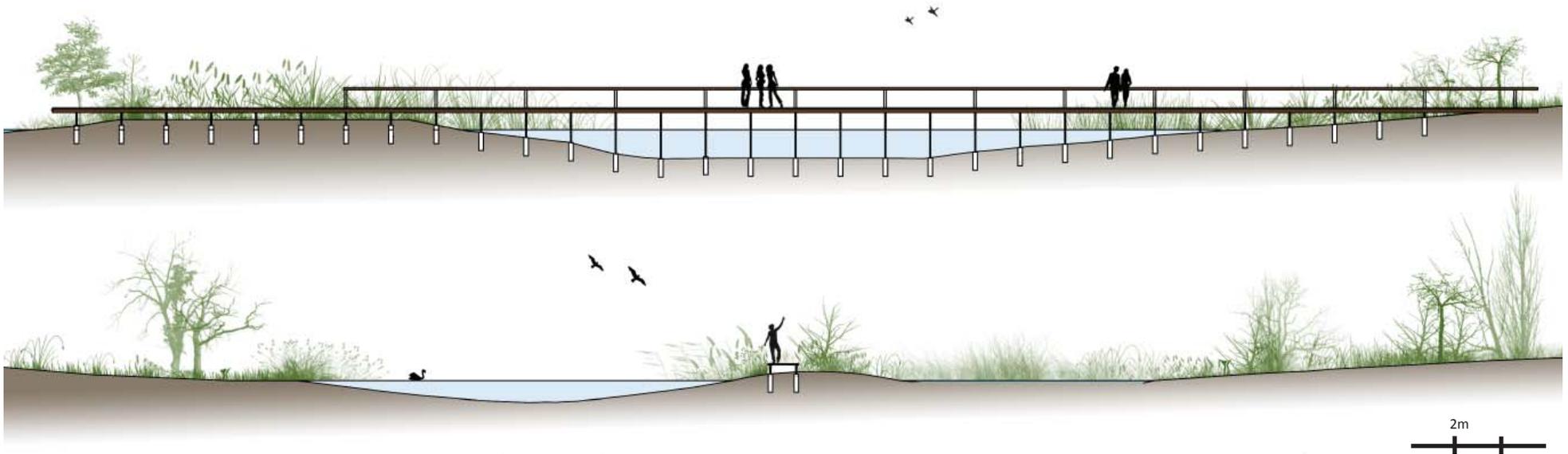
Fig. 48: Sections A-A and B-B representing the structure of tontoons, footbridge and space around them.

2m

Fig. 49: A visualisation showing the view over the Wetland Park from observation tower.
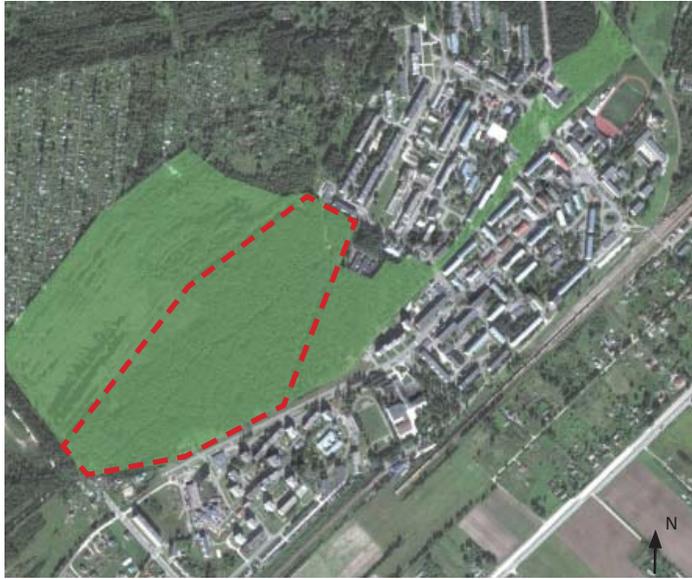
Fig. 50: Forest location in the 'green corridor'.

Fig. 51: The exhibition path.

Forest

The landscape of Olaine and its surroundings is very rich with forest. It creates a nice image of the town and offers opportunities for outdoor recreation, such as leisure walking and collecting berries and mushrooms, and it positively affects the quality of environment. At the moment, only the part of the forest that is most accessible and equipped for different activities is a popular daily destination for residents of Olaine.

My concept is to expand Forest Park into the forest, but retain its wild character. Winding paths lead visitors through the forest to different activities and to Wetland Park. Features for people of different ages are located along the walking paths: an adventure path and small 'rooms' where children can play, picnic areas and an art exhibition path for adults, and seating areas for elderly and others. To keep the image of a natural place, equipped areas and paths have organic shapes. To fit in the wild character of landscape, all equipment is made of natural, environment-friendly materials such as wood, bark chips and ropes made of natural fibers.

The multilayered structure of the forest creates visual complexity and transitioning dynamics throughout the year. To diversify the experience of space, two openings are created in the forest and different habitats, such as grassland and meadow in the glade, are implemented. Introducing blooming species like chickweed wintergreen (Trientalis europaea), May lily (Maianthemum bifolium), goldenrod (Solidago virgaurea) and hairy wood-rush (Luzula pilosa) that are commonly found in other coniferous forests of Latvia, brings new qualities and creates variety in the small scale dimension of the area. Clearing of the shrub layer in the understory near the attraction spots ensures visibility and provides afeeling of safety to the visitors.

The idea of **the art exhibition path** is not only a creation of attractive elements in the landscape, but also for activation and involvement of the local community and artists. Sculptures, pieces of art and installations will be exhibited along the paths. To encourage participation in the town's life, the municipality of Olaine annually announces a competition for city projects and awards grants for implementation of the best ones. This is an opportunity for people of any age to realize their ideas, and publicly display the products of these ideas in the forest of Olaine. Programs and events, such as workshops and international competitions, will inspire artists from other towns, cities and countries. In agreement with municipality, sculptures and installations can be placed here temporarily or permanently. Strolling in the forest with changing exhibition will never become boring.

44

Fig. 52: The picnic area.

Fig. 53: Entrance of the adventure path.
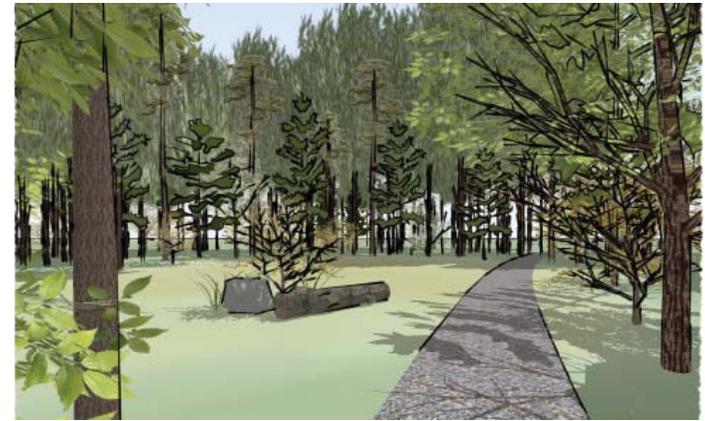
Fig. 54: A view of the glade in the forest.

Children's play 'rooms'

Picnic area

The adventure path

Glade

The art exhibition path

forest

glade

meadow

paths

expected pieces of art
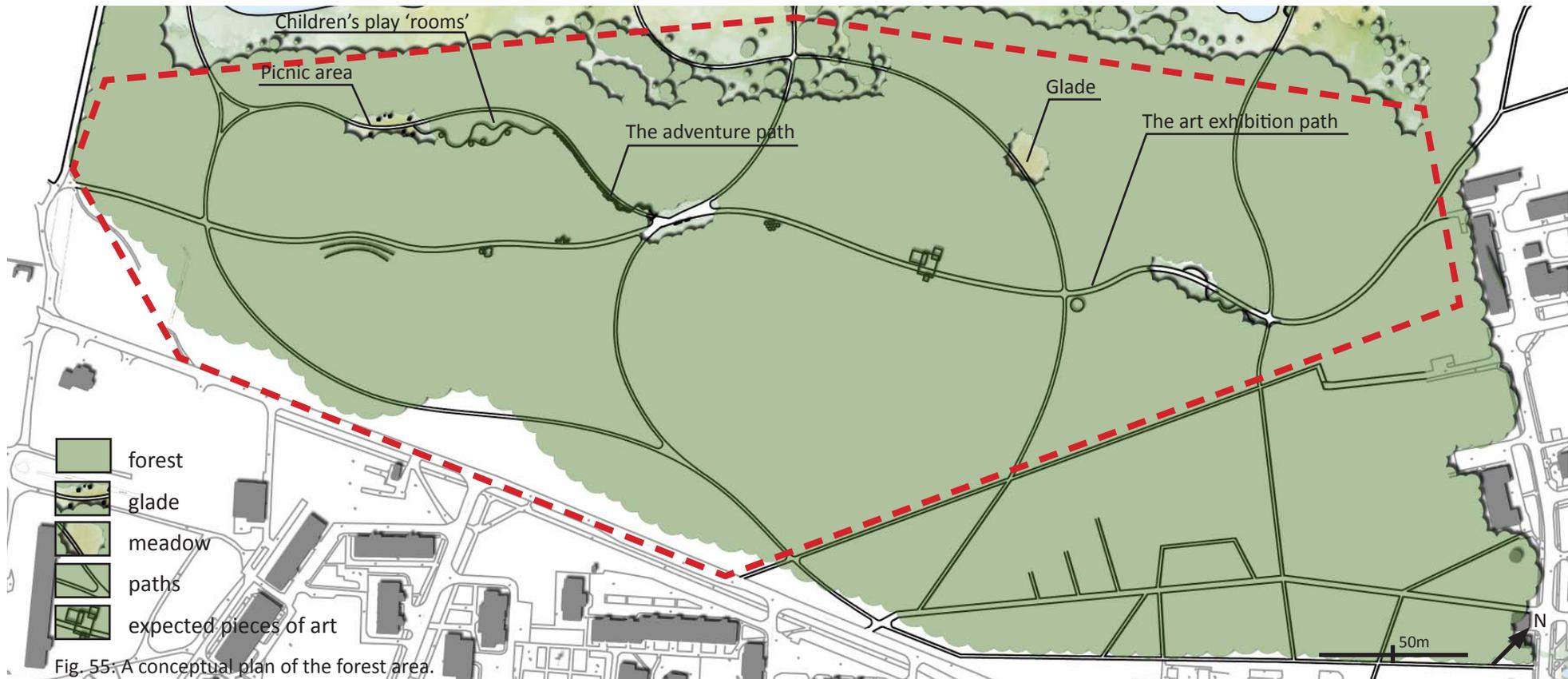
Fig. 55: A conceptual plan of the forest area.

N

50m

Fig. 56: Children's play area with the provided materials for building the 'rooms' and creation of the 'interior' on their own.

The adventure path consists of equipment made of natural materials: fallen trees to sit and walk on, wooden blocks, stumps, logs and fiber ropes arranged in various combinations for stepping, climbing, jumping and crawling. The surface under the equipment is covered with a layer of bark chips, protecting children who could fall from the heights. The adventure path leads to children's play 'rooms' as a continuation of the path, where children are allowed to build places for play on their own.

The creation of **children's play 'rooms'** is rather extensive and dynamic over time, as it involves cutting some vegetation and planting new trees and bushes. To clear space for 'rooms' and corridors in children's scale, some low and tall growing shrubs will be cut. All branches and small pieces of trunks are left here to develop the place as they play. Use of the provided materials for building the 'rooms' and creation of the 'interior' on their own promotes a more inspiring and imaginative performance of children's play. To awake imaginative processes and the feeling of freedom to build and create, some examples are already present in the landscape, such as tied small tree tops in the form of wigwams. Clearing space around small trees will induce their development widthwise and provide the opportunity to climb them in the future. Swings of different lengths hanging from the trees fulfill the desires of every child, from the timid to the brave. The picnic area located near the children's play 'rooms' enables adults to supervise their children, while socializing with one another.

Fig. 57: The adventure path.

Fig. 58: Natural materials in combination with usual play equipment create safe and more inspiring environment.
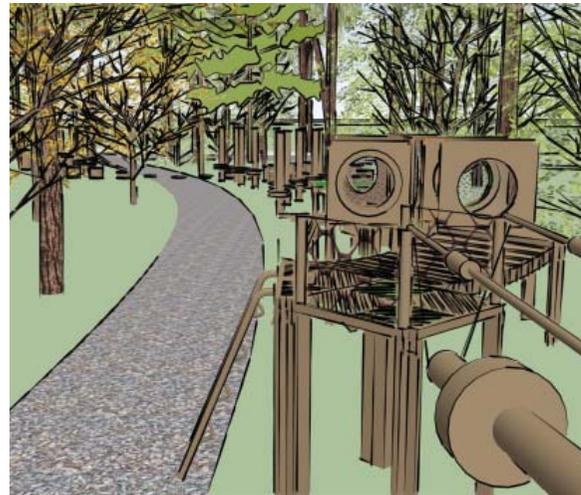
Fig. 59: Natural materials of the adventure path: fallen trees, wooden blocks, stumps, logs and fiber ropes.

Fig. 60: A visualisation representing the atmosphere of the forest meadow.

Fig. 61: Canal location in the 'green corridor'.

Canal

Currently the path along the canal is actively used for pedestrian transit through the town. This area consists of monotonous concrete banks of the canal and asphalt roads, and rich vegetation around it cannot offer anything more than an image of high contrast between natural and artificial landscapes. Nonetheless, being a central passageway that connects popular recreational places and green areas in the town, it has the potential to become a lively place for leisure activities and provide a pleasant space for pedestrian flow.

Since the courtyards of the buildings that frame the site are located behind the dwellings, the space along the canal should provide benefits to the public and be an inviting place for everyone. This narrow area with a length of 425 meters creates a linkage between the two biggest forest missives in the town and forms a 'green corridor'. The pathway following the canal continues both ways in the parks and other public spaces; therefore renewal of the canal-side may turn it into beautiful promenade.

Wetland habitat plants, natural processes, and revival of wildlife, in combination with man-made elements of design, represent the balance of our coexistence with nature. Braking linearity, irregular and geometrical forms intrude and sink in the organic shapes of the canal, giving an access to the water and wildlife. The former canal runs through the town like a stream, providing a corridor for flora and fauna, as well as an inspiring landscape for walkers. Islands of different heights and water regimes on the banks of the canal lead to a variety of habitats and nature types. The monotony of buildings fades as a diversity of forms and shapes, in conjunction with natural elements, attracts the attention of visitors.

Fig. 62: A view of the existing situation of canal walk.

Fig. 63: South entrance to promenade.

Fig. 64: A view from the bridge.

All along the canal different types of seating (benches, low seat walls, installed deck chairs and hammocks), located both in sunny and shady areas, provide places for relaxation and contemplation amongst the stream and wilderness. Ground level changes add attractiveness to the space and subdivide it into different rooms (passive and active), and are designed considering needs of elderly and disabled people. The lively character of the area along the stream encourages children and adults to play and interact.

Use of pebbles in the banks of the stream has a symbolic meaning, reminding users of the origins of the town's name. It is believed that Olaine got a name from the pebbles (in Latvian, pebbles – "oļi") that in the past were found on the banks of Olainīte River. A variety of paving materials, vegetation and structural elements (bridges, water features and terraces) create visual complexity that encourages people to stay in this place.

Fig. 67: Section C-C shows the proposal for the first part of canal walk, where dry landscape types are represented through choise of material and plants.

Fig. 68: Section D-D represents the second part of promenade along the canal where wet meadow biotope with ground level elevation turns into dry meadow.

Fig. 69: Section E-E showing the proposal for the third part of canal walkwhich represent wetland biotope in the inslands with regulated water regimes.

Fig. 65: The terrace on the canal bank for cafeteria's visitors.

Fig. 66: The diversity of forms and shapes.

49

Fig. 70: A view of promenade from the South entrance.

Fig. 71: Hammocks in the shade of trees, peaceful place for relaxation during hot summer days.

Fig. 72: The installed deck chairs are facing the sun while they are exposed to it, during the first part of day.

Stairs, ramp and wooden steps for sitting are provided at the entrance to the canal walks

Simbolic meaning of pebbles fixed on the banks of canal, and their combination with ornamental grasses represent dry landscape.

Wooden deck on the canal-side provide pleasant environment for dining outdoors to visitors of cafeteria.

Offered choise of features, such as hammocks, deck chairs and tea pavilion will satify the desire of every visitor.

Steep slopes reinforced by plants intigrated into the geogrid system avoid erosion and add aesthetic value.

New bridge

Stairs and ramp

N

10m
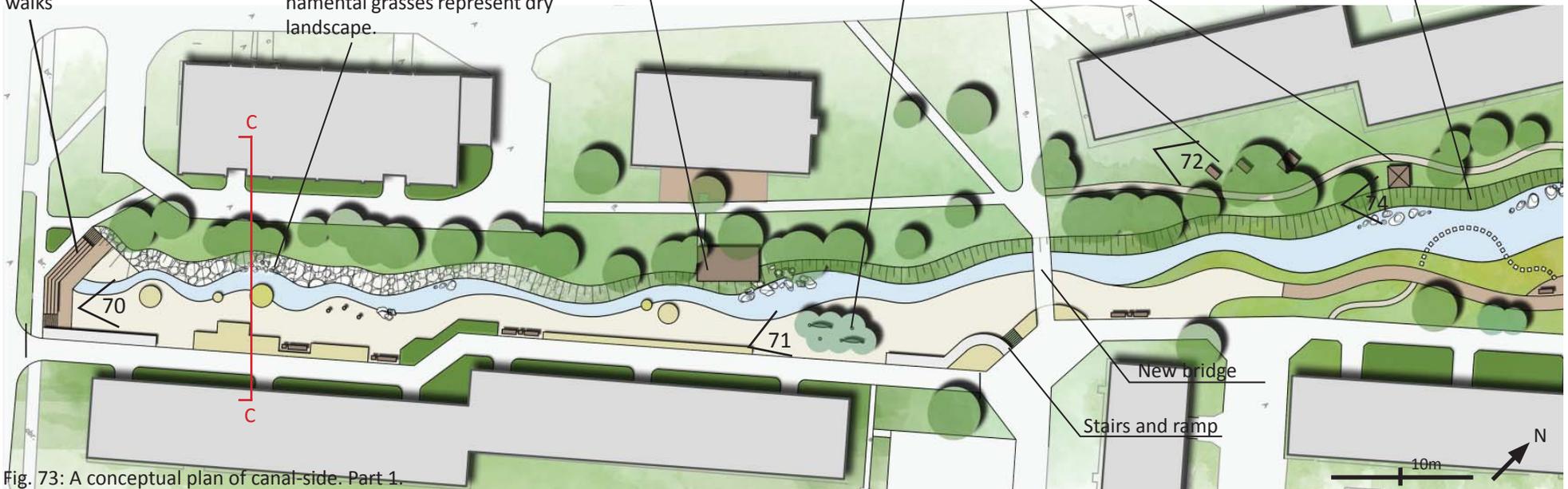
Fig. 73: A conceptual plan of canal-side. Part 1.

Fig. 74: A view from the tea pavilion.

Fig. 75: Stairs and ramps located throughout the promenade provide access to new urban space to everyone.

Fig. 76: Deck chairs and benches along the canal give an opportunity to enjoy the evening sunlight.

Wooden deck over the wet meadow avoids trampling.

Gradual transition from wetland and wet meadow biotopes to grassland.

Hills and ground elevation adds attractiveness and separates public space from private.

Islands of different heights and water regimes on the banks of the canal lead to a variety of habitats and nature types.

Geometrical forms intrude and sink in the organic shapes of the canal, giving an access to the water and wildlife.

Stairs, ramp and wooden steps for sitting at the entrance to promenade.

D

75

76

Hammocks

New bridge

Benches

E

E

D

Stairs and ramp

Seating area

	existing trees		ornamental grass
	planned trees		water
	shrubs and hedges		wooden deck
	grass		pebbles
	wet meadow		elevation

74

an angle and a number of figure showing the views of new public space.

N

10m
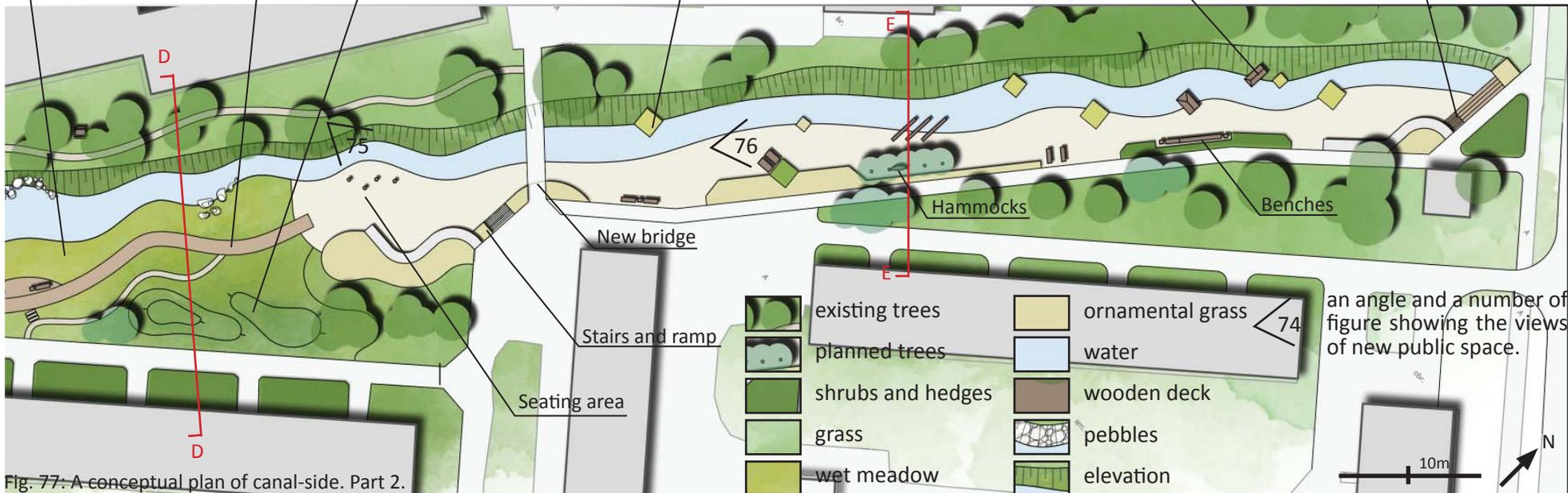
Fig. 77: A conceptual plan of canal-side. Part 2.

Fig. 78: Location of the square in the 'green corridor'.

Fig. 79: A view of the square.

Square

Since there are no functioning and regularly used open plazas in Olaine, activation of the square next to the shopping center may give a new outdoor living room to residents. The square is located almost in the center of Olaine's old district, and it is a place that is crossed daily by crowds of people on the way to work, school, the train station or the bus stop. It is also located at the end of the 'green corridor,' and offers a completely different experience since it is one of the only open green spaces in the town. In the spring or autumn, when people want to catch the first or the last rays of sun, openness is a big advantage. During the hot sunny days of summer, people instead prefer to chill in the shadows of the trees.

The idea is to carry out a design proposal for the square that would be comprehensive, as it is not only a destination for leisure, but also quite a central spot in the town that has to function properly and satisfy needs of the public. First, I was testing different shapes and patterns for the layout of the square, and I only found geometrical shapes to be suitable for this place. Diagonal movement through the site suggests straight lines and formal shapes that are nicely complemented and softened with randomly located groups of existing trees. The variety of existing trees (maples, oaks, birches, chestnuts, plums, etc.) predetermines color, smell, sound and light dynamics and creates visual complexity. To enhance the experience of the seasonal changes spring flowers are introduced in the area, and a meadow with flowering plants is established in one part of the lawn. Different paving materials visually diversify the square and divide it into subspaces where different activities may occur.

While designing the plaza, I was thinking about elements that would give a feeling of freedom and comfort, where everyone can find their spot and locate themselves as desire, not how the architect decided it should be. Site furniture mainly consists of seating areas, but in various forms. My first idea was to use movable chairs, but knowing the mentality of local people I quickly changed my mind as the furniture would disappear in the first few days and the place would become abandoned again. The solution in this case was furniture that can be used differently, where people can sit or lay in the way they want, and where groups of people can arrange themselves in the comfortable way. One of these solutions is placement of wooden platforms that provide a freedom of choice to their users. Next to the intersection of pedestrian paths, the second solution for seating takes place – a number of short stone pillars (0,5m) covered with wood, as the climate in Latvia doesn't allow sitting on the stone most of the year. A Reasonable amount of seating areas is a prerequisite to ensuring the of plaza's vitality; therefore, many ordinary benches with backs and armrests are scattered throughout the square, providing comfortable resting places both in the shade and exposed to the sun.

'Playground' for elderly

Meadow

Wooden platforms

Long benches promoting social interaction

Parking places

Seating area for group gatherings

Market stalls

Fenced servise area

Playground

Fig. 80: A plan of the square.

trees

shrubs and hedges

water

grass

meadow

flowers

paving

wooden deck

main entrance

seating areas

10m

N

A wooden deck over the canal, which is cleaned, and broadened, and enriched with wetland flora, provides access to the water and a view point for contemplating appealing scenery. For more convenient and efficient use of the square, parking next to the entrance to the shopping center is reduced and moved further away from the square center. Now parking places can be also found along the street.

The playground next to the shopping center is a place for kids to spend time while parents are making their purchases. Hedges around the play area create a feeling of safety, and function to stop children from running away during the game. Since an elderly house is located very close to the square, another playground is dedicated to them. It consists of equipment for older people, physical use of which stimulates brain activity and slows down mental degradation.

Creation of a minimarket will promote the sale of agricultural products that currently occur the benches of this square. Market stalls located along the shopping mall provide a place for every interested citizen to sell fruits and vegetables from local allotment gardens, berries and mushrooms collected in the forest around the town, fish and any other local products. Stands with simple food and beverages give an opportunity to have lunch outdoors. Facilities of the square provide multifunctional use by encouraging meeting, interaction and different activities.

Fig. 81: Forest park location in the 'green corridor'.

Forest park

The forest park next to the shopping center is an abandoned place that looks rather neglected, but has a big potential to be a meeting point. Currently, the main problem of the park is a lack of maintenance, which causes feelings of insecurity, and consequently a lack of activities repelling visitation. There is simply nothing to do, which is such a waste of valuable forest landscape resources.

When I was thinking about the overall concept, I had already decided that, to be activated, this park has to have a very special attraction that cannot be found in any other part of the town. Its location next to the park and the square, where mostly passive recreation happens is very suitable for physical activities. I therefore decided to dedicate this park to active recreation, giving a preference to facilities for adults and teenagers, so there are adequate places for them. But what other physical activities can be done in the forest except for jogging? Looking for inspiration, I started to go through my diaries and pictures from the trips to different countries. The idea was set!

The pillar hall structure of the forest, dominated by pine trees, is a big advantage that can be used in creation of rope tracks elevated at different heights. Rope tracks are fixed on the tree trunks with strained ropes and wood, without any damage to the tree. Aerial paths create route between small wooden platforms set on the tree trunks, with different obstacles created as small bridges, mesh tunnels, swings, ladders, logs hanging on the cords and a small zip-line at the end. A special safety outfit prevents the possibility of falling and safety instructions reduce the risk of minor injuries during the passage of the adventure route. A small track for the children raises just 0,5-1,2m up from the earth. It is more like play equipment shaped in the same way as the rope track for adults. For the main track, there are age or height restrictions, and an instructor accompanies the first climb.

The design of the ground level consists of paths and platforms created as a combination of both straight lines and shapes, continuing the diagonal structure of the square, and winding paths that are more suitable for natural places. Seating areas and picnic tables are scattered all around the park, providing places to rest before or after track passage, and for others, who come to the park to have rest or observe the ones "in the air".

Fig. 82: The existing situation of the forest park.

Rest area

Picnic area   Rope track

Rope track
for children

N

5m

forest

paths

seating areas

picnic area

play equipment
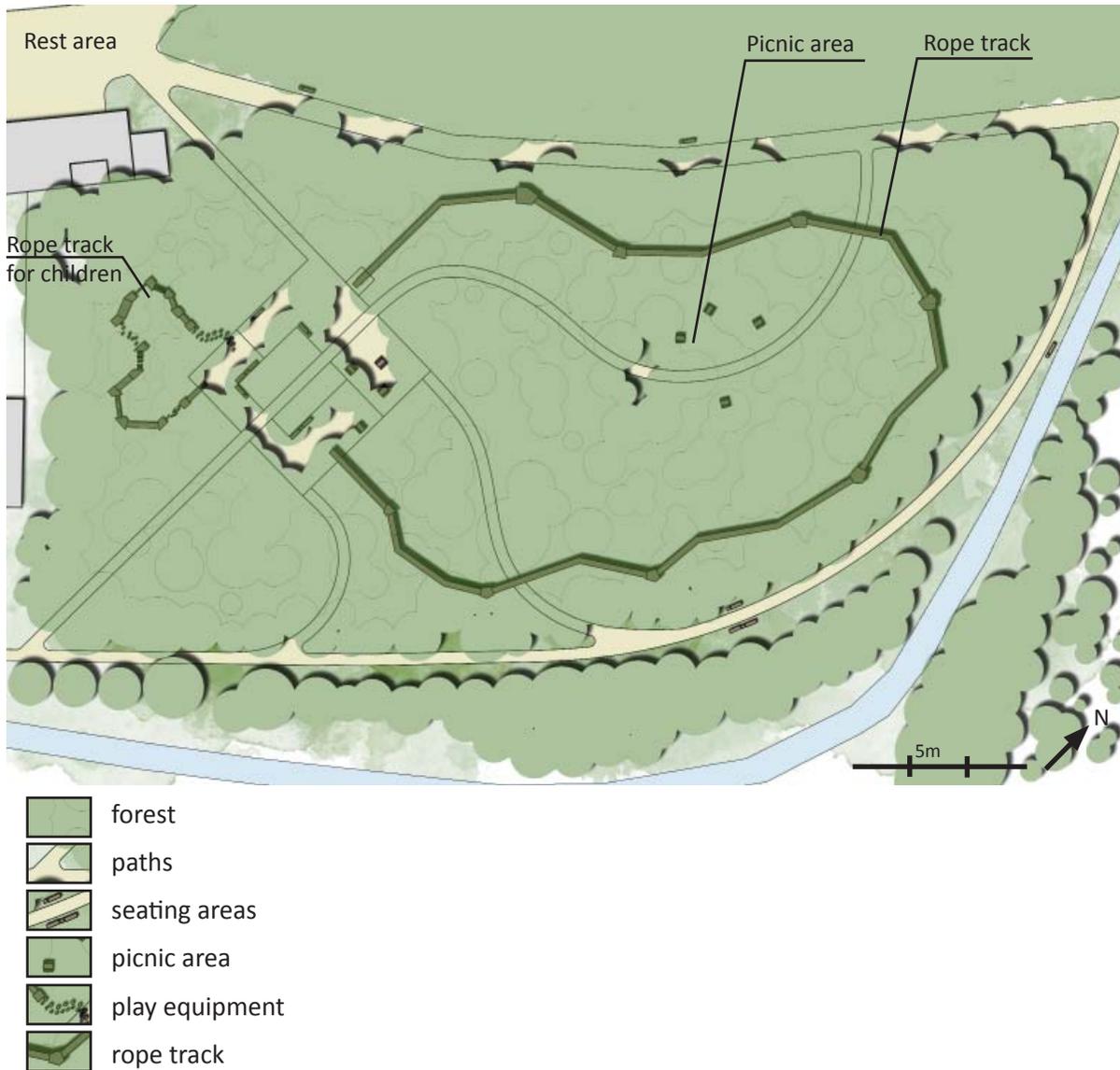
rope track

Fig. 83: A conceptual plan of the forest park.

Fig. 84: Rope track.
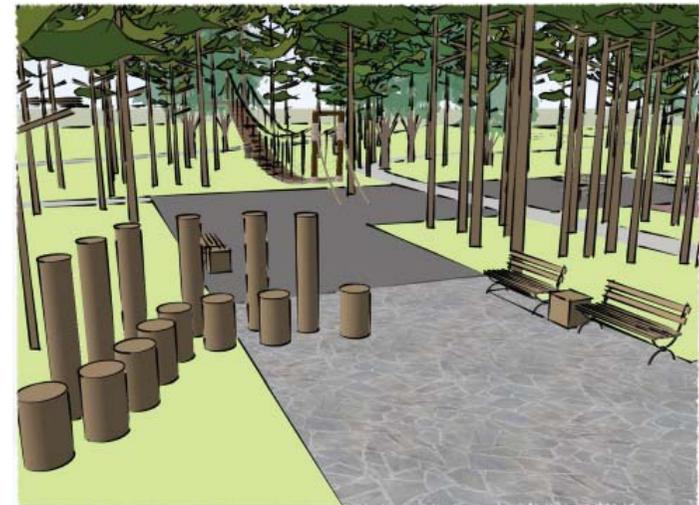
Fig. 85: The view of the rest area from children's rope track.

Reflections and conclusions

This thesis has been a challenging yet particularly interesting journey for me, which allowed learning a lot through experience, discoveries, and attempts. When I began the work, I assumed it would comprise of application of knowledge obtained during all previous studying years, but to my surprise it came out to be very cognitive. The major aim of this thesis was to determine the conditions that would ensure improvement of the quality of recreational areas, and, on the basis of these findings, generate principal solutions for public spaces in Olaine. To reach a profound understanding of how human needs predetermine the use of urban public spaces, I began with a search for appropriate literature, and realized that this topic has already been widely discussed in the public realm for many years. Therefore, I decided to overview both classic and more recently done research.

Increased interest in improved living conditions, natural environments, and healthy lifestyles appear among urban dwellers more and more frequently. The importance of outdoor recreation, which was confirmed through this literature study, gave me an understanding of why it should be promoted, and encouraged me to analyze current demands in urban public spaces that explained what brings life to them. I delved quite deep into the topic of human needs and preferences, particularly public spaces, as their fulfillment might be the most significant factor in promotion of outdoor recreation. The requirements vary in different types of places, but the most important factors that influence people's decisions to visit outdoors for recreation are accessibility, safety, comfort, activities, and aesthetics. Considering human needs as a basis for a design proposal may lead to an effective design that enhances the values of public space and contribute to human well-being and healthy society. However, besides human needs in public spaces, there are a number of aspects to be considered when changing the landscape. In my work, I put a focus on natural environments and elements of nature, particularly trees and forests, as their benefits, which have been discussed a lot in my work, are endless. The idea was to break conventional perceptions of urban green areas as defined by strict edges, and in the example of my proposal, to create a more friendly relationship between urban and natural environments by letting the forest and other landscape types expand into the town. In the frame of my project, this idea was implemented in only a small part of Olaine, public places, but even this is a step towards the goal of green urbanism. Eventually, a town with a natural character of urban space and healthy society may emerge, and start functioning in the same way as nature. It might be a utopian assumption, and perhaps I will never know if it happened because it is a long-term process.

The biggest challenge I faced in this thesis was when I began work on transformation of the sites. It was the first time I had designed places in my hometown, and I realized how difficult this process is. As I have been passing some parts of the 'green corridor' almost every day, the image of the existing structure was firmly rooted in my mind. Every tree, stone, and path aroused memories from my childhood, and inside me I felt a protest against the changes. At the same time, I had a great desire to create attractive places with new qualities that would incite and inspire people to use outdoor space for recreation. To be more objective, I was struggling hard to break my personal bond with the places, and to keep in mind the character and spirit of a place. After many hours of sketching, I got so interested in

the design that ideas were overfilling my head. The only problem then was to keep the balance, since I did not want to congest public space with useless activities.

In this project, I dealt with recreational areas of different scales, from very small and crowded places, to a vast undisturbed land, each requiring an individual approach. After concentrating on one site, it was hard to define the scale of another one, and places seemed smaller or bigger than they actually are. I was feeling really frustrated when I transferred some of my hand drawn sketches into technical drawings and came to realize that the scale is incorrect. That was a big lesson for me as I had to gain strength to start the work from the beginning. Generally, I worked as much as possible without the use of vector graphic programs. During my previous studies, we were working a lot with functional solutions, technical drawings and 3D modeling, and during this project I wanted to put my emotions through sketching and digitize the final drawings.

The suggested proposal covers a variety of aspects, such as promotion of outdoor recreation and social interaction, with all the benefits to human physical and mental health that it implies: provision of activities for different age groups, educational possibilities, enrichment of biodiversity, unique nature conservation, and creation of new urban living rooms. The proposal could have been done in a lot more detail, including the plant material selection. It would also be very useful for the investigation to interview Olaine's residents of different age and interest groups, to find out which public places are currently used for recreation, and collect information on their preferences. Unfortunately, in the scope of this project, there was not room for this to be properly done.

Reviewing the completed work, I am contemplating whether my proposal comprises the findings of the literature study and I can conclude that the design is strongly connected to gained cognitions. Examining human needs as a basis for urban design has contributed to a functional result with visually attractive and inspiring spaces for variety of activities. However, I must admit that it is difficult to evaluate the success of my proposal, as it is not implemented. I think it depends on a number of factors and particular qualities inherent to each place. Since the site is very familiar to me, I believe I managed to merge theory, design, and the nature of each place in a good way.

Perhaps this project raises more questions about urban design than answers, and further studies should be done for a better understanding of urban environments' complex mechanisms and our role in them. The discussion about how to approach urban spaces does not end here; it is just the beginning of a more in-depth investigation of the particular topic and landscape architecture in general.

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Inspirational places

Cheonggyecheon, Seoul, South Korea.

Darling Harbour, Sydney, Australia.

Ķemeri National park, Latvia.

Seaside park, Ventspils, Latvia.

Wanås, Sweden.

Illustrations

All photos and illustrations are my own unless anything else is stated. Aerial photograph used as a base for illustrations is available from: https://maps.google.com/.