

SAINT TRINITY PARK

CITY OF BURGAS

Preface

The development and maintenance of the green system on the territory of the municipality of Burgas is a main task and priority of the local administration. Over the years, most of the main green areas in the city have been renovated, incl. the sea garden, parks in the residential complexes, under construction is a new recreation area connecting the sea garden with Sarafovo residential area.

Along with the reconstruction and improvement of the park spaces, Burgas Municipality is actively working on the maintenance of the urban green system. Periodic inventory of plant species is carried out, and if necessary, old trees, which were found to be unsuitable for the urban environment are replaced with new species.

At the moment, Saint Trinity Park is the only larger park area in the city that is neglected and unable to perform its functions.

With the support of the Connecting Nature project, Burgas Municipality wants to restore the "shine" of the park and during the process (from planning to implementation) the developed Connecting nature framework will be used.

0. CONNECTING NATURE FRAMEWORK

STEP 1. IDENTIFY THE CITY CONTEXT

- What is the status quo of your city with regards to implementation and scaling of nature-based solutions?
- What are challenges and opportunities for implementing and scaling nature-based solutions in your city?

Burgas Municipality is the largest municipality located in southeastern Bulgaria with a territory of 514,362 hectares, representing 0.43% of the country. The municipality is bordered to the east by the Black Sea, to the north - Pomorie Municipality, west - Kameno Municipality and south - Municipality of Sozopol. The Eastern boundary is a prerequisite for the development of port work, fishing, tourism, foreign trade, for concentration of productions and industries that rely on imported materials. Surrounded by three firth lakes - Burgas, Mandra and Atanasovsko and with a width of 10-12.5 km and a water depth of 10-12 m, Burgas bay forms the most extensive part of the Bulgarian Black Sea coastline. The availability of natural resources such as nature reserves, protected areas and natural attractions determine the wide biodiversity in the municipality, which is an important factor and condition for development of tourism and other economic and non-profit activities, stimulating small and medium business and development of the labor market. Due to favorable natural and economic conditions, a significant part of the population and economic potentials are concentrated in Burgas Municipality.

The geographical location of the city greatly influences its development. The Black Sea and the three large lakes on the territory of the city form the Burgas wetlands and logically place the protection of the environment and the development of the green system of the city and the implementation of the NBS among the development priorities. The city of Burgas has a large number and different in size parks and green spaces. Over the years, the administration managed to renovate all major parks in the city, providing safe conditions for recreation, play, entertainment, sports etc. for visitors. Under the pressure of the citizens of Burgas, the local administration pays more and more attention to the green spaces and the implementation of green solutions in the urban environment.

Current state of Nature-based Solutions projects

A number of projects have been implemented on the territory of the city, which can be qualified as nature-based solutions.

EXPO CENTER FLORA BURGAS



Expo Centre FLORA

<http://jessicafund.bg/en/2014/10/02/flora-expo-center/>

<https://www.facebook.com/floraburgas/>

Budget: 1 800 000 euro.

The project is supported by EU Structural Funds (JESSICA- Joint European Support for Sustainable Investment in City Areas, financial instrument) and co- financed by Burgas Municipality;

Beneficiary: The project is implemented and maintained by Burgas Municipality.

Flora Burgas, with its unique location, close to the beach and professional technical equipment is suitable for any kind of event. Exhibitions, congresses, cultural events, museum exhibitions, parties, weddings.

The uniqueness of the Exposition Center unfolds in the innovative "green" and functional design of the building, which achieves optimal area for exhibition and extremely convenient mobility by combining individual halls. Buildings is constructed with green roof and walls, as well as very good insulation materials, and is powered by solar energy.

BURGAS WET LANDS



Burgas Wet Lands

is a complex of closely related coastal lakes, lagoons, salinas, marshes, wet meadows and seashore surrounding the city of Burgas. The large variety of wetland habitats (and also rocky and steppe ones in the vicinity), the position in the middle of one of Europe's busiest migratory flyways, the Via Pontica, and the existence of a system of protected areas turns the area into a unique place. All the main wetlands of the complex are designated as Important Bird Areas (IBAs) of European and Global significance.

Two big projects have been implemented in recent years for protecting the biodiversity and promoting Burgas Lakes as a place for educational and leisure activities.

2.1. Life for the Burgas Lakes - <http://burgaslakes.org/en/>

Budget: 1 775 000, 00 euro.

The project is supported by the financial instrument of the EU LIFE+ Nature and Biodiversity and co-financed by project partners.

Project partners:

Coordinating beneficiary: Bulgarian Society for Protection of Birds;

Associated partners:

- Burgas Municipality;

- „Chernomorski solnitsi” JSC, Burgas;
- BBF (Bulgarian Biodiversity Foundation);
- Royal Society for the Protection of Birds.

Project objectives

- Ensure long term conservation of the protected areas from the ecological network Natura 2000 – “Mandra-Poda”, “Atanasovsko” and “Vaya” lakes which are important for the survival of priority bird species – Dalmatian Pelican, Pygmy Cormorant, Bittern, White-headed Duck and Ferruginous Duck.
- Maintain and enhance feeding, breeding and roosting habitats for priority bird species.
- Reduce the impact of direct and indirect threats on priority bird species.
- Enhance public understanding of and support for the conservation of priority bird species, their habitats and the wider Natura 2000 sites that are crucial for their long-term protection.

As a partner, Burgas Municipality was responsible for promoting the importance of the wetlands among local population and guests of the city, support project implementation with expert advices to what extent foreseen measures are applicable with Bulgarian environmental laws, update the strategic municipal documents with project results and identified measures for protecting and promoting the wetlands.

2.2. Urgent Measures to Restore and Secure Long-term Preservation of the Atanasovsko Lake Coastal Lagoon /Salt of LIFE/

<http://saltoflife.biodiversity.bg/en/>

Budget: 2 013 000, 00 euro.

The project is supported by the EU LIFE+ Programme and co-financed by project partners.

Project partners:

Coordinating beneficiary: Bulgarian Biodiversity Foundation

Associated partners:

- Bulgarian Society for the Protection of Birds;
- Chernomorski solnitsi JSC.

Project objectives:

1. To establish a functional, efficient and sustainable infrastructure for water management and control of the coastal lagoon in Atanasovsko lake. This will provide long-term improvements to habitat conditions and enable adaptation to the effects of climate change including changing rainfall patterns and rises in sea-level.
2. To reduce the impact of direct and indirect threats on Atanasovsko Lake lagoon and its priority bird species by securing sustainable habitat management including improvements to existing and creation of new breeding sites for priority bird species.
3. To monitor and evaluate the effects of the proposed habitat restoration measures on the lagoon, other significant habitats, and Annex 1 bird species during the project and to feed this information into future site management plans.
4. To improve the visitor experience at the site and to disseminate the project results to a wide European audience of site managers, ecologists and the general public.

5. To enhance public understanding of the ecological, economic and social values of the coastal lagoons and raise support for the conservation of priority coastal habitats and bird species.

Although Burgas Municipality was not officially a project partner, it supported its implementation by promoting the project through its various communication channels.

Burgas Municipality supports the implementation of many festivals and events dedicated to the lakes, e.g.:

- Salt Festival - http://saltoflife.biodiversity.bg/en/Salt_Festival-c150

- Conservation Camp - http://saltoflife.biodiversity.bg/en/Conservation_camp-c152

- Half marathon Atanasovsko lake:

<https://www.gotoburgas.com/en/news/view/3/2766>

<http://polumaraton.zelenastrandja.com/index.php>

Many other events are being organized to promote the importance of environmental protection and the great biodiversity surrounding the city of Burgas - http://saltoflife.biodiversity.bg/en/Inspired_by_the_Lake-c161.

SWIMMING POOLS WITH LYE AND HEALING MUD



Burgas Salinas

<https://www.gotoburgas.com/en/places-to-go/view/17>

<http://burgaslakes.org/tour/en/baseini-s-lechebna-kal.html>

The healing mud and lye pools are in the city of Burgas in the south part of the Atanasovsko Lake and are the largest free outdoor “SPA centre” in the country. The mud and lye are acquired sustainably and this does not hurt the lake inhabitants. It is a famous place to visit from May to September, because of the great health benefits.

There are various ways to reach the place- by bike, rollerblades, jogging, walking or use the electric shuttles provided by Burgas Municipality.

Burgas Municipality maintains the infrastructure at the place.

RENOVATION OF SEA PARK BURGAS AND PUBLIC SPACES



Sea Park of Burgas

<https://www.burgas.bg/bg/info/eventdetails/1122/29073>

<https://www.burgas.bg/bg/info/eventdetails/1122/29885>

<https://www.gotoburgas.com/en/places-to-go/view/35>

With the support of EU funds (Operational programme Regional Development) and co-financing by Burgas Municipality, large areas of the city were renovated. Renovated areas include green areas within the city, as well as renovation of the Sea Garden. Within the projects were removed old and dangerous trees and vegetation and replaced by new ones, new lightning and video surveillance were installed, park furniture was replaced, new playgrounds were created etc.

BUS STOPS GREEN ROOFS



Bus stop in Burgas



Bus stop in Burgas

10 bus stops in Burgas have green roofs.

Main urban challenges and opportunities

The main challenges related to the implementation of the NBS at local level are related to:

1. Adequate and qualified maintenance of implemented NBS - maintenance is among the main challenges for the local government. The reasons for this are complex and are related to the lack of a sufficient budget and lack of a sufficient number of specialists with the necessary qualifications and skills to be able to spend enough time on all territories and sites in the city.
2. Municipality is the main driver at local level for NBS implementation. The business, mainly construction companies and investors, are still reserved on investing resources in NBS solutions, because these are additional expenditures. They follow strictly the law, which at the moment permits only small part, based on the entire scope of the investment project, to be dedicated specifically for green areas and green infrastructure.
3. Enough budget for implementation of NBS at a larger scale. It is hard for municipal budget to cover all the demands of the city, This is why, NBS are not yet implemented at a larger scale.

The main advantages for the implementation of the NBS are:

1. Support the conservation and development of existing natural resources.
2. Increase the attractiveness of the urban area and make it unique.
3. Contribute to the adaptation of the urban environment to climate change and the conservation of biodiversity.

STEP 2: DEFINE THE GOALS OF YOUR NATURE-BASED SOLUTIONS

- What (city) goals do you intend to achieve with your exemplar?

Within Connecting Nature park after consultations with municipal departments, stakeholders and project partners, we decided our exemplar to be Park “Saint Trinity”.

Park “Saint Trinity” is one of the biggest parks in Burgas. It is located in the heart of the city in densely populated area. It is surrounded by three neighbourhoods, the biggest hospital in the region and an area, which is of great interest to investors for establishing another neighbourhood with living and office buildings.

Through the development of our exemplar we strive to achieve the following city goals:

1. Improve the process of interaction between local government and stakeholders in planning, implementation and management of high-impact projects.
2. Improve the condition of the green system and green spaces in the city.
3. Strengthen the connections between the separate green spaces on the territory of the city of Burgas.
4. Make NBS an integral part of the implementation of each project in the municipality.

- Describe the main aims, benefits and cobenefits of your exemplar.

Our aims are:

- bring back the popularity of abandoned green space;
- turn the park into a popular place for spending time outside with family and friends;
- keep the feeling of wild nature;
- keep and enrich the biodiversity.

The renovation of “Saint Trinity” park will have multiple benefits, including social, environmental and economic.

Environmental benefits:

The park plays an important role in the green system of the city. As there haven't been any serious infrastructure works on its territory, the vegetation was free to grow and develop. Trees there have a full capacity to purify the air, provide shade and tackle the “heat island” effect, because of the dense infrastructure around the park. The role of the vegetation in the park is also connected with limiting floods, caused by heavy rains. The park is a habitat of different birds and animal species. Through the replacement of ill vegetation, the area will preserve its important environmental role for the city.

Social benefits:

As already mentioned the park is situated in a heavy populated area. Roughly more than 20 000 people are living, working or visiting the institutions and facilities (hospital, offices, shops, sport facility centre) surrounding it.

The park has a great potential to become the favourite place for people. The social benefits from its reconstruction are:

- Place for walks and leisure activities;
- Place for physical activities (yoga, jogging, roller blades, skateboard, street fitness, etc.);

- Educational activities (open classrooms, seminars);
- Recreation and rehabilitation- as park is in close proximity to the largest hospital in the region, its area could turn to a preferred place for visit by patients;
- Religious meetings- within the area of the park, there is an operational church. After the reconstruction of the park, the church could use the territory for different religious and charity initiatives;
- Entertainment- parts of the park will be used for organisation of small festivals, concerts and performances.

Economic benefits:

The economic benefit from the implementation of the planned activities will result in several directions:

- Increase of the price of the property around the park;
- make the territory even more attractive for investors;
- turn the area into a preferred place to live and work;

The increase of private investments in the region will result in more taxes paid to the local authority.

- construct advertising areas around and within the park and rent them to companies;
- rent areas of the park for private events;
- construct small commercial area with small shops and coffees;

These places will be rented and the income will be used for maintaining the park.

- some of the territories of the park will be leased to nature based enterprises. They will have to present a concept for the development of the area they are responsible for and after the approval of the city, implement it. These areas will be demonstration areas of the private companies, where they will have the chance to show to the public, their expertise and innovations. The responsibilities of these companies will be to maintain their areas in perfect condition.

Thus, the local authority will save resources for investment and maintenance, as well as encourage the exposition of unique elements in urban area. Companies will not be allowed to construct heavy infrastructure in the park. They will have to use only natural materials and resources to implement their projects.

- How does the exemplar connect to and deliver on existing urban agendas?

Green areas are in the focus of local administration for years. Saint Trinity Park is the last big urban green area, which is not renovated and is logically considered as a priority project for implementation.

- What makes your nature-based solutions' strategy legally binding, e.g. by connecting it to existing policy plans?

Project is in full compliance with the strategic documents of the local authority:

- Burgas Municipality Development Plan 2014 - 2020 - Plan for integrated development of city of Burgas 2021-2027

The following priorities are immutable part of city's strategic documents:

- Protect the environment and biodiversity;

- Adapt to climate change;
- Establishment and maintenance of the city's green ecosystem.

The exemplar is in full compliance with the above mentioned priorities as it will enrich the green system and contribute to biodiversity and environmental protection, as well as support our efforts to adopt the territory and our lives to climate change.

STEP 3. IDENTIFY YOUR TARGET AUDIENCE AND OTHER RELEVANT ACTORS

- For whom is this document?
- Who has been involved in developing it?
- How did you engage/plan to engage with all quintuple helix actors (see figure to the right) across all of the different elements for your nature-based solutions exemplar? Please explain why you have chosen the actors and how you will engage with them.

In the process of identification and planning of activities to be implemented of our exemplar we identified the following general stakeholders:

1. Students in landscape architecture and urban development.
2. Architectural bureaus.
3. Nature- based enterprises.
4. NGOs.
5. Organisations of people with disabilities.
6. Population of city of Burgas.
7. The owners of a property in the area around the park.
8. The patients of the hospital next to the park.
9. The church.
10. Schools.

As the general concept for Saint Trinity Park was developed in June, we looked once again at our stakeholders and further clarified the exact entities we want to approach. Although we are still in the process of consultations we managed to reach and receive feedback from:

- NGO: Bulgarian Society for Protection of Birds and Biodiversity Foundation. These are two of the most organisations with most expertise in Bulgaria related to protected areas management, biodiversity and environmental protection. They expressed in general their positive statement for foreseen measures and added a few comments which will be taken into consideration during the detailed design of the concept for renovation of the park.



Discussion between experts of Burgas Municipality, Bulgarian Society for Protection of Birds and Biodiversity Foundation about expampler concept.



Discussion between experts of Burgas Municipality, Bulgarian Society for Protection of Birds and Biodiversity Foundation about expampler concept.

The concept is sent via e-mail to:

1. CLUSTER OF INFORMATION AND COMMUNICATION TECHNOLOGIES BURGAS- a cluster of IT companies, which will be of the main users of the open offices which will be placed in Burgas;

2. Union of architects in Burgas

3. Union of landscape architects in Burgas

, so that experts can get familiar with planned activities and measures and face-to-face meeting will be made after that.

On site consultation with citizens are planned as a temporary office will be situated in the park to ask for the opinion of people on planned activities. Info material for the concept are placed in territorial administrations in the neighbourhoods around the park, in order to inform people about the concept for renovation and receive feedback from them.

STEP 4. INTRODUCE YOUR NATURE-BASED SOLUTION EXEMPLAR

Burgas' Exemplar aims at restoring a city park in the centre of the city. Further details are presented below.

1. Technical Solutions

STEP 1: DEFINE THE NATURE-BASED SOLUTION.

Define the nature-based solution • What is the name of the nature-based solution exemplar? • What type(s) of nature-based solution does it include? • Where is the location that the project is being delivered? • What is the size of site? • Give a brief description of the technical design of the project and supplement with plans/images.

Park "St. Trinity" is located in the eastern part of the residential area "Slaveykov" on an area with a size of about 146 decares. From the beginning of the XX to around 1960 the city cemetery is located on this territory. Due to the rapid development of the city, the cemetery was relocated.

This happened in the period 1960 -1975 and after the relocation the park was created in its present form. The orthogonal alley network of the former cemeteries has been completely erased and a new alley network with rich landscaping has been built, in connection with the newly built residential complexes Slaveykov and Zornitsa.

Nowadays, the park "St. Trinity" occupies a central place in the urban territory. The park is surrounded on the north by Lazar Madjarov Street and "Slaveykov", from the east borders the main city arteries, Stefan Stambolov Blvd. and Struga Blvd., behind which are located respectively residential areas "Zornitsa" and "Bratya Miladinovi" and Regional University hospital Burgas. From the south, the BORDERS the railway line Burgas - Pomorie. To the southwest, the park borders Dame Gruev Blvd. and a former industrial zone, which since the late 1990s has developed as a mixed multifunctional zone with the construction of public service facilities, new residential, commercial and business buildings.

In the western part of the park in 2018 opened a swimming sports complex "Park Arena OZK", adapted for international water sports competitions. Despite its relatively central location between large residential complexes, the park is not well integrated into the urban landscape and does not serve as an area for daily recreation and entertainment. To some extent, this is due to the gloomy heritage of the park known by its nickname "Old Cemetery", but to a greater extent the problem is rooted in the outdated park development plan, poor maintenance and poor connections of the park with the residential areas around it. Restrictions for the development of the park in the urban sense are the busy city boulevards and railways- line that frames

the park and makes it difficult for citizens to access. The lack of suitable facilities in the park further aggravates its socialization with residents and guests of the city.

The concept is developed on the basis of an integrated territorial approach, which aims at lasting improvement of the physical and ecological environment of the territory.

The project solution preserves and incorporates the existing elements of the park (Holy Trinity Church, the Horseman Monument, the Old Russian Monument, the Playground and Outdoor Gym for Disadvantaged Children) in terms of composition and materials concept. Based on a comprehensive analysis of the nature and potential of the environment, modern views and new ideas for the development of the park are proposed.

At the same time, an integrated approach of urban regeneration and development is applied on the target area, as the objects of intervention, including additional sites, are united in a single architectural - spatial, thematic and landscape solution and thus emphasizes the identity of the park and its uniqueness, in full in unison with the historical structure and the surrounding sites.

Areas with the following various functions are envisaged in the scope of development:

- outdoor games and entertainment for children and adults;
- designated places for hobby activities, free play and walking of pets, etc .;
- daily sports, jogging, cycling;
- extreme games and rope park;
- areas or places for peaceful recreation and picnic areas;
- area for church and surrounding space / compositionally and volumetrically-spatially connected with the other areas /;
- shared workspace area;
- entrance area and pavilion area, water effect and administration;
- areas with movable objects for coffee and snacks and catering;
- amphitheater area, outdoor stage and cultural orientation;
- Restoration of the central composite axis with colored vegetation and water effect in the area of the Monument "Horseman".

Given the goals for the development of the territory, the design team has developed a concept for reconstruction and improvement of the park, which includes original planning and composition proposals. The application of modern architectural - spatial, compositional and design solutions is envisaged (eg innovative flooring, water effects, elements of urban furniture, landscape thematic groups and recreation areas, plant compositions with interesting plant species and high artistic and aesthetic appearance, etc.) .



Preliminary design for reconstruction of Saint Trinity Park.

Planned premises and areas:

1. Info centre, coffee shop, WC.
2. Work offices.
3. Existing playground for children with special needs and fitness.
4. Rope park
5. Picnic area
6. Education area for road safety
7. Art zone- exhibitions, biennale
8. Amphitheatre
9. Viewing site
10. memorial plaques
11. Holy Trinity Church.
12. Youth open zone
13. Zone for sports, yoga, pilates
14. Children playground /1-3 years , 3-12 years/
15. WC
16. Jogging alley
17. Monument „The Horseman”
18. Flowers installation
19. Water effect
20. Dog walking zone
- food shop

1. Construction and restoration of areas for public recreation, children's and sports grounds, water areas and water effects, toilets, installation of park equipment and other elements of park furniture.

1.1. It is planned to build a water effect in the area of the intersection of Lazar Madjarov Street and Stefan Stambolov Blvd. The situation of the water effect is in the main compositional axis to the "Horseman" monument and focuses on a main visual corridor that is revealed to the transit passengers on the boulevard.



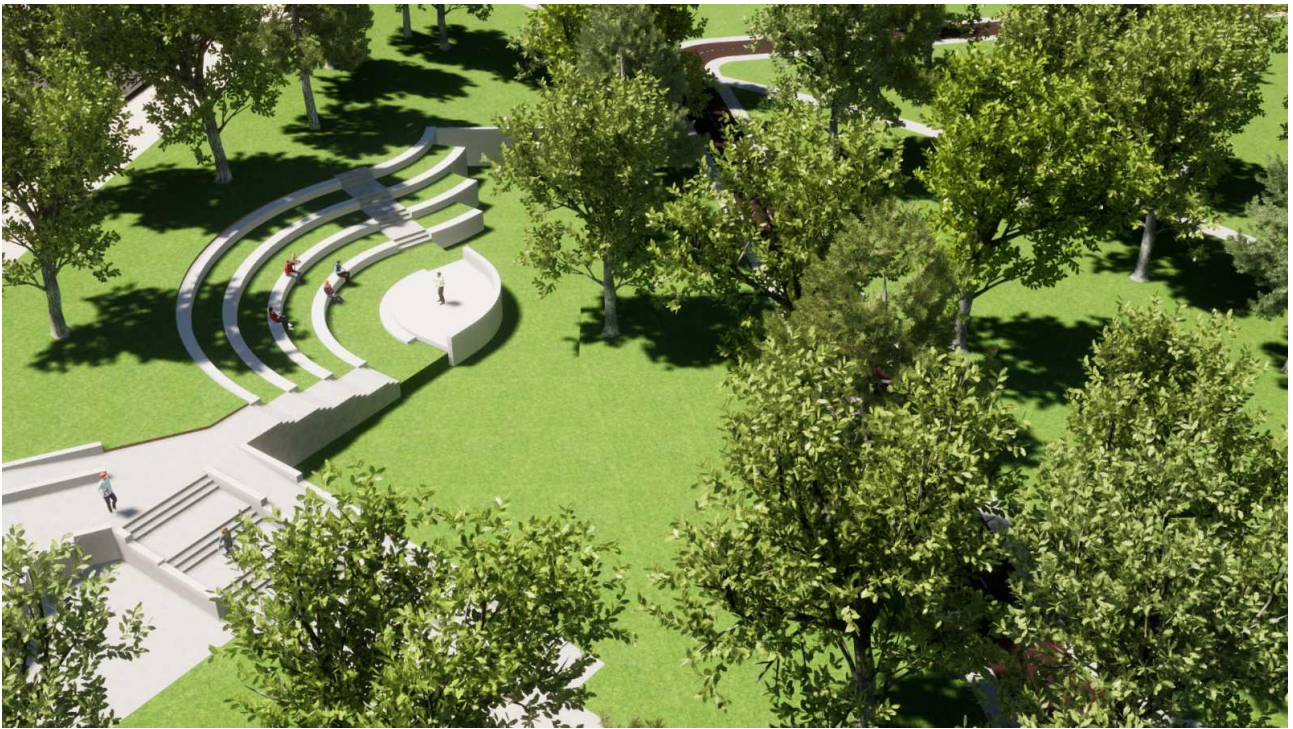
Water effect

1.2. Around the alley network are developed various functional areas - art zone (outdoor exhibitions), bicycle range, playground, lawn for games and picnics, sports and meditation area (yoga, pilates), amphitheater, dog walking area, shared work space in a park environment, youth spaces, a separate jogging alley, a rope park. All areas and activities in the park are conceived and designed in close connection.

1.3. The amphitheater and the viewing platform are positioned in the northeastern part of the park in the area with pronounced displacement, which was used in the design of the facilities.

1.4. Dog walking area equipped with facilities for training pets in the discipline "Agility". Facilities are provided for both small and large breeds, which makes the training ground one of a kind in the city.

1.5. Construction of an area for shared work space with different size and function. With different square footage and orientation, in general they can function as a large office area outdoors, in nature. They can also be divided according to interests and rented and used for events separately. Offices will be for 1, 3 or 5 users and provide high speed internet and energy efficient power supply, as well as modern interior and unobstructed views of the richly landscaped surroundings.



Amphitheatre



Shared work offices



Dog walking area

2. Construction of children playgrounds

Playgrounds require a protective surface material under them to mitigate the risk of children falling. The material chosen for the flooring of the new playground is mulch of coniferous bark - Pine (*Pinus* sp.).

The material consists of well-smoothed pieces to avoid the presence of large and small particles, as well as long, sharp chips. Once laid, this flooring has the ability to self-level when played on. It is recommended to smooth the pavement of the most used places in the playground once a week with a rake.

In practice, the lower 200 mm of a 300 mm layer of granular crust adheres by itself and forms a hard but pliable layer with good drainage properties. The top layer of 50-100 mm remains loose and does not stick. This layer "yields" to pressure, while the lower layer softens the residual impact when falling. In places with increased use, where dents are formed, it is necessary to fill with a paddle about once a month additional material from other places where the wear is not so great. The application of wood mulch includes both a drainage layer and geotextile to prevent the mixing of the bark, which slows down the decomposition and prevents the growth of weeds in the playground. Ready-made wooden elements are used to limit the perimeter of the mulch. The material meets all modern standards of quality and safety for play.

The material from which the children's facilities will be made is natural material: Acacia. The modular design offers progressive levels of difficulty for children over 2 years, as each element of the facilities in the playground is in perfect harmony with the natural environment. The facilities provided include climbing and balancing trails that draw inspiration from nature. The elements are designed for children aged 2 to 10 years to develop their physical and motor skills. When combined together, they form pathways offering different levels of difficulty.

With the provided multiplayer structures, the playground becomes a land of adventure. Gaming houses and balancing paths combine to create structures that encompass all the basic functions of the game, while at the same time fitting perfectly into the environment.

In terms of quality, the white acacia wood is almost without a rival in our country. Significantly superior to oak wood in bending strength, crushing strength, elasticity and hardness. It is extremely durable and resistant to rot, thanks to the wide core, which is tylos, impregnated with antiseptic substances. Over time, it does not lose its mechanical properties, including its elasticity. It has a beautiful texture and it gives very good details

for children's play equipment. The wood can be used for up to 20 years without rot and meets the EN335 standard for durability in operation. The material is extracted from forests of controlled origin and have an FCS certificate.



Children playground



Children playground

3. Construction of new and reconstruction of existing park alleys and approaches, construction of bicycle paths and alleys, including installation of signposts.

Solutions are proposed for the approaches to the park (transport, pedestrian and bicycle connections), related to the nearby residential complexes and sites, including the planned large-scale expansion and overhaul of the Church "St. Trinity. The approaches selected in this way open the park to the residential complexes to the north and east.

The development clearly defines the park alleys by function (main and secondary pedestrian alleys, bicycle alleys, transport access to the park and the parking lot), by type of pavements and by width. The offered materials for the pavements take into account the type of alleys, the way of use and maintenance.

The development is in line with the existing natural footpaths, which have become established over time and have proven their functionality. The pedestrian and bicycle lanes are differentiated and a solution is offered limiting the passage of vehicles and bicycles on the pedestrian lanes. For alleys with mixed type of traffic, horizontal or vertical marking is provided. A scheme for traffic in the park is proposed - pedestrian, bicycle and alley for outdoor jogging. There are bicycle routes for training in road safety, with appropriate marking of the pavement so as not to impede fast connections and pedestrian traffic in the park.

Innovative technologies have been selected for the laying of the main floorings, providing anti-slip, weather-resistant materials, consisting of four components, which are mixed and applied on site. The flooring consists of colored stones and / or marble particles, chemical additives and improvers, pigments, special quartz aggregates, fibers, cement and others. The innovative paving system creates a porous structure that allows excess rainwater to pass through.

For decorative pavement around the main accents in the park (Monument "The Horseman", the Water Effect, Church "Saint Trinity") are selected slabs of natural stone with different texture of the pavement, observing the strict nature of the space.

For the third-level alley network, grass lane pavements are envisaged. The intervention in the area of the Monument "The Horseman" is reduced to the reconstruction of the alley network and repair of compromised sidewalks, without significant deviations from the existing design solution, replacement of power cable network and park lighting, artistic lighting of the monument, equipment with park furniture / benches, trash bins, etc./ and landscape reconstruction.

4. Video surveillance system will be installed on the territory of the park to prevent crime and assure safety to visitors.

5. Free high speed Wi-Fi network will be available in the park.

6. Park equipment and furniture (benches, lighting fixtures, bicycle stands, signposts, waste bins, etc.). The focus will be on "smart equipment" and "intelligent" infrastructure such as: smart bench, smart table, smart pole, information kiosks and other hardware. The park envisages the introduction of a system for separate waste collection.

7. Installation of energy-saving park lighting

It is planned to replace the lighting fixtures, the power supply network and implement energy efficiency measures.

Replacing old luminaires is a necessity for economy. The lighting fixtures will be energy saving LED. Software system managing the level of illumination according to the passengers in the park, intensity of daylight will contribute additionally for energy saving. Wherever possible street lights will be powered with solar energy. The park lighting will be energy saving and at the same time, will provide a variety of colors, RGB variability, easy dimmability and transition from one color temperature to another. This additional functionality of the outdoor lighting allows to decorate the park environment by adopting a unified design solution based on aesthetic and economic principles.

8. Construction of automated irrigation system

An automated irrigation system is envisaged, which will be supplied with water from a drilling well, after research and proposal of a possibility for construction. Irrigation with automated irrigation systems is the only applicable and possible approach that can be considered, planned and applied in the maintenance of

green and flower areas in a park environment. The overall benefits of applying this type of irrigation are indisputable - saving valuable human resources as a result of reducing the use of manual labor; reduced water consumption costs and higher irrigation efficiency, ie. improving the conditions for vegetation development, due to the possibility to regulate the duration and frequency of watering; better overall vision of the landscape, due to the possibilities for unobtrusive placement of irrigation systems; in the long run and more comprehensive perspective this type of irrigation is significantly more environmentally friendly, due to saving of natural and economic resources.

Irrigation system allows irrigation on a precise schedule and with a very precise duration, providing a number of advantages: 100% automation of watering, by connecting to a programmer with pre-set programs; Dividing the irrigation area into zones so as to ensure approximately the same amount of water in each of them; Lower water consumption and more control compared to manual watering; easy maintenance; Optimal watering of the plants - in the early and / or late hours and with a duration precisely determined up to a minute, which guarantees the maintenance of the optimal maximum field moisture capacity.

With the help of automated underground irrigation systems intelligent and economical watering of green areas is achieved. The automated watering system ensures: Optimal water regime for all plants in the park; Optimized water consumption; Time saving.

9. Vegetation

The new plant species, trees, shrubs and perennial flowers have a decorative effect in all seasons and are suitable for the region. New deciduous and coniferous trees, shrubs, flowers and ornamental grasses will be imported, in accordance with the climatic conditions of the region. Along with the enrichment of the park environment with new vegetation, the following activities are planned:

- Improving the condition of the existing tree and bush vegetation;
- Removal of dry and dangerous trees and coppice vegetation;
- Complementing the existing tree and shrub groups with interesting and diverse species;
- Stress on solitary woody plants that have a beautiful common habit and dominate the space. Highlight with park lighting.

9.1. Tree vegetation. Apart from being functional, the ecological role of woody vegetation is indispensable, as these plantations help to create and maintain conditions for a normal and healthy living environment, by providing shade, thermal insulation, protection from moisture and wind, improving air quality, reducing noise, increasing humidity and reducing surface runoff. The main principle of the concept is the preservation of the available tree vegetation to the maximum extent.

9.2. Overgrazing with grass mixture. The main planar vegetative element in the park spaces and the main background for all plant, sculptural or architectural volumes in the park environment are the lawns, which usually occupy large spaces. With the variety of shades of green, they create the feeling of space and tranquility of visitors in parks and gardens. Along with their aesthetic purpose and psychological impact, lawns have anti-erosion and strengthening effect on soil layers, reduce the spread of noise, affect the microclimate through their dust-retaining and moisture-retaining ability, support the creation of a healthy living environment through phytoncide radiation, sports, walks and rest. It is necessary to reconsider their current categorization, which will help optimize the technology for care (mowing, watering, fertilizing, weeding, treatment with fertilizers, aeration, verticutting, rolling, etc.), as well as their need for reconstruction. Restoration of lawns through partial or complete repairs should be carried out by appropriate methods (manual sowing, hydroseeding, mulching) and with appropriate grass mixtures at the appropriate sowing rate, which are consistent with the different purpose of the lawns - representative, ordinary, sports, industrial, peripheral, etc.

9.3. Implementation of flower areas. The use of flowers in green areas as an element of their overall composition increases the aesthetic impact they give to the urban environment and makes them an expected element of parks, gardens and other open urban spaces. The flowers are used to build various color figures and compositions, and their main distinguishing feature is the colorful accent, which is imported into the

park environment. Through the individual set of qualities and properties of each individual plant, connected in unity with the others in the flower composition, a complex impact is achieved in the open park spaces. Due to the strong effect of these compositions, it is extremely important that they be an integral element of the sustainable development of the modern urban environment, through proper scaling in space, achieving thematic unity with the environment and proper selection of decorative flowers sufficiently resistant to the city environment. Flowers are the most dynamic of all elements of the green system, which is due to the shorter lifespan, the rapid change of volume and color during the growing season, easy and fast change of plant species and types of flower arrangements, the rich variety of species and varietal composition.

Nature based approach –Biodiversity

In the design was paid special attention to the development and enrichment of the park fauna through various design solutions. The emotional impact of the fauna on humans is of great importance and therefore its preservation is of utmost importance.

Specifically in the park environment of park "St. Trinity ", the number of birds in the biotope is influenced by many factors. In general, it can be stated that it is directly proportional to the plant mass in it, as it primarily determines the nesting conditions and the amount of natural food. In the park the total plant mass is influenced primarily by the species composition, age and number of levels of the plantations. Factors that directly or indirectly affect the number of birds also intervene in the settlements. The most significant of these are the degree of air and vegetation leaf surface pollution, the noise of vehicles and the proximity of humans, which is associated with disturbance and in many cases the destruction of bird nests by domestic animals and children. It should be noted that the urbanization of the environment affects not only the quantity but also the species composition of birds. Some birds get used to the proximity of humans and their density in the "urban" environment is several times higher than in other habitats (dove, Common blackbird, great spotted woodpecker, Eurasian jay, goldfinch, starling, etc.).

Other species that until a few decades ago avoided the proximity of man are now his companions (European turtle dove, Common wood pigeon, Common swift, Alpine swift, European green woodpecker, Song thrush etc.).

There is the opposite phenomenon, many species of birds began to withdraw from the settlements (white and black storks, European nightjar, White-throated dipper, barn swallow etc.). The reasons for this are the changes in the biotopes and the presence of the basic natural food for the birds in them.

Due to the active economic activity of man in their natural biotopes, as well as the creation of artificial biotopes suitable for their life in the settlements (parks and gardens), it is necessary to strengthen the measures for the protection and attraction of useful birds in them.

The total plant mass in the biotope also determines the quantities of birds in it, therefore the task set by the designer to improve the nesting and feeding conditions for birds is to provide more plant mass. It should be noted that this is not just about increasing the density of a particular level (grass, shrub or tree), but about the overall volume solution of space in the park at a height of 10-15m. In determining this height, the height at which birds nest is taken into account. This requires special attention to be paid on the area of up to 2-3 meters in height, where many of songbirds prefer to nest (great tit, nightingales, Fringilla, bunting, thrush, wren, etc.). There is a very good opportunity, along with the improvement of the nesting conditions, to solve the issue of the food base. For this purpose, fruit-bearing ornamental shrub species, fruits and seeds, on which the birds willingly eat, should be used as a ground floor.

The main measures and considerations that are taken into account in landscaping and park management, according to the above general requirements, include improvement of the composition and structure of the green areas in the park.

The tree species and in general the composition of the green system in the settlement is essential for the presence in them of one or another species of birds. Many species inhabit deciduous and mixed forests, but there are species that are found in pure coniferous forests. Some birds are even attached to a particular tree or shrub species that serves as their main food at different times of the year.

The choice of ornamental tree and shrub species in landscaping is of a primary importance. Undoubtedly the main thing here are the aesthetic criteria in the overall solution of the park space. However, it is possible to enrich the species diversity of the vegetation in the park with some fruit-bearing ornamental tree and shrub species to attract more birds, which will increase its aesthetic value many times over. For this purpose, it is planned to plant new tree and shrub species of *Caragana arborescens*, *Prunus padus* and more specimens of the species *Prunus avium*, *Betula pendula*, *Fraxinus* sp., *Acer campestre*, *Ligustrum ovalifolium* and *Sorbus aucuparia*, which is planted in many places in the park "St. Trinity" and serves as food for its inhabitants.

Increase of plants age contributes to the development of rich grass and shrub vegetation, which increases the total plant mass in the park. Therefore, as the age of the plantation increases, the living conditions of the birds improve and their species composition increases. Many new species are also housed on the ground floor, whereas previously nesting was only possible in the crowns of the big trees. With increasing age, the living conditions of birds also improve. This is mainly due to the growth of crowns, which offer significantly greater nesting opportunities. If there is no terrestrial vegetation, the species composition here is limited only to birds nesting in the crowns of trees.

From what has been said so far, it is clear that in fact the greatest reserve for increasing the density of birds are multi-level plantations. This creates an opportunity for many species of birds to nest from the ground to the highest parts of the trees.

In the park an important condition for increasing the number of birds is the mosaic distribution of the individual levels of the vegetation, as well as its separation from alleys, playgrounds, meadows, etc. This significantly increases the park's ledge, where most birds prefer to nest and forage. In places where open spaces are significantly more, this problem does not exist. Here, however, the density of shrub vegetation that birds use for shelter and nesting is often insufficient. This issue will be successfully solved by building hedges, where aesthetic requirements allow. A well-maintained and often pruned hedge is an excellent refuge for small songbirds (sparrow, nightingale, blackbird, etc.). In these shelters, in suitable places, some of the branches are tied or pruned so as to form rosettes in which the nightingale, the red-backed shrike, the nutcracker, the songbird and other birds build their nests.

The improvement of the nesting conditions and the food base in the biotope attracts not only the open-nesting, but also the hollow-nesting birds, which stay for the good shelters and the rich food and build nests in the hollows of the trees.

In the summer in the park the birds do not always have access to drinking water. In many cases, despite the other good conditions that the park offers for living, this is the only reason why birds do not inhabit these areas. To avoid this, enough drinking spots are planned in suitable places in the park, in quieter areas and open places where the birds have a wide view.

At the moment there are no mammals in the park areas of the park "St. Trinity". The main species that can be attracted is the squirrel, and for this purpose it is necessary to provide suitable habitats for the species. Measures to ensure the successful breeding and protection of this species of mammal in park areas include determining the species composition and quantity in the park, improving artificial living conditions. The planting of tree species of the *Quercus* sp., *Pinus* sp., *Picea* sp., *Corylus* sp., *Juglans regia* will provide a favorable environment for the development and reproduction of this species of mammals. .

The introduction of new ornamental plant species with beautiful flowering and edible fruits will also contribute to attracting bees and other pollinating insects.

STEP 2: DEVELOP AN UNDERSTANDING OF THE LANDSCAPE CONTEXT AND THE ECOSYSTEM SERVICE NEEDS

Develop an understanding of the landscape context and ecosystem services needs Landscape scale: • What is the broad landscape context (e.g. watershed, ecosystems, geology of the peri-urban and rural areas surrounding the city)? • What challenges does the broad landscape face (environmental, social, economic)? City scale: • What is the city landscape context (e.g. watershed, ecosystems, geology)? • What challenges does the city face as a whole (environmental, social, economic)? Local scale: • What is the local landscape context of the site of the nature-based solution exemplar (e.g. watershed, ecosystems, geology)? • What are the needs of the locality of the nature-based solution exemplar (e.g. what are the environmental, social, economic needs)? Exemplars that cover multiple local scales: • If your exemplar is being delivered across multiple local scales, how does your technical design balance variation across local scales (in terms of variation in social, economic, and environmental needs of place)? • How does the technical design improve biodiversity and ecological connectivity in relation to local habitats/city-wide connectivity strategies/the broader landscape across the multiple local scales?

The analysis of the condition of the territory and the existing technical infrastructure determines the prerequisites for future upgrading and development of the area.

Field characteristics. The relief configuration of the park is flat, with a small displacement on the east side of the park, connection with Struga Blvd., which makes it suitable for the development of different function areas related to passive recreation, entertainment and social contacts. Most of the terrains are not leveled, which hinders their quality maintenance and are full of self-settled wood and shrub vegetation, household and organic waste, which requires gradual steps to make them look good and safe for residents, which at the same time will improve the conditions and facilitate their maintenance.

Alley network. The existing alley network is poorly developed and consists of:

- Main ground pedestrian approach to the Horseman monument from the intersection of Stefan Stambolov Blvd. and Lazar Madjarov Str.;
- Quick access to the public transport stop and University hospital Burgas, through an underpass on Stefan Stambolov Blvd.;
- Pedestrian access to Church "St. Trinity";
- Natural pedestrian alleys, established over time and paved by people.

The existing alley network is currently depreciated, which hinders access and attendance. With the exception of the alleys in the northern part of the park, which are used for connection between the residential area Slaveykov and the bus stop on Stefan Stambolov Blvd., the alley network is chaotic, without clear connections and accents.

Existing vegetation. The existing large-sized tree vegetation is over 40 years old. The predominant existing vegetation is represented mainly by deciduous species: *Acer platanoides*, *Acer pseudoplatanus*, *Acer campestre*, *Fraxinus excelsior*, *Fraxinus ornus*, *Robinia pseudoacacia*, *Sophora japonica*, *Tilia* sp., *Platanus orientalis*, *Ulmus* sp., *Celtis australis*, *Quercus rubra*, *Sorbus torminalis*, *Sorbus aucuparia*, *Catalpa* sp., *Aesculus hippocastanum*, *Betula pendula*, *Cercis siliquastrum*, etc. Of the coniferous trees predominate *Cupressus sempervirens*, *Thuja orientalis*, *Cedrus* sp., *Taxus baccata*, *Picea abies*, *Picea pungens*, *Abies* sp., *Juniperus virginiana* and others.

The following negative trends have been observed in the last few decades:

- lack of systematic care, turning green areas into those with overgrown vegetation, unattractive to use and practically unusable;
- lack of measures regarding the overall development of the park, as well as planning and synchronization in the maintenance of green areas;
- Lack of variability and innovative solutions in the planning and implementation of specific measures for landscaping of the park, due to the outflow of specialists specialized in the development of green infrastructure in general;
- depreciated recreation infrastructure with a clear need for constant commitment to its maintenance and renovation;
- Lack of a comprehensive digital information base, including geo-based, for green areas, their elements and their characteristics, which would provide correct, complete and with the ability to filter, analyze and update information for professional and public use;
- reduction of the volume of the types of works necessary for the maintenance of the green areas, due to lack of financial resources;
- Insufficient resources and inconsistency of efforts, which leads to unsatisfactory general condition of green infrastructure, which reflects on the other elements of the development of the urban environment.

DIAGNOSIS. MAIN PROBLEMS

Despite its central location between large residential complexes, the park is not well integrated into the urban landscape and does not serve as an area for daily recreation and entertainment. To some extent, this is due to the gloomy heritage of the park known by its nickname "Old Cemetery", but to a greater extent the problem is rooted in the outdated park development plan, poor maintenance and poor connections of the park with the residential areas around it. Restricters for the development of the park in the urban sense are the busy city boulevards and railways, the line that frames the park and makes it difficult for citizens to access. The lack of suitable "anchors" in the park further aggravates its socialization with residents and guests of the city.

After the detailed research and analysis of the territory, the main problems of the park stand out, which should be addressed with the present development:

- Bad reputation in the territory
- Weak connection with the residential areas located north and east of the park (Zornitsa and Bratya Miladinovi)
- Deteriorated condition of the existing park infrastructure - depreciated and not well developed alley network, depreciated park furniture, poor condition of the landscaped terrains, grass, bush and tree vegetation.
- Lack of attractive architectural and landscape environment to attract and retain visitors to the park
- Poor provision with technical infrastructure - lack of irrigation system for maintenance of green areas and site sewerage for sewage, compromised park lighting and insufficient power of the existing electricity supply

At the same time, regardless of the current state of the park, it is visited daily by residents of surrounding residential neighborhoods of all ages, which is proof that the location of the park favors the creation and maintenance of high quality park environment and achieving sustainable functional connection of the natural and planned elements of the green system, so that the functioning of the green infrastructure provides multifaceted benefits for people and continuously improves the quality of life, while preserving and developing the benefits of the existing environment.

Along with the general zoning, the exemplar needs to offer a solution to the engineering infrastructure of the territory as a whole. It is important to solve and categorize the main approaches and alley routes that form the backbone of the park composition. Measures should be provided to attract visitors by providing

opportunities for recreation and entertainment of different social groups - children and young people, mothers with young children, the elderly and disadvantaged people. To effectively cover the entire range of functions, with even structuring and loading of the areas for passive and active recreation in the park.

FORECAST FOR DEVELOPMENT AND PURPOSE OF THE INTERVENTION

After analyzing the main problems of the developed area and making diagnosis, the improvement of the physical environment stands out as a main priority for future development of the park. The project intervention should justify measures that will increase the perception of the comfort of living in the park space, increase attendance and increase the importance of the park for local citizens and guests of the city, for social and cultural life, to improve the image of the park and its transformation into an attractive area for different age groups.

Specific objectives to be achieved:

- Creation of shared public spaces and implementation of innovative solutions to improve the physical environment of the park.
- Creating conditions for the integration of disadvantaged groups
- Preserve and enrich the biodiversity in the park;
- Increasing the safety and security of the park environment;
- Creating a renewed urban environment by introducing innovative "Smart City" solutions;
- Digitization of the information about the reconstructed territory and its publication in the existing integrated intelligent systems of the municipality of Burgas (GIS Burgas, Smart Burgas, VR Burgas and others) for use by experts and citizens, through provided public access. Digital marketing, as an innovative approach, would strengthen the public interest in the territory and the new social functions in the areas of intervention.

STEP 3: FEED UNDERSTANDING INTO DESIGN, DELIVERY, AND STEWARDSHIP.

Embedding multiple functions into the planning, delivery and stewardship of the nature-based solution • How are you targeting benefits, co-benefits and trade-offs related to the landscape/city/local scale through the nature-based solution exemplar technical design? • How are you managing the transition from technical planning to technical delivery of the nature-based solution?

The concept for renovation of Saint Trinity Park is developed by municipal specialists with the necessary qualifications and experience. This approach was chosen because the park is municipal property and the local administration has all the information about the site, incl. condition of the infrastructure, underground communications, assessment of the health of the vegetation, as well as deep knowledge of the problems of the area due to the maintenance it provides over the years, as well as the signals and complaints received from citizens about the unsatisfactory condition of the park.

The concept for development of the area is based not only on its social functions, but also environmental and economic requirements. Of vital importance is the requirement that the reconstruction and improvement of space must be performed in a way that not only to preserves but also enriches biodiversity. Another basic principle that is advocated is the economic viability of the site, providing an opportunity for the site to generate revenue to support subsequent maintenance.

The park is included in the Plan for integrated development of the city of Burgas for the period 2021-2027. This is the main strategic document for the development of Burgas Municipality in the next 7 years. The sites and project included in it will be financed under the European Regional Development Fund, through the Regional Development Program 2021-2027, financial instruments and own funds of Burgas Municipality.

STEP 4: ITERATIVE MONITORING AND EVALUATION

Monitoring and evaluation Stewardship management • How was a stewardship plan developed for managing and maintaining the nature-based solution? • What technical and operational tools are needed/being used for stewardship management? • Who is delivering the exemplar stewardship management? • Was there an appropriate skillset available for such management or was a training/apprenticeship scheme needed? If so, how was this established? • Were local residents involved in maintenance through employment/ enterprise opportunities or volunteer friends of/stewardship schemes? If so, how were these schemes established? Provision of benefits • How are benefits expected to change over time? • How is monitoring being used to inform management to ensure that technical performance is retained/enhanced? • How flexible is the nature-based solution management to future demands? How was flexibility built into the design of the naturebased solution? • Are any mechanisms in place to change the design if the expected benefits are not delivered?

During the physical implementation of all municipal projects constant construction, investment and author's supervision is applies, which ensures that the activities provided for in the technical design are performed correctly and qualitatively. In case it is determined that some of the envisaged design solutions are not suitable for implementation, there is a possibility for their change / replacement after consent of the interested parties, incl. investor, designer and construction supervision.

Burgas Municipality is responsible for the management and maintenance of the parks on the territory of the city. It will continue to be responsible for the management and administration of the Saint Trinity Park after the renovation.

On the other hand, the local administration actively partners with representatives of cultural, sports, educational and other institutions in organizing joint events. This approach of work will continue to be applied and upgraded in the organization and holding of various events and initiatives in the park.

2. Governance

Step 1: Aligning NBS with the wider goals of Burgas

Burgas Municipality has two strategic documents that define the priorities for the development of the city in the last 15 years:

1. Plan for Development of Burgas Municipality 2014-2021 (<https://www.burgas.bg/uploads/posts/2019/433c86a046c569491a6321fb8fa19714.pdf>)

2. Integrated Development Plan of Burgas Municipality 2021-2027

In both plans, the sustainable development and environmental protection are among the strategic aims for the development of the city.

1. Plan for Development of Burgas Municipality 2014-2021

Strategic goal 1. Achieving sustainable development on the territory of the municipality and preserving the environment focusing towards infrastructural connectivity, renovation and public works for improving the living environment.

The Municipal Development Plan of Burgas Municipality 2014-2020 has four priorities that address the challenges and needs of the citizens, business and administration of Burgas municipality and support the strategic goals:

ENVIRONMENT:

This priority comes from the understanding that growth and economic development in the long run can happen only if the sustainable development principles are observed.

2. Integrated Development Plan of Burgas Municipality 2021-2027

The strategic framework of the Plan for Integrated Regional Development of Burgas Municipality for the period 2021-2027 has been developed in order to provide the necessary conditions for balanced and integrated territorial development of the municipality. On the one hand, it is aimed at mobilizing the resources and potentials of the territory and effective use of available opportunities, and on the other - to adequately address the main problems of the municipality, which have a negative, restraining or limiting impact on development.

VISION for development of the municipality of Burgas - 2021-2027

Burgas - an attractive place to live and do business, effectively using its potential for balanced and sustainable development, with preserved local identity and access to a modern, resource efficient, climate adaptive and competitive economy, providing smart economic growth, spatial connectivity and access to services.

Strategic goal 4. Sustainable use of the natural resource potential of the municipality and adaptation of its territory to the challenges of climate change.

Priority 6. Burgas is adapting. Sustainable management of natural and urban ecosystems.

Measure 6.3. Preservation and increase of natural capital, including through quality ecosystem services for the local community

Activities related to the maintenance and restoration of natural habitats in the periphery of water bodies - rivers and lakes, to restore the regulatory role of aquatic ecosystems, protection and restoration of biological diversity in the municipality. Particular emphasis is placed on the protection and restoration of the marine environment and the complex of wetlands, which determine the specifics of the municipal territory and the need to apply an ecosystem approach.

Measure 6.4. Climate change adaptation, prevention and risk management.

The measure covers a set of investments related to aspects of the urban environment that have the potential to reduce vulnerability to climate change:

- Development and improvement of the quality of the components of the green system on the territory of the municipality, incl. public recreation areas and green areas

The plan identifies several functionally integrated investments related to the reconstruction and renovation of public spaces on the territory of large residential complexes "Slaveykov", residential complex Zornitsa, residential complex Izgrev: territories for trade and social activities, public spaces for wide public access in the city of Burgas and the settlements (**Saint Trinity Park**, Slaveykov Park, Veleka Park, Ezero Park, Mineralni bani park), renovation and landscaping of inner neighborhood spaces, renovation of green areas for wide public access in the neighborhoods of Burgas, Balgarovo and the villages of Burgas municipality, public spaces and multifunctional areas (markets). The investments are also aimed at introducing measures to increase security, build a unified system of green corridors and create a sustainable, aesthetically sustainable and accessible environment for all.

Both strategic documents during their development go through wide public discussions, as the consultations are open and anyone can participate in them and give their opinion and suggestions.

At the same time, everyone is given the opportunity to send their suggestions by e-mail or through a specially developed mobile application.

The discussions covered the widest possible range of representatives of all stakeholders at local level (citizens, NGOs, business, educational, cultural and social sector, healthcare, sports, state institutions, etc.).

The open planning process is a prerequisite that the goals, priorities and measures set in the strategic documents of Burgas Municipality reflect the views and opinions of stakeholders.

It is evident that all stakeholders at local level are well aware of the importance of the NBS as a useful tool for achieving the set goals for the development of the municipality related to:

- achieving sustainable and balanced development of the urban environment and peripheral territories;
- mitigation of the negative impact of the urban territory on human health due to deterioration of air quality, noise pollution, floods, formation of heat islands, etc.
- Preservation and development of biological diversity and natural resources on the territory of the municipality.

STEP 2: CURRENT STATUS OF THE LOCATION

Park Saint Trinity is owned, maintained and managed by Burgas Municipality. After its renovation the property of the space will remain municipal.

STEP 3: REQUIRED PARTNERS

1. Population living in close proximity to the park.
2. The owners of a property in the area around the park.
3. The patients of the hospital next to the park.
4. Existing church within the park.
5. Students in landscape architecture and urban development.
6. Associations of architects and landscape architects.
7. Nature- based enterprises.
8. NGOs (environmental, social, cultural).
9. Organisations of people with disabilities.
10. Schools.
11. Sports clubs.

Representative of the above stated partners were included in the process of development of Integrated Development Plan of Burgas Municipality 2021-2027.

At the moment Burgas Municipality is making individual consultations with each of the partners for discussing the concept for development of Park Saint Trinity. The feedback is analysed by the experts in the

administration who developed the concept and will be taken into consideration when developing the detailed concept for the park renovation.

STEP 4: COLLABORATIVE GOVERNANCE FRAMEWORK

Over the years, Burgas Municipality has been responsible for the maintenance and management of green spaces in the city. At the moment, no specific solution has been identified for changing this model.

On the other hand, the local administration has good relations with its partners in conducting joint initiatives. In the parks of Burgas almost throughout the whole year are held a huge number of events of various kinds, aimed at people of different ages and interests. Saint Trinity Park due to its extremely favorable location and relatively large size has the potential to become one of the most popular places within the city to visit. The employees of the Departments of Tourism, Culture and Sports, in close cooperation with representatives of the stakeholders, prepare a calendar of events at the beginning of the year, when the municipal budget is prepared and adopted, which allows better management and maintenance of the individual territories.

STEP 5: WHAT IS NEEDED FOR SUCCESS

Project management team applied a strategy to involve as much as possible colleagues from other departments in the municipality and especially the ones who are responsible for the physical implementation of the investment project of the municipality.

For this reason, it was decided that the concept for the development of Saint Trinity Park should be developed by a team of specialists working in Burgas Municipality. The reasons for this decision were several:

1. Taking into account the fact that the park owned by the municipality and local administration is responsible for its maintenance and management over the years, municipal experts know best the problems of the territory and having all the existing information to serve as a basis for preparing the concept. .
2. The Municipality of Burgas has the experience, contacts and communication channels and tools to attract the widest possible range of stakeholders. Taking into account the fact that the local administration will be the investor in the project, we thought that it would be most appropriate for us to be responsible for the development and discussion of the concept for renovation of the park.
3. The involvement of municipal experts into the design phase, who are directly responsible for the implementation of the investment projects after that is a good precondition, Saint Trinity Park to be included among the priority projects for the implementation of the local administration.

3. Finance – Business Models

STEP 1: LESSONS LEARNED FROM HOW NATURE-BASED SOLUTIONS HAVE BEEN FINANCED IN BURGAS TO DATE

The main lesson we have learned from the implementation of projects with NBS so far is that it is necessary to build additional capacity of the responsible experts, as well as to plan a larger amount of funds to effectively maintain the already completed projects.

Unfortunately, our experience so far shows that due to poor planning and implementation (selection of materials, plants, etc. of lower quality) or lack of sufficient number of experts, qualification of experts and financial resources for maintenance, part of the NBS projects implemented so far (green walls and roofs, as well as some green corridors) are in very poor condition.

Despite the undeniable benefits of the implementation of NBS, we are well aware of the fact that there is still a lack of sufficient capacity and expertise in the local administration for adequate planning and maintenance of these projects.

STEP 2: EXPLORE OPPORTUNITIES FOR INNOVATION IN FINANCING, GOVERNANCE AND BUSINESS MODELS.

Saint Trinity Park is included in the Plan for Development of Burgas Municipality 2014-2021, which ensures that it is among the priority sites of the city and will be funded in the coming years. The sites included in the plan will be financed by the European Regional Development Fund (ERDF) through the Regional Development Program 2021-2027, Priority 1 Integrated Urban Development, bank loans (mainly Flag Fund and Sustainable Development Fund) and own funds of the municipality.

This is the traditional approach that the local administration applies (use of a combination of financing resources- European funds, low interest loans and own financing) in the implementation of its investment program.

This way of financing puts under great and constant pressure the city budget.

It is necessary to attract private investment in the implementation of public projects, which would ease the local budget and contribute to increasing the number and reducing the time for their implementation.

Unfortunately, there are still very few examples in Bulgaria of successful public and private partnership in the implementation of large public projects.

The approach that we intend to apply in the reconstruction of Holy Trinity Park is that the city will implement the main part of the reconstruction itself, incl. replacement and reconstruction of underground infrastructure, renovation of alleys, replacement of lighting, construction of irrigation systems, etc. We will try to attract private investors in the implementation of landscaping activities in the park, where specialized companies have more expertise than the municipality, parts of the park will be given to landscaping companies to serve as their advertising space, and their responsibilities will be related to the implementation and maintenance of attractive green spaces, consistent with the concept of park development.

STEP 3: PLANNING THE FINANCING AND BUSINESS MODEL OF CONNECTING NATURE NBS EXEMPLARS

Saint Trinity Park is included in the Plan for Development of Burgas Municipality 2014-2021, which ensures that it is among the priority sites of the city and will be funded in the coming years. The sites included in the plan will be financed by the European Regional Development Fund (ERDF) through the Regional Development Program 2021-2027, Priority 1 Integrated Urban Development, bank loans (mainly Flag Fund and Sustainable Development Fund) and own funds of the Municipality Burgas.

STEP 4: IMPLEMENTATION OF FINANCING AND BUSINESS MODEL PLANS FOR NBS EXEMPLAR

The call for project proposals is expected to be opened in the second half of 2022 or early 2023, and the Burgas will prepare an integrated project to apply with, part of which will be the Holy Trinity Park.

4. Nature-based entrepreneurship

STEP 1: AWARENESS AND STRATEGIC ALIGNMENT

In the middle of the 20th century, the city of Burgas formed its economic profile as a highly industrialized city with leading enterprises in the oil refining industry and machine building. There is a good transport connection (sea, rail, air and land transport), which serves commercial enterprises.

After the changes in the 90s and the fall of the communist regime in Bulgaria, most of the enterprises were closed, but the main and most important ones for the region and the country remained functioning (- LUKOIL Neftohim Burgas Ltd., the largest oil refining enterprise on the Balkan peninsula. Major supplier of fuels for the domestic market of the Republic of Bulgaria; - Burgas Sea Port; - Burgas Railway Company; - Burgas Airport).

Despite the high added value of these enterprises for the country's economy, they have a significant impact on the environment and biodiversity in the region (mainly LUKOIL Neftohim Burgas Ltd.).

At the beginning of the 21st century, the city's economic priorities are changing as it attempts to attract companies involved in research and innovation and computer technology. The results of these efforts could be seen in the last 10 years, as Burgas has become a preferred place for many IT companies, and local universities are successfully developing research by attracting international companies such as Procter & Gamble. Head of the Laboratory of Mathematical Chemistry (LMH) at the University "Prof. Dr. Assen Zlatarov" has been awarded many times with the highest international awards and degrees for his global contribution to science (Lush Award for Science, QSAR 2021 Lifetime Achievement Award, etc.).

Currently, Burgas Municipality is actively working to attract companies that create products with high added value and at the same time do not have a negative impact on the environment (IT companies, computer modeling, production of renewable energy systems, production of electrical components and processors, etc.). These ambitions of the local administration are in line with the requirements of the present and with a view to the future.

The implementation of the NBS and the protection of the environment and biodiversity are directly related. In the digital era we are living, the need to provide a physical workplace for employees is greatly decreasing. The workplace is the laptop and the phone and is in no way limited by city, building and office. This trend for distant work has become normal in the current times of the Covid pandemic and has become a global trend for employers and employees. For this reason, as well as the strong competition among employers to attract and retain highly qualified staff, companies make greater efforts to provide their employees with not only good remuneration, but also additional benefits for the families. On the other hand, once the need for physical attachment to a workplace is eliminated, people have the freedom to move to live in settlements that provide the best living conditions.

Here comes the main role of the NBS. It has been proven that spending more time outside in an environment close to nature has irreplaceable benefits for people's physical and mental health. The role of well-developed green areas and infrastructure in cities has increased even more in today's global pandemic.

The understanding of promoting work, entertainment, sport, etc. outdoors is embedded in the concept for the renovation of Saint Trinity Park.

Landscape architects and specialists are / will be engaged in the planning and implementation of the renovation activities, who will plan and implement in detail the activities for complete landscaping of the park in a way that does not harm the existing healthy plant species, but also contributes to the enrichment of the local flora and fauna.

Currently, the only companies in Burgas that fall within the definition of NBS are specialists and companies engaged in the design and implementation of green spaces and green infrastructure and their representatives are involved in this project.

STEP 2: BUILDING ALLIANCES

At present, the business in Bulgaria is not familiar with the definition of nature-based enterprise. The companies that fall into this definition and withstand the economic challenges of the market are landscape architects and companies implementing projects for landscaping and implementation of green infrastructure.

In our opinion, the market logic in Bulgaria still does not allow local companies to specialize in the very specific segment of the NBS, as the demand for such products is limited and cannot cover the costs of companies.

STEP 3: PLANNING, IMPLEMENTING AND MONITORING

5. Coproduction

STEP 1: DEFINE THE GOALS OF THE CO-PRODUCTION PROCESS

The main goal of the co-production process is on the one hand to stimulate stakeholders at local level to be more active during the process of development and implementation of city policies and projects, and on the other to change the approach of local administration in preparing local policies and projects by encouraging the active discussion and seeking the opinion of various representatives.

STEP 2: USE THE DESIGN PRINCIPLES TO FLESH OUT THE CO-PRODUCTION GOALS AND STRUCTURE

STEP 3: PLAN DE CO-PRODUCTION STEP AND ACTIVITIES & STEP 4: SELECT THE CO-PRODUCTION TOOLS

Appropriate steps and tools related to the city exemplar are presented in the table below.

TRANSFORMATION POINTS	Reflect on the impact of this transformation point on your exemplar
<p>1. Selection of the exemplar: Saint Trinity Park</p>	<p><i>Add description: with the start of the project we had several suggestion for green areas in the city. However after internal discussions, as well as the support of the project partners and considering a survey carried out in 2017 we decided to choose Saint Trinity park as our exapmler.</i></p> <p><i>Linked to phase: Planning</i></p>

<p>2. Nature-Based Entrepreneurship (NBE) Workshop and Development of Business Model Canvas November 2019</p>	<p><i>Add description: During the workshop, we managed to gather different stakeholders. As a really good benefit from the event was, that participants managed to start thinking a little bit different (not in traditional way) on the ways how we can finance and maintain our exemplar. Because of that, participants came up with different interesting NBS that could be implement on the territory of the park.</i></p> <p><i>Linked to phase: Planning</i></p>
<p>3. Organise internal meetings within the administration to discuss the approach and solutions for the implementation of the exemplar 2019 and 2020.</p>	<p><i>Add description: Several meetings with relevant directorates (Urban Planning, Environment, and Economics) were iorganised. We created an action plan for the implementation of the exemplar. The general scope and functions of the area wese specified, as well as relevant stakeholders for public discussion.</i></p> <p><i>Linked to phase:Planning</i></p>
<p>4. Present the idea for renovation of Saint trinity park in front of local NGOs. October 2020</p>	<p><i>Add description: As part of the public discussions regarding the development of Integrated Plan for Development of Burgas 2021 - 2027, the initial concept for renovation of the park was presented. We received a positive feedback on this idea.</i></p> <p><i>Linked to phase: Planning</i></p>
<p>5. Sociological survey on the attitudes and wishes of citizens of Burgas for development of the city in the period 2021 - 2027 October 2020</p>	<p><i>Add description: As part of the development of Integrated Plan for Development of Burgas 2021 - 2027, a sociological survey was carried out. People stated that they want more green areas to be created in the city, and the renovation of Saint Trinity park was pointed out.</i></p> <p><i>Linked to phase: Planning</i></p>
<p>6. Development of a concept for renovation of exemplar February – May, 2021</p>	<p><i>Add description: In the period February – May a concept for the renovation of Saint Trinity Park was developed. This was done in- house. We believe that this approach supported us to exercise a better control on the work of the experts and increased their experience and expertise on trying to incorporate more NBS in the urban environment.</i></p> <p><i>Linked to phase: Delivery</i></p>
<p>7. Reflective Monitoring Sessions 2021</p>	<p><i>Add description: We have organised several discussion with city of Genk, where they shared their experience on working on their exemplar and gave us guidelines on the way they used Reflexive monitoring.</i></p> <p><i>Linked to phase: Planning</i></p>
<p>8. Select appropriate indicators January – May, 2021</p>	<p><i>Add description: Selecting the appropriate indicators for the different aspects of the project (social, economic, environmental) will support us in the better assessment during and after its implementation</i></p> <p><i>Linked to phase: Planning</i></p>
<p>9. Public discussions on the concept for renovation of exemplar June - September, 2021</p>	<p><i>Add description: In June 2021, we plan to implement several public discussions with different local stakeholders and see their opinion in the general concept we have developed.</i></p> <p><i>Linked to phase: Planning/ Delivery</i></p>
<p>10. Design a detailed concept for renovation of Saint Trinity Park. September - November, 2021</p>	<p><i>Add description: Once we have a feedback for local stakeholders we will proceed with development of a detailed concept for renovation. The renovation will be separated to several phases and this way it will be easier for us to proceed with the actual implementation, depending on the available financial resources.</i></p> <p><i>Linked to phase: Planning/ Delivery</i></p>

Step 5: Reflect on the co-production process and results

What are results of the co-production processes?

- Reminded to us one forgotten truth, that green areas are one of the most important things for the citizens of Burgas, and worthwhile to invest in.
- The process of consulting city projects with the public has been improved. We are organizing separate sessions with different type of stakeholders according to their expertise and knowledge. Still there is a lot of room to grow.

What were the main opportunities faced?

- Increased understanding among the administration that city's projects (whenever possible) should incorporate three elements: economically sustainable, sociable and protect and enrich biodiversity.
- Local stakeholders show a little more more interest in participating and express their opinion and ideas related to public projects in the city of Burgas.

What were the main barriers faced?

- One of our biggest learning objectives is how to motivate stakeholders to be active.
- Open more offices for collaboration with citizens?
- Things are happening slow, or at least not as fast as the people would like to.

What was the impact of Covid?

Not being able to organize face-face meetings had a good and bad side. Positive sides - pretty easy to join a consultation/ survey, no need to go anywhere. However, negatives - you cannot be sure how engaged the other side are - they look like they're in the meeting but could be somewhere else.

6. Reflexive Monitoring

Step 1: Rethink what learning process you need to achieve the goals of the Nature-based solution

- What are the main learning questions that need to be addressed to achieved to reach these goals ?

What local stakeholders want in order to turn the place in favourite spot for leisure, social activities, sport and at the same time combine economic activities and protection of the biodiversity?

- How did you create a learning environment, and how where you introduced with Reflexive monitoring?
-

Step 2: Define the roles within the project team

Ivaylo Trendafilov, who was a coordinator of the Connecting Nature project on behalf of Burgas Municipality was the person responsible for the reflexive monitoring of the exemplar. A larger team was

established and involved in the learning process including experts from the Urban planning department and Construction department in Burgas Municipality, as well as external architects and landscape architects were involved, as well as experts in biodiversity.

Step 3: recording important event and analysing critical turning points

We used the DLA to plan and monitor the steps related to the exemplar.

Step 4: Use the learning sessions to identify learning outcomes

- What came up during the learning sessions that influenced planning, co-production and/or implementation of your nature based solution?

We realized the importance of discussing our projects with experts related with biodiversity, something we have not done before.

- What barriers did you face in applying Reflexive monitoring?

It takes some additional time and requires the participation of different people from different departments, which is not always possible.

Step 5: Share your findings with others

Step 6: reflecting on the method and peer-to-peer sharing

7. Impact assessment

