07.11.2019

THEMATIC PLAN FOR THE LIGHTING OF PARKS IN TALLINN’S BASTION ZONE

Task for a design competition

Tallinn Urban Environment and Public Works Department

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Introduction

The aim of the design competition is to find the perfect lighting design solution for the parks of the Tallinn Bastion Zone. With the winner of the competition will be made a contract for a sketch design for the outdoor lighting solution of the Kanuti Garden in accordance with the design concept presented in the competition. The design competition is organized in two phases: the first phase aiming to identify the participants whose previous professional experience and approach are best suited for compiling the entry. Submission of the entry will be made by up to three participants, selected on the basis of the submitted portfolios and team CVs. The participant team must include a lighting designer and/or lighting engineer who has a document certifying relevant education or is a member of the Estonian Association of Lighting Designers or another international professional body (e.g., IALD). Other team members may be architects, designers, electrical engineers, lighting manufacturers or their representatives.

Description of the topic

The development of Bastion Parks began in the 19th century and today includes 11 parks, the largest being the Toompark (9.2 ha). The thematic plan of the lighting for the park covers six parks in the Bastion Parks Zone - Hirvepark, Lindamäe Park, Toompark, Towers Square, Margaret Garden, and Kanuti Garden. Over the past century, there have been major changes in both the use of the parks and in the trends of lighting of parks.

At present, luminaires in parks are outdated, both externally and technologically. Both mercury lamps and sodium lamps are used at the same time, some of the parks being orange and others blue. This contrast is disturbing, and neither tonality, even with poor color rendering, beautifies the parks or creates a pleasant atmosphere. The luminaires are only used for functional purposes to illuminate walkways - fountains, stairs, exits, sculptures, and central areas of the parks are unlit. Unexpected dark areas are mixed with excessively powerful lamps creating light pollution. Old lighting technology is also very energy-intensive (total 36500W in six parks). The uneven lighting situation is in no way beneficial to the lighting of the renewed city wall and city wall towers. This project focuses more on illuminating fragments and bringing out the spatiality of the wall structure while respecting residents with a gentle whispering light. However, the current lighting in the parks is screaming over this beautiful whisper.

In today’s park lighting, it is not only functionality - guiding people, showing the way and ensuring safety - that is important, but also valuing (including protecting) nature and the environment, creating an atmosphere, and exhibiting urban art.

Lighting supports the function of a place (including activities), but can also be a destination and an activity in itself, inviting people to meet it in the evening. In order to use lighting as a tool for the creation of a place, we need a strong, well-thought-out thematic plan. Lighting shapes the use of the urban space in the dark, where we go, when, and what path we use.
With the thematic planning, we are looking for answers to the questions of what, how, and how much to illuminate, what role lighting can play in valuing parks, and how lighting can help attract more people to parks in the evening. It is also important to get answers to the question of what kind of lighting provides the feeling of security for the residents and at the same time can protect the environment and the starry sky?

Our goal is to create for the parks a safe, pleasing, energy-efficient, and innovative lighting solution, the design of which would last for decades in our climate.

Attention must be paid to the management of lighting systems, and the future direction of the world must be taken into account. By managing smart lighting, we save energy, but we can also solve social and security problems.

The design of modern public space must be done in cooperation with the space users (city dwellers), the end-user of the created environment. We have previously conducted a brainstorming session with residents to gather views and suggestions from city residents about current and anticipated lighting in Bastion Zone parks. As a result of the brainstorming, many suggestions were made by the residents to be considered in the thematic plan. A summary of the brainstorming is attached to the competition materials.

1. **Competition area**

The competition area consists of six parks in the Tallinn Bastion Zone.

1. Hirvepark
2. Lindamäe Park
3. Toompark
4. Towers Square
5. Margaret Garden
6. Kanuti Garden
The Bastion Zone as a whole is a cultural monument as part of the fortifications of the downtown - (city wall, towers, gate structures, earthworks, moat, 13th-18th centuries) The purpose of the city space is to increase the spatial coherence of the parks in the Bastion Zone so that the parks form a conveniently connected, safe and interesting walking route around the Old Town. Lighting is a tool to support this goal. The following map shows the area of the cultural monuments of Tallinn:

The area with the blue border represents the site of the cultural monuments: the Bastion Zone as a whole is a part of the fortifications of the Downtown - (city wall, towers, gate structures, earthworks, moat, 13th-18th cent.)
All parks in the thematic area (except Margaret's Garden) are under nature protection. The red line represents nature reserves in the Bastion Zone.

**Hirvepark**

Hirvepark is a protected park in the center of Tallinn under the Toompea slope. It borders with Toompea Street to the east, Wismar Street to the south, Toompuiestee and its buildings to the west and the Swedish Bastion and Falgi Road to the north.

The design of Hirvepark, which today has an area of 3.6 ha, began in 1865. It has been under nature protection since 1959.

The attractions of Hirvepark include bastion walls, sculptures, and a limestone staircase descending from Falk Road, with 102 different tree species growing in the park. The community of alien tree species in Hirvepark is remarkable.

There is a children's playground in the park (small animal sculptures also add variety to the playground area); a fish cafe Kalambuur operating in the middle of the park; the part of Wismari and Toompea Street is a nature park with diverse stands.

The landscape of Hirvepark clearly marks the location of the former moat - the central walkway of the park runs along the middle of the moat. As a result, the park is diverse in its terrain, with the center of the park located below the surrounding urban space in a recess. In the winter, children from nearby neighborhoods go sleighing on the steep slopes of the park.

During the spring and autumn, the park hosts classes for physical education of nearby schools and kindergartens.

During the Singing Revolution, people's meetings were held in Hirvepark.
Photos of Hirvepark:
Lindamäe Park

Lindamäe Park is located on the embankment of a former Swedish bastion. The Swedish fort or Lindamägi was built in the 17th century. On November 18, 1856, Falgi Road was opened, with direct access from Paldiski Road to Toompea. A boulevard was planted along the road, and trees were also planted on the edge of the bastion. The top of the bastion was converted into a park in 1862.

A bronze copy of A. Weizenberg's sculpture "Linda" according to which the park is named was erected here in 1920. The Bastion's original tree circle around the Linda monument dates back to the time when all the bastions were greened after the statue was completed. The most notable trees on Lindamägi are the seven common lindens of about 250 years old located in a circle on the cavalier.

The area around the Linda monument has become a place for commemoration of victims of mass repression that took place during the Soviet era.

In autumn 2007, 26 names of woody plants grew in the park. Since 1959, Lindamäe Park is under nature protection.

Photos of Lindamäe Park:
The largest park in the Bastion Zone, the Toompark, has evolved into a former entrenchment area around the Schnell Pond. The pond, which is the only surviving moat that once surrounded the city (dug in this section in the 1760s), was named after the Swedish urban gardener Johan Schnell, whose garden and house were located on the shore of the pond in the 19th century. Toompark is designed in the style of a landscape garden (English park style). The construction of the park began on the former meadows of the city also as early as in the late 1920s.
In 1903 the Patkul staircase was opened to connect Toompea to the downtown. Toompark has diverse woody vegetation, which is caused by the terrain and also by the fact that the park was built in several parts and at different times. Toompark is the richest species and variety of downtown parks. Originally mainly deciduous park, some conifers have been planted into the park later. The park has an alpine garden and interesting decorative shrubs, such as laburnum and laburnum alpinum, “Dovastoniana,” an English Yew, “Variegata,” an iridescent cultivar of the green ash, Rouen and Preston lilacs, etc. In autumn 2007, Toompark had about 110 different woody plants. Bats live in Toompark.

The Snell Pond in Toompark is the only part of Toompea Castle moat that has survived as a body of water. The pond and its shores are home to Mallards that are adapted to city life. Although fishing in the pond is officially prohibited, the southern part of the pond is used as an informal fishing ground. In the colder winters, it has also been possible to skate on pond ice.

The varied area with a varied terrain between Toompea and the pond is a popular sledding area in the winter. A new small-scale building serving the park has been planned to replace the depreciated pavilion shed in the park. A floating bridge is planned to be located near the new pavilion. In the future, it is possible to rent water bikes and boats from the pavilion and skates in the winter.

As the largest park in the Bastion Zone, Toompark is a popular event venue. At the end of the summer, a street culture festival and in the winter, an ice sculpture festival takes place in the park named Snow City. In spring and summer, physical education classes (running) are held in the park.

Between Toompark and Hirve Park, a pedestrian tunnel is planned under Falgi Road to improve the spatial coherence of the parks.

An amphitheater has been designed on the Toompea slope of the Snell Pond to further enhance the park’s potential as an outdoor event venue.

The wildlife of the Toompark is uniquely diverse, considering that the location of the park in the city center. Breeding and feeding sites (e.g., in the cavities of old trees) of several Vespertilionidae (bats, Daubenton’s bat, including species of the second protected category) are located in Toompark. Vespertilionidae are photosensitive, so it is important to keep dark areas in the park. Overexposure should definitely be avoided at the end of Snelli Pond towards Tõnismägi; dusk is a valuable habitat for bats. Bottom-up illumination of tree canopies is bat-friendly only in winter (bats nest among other things in the cavities of old trees).

Toompea outcrop and Patkuli Staircase Outcrop are assets that have value in terms of nature conservation.

The competition area does not include the training ground and stadium area.
Photos of Toompark:
**Towers Square**

The Towers Square is named after the many towers of the city wall that adjoin it, and several church towers can be seen from here. In the Middle Ages, the place was called the Nuns Paddock because it belonged to the Convent of Cistercian nuns located in the building that is now Gustav Adolf Gymnasium. In the 19th century, earthen fortifications were built on Towers Square, and a moat was dug. By the mid-19th century, the fortifications lost their military importance. In 1864 the moat was filled-in in this section, and the area was used as meadow. In 1896, the area of Towers Square was turned into an exhibition ground and in 1931-1933, into a public park. The park also features a lamppost preserved from the early 1900s.

In 1936, Towers Square received the fountain with the beautiful sculpture "Woman with a Bowl" (also "On the Well") by sculptor Juhan Raudsepp. It is the only water element in the park.

At the end of the 1930s, Towers Square was one of Tallinn’s fanciest functionalist-style green spaces, rich in species and floral richness.

To date, the flowering greenery of that time has grown into a well-kept, and shady forest stand that has been placed under nature protection.

In autumn 2007, about 75 different woody plants grew on Towers Square. Various events are organized in the park (there is a stage in the central square for concerts in the park)

In the Middle Ages, there were vegetable gardens for residents of the city. Following the establishment of earthen fortifications, the moat also ran along the current area of the park, but its exact location is not highlighted in the park’s landscape as the bed of the moat is filled.

The landscape of Towers Square includes symmetrically designed areas as well as shaded park areas with a natural look. The landscape of the park has a repeated maze motif (hedgerow maze; paving maze).

The park has an outdoor exercise area and a playground for toddlers.

The central stage is used for events; it is supported by wooden pavilions. The function of the exhibition area and its supporting pavilions and stage are a conceptual continuation of the era when the area was named Exhibition Square.

The area has been used as an exhibition space since the late 19th century. In recent years, a flower festival has been organized on Towers Square, in the framework of which the temporary decorative gardens were designed.
Photos of Towers Square:
Margaret Garden

Margaret Garden is a garden in the Old Town of Tallinn between the Small Coastal Gate, Pika Street, and Rannamäe Road. The area of the garden is 1.8 ha.

The moat in front of the Bastion was filled in only at the turn of the 19th and 20th centuries when the cabbage patch and the garbage disposal site established for the Fat Margaret Prison were liquidated. In the 1930s, Skoone Bastion and the Great Coastal Gate were redesigned according to the design of architect Anton Soans.

In the 1980s, the Small Coastal Gate Bastion was partially restored. In 1996 a memorial “The broken line” (sculptor Villu Jaaniso) was erected on the Fat Margarete side section of the Coastal Gate Hill, dedicated to those who died in the ferry Estonia disaster in 1994. The lighting of Margaret Garden will be reconstructed in 2020 according to the thematic plan of the design competition.

Photos of Margaret Garden:
Kanuti Garden

Up to the present in Kanuti Garden Park, there was a moat filled with water until the 19th century as a defense structure of Tallinn. In 1866 the territory of the present park was leased by the City of Tallinn to Kanuti Guild, who was to establish a public summer garden there, and since then the green area has been called Kanuti Garden.

At the end of the 19th century, several traveling circuses visited Tallinn and later, between the two World Wars, an amusement park with a cable car, a carousel, a Ferris wheel, and a bicycle rental franchise operated here. Located next to Kanuti Garden since 1913 was the cinema "Grand Marina" (later "Ars"), which was the largest cinema in the Russian Empire at the time it was opened.

During the Second World War in 1944, the Grand Marina cinema building was destroyed, and the Tallinn Navy Officers’ House, which was completed in 1953, was built instead. Together with the Officers' House, redesign of the adjacent park into the neo-classicist style was carried out.

After the restoration of Estonian independence, the Officers’ House was transformed into a Russian Cultural Center, and the park was re-designed again. In 2002, a memorial of Fyodor Dostoevsky (sculptor Valery Yevdokimov) was erected in the park.

In 2008, a fountain was established in the park with Mare Mikof's sculpture "Boys with an Umbrella"

Various light installation events are held in the Kanuti Garden in winter, such as the "Park of Good Wishes" in 2019, where thousands of LED lights were lit, which made it possible for people to admire the light installation and convey beautiful New Year wishes to each other. Students of the Estonian Academy of Arts have also organized exhibitions of their light installations there.

The City Planning Department has proposed how to continue the orthogonal structure of the park, to spatially reorganize the park, to create logical links between the Old Town (Kalev swimming pool), Mere Avenue, the city center; to provide a clearer destination for tourists departing from the Old Town to the port. It is planned to supplement the park with a memorial to Sergei Dovlatov. The exact location of the memorial will be revealed during the design competition, but potential areas for this have been identified.

Photos of Kanuti Garden:
A monument to writer Sergei Dovlatov will be erected in Kanuti Garden in 2021, the location of the memorial is currently being specified, and possible locations will be in a linear park or the rectangular area at the rear of the park parallel to Mere Avenue.
2. The current state of lighting in the parks

Before starting to create a new lighting environment, it is necessary to familiarize oneself with the old situation and its shortcomings. The major shortcomings of the lighting in Bastion Park Zone parks are:

1. Simultaneous use of mercury lamps and sodium lamps, some parks have an orange shade, others are bluish. This contrast is disturbing, and neither tonality, even with poor color rendering, beautifies the parks or creates a pleasant atmosphere.
2. There are many ball-type luminaires with very poor luminosity, which is the worst solution in terms of light pollution.

3. The luminaires are only used for functional purposes to illuminate the walkways.
4. There are unexpected dark areas in the parks mixed with excessively powerful lamps causing light pollution.
5. The sculptures, monuments, fountains, stairs, exits are hidden in darkness.
6. The central areas of the parks cannot be distinguished in the dark.
7. There are no special lighting solutions for playgrounds.
8. The actual direction of the movement of people is not thought through when lighting roads.
9. In the dark time, there are no organized activities in the parks.
10. The old lighting technology is very energy-intensive, with a total of 36,385W currently used in six parks.
11. The uneven lighting situation is in no way beneficial to the lighting of the renewed city wall and city wall towers. This project focuses more on illuminating fragments and bringing out the spatiality of the wall structure while respecting residents with a gentle whispering light. However, the current lighting in the parks is screaming over this beautiful whisper.
3. Starting points for the competition

1. The idea of the lighting solution must take into account the historical value of the Old Town and the surrounding parks and be innovative, while modestly adapting to the medieval atmosphere of the Old Town. Tallinn Old Town was listed in 1997 as a UNESCO World Heritage Site.

2. Park lighting must be safe, energy-efficient, sustainable, innovative, and create a pleasant urban space. It must be quiet enough and cozy, respecting residents and nature and protecting the starry sky. In Toompark, the lighting must consider the bats that live there, and the lighting solution must support their existence.

3. Lighting solutions must remember all users (target groups) and different ways of using the parks.

4. The night-time dimming should be used in all parks to give both nature and residents a chance to enjoy the quiet of the night.

5. The competition work must take into account three layers of lighting, the proposals of which must be clearly distinguishable. 1) functional general lighting (to illuminate walkways, directions of movement, entrances, and staircases of parks), 2) decorative design lighting (lighting solutions for landscaping, urban art, fountains, squares, seating areas, playgrounds, sculptures, etc., illuminated city furniture), 3) temporary lighting solutions for events (digitally controlled lighting scenes, winter lighting solutions, lighting installations, etc.)

6. The concept of functional lighting must be similar throughout the parks. The decorative nuances of each park can be highlighted with decorative lighting. If it is considered important to use different general lighting (or lighting) solutions in some parks, therefore, reasons must be given. There should be no more than two to three different types of general lighting for parks (walkways).

7. Lighting solutions must take into account the changing of seasons and weather conditions.

8. The locations of the luminaires should be planned to minimize glare. Avoid light pollution.

9. Do not use colored permanent lighting. You can only use it if the luminaires allow you to choose also the white light, i.e., the lighting is dynamic, and the idea of using colored lighting is clearly justified and fits in with the general concept.

10. Ideally, highlight sample types of luminaires. The requirements for luminaires are as follows:

   - Use LED luminaires. Select vandal resistance luminaires according to the mounting height of the luminaire: 6 meters and higher - IK07, up to 6 meters - IK08, in special cases IK09 to IK 10.
   - The luminaires must be easy to maintain.
   - Luminaires must comply with local climatic conditions (according to ET-2 0102-0329, Estonian Climate Guide for Builders).
   - The degree of protection of the luminaires must be selected in accordance with EN 60529: 2001/A2: 2014 Enclosure protection levels (IP code) and must be at least IP65, IP66.
   - The color rendering of the luminaires must be at least CRI 80.
   - The lighting temperature of general lighting is 3000K. Different temperatures of white may also be used if their use is justified and is compatible with the whole.
   - The lifetime of the luminaire must be at least 50,000 h.
   - If possible, recessed luminaires should be avoided.

11. Separately provide lighting solutions for the playgrounds.

12. Provide a conceptual solution to uniformly illuminate park entrances and stairs.

13. Provide a solution for how the lighting could improve the lack of connectivity between parks.

14. Ideas for permanent light installations, light performances, urban furniture with light, etc., are welcome.

15. Kanuti Garden

   The lighting solution for the Kanuti Garden needs to be considered in more detail as the park's new lighting installation is planned to be built and completed by early 2021. Kanuti Garden is the first park in the competition area where the lighting installation will be renewed. At Kanut Garden, we want to use innovative lighting solutions to create a park of seasons (a park of change). We are looking for answers to the question of how lighting can surprise people by changes or change people. The atmosphere of the park
changes during different seasons, using different lighting scenes (light pictures that bring drama and picturesqueness to different seasons). Changes in light pictures can also be related to events or human activities (i.e., people are involved in lighting design through smart device applications or sensors).

Provide new compatible park lights suitable for the park in place of the existing general lighting (spherical luminaires) in the Kanuti Garden and solve the lighting of the central fountain section of the park, the Dostoevsky monument, and the Kanuti Garden playground.

4. **Preparation of documents**

To submit in the competition entry:

1. Description of the new lighting concept/ starting points for the idea of the lighting solution. Specific of park lighting.
2. Describe and visualize, through key factors, the following excerpts of exterior lighting solutions:
   
   2.1. Functional general lighting (minimum 1 visualization per point)
   a. General lighting of the park. Lighting of walkways. Specify the type of luminaire. If there is a difference in parks resulting from the idea, submit several solutions.
   b. Entrance lighting (including stairs)
   
   2.2 Design lighting (minimum 1 visualization per point)
   c. Central seating areas of the parks (including the lighting of fountains). General approach and a more specific solution for selected central parts (visualization of seating area and fountain).
   d. Special lighting for playgrounds. If there is a difference in the general lighting solutions of the parks, submit several solutions.
   e. Coherence between parks - Creating/repairing connections by lighting.
   
   2.3 Temporary lighting solutions for events, permanent light installations (minimum 1 visualization)
   f. Permanent light installations/winter lighting.

3. **Kanuti Garden:**
   a. General lighting plan
   b. The concept of lighting the central part of the park, including the summer and winter solution of fountain lighting
   c. Ideas for lighting the Dostoevsky memorial
   d. Playground lighting concepts

4. The general plan for park lighting - Indicate the general lighting, design lighting, special lighting, dynamic lighting, etc., on the ground plan.

5. A business card with details of the authors of the design, contacts, and the bank account number.

The right of execution of the winning design will be transferred to the organizer of the competition after the prizes have been paid.

Foreign participants may submit their work in English.

5. **Evaluation criteria for entries**

- integrity, uniqueness of the conceptual idea, architectural suitability of the solution and compliance with the objectives of the contracting authority 60%
- cost-effective handling (energy saving, maintenance costs, vandalism resistance) 25%
- use of innovative solutions (both technologically and conceptually) 15%
6. The jury

Chairman of the jury:  Tarmo Sulg, Deputy Head of Tallinn Urban Environment and Public Works Department
Members of the jury:  Boris Dubovik, Head of Heritage Department, Tallinn City Planning Department
                      Kaidi Põldoja, Architect of Tallinn City Planning Department, General Planning Sector
                      Aigar Palsner, Tallinn City Center Government Head of the Urban Environment Department
                      Ain Järve, Director, Kadriorg Park
                      Kristiina Kupper, Head of Landscaping Tallinn Urban Environment and Public Works Department - Urban Landscape Architect
                      Hannes Vaga, Head of Engineering Department, Tallinn Urban Environment and Public Works Department
                      Eva Tallo, Chief Specialist, Engineering Department, Tallinn Urban Environment and Public Works Department, lighting designer

7. Prizes

The total prize sum is € 20,000.
First place/winner - € 8,000 (plus € 7,000 contract for the Kanuti Garden sketch project)
The other two participants - a prize of € 6,000 each
(all amounts include 20%VAT)
Prizes will be paid out by the organizer of the competition within one month of the ranking of the competition.
Competition organizer has a right to reduce or not to pay prizes if competition work does not meet the competition conditions.

In addition, a contract for the design of the Kanuti Garden project will be made with the winner for an amount of EUR 7000 (VAT) which must include:

1) Explanatory memorandum
2) Outdoor lighting layout with precise positioning and orientation of the luminaires
3) The exact location, height, and type of lighting masts
4) Technical solutions and parameters
5) Specification of equipment and materials
6) Device control scheme

Sketch project should be ready latest 2 months after contract date.

Geo-base and technical conditions are procured by the contracting authority. The sketch project for outdoor lighting in Kanuti Garden has to solve the general lighting of the park, the lighting of the central part of the park and the fountain, the playground lighting, the lighting of the Dostoevsky monument. Also, consider the location of the prospective Dovlatov monument.
Kanuti Park is the first park of the parks of the competition area to upgrade its lighting, followed by other parks in the coming years.

8. Deadlines

The deadline for submitting applications for participation is 22.11.2019

The application for participation is accompanied by a portfolio of the previous reference works on outdoor lighting solutions for the public space carried out over the last five years (minimum 3 projects) and CVs of team members (including educational certificates if applicable). Please send your portfolio and CV by email: Eva.Tallo@tallinnlv.ee

The jury will select up to three participants from the applicant teams to be invited to submit a competition entry. Participants who have previously performed lighting design, analysis, and/or design of public space of similar volume will have the advantage. The quality of the public space lighting solutions and the novelty of the solutions are evaluated. Additional material (AutoCAD files, summery of public questionnaire, etc), are provided after the participants are selected. At the request of the participants, the contracting authority will give them a tour of the competition area at a pre-arranged time. Requirements for completing the entry are given in section 4 of the entry.

The deadline for submissions is 27.01.2020

The jury will select the winning entry from among the entries within two weeks after the submission of the entry. If the winning entry is appropriate, the winner will be awarded a sketch project contract for the Kanuti Garden Outdoor Lighting Installation.

9. Annexes

1. Maps of the parks
2. Hirvepark Information Booklet
3. Summary of the results of the park lighting public questionnaire
4. Business card form for contacts and bank details

Annexes will be provided for participants chosen for submit competition work in competition second phase.