

A topographic map of Turkey, showing the country's coastline and internal topography with brown contour lines. The map is oriented horizontally, with the Black Sea to the north and the Mediterranean Sea to the south.

I.T.U LANDSCAPE ARCHITECTURE DEPARTMENT

STUDIO REPORTS

PEM 411E

LANDSCAPE DESIGN

STUDIO - IV

2022-2023

FALL SEMESTER

Istanbul Technical University,
Faculty of Architecture,
Department of Landscape
Architecture, Taskısla Campus

Phone: +90 (212) 2931300
ext.2808 Fax: +90 (212) 2514895
E-mail : peyzajmim@itu.edu.tr

Editors:

Gülşen Aytaç
Lâl Dalay

Graphic Design:
Lâl Dalay

PEM411E LANDSCAPE DESIGN IV

landscape design studio iv

Prof. Dr. Gülşen Aytaç
Res. Assist. Lâl Dalay

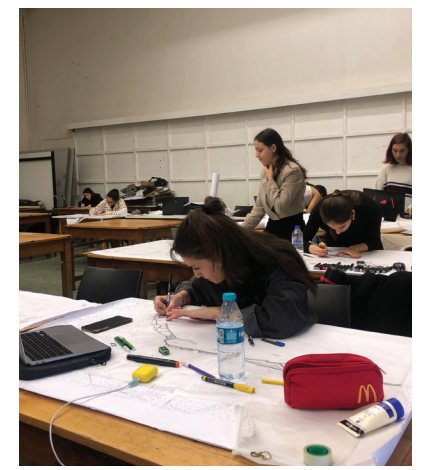
STUDIO .01
RESILIENT DESIGN: DROUGHT IN BODRUM .02

.01 STUDIO

landscape design IV

In relation to climate change, drought is a natural phenomenon caused by increases in global temperatures and fluctuations in precipitation. It has a major impact on society, from the economy to food and water security. Landscape architects have an important role in mitigating the impact of drought by designing natural systems with appropriate design solutions for water conservation and reuse in urban areas.

Under the theme "Resilient Design: Drought in Bodrum" Landscape Design Studio IV invites participants to create successful open and green space systems, especially considering the drought criterion, and to make successful urban designs. Within the scope of the studio, students will plan and design systems from the entrance of Bodrum to the working area and produce solutions at various scales.



Studio works, sketch exams and juries



- 1- Bodrum Municipality
- 2- Yalıkavak Marina
- 3-Yalıkavak Shipyard
- 4-5 Işık Peyzaj - Bodrum
- 6- Hebil 157



1



2

Bodrum Field Trip



3



4 -5 (Up and Down)



Bodrum Field Trip



6

02 RESILIENT DESIGN: DROUGHT IN BODRUM

YALIKAVAK | BODRUM

RESILIENT DESIGN DROUGHT IN BODRUM

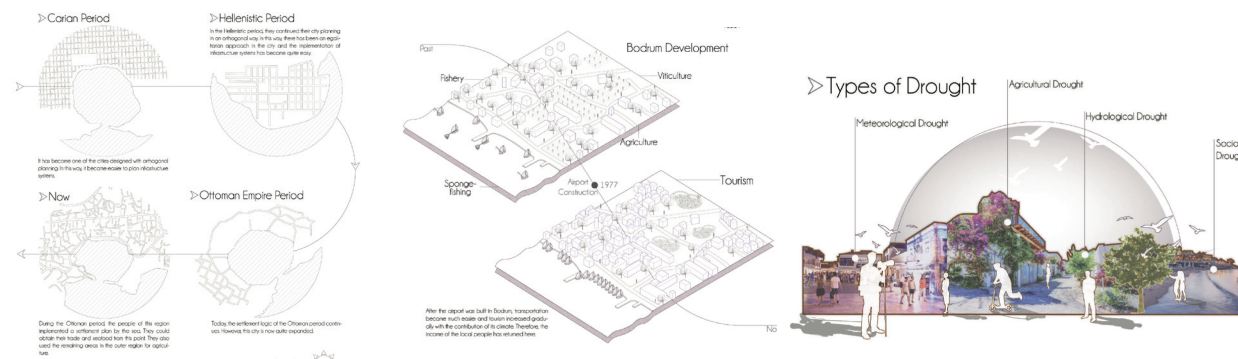
LANDSCAPE DESIGN IV

Prof. Gülsen Aytaç PhD. - Res. Assist Lâl Dalay

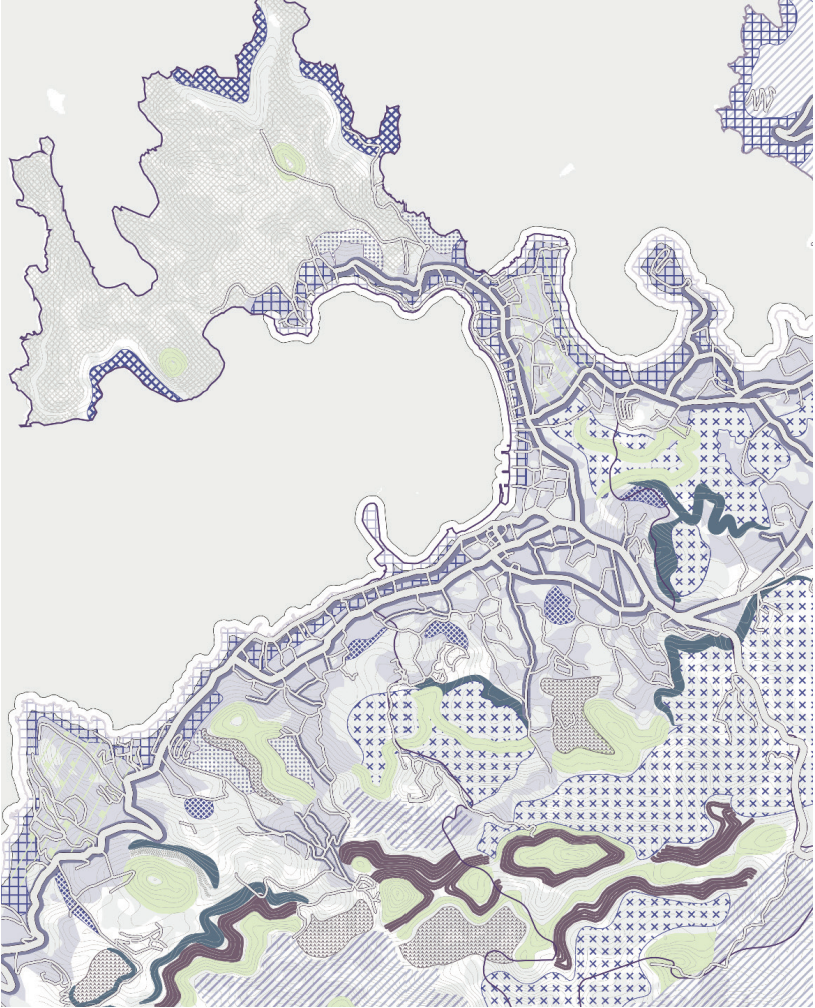
2022-2023 fall semester

RESILIENT DESIGN: DROUGHT IN BODRUM

STUDIO OUTPUTS

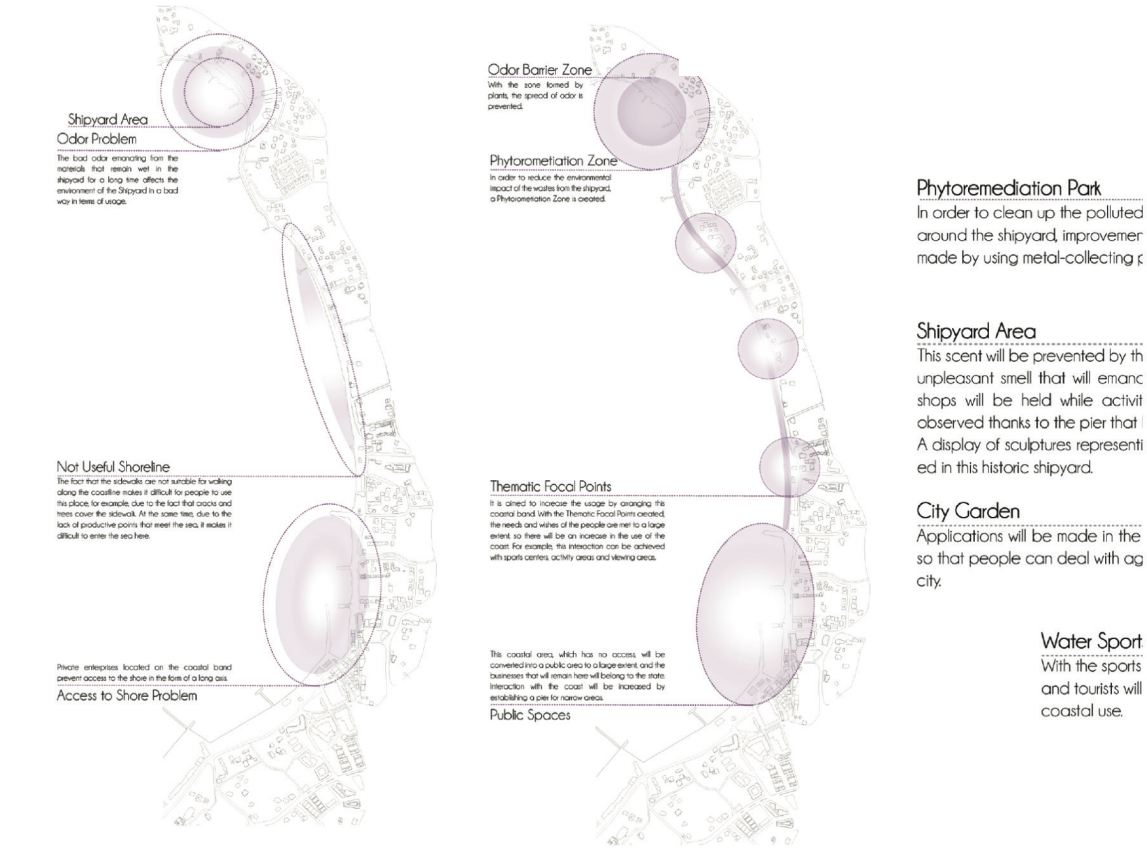


1/5000 ANALYSIS



First of all, I examined the city plans of the civilizations that settled here from the past to the present. In the Carian and Hellenistic periods, the city settlement form progressed in an orthogonal and grid system. In this way, the implementation of infrastructure systems provided greater convenience and brought an egalitarian approach. In the Ottoman period, this approach was left behind with the expansion of the city and today a very complex settlement form has taken its place. I adopted the logic of everyone here having equal access to every resource in the project. In the past, I did research to find out how they coped with drought. As a result, I saw that by painting the roofs white, they aimed to reflect the sun back, thus reducing the urban heat island. Later, I learned that they were farming by using the drip irrigation system and using the water sufficiently. Later, when I analyzed the city, I analyzed that the temperature has increased by 1.5% in the last 60 years and the precipitation has decreased by 20mm. At the same time, while agricultural areas decreased by 7%, urbanization increased from 2% to 4%. While the locals earned their living from sponge fishing, fishing and agriculture until the airport was built, most of this situation turned to tourism after the airport was built. I aim for the city to fight drought with rain gardens, rain harvesting, green corridors. By designing inner-city gardens, I aim to generate income for the local people and to bring tourism into the city. By visiting the vineyards and orange groves, the choice of activities will increase.

DEFINED PROBLEMS



AXONOMETRIC DRAWINGS AND SECTIONS

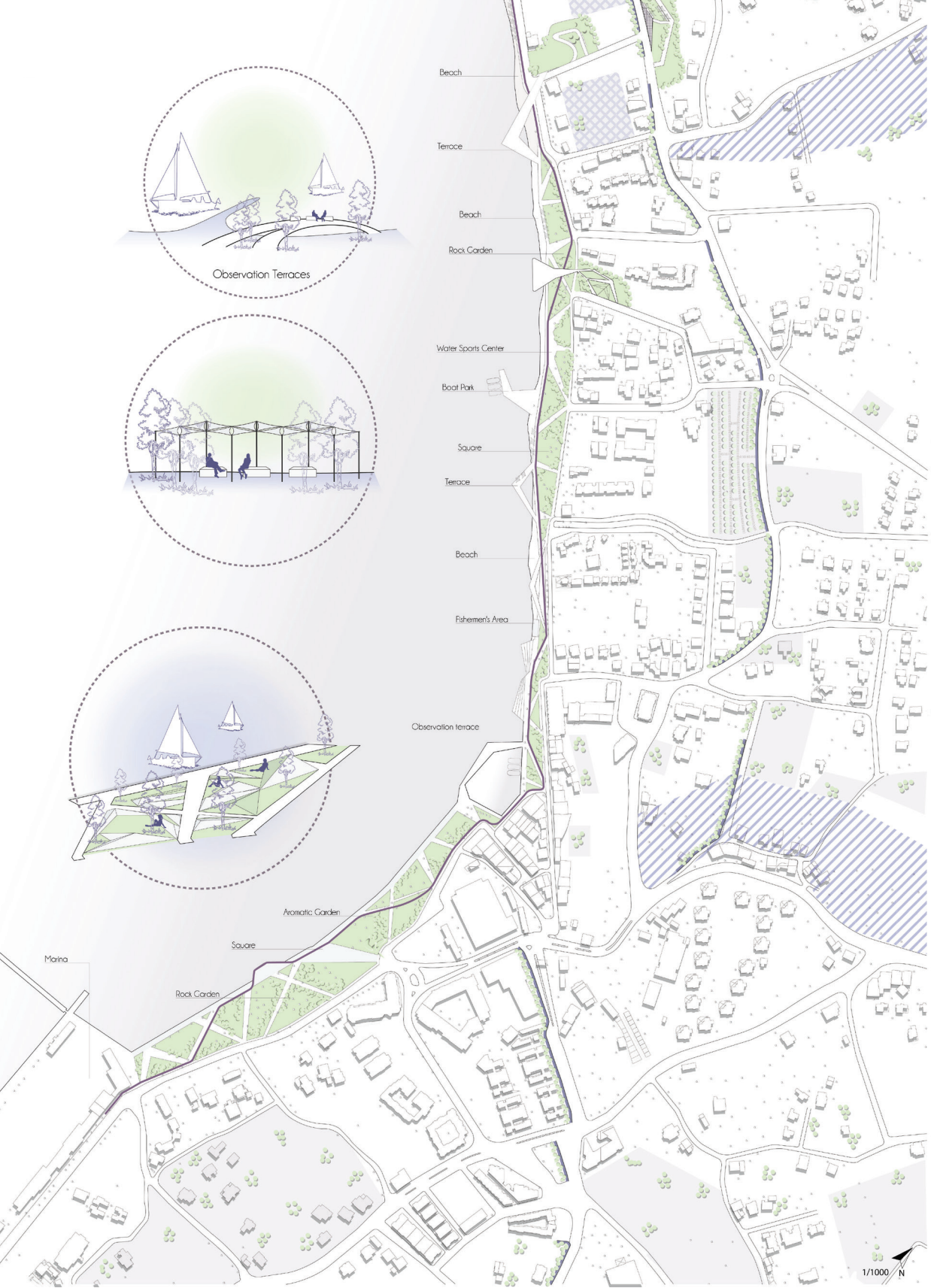


CONNECTING STRATEGY



YALIKAVAK PROJECT TUĞBA KURT

The project is based on egalitarianism, the aim of the city, which was formerly used as a grid system. With this approach, it was aimed to spread the use of the coast of the city. Fields were created with references from paths. Focal points were determined in the project area and the functions that people would use most were placed at these points. For example, fishermen who will meet their feeding needs, then put the center of water sports. Drought was emphasized by creating a section with dense xeric landscape, which is our subject, and this place was planned as a focal point. At the same time, it was aimed to reuse water by creating water collection areas throughout the project. Finally, in the area of the shipyard, whose history dates back to the 1770s to the Ottoman Empire, the sculptures of the ships that were repaired here and that have an important place in its history will be exhibited here. In addition, children will be attracted to the activities where they make their own ship models. Thematic parks and transition systems will be provided between these focal points. For example, with aromatic plants, people's sense of smell will be addressed and the smell will be engraved in their memory. Areas such as orange groves in the city's own texture will be planned and the texture of the city will be kept alive. Public beaches belonging to the municipality will be used by people from all walks of life without paying. The soil here will be cleared by using healing plants in the shipyard and its surroundings.



The sidewalks are not suitable for walking along the coastline, making it difficult for people to use it, for example, because the sidewalk is cracked and trees are covering it. At the same time, due to the lack of productive points that meet the sea, it makes it difficult to enter the sea from here. Private enterprises located in the coastal band prevent access to the coast in the form of a long axis. It is aimed to increase the use of this coastline by arranging it. With the Thematic Focal Points created, the needs and demands of the people will be met to a large extent and an increase in coastal use will be achieved. For example, this interaction can be achieved with sports centers, activity areas and viewing areas. This coastal area, which has no transportation, will be converted into a public area to a large extent and the businesses that will stay here will be owned by the state. Interaction with the coast will be increased by establishing a pier for narrow areas.

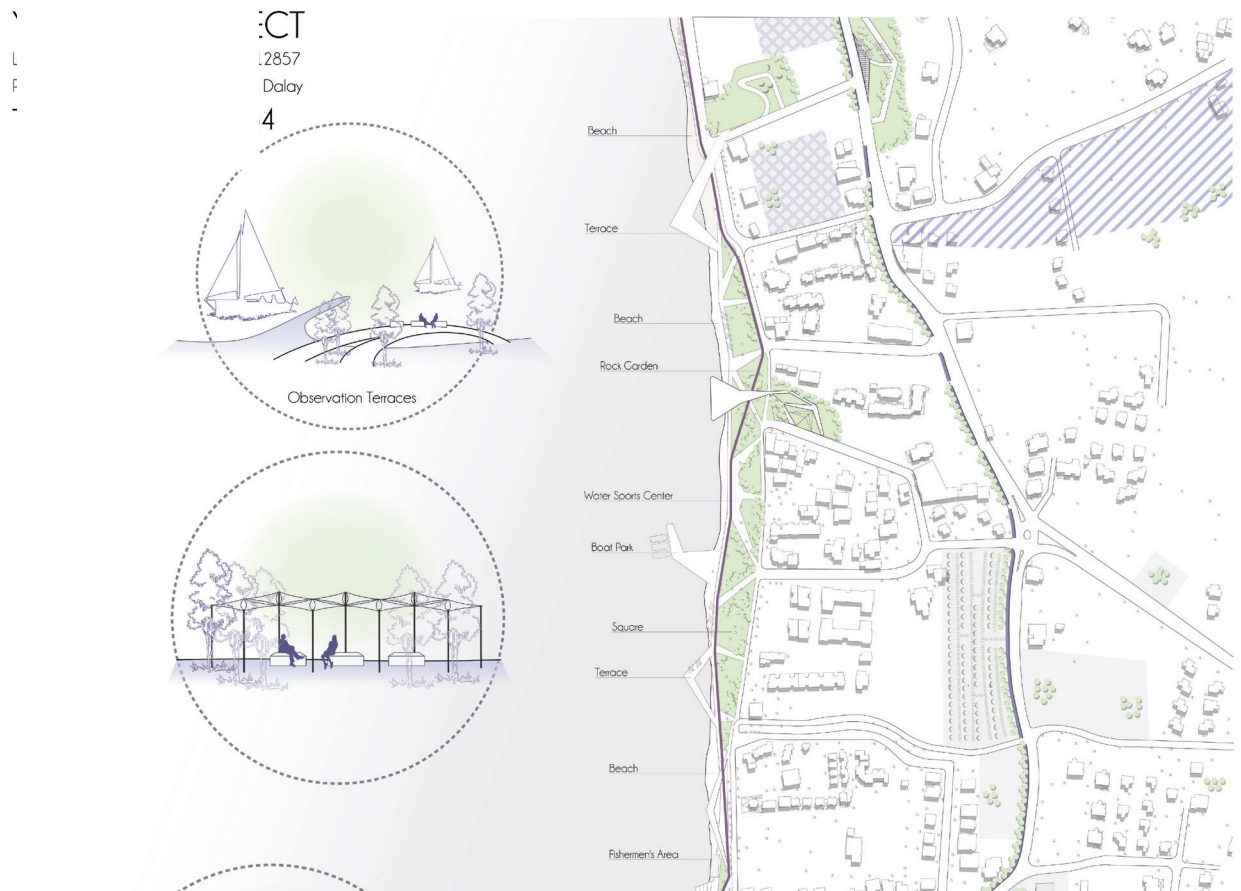
1/500 SOFTSCAPE PLAN



1/500 PLAN

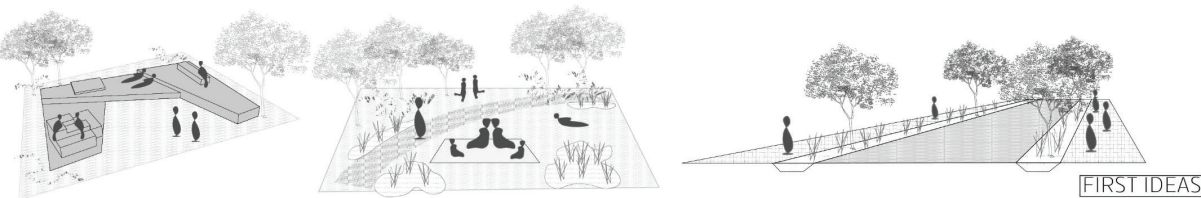


1/500 HARDSCAPE PLAN



1/200 PLAN





ETERNAL BLUE PARADISE

ZEYNEP MUTLU

In this project, Bodrum has been researched and studied with all its history and values since its mythology. Bodrum is a region that has hosted many cultures and civilizations since the Carian period. This region has attracted attention in every period, especially as a cultural focal point. Especially the change of the city with its mythology constitutes the first idea of this project. When we look at the mythology, the city was developed and shaped according to the influence of a Greek god from time to time. For example, while it was a very prestigious city when it was influenced by the cult of Zeus, it became a war city when it was influenced by Artemis and Apollo, and became a center of culture and art during the Diyanisos period. In this region, the influence of Poseidon is also seen in many different periods, but this effect was not physically reflected in the city. Especially in the books of Halicarnassus fisherman Cevat Şakir, his love for the blue of Bodrum draws attention by mentioning the motifs of Poseidon and mythology a lot, and it has led to question why this blue has turned into a city struggling with drought today. Although the blue of Bodrum is perhaps one of the most beautiful blues, it is on the way to become a small Istanbul, which cannot manage water and is seriously urbanizing rapidly, but this city also has a serious drought, as well as stream flooding problems, as a result, this city cannot manage water. In fact, even small changes such as the storage of heavy rain in winter, a more permeable flooring system, and streets living with bioswale will turn this city into a city that completes itself in terms of water. At this point, inspired by Poseidon's and Cevat Şakir's love for Bodrum Blue, the Blue City concept was the first step in the design of this area. Designing a city that passes water, manages it and fights drought has been the main goal.

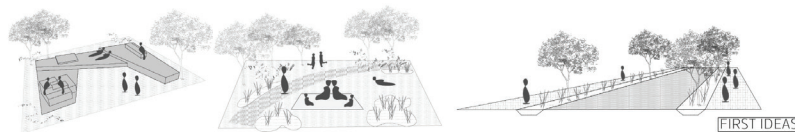
YALIKAVAK SHORELINE ANALYSIS AND RECONSTRUCTION PLAN



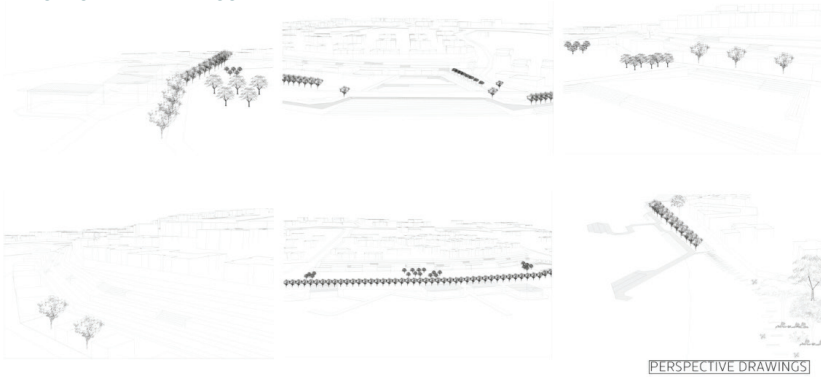
When we look at the analysis of the coasts, we see that most of the Yalikavak coasts are monopolized by hotels and businesses, and the rest is thin and far from urban aesthetics. One of the goals is to include the boat and boating culture that dominates the area between the shipyard and the marina in Yalikavak in a way that connects the active life corridor planned here, and to balance both forms of boat culture in terms of both production and consumption and to include them in public life here.

The redesigned shipyard area has been planned to meet the needs of a shipyard with today's technology, and at the same time, it has been brought to a layer where the production workshops meet with the public. This shipyard design was also supported by open businesses and it was aimed to coexist in harmony with today's sports such as sailing and canoeing along the coast, on the basis of workshops open to the public. Beyond, the steps leading down the narrow coastline to the sea and then the sun salutation and setting, yoga piers are included in the design and create the first spiritual space of this area. In the continuation of this area, this spiritual area undergoes a dissolution with a plant design of a succession garden blended with Bodrum plants, diversified by the transition of a sand dune, desert and saltwater plants. At the end of this area, this dissolution re-integrates and continues to the beaches area and open businesses. In Yalikavak, the zoning plan of the area has been examined and the areas defined as recreation areas have been given to the public completely and supported by laws. A special manifesto was prepared for this and the design was shaped accordingly.

FIRST IDEAS



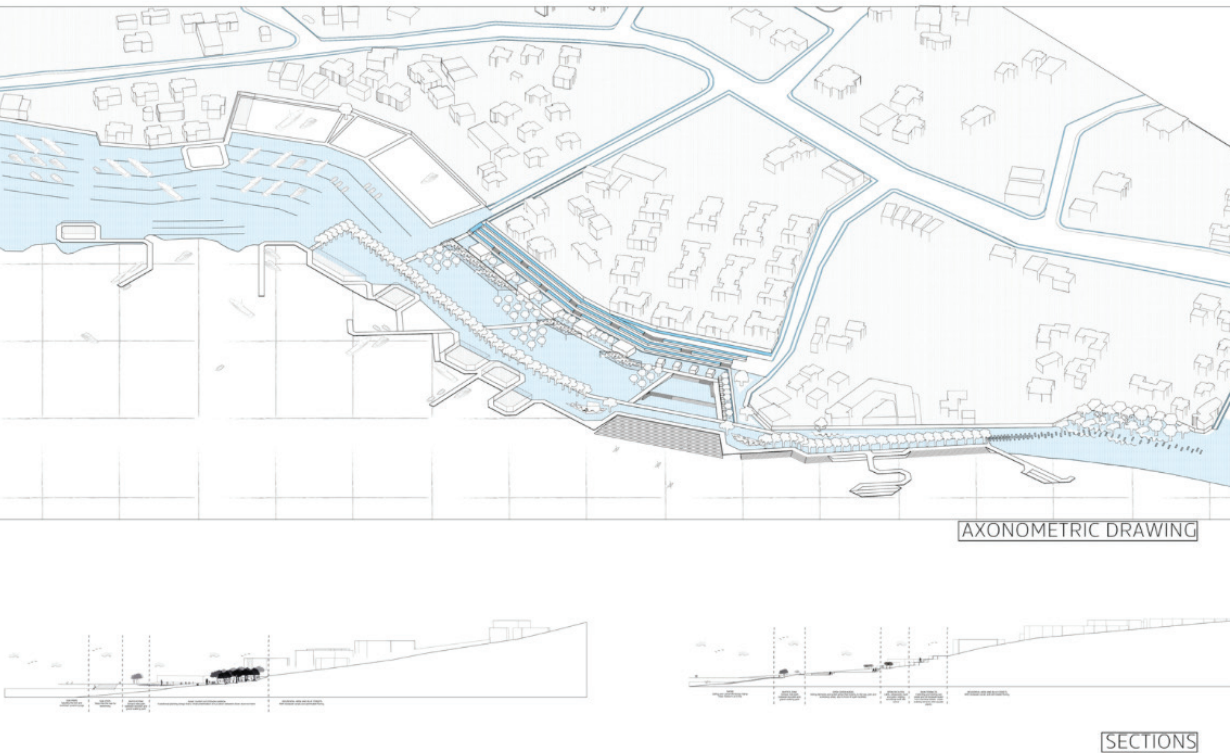
PERSPECTIVE DRAWINGS

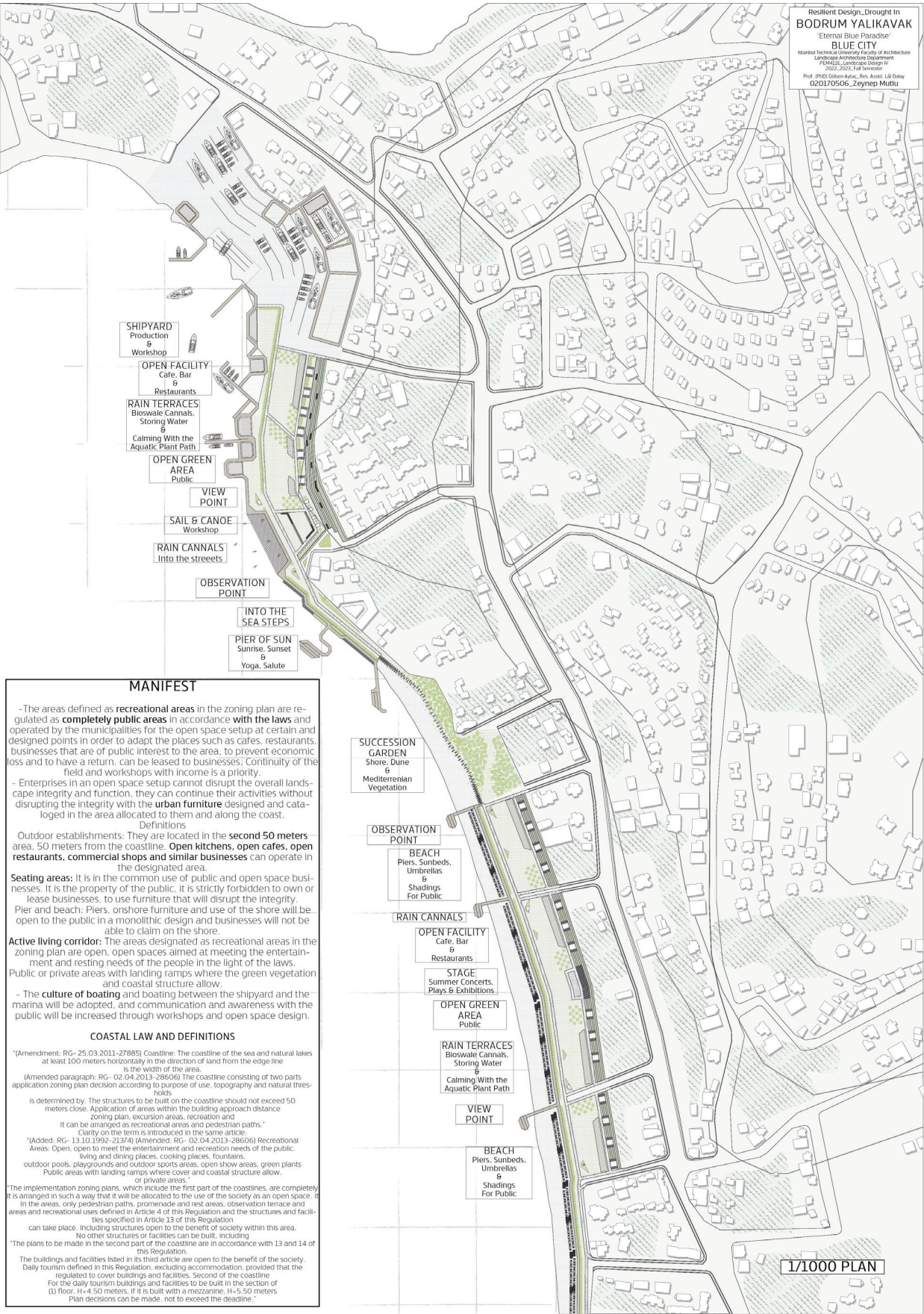


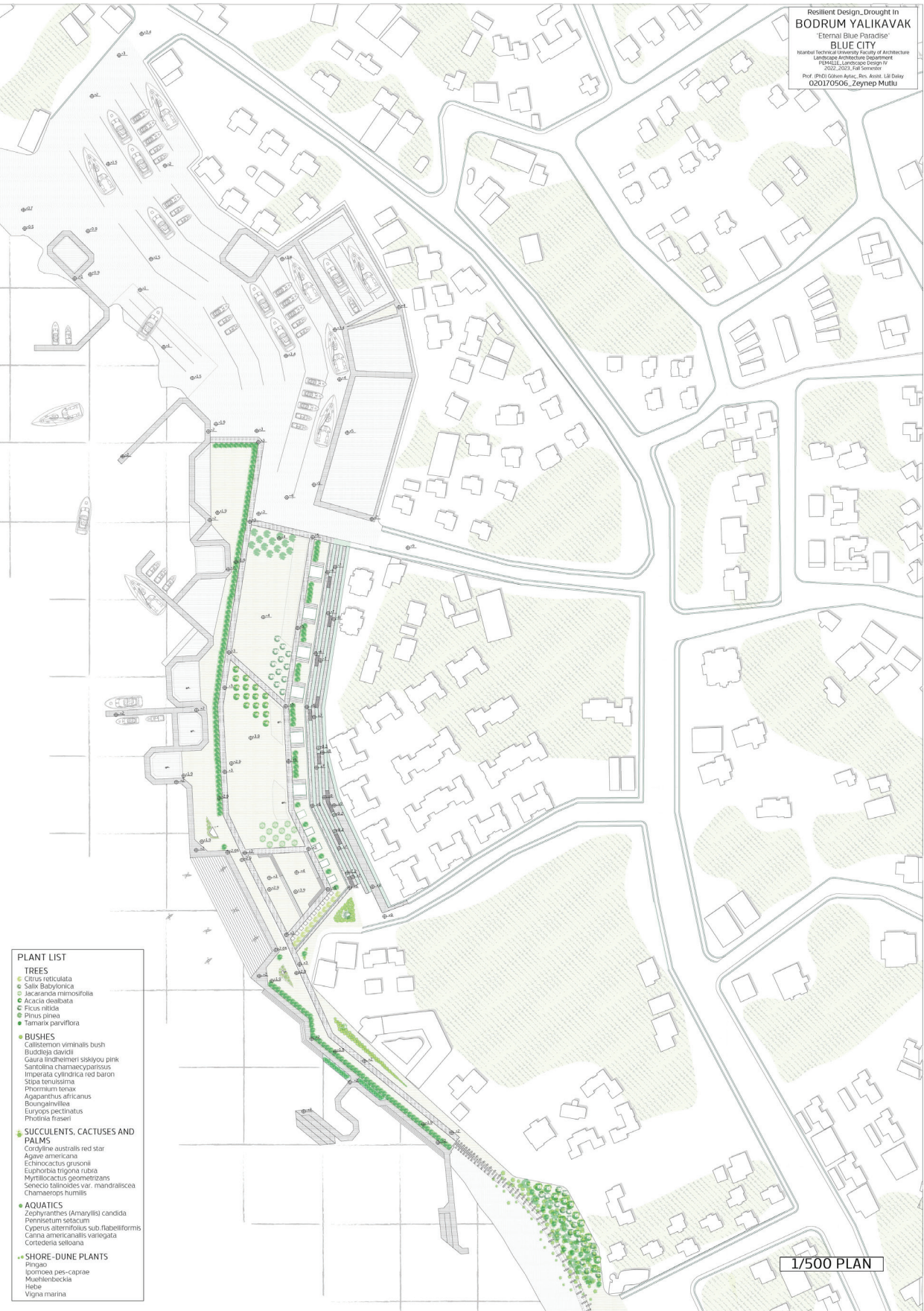
1/5000 PROPOSALS



AXONOMETRIC DRAWINGS AND SECTIONS







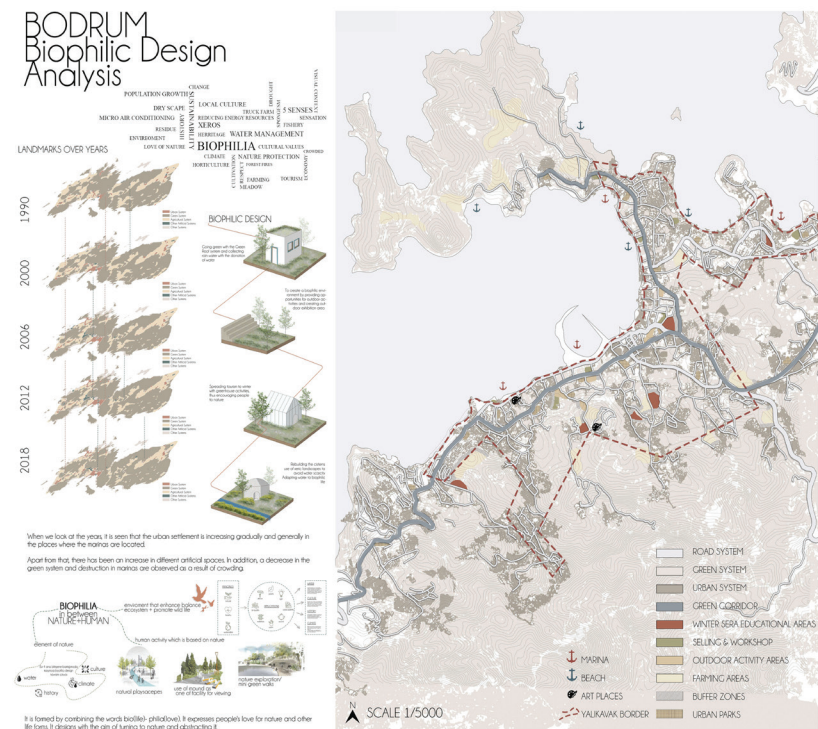


ABSTRACTION OF NATURE:
BIOPHILIC DESIGN

N. BURÇAK KANDUR

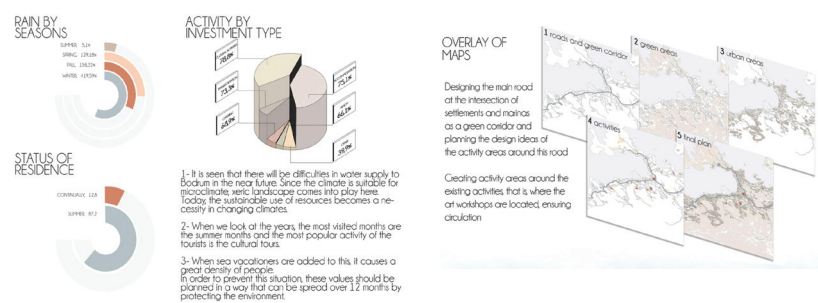
Bodrum, which has historically been multicultural and home to many civilizations, attracts tourists during the summer months. However, this interest is only in the abstract. Tourists come to visit only historical buildings and structures in a concrete way. In this case, the abstract, landscape beauties of Bodrum are ignored. At the same time, the visitor density in the summer months leaves itself to deep silence in the winter months. At this point, the idea of biophilic design, which leads people from concrete to abstract and green, emerges. The main goal is to balance summer-winter activities, play a role in holistic design with nature, and ensure that the links between the environment and the drift are a lifestyle. and the idea of creating a design with an approach that supports biophilic areas and turns social life green. I reduce the urban heat island by creating green roofs on the roofs of Bodrum's white houses. At the same time, the xeriscape principle to be used in the area is in balance with the microclimate of the basement. It was aimed to ensure the continuity of the green corridor between the shipyard and the marina. The importance of outdoor actirunin has gained importance in the idea of balancing summer-winter activities. Combining the 3 main zones and maintaining the blue-green balance gained importance. In this context, the idea of fractured design used in the park was intended to be continuous and fluid. It was given importance to have activities that will activate the 5 sense organs.

BODRUM BIOPHILIC DESIGN ANALYSIS AND 1/5000 PLAN

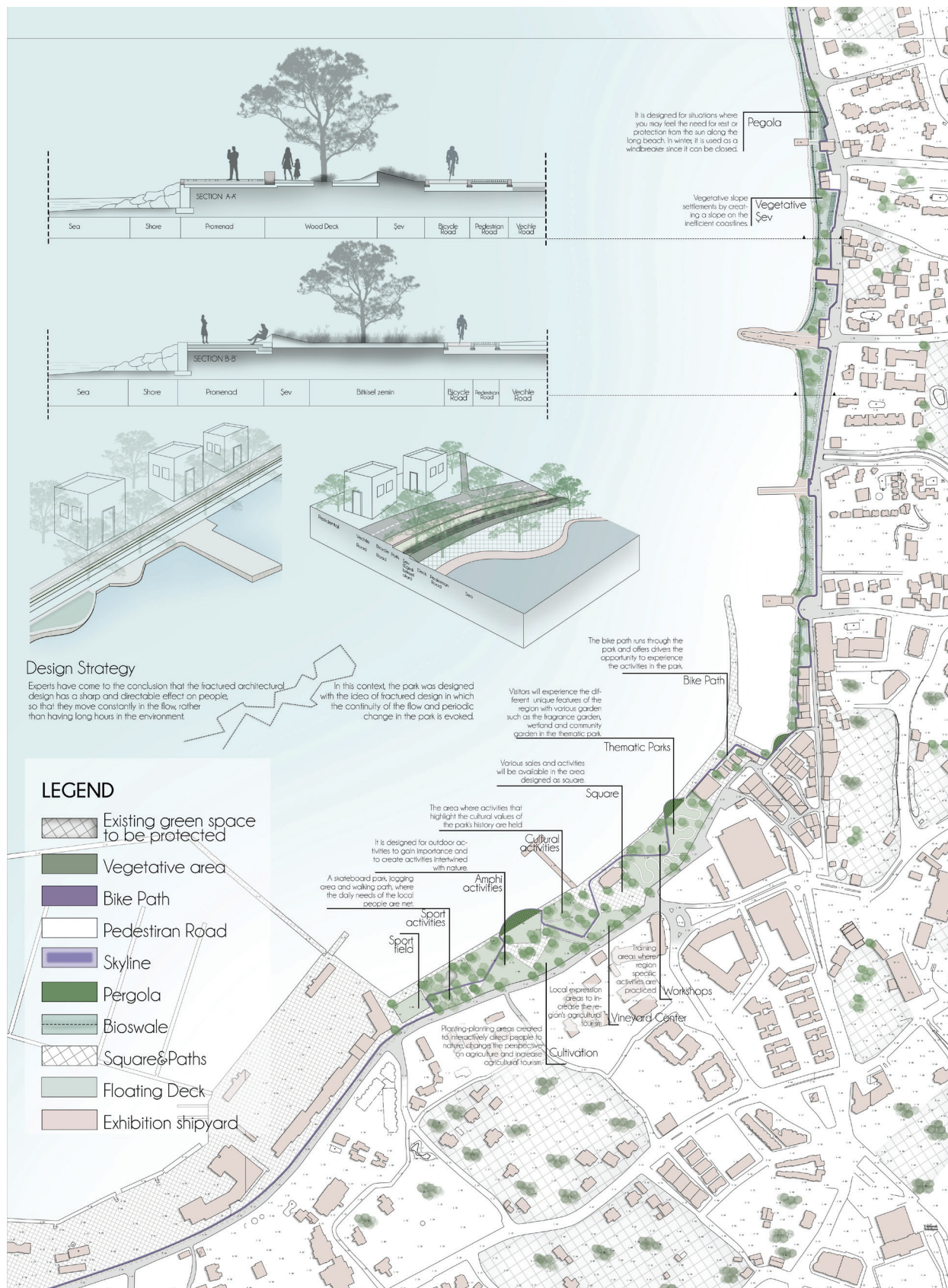


Bodrum, which has historically been multicultural and home to many civilizations, attracts tourists during the summer months. However, this interest is only in the abstract. Tourists come to visit only historical buildings and structures in a concrete way. In this case, the abstract, landscape beauties of Bodrum are ignored. At the same time, the visitor density in the summer months leaves itself to deep silence in the winter months. At this point, the idea of biophilic design, which leads people from concrete to abstract and green, emerges. An method called "biophilic design" contents that in order to enhance human health, it is essential to include natural systems and processes into the planning of the built environment. The stimulating and beneficial impacts of surroundings that mirror nature on general health and well-being have been demonstrated by numerous academic studies and studies. It is impossible to deny people's inclination toward and need for nature. Due to work, economic, and social opportunities, a large portion of the population now lives in cities, putting them in close proximity to natural regions. The necessity for nature has been argued, however numerous studies have demonstrated the good impacts of spending time in nature, in places adjacent to nature, and in locations with natural features on people's psychological, physical, cognitive, and mental health. It is claimed that a systematic urbanism approach can be used to meet the demand for nature (biophilia) in built environments through design techniques (biophilic design) (biophilic urbanism).

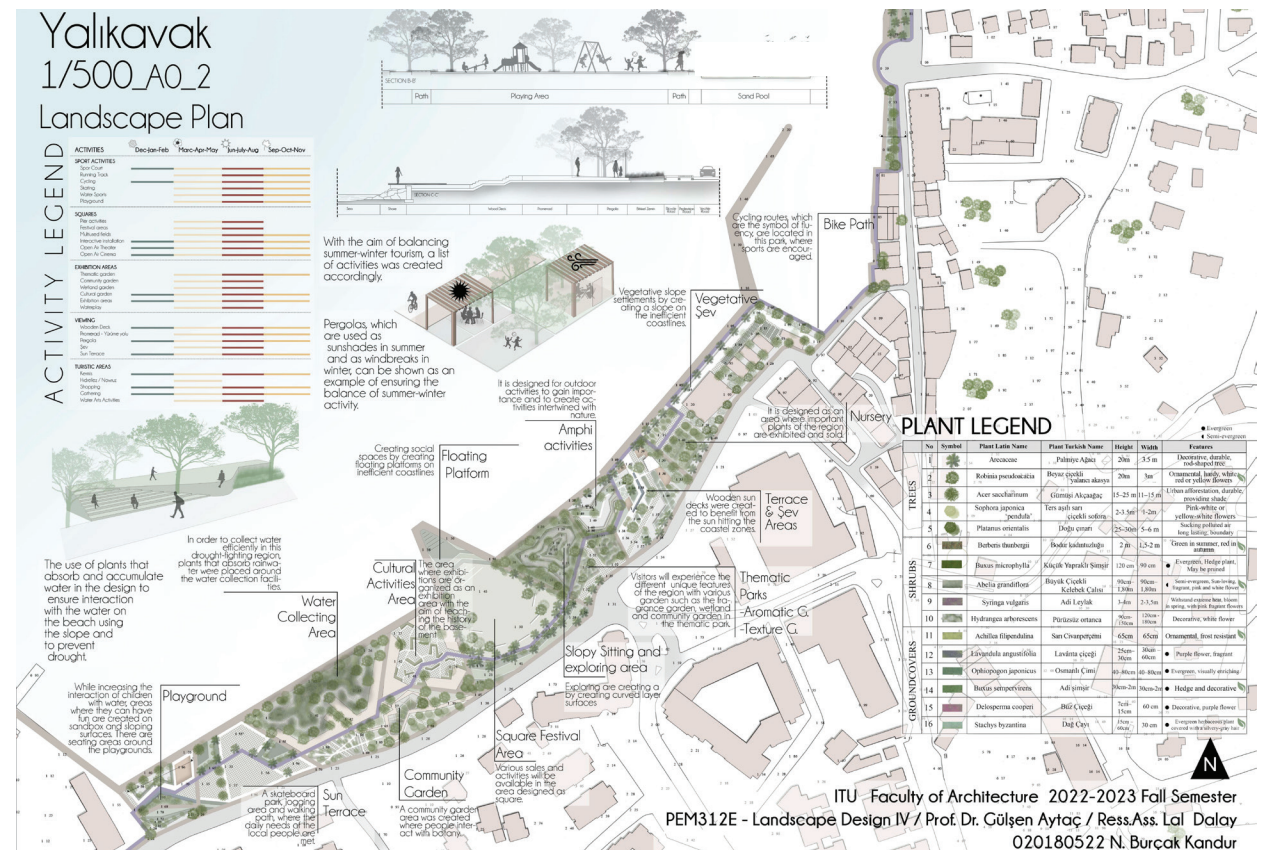
ANALYSIS



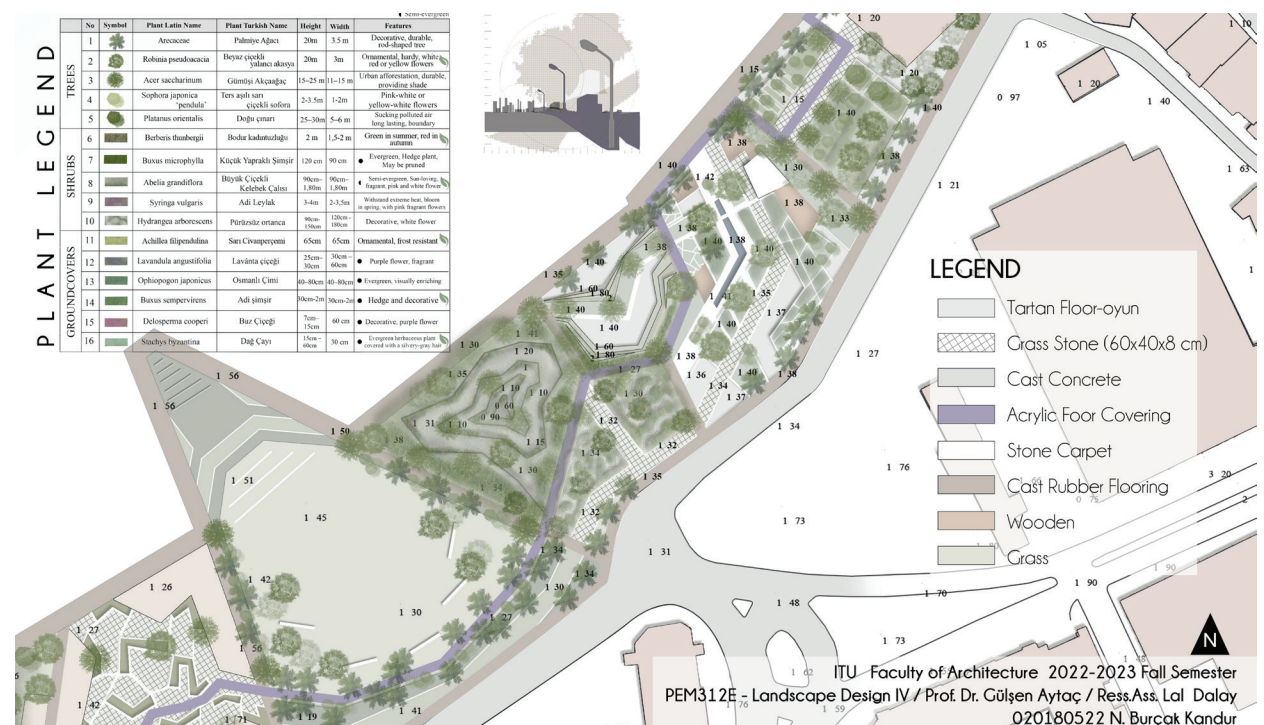
The idea of creating a design with an approach that balances summer-winter activities as the main main goal, plays a role in holistic design with nature, that sustainability is a lifestyle in connection with the environment, and that supports biophilic areas and makes social life green. I reduce the urban heat island by creating green roofs on the roofs of Bodrum's white houses. At the same time, the xeriscape principle to be used in the area is in balance with the microclimate of the basement. It was aimed to ensure the continuity of the green corridor between the shipyard - marina and the area in the 1000 plan. The importance of outdoor activator, the idea of balancing summer-winter activities gained importance. The main objective was to prevent drought by reducing the urban heat island with favorable soil contact from the microclimate climate and green roofs. It became important to combine the 3 main zones and preserve the blue-green balance. I started with the idea of a park where there is a continuous circulation. With this idea, the idea of fractured design caught my attention. Fractured architecture leaves a directing and sharp effect on human psychology. In this context, the idea of fractured design used in the park was intended to be continuous and fluid. It was given importance to have activities that will activate the 5 sense organs.



The main objective was to prevent drought by reducing the urban heat island with favorable soil contact from the microclimate climate and green roofs. It became important to combine the 3 main zones and preserve the blue-green balance. I started with the idea of a park where there is a continuous circulation. With this idea, the idea of fractured design caught my attention. Fractured architecture leaves a directing and sharp effect on human psychology. In this context, the idea of fractured design used in the park was intended to be continuous and fluid. It was given importance to have activities that will activate the 5 sense organs. Today, the sustainable use of resources is becoming a necessity in changing climates. This is where xeric landscaping comes into play, as the climate is suitable for the microclimate. Andean the intertwining flow of humans and the xeric landscape aims to prevent drought. As a strategy; a design intent was established around flow, cycle, balance, biophilia, and water education.



1/200 PLAN

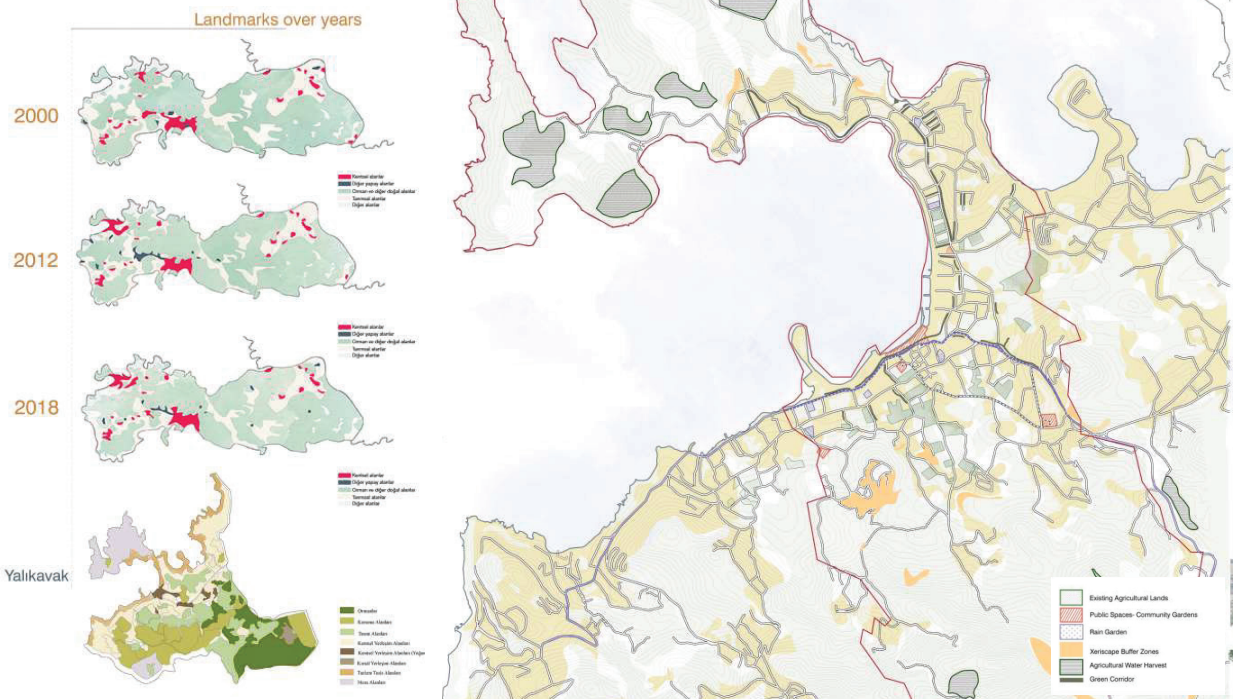


The main goal: to ensure that the 24-hour activity and the winter-summer transitions are always in their natural flow, versatile and interesting. Also to create trends and platforms for various businesses and entrepreneurs to experiment with long or short term projects. To improve the existing one, to ensure that a holistic approach with the blue system and sustainability collide with continuity. Three different routes (the shipyard, green corridor and park), each with their own distinct character, connect both ends of the coast, providing three different speeds, atmospheres and experiences as you travel along the quay. It is aimed to use bioswale as a planting supporter against drought, which is beneficial in refilling groundwater, collecting rainwater flow while cleaning water ponds and pollution.



ANALYSIS AND 1/5000 PLAN

BODRUM -Xeriscape

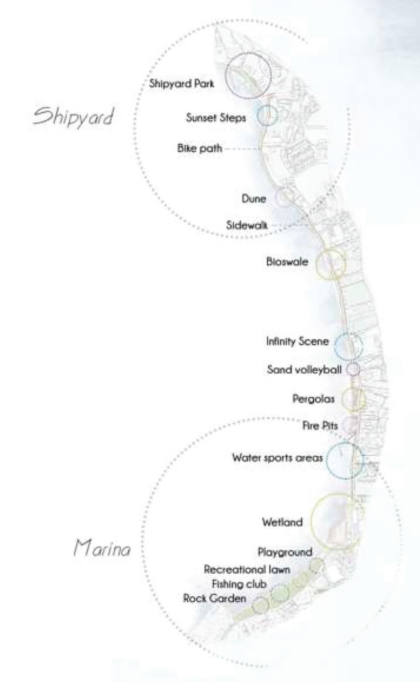


BODRUM - XERISCAPE

GIZEM DEMIR

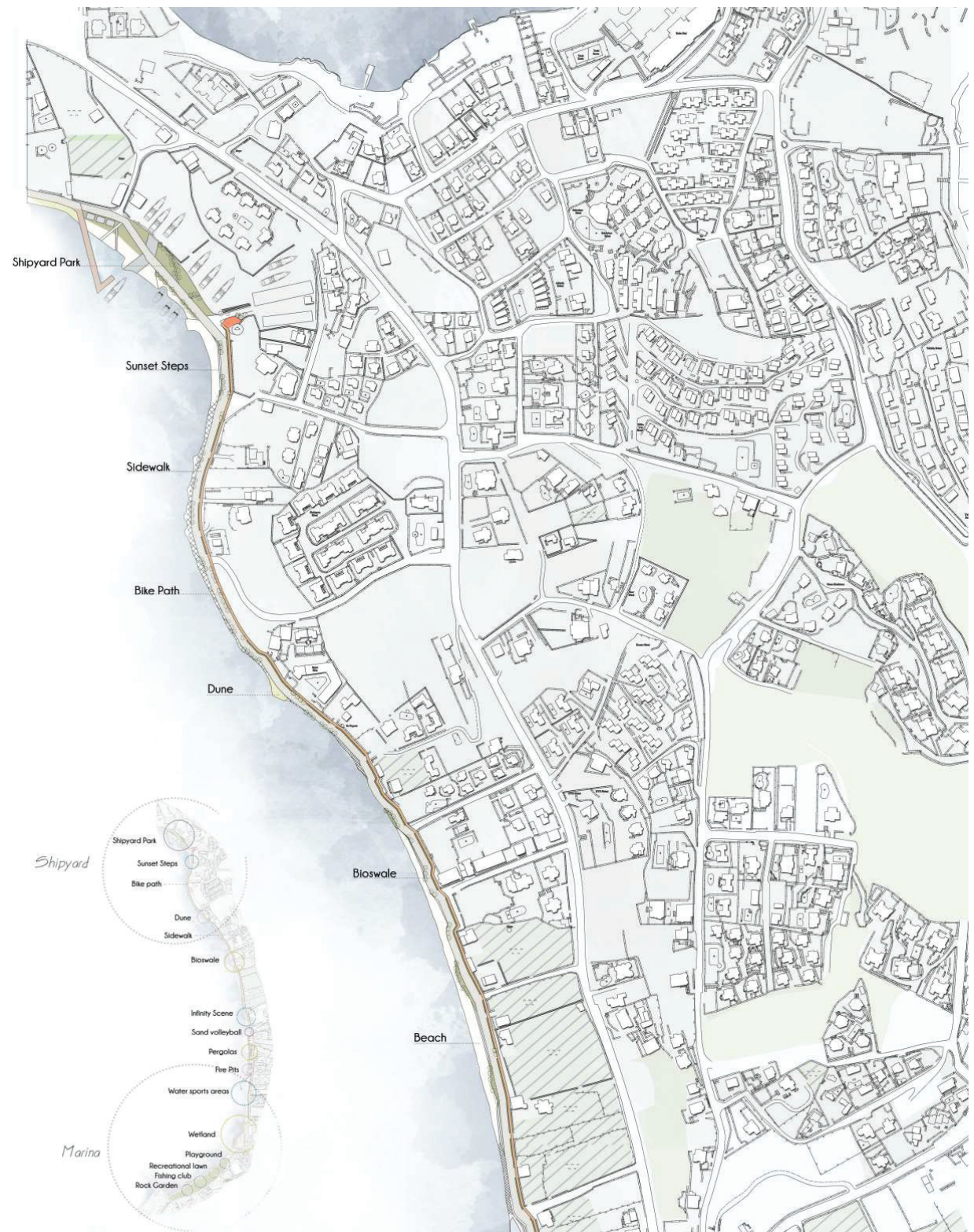
The aim of the project is to enrich the use of the waterfront between the shipyard and the marina and make it an axis that everyone can access, participate in and use 24/7. As part of the participatory and unifying design decision, a series of thematic focus areas have been designed to meet the needs of users of all ages. The reorganization of the speed regime in the area is another objective to reduce the average speed and include everyone.

DIAGRAMS AND 3D VISUALS



1. Shipyard: The first stop of the design route between the shipyard and the marina is actually the shipyard park. It is aimed to integrate the identity of the area, which currently functions actively, to the entire linear axis. The area where the shipyard spirit will be reflected most clearly is this park. For example, while the ship maintenance and repair works are going on at the back of the park during the day, people are having a picnic in the green areas. At night, they will be able to walk to the accompaniment of the silhouettes of those gigantic ships created with the right lighting.
2. Sunset steps: The main focus in the continuation of the park is to provide an uninterrupted flow. While this flow is provided by both bicycle path and pedestrian path, bioswale channels and tamarisk trees help to provide this flow. The sunset steps that we will encounter from place to place in the axis connect all these flows to the shore and contact with the sea becomes easier. People will be able to use these steps to leave the main stream and enjoy the view of Yalıkavak.
3. Bioswale: It is aimed to make water management by collecting runoff and rain water in these channels. In this drought themed project, water harvesting is of great importance.

1/1000 PLAN



4. Infinity Scene: Various performances can be performed day and night in the infinity pool with a depth of 15 cm, created in the dune from the steps that connect the walking path to the shore. Thus, it will be easier to attract people from the marina to the shipyard. Thanks to the reed area right next to this stage, the events held on the other sides of the beach will be screened.
5. Sand volleyball: Sand volleyball, designed for the youth of Yalıkavak to participate in the field, will not only meet the sports needs of the youth, but will also give the field a separate identity for them.
6. Pergolas: It is aimed to encourage people to go out during the day by creating semi-closed areas. At the same time, people who do not swim in the dune will be able to enter the sea by stairs directly from the walking path in these areas. They will be able to rest in these areas after swimming.
7. Fire pits: These areas are mostly thought of as a place where young people can take their guitars and spend time by the sea in a crowded group at night, sing songs and dance. It is aimed that adult people also participate in this environment just like in their youth.
8. Water sports areas: It is designed as an area where various water sports are taught and practiced. This area will be operated by the municipality, it can also be used as a quota beach.
9. Wetland Zone: It is aimed to increase biological diversity and attract the attention of birds by creating a wetland on the shore, located next to the first entrance of the park. It is foreseen that the created wetland will act as a sponge and support the control of floods. Thanks to the pier axle coming out of the coast line, people will experience the relationship between the sea and wetland, and they will be able to observe how other creatures behave in this new habitat. Thus, a naturalistic variation in children will be gained, and an axis of observation will be formed for adults.



- 10. Fishermen's Restaurants: Areas used as fish restaurants in this section have been preserved. here people will be able to consume the fish they catch in the Fishing club or the fishermen already catch.
- 11. Playground: It has been observed that the classical style game elements in the region are insufficient for children. In this context, it is aimed to create areas where vehicle traffic is less frequent in the area that runs parallel to the road and where children can play right next to their families while they spend time at the fisherman.
- 12. Recreational lawn: In the areas developing parallel to the beach following the playground, green areas have been created, supported by aromatic species, where people can enjoy the beach and do various activities such as picnics and meditation.
- 13. Dry ponds and sculptures: There will be dry pond sections on the inner axes of the recreational lawn, which children and adults use when going to the Fisherman's Club. Artworks will also be included in the design of these dry ponds, and these works of art will be changed in certain periods. Thus, children will have an experience integrated with water rather than following a routine route from the playground to another place, and they will also learn about marine culture by examining works of art.



BODRUM/YALIKAVAK
1/200 Plan



- 14. Fisher Club: This area, which is the end point of coastal use, is designed as a square where sea creatures are exhibited and marine life is exhibited with various graphics. People will be able to come to this square and participate in fishing activities. They will get important information from the products taken by professional fishermen from the Yalikavak sea or the pictures taken at the bottom, and they will be able to use this information in various workshops that can be held in this field.
- In the area just across the Fisher Club, it is aimed to reflect the spirit of the shipyard to the park by creating an area where the ships are exhibited, such as old fishing boats that have been repaired in the shipyard.
- 15. Rock Gardens: Rock gardens have been designed in the light of our aims, such as providing people with different experiences without alienating them from the naturalness of the area. These rock gardens serve as drainage areas and have functions such as collecting water and draining it. This area, which is dry in summer and we see only stones, continues to function as small ponds, covered with water in winter.
- 16. Urban Furnitures: There are 2 types of seating elements throughout the park; the first is the white plastered inclined surface inspired by the basement houses, sometimes rising and sometimes turning into a floor covering, and the second is the rusty iron textured seating element consisting of curved surfaces, where we can feel the reflections of the shipyard bougainvillea.

BODRUM : Yalılıkavak

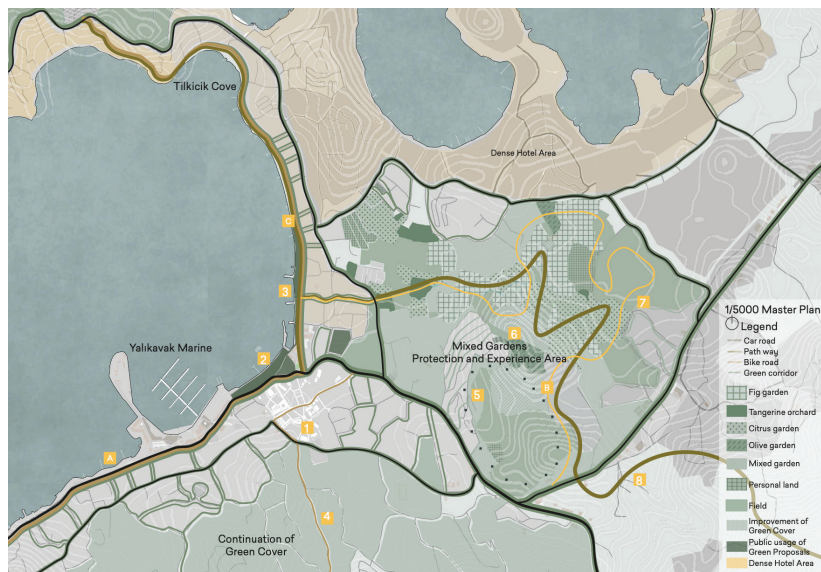


YALIKAVAK 'A REMINDER'

ÖZGE NAZ GÜLER

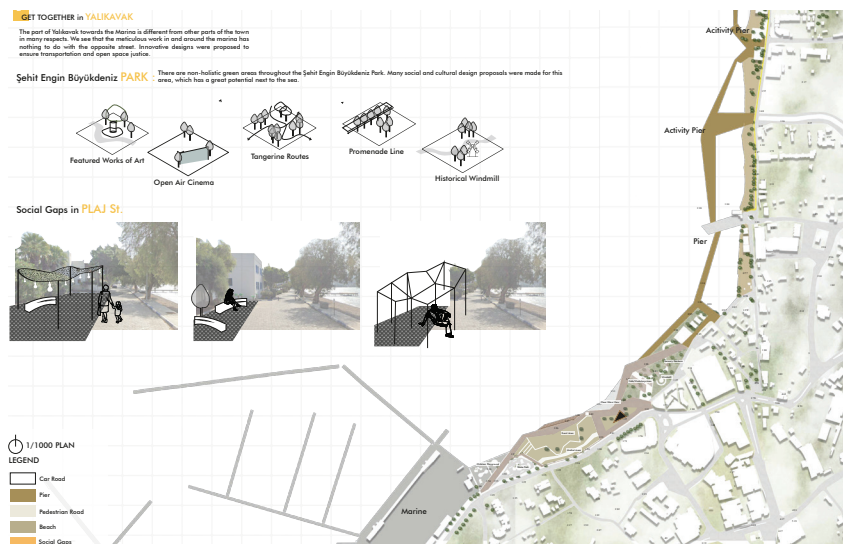
The main strategy of the project progressed on drought and xeriscaping landscaping. In a geography like Bodrum, when it rains heavily in winter and is dry in summer, it is necessary to plant according to these geographical conditions. Xeriscaping is the process of landscaping, or gardening, that reduces or eliminates the need for irrigation. It is promoted in regions that do not have accessible, plentiful, or reliable supplies of fresh water and has gained acceptance in other regions as access to irrigation water has become limited, though it is not limited to such climates. Xeriscaping may be an alternative to various types of traditional gardening. In some areas, terms such as water-conserving landscaping, drought-tolerant landscaping, and smart scaping are used instead. The use of plants whose natural requirements are appropriate to the local climate is emphasized, and care is taken to avoid losing water to evaporation and runoff. However, the specific plants used in xeriscaping vary based on climate as this strategy can be used in xeric, mesic, and hydric environments. Xeriscaping is different from natural landscaping, because the emphasis in xeriscaping is on selection of plants for water conservation, not necessarily selecting native plants. In addition to all these ecological problems, historical points especially in Yalılıkavak played a major role in the design strategy. Endemic plants provide all the necessary ecological elements for that region. It is aimed to make a design in which both the texture and the plant texture can be felt in the historical Sandima village, which is the main settlement of the village in Yalılıkavak.

1/5000 MASTER PLAN



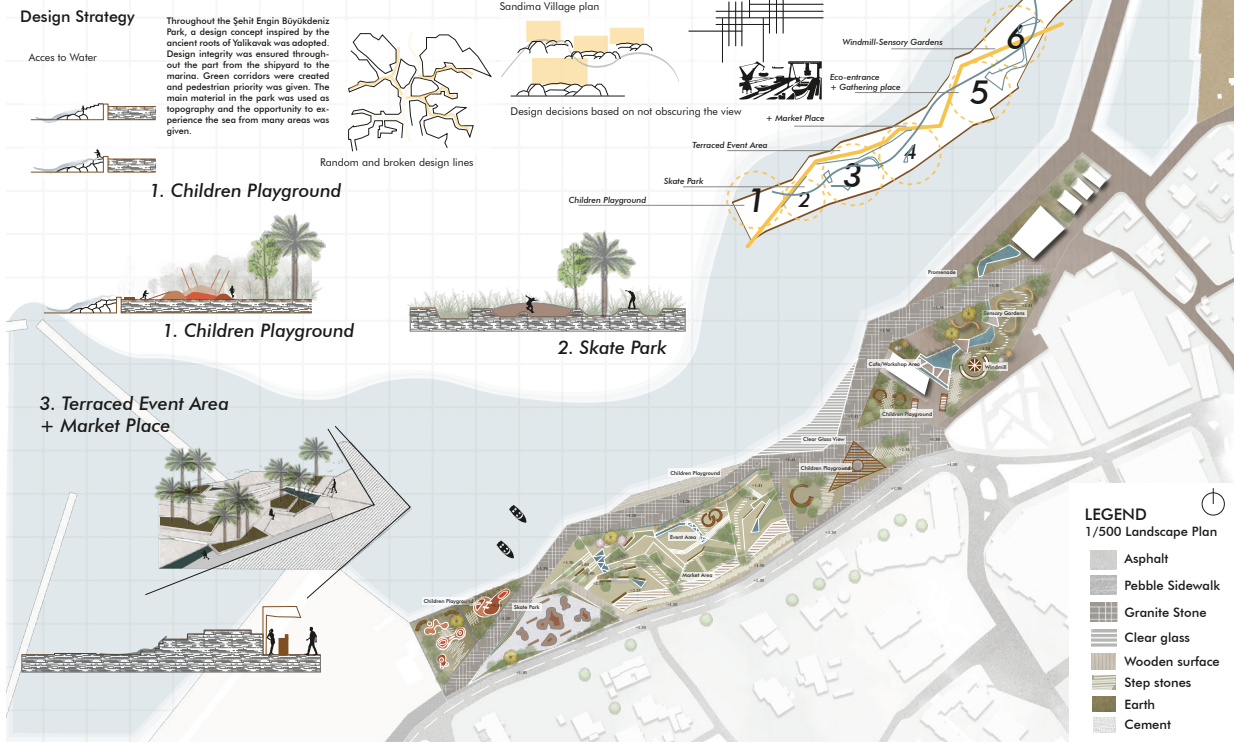
Within the scope of this project, Şehit Engin Park in the centre of Yalılıkavak, one of the most exclusive areas of Bodrum, was examined. Considering the inequality of design and opportunity in the marina and the rest of Yalılıkavak, answers to one of the most important environmental problems of our time, drought, were sought. At the same time, although the traces of Sandima village, which is the main settlement of Yalılıkavak independent from the seaside, are not carried, the urban and environmental texture is processed in the design and it is aimed that the user experiences this in every step he takes in Yalılıkavak.

1/1000 PLAN AND STRATEGIES

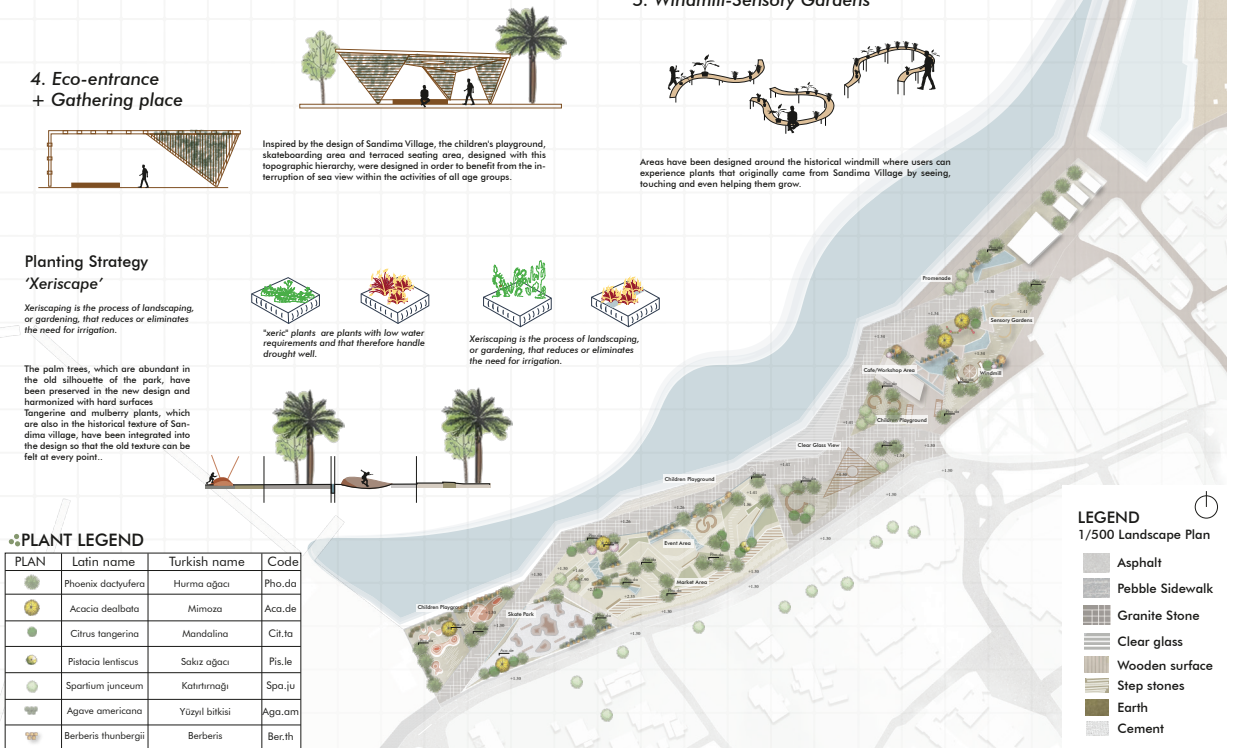


1/500 PROPOSALS

Şehit Engin Büyükdenez Park : A route to history, nature and authenticity
HARDSCAPE PLAN



Şehit Engin Büyükdenez Park : A route to history, nature and authenticity
PLANTING PLAN



A holistic design that does not allow disconnection from the shipyard to the marina was targeted. The coastal street was left entirely to pedestrians and cyclists. It was aimed to complete the green patches in the east of the area and revitalise the old green texture. While the tangerine and fig groves at that point have an important place in the history of the region, the trekking route from the Leleg road was passed through these landscaped patches and both presented to the user and ecologically improved. Improvements have been made to the green spots along Marina Street and high-level interventions have been made in the future close plan designs in order to prevent unfair use of the coast. In 1/1000 scale, the area between the shipyard and the marina was intervened with continuous and evocative landscape designs. More sea access, activity and pier points have been designed especially on the coastal section along the Coastal Street. At the same time, the waterway has been differentiated as if a play has been created from the park to the shipyard. The bioswale points are differentiated from the traditional design and the hard boundary between the water and the bioswale is broken to include children and adults who intend to play. These waterways were incorporated into every urban area. Especially in the Martyr Engin park in the 1/500 plan, a design in which the historical texture of the village of Sandima was felt was aimed. In particular, the randomness of the topography was also processed in the park and different viewing areas to the sea were created.

