# CONSERVATION OF LIGHTHOUSES AS A PART OF MARITIME HERITAGE: THE CASE OF LIGHTHOUSES IN AEGEAN COAST, TURKEY

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ÖZGE BAŞAĞAÇ

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submitted by **ÖZGE BAŞAĞAÇ** in partial fulfillment of the requirements for the degree of **Doctor of Philosophy in Conservation of Cultural Heritage in Architecture Department, Middle East Technical University** by,

Prof. Dr. Halil Kalıpçılar

Dean, Graduate School of **Natural and Applied Sciences**

Prof. Dr. Fatma Cana Bilsel

Head of Department, **Architecture**

Assoc. Prof. Dr. Ayşe Güliz Bilgin Altınöz

Supervisor, **Architecture, METU**

**Examining Committee Members:**

Prof. Dr. Neriman Şahin Güçhan

Architecture, METU

Assoc. Prof. Dr. Ayşe Güliz Bilgin Altınöz

Architecture, METU

Prof. Dr. Mehmet Cengiz Can

Architecture, Yıldız Technical University

Prof. Dr. Deniz Özkut

Turkish Islamic Archaeology, İzmir Katip Çelebi University

Prof. Dr. Namık Günay Erkal

Architecture, TED University

Date: 04.09.2019

**I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.**

Name, Surname: Özge Başağaç

Signature:

# ABSTRACT

## CONSERVATION OF LIGHTHOUSES AS A PART OF MARITIME HERITAGE: THE CASE OF LIGHTHOUSES IN AEGEAN COAST, TURKEY

Başağaç, Özge
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The scope of this thesis is to identify conservation and management policies for lighthouses as a part of maritime heritage, in Aegean Coast of Turkey.

The first part of the thesis introduces basic concepts and methodology of the thesis.

The second part of the thesis portrays the international and national policies regarding the conservation and management of maritime heritage and lighthouses, and the international and national implementations regarding the conservation and reuse of lighthouses.

The third part of the thesis initially provides a literature survey to document and map the maritime heritage and lighthouses of Turkey. Then, the case study as in situ surveys of the lighthouses in Aegean Coast, Turkey is presented. There are 33 examples in total, from Çanakkale, Balıkesir, İzmir and Aydın. The survey documents and analyses the physical context as natural, man made and temporal with architectural characteristics, material and structural problems. Visual/ aesthetic, functional,

economic, social, administrative/ legal contexts of each case are documented and analysed, too. The survey includes interviews with light keepers and responsible technicians to document intangible heritage of lighthouse keeping.

The fourth part makes an assessment of the values, architectural characteristics, problems and opportunities related to the different contexts of lighthouses.

The last part of the thesis defines principles of conservation and management policies for lighthouses in Aegean Coast of Turkey.

Keywords: Lighthouse, Maritime Heritage, Conservation, Aegean Coast, Turkey

# ÖZ

## DENİZCİLİK KÜLTÜR MİRASININ PARÇASI OLARAK DENİZ FENERLERİNİN KORUNMASI: EGE KIYILARI DENİZ FENERLERİ ÖRNEĞİ, TÜRKİYE

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Bu tezin kapsamı, Türkiye'nin Ege kıyılarında bulunan, denizcilik kültür mirasının bir parçası olan deniz fenerleri için koruma ve yönetim ilkeleri oluşturmaktır.

Tezin ilk bölümü konu ile ilgili temel kavramları ve araştırma yöntemini sunmaktadır.

Tezin ikinci bölümü denizcilik kültür mirasının ve fenerlerin korunması ve yönetimine dair ulusal ve uluslararası yasal düzenlemeleri ve uygulamaları incelemektedir.

Tezin üçüncü bölümü Türkiye denizcilik kültür mirası ve deniz fenerlerinin saptanması ve haritalanması için bir literatür taraması sunmaktadır. Ardından, Türkiye Ege kıyıları deniz fenerleri alan çalışmaları ile belgelenmiştir. Çanakkale, Balıkesir, İzmir ve Aydın'dan toplam 33 örnek mevcuttur. Alan çalışmaları mimari özellikleri, malzeme ve yapısal sorunları, fiziksel bağlamı (doğal, yapılı ve zamansal olarak) belgeler ve analiz eder. Görsel/ estetik, işlevsel, ekonomik, sosyal, yasal/ yönetsel

bağlamlar da her örnek için çalışılmıştır. Araştırma, fener bakıcıları ve sorumlu teknikerlerle görüşmeleri de içermektedir. Somut olmayan denizcilik kültür mirası kapsamında fener bakıcılığı belgelenmiştir.

Dördüncü bölüm deniz fenerlerinin değerlendirilmesine odaklanmaktadır. Fenerlerin kültürel değerleri, mimari özellikleri, sorunları ve fırsatları burada tartışılmaktadır.

Tezin son bölümü Türkiye'nin Ege kıyılarında yer alan deniz fenerleri için koruma ve yönetim ilkelerini tanımlamaktadır.

Anahtar Kelimeler: Deniz Feneri, Denizcilik Kültür Mirası, Mimari Koruma, Ege Kıyıları, Türkiye

For my family and the inhabitants of the sea

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# CHAPTER 1

## INTRODUCTION

Phoenicians were the first nation to navigate the seas more than 3000 years ago. Since then people weaved a close relationship with the sea. A heritage was constituted as the outcome of this relationship, named as maritime heritage.

Maritime heritage embodies the tangible and intangible aspects of human activity at/ by the sea. It is formed by the people and communities that constructed vessels, transported goods, navigated ships, took care of lights, rescued wrecks, fished in seas, rivers or lakes, and held the waterways open either for transportation, defense, or recreation purposes in addition to the traditions, skills, arts, crafts, artifacts, documents, buildings, structures, and vessels that are related to past maritime activities.[1] Thus, maritime heritage includes not only physical entities such as historic shipwrecks and archaeological sites, but also archival documents, oral traditions, and the cultures that have inhabited and used the oceans, seas, lakes and rivers for centuries.[2] The tangible part of maritime heritage encompasses immovable (mainly architectural) elements likes harbors, ports, warehouses, shipyards, docks, fisheries, lighthouses and salvage buildings spread around the coasts as well as movable elements like ships, submarines, other vessels and the items underwater. Intangible part of maritime heritage includes traditional ways of fishing, marine cuisine, crafts related to ship building, construction of maritime structures and fishing nets, songs and tales of the sea/ waters and lighthouse keeping.

The earliest mariners had started navigating along the river Nile shortly before they proceeded into the Mediterranean. They were quick to realize that the coast was

[1] (National Park Service of USA, 2013)
[2] (NOAA U. S., 2013)

full of dangers: shallow waters, rock crops and enemies. Since the very beginning the maritime routes had been rendered by light: Solar light through the day and stellar light through the night as well as prevailing winds and currents helped mariners. The light provided by the lighthouses had become the second aid which marked the maritime routes, making them visible and tangible for the mariners. Thus, lighthouses came to bear several meanings: First, they acted as the marker of maritime routes, the intersection of the lights drew the route, making the intangible route "visible". Secondly, they stood as a structure functioning as a navigational aid and symbol itself. And finally, they became the marker of coasts drawing the coastal silhouettes, as an outcome of historical geography signifying power and politics.

Pharology[3] defines a **lighthouse** as a fully or partially enclosed structure carrying a light that is used as a navigational aid and that has the necessary space to admit at least one person to operate or maintain the light completely from inside.[4]

The maritime activities of mankind, with aids to navigation as an integral part, had been going on since the last 3000 years but the need to conserve the cultural accumulation of this activity as a heritage only surfaced in the early 20$^{th}$ century. Regarding conservation and management, there is not a single charter or recommendation covering the whole content of maritime heritage. But different aspects of it were discussed in separate documents and preventive measures had been taken over time. Coastal heritage, underwater heritage, shipwrecks, lighthouses, marine environments, maritime legislation, maritime cultural routes were some of the

[3] *Pharology* is the study of lighthouses, the word 'pharology' is derived from *pharos*, the Greek word for lighthouse, (Trethewey, Pharology, 2012). The essays here are prepared by Dr. Ken Trethewey using (Forand, 2003) Lighthouses are called "*phare*" in French, "*leuchtturm*" in German, "*faro*" in Italian and Spanish, (From Language to Language Online Dictionary, 2012).

[4] Lighthouses are different from **light structures**; any built structure carrying a light that is used as a maritime navigational aid but does not have the space to admit one person to operate or maintain it completely from inside; or **beacons**; any artifact, built or floating, visible or recognizable from a distance, whether by land or sea, that is specifically intended to provide a signal or warning for any purpose not exclusive to navigation. (Trethewey, Pharology, 2012)

issues raised throughout the years for the management and conservation of maritime heritage.[5]

The dense spread of international petrol exploitation in the Baltic Sea in the early 20th century damaged traditional fishing and maritime villages in Scandinavian countries. This situation triggered a reaction among the public and paved the way for the recognition of maritime heritage. In 1926 Norway had opened a maritime museum to display its ancient Viking boats which would be enriched in the following decades with other ships.[6]

Plundering of shipwrecks was a frequent issue in international waters until mid-century. During 1960s several countries adopted laws for conservation of shipwrecks,[7] to document, register and save them in territorial waters. In 1978, Council of Europe "Recommendation on the Underwater Cultural Heritage" brought a global attention and paved the way for further international action. The next two decades saw the foundation of maritime parks and marine sanctuaries around the globe.[8]

1970s were marked by the rising threats towards the marine environment and the beginning of measures taken on internationally. "Law of the Sea" in 1982 by United Nations defined the rights and duties of coastal states as well as the conditions in international waters. The prevention and control of pollution, the protection of the marine environment including the coastline, global and regional cooperation, promotion of marine scientific research, preservation of archaeological and historic objects were important aspects of this law.[9]

The development of technology enabled automated operation of lighthouses after 1970s. This situation dismissed the need for light keepers, thus, many lighthouses

[5] See Chapter 2.1 for a broader discussion.
[6] (Molaug, 1987, pp. 328-336)
[7] (Kelly, 1987, p. 932)
[8] (Kelly, 1987)
[9] (Madran & Özgönül, 1999)

were dehumanized in the following two decades resulting in the deterioration of the structures and their contexts. The need to protect the lighthouses arose. Around late 1980s a noticeable amount of the old lighthouses was restored in Norway.[10] And lighthouses were declared as cultural heritage in USA in 1988.

Global recognition of cultural routes as a part of cultural heritage emerged around the same time. While terrestrial routes were first registered in 1988, maritime cultural routes were soon recognized in 1991.[11] This decision signified a shift in the understanding of maritime heritage: Rather than a category confined in itself, it was perceived as a dynamic network of different cultural and natural heritage with tangible and intangible characteristics bound by the maritime routes and living things connected to maritime waters. The significance of maritime heritage lied in this connectivity and it was bigger than the sum of the siginificance of each singular element that constituted this heritage.

In late 1990s Integrated Coastal Zone Management was adopted as a tool for the sustainable development of coastal zones by balancing the environment and landscapes with economic, social and cultural development through the rational planning of activities. As most of maritime heritage lied in coastal areas, this tool had a direct impact on the management and conservation of maritime heritage.

In the last two decades, maritime heritage evolved from the sum of single maritime elements as a category confined in itself. Today it is understood as a dynamic network of different cultural and natural heritage which has both tangible and intangible characteristics bound by maritime routes and living things connected to maritime waters. Therefore, the attitudes regarding the conservation and reuse of maritime heritage tend to focus on this connectivity rather than the singular heritage itself.

[10] (Kelly, 1987)

[11] Santiago de Compostela Pilgrim Routes became a certified Cultural Route of Council of Europe in 1987, followed by Hansa Route as the first certified Maritime Cultural Route in 1991. See Chapter 2 for a broader discussion.

For lighthouses, the global conservation issues were raised around 1980s, when the lights were automated, keepers were removed and the structures were rapidly damaged. Around late 1980s a noticeable amount of the old lighthouses were restored in Norway. After 1988, lighthouses became registered cultural heritage in USA, with the removal of last keepers in 1990s. In 2000, US, National Historic Lighthouse Preservation Act was declared. In 2008, Canada had approved Heritage Lighthouse Protection Act. In 2009, the Tower of Hercules, the ancient Graeco-Roman lighthouse, built in 1st century AD, in La Coruna, Spain was designated as a World Heritage site by UNESCO.

It is guessed that there are more than 50000 lighthouses all around the world. These lighthouses are monitored by IALA- AISM (the International Association of Lighthouse Authorities.) globally. Today, most maritime countries are members of IALA-AISM. Via IALA and the member states, the first World Marine Aids to Navigation Day had been celebrated on July 1, 2019.

### 1.1. Problem Definition

Surrounded by seas on three sides, Turkey had been home to a diverse range of maritime heritage since 3 millenia. The process of preservation for any type of cultural heritage involves understanding, evaluating and preserving the heritage in question. For Turkey, this process is fragmented from the very beginning as there is no comprehensive inventory of maritime heritage and lighthouses as a part of maritime heritage. The content of maritime heritage in Turkey is indefinite regarding many aspects. The characteristics and current situation, values, challenges or the potentials of heritage are yet unknown or insufficient. Thus, evaluation and development of proposals for conservation, planning and management fall short in this process.

Turkish State had been signatory to several international conservation documents (but not underwater heritage or critical environmental documents) regarding maritime heritage. Yet, the conservation and management of maritime

heritage had not been addressed directly in national legislation. The legal framework can be discussed in two groups; the initial group pertaining to the conservation of cultural heritage and the second about the management of coastal environments, which houses maritime heritage and lighthouses in particular. Within the existing legislation of Turkey, the planning and management of maritime heritage is bound to either the Act no. 2863, the Coast Act no 3621 or Tourism Act no 4957. There is not a comprehensive (integrated) coastal policy. The Act no.2863 is valid for conservation only if the heritage in question is registered. For the rest, Coast Act applies. Although the law is named as coastal law specified for the coasts, the utilization principles of the coast and shore strip in this law has been controversial. Moreover, these acts do not take the special physical characteristics of coastal areas that are home to maritime heritage into account. The valid coastal act necessitates the formation of a uniform spatial pattern in the shore strip described in a stable manner. As maritime heritage embraces land and sea and underwater heritage it should be handled as special cases. In addition, there are many different policies and legal regulations describing the implementation processes of these policies and institutional structures concerning the coastal areas. The Tourism Act no 4957 creates an inbalanced situation overweighing towards tourism and accessibility of private sector against the conservation of maritime heritage.

Turkey had been home to lighthouses since the ancient period. During the Medieval Period these lighthouses had been utilized as aids to navigation with the addition of coastal fortresses. The Ottoman Empire preferred to utilize the formerly built lighthouses until 19th century, with few exceptions of new examples, either in the Capital or in newly conquered islands. The ongoing wars after 18th century required the reinforcement of defense systems of the Empire. Crimean War marked the beginning of measures for maritime safety and 1855 was the foundation of Lighthouse Authorities (Fenerler İdaresi) of French origin.

After the foundation of Turkish Republic, Lighthouse Authorities was handed over to the Turkish State in 1937 and constituted an important part of the independent

state formation in terms of transportation. Through several legal changes former Fenerler İdaresi became Kıyı Emniyeti Genel Müdürlüğü (KEGM- General Directorate of Coastal Safety). Today, all 459 Turkish lighthouses are owned by the state, under KEGM, Ministry of Transportation, Maritime Affairs and Communication.

In late 1990s the lighthouses were automated and light keepers were removed from the site to central offices. In 2006, KEGM started to lease lighthouses. However, the lighthouses were not studied and evaluated in detail. The inventory of lighthouses from an architectural, economic and social point of view is not complete. Thus, the number of registered structures, 27 out of 104 lighthouses, is not enough and these few do not represent the true content of lighthouses as a part of maritime heritage in Turkey. Lightkeeping is also under threat both as a craft and heritage. The number of lightkeepers in Turkey had fallen to 32 as of 2019 and almost all of them are assigned in central offices. As lightkeeping is not documented nor passed unto next generations anymore, it is destined to perish. With the critical decrease of lightkeepers, automation of lights focuses on the maintenance of lights and new light structures as opposed to maintenance and conservation of original light towers and keepers' residences. This situation increases the vulnerability of lighthouses.

The ownership and management of lighthouses is a complicated legal process. While the KEGM (Kıyı Emniyeti Genel Müdürlüğü- General Directorate of Coastal Safety) holds the ownership of lighthouses, there are many official and civic parties involved with maritime heritage and lighthouses. The management of lighthouses has always been a central process, almost treating the lighthouses like an isolated building lot, resulting in the lack of existence within the past and current planning processes on national and local level. Thus, after 2006, the restoration or adaptive reuse projects operated on single building lot scale rather than assessing the connection of lighthouses with the rest of the maritime heritage and integrity to the planning processes, user needs, accessibility and most important of all sustainability.

Academic studies aim to develop a more comprehensive understanding. Regarding the conservation of lighthouses we can mention only 2 master thesis in Turkey. The first one completed in 2000 by R. Ay, "Discussion about the usage of İstanbul Bosphorus's lighthouses and restoration of salvage buildings", focuses on the 7 lighthouses around the İstanbul Strait and investigates the problems of Riva Salvage Station in particular to propose a conservation project.[12] The other one completed in 2011 by O. Yerlikaya, "Architectural analyses of the historical lighthouses in Izmit Bay and conservation suggestions", focuses on 5 lighthouses around the Izmit Bay and presents a thorough architectural survey of 2 lighthouses in this area, namely Darıca-Yelkenkaya and Hersek-Dilburnu.[13] These two studies do not involve the intangible heritage of lightkeeping.

Except the registered lighthouses and the ones studied in these academic theses, few of the other lighthouses had been architecturally documented so far. But we may also mention an increasing interest in the lighthouses in the last decade which had yielded the production of photographic books,[14] lighthouse literature[15] and a video documentary.[16] Regarding the photographic books, while all of them focus on the visual qualities of lighthouses, publication of Sönmez aims to document lightkeeping up to a certain extent. Özker's documentary develops around 3 lighthouses, İnceburun, Gelidonya and Boztepe, and their light keepers, portraying the values and challenges of light keeping.

Lighthouses constitute a significant part of maritime heritage within the broader family of cultural heritage both in national and international scale. Integrated conservation and management of lighthouses in Turkey is an important problem for their longevity in the future and representation within the diverse cultural heritage of Turkey. The research questions arousing from this problem may be discussed as: What

[12] (Ay, 2000)
[13] (Yerlikaya, 2011)
[14] (Ermin & Tankuter, 2003), (Toroslu, 2008), (Sönmez, 2010), (Demirel, 2011)
[15] Ertuğ Uçar's several stories and books on lighthouse literature.
[16] Özge Deniz Özker's documentary "Denizebakan".

are the international and national frameworks for the conservation and management of maritime heritage and lighthouses in terms of legal context and implementation attitudes? What are the tools for the conservation and management of lighthouses in Turkey? What are the characteristics and current condition of lighthouses as a part of maritime heritage in Turkey? What are the values, challenges and potentials related to the lighthouses and their conservation in Turkey? What can be proposed for the conservation and management of lighthouses in Turkey?

### 1.2. Aim and Scope of The Thesis

Elaborating on the research questions in relation to the problem definition, the aim of this thesis is to propose conservation and management principles and actions by understanding, documenting and evaluating lighthouses as a part of maritime heritage in Aegean Coast, Turkey, regarding natural, man-made, temporal, visual-aesthetic, functional, economic, social, spiritual, legal contexts at different scales and time periods.

Within this scope, the thesis portrays the international and national policies regarding the conservation and management of maritime heritage and lighthouses; discusses international and national attitudes of implementations and projects regarding the conservation and management of maritime heritage and lighthouses in particular; provides an inventory of maritime heritage in Turkey through literature survey and limited in-situ surveys; provides an architectural catalogue of lighthouses in Turkey through literature survey; provides a comprehensive survey of the lighthouses in Aegean Coast, Turkey, regarding natural, man-made, temporal, visual-aesthetic, functional, economic, social, spiritual, legal contexts; documents intangible heritage of lighthouse keeping and its situation today in the Aegean Coast, Turkey; evaluates the characteristics and current condition of lighthouses in Aegean Coast, Turkey; assesses the values, challenges and potentials of lighthouses in Aegean Coast,

Turkey and defines principles and actions for the conservation and management of lighthouses as a part of maritime heritage in Aegean Coast, Turkey.

### 1.3. Methodology of the Thesis

The thesis uses literature survey and site study as two methods to compose the research. The literature survey has three main parts. The first part focuses on the international legislative context for the conservation of maritime heritage and lighthouses in particular. The survey includes international documents like declarations, agreements, recommendations mainly provided by ICOMOS, ICCROM, UNESCO, Council of Europe which had been approved by several countries in the world. The first part also discusses international attitudes for the conservation and management of maritime heritage and lighthouses in particular through implemented or proposed projects.

The second part of literature survey focuses on the national legislative context for the conservation of maritime heritage and lighthouses in particular. The survey includes national laws, acts, regulations and other kinds of legislative recommendations that have been published and approved on Resmi Gazete (Official Gazette). The national legislative context deals with the conservation of cultural heritage and the laws pertaining to coasts which are home to maritime heritage and lighthouses in particular. The second part also discusses national attitudes for the conservation of lighthouses in particular through implemented or proposed projects.

The third part of the literature survey is on documentation of maritime heritage in Turkey. The tangible part of maritime heritage in Turkey involves architectural features likes ancient harbours and ports from Hellenistic and Roman periods, maritime arsenals (like Alanya Seljukid shipyard or Gelibolu Ottoman shipyard), docks, fisheries, coastal fortresses, lighthouses both ancient and from closer centuries, salvage buildings, ferry stations, maritime museums, marine parks as well as movable features like ships from all periods even from a millenium ago, submarines, other vessels and items associated with them, located underwater. In addition to this tangible

heritage we might add the intangible part of maritime heritage as fishing traditions, crafts related to ship building and lighthouse keeping.

Table 1.1. *Tentative Process of the PhD Study* (Author).




To evaluate the condition of lighthouses in Turkey, it is necessary to document and complete the inventory of maritime heritage in Turkey first. For this purpose, through a literature survey, the maritime heritage of Turkey is documented on an

Autocad map of Turkey based on latitude and longitude coordinates. The coastlines are derived from previously drawn nautical maps and provided by Prof. Yalçın Arısoy from Dokuz Eylül University. This study had been developed by his student Doğan Dervişoğlu for his master thesis in 2007.[17] On this map the coordinates of the lighthouses are defined and set as they are published by the Office of Navigation, Hydrography & Oceanography and General Directorate of Coastal Safety for that particular year. Yet, the locations of these lighthouses are controlled and updated by the author of this thesis (Ö. Başağaç) because each year the data is updated through regular hydrographic surveys.[18] With each major update the previous list of lighthouses and fog signals are cancelled. Thus, the 2007 list of lighthouses and fog signals are outdated by the publication of 2012 list, which is the data used in this thesis.



*Figure 1.1.* Regular hydrographic surveys carried out by the Office of Navigation, Hydrography & Oceanography. *(Office of Navigation H. &., 2014)*

[17] (Dervişoğlu, 2007)
[18] (Office of Navigation H. &., 2014)

The original coordinates of the lighthouses are published as degrees, minutes and seconds.[19] But the map uses metric coordinates, so each location is converted. All the locations of the other items on this georeferenced list is based on the author's definitions. Each item is first mapped in GoogleEarth to define the latitudes and longitudes in degrees.

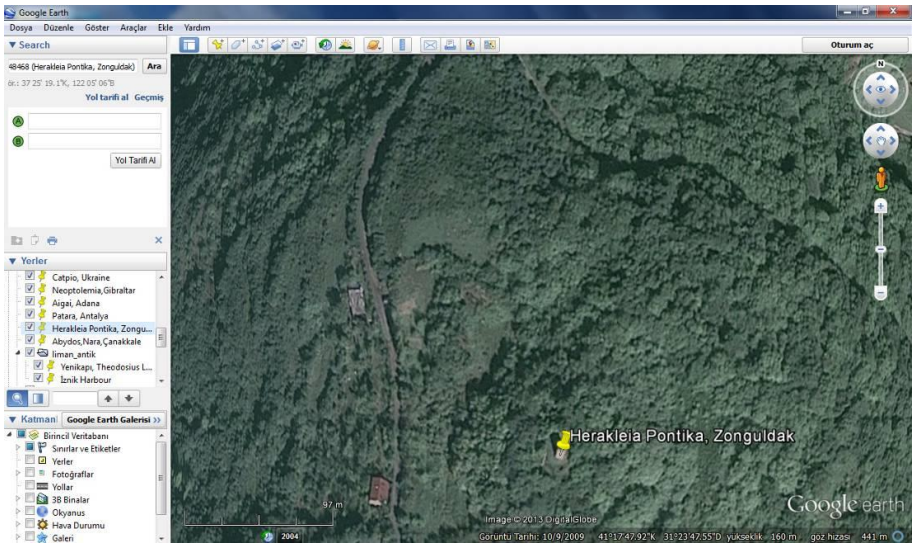



*Figure 1.2* **.**GoogleEarth displays the latitude/longitude coordinates of different items as the user moves through the screen. It is possible to pin and save specific locations. *(GoogleEarth, 2019)*

Then these coordinates are converted to metric coordinates through a software developed by Research Coordination Network of Montana State University.[20] Finally the item is put into its location on the Autocad map.

[19] (Office of Navigation H. a., 2012)
[20] (RCNMSU, 2013)

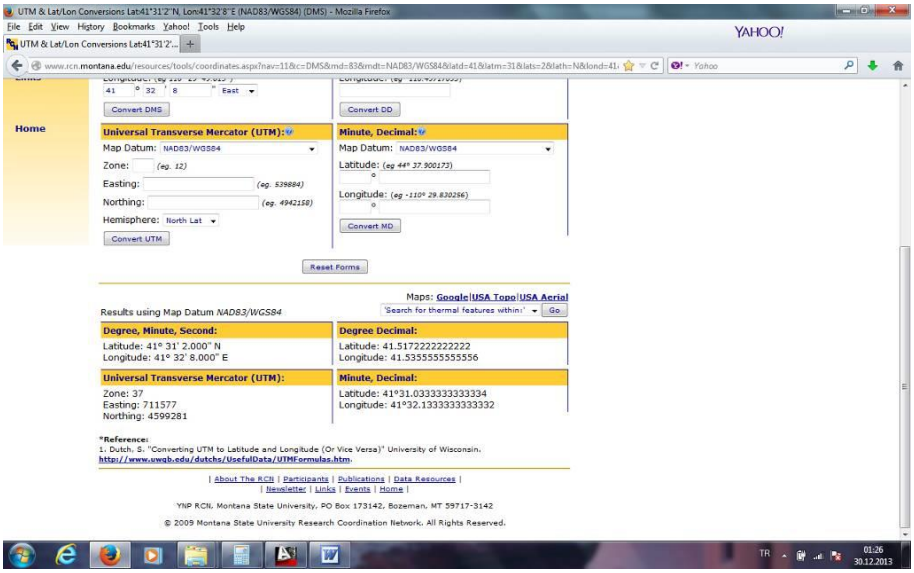



*Figure 1.3.* Conversion of Latitude/Longitude to Decimal coordinates through the web converter of RCN of Montana University. *(RCNMSU, 2013)*

The map aims to bring together an inventory of maritime heritage through mapping and understand the spread of maritime heritage along the coasts over the centuries as well as its relation to inland and other maritime centers. Different roads and routes portray the various networks of commerce, politics, societies, beliefs and cultures.

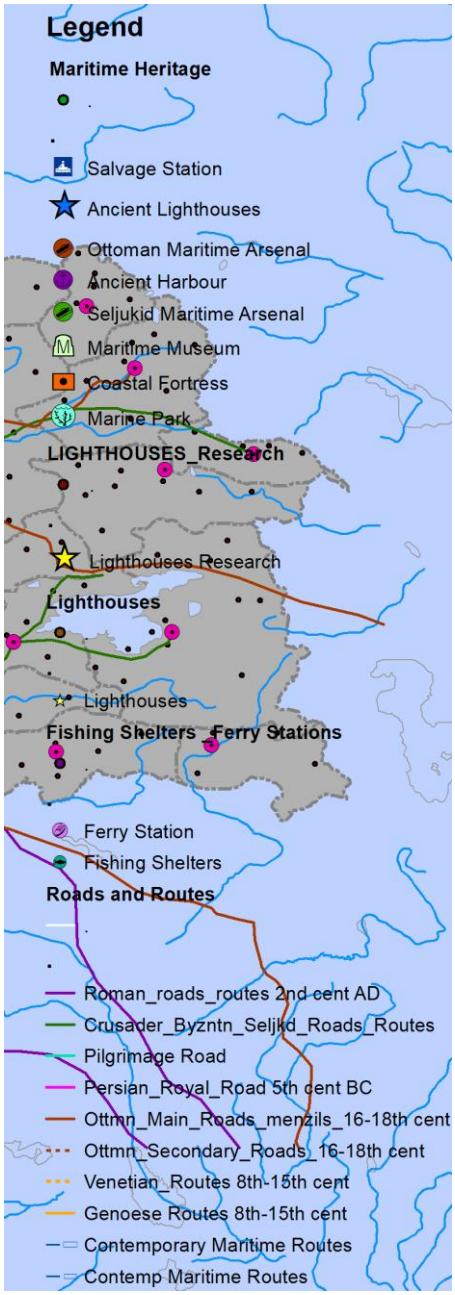



*Figure 1.4.* Legend of the map of Maritime Heritage in Turkey. *(Başağaç & Altınöz, An Important Maritime Heritage: Lighthouses of Turkey, The Case of Aegean Coast, 2018)*

The map contains a variety of items as:

**lighthouses for research, regarding the Pharology definition:* Lighthouses are located (longitude & latitude) regarding the publications of the Office of Navigation, Hydrography & Oceanography and General Directorate of Coastal Safety.[21]

**lighthouses or fog signals:* They are located (longitude & latitude) regarding the publications of the Office of Navigation, Hydrography & Oceanography and General Directorate of Coastal Safety.[22]

**ancient lighthouses:* Ancient lighthouses are defined by the unpublished master thesis of Güzin Özkan[23] and most of the coordinates are verified by the Digital Map of the Roman Empire on Pelagios Project Web page[24], Ancient World Mapping Center of University of North Carolina at Chapel Hill[25] in USA, Digital Atlas of the Roman Empire by Johan Åhlfeldt in Lund University in Sweden[26] and the Digital Atlas of Roman and Medieval Civilizations by Harvard University.[27] Some coordinates are defined by the author via Google Maps, by comparing ancient place names with current locations.[28]

[21] (Office of Navigation H. a., 2012)
[22] (Office of Navigation H. a., 2012)
[23] (Özkan, 2009)
[24] (Pelagios, 2014)
[25] (UNC, 2019)
[26] (Åhlfeldt, 2019)
[27] The interactive map first went online in 2007 but it is constantly updated and enhanced with new data. (DARMC, 2014)
[28] (GoogleEarth, 2019)

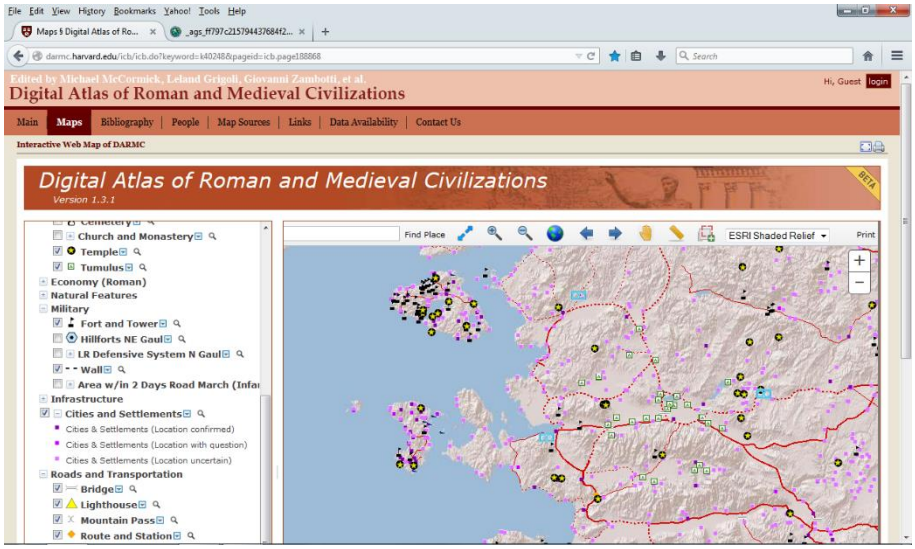



*Figure 1.5.* Interactive Web Map of Digital Atlas of Roman and Medieval Civilizations, *(DARMC, 2014)*

**salvage buildings/ stations:* They are located (longitude & latitude) regarding the publications of the Office of Navigation, Hydrography & Oceanography and General Directorate of Coastal Safety.[29]

**ancient harbours/ ports:* They are verified by the Digital Map of the Roman Empire on Pelagios Project Web page[30], Ancient World Mapping Center of University of North Carolina at Chapel Hill[31] in USA, Digital Atlas of the Roman Empire by Johan Åhlfeldt in Lund University in Sweden[32] and the Digital Atlas of Roman and Medieval Civilizations.[33] Some coordinates are defined by the author via Google Maps, by comparing ancient place names with current locations.[34]

[29] (Office of Navigation H. a., 2012)
[30] (Pelagios, 2014)
[31] (UNC, 2019)
[32] (Åhlfeldt, 2019)
[33] (DARMC, 2014)
[34] (GoogleEarth, 2019)

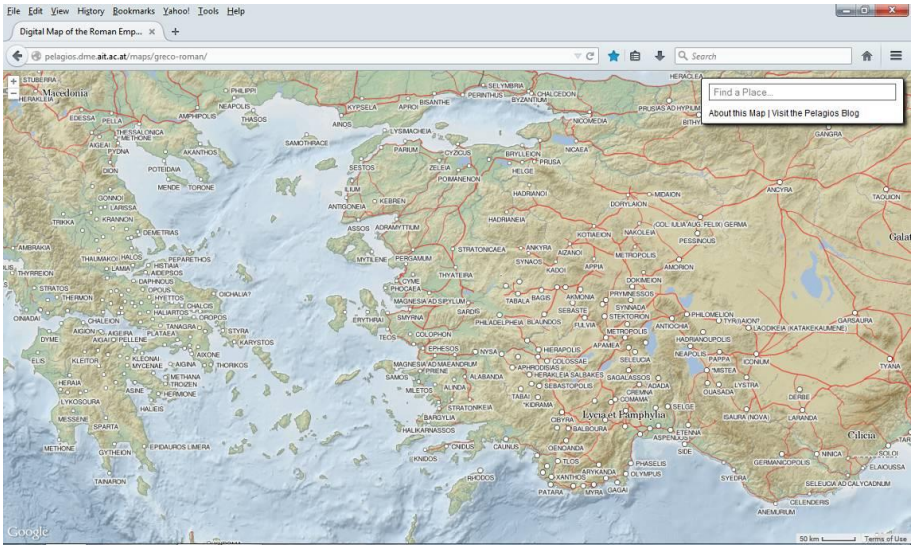



*Figure 1.6.* Digital map of Roman Empire from Pelagios**,** *(Pelagios, 2014)*

* *Seljukid maritime arsenals:* They are verified by the publication of Erdoğan Merçil.[35] The coordinates are defined by the author via Google Maps.[36]

**Ottoman maritime arsenals:* They are verified by the publications of Prof. Dr. İdris Bostan.[37] The coordinates are defined by the author via Google Maps.[38]

**Ottoman ship/ferry stations:* İstanbul ferry stations are defined by Aydın Sert's photos.[39] İzmir ferry stations are known by the author and all of them are located via Google Maps.[40]

**Republican ship/ferry stations:* İstanbul ferry stations are defined by Aydın Sert's photos.[41] İzmir ferry stations are known by the author and all of them are located via Google Maps.[42]

[35] (Merçil, 2009)
[36] (GoogleEarth, 2019)
[37] (Bostan, 2009)
[38] (GoogleEarth, 2019)
[39] (Sert, 2014)
[40] (GoogleEarth, 2019)
[41] (Sert, 2014)
[42] (GoogleEarth, 2019)

**coastal fortresses:* They are verified by the PhD thesis of Selcen Cesur in Yıldız Technical University.[43] Some are defined from "Türkiye Deniz Fenerleri Atlası"[44] as some lighthouses are situated on coastal fortresses. The coordinates are defined by the author via Google Maps.[45]

**maritime museums:* They are verified by the author from related websites[46] or onsite visits. Each location is identified through Google Maps.[47]

**shipwrecks from all periods:* Shipwrecks are located using the coordinates of the related information on the web site of Institute of Nautical Archaeology, Mustafa Aydemir's book, Digital Atlas of Roman and Medieval Civilizations Project Web Site and Wreck Site EU.[48]

**marine parks:* Gökçeada Marine Park is located by the information on the web site of Turkish Marine Research Foundation.[49]

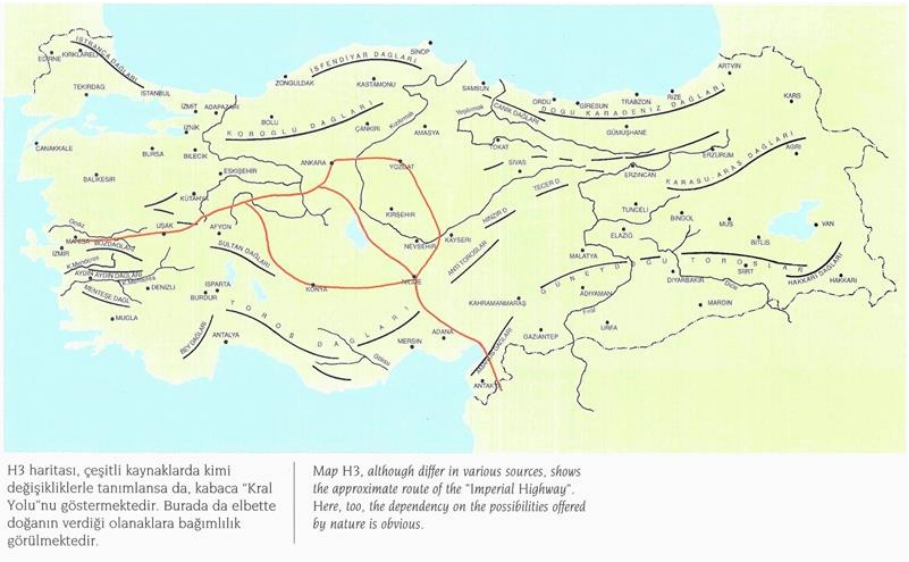
**fishing shelters:* They are verified by the book of "Ülkemiz Balıkçı Barınakları".[50] The coordinates are defined by the author via Google Maps.[51]

As well as:

* *Contemporary cities:* They are defined via Google Maps.[52]

[43] (Cesur, 2009)
[44] (Demirel, 2011)
[45] (GoogleEarth, 2019)
[46] (Arkas Naval History Center in İzmir Facebook , 2014); (RKoçMuseum, 2014) ; all state held military naval/ sea museums may be reached from the Web Site of Sea Museum Commandership (İstanbul/ İzmir/ Çanakkale/ Kocaeli/ Mersin/ İskenderun Sea Museums) (Commandership, 2014); Bodrum Sea Museum (BSMuseum, 2014), Bodrum Museum of Underwater Archaeology (BodrumMuseumUA, 2014).
[47] (GoogleEarth, 2019)
[48] (INA, 2014); (Aydemir, 2004); (DARMC, 2014) (WreckSiteEU, 2014)
[49] (Gökçeada Marine Underwater Park, 2014)
[50] (SÜHDB, 2004)
[51] (GoogleEarth, 2019)
[52] (GoogleEarth, 2019)

* *Persian royal road, 5th century BC:* It is verified from the maps in "Selçuklu Kervansarayları", by Cengiz Bektaş, published by Yem yayın in 1999.[53]




H3 haritası, çeşitli kaynaklarda kimi değişikliklerle tanımlansa da, kabaca "Kral Yolu"nu göstermektedir. Burada da elbette doğanın verdiği olanaklara bağımlılık görülmektedir.

*Map H3, although differ in various sources, shows the approximate route of the "Imperial Highway". Here, too, the dependency on the possibilities offered by nature is obvious.*

*Figure 1.7.* Map of the Persian Royal Road, *(Bektaş, 1999)*

* *Roman Roads & Routes, 2nd century AD:* They are verified by the Digital Map of the Roman Empire on Pelagios Project Web page[54] and the Digital Atlas of Roman and Medieval Civilizations.[55]

* *Crusader- Byzantine- Seljukid Roads & Routes:* They are verified from the maps in "Selçuklu Kervansarayları", by Cengiz Bektaş, published by Yem yayın in 1999.[56]

[53] (Bektaş, 1999)
[54] (Pelagios, 2014)
[55] (DARMC, 2014)
[56] (Bektaş, 1999)

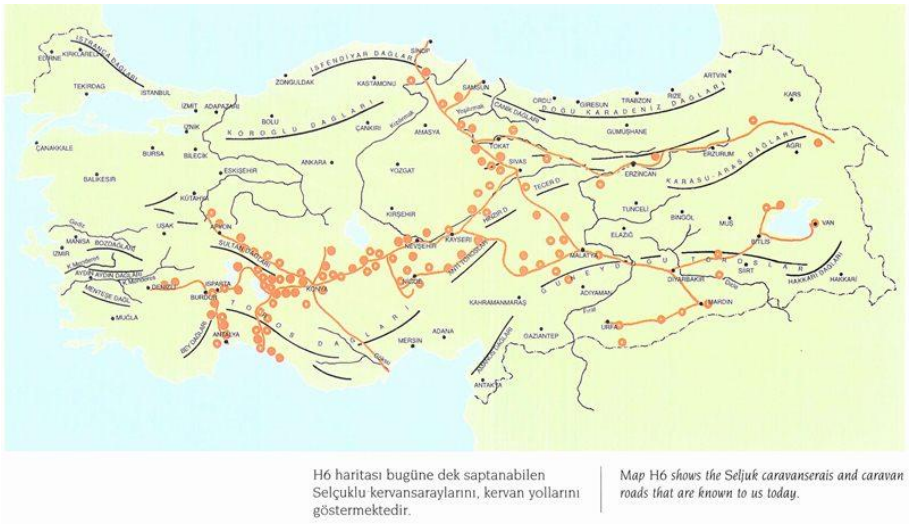



*Figure 1.8.* Map of the caravan roads and caravanserais *(Bektaş, 1999)*

* *Ottoman Main Roads (menzils) and routes, 16-18th century:* Ottoman main roads and maritime routes are taken from Sevgi Aktüre's book "Anadolu'da Bronz Çağı Kentleri" published by Tarih Vakfı in 1994.[57]

* *Ottoman Secondary Roads (menzils) and routes, 16-18th century:* Ottoman secondary roads and maritime routes are taken from Sevgi Aktüre's book "Anadolu'da Bronz Çağı Kentleri" published by Tarih Vakfı in 1994.[58]

[57] (Aktüre, 1994)
[58] (Aktüre, 1994)

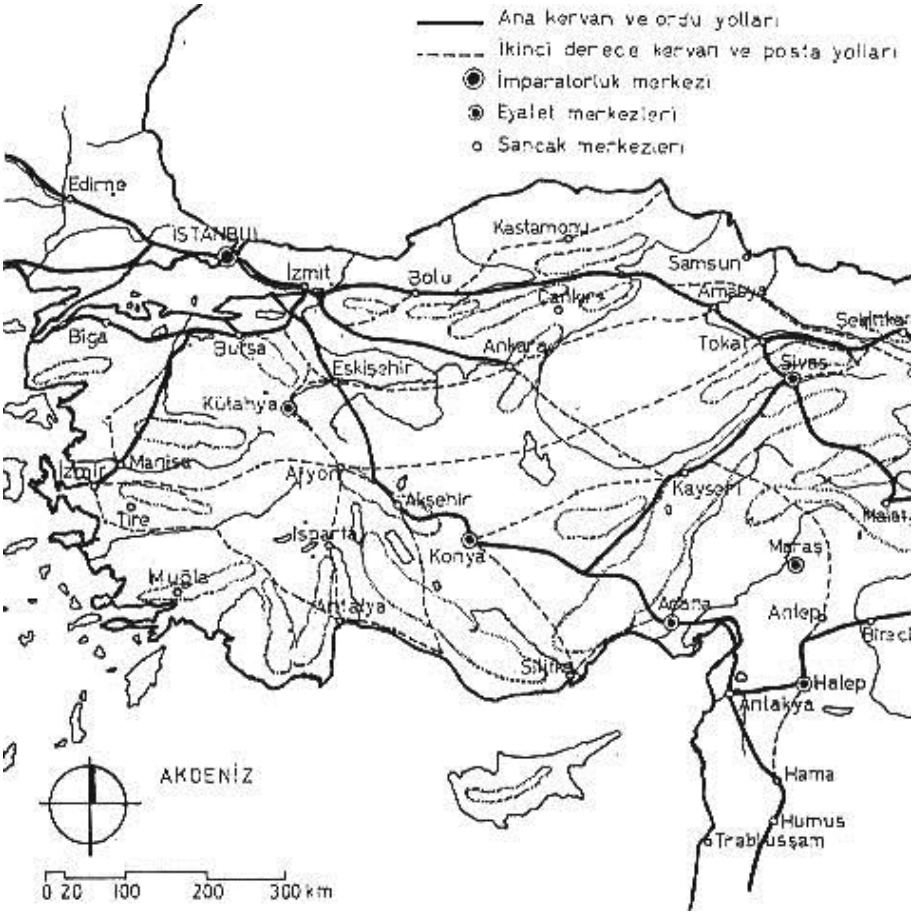



*Figure 1.9.* Ottoman main and secondary roads *(Aktüre, 1994)*

* *Venetian Routes, 8th-15th century:* Defined by the Wikipedia article on Republic of Venice.[59]

* *Genoese Routes, 8th-15th century:* Defined by the Wikipedia article on Republic of Genoa.[60]

* *Pilgrimage road:* It is taken from Sevgi Aktüre's book "Anadolu'da Bronz Çağı Kentleri" published by Tarih Vakfı in 1994.[61]

[59] (Republic of Venice, 2014)
[60] (Republic of Genoa, 2014)
[61] (Aktüre, 1994)

* *Contemporary Maritime Routes:* They are taken from Google maps.[62]

[62] (GoogleEarth, 2019)

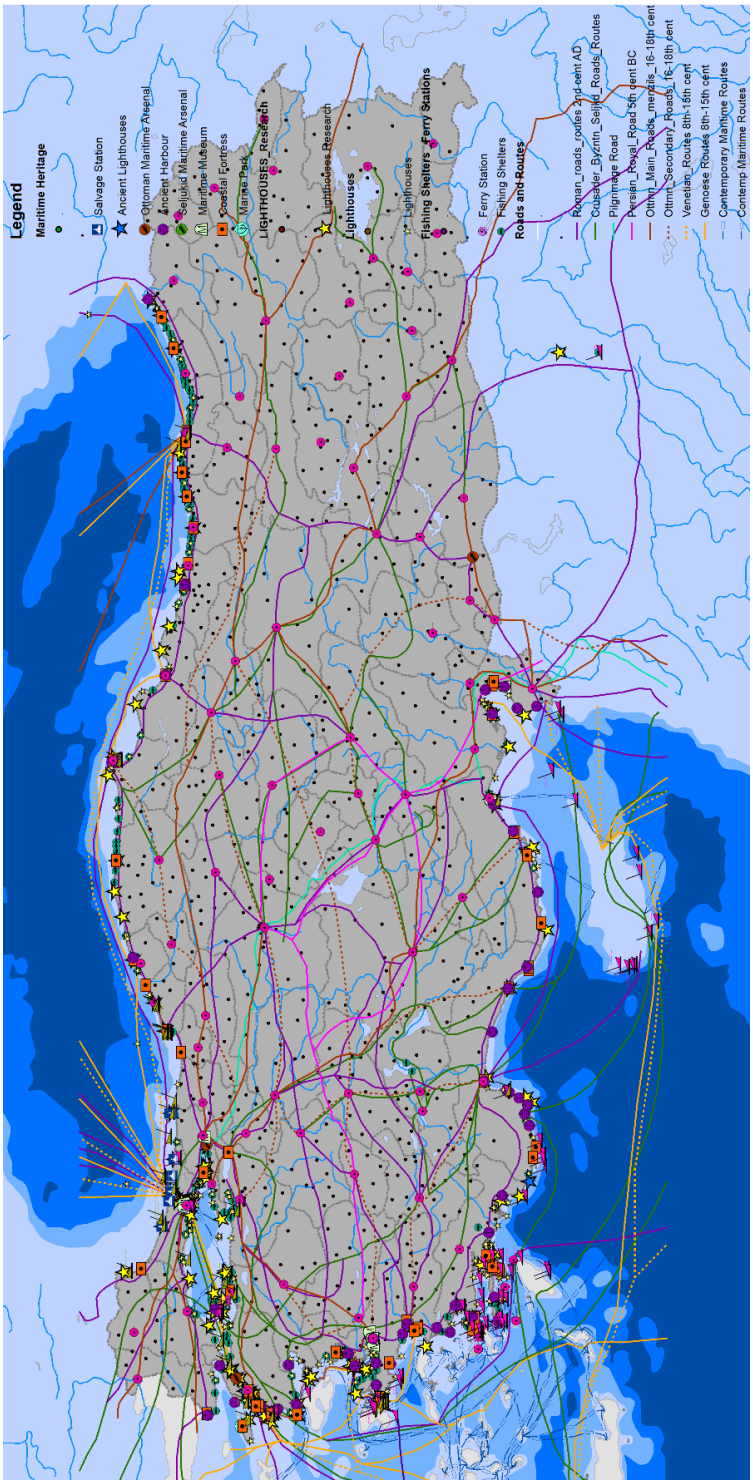



*Figure 1.10.* Map of Maritime Heritage of Turkey *(Başağaç, Denizcilik Kültür Mirasının Korunması: Türkiye Deniz Fenerleri Işığında Akdeniz ve Ege Kıyıları, 2018)* and *(Başağaç & Altınöz, An Important Maritime Heritage: Lighthouses of Turkey, The Case of Aegean Coast, 2018)*

The second part of the thesis involves site study as a research method to identify and document the characteristics and current situation of lighthouses in Turkey. Pharalogy[63] defines a lighthouse as a fully or partially enclosed structure carrying a light that is used as a navigational aid and that has the necessary space to admit at least one person to operate or maintain the light completely from inside.

Regarding the pharalogy definition of a lighthouse, in our research there are 21 lighthouses in the Black Sea Region, 21 lighthouses in the Aegean, 9 in the Mediterranean, 12 in the Marmara. Bosphorus/ Istanbul region has 16 and Dardanelles has 18 lighthouses. This sums up to 102 lighthouses in total, 6 of which are ancient.

Evaluating the preliminary documentation of maritime heritage and lighthouses, it might be argued that the Aegean Sea coast presented the biggest variety of problems (and most probably possibilities) regarding the maritime heritage and lighthouses as a part of maritime heritage. Thus, it was chosen as the case study area to be evaluated in greater detail through onsite surveys. Starting from the east of Dardanelle Strait in Çanakkale, following Gökçeada and Bozcaada respectively to the south, then Balıkesir, İzmir and Aydın in the middle and ending with Muğla, all the way to the east of this city; is the boundary of this study area. However, research constraints had obliged to exclude Muğla from this initial list. Consequently, Çanakkale- Aydın study area contains 33 examples in total, 24 lighthouses and 9 lightstructures. Certain light structures are included in this study as they provide important nodes for connecting the maritime cultural routes and the cultural heritage along the Aegean Coast in Turkey.

The most northern (Gelibolu Lighthouse in Çanakkale) and southern (Bayrak Island Lighthouse in Aydın) examples in this study are distanced rougly 550 km apart. The most western example is Gökçeada Aydıncık / Kefalos Lighthouse in Çanakkale, whereas the most eastern example is Kuşadası Güvercinada Lighthouse in Aydın.

[63] (Trethewey, Pharology, 2012)

The case study aims to gather data to analyze different contexts through different scales, from building to international, to understand the past, present and future of the lighthouses. The contexts include physical (natural, man-made, architectural), visual-aesthetic, functional (functional, economic), social (social-cultural, spiritual-meaning), legal and administrative.

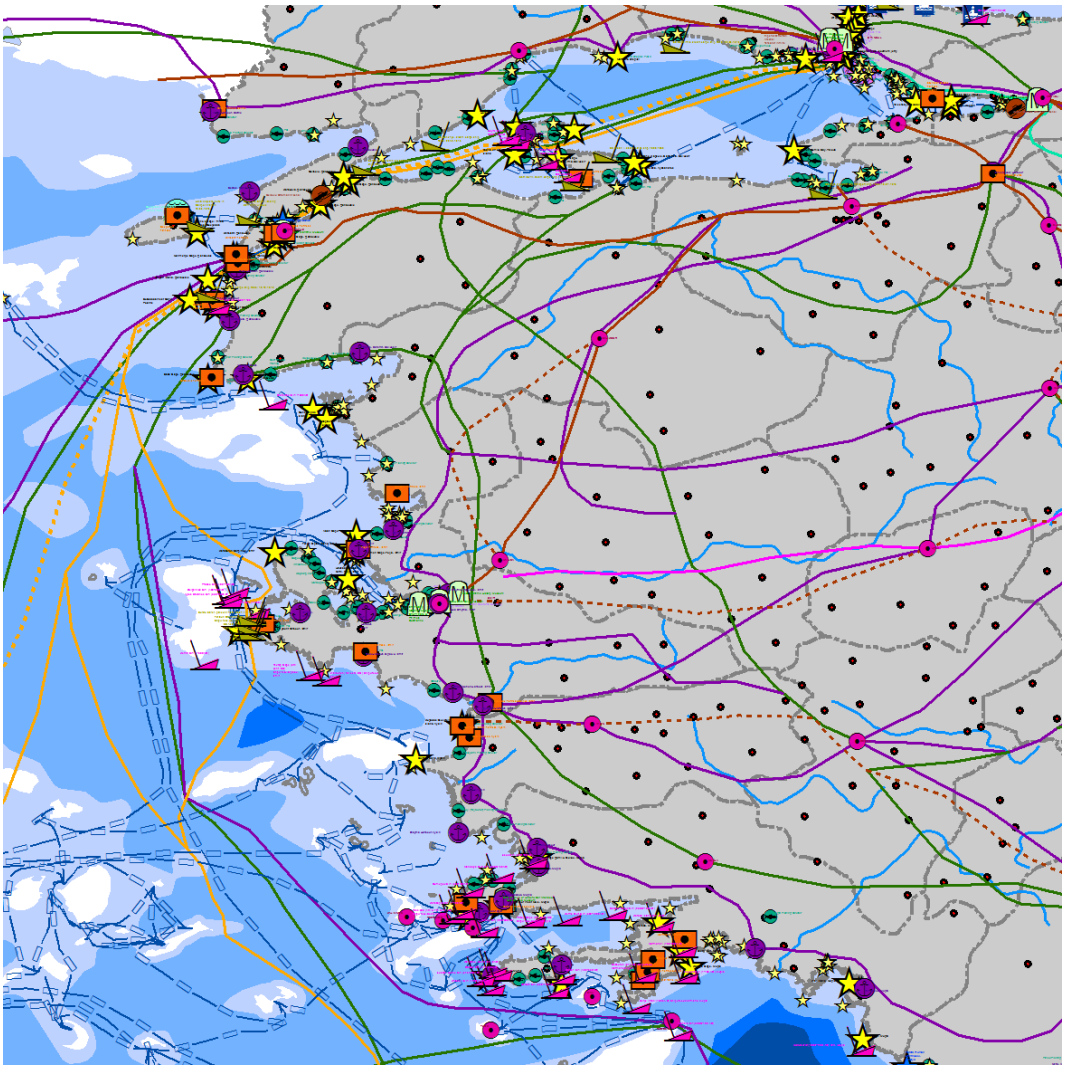


*Figure 1.11.* Map of the Study Area, Aegean coast of Turkey starting from the east of Dardanel Strait in Çanakkale, continuing towards the south and ending to the south of Aydın. Muğla is excluded from the final study area. *(Başağaç & Altınöz, An Important Maritime Heritage: Lighthouses of Turkey, The Case of Aegean Coast, 2018)*

*Study Area Part 1-Çanakkale/ Gökçeada/ Bozcaada*

There are 18 lighthouses to be studied in this region.




*Figure 1.12.* Map of the northern section (Çanakkale- Bozcaada- Gökçeada) of the study area (Author).

*Study Area Part 2-Balıkesir/ İzmir/ Aydın*

There are 15 lighthouses to be studied in this region.




*Figure 1.13.* Map of the middle and south section (Balıkesir- İzmir- Aydın) of the study area (Author)**.**

Directorate of Coastal Safety had gathered almost all the lighthouse keepers to its central quarters or branch directorates. Izmir Directorate is responsible for 189 lighthouses in total, in Balıkesir-İzmir-Aydın-Muğla. 83 of these are located in Balıkesir-İzmir-Aydın and 106 are in Muğla. The people technically responsible for these lighthouses are Afşin Alpceylan (Chief Technician), Hasan Hakan Erbek (Technician), Şadan Çimşir (Lighthouse Keeper), Adem Demirezen (Lighthouse Keeper), Mustafa Canıtez: (Lighthouse Keeper for Sarpıncık), Serkan Güdem (Lighthouse Keeper for 11 Foça, Aliağa, Dikili & Altınova lighthouses), Bayram Keskinkılıç (Lighthouse Keeper for 3 lighthouses in Kuşadası & Didim) and Hasan

Bahri Yaman (Lighthouse Keeper for 8 Ayvalık lighthouses). Regarding our study we have interviewed all the staff in İzmir Directorate of Coastal Safety and made brief interviews with Çanakkale Directorate of Coastal Safety staff.

The main physical documentation of the lighthouses was focused on a level between 1/50 to 1/100 scale survey drawings. This scale would be enough to cover the basic dimensions and characteristics of the lighthouses and accompanying buildings. It would be enough to represent the spatial relationships on a site level as well. The measurements were carried out with a reflectorless total station. Where the surveying conditions were inappropriate, or time was limited, manual measurements with steel tapes were preferred. Each lighthouse and lightstructure was first documented with a scaled sketch.

Further information about the details was to be collected through digital photos and video footage. The documentation was supported with physical survey sheets for verifying site characteristics, land use, users, current condition, current use, legal context, dimensions, spatial characteristics, materials, structural characteristics, structural and material problems, existence of utilities, provision of services and so on. The rate of data to be gathered was adjusted over the course of each site visit. And the first detailed courtyard, exterior and interior survey sheets were simplified to provide a more compact survey. Consequently, a single site and architectural survey sheet was applied to each lighthouse/ lightstation.

Table 1.2. *List of site visits for the research (Author, 2019)*

| City | Name of Lighthouse | Date |
|---|---|---|
| Çanakkale | Gelibolu | 07.07.2015 |
| | Çardak | 06.07.2015 |
| | Karakova | 07.07.2015 |

| | | |
|---|---|---|
| | Akbaş Cape (Sestos) | Not entered- Military Zone<br>Photographed from afar |
| | Nara Cape (Abydos) | Not entered- Military Zone<br>Photographed from afar |
| | Çimenlik | 07.07.2015 & 08.07.2015 |
| | Kilitbahir | 07.07.2015 |
| | Kepez | 06.07.2015 |
| | Seddülbahir | Not visited- Photographed from the sea |
| | Kumkale | Not entered- Military Zone<br>Photographed from afar |
| | Mehmetçik | 07.07.2015 |
| | Gökçeada/ İmroz/ Kefalos<br>Aydıncık Cape | 07.07.2015 & 08.07.2015 |
| | Bozcaada Tavşan Island | 09.07.2015 |
| | Bozcaada West Cape/ Polente | 08.07.2015 |
| | Bozcaada Damlacık/ Gadaro | 08.07.2015 & 09.07.2015 |
| | Bozcaada Mermer Cape | 08.07.2015 |
| | Babakale | 06.07.2015 |
| | Sivrice | 06.07.2015 |
| Balıkesir | Edremit Karaburun | Not visited |
| | Ayvalık Güneş Island | 16.11.2014 |
| | Ayvalık Çıplakada | 16.11.2014 |
| İzmir | Dikili Bademli Cape | 25.06.2018 |
| | Tavşan Island (Aliağa) | Not visited |
| | Ilıca Cape (Aliağa) | Not visited |
| | Fener/ Oğlak Island | 18.05.2014 |

| | | |
|---|---|---|
| | Fener/ Değirmen Cape | 18.05.2014 & 10.02.2016 |
| | Aslan Cape | 18.05.2014 |
| | Pasaport | 17.04.2014 & 11.05.2018 |
| | Sarpıncık | 20.04.2014 & 14.09.2014 |
| | Çeşme Fener Cape | Not visited |
| | Süngükaya Island/ Paspariko | Not visited |
| Aydın | Güvercinada | 03.05.2014 & 14.07.2014 |
| | Bayrak Island/ Panagya | 11.06.2014 |

For the documentation of lighthouse keeping and the life at the lighthouses, a social survey sheet was prepared. This sheet was used for a structured interview with the lighthouse keepers or technicians. At the beginning of the interview it was stated that they were free to avoid answering any questions if they disliked. The main aim was to document the interview through sound or video recordings. The consent of the staff was asked for recordings. However, the general tendency of the lighthouse keepers was to decline from giving a consent for being recorded. Thus, the answers were written down by the author.

A Geopraphical Information System is proposed as the most efficient way to store, analyze and interpret the separate visual, written and spatial data sets.

The aim is to define threats/ problems, potentials, priorities and interest groups, discuss the values inherent to maritime heritage and lighthouses, to produce conservation proposals in the final step of this research.

# CHAPTER 2

# CONSERVATION AND MANAGEMENT OF MARITIME HERITAGE AND LIGHTHOUSES

## 2.1. Conservation and Management of Maritime Heritage

There is not a single conservation charter or recommendation covering the whole content of maritime heritage. But different aspects were discussed in separate documents and preventive measures had been taken over time. Coastal heritage, underwater heritage, shipwrecks, marine environments, maritime legislation, maritime cultural routes were some of the issues raised throughout the years for the management and conservation of maritime heritage.

The tangible part of maritime heritage involves immovable (mainly architectural) features likes harbors, ports, quays, warehouses, shipyards, docks, fisheries, lighthouses and salvage buildings located around the coasts as well as movable features like ships, submarines, other vessels and artifacts on the water or underwater. This tangible heritage is open to compelling environments because it is located at the interface where the marine and terrestrial environments meet, and both are changing through continuous processes. As the land is reshaped through geological processes, the water level also changes because of climate change and global warming. Thus, original contexts of several environments have been transformed due to natural evolutions.

The environment of maritime heritage is extremely altered by human activities like urbanization, tourism, agriculture, energy production, industry, transportation and infrastructure, too. Especially the construction activities in coastal areas as well as open seas resulted in dramatic changes. Intangible maritime heritage (like traditional fishing, boat building, lightkeeping, boathouse building) is also affected negatively in

the recent decades. Thus, most of maritime heritage had been and still is threatened by a combination of natural and human caused problems.

Table 2.1. *International maritime heritage; development of conceptual and legal framework for conservation and management, prepared by the author.*

| Date | INTERNATIONAL MARITIME HERITAGE |
|---|---|
| 1926 | Norway had opened a maritime museum to display its ancient Viking boats which would be enriched in the following decades with other ships |
| 1960 | Salvage of 17th century Dutch Ship in Australia & New Zealand |
| 1960s | "Protection of Wrecks" act in England, only for designated wrecks |
| 1961 & 1965 | "Wrecks of Archaeological and Historic Interest" in France and its affiliates |
| 1962 | The Historic Articles Act in Australia & New Zealand |
| 1964 | Council of Europe report which set the foundation of "cultural routes" |
| 1966 | The USA Congress established a Marine Sciences Council |
| until 1970s | For USA and its affiliates, the handling of maritime heritage was under the control of admiralty rather than the historic preservation regulations. Half of the states had laws regarding submerged resources, but clarity and effectiveness differed widely. |
| 1969 | In 1969, US Marine Commission released a report on the marine environment. The report emphasized three issues: (1) the ocean as a frontier for resource development, (2) emerging threats to the coastal environment, and (3) the need to reorganize federal ocean and coastal programs. |
| 1970 | USA National Oceanic and Atmospheric Administration was established. |
| 1970 | Japan had established more than 60 marine parks all reserved for natural resources. In 1970 the Society for Underwater was founded by the university and this has led to the establishment of a Maritime Museum. |
| 1972 | USA National Marine Sanctuaries Act was accepted along with Marine Mammal Protection Act and Coastal Zone Management Act. |

| | |
|---|---|
| 1975 | Antiquities Act in Australia & New Zealand |
| 1978 | "Recommendation on the Underwater Cultural Heritage (Rec 878)" by Council of Europe, stressed the unity of land and underwater heritage. |
| late 1970s | Historic Shipwreck Act in Australia & New Zealand |
| 1977 & 1981 | In USA Florida, Key Largo and Looe Key were designated the first national marine sanctuaries giving way to the designation of other marine sanctuaries to finally include maritime heritage resources, too. |
| 1982 | "United Nations Convention on the Law of the Sea" The rights and duties of coastal states as well as the conditions in international waters. The prevention, reduction and control of pollution. The protection and preservation of the marine environment including the coastline. Global and regional cooperation, promotion of marine scientific research. Preservation of archaeological and historic objects. |
| 1984 | Report prepared by the Committee of Experts on the Underwater Cultural Heritage of Council of Europe to correct the deficiencies in the Law of Sea |
| 1984 | "Recommendation 987 of the Parliamentary Assembly of the Council of Europe" was published. Work towards the inscription of significant cultural routes on UNESCO's World Heritage List. |
| early 1980s | Canada had adapted vast maritime archaeology programs in the early 80s and held various maritime preservation workshops. The interest was jointly encouraged by the government and local citizen groups. |
| 1987 | 3 maritime parks were established, more than 100 wrecks were documented in Australia |
| 1987 | "European Cultural Routes Program" of the Council of Europe was founded, considering the Recommendation 987. The same year Santiago de Compostela Pilgrim Routes became a certified Cultural Route of Council of Europe. |
| late 1980s | increase of interest in maritime heritage in the Nordic countries due to exploitation of oil in the Nordic Sea, this giving way to a change of coastal traditional life and economy, spread of preservation societies and similar organisations, popularization of coastal recreation areas. restoration of vessels and putting them back into use again |

| | |
|---|---|
| 1988 | Intergovernmental Panel on Climate Change. Similarly, the negative impacts on coastal areas was discussed by World Meteorological Organization and United Nations Environment Programme in 1988 |
| 1990 | Recommendation on the Protection and Conservation of the Industrial, Technical and Civil Engineering Heritage (R(90)20) by the Council of Europe stressed the need to develop a land policy and integrated planning for deserted industrial areas which represented important production lines. Specific maritime heritage zones situated on the coasts could benefit from this |
| 1991 | The Hansa Route became a certified Cultural Route of Council of Europe. It was the first maritime cultural route shared by different nations. (190 coastal cities in 16 countries) |
| 1992 | "Rio Declaration on Environment and Development" of the United Nations emphasized significance of sustainable development policies integrated with environmental protection, while coastal areas were discussed as a special topic area |
| 1993 | The Route of Santiago de Compostela (the areas within the boundaries of Spain) was categorized as a world heritage asset by UNESCO |
| 1994 | "Routes as Part of Our Cultural Heritage" meeting. The final report was presented to UNESCO and ICOMOS for review and approval. |
| 1994 | Draft Convention on the Protection of the Underwater Cultural Heritage by UNESCO |
| 1996 | ICOMOS International Charter on the Protection and Management of Underwater Cultural Heritage |
| 1997 | Recommendation for Development of Sustainable Environment Friendly Tourism in Coastal Areas (Rec. (97) 9) Enabling protective laws, controlling coastal development, controlling activities damaging natural environment, monitoring and fighting pollution, diversifying tourist services, encouragement of training and cooperation between locals, administrations, regions and countries. |
| 1998 | "European Institute of Cultural Routes (EICR)" was founded with an agreement between the Council of Europe and the Grand Duchy of Luxembourg to enhance cultural tourism. |

| | |
|---|---|
| late 1990s | "Integrated Coastal Zone Management" (ICZM). The main objective of ICZM is the sustainable development of coastal zones by balancing the environment and landscapes with economic, social and cultural development through the rational planning of activities. |
| 1999 | The European Code of Conduct for Coastal Zones prepared by Council of Europe in 1999 was the first document on ICZM stating "…The activities should be balanced with natural, cultural and physical characteristics of surrounding areas and should preserve coastal cultural heritage" |
| 2000 | The United States National Oceanic and Atmospheric Administration (NOAA) became legally responsible for the management of maritime heritage resources within marine sanctuary boundaries. NOAA was appointed through the National Marine Sanctuaries Act of 2000. The act contains the legislation for the protection of historical and archaeological properties on federal and federally managed lands. This act is used to certify and manage significant marine environments as National Marine Sanctuaries. |
| 2001 | Convention on the Protection of the Underwater Cultural Heritage by Unesco, extending the draft convention of 1994 |
| 2003 | Recommendation 1630- Erosion of the Mediterranean Coastline: Implications for Tourism by Council of Europe. Coastal protection, integrated management and conservation of fragile coastal areas rather than commercial activities |
| 2005 | "Operational Guidelines for the Implementation of the World Heritage Convention" by UNESCO was revised and cultural routes were declared as one of the four heritage categories. |
| 2008 | ICOMOS Charter on Cultural Routes- The acceptance of Cultural Routes within the realm of cultural heritage was the result of the development in the conservation of cultural heritage. Starting with the conservation of a single monument, evolving into sites and settings, the concept of conservation reached a more inclusive state on a territorial scale. The concept introduced the investigation of cultural heritage with a new conservation ethics beyond the national borders, in need of joint efforts, with common intrinsic values. |

| | |
|---|---|
| 2008 | Protocol on Integrated Coastal Zone Management in the Mediterranean by UNEP. "establishing in coastal zones, as from the highest winter waterline, a zone where construction is not allowed. ... this zone may not be less than 100 meters in width". Focus on coastal landscapes, whether as protected areas or not; the protection of these through legislation, planning and management and to preserve and protect the cultural heritage of coastal zones, including the underwater cultural heritage |
| 2009 | In 2009, the Tower of Hercules, the ancient Graeco-Roman lighthouse, built in 1st century AD, in La Coruna, Spain was designated as a World Heritage site by UNESCO. |
| 2012 | "Action Plan for the Implementation of the Protocol 2012-2019" was adopted by the Contracting Parties to the Mediterranean Action Plan- Barcelona Convention. Creating new transnational networks or supporting the already existing ones on a regional or sub-regional level. |
| 2013 | The institutional and legal sections of the Reporting Format for the ICZM Protocol were adopted in Istanbul. |
| 2013 | "Marine Natural Heritage and the World Heritage List-Interpretation of World Heritage criteria in marine systems, analysis of biogeographic representation of sites, and a roadmap for addressing gaps" was published by IUCN, International Union for Conservation of Nature. |
| 2018 | Turkey became a member country for the "Cultural Routes Programme" of Council of Europe |

In 1926 Norway had opened a maritime museum to display its ancient Viking boats which would be enriched in the following decades with other ships.[64]

Australia and New Zealand were one of the pioneer countries in the world to adapt laws for conservation of maritime heritage as early as 1960s which was initiated by the salvage of 17th century Dutch merchantmen in western Australia.[65] The Historic Articles Act of 1962 and Antiquities Act of 1975 have led the way to the formation of legislations for maritime heritage, namely the Historic Shipwreck Act in

[64] (Molaug, 1987, pp. 328-336)
[65] (Kelly, 1987, p. 932)

late 1970s. Until 1987 three maritime parks were founded in Australia and more than 100 shipwrecks were documented.

England had also adapted a “Protection of Wrecks” act during the same time but it only covered the designated wrecks. Thus, any item buried underwater but not documented was prone to illegal disturbance.[66]

For France and its affiliates, 1961 and 1965 enactment “Wrecks of Archaeological and Historic Interest” defined certain actions to handle shipwrecks. However, maritime historic and archaeological resources were not protected from public work projects in this enactment.[67]

In 1964, the working group "L’Europecontinue" within Council of Europe prepared a report to enhance the public awareness of sites with great cultural importance.[68] The report focused on three issues; using travel to raise awareness of European culture, setting up networks for cultural tourism of Europe and to promote the major sites and crossroads of European civilisation as places of interest to tourists.

For USA and its affiliates until 1970s the handling of maritime heritage was under the control of admiralty rather than the historic preservation regulations. Half of the states had laws regarding submerged resources, but clarity and effectiveness differed widely.[69]

In 1966 The USA Congress established a Marine Sciences Council. In 1969, this commission released a report on the marine environment. The report emphasized three issues: (1) the ocean as a frontier for resource development, (2) emerging threats to the coastal environment, and (3) the need to reorganize federal ocean and coastal programs. The report led to a reorganization of federal ocean efforts and the creation of the National Oceanic and Atmospheric Administration (NOAA) the next year.[70]

[66] (Kelly, 1987)
[67] (Kelly, 1987)
[68] (Capp, 2001)
[69] (Kelly, 1987, p. 934)
[70] (NOAA, Legislation, 2015)

In 1972, USA National Marine Sanctuaries Act was accepted along with Marine Mammal Protection Act and Coastal Zone Management Act.[71] National Marine Sanctuaries Act had been amended and reauthorized several times since then, the last being in 2000. These acts ensured the protection of marine and maritime environments due to the significance of their natural and cultural resources.

Until 1970 Japan had established more than 60 marine parks all reserved for natural resources. In 1970 the Society for Underwater was founded by the university and this has led to the establishment of a Maritime Museum.[72]

The late 1970s has been an important era for mankind to assess his relationship with land and water. In 1978 "Recommendation on the Underwater Cultural Heritage (Rec 878)" by Council of Europe was declared.[73] Here, the assembly noted the satisfactory growing public interest in the underwater heritage but was anxious to point out the need for proper channeling of this interest as it was rapidly bringing the unauthorized destruction. The recommendation stressed the unity of land and underwater heritage.

In 1977 and 1981 respectively, in USA Florida, Key Largo and Looe Key were designated the first national marine sanctuaries giving way to the designation of other marine sanctuaries in a decade to finally include maritime heritage resources, too.[74]

In 1982 "United Nations Convention on the Law of the Sea" was declared.[75] The convention defined the rights and duties of coastal states as well as the conditions in international waters. This convention underlined the prevention, reduction and control of pollution as well as the protection and preservation of the marine environment including the coastline. Global and regional cooperation was supported, marine scientific research was promoted, especially by founding marine research centers. Article 149 was about archaeological and historical objects stating all such

[71] (NOAA, Legislation, 2015)
[72] (Kelly, 1987, p. 933)
[73] (Madran & Özgönül, 1999, pp. 216-217)
[74] (NOAA, Legislation, 2015)
[75] United Nations Convention on the Law of the Sea (UN, United Nations Convention on the Law of the Sea, 2013)

artifacts found in the area should be preserved for the mankind, while respecting the rights of the country of origin, cultural origin or historical and archaeological origin. Article 303 explained the removal of the archaeological and historical artifactss from seabed without permission would result in infringement and stressed protection in situ. However, these articles were criticized to be "too generic" and a report was prepared by the Committee of Experts on the Underwater Cultural Heritage of Council of Europe to correct the deficiencies in this Law of Sea in 1984.[76]

Canada had adapted vast maritime archaeology programs in the early 80s and held various maritime preservation workshops. The interest was jointly encouraged by the government and local citizen groups.[77]

In 1984 "Recommendation 987 of the Parliamentary Assembly of the Council of Europe" was published. Through this document all member states were encouraged to work on the inscription of significant cultural routes on UNESCO's World Heritage List.[78]

In 1987 "European Cultural Routes Program" of the Council of Europe was founded, considering the Recommendation 987. The same year Santiago de Compostela Pilgrim Routes became a certified Cultural Route of Council of Europe. The eligibility came not only because of the tangible heritage such as places of worship, hospitals, accommodation facilities, bridges and roads but also due to intangible heritage like myths, legends and songs which were integral to the Santiago Routes.[79]

In the late 1980s certain circumstances have increased the interest in maritime heritage especially in the Nordic countries.[80] Exploitation of oil in the Nordic Sea, change of coastal traditional life and economy, spread of preservation societies and

[76] (Kelly, 1987, p. 934)
[77] (Kelly, 1987, p. 931)
[78] (CoE, Recommendation 987 of the Parliamentary Assembly of the Council of Europe, 1984)
[79] (CoE, The Santiago de Compostela Pilgrim Routes, 1987)
[80] (Kloster, 1987)

similar organizations, popularization of coastal recreation areas were the main reasons. This condition was prepared by a long maritime tradition of centuries reaching its peak in the 20th century. As early as 1926 Norway had opened a maritime museum to display its ancient Viking boats.[81] This museum would be enriched in the following decades with other ships. The vast inventory of these museums helped to develop ways to preserve different kind of vessels. In fact, the Nordic countries had found a perfect solution to preserve their ships: restoring the vessels and putting them back into use again became the common practice for most cases. This also enabled the prosperity of the traditional coastal communities and the preservation of maritime related crafts for a long time. Meanwhile, a noticeable amount of the old lighthouses was restored, too.

In the same decade, studies related to climate change, sea-level rise and their impacts on coastal environments were presented by intergovernmental organizations such as Intergovernmental Panel on Climate Change. Similarly, the negative impacts on coastal areas was discussed by World Meteorological Organization and United Nations Environment Programme in 1988.[82]

In 1991, The Hansa Route became the second certified Culture Route of Council of Europe.[83] During 13th century, the Hanseatic League was formed by German maritime merchants for their shared economic interests. The league spread along the coasts of Northern Europe, mainly around the Baltic Sea. 225 cities joined the League, affecting economy, politics and trade until the 17th century. This cultural route was the first with a maritime character. Thus, it differed a lot from the mainly terrestrial Santiego de Compostela Pilgrim Route.

1992 "Rio Declaration on Environment and Development" of the United Nations Conference on Environment and Development emphasized significance of

[81] (Molaug, 1987, pp. 328-336)
[82] (UNEP, UNEP Annual Report 1988, 2013)
[83] (CoE, The Hansa Route, 1991)

sustainable development policies integrated with environmental protection, while coastal areas were discussed as a special topic area.[84]

1990 Recommendation on the Protection and Conservation of the Industrial, Technical and Civil Engineering Heritage (R(90)20) by the Council of Europe stressed the need to develop a land policy and integrated planning for deserted industrial areas which represented important production lines. Thus, specific maritime heritage zones situated on the coasts could benefit from this [85].

The Route of Santiago de Compostela (the areas within the boundaries of Spain) was categorized as a world heritage asset in 1993 by UNESCO[86]. Thus, it became the first globally designated cultural route. This decision brought nature conservation and the preservation of cultural heritage together. The parts of the route within France were also discussed, to be nominated soon. The Route of Santiago de Compostela triggered the debate for the inclusion of historic transportation corridors in the World Heritage. Thus, the meeting "Routes as Part of Our Cultural Heritage" was held in Madrid on November 30, 1994 and the final report was presented to UNESCO and ICOMOS for review and approval.[87] In this report, cultural routes were defined as the outcome of mobility and interaction of people, cultural exchanges and impact on all communities, taking place both in space and time".

In 1994 Draft Convention on the Protection of the Underwater Cultural Heritage was declared by UNESCO[88] followed by the ICOMOS International Charter on the Protection and Management of Underwater Cultural Heritage in 1996.[89]

Early 80s until late 1990s saw a booming of tourism on the coasts which paved the way to the 1997 Recommendation for Development of Sustainable Environment Friendly Tourism in Coastal Areas (Rec. (97) 9).[90] Providing protective laws,

[84] (UN, Rio Declaration on Environment and Development 1992, 2013)
[85] (Madran & Özgönül, 1999, pp. 375-379)
[86] (UNESCO, The Route of Santiago de Compostela, 1993)
[87] (UNESCO, Report on the Expert Meeting on Routes as part of our Cultural Heritage, 1994)
[88] (Madran & Özgönül, 1999, pp. 456- 61)
[89] (Madran & Özgönül, 1999, pp. 529- 33)
[90] (Madran & Özgönül, 1999, pp. 546-52)

controlling coastal development and activities damaging natural environment, monitoring and fighting pollution, varying tourist services, ttraining and cooperation between locals, administrations, regions and countries were underlined.

"European Institute of Cultural Routes (EICR)" was founded in 1998 with an agreement between the Council of Europe and the Grand Duchy of Luxembourg to enhance cultural tourism. The institute served as a non-profit organization to help and develop "Cultural Routes Program" of the Council of Europe. Thus, the administrative problems arising from the transnational nature of cultural routes were overcome by the institute as a mediator and overseer.[91] The same year "International Scientific Committee for Cultural Routes (ICCR)" was established by UNESCO.[92]

The complexity of problems in coastal areas have generated the concept of "Integrated Coastal Zone Management" (ICZM). The main objective of ICZM is the sustainable development of coastal zones balancing the environment and landscapes with economic, social and cultural development through the rational planning of activities.

The European Code of Conduct for Coastal Zones prepared by Council of Europe in 1999 was the first document to focus on this subject stating [93] the activities should be balanced with natural, cultural and physical characteristics of surrounding areas and should preserve coastal cultural heritage.

In 2000, the United States National Oceanic and Atmospheric Administration (NOAA) became legally responsible for the management of maritime heritage resources within marine sanctuary boundaries. NOAA was authorized through the National Marine Sanctuaries Act of 2000.[94] The act contains the legislation for the protection of historical and archaeological properties on federal and federally

[91] (CoE, European Institute of Cultural Routes, 1998)
[92] (ICOMOS, CIIC: International Committee on Cultural Routes, 1998)
[93] (CoE, The European Code of Conduct for Coastal Zones by Council of Europe, 1999)
[94] (NOAA, Legislation, 2015)

managed lands. This act authorizes the Secretary of Commerce to certify significant marine environments as National Marine Sanctuaries.

In 2001 UNESCO published the Convention On the Protection of the Underwater Cultural Heritage, extending the draft convention of 1994.[95]

In 2003 Recommendation 1630- Erosion of the Mediterranean Coastline: Implications for Tourism was adopted by CoE[96], focusing on the natural and cultural heritage of Mediterranean coastal areas, their protection against industrial, urban and other human induced developments, particularly mass tourism. All member states were encouraged to enhance national legislation and administrative mechanisms for coastal protection, particularly for fragile coastal areas, via integrated management, and prohibit commercial activities.

In 2005, "Operational Guidelines for the Implementation of the World Heritage Convention" by UNESCO was revised and cultural routes were declared as one of the four heritage categories. This was an important step for the recognition of cultural routes and certainly increased interest in them.[97]

In 2008, ICOMOS Charter on Cultural Routes was published.[98] Cultural Routes are the dynamic intercultural links which represent the various contributions of different people to cultural heritage. They may be on land or water. They represent mobility of people as well as the exchange of goods, ideas, knowledge and values over significant periods of time. Thus, they have affected and continue to impact cultures in space and time, reflecting to their tangible and intangible heritage. The acceptance of Cultural Routes within the realm of cultural heritage was the result of the development in the conservation of cultural heritage. Starting with the conservation of a single monument, evolving into sites and settings, the concept of conservation reached a more inclusive state on a territorial scale. This concept introduced the

[95] (UNESCO, Convention on the Protection of the Underwater Cultural Heritage 2001, 2001).
[96] (CoE, 2003 Recommendation 1630- Erosion of the Mediterranean Coastline: Implications for Tourism, 2003)
[97] (UNESCO, Operational Guidelines, 2005)
[98] (ICOMOS, ICOMOS Charter on Cultural Routes, 2008)

investigation of cultural heritage with a new conservation ethics beyond the national borders, in need of joint efforts, with common intrinsic values. In times of peace or war, Cultural Routes could enhance understanding and communication among nations, and increase transnational cooperation to preserve cultural heritage. Cultural Routes could also be treated as a tool for sustainable social and economic development whicg depended on cultural heritage values. Maritime heritage as the outcome of the communication between marine and terrestrial environments, not as static nodes but as dynamic elements of routes/ links could easily be viewed in this respect. Possessing international aspects in most cases, the complexity of maritime heritage in direct relation to maritime routes could be handled under the concept of "Cultural Routes".

In 2008, "Protocol on Integrated Coastal Zone Management in the Mediterranean" was adopted by different countries under UNEP [99]. The protocol proposed the acceptance of a coastal zone, not less than 100 m in width, where construction was prohibited, especially in areas risked by climate change and other natural factors. The protocol focused on coastal landscapes, whether as protected areas or not; the protection of these through legislation, planning and management and to preserve and protect the cultural heritage of coastal zones, including the underwater cultural heritage. These integrated strategies called in for the efforts to protect not only the physical heritage but also the intangible maritime heritage like dying maritime crafts, lighthouse keeping, old production methods and so on. Eight countries and the EU have accepted it since then.[100] Consequently, on 24 March 2011, the Protocol entered into force.

In 2009, the Tower of Hercules, the ancient Graeco-Roman lighthouse, built in 1st century AD, in La Coruna, Spain was designated as a World Heritage site by UNESCO. The lighthouse was able to stay structurally intact and keep functional continuity through the centuries. It proved the use of lighthouses in antiquity. The structure also signified the constant use of the Atlantic maritime route since its

[99] (UNEP, 2008 Protocol on Integrated Coastal Zone Management in the Mediterranean, 2008)
[100] (UNEP, UNEP Coastal Management Center, 2015)

formation by the Romans, into Medieval Age, to contemporary eras.[101] Tower of Hercules is still the only lighthouse on the World Heritage list as of 2019.

In December 2010, the Committee of Ministers of the Council of Europe passed the "Enlarged Partial Agreement on Cultural Routes" for encouraging partnership and cooperation between the states interested in the development of cultural routes.[102]

Starting from 2011 onwards, the Council of Europe held several activities regarding the concept of cultural routes. The CERTESS project (European Cultural Routes-Transfer Experiences Share Solutions) (2011-2013) and The HECTOR project *(Heritage and Cultural Tourism Open Resources for Innovative Training Schemes Related to The Cultural Routes of the Council of Europe*) (2014-2016) were just two of these programs.[103]

In 2012, "Action Plan for the Implementation of the Protocol 2012-2019" was adopted by the Contracting Parties to the Mediterranean Action Plan- Barcelona Convention.[104] In this action plan, adopting ICZM regionally but promoting it globally was underlined. Creating new transnational networks or supporting the already existing ones on a regional or sub-regional level was also suggested in the action plan.

In 2013, the institutional and legal sections of the Reporting Format for the ICZM Protocol were adopted in Istanbul.[105] This would enable the countries to manage their coastal zones in a better way and to deal with the emerging coastal environmental challenges.

In 2013, "Marine Natural Heritage and the World Heritage List- Interpretation of World Heritage criteria in marine systems, analysis of biogeographic representation

[101] (UNESCO, Tower of Hercules, 2009)
[102] (CoE, Enlarged Partial Agreement on Cultural Routes, 2010)
[103] (CoE, European Projects, 2011-2013, 2014-2016)
[104] (UNEP, UNEP Adoption of the Action Plan for the Implementation of ICZM Protocol for the Mediterranean (2012- 2019), 2012)
[105] (UNEP, UNEP Coastal Management Center, 2015)

of sites, and a roadmap for addressing gaps" was published by IUCN, International Union for Conservation of Nature.[106] Discussing this document is important for natural- cultural linkages. The document underlined the underrepresented number of marine natural heritage within World Heritage as opposed to the high percentage of areas that the oceans/ high seas covered on earth and their contribution to life. It argued the transnational character of marine heritage and instruments for inscription on the list. Cultural landscapes formed by nature and human beings were also elaborated in the report. They signified the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment as well as social, economic and cultural factors. Thus, an important part of a cultural landscape would be the biodiversity and ecosystem integrity on which it was dependent. Marine areas with significant biodiversity, accompanied with cultural values resulting from sustainable use of the natural resources could nominate areas as the cultural landscape (seascape) concept of the World Heritage Convention. The discussion of transnationality as well as providing a tight link between landscape and seascape could easily be carried out for maritime heritage, too.

As of 2019, the Council of Europe has 37 designated cultural routes on its list. 3 of these routes are completely maritime in nature as The Hansa, Viking Routes and Phonecians' Route. And some are partially maritime in nature such as: Routes of the Olive Tree, Via Francigena, The Routes Of El Legado Andalusi, Roman Emperors and Danube Wine Route and European Routes of Emperor Charles V. These cultural maritime routes extend well beyond the political boundaries of Europe due to the dynamic nature of maritime heritage. Several countries from Europe, Middle East, Africa and western Asia are connected through these routes which represent the diverse heritage of the world.

[106] (Abdulla, Obura, Bertzky, & Shi, 2013)

## 2.2. Conservation and Management of Lighthouses

In the simplest sense, lighthouses are the light towers that aid ships to navigate.[107] They are constructed to guide ships sailing close to the coasts, via the help of lens systems which concentrate and direct light. [108] Usually, they are located on hills to be seen from a long distance though some examples on low ground also exist.[109]

Lighthouses are supported by salvage buildings in critical locations. These buildings usually house staff to rescue sinking ships together with all the necessary equipment to communicate or announce emergency situations and intervene as needed.

Lighthouses used to accompany the maritime world since the early stages of antiquity. What had started as simple fires lit on high places had turned into an architectural feature and soon lighthouses had been built on critical locations all around the coasts.

It is guessed that approximately 200 lighthouses had been constructed around the world during the Hellenistic and Roman Period until 300 AD. It is a known fact that 30 of these were situated within the borders of the Roman Empire.[110]

[107] (Hasol, 1993)
[108] Pharology defines a lighthouse as a fully or partially closed structure carrying a light that is used as a navigational aid and that has the necessary space to admit at least one person to operate or maintain the light completely from inside.
[109] (Toroslu, 2008)
[110] (Stevenson, 1959)




*Figure 2.1.* Map of the ancient lighthouses, base image taken from GoogleEarth, processed by the author. The first 18 items are on the list of Stevenson in the "Map showing the sites of reputed ancient navigation lights".111 These are enhanced by new archaeological finds to include Turkish examples.1) Alexandria, Egypt; 2) Aegae, Adana, Turkey; 3) Smyrna, Izmir, Turkey; 4) Chrysopolis, İstanbul, Turkey; 5) Neoptolemia, Gibraltar; 6) Corinth, Greece; 7) Zara, Croatia; 8) Ravenna, Italy; 9) Brindisi, Italy; 10) Lepcis Magna, Libya; 11) Messina, Sicily, Italy; 12) Capri, Italy; 13) Ostia, Italy; 14) Frejus, France; 15) Caepio, Ukraine; 16) Corunna, Spain; 17) Boulogne, France; 18) Dover, England; 19) Soli Pompeiopolis, Mersin, Turkey; 20) Herakleia Pontika, Zonguldak, Turkey; 21) Abydos, Çanakkale, Turkey; 22) Patara, Antalya, Turkey.

[111] (Stevenson, 1959)

During the medieval period (8th-9th century) the Persians had utilized minaret towers in Persian Gulf that served as lighthouses.[112] Chinese pagoda towers built in 12th century also served as lighthouses/ beacon towers for sailors along the rivers.[113]




*Figure 2.2.* High lantern of Sumiyoshi Shrine in Osaka. The shrine had been built around 211 BC for honouring three sea Gods of Japan. Postcard issued at 1907-1918. *(TNYPL, 1907-1918)*

The oldest working lighthouse in Europe (Hook Lighthouse in Ireland) was built during the 12th century.[114] The lighthouse of Genoa was also built in 1128 in Italy.[115] During the 13th century, the first open sea lighthouse, the Cordouan was built in France, 7 km off shore.[116]

[112] (Wikipedia, Lighthouse, 2012)
[113] (UNESCO, Silk Roads: the Routes Network of Chang'an-Tianshan Corridor, 2014)
[114] Tradition states that a beacon was established on this spot around 5th century. (Wikipedia, Lighthouse, 2012)
[115] (Rowlett, 2012)
[116] (Beaver, 1971, p. 17)

The first lighthouses operated as symbols that marked the entrance of a sovereign territory.[117] Especially in the case of France, the lighthouses were political tools to control the sea and the coastline.[118] The organization of the lighting of the French coast aimed at the distribution of a free service (for the user) via government-paid lighthouse keepers.[119]

By the second half of the 16th century the importance of lighthouses for the safe navigation of ships was already accepted. During this period Holland and Germany had started setting up small lighthouses in water channels which would guide ships with their form and colour.[120]

Lighthouse development accelerated in the 17th century with Britain's efforts in 1609, and a national lighthouse services was founded in Denmark in 1650. Around the second half of the 17th century experiments in the structural and optical system of the lighthouses were still being carried on.[121]

The earliest light in North America was erected in St. Augustine, Florida, around 1586.[122] The US Bureau of Lighthouses was created in 1789 which placed lighthouses under federal control.[123] After 1852, US lighthouses started to be run by naval officers. In 1910, civilians started replacing the military officers.[124] By the end of the 19th century, the United States, with its long coastlines had the most lighthouses of any nation.[125]

Canada's first lighthouse was constructed in 1734. In 1867 Canadian lighthouses were united under the Canadian Department of Marine. The network of

[117] (Van Zandt, 1993, p. 58)
[118] (Guigueno, L'Europe des Lumiéres. Organisation et technique de signalisation maritime au XIXe siécle, 2007, p. 35)
[119] (Guigueno, La signalisation maritime en France: un projet poly-technique au debut du XIXéme siécle, 2004, p. 26)
[120] (Stevenson, 1959)
[121] (Stevenson, 1959)
[122] (Wikipedia, Lighthouse, 2012)
[123] (NPS U. , "Lighthouses: An Administrative History", 2008)
[124] (NPS U. , "Lighthouses: An Administrative History", 2008)
[125] (Jones & Robert, 1998)

lighthouses was mostly composed of low-cost wooden lighthouses inhabited by lightkeepers' families.[126]

By 19th century, the optical systems of the lighthouses were enhanced. In 1822 Augustin-Jean Fresnel had developed a lens system to increase the intensity of light to enable lighthouse recognition from further distances.[127] This system was first applied in France.[128]

All around the world the operation of lighthouses was highly dependent upon keepers. Lighthouse keeping used to be a traditional family profession that passed from father to son. The life of the keepers was shaped around the lighthouse itself, most of the time away from the nearest inhabited towns. Lighthouse keepers were needed to supply fuel to fire the light, wind clockworks, and regularly clean lenses and windows of the light room. In 1907, Nils Gustaf Dalén produced the sun valve which turned the beacon on and off using daylight. The first one was erected on Furuholmen Lighthouse in Sweden.[129]

Dalén's inventions, electrification, and automatic lamp changers began to make lighthouse keepers obsolete. For many years, lighthouses still had keepers because lighthouse keepers could also serve as a rescue/ salvage service if necessary.

Improvements in maritime navigation and safety such as the Global Positioning System (GPS) gave way to the centralization of signalization systems in lighthouses. This lifted off the necessity to inhabit staff on site. Thus, in the United States, the last keepers were removed in the 1990s. Canada opted to keep some staff on site. There are still 50 staffed light stations.[130]

When the light technology was no longer bound by the structures of lighthouses, the actual light station buildings were started to be overlooked. Regular

[126] (Thurston, 1993, pp. 4-5)
[127] (Stevenson, 1959)
[128] (Toroslu, 2008, p. 35)
[129] (Wikipedia, Lighthouse, 2012)
[130] (Crompton & Rhein, 2002)

maintenance disappeared. The structures quickly deteriorated. Some historical lighthouses were even demolished in favor of new ones. Lighthouses, with a peculiar architecture, had been accepted as cultural heritage in many countries of the world and they had been registered as such. By assigning new functions to the abandoned lighthouses, it became possible to provide sustainable preservation of these lighthouses and their environments.

The need to protect the lighthouses arose as early as the 1980s. Around late 1980s a noticeable amount of the old lighthouses were restored in Norway.[131] Yet, it wasn't until 2000s that comprehensive efforts were seen in the conservation of lighthouses.

1988 survey of "The Maritime Heritage of the United States" led to the nominations of "Maritime National Historic Landmarks".[132] These landmarks were categorized in 11 groups as large vessels, lighthouses and light stations, life saving stations, shipwrecks and hulks, World War II sites, other naval battle sites; naval facilities, bases, shipyards; maritime exploration, canals and waterways, people, labor and philantrophy, other maritime districts, buildings and structures.

In 1990, following the 1988 survey, "Guidelines for Evaluating and Documenting Historic Aids to Navigation" of USA was published.[133] This guideline was aimed for utilizing uniform National Register criteria for evaluation. Listing an aid to navigation in the National Register would encourage preservation by recognizing it as being significant and worthy of preservation. Listing could also protect the structures from the Federal government and raise funding. The first part of the guideline involved information on research (starting with Light List), field work (to understand how the aid to navigation was constructed, operated, modified and

[131] (Kloster, 1987, pp. 310- 27)
[132] (NPS U. , Maritime National Historic Landmark Nominations, 2015)
[133] (NPS, National Register Bulletin Number 34: Guidelines for Evaluating and Documenting Historic Aids to Navigation, 1992)

maintained in time) and documentation (photographs, systematic sketches and scaled drawings with earlier photos and visual information). To be nominated to the National Register, an aid to navigation had to be significant in American history, architecture, archeology, engineering, or culture, and possess integrity (authenticity in other words). The aid to navigation had to meet one or more of the four National Register criteria. It must (a) have significantly contributed to American history (in terms of art, commerce, communication, engineering, entertainment/ recreation, government, invention, literature, military, social/ humanitarian, transportation) (b) have been related to the lives of people of the past (like keepers or politicians who fought for the establishment of the aid) (c) have the specific characteristics of a type, period, or method of construction, have had artistic values, represented the work of a master, represented a significant and distinguishable entity whose components could lack individual distinction; or (d) have provided, or has the possibility to provide, critical historical or archaeological information (like if only the light tower survived of a whole light station but there is the possibility of recovering traces). Resources less than 50 years old or reconstructions would automatically not be considered for inclusion. The authenticity of the resources was examined regarding their location, design, setting, materials, workmanship, feeling and association (connection between the property and the event or person for which the property was significant).

In the United States, the National Historic Lighthouse Preservation Act of 2000 provided for the transfer of lighthouse structures to local governments and private non-profit groups, while the US Coastal Guard continued to maintain the lamps and lenses.[134] A handbook giving detailed technical information for the conservation of lighthouses was also prepared to guide interested parties by National Park Service.[135] Only lighthouses listed in National Register of Historic Places could take part in this act program. Every year National Park Service announces available lighthouses to go on the list. This announcement includes the physical description and condition of the

[134] (USCode, National Historic Lighthouse Preservation Act, 2000)
[135] (NPS, Historic Lighthouse Preservation Handbook, 1997)

lighthouse and its surroundings as well as other characteristics that define its significance. Possible uses are educational, park, recreational, cultural or historic preservation purposes. Almost in all cases commercial activities are prohibited. Arc of Visibility from the Property to the shoreline within the radial arc of 360 degrees should be kept. Nothing will be constructed, maintained or permitted of a height to affect or prevent the Arc of Visibility. In accordance with the NHLPA, no submerged lands are conveyed with the Property. The steward is required to obtain a lease/license for legal occupancy of the submerged land. The interested parties can inspect the listed property on arranged visits and bid for transfer. But US Central Government stays as the propery owner. If there are no interested parties than the lighthouse is set for sale.

Maritime heritage programs and organizations running under National Park Services provided information for integrated planning and conservation processes. If a lighthouse was inside a national maritime park, then it would be included in the main management plan of the park. The lighthouses could offer exhibits, sometimes trails to walk in nature leading to the lighthouse, interpretive programs in relation to maritime heritage and education programs for different groups from children to adults. But if the lighthouse/ light station was located away from a maritime park, then the management would be reserved for that lighthouse only. Thus, the link of the lighthouse with the maritime heritage of the region would not be conveyed.

In Canada, the Nova Scotia Lighthouse Preservation Society succeeded in the registration of Sambro Island Lighthouse as cultural heritage, and sponsored the Heritage Lighthouse Protection Act to change Canadian federal laws to protect lighthouses in 2008.[136]

In 2009, the Tower of Hercules, the ancient Graeco-Roman lighthouse, built in 1st century AD, in La Coruna, Spain was designated as a World Heritage site by UNESCO. The lighthouse was able to stay structurally intact and keep functional

[136] (Franklin, 2008)

continuity through the centuries. It proved the use of lighthouses in antiquity. The structure also signified the formation of the Atlantic maritime route by the Romans, which was continued to be used during Middle Ages, to contemporary eras.[137] Tower of Hercules is still the only lighthouse on the World Heritage list as of 2019.

For the preservation of lighthouses several communities came together globally. Two of these are the World Lighthouse Society and the United States Lighthouse Society.[138] Another international group is the Amateur Radio Lighthouse Society, which utilizes amateur radio operators to publicize the preservation of remote lighthouses throughout the world.[139]

It is guessed that there are more than 50000 lighthouses all around the world. These lighthouses are monitored by IALA- AISM (the International Association of Lighthouse Authorities.) globally. Today, most of the maritime countries of the world are members of IALA-AISM.[140] Through the efforts of IALA and the member states, the first World Marine Aids to Navigation Day with a theme of "Successful Voyages, Sustainable Planet" will be celebrated on July 1 in 2019. Several countries will take part in the celebrations as Vanuatu, Japan[141], Argentina, Australia, Spain[142], Denmark, Portugal, Brasil.

[137] (UNESCO, Tower of Hercules, 2009)
[138] The United States Lighthouse Society. (LHS, 2019)
[139] (ARLHS, 2000) The Amateur Radio Lighthouse Society (ARLHS)
[140] (IALA, International Association of Lighthouse Authorities, 2019)
[141] Japan is arranging two activities; visit lighthouses and get the special postcard and photo exhibition of "Lighthouses of the World". (IALA, IALA World Aton Day, 2019)
[142] Spain is holding an international seminar, a lighting ceremony of a lighthouse which will be synchronized along the Spanish coast and visits to lighthouses. (IALA, WATON Day Spain Programme, 2019)




*Figure 2.3.* Posters for the first World Marine Aids to Navigation Day *(IALA, IALA World Marine Aids to Navigation Day, 2019)*

One of the working groups of IALA is focusing on heritage, for the preservation and maintenance of lighthouses as well as artefacts and documents. This working group has offered to propose a "World Heritage Lighthouse of the Year" annually in relation to World Aton Day. The proposal will accelerate the recognition of significant lighthouses and hopefully help the designation of several ones on World Heritage List of UNESCO. Corduan Lighthouse of France is chosen for 2019.[143]

The heritage working group of IALA is founded to share information and experience in maintenance, preservation and management of lighthouses as assets. The short term goals of the WG are (1) to develop a World Heritage Lighthouse Cyber Centre, accessible via the IALA website; (2) to develop a database on World Heritage Lighthouses; (3) to manage the "World Heritage Lighthouse of the Year" proposal (related to the World AtoN Day); (4) to support the World Wide Academy of IALA on Heritage Model Courses (5) to prepare a Heritage Seminar.[144]

The western studies on the lighthouses had started around late 1980s. The theses focus on the problems of singular lighthouse buildings as well as the intangible heritage of lighthouse keeping. These theses not only discuss the in-situ conservation

[143] (IALA, International Association of Lighthouse Authorities, 2019)
[144] (IALA, International Association of Lighthouse Authorities, 2019)

problems of the lighthouses but also the possibilities of relocating these structures as well. The proposals for conservation reflect a broader perspective within the maritime heritage, offering not only architectural but also administrative, economical and legal solutions.[145]

## 2.3. An Inquiry About the Attitudes, Projects and Implementations of Conservation and Reuse of Maritime Heritage

Maritime heritage is not a category confined in itself. It is understood as a dynamic network of different cultural and natural heritage which has both tangible and intangible characteristics bound by maritime routes and living things connected to maritime waters. Therefore, the proposals regarding the conservation and reuse of maritime heritage tend to focus on this connectivity rather than the singular heritage itself.

The Marine Sanctuaries Maritime Heritage Program by National Oceanic and Atmospheric Administration of USA and Maritime Heritage Program of National Park Service was created in 2002. The NOAA program focused on maritime heritage resources within the thirteen certified National Marine Sanctuaries. Its vision was to engage Americans in national maritime heritage and promote its appreciation, as USA had identified itself as "the maritime nation".[146]

Main research topics of the program were Titanic, Voyage to Discovery (Stories of African-Americans and the sea), Battle of the Atlantic (1942 War in North Carolina), Maritime Archaeology, Whaling and Native Cultures (seafaring traditions, the preservation of maritime folklore and knowledge).

[145] See Appendix 3.
[146] (NOAA, Marine Sanctuaries Maritime Heritage Program 2005-2015 Strategic Program, 2005-2015)

Sanctuaries were managed to protect and conserve their resources and to allow compatible uses with resource protection. The effectiveness of management plans was assessed regularly by internal and external sources.[147]

2005- 2015 Strategic Plan of National Marine Sanctuaries Program had seven goals:[148] (1) Identify, designate, and manage sanctuaries to protect them; (2) build and strengthen the national system of marine sanctuaries, (3) provide national and international leadership for marine protected area management and marine resource stewardship; (4) enhance national public awareness of marine and maritime heritage resources; (5) enhance scientific research; encourage human use in sanctuaries and balance use with resource protection; (6) work with the international community for protection of marine resources, use of new management approaches and dissemination of experience and techniques; (7) build infrastructure to reach NMSP's mission and goals.

These goals were shaped by nine purposes and policies stated in the National Marine Sanctuaries Act:[149] (1) identification, designation and management of National Marine Sanctuaries; (2) conservation and management of these marine areas, and activities affecting them; (3) to maintain and enhance natural habitats, populations, and ecological processes; (4) reinforcing public awareness and sustainable use of the marine environment, and the natural, historical, cultural, and archeological resources of the National Marine Sanctuary System; (5) to support and coordinate scientific research, and long-term monitoring; (6) to facilitate all public and private uses of the resources of these marine areas; (7) to develop and implement coordinated plans for the protection and management of these areas with related parties; (8) to create models for conservation and management of these areas, and (9) to cooperate with global programs for conservation of marine resources.

[147] (NOAA, Marine Sanctuaries Maritime Heritage Program 2005-2015 Strategic Program, 2005-2015)
[148] (NOAA, Marine Sanctuaries Maritime Heritage Program 2005-2015 Strategic Program, 2005-2015)
[149] (USCode, National Marine Sanctuaries Act, 2000)

Management Plans for different regions within the sanctuaries were prepared.[150]

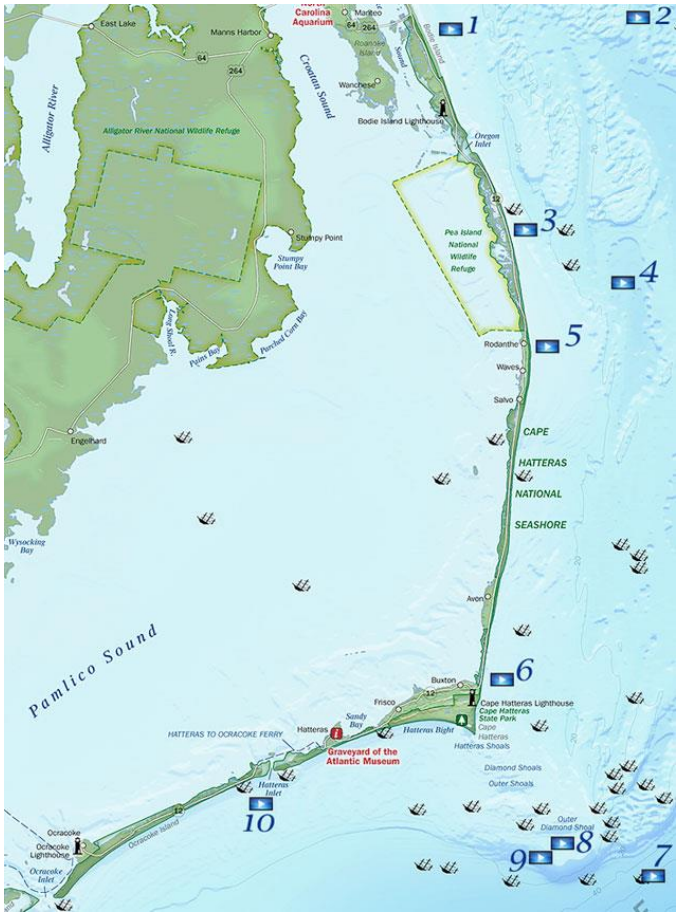



*Figure 2.4.* Outer Banks Maritime Heritage Trail, a National Marine Sanctuary in USA. (1) Start at Whalebone Junction (2) The Story of the U-85 (3) The Ecology of the Outer Banks (4) WWI and WWII off the Coast of North Carolina (5) The Chicamacomico Life Saving Station (6) The Cape Hatteras Lighthouse" (7) The Story of the U-701 and the YP-389 (8) The History of the USS Monitor (9) The Importance of National Marine Sanctuaries (10) Conclusion (11) Light Over the Water: Cape Lookout Lighthouse *(NOAA, Outer Banks Maritime Heritage Trail, 2019)*

[150]Flower Garden Banks Management Plan (NOAA, Marine Sanctuaries Maritime Heritage Program 2005-2015 Strategic Program, 2005-2015)

In 2014 NOAA had started to invite the public to nominate their most treasured places in marine and lake environments as national marine sanctuaries, to create more public engagement for the conservation of maritime heritage. Community-based Sanctuary Advisory Councils were established and put into operation. These councils provided input, advice, and feedback from the local community to sanctuary managers. Another tool used to involve the public was through volunteer opportunities in maritime heritage programs. These helped sanctuary staff reach management objectives and ethics in the community.

National Marine Sanctuaries Program[151] has always treated the management from an international point of view, mainly for three reasons: (1) To Increase Resource Protection: Sanctuaries have legally defined, mostly static boundaries but the resources they protect, and the threats associated with them are not stationary. Sanctuary management must work with local, regional, and international partners to help protect sanctuary resources even when they are not within sanctuary boundaries. (2) To Support Resources and Share Experiences: The NMS has a lot of management experience in the field but also benefits from the lessons learned from colleagues around the world. (3) To Meet Legislative Mandates and Policy Objectives: The need to work outside sanctuaries boundaries to fully protect sanctuary resources was provided and authorized by the law. NOAA's mission extends beyond political boundaries of the U.S. to oceans, ecosystems, and the atmosphere.

Maritime Heritage Program of National Park Service, founded in 1994,[152] dwells on Maritime Related National Parks, Maritime Property Inventories, Grants and National Historic Lighthouses Preservation Act in USA. The visitor centers and maritime museums are common for maritime related national parks. Visitors can sail boats to visit different nodes within the parks. Sometimes restored ships are offered for these sailing trips. Sea music/ maritime song festivals are held, public is

[151] (NOAA, Marine Sanctuaries Maritime Heritage Program 2005-2015 Strategic Program, 2005-2015)
[152] On November 2, 1994, the National Maritime Heritage Act became Public Law in USA. Maritime Heritage Program was based on this law.

encouraged to join in. Concerts are arranged on land or on ships. Beaches are open for swimming, sometimes for diving and kayaking.

"The Trading Posts and Fortifications on Genoese Trade Routes; From the Mediterranean to the Black Sea" was nominated by Ukraine for the Tentative List of World Heritage in 2010. This is a selection of the most significant examples of Genoese cultural heritage, ranging from 11th to 15th century, chosen from a large network of maritime and mercantile settlements around the Mediterranean and the Black Sea. These settlements share recognisable urban and architectural features, and represent the network of independent city states of ancient maritime trading ports, situated in areas where the Genoese influence is still clearly recognizable.[153]

During the 11th century the Genoese state started to grow and this required heavy investment. Having limited resources, the Genoese preferred to follow a policy based on making treaties rather than warfare. They negotiated on the use of harbours or urban areas but organized them regarding the local powers. The construction of new settlements and fortified structures, or upgrading previous settlements, were rare incidents only undertaken when necessary, for strategic significance. This significance could stem from the need to establish control over trade routes, market outlets, or to preserve a Genoese monopoly. Thus, in each of the overseas outposts established by the Genoese at different times, in the Islamic and Byzantine areas, from western Mediterranean to the Black Sea, from England to Flanders, the situation was different.

Out of 100 medieaval centers in the Genoese network 20 were chosen. The significance was measured by the cultural context of reference, representation of the Genoese network, and its authenticity. Having visible historic, cultural and scenographic remains, testimony to the historical/settlement patterns of Genoese tradition was important. Only one settlement within Ukraine's boundaries, Sudak Fortress, was inscribed on the tentative list. But other sites along the Genoese routes

[153] (UNESCO, UNESCO World Heritage, Tentative List of 2010, 2010)

could also be considered, either in Black Sea or Mediterranean. Thus, the scope of the network could be extended step by step, to include such sites which did not initially enter World Heritage list.

There were two criteria for the Ukrainian inscription of Sudak Fortress in Crimea in 2010:

The trading posts and fortifications on Genoese trade routes show the relationships between the Genoese and the Mediterranean and Black Sea civilisations during the Middle Ages and the modern age. This link had formed maritime urban settlements, which are significant in terms of their structural, commercial, architectural, artistic and maritime contexts.

Each settlement and the overall system have maritime and urban characteristics which made use of the coastal land and preexisting settlements, creating a cultural landscape. They represent an urban and maritime culture that later became the most important economic, social and environmental network in Mediterranean and the Black Sea and as far as the Atlantic.

In 2013, Turkey nominated other Genoese settlements for the Tentative List with the same theme. There were five forts as Yoros in Marmara, Foça and Çandarlı in Aegean, Amasra, Akçakoca and Sinop in Black Sea and one tower, Galata in Marmara. With the addition of these settlements on the list, the maritime trade routes of the Medieval period, particularly of Genoese were better represented.[154] The list covers a wide geography and still offers a dynamic international network of maritime heritage.

[154] (UNESCO, Trading Posts and Fortifications on Genoese Trade Routes from the Mediterranean to the Black Sea-Turkey, 2013)



*Figure 2.5.* Çandarlı Fortress in İzmir on Genoese Maritime Trade Routes as a trading port, view from the sea direction *(Author, 2013)*



*Figure 2.6.* Foça Fortress in İzmir on Genoese Maritime Trade Routes as a trading port, view from the sea direction *(Author, 18.05.2014)*

Project "Mausam"- Mausam/ Mawsim: Maritime Routes and Cultural Landscapes was initiated by India to propose a Transnational Mixed Route (including Natural and Cultural Heritage) for the Indian Ocean on the World Heritage List and it was launched at the 38th World Heritage Session at Doha, Qatar on June 20, 2014.[155] The Project was well received by the other neighboring countries of the Indian Ocean, namely China, UAE, Qatar, Iran, Myanmar and Vietnam.

'Mausam' or Arabic 'Mawsim' refers to the season when ships could sail safely provided with distinct winds. Portuguese 'Monção' developed from the Arabic, giving way to English 'Monsoon'. The etymology of the word shows the importance of the season to a multinational group of seafarers and it points to the creation of a transnational maritime culture. Thus, Project 'Mausam' is born.

The research programme will last through 2014- 2019. On a bigger level it aims to reform communications between countries of the Indian Ocean world, to develop better understanding of cultural values and concerns. On a smaller level understanding national cultures in their regional maritime context is aimed. The Project has two units as the research unit and World Heritage Nomination unit.

[155] (India, 2015) and (IGNCFTA, 2015)

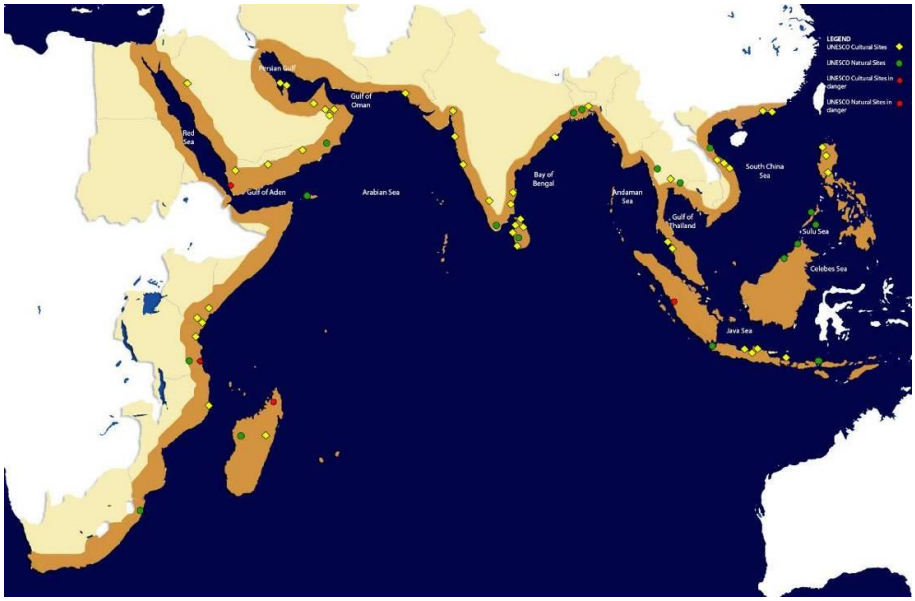



*Figure 2.7.* Map of the Indian Ocean "World" marking the sites on UNESCO's World Heritage List *(IGNCFTA, 2015)*

There are four goals: The first one is reviving lost linkages with nations. Indian Ocean countries have social and economical links today but their past connections and shared cultural values are to be discovered again. This will also encourage co-operation, continued relations and interactions. The second is creating links to existing World Heritage sites. Connecting seperate Cultural and Natural World Heritage sites across the Indian Ocean beyond boundaries, embracing different cultures is underlined. The third is redefining 'Cultural Landscapes' to provide relationships between the existing categories of 'Natural' and 'Cultural' Heritage and nominate new ones if there are any missing sites. The fourth is achieving transnational nomination under World Heritage for 'Indian Ocean Maritime Routes'. The Project hopes to improve visibility, research, sustainable tourism and heritage development.

Proposed themes are Coastal Architecture as Cultural Landscapes, Movable Heritage and Artifacts, Maritime Museums and Museum Networks, Underwater

Cultural Heritage, the traditional sailing ship building, Spice Route trade and cultural products linked to it, Intangible Cultural Heritage (Rites, Rituals and Cuisine), Pilgrimage and Religious Travel across the Ocean, Oral Traditions and Literary Writings (Conceptualizing the Indian Ocean).

Proposed activities include improving documentation and research standards, holding workshops, on-site training for site documentation and management, digitization of archives, Publication of Project results, Improvement of partnerships and development of networks between institutions and experts on the sub-regional and international level.

Tangible Project outcomes are shown in the table below:

| S. No. | Theme | Actions | Outcome |
|---|---|---|---|
| 1. | World Cultural and Natural Heritage (including Cultural Landscapes) | Research on route and selection of tangible sites, port settlements, cultural landscapes for World Heritage | Transnational nomination for UNESCO World Heritage |
| 2. | Movable Heritage and Artifacts | Cataloguing and showcasing movable heritage and artifacts | Special mobile exhibitions on various themes, increased linkages to museum networks |
| 3. | Maritime Museums | Linking museums through Maritime trade routes | |
| 4. | Industrial Heritage (Maritime Technology) | Research on evolution of Maritime technology | Exhibitions and publications on Maritime technology |
| 5. | Underwater Archaeology | Research and mapping on the route | Exhibitions and publications |
| 6. | Creative Industries: Cultural Products linked to Indian Ocean trade and interactions | Documentation and mapping of creative industries. | Promotion of crafts and creating projects for sustainable tourism |
| 7. | Intangible Cultural Heritage: Rites, Rituals, Festivals and Cuisine | Recording of intangible cultural heritage | Listing of intangible heritage with UNESCO |
| 8. | Pilgrimage and Religious Travel across the Ocean | Promoting events on cultural diversity | Linking to International Fund for Cultural Diversity |
| 9. | Documentary/ Archival Heritage | Documenting and mapping of oral tradition, literary writings and all archival heritage on the route | Adding heritage to UNESCO's Memory of the World Register |

*Figure 2.8.* Project Mausam Concept Sheet, page 12. *(IGNCFTA, 2015)*

Attested through different examples above, conservation and management of maritime heritage is always considered international. Although the heritage in question may have static, politically defined terrestrial and marine boundaries, the resources that constitute this heritage and the opportunities and threats related to them are not. Thus, collaboration and sharing of knowledge on an international level is mandatory to fully conserve, enhance and manage maritime heritage.

## 2.4. An Inquiry about the Attitudes, Projects and Implementations of Conservation and Reuse of Lighthouses

Although lighthouses are singular entities, they are a part of maritime heritage; thus, they had been assessed in a wide network of maritime connectivity in many proposals.

The Tower of Hercules has functioned as a lighthouse and been a landmark at the entrance of La Coruña harbour in north-western Spain since the late 1st century A.D. built by the Romans. The lighthouse is constructed 57 m above sea level, with a tower of 55 m. 34 m is Roman masonry with a rectangular plan and 21 m is added by the restoration of architect Eustaquio Giannini in the 18$^{th}$ century, with two octagonal prisms on top. A small rectangular Roman building lies next to the base of the Tower. The site also has a sculpture park, rock carvings from the Iron Age and a Muslim cemetery. Many legends from the Middle Ages to the 19th century are told about the lighthouse. Due to its significance, the Tower of Hercules was inscribed on the World Heritage List in 2009.



*Figure 2.9.* Tower of Hercules, La Coruna Lighthouse in Spain, World Heritage Site *(UNESCO, Tower of Hercules, 2009)*

It is the only fully preserved Roman lighthouse in the world that is still used for maritime signaling, hence it is testimony to the elaborate system of navigation in antiquity. It also shows how the Atlantic sea route in Western Europe was first organized by the Romans, used during the Medieval Period, and through to its development in the modern and contemporary eras. The architectural integrity of the property, as a structurally complete building, and its continuous function are important. The authenticity of the central Roman core is certain, but the authenticity of the building is further enhanced as a technological property that has gone through renovations and functional adaptations.

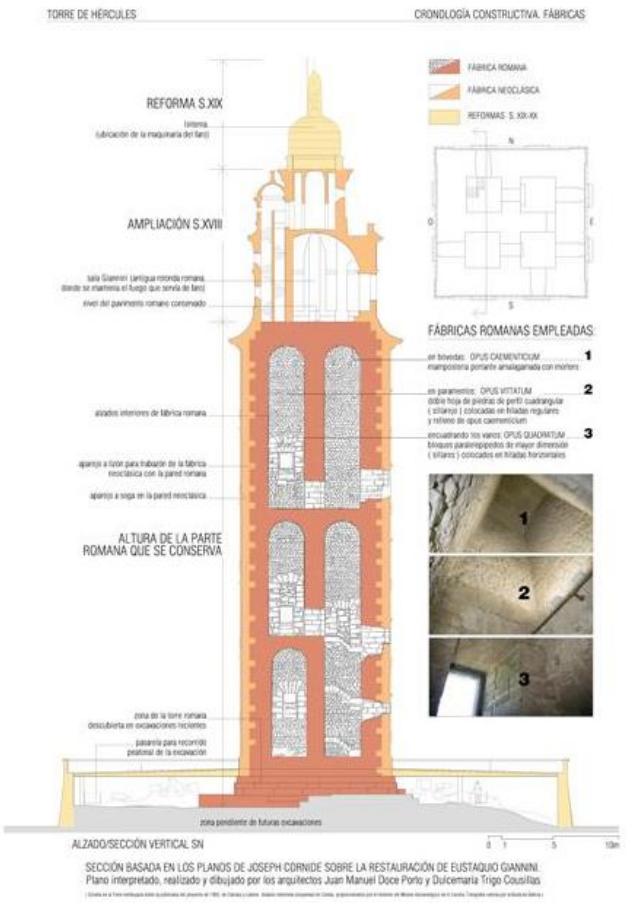



*Figure 2.10.* Section of the Tower of Hercules, A Coruna Lighthouse *(TorreDeHerculesACoruna, 2009)*

The conservation of the Tower of Hercules is monitored on a scientific level. All the measures to be taken and projects presented constitute a comprehensive management plan. The coordinating authority for the management of the property is the Tower Management Plan Monitoring Committee, set up in 2011.[156] The committee is responsible for the implementation of the management plan and the monitoring of the physical condition of the tower, in particular its relative humidity; the financial resources for the protection of the property provided by the State Party, to provide detailed information on the mandate, composition and activities of the Management

[156] (UNESCO, Tower of Hercules, 2009)

Plan Monitoring Committee and the Municipality professional staff holding the scientific responsibility for the future museum and visitor center, and, to ensure that both tourist and urban planning concerns are included in the monitoring programme for the property. Periodic reporting is done for the conservation and management works.

The Lady Elliot Island Light Station is situated within World Heritage Site of the Great Barrier Reef (GBR) in Queensland, Australia, managed as a marine park.[157] Geographically the program covers the GBR World Heritage Area constituting the marine zone, managed by the GBR Marine Park Authority and the terrestrial catchment administered by the Queensland Government. The management plan of GBR aims the integration of marine zone with the terrestrial hinterland through environmental, socio-economic and cultural systems. Critical actions of the management plan include conservation activities of marine and island zones; responding to incidents, recreation and tourism facilites, planning and assessment, indigenous engagement and conservation of cultural heritage, conservation of tangible cultural heritage (several lighthouses, shipwrecks and coastal structures), welcoming people through communication/ public contact, education and stewardship, assuring compliance to the management plan through vessel tracking and in-park presence of rangers, checking for change and continuous program support.

[157] (GBRMPA, Reef 2050 Integrated Monitoring and Reporting Program: Strategy Update 2018, 2018)




*Figure 2.11.* The Great Barrier Reef World Heritage Area (red line) constituting the marine zone, managed by the Great Barrier Reef Marine Park Authority and the terrestrial catchment (orange line) administered by the Queensland Government. There are 13 pre-1900 lighthouses in the area. *(GBRMPA, Reef 2050 Integrated Monitoring and Reporting Program: Strategy Update 2018, 2018)*

Lady Elliot Island is located at the southern end of the Great Barrier Reef.[158] The island is used for resort purposes through a lease and managed by Great Barrier Reef Marine Park Authority. The new lighthouse is managed by the Australian Maritime Safety Authority (AMSA) and leased to them for 99 years. The heritage lightstation is managed by the private lessee. The light station is composed of a lighthouse tower with a lantern room, balcony and entrance porch, a new powerhouse, an old powerhouse, workshop, fuel store, fuel drum rack, lightkeepers' house,

[158] (GBRMPA, Lady Elliot Island lightstation heritage management plan, 2012)

rainwater tanks, boat shed, fowl house, steel tank stands, septic tanks, loading ramp, coral paths, concrete paths, graves.

The lighthouse was built in 1873. The 1980 technical upgrade brought automation and resulted in the withdrawal of lightkeepers from the station. In 1995 the original light tower became obsolete by the erection of a new taller structure a short distance away. It was listed as cultural heritage in 22.06.2004. Heritage Management Plan of the Light Station was prepared and approved in 2012.

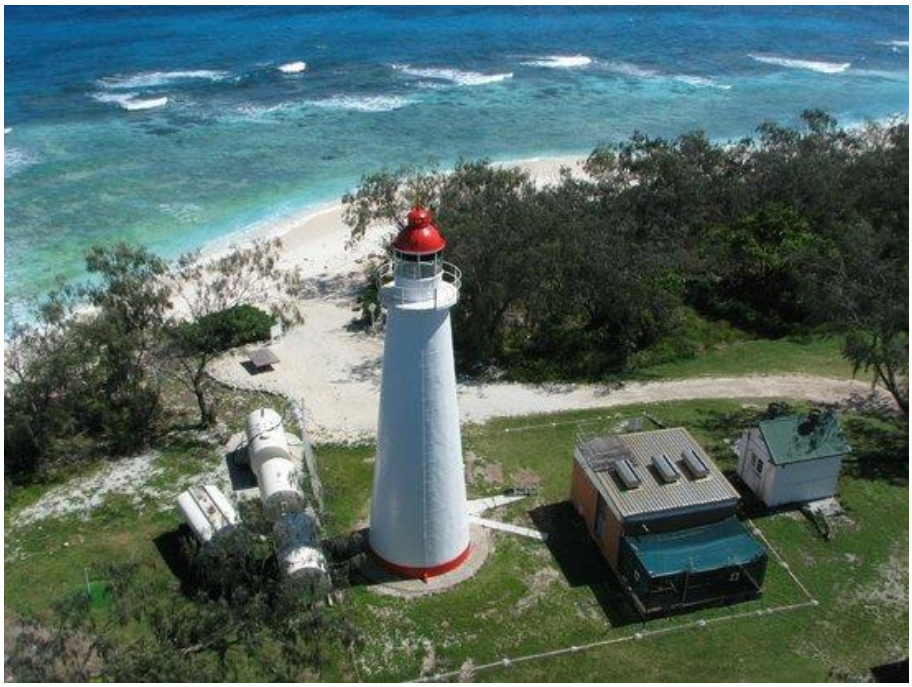


*Figure 2.12.* Lady Elliot Island Light Station *(GBRMPA, Lady Elliot Island lightstation heritage management plan, 2012)*

Lady Elliot Island Lightstation is significant for its testimony to the formation of a network of navigation aids along the Queensland coast in the 19$^{th}$ century. It reflects local conditions, economic constraints, social expectations and technological capabilities of its time. Lady Elliot is a pioneer within timber-framed and iron-plated towers, becoming a characteristic example with the subsequent lighthouses. It is rare

with its integrity and architectural features. It has aesthetic value as a landmark, marking the southern border of GBR Marine Park. And it is prominent among the work of its architects R. Ferguson and F.D.G. Stanley.

The objectives of the Lady Elliot Island Lightstation Heritage Management Plan are to protect, conserve and manage the cultural values of the lightstation; to interpret and promote the said cultural values; to manage use and if possible reuse, consistent with the heritage values; to involve the community and stakeholders in the conservation management process; and to employ best practice through knowledge and expertise when considering actions with an impact on cultural values.

The Heritage Management Plan Area is roughly 0.8 hectares along the western side of the island defined by the lighthouse and residential area.

The remoteness of Lady Elliot Island makes access challenging and provides a natural security buffer for the lightstation. Visitors generally arrive the island by aircraft. Some vessels moor in the lee side of the island during storms, and sometimes other vessels arrive for diving voyages. Access to the island and the light station is limited by zoning, lease and permit framework.

Table 2.2. *Heritage Management Policies of Lady Elliot Island Light Station (GBRMPA, Lady Elliot Island lightstation heritage management plan, 2012)*

| HERITAGE MANAGEMENT POLICIES | | |
|---|---|---|
| Issue | Policy | Implementation Strategy |
| Issue 1: Integration of Heritage Management Plan into environmental planning framework of GBR | Policy 1.1: GBR Marine Park Authority recognizes the cultural values of the place | **Conserve* the light station to protect and enhance its historical significance |
| | | *Continue the past residential and current *uses* to maintain the original fabric of the site |
| | | *Use the *Burra Charter* as the primary guide for the treatment of *fabric* |
| Issue 2: unauthorized access | Policy 2.1: Secure and protect the lightstation from unauthorised access. | *Educate visitors about the cultural values of the lightstation |
| | | *Protect the cultural values of the lightstation through controls while accessing all buildings |
| | | *Take health and safety measures on access to all buildings |
| Issue 3: Community involvement | Policy 3.1: Involvement of community, Traditional Owner and stakeholder in the preparation, management and review of the management plan and in matters which affect the cultural values of the place | *Consult the community when reviewing the Heritage Management Plan |
| | | *Work with the Reef Advisory Committee, the Local Marine Advisory Committees and local Indigenous communities when managing the cultural values |
| | | *Take advice from local Indigenous communities when dealing with sensitive information |
| | | *Protect sensitive information with standard privacy and security requirements |
| | | *Consult all stakeholders when sensitive commercial confidential information is to be evaluated |
| Issue 4: Protection and management of significant fabric | Policy 4.1: Employ experts of cultural heritage and conservation practices for intervening the lightstation or developing resort facilities. | *Consult with the Heritage Division first for intervention in fabric or significant change |
| | | * Test the possible impact of a proposal |
| | | *Consider the significance of a proposal in the Environment Protection and Biodiversity Conservation (EPBC) Act |
| | | *Use the *Matters of national environmental significance, Significant Impact Guidelines 1.1, EPBCAct 1999* (DEWHA 2009) to identify the significance of impacts |
| | | *Prepare a heritage impact statement with the GBRMPA's Environmental Impact Management processes |
| | | *Continue to use the residential buildings for staff accommodation. |
| Issue 5: treatment of archaeological fabric | Policy 5.1: If works uncover archaeological remains, stop the | Receive expert advice for unexpected discoveries or disturbances |

| | | |
|---|---|---|
| | work until expert advice is received | |
| Issue 6: Monitoring cultural values | Policy 6.1: Report and monitor annually using the GBRMPA heritage register and record any change or impact on the cultural values of the place | Use of the heritage database in the management of the lightstation |
| Issue 7: GBRMPA staff heritage training | Policy 7.1: Apply a staff and community training programme to improve the recognition and appreciation of the heritage | Train responsible managers and administrators including relevant stakeholders through internal and external heritage courses |
| Issue 8: Heritage interpretation | Policy 8.1: Create an interpretation plan using signage, publications and organised events to raise management, occupant, community and visitor awareness | * Cooperate with AMSA to find the equipment formerly used at Lady Elliot Island lightstation. Discuss the loan of any items owned by the AMSA, suitable for interpretation |
| | | - Regain and replace equipment and items of the lightstation;<br>- Use the lighthouse tower, the 1975 power house or other associated buildings, as interpretive facilities or additional accommodation, compatible with the significance of the place; and<br>- Use historical material when designing interpretive content to improve interpretation |
| Issue 9: Adaptive Reuse | Policy 9.1: Consider only new adaptive reuses of the lightstation that are compatible with its cultural values | *Conserve the current colour scheme and distinctive character of the place:<br>- Do not permit any additional structures attached to, or structural change in the near vicinity;<br>- Document before and after phases of *conservation*, *maintenance*, *preservation* or *adaptation* work, with photographs;<br>- Scrape paint to identify original colour coatings used;<br>- Use protective coatings to preserve the colours found by scraping |
| | | * For sustainable *conservation*, choose a viable economic use for the lightstation, to ensure the *maintenance* of all significant fabric and its protection if nothing is implemented |
| | | *A written permit must be obtained for development or adaptive reuse proposals |
| | | *Consider the impacts of possible alterations or adaptations on the cultural values |
| | | *Use and comply with:<br>- The approved General Maintenance Program,<br>- The Building Management Plan, |

| | | |
|---|---|---|
| | | - The Vegetation Management Plan, and<br>- The Environmental Management Plan |
| | | Saving the original fabric of the place while providing occupational health and safety requirements:<br>- Keep in situ asbestos material that is stable, and not hazardous;<br>- Remove hazardous, unstable and frayed asbestos;<br>- Replace removed hazardous asbestos with materials of the same profile, thickness and size;<br>- Remove lead-based paint in an uncontained, unstable or decaying condition;<br>- Upgrade the kitchen and bathroom facilities compatible with the fabric of the place;<br>- Install air-conditioning equipment in a discreet, visually benign and appropriate place; and<br>- Any proposals involving hazardous materials should be undertaken with heritage experts and hazardous materials removal/management advice |
| Issue 10: Works related to fabric conservation and repair | Policy 10.1: Protect and conserve the significant physical elements of the lightstation, with all buildings, layout and setting | **Conserve* all the significant physical elements and their setting. |
| | | *Get expert materials conservation advice for *repair*, *restoration* and *reconstruction* of heritage. |
| | | Only replace any parts for structural or safety reasons. |
| | | Replace or patch the damaged or decayed parts with compatible but easily identified structures or materials |
| | | Consider the cultural significance of plant material while maintaining vegetation |
| | | Keep evidence of past vegetation patterns/ plantings by planning and designing removal and replanting work in such a way that the heritage significance of the vegetation or planting is retained. Expert heritage advice should be sought in this regard. |
| | | Protect the lighthouse as a significant landmark seen from the sea. Buildings or other landscape works which obscure the visibility of the lighthouse from the sea should be avoided |
| | | Any major works impacting on the cultural significance of the landscape around the lighthouse and the lightstation should be prepared with a heritage expert to protect the cultural significance |
| | | The area around the lightstation west of the airstrip should be treated as a sensitive area with heritage values due to the lightstation setting. Any proposal should be controlled to protect the heritage significance of the place and its setting. Expert heritage advice is necessary. |
| Issue 11: Validity period of Heritage Management Plan | Policy 11.1: Review the Heritage Mngmnt Plan when necessary and within five years of its acceptance | Review management plan as required, or no later than five years after its adoption. |

Sustainability is a critical issue in relation to the conservation and management of lighthouses. Surviving on remote locations, performing the assigned tasks and taking on additional functions is only possible through sustainable measures. Cape Spartivento Lighthouse in Cagliari on Sardinia Island, Italy is an example where such measures are employed. More than 150 years after their construction, many of the active Italian lighthouses (160 estimated) are at risk of decay today. Responsible for the management of lighthouses, the Italian Navy is appointing adaptive re-use of buildings and conservation projects.[159]

Capo Spartivento lighthouse, built in 1866 on Sardinia island, is one of these recent conservation projects. The strategic idea of the project is to enhance the properties owned by the military, which have elements that make it easier in terms of feasibility, such as: small size; distribution throughout the country; homogeneity of the structural and architectural system; strong natural and environmental value; deep identification with the historical, environmental, local culture; potential use for tourism and / or educational- cultural aims.[160]

This building had only been repaired once in 1949 because of World War II damages, after which it was overlooked, like other military artifacts. In 1972, because of the complete automation of the lighthouse, the staff had abandoned the building. In 1997 the lighthouse and the adjacent yard area were declared for sale, whereas the tower, terrace and service area were reserved for the Italian Navy.[161] In 2004 the State Property decided to contract out the buildings through public auction.

[159] (Bartolomei, 2011)
[160] (Bartolomei, 2011)
[161] (Bartolomei, 2011)



*Figure 2.13.* Capo Spartivento Lighthouse before restoration *(Bartolomei, 2011)*

The lighthouse had been converted from a military structure into a 5-star boutique hotel. The priority for the designer was to retain the Mediterranean architectural tradition of the lighthouse and introduce new outdoor areas protected from the mistral wind or sun which would provide new spots to enjoy sea and natural scenery as well as picnic opportunities. The design uses locally sourced sustainable materials, aims at energy saving and power production on its own while regarding contemporary architectural needs.[162]

[162] (Bartolomei, 2011)



*Figure 2.14.* Cape Spartivento Lighthouse after restoration *(Bartolomei, 2011)*

The lighthouse, 81m above sea level and located on the southernmost tip of the island, is only accessible along a path that climbs up to the top of the granite promontory.[163] The area is wild, covered in maquis, unpolluted and close to sandy beaches. The lighthouse is the only building in the territory. Vehicle traffic is not allowed on the cape. The nearest parking lot is 900m away from the lighthouse. On days of arrival and departure, shuttle service is offered by the hotel management.[164]

[163] Nearest airport is 50 km away.
[164] Capo Spartivento Lighthouse Fact Sheet Information Brochure (Spartivento, 2015)



*Figure 2.15.* Aerial view of Spartivento Cape and the Lighthouse *(Bartolomei, 2011)*

The Capo Spartivento Lighthouse uses a solar panel system for heating the water. Water is supplied by tankers and kept in the underground cistern. However, the water is not drinkable. The structure is equipped with purification system for the drainage water, which recycles the used water to irrigate the gardens.[165]

[165] (Bartolomei, 2011)



*Figure 2.16.* Sea facade of the restored lighthouse, new front terraces and the swimming pool *(Bartolomei, 2011)*

On the exterior natural materials such as limestone, granite, basalt, bedrocks, timber, iron and glass are used. The new swimming pool on the front yard contains sea water. LED based artificial lighting systems are used on the building, in the garden and on planting. The basement level of the front yard contains spa facilities and changing rooms.[166]

At the back, new terraces are introduced again, shaded by steel umbrellas and sailing cloths that make use of naval technology to overcome the strong winds. Behind the retaining walls, spa tubs are placed. There is also an area to arrange barbeques. The backyard is designed to hold events, too.[167]

[166] (Bartolomei, 2011)
[167] (Bartolomei, 2011)



*Figure 2.17.* Common area on the ground floor of the lighthouse *(Bartolomei, 2011)*

The structure is about 600 square meters. Interiors use limestone, granite, dark oak wood, wrought iron and linen as the main materials. Ground floor of the lighthouse serves as a common area with a bar, a dining area, a lounge area and a relaxation area in front of a fireplace. Service spaces like a cellar, a kitchen and an office are also located here. The interior walls of the ground floor are replaced with iron columns and trusses to combine spaces and achieve bigger footage.[168] At some places the original brick walls are left exposed and at other parts they are lime plastered.

[168] (Bartolomei, 2011)




*Figure 2.18.* Cape Spartivento Lighthouse Floor Plans *(Bartolomei, 2011)*

Accessed by a stone spiral staircase, the first floor has a reading room with a fireplace and four suites, two on the seaside and two on the mountain side. Each suite has a living area, bedroom and bathroom.[169]

[169] (Spartivento, 2015)



*Figure 2.19.* Interior of a suit on the first floor *(Bartolomei, 2011)*

On the second floor, there is the 250 square meters terrace, where the lantern is located. The door to the lantern is on the third floor but access is prohibited by the Navy who controls it. The terrace is used for sunbathing and celestial observation.

The lighthouse hotel has a website for reservations. The information sheet contains services, prices and local natural attractions and leisure activities.[170]

## 2.5. Conservation and Management of Maritime Heritage in Turkey

Being a member state of the United Nations and ICOMOS and having taken part in several Council of Europe meetings, Turkey had been signatory to a great majority of the international documents about maritime heritage discussed above. This means there is a huge background regarding international legislation towards the conservation of cultural heritage, and maritime heritage in particular. Yet, in practice

[170] (Spartivento, 2015) Contact in Italian, English and Russian is available.

Turkey operates on several laws in order to plan, develop and protect coastal areas as well as conserving and protecting maritime heritage. These laws can be discussed in two groups, the initial group pertaining to the conservation of cultural heritage and the second about the management of coastal environments, which houses maritime heritage and lighthouses in particular.

### 2.5.1. Legal and Administrative Framework of Conservation of Maritime Heritage in Turkey

Starting with the late years of the Ottoman State in 19th century "Asarı Atika Nizamnamesi" was adopted for the conservation of antiquities. This law was still in use in the early years of the Republic. However, Turkey started participating in international meetings and joined international debates about conservation. Thus, a need was born to replace this law. In 1973 the Act no 1710 was adopted. With this law the emphasis of conservation moved away from single buildings to site scale. First systematic survey of cultural assets started throughout Turkey.[171] The regulations brought upon by this law necessitated the revision of settlement plans for the provision of conservation. However, in practice the regulations fell short.

With the new constitution the Act no 2863 has been adopted in 1983[172], and it formed a major break from the past laws in terms of national conservation policies. Planning-management and institutional arrangements brought during this period still constitute the main legislative basis for conservation policies today. With this law, conservation of cultural heritage was taken further from the center and brought to a local level. The former Act 1710 required the permit of Higher Conservation Council for modifying development plans for conservation. But here "Conservation and

[171] (Şahin Güçhan & Kurul, 2005) and Act No. 1710/ 1710 Sayılı Eski Eserler Kanunu (ResmiGazete, 1710 Sayılı Eski Eserler Kanunu, 1973)

[172] Act no 2863 Conservation of Cultural and Natural Heritage/ 2863 Sayılı Kültür ve Tabiat Varlıklarını Koruma Kanunu (ResmiGazete, 2863 Sayılı Kültür ve Tabiat Varlıklarını Koruma Kanunu, 1983)

Development Plans" (Koruma Amaçlı İmar Planı) were introduced as a tool to form planning decisions in legally registered sites. This enabled the consideration of archaeological, natural, urban and historic Sites along town and country planning process. Municipalities were defined as the authority to prepare the Conservation and Development Plans for Conservation Sites within their administrative boundaries.

High Council of Conservation for Cultural and Natural Assets (High Council) was the responsible central authority to define principle decisions, act as an advisory board; and Regional Councils of Conservation for Cultural and Natural Assets (Regional Conservation Council) were established as the regional representatives of this council which would execute the principles. So, it became easier to have control on conservation activities as well as getting permits. The RCC have been responsible for registrations of Immovable Cultural and Natural Assets and Conservation Sites, defining transition period conditions, examination and approval of CDPs and related changes defining Conservation Areas.[173]

The Act no 2863 have been modified by the introduction of the Conservation Amendment Act no 5226 in 2004.[174] Yet, the Act no 2863/5226 continues to be the main legislation regarding conservation of cultural heritage. Inclusion of intangible values, introduction of "Ruined Areas" (Örenyeri) for archaeological sites, revisions for Conservation and Development Plans, introduction of "Site Plans" (Çevre Düzenleme Projesi) for Archaeological Sites and "Management Plan" (Alan Yönetimi) for conservation sites, establishment of local control units "Conservation, Implementation and Control Offices" (Koruma Uygulama ve Denetim Bürosu-KUDEBs) and new financial tools for conservation and planning studies in local level were new issues in the Act no 5226.

[173] Today there are 37 conservation councils in Turkey. (MoC, Kültür Varlıklarını Koruma Bölge Kurulları Görev Alanları, 2019)
[174] Act no 5226/ 5226 sayılı Kültür ve Tabiat Varlıklarını Koruma Kanunu ile Çeşitli Kanunlarda Değişiklik Yapılması Hakkında Kanun (ResmiGazete, 5226 sayılı Kültür ve Tabiat Varlıklarını Koruma Kanunu ile Çeşitli Kanunlarda Değişiklik Yapılması Hakkında Kanun, 2004)

In 2006, "Commagene Nemrut Conservation Development Program (CNCDP)" was prepared by Middle East Technical University and Ankara University for the Ministry of Culture and Tourism. In this project, a cultural route accompanying visitor paths was proposed. The overall aim of the plan was to enhance conservation, interpretation and presentation of the region, not just the single monuments of Nemrut, by including all of the settlements located close to the site.[175]

Improvements have been made by the introduction of Act no 5835 in 2009 for the financing of conservation projects by local administrations.[176] Private sector had also been encouraged to support conservation and restoration studies for cultural assets along with salvage excavations, archaeological excavations and field surveys by the Act no 5228.[177]

In July 2012, Turkey's Culture Routes Society (CRS), a non-profit organization, was established to protect Turkey's existing culture routes, to promote the foundation of new routes, and to set standards for their development.[178] All the offered routes have different characteristics as natural, historic, rural, archaeological while running along coasts, mountains, valleys and forests. The routes are not only for walkers/ hikers but also for bikers and riders. Guided tours are available for most routes. Information about the routes, accommodation options, transportation, and links to guidebooks and maps, GPS waypoints are provided by CRS. As of 2019, CRS is taking care of 20 long-distance trekking routes in Turkey. Four of these cross international borders and continue into other parts of Europe and Asia. The current cultural routes offered by CRS are Lycian Way, St. Paul Trail, Evliya Çelebi Way, Carian Trail, The Kaçkar, Phrygian Way, Sultan's Trail, Abraham's Path, Via Egnatia, Hittite Trail, Gastronomy Route, Mount Ararat Trails, Küre Mountains Trail,

[175] Commagene Nemrut Conservation Development Program (CNCDP) (METU, 2006-2010)
[176] Act no 5835/ 5835 sayılı Kültür ve Tabiat Varlıklarını Koruma Kanununda Değişiklik Yapılmasına Dair Kanun (ResmiGazete, 5835 sayılı Kültür ve Tabiat Varlıklarını Koruma Kanununda Değişiklik Yapılmasına Dair Kanun, 2009)
[177] Act no 5228/ 5228 sayılı Bazı Kanunlarda ve 178 Sayılı Kanun Hükmünde Kararnamede Değişiklik Yapılması Hakkında Kanun, (ResmiGazete, 5228 sayılı Bazı Kanunlarda ve 178 Sayılı Kanun Hükmünde Kararnamede Değişiklik Yapılması Hakkında Kanun, 2004)
[178] (CRS, 2012)

Independence Trail, Idyma Way, Sarıkamış Trails, Fethiye Alternative Trails, Yenice Forest Trails, Between Two Seas, Ephesus- Mimas Route, Tolerance Way, Via Eurasia.[179] All of these routes are terrestrial. Although some pass by marine environments, none of them contain maritime components.

On 20 - 23 December 2012, "Culture Routes and Religious Tourism" conference was held in Turkey. The conference focused on the creation of a new market area related with the cultural tourism destinations in Turkey. Supporting the existing cultural routes as well as developing new ones in Turkey as a tool for sustainable tourism was discussed. The goal was to offer Turkey as a cultural tourism destination.[180]

New regulation for KUDEBs (Conservation Implementation Monitoring Offices) was published on "Resmi Gazete" on 07.12.2014.[181] Their rights and responsibilities to do "regular maintenance" on cultural heritage had been changed into "repair and renewal". With this regulation change KUDEB will be able to bypass the control of the Regional Conservation Councils.

On 27 May 2015, with Regulation no 29368 the funding of conservation of cultural heritage was enhanced. [182]

In 2018, Turkey became a Member State of the Enlarged Partial Agreement on Cultural Routes designated by Council of Europe.[183] As of 2019, Turkey has been signatory to five routes (with certification dates shown in brackets); The European Route of Jewish Heritage (2004), The Routes of the Olive Tree (2005), European

[179] (CRS, 2012)
[180] (MoC, Culture Routes and Religious Tourism Conference, 2012)
[181] Regulation No: 29198/ 29198 sayılı "Korunması Gerekli Taşınmaz Kültür Varlıklarının Yapı Esasları ve Denetimine Dair Yönetmelikte Değişiklik Yapılması Hakkında Yönetmelik" (ResmiGazete, Korunması Gerekli Taşınmaz Kültür Varlıklarının Yapı Esasları ve Denetimine Dair Yönetmelikte Değişiklik Yapılması Hakkında Yönetmelik, 2014)
[182] Regulation no 29368/ 29368 sayılı "Taşınmaz Kültür Varlıklarına Yardım Sağlanmasına Dair Yönetmelik (ResmiGazete, 29368 sayılı Taşınmaz Kültür Varlıklarına Yardım Sağlanmasına Dair Yönetmelik , 2015)
[183] (CoE, Enlarged Partial Agreement on Cultural Routes, 2010)

Route of Historic Thermal Towns (2010), Iron Curtain Trail (2019) and European Route of Industrial Heritage (2019).

Table 2.3.*Conservation legislation for Maritime Heritage in Turkey prepared by the author.*

| | CONSERVATION LEGISLATION IN TURKEY |
|---|---|
| 19th century-until 1973 | Asar-ı Atika Nizamnamesi: conservation of Antiquities |
| 1973 | Act no 1710 was adopted. With this law the emphasis of conservation moved away from single buildings to site scale. First systematic survey of cultural assets started throughout Turkey. The regulations brought upon by this law necessitated the revision of settlement plans for the provision of conservation. However, in practice the regulations fell short. |
| 1983 | Act no 2863: a major break from the past laws in terms of national conservation policies. Planning-management and institutional arrangements brought during this period still constitute the main legislative basis for conservation policies today. With this law, conservation of cultural heritage was more decentralized. The former Act 1710 had obliged the permit of Higher Conservation Council for modifying development plans for conservation. But with Act no 2863 the concept of "Conservation and Development Plans" (Koruma Amaçlı İmar Planı) were introduced for the first time in order to define planning decisions within legally designated sites. This provided the integration of conservation of archaeological, natural, urban and historic Sites into town and country planning process through a specific planning tool. Municipalities were held responsible to prepare the Conservation and Development Plans for Conservation Sites located within their administrative boundaries. |
| | Conservation Councils were also more decentralized with this new act. High Council of Conservation for Cultural and Natural Assets (High Council) was established as the responsible central authority to define principle decisions, act as an advisory board; and Regional Councils of Conservation for Cultural and Natural Assets (Regional Conservation Council) were established as the regional representatives of this council which would execute the principles. So, it became easier to have control on conservation activities as well as getting permits. The RCC have been responsible for registrations of |

| | |
|---|---|
| | Immovable Cultural and Natural Assets and Conservation Sites, defining transition period conditions, examination and approval of CDPs and related changes defining Conservation Areas. |
| 2004 | The Act no 2863 have been modified by the introduction of the Conservation Amendment Act no 5226. the Act no 2863/5226 continues to be the main legislation regarding conservation of cultural heritage. Integration of intangible values within content and definition of cultural asset, definition of "Ruined Areas" (Örenyeri) for archaeological sites, revisions for the preparation process of Conservation and Development Plans, introduction of "Site Plans" (Çevre Düzenleme Projesi) for Archaeological Sites and "Management Plan" (Alan Yönetimi) for conservation sites, establishment of local control units of "Conservation, Implementation and Control Offices" (Koruma Uygulama ve Denetim Bürosu-KUDEBs) and new financial tools for conservation and planning studies in local level can be mentioned as new issues brought upon by the Act no 5226. |
| 2006 | "Commagene Nemrut Conservation Development Program (CNCDP)" was prepared by Middle East Technical University and Ankara University experts for the Ministry of Culture and Tourism. In this conservation and management plan, a cultural route as a part of the visitor scenario in regard to the important components of the region was proposed. |
| 2009 | Improvements have been made by the introduction of Act no 5835 in 2009 for the financing of conservation projects by local administrations. Private sector had also been encouraged to support conservation and restoration studies for cultural assets along with salvage excavations, archaeological excavations and field surveys by the Act no 5226. |
| 2012 | Turkey's Culture Routes Society (CRS), a non-profit organization, was established to protect Turkey's existing culture routes, to promote the establishment of new routes, and to set standards for their development. |
| 2012 | "Culture Routes and Religious Tourism" conference was held in Turkey. |
| 2014 | KUDEB's rights and responsibilities to do "regular maintenance" on cultural heritage had been changed into "repair and renewal". With this regulation change KUDEB will be able to bypass the control of the Regional Conservation Councils. |
| 2015 | The funding of conservation of cultural heritage was enhanced. |

| | |
|---|---|
| 2018 | Turkey became a Member State of the Enlarged Partial Agreement on Cultural Routes designated by Council of Europe. |
| 2019 | Turkey has been signatory to five cultural routes of Council of Europe (with certification dates shown in brackets); The European Route of Jewish Heritage (2004), The Routes of the Olive Tree (2005), European Route of Historic Thermal Towns (2010), Iron Curtain Trail (2019) and European Route of Industrial Heritage (2019). |

### 2.5.2. Conservation and Development Policies Regarding Coastal Environments Home to Maritime Heritage in Turkey

#### 2.5.2.1. Conservation and Development of Coastal Areas Through National Development Plans in Turkey

As for the planning and management of coastal areas, home to maritime heritage, the biggest tool was the Development Plans. Prepared on a 5-year basis, the first three of these plans, namely 1963- 1967, 1968- 1972 and 1973- 1977, all promoted the introduction of mass tourism as a national income. The coastal areas were chosen regarding their big potential to draw visitors due to the natural values they inherited. Yet, the infrastructure needed to keep this tourism sector working was huge. Thus, problems of pollution were recognized in the 1978- 1983 plan. Ironically, the density of priority areas chosen for tourism was increased. Moreover, special tourism regions were proposed as "Organized Tourism Areas" for development of proper investments and facilities for mass tourism. Thus, accommodation and transportation capacities (especially air transportation) increased in tourism areas. In this development plan, conservation of natural and cultural assets of Turkey and their accessibility to public use and tourism were promoted to bring economic income. And coastal areas were the primary target of this attitude.

With the next development plan of 1985- 1989 the threats of overloading on coastal zones were seen. Increasing the variety of tourism types in relation to the

natural, historic, archaeological and cultural aspects of Turkey to protect ecological balance and healthy environments were encouraged. Bringing conservation and tourism development strategies together were underlined.

The development plan of 1990- 1995 focused on conservation- use balance for tourism purposes as environmental problems and dense settlements were already taking hold. Instead of mass tourism, small capacity or family managed tourism investments were promoted. A national master plan would be prepared to regulate exploitation and economic use of coastal areas and shorestrips for public benefits in priority.

In the Development Plan of 1995-2000; tourism types had more variety. Introducing yachting and marine cruise were mainly effective on maritime heritage. Along with coastal management studies sustainability was underlined to conserve ecological balance and cultural & natural heritage. Making use of local resources was an important key in this respect. Public participation along decision-making process was encouraged for environmental management.

The next Development Plan of 2001-2005 has unveiled "eco-tourism" concept. The National Park areas would be designed for sustainable tourism. The environmental problems persisted particularly in the coastal areas. Thus, a National Environment Action Plan was prepared. And studies for partnership of the International Frame Convention for Climate Change were started.

Table 2.4.*Development Plans of Turkey, prepared by the author.*

| | DEVELOPMENT PLANS |
|---|---|
| 1963-1967 | 1st Development Plan: introduction of mass tourism as a national income |
| 1968-1972 | 2nd Development Plan: introduction of mass tourism as a national income |

| | |
|---|---|
| 1973-1977 | 3rd Development Plan: introduction of mass tourism as a national income. The coastal areas were attraction areas due to their natural values. |
| 1978-1983 | The pollution due to tourism was discussed. The priority areas chosen for tourism were increased. Special tourism regions were defined as "Organized Tourism Areas" for development of mass tourism investments and facilities. Accommodation and transportation capacities (especially air transportation) increased in tourism areas. Conservation of natural and cultural heritage of Turkey, openness to public use and tourism were seen as a tool for economic income. And coastal areas were the primary target of this attitude. |
| 1985-1989 | The threats of overloading on coastal zones were seen. Different tourism types in relation to the natural, historic, archaeological and cultural aspects of Turkey to protect environment. Integration of conservation strategies with tourism development strategies. |
| 1990-1995 | focused on conservation- use balance. Instead of mass tourism, small capacity or family managed tourism investments were promoted. A national master plan would be prepared to regulate economic use of coastal areas and shorestrips for public benefits in priority. |
| 1995-2000 | tourism types were more diversified, introducing yachting and marine cruise were mainly effective on maritime heritage. For the preparation of coastal management studies sustainability was underlined to conserve ecological balance and cultural & natural heritage. Making use of local resources. Ihe integration of public participation into decision-making process and environmental management. |
| 2001-2005 | has introduced the term eco-tourism into the existing tourism types. The National Park areas would be arranged regarding the development of sustainable tourism. As the environmental problems still continued especially in the coastal areas a National Environment Action Plan and partnership towards the International Frame Convention for Climate Change were being prepared. |

The 2007-2013 Development Plan combined the separate Ministry of Culture and Ministry of Tourism together. The plan stressed the importance of cultural tourism and eco-tourism. Golf, winter, thermal, yacht, congress and rural tourisms were underlined as alternative tourism types. Maritime transportation and shipping would be developed, rather than terrestrial transportation. Especially on axes where railways

or maritime routes were superior to overland routes/ highways, maritime and rail systems would be supported. The harbor capacities of İzmir, Marmara Region and Mediterranean Region would be increased to become an important logistics center in the Eastern Mediterranean.

The 2014-2018 Development Plan focused on large scale maritime projects as Mersin Container Harbour, Filyos Harbour in Karadeniz Ereğli and Çandarlı Harbour in İzmir, to replace the current İzmir Harbour. The Turkish territorial waters became intense petrol and natural gas research ground. Some of the state enterprises were privatized in maritime sector. Maritime and rail transportation were favoured over overland transportation. Health, cruise, congress, winter, golf and cultural tourism were promoted as alternatives again. In touristic regions, local administration and community would be involved in decision making regarding tourism. Sustainable tourism would be promoted to steer away from the negative impacts of mass tourism.

#### 2.5.2.2. Coastal Legislations in Turkey

Since the Ottoman Period the coastal areas were defined as the State Property. By the *Mecelle* Act no 1876, sea and lakes were declared the common property of public. Through the Act no 643 in 1926, it was stated that "the unowned properties are under jurisdiction of the State"[184] So, coastal areas were accessible and reserved for public interest.

Use of coastal areas were defined through the Municipality Building Roads Act no 2290 between 1933-1957.[185] 10 meters width after coastline was defined and conserved as shore-strip.

The first coast legislation was the 1605 Act. In this act, within shore-strip section of sea, lake and river coasts that were defined as at least 10 meters depth it was

[184] (Keleş, 2006, p. 726)
[185] Act no 2290/ 2290 sayılı Belediye Yapı ve Yollar Kanunu (ResmiGazete, Belediye Yapı ve Yollar Kanunu, 1933) and (Eke, 1995, p. 7)

forbidden to construct buildings except for public benefits. The Regulation No: 15122 on 18.1.1975 was accepted to enhance this act defining "shoreline, shore, shore-edge line".[186]

The 1982 Constitution, still in use today, states that the use and responsibility of shores lies within the State. The primary concern is public benefit in enhancement of sea, lake and river shores and shore strips. Widths of shores and shore strips regarding usage conditions for public benefits are set out by the law.

In 1984 the Coast Act no 3086 has entered into force.[187] Public use was mentioned in this law again but there were contradictory statements giving permissions for industrial, educational, and tourism purposes within shores regarding the development plans. If there was Ministers' Decree private developments would also be allowed in some areas. Public rights were sacrificed for the improvement of coastal environment. So first certain articles were cancelled in 1986, then all of the act.[188] Until the arrangement of a new law; the Ministry of Public Works and Settlements published a circular, for managing usage conditions in coastal areas until the 1992 Coast Act no 3621.

Coast Act no 3621 mentioned conservation of coastal areas with their cultural and natural characteristics for the first time.[189] It introduced principles for protection of sea, natural and artificial lakes, river shores, shore strips and their utilization for public benefits by regarding the natural and cultural aspects. The act treated the coastal area as a unity of marine and terrestrial regions, with terrestrial extensions: sea, land and its hinterland.

The Regulation for the Implementation of the Coast Act defined "Shore-edge line, Shore and Shore-strip". Except the buildings mentioned in the regulation no other type of construction was allowed. Buildings that would be developed in the "Shore-

[186]Date 18.01.1975 Regulation no: 15122/ 15122 sayılı İmar Kanununun Ek 7 ve 8inci Maddelerine İlişkin Yönetmelik (ResmiGazete, 15122 sayılı İmar Kanununun Ek 7 ve 8inci Maddelerine İlişkin Yönetmelik, 1975)
[187] Coast Act no 3086/ 3086 sayılı Kıyı Kanunu (ResmiGazete, 3086 sayılı Kıyı Kanunu, 1984)
[188] (Eke, 1995, p. 11) and (Keleş, 2006, p. 735)
[189] Act no 3621/ 3621 sayılı Kıyı Kanunu (ResmiGazete, 3621 sayılı Kıyı Kanunu, 1990)

strip" could start after 50 m. away from the "Shore-edge line". This line was called "Building Approach Line". [190]

Immovable cultural assets within the coastal areas were authorized to Regional Conservation Councils under the Act no 2863. This brought a fractured attitude towards the conservation of coastal areas, thus maritime heritage, as the cultural heritage here could never be a real part of the planning, decision making and management process. The Coast Act prevented new constructions but did not offer measures related to the conservation of heritage.

Table 2.5. *Coastal legislations of Turkey, prepared by the author.*

| | |
|---|---|
| Ottoman Period | *Mecelle* Act no 1876, sea and lakes were stated to be the common property of public. sea and lakes were stated to be the common property of public |
| 1926 | Act no 643. coastal areas were accessible and enhanced for public interest. |
| 1933-1957 | Municipality Building Roads Act no 2290.10 meters width after coastline was defined and conserved as shore-strip. |
| 1975 | The first coast legislation Act no 1605.In this act, within shore-strip section of sea, lake and river coasts that were defined as at least 10 meters depth it was forbidden to construct buildings except for public benefits. The Regulation No: 18.1.1975 was accepted to enhance this act defining "shoreline, shore, shore-edge line". |
| 1982 constitution | states that the use and responsibility of shores lies within the State. The primary concern is public benefit in enhancement of sea, lake and river shores and shore strips. Widths of shores and shore strips regarding usage conditions for public benefits are established by the law. |

[190] Date 03.08.1990, Regulation no 20594/ 20594 sayılı Kıyı Kanununun Uygulanmasına Dair Yönetmelik (ResmiGazete, 20594 sayılı Kıyı Kanununun Uygulanmasına Dair Yönetmelik, 1990)

| | |
|---|---|
| 1984 | Coast Act no 3086.Violation of public rights in favor of the "enhancement" of coastal environment brought the cancellation of certain articles in 1986. As the rest of the act became inapplicable, it was totally cancelled. Until the arrangement of a new law; the Ministry of Public Works and Settlements published a circular. |
| 1992 | Coast Act no 3621 mentioned conservation of coastal areas with their cultural and natural characteristics for the first time. It introduced principles for protection of sea, natural and artificial lakes, river shores, shore strips and their utilization for public benefits by regarding the natural and cultural aspects. The act treated the coastal area as a unity of marine and terrestrial regions, with terrestrial extensions: sea, land and its hinterland.<br>The Regulation for the Implementation of the Coast Act defined "Shore-edge line, Shore and Shore-strip". Except the buildings mentioned in the regulation no other type of construction was allowed. Buildings that would be developed in the "Shore-strip" could start after 50 m. away from the "Shore-edge line". This line was called "Building Approach Line". |

Regulation no 28606 Date 02.04.2013 "Kıyı Kanununun Uygulanmasına Dair Yönetmelikte Değişiklik Yapılmasına Dair Yönetmelik":[191] With this regulation, the definitions, identification and approval of coast-edge line and coastal structures were changed. Terms like coastal strip, recreative area, shipyard, yacht harbour, fishing shelter were redefined again. While formerly the coastal strip was defined by natural thresholds now it would be defined by development plans and it would be vulnarable to building activities. Formerly, shipyards were limited to certain scales of vessels in proportion to their capacity. Now, the scale limit was taken off enabling the construction of additional technical and service buildings on the coasts. Accommodation structures were added to previously defined mandatory service buildings in yacht harbours, thus, hotels on the coasts had gained priviledeges. A similar opportunity was given to fishing shelters; in addition to slipways for fishing

[191] Date 02.04.2013 Regulation no 28606/ 28606 sayılı Kıyı Kanununun Uygulanmasına Dair Yönetmelikte Değişiklik Yapılmasına Dair Yönetmelik (ResmiGazete, 28606 sayılı Kıyı Kanununun Uygulanmasına Dair Yönetmelikte Değişiklik Yapılmasına Dair Yönetmelik, 2013)

boats, two storey administration and sales areas could be built. The objections to the announcement of coast-edge line and its approval could only be made through state institutions or governorship and the oppositions would be finalized by the Ministry.

#### 2.5.2.3. Tourism and Other Legislations Regarding Coastal Areas in Turkey

On March 1982 Tourism Incitement Act no 2634 came into force. It was targeted towards supporting tourism investments via the use of "Tourism Areas" and "Tourism Centres".[192] Coastal areas played the major role in the development of tourism in this act.

In 1983 Regulation no 18301 on "Allowance of Treasury Areas for Tourism Developments" came into force[193] to register Treasury lands by the Ministry of Culture and Tourism. This attitude was promoted to attract the private or incorporated investors. To achieve building lot unity, building lots next to tourism areas could also be permitted. The same regulation opened forestry and even National Parks to tourism by the permission of Ministry of Agriculture and Forest.

In 2003 a new tourism Act no 4957 came into force.[194] Formerly defined tourism areas and tourism centres were turned into "Cultural and Tourism Conservation and Development Areas". These areas would be conserved and developed due to critical cultural and natural values and large tourism potentials. If there was public interest construction would be allowed in the coastal areas without harming natural and cultural characteristics of that environment or altering their characteristics.

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[192] Act no 2634/ 2634 sayılı Turizmi Teşvik Kanunu (ResmiGazete, 2634 sayılı Turizmi Teşvik Kanunu, 1982)

[193]Regulation no 18301 Date 28.04.1983/ 18301 sayılı Kamu Arazisinin Turizm Yatırımlarına Tahsisi Hakkında Yönetmelik (ResmiGazete, 18301 sayılı Kamu Arazisinin Turizm Yatırımlarına Tahsisi Hakkında Yönetmelik , 1983)

[194] Date 01.08.2003, Act no 4957/ 4957 sayılı Turizmi Teşvik Kanununda Değişiklik Yapılması Hakkında Kanun (ResmiGazete, 4957 sayılı Turizmi Teşvik Kanununda Değişiklik Yapılması Hakkında Kanun, 2003)

Through this act conservation of natural and cultural values stays on paper. On the contrary, tourism sector is supported through funding, allowance of constructions and infrastructure. All these implementations have changed coastal areas on land, on water and underwater drastically. As the registries on coastal or maritime heritage are not complete, it is not possible to define the extent of damage on this type of heritage.

Public sections of coasts are replaced by private investments leading to inaccessibility of public to the sea. As tourism investments occupy coasts they also create a demand for secondary housing as well. This brings the change of users and disturbance of locals. The municipalities of coastal areas take a small share because of their small percentage of permanent residents. Yet, the population of a few thousands are rising into millions in summer. Thus, the infrastructure cannot cope with it. This brings a huge pressure on maritime heritage both on land and underwater. Dense tourism damages traditional ways of maritime living, as overpopulation harms marine life and fisheries.

Table 2.6. *Tourism legislations of Turkey, prepared by the author.*

| | |
|---|---|
| 1982 March | Tourism Incitement Act no 2634 came into force. "Tourism Areas" and "Tourism Centres". Coastal areas played the major role in the development of tourism in this act. |
| 1983 | Regulation no 18301 on "Allowance of Treasury Areas for Tourism Developments" came into force to register Treasury lands by the Ministry of Culture and Tourism. |
| 2003 | Tourism Act no 4957 |

Academic studies/ theses on integrated coastal zone management can be traced back to 1993 in Turkey. A great majority of these studies are carried on for the purposes of coastal development by city planning departments. Yet, there are a limited

number of theses dealing with the conservation of cultural heritage on the coasts. The oldest of these theses, submitted in 2006 on Master level[195], deals with the "effectiveness of Turkish coastal legislation in ensuring the protection-utilization balance" by investigating court trials. The second one, completed in 2010 on PhD level, aims to develop "Integrated management policies for coastal archaeological environments of Turkey" and particularly for the Erdemli-Silifke coastal region in Mersin.[196] (see Appendix E)

Another group of studies focuses on different aspects of maritime heritage and its conservation without assessing its relationship with coastal zone management. These may be grouped around underwater and coastal archaeology[197], coastal fortresses[198], coastal industrial areas[199] and ancient harbours[200]. (see Appendix D)

A querry on "maritime" releases a third group of theses focusing on maritime history or movable maritime heritage like certain vessels. A master thesis completed in 2008 investigates the Ottoman dock in Samsun and its economic function.[201] A master thesis completed in 2011 deals with the concept of maritime cultural landscape and assesses Heybeliada in İstanbul.[202] (see Appendix D)

## 2.6. Conservation and Management of Lighthouses as A Part of Maritime Heritage in Turkey

Being on a critical location in the Mediterranean and its availability for seafaring, since antiquity Turkish shores had been blessed with lighthouses. During the Roman Period, it was a very rare priviledge for a city to have a lighthouse, yet

[195] (Ceylan, 2006)
[196] (Naycı, 2010)
[197] (Evrin, 2000)
[198] (Cesur, 2009)
[199] (Gören, 2011)
[200] (Öniz, 2012)
[201] (Mutlu, 2008)
[202] (Ayan, 2011)

Anatolia had around 10 lighthouses during that era. Patara Lighthouse in Kalkan, Antalya; Heraklia Pontika Lighthouse in Karadeniz Ereğli and Soli Pompeiopolis Lighthouse in Mersin all survived from these days.

In the Ottoman Empire, regarding a ferman of 1562 during the reign of Suleiman the Magnificent, the oldest lighthouse in İstanbul was in Fenerbahçe.[203] Provided by the written and visual documents, the earliest lighthouses constructed during the Ottoman Period were Rumeli, Anadolu and Fenerbahçe lighthouses.[204]

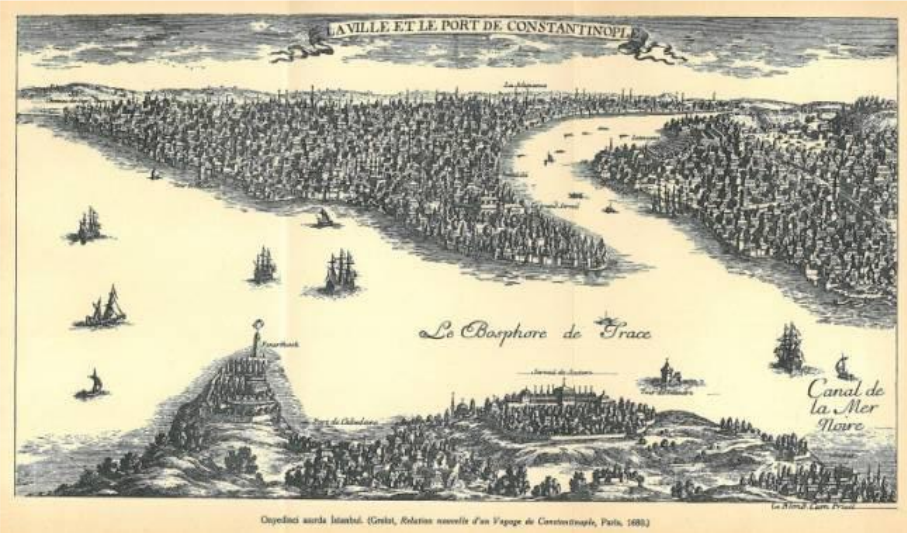



*Figure 2.20.* Bosphorus and Golden Horn engraving showing the Fenerbahçe Lighthouse in 1680 *(Kömürcüyan, 1952)*

In the first half of the 19th century there were few lighthouses operating along the coasts of the Ottoman Empire. Ahırkapı (1857), Fenerbahçe (1856), Kızkulesi (1856), Rumeli (1856), Anadolu (1856) and two light barges on the entrance to the Black Sea were all controlled by Bahriye Nezareti (Ministry of Navy). With the start of the Crimean War a necessity was born for the safe navigation of French and British

[203] (Ay, 2000)
[204] (Kömürcüyan, 1952)

navy ships along the straits. Thus, in 1855 "Fenerler İdaresi" was founded and an agreement was made between the French Jean Marius Michel and Ottoman State to renew the existing lighthouses and to build new ones.[205] Starting with Gelibolu, Yılan Island, Kumkale and Seddülbahir lighthouses, all around the coasts of the Empire; thus around Crete and nearby islands, coasts of Macedonia, Aegean coasts, İzmir Bay, Syria, Çanakkale Strait, Marmara Sea, İzmit Bay, Bosphorus, Black Sea coasts, Romania and Bulgaria and Red Sea; 205 lighthouses were built in 48 years (1856-1904).[206] In this association, the director and engineers were French whereas the lighthouse keepers and clerks were Ottoman citizens.




*Figure 2.21*. Distribution of the Ottoman Lighthouses along the Empire coasts (in red), image taken from GoogleEarth/ GoogleMaps and processed by the author. *(GoogleEarth, 2019)*

Until 1937 January 1st, The French "Fenerler İdaresi" was controlled by the law of 3302. At that time, it was bought and nationalized and was handed over to the

[205] (Toroslu, 2008) (Ay, 2000)
[206] (Camcı, Zafer, & Yaman, 1994, p. 222)

newly established General Directorate of Denizbank. On 1940, February 1st, the "Fenerler İdaresi" was passed onto "Devlet Denizyolları ve Liman İşletmeleri Umum Müdürlüğü". And finally, on 1952, March 1st, with the law of 5842 it started operating within Denizbank, under the name "Kıyı Emniyeti İşletmesi Müdürlüğü". On 17.06.1982, with the law of 1680, Denizbank was named as Türkiye Denizcilik Kurumu (TÜDEK). "Türkiye Denizcilik Kurumu" was changed as Türkiye Denizcilik İşletmeleri (T.D.İ.) on 8.6.1984, with law of 233, under "Kıyı Emniyeti İşletmesi". In 1997, by the decision no 9466 of the government, the association was declared independent as a public directorate "Kıyı Emniyeti ve Gemi Kurtarma İşletmeleri Genel Müdürlüğü" On 7.2.2007, its name was changed as "Kıyı Emniyeti Genel Müdürlügü" (KEGM), the General Directorate of Coastal Safety.[207]

After 1937, the maintenance and repair of all the lighthouses had been carried out by the above-mentioned associations. The collapsed lighthouses had also been replaced with the new ones by the control of these governmental bodies.

In Turkey, there are 442 lighthouses under the control of the Directorate General of Coastal Safety, operating under the Ministry of Transport, Maritime Affairs and Communications.[208] Regarding the 2010 data, 378 of these are lighthouses without a keepers' residence and 54 of them have residences for keepers. Of the single lighthouses 105 are situated along the Black Sea, 154 along Marmara, 96 along Aegean, 128 along Mediterranean. 15 of the lighthouses with a residence for keepers are located along the Black Sea, 18 along Marmara, 12 along the Aegean and 9 along the Mediterranean.[209]

Of the 459 lighthouses in Turkey, only 22 are registered lighthouses depending on the law of 2863 for the protection of cultural and natural assets.[210] 16 of these were registered in 2005, 2 of them in 2007, 1 in 2008, 2 of them in 2009 and 1 of them in

[207] (KEGM, 2012)
[208] (KEGM, 2012)
[209] (KEGM, 2012) See the Map of Maritime Heritage in Turkey prepared by the author for the distribution of lighthouses.
[210]The Coastal Law no 3621 also relates to the control of lighthouses. (KEGM, 2012)

2010. However, it might be argued that there are many lighthouses which may be potentially considered as worth being registered as cultural heritage.[211]

There is an intensity of repair works during the years 1945-1950 for all the lighthouses around Turkey. Yet only 3 of the registered lighthouses had been restored so far. The rest of the interventions are left to the iniatives undertaken by the keepers themselves. Each of these restoration projects had treated the lighthouses and their surroundings as independent entities from the rest of the region. Thus, these restoration projects have born dead as the lighthouses are not treated as a part of maritime heritage nor have not been integrated into the planning and management processes.

KEGM had started renting some of the lighthouses in 2006, 3 years after the adoption of 2003 Tourism Act no 4957. Slowly lighthouses were opened to tourism. 5 lighthouses were rented in that year and in 2007, 12 more were rented. In 2009, 9 more lighthouses were rented as well.[212] The renting procedures included new functions for the lighthouses. In some case, the adaptive reuse projects required intense physical interventions. In some cases there were additional constructions to "support new functions for public interest without damaging natural and cultural characteristics of that environment".

The Ministry of Environment and Urbanism had started the attempts to change the Coast Act 3621 of 1992 and give permits to the coastal zones for construction. For this reason, the definition of shore-edge lines of 16 cities among the total 22 coastal cities of Turkey had been completed. This inventory forms 86% of the total 8590 km coastal areas in Turkey. The ultimate aim is to drop the building approach line from 50m to 10m. (The international standard for building approach line of 100m should be recalled here.) If this proposal becomes an act the implementation will certainly

[211] See Appendix B.
[212] (DenizKumuTanesi, 2009)

have an impact on the coastal and maritime heritage as well, including the lighthouses.[213]

Regarding the academic studies about the conservation of lighthouses we can mention only 2 master thesis in Turkey.[214] The first one completed in 2000[215], "Discussion about the usage of İstanbul Bosphorus's lighthouses and restoration of salvage buildings", focuses on the 7 lighthouses around the İstanbul Strait and investigates the problems of Riva Salvage Station in particular to propose a conservation project. The other one completed in 2011, "Architectural analyses of the historical lighthouses in Izmit Bay and conservation suggestions", focuses on 5 lighthouses around the Izmit Bay and presents a thorough architectural survey of 2 lighthouses in this area, namely Darıca-Yelkenkaya and Hersek-Dilburnu.[216] Except the registered lighthouses and the ones studied in these academic theses, none of the other lighthouses had been architecturally documented so far. But we may also mention an increasing interest in the lighthouses in the last decade which had yielded the production of photographic books and a video documentary.[217]

## 2.7. Attitudes, Projects and Implementations of Conservation and Reuse of Lighthouses as A Part of Maritime Heritage in Turkey

There are different attitudes for the levels of interventions on lighthouses from different periods. These interventions may be classified as conservation, adaptive reuse, reconstruction and moving.

[213] (TurkSail, 2012)
[214] See Appendix 2.
[215] (Ay, 2000)
[216] (Yerlikaya, 2011)
[217] (Ermin & Tankuter, 2003) (Toroslu, 2008) (Sönmez, 2010) (Demirel, 2011)

The ancient Lighthouse of Patara had been built during the reign of Roman Emperor Neron in 64-65 AD[218], by a local governor, in Antalya. The Pharos was accompanied by an anti-Pharos lighthouse, marking and securing the entrance to the Patara port on the two moles. The structure was unearthed in 2005. The advanced, integrated architectural documentation and conservation projects were prepared in 2009.[219]

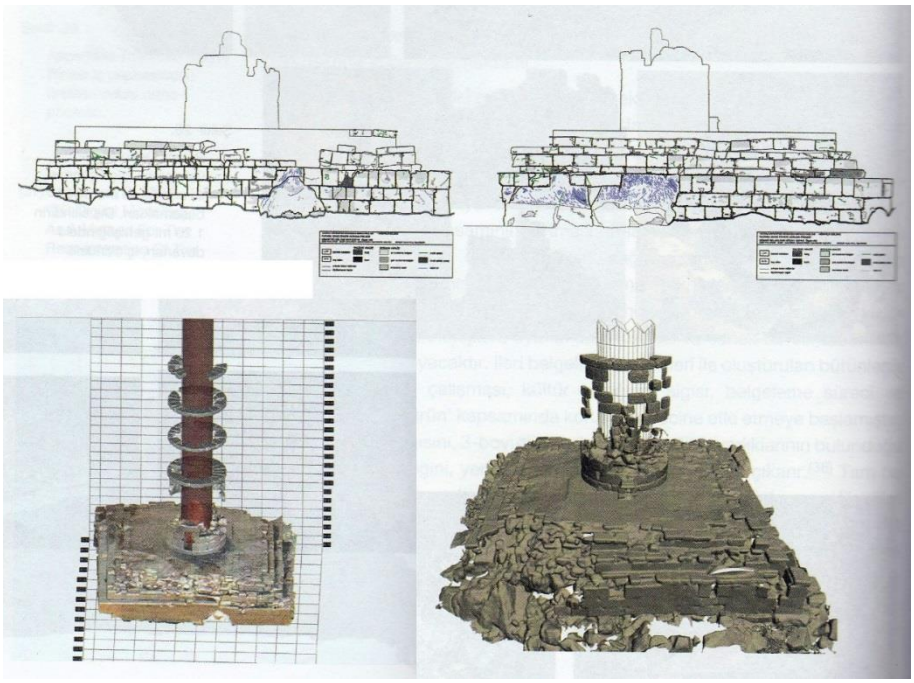


*Figure 2.22.* Documentation and conservation project of Patara Lighthouse *(Özkut, "İleri Belgeleme Tekniklerinin Mimari Belgeleme Sürecinde Kullanımı", 2010)*

[218] (Işık, Eck, & Engelmann, 2008) "Nero Claudius Caesar Augustus Germanicus, son of the deified Claudius, grandson of Tiberius Caesar Augustus and Germanicus Caesar, great-grandson of the deified Augustus, chief priest, owner of the tribunician power for the eleventh time, consul for the fourth time, ruler/ victor over the earth and the sea for the [x.] Male, Father of the Fatherland, Sextus Marcus Priscus had erected this lighthouse to protect the seafarers, the imperial legate in propraetoric rank, who had the building carried out."

[219] (Özkut, Patara Deniz Feneri Mimari Belgeleme Çalışmaları, 2009) (Özkut, "İleri Belgeleme Tekniklerinin Mimari Belgeleme Sürecinde Kullanımı", 2010)

The building is composed of two parts; a podium of 20mx20m and a double cylindirical tower preserved to 5.5m height, 6m diameter on top. Patara Lighthouse is significant for its rarity, architectural and aesthetic characteristics, integrity and documentary value, acting as a landmark. The conservation project of the lighthouse had managed to interpret and present the cultural values of this structure and solve its critical structural and material problems.



*Figure 2.23.* Patara Lighthouse *(Özkut, "İleri Belgeleme Tekniklerinin Mimari Belgeleme Sürecinde Kullanımı", 2010)*

The use of lighthouses with complimentary purposes next to aiding navigation started in 2006 in Turkey. Several lighthouses were leased for 10 years with different functions. In all cases, the operation rights of the light towers stayed with the

Directorate of Coastal Safety as navigational aids while the keeper's residence was transformed.

One of the largest and oldest lighthouses in Turkey, Şile Lighthouse in İstanbul had been transformed into a museum by the Coastal Safety. Şile Lighthouse is a landmark both on a local and national level. The light tower is still used as an aid to navigation. The keeper's residence is home to the collection of Coastal Safety with several items related to navigational aids.




*Figure 2.24.* Şile Lighthouse seen from the sea, left *(Toroslu, 2008)*, plan of Şile Lighthouse drawn after O. Yerlikaya, right *(Author, 2018)*

The Sivrice Lighthouse in Ayvacık, Çanakkale was leased for 10 years between 2008-2018 and it was turned into a research library on lighthouses.[220]

Armutlu Bozburun Lighthouse in Yalova had been turned into a philosophy academy in 2009, called "Poseidon Philosophy Lighthouse" because there was a Poseidon Temple here in the ancient period.[221] Today, the lighthouse has around 30 constant philosophy lovers as well as other visitors. The garden welcomes tents,

[220] See Chapter 3 for an extended discussion on Sivrice Lighthouse.
[221] (Safalı, 2012)

meetings, entertainment activities as well as gardening both day and night. The keeper's residence acts like a community house where academy students use the kitchen and bake, process food. The lighthouse precincts shelter humans and animals alike.

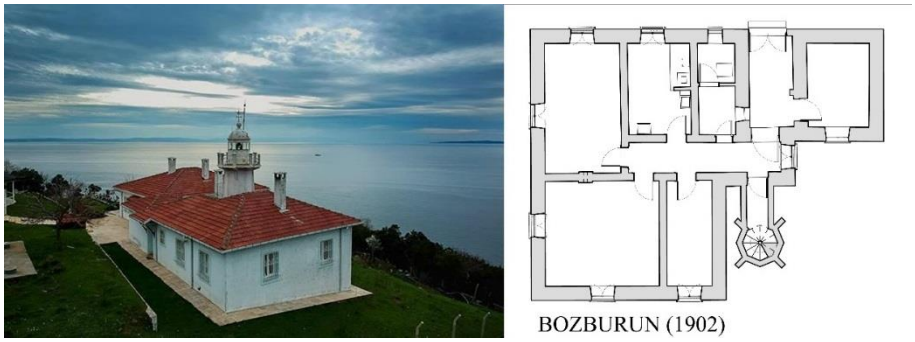



*Figure 2.25*. Bozburun Lighthouse in Yalova, left *(Demirel, 2011)*, plan of Bozburun Lighthouse drawn after O. Yerlikaya *(Author, 2018)*

Bozcaada Polente Lighthouse in Çanakkale was leased as a vineyard house. The choice of the new function regarded the potential of the light keeper's residence and its location among the old vineyards of the island without overuse of the inherent capacity.[222]

Gastronomic functions were the most preferred options in adaptive reuse projects. Several lighthouses were leased as teahouses, cafes or restaurants since 2006. The growing number of users for the lighthouses required physical interventions like addition of roofs, altering open spaces into closed spaces, use of more furniture crowding spaces, addition of safety elements like railings, windshields, use of energy sources like wind turbines and solar panels.

[222] See Chapter 3 for an extended discussion on Polente Lighthouse.

Artvin Hopa and Zonguldak Lighthouses are still being utilized as teahouses, in line with the products of the Black Sea region.

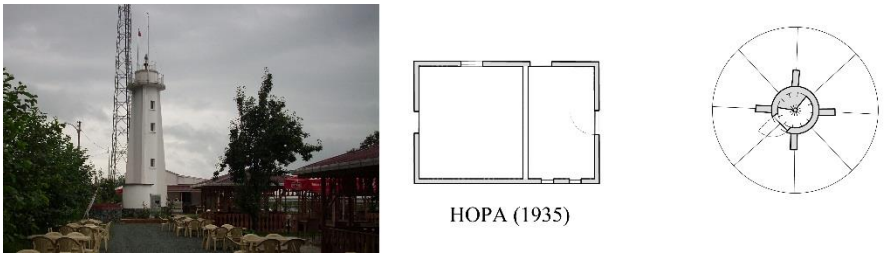



*Figure 2.26.* Artvin Hopa Lighthouse, left *(Güliz Bilgin Archive)*, plan of Hopa Lighthouse drawn after O. Yerlikaya *(Author, 2018)*

Bodrum Lighthouse on Bodrum Harbour, in front of Bodrum Fortress, had been restored as a restaurant. Hüseyin Cape Lighthouse in Bodrum, Yeşilköy Lighthouse in İstanbul are also leased as a restaurant. While Yeşilköy regards the values and capacity of the original light station, Bodrum and Hüseyin Cape propose adaptive reuses with overcapacity. This condition damages the cultural values of this heritage. Especially in Bodrum, the lighthouse is not recognizable within the busy urban texture and recent interventions on the structure.

Kızılada Lighthouse in Fethiye is the only structure on the island. It has been turned into a restaurant and holiday resort, but the tower still operates as a lighthouse. With this new function, many annex structures are introduced to provide the necessary tourism infrastructure on the island. A new, relatively large pier, three buildings and several semi-open areas, all much larger than the original lighthouse, had been constructed due to the new function.



*Figure 2.27.* Kızılada Lighthouse and the annex buildings constructed for the new function as a restaurant/ holiday resort *(KEGM, Kıyı Emniyeti Genel Müdürlüğü, 2012)*



*Figure 2.28.* Kızılada Lighthouse and the annex buildings constructed for the new function as a restaurant/ holiday resort *(KEGM, Kıyı Emniyeti Genel Müdürlüğü, 2012)*

Sometimes the lighthouses were destroyed or collapsed naturally in time and at a later period they were reconstructed with contemporary materials. Samsun lighthouse was such a case. The first lighthouse of Samsun was built on the Genoese harbor during 19th century. However, it was demolished around 1940s. The municipality of Samsun had built a similar lighthouse on the same location during 2000s which started operating as a navigational aid via its light tower and as a daily service building for the blue flagged beach via the so-called light keeper's residence.[223]




*Figure 2.29.* 19th century postcard showing the original 19th century Samsun lighthouse on the former Genoese quay that was destroyed around 1940s *(GovernorshipofSamsun, 19th century)*

[223] (GovernorshipofSamsun, 19th century)



*Figure 2.30.* Reconstructed lighthouse of the municipality serving as a lighthouse and cafe/service building for the current beach. *(Panoramio, 2013)*



*Figure 2.31.* Reconstructed Samsun Lighthouse *(Kocaman, 24-26 November 2009)*



*Figure 2.32.* The proportion of the reconstructed Samsun Lighthouse, middle, to the high-rise hotel, left, behind it *(SamsunMunicipality, 2018)*

If all conservation measures had failed, then a lighthouse had to be moved. This was the intervention Bafra Lighthouse had to go through. It was built in 1880.[224] The different parts of the lighthouse were manufactured entirely of cast iron in France, shipped to the Ottoman Empire and assembled in situ. Only 2 more replicas of this certain lighthouse type had survived around the world. The first Bafra Lighthouse was located on the intersection of Kızılırmak delta with the Black Sea. As the Kızılırmak delta was slowly filled, the lighthouse had to be moved 750m away from the sea in 1919.[225]

The lighthouse was supported by 7 pilons set 4.5m deep into the delta soil. Today the structure is again under the threat of the sea, which has crept up as close as 25m. An embankment was built around the light station recently to fight against the filling of the coast. But it is still a matter of time to be swollen by the Black Sea, if it is not moved back again.

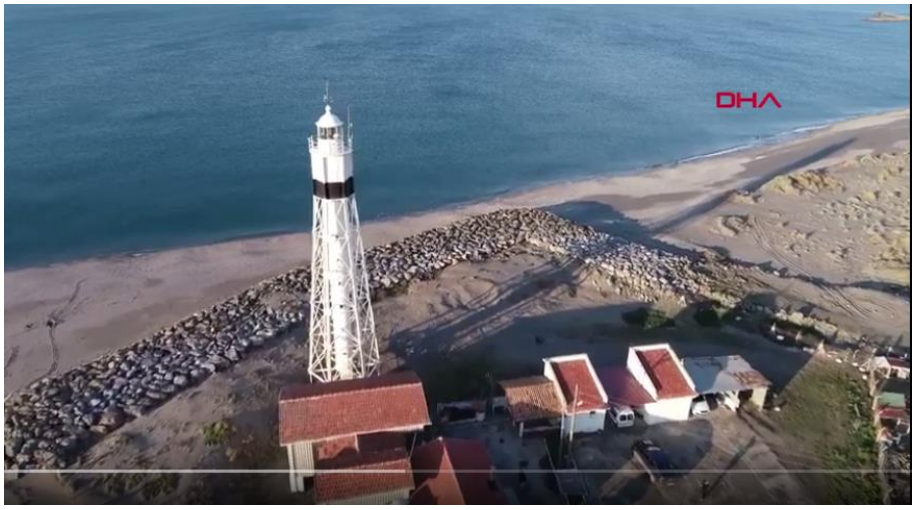



*Figure 2.33.* Built in 1880, Bafra Lighthouse was moved into its current location back in 1919 *(Özkan D.-Y. , 2019)*

[224] (KEGM, 2012)
[225] (Sönmez, 2010, p. 77)




*Figure 2.34.* Bafra Lighthouse at the mouth of Kızılırmak Delta. *(Özkan D.-Y. , 2019)*



*Figure 2.35.* Bafra Lighthouse *(Toroslu, 2008)*

Almost all lighthouses in Turkey have been designed to survive on remote locations, for a small amount of people. They have cisterns for rain water harvest, ovens, small boatsheds, gardens and so on. Yet, any lighthouse is relevant to its onlookers as a symbol easily seen and remembered. Visibility and defining the silhouette are two critical values of lighthouses. If the new function of a lighthouse is chosen regarding its cultural values and physical capacities in proportion to its original self and environment, then, sustainability will be easily achieved, and the lighthouse will live in the future. Preserving merely the physical fabric without inherent cultural values results in failed attempts for the conservation and management of lighthouses.

# CHAPTER 3

# LIGHTHOUSES AS A PART OF MARITIME HERITAGE, THE CASE OF AEGEAN COAST, TURKEY

## 3.1. Understanding the Aspects of Maritime Heritage in Turkey

Being surrounded with seas on three sides, Turkey owns a diversified maritime heritage belonging to different historical periods. Maritime heritage of Turkey is the outcome and the indicator of the changing networks and relations in/ between land and sea in time. It can be considered as cultural habitats at the interface of landscape and seascape comprising various tangible and intangible values in different scales. And it is born from the Mediterranean.

### 3.1.1. The Wider Context: The Mediterranean Basin

The Mediterranean, defined by physical geography, had been formed around 5.3 million years ago when a closed basin had been filled by the overflowing oceans through Gibraltar, triggered by melting glaciers.[226] Regarding human geography, Mediterranean is defined by two elements; the sea offered by physical geography and the addition of the terrestrial habitats around this sea.[227] The Mediterranean concept of human geography accepts the existence of a unified life around this basin.[228] Braudel, as the most prominent advocate of this unity, argues that the Mediterranean is neither the nature where the land and sea are intertwined nor the people around this basin, but the sum of the ways its inhabitants constructed relationships across space

[226] (Wikipedia, Mediterranean Sea, 2019)
[227] (Tekeli, 2018, p. 8)
[228] "Giriş: Akdeniz" (Braudel, Akdeniz: Mekan ve Tarih, 1995, p. 9)

and time.[229] In other words, the Mediterranean is built upon connectivity among people, habitats and cultures. It is "a network of maritime routes and terrestrial ways, cities of all sizes and endless paths, a whole transportation system, thus a space of mobility".[230] The borders of Mediterranean is initially drawn by climate and agriculture to support this unity: The northern boundary as the upper limit of the olive tree, the southern boundary by the palm agriculture and a prevailing "Mediterranean" climate as the common denominator to bind this geographic strip altogether.[231] In Braudel's argument the geography and climate of Mediterranean gives way to similar lifestyles throughout the basin. Thus, a unified cultural character is created by the constant interchanges of small-scale maritime transport. Consequently, he claims that the unique voice of this cultural character is so evident that it can be traced consistently throughout the Mediterranean's landscape and history.[232] Though Braudel bases his arguments strongly on geography, his Mediterranean has vague borders and includes the Sahara desert, the Apennine mountains, the Black Sea, Germany, Poland, and even, the Atlantic Ocean.[233] His reliance upon connectivity enables Braudel to reconsider the Mediterranean not as a large seascape, but as a network consisting of numerous smaller nodes going well beyond the frontiers of the actual sea, each with a microhistory.

If connectivity is accepted as the generator of the Mediterranean, then it might be argued that the history of this basin starts not at the time of its physical formation or the rise of the individual civilizations around it. But at the exact moment when these civilizations had the capacity to interact with each other and perceive the Mediterranean as a unity. For Braudel, this interaction begins around 3000 BC, when

[229] (Braudel, The Mediterranean and the Mediterranean World in the Time of Philip II, 1995) The original work was first published in 1949 in France.
[230] "Deniz" (Braudel, Akdeniz: Mekan ve Tarih, 1995, p. 50)
[231] "Toprak" (Braudel, Akdeniz: Mekan ve Tarih, 1995, p. 16)
[232] (Concannon & Mazurek, Introduction: A New Connectivity for the Twenty-first Century, 2016, p. 2)
[233] (Concannon & Mazurek, Introduction: A New Connectivity for the Twenty-first Century, 2016, p. 5)

the Egyptian mariners start their commute to Byblos and gains strength around 2000 BC with Cyclad sailing ships.[234]

Braudel's Mediterranean is reworked and modified by Horden and Purcell in the recent years.[235] Like their precedent, they define the Mediterranean as a single entity; a consistent zone in terms of climate and agriculture creating a unified ecological and cultural space. Unlike Braudel, they focus on human agency in shaping the environment. In this respect, Horden and Purcell's Mediterranean includes more uncertainty rather than consistency. Unity does not equal to homogeneity, but is the result of interconnected microregions, where an inherent diversity resides. The connectivity of the Mediterranean simultaneously unifies and separates microregions. This basin is shaped by the distribution of products, of mainly agricultural origin, through maritime navigation leading to cultural diffusion and unification while dealing with natural catastrophe and advancing mobility.[236] The authors argue that the unity of the Mediterranean is only valid for a certain period; between 2000 BC- 1000 AD. The argument puts the emergence of connectivity in the Mediterranean around Bronze Age. The end of the unity era is marked by the critical developments in ship building technology and maritime navigation which lead to a revolution in organization of trade and accumulation of capital, separating the north of the Mediterranean world from the south irreversibly.

Broadbank offers another evaluation on Mediterranean.[237] Like Braudel, his work underlines geologic and geographic history of the Mediterranean. Following Horden and Purcell, he regards the human agency as the prime effect that connects Mediterranean's diverse microregions. Yet, Broadbank's Mediterranean is formed at a much earlier date than Classical period. He documents how prehistoric human

[234] "Deniz" (Braudel, Akdeniz: Mekan ve Tarih, 1995, p. 38)
[235] (Horden & Purcell, 2000)
[236] (Concannon & Mazurek, Introduction: A New Connectivity for the Twenty-first Century, 2016, p. 8)
[237] (Broodbank, 2013)

agency had achieved connectivity on different levels and created the ground for a Greek and Roman Mediterranean.[238]

Concannon and Mazurek's edited volume sets out to discuss the ancient Mediterranean with and after Braudel, offering a new kind of connectivity for the twenty-first century.[239] The essays discuss cabotage (small-scale maritime trade and travel), connectivity and long-time frame starting from the local moving into a broader and global context, to trace the lines of interaction between microregions. Each study uses Braudel, Horden and Purcell or Broadbank as a jump-start. The authors look for analytical tools to understand and map connectivity between communities through objects and landscapes.[240]

Tekeli creates the most recent frame to define Mediterranean and Mediterraneanism while taking mobility to the center of discussion.[241] Mobility is regarded "as the capacity of humans, objects, and ideas/information to move or to be moved freely and easily". It is related to Braudel's connectivity but is more comprehensive. The author critizes geographical determinism, creating consensus on the unity and diversity of Mediterranean and Mediterraneanism but falling short on being applicable to all periods. Putting a time limit to define the unity of Mediterranean, thus defining Mediterraneanism, is a major shortfall. He proposes a different methodology by claiming that Mediterraneanism is reproduced in every period along the 10.000 years of Mediterranean history. In this way, Mediterranean identity becomes a historically constructed concept, not a geographical one.[242]

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[238] (Concannon & Mazurek, Introduction: A New Connectivity for the Twenty-first Century, 2016, p. 9)

[239] (Concannon & Mazurek, Across the Corrupting Sea Post-Braudelian Approaches to the Ancient Eastern Mediterranean, 2016)

[240] (Concannon & Mazurek, Introduction: A New Connectivity for the Twenty-first Century, 2016, p. 2)

[241] (Tekeli, 2018)

[242] (Tekeli, 2018, p. 14) Tekeli classifies Mediterranean history in six periods. These periods are defined by the historical facts related to the change of the location and characteristics of Mediterranean development dynamics. The author elaborates on three parameters to discuss the historical facts which shape his time frames: Whether the development dynamics are originating within or outside of the Mediterranean, the spatial patterns created by the organization of political power and the characteristics

Mediterranean is built upon connectivity among people, habitats and cultures. It is a network of endless paths. This network, composed of micronetworks, is reproduced over and over in time. Although the land holds the prime position to host and initiate civilizations, the sea is priviledged to enable the major connection between these civilizations, thus create the Mediterranean. In this respect, discussing the maritime history of the basin, documenting human activity at/ by the Mediterranean Sea, is an effort in portraying the formation of Mediterranean. It might be argued that maritime heritage is the outcome and the indicator of the changing networks and relations in/ between land and sea in time. And the maritime heritage sites can be considered as cultural habitats at the interface of landscape and seascape comprising various tangible and intangible values in different scales.

Set on the northeastern corner of the Mediterranean and being surrounded with its extentions on three sides, Turkey, as a region, owns a diversified maritime heritage belonging to different historical periods. The maritime activities had affected the movement of people, artifacts and ideas/information within this particular region. The tangible or intangible traces produced by these maritime activities which accumulate over time compose the maritime heritage.

### 3.1.2. Maritime Heritage and Lighthouses in Turkey: A Document of the Mediterranean Network

Most of the researchers claim that it is not possible to talk about the unity of the Mediterranean for the first 5000- 6000 years after the formation of the

of settlements. The periods proposed by Tekeli are from the formation of the Mediterranean until the fall of Troy (8000 BC- 1000 BC), from the fall of Troy until the foundation of Republic of Rome (1000 BC- 508 BC), from the foundation of Republic of Rome until the trade revolution in the Mediterranean: Roman and Byzantine Mediterranean (508 BC- 13. century AD), Renaissance, the rise of Mediterranean to trade center and the fight to keep its central role in the world (13. century- 16. century), Mediterranean going under imperialist control (17. century- End of World War II), the formation of state nations' Mediterranean, state nations separated by European Union (Post World War II).

Mediterranean around 8000 BC because not all parts of the Mediterranean were connected, thus it was not perceived as a whole. However, on a microregional level, the Mediterranean achieved connectivity around 7th millenium BC during the Neolithic period.[243] The movement of obsidian in eastern Mediterranean proves the existence of strong exchange networks of both maritime and terrestrial in nature: The first of these microregional networks was through the southern Aegean- eastern Aegean- western Anatolia: The obsidian quarried from Melos island in southern Aegean was distributed all over eastern Aegean islands and western Anatolia settlements[244] through maritime networks.[245] The distance of the network ranged between 280 to 345 km.[246] The second network proved the movement of obsidian overland, quarried from central Anatolia in Göllüdağ Niğde to western Anatolia, which was more than 800 km.[247] Göllüdağ obsidian also moved to several Aegean islands.[248] The third network started from Göllüdağ, proceeded to southern Anatolia (161 km) and then crossed over the Mediterranean to Cyprus (124 km).[249]

The Neolithic settlements of western Anatolia were small villages composed of houses and courtyards. Around 3000 BC a new economic organization was born due to the increase of agricultural production, new metal production and the spread of its use.[250] The produce was collected by certain authorities which also formed the administrative/ political authority. The need to defend this authority was reflected upon architecture as fortifications. The fortified settlements contained elongated houses with granaries. In western Anatolia, the emergence of artifacts from mainland

[243] (Çilingiroğlu & Dinçer, 2018) Eastern Aegean islands mentioned are Lesvos, Agio Gala Cave in Chios, Samos and Ikaria.
[244] (Caymaz, 2008, p. 4) The mentioned settlements are Tepeüstü and Çakallar in Urla, İzmir.
[245] (Çilingiroğlu & Dinçer, 2018, p. 34) Mentioned settlements are Coşkuntepe in Troas Çanakkale, İzmir sites as Ege Gübre in Aliağa, Ulucak and Yeşilova in Bornova, Kömür Burnu in Karaburun, Çukuriçi in Selçuk, Dedecik- Heybelitepe in Torbalı.
[246] Melos- Karaburun (İzmir) is 280 km. and Melos- Coşkuntepe (Troas Çanakkale) is 343 km.
[247] (Horejs, 2016)
[248] (Georgiadis, 2008)
[249] (Çilingiroğlu & Dinçer, 2018, p. 34)
[250] (Caymaz, 2008, p. 8)

Greece, Aegean islands and Crete pointed to the wide maritime trade networks in this period.

The Bronze Age was the beginning of urbanization for eastern Mediterranean. Citadels in the center containing large monumental buildings, protected by strong fortifications, and an outer neighbourhood around these fortifications bound together with streets characterized the city states of the period. Economy and mining industry developed to a great extent.[251] Slowly, the Mediterranean was connected.

Different parts of Anatolia inland, between 2600- 1200 BC, interacted through trade networks during the existence of the Hittite State and Empire.[252] Before 3000 BC travels were done on foot. By early 3rd millenium ox-drawn carts, mid 3rd millenium donkeys, late 3rd millenium horses were started to be used. The earliest paved road in Anatolia was found in Limantepe of Urla in İzmir, dating to 2300- 2000 BC. MBA texts mentioned maintained and guarded roads, stone and wooden bridges, road infrastructures like inns and trade with donkeys and wagons.[253] The Bronze Age trade networks travelled between east-west oriented mountains, along rivers and at selected locations crossed over by mountain passes and bridges. The network carried not only goods but also technologies and ideas. Starting from densely woven central Anatolia Hattuşa in Çorum, the network reached western coastal (Troy Çanakkale, Limantepe and Ephesos İzmir, Milet Aydın), southern coastal (Patara, Myra and Attaleia Antalya, Soli Mersin, Tarsus Adana) and eastern Anatolia succesfully, all the way to Mesopotamia.

Until this point, the maritime navigation was implemented using flat-bottomed boats and rafts. The Egyptians started using sails as early as 2650 BC and initiated a small-scale trade in eastern Mediterranean, North Africa.[254] This network was further

[251] (Caymaz, 2008, p. 10)
[252] (Massa, Networks Before Empires: Cultural Transfers In West And Central Anatolia During The Early Bronze Age, 2016)
[253] (Massa, Of Mountains, Wheeled Carts and Network Hubs: Journeying across Anatolia in the Third Millennium BC, 2014, p. 17)
[254] (Yalçın & Berker, 2011, p. 19)

enhanced by the Phoenicians of Lebanon after 1600 BC. During the same period, two pivotal civilizations also existed in the region: Crete together with Cyclades in South Aegean and Troy in Northwestern Anatolia. The geography of the Aegean with its rugged coastline and numerous islands enhanced the connection and flourishing of these civilizations. The Myceneans of Crete had strong relations with southwestern Anatolia and western Anatolia.[255] Ships at the time were developed as sailships for trade and war ships with oars.[256] Uluburun shipwreck from 1310 BC, found ashore Kaş Antalya, attested to the use of such ships and interconnection of the Mediterranean through intense maritime activity.[257] Study of the cargo and hull remains suggested that the ship was operated by a Syro-Canaanite crew and carried several passengers from the Greek mainland. The ship was built of Lebanese cedar. Another example of the same period, Cape Gelidonya Shipwreck of 1200 BC found ashore Finike, Antalya was also a merchant vessel.[258] The method of ship construction was in Greek and Roman tradition, linked with Odysseus of *Odyssey*. The ship was probably Canaanite, or early Phoenician but the study of the cargo pointed to the possibility of Cypriot origin, too. Towards the end of Bronze age, the harbour cities around eastern Mediterranean, Aegean and Ion Sea had developed a wide, established maritime trade network.

The Bronze age ended with a massive northern migration and invasion from the sea. With this decline, not only the cities of islands and coasts but also the inland empires collapsed.[259] Cultural centers emerging around the cities were scattered, palace economics declined, and village economics ruled again. Consequently, migrations from the Greek mainland to western Anatolian coast emerged. A dark age continued between 1200- 800 BC in the Mediterranean when no political authority

[255] Miletos in Aydın and İzmir sites Ephesos in Selçuk, Colophon in Cumaovası, Panaztepe in Menemen, Baklatepe in Urla were closely connected with Crete. (Caymaz, 2008, p. 20)
[256] (Yalçın & Berker, 2011, p. 20)
[257] (Pelagios, 2014) and (DARMC, 2014). The map is first published on 2007 but continously updated. (GoogleEarth, 2019) and (INA, 2014)
[258] (INA, 2014)
[259] (Caymaz, 2008, p. 22)

controlling large territories remained. Mediterranean connectivity was out of question for this period.

As the Mediterranean came out of the dark age 800 BC, maritime trade networks led by three centers as Phoenicians, Greeks and Etruscans began to emerge.[260] This network connected city-states which were autonomous, ruled under written laws, had deities, dealed with husbandry, were surrounded by land owners and had slavery commonly. The system had the surplus for trade. Trade and administration were realized in agoras of the city centers and the use of money was spreading fast. Colonies supported this major network of city- states which also acted independently rather then dependent partners of trade and politics. As the trade networks eventually covered the entirety of the Mediterranean, the unification of the basin was complete. Environmental and climatic factors, the dismantling of political power, control provided over maritime trade networks, the innovation capacity for each network and the location of these centers within the Mediterranean enabled this unity.

The harbour city states and colonies of Anatolia[261] along northern Marmara were Byzantium, Selymbria, Perinthus, Bisante, Pactye and Sestus. Elaeus and Cardia embraced the northern part of Aegean. Imbros and Tenedos represented the closest island states here. Along southern Marmara were Chalcedon, Nikomedia, Niceaia (inland), Prousias, Myrleia, Apameia, Cyzicus, Parium, Paesus, Dascylium, Lampsacus, Percote, Abydus, Dardanus, Sigeum and Ilium. Proconnesus was situated in the middle of the Marmara on an island with rich marble ores. Along northern Aegean were Assus, Antandrus and Adramyttium together with Mytilene cities. After this point the city states had formed 3 different leagues to stand in solidarity for trade and defense: Pitane, Atarneus, Myrina, Cyme and Notion belonged to the Aiol coastal region. Though Pergamon was not in the league it emerged as an important inland city. Phokaia, Smyrna, Klazomenai, Erythrai, Teos, Lebedos, Colophon, Ephesos, Priene, Miletus, Myndos and Halicarnassus represented Ion coastal region. Sardis was

[260] (Tekeli, 2018, p. 15)
[261] (Map of Ancient Greece, 2019) (Pelagios, 2014) and (DARMC, 2014).

an important inner city at the time that had strong connections with western coastal Anatolia. Chios and Samos were the island states of the Ion league. The cities of the Ion league had set up colonies covering wide geographies in the Mediterranean: Phokaians set sail as far as France and founded Marsilia, Milesians founded Naukratis in Egypt and more than 60 colonies on the Black Sea coast from Bulgaira to Ukraine, including Abydos, Cyzicus, Sinope, Olbia, and Panticapaeum. Miletus was also prominent for its literary, scientific and philosophical figures.[262]

Knidus and Lyndus formed the Dor league coastal states in southwestern Anatolia along with Cos and Rhodes island cities. Iasus and Termera were also prominent coastal city states in the region, outside Dor league. Marmaris?

Along the Mediterranean there were Kaunos, Patara, (Xanthus, Letoon), Olympos, Phaselis, Seleukia, Side, Ptolemais, Korakesion, Antiokheia, Anemourion, Arsinoe, Berenike, Seleukia, Nagidos, Kelenderis, Soli, Tarsos, Magarsos, Aigeai, Epiphania, Issos, Alexandria, Rosos, Antiocheia, Seleukia.

Black Sea coastal city states were, Heraclea, Tieion, Amastris, Sesamos, Kytoros (cide), Sinope, Amisus, Cotyora, Cerasus, Pharnakeia, Trapezus, Apsaros.

There is a strong possibility that the first lightstructure was at Sigeum (Sigeon or Sigeion) in Kumkale, to the northwest of Troy in Hellespont, in Çanakkale, Turkey. Sigeum, as a promontory, would have been the natural location for a landmark or lightstructure, at the intersection point of the Marmara Sea with the Aegean. It is also the supposed location for the tomb of Achilles and was of significant strategic importance.[263] This structure was known as the Sigeum Pillar. The Greek poet, Lesches, wrote about the guiding maritime light at Sigeum in the Troad, in 660 BC. Other writers vaguely mention a lighthouse at Hellespont.[264]

[262] Miletus (Map of Ancient Greece, 2019)
[263] Sigeum (Trethewey, Pharology, 2012)
[264] (Sutton-Jones, 1985)

Coastal fortresses were founded in between cities to ensure the wellfare of maritime trade routes, provide safe harbours/ shelters for ships, to collect taxes and surely to protect the cities.

The developed road network of antiquity was initially started by the so called "Persian Royal Road" of 545 BC.[265] The Persian Royal Road initiated from Syria, connected to Antakya, proceeded to Central Anatolia where the branches of the road diverged in Niğde. One branch led to Kayseri and Yozgat, another one to Ankara and the western one unto Afyon, Uşak leading to Sardeis in Manisa and the coastal cities of western Anatolia (Smyrna Bayraklı in Izmir….).

The Royal Road grew through the Hellenistic Period following the topography of Anatolia. Alexander the Great entered from Eastern Thrace and directed towards south.

The Roman Imperial network invented new ways to tackle the challenges of the topography and eventually gave access to important harbour cities on the coast.[266] Maritime navigation gained speed and reached out further into the world. Roman ports may have provided important light points or bearings and most contemporary lighthouses are still on these spots. However, due to its important position in the Mediterranean and availability to seafaring, Turkish coasts had hosted several lighthouses during Roman reign. There are 9 ancient lighthouses within the broader research area. These are, Adana Aigai (3rd cent. AD), Mersin Soli Pompeiopolis (2nd cent. AD), Antalya Patara (64- 65 AD), Muğla Datça Knidos, Muğla Marmaris Hıdırlık (3rd cent. AD), Aydın Didim Cape Poseidon Altar (550-525 BC), Çanakkale Abydos and Sestos (222 AD), Zonguldak Karadeniz Ereğli Heraklia Pontika (2nd cent. AD- built before 189) lighthouses. Patara and Heraklia Pontika lighthouses have survived partially with their upper structures until today. The others are only in

[265] (Bektaş, 1999)
[266] (Pelagios, 2014)

remains, few traces of foundations are observed or none. These are known through the ancient coins bearing their images[267] or through archaeological research projects.

Patara lighthouse is composed of two parts: a rectangular prismatic pedestal of 20m x 20m dimensions with a cylindrical light tower on top of 6m diameter and 5.5m conserved height.[268]. The light tower contains a cylindirical nucleus. Between the outer skin and this nucleus lies a masonry staircase.[269] Marmaris Hıdırlık Harbour Lighthouse is an apsidal, masonry structure on the coast, right on the pier.[270] The dimensions are 9.60m x 7.60m. The highest part is 3.25m. Aydın Didim Cape Poseidon Altar/ Lighthouse is an elevated masonry altar with stairs overlooking the Aegean.[271] The structure has two parts as the entrance terrace with the stairs, 8.36m long and the elevated platform that has the altar itself, 9.47m x 11.090m. The altar is thought to have been used both as a navigational aid and ritual structure. Heraklia Pontika Lighthouse in Karadeniz Ereğli is portrayed as 3 storeys on a Geta (198-209) coin and as 6 storeys on a Gallien (253-268) coin.[272] The existing remain today is a 3.25m x 3.5m x 10m rectangular prismatic pedestal with a door opening and masonry stairs leading up. The light tower where the fire had been lit had totally collapsed in time and is not visible today.[273] The existence of a Poseidon Temple/ Poseidonion at the location of Bozburun Lighthouse which was possibly used as a navigational aid had been attested by written sources. Bozburun name had evolved from the name "Poseidonion". However, no physical evidence of the ancient structure was left.

During the early medieval period, the roads in Anatolia and maritime routes around would be used by different powers as Crusaders, Byzantine state and Anatolian Seljukids. The maritime routes in the Aegean and Marmara were controlled by the Byzantine and Crusader navies. Seljukids had set up a well-established caravan road

[267] (Özkan, 2009)
[268] (Özkut, 2010, pp. 78-80)
[269] (Özkut, Patara Deniz Feneri Mimari Belgeleme Çalışmaları, 2009, p. 25)
[270] (Gür H. K., 2011)
[271] (Mert, 2017)
[272] (Özkan, 2009, p. 57)
[273] (Özkan, 2009, pp. 57-58)

in Anatolia enhanced by the existence of caravanserais.[274] Alanya was the maritime arsenal and an important harbour of the Seljukid state. It is possible that the fortress had some sort of lighthouse or at least a beacon during 12th-14th century. (Alanya Fortress still has a contemporary lighthouse)[275]

Other states or principalities of the period were controlling north of Aegean around Gelibolu and Behramkale. These states would also reach Ayasuluk in İzmir.[276]

As early as the 8th century, the Mediterranean, the Aegean, Marmara and the Black Sea were started to be used by the Genoese and Venetian states. Until 14th century these states kept on developing their maritime power. The Venetian[277] or Genoese[278] routes usually followed the ancient maritime routes at first. In time these states opened the way to knowing the Mediterranean more, thus longer routes were taken on by the seafarers. They established bases in several Aegean islands, mainland Greece, western Anatolia, İstanbul, Samsun, Trabzon and had even set up colonies as north as Odessa and Crimea in Black Sea. Notable Genoese bases were Foça and Çandarlı Fortresses in İzmir on Aegean coast, Yoros Fortress and Galata Tower in Galata district in İstanbul on Marmara coast, Amasra Fortress in Bartın, Akçakoca Fortress in Düzce and Sinop Fortress in Sinop on Black Sea coast.

The conquest of Istanbul in 1453 had changed the balance in the seas and the Ottoman State became the ruler of the Mediterranean along with the smaller neighbouring seas. The inherited road network of the Seljukid state was further enhanced by the menzils. 3 seperate road networks connected the capital to the further regions of the empire all the way from the west to the east. This road network had a military, commercial and correspondence purpose as well as a religious aim as it had carried the pilgrims to sacred lands, too.[279] The Ottoman state had established several

[274] (Bektaş, 1999)
[275] (Merçil, 2009)
[276] (Merçil, 2009)
[277] (Republic of Venice , 2014)
[278] (Republic of Genoa, 2014)
[279] (Aktüre, 1994)

maritime arsenals as İstanbul Main Imperial Arsenal/ Tersane-i Amire, Gallipoli, Sinop, Izmit, Suez, Birecik, Samsun and Kefken.[280] There were also smaller ship-building yards as Varna, Ahyolu, İneada, Trabzon, Semendire, Niğbolu, Mohaç, Budin, Sakarya, Kemer, Silivri, Biga, Samanli, İstanköy, İnebahtı, Preveze, Avlonya, Nova, Antalya and Alanya. Surprisingly, there were exceptionally few lighthouses constructed in 15th or 16th century. The Ottomans would travel the seas with the local watchmen. Coastal fortresses would provide the necessary aid to navigation as well as controlling the empire seas. Fenerbahçe[281] lighthouse in Istanbul was constructed as late as 1562. Rumeli lighthouse was built before 1567.[282] The Maiden Tower[283] was also one of the few exceptions to early lighthouses. Famagusta/ Gazi Magosa in Cyprus had a lighthouse tower integrated into the city fortifications that extended towards the pier in the sea in 1599.[284]

Çeşme was an important harbor for Ottoman Empire where the fleet resided and controlled the Mediterranean amongst the rising global threats. On 05.07.1770 during Çeşme Sea War, Yevstafiv Russian Ship from St. Petersburg was burned down and sank.[285] But the fire spread to Burcu Zafer Ottoman Galleon made in 1768 and she sank across Çeşme, too. The rest of the Ottoman Fleet retreated back to Çeşme Harbour where all of them were burned down by enemy fire, too.

According to the written and visual documents, Anadolu (before 1648) and Ahırkapı (1755) were among the earliest Ottoman lighthouses, too.[286] Several harbours supported the maritime power of the Ottoman State, selling the local goods to the rest of the world and bringing in needed supplies to the empire. The coastal fortresses, some established as early as the Hellenistic period, in between these

[280] (Bostan, 2009)
[281] (Ay, 2000, p. 123)
[282] (Kömürcüyan, 1952)
[283] Maiden Tower was originally constructed as a Byzantine customs building and it was rebuilt after the conquest of İstanbul in 1453 by the order of Fatih. (Türkhan, 2008)
[284] (Öniz, Temel Sualtı Arkeolojisi, 2009, p. 85)
[285] (Öniz, Temel Sualtı Arkeolojisi, 2009, pp. 61-62)
[286] (Kömürcüyan, 1952)

harbour cities would ensure the maritime security. Most probably, their lights at night and troubled times have provided the means for safe navigation when needed.[287]

Until the Crimean War the Ottoman Empire did not feel the need for the construction of lighthouses. In 1855 by the priviledge given to French, led by Michel Marius, "Fenerler İdaresi" (Lighthouse Administration) was established and lighthouses was spread all around the Empire coasts from Black Sea to Red Sea.[288] In 45 years, 225 lighthouses were built.

Jacques Thobie listed the operating lighthouses along Ottoman coasts in 1860 as: Helles/Mehmetçik (1856), Kumkale (1856), Çanakkale (1856), Gelibolu (1856), Kilitbahir/ Namazgah (1857), Nağara (1857), Bovali Fortress (1857), Galata/ Karakova (1857), Çardak (1857), Marmara/ Fener Island (1857), Fenerbahçe (1856), Kızkulesi (1857), Yeşilköy (1857), Ahırkapı (1857), Anadolu and Rumeli lighthouses (1856), Şile (1859) Karaburun (1856), Balçık-Şable (1856), Sünne and Yılan Islands. Some of these lighthouses had been constructed before the stated dates but had been modernized by the French Administration along with new constructions.

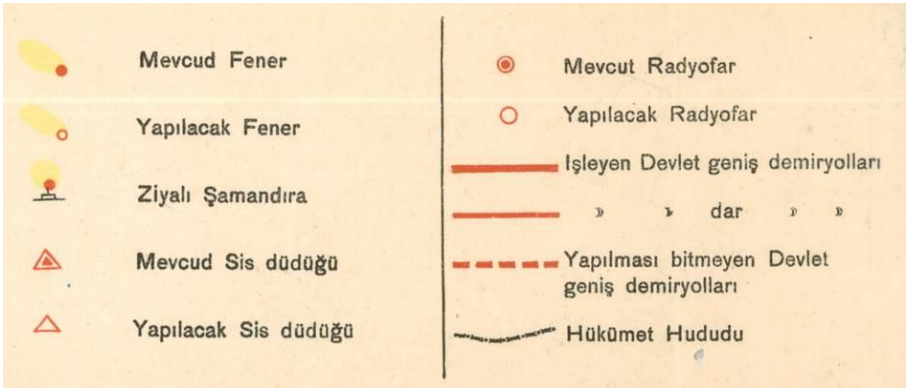



*Figure 3.1*. Legend of a map from 1936-1937 showing lighthouses, the map is located in Atatürk Library in Taksim, run by Metropolitan Museum of İstanbul. *(Danforth, Mid-century/ 1940s)*

[287] (Cesur, 2009, p. 105)
[288] (Toroslu, 2008, p. 20)

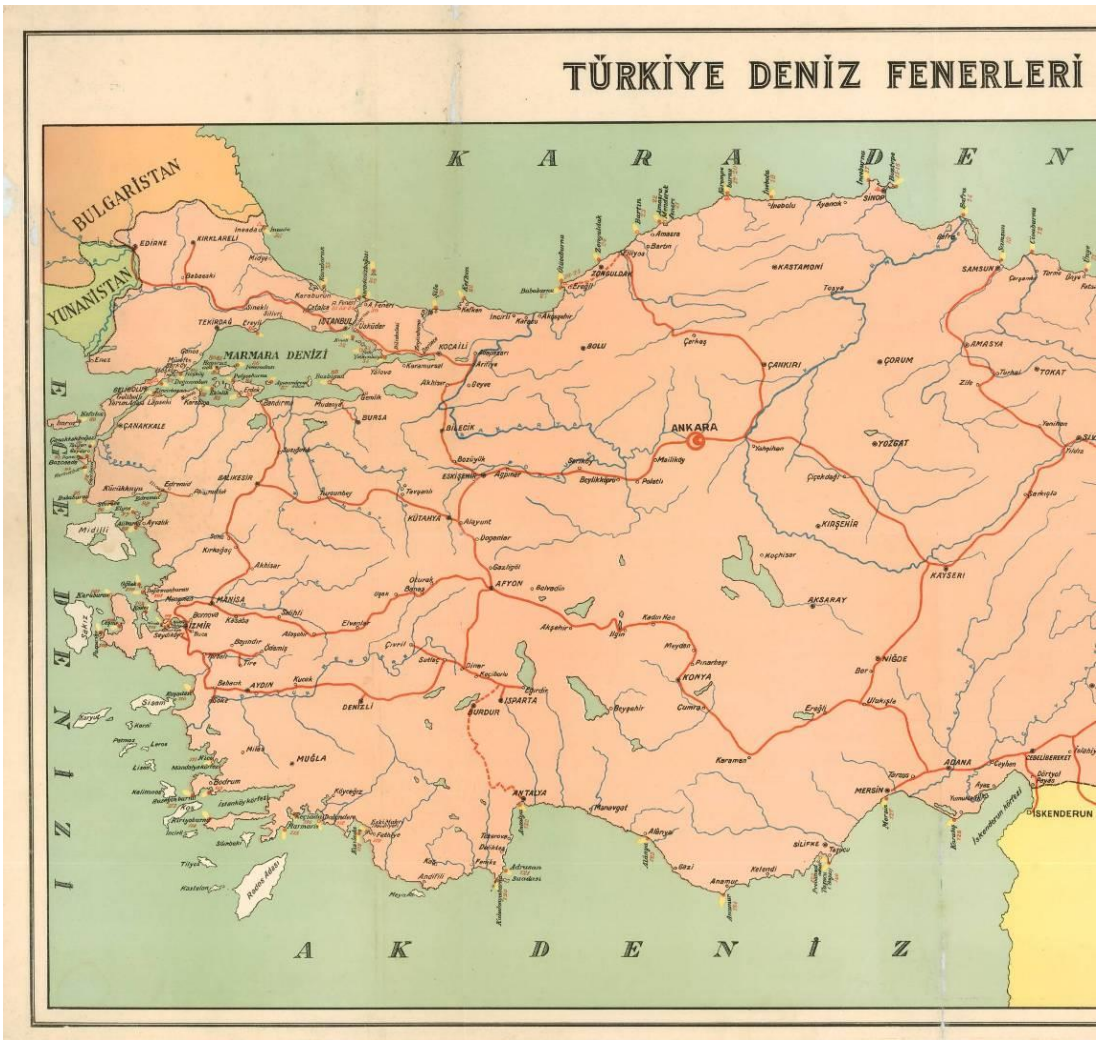



*Figure 3.2.* The map from 1937-1938 showing lighthouses already constructed and the proposed ones along with foghorns. The map shows Tavşan Island Lighthouse (1936) as constructed whereas Karaburun Sarpıncık (1938) is proposed to be constructed. Thus, the map should have been printed sometime around 1936-37. *(Danforth, Mid-century/ 1940s)*

Until 1937 January 1st, The French "Fenerler İdaresi" was controlled by the law of 3302. At that time, it was bought and nationalized and was handed over to the newly established General Directorate of Denizbank. In 1940, February 1st, the "Fenerler İdaresi" was passed onto "Devlet Denizyolları ve Liman İşletmeleri Umum Müdürlüğü". And finally, in 1952, March 1st, with the law of 5842 it started operating

within Denizbank, under the name "Kıyı Emniyeti İşletmesi Müdürlüğü". In 17.06.1982, with the law of 1680, Denizbank was named as Türkiye Denizcilik Kurumu (TÜDEK). "Türkiye Denizcilik Kurumu" was changed as Türkiye Denizcilik İşletmeleri (T.D.İ.) on 08.06.1984, with law of 233, under "Kıyı Emniyeti İşletmesi". In 1997, by the 9466 numbered decision of the government, the association was declared independent as a public directorate "Kıyı Emniyeti ve Gemi Kurtarma İşletmeleri Genel Müdürlüğü" On 07.02.2007, its name was changed as "Kıyı Emniyeti Genel Müdürlügü" (KEGM), the General Directorate of Coastal Safety.[289]

After 1937, the maintenance and repair of all the lighthouses had been carried by the above-mentioned associations. The collapsed lighthouses had also been replaced with the new ones by the control of these governmental bodies. A second wave of lighthouse construction coincided before and after the outbreak of the WWII. Today there are 459 lighthouses on Turkish coasts.[290]

Constituting a big part of maritime heritage, the traditional fishing villages slowly turned into a more professional fishing industry in centuries. Several fishing shelters were built along the coasts to accommodate fishermen. New lighthouses were introduced to these shelters as well.[291]

In the Black Sea region, fishing has always been an important income source and an integral part of traditional life. It might be argued that the whole coast is utilized by the fishing industry, both in urban and rural areas, looking at the density of fishing shelters located along the Black Sea coast. For the Aegean and Mediterranean coast, fishing takes up a considerable amount of space both on the coast and in open seas but in terms of income, it follows tourism. Thus, most former fishing villages have slowly morphed into mass tourism centers.

[289] (KEGM, 2012)
[290] (KEGM, 2012)
[291] (SÜHDB, 2004)

Several maritime museums reflecting Turkish maritime culture had been founded in 20th century. These museums are either privately owned or run by the navy.

As discussed above, the tangible part of maritime heritage in Turkey involves architectural features like ancient harbours and ports from Hellenistic and Roman periods, maritime arsenals of Seljukid and Ottoman period, docks, fisheries, fishing villages, coastal fortresses, lighthouses both ancient and from closer centuries, salvage buildings, ferry stations[292], public and private maritime museums, marine parks[293] as well as movable features like ships from all periods even from a millenium ago, submarines, wrecks, other vessels and items associated with them, located underwater. In addition to this tangible heritage we might add the intangible part of maritime heritage as fishing traditions, crafts related to ship building, lighthouse keeping, oral and written maritime literature, folk songs on maritime affairs and visual artworks using maritime themes.

[292] (Sert, 2014)
[293] (Gökçeada Marine Underwater Park, 2014)

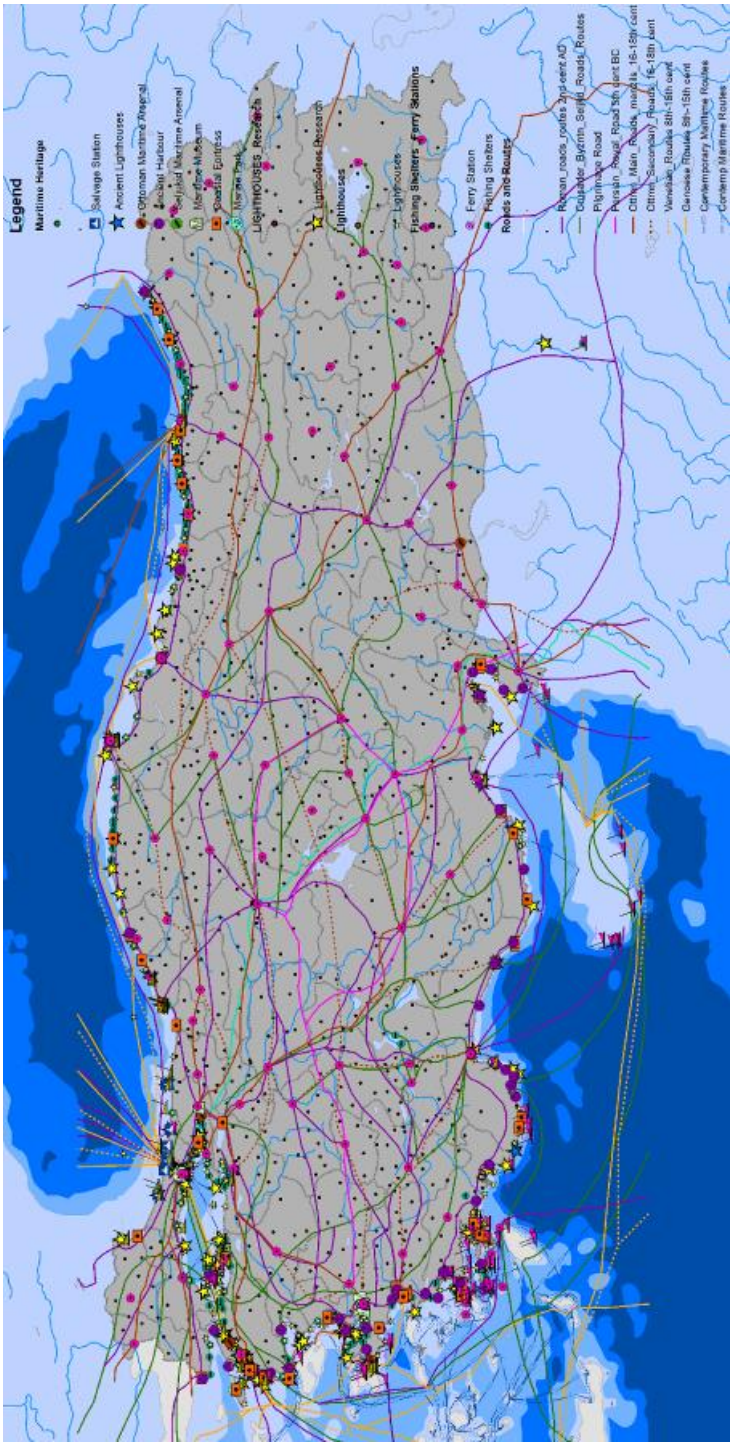



*Figure 3.3.* Maritime Heritage of Turkey, the relationship of coasts with maritime routes and inland roads. Yellow stars represent lighthouses within our research. See Appendix A for a bigger scale map. *(Başağaç & Altınöz, An Important Maritime Heritage: Lighthouses of Turkey, The Case of Aegean Coast, 2018, p. 110)*

### 3.1.3. The Aegean Context

Comparing the natural context of maritime heritage in Turkey, Aegean coasts present a more challenging environment than Black Sea and Mediterranean. As the mountains lie parallel to the northern and southern borders of Turkey, these coasts are wide and relatively smooth with few islands off the coast. In the Aegean region the mountains lie perpendicular to the sea resulting in a rugged coastline. The sea is full of islands, islets and rock crops and ends with the Dardanelles Strait. Thus, the relationship of the terrestrial and marine environments is dense and quite different. This unique relationship had been the main reason for the connectivity of civilizations and cultural accumulation around the Mediterranean for centuries. And it is still creating new ways of communication, not only nationally but also internationally.

Consequently, the distribution of lighthouses differs regarding the regions. The Black Sea and Mediterranean lighthouses are mostly located on main land whereas the Aegean lighthouses are mainly on islands, islets or rocky patches. Of the 83 lighthouses monitored by the Izmir Directorate of Coastal Safety, from Balıkesir to Aydın, only 13 lighthouses are situated on main land. The rest 70 lighthouses lie out in the sea. The Fethiye Technical Headquarters operating under the İzmir Directorate of Coastal Safety, has 105 lighthouses where 90% is located at sea. Dardanelles Strait also provides a unique case of lighthouses and maritime heritage in general.[294] Thus, our research focuses on the lighthouses of the Aegean Coast of Turkey.

## 3.2. Focusing on Lighthouses in Aegean Coast, Turkey

Today there are 459 lighthouses along the Turkish coasts owned by the General Directorate of Coastal Safety (Kıyı Emniyeti Genel Müdürlüğü).[295] But this number

[294] (KEGM, Seyir Yardımcıları, 2019)
[295] (KEGM, Seyir Yardımcıları, 2019)

includes all structures of lighthouses, light structures and beacons. Regarding Pharology definition, there are 21 lighthouses in the Black Sea Region, 28 lighthouses in the Aegean, 14 in the Mediterranean, 12 in the Marmara. Bosphorus/ Istanbul region has 16 and Dardanelles has 18 lighthouses. 9 of the 109 lighthouses are ancient.[296] Out of 109 lighthouses only 28 are registered lighthouses depending on the law of 2863 for the protection of cultural and natural assets.[297]

In this section of the study, a comprehensive in situ survey of the lighthouses and some light structures in Aegean Coast, Turkey is presented in the order of their international lighthouse numbers.

There are 33 examples in total as 18 examples located in Çanakkale (17 lighthouses and 1 light structure), 3 in Balıkesir (all lighthouses), 10 in İzmir (9 lighthouses and 1 light structure) and 2 in Aydın (all lighthouses). The survey documents and analyses primarily the physical context as natural, man made and temporal including architectural characteristics, material and structural problems. In addition to the physical context; visual/ aesthetic contexts, functional context, economical and social contexts as well as administrative/ legal contexts of each case are documented and analysed, too. The survey includes interviews with light keepers and responsible technicians of lighthouses to document intangible heritage of lighthouse keeping.

[296] Adana Aigai, Mersin Soli Pompeiopolis, Antalya Patara, Muğla Datça Knidos, Muğla Marmaris Hıdırlık, Aydın Didim Cape Poseidon Altar, Çanakkale Abydos and Sestos, Zonguldak Karadeniz Ereğli Heraklia Pontika lighthouses.
[297] (KEGM, Seyir Yardımcıları, 2019)

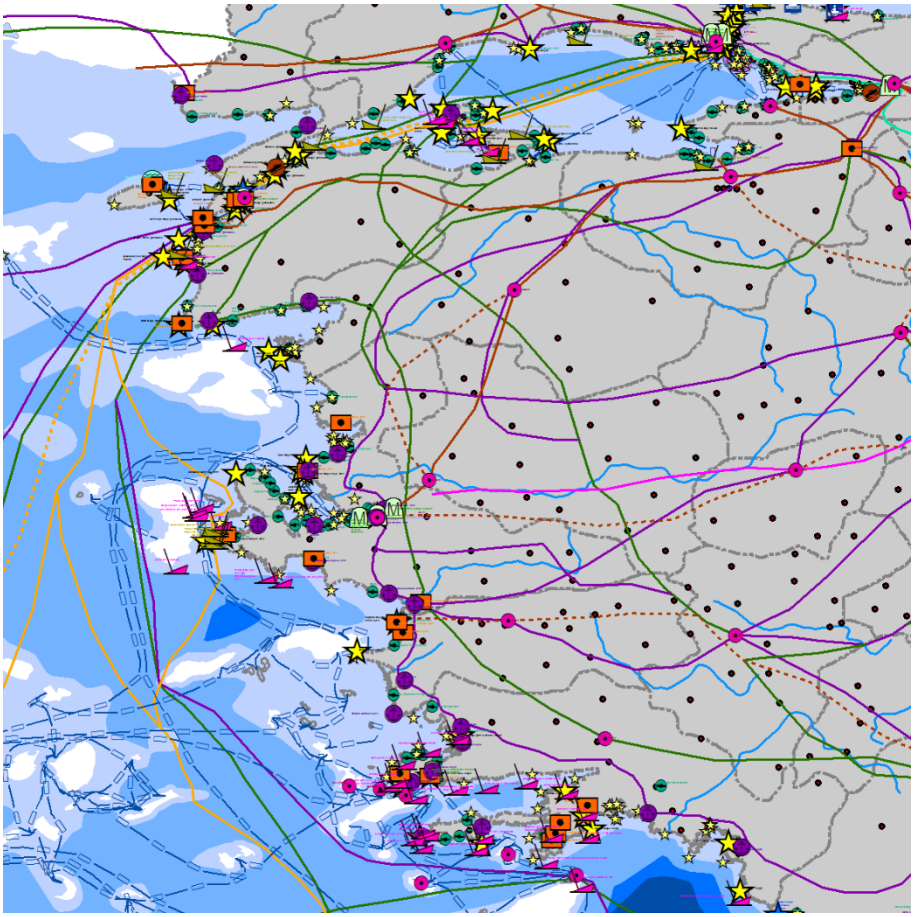


*Figure 3.4.* Maritime Heritage of Aegean Coast, Turkey, with research lighthouses represented as yellow stars *(Author, 2018)*

### 3.2.1. Çanakkale

Çanakkale lies at the intersection of Marmara and Aegean with Dardanelles Strait in the middle. The city extends in both regions towards east in Marmara and towards south in Aegean. The first group of lighthouses and light structures in this study are situated on either European or Anatolian side of the Dardanelles Strait, along Marmara. These lighthouses are early examples built by the French "Fener İdaresi" around 1856. They are usually metal pole or steel frame light structures which had been added to the already existing fortresses along the Strait. The fortresses always had soldiers to guard these lights, thus, the preference of simple, metal poles as a light

structure brought a fast and inexpensive solution to navigational aids. In addition to these, a good number of lighthouses with keeper's residences were built. Most of these early lighthouses/ light structures were renewed in 1913, right after the Balkan War. The Ottoman administration tried to improve the defense systems in the Dardanelles Strait among the ongoing battles. Thus, the lighthouses were upgraded during the modernization and improvement of fortresses, right before WWI. The second group of lighthouses in Çanakkale were constructed in Aegean, on islands or islets and on mainland, at the westernmost tip of Anatolia.

The list of lighthouses and light structures in Çanakkale is as follows: (1) Gelibolu Lighthouse, (2) Çardak Lighthouse, (3) Karakova Lighthouse, (4) Akbaş Cape (Sestos) Lighthouse, (5) Nara Cape (Abydos) Lighthouse, (6) Çanakkale Çimenlik Cape Lighthouse, (7) Kilitbahir Lighthouse, (8) Kepez Lighthouse, (9) Seddülbahir Light Structure, (10) Kumkale Cape (Sigeon) Light Structure, (11) Mehmetçik Cape Lighthouse, (12) Aydıncık Cape/ İmroz/ Kefalos (Gökçeada) Lighthouse, (13) Tavşan Island/ Bozcaada Lighthouse, (14) Bozcaada West Cape/ Polente Lighthouse, (15) Damlacık/ Gadaro Lighthouse, (16) Bozcaada Mermer Cape/ Oinus Cape Lighthouse, (17) Baba Cape/ Babakale Light Structure, (18) Sivrice Lighthouse.

#### 3.2.1.1. Gelibolu Lighthouse

Gelibolu Lighthouse marks the north entrance of the narrow part of Dardanelles Strait where it opens to Marmara. It is on the European coast. The lighthouse is situated on a rock crop 35m above sea level, overlooking a beach, a busy street, a memorial park for maritime martyrs. Çanakkale Center- Gelibolu ferry line is the major maritime route that connects the Anatolian coast to the European coast. Other minor maritime routes Çardak- Gelibolu and Lapseki- Gelibolu are also used.




*Figure 3.5*. The aerial view of Gelibolu Lighthouse nestled inside a park, close to Azaplar (Mariners) Namazgah, 1 km away from Gelibolu Quay and Fortress. *(GoogleEarth, 2019)*

Legally, the lighthouse is within the urban settlement area with military zones scattered on the coast and among the urban settlement area.[298]

Gelibolu Fortress (2nd Cent. BC) greets the visitors immediately across the Gelibolu Quay (2nd Cent. BC). Both structures had been continuously used since the ancient period.[299] A shipyard was founded here during the Principalities Period and developed during the Ottoman era. Several tombs belonging to Kaptan-ı Deryas (Head Admiral) of different periods dot the center of Gelibolu. This cultural heritage points to the maritime nature of Gelibolu settlement. The lighthouse is located 1 km to the northeast of the quay.

[298] (MoEaU, 2014) Balıkesir Çanakkale Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ Balıkesir Çanakkale Planning Zone 1/100.000 Scale Environmental Plan
[299] (Tombul, 2015, pp. 504-505)




*Figure 3.6.* Aerial view of Gelibolu Lighthouse in Fener Park, looking above Deniz Kuvvetleri Kültür Parkı, a memorial park for maritime martyrs *(GoogleEarth, 2019)*

The lighthouse is nestled in a large park named "Fener Parkı"[300] within the dense urban area today. In 1856, September 15,[301] it had been specifically constructed next to the open-air Gelibolu Azaplar Namazgah (built in 1407) as one of the earliest lighthouses in the Dardanelles Strait.[302] The Namazgah was named as Azaplar (mariner in Ottoman) because it was used by mariners for prayer before setting sail during the Ottoman Period.[303] The light tower of the first Gelibolu Lighthouse was touching the namazgah whereas the light keeper's house was situated on the other side of the light tower.

[300] Lighthouse Park.
[301] (KEGM, 2012)
[302] (Tombul, 2015, p. 509)
[303] This tradition could be likened to the ancient rituals, when the mariners prayed to Poseidon, God of Sea, for his help and sacrified horses in his honour before venturing out into the sea. On Cape Monodendri in Didim, Aydın, the Poseidon Altar was also used as a lighthouse. (Mert, 2017) On the coins of Alexandria and Ostia, the Lighthouses were depicted together with Poseidon. As the ruler of the Sea, Poseidon had an association with maritime structures, thus, lighthouses.



*Figure 3.7.* The first Gelibolu Lighthouse was built in 1856 next to Azaplar (Mariners) Namazgah (1407). *(Çandarlıoğlu, 1860s)*

The lighthouse must have been damaged during Russian Wars and rebuilt on its current spot in 1913. Because early 20th century postcards show the lighthouse as a free-standing structure with a small service building and the Namazgah is not in sight. In 1946, during WWII, Gelibolu Lighthouse had been repaired just like the other Çanakkale Lighthouses.[304] The light tower and the optic system was damaged during Yenice Earthquake after Erzincan Earthquake.[305]

[304] (Ay, 2000)
[305] (Sönmez, 2010)




*Figure 3.8.* Gelibolu Lighthouse on a postcard from early 20th century *(LevantineHeritage, 1920s)*

Today the Lighthouse and the Namazgah are located at different edges of the park. There is no sign that the two structures had once been physically and spiritually related.



*Figure 3.9.*Gelibolu Lighthouse, left, and its service building, right, from the land direction *(Author, 07.07.2015)*



*Figure 3.10.* Gelibolu Lighthouse from the sea direction. *(Author, 07.07.2015).*

In the past, Gelibolu Lighthouse had been an important symbol in the coastal silhouette of Gelibolu. Today it is lost within the dense urban texture.

The lighthouse brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[306]

Gelibolu Lighthouse is still maintained and inhabited by a light keeper and his family.[307] In this respect, it is significant in terms of protecting the intangible heritage of light keeping. All the other lighthouses in Çanakkale are devoid of light keepers.[308] Gelibolu Lighthouse had been kept by the same family for more than 100 years.[309]

[306] (KEGM, Seyir Yardımcıları, 2019)
[307] On the day of our site visit, the light keeper and his family were not at the lighthouse. Thus, we could not interview them.
[308] Kepez Lighthouse on the Anatolian coast is an exception because it is used as the operative headquarters of Çanakkale Directorate of Coastal Safety.
[309] (Sönmez, 2010)

Table 3.1. *Light keepers of Gelibolu Lighthouse, compiled from (Sönmez, 2010)*

| **LIGHTKEEPERS OF GELIBOLU- Turşucu family in service for more than 100 years** |
|---|
| Grandfather Muharrem Turşucu |
| ↓ |
| Father Turşucu until 1960 |
| ↓ |
| Until 1995 Süleyman Turşucu (35 years 3 months) -still residing near the lighthouse |
| ↓ |
| Nezih Durdabak (1995- Still in service in 2010) |
| ↓ |
| Current light keeper residing in the lighthouse in 2019 could not be interviewed. |

The lighthouse has a T shaped plan.[310] Formerly, it was a courtyard with keeper's residence with an attached tower on one side and wet spaces on the other side. In time, the courtyard was closed, and the service spaces on the side of the courtyard were enlarged. Former fuel depot was enlarged and a new storage, next to the tower, was constructed, too. There is a well and several trees in the well-maintained garden.

[310] The lighthouse could only be surveyed from the exterior as the light keeper was away on the day of the site visit.

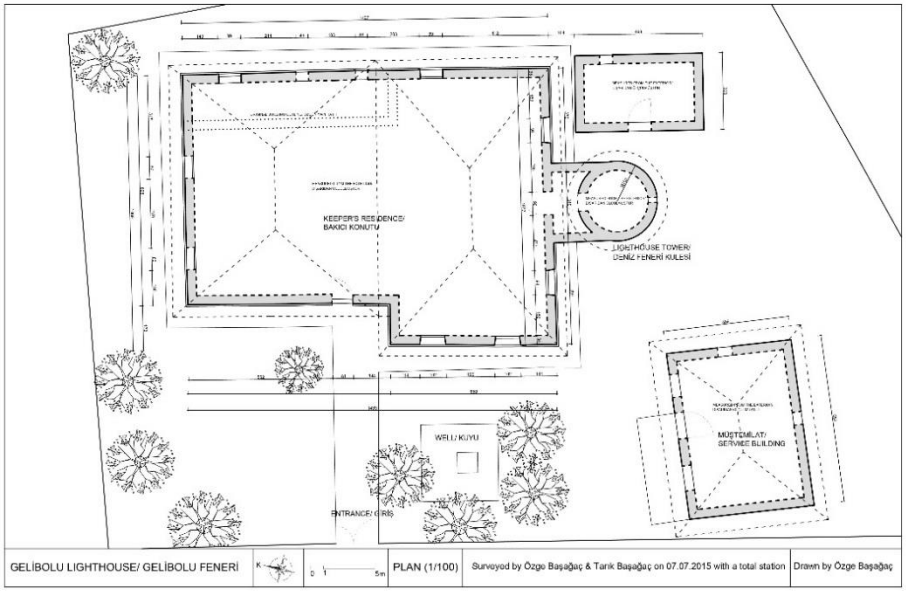



*Figure 3.11.* Plan of Gelibolu Lighthouse, service building and storage (*Author, 2015)*

The tower is located on the short side of the keeper's residence, marking the symmetry axis of the façade with two windows on each side.

All of the buildings located within the lot of the Gelibolu Lighthouse are in good condition without any material or structural problems.

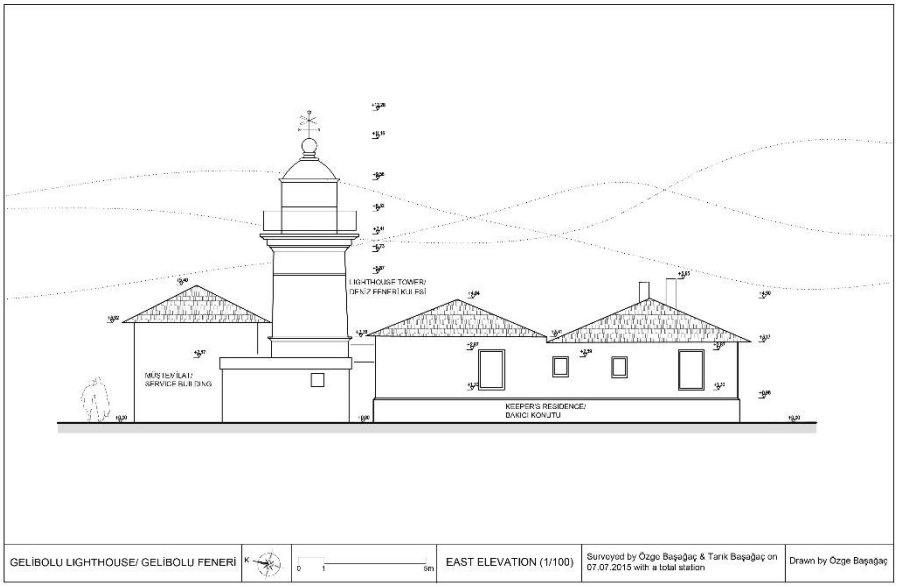



*Figure 3.12.* East (Sea) elevation of Gelibolu Lighthouse, service building and storage (*Author, 2015)*

### 3.2.1.2. Çardak Lighthouse

Çardak Lighthouse is situated on an islet off the coast of Çardak, Lapseki in Çanakkale, at the end of a long sandy beach, on the Anatolian coast of Dardanelles Strait.

Çardak coast marine zone is a 1st Degree Natural site, where the natural characteristics should be conserved.[311] The terrestrial part of the coast, adjacent to the natural site is urban settlement and development area.

Çardak is part of the contemporary political history of Turkey: After the 1980 coup d'tat, Zincirbozan Military Post (Commandership of Mine Observation Radar Station) on Çardak coast was used as a jail for the politicians of the time during June-September 1983.[312] Thus, Çardak and Zincirbozan are two names recorded on collective memory.

[311] (MoEaU, 2014) Balıkesir Çanakkale Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ Balıkesir Çanakkale Planning Zone 1/100.000 Scale Environmental Plan
[312] (Sönmez, 2010, pp. 177-178)




*Figure 3.13.* Çardak Lighthouse is on the northwest of an islet off Çardak Bay in Çanakkale *(GoogleEarth, 2019)*

Çardak islet bearing the lighthouse is connected to mainland with a narrow pedestrian bridge. The beach is accessible to swimmers and strollers, but the lighthouse stays on partial marshland, sometimes flooded with sea water and is hard to reach.

The lighthouse is visible to maritime passengers on the busy Çardak-Gelibolu route, and is well-known by locals. The structure stands out with its white vertical body in the low-lying horizontal land.



*Figure 3.14.* Çardak Lighthouse on partial marshland, viewed from the sea *(Author, 07.07.2015)*

The lighthouse brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[313] It is maintained by the Kepez technical headquarters.

Çardak Lighthouse was built in 1846, renewed on 15 March 1857 as steel frame and reconstructed in 1991 as a concrete tower.[314] It was one of the earliest lighthouses on Dardanelles Strait.

[313] (KEGM, Seyir Yardımcıları, 2019)
[314] (KEGM, 2012) (Ay, 2000)



*Figure 3.15.* Çardak Lighthouse from the sea direction. *(Author, 07.07.2015)*

The lighthouse is a circular, reinforced concrete tower. The radius is 0.75m and the height is 11m. The light is accessible through a balcony on top, which is reached by a stair inside. The light operates on electricity provided by solar power panels on the balcony.

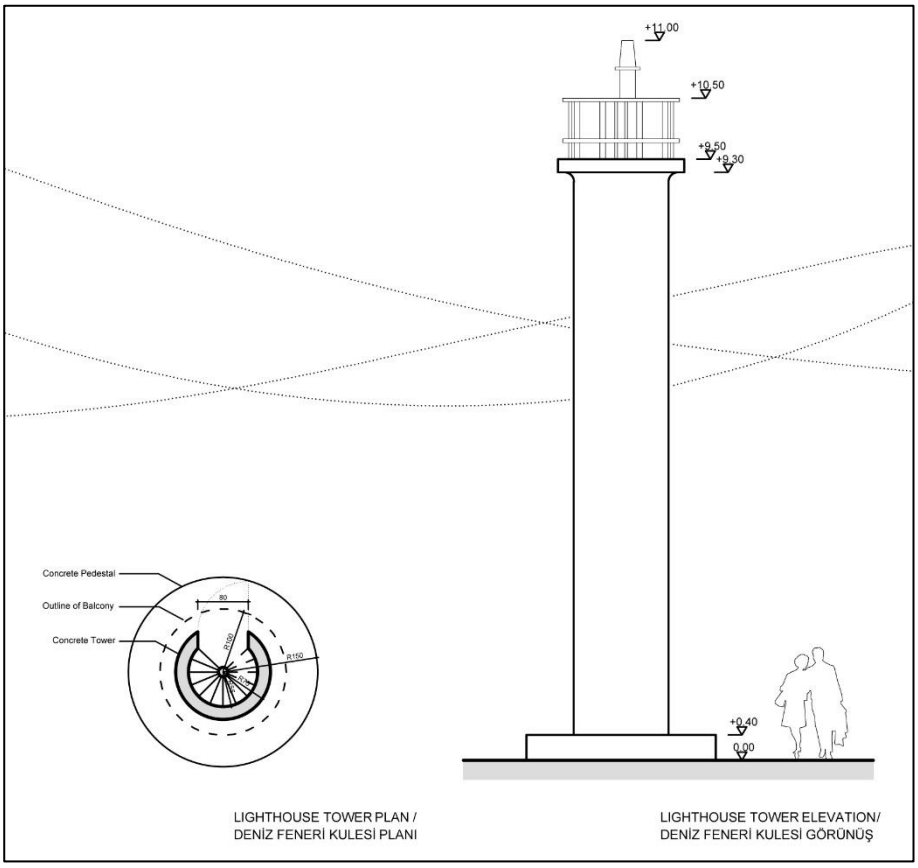



*Figure 3.16.* Plan and elevation of Çardak Lighthouse *(Author, 2015)*

The lighthouse is vandalized with graffiti frequently. There is a structural crack on the tower, starting from the foundation and going up. The cycle of wetting with sea water and drying under harsh sun is a strong weathering process for the lighthouse. The ground of the lighthouse is also prone to erosion/ decay due to rising sea water and frequent flooding.



*Figure 3.17.* Çardak Lighthouse *(KEGM, Kıyı Emniyeti Genel Müdürlüğü, 2012)*

### 3.2.1.3. Karakova/ Galata Cape Lighthouse

It is situated on the European side of Dardanelles Strait, signaling a turn, 9 km southwest of Gelibolu, right before the Gelibolu Shipyard. It is in Sütlüce, in the plain of lighthouse, near a creek. The neighbouring plots of the lighthouse are used with agricultural purposes or as natural reserve areas for the nearby creek.

Legally, the environment of the lighthouse is declared as urban development area and the coast may be utilized for daily tourism.[315] The adjacent Gelibolu shipyard

[315] (MoEaU, 2014) Balıkesir Çanakkale Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ Balıkesir Çanakkale Planning Zone 1/100.000 Scale Environmental Plan

is a coastal facility area. And the creek bank is reserved as urban and regional recreational and sports area.




*Figure 3.18.* Karakova Lighthouse, right, within an agricultural/ natural neighborhood is situated close to Gelibolu Shipyard, left. *(GoogleEarth, 2019)*

In summer, the front of the lighthouse is used as a small beach for swimming. The visitors are usually locals and not many.

The lighthouse is a recognizable structure in the coastal silhouette amongst the fields, the creek delta and the beach.



*Figure 3.19.* Karakova Lighthouse as seen from the main road, looking towards the sea across sunflower fields *(Author, 07.07.2015)*

The lighthouse had been constructed in 1858 as one of the earliest lighthouses in Dardanelles Strait and the light pole was on the keeper's residence.[316] But the lighthouse was renewed in 1913, then again in 1946 and most probably the light tower was separated from the residence, taken on a platform on its own and turned into a steel frame. Former photos of the light tower are in this form.[317]

[316] (KEGM, 2012)
[317] (Ay, 2000) 1911 List of Lighthouses (Fener Risalesi)



*Figure 3.20.* Karakova Lighthouse *(Dervişoğlu, 2007)*

Karakova Lighthouse is controlled by the Gelibolu Lighthouse Keeper on the European coast and the technicians at Kepez Lighthouse Headquarters on the Anatolian coast. Some of the salvage ships that belong to the fleet of Coastal Safety are always moored at Gelibolu Shipyard nearby to intervene immediately in cases of trouble or for guidance while vessels are passing the Strait. Thus, Karakova Lighthouse is monitored to a certain extent.

The lighthouse brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[318]

[318] (KEGM, Seyir Yardımcıları, 2019)




*Figure 3.21.*Close up of Karakova Lighthouse *(Demirel, 2011)*

The light keeper's house is abandoned now. The roof had partially collapsed yet the eave line is visible, and the full height of the roof is seen at certain points. It has a T shaped plan. The entrance is through the courtyard which has the rooms on one side and service spaces on the other. The keeper's residence is plastered and painted white. The timber window frames are also seen. The remains of the masonry pedestal of the original metal light pole is observed on the roof.

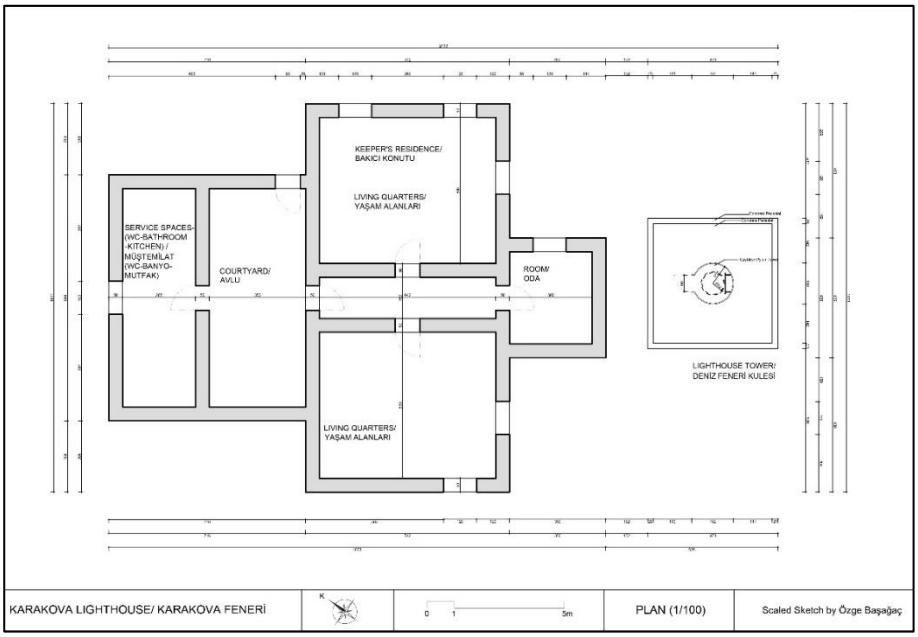



*Figure 3.22.* Sketch Plan of Karakova Lighthouse *(Author, 2015)*

Currently, only the cast iron assembled pylon light tower is maintained. This means the tower had been renewed again recently. The white tower has a red stripe as a significant mark. The light runs on electricity via solar energy.

Karakova Lighthouse has a plan similar to Aydıncık Cape/ Kefalo/ Gökçeada Lighthouse, built in 1890.



*Figure 3.23.* The cast iron light tower of Karakova Lighthouse *(KEGM, Kıyı Emniyeti Genel Müdürlüğü, 2012)*

### 3.2.1.4. Akbaş Cape (Sestos) Lighthouse

Akbaş Cape Lighthouse, on the same spot of the ancient light tower of Sestos, is situated inside the Akbaş Bay, marking the northern boundary of the narrowest part of Dardanelles Strait, on the European coast. The ancient remains and the lighthouse are within military zone and not open to public view.




*Figure 3.24.* Akbaş Cape Lighthouse, on the same spot of the ancient light tower of Sestos *(GoogleEarth, 2019)*

Legally, Akbaş Lighthouse is within the wider borders of Gelibolu National Park, a historical site defined by a special law, and the area is a 1st degree archaeological site.[319]

Akbaş Cape lighthouse, the ancient Sestos light tower, appeared on ancient coins as early as 193-211 AD. Sestos has an ancient legend related to its light tower: Hero, a priestess served in the Temple of Aphrodite and lived in the tower of Sestos on Europena coast. Leander of Abydos from across the other side of the Dardanelles Strait fell in love with her. And he swam across the strait every night to see her. A torch provided by Hero from the light tower of Sestos would guide Leander. However, one stormy night Leander fell victim to the waves of the Dardanelles and Hero threw herself off the top of the tower when she saw him. They were buried together on the

[319] (MoEaU, 2014) Balıkesir Çanakkale Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ Balıkesir Çanakkale Planning Zone 1/100.000 Scale Environmental Plan

skirts of Sestos light tower and the inhabitants of the town released flowers into the sea in their memory.[320]

The distance between Sestos and Abydos cities were quite narrow across the Dardanelles Strait. Considering the currents of the Strait, it was a good location to pass from one coast to the other. Either to protect the city itself or enhance maritime relations, it was presumable to construct a fortress or watch tower here. However, the light tower became such an important mythological element that it made its way unto ancient coins of Abydos and Sestos. In this respect, it was a testimony to the use of lighthouses in antiquity.



*Figure 3.25.* Coin of Sestos, 193-211 AD. Septimius Severus. Front: Bust / Reverse: Leander, swimming right, crossing the Hellespont (Dardanelles), bust of Hero on top of light tower of Sestos turned left, holding oil lamp in her outstretched right hand. *(WildWinds, 2018)*

The route from Sestos to Abydos was also the supposed crossing line of the Persian army of Kserkes in 480 BC on the Athens Campaign. He ordered the construction of a temporary pass over the Dardanelles, by aligning ships side by side

[320] (Tombul, 2015) (ÇanakkaleRotaryClub, 2019)

and connecting them with small bridges. Alexander the Great passed his army from Europe to Asia on this spot in 334 BC.[321]



*Figure 3.26.* Coin of Sestos. Severus Alexander, AD 222-235. Front: Bust / Reverse: Leander and Eros with torch, swimming right, crossing the Hellespont (Dardanelles), bust of Hero turned left on top of light tower of Sestos, holding oil lamp in her outstretched right hand. *(WildWinds, 2018)*

The myth of Hero and Leander had inspired several artists in the west especially during Medieval Period. Paintings and engravings adopted the story as a favourite romantic subject. The light tower of Sestos had always appeared in these artworks.[322]

[321] (Tombul, 2015)
[322] (Rosa, 1634-1673) (Taillasson, 1798) (Rubens, 1605)



*Figure 3.27.* Hero and Leander by Salvator Rosa painted in mid 17th century. The light tower of Sestos is painted on the left *(Rosa, 1634-1673)*

Around 1799-1800 the remains of the light tower were still visible on a rock crop by the sea.[323]

In remembrance of the ancient myth of Hero from Sestos and Leander from Abydos, the poet Lord Byron swam the same route on May 3, 1810, centuries later. To keep the memory of the myth alive and increase the recognition of Dardanelles Strait, the Çanakkale Rotary Club holds an international swimming competition called "Hellespont Swimming Race" across the Dardanelles Strait every August 30, since 1986. The swim takes place between Eceabat and Çanakkale Çimenlik Cape, much longer than the original Abydos–Sestos route, but still within the narrow part of the Strait. [324]

[323] (Whitman, 2011, p. 36)
[324] (ÇanakkaleRotaryClub, 2019)




*Figure 3.28*. The route of International Hellespont Swimming Race, held by Çanakkale Rotary Club in Dardanelles Strait, in memory of the ancient myth of Hero and Leander and the poet Lord Byron who swam the similar route in 19th century *(ÇanakkaleRotaryClub, 2019)*

Akbaş Bay has also been an important location during WW1 and Akbaş Martyrdom is situated here.

In the 1911 List of Lighthouses "Fener Risalesi", the lighthouse was named as Boğalı (Bigalı today) Fortress/ Kilya Lighthouse, built in 1857. In 1913, it was renewed as a steel frame light structure.[325]

[325] (Ay, 2000) 1911 List of Lighthouses (Fener Risalesi)

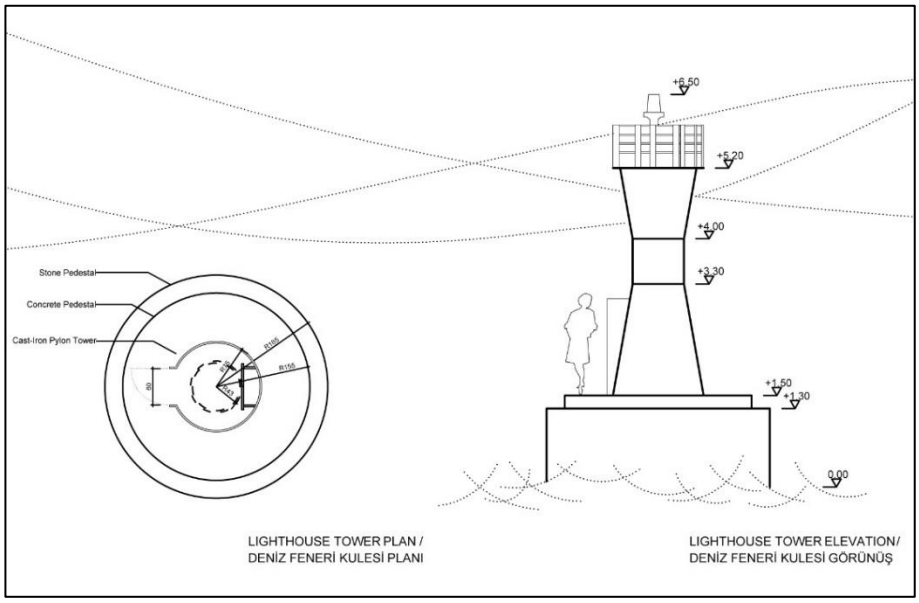



*Figure 3.29.* Plan and elevation of Akbaş Cape Lighthouse *(Author, 2015)*

Today there is a cast iron assembled pylon lighthouse on a concrete/ masonry pedestal inside the sea, in front of the Sestos city. The lighthouse is 5m high. It is well maintained and does not have any structural or material problems. As the scale of the lighthouse is quite small it blends with the coastal silhouette.

Akbaş Cape Lighthouse is controlled by the Gelibolu Lighthouse Keeper on the European coast and the technicians at Kepez Lighthouse Headquarters on the Anatolian coast.

The lighthouse brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[326]

[326] (KEGM, Seyir Yardımcıları, 2019)



*Figure 3.30.* Akbaş Cape (Sestos) Lighthouse viewed from the sea. *(Author, 07.07.2015)*

### 3.2.1.5. Nara Cape (Abydos) Lighthouse

The other half of the ancient Hero- Leander myth lies at Abydos, today's Nara Cape, on the Anatolian coast. This lighthouse signifies the southern boundary of the narrowest part of the Dardanelles Strait.




*Figure 3.31.* Nara Cape Lighthouse is located on the same spot of the ancient cape of Abydos city which is partially covered by Mahmudiye Fortress *(GoogleEarth, 2019)*

The Akbaş Cape- Nara Cape line is strategically important as it is considered one of the key gates to the Dardanelles Strait moving from the Aegean into Marmara, since the ancient period.[327] And it is the shortest distance between European and Asian coasts. Thus, the site is a military zone, just like Akbaş Cape, and is not open to public. The ancient harbor structures of Abydos are partially covered by Mahmudiye Fortress, built in 1817-1818 by Sultan Mahmut II.[328] Legally the Nara Cape is a 1st Degree Archaeological Site.[329]

[327] The line that connects Mehmetçik/ Hellespont- Kumkale Lighthouses is the first key to the Dardanelles Strait, moving from the Aegean into Marmara.
[328] (Tombul, 2015)
[329] Balıkesir Çanakkale Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ Balıkesir Çanakkale Planning Zone 1/100.000 Scale Environmental Plan (MoEaU, 2014)



Figure 3.32. Coin of Abydos. Severus Alexander, 222-235 AD. Medallion. Front: Bust / Reverse: Leander and Eros with torch, swimming right, crossing the Hellespont (Dardanelles), bust of Hero on top of light tower of Sestos facing left, holding oil lamp in her outstretched right hand to lighten the darkness of the night over the Hellespont. *(AsiaMinorCoins, 2018)*

For centuries the myth of Abydos and Sestos drew interest and many travelers tried to capture the location of these cities and their fortresses. Pierre Belon misrecorded Kilitbahir Fortress as Sestos, and Kale-i Sultaniye/ Çimenlik Fortress as Abydos in 1554.[330] Many travelers made the same mistake in the following centuries.

[330] (Belon, 1554)

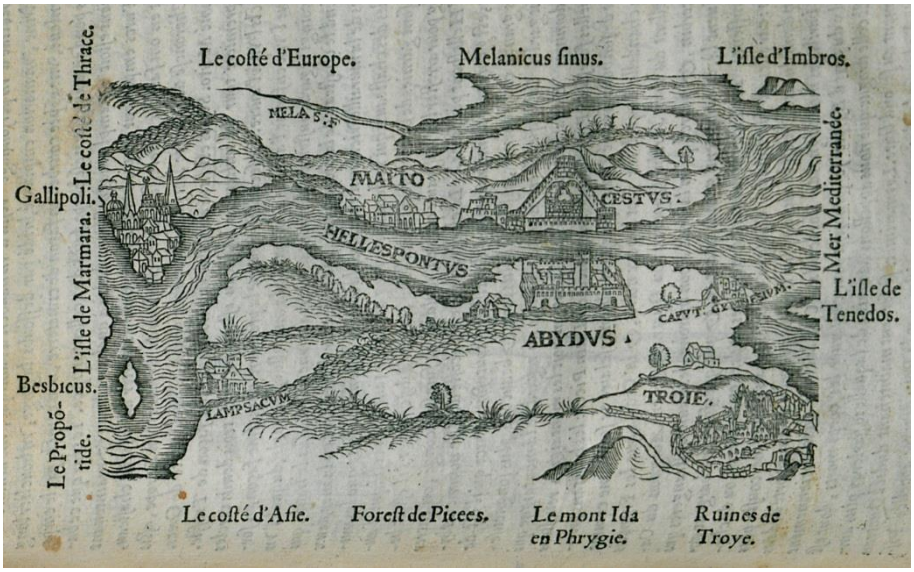



*Figure 3.33.* Map of Dardanelles mislocating Abydos and Sestos Fortresses *(Belon, 1554)*

However, some remains of the light tower of Abydos were still visible in 1782-1792 and these were recorded.[331]



*Figure 3.34.* Engraving showing the ruins of Abydos Light Tower in late 18th century *(Choisel-Gouffier, 1822)*

[331] (Choisel-Gouffier, 1822)

Nara Lighthouse was constructed on 15 March 1857 as a 7.5m high white tower. In 1913 it was renewed as a steel frame.[332] In 1945 it was repaired.



*Figure 3.35*. Looking towards Nara Cape from the sea. On the far right is the white Nara Lighthouse in the sea, to its left, Mahmudiye Fortress, located on the ruins of ancient Abydos (*Author, 08.07.2015)*

Today, the cast iron, cylindirical lighthouse is located inside the sea, on a small cast-iron galvanized platform close to the shore, which is supported by posts set into the seabed. It is painted white with green distinguishing stripes. The height of the lighthouse is 9m. The structural condition of the lighthouse is good. But there are moderate material problems as oxidation on exterior surfaces.

[332] (Ay, 2000) 1911 List of Lighthouses (Fener Risalesi)

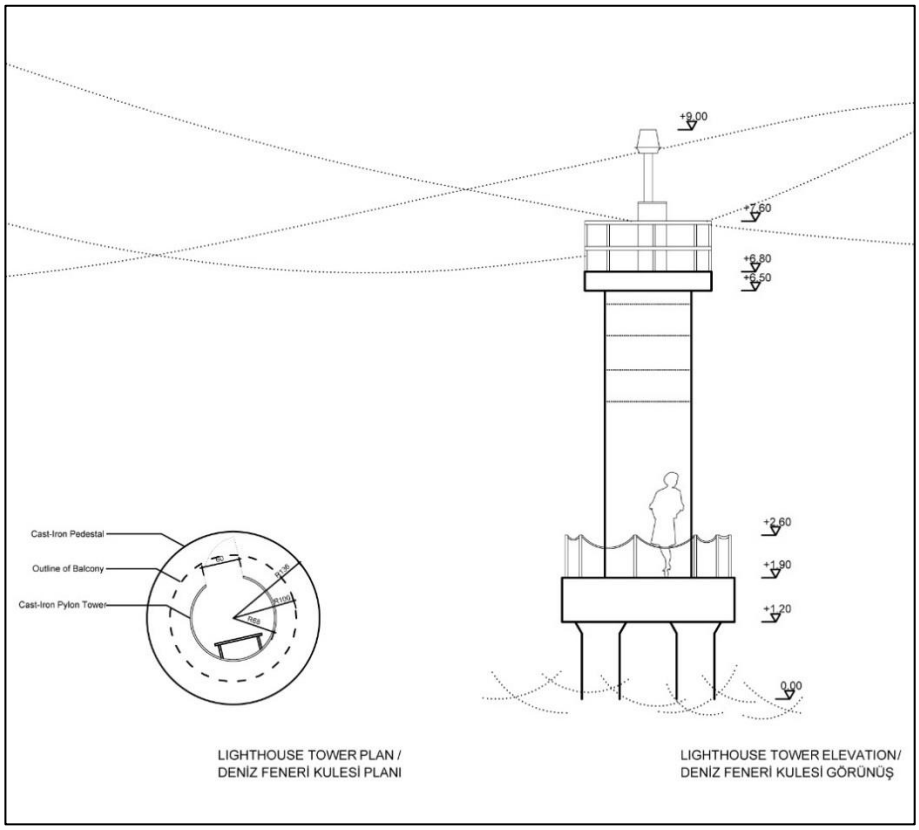



*Figure 3.36.* Plan and elevation of Nara Cape Lighthouse *(Author, 07.07.2015)*

The scale of the lighthouse is small. Thus, it blends with the coastal silhouette. But it acts as a white mark for the Mahmudiye Fortress in the background.

Nara Cape Lighthouse is controlled by the Kepez Lighthouse Headquarters on the Anatolian coast.

The lighthouse brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[333]

[333] (KEGM, Seyir Yardımcıları, 2019)

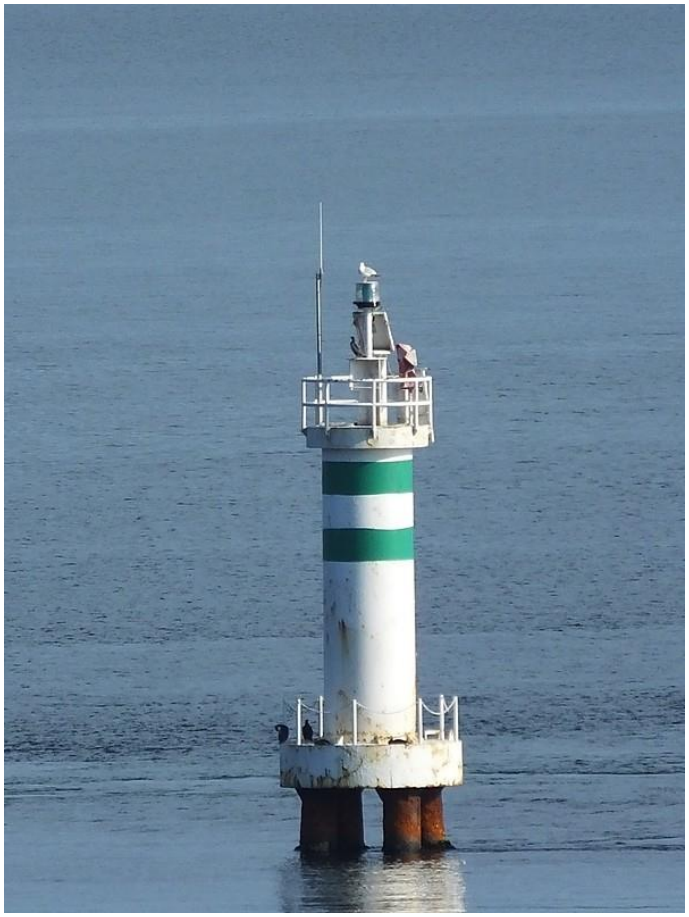


*Figure 3.37.* Nara Cape (Abydos) Lighthouse (*Author, 08.07.2015)*

### 3.2.1.6. Çanakkale Çimenlik Cape Lighthouse

Çimenlik Cape Lighthouse is on the Anatolian side of Dardanelles, situated to the south of Çanakkale center. It is the first turning point for vessels sailing from the strait towards north. The lighthouse is right in front of Çimenlik Fortress (Kale-i Sultaniye, 1462) by the sea.[334]

[334] (Tombul, 2015, p. 23) Kale-i Sultaniye was built by Fatih Sultan Mehmet in 1462, repaired by Kanuni Sultan Süleyman in 1551, altered by Sultan Abdülaziz in 1876. Piri Reis finished his maritime book Kitab-i Bahriye in this fortress and gave information about the building. The first settlement of Çanakkale was triggered when the families of the early fortress officials inhabited the outskirts of this fortress. During Çanakkale Defense the fortress was used as the Ottoman headquarters. Thus, it is significant for the settlement history of Çanakkale as well as national sovereignty until today.




*Figure 3.38.* Çimenlik Cape Lighthouse in front of Çimenlik Fortress, in the center of Çanakkale *(GoogleEarth, 2019)*

Çimenlik Fortress is a military museum open to public, drawing a lot of visitors, in the center of Çanakkale, in a dense urban texture, which is an urban site to a great extent.[335] The coastal promenade brings a lot of visitors to the lighthouse, too. Though small in scale, the lighthouse and its location encourage amateur and professional photo shoots.

[335] Balıkesir Çanakkale Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ Balıkesir Çanakkale Planning Zone 1/100.000 Scale Environmental Plan (MoEaU, 2014)

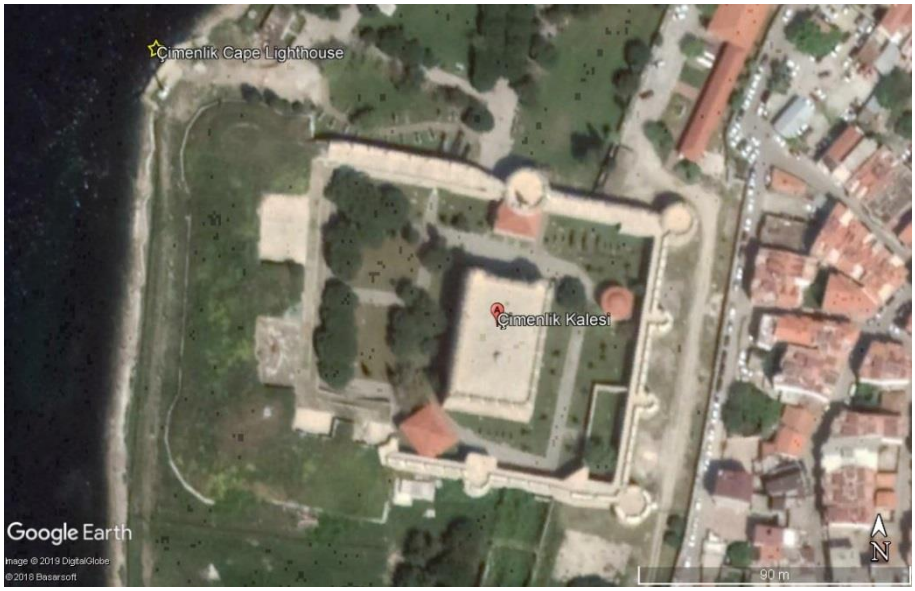



*Figure 3.39.* Aerial view of Çimenlik Cape Lighthouse and Çimenlik Fortress (Kale-i Sultaniye) *(GoogleEarth, 2019)*

Çimenlik Cape Lighthouse is visible from the sea on all routes crossing the Dardanelles as the central Çanakkale quay is 100 m away from here. First, the fortress, then the lighthouse is recognized. This enhances the popularity of the lighthouse.



*Figure 3.40.* Çimenlik Fortress and its lighthouse in the foreground (*Author, 08.07.2015)*

The lighthouse was first set up on 23 July 1856 on the northwest corner of the fortress, on a low wall, as a 13.5m high metal pole. In 1913, it was renewed as a 17m high steel frame light structure.[336] It was repaired in 1946, rebuilt in 2002.[337] It was in the first list of lighthouses to be built along Dardanelles Strait. Today, Çimenlik Cape Lighthouse is a 14m high cast iron assembled pylon tower. The structural and material condition of the lighthouse is very good.

[336] (Ay, 2000) 1911 List of Lighthouses (Fener Risalesi)
[337] (KEGM, 2012)



*Figure 3.41.* Çimenlik Cape Lighthouse in front of Çimenlik Fortress. *(Author, 08.07.2015)*

Çimenlik Cape Lighthouse is controlled by the Kepez Lighthouse Headquarters on the Anatolian coast.

The lighthouse brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[338]

[338] (KEGM, Seyir Yardımcıları, 2019)

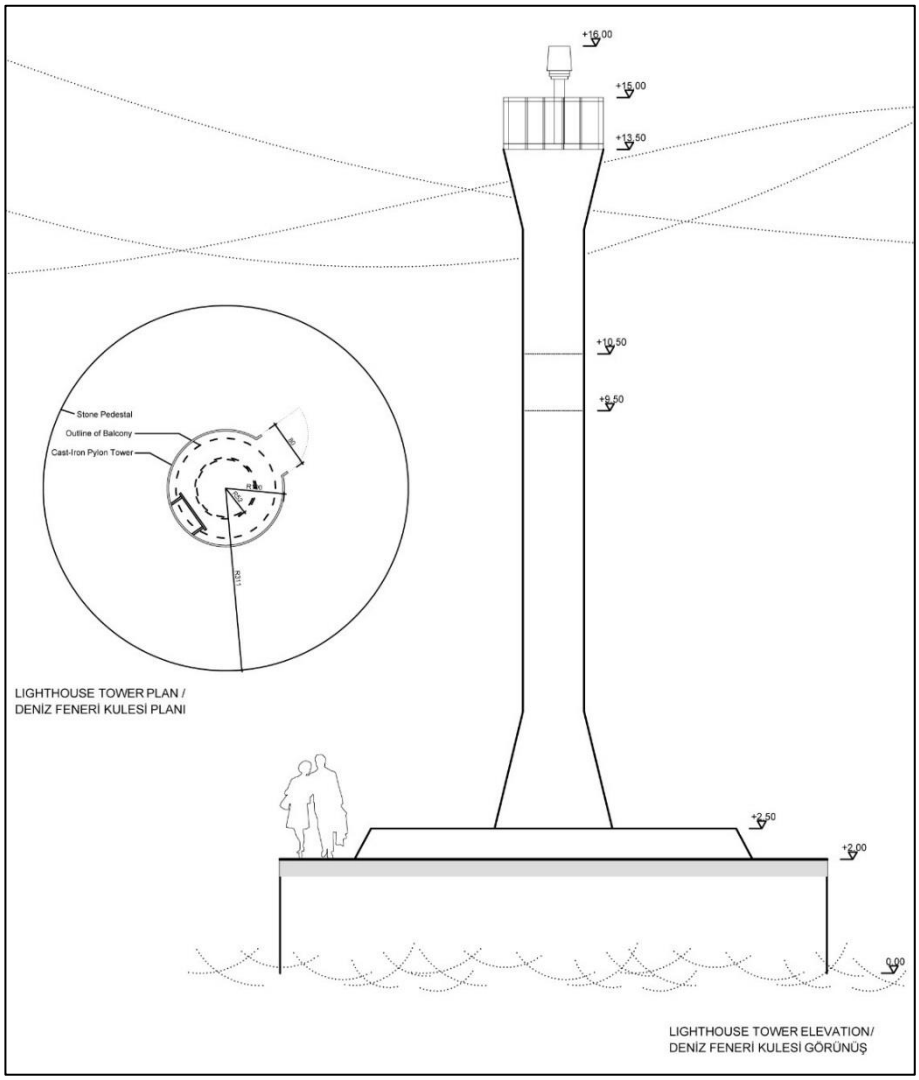



*Figure 3.42.* Plan and elevation of Çimenlik Cape Lighthouse *(Author, 06.07.2015)*

### 3.2.1.7. Kilitbahir Lighthouse

Kilitbahir Lighthouse is situated on Namazgah Bastion jutting out into the sea, within Kilitbahir Fortress (1462) on the European coast.[339] With Çimenlik Fortress (Kale-i Sultaniye, 1462) on the Anatolian coast, they form a defense line in the center

[339] (Tombul, 2015, p. 384) Kilitbahir: Lock of the Sea. The fortress was built by Fatih Sultan Mehmet in 1462. It had been repaired and modified in 1541, 1893, 1955-56, 1967, 2002, 2006, 2013.

of Dardanelles Strait since 15th century. Hence, Kilitbahir was the key center for Ottoman defense force during WW1.

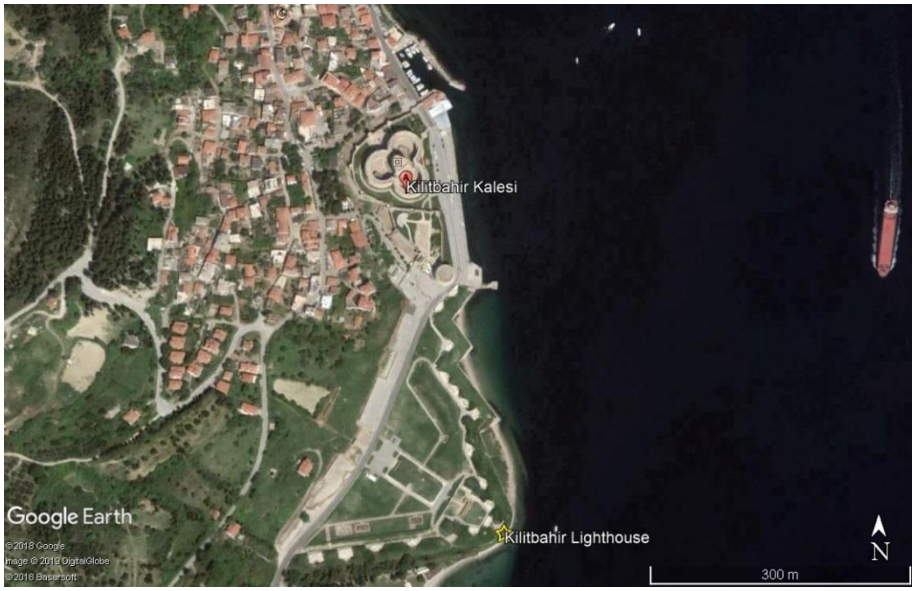



*Figure 3.43.*Kilitbahir Lighthouse on Namazgah Bastion as the southern part of Kilitbahir Fortress. *(GoogleEarth, 2019)*

Both the fortress and its near environment attract a lot of national and international visitors as well as amateur fishermen all year. The neighborhood around the Fortress is an urban site as it keeps the characteristics of a typical Ottoman village formed by the foundation of the Fortress here. The coastal strip is registered as 1st Degree Archaeological Site.[340] Kilitbahir Fortress and the Namazgah Bastion along with other defense structures are within military zone but open to public visits on schedule.

[340] Balıkesir Çanakkale Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ Balıkesir Çanakkale Planning Zone 1/100.000 Scale Environmental Plan (MoEaU, 2014)



*Figure 3.44.* Kilitbahir Fortress and its lighthouse to the left *(Author, 07.07.2015)*

Kilitbahir Lighthouse was built on 15 March 1857, right on Namazgah bastion, as a 11m high metal pole.[341] It was in the first wave of lighthouses built along the Dardanelles Strait in 19th century. In 1913, it was renewed as a steel frame, repaired in 1954 and rebuilt in 1964.[342]

[341] (Ay, 2000) 1911 List of Lighthouses (Fener Risalesi)
[342] (KEGM, 2012)

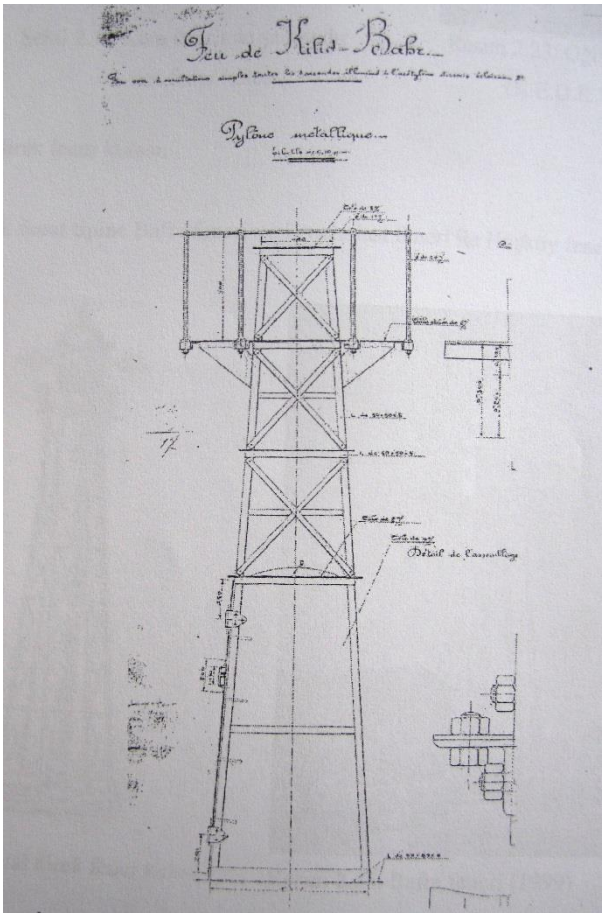



*Figure 3.45*. Elevation of Kilidbahir Lighthouse as proposed by the French Lighthouse Administration. The titles are in French whereas the dimensions and descriptions are in Ottoman. *(Ay, 2000)*

Today, it is a 8.5m high, cast iron assembled pylon lighthouse on the same location. As the structure is small, no light keeper lives here. It is controlled centrally and monitored by the Gelibolu Lighthouse keeper and Kepez Technical Headquarters. The structural and material condition of the lighthouse is very good.

Kilitbahir Lighthouse is a part of the important coastal silhouette defined by the Kilitbahir Fortress. It is recognizable with its white body set against the dark colored masonry structure of the Fortress and the Bastion.

The lighthouse brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[343]



*Figure 3.46.* Kilitbahir Lighthouse on Kilitbahir Fortress Namazgah Bastion by the sea *(KEGM, Kıyı Emniyeti Genel Müdürlüğü, 2012)*

[343] (KEGM, Seyir Yardımcıları, 2019)

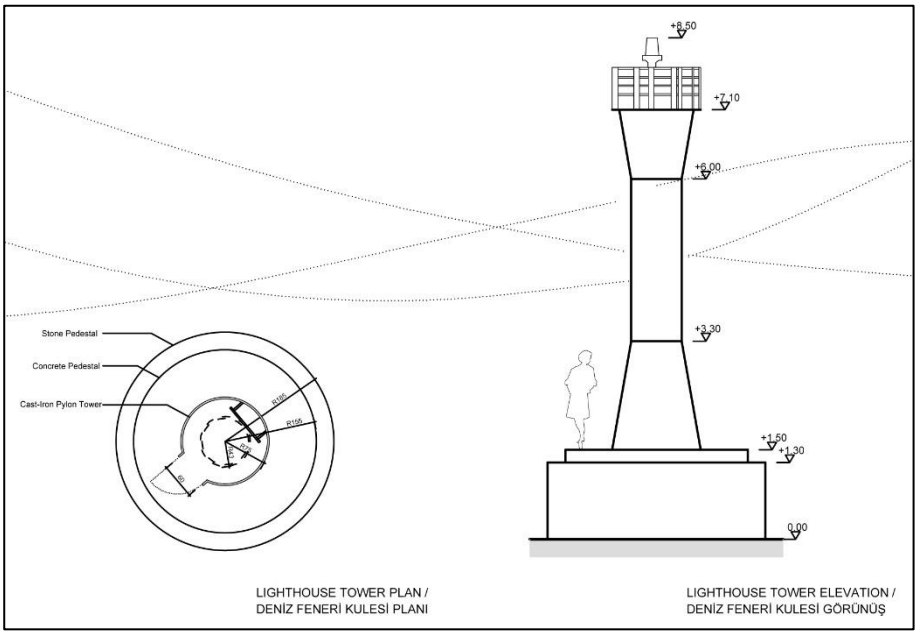



*Figure 3.47.* Plan and elevation of Kilitbahir Lighthouse *(Author, 07.07.2015)*

### 3.2.1.8. Kepez/ Kanlıdere Lighthouse

Kepez Lighthouse is on the cape 10 km southwest of Çanakkale, on the Anatolian coast and marks the narrow part of the Strait.[344] It sits on mainland, 10 m above sea level, with an iron tower of 10 m. It is also known as Kanlıdere. The building lot of the lighthouse is nestled between Turkish Naval Forces official building and private housing lots with large gardens/ orchards on the coast. Next to the Naval Forces, there is an aqualand entertainment center on the coastal strip to the northeast.

[344] (TaussMarine, 2018)




*Figure 3.48.* Kepez Lighthouse and its environs *(GoogleEarth, 2019)*

Kepez Lighthouse is set back on the coast with an orchard in front of the buildings. Thus, the lot of the lighthouse is not visible from the sea, but the upper portions of the light tower.

Kepez- Eceabat Ferry Trips had been organized for years for the transportation across Dardanelles Strait though currently this route is inactive.

The thin coastal strip of Kepez, where Kepez Lighthouse is located, is a tourism zone[345] with a hinterland as urban development area. The western coastal strip of Kepez Lighthouse is urban settlement area, next to university zone. The majority of the inner land right behind the lighthouse is reserved for agriculture and wetlands as Kepez Creek reaches the sea here.

The lighthouse complex is used as the technical headquarters of Çanakkale Directorate of Coastal Safety. Its garden is home to antique lighthouse lenses. It brings

[345] Balıkesir Çanakkale Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ Balıkesir Çanakkale Planning Zone 1/100.000 Scale Environmental Plan (MoEaU, 2014)

revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[346]




*Figure 3.49.* Aerial view of Kepez Lighthouse *(GoogleEarth, 2019)*

The lighthouse and keeper's residence are registered as cultural heritage.[347] The lighthouse was first built in 1857, "next to the bulwark on the ruins", as a 12m high metal pole. There was no keeper's residence.[348] Then it was renewed in 1861. The lighthouse was enlarged with a different tower and keeper's residence in 1926. (The wind rose on top of the light tower dome bears the date 1926. The concrete foundation of the light tower also bears the date 1926, written in Arabic numerals.) It was repaired in 1946.

[346] (KEGM, Seyir Yardımcıları, 2019)
[347] (KEGM, 2012)
[348] (Ay, 2000) 1911 List of Lighthouses (Fener Risalesi)



*Figure 3.50.* Kepez Lighthouse seen from the sea side. *(Author, 06.07.2015)*

The building lot of the lighthouse is a large garden/ orchard, entered by a driveway/ concrete pavement connecting to the light keeper's residence and the adjacent light tower first. The lighthouse entrance porch is surrounded by a low brick, plastered wall. The entrance path leads to two additional, separate structures as well: A closed workshop with a large porch for repair/ painting/ soldering and an elongated service structure containing a smaller workshop, generator room and a depot. All structures are plastered and painted.

Kepez Lighthouse has a cast iron white light tower with black distinguishing marks. The type is similar to the light towers of Marmara Ereğli and Hoşköy Lighthouses, both built in 1861. Kepez has fewer ornamental features compared to the other two lighthouses, like the console brackets are plain in Kepez but the others have floral decorations. Kepez light tower is 10m high, Marmara Ereğli is 26m, Hoşköy is 22m. Kepez Lighthouse is the only lighthouse with a metal tower of this scale,

constructed with a keeper's residence in Çanakkale Region. Thus, it is significant for its material and construction technique.



*Figure 3.51.* Kepez Lighthouse from the land side *(Author, 06.07.2015)*

The plan of keeper's residence of Kepez Lighthouse is T shaped. It has the same layout and dimensions with Polente Lighthouse. But Polente has a stone tower as opposed to Kepez with an iron tower.

The structural condition of the buildings is good. But there are material problems as scaling of plaster and paint due to rising damp.

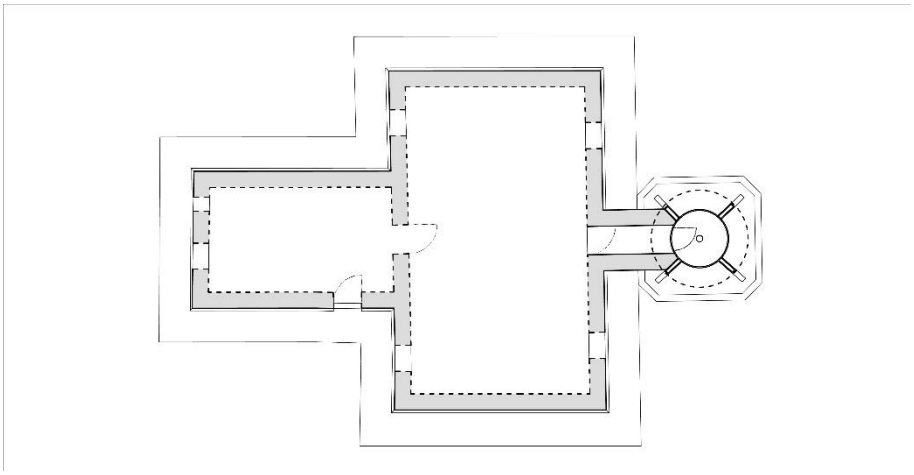


*Figure 3.52.* Plan of Kepez Lighthouse *(Author, 2015)*

As an important aid to navigation, Kepez Lighthouse had been operated by the same family of light keepers for a very long time. The knowledge of light keeping had passed from father to son, husband to wife not only as a task but also as a source of pride through generations. Kepez Lighthouse had been significant both for protecting the intangible heritage of light keeping and for having a female light keeper. As of 2019, there is no light keeper residing here. Thus, the intangible heritage of light keeping had come to an end. But there is a little consolation for Kepez: The keeper's residence is not obsolete. The lighthouse is welcoming even more people everyday as the central technical hub for Çanakkale Region lighthouses, prolonging the lives of the navigational aids where Europe meets Asia.

Table 3.2. *Light keepers of Kepez Lighthouse, compiled from (Sönmez, 2010)*

| LIGHT KEEPERS OF KEPEZ LIGHTHOUSE |
|---|
| 1926 Construction of the lighthouse |
| ↓ |
| First light keeper- Tevfik Dede (Immigrant from Bulgaria) |
| ↓ |
| Second light keeper- Fikret Gürel, son of Tevfik Dede |
| ↓ |
| Third light keeper- Wife of Fikret Gürel for 26 years |

| |
|---|
| ↓ |
| Fourth light keeper- Ahmet Elbi for 16 years |
| ↓ |
| Fifth light keeper- Halit Çelik, until 2002 |
| ↓ |
| Sixth light keeper- Çetin Türk, starting from 2003 onwards, employed in Çanakkale but not residing in the lighthouse |
| ↓ |
| Seventh light keeper in 2008- Name could not be retrieved |

### 3.2.1.9. Seddülbahir Lighthouse

Seddülbahir Lighthouse is situated in front of Seddülbahir Fortress (1659), on the Seddülbahir fishing shelter piers and in the sea in front of the piers, on the European coast.




*Figure 3.53.* Seddülbahir Lighthouse in front of Seddülbahir Fortress, on the fishing shelter pier and in the sea *(GoogleEarth, 2019)*

Legally, Seddülbahir is within the wider boundary of Gelibolu National Park, locally protected as a historical and 1st degree archaeological site and used as a rural

settlement area.[349] Until July 1997, Seddülbahir Fortress was under the management of Turkish Navy. Formerly, the Gelibolu National Park was under the control of the Ministry of Forestry. But on 20.06.2014, Gelibolu Peninsula Historical Area Presidency was founded, and the Ministry of Culture and Tourism took over the responsibility of Seddülbahir Fortress along with the rest of the Peninsula.

Seddülbahir is a village that thrives on fishing and has a shelter. The fishing shelter is under the control of Ministry of Agriculture and Forestry. And the lighthouses here are under the responsibility of the Ministry of Transportation, Maritime Affairs and Communication. This shelter also acts as the base for the salvage vessels of Coastal Safety in Çanakkale. The directorate keeps different types and scales of vessels scattered along the piers of Dardanelles Strait to intervene any emergency immediately. These vessels are also used on a daily basis to transfer guiding captains to the ships that are bound to pass the Strait from the Aegean into Marmara.

[349] Balıkesir Çanakkale Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ Balıkesir Çanakkale Planning Zone 1/100.000 Scale Environmental Plan (MoEaU, 2014)



*Figure 3.54.* Left, Seddülbahir Fortress, its harbour to the right and lighthouses *(GoogleEarth, 2019)*

In 1915 Seddülbahir was one of the five landing points of enemy troops during WWI. Among these five points Seddülbahir was the most damaged area. SS River Clyde Battle ship was sunken here to provide a temporary breakwater for the landing of British troops. Later, another ship was shelled here by the Ottoman forces. This was the British HMS Goliath. Submarines? Çanakkale Battle was both terrestrial and marine in nature. The battle ships and patrolling submarines in Dardanelles and North Aegean, regular laying of mines along the coasts underwater, the war casualties sunken into the sea have all added to the maritime heritage of this unique area.



*Figure 3.55.* Seddülbahir fortress and village seen from the British SS River Clyde Battle Ship, which was sunken deliberately to create an instant breakwater for the landing at Hellespont, Battle of Gallipoli on 25 April 1915. The vessel in the foreground contains dead soldiers from the other battle ships killed during the landing. *(ImperialWarMuseum, 1915)*

That is why…Underwater tourism, diving… Seddülbahir Project

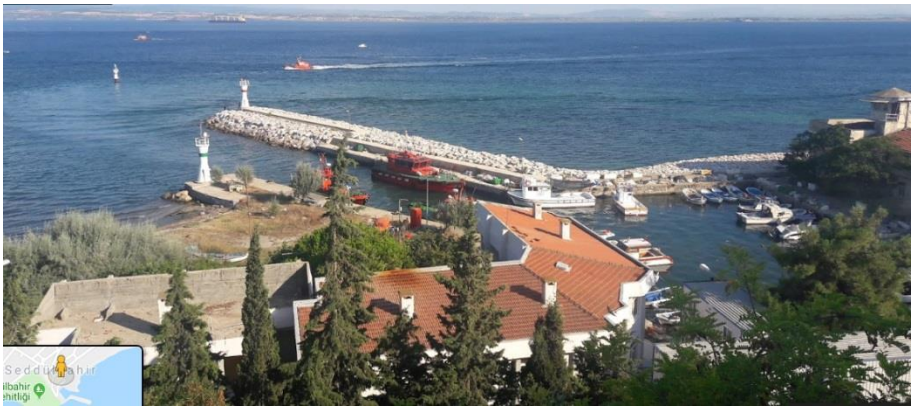


*Figure 3.56.* Seddülbahir Fishing Shelter and its lighthouses on the piers and out in the sea *(GoogleEarth, 2019)*

Seddülbahir Lighthouse was constructed on 15 August 1861, on a white house, as a 10.8 m high pole.[350] In 1913, it was renewed as a 7.2m high steel frame. In 1965 there was another renewal. Today there are two lighthouses on the piers of Seddülbahir Fishing Shelter and two separate lighthouses in front of the piers, in the sea. All of them are 5m high. The pier and sea lighthouses are cast iron assembled pylons. The pier lighthouses had recently been transformed from steel frames to cast iron type. Both the sea and the pier lighthouses are visible as a part of the silhouette set against the dark colored masonry walls of Seddulbahir Fortress and the contemporary structures of the Seddülbahir Fishing Shelter. They act like the marker and the facilitator of a geography whose fate is bound by the sea across time-scales: The sea brings enemies during times of war but creates connections amongst people of the world during times of peace and provides food and shelter.

[350] (Ay, 2000) 1911 List of Lighthouses (Fener Risalesi)



*Figure 3.57.* Seddülbahir lighthouse in the sea, in front of Seddülbahir Fortress and fishing shelter. Sea lighthouses align with the pier lights *(KEGM, Kıyı Emniyeti Genel Müdürlüğü, 2012)*

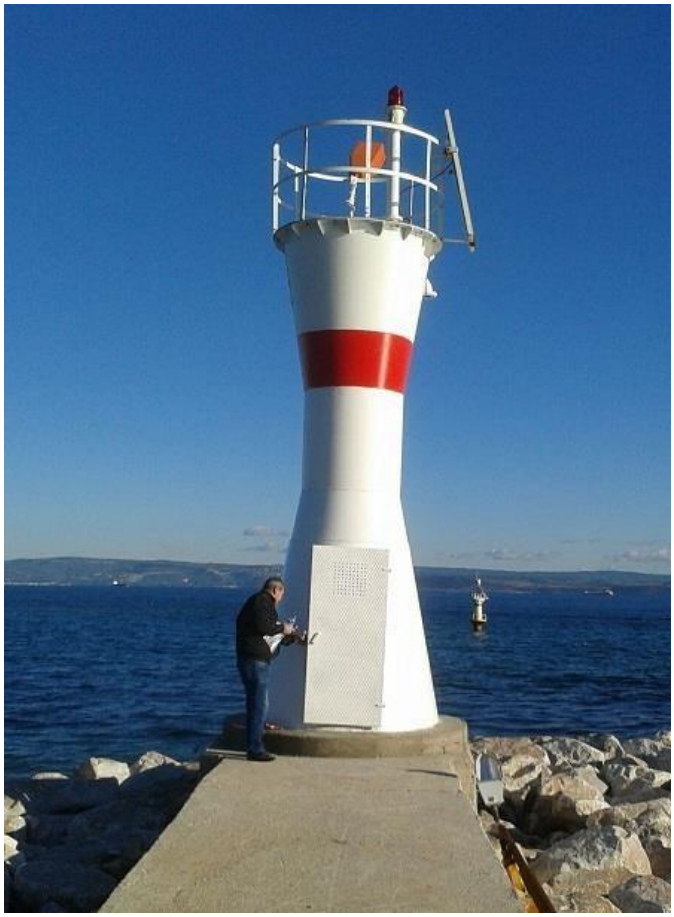


*Figure 3.58.* Seddülbahir lighthouse on the fishing shelter pier, in front of Seddülbahir Fortress. Pier lights align with sea lights (in the background) *(KEGM, Kıyı Emniyeti Genel Müdürlüğü, 2012)*

All lighthouses are structurally in good conditions. But they have material problems as surface corrosion, especially the sea lighthouses.

These lighthouses are controlled and maintained by Kepez Technicians. As their scale is small no light keeper resides here.

The lighthouses bring revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[351]

[351] (KEGM, Seyir Yardımcıları, 2019)

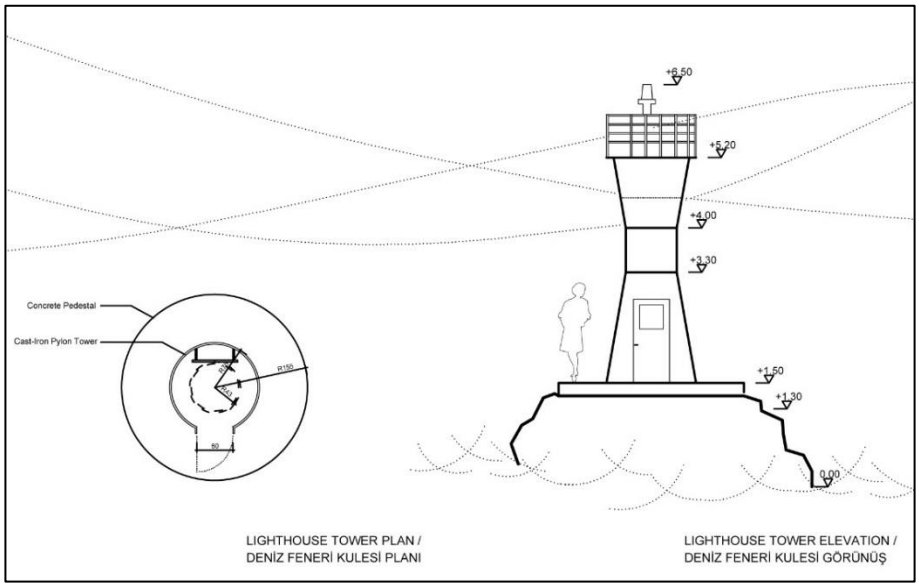



*Figure 3.59.* Plan and elevation of Seddülbahir Pier Lighthouse *(Author, 07.07.2015)*

### 3.2.1.10. Kumkale Cape (Sigeon) Lighthouse

Kumkale Lighthouse stands in front of Kumkale Fortress[352], at the location where Marmara meets the Aegean, on the Anatolian coast. It is situated to the south side of the Dardanelles Strait, facing Mehmetçik/ Hellespont Lighthouse on the European side. Kumkale and Seddülbahir Fortresses form an important defense line at the Aegean mouth of the Dardanelles Strait.

[352] It was built during the reign of Mehmet IV, founded by Valide Hatice Turhan Sultan in 1788. (Tombul, 2015)




*Figure 3.60.* Kumkale Lighthouse and Kumkale Fortress at the intersection of Aegean and Marmara *(GoogleEarth, 2019)*

Legally, Kumkale and environs are within military zone. The hinterland is protected as an urban and historical site, next to the Troy Historical National Park.[353]

Kumkale is located close to ancient Sigeion/ Sigeum where the so-called earliest light structure of the world "the Sigeum Pillar" used to stand around 600 BC.[354] Extending out into the sea, at the intersection of Marmara and Aegean, this location would be ideal to set up a maritime guide light. Sigeon was a prominent ancient city often pronounced with Troy. It served Troy well in peace. But Sigeion was also the harbor where the Achaeans landed the Dardanelles to invade Troy. So, it became a sought-after ancient city for the travelers of the later centuries. Sigeion name had lived together with Kumkale and Troy.[355]

[353] Balıkesir Çanakkale Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ Balıkesir Çanakkale Planning Zone 1/100.000 Scale Environmental Plan (MoEaU, 2014)
[354] (Trethewey, Pharology, 2012)
[355] (Tombul, 2015)




*Figure 3.61.* Kumkale Lighthouse and Fortress are the only structures on this strategically important cape where Aegean meets Marmara *(GoogleEarth, 2019)*

Kumkale was one of the five landing points of the enemy troops during WW1. Thus, it was significant for the military history, too.

Today, Kumkale environs is still reserved for the military and the buffer zone around the fortress is left for nature or used for agricultural purposes.

2018 was declared as the Year of Troy. Within the Troy studies, a cultural route to connect the prominent ancient cities of Çanakkale Anatolian Peninsula and develop a sustainable cultural tourism in rural areas was proposed by the Ministry of Culture.[356] Troy Culture Route is a 120 km trekking and biking route that starts from Troy and passes through Sigeion (Kumkale today), Alexandria Troas (Dalyan today), Apollon Smintheion (Gülpınar today) and ends in Assos (Behramkale today). The route does not have any maritime components in the marine environment.

[356] (Troya2018, 2018)

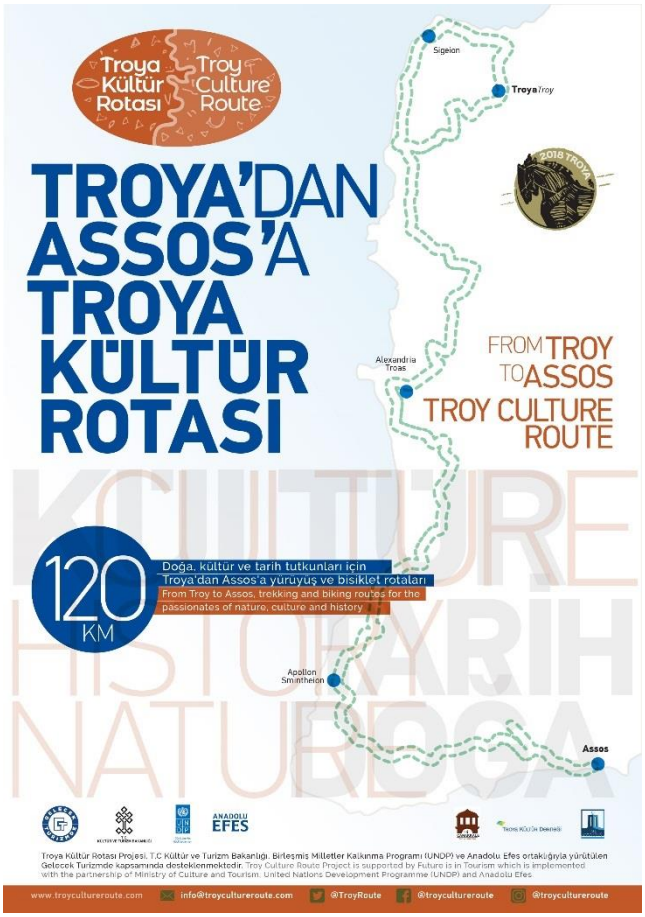



*Figure 3.62*. Troy Culture Route is a 120 km trekking and biking route that starts from Troy and passes through Sigeion (Kumkale today), Alexandria Troas (Dalyan today), Apollon Smintheion (Gülpınar today) and ends in Assos (Behramkale today). *(Troya2018, 2018)*

The lighthouse was built on 15 September 1856 as a metal pole of 8.7m height. In 1913 it was renewed with the same construction.[357] During WWII in 1945 it was renewed again.

Today the lighthouse is situated within the military zone as it is still a very important strategic location and it is not accessible from the land. The light tower is galvanized cast iron assembled pylon on a concrete pedestal. It is 6m high. There are black stripes as distinguishing marks.

[357] (Ay, 2000) 1911 List of Lighthouses (Fener Risalesi)




*Figure 3.63.* Kumkale Lighthouse in front of Kumkale Fortress, at the point where the earliest light structure Sigeum Pillar used to stand around 600 BC. *(KEGM, Kıyı Emniyeti Genel Müdürlüğü, 2012)*

Kumkale Lighthouse is visible from the sea with its white body set against the dark colored Fortress and trees. Though small in scale it is an important mark.

The lighthouse is in good condition without any structural or material problems. A light keeper from Coastal Safety of Çanakkale maintains the lighthouse with regular visits.

The lighthouse brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[358]

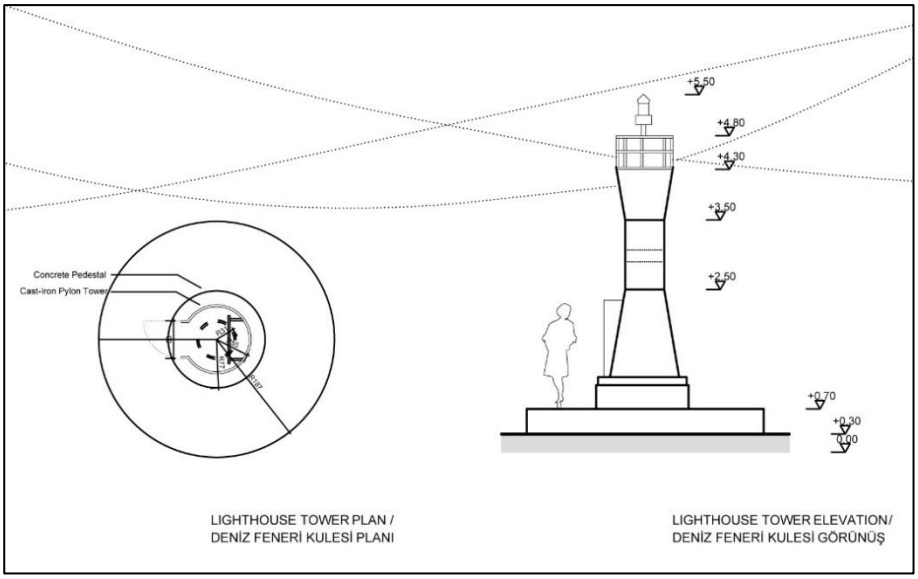



*Figure 3.64.* Plan and elevation of Kumkale Lighthouse *(Author, 07.07.2015)*

### 3.2.1.11. Mehmetçik/ Hellespont Cape Lighthouse

Mehmetçik/ Hellespont Cape/ Hellas Lighthouse is situated on the European coast of Dardanelles, on the westernmost cape where the Aegean meets the Marmara. It is the boundary between Europe and Asia.

[358] (KEGM, Seyir Yardımcıları, 2019)




*Figure 3.65.* Mehmetçik Lighthouse at the intersection of Aegean and Marmara *(GoogleEarth, 2019)*

Legally, Mehmetçik Lighthouse is within the wider boundary of Gelibolu National Park.[359] Locally, the site is protected as a historical site and used as agricultural land. Formerly, the Gelibolu National Park was under the control of the Ministry of Forestry. But on 20.06.2014, Gelibolu Peninsula Historical Area Presidency was founded, and the Ministry of Culture and Tourism took over the responsibility of the National Park.

Mehmetçik/ Hellespont Lighthouse was built in 1856 as a 7m high white stone tower by the French team during the Ottoman reign, as one of the earliest lighthouses in the Dardanelles Strait.[360]

[359] (MoEaU, 2014) Balıkesir Çanakkale Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ Balıkesir Çanakkale Planning Zone 1/100.000 Scale Environmental Plan
[360] (Ay, 2000) 1911 List of Lighthouses (Fener Risalesi)




*Figure 3.66.* Aerial view of Mehmetçik Lighthouse *(GoogleEarth, 2019)*

Mehmetçik Lighthouse in the north entrance of Dardanelles Strait had played an important role during Çanakkale Wars in 1914 and 1915. It was the landing and housing point of enemy troops, particularly for British force on 25.04.1915. It had been used as a weapon depot, a critical encampment to manage attacks and had been damaged finally.




*Figure 3.67.* Wrecked Mehmetçik (Cape Hellas/ Hellespont) Lighthouse during WW1 with the allied troops. *(WW1Photos, 1914)*




*Figure 3.68.* British troops at the ruined Mehmetçik (Cape Helles/ Hellespont) Lighthouse *(Brooks L. P., 25 April 1915)*

The lighthouse was so important that the glass fragments of the lantern left by the shelling of the lighthouse was collected by British soldiers as war souvenirs.[361]



*Figure 3.69.* Fragment of glass from the Mehmetçik (Cape Helles/ Hellespont) lighthouse. Souvenir of Private Robert Clarke (Army Veterinary Corps) from his WWI service in Gallipoli. This fragment was reputedly collected from the ruins of the Lighthouse, landing place of British Brigades on 25 April 1915. *(ImperialWarMuseum, 1915)*

The copper dome of the light room was also preserved as war souvenirs: A piece was turned into a circular ashtray trench art by the hammer of a soldier and the information was stamped on its rim.[362] Several similar bowls and even horseshoes

[361] (ImperialWarMuseum, 1915)
[362] (Chrystall, 1915)

were crafted with the reclaimed copper and each of the pieces had stamped inscriptions to denote the significance.[363]




*Figure 3.70.* A circular copper trench art ashtray made from the shelled copper dome of Mehmetçik Lighthouse. It is stamped all around the rim and inside the bowl. The centre of the bowl is hand engraved with the Prince of Wales symbols inscribed ICH DIEN, below this 'R.N.D.' is stamped and above is a name 'H.M. CHRYSTALL'. The stamped inscriptions around the rim are 'PIECE OF DOME OF LIGHTHOUSE ON HELLES POINT GALLIPOLI DESTROYED BY SHELL FIRE', 'H.M.S. PRINCE OF WALES', ' EASTER SUNDAY', 'H.M.S. LONDON', 'DARDANELLES', 'TROOPS LANDED 25.4.15'. *(Chrystall, 1915)*

Though several buildings were destroyed during the attacks, only the copper from the Hellespont Lighthouse was significant for the soldiers and it was used to produce trench art. The lighthouse stood as the symbol of many layers: the point where Europe and Asia met, the point where the "West" defeated the "East" and latest

[363] (TrenchArt, 1915)

technology. Capturing a piece from the conquered structure meant possessing a valuable war booty.[364]




*Figure 3.71.* Trench art war souvenirs made with the copper pieces of the shelled Cape Helles Lighthouse dome in 1915 *(TrenchArt, 1915)*

During the early years of the Turkish Republic, the reconstruction of Hellespont/ Cape Helles Lighthouse started. Mehmetçik Lighthouse was completed in 1926 in its current location. It was repaired in 1946.[365]

[364] Other trench art materials were retrieved from the aluminium propellers of aeroplanes and downed zeppelins, apart from the shell casings. (TrenchArt, 1915)
[365] (Ay, 2000)

The lighthouse and its buildings are registered as cultural heritage.[366] It is the 3rd tallest lighthouse in Turkey, with its 25m high light tower. The location, the height and the history make this lighthouse significant.



*Figure 3.72.* Mehmetçik/ Hellespont Lighthouse, at the end of the Gelibolu National Park, where Marmara meets the Aegean *(KEGM, Kıyı Emniyeti Genel Müdürlüğü, 2012)*.

With its significance, Mehmetçik Lighthouse was immortalized on memorial coins in 2015. This way, the lighthouse creates revenue as a commodity. And its recognition is enhanced as a maritime cultural heritage. As a navigational aid, the lighthouse brings major revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[367]

[366] (KEGM, 2012)
[367] (KEGM, Seyir Yardımcıları, 2019)




*Figure 3.73.* Silver memorial coin of Mehmetçik Lighthouse minted in 2015 by Turkish Mint *(Darphane, 2015)*

Mehmetçik Lighthouse is maintained regularly but no light keeper resides here. On the day of our site visit the lighthouse was empty. There is a small information panel at the entrance gate of the lot. The orientation within the Gelibolu National Park to access Mehmetçik Lighthouse is very poor. An earth path leads into the premises. The lighthouse is an important landmark defining the coastal silhouette at the meeting point of Europe and Asia. But it is also the destination of a long visitor path within the Gelibolu National Park. The lighthouse acts like a culmination of the story told by the battle fields. However, today this important link is not presented at all. The building lot is enclosed with wire. The whole lighthouse seems to be isolated from the rest of the peninsula.



*Figure 3.74.* Mehmetçik Lighthouse at night (KEGM, Kıyı Emniyeti Genel Müdürlüğü, 2012)

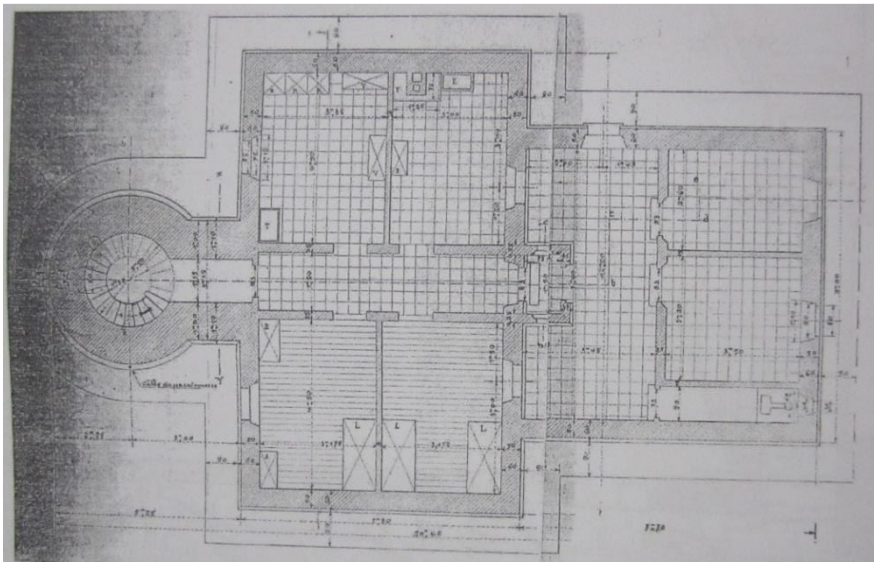


*Figure 3.75.* Original plan of the Hellespont Lighthouse by the French administration. *(Ay, 2000)*



*Figure 3.76.* Mehmetçik/ Hellespont Lighthouse. *(Author, 07.07.2015)*

The lighthouse has a T shaped plan where the entrance is through the courtyard. On one side of the courtyard are service spaces. The toilet, bathroom and an additional service room are situated here. The other side is reserved for the living quarters which give access to the light tower on the sea side. There are four identical spaces, one of them being the kitchen, located on two sides of a corridor. One end of the corridor opens to the courtyard whereas the other end leads to the light tower door. All of the spaces, including the courtyard is finished with carro di ciment tiles, except the two rooms lined with timber flooring. The kitchen has a built-in oven and a well.

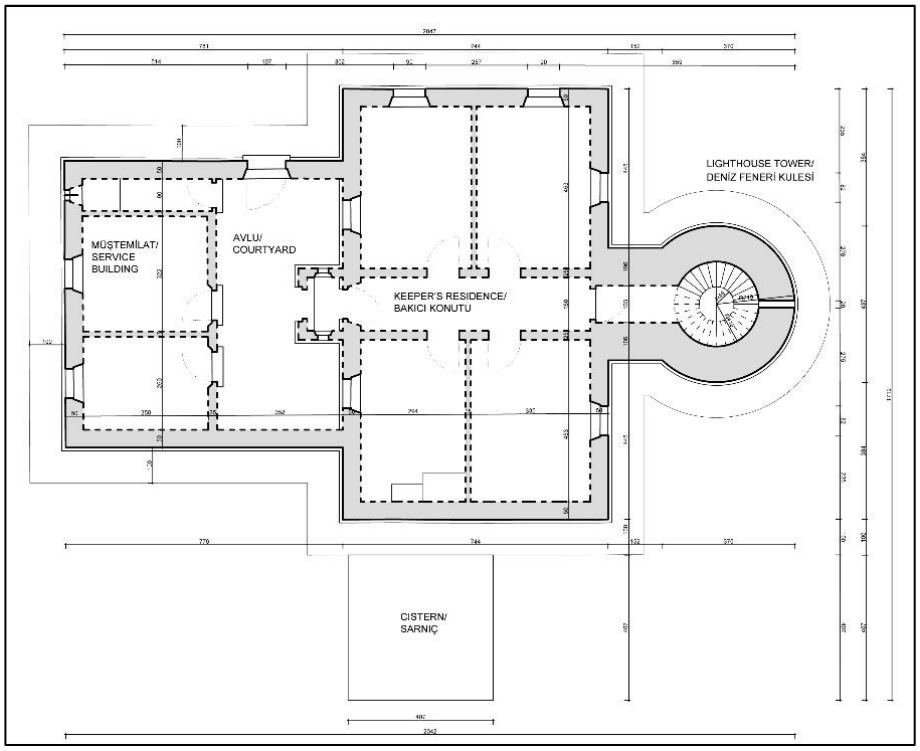



*Figure 3.77.* Plan of Mehmetçik Lighthouse surveyed from the exterior *(Author, 2015)*

There is a cistern and a shallow depot adjacent to the northwest facade of the lighthouse, in the garden. A stone/ screed platform surrounds the structures. The exterior of the lighthouse is finished with plaster and white paint. The keeper's residence is finished with roof tiles. The dome of the light tower is copper. All of the lighthouses in our study have paratoners as being hit by lightning is very common for these vertical structures.

The buildings are in good condition with no structural or material problems.

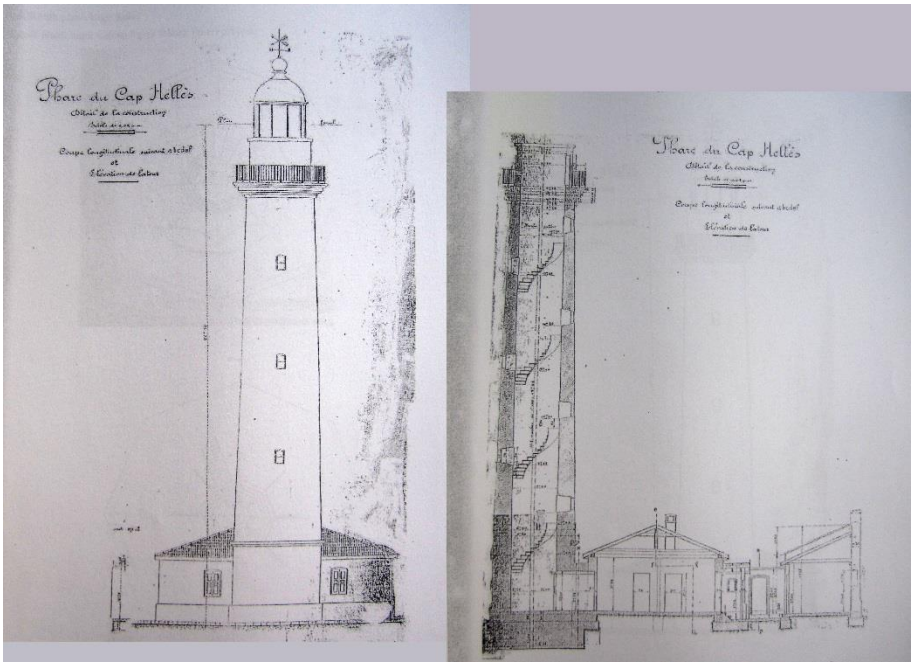



*Figure 3.78.* Original façade, left, and section, right, drawings of Cape Helles Lighthouse by the French administration. *(Ay, 2000)*

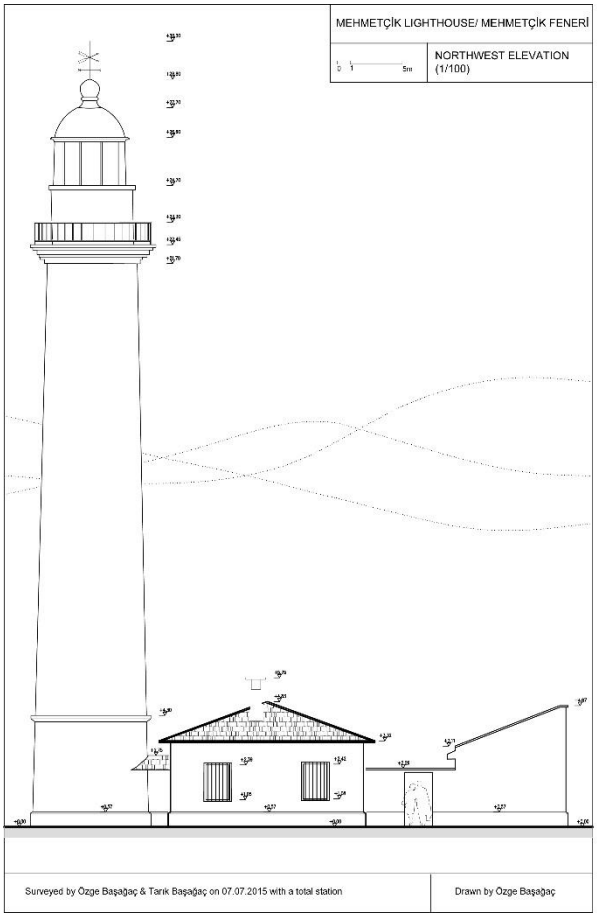



*Figure 3.79.* Northwest elevation of Mehmetçik/ Hellespont Lighthouse *(Author, 2015)*



*Figure 3.80.* Mehmetçik/ Hellespont Lighthouse from the land direction. *(Author, 07.07.2015)*

### 3.2.1.12. Aydıncık Cape/ İmroz/ Kefalos Lighthouse

Aydıncık Cape is the eastern boundary of Aydıncık/ Kefalos Bay and the easternmost point of Gökçeada/ Imbros. Thus, it is the closest location to Turkish mainland from Gökçeada. The lighthouse is situated at the seaward tip of the cape. It is not accessible from the sea. And there is no road on land. The terrestrial access goes through sand dunes and sand quarries for more than 2 kilometers.

Legally, Aydıncık Cape is within 1st degree natural site and defined as agricultural land.[368]

[368] Balıkesir Çanakkale Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ Balıkesir Çanakkale Planning Zone 1/100.000 Scale Environmental Plan (MoEaU, 2014)




*Figure 3.81.* Aydıncık Cape Lighthouse on the easternmost tip of Gökçeada, facing Mehmetçik/ Hellespont Lighthouse *(GoogleEarth, 2019)*

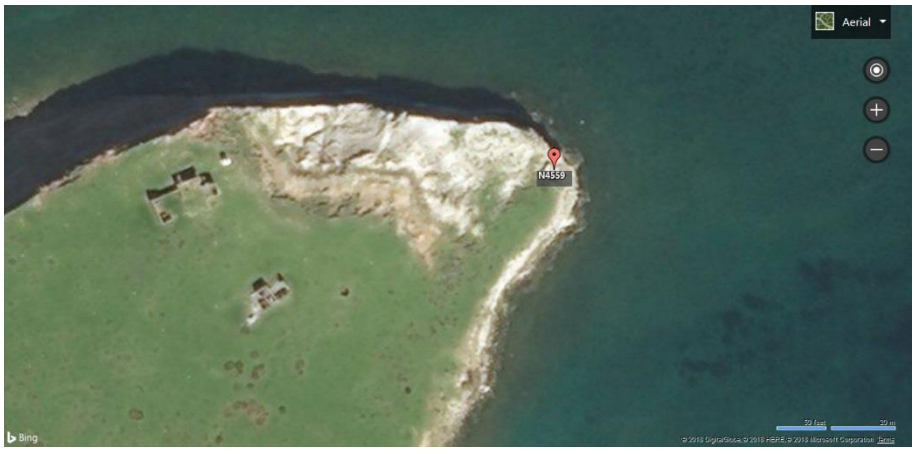



*Figure 3.82.* Aerial view of Aydıncık/ Kefalos Lighthouse: light tower, keeper's residence and service building *(BingMaps, 2014)*

Aydıncık Cape/ Kefalos Lighthouse is an important landmark that defines the coastall silhouette of Gökçeada. It is the only man-made element on a barren rocky

hill. The light keeper's residence and the service building seem like an extension of the rocky terrain with the local stone masonry walls whereas the short, white light tower stands against the dark colored structures and the terrain.

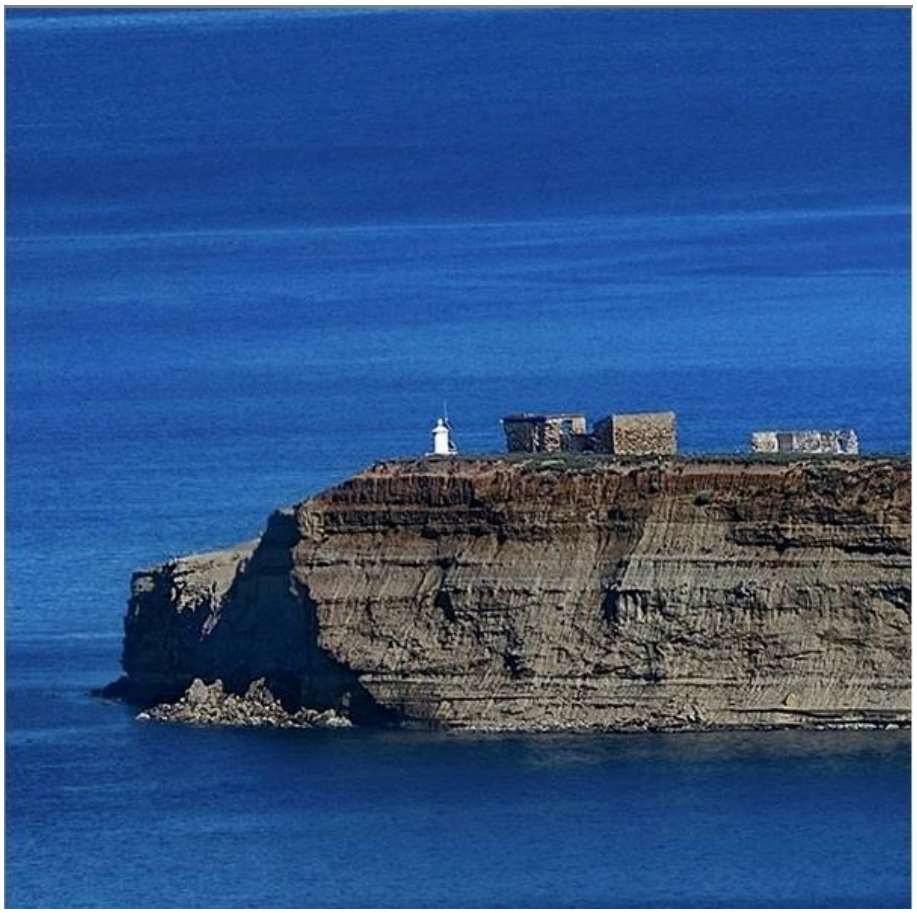


*Figure 3.83.* Aydıncık/ Kefalos Cape Lighthouse seen from the seaside. The white structure is the light tower, the middle is the light keeper's residence and the other is the service building. *(Imvros.Island, 2018)*

Today, Kephalos Bay serves as the international base for sea sports as water kites, wind surfing, surfing with its constant wind. The visitors are usually from Balkan countries as Bulgaria, Romania, Slovenia. The area is also known by divers

with its clear water and natural life. Gökçeada is home to the only underwater marine park of Turkey.[369]

During WW1, in 1915-1916, Kephalos/ Aydıncık Bay in Imbros/ Gökçeada was used as the base and aerodrome for the British fleet. The attacks on Gelibolu were supported from the base in Gökçeada. To provide a breakwater for the small landing vessels, a big battleship was sunk at the mouth of the Kephalos Bay. Today, the ship is still wrecked underwater, but the masts are visible jutting out into the air.




*Figure 3.84.* Aerial view of Kephalos Bay at 3000 feet from a battle aeroplane during WW1, 1915. The Kephalos Cape and the lighthouse is in the top right. *(Brooks E. L., 1915)*

[369] (Gökçeada Marine Underwater Park, 2014)

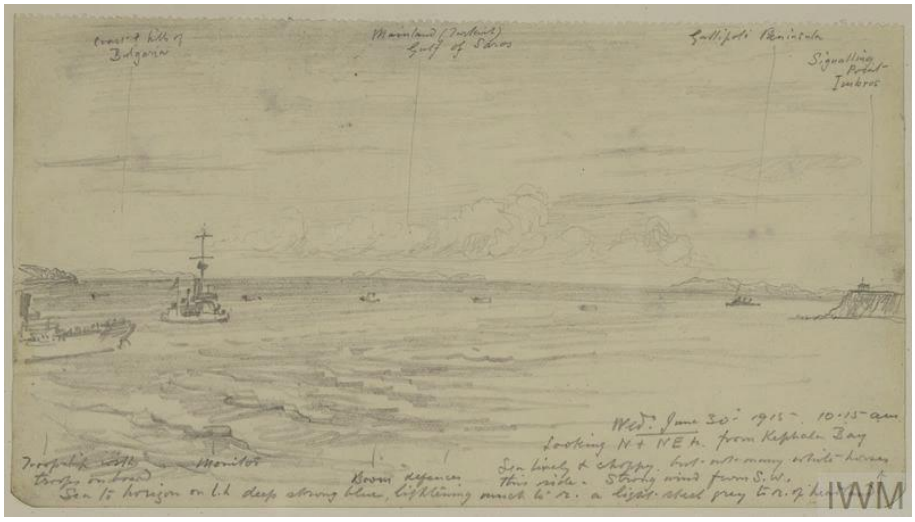



*Figure 3.85.* Kephalos Bay during WW1 on June 30, 1915 showing the Aydıncık/ Kephalos Lighthouse on the cape as "Signalling Point Imbros", on the right of the drawing. *(Hillier, 1915)*

Aydıncık Cape/ Kephalos Lighthouse was built in 1890 as a red-white metal light pole attached on top of the keeper's residence. In time the light was moved out and put in front of the keeper's residence. It was repaired in 1935.



*Figure 3.86.* Looking towards Aydıncık Cape/ Kefalos Lighthouse *(Ermin & Tankuter, 2003)*

Today, the light station is composed of an active light tower operating as an aid to navigation, an empty light keeper's residence and an obsolete service building.

As a navigational aid, the lighthouse brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[370] The lighthouse is maintained by Kepez technicians.

[370] (KEGM, Seyir Yardımcıları, 2019)



*Figure 3.87.* Looking towards the light tower from the interior of light keeper's residence *(Aşkın, 2018)*



*Figure 3.88.* Inside the light keeper's residence *(Karataş, 2014)*



*Figure 3.89.* Light tower of Aydıncık Lighthouse *(KEGM, Kıyı Emniyeti Genel Müdürlüğü, 2012)*

Aydıncık Cape/ Kephalos Lighthouse has a T shaped plan which is similar to Karakova Lighthouse (1858). The entrance to the lighthouse is through a courtyard. Service spaces are lined on one side and the living quarters rest on the other with the original light tower. All rooms have at least one window overlooking the sea. Additional openings are provided on the other directions, too.

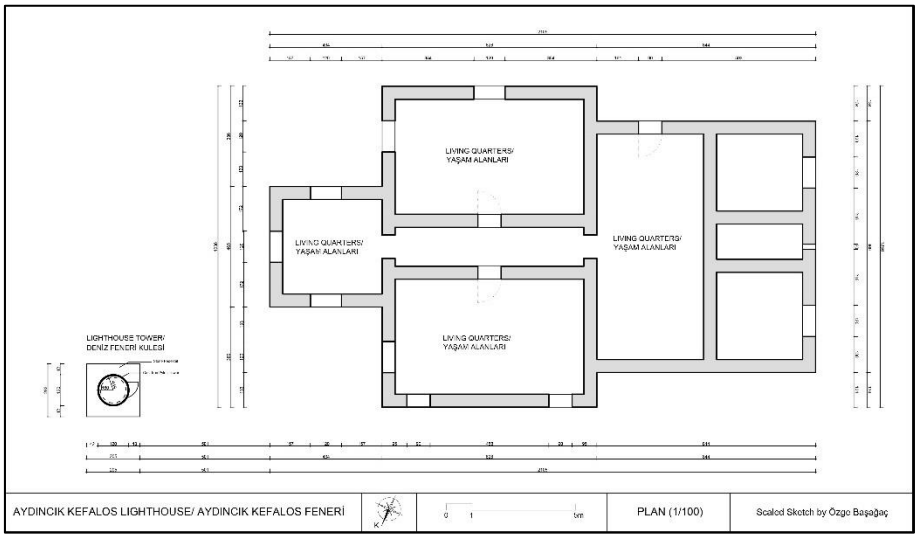



*Figure 3.90.* Sketch Plan of Aydıncık/ Kefalos Cape Lighthouse *(Author, 2015)*

The roof of the buildings had collapsed but the full height of the stone masonry walls until the brick eave line is visible at some points. The southeast wall and the corner of the living quarters had totally collapsed. The plan can be understood in aerial pictures. The slope of the roof of the service spaces can be observed.

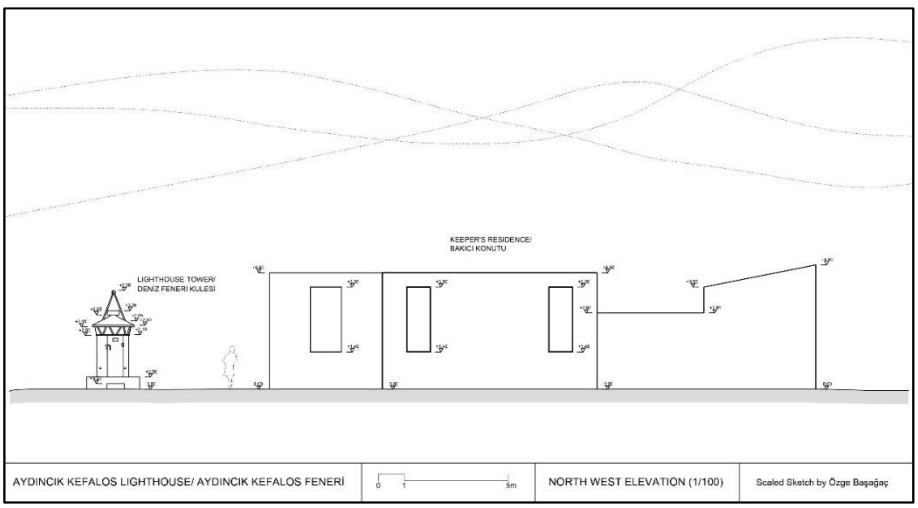



*Figure 3.91.* Scaled sketch of the Northwest elevation of Aydıncık/ Kefalos Cape Lighthouse *(Author, 2015)*

### 3.2.1.13. Tavşan/ Mavra/ Mavriya Island Lighthouse

The lighthouse is situated on top of the Tavşan/ Mavra/ Mavriya Island, to the north of Bozcaada, across Yeniköy fishing shelter on mainland to the east. It is an important mark towards the southern entrance of Dardanelles Strait before Kumkale. It is well known by the locals of Bozcaada, especially the fishermen. Local touristic marine tours also involve Tavşan Island as an attraction seen from afar, 1 hour away from Bozcaada main pier.

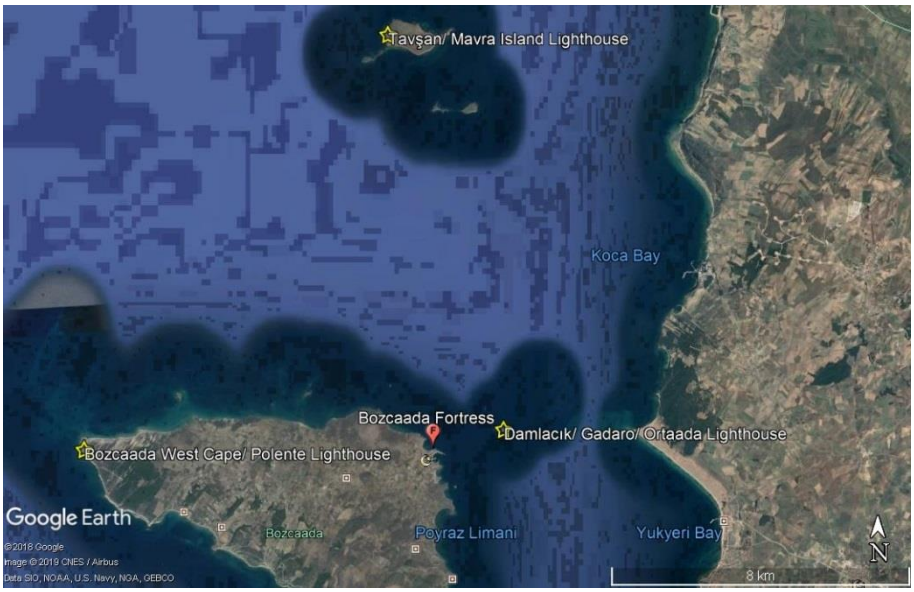



*Figure 3.92.* Bozcaada, Tavşan/ Mavra Island, Damlacık Islet and the lighthouses *(GoogleEarth, 2019)*

The lighthouse buildings are the only structures on the island. And the coastal/ marine silhouette is defined by the outline of the island, with the light station marking the peak. As the island or the lighthouse is not inhabited, it has turned into a cultural landscape: an island full of rabbits with a deserted lighthouse station.




*Figure 3.93.* Tavşan Island and its only structure: The Lighthouse *(GoogleEarth, 2019)*

The island is privately owned and currently on sale. It is marketed to prospective buyers by the potential to build wind turbines here as the measured prevailing winds are quite strong year-round. Bozcaada and Geyikli across Bozcaada on mainland have a lot of wind power stations. So, the legal planning and infrastructure building are already in favor of the energy investments.



*Figure 3.94.* Tavşan Island and its only structure, the lighthouse *(Author, 09.07.2015)*

As a navigational aid, the lighthouse brings major revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[371]




*Figure 3.95.* Tavşan Island Lighthouse *(Author, 09.07.2015)*

[371] (KEGM, Seyir Yardımcıları, 2019)

There is a conical, buttressed light tower, a rectangular prismatic light keeper's residence and a cylindirical fuel depot/ auxiliary building. The original buildings are all constructed with reinforced concrete. Currently, the actual light tower is not used. A steel frame light structure is erected next to the original keeper's residence. The light is controlled remotely, operating on solar energy. The windows of the keeper's residence are closed and plastered. The roof of the residence had collapsed. The buildings are covered with graffitis.

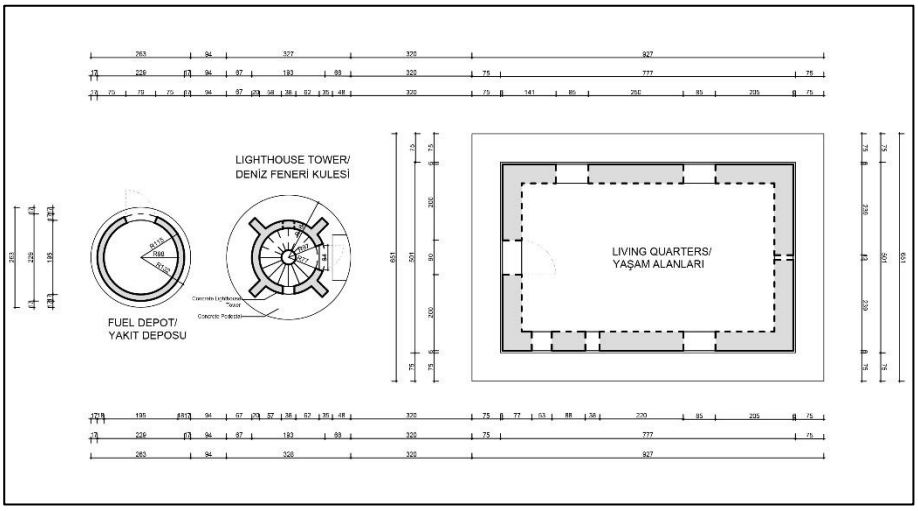



*Figure 3.96.* Plan of Tavşan Island Lighthouse, surveyed *(Author, 09.07.2015)*

The keeper's residence bears the date 1936 over its entrance door. There is no record about the Tavşan Island Lighthouse in the 1911 List of Lighthouses. As a Turkish Republican Era Lighthouse, Tavşan Island is significant being a testimony to the early technical and economical achievements of the country.

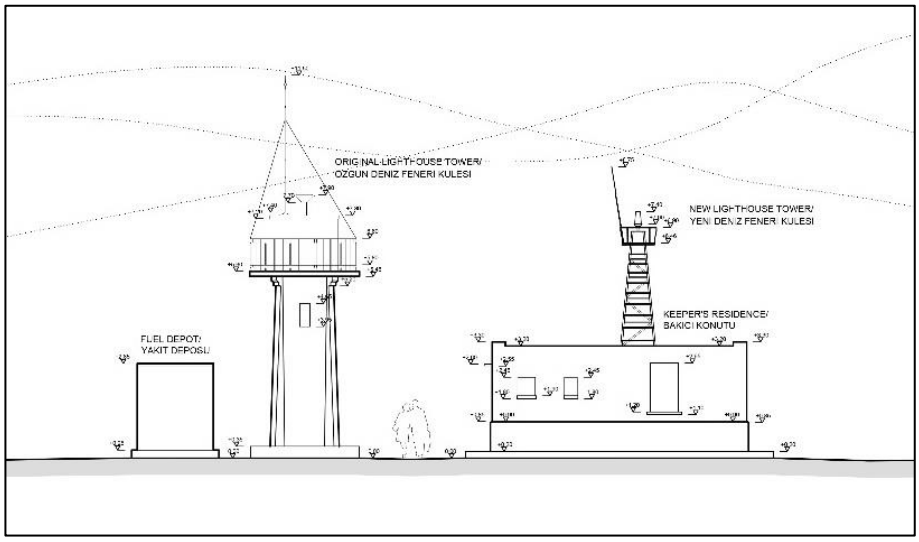



*Figure 3.97.* Southwest elevation of Tavşan Island Lighthouse, surveyed *(Author, 09.07.2015)*

Murat Eroğlu of Çanakkale Coastal Safety Directorate, a local from Bozcaada, is the light keeper of 6 lighthouses in and around Bozcaada for more than 15 years.[372]

### 3.2.1.14. Bozcaada West Cape/ Polente Lighthouse

The Polente Lighthouse is situated on the westernmost cape of Bozcaada overlooking a beach. It is situated among wind power turbines where visits are not allowed. It is not accessible from the vehicle road but only after a long walk on the beach. The lighthouse along with the wind turbines form the coastal silhouette on the western part of Bozcaada. Many yachts moor off the shores of Polente. It is a favourite spot among the national and international amateur mariners.

Legally, West Cape is protected within a 1st degree natural site and reserved for agricultural use.[373]

[372] Author interviewed the light keeper in July 2015.
[373] Balıkesir Çanakkale Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ Balıkesir Çanakkale Planning Zone 1/100.000 Scale Environmental Plan (MoEaU, 2014)




*Figure 3.98.* Bozcaada island, islets and lighthouses *(GoogleEarth, 2019)*

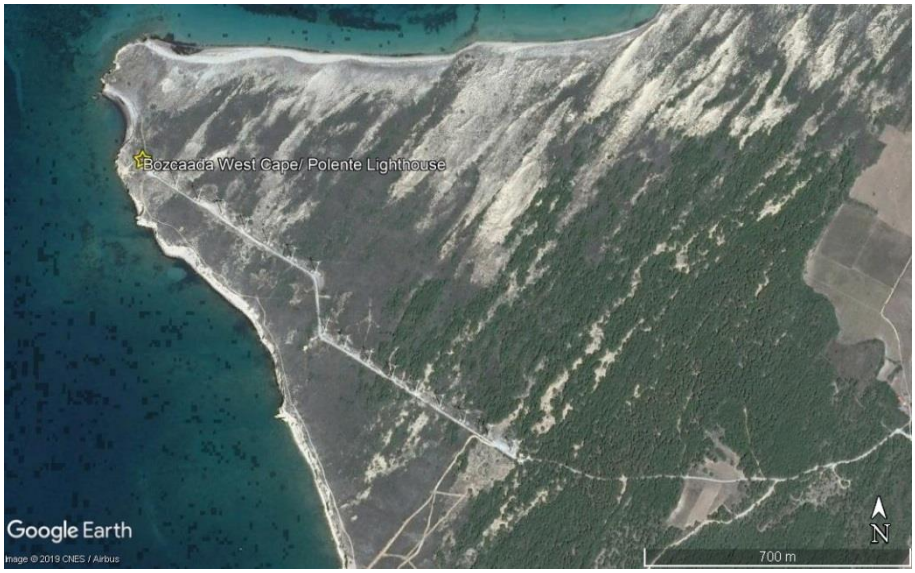



*Figure 3.99.* Polente Lighthouse and the wind turbines that line up its road *(GoogleEarth, 2019)*




*Figure 3.100.* The labels on the entrance gate state the land is a lighthouse area, private property and it is forbidden to enter. They also warn about the windpower station that covers and dwarfs the area of Polente Lighthouse. *(Author, 08.07.2015)*

The lighthouse was built as a white masonry tower with keeper's residence in 1861. In 1907 and 1945 it was repaired.[374]

[374] (Ay, 2000)



*Figure 3.101.* Polente Lighthouse before restoration in 2008 *(Toroslu, 2008)*

Rumour has it that the Achaean navy had hidden behind Tenedos in Polente from the eyes of Troy before the Trojan War. During WWI the same area was used by British forces as a base camp and aerodrome to plan attacks on Dardanelles.[375] The coast of Polente is home to several wrecks from different periods 1915, 1999, 2003.

[375] (Sönmez, 2010)



*Figure 3.102.* Polente Lighthouse before restoration in 2008, seen from the beach *(Toroslu, 2008)*

The light tower and keeper's residence are registered as cultural heritage.[376] The lighthouse had been leased and restored in recent years to serve as a vineyard house by a private wine company based in Bozcaada.

The plan of keeper's residence of Polente Lighthouse has the same layout and dimensions with Kepez Lighthouse, as a T shaped plan. But Polente has a stone tower as opposed to Kepez with an iron tower.

[376] (KEGM, 2012)



*Figure 3.103.* Bozcaada West Cape/ Polente Lighthouse after restoration *(KEGM, Kıyı Emniyeti Genel Müdürlüğü, 2012)*



*Figure 3.104.* Bozcaada West Cape/ Polente Lighthouse after restoration *(KEGM, Kıyı Emniyeti Genel Müdürlüğü, 2012)*

The light tower is 20m high with stone masonry. As a newly restored building there are no structural or material problems.

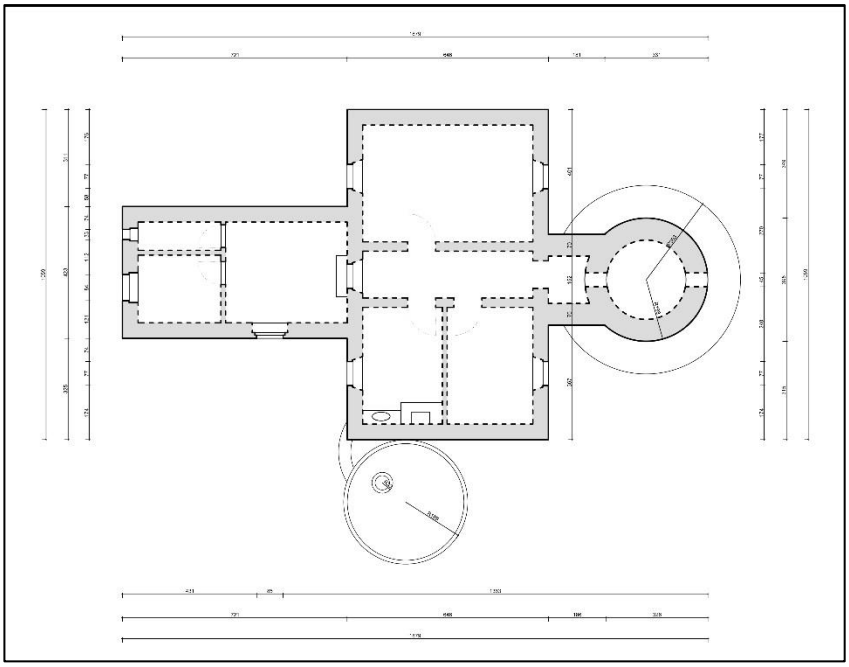


*Figure 3.105.* Sketch plan of West Cape/ Polente Lighthouse in its original condition, after Reyhan Ay *(Author, 2015)*

In the original plan the building entrance is through a courtyard, with service spaces on one side and living quarters and kitchen on the other. With the restoration, the courtyard is closed and have become the entrance hall/ kitchen. The larger service space had become the dining area linked with the kitchen, with the toilet in the corner. The southern wall of the corridor had been demolished to include the space within the new living area. The single room on the other side of the corridor had been transformed into a bedroom with an inbuilt bathroom. The access to the light tower from inside is closed. Instead, a door is provided on the exterior surface of the neck leading to the light tower. The access to the light tower is provided with a separate gate on the garden wall.

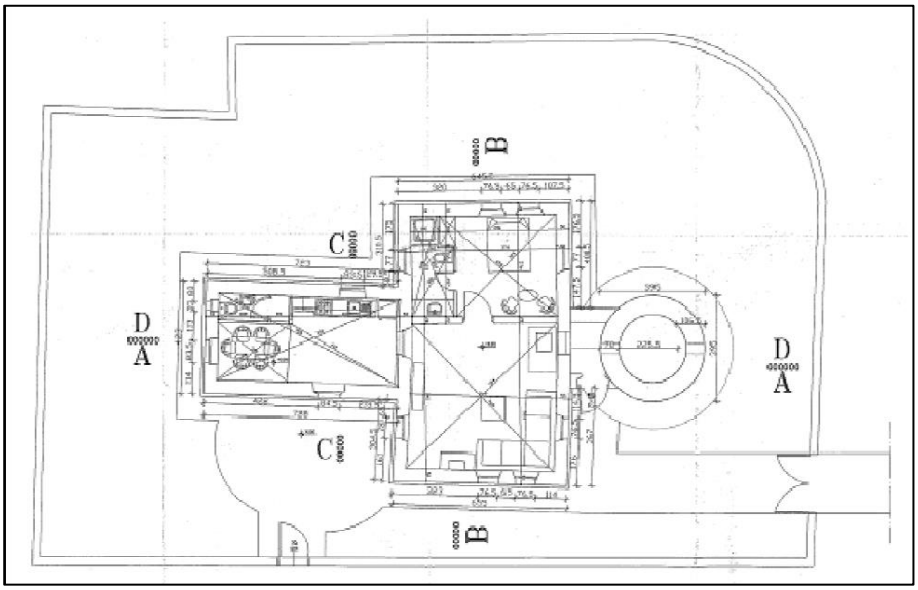



*Figure 3.106.* Restored plan of West Cape/ Polente Lighthouse *(Ay, 2000)*

In order to survive on a remote island, the lighthouse is equipped with a cistern originally. This is not preserved in the new scheme although rain water harvest is still relevant for a sustainable living. The light tower operates on solar energy. The residence operates with the electricity gained through wind power.

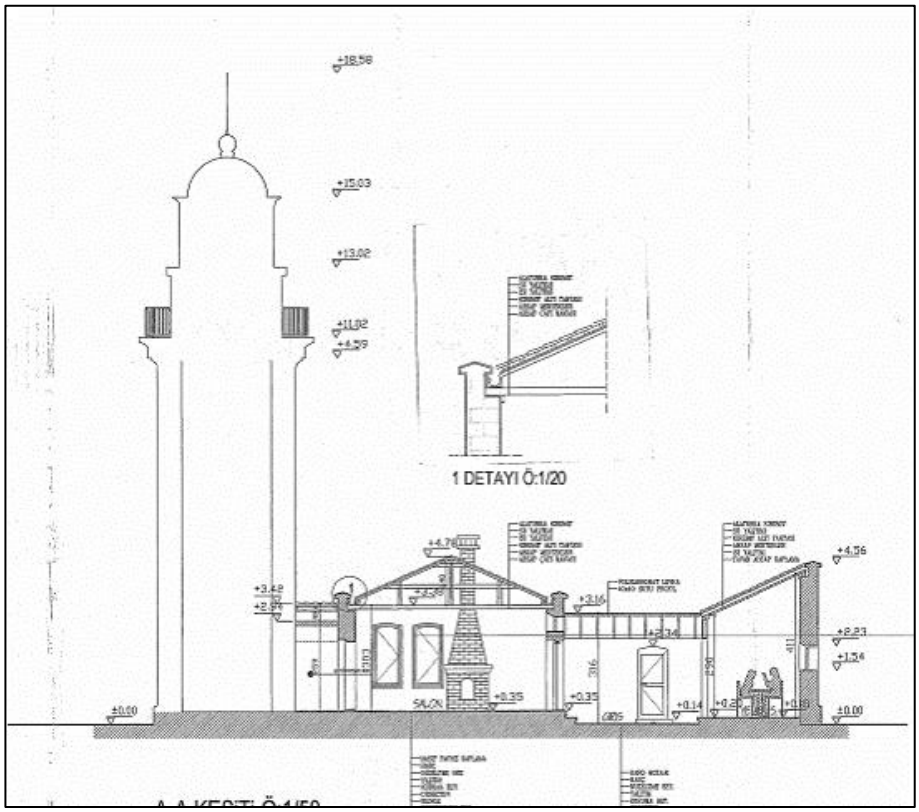



*Figure 3.107.* Section of restored Polente Lighthouse *(Ay, 2000)*

As a navigational aid, the light tower brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[377] The leasing of the keeper's residence creates additional revenue. And the biggest sum of revenue is generated by the building lot of the lighthouse used as a wind power station.

### 3.2.1.15. Damlacık/ Gadaro/ Ortaada Lighthouse

The lighthouse is located on Damlacık/ Gadaro/ Ortaada Island, situated midway between mainland and Bozcaada. The current light structure is away from the light keeper's residence, situated on the rock crops.

[377] (KEGM, Seyir Yardımcıları, 2019)

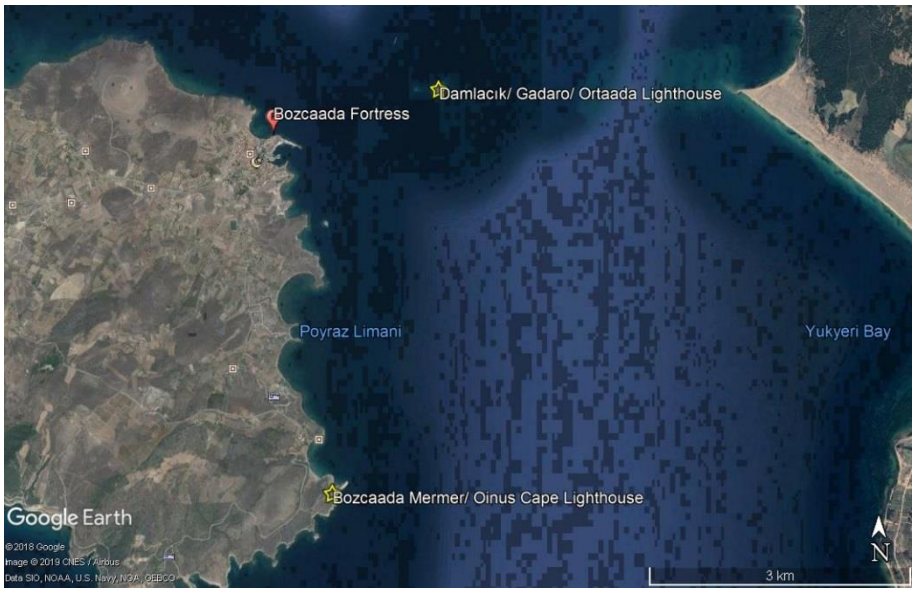



*Figure 3.108.* Damlacık/ Gadaro/ Ortaada Island is midway between mainland and Bozcaada *(GoogleEarth, 2019)*

The lighthouse is the only structure on the small island. There is no pier, only rocks to access the island.

The island and the structures are visible on the ferry route from Geyikli main land quay to Bozcaada Fortress quay or on touristic marine tours around the northern parts of Bozcaada.

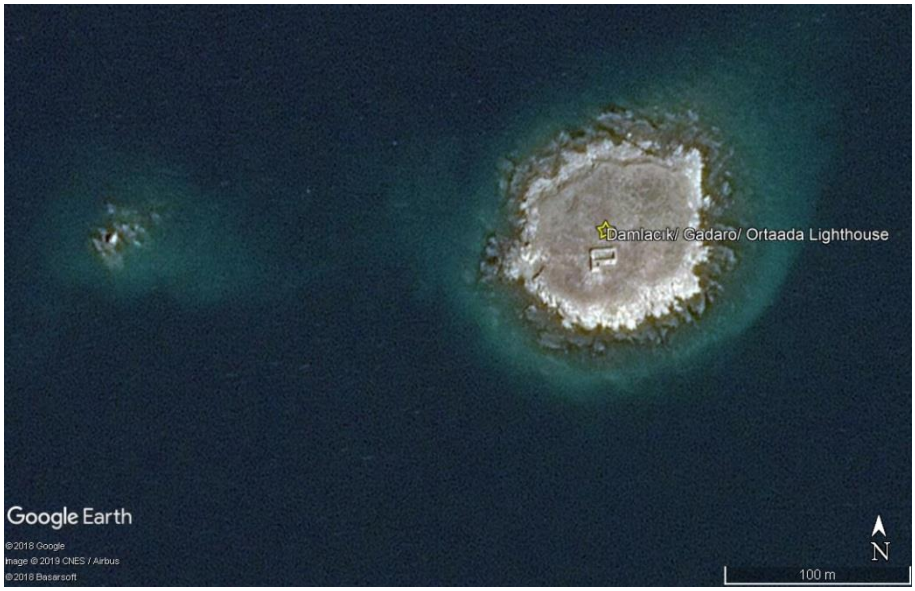



*Figure 3.109.* Aerial view of Damlacık/ Gadaro Island Lighthouse and its light tower on the rock crops to the west of the islet *(GoogleEarth, 2019)*

Noone lives inside the lighthouse today. It is a T shaped structure. The light structure operates on solar energy.



*Figure 3.110.* Damlacık/ Gadaro Lighthouse and its lightkeeper's residence *(Author, 09.07.2015)*

Damlacık/ Gadaro/ Eşekadası Lighthouse was built in 1861 as a white tower of 8.7m height on the islet.[378] But the rock spits in the sea were a big threat for the vessels as they were not recognizable. So, in 1936 the light tower was moved away to this spot. Captain Halil Yakar worked for the construction of the concrete/ stone foundation at that time.[379] The lighthouse was repaired in 1965.



*Figure 3.111.* Damlacık/ Gadaro Lighthouse and its lightkeeper's residence *(Author, 09.07.2015)*

The original Damlacık Lighthouse on the island is stone masonry with brick trims and arches for the openings. The roof had collapsed long ago. But the full height of the walls until the brick eaves are preserved at most parts. Thus, it is possible to understand the general layout of the light station.

[378] (Ay, 2000)
[379] (Sönmez, 2010) Captain Yakar was a fisherman, boatman and the only transporter between the main land and Bozcaada in the early years of the Republic. With this mission he helped the birth of two babies on board, thus also had to bear the responsibility of a doctor.

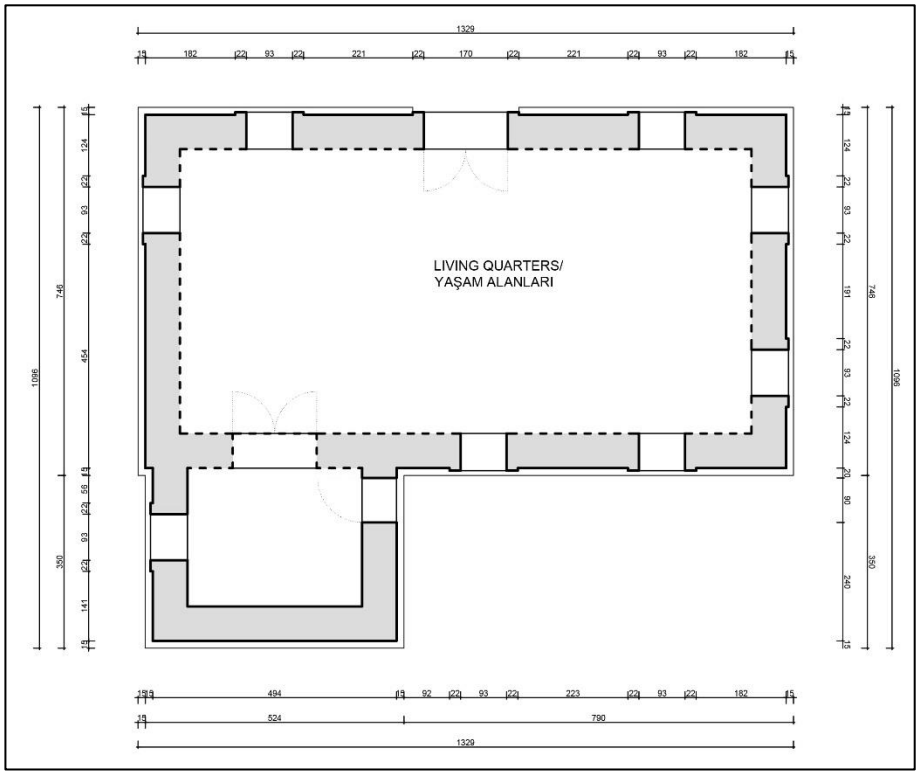



*Figure 3.112.* Sketch plan of Damlacık/ Gadaro Island Lighthouse *(Author, 09.07.2015)*

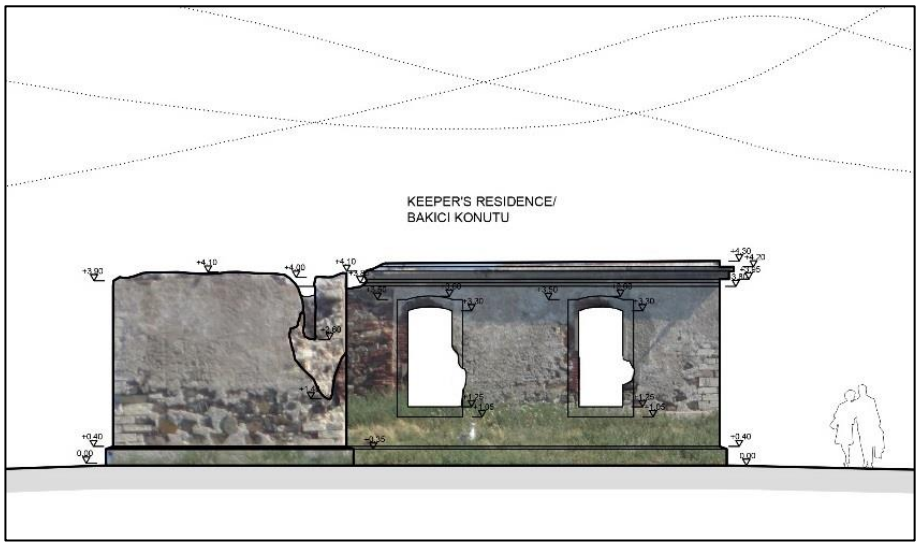



*Figure 3.113.* Sketch elevation of Damlacık/ Gadaro Island Lighthouse *(Author, 09.07.2015)*

The light tower on the rock spits today has a stone foundation/ pedestal, topped with concrete. On top of this high pedestal, there is a 3m high cast-iron cylindirical light tower. The light tower is accessed by a vertical ladder. The total height of the light from the sea level is 8m.



*Figure 3.114*. Damlacık (Ortaada) Lighthouse- the current light tower near Damlacık, on a rock crop extending from the island *(Author, 09.07.2015)*

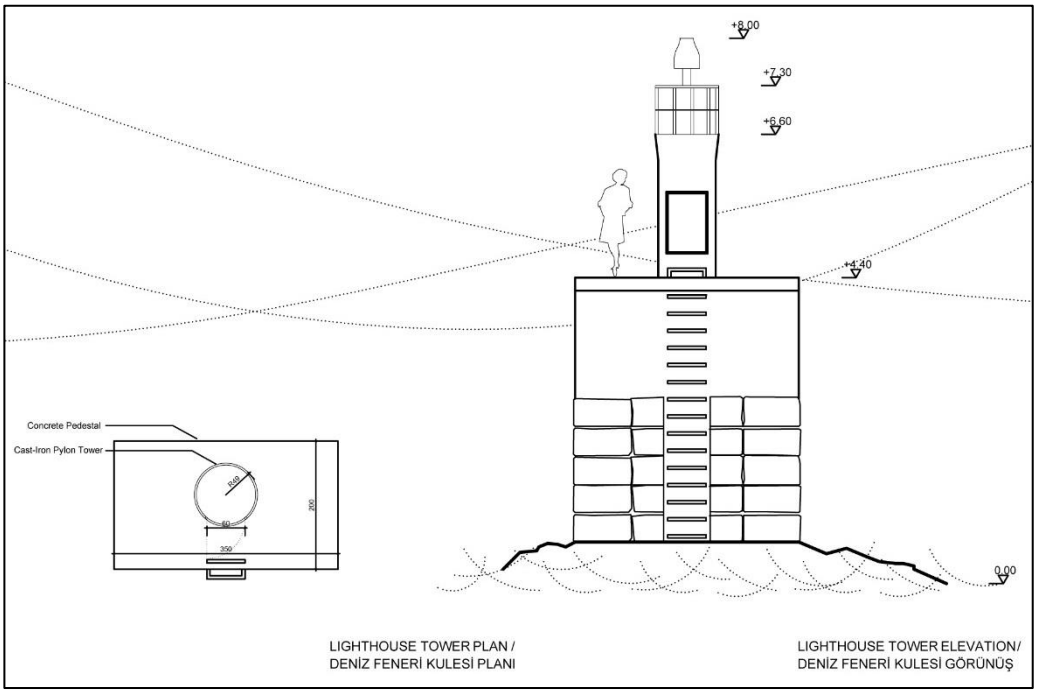



*Figure 3.115.* Sketch plan and elevation of Damlacık Light Tower on rock spits *(Author, 08.07.2015)*

As a navigational aid, the light tower brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[380]

### 3.2.1.16. Bozcaada Mermer/ Oinus Cape Lighthouse

Mermer Cape Lighthouse is on the easternmost part of Bozcaada. It is easy to access with a vehicle road and a short walk.

Legally, Mermer Cape is protected within a 1st degree natural site and used for daily tourism.[381]

[380] (KEGM, Seyir Yardımcıları, 2019)
[381] Balıkesir Çanakkale Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ Balıkesir Çanakkale Planning Zone 1/100.000 Scale Environmental Plan (MoEaU, 2014)




*Figure 3.116.* Mermer Cape Lighthouse on the easternmost tip of Bozcaada *(GoogleEarth, 2019)*

Mermer Cape Lighthouse was built in 1861 and repaired in 1945. Until recently, a 7m high, conical buttressed, concrete lighthouse stood here, built in 1961.[382] The location and the lighthouse had always been scenic for the visitors. Thus, it was frequently photographed.

[382] (Toroslu, 2008)



*Figure 3.117.* Former concrete lighthouse of Mermer/ Oinus Cape *(Toroslu, 2008)*

However, the Coastal Safety preferred to demolish the concrete lighthouse instead of repairing or maintaining it. Today, Mermer Cape Lighthouse is constructed of cast iron with solar panels on its balcony. The lighthouse is white with black stripes as distinguishing marks in brand new condition.



*Figure 3.118.* Recently constructed cast iron Mermer Cape Lighthouse *(Author, 08.07.2015)*

As a navigational aid, the light tower brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[383]

[383] (KEGM, Seyir Yardımcıları, 2019)

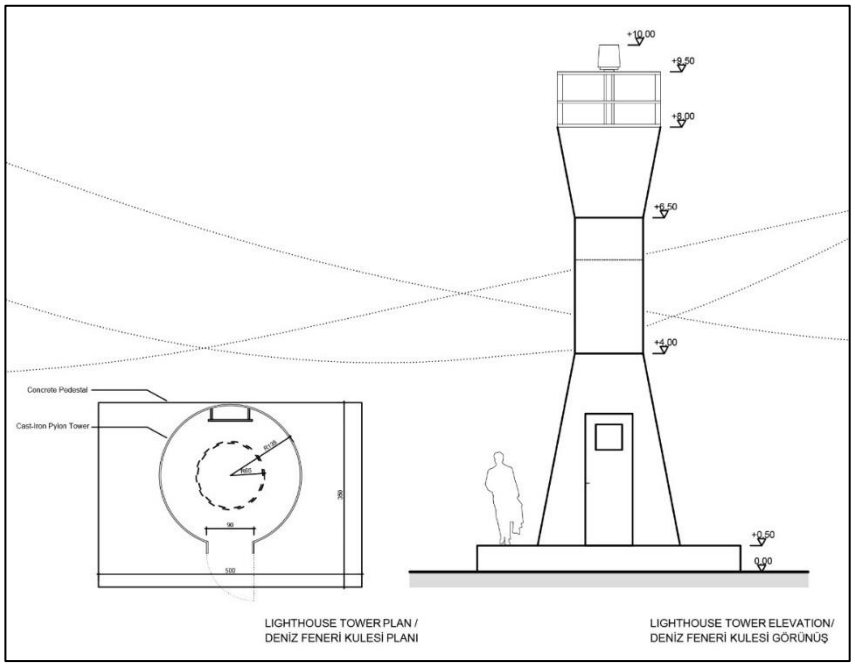



*Figure 3.119.* Plan and elevation of Mermer Cape Lighthouse *(Author, 08.07.2015)*

### 3.2.1.17. Baba Cape/ Babakale Light Structure

Babakale fortress was built during the reign of Sultan Ahmed III in 1729 by Captain Kaymak Mustafa Pasha to guard against pirates.[384] It was the last fortress to be built by the Ottoman State. A village supports the fortress here.

Baba Cape (Baba Burnu) is the westernmost point of the Anatolian mainland, which makes it also the extreme western tip of the Asian continent. The lighthouse also marks the north side of the entrance to the strait between Turkey and the Greek island of Lesvos. The light structure is located atop the fortress at the point of the cape in Babakale.[385]

[384] (Tombul, 2015) The original name is Hıfz'ül-Bahr meaning shelter of the sea.
[385] (LighthousesRus, 2018)




*Figure 3.120.* Aerial view of Babakale and the light structure on the north tower. The pier is located to the south. *(GoogleEarth, 2019)*

Baba Cape Lighthouse on Babakale Fortress is surrounded by several tombs of Ottoman mariners. It is very close to a historical cemetery and Tomb of Emek Yemez Baba/ Latif Baba/ Oruç Baba to the north.[386] Piri Reis in 16th century narrates that the tomb and namazgah of Emek Yemez Baba is situated on this cape and every mariner that passes by this cape throws ship biscuit into the sea in his memory.[387]

Legally, Babaköy is a rural settlement area and the coastal strip is reserved for agriculture. But the hinterland is forestry.[388]

The light structure had been constructed in 1937.[389]

[386] Author site visit on 06.07.2015.
[387] (Tombul, 2015)
[388] (MoEaU, 2014)
[389] (Toroslu, 2008)



*Figure 3.121.* Baba Cape Lighthouse on Babakale Fortress, north tower as seen from the sea *(KocaPiriReisResearchShip, 2014, April 04)*

As a navigational aid, the light tower brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[390]

[390] (KEGM, Seyir Yardımcıları, 2019)



*Figure 3.122.* Baba Cape Lighthouse on Babakale Fortress, north tower facing the tombs of Ottoman mariners *(Author, 06.07.2015)*

Today, the lighthouse is a 10m high steel frame structure, rising 32m above sea level. It sits on a masonry/ concrete pedestal set on top of the Babakale Fortress. It does not have any structural problems. But there are slight material problems as corrosion on the steel frame.



*Figure 3.123. Baba Cape Light Structure on Babakale (Author, 06.07.2015)*

Due to its proximity to Lesvos, Babakale had been the subject of a lot of trespassing for refugees from Turkish into Greek waters in the last 8 years. Several incidents had been reported and one had been witnessed by the author on 06.07.2015.



*Figure 3.124.* Dozens of refugees trying to trespass to Mytilini had been caught by Coastal Guard and brought back to Babakale Pier to be deported. *(Author, 06.07.2015)*

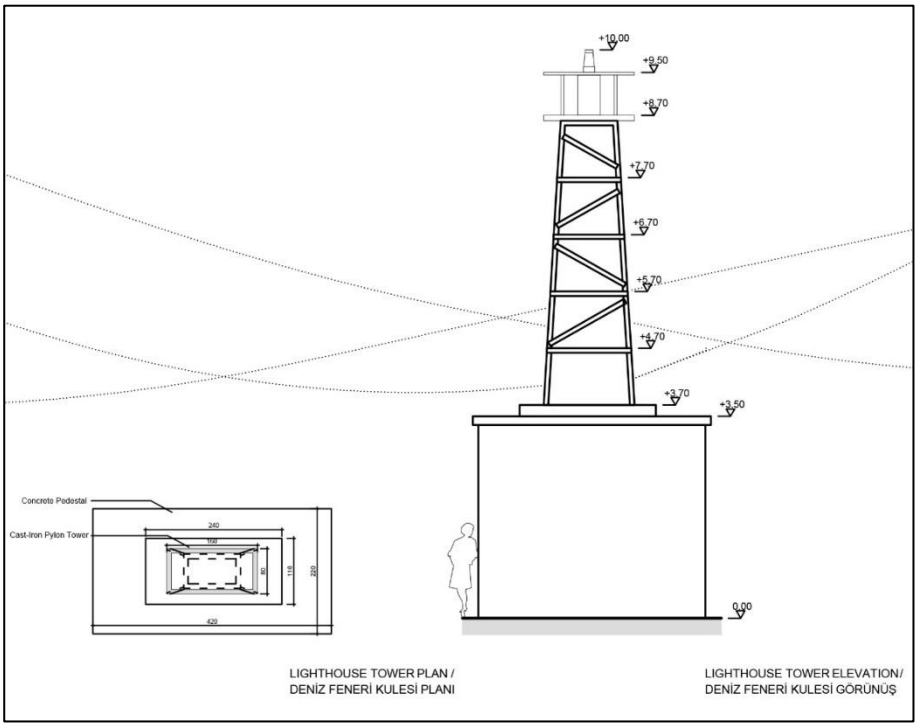



*Figure 3.125.* Plan and elevation of Babakale Light Structure *(Author, 06.07.2015)*

### 3.2.1.18. Sivrice Lighthouse

Sivrice Lighthouse guides the ships along the narrow 8km wide Müsellim Pass between Anatolia and northern Mytilini, Island of Greece.[391] It is located on a prominent cape about 15 km east of Babakale in Aydıncık, Çanakkale. Right in the middle of the Müsellim Pass, 4 km away from Greek and Turkish shores, there is a rock crop that extends 10cm below the surface of the sea while the surrounding areas are 700m deep. This rock crop named as Müsellim or Skamya Stone can never be recognized in gloomy weater. That is why the environs is full of ancient and modern shipwrecks here.[392] The territorial waters in the Aegean is 6km. Where the distance is less than 12km, this drops down to half of the total distance. As Müsellim Stone is right in the middle, it is questionable to which country it belongs to. Thus, a much-needed lighthouse could never have been built here. Sivrice Lighthouse bears a critical responsibility for the mariners in this dangerous pass.




[391] (TaussMarine, 2018)
[392] (Öniz, Temel Sualtı Arkeolojisi, 2009)

*Figure 3.126.* Aerial view of Sivrice Lighthouse, radar tower behind it and Koyunevi Fishing Shelter, left *(GoogleEarth, 2019)*

The lighthouse is a few kilometers away from the scarcely populated village of Bektaş. The surrounding plots on the coast are empty as the land is rocky and not fit for agriculture. Instead, Koyunevi Fishing Shelter 500m away from the lighthouse provides the main source of income for the nearby inhabitants. There is a radar tower right behind the lighthouse.

Legally, the cape is reserved for agricultural purposes in the environmental plan.[393]

Sivrice is very close to Assos/ Behramkale. The light of the lighthouse is visible from the Temple of Assos. Thus, the lighthouse draws visitors, too.



*Figure 3.127.* Sivrice Lighthouse as seen from the sea *(KocaPiriReisResearchShip, 2014, April 04)*

[393] (MoEaU, 2014) Balıkesir Çanakkale Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ Balıkesir Çanakkale Planning Zone 1/100.000 Scale Environmental Plan

Sivrice Lighthouse was constructed as a pole on a white light keeper's residence in 1863. In 1945, the lighthouse was still in its original state.



*Figure 3.128.* Sivrice Lighthouse in 1945, from Celalettin Uysal Archive *(Sayman, Ağustos 2009)*

The original plan was arranged as a rectangular prism with the spaces creating separate blocks with the light tower inside. The entrance was provided through a courtyard which had service spaces on one side. On the other side was a modest living/ sleeping quarter and another space on the sea side end. In 1945 a separate, concrete, buttressed conical light tower was constructed.



*Figure 3.129.* Sivrice Lighthouse in 1945, from Celalettin Uysal Archive *(Sayman, Ağustos 2009)*



*Figure 3.130.* Sivrice Lighthouse Keeper's Residence in 2008, before restoration *(Sayman, Ağustos 2009)*



*Figure 3.131.* Sivrice Lighthouse Keeper's Residence in 2009, before restoration *(Sayman, Ağustos 2009)*



*Figure 3.132.* Sivrice Lighthouse Keeper's Residence in 2009, before restoration *(Sayman, Ağustos 2009)*

The Sivrice Lighthouse was leased for 10 years between 2008-2018 and turned into a research library. Academic and informal meetings are held here, mostly outside in the garden and occasionally inside. One of the lessee is a law professor whereas the other is an antique dealer.

With the restoration the courtyard was closed and turned into a room.[394] The sea room became the library. The exterior plaster and paint were renewed. The openings were kept the same with original iron shutters.

[394] The survey was carried out on the exterior as the lessee was not there on the day of the site visit.

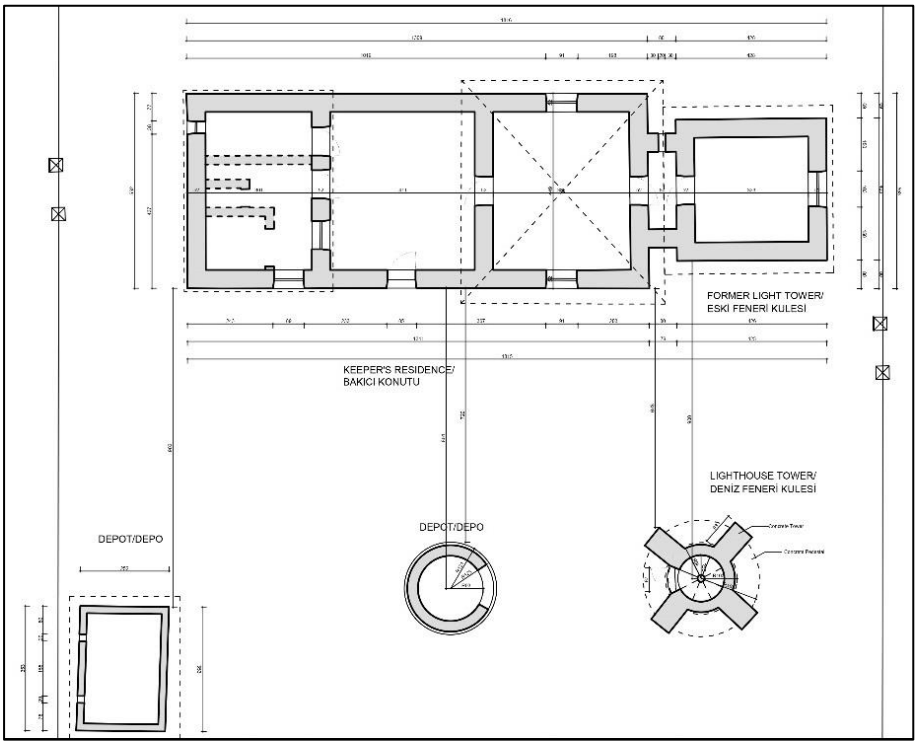



*Figure 3.133.* Plan of Sivrice Lighthouse *(Author, 06.07.2015)*



*Figure 3.134.* Sivrice Lighthouse today *(Author, 06.07.2015)*



*Figure 3.135.*Interior of Sivrice Lighthouse, the library *(Sayman, Ağustos 2009)*



*Figure 3.136.* The staircase of Sivrice Light Tower *(Sayman, Ağustos 2009)*

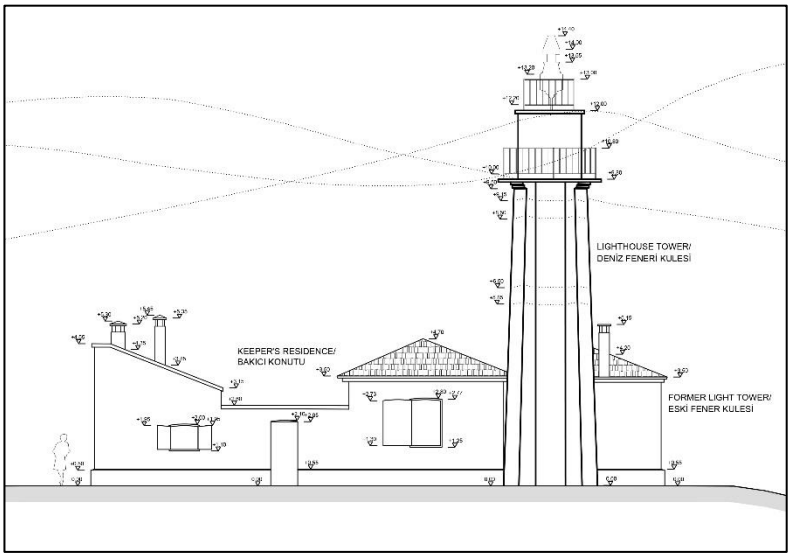



*Figure 3.137.* Sivrice Lighthouse Elevation *(Author, 06.07.2019)*

Today, Sivrice Lighthouse is in good condition with minor material problems.

As a navigational aid, the light tower brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[395] The leasing of the keeper's residence creates additional revenue.

### 3.2.2. Balıkesir

Balıkesir is a city which has shores on the Marmara and the Aegean. In our study we focus on the Aegean coast. Thus, there are 3 Balıkesir lighthouses in this study; (1) Edremit Karaburun Lighthouse, (2) Güneş/ Elyas Island Lighthouse, (3) Çıplak/ Gaymino Island Fener Cape Lighthouse.

[395] (KEGM, Seyir Yardımcıları, 2019)

### 3.2.2.1. Edremit Karaburun Lighthouse

Karaburun Lighthouse is situated at the tip of the cape, on the beach, midway between Akçay and Altınoluk, 15 km to the west of the city center of Edremit. It marks the north entrance of Edremit Bay. The coast is named as Lighthouse Beach by the locals. The area is populated with secondary housing/ summer houses and presents a dense urban tissue.

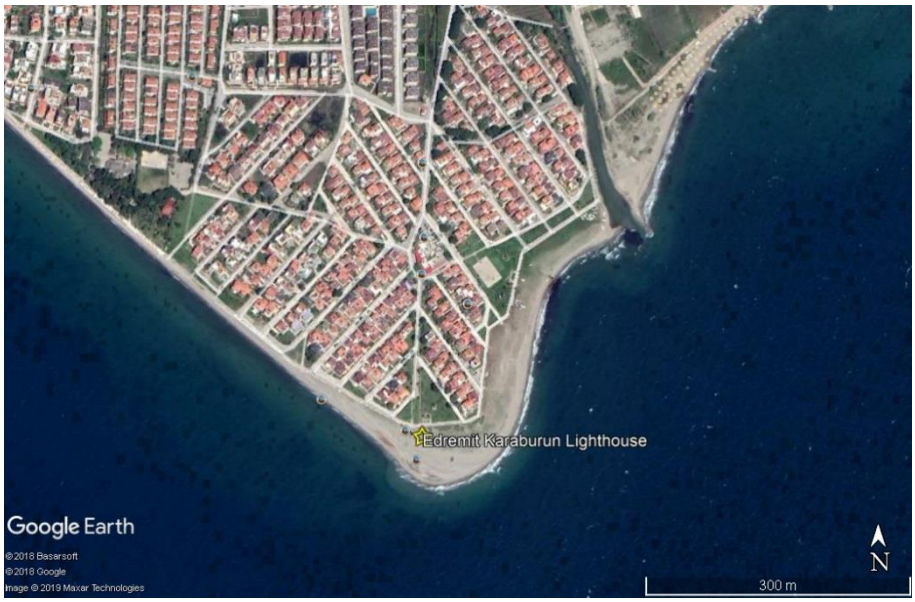



*Figure 3.138.* Edremit Karaburun Lighthouse on the beach, in a highly populated urban neighbourhood *(GoogleEarth, 2019)*

Especially during summer, the lighthouse has a lot of visitors due to the beach, the frequently maintained promenade and coastal parks that direct people to this location. Karaburun Lighthouse is well known by the locals and acts as a landmark/ symbol in the area, opening unto the scenic Edremit Bay.

Edremit, is the beginning and crossing point of many ancient routes, terrestrial and maritime in nature. Adramyteion, ancient Edremit, and Antandros remains are near as well as other ancient cities and the Kaz/ İda mountains. Continously settled since the Hellenistic Period, Edremit had become the harbor of Karesi Principality during the Medieval Period. Ottoman arsenals were located here, recruiting former pirates among the locals, transforming them into head captains of the Ottoman navy. Recently, the cultural route "Aeneas" is being prepared to be nominated as a certified Council of Europe route. The archaeological Aeneas route starts at Edremit.[396] The lighthouse is a continuation of the maritime heritage of Edremit.

Legally, the Edremit Karaburun lighthouse is within urban settlement area. But the nearby coastal strip is defined as tourism zone.[397]

The lighthouse was donated in 1950 by engineer Ali Senar of Denizcilik İşletmeleri, who loved the area very much. The first lighthouse was on the tip of a cape jutting 50m into the sea on the same level. In time, the cape was taken over by the sea. So, the lighthouse was moved back unto land.[398]

[396] (MunicipalityOfEdremit, 2019)
[397] Balıkesir Çanakkale Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ Balıkesir Çanakkale Planning Zone 1/100.000 Scale Environmental Plan (MoEaU, 2014)
[398] (Sönmez, 2010)



*Figure 3.139.* Looking towards Edremit Karaburun Lighthouse on the beach *(Akyazı, 2018)*

It is a cylindirical, concrete lighthouse, 11m high with 1.5m diameter. It is not inhabited. In 2010, the light keeper was Mehmet Mersin from Avcılar village, born in 1950.[399] Today, the light is controlled centrally and monitored by the Coastal Safety Directorate of İzmir. Ayvalık lightkeeper Hasan Basri Yaman, a local of Cunda Island, maintains the Balıkesir Lighthouses along the Aegean coast.

The lighthouse is well maintained and in good condition.

[399] (Sönmez, 2010)



*Figure 3.140*. Edremit Karaburun Lighthouse *(Gür Y. , 2018)*

As a navigational aid, the light tower brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[400]

[400] (KEGM, Seyir Yardımcıları, 2019)

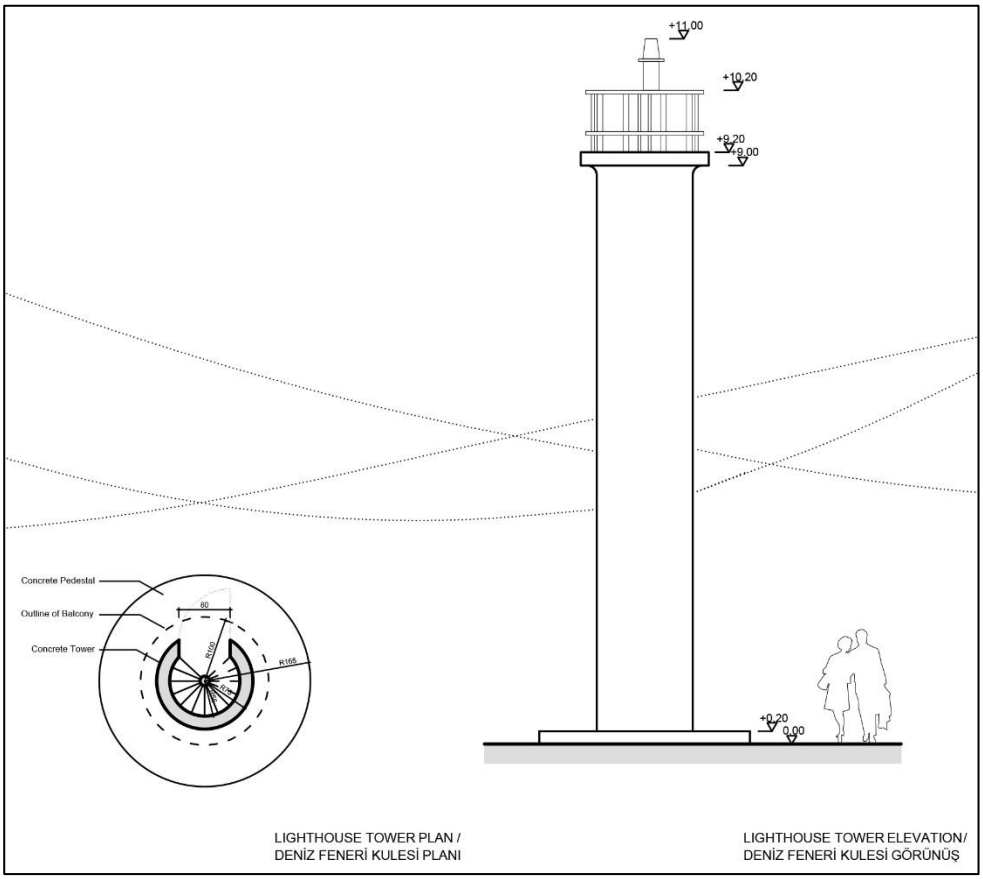



*Figure 3.141.* Plan and elvation of Edremit Karaburun Lighthouse *(Author, 2015)*

### 3.2.2.2. Güneş/ Elyas Island Lighthouse

The lighthouse is situated on top of Güneş Island at the northern entrance to the Mytilene Strait separating Turkey from Lesvos. It is located about 13 km west of Ayvalik, very close to Cunda/ Alibey Island and 10 km east of the Korakas lighthouse on Lesvos.[401] The entrance of Ayvalık Bay is full of dangers for mariners where there is shallow waters and rock crops. Especially the entrance to Cunda Island, mouth of the Ayvalık Bay, has a very narrow corridor available for vessels to navigate. Güneş

[401] (LighthousesRus, 2018)

and Çıplak Island Lighthouses along with Cunda directional lights play a critical role in this region.




*Figure 3.142.* Güneş/ Elyas, Çıplak/ Gaymino and Cunda/ Alibey Islands of Ayvalık, Balıkesir and the lighthouses *(GoogleEarth, 2019)*

The surrounding of Güneş/ Elyas Island is favoured by divers and swimmers for its natural beauty. The coves around Cunda, Güneş Island and other islets here provide shelter from heavy winds, thus, the area is preferred by amateur sailors, too.

Güneş Island is a 1st degree natural site within the wider boundary of Ayvalık Islands Nature Park.[402] The island is totally owned by the General Directorate of Coastal Safety.

[402] Balıkesir Çanakkale Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ Balıkesir Çanakkale Planning Zone 1/100.000 Scale Environmental Plan (MoEaU, 2014)

Cunda, Ayvalık and the islands have several types of cultural heritage from different periods. Thousands of tourists come here both for sun-sea tourism and also cultural tourism.

As a navigational aid, the light tower brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[403]




*Figure 3.143.* Güneş/ Elyas Island and the Lighthouse on the highest hill *(GoogleEarth, 2019)*

The lighthouse is the only man-made structure on the Güneş Island, at the peak. Its white body is barely visible among the maquis covering the island. Access to the island is only through rock spits in the shallow waters, there is no pier.

[403] (KEGM, Seyir Yardımcıları, 2019)



*Figure 3.144.* Güneş Island and its Lighthouse on top, rocks as the only access to the island at the bottom *(Author, 16.11.2014)*

The lighthouse was built in 1867 as a white stone tower and repaired in 1933.[404]

[404] (Ay, 2000) 1911 List of Lights- Fener Risalesi



*Figure 3.145*. Güneş Island Lighthouse seen from the outer garden *(Author, 16.11.2014)*



*Figure 3.146*. Güneş Island Lighthouse *(Author, 16.11.2014)*

Güneş Island Lighthouse (1863) has a T plan residence with the light tower on the other symmetry axis. The light tower is polygonal in plan. There is a wide and deep cistern adjacent to the light tower. There are two additional structures, as big as the light keeper's residence, with a very big enclosed garden. All the structures are enclosed in a high perimeter wall. They are all stone masonry with brick trims.

There are also other walled structures on the island, nearby the light station. Due to the high density of vegetation (maquis) these structures could not be surveyed during the site visit.

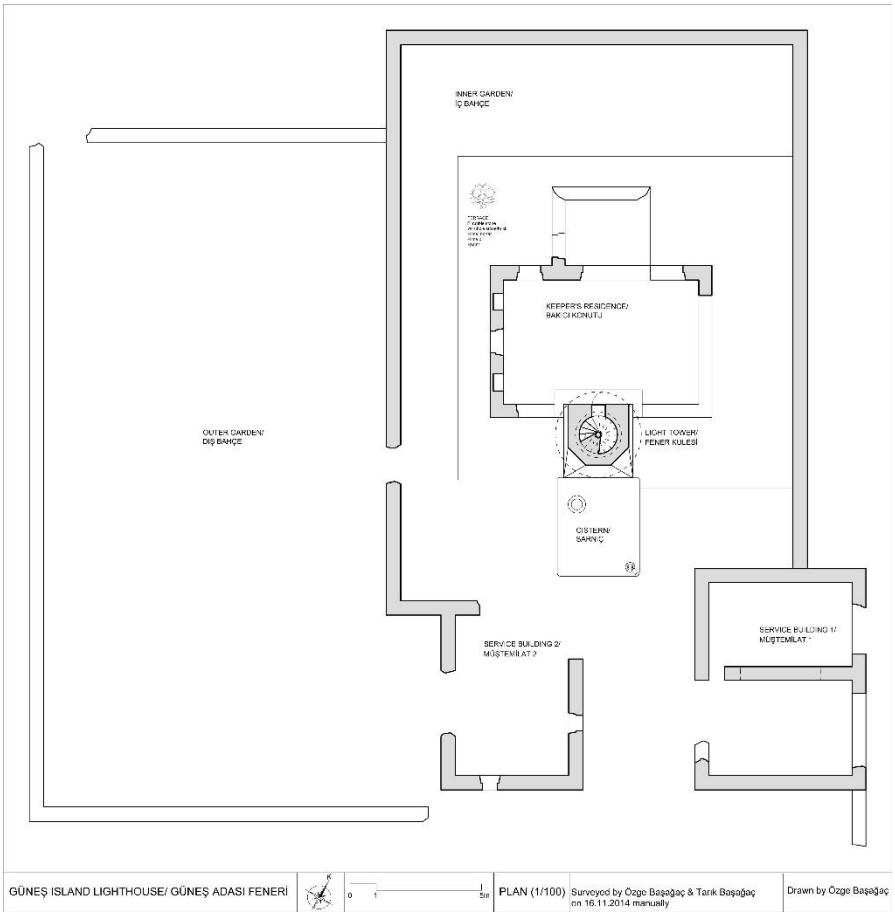



*Figure 3.147.* Plan of all the structures of Güneş/ Elyas Island Lighthouse surveyed *(Author, 2014)*

Güneş Island Lighthouse is definitely designed to survive on a remote island. There is no indication of the original functions of the separate structures. But at least one of them might have operated as a rockethouse for signaling vessels in trouble. As the water around here is full of dangers vessels would be easily running ashore in stormy weather. The light keeper would need to store fuel for a long time as access to the island is still very challenging. So, some of the spaces could have acted as a fuel storage, too. Food storage is also a possible use here, especially for winter time. Regarding the location of the island, the lighthouse might have acted as an outpost at some point, too. The excessive amount and height of perimeter and garden walls almost feel like a prison in the middle of no men's land.

The layout of the Güneş Island Light Station is unique among the studied lighthouses in our research as well as the rest of the Turkish Lighthouses studied in other regions, too.

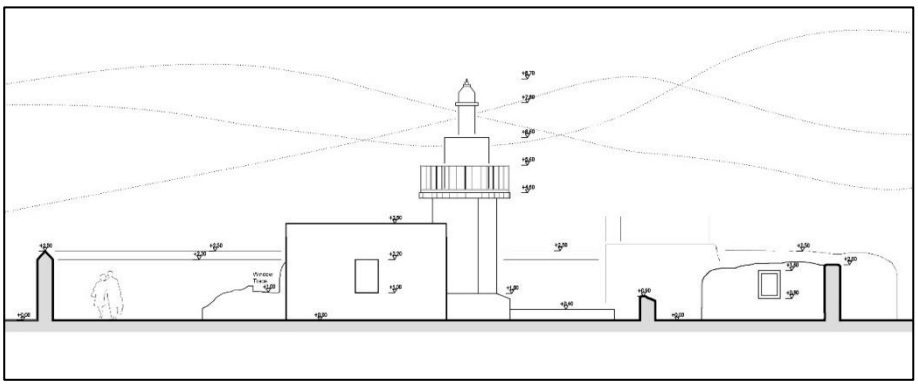


*Figure 3.148.* Elevation of Güneş/ Elyas Island Lighthouse surveyed *(Author, 2014)*

The western parts of the light keeper's residence are preserved to its full height. The eastern parts are ruined, only shallow walls or foundations are visible. The northern spaces are also highly damaged. Yet, it is possible to understand the general

arrangement of the spaces. The light tower is plastered and painted. But it has structural cracks and material problems.

The Ayvalık and Edremit zone lighthouses are kept by the light keeper Hasan Basri Yaman of Cunda Island.[405] Light keeping had passed from his grandfather to his father and then to him. Yaman narrates several occasions where his father or he had to swim in winter seas to carry acetylene canisters to lights. His father always warned him "Whatever happens, these lights will never go out". Yaman's father never went to sleep before all the lighthouses shone bright and this was the biggest sense of pride for him.

Table 3.3. *Light keepers of Cunda/ Ayvalık (Author, 2014)*

| LIGHTKEEPERS OF CUNDA/ AYVALIK |
|---|
| 1867- Lighthouse constructed |
| ↓ |
| 1933- Lighthouse extensively repaired |
| ↓ |
| 1st light keeper- Grandfather Ali Yaman- Born in Cunda |
| ↓ |
| 2nd Light keeper- Father Hasan Yaman, Son of Ali Yaman |
| ↓ |
| 3rd Light Keeper- Hasan Basri Yaman, son of Hasan Yaman-still working in 2019 |

Due to its proximity to the Greek Island of Mytilini, the availability of a cistern and its remoteness, Güneş Island Lighthouse had been used as a shelter and stopover on several occasions by the refugees trespassing. The Coastal Guard had intervened and collected refugees from the stormy waters here. Light keeper Hasan Basri Yaman narrates how he came across refugees in the lighthouse, trying to extract water from the cistern, hiding under desparate conditions, waiting to pass to the European Union.

[405] Author's interview with Hasan Basri Yaman on 16.11.2014.

### 3.2.2.3. Çıplak/ Gaymino Island Fener Cape Lighthouse

The lighthouse is situated on Çıplak/ Gaymino Island, northwest of Cunda/ Alibey Island off Ayvalık. The maritime route towards Mytilini passes between Güneş and Çıplak Islands. Thus, Çıplakada Lighthouse is an important marker for the mouth of the narrow strait towards Ayvalık. It is visible on Ayvalık-Mytilini Route and frequently photographed for this reason.

Çıplak Island is a 1st Degree Natural Site within the wider boundary of Ayvalık Islands Nature Park.[406] Until population exchange (mübadele) the island was totally owned by the state. But then it was permitted to dwell on the island to pursue agriculture. Thus, private property entered Çıplak Island around 1920s. Today, there is agriculture on the southern half of the island along with houses and secondary houses, small café, restaurant and a hospital that had been used for mental illnesses. The barren half of the island where the lighthouse is situated is home to rabbits. There is a small pier that gives access to the vicinity of the lighthouse. Across Çıplak Island, on mainland, there is a big radar tower.

[406] Balıkesir Çanakkale Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ Balıkesir Çanakkale Planning Zone 1/100.000 Scale Environmental Plan (MoEaU, 2014)




*Figure 3.149.* Aerial view of Çıplak Island and its Lighthouse *(GoogleEarth, 2019)*

Noone resides in the lighthouse today. Only the light tower operates as a navigational aid. Light keeper Hasan Basri Yaman maintains the lighthouse.[407] In summer he comes to Çıplakada to swim and check the lighthouse everyday.

Çıplakada Lighthouse was built in 1890. It is very similar to Dilburnu Lighthouse in terms of plan layout (built in 1863/repaired in 1896) but they are not identical. The light tower had been renewed and relocated at different times. Formerly it was situated on the keeper's residence roof. Today, it is a steel frame structure.

[407] Yaman is responsible for 12 lighthouses in the region which are quite far apart from each other. It takes a full day to patrol all the lighthouses on his duty.



*Figure 3.150.* Çıplak Island Lighthouse as viewed from the sea *(Author, 16.11.2014)*



*Figure 3.151.* Çıplak Island Lighthouse, looking down from the light tower unto the light keeper's residence *(Author, 16.11.2014)*



*Figure 3.152.* Çıplak Island Lighthouse (*Author, 16.11.2014)*

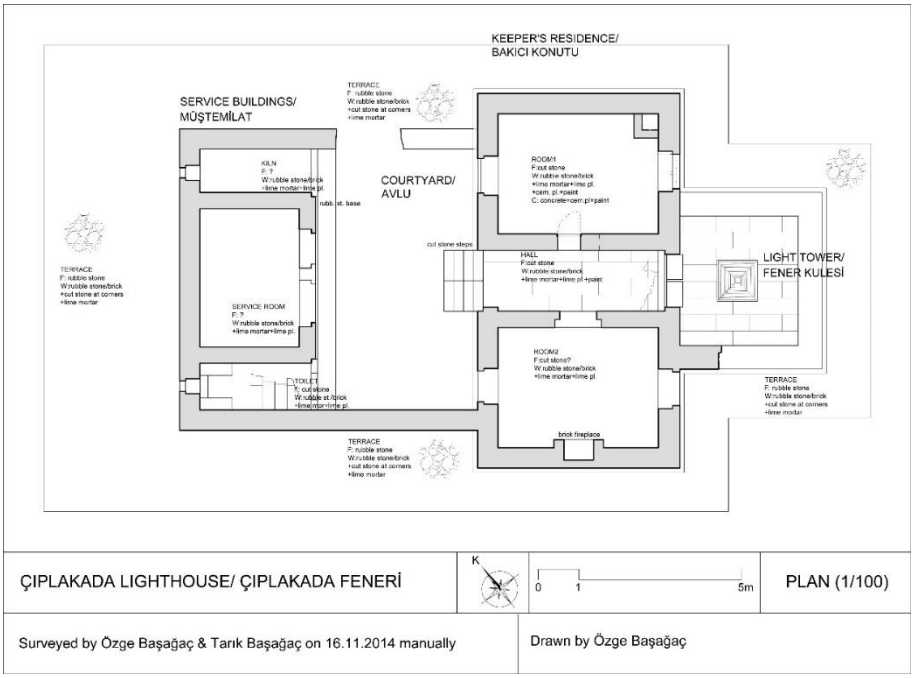



*Figure 3.153.* Plan of Çıplak Island Lighthouse, surveyed and drawn by the author. *(Author, 16.11.2014)*

The roof of the lighthouse is all gone except one of the rooms. Some gaps in the stone masonry walls are repaired with bricks. The plaster and paint on the interior are damaged as well as most of the architectural elements. But traces can be observed to understand the overall design of the spaces.

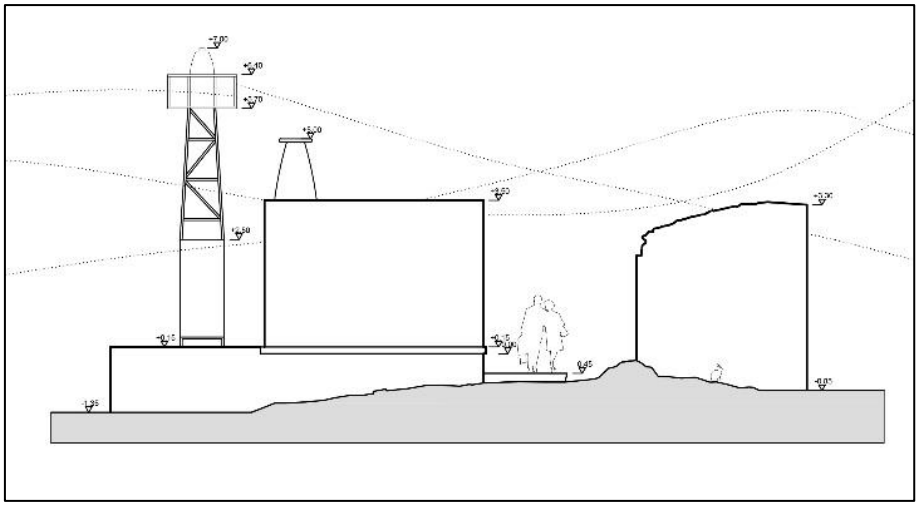


*Figure 3.154.* Elevation of Çıplak Island Lighthouse, surveyed and drawn by the author. *(Author, 16.11.2014)*

As a navigational aid, the light tower brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[408]

### 3.2.3. İzmir

The lighthouses in İzmir are: (1) Dikili Bademli Cape Lighthouse (2) Tavşan Island (Elaia) Light Structure (3) Ilıca Cape Lighthouse (4) Fener/ Oğlak Island Lighthouse (5) Değirmen Cape Lighthouse (6) Aslan Cape Lighthouse (7) Pasaport

[408] (KEGM, Seyir Yardımcıları, 2019)

Lighthouse (8) Karaburun Sarpıncık Lighthouse (9) Çeşme Fener Cape Lighthouse (10) Süngükaya Island/ Paspariko Lighthouse.

### 3.2.3.1. Dikili Bademli Cape Lighthouse

Bademli Cape Lighthouse is serving on a cape in Bademli village, Dikili, above the ancient ruins of a small natural harbor, Kane, on the way to Pergamon. (erving Pergamon) The Garip and Kalem Islands facing Bademli Cape are also home to ancient and medieval structures like coastal buildings, a monastery and houses. The lighthouse stands out with its white body over the trees on the peak of the cape.

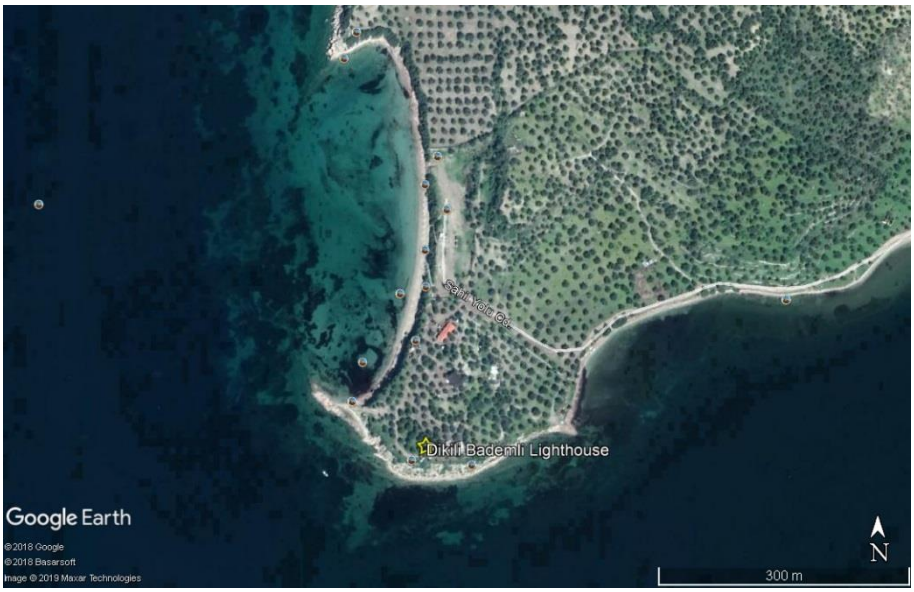



*Figure 3.155.* Bademli Lighthouse at Pissa Cove, on the ruins of ancient Kane Harbour *(GoogleEarth, 2019)*

Legally, the cape, home to the lighthouse, and the islands are protected as 1st Degree Archaeological and 1st Degree Natural Sites. A small portion of land is

reserved as rural settlement area.[409] The cape and the islands are located within the wider boundary of Conservation and Development of Culture and Tourism Zone/ Tourism Center.

Pissa Cove, where the lighthouse is located, is well known for its crystal clear, turquoise water. Year round the environment welcomes visitors for swimming and sea sports. The cove and the nearby islands are also used as diving spots for its marine life. Another feature of the area is the thermal waters which spring inside the sea. The coast has some sea baths carved into rocks which date back to Roman Period. The region is registered as a natural site. But regarding the coexistence of cultural and natural heritage, it might be defined as a cultural landscape as well.



*Figure 3.156.* Looking towards Bademli Lighthouse from Pissa Cove, on the ruins of ancient Kane harbor *(Author, 2018)*

[409] (MoEaU, İzmir - Manisa Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ İzmir-Manisa Planning Zone 1/100.000 Scale Environmental Plan, 2014)

Bademli Cape Lighthouse is a small, compact, cast iron assembled pylon type preferred for challenging locations where prefabrication is necessary. As it is relatively new, the condition is good.

In 19th century, there was a lighthouse on Dikili Harbour in 1886. But beyond this line until Foça Oğlak Island, there was no lighthouse.[410]

[410] (Ay, 2000)



*Figure 3.157. Bademli Lighthouse, (KEGM, Kıyı Emniyeti Genel Müdürlüğü, 2012)*

As a navigational aid, the light tower brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[411]

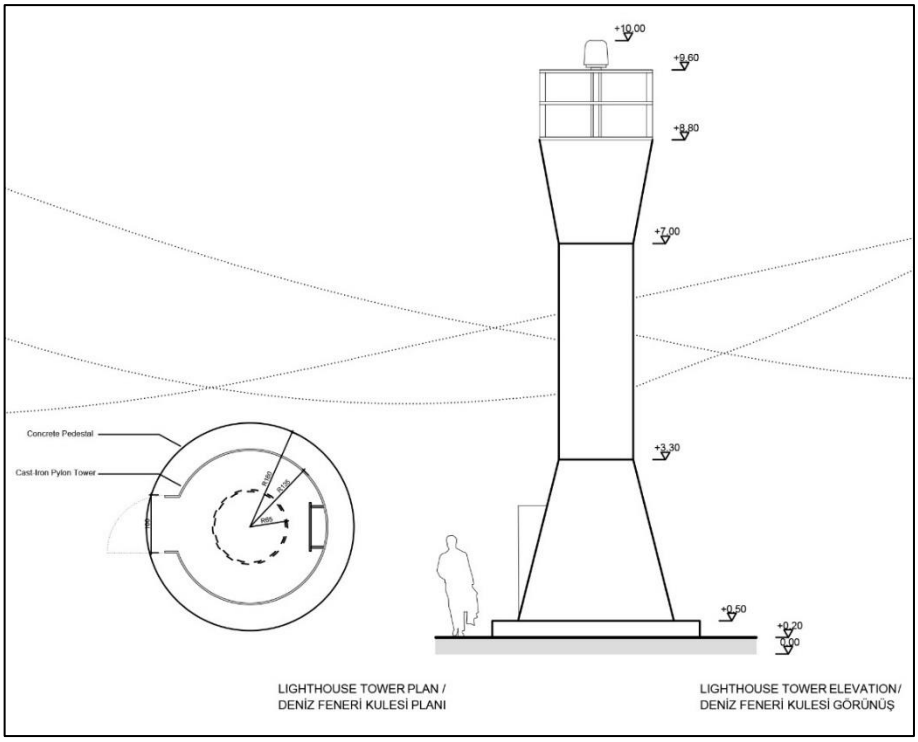



*Figure 3.158.* Plan and elevation of Bademli Cape Lighthouse *(Author, 2015)*

All the lighthouses in Aliağa-Foça-Dikili-Altınova are kept by the same family of light keepers in the last 50 years. Serkan Güdem is currently the light keeper of Bademli Cape, residing in Dikili.

Table 3.4. *Lightkeepers of Foça-Aliağa-Dikili-Altınova (Author, 2014)*

| LIGHTKEEPERS OF FOCA-ALIAGA-DIKILI-ALTINOVA |
|---|
| |
| Rıza Güdem on duty between 1970 - 2004. Acetylene operated lighthouses |

[411] (KEGM, Seyir Yardımcıları, 2019)

| |
|---|
| ↓ |
| Serkan Güdem, son of Rıza Güdem starts in 1997, still on duty. Solar panels or electric redresser operated lighthouses |

### 3.2.3.2. Tavşan Island Light Structure

Tavşan Island is situated off shore of Aliağa, in the Gulf of Çandarlı, right across Myrina, the Ionian city, between Elaia ancient harbor, of Pergamon, Gryneion and Kyme. Aliağa peninsula is occupied by Aliağa Refinery. Thus, Tavşan Island plays a critical role for the navigation of ships together with mainland lighthouses.

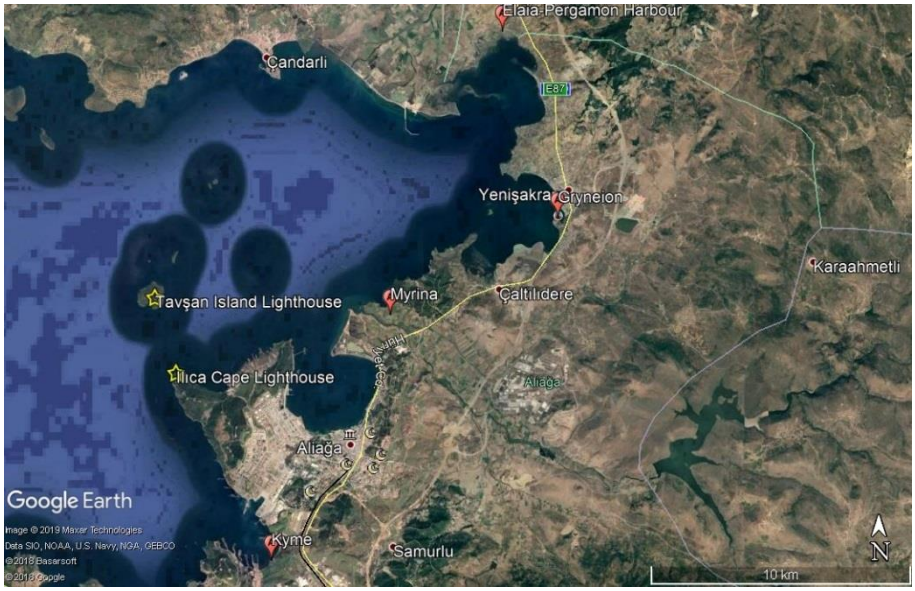



*Figure 3.159.* Gulf of Çandarlı, contemporary settlements, ancient Ionian cities and Aliağa lighthouses *(GoogleEarth, 2019)*

Access to the island is available through a natural cove, now furnished with a flimsy pier. The cove is full of ancient architectural elements and ruins/ foundations of former coastal structures. Being located at the mouth of the Gulf of Çandarlı, Tavşan Island had functioned as a stopover, shelter from the storms for vessels sailing in and out of the Gulf since ancient periods. Elaia serving Pergamon, Gryneion,

Myrina and Kyme were all important cities of the Aeolian League. Tavşan Island may well have been used as a frontier station. To this day, the island still offers protection for local fishermen during troubled weather.




*Figure 3.160.* Aerial view of Tavşan Island and its light structure in the middle *(GoogleEarth, 2019)*

There are no settlements on the island. The place is reserved for rabbits which give the island its name. It is also a nesting place for seabirds, especially seagulls. Fishermen and volunteers of Aliağa regularly clean the island and the underwater environment, feed the rabbits and birds, plant trees and prune the wild olive tress. The coves of Tavşan Island are also enjoyed by swimmers and local marine tours.

Legally, Tavşan Island is a 1st Degree Natural Site where only agriculture is allowed as a land use.[412]

[412] (MoEaU, İzmir - Manisa Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ İzmir-Manisa Planning Zone 1/100.000 Scale Environmental Plan, 2014)



*Figure 3.161.* The rabbits of Tavşan Island *(Avcı, 2017)*



*Figure 3.162.* Seagulls are the frequent inhabitants of Tavşan Island *(Avcı, 2017)*



*Figure 3.163.* The light structure of Tavşan Island near Aliağa *(KEGM, Kıyı Emniyeti Genel Müdürlüğü, 2012)*

The steel frame light structure is situated at the highest point of the island, visible 360 degrees. The optics system is controlled centrally. The maintenance is done by Serkan Güdem from Dikili, son of a light keeper, responsible for all the lighthouses in/ around Foça, Aliağa, Dikili and Altınova. The light structure is in good condition.

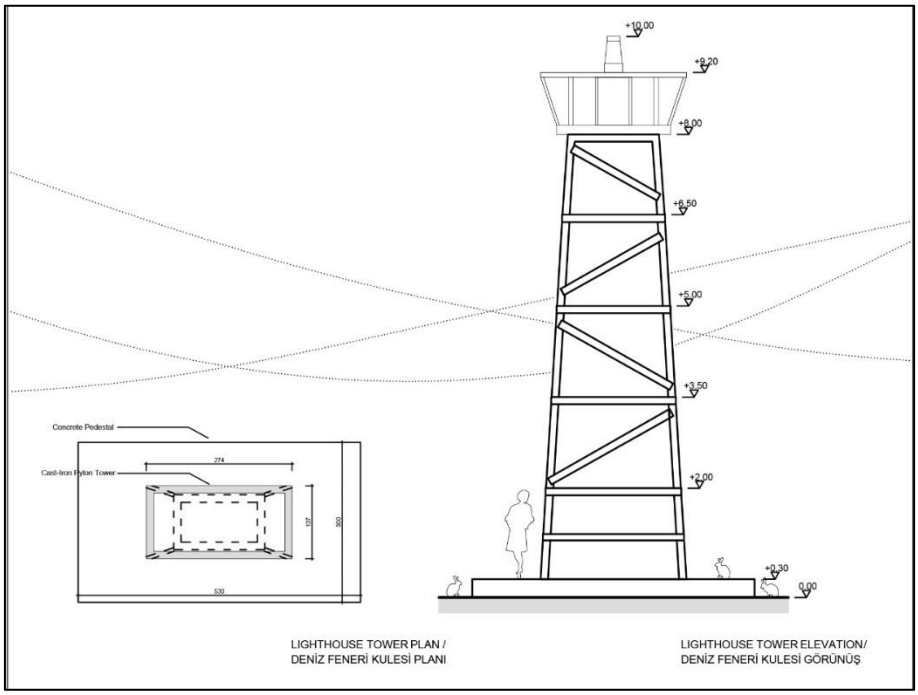



*Figure 3.164.* Plan and elevation of Tavşan Island *(Author, 2015)*

The region is a dangerous zone to navigate, full of irregular shallow-deep waters and hidden rock crops. Dense marine traffic created by the Aliağa Refinery and the moving of İzmir Harbour from Alsancak city center to the north of Çandarlı Gulf add to the challenges. Thus, 90% of the lighthouses or light structures are located on islands, islets, rock crops or platforms in the sea, rather than on mainland.

As a navigational aid, the light tower brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[413]

### 3.2.3.3. Ilıca Cape Lighthouse

Ilıca Cape Lighthouse is situated on a prominent cape in Aliağa, marking the southern boundary of Aliağa Harbour. It acts as a navigational aid but more

[413] (KEGM, Seyir Yardımcıları, 2019)

importantly it marks the former life of this peninsula as the ancient Ionian city of Kyme.




*Figure 3.165.* Aerial view of Ilıca Cape Lighthouse on the archaeological site of Kyme, which is mostly occupied by Aliağa Refinery on Aliağa Peninsula *(KEGM, Kıyı Emniyeti Genel Müdürlüğü, 2012)*

Legally, the peninsula is defined as a special project area. Ilıca Cape Lighthouse is inside the forestry zone on the west side of the cape, but the east coast is defined as energy investment zone.[414]

[414] (MoEaU, İzmir - Manisa Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ İzmir-Manisa Planning Zone 1/100.000 Scale Environmental Plan, 2014)



*Figure 3.166.* Ilıca Cape Lighthouse in Aliağa *(KEGM, Kıyı Emniyeti Genel Müdürlüğü, 2012)*

The lighthouse is made of concrete, painted white and in good condition, operating on solar panels. It stands out on the cape, marking the industrial nature of the region, too. After all, lighthouses are markers of technological advancement, too.

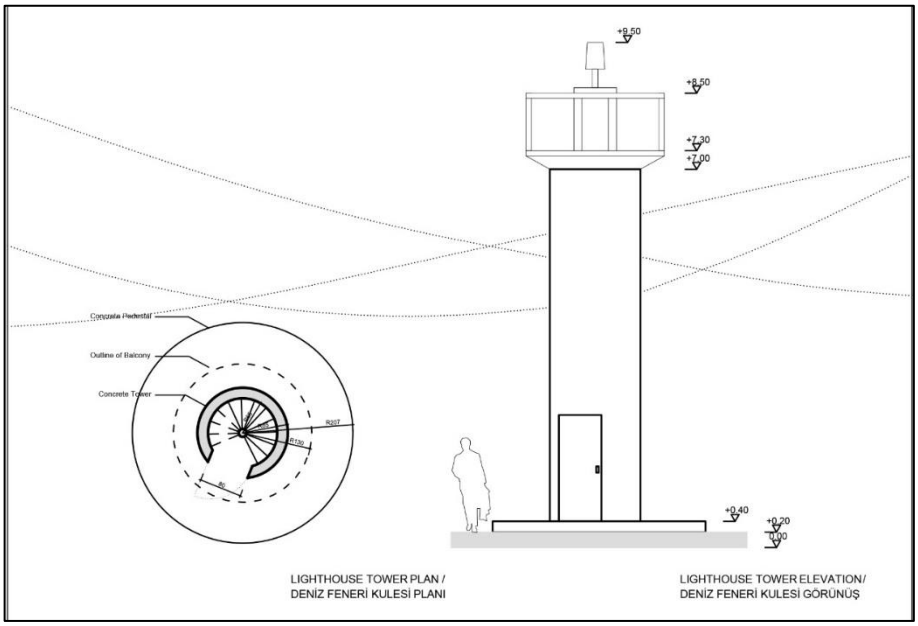



*Figure 3.167.* Plan and elevation of Ilıca Cape Lighthouse *(Author, 2015)*

The light keeper is Serkan Güdem from Dikili.[415]

As a navigational aid, the light tower brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[416]

### 3.2.3.4. Fener/ Oğlak Island Lighthouse

Oğlak Island is one of the seven islands of Foça, to the north of İzmir. It is the first and biggest island at the mouth of the Foça Harbour, thus acts like a guardian for the city and connects the vessels from/ to Foça with the rest of the Aegean.

Foça has a unique nature with an intricate coastline of islands, a lagoon, a tombolo, several rock cliffs home to endangered marine life such as Mediterranean

[415] Interview with Serkan Güdem, (Author, 2015)
[416] (KEGM, Seyir Yardımcıları, 2019)

seal (which gives Foça its name; ancient Phokai) [417], sea grass, sea birds, fish species and other elements. The city is surrounded with mountains covered with evergreen forests.[418] These characteristics make Foça a "Special Environment Protection Zone".

Foça is a multilayered city which had been continously settled, since 11th century BC, by Ionian, Persian, Roman, Byzantine, Genoese, Venetian, Ottoman and the Turkish Republic. Each period is represented through several edifices in Foça today. Phocaians had always been mariners. They have set up colonies as far as France (Marseille, Velia, Alalia, Nice, Antipolis), Spain (Malaca) and Black Sea[419] with their fifty oared ships named "Pentekonter". During 12th-14th cent. Foça facilitated Genoa- İstanbul- Kefe (in Crimea) maritime route. The maritime network of the city also reached Chios (Sakız), Mytilini (Midilli), Ayvalık, Cunda and Tenedos (Bozcaada).[420] The coast of Foça was shaped by the fortifications, harbor, boat building and maintenance workshops, arsenals, vessel shelters, alum- salt depots, mastic (sakız) depots, wind mills and stone quarries through several centuries.




*Figure 3.168.* Oğlak Island of Foça *(BingMaps, 2014)*

[417] Greece with 200-250, and Turkey with 100 seals are the two responsible and important countries for the conservation of this endangered species in the Aegean and globally. (MoEaU, Foça Özel Çevre Koruma Bölgesi- Foça Special Environment Protection Area, 1990)

[418] (MoEaU, Foça Özel Çevre Koruma Bölgesi- Foça Special Environment Protection Area, 1990)
[419] (360DereceAraştırmaGrubu, 2017)
[420] (Bostan, 2009)

Fener/ Oğlak Island is not inhabited, as it is the case on all Foça islands. The island is composed of rocks with cacti patches. There is a big population of wild goats, hence the name, and sea gulls as well as other endangered bird speices.

Fener/ Oğlak Island Lighthouse is situated inside Foça Special Environment Protection Area.[421] The island is 1st Degree Natural Site.[422] There is no pier, only shallow bedrock in the sea is used to access the island.




*Figure 3.169.* Oğlak Island and the lighthouse to the southwest. *(BingMaps, 2014)*

The lighthouse is visible from the west- south portions of the island. Looking from the east it is hidden behind the vegetation. While the masonry structures blend with the topography of the island, the light tower stands out with its stark, white body.

[421] (MoEaU, Foça Özel Çevre Koruma Bölgesi- Foça Special Environment Protection Area, 1990)
[422] (MoEaU, İzmir - Manisa Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ İzmir-Manisa Planning Zone 1/100.000 Scale Environmental Plan, 2014)



*Figure 3.170.* Oğlak Island Lighthouse viewed from the sea direction *(Author, 20.05.2014)*

The lighthouse here was built on 15 July 1887. It was repaired in 1920.[423] Today, the masonry structures are ruined. But looking at the remains, it is possible to understand the general layout of this light station.

[423] (Ay, 2000) 1911 Fener Risalesi- 1911 List of Lights



*Figure 3.171*. Oğlak Island Lighthouse viewed from the land direction *(Author, 20.05.2014)*

There are two horizontal, stone masonry structures on the island. One of them had certainly functioned as the light keeper's residence. The preserved walls are plastered, stone masonry with brick window/ door trims. The entrance is through a courtyard. On one side of the courtyard are service spaces as toilet, bathroom and probable depot. On the other side is the kitchen, with a built-in stove and well, which gives access to the living/ sleeping quarter. The living space has big, long windows on three sides, looking towards the sea. In front of this structure lies the original, cast-iron light tower as well as the new concrete light tower.

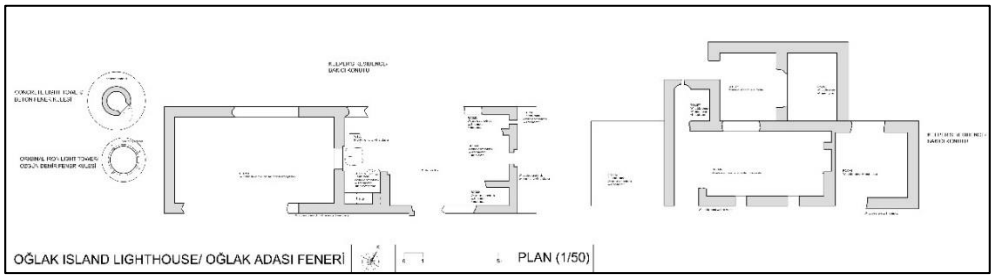



*Figure 3.172.* Plan of Oğlak Island Lighthouse structures *(Author, 20.05.2014)*



*Figure 3.173.* Built-in kiln in the kitchen, left, brick arched door of living room in Oğlak Island Lighthouse *(Author, 20.05.2014)*

The other masonry structure has 5 separate spaces. The first three spaces, the smallest as a possible toilet, aligned with the keeper's residence seems to have been built at the same time. The other two spaces are connected but added later, they have a separate entrance.

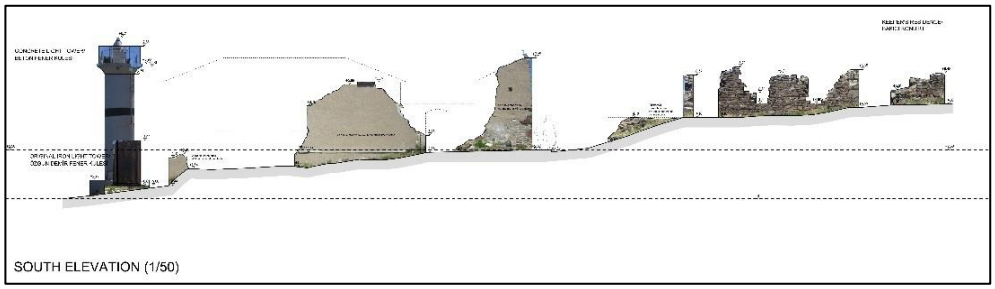



*Figure 3.174*. South elevation of Oğlak Island Lighthouse structures with the courtyard entrance to the keeper's residence *(Author, 20.05.2014)*

All of the spaces in this second structure have the same construction technique and material as stone masonry. These might be service spaces like fuel or food depots or an additional residence at some point.

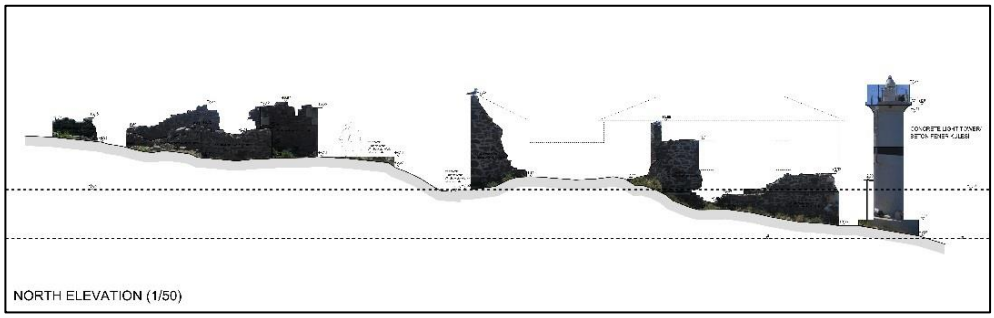



*Figure 3.175*. North elevation of Oğlak Island Lighthouse structures *(Author, 20.05.2014)*

The light keeper of Oğlak Island Lighthouse is Serkan Güdem from Dikili.[424]

As a navigational aid, the light tower brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[425]

[424] Interview with Serkan Güdem, (Author, 2015)
[425] (KEGM, Seyir Yardımcıları, 2019)



*Figure 3.176.* Details and materials from Oğlak Island Lighthouse structures *(Author, 20.05.2014)*

Although the island is protected within Foça Special Environment Zone as a natural reserve area, it is often prone to illegal human activity. The fresh carcass of a wild goat was detected inside the kitchen stove of the keeper's residence during our site visit. The animal had been killed and cooked there.

### 3.2.3.5. Değirmen Cape Lighthouse

Değirmen Cape is a high, rocky extension unto the sea, to the west of the city center. It is overlooking the Foça Harbour as well as the islands. The cape is neighbour to a beach. While the eastern skirts are used as a civic and sometimes military quay the rest is not inhabited and left as is. The lighthouse is on the highest point of the cape. It is an important landmark for Foça and defines the coastal silhouette along with Foça Fortress. However, Değirmen Cape Lighthouse is oppressed by the high-rise military buildings right in the background.

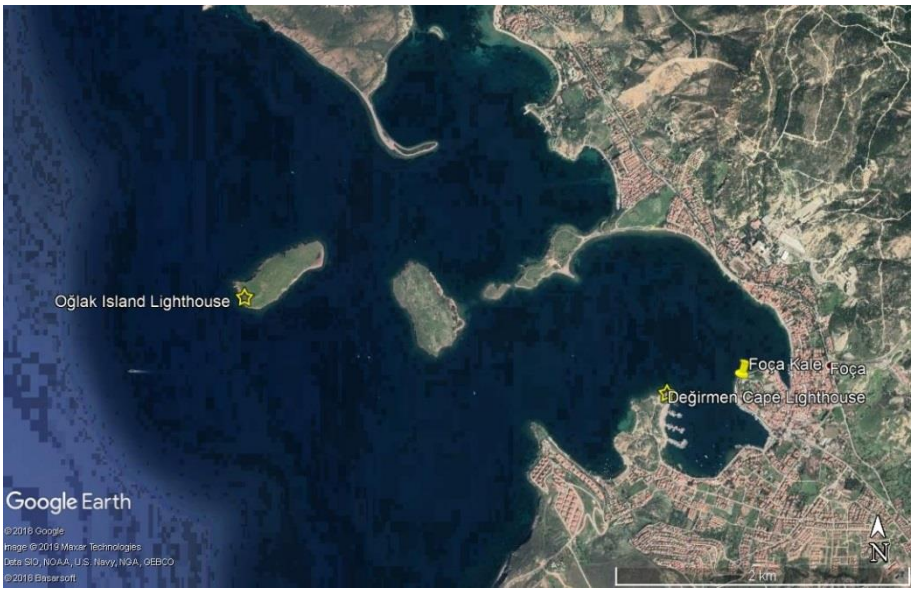



*Figure 3.177.* Foça and its lighthouses *(GoogleEarth, 2019)*

Değirmen Cape Lighthouse is situated inside Foça Special Environment Protection Area.[426] The hinterland and the near vicinity of the Cape is a military zone and residential area.[427] The skirts of the lighthouse are often used by amateur fishers and during sunset populated by picnic makers.

[426] (MoEaU, Foça Özel Çevre Koruma Bölgesi- Foça Special Environment Protection Area, 1990)
[427] (MoEaU, İzmir - Manisa Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ İzmir-Manisa Planning Zone 1/100.000 Scale Environmental Plan, 2014)




*Figure 3.178.* Aerial view of Değirmen Cape Lighthouse, at the north tip *(BingMaps, 2014)*

Değirmen Cape Lighthouse was built on 15 July 1887.[428] But as the name suggests there have been wind mills on this hill before. The spot is always windy throughout the year. Today there are remains of 4 mills on the cape.



*Figure 3.179.* Değirmen Cape Lighthouse. *(Author, 20.05.2014)*

[428] (Ay, 2000)

The light tower was formerly steel frame but today it is cast iron assembled pylon type. It is in good condition and well maintained.

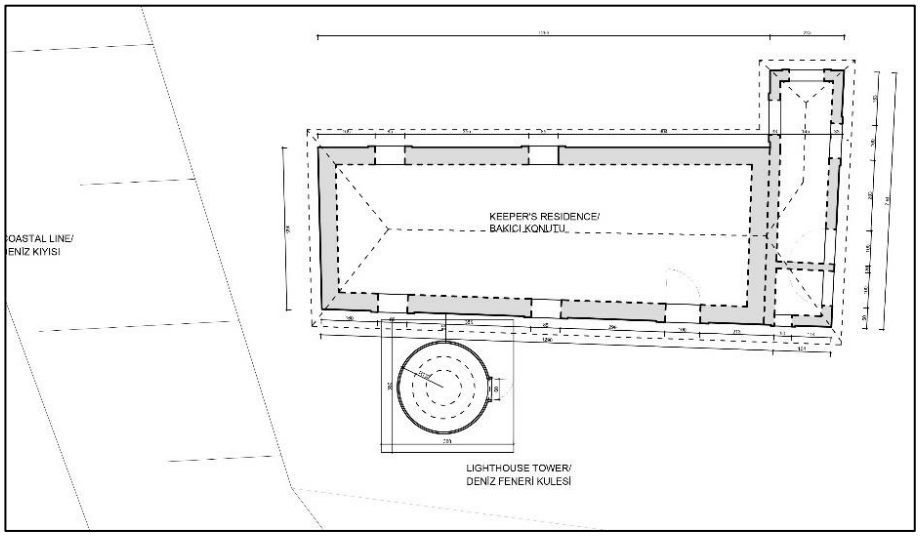



*Figure 3.180.* Plan of Değirmen Cape Lighthouse *(Author, 2014)*

As a navigational aid, the light tower brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[429] Değirmen Cape Keeper's Residence and the building lot are leased as a café-bar while the tower is controlled by the Coastal Safety of İzmir. The light keeper is Serkan Güdem from Dikili.[430]

[429] (KEGM, Seyir Yardımcıları, 2019)
[430] Interview with Serkan Güdem, (Author, 2015)



*Figure 3.181.* Değirmen Cape Lighthouse front facade *(Author, 20.05.2014)*

Formerly, the lighthouse had a single, rectangular prismatic keeper's residence. At a later period, a smaller, rectangular block was added next to this initial volume to house toilets. The date of this annex is not identified. Hence today, the keeper's residence is an L shape, rather than a rectangle. There are also additional storage structures hidden under the terrace. The site had been visited three times, but it had always been locked and empty. The interior was not surveyed.



*Figure 3.182.* Değirmen Cape Lighthouse rear facade *(Author, 20.05.2014)*

Regarding the new function of the lighthouse as a café/ bar, the new lessee had done interventions on the exterior of the lighthouse and the building lot. The large terrace surrounding the structure is covered with timber flooring and the perimeter is enclosed with high glass panels to prevent wind. Half of the open areas are covered with a roof, including the base of the light tower. The roof rests against the keeper's residence.



*Figure 3.183.* Değirmen Cape Lighthouse with the glass enclosure around the building lot *(Author, 10.02.2016)*



*Figure 3.184.* Değirmen Cape Lighthouse with the glass enclosure around the building lot *(Author, 10.02.2016)*



*Figure 3.185.* Değirmen Cape Lighthouse with the new roof attached to the keeper's residence, covering formerly open terraces around the building *(Author, 10.02.2016)*

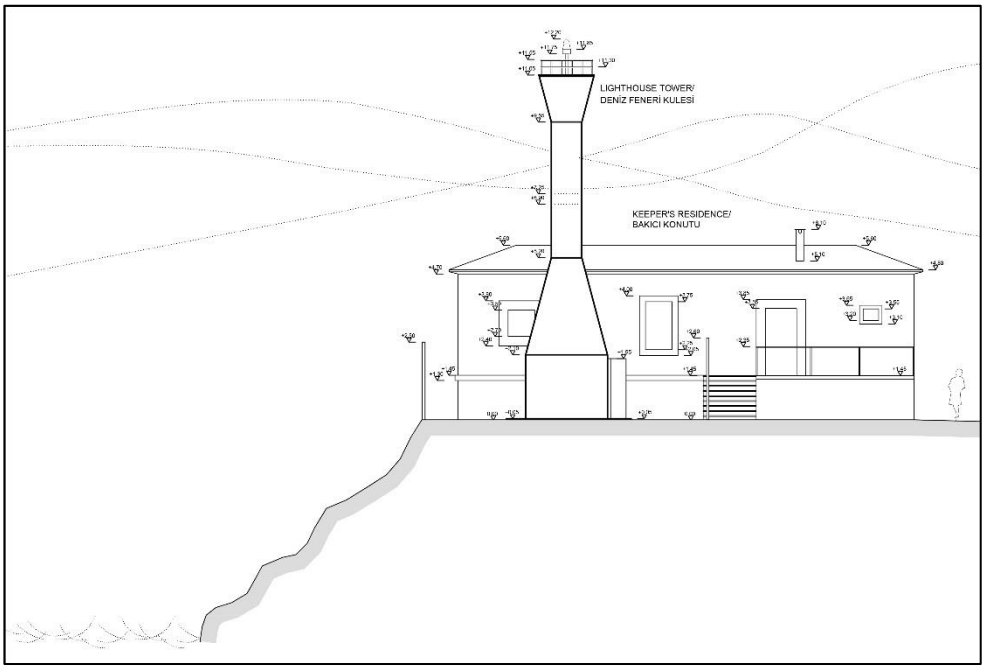



*Figure 3.186.* Elevation of Değirmen Cape Lighthouse *(Author, 2014)*

### 3.2.3.6. Aslan Cape Lighthouse

Aslan Cape is a rocky hill by the sea side (also bordered by a vehicle road) where the view is controlling the whole Foça environment. It is situated to the north of the city, away from the dense urban area, by the vehicle road.




*Figure 3.187.* Foça and its lighthouses *(GoogleEarth, 2019)*

Aslan Cape Lighthouse marks the north tip of the Foça Special Environment Protection Area.[431] The western half and the coast of the Cape is defined as 1st Degree Natural Site and the eastern half is defined as rural settlement area.[432]

Aslan Cape Lighthouse is visible from the sea as a white structure standing atop the barren hill. It is a cast-iron pylon type, compact lighthouse.

[431] (MoEaU, Foça Özel Çevre Koruma Bölgesi- Foça Special Environment Protection Area, 1990)
[432] (MoEaU, İzmir - Manisa Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ İzmir-Manisa Planning Zone 1/100.000 Scale Environmental Plan, 2014)



*Figure 3.188. Aslan Cape Lighthouse (Author, 20.05.2014)*

Aslan Cape Lighthouse is just at the boundary of the urban area and right by the road towards Yeni Foça, easily accessible. But there is no light keeper residing here. This is why the lighthouse is robbed of its accumulator/ battery frequently. The thieves damage the lock and door system. Apart from this, the structure is well maintained with minor issues of corrosion.

The light keeper of Aslan Cape Lighthouse is Serkan Güdem from Dikili.[433]

[433] Interview with Serkan Güdem, (Author, 2015)

As a navigational aid, the light tower brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[434]

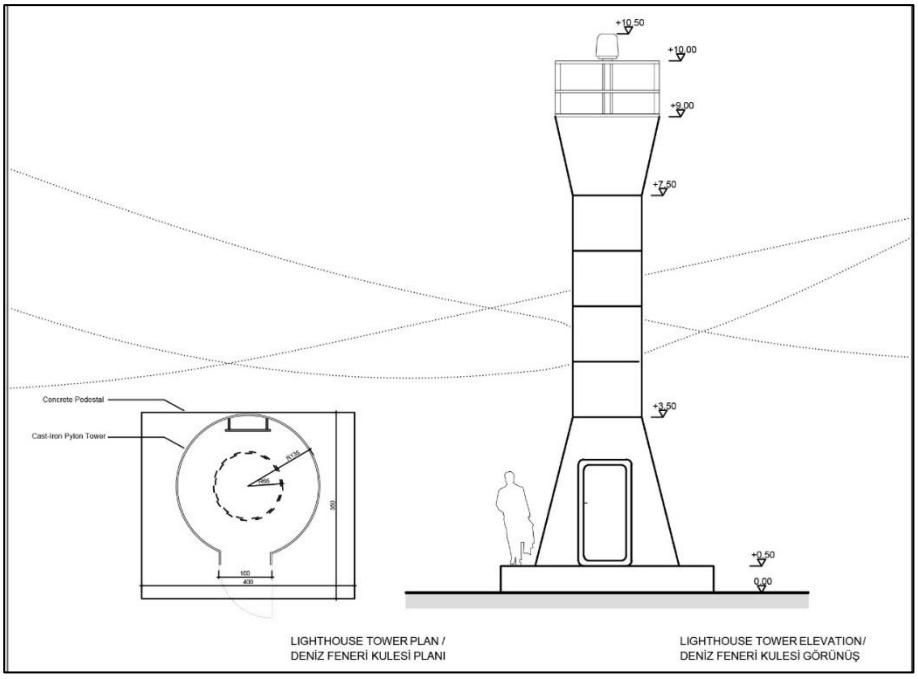



*Figure 3.189.* Plan and elevation of Aslan Cape Lighthouse *(Author, 2015)*

### 3.2.3.7. Pasaport Lighthouse

The lighthouse is situated on Pasaport Pier in Alsancak, İzmir Center, among the urban settlement. It is the central lighthouse within the İzmir Bay and acts like the headquarters of several maritime institutions.

[434] (KEGM, Seyir Yardımcıları, 2019)




*Figure 3.190.* İzmir Bay and the Pasaport Lighthouse in the center *(GoogleEarth, 2019)*

Pasaport Pier is a maritime hub. It is used as the ferry station for İzmir Bay maritime routes, Karşıyaka-Konak-Pasaport-Gündoğdu, Bostanlı-Konak-Pasaport-Gündoğdu, Pasaport-Konak-Urla, Pasaport-Konak-Sığacık, Pasaport-Konak-Karşıyaka-Foça. The pier is also the mooring place for military vessels of Aegean Navy, the Bay pollution cleaning vessels of İzmir Metropolitan Municipality, the research vessels of Dokuz Eylül University and the guide vessels of Coastal Safety. İzmir Bay is a challenging maritime environment. The vessels approaching İzmir must take a guide captain at the mouth of the İzmir Bay and let the guide captain navigate within the Bay, provided by Coastal Safety. The pier also welcomes the museum ship Zübeyde Hanım of Coastal Safety which displays antique navigation aids like lighthouse optic systems, signal fogs, logbooks and furniture of ships used by Mustafa Kemal Atatürk and models of vessels used/ owned by Coastal Safety since 1856. Thus, Pasaport Pier is the meeting/ communication place for all maritime institutions located in İzmir.




*Figure 3.191.* Pasaport Pier Lighthouse, right next to Cumhuriyet Square in Alsancak, İzmir city center *(BingMaps, 2014)*

The Pasaport lighthouse was built in 1876 as a wooden pole first.[435] At the time, this lighthouse with the corresponding one on the other pier was very important for İzmir Harbor, as the harbor was spread all along the coast, Cordonne. Then the lighthouse was renewed as a metal pole and then as a steel frame.

[435] (Ay, 2000)



*Figure 3.192.* Postcard of the Pasaport Quay in 1890. Note the light structure at the end of the quay to the right and the coordinating light structure on the breakwater to the left. The quay was totally burned down during the Great Izmir Fire in 1922. *(Sebah & Joaillier, 1890)*

Today there is a concrete lighthouse at the end of Pasaport Quay. It is white with red stripes as distinguishing marks. The light keeper's residence is used as the technical headquarters of İzmir Directorate of Coastal Safety. It is also the central workshop where the repairs for navigational aids are carried out. The keeper's residence is nestled between City Health Directorate Building (former Quarantine Building) on the sea side and Pasaport Ferry Station Passenger Hall and Pasaport Police Station on the other side.



*Figure 3.193.* Pasaport Lighthouse on the left, at the end of the quay and keeper's residence at the right end of the yellow structure *(Author, 11.05.2018)*



*Figure 3.194.* Pasaport Lighthouse, light keeper's residence painted light yellow, at the right end of the bright yellow City Health Directorate building *(Author, 11.05.2018)*

Pasaport Lighthouse and the Pier is well known by İzmir citizens. It is on the coastal promenade, Kordon, a favourite place for strollers, ferry passengers and

amateur fishers as well as the users of Cumhuriyet Square nearby. The Pier is a very lively meeting place. It is also the witness of communal incidents like celebrations, festivals, meetings and protests since the establishment of Cumhuriyet Square. Thus, it is a part of collective memory of İzmir.



*Figure 3.195.* Pasaport Light Keeper's Residence on Pasaport Quay, currently used as the technical headquarters and workshops of İzmir Directorate of Coastal Safety *(Author, 17.04.2014)*

The lighthouse is visible from a wide angle both from the sea and the coastal strip. The corresponding lighthouse on the breakwater is always populated with fishers.



*Figure 3.196.* Pasaport Lighthouse *(Author, 17.04.2014)*

The keeper's residence is a rectangular building with two storeys. Currently, the ground floor opens unto the pier with two windows and a central door. The ground floor is divided into two with a newly added wall, which hides the staircase that gives access to the upper floor.

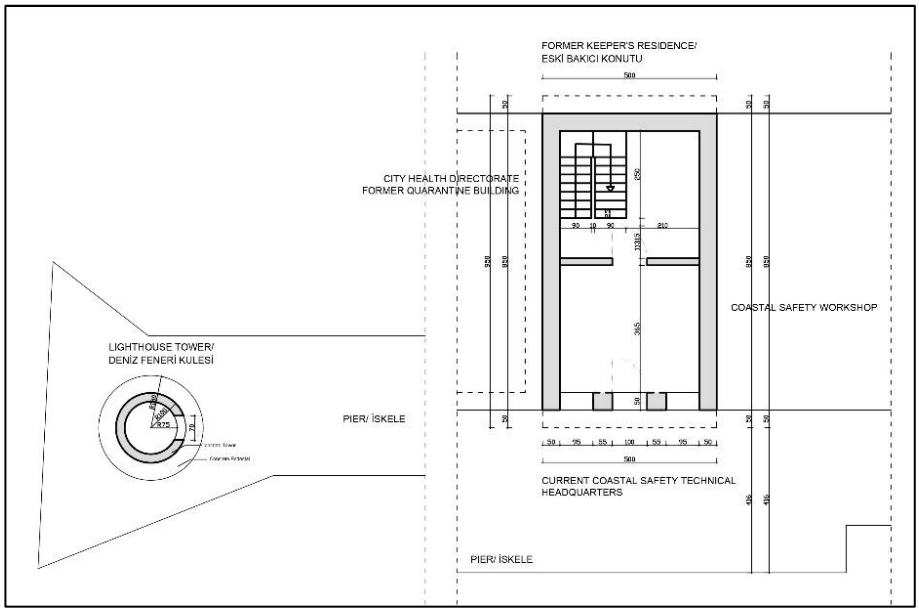



*Figure 3.197.* Sketch plan of Pasaport Lighthouses *(Author, 2016)*

The lighthouse or the keeper's residence do not have any structural problems. The material problems are usually related to the dampness due to the sea water.

As a navigational aid, the light tower brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[436]

[436] (KEGM, Seyir Yardımcıları, 2019)

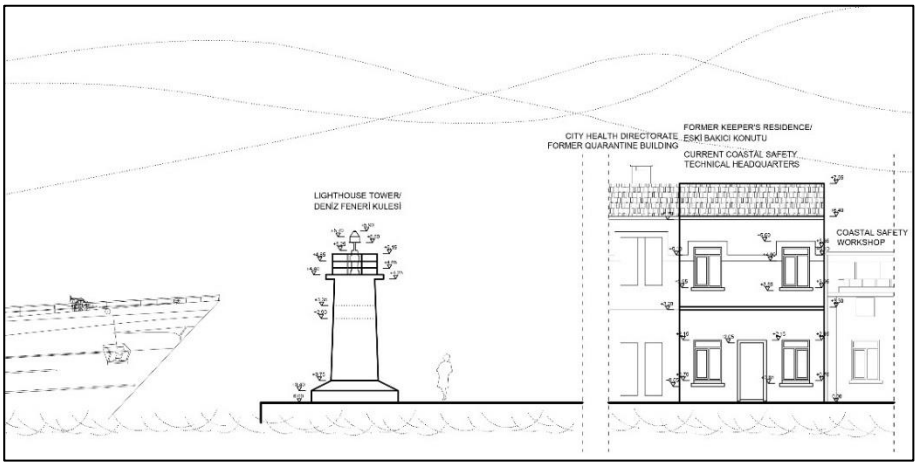



*Figure 3.198.* Elevation of Pasaport Lighthouses *(Author, 2016)*

### 3.2.3.8. Karaburun Sarpıncık Lighthouse

Sarpıncık Lighthouse is located on the northern tip of Karaburun Peninsula, to the West of Izmir, and takes its name from the nearby village of Sarpıncık. The lighthouse marks very critical areas off shore with sharp rock spits and unexpected low waters and sand dunes in the middle. It is only accessible through a beaten earth road. Once rural, the surrounding environment is currently taken over by wind-power turbines, since early 2000s. The lighthouse rises 97m above the sea on a rocky hill.




*Figure 3.199.* Aerial view of Sarpıncık Lighthouse and nearby wind power stations *(GoogleEarth, 2019)*

Sarpıncık Lighthouse is situated inside Karaburun- Ildır Bay Special Environment Protection Area as the skirts of the hill bearing the lighthouse is home to endangered species of Mediterranean Seal, other animals, plants and marine ecosystem.[437] The coast of Sarpıncık, north tip of Karaburun Peninsula is protected as a 1st Degree Natural Site and the use is defined as agriculture.[438] Karaburun Peninsula is also known for its rural cultural heritage, local stone masonry architecture and the natural/ agricultural life that supports it. The Sarpıncık lighthouse had been registered as cultural heritage in 2005. The building lot of the lighthouse is 97000 m2.

[437] (MoEaU, Karaburun-Ildır Körfezi Özel Çevre Koruma Bölgesi/ Karaburun-Ildır Bay Special Environment Protection Area, 2019)
[438] (MoEaU, İzmir - Manisa Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ İzmir-Manisa Planning Zone 1/100.000 Scale Environmental Plan, 2014)




*Figure 3.200.* Sarpıncık Lighthouse and service buildings *(GoogleEarth, 2019)*

The construction of Sarpıncık Lighthouse started in 1933 and the light was established in 10.01.1938. It was one of the initial maritime projects achieved after the foundation of Turkish Republic, in line with the "nationalization of transportation" principle accepted in İzmir Economics Congress.



*Figure 3.201.* Sarpıncık Lighthouse as seen from the sea, with the wind turbines in the background *(KocaPiriReisResearchShip, 2014, April 04)*

Sarpıncık Lighthouse is visible from the sea, perched on the high hill with its white structures. But the rocky terrain and the height make it impossible to access from the coast. Until 2010, the lighthouse was the only structure on the coastal silhouette. Now it is dwarfed by the wind turbines rising right behind it.



*Figure 3.202.* Sarpıncık Lighthouse. *(Author,20.04.2014)*

Currently, the light tower is still active as an aid to navigation. But the keeper's residence is obsolete. The light keeper Mustafa Canıtez is employed in İzmir Central Directorate. There is a beach down the hill of Sarpıncık Lighthouse. In summer, people using the beach stop by the lighthouse, especially during sunset.

The structures that form the lighthouse are placed on artificial terraces cut into the steep slope. The terraces are supported by local stone masonry walls and all of them are levelled with concrete. The structures are planned in east-west direction

regarding the prevailing wind, with hidden north facades inside the slope. The southern facades always face the sea.

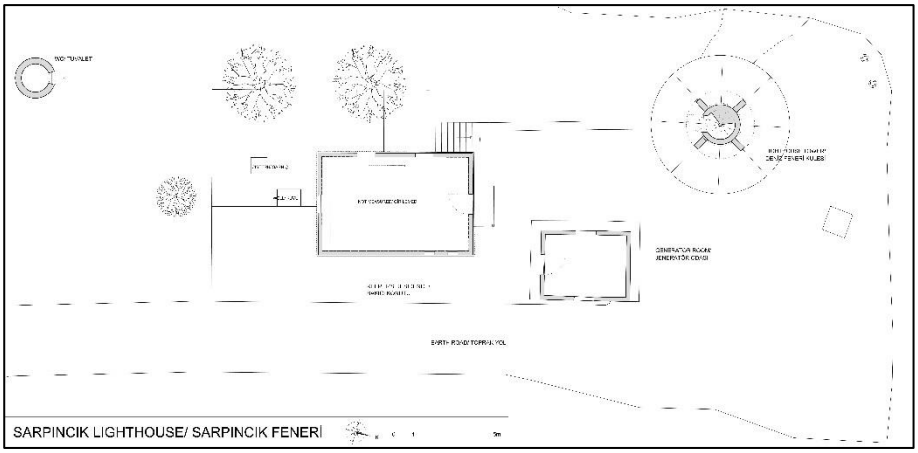



*Figure 3.203.* Plan of Sarpıncık Lighthouse *(Author, 2014)*

There are several structures. The keeper's residence and the light tower form the original scheme, with a depot added later in-between. There is also a cylindirical toilet away from the keeper's residence. And the stone masonry house situated close to the lighthouse had been the structure used during the construction of the lighthouse for temporary accommodation.



*Figure 3.204.* Light Tower of Sarpıncık Lighthouse. *(Author,20.04.2014)*

The reinforced concrete, buttressed conical light tower is 13m high. It has a terrace and balcony that bears the light room with a flat roof. All the windows of the light tower face south. Light tower is plastered and painted white.



*Figure 3.205.* Keeper's residence of Sarpıncık Lighthouse. *(Author,20.04.2014)*

11m away from the light tower is the concrete skeleton/ masonry composite structure, keeper's residence as a rectangular prism. It is the only two storey example in our research.[439] The ground floor of the house is accessed from the north. There is a wind trap added in 2007. It has two small and three big windows on all but north façade. The basement is accessible by a door on the west façade and has a small window on the south. Keeper's residence has a timber sloping roof with three chimneys, covered with tiles. The building exterior is plastered and painted.

[439] Two-storey Pasaport Light Station in İzmir is an exception to this as it is a headquarters building for Lighthouse Authorities.



*Figure 3.206.* Two storey keeper's residence of Sarpıncık Lighthouse. *(Author,20.04.2014)*

The depot/ generator room is a rectangular prism with a sloping roof, accessed from the south. It has windows on east and west facades. The building exterior is plastered and painted.

The separate, cylindirical toilet is 2m in diameter. It is accessed from the north. Stone masonry is exposed.



*Figure 3.207.* Cylindirical rubble stone masonry toilet, with a compacted soil roof and timber door, located away from the lighthouse *(Author,20.04.2014)*

Sarpıncık Lighthouse plan is identical with Artvin Hopa Lighthouse. The former is completed in 1938 and the latter in 1937.

The construction of Sarpıncık Lighthouse is synchronic with the construction of the Parachute Tower in Kültürpark. The two towers have similar architectural characteristics as a conical body supported with buttresses, though the Parachute tower is much bigger in scale. Sarpıncık is 13 m high whereas the Parachute Tower is 48 m. There is a possibility that the two towers might have been designed by the same architect/ engineer team. And constructed by the same crew as transporting concrete to such a remote site as Sarpıncık would have been quite a challenge and require professional practice/ consultation in 1938.

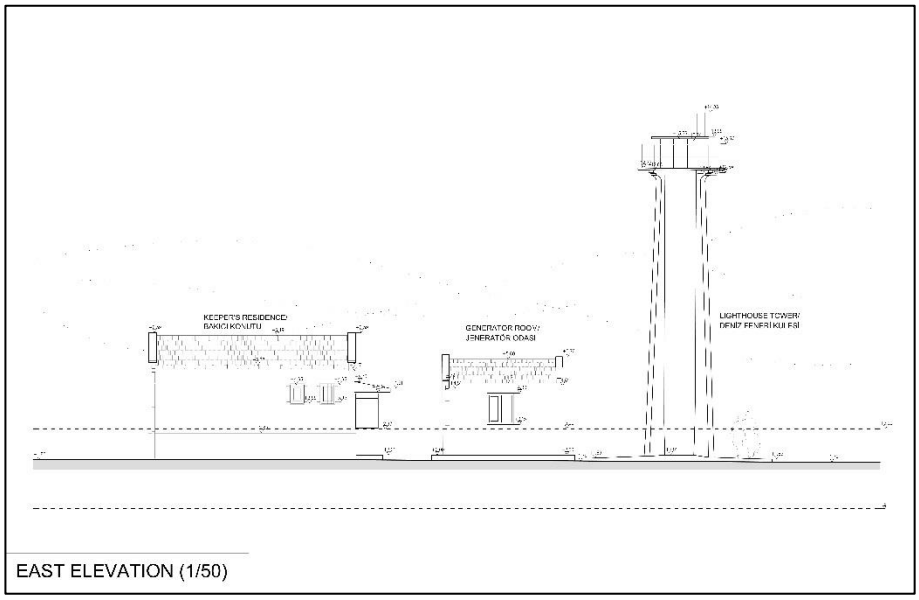



*Figure 3.208.* East elevation of Sarpıncık Lighthouse *(Author, 2014)*

Since its foundation until 2010, the lighthouse had been maintained regularly with simple interventions like painting, roof tile replacement. In 1980s to operate the light acetylene was used. A cylindirical depot to store the canisters were constructed between the keeper's residence and light tower. In 2007 the residence and light tower were restored. The interior and exterior plaster of the light tower were renewed. All the timber windows of the tower and keeper's residence were transformed into PVC. The chimney on the west façade was demolished and a window was added. A bathroom was added inside and the cylindirical acetylene depot was turned into a rectangular generator room to energize the keeper's residence. The light started to operate on solar energy. In 2010, the light was linked to the central remote operating system, thus, the light keeper Mustafa Canıtez and his family were removed. Mustafa Canıtez started working in İzmir Headquarters.

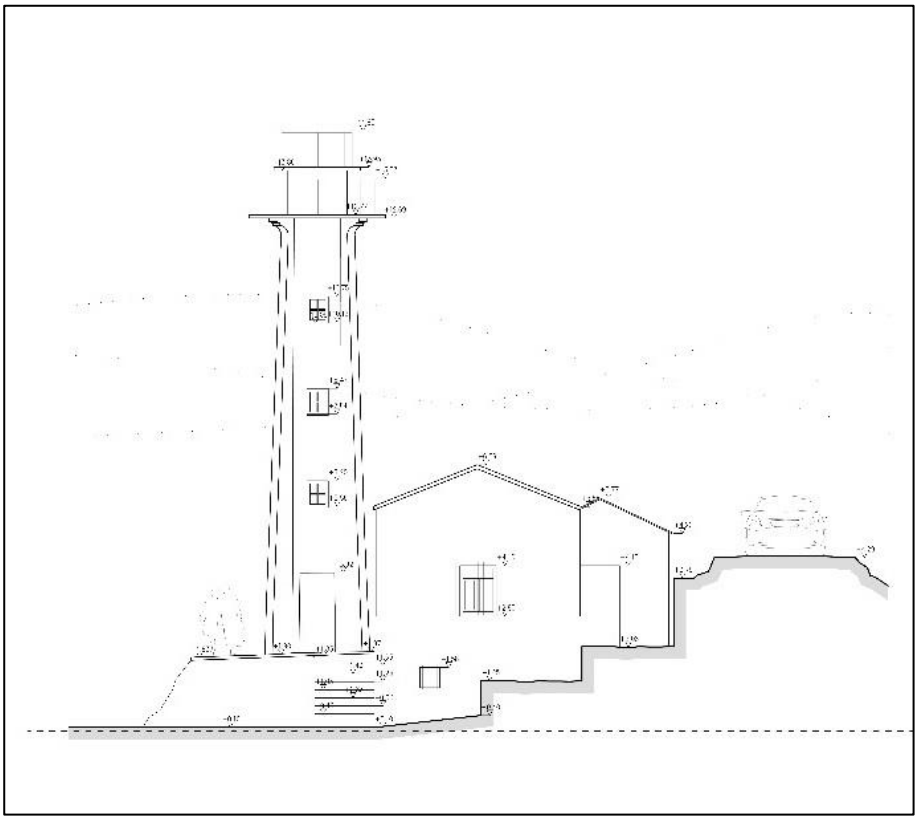


*Figure 3.209.* South elevation of Sarpıncık Lighthouse *(Author, 2014)*

Although the structures were restored in 2007, the exterior plasters have dense cracks. All buildings have rising dampness, condensation and rain penetration problems. As there is no light keeper residing here the buildings have deteriorated rapidly.

Sarpıncık Lighthouse had always been kept by the same family who had taken part in its construction between 1933- 1938. In our research, the current light keeper Mustafa Canıtez and the former light keeper uncle Cavit Taylan were interviewed. The family members took part in the construction of these structures. The light keeper family had good connections with the Sarpıncık villagers. The lighthouse acted like a community hall when the first radio and TV in the region arrived there. Villagers would gather and get news from the "capital". In this respect, Sarpıncık is significant

for the protection of the intangible heritage of light keeping. And it is a testimony to the social relationship of the lighthouses with their surroundings.

Table 3.5. *Timeline of Sarpıncık Lighthouse and its keepers (Author, 2014)*

| SARPINCIK LIGHTHOUSE TIMELINE | | | | |
|---|---|---|---|---|
| 1933- construction started- Hasan Taylan worked in the construction | | | | |
| ↓ | | | | |
| 1938- lighthouse started operating | | | | |
| ↓ | | | | |
| 1939-1965 Hasan Taylan has been appointed as the lighthouse keeper | | | | |
| ↓ | → | 1965- 1967 Father of Hasan Hakan Erbek has been appointed as the lighthouse keeper | → | 1994- ... Hasan Hakan Erbek still serves as a technican to keep lighthouses and install technical equipment |
| 1967-1992 Cavit Taylan, son of Hasan Taylan, has been appointed as the lighthouse keeper | | | | |
| ↓ | | | | |
| 1993- Mustafa Canıtez, niece of Cavit Taylan, has been appointed as the lighthouse keeper | | | | |
| ↓ | | | | |
| 2007 Renovation had been completed in Sarpıncık lighthouse | | | | |
| ↓ | | | | |
| 2010 Mustafa Canıtez had moved out of the lighthouse to serve in İzmir. He is still the keeper of Sarpıncık Lighthouse. | | | | |

As a navigational aid, the light tower brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[440]

Sarpıncık Lighthouse is currently a part of the cultural route "Yarımada Rota" that connects Efes- Mimas (old name of Karaburun).[441] The route is offered by İzmir Metropolitan Municipality as a hiking and biking path. It is around 709km long. The route connects cultural, archaeological and natural heritage, olive yards, vineyards, local/ rural marketplaces and festivals. But the most important part is the complementary "blue route" that focuses on maritime heritage of İzmir. It is composed of four parts: (1) usage of coastal islands of İzmir for daily tourism and sea sports, (2) building the maritime routes and transportation between Karaburun, Çeşme and Foça with Aegean Islands of Chios and Sisam for historical and cultural links, (3) supporting sea sports as sailing races, diving, amateur fishing, and Urla Water Sports center, (4) reinforcing sea tourism by sea festivals, blue flag beaches, Urla Underwater Archaeology Museum, Kiklad vessels, İzmir Boats and ancient maritime routes. As different phases to the project, İzmir Metropolitan Municipality is building piers along the perimeter of the İzmir Bay to connect the center to suburbs and islands, offering new and varied diving locations for marine life and ship wrecks and building artificial reefs and supporting amateur fishing with rods.

[440] (KEGM, Seyir Yardımcıları, 2019)
[441] (İzmirMetropolitanMunicipality, 2017)




*Figure 3.210.* Rota Yarımada, Efes-Mimas Cultural Route that passes from Sarpıncık Lighthouse *(İzmirMetropolitanMunicipality, 2017)*

Sarpıncık is located very close to the Greek Island of Chios. Due to its proximity and solitude, the lighthouse had been used by refugees for trespassing to Greece, hence European Union, in the recent years. Light keeper Mustafa Canıtez narrates several incidents.[442] However, during WWII, a reverse route had been observed between Chios and Karaburun: Former light keeper Cavit Taylan narrates Greek citizens seeking refuge in Sarpıncık coast to escape from military service during the WWII and his father helping them by providing food and water.[443] It must be noted that during this time Karaburun was even more remote, had no overland roads and the only connection to İzmir city center was through occasional, daily boat trips.

[442]Interview with Mustafa Canıtez, Author, 2014.
[443] Interview with Cavit Taylan, Author, 2014.

### 3.2.3.9. Çeşme Fener Cape Lighthouse

Fener Cape marks the entrance to the Çeşme Harbour, in İzmir. It faces the Greek Island of Chios. It is visible on the coastline. Çeşme is the maritime border gate of Turkey with Greek Island of Chios. And it has a marina.

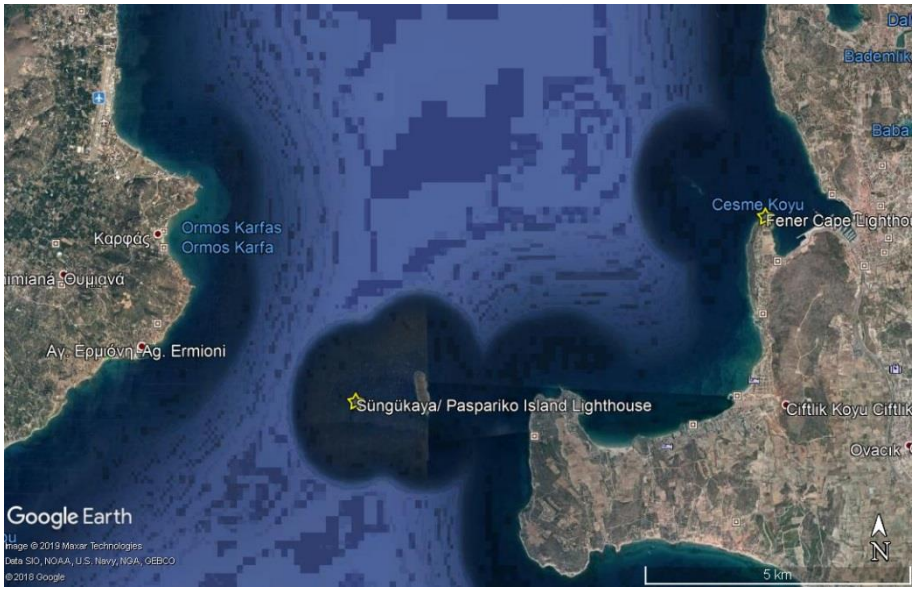



*Figure 3.211.* Çeşme, Chios and lighthouses *(GoogleEarth, 2019)*

The Fener Cape is 1st Degree Natural Site. And the land use is defined as urban and rural settlement.[444]

[444] (MoEaU, İzmir - Manisa Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ İzmir-Manisa Planning Zone 1/100.000 Scale Environmental Plan, 2014)




*Figure 3.212.* Çeşme Fener Cape Lighthouse surrounded by dense secondary housing *(GoogleEarth, 2019)*

Çeşme has always been a maritime settlement since the ancient periods into the middle ages. During the Ottoman Period the navy was settled here. Sea battles were fought here. Ancient and Ottoman shipwrecks of commercial or military nature around Çeşme are testimony to the international maritime links around the Mediterranean since centuries. Çeşme Lighthouse is a part of this maritime heritage.

Çeşme Lighthouse was constructed on 30 November 1879. It was repaired in 1949. Today it is a 4m concrete tower. No light keeper resides here. It is operated and controlled remotely.



*Figure 3.213. Çeşme Fener Cape Lighthouse (KEGM, Kıyı Emniyeti Genel Müdürlüğü, 2012)*

The lighthouse is well maintained and does not have any structural or material problems.

As a navigational aid, the light tower brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[445]

[445] (KEGM, Seyir Yardımcıları, 2019)

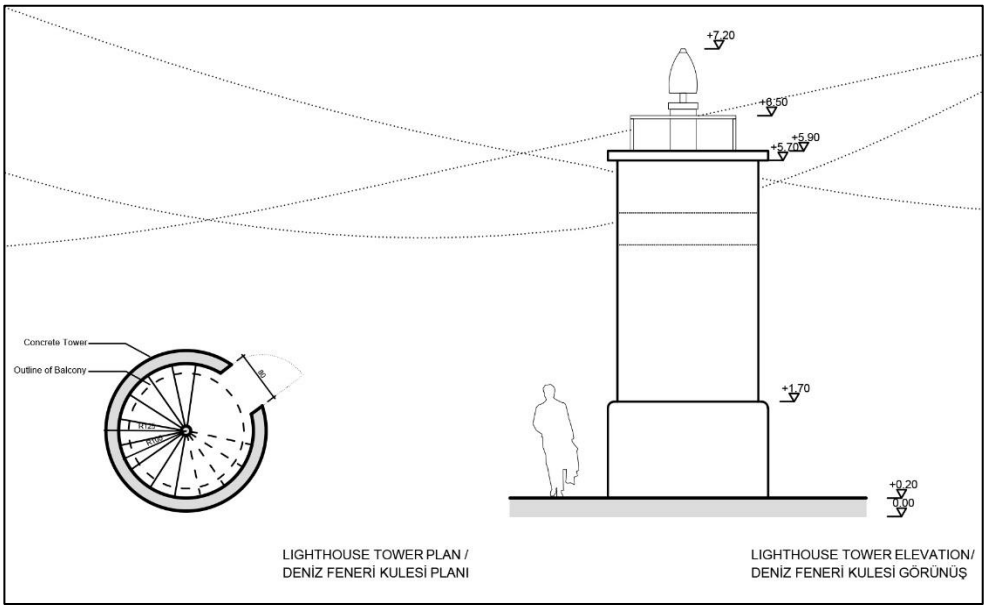



*Figure 3.214.* Plan and elevation of Çeşme Fener Cape Lighthouse *(Author, 2015)*

### 3.2.3.10. Süngükaya/ Paspariko Island Lighthouse

This lighthouse is situated on Süngükaya Island which is closer to the Greek Island of Chios, than to Çeşme. The lighthouse and other service structures are the only man-made elements on the island. Thus, the lighthouse is visible from all directions in the sea with no vegetation on the island. Legally, it is defined as agriculture land.[446]

[446] (MoEaU, İzmir - Manisa Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/ İzmir-Manisa Planning Zone 1/100.000 Scale Environmental Plan, 2014)




*Figure 3.215.* Süngükaya/ Paspariko Island and the Lighthouse *(GoogleEarth, 2019)*

Being located between Chios and Çeşme the lighthouse had been and still is important for the maritime routes on this narrow passage. Süngükaya Lighthouse is a part of the maritime legacy of Çeşme and its Mediterranean links.

No light keeper resides here. It is very hard to access the island on stormy weather. There is no pier, just rocks to climb on.

Süngükaya Island Lighthouse was constructed in 1863. It was repaired in 1919.[447] Its tower is 9m high, rectangular in plan. Currently, a steel frame light structure, nestled inside the service building, is operating instead of the original light tower.

The lighthouse has a T shaped plan, in terms of the keeper's residence and the adjacent light tower. The relationship of different structures, the light tower, keeper's residence, other residence/ service building is unique when compared to other lighthouses in the research area.

[447] (Ay, 2000)



*Figure 3.216. Süngükaya/ Paspariko Lighthouse on the island (LighthousesRus, 2018)*




*Figure 3.217.* Süngükaya/ Paspariko Lighthouse on the island *(Zaimis, 2017)*

The roof of the keeper's residence and the light tower had collapsed. But the walls are intact, and the full height may be observed. The service building which is as big as the residence is ruined. But the layout of all structures is recognizable. There are two stone paved paths linking the structures on the island. One of them leads to the coast of the island marking an access to the lighthouse.

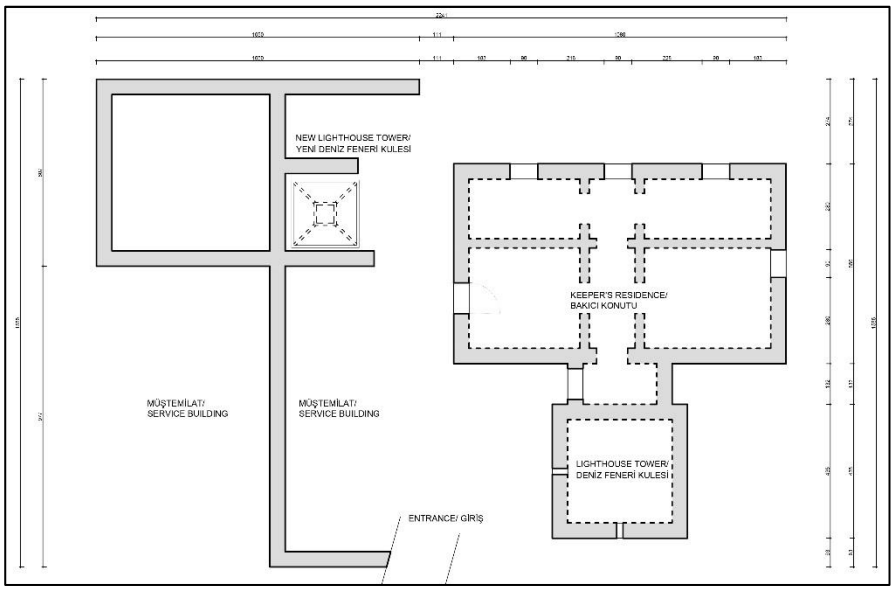



*Figure 3.218.* Sketch Plan of Süngükaya/ Paspariko Lighthouse on the island (Author, 2018)

As a navigational aid, the new light tower brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[448] The original light tower is obsolete.

[448] (KEGM, Seyir Yardımcıları, 2019)

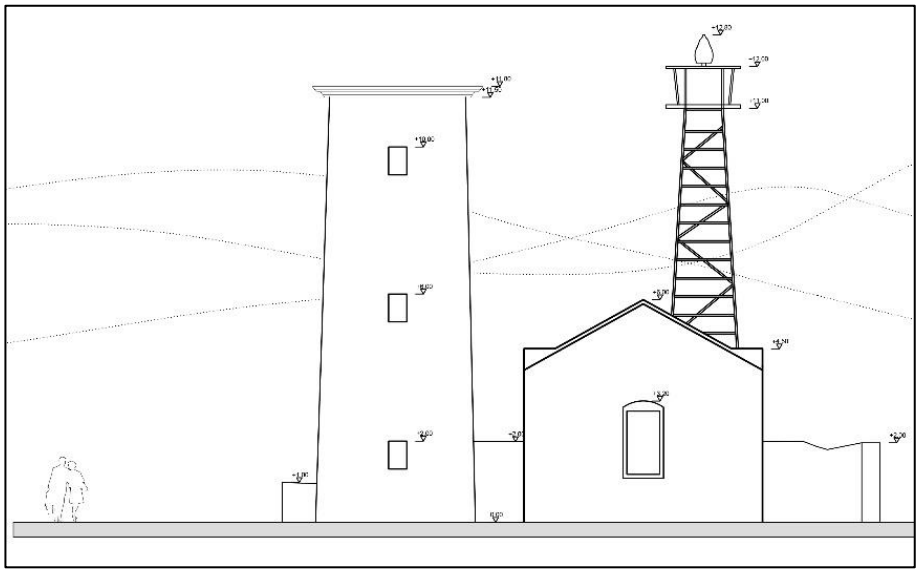


*Figure 3.219.* Elevation of Süngükaya/ Paspariko Lighthouse on the island (Author, 2018)

### 3.2.4. Aydın

Aydın has two lighthouses in this study: (1) Kuşadası Güvercin Island (2) Bayrak Island/ Panagya.

#### 3.2.4.1. Kuşadası Güvercin Island Lighthouse

It is located on Güvercinada Island inside Güvercinada Fortress (1826), overlooking north. The lighthouse shares the fortress wall as its north wall. The island is 1st Degree Archaeological Site.[449]

[449] (MoEaU, Aydın-Muğla-Denizli Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/Aydın-Muğla-Denizli Planning Zone 1/100.000 Scale Environmental Plan, 2016)

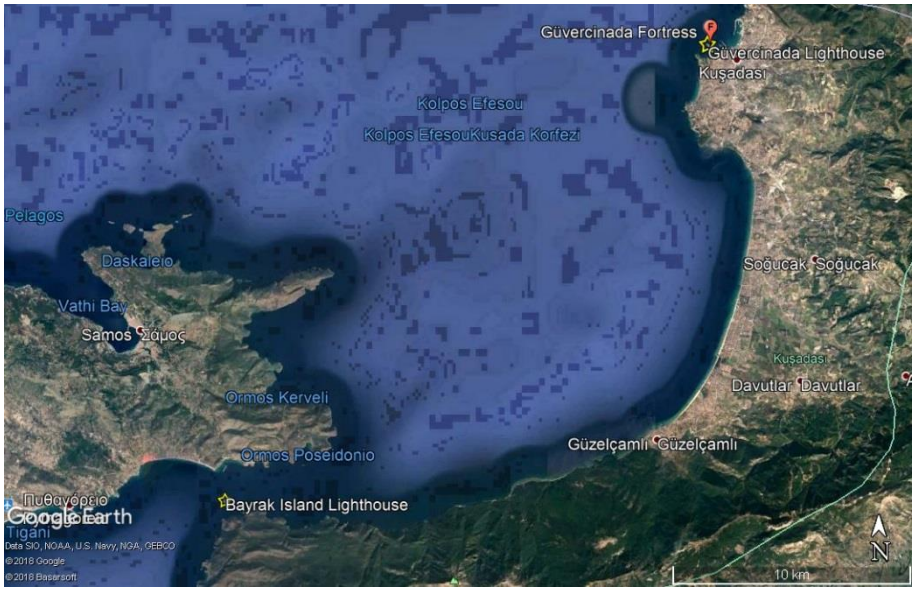



*Figure 3.220.* Kuşadası Lighthouses on two islands *(GoogleEarth, 2019)*

The island is connected to the mainland with a later period pier. It is across the busy, international Kuşadası Ferry Harbour.

The lighthouse tower is visible from all directions, standing atop the high fortress. The keeper's residence is hidden behind the fortress wall. It is almost buried into the ditch.




*Figure 3.221*. Güvercinada is occupied by the Fortress which houses the Lighthouse *(GoogleEarth, 2019)*

The fortress was built in 1826. The lighthouse was built in 1864 and repaired in 1938.[450] The fortress was repaired in 1970s, restored in 2012-2013.

[450] (Ay, 2000)



*Figure 3.222.* Güvercinada Lighthouse in Güvercinada Fortress, Kuşadası. *(Author, 03.05.2014).*

The keeper's residence was used by light keeper Bayram Keskinkılıç and his family until 2013. Then they were evacuated. Keskinkılıç continues his work as a light keeper of 6 lighthouses around Kuşadası and Didim in Aydın. He resides in Kuşadası with his family.

Güvercinada Lighthouse has a lot of visitors as it is nestled inside the touristic Güvercinada Fortress. Many of them want to see the lighthouse and keeper's residence but they are not allowed.

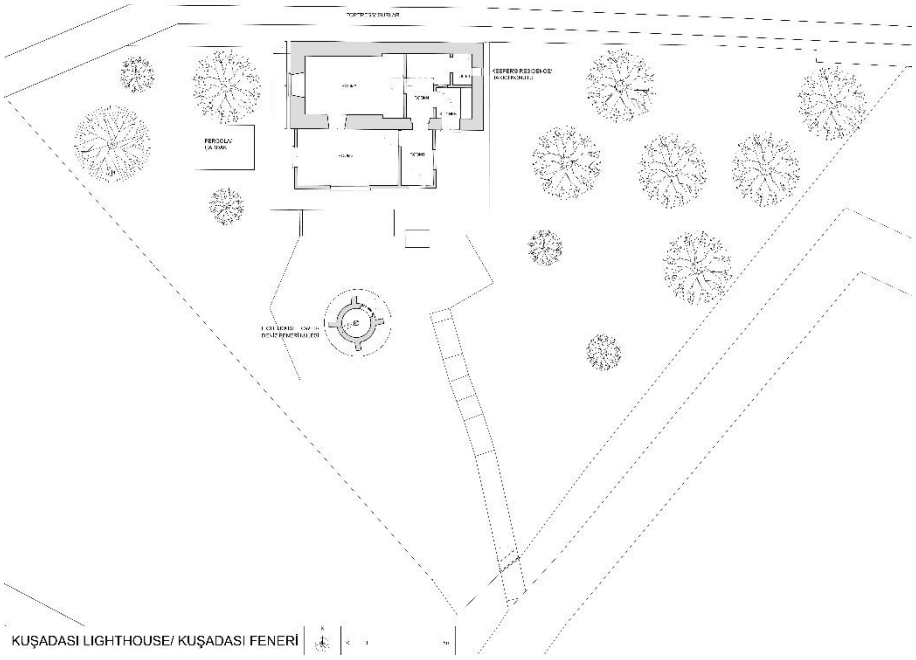



*Figure 3.223. Site Plan of Güvercinada/ Kuşadası Lighthouse (Author, 2015)*

Originally, the keeper's residence is a single rectangular prism with a hall connecting to a major room, a kitchen, a toilet and bathroom. Later in 1980s a single room and a hall had been added to the land side. In 2014 the structures were evacuated and the restoration works had started. During the implementation process, this annex room had been demolished and the lighthouse was returned to its original condition.

The light tower is a brick masonry, free standing structure. It is supported with buttresses.

Though the structures had problems, after the restoration these were resolved. They are in good condition today.

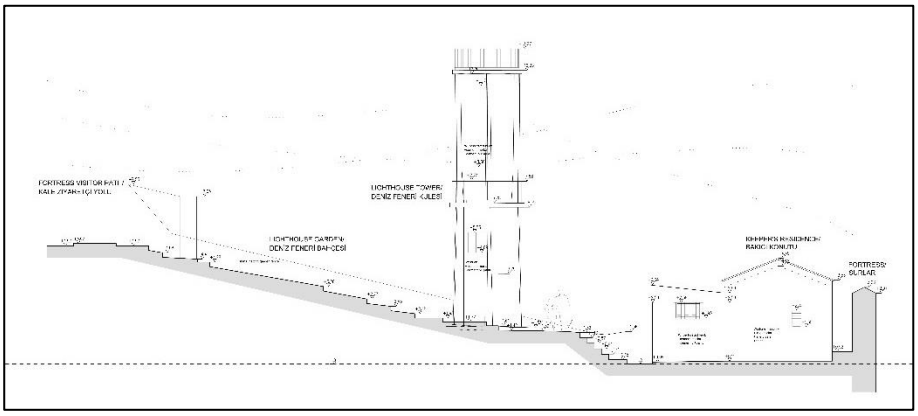


*Figure 3.224. East elevation of Güvercinada/ Kuşadası Lighthouse (Author, 2015)*

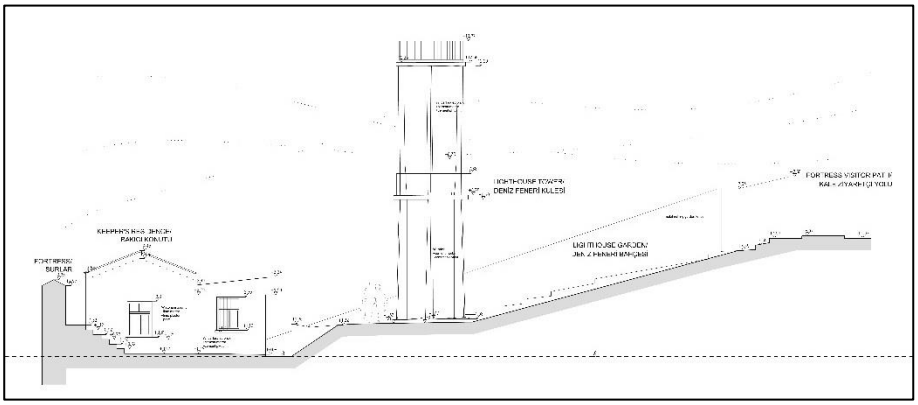


*Figure 3.225.* West elevation of Güvercinada/ Kuşadası Lighthouse *(Author, 2015)*

As a navigational aid, the light tower brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[451]

### 3.2.4.2. Bayrak/ Panagya Island Lighthouse

The lighthouse is situated on Bayrak/ Panagya Island off the southern coast of Kuşadası Güzelçamlı National Park. Legally, the island is within the wider boundary

[451] (KEGM, Seyir Yardımcıları, 2019)

of the National Park, marked as an Important Nature Zone, too.[452] The island is midway between Turkish mainland and Greek Island of Samos. Thus, it is the westernmost Turkish land at this location. The distance between Samos and Bayrak Island is 740m.

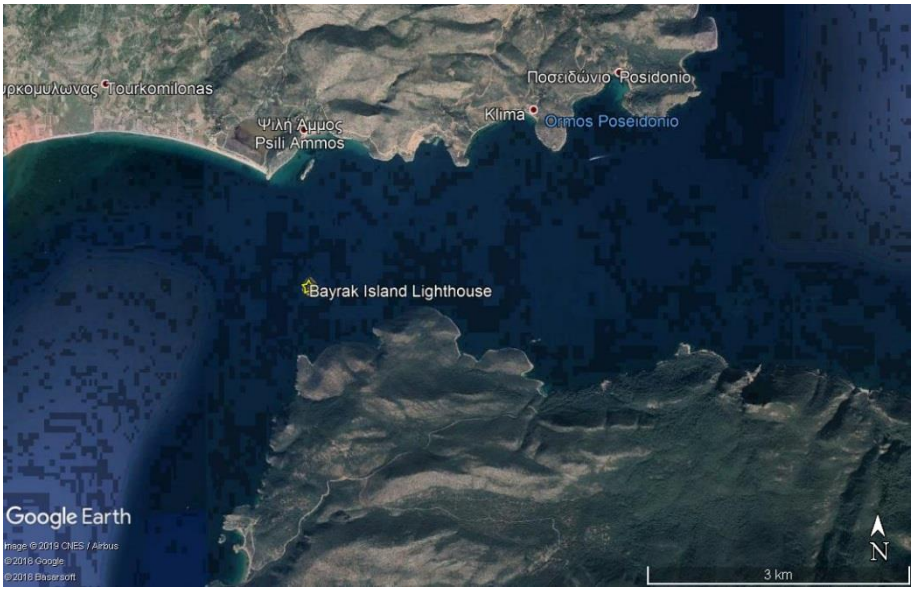



*Figure 3.226.* Bayrak Island between Greek Samos Island, top, and Güzelçamlı National Park on Turkish mainland, bottom, is home to its only structure, the Lighthouse. *(KEGM, Kıyı Emniyeti Genel Müdürlüğü, 2012)*

The lighthouse marks a ciritical location in a very narrow sea pass. Thus, it is very important for the maritime routes sailing from southern to northern Aegean. It is visible from all directions in the sea.

[452] (MoEaU, Aydın-Muğla-Denizli Planlama Bölgesi 1/100.000 Ölçekli Çevre Düzeni Planı/Aydın-Muğla-Denizli Planning Zone 1/100.000 Scale Environmental Plan, 2016)




*Figure 3.227.* Bayrak Island Lighthouse may be considered a light station as it has an original L shaped keeper's residence with the light tower, an outdoor kiln, a boatshed and a new light tower. *(GoogleEarth, 2019)*

Bayrak Island is home to seabirds, Mediterranean seals[453] and sword fishes as well as many scorpions and lizards. The staff of the Güzelçamlı National Park tell that sometimes wild boars swim to the island. On stormy days the sea rises as high as the lighthouse on top. As the lighthouse structures constitute the only man-made elements on the island, it may be considered a cultural landscape/ seascape.[454]

Bayrak/ Panagya Island Lighthouse was built in 1902 and it has the same plan with Bozburun in Yalova, also built in 1902.[455]

Noone resides on the island today. Sometimes it is used by researchers.

[453] The research on Mediterranean Seals were carried out by TUDAV. (TUDAV, 2010)
[454] For many years there were only 3 items on Dilek Peninsula and this narrow strait: The lighthouse, the outpost in the National Park and the light keeper's boat. Now there is a radar tower across Bayrak Island Lighthouse in the National Park.
[455] (Ay, 2000)

It has an L shaped keeper's residence with the concrete light tower attached in the middle. There is also a boat shed on the coast of the island. And an outdoor cistern and fireplace to survive here.



*Figure 3.228.* Bayrak Island Lighthouse. *(Author, 10.06.2014).*

The light tower is structurally in a critical condition. There are deep cracks along the vertical axis. The roof of the keeper's residence is damaged at some points, though the general outline is clearly visible. The keeper's residence timber floors are heavily damaged. The exterior and interior plaster is peeling. The light station needs urgent conservation interventions.

Bayrak Island Lighthouse is identical with Yalova Bozburun. With only two lighthouses of this kind, it is a very unique example of its time, construction technique and design. Its location is unique and it acts as the interface between Greece and Turkey. Thus, it is very significant.

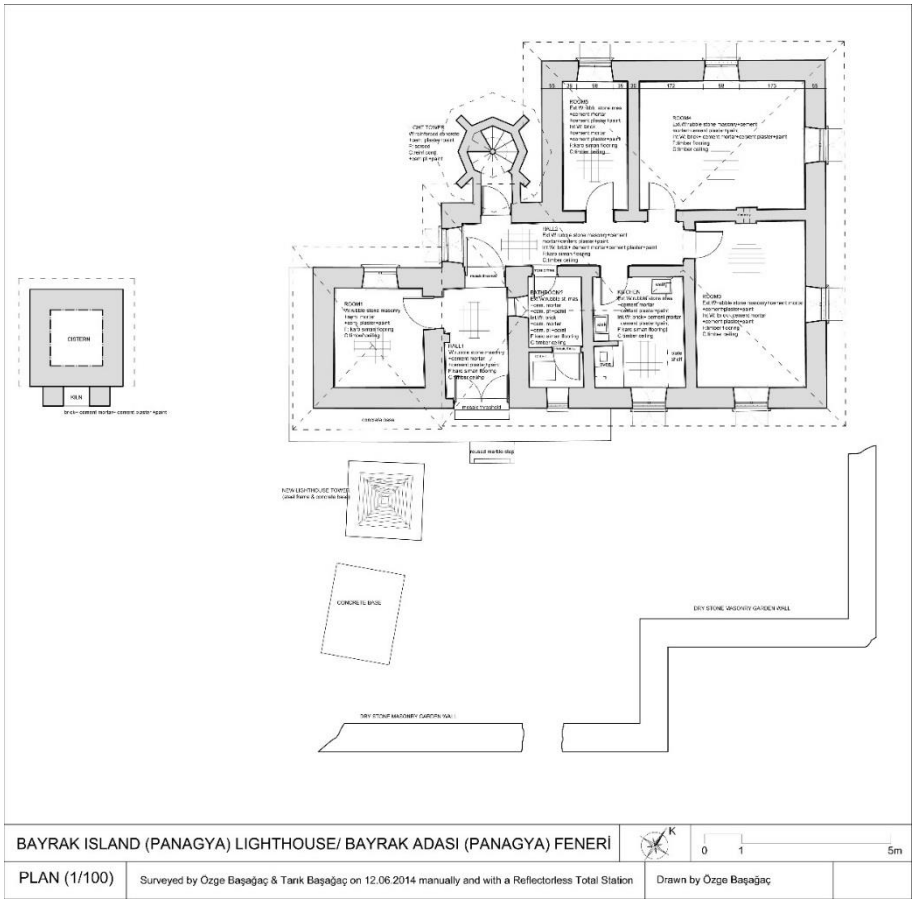



*Figure 3.229.* Plan of Bayrak Island Lighthouse structures *(Author, 2015)*

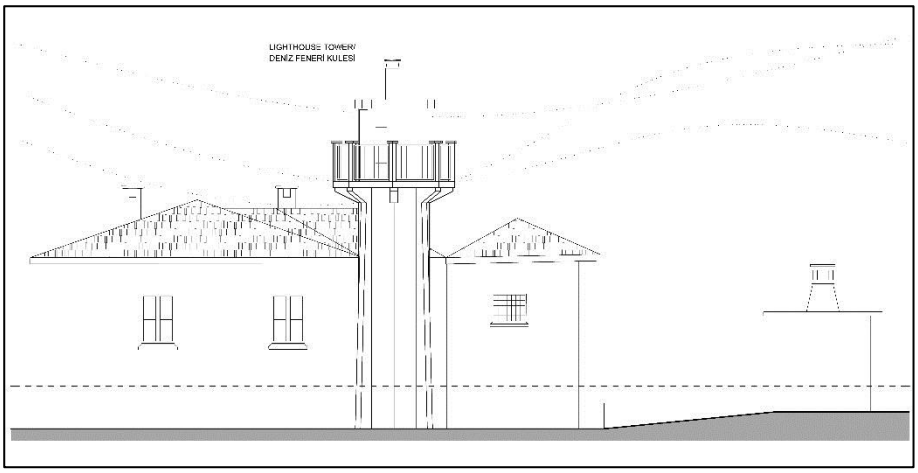



*Figure 3.230.* North elevation of Bayrak Island Lighthouse structures *(Author, 2015)*

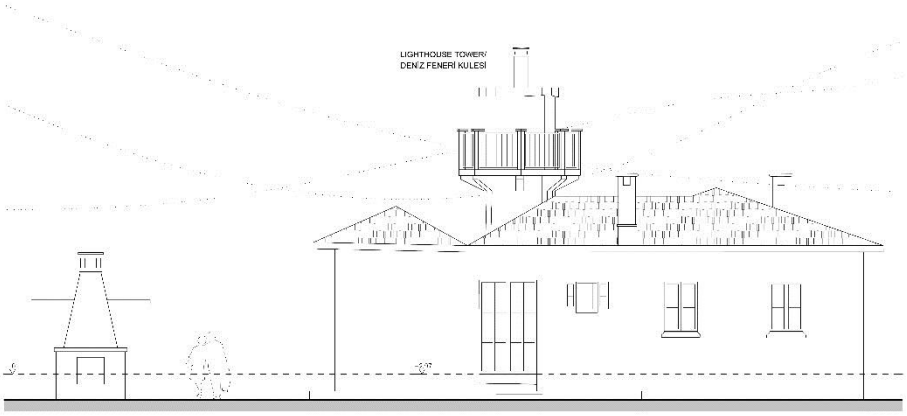



Figure 3.231. North elevation of Bayrak Island Lighthouse structures (Author, 2015)

As a navigational aid, the new light tower brings revenue for the general budget of Coastal Safety by the accumulation of the general lighthouse fee.[456] The original light tower is obsolete.

[456] (KEGM, Seyir Yardımcıları, 2019)

# CHAPTER 4

# ASSESSMENT OF LIGHTHOUSES AS A PART OF MARITIME HERITAGE IN AEGEAN COAST, TURKEY

## 4.1. Assessment of Characteristics and Current Condition of Lighthouses

Pharology offers different types of classifications for lighthouses:[457] The first group is regarding the location: Coastal, Open Sea, Direction, Harbour/ Breakwater, Leading Lighthouses. The second group is regarding the light characteristics as light frequency and light color. Light frequency groups are Flashing Lighthouses, Group Flashing Lighthouses, Fixed and Group Flashing Lighthouses. Light color groups are Fixed color and Varying color lighthouses (blue, green, red, violet, white, orange). The third group is regarding the source of energy used as Acetylene gas, Electrical, Battery (accumulator) operated, Electrical lighthouses. However, our research focuses on the site and architectural characteristics as well as condition of lighthouses in Turkey to understand, assess and classify this heritage.

### 4.1.1. Site and Architectural Characteristics of Lighthouses

Site characteristics of lighthouses may be discussed in terms of location of and open/ closed space relationship. The location of the lighthouses differs as on the peninsula- same level with the sea, on the peninsula- above the sea, distanced from the sea as the topography had changed, on a high hill overlooking the sea, on a sloping ground starting from the sea coast, on an island/ islet, within the bay- same level with the sea and on the mole/ pier. Aegean lighthouses are mostly on islands, islets and rock patches because of the rugged nature of the Aegean coast. Few examples lie on

[457] (Trethewey, Pharology, 2012)

main land. Thus, the majority of accessibility is through the sea with or without sea quays. For mainland examples almost all have pathways instead of paved roads.

19. century lighthouses are building complexes composed of light towers, keeper's residence and service buildings. Thus, they are sometimes called light stations. Situated away from settlements, usually in inaccessible sites they are designed to be self sustainable. In general, the keeper's residence is located next or close to the light tower. The service spaces usually have different purposes like well, cistern, rocket house, boat house, depot, toilet, chicken coop, oven. The lighthouse complex is accessed through a courtyard or garden. The lighthouses without a residence is managed and operated by a keeper residing in another lighthouse in the vicinity.

Regarding the context of lighthouses, out of 33 lighthouses in total, 5 of them are in an urban context.[458] 4 of them are in a rural context.[459] The rest 24 lighthouses are located in a natural context, either on mainland, in the sea or on islands/ islets. Some of these natural contexts are penetrated by industrial acitivites, especially investments related to energy production.[460]

The assessment of architectural characteristics first focuses on plan types. It must be noted that this plan typology is constrained by the lighthouses of Turkey. However, these lighthouses are a part of a bigger group which had been mostly constructed during the Ottoman Empire, scattered through the vast coasts of the Empire at the time. Yet, most of these lighthouses are located in other countries as of 2019. Thus, they were not included in this research due to accessibility issues. Likewise, in other parts of the world these types may have emerged much earlier or may have been totally different regarding geographical, climatic and social/ economic conditions.

[458] These are Gelibolu, Çimenlik Cape, Edremit Karaburun, Değirmen Cape, Pasaport.
[459] Kilitbahir, Seddülbahir, Babakale and Sivrice.
[460] Bozcaada West Cape/ Polente and Karaburun Sarpıncık have wind power turbines, Aliağa Ilıca Cape has petrol refinery facilities in their vicinity.

Our plan typology has 7 different groups. Olcay Yerlikaya[461] and Elif Özlem Aydın[462] discuss the typology of the lighthouses only assessing the ones with a keeper's residence, suggesting 5 groups. The typology is based on a list of already available survey drawings from KEGM of 24 lighthouses with keeper's residence. Yerlikaya enhances this initial analysis with self studied surveys of 5 lighthouses in İzmit Bay. The overall typology has 21 plans of different lighthouses. As stated above, KEGM only lists 54 lighthouses with a keeper's residence as these are the healthy buildings which have been used until recently. Yet, in the list of lighthouses and fog signals offered by Office of Navigation Hydrography and Oceanography[463] most of these keeper's residences are not written because of their poor condition or because the residences are obsolete. In our research, we have identified several other keeper's residences still intact and standing or in partial remains which were not included in the current list of lighthouses. The number of newly identified lighthouses with a keeper's residence is 10.[464] However, regarding the pharalogy definition, lighthouses merely composed of light towers that are operated with at least one person from within are also included in our typology. Though not very common in our country, there are also few examples where keeper's residence is nestled inside the light tower, such as Rumeli and Ahırkapı Lighthouses in İstanbul.[465] Our research is enhanced by our onsite surveys, the studies of Reyhan Ay[466], Olcay Yerlikaya[467] and information gathered from KEGM resources. Thus, our typology has 7 groups assessing 48 lighthouses in total. These are (1) single light tower without a keeper's residence, (2) single light tower with inherent keeper's residence (3) T shaped keeper's residence and adjacent light tower, (4) rectangular or square shaped keeper's residence and adjacent light tower, (5) rectangular or square shaped keeper's residence and

[461] (Yerlikaya, 2011, p. 42)
[462] (Aydın & Yerlikaya, 2015/04)
[463] (Office of Navigation H. a., 2012)
[464] (Office of Navigation H. a., 2012) These are Karakova, Aydıncık Cape, Damlacık/ Gadaro Island, Güneş Island, Çıplak Island, Oğlak Island, Değirmen Cape, Pasaport, Süngükaya, Bayrak Island Lighthouses.
[465] (Ay, 2000)
[466] (Ay, 2000)
[467] (Yerlikaya, 2011)

independent light tower, (6) L shaped keeper's residence and adjacent light tower, (7) variable shaped keeper's residence and adjacent light tower.

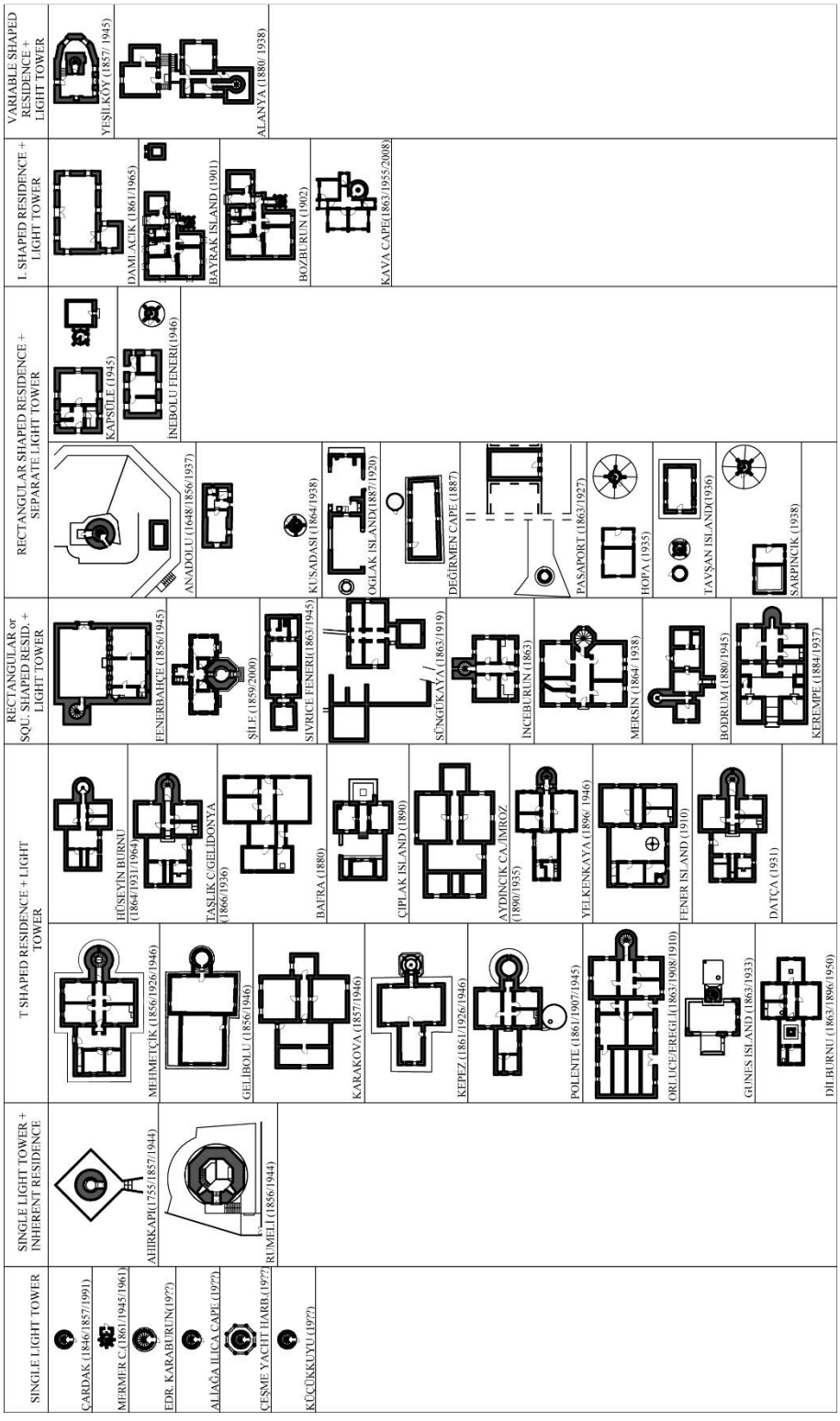



*Figure 4.1.* Plan typology of lighthouses in Turkey *(Başağaç & Altınöz, An Important Maritime Heritage: Lighthouses of Turkey, The Case of Aegean Coast, 2018)*

Single light tower without a keeper's residence group is mainly composed of reinforced concrete and metal cylindirical structures. 5 lighthouses[468] are basic cylinders and only one is a buttressed cylinder. All structures are accessed by a single door leading to steps which end in the light balcony. This group had developed during 1940s and it is stil being widely used as the structures are compact and easy to construct.

Two examples exist for single light towers with inherent keeper's residences: Ahırkapı (built in 1755 and rebuilt in 1857) and Rumeli (1856) Lighthouses of İstanbul.[469] Both lighthouses have several storeys with a central space flanked by stairs. The walls and stairs are made of masonry whereas the floors are timber. Though seen in other countries of the world, these lighthouses had only been built in the capital of the Ottoman Empire. They are rare for Turkey in this respect.

The most variety is observed in T shaped keeper's residence and light tower group with 16 lighthouses.[470] The earliest of this plan type is from 1856 and latest from 1931. T plan has living quarters and wet spaces in the T of the residence where the light tower is located towards the top of the T. Mehmetçik (Hellespont) and Bozcaada Polente Lighthouses are in this group. There are also some T plan examples where the lighthouse is situated in a courtyard, like Fener adası and Dilburnu.[471]

Square or rectangular shaped keeper's residence group has 8 lighthouses.[472] The earlieast example is from 1856 and latest from 1884. The examples of this group have living quarters and wet spaces arranged along a hall. At the end of the hall the light tower is attached.

[468] Çardak, Edremit Karaburun, Aliağa Ilıca Cape, Çeşme Yacht Harbour, Çanakkale Küçükkuyu.
[469] (Ay, 2000)
[470] These are namely Mehmetçik, Gelibolu, Karakova, Kepez, Polente, Örlüce, Güneş Island, Dilburnu, Hüseyin Burnu, Taşlık Cape, Bafra, Çıplak Island, Aydıncık Cape, Yelkenkaya, Fener Island, Datça Lighthouses.
[471] (Yerlikaya, 2011, p. 42)
[472] Fenerbahçe, Şile, Sivrice, Süngükaya, İnceburun, Mersin, Bodrum, Kerempe Lighthouses.

Square or rectangular shaped keeper's residence with an independent light tower group has 10 lighthouses.[473] The earliest example is from 1856 and the latest from 1946. These are usually simpler compared to the other groups. The entrance is through the middle axis of the building. There is a wet space and another room which is used for living and sleeping. The cylindirical or conical light tower is situated a few meters away from the residence. In the examples built between 1856-1935 the towers are either masonry or iron/ steel. The examples built after 1935 all have concrete light towers.

L shaped keeper's residence and light tower group has 4 lighthouses.[474] The earliest example dates from 1861 and the latest example was built in 2008. This group has the entrance close to the corner. Wet spaces, living and sleeping quarters are situated within the L whereas the tower is situated in the inner corner.

The variable shaped keeper's residence and light tower group has 2 lighthouses; Alanya Fortress and Yeşilköy. This group has wet spaces and living/sleeping quarters dispersed irregularly within the building. The light towers are attached to the residence or designed directly in the residence floor.

The design of lighthouses pays little attention to site characteristics. Thus, the same plan type may be observed in furthest two points in Turkey. For example, İzmir Sarpıncık Lighthouse has the same plan with Artvin Hopa. Yalova Bozburun Lighthouse is identical to Aydın Bayrak Island. Single light towers of concrete were mainly developed during 1940s and onwards. Whereas the single light towers with inherent keeper's residences were built much earlier in İstanbul during 1755 and 1856. These are found only in the capital of the Empire. The other plan types had developed in mid 1850s and were mostly used until mid 1940s.

[473] Anadolu, Kuşadası, Oğlak Island, Değirmen Cape, Pasaport, Hopa, Tavşan Island, Sarpıncık, Kapsüle, İnebolu Lighthouses.
[474] Damlacık, Bayrak Island, Bozburun, Kava Cape Lighthouses.

The footprint of the light keeper's residences is between 39m2 (Sarpıncık) and 153m2 (Mehmetçik). The footprint of the light towers is between 3m2 (metal pylon lighthouses) and 15m2 (Mehmetçik).

Evaluation of façades is the second part of architectural characteristics. A great majority of keeper's residences are single storey. But there are few two storeys examples like Sarpıncık Lighthouse in İzmir where the residence has two storeys due to the topography of the site, Pasaport Lighthouse in İzmir which acted like a center for İzmir lighthouses in general and Yeşilköy Lighthouse in İstanbul.

In terms of facade design; T plan, square/rectangular plan and rectangular plan residences show similar characteristics. The facades facing the sea which usually bear the light tower are designed symmetrically. Light towers of varying structural systems that stand in the middle axis divide the facade into two equal parts. The living and sleeping quarters directly behind the light tower have symmetrically placed windows on two sides of the tower. The same symmetry is usually found on facades facing the main land. Wet spaces are situated in the middle of these facades and the windows of the living/ sleeping quarters are placed symmetrically on both sides. The side facades are usually blind, the only opening is the entrance door on the entrance facade. L shaped and variable shaped types usually have the light tower on the sea facade. The other facades are different and mostly asymmetrical. The height of the towers in our research range between 3m (Damlacık) to 25m (Mehmetçik).

Discussion of architectural elements and materials constitutes the final part of architectural characteristics. 19. century light towers were rubble stone, occasionally cut stone and brick masonry with lime mortar. The majority of masonry towers were cylindirical though rectangular plan masonry towers also existed like Süngükaya/ Paspariko Lighthouse in İzmir. The light room situated at the top was covered with a small, iron dome. There were also iron or steel light towers in the 19. century. The metal towers were constructed as skeleton frames or whole posts. From early 1900s onwards concrete towers emerged. These were either cylindirical or conical. Conical

towers were usually buttressed. Adana Karataş Lighthouse tower was built as a rectangular prism in 1950.[475]

A similar situation is seen in the keeper's residence and service buildings. They were generally stone/brick masonry buildings. The jambs were either cut stone or brick. The walls were finished with lime plaster. Stone mouldings or brick eaves connected the walls with roofs. All the buildings had sloping timber roofs and tiles except the light towers which were usually covered with a copper dome. The interiors were plastered with lime. *Yüklük* (a deep closet to keep mattresses and quilts), niches, cupboards, closets, dish shelves, fireplaces are the frequently used architectural elements. Room floors and ceilings were made of timber. Circulation and wet spaces were covered with *carro di cement* tiles.

### 4.1.2. Current Condition of Lighthouses

Discussion of alterations on lighthouses constitutes the first part of the evaluation of current condition. The alterations on the building lot scale range from minor addition of technological devices to extensive reconstructions. From the slightest to most serious these can be listed as change/ alteration of the periphery boundary (enclosure wall, fence, landscaping etc), construction of annexes, addition of new buildings, alteration of open/ closed space relationship, partial reconstruction and total reconstruction.

Alterations in the single building scale can be discussed in two groups as alterations related to the building exterior and interior. Alterations related to the building exterior are, from the slightest to most serious, alteration of exterior facade finishing material, alteration of door/window/opening material and detail, alteration of door/window/opening size, addition/ removal of architectural elements on the facades (balcony, chimney, eaves, solar power panels etc…), closing of doors/

[475] (Ay, 2000)

windows/ openings, alteration of facade construction system, alteration of roof construction system.

Alterations related to the building interior are alteration of interior facade finishing material, alteration of door/window/opening material and detail, alteration of door/window/opening size, addition/ removal of architectural elements (cupboards, closets, etc …), alteration of the construction system of floor/ ceiling, alteration of the construction system of walls, division of the space with new structural elements, partial or total removal of walls/ structural elements.

Evaluation of the physical condition constitutes the final part of assessments of current condition of lighthouses. When problems related to the overall physical condition of the building(s) and degree of damage are evaluated we see partial material decay, material decay, material decay and partial structural deformation, material decay and structural deformation and ruined. The light towers are in the best condition among the different structures that belong to lighthouses/ light stations. They get regular maintenance because they are critical as navigational aids and they raise quite a sum of revenue for the Directorate of Coastal Safety. Usually the lighthouses closer to the city centers are in better condition compared to the ones located in remote locations, especially islands or out in the sea. Çanakkale Lighthouses along the Dardanelles Strait are the best maintained among the studied ones. Being one of the most important waterways in the world requires the best practices. The lighthouses which still have a light keeper residing in or at least closeby are in much better condition. The priority of repair is always given to the optic or communication systems of the lighthouses as opposed to other structures. In fact, the keeper's residence or other structures may only get proper support/ repair in the case of a lease which is far from ideal. In the past, Coastal Safety had used to assign light keepers for the regular maintenance of all structures and even provide materials as paint, roof tiles, lime and so on for the task.

### 4.2. Assessment of Values and Cultural Significance of Lighthouses

Evaluation of lighthouses can not be confined to only the lighthouse structures themselves. To understand the meaning and importance of lighthouses one must interpret the complex relationships between lighthouses, their close (sites) and distant (regions and maritime routes) environments, service providers and users not only at a specific moment in time but over the centuries. This assessment draws results from the lighthouses of Aegean Coast without losing the link to the rest of the Turkish lighthouses as well as international examples.

Lighthouses have a unique architecture that have emerged as a reflection of technology for a specific and continuous function; a navigational aid. They are symbols that have inspired arts. They are the markers of maritime routes and coastal landscapes/ seascapes. Lighthouses are the seedbed of lightkeeping. They are important financial resources and have always been a testimony of political power.

The values/ significance of lighthouses may be discussed in broader groups as functional/ architectural, artistic, group/ contextual, social, use/ economic and historic/ political.

Table 4.1. *Cultural values, challenges, potentials and principles of conservation and management of lighthouses* (Author)

### 4.2.1. Functional/ architectural values

*First and foremost, lighthouses are important navigational aids.* Their function had been the main reason of their creation. It had a big impact on their design and development through centuries. With the development of information technologies, it has become possible to aid navigation through remote digital systems like GPS operating via satellites. However, there are deficiencies related to the satellite systems especially during troubled weather conditions like storms and hurricanes. And the accessibility of the technologies differs greatly regarding the location of vessels in the world, as ashore first world countries versus developing countries. Thus, e-navigation is still provided together with the aid of lighthouses and other tangible aids to navigation. The physical visibility of the lighthouses and light structures is used as bearings to define the position of vessels.

Do we still need lighthouses in 21st century? This question is also posed to Captain Kemal Dursun of the Koca Piri Reis research ship of Dokuz Eylül University in İzmir. The ship is actively used for hydrographic, oceanographic and marine biology studies as well as underwater archaeological research. Captain Dursun is a retired former Navy officer with a maritime experience of more than 25 years. Reporting on his words:

*"Regarding the track of the routes to be undertaken IMO (International Maritime Organization) obliges medium to long distance vessels to keep digital navigation tools onboard. These navigation aids include GPS, radars, chart plotters on the minimum level and additional tools are required in accordance with the length of the route. The devices are strictly monitored, and any opposite case is fined. These navigation aids help the vessels to navigate safely without a critical need for the lighthouses. Yet, most seafarers still make use of the lighthouses while approaching risky locations, bays or harbours.*

*The necessity of having electronic navigation aids onboard do not apply for fishing boats as they track short distance routes. The size of the vessels is not considered. This means the fishing industry vessels, from a small boat to the biggest ship heavily depend upon the lighthouses."*[476]

Thus, lighthouses and fog horns are still critical devices for the safe navigation of maritime vessels. That is why, all around the world lighthouses are still being kept, maintained and new lighthouses are being constructed.

*Lighthouses have always been a reflection of technological advancement.* From the Hellenistic period onwards until today lighthouses have evolved as an answer to a specific architectural and engineering problem. Each lighthouse bears a mark of its original construction period and shows us how the use of materials has progressed.

Starting from the establishment of the very first navigation light, the initial technical challenge faced was the construction of a vertical structure which would bear a light and withstand heavy winds or storms, waves and tides. The construction of a light tower differed from the construction of a light keeper's residence. But both required the utilization of the most advanced construction techniques and durable materials, all the way from the foundation to the roof.

[476] Interview with Captain Kemal Dursun (Author, 2013)



*Figure 4.2.* Evolution of lighthouses. Top row from left to right; Patara lighthouse, 64-65AD, stone masonry, *(Özkut, Patara Deniz Feneri Mimari Belgeleme Çalışmaları, 2009)*- Heraklia Pontika lighthouse in Zonguldak, Karadeniz Ereğli, 2nd cent. AD, stone and brick masonry *(Özkan G. , 2009)*- Ahırkapı Lighthouse. Bottom row from left to right; Bafra lighthouse, 1880- Kepez lighthouse, 1926 *(Author, 06.07.2015)*- Sarpıncık Lighthouse, 1938 *(Author, April 2014)*- Çıplakada Lighthouse as renewed in 1950s *(Author, November 2014).*

The second technical issue was related to the provision of a light source and a place to house this source. The fuel or the energy needed to keep the light going, the precautions to keep the light from being blown out and the provision of regular maintenance had a big impact on the overall structure of the light tower. The earliest lighthouses had the light on top of the structures exposed to natural elements. Later, a light room that contained the light source emerged as a type of space in a lighthouse. The light keeper had to wind the system of the light here regularly through day and night, just like a clock. This room was accompanied by a balcony which facilitated for the cleaning of the glass surfaces of the room from inside and outside. In time, additional structures to store the fuel other than the light tower itself were constructed.

Sometimes, fuel storage was integrated as a specific space into the light keeper's residence.



*Figure 4.3. The lightroom and balcony of Kepez Lighthouse in Çanakkale (Author, 06.07.2015)*

The third technical issue was the enhancement and modification of the light source. The visibility of light from miles away had always been critical because lighthouses acted as the markers of maritime routes. In time, as the number of lighthouses increased, it became a necessity to differentiate the light of each lighthouse. This was possible by the modification of light frequency and color through additional devices. Thus, the light of each lighthouse became unique like a finger print, helping the mariners to identify lighthouses as they navigated.



*Figure 4.4.* Fresnel Lens of Adana Karataş Lighthouse from 1872 on display in Zübeyde Hanım Ship Museum of Coastal Safety in İzmir. The system operated like a clock and required regular winding by the light keeper. *(Author,17.04.2014)*

*Lighthouses in Turkey have rarity value as in many cases they are the last representatives of their kind.* They present unique characteristics in different aspects:

The few surviving examples of ancient lighthouses in the world exist in Turkey like Patara (Antalya), Marmaris Hıdırlık (Muğla), Cape Monodendri Poseidon Altar (Aydın Didim) and Heracleia Pontika (Zonguldak Ereğli) lighthouses. There are few others that exist on a less conserved level like Soli Pompeiopolis (Mersin), Aigai (Adana), Knidos (Muğla), Akbaş/ Sestos (Çanakkale) and Nara/ Abydos (Çanakkale) and Bathonea (İstanbul).

There are 19th century examples which bear notable architectural qualities for their lens characteristics, building architecture or site layout. These stand out through typological studies. Kepez Lighthouse with its cast iron tower is a rare example in Turkey. 25m high Light Tower of Mehmetçik/ Hellespont Lighthouse is the 3rd tallest lighthouse in Turkey. Oğlak Island, Güneş/ Elyas Island and Süngükaya Island Lighthouses have unique architectural designs with several structures which developed as an answer to living on a remote and challenging environment.

There are also those lighthouses which present complex networks of maritime heritage in many layers intersecting underwater cultural heritage, ancient sites, maritime villages and crafts, women lighthouse keepers, historic places, urban sites, centuries old maritime routes at the same time. They employ unique relationships with other types of cultural and natural heritage, too. These lighthouses become a marker of cultural accumulation which is only the characteristic of this specific lighthouse. A great majority of the lighthouses in our research has cultural accumulation. But Gelibolu, Mehmetçik/ Hellespont, Aydıncık Cape/ Kefalos, Sivrice Lighthouses may be considered as prominent examples.

And sometimes the location, proximity and holding networks may be more important than the lighthouse itself. Çimenlik Cape, Nara Cape (Abydos), Akbaş Cape (Sestos), Kumkale, Babakale, Tavşan Island Aliağa are such examples.

### 4.2.2. Artistic values

*With their specific form, location and as a source of light, lighthouses constitute distunguishable symbols.* Thus, their presence in many environments are easily remembered and considered as a part of the "spirit" of this place. The importance of lighthouses is far beyond their functions as navigational aids. Lighthouses become a part of collective memory through legends, stories, poems, songs and sometimes they become the hero in a historical event. Even if people do not form a direct contact with lighthouses, seeing these structures from afar becomes the

experience itself. Lighthouses with their close environment, and the silhouette they belong to in the bigger urban/ rural/ natural scale become reference points for communities. The silhouette of these places should not be destroyed by the introduction of new structures.

Maiden Tower in İstanbul (Kız Kulesi), Sinop İnceburun Lighthouse, Mehmetçik Lighthouse in Çanakkale and Sarpıncık (Karaburun) Lighthouse in İzmir may be the first examples that come to mind.



Figure 4.5. Kızkulesi (Maiden Tower) in İstanbul, (Demirel, 2011, p. 32).

*Lighthouses have been employed as aesthetic themes in visual arts since centuries.* During the Hellenistic and Roman Period, the lighthouses signified the power of the city they stood still, so often they were employed on coins and reliefs as

a source of pride. Abydos and Sestos in Çanakkale exemplified this case where the lighthouse was chosen as the subject to adorn the coins of the cities.

The lighthouses provided such strong visual codes that they were used as symbols that signified the personification of harbours. A deity holding a lighthouse in his/ her hand would stand for the harbours of important cities in religious narrative panels, sarcophages etc.




*Figure 4.6.*Personification of a harbour, represented by a deity holding a lighthouse in her hand, on a marble Roman sarcophage. *(ArachneDAI, 2014)*

With their specific form, location and as a source of light, lighthouses always had an aesthetic value and had often been chosen as a subject in fine arts. Painting, sculpture, graphic design, cinema all had evaluated the aesthetic potential of the lighthouse. Sestos light tower and the myth of Hero and Leander inspired so many European artists in painting, too.



*Figure 4.7.* Leandro and Hero by Jean-Joseph Taillasson, 1798. The light tower of Sestos (Akbaş Cape) is painted on the right *(Taillasson, 1798)*

G. Acar and G. Erkmen elaborate the aesthetic values of lighthouses in painting through their article:

*"There are buildings, the aesthetics of which go beyond the form perceived by the eye and the strength of which is based upon its witnessing and stories. They have their own stories, become the setting of the stories of communities, become the subject of paintings. Poems are written for them, folk-songs are composed. They have held a*

*place in the memory of humanity with the experience and impressions gained throughout history."*[477]

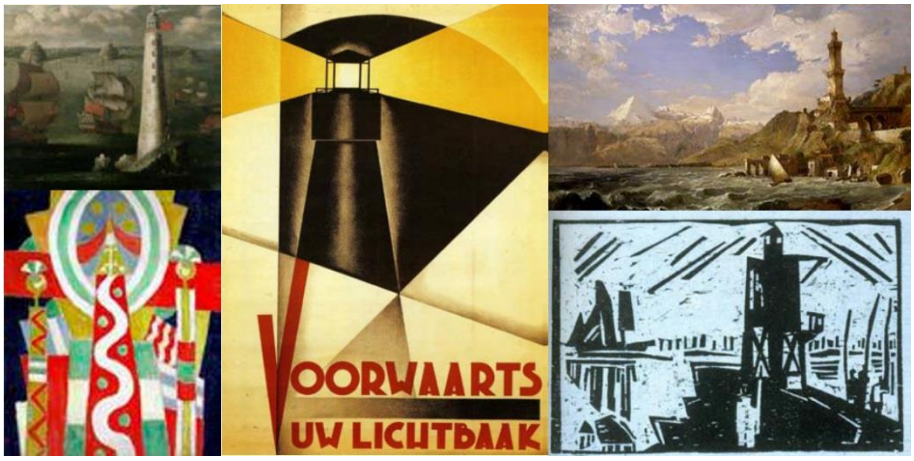



*Figure 4.8.* Upper left, Isaac Sailmaker, Eddystone Lighthouse; lower left, M. Hartley, 1915, middle, A. J. F. Kupper, Forward, Political Poster, 1927, upper right, Jasper Cropsey, Genoa Coast, 1854; lower right, L. Feininger, Lighthouse, 1918 *(Acar G. G., 2010 August)*

The lighthouses themselves also have an aesthetic value from an architectural point of view. The different use of materials plays with color and texture, the horizontal keeper's residence and other service structures make a contrast to the tall light towers in terms of proportion. The existence of lighthouses enhances the visual qualities of the environments on many occasions. Because of their peculiar architecture lighthouses add visual interest to any given setting.

*Just as in visual arts, lighthouses had been employed as themes in written and oral literature and music.*

In literature, lighthouses had been used as a literal subject or the background to many narratives. They represent loneliness, isolation but at the same time mankind's struggle and friendship with the sea, love, a triumph over nature, adventure,

[477] (Acar & Erkmen, 2008)

discovery and technology. The myth of Hero and Leander evolving around the light tower of Sestos, written by the poet Mousolos in ancient literature had lived until today.[478] A similar myth was told for Kızkulesi in İstanbul which was named as "Leander's Tower" and "Maiden's Tower" at different periods.

"Sanguinaires Lighthouse" (1866) by Alphonse Daudet[479], "The Lighthouse at the End of the World" (1905) by Jules Verne, "To the Lighthouse" (1927) by Virginia Woolf, and of course stories and books of Robert Louis Stevenson between 1875 & 1892, born into a whole family of lighthouse engineers, are among the most famous literary examples.[480]

For the societies where maritime activities are the key to their lives, sea, ships and lighthouses exist in everyday language. Their stories are told over many generations and become a part of oral literature. In Turkey, especially in Black Sea region, lighthouses exist in riddles, poems and so on.

Similarly, lighthouses had entered the local music of communities where maritime life is primary. Several folk songs contain lighthouses symbolising love, hope and despair. "Dağ Başı Fener" from Giresun[481], "Deniz Üstünde Fener" from Black Sea Region,[482] "Gökteki Yıldızı Fener Mi Sandın" from Nevşehir,[483] "Şu

[478] (Tombul, 2015)
[479] "Letters from My Windmill" by Alphonse Daudet, İş Bankası Kültür Yayınları. Çeviren: Sabri Esat Siyavuşgil.
[480] Wikipedia page of Robert Louis Stevenson, http://en.wikipedia.org/wiki/Robert_Louis_Stevenson, accessed on 01.12.2014.
[481] "Dağ Başı Fener", Giresun song, http://www.turkudostlari.net/soz.asp?turku=16660, accessed on 01.12.2014. Dağ başı fener/ Mum yanar söner/ Gavurun kızı/ Çark gibi döner.
[482] "Deniz Üstünde Fener" sung by Selçuk Balcı, Black Sea Region song, http://www.youtube.com/watch?v=a_Tk59onRPE, accessed on 01.12.2014.
[483] "Gökteki Yıldızı Fener Mi Sandın", Nevşehir Avanos Folk song. Gökteki yıldızın üçü terazi/ Poyrazları gördü geçti birazı/ Bu feleğin bize midir garezi/ Felek beni taşa çaldı neyleyim- Gökteki yıldızı fener mi sandın/ Sevip ayrılmayı hüner mi sandın/ Beni bu sevdadan döner mi sandın/ Felek beni taşa çaldı neyleyim- Bir çorap başladım başlı başıma/ Felek ağu kattı tatlı aşıma/ Yedi sene düştüm yarin peşine/ Felek beni taşa çaldı neyleyim. https://edebiyatvesanatakademisi.com/avanos-turkuleri/gokteki-yildizin-ucu-terazi/51514

Karşıki Dağda Bir Fener Yanar" from Varna, Bulgaria[484] are a few of the many folk songs containing lighthouses.

*"Deniz üstünde fener bir yanar bir de söner.*
*Deniz üstünde fener bir yanar bir de söner.*
*Bu gaybana sevdaluk ne yana olsa döner.*
*Bu gaybana sevdaluk kırk tarafa da döner."*

### 4.2.3. Group/ contextual values

*Lighthouses are the markers of maritime routes*. Since the very beginning, the maritime routes had been rendered by light: Solar light through the day and stellar light through the night as well as prevailing winds and currents helped mariners. The light provided by the lighthouses had become the second aid which marked the maritime routes, making them visible and tangible for the mariners. Thus, lighthouses came to bear several meanings: First, they acted as the marker of maritime routes, the intersection of the lights drew the route: making the intangible route "visible". Secondly, they stood as a structure functioning as a navigational aid and symbol itself. And finally, they became the marker of coasts drawing the coastal silhouettes, as an outcome of historical geography signifying power and politics.

Lighthouses as the markers of maritime routes may be one of the most important values attributed to them. These aids to navigation turn the route into a reality and answer the centuries old question, "where is the vessel in the sea?". The light of the lighthouses does not only guide mariners. With their unique lights, acting as fingerprints, each lighthouse tells a mariner exactly where he/she is at. But they also give news of the approaching mainland, of adventures, of troubles and of dangers. They are a testimony to the maritime links between different places and cultures of the world across centuries. Though the lighthouses themselves may perish physically

[484] Şu karşıki dağda bir fener yanar/ Fenerin şavkına (efendim aman) şahinler konar/ Herkes sevdiğine böyle mi yanar.

or may be replaced, their location and what they signify is engraved into the minds of the mariners.

*Lighthouses have become a part of cultural landscape/ seascape in time.* The lighthouses on remote Turkish islands in the Aegean, Bozcaada and Gökçeada being the exceptions, are the only structures on these islands. After the lighthouse keepers had left those islands, animals and plants have taken over these places. Today, each of these islands present an ecosystem on its own, with their unique fauna and flora, only to be disturbed by the occasional visit of the lighthouse keepers twice or thrice a year. The lighthouses and their environments had evolved into cultural landscapes with a natural value presenting almost a magical experience. Oğlak Island across Foça had taken its name after the goats it houses but the island is also home to thousands of seagulls. Bayrak Island across Kuşadası Güzelçamlı National Park also acts as a place for breeding and growing of seagulls. Locals tell even wild boars swim to the island from time to time. Çıplak Island across Ayvalık, Cunda/ Alibey Island in Balıkesir, Tavşan Island across Aliağa in İzmir are home to rabbits and goats, too.



*Figure 4.9.* Seagull chicks nestled inside the ruins of the Oğlak Island Lighthouse walls and floors *(Author, May 2014)*

### 4.2.4. Social values

*Lighthouses are the seedbed for light keeping.* With the establishment of the first light structure as a maritime navigational aid ever, a challenge emerged to keep the light sustained. Thus, the profession/ craft of light keeping was born. Light keeping could only be learned and practiced in the lighthouses themselves. It evolved parallel to the construction of lighthouses and the technological development in optic systems, energy/ fuel used to operate the light and so on. In several cases, light keepers first took part in the construction of lighthouses. Then they were assigned to keep the light and carry the fuel needed to sustain the light: wood, oil, acetylene canisters, gasoline to power genrerators and so on. Transportation of the fuel often required man power either overland or through seas. Especially on steep sloping territories only donkeys or horses could be utilized. But the final stretch involved the light keepers themselves. Where overland access was impossible, the fuel would be carried through vessels but again the final stretch would require the light keeper to swim and carry the fuel personally as piers were non-existent.[485]

Light keepers would clean the glass panels of the lens and light rooms frequently to make sure the light intensity was enough. They would wind the clocks of the light mechanisms all night and through stormy days. If the optic system or the lighthouses themselves were damaged, the light keepers would repair them first. They were the ones who maintained lighthouses year after year, painting all structures every spring, repairing broken roof tiles and window panes after long winters. Light keepers

[485] Light keepers of several lighthouses in Aegean coast, Hasan Basri Yaman and his father of Ayvalık-Cunda Lighthouses, Serkan Güdem and his father of Foça-Aliağa-Dikili Lighthouses, Cavit Taylan of Sarpıncık Lighthouse, Hasan Hakan Erbek as a technician and his father as a light keeper of Sarpıncık Lighthouse for two years, narrate instances where they had to carry loads of fuel by swimming as there is no overland road or proper pier through seas to access the lighthouses.

would put off fires when lightning struck lighthouses. They defended these structures against vandalism and during times of battles.

As lighthouses were mostly located in remote regions, light keepers and their families usually resided in/around lighthouses. Thus, the children could not attend regular schools. But instead, the lighthouse became the school of light keeping. And light keeping became an intangible heritage. Hence, in many cases light keeping continued in the same family whether from father/ mother to son/ daughter or from one spouse to the other, husband to wife vice versa.

*Lighthouses are a part of social structures/ communities.* Lighthouses had been the main source of connection of people with the state for many years in remote locations. The arrival of technology like radios, televisions had created a local community gathering space around the lighthouses. People would walk the distance to listen to radios or watch television together. This would enable the latest news to be broadcast to the most remote villages and at the same time provide entertainment. Some of the lighthouses still keep this tradition, especially in spring and summer season. Visitors gather around lighthouses as they are close to the coasts and provide stopovers. People have picnics or drinks before they head on to their journey.

*Lighthouses are a part of personal and collective memories.* They have a memorial value for the families of lighthouse keepers. In most cases, the lighthouse keeping had been continuning at least since three generations and the whole lives are shaped around the lighthouses. But especially in rural areas or remote locations, due to their social role, the lighthouses have a collective memorial value as well. Most elderly people would remember the construction of the lighthouses, how they have gathered in these lighthouses, their neighbours and so on. For the younger people, they will remember their childhood memories around the lighthouses. Lighthouses are a source of pride for the keepers. Many of them tell memories of stormy weathers, difficult paths to carry acetylene cans or accumulators, swimming across winter seas to reach and repair broken lights, saving sinking ships and passengers, receiving

gratitude in return. The idea of helping a lighthouse operate, thus casting light for the people in need, in spite of its difficulty, is the main drive behind this fading craft.

The number of light keepers had been reduced significantly over the years: In 1997, there were 90 lighthkeepers but in 2019 there are only 32. Most of them are retired or pulled back from onsite positions to central offices of the Directorate.[486] Dehumanization of lighthouses has a big negative impact on the wellbeing and conservation of the structures themselves, too.

Lighthouses have also been a bigger part of the collective memory by being battle fields in wars. Almost all lighthouses in Çanakkale had experienced such conditions. Especially, Mehmetçik/ Hellespont, Seddülbahir and Kumkale Lighthouses have become a part of a global history. WWI memoirs of British and ANZAC soldiers mention the lighthouses in Çanakkale.

*Lighthouses sometimes acted as a part of spiritual systems.* The ancient mariners thought themselves as "intruders into the sea". They did not know how the sea would treat them; a safe voyage or a wreck at the the end. People had always been afraid of the sea. Many precautions were taken to avoid the wrath of Poseidon, God of Sea and claim his support. Some of these precautions were technical; like the advancement on ship technology and the construction of lighthouses as navigational aids. And some precautions were purely spiritual. The mariners prayed to Poseidon, for his help and sacrified horses in his honour before venturing out into the sea. On the ancient coins of Alexandria and Ostia, the Lighthouses of respective cities were depicted together with Poseidon.[487] The Poseidon Altar on Cape Monodendri in Didim, Aydın was used as a lighthouse in 3rd century AD.[488] As the ruler of the Sea, Poseidon had an association with maritime structures, thus, lighthouses.

[486] (KEGM, 2012) Updated info is taken from KEGM website again on 29.05.2019.
[487] (Özkan G. , 2009)
[488] See ancient lighthouses in Turkey in Chapter 3.

The first Gelibolu Lighthouse was built next to Azaplar (Ottoman mariners) Namazgah standing on a high hill overlooking the Dardanelles Strait. And mariners used to pray here before they set sail into the sea.

Baba Cape Lighthouse on Babakale Fortress is surrounded by several tombs of Ottoman mariners and Tomb of Emek Yemez Baba/ Latif Baba/ Oruç Baba. He is prayed for by mariners since 16th century and even commemorated by throwing ship biscuits into the sea.[489]

Rumeli Feneri Lighthouse has the tomb of Sarı Saltık on the ground floor of its tower.[490] Mariners pray for him and wish for a healthy voyage before they set sail.

Rumeli Karaburun Lighthouse is next to a cemetery of outcast people who lost their lives at sea.[491]

And sometimes lighthouses must become the eternal resting place for light keepers because they are located in such remote places. Kötüburun in Yediburun Region, Fethiye, Muğla is such an area. The cape had gotten its fearful name by the lives of mariners it had taken. The lighthouse is set up here to help navigation and reverse this fate. Yet, the naturally deceased lighthkeepers had to be buried here as well due to the impossibility of transportation.[492] Sinop İnceburun Lighthouse had a similar story where three members of the same light keeper family had to be buried there at different ages and different years.[493]

### 4.2.5. Use/ economic values

*Lighthouses are important financial resources.* It is not only restricted with financial value. It may be understood as a value generated by the heritage resource or

[489] See Babakale Lighthouse in Chapter 3.
[490] (Ay, 2000, pp. 69-78)
[491] (Ermin & Tankuter, 2003, p. 125)
[492] Interview with Sarpıncık light keeper Mustafa Canıtez (Author 2014)
[493] (Sönmez, 2010)

by conservation action. It has four potential sources of income: tourism, commerce, use & amenities. Lighthouses possess an economical value in different sources.

*Touristic Economical Value*

In the recent years lighthouses had evoken an interest among the public and slowly tourism agencies in İstanbul[494] and İzmir[495] are arranging daily cultural tours to lighthouses. Some of these tours are carried out over the sea and the lighthouses are only seen from afar, but sometimes the tour actually involves visiting particular lighthouses and experiencing the buildings on foot with close inspection as well.

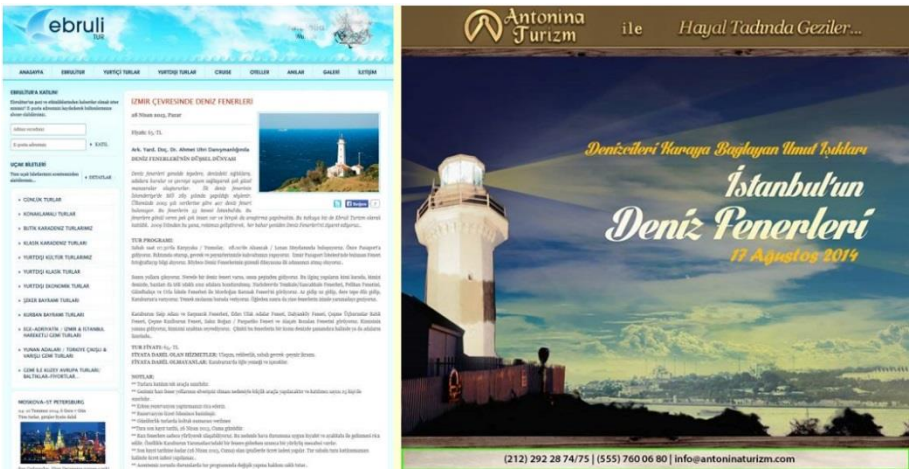



*Figure 4.10.* Left, İzmir Lighthouses Tour offered by Ebruli Tourism in İzmir *(EbruliTur, 2014),* right, İstanbul Lighthouses Tour offered by Antonina Tourism in İstanbul. *(Tourism, 2014)*

[494] Anadolu Lighthouse, Fenerbahçe Lighthouse, Genoese Fortress and Rumeli lighthouse, Ahırkapı Lighthouse and Yeşilköy Lighthouse are on the daily tour list.

[495] Pasaport Lighthouse, Yenikale/Sancakkale Lighthouses in Narlıdere, Pelikan Lighthouse, Güzelbahçe & Urla Quay Lighthouses and Mordoğan Fishing Shelter Lighthouses are on the daily tour which can be seen in close inspection. Karaburun Saip Island and Sarpıncık Lighthouses, Ildırı Ufak Islands Lighthouse, Dalyanköy Lighthouse, Çeşme Üçburunlar Wreck Lighthouse, Çeşme Kızılburun Lighthouse, Sakız Strait / Paspariko Lighthouse and Alaçatı Bozalan Lighthouse are also on the daily tour list but they can be seen from afar, on the ship.

Due to the rising interest in lighthouses, salvage buildings, related service buildings and vessels, the Coastal Safety has set up a tariff for the use of these facilities:[496] Lighthouses are generally hired for weddings.

Table 4.2. *Tariff for use of Coastal Safety Facilities (KEGM, Seyir Yardımcıları, 2019)*

| | **TL/Saat** | **Günlük** | **Aylık** |
|---|---|---|---|
| **Fenerler** | 750 TL+KDV | 15.000 TL+KDV | 150.000 TL+KDV |
| **Anadolu Hisarı** | 500 TL+KDV | 10.000 TL+KDV | - |
| **Genel Müdürlük** | 500 TL+KDV | 10.000 TL+KDV | - |
| **Telsiz işletme/Yeşilköy** | 500 TL+KDV | 10.000 TL+KDV | - |
| **Osmaniye** | 500TL+KDV | 10.000TL+KDV | 75.000TL+KDV |
| **Tahlisiye İstasyonları** | 750 TL+KDV | 15.000 TL+KDV | 75.000TL+KDV |
| **Deniz vasıtaları/Bağlı** | 750 TL+KDV | 15.000 TL+KDV | - |
| **Deniz vasıtaları/Hareketli** | 1000 TL+KDV | 20.000 TL+KDV | - |
| **Hizmet Binaları (Atölye, hekim evleri ve benzerleri )** | 750 TL+KDV | 15.000 TL+KDV | 75.000TL+KDV |

*Commercial Economical Value*

As a commodity, lighthouses are used on various items like coins, stamps, lottery tickets, commemorative medallions, postcards, lighting armatures, souvenirs.

[496] Fotoğraf- film tarifesi (KEGM, Seyir Yardımcıları, 2019)



*Figure 4.11. Silver coins of Heraklia Pontika in Zonguldak, Karadeniz Ereğlisi, showing the lighthouse,, left, Geta Period (AD 198–209), taken from P. R. Franke, Roma Döneminde Küçük Asya Sikkelerinin Yunan Yansımasında Yunan Yaşamı, Çev: N. Baydur- B. Theis Baydur, Res: 79, 2007, İstanbul.; right, Gallien Period (AD 253–268), K. Kraft, Das System der Kaiserzeitlichen Münzpragung ın Kleinasien, IstForsch-BH Band: 29,Taf: 99-35, 1972, Berlin & W. Hoepfner, Forschungen an der Nordküste Kleinasiens Herakleia Pontike- Ereğli, Band II Teil I, Res: 9, c-d, 1966, Köln.*

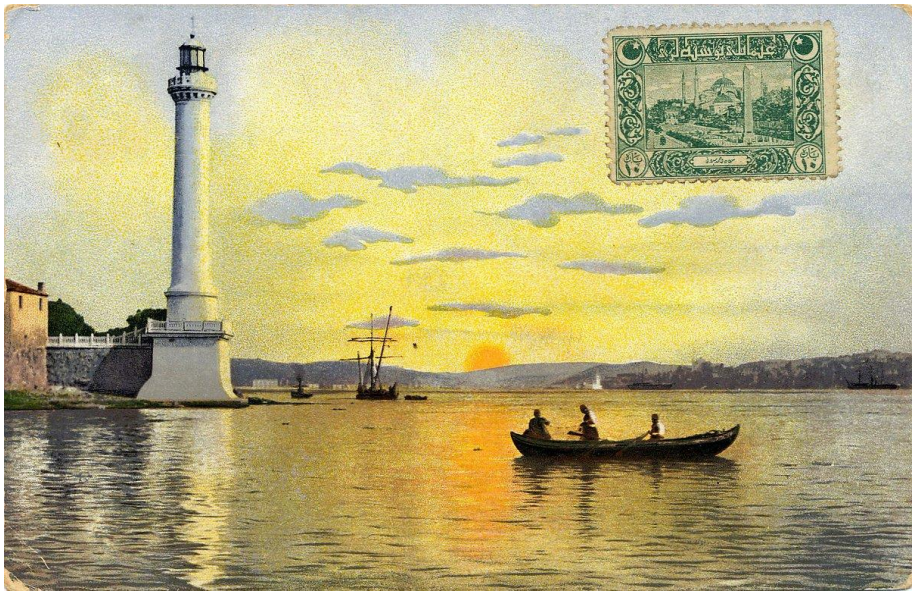


*Figure 4.12. Fishermen in front of Ahırkapı, E.F. Rochat postcard, 1900-1925*



*Figure 4.13.* Stamp bearing Ahırkapı Lighthouse from İzmir Economics Congress, 1923 *(Colnect, 1923)*




*Figure 4.14.* Lottery ticket showing a lighthouse, dated 07.07.1949 *(Toroslu, 2008, p. 46)*




*Figure 4.15.* Ahırkapı Lighthouse İstanbul Silver Memorial Coin, 2010. *(Darphane, 2015)*

Turkish Mint (Darphane) had issued 9 memorial coins of lighthouses over the years. İnceburun, Mehmetçik, Ahırkapı, Şile, Gelidonya, Kızılada, Yelkenkaya, Deveboynu, Bodrum.

*Use Value*

Lighthouses are used by all the maritime vehicles on the sea. Whenever a specified vessel uses Turkish waters, it has to pay a fee for the use of lighthouses, regarding its weight and function. The main income of the General Directorate of Coastal Safety is dependent on the lighthouse and fog horn fees along with ship salvage fees. The fees are specied every year on the directorate web site.[497] A vehicle

[497] (KEGM, 2012) and (KEGM, Seyir Yardımcıları, 2019)

has to pay the fee for transit passes, entering or leaving the Straits, entering or leaving the harbours and ports as well as annual fees. Any vessel which does not pay the fees is fined and blocked from navigation. Any vessel that gives harm or damage to lighthouses and other navigational aids must pay the fee for the repair as well.

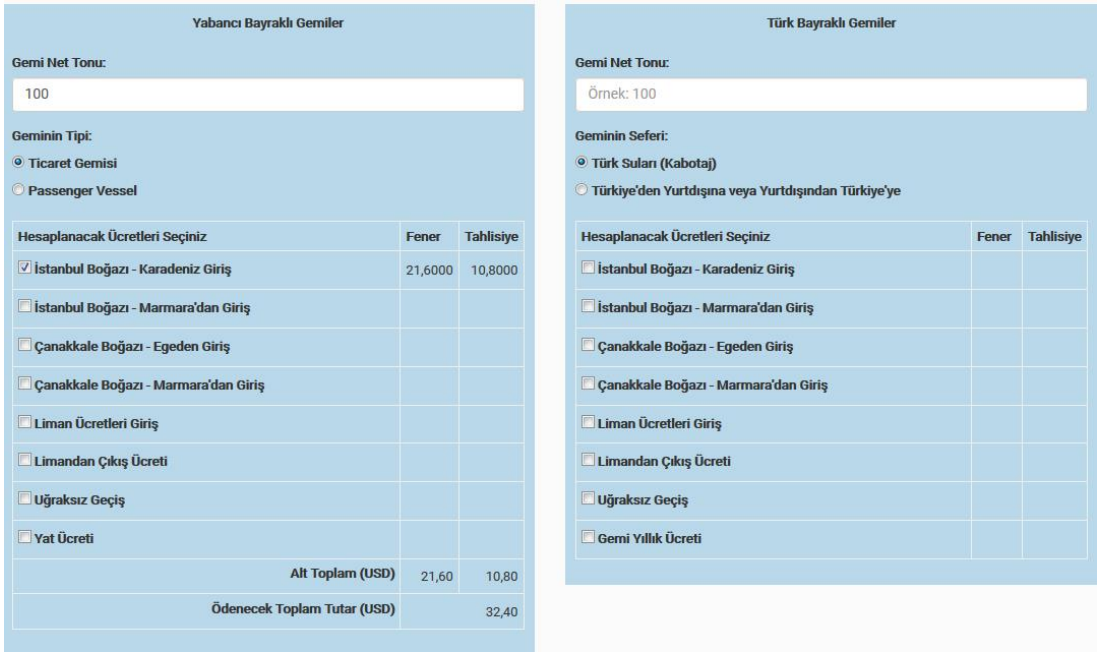



*Figure 4.16.* 2019 Lighthouse use and salvage fees calculator page of Coastal Safety *(KEGM, Seyir Yardımcıları, 2019)*

### *Amenity Economical Value*

Lighthouses are being rented or transformed by the General Directorate of Coastal Safety to be used with additional functions. Değirmen Burnu Lighthouse in Foça, İzmir is turned into a disco/bar, Kızılada Lighthouse in Fethiye is turned into a restaurant and holiday village, Sivrice Lighthouse is turned into a library, Yeşilköy Lighthouse is used as a restaurant and Şile Lighthouse is turned into a museum.



*Figure 4.17. Yeşilköy Lighthouse used as a restaurant in İstanbul, www.istanbultekneturlari.com, accessed on 01.12.2014.*

### 4.2.6. Historic/ political values

*Lighthouses are the markers of power, representing either a political entity as an empire or state or an economical entity.*

In the early years of the Turkish Republic, the establishment of independent economical power was of utmost concern. Building a national transportation network was the first step in this goal. Railways were one phase of this project. Celebrating cabotage day, buying new ships with the money donated by the Turkish citizens were targeted at the reinforcement of maritime transportation as the second phase. Newly built lighthouses along with the ones inherited from the Ottoman state played an important part regarding this goal. A look at the newpapers of late 1920s early 1930s reveals various articles reserved for this propaganda.

Lighthouses still play a major role towards the revival of maritime affairs in Turkey. In the recent years, Turkey had become an important yacht manufacturer, made reforms in Strait policies, encouraged and undertaken several marina constructions both in national and international territories, developed maritime transportation to a great extent, accelerated cruise tourism and so on. In order to support this maritime network lighthouses are necessary.

*Lighthouses are a part of defense systems.* Assessing the lighthouses in Turkey and focusing on Aegean examples, it might be claimed that lighthouses have usually been in a strong if not mutualistic relationship with military defense systems. This relationship starts with the ancient period.[498] Lighthouses become an integral part of acropolis or fortresses by occupying a tower within the defense system as in Nara/ Mahmudiye/ Abydos, Akbaş Cape/ Sestos Fortress Lighthouses in Çanakkale. Güvercinada Lighthouse is nestled inside the Güvercinada Fortress in Kuşadası, Aydın. Sometimes the lighthouses are located on top of the fortresses as an independent structure like in Babakale, Çanakkale. Sometimes they find shelter in front of the fortresses like Kumkale, Çimenlik Cape, Seddülbahir and Kilitbahir in Çanakkale. Sometimes the lighthouses are located close to fortresses to act like frontier stations like Gelibolu Lighthouse near Gelibolu Fortress, in Çanakkale or Değirmen Cape Lighthouse right across Foça Fortress in İzmir. There is a radar tower right behind Sivrice Lighthouse. Çıplakada Lighthouse is also a close neighbor of a radar tower. Pasaport Lighhouse is next to the coastal Police Station in İzmir. And in many cases, the lighthouses are accompanied by Coastal Guard Stations.

*Lighthouses are the communicators of boundaries.* Most of the Turkish lighthouses in the Aegean are located on the islands which are the furthest lands Turkey possesses on the west. Thus, each one of these lighthouses holds a critical point on the sea boundaries of Turkey against Greece. At times of political disputes as

[498] İstanbul Anadolu, Rumeli, Ahırkapı Lighthouses as well as Kızkulesi are examples to the close relationship of lighthouses and fortresses. Black Sea examples are Hopa Sarp Border Gate, Pazar Kızkalesi, Eynesil Fortress, Tirebolu Fortress, Giresun Fortress, Sinop İnceburun. Bodrum Harbour Lighthouse along the Aegean and Alanya Fortress Lighthouse along Mediterranean are other examples.

well as peaceful eras, the existence of lighthouses on these specific locations are important logistically. Süngükaya/Paspariko Island between Chios and Çeşme, Bayrak/ Panagya Island between Samos and Kuşadası, Çıplak/ Gaymino Island and Güneş/ Elyas Island between Mytilini and Ayvalık are such examples. Recently, the Syrian immigrants caught on these islands, using the lighthouses as temporary stopovers to pass to the European Union through Greece, imply the importance of these areas as borders, too.

These islands along with the lighthouses on them act as the interfaces between two countries. A search on the internet also reveals that these island lighthouses are the most photographed ones, especially by foreign tourists. Because they are the first structures that one sees as soon as entering Turkish waters.

*Lighthouses acted as shelters next to aiding navigation.* Since the establishment of the earliest structures, lighthouses had a dual purpose as an aid to navigation and a salvage station. Light keepers would be the first people to help sinking vessels and their crew. Lighthouses would offer shelter for those in need. 19th and 20th century newspapers as well as light keepers and wrecked vessel crews narrate several incidents where light keepers had intervened maritime accidents and saved lives.[499]

Turkish lighthouses had offered help and temporary shelter during WWII.[500] Sarpıncık Lighthouse often welcomed Greek Chios islanders who escaped from the army and hidden in Karaburun.[501]

[499] Two incidents are narrated by Ahmet Gül, the lighthkeeper of Yelkenkaya Lighthouse in İzmit Bay when he helped to survive mariners in 2007. (Ermin & Tankuter, 2003, p. 143) Ahmet Cemal Pehlivan, lightkeeper of Kızılada, saved 7 people from drowning when a plane of Air France had to do an emergency landing on the sea across the lighthouse and sank down. (Sönmez, 2010)
[500] (Ermin & Tankuter, 2003, p. 103) Fatma Pehlivan of the lightkeeper family of Kızılada Lighthouse in Fethiye, Muğla, narrates how they gave food to people who approached the island with vessels during the war.
[501] Interview with former light keper of Sarpıncık, Cavit Taylan. (Author, 2014)

Around early 1970s İğneada Lighthouse became the first destination of Bulgarian refugees who seeked shelter.[502]

Triggered by the rise of unrest in the Middle East, especially Syria, Iraq and Afghanistan, recently Turkey had transformed into a corridor for refugees to trespass Europe. The Turkish lighthouses in the Aegean, with their proximity to Greek islands, natural harbors, solitude in their environment and the facilities they offer like roof for cover, cisterns full of rain water, boatsheds etc, had become destination points/ stopovers on the way to the gates of Europe. The easily recognizable and visible lighthouses were significant landmarks to describe illegal meeting points at sea or along coasts. And when the voyage did not go as planned, these lighthouses offered a lifeline, too. Babakale[503], Güneş/ Elyas Island, Bademli Cape, Sarpıncık[504], Bayrak Island[505], Dikili Bademli[506] Lighthouses had all been used as shelters by refugees, attested by the author, light keepers and the news. In other words, lighthouses became salvage stations for refugees, claiming their original role again after years of desolation.

## 4.3. Assessment of Challenges and Threats

### 4.3.1. Challenges and Threats Linked to Functional/ Architectural Values

The most significant value of lighthouses is their functional value as aids to navigation. Together with their architecture, they have a documentary value as

[502] (Sönmez, 2010)
[503] From Anatolian mainland, Baba Cape is the closest location to Mytilini Greek Island, followed by Güneş/ Elyas Island and Dikili Bademli Cape. The proximity turns these particular lighthouses into a kind of illegal gathering/ departure point.
[504] Karaburun Sarpıncık is very close to Chios, though not as much as Çeşme. Yet, Sarpıncık is more favourable by trespassers for its solitude and remoteness.
[505] Bayrak/ Panagya Island is so close to Samos, 740m, it is possible to see people walking on the Greek coast. On 12.06.2014 site visit, we had witnessed the Coastal Guard picking refugees, life buoys and their belongings from the sea.
[506] Dikili Bademli is very close to the eastern coast of Mytilini.

testimony to technological advancement. Yet, these two values are challenged by the automation of lights in the recent decades. This situation involves less dependence on original light towers. Thus, instead of maintenance, conservation and/ or restoration of original light towers, new light towers are constructed. Similarly, the keepers' residences are neglected as only the sustainability of lights are important for aiding navigation.

From the time of their construction until present the lighthouses had undergone several modifications due to particular reasons. The main reason of change in the relationship of maritime heritage and lighthouses had been the transformation of context. The problems that emerged in the coasts and maritime heritage had reflected upon the single buildings themselves. On the single building scale, the major impact came from the advancement of technology. The equipment that provided the optical service of the lighthouse and the energy needed to fuel this service had defined the extent of the modifications. Starting from wood and coal the fuels had evolved into animal oils, gasoline and natural gas. Then natural gas was replaced by petroleum gas and propan finally giving way to acetilene. After 1850s electricity was slowly introduced to the lighthouses and new adjustments were done. But the lighthouses in remote locations or rugged terrains had to survive on acetilene until late 1960s. Recently, as of 2014, all the energy systems of the lighthouses in Turkey had been changed into solar power. As the light sources had been turned into centrally operated systems the need to have light keepers on site had disappeared. The structures left without the keepers quickly weathered and some fell into ruins.

The rarity value of lighthouses is dependent upon intangible aspects but these are derived from the physical fabric of the space. Thus, the challenges that threaten the rarity value are related to the conservation of lighthouses, not only in physical context but also in legal context.

The first challenge related to the conservation and management of maritime heritage is the lack of a completed registry. The content of maritime heritage in Turkey

is indefinite regarding many aspects. Thus, the registration status or the potential of heritage that has to be defined is yet unknown or insufficient.

The inventory of lighthouses and salvage buildings from an architectural, economical and social point of view is not complete. Thus, the number of registered structures is not enough and these few do not represent the true content of maritime heritage in Turkey. Moreover, the fate of registered lighthouses and the ones restored or rented so far is mainly defined by the Regional Conservation Councils of Ministry of Culture and Tourism. These structures have been restored without the inclusion of locals, local administration or visitors or any interested parties. The projects are treated as individual single structures/ building lots without paying attention to the integrity of the planning processes, user needs, accessibility, sustainability and most important of all the relationship of lighthouses and maritme heritage in general.

The lack of integration between conservation and planning legislation prevented inclusion of maritime heritage and lighthouses in coastal planning, decision and management processes. The interventions/ decisions treat the lighthouses as isolated entities or totally ignored building lots/ environments. The only tool for the conservation of lighthouses is Act No 2863. Yet, only registered lighthouses may benefit from this Act. 27 lighthouses are registered of the 104 specified lighthouses in our research. There is no completed inventory or assessment regarding maritime heritage and specifically lighthouses. The impact of increasing coastal tourism, construction, industry and other urbanization activities on maritime heritage is not specified.[507] Looking at the implementation of laws it seems the Coast Law is above the conservation laws. The coastal structures permitted in the Coast Law are constructed next to registered lighthouses. "Daily tourism service structures" as well

[507] Regarding the academic studies about the conservation of lighthouses we can mention only 2 master thesis in Turkey: Reyhan Ay, "İstanbul Boğazındaki Deniz Fenerleri ve Tahlisiye Yapılarının Koruma ve Değerlendirilmesi (Discussion About the Usage of İstanbul Bosphorus's Lighthouses and Restoration of Salvage buildings)" (Ay, 2000), and Olcay Yerlikaya,"İzmit Körfezi'ndeki Tarihi Deniz Fenerlerinin Mimari Analizi ve Koruma Önerileri (Architectural Analyses of the Historical Lighthouses in Izmit Bay and Conservation Suggestions)", (Yerlikaya, 2011).

as other “necessary” structures defined in the law grow bigger than the lighthouses themselves. Thus, the conservation laws aim at protecting the structures but they do not ensure the prevention of maritime environment or coast modification.

The fragility of physical fabric is very high in some instances, where the lighthouses have turned into ruins. This situation and the lack of urgent conservation interventions lead to the complete loss of lighthouses. On the other hand, being subject to adaptive re-use projects against the values/ capacity/ character of lighthouses damages their unique values irreversibly.

Regarding the implementation process of conservation or adaptive reuse projects a regular maintenance handbook is necessary, addressing common problems for specific materials and regions, taking care of architectural styles. As of now, the lack of such a guide brings varied and inconsistent interventions. The lack of systematic study and inventory of lighthouses are the main reasons of this challenge. The regular maintenance and repair works are left to the lighthouse keepers and the system has been like this since a long time. The shortcome of this is that the intervention decisions are dependent upon the keepers and sometimes they had been sloppy. But as the keepers are taken to the centers and there is nobody on site, now the lighthouses are even devoid of these small maintenance measures like annual painting, replacing broken roof tiles and so on.

Challenges related to control and monitoring process are the lack of staff related to architecture and conservation and the lack of infrastructure outside coastal city centers. The team responsible for the production of repair and restoration projects of the Turkish lighthouses is very small. There is 1 conservation architect and 2 technicians in İstanbul Headquarters. There is only 1 technician in Izmir Directorate. They can not cope with the amount of work. It is stated by the high officials that before they can manage the preparation of most urgent projects, the regular maintenance time comes for the other round. The central technical team is called in at the last and worst step of deterioration, usually when there is nothing else to do but demolish the

structures. Or the restoration works are too expensive to be executed that the administration decides to erect new, cheaper towers instead of dealing with old ones. Coastal Safety only employs vessels in coastal city centers. But in remote sites, they rent fishing boats to access lighthouses. This brings delayed interventions especially in troubled weather.

The existence of administrative fragmentation and poor institutional coordination among responsible authorities is another challenge for the conservation of lighthouses. Some of the different interested parties are General Directorate of Coastal Safety under the Ministry of Transport, Maritime Affairs and Communications, Ministry of Defense, Office of Navigation, Hydrography and Oceanography under the Turkish Naval Forces, Ministry of Culture and Tourism, Ministry of Forestry, marine scientists, professional seafarers, amateur seafarers, fishermen, local communities, local administrations (governorship, municipalities, muhtarlık?), visitors and tourism agencies. This fragmentation leads to the challenge for definition of "values, challenges, potentails and goals": Who will define these issues? How much of these interested parties are going to be represented in the final decisions?

### 4.3.2. Challenges and Threats Linked to Artistic Values

Lighthouses are important symbols with their aesthetic and architectural qualities. Visibility of the lighthouse, as a landmark defining the coastal silhouette is being lost at some regions, especially by the introduction of competing structures or the modification of the environment. In the current system of aids to navigation, visibility of the light is always achieved rather than the visibility of the lighthouse. With this attitude, lighthouses are eradicated from coastal silhouettes which define a significant part of their symbolic, aesthetic and architectural value. The lack of light keepers on-site decreases the chance of provision of maintenance. While formerly,

each lighthouse had at least one keeper, now the remaining few light keepers are responsible for many lighthouses.

Lack of adequate research and documentation on lighthouses in oral literature and music is a challenge regarding the artistic values of lighthouses.

### 4.3.3. Challenges and Threats Linked to Group/ Contextual Values

Today lighthouses are challenged by the loss of link with the rest of maritime heritage. They are treated as isolated entities rather than perceived as a part of the totality of maritime links. Lighthouses create an important cultural chain as a group. Yet, they have deficient representation amongst other nearby cultural heritage.

Lighthouses are a part of cultural landscape/ seascape. The environment of maritime heritage and lighthouses is hugely modified by natural and man-made impacts. The natural reasons that triggered change on the physical context may be grouped as global warming & rise of sea level, land erosion or coastal erosion due to wind and waves, earthquakes, subsidence of the ground, rivers and dams, extreme tides, floods, deforestation, change of coast line, river deposits, sea deposits, thunder and fire.

Human activities like urbanization, tourism, agriculture, energy production, industry, transportation and infrastructure, especially the construction activities in coastal areas as well as open seas resulted in dramatic changes. Thus, most of maritime heritage had been and still is threatened by combination of natural and human caused problems.

Challenges due to the change of the physical context of maritime heritage from rural to urban, archaeological to urban, historical to urban or vice versa are created by the introduction of coastal structures. These structures are defined as the ones that will be located on the seaside of the coast-edge line. Ports, harbors, shelters, lay-by areas, quays, moles/breakwaters, lighthouses, bridges, vents, retaining walls, slipways,

boathouses, saltpans, fisheries, discharge and pumping stations are the public structures/ infrastructure defined in the coast law to enhance the use and protection of the coast. There are also these structures which can only be constructed on the coast because of their functions as shipyards, ship dismantling areas, aquaculture/ seafood production areas. The regulations for the Implementation of the Coast Law also enables the construction of structures to create a "healthy environment" as well as support daily tourism. Thus, additional structures include roads, squares, religious buildings, parks, playgrounds, green areas, open car parking, kiosks, dressing cabinets, shelters, restaurants, teahouses. The abuse of the Coastal Law and its regulations have led to the over crowding of coasts over the years. Today, maritime culture is squeezed in between or behind these structures "to create a healthy coastal environment" but it is actually lost to rapid urbanization.



*Figure 4.18.* Fethiye Kızılada Lighthouse, which is obscured by the new coastal structures, service buildings and the restaurant. *(DenizHaber, Deniz Haber, 2014)*

Tourism in the Aegean and Mediterranean have led to the rise of building density around maritime heritage and many of the lighthouses. This situation gives

harm to the physical structure of the heritage as well as its values. The temporary accommodation buildings like hotels, service buildings and secondary housing all change the original context of the heritage causing environmental pollution. Tourism creates a pressure on the maritime heritage, blocks other possible tools for its conservation and forces it to take on a role exceeding its capacity.

Hydroelectric, Thermic, Nuclear Plants, Wind-power Stations have the power to change both the micro and regional climate, coastal geography as well as local flora and fauna. The pollution created by the activity of energy plants is often not reversible. Moreover, they create structural problems for the nearby heritage. In most cases, the energy investments ignore the maritime heritage and dwarf it by their gigantic scale. Current examples include the massive spread of wind power stations across the Aegean coasts and the proposed nuclear power plants at Mersin Akkuyu and Sinop İnceburun.

Large scale constructions introduced by the industry damage the coasts aggressively. They have triple impact on maritime heritage. Firstly, they take away from the precious natural or farming land or alter and fill the coastline to compensate for construction. Secondly, they pollute the coastal and marine environment. And thirdly, because of their gigantic scale, the maritime heritage is poorly perceived. In some cases, the industrial regions sit directly on top of maritime heritage. For instance, Aliağa Petkim Refinery sits on the 3rd degree archaeological site of Kyme ancient harbor city and it is directly neighbouring the 1st degree archaeological ste.

Change of the coast line with the construction of roads and highways as well as railways, harbors and other means of maritime transportation is one the most common causes of damage for maritime heritage. Especially with the construction of the Black Sea Coastal Highway, the original coastline of many lighthouses (and maritime heritage in general) had been modified due to the filling of the sea. Thus, the lighthouses had been torn from their physical context in an abrupt way. Today these lighthouses lie by the highway, on land instead of the coast, by the sea. During rainy

seasons the flow carried from the mountains down to the shore is blocked between the highway and the original coastline, giving way to floods in many areas. Moreover, as the highway is very close to the sea level when the sea rises the highway is taken over by the sea, making it impossible to pass. Since the completion of the Black Sea Coastal Highway several floods are reported because of the ill construction.

The spread and development of the nearby cities or rural settlements in a way which damage the environment of maritime heritage had accelerated after 1980s. Slowly, the uninhabited regions around maritime heritage and especially lighthouses were taken over by the buildings. In some cases, the urban settlement had stayed the same, yet urbanization had modified the use patterns of surrounding areas of maritime heritage and altered natural ecology.

Recently, natural sites were separated from cultural sites and their management was taken from Ministry of Culture and Tourism and given to the Ministry of Environment and Urbanization. This had opened the way for privatization of coasts. The coves that were open to public use since centuries are now being rented to private sector and entrance to these places are only through payment. Depending on the Coast Law and its regulations, these sites are opened to construction under the name of "daily tourism". The local people and local administrations are excluded from the decision process and all planning decisions are taken by the central ministry. Thus, the coasts home to maritime heritage and lighthouses in particular are eroded, divided and abused.

Theft and vandalism are also two frequent problems imposed on maritime heritage and particularly lighthouses.

### 4.3.4. Challenges and Threats Linked to Social Values

Evacuation of buildings, the departure of lighthouse keepers, the delayed on site interventions and the interruption of the transfer of knowhow in traditional light

keeping within families are the major challenges to social values of lighthouses. The social bond of lighthouse keepers with their close environment and locals is lost. In many regions the lighthouses had been the pioneers for the introduction of latest technology, in a sense the keepers had acted as teachers in the enlightment of the locals.

Removal of lightkeepers from the lighthouses to be employed in centers damaged their motivation for their profession. The end of permanent occupancy and daily life on the lighthouses had created losses in collective memory, too. As the know-how of lightkeeping is not transferred among families anymore, the intangible heritage of light keeping is also destined to disappear.

The change of users for the lighthouses as well as the increase/ decrease of the number of users created a totally different social environment.

Although the lightkeepers did not own the lighthouses, they took great pride in their profession and their attachment to the light stations were high. However, leasing/ rental of lighthouses totally damaged this feeling of attachment which resulted in the loss of both social values and physical fabric through large scale interventions.

Another social challenge is the lack of public awareness about Maritime Aids to Navigation/ lighthouses. Lack of recognition leads to neglect and damaging of lighthouses.

Since the ancient period lighthouses had a link to spiritual systems. They were seen as keys that kept mariners safe from the dangers of the sea. This link with spiritual systems had been/ is being lost in many parts of the world and in Turkey as well.

### 4.3.5. Challenges and Threats Linked to Use/ Economic Values

Lighthouses are great sources of revenues. The challenge is the low percentage of budget reserved for maintenance and conservation of lighthouses in comparison to

the revenue generated by the use of them as navigational aids. In Turkey, 0.89% of the total revenue earned by the services of Coastal Safety is used by the Coastal Safety. Within this budget, the maintenance and conservation/ restoration of lighthouses is very little.

Another economic challenge is the lack of necessary provision of maintenance-conservation budget from lease agreements. In this manner, only set-up interventions are financed during the initiation of lease agreements. But the later budget needed for regular maintenance is over-looked.

#### 4.3.6. Challenges and Threats Linked to Historic/ Political Values

Lighthouses are the markers of power and in the Aegean case, they represent the westernmost boundaries of the Turkish state. Due to their geopolitical importance, they have been a part of defense systems. And again, particularly for the Aegean case, they have become shelters for international refugees through decades. However, these lighthouses on the most remote islands and boundaries get the least amount of maintenance from the Coastal Safety. The poor condition of lighthouses on these westernmost islands is remarkable compared to the overland examples. This situation clearly does not represent the boundaries of a state in 21$^{st}$ century.

### 4.4. Assessment of Potentials

#### 4.4.1. Potentials linked to functional/ architectural values

The potentials related to functional values of lighthouses are continuation of original function as a navigational aid and continuation of original function as a light keeper's residence. This brings less pressure in terms of conservation interventions.

Being significant as a testimony to technological advancement may be an important potential for the conservation of a lighthouse.

Having a significant architecture in terms of construction & repair dates, plan typology, facade typology, tower form, typology of architectural elements, materials, technology etc as well as high level of integrity/ preservation provide potentials for the conservation process.

Being registered regarding Law 2863 is an important step for the conservation of lighthouses.

Being subject to adaptive re-use projects in line with the values/ capacity/ character of lighthouses may be seen as an advantage.

Being part of a planning process like Gelibolu National Park, Çanakale underwater works, Seddülbahir Maritime War Center, Troy Cultural Route, Troy National Park, Karaburun Rota Yarımada Cultural Route (overland & maritime), Ayvalık Special Environment Zone, Foça Special Environment Zone, Aydın Güzelçamlı National Park may definitely help to ease the conservation process.

### 4.4.2. Potentials linked to artistic values

High visibility in terms of the distance of light being seen from afar or the good exposure of lighthouse buildings themselves to onlookers may be an important potential.

If a certain lighthouse is represented in fine arts, it raises the chance of recognition, thus conservation.

Being subject to frequent photographing and having high public exposure may raise the chance of recognition and accelerate the conservation process.

Being part of folklore/ oral literature/ music also increases chances of recognition and may be utilized as a potential for conservation.

### 4.4.3. Potentials linked to group/ contextual values

Being a part of significant maritime routes with cultural accumulation, accessibility (lighthouse location, condition of roads, provision of piers), proximity to marinas, proximity to fishing shelters, proximity to harbours/ quays, proximity to historical/ contemporary roads & routes and proximity to cultural or other maritime heritage (coastal, underwater etc) may be considered as significant potentials for the conservation of lighthouses.

As for the conservation of natural contextual values, being part of a significant natural context, being home to eco-systems, being part of a cultural landscape/ seascape and having challenging access to lighthouses for prevention of human encounter may be important potentials.

### 4.4.4. Potentials linked to social values

Having a light keeper residing in/ near the lighthouse is a very important potential for the preservation of social values. If the lightkeeper family has social engagement with locals, the chances are even higher. Representing lighthouse keeping with a timeline of the significant events for each lighthouse from its construction till today, including keepers and their families also improves the significance in term of social values.

Having visitors may also change and improve the social value of any lighthouse.

Being a part of narrative like a legend, historical event, war, literature, art, personal/ communal stories and being part of spiritual systems are the potentials related to social values.

### 4.4.5. Potentials linked to use/ economic values

High amount & type of revenue raised by the use of lighthouses as aids to navigation, revenue raised by the use of lighthouses as commodity, revenue raised by

the use of lighthouses as amenities/ leasing and the revenue raised by the use of lighthouses for touristic purposes are all considered as economic potentials.

### 4.4.6. Potentials linked to historic/ political values

All of the lighthouses are owned by the state and this poses an important potential for the conservation process. Decision making and improving legislative status may be easier, more comprehensive and systematical.

Most of the lighthouses in Aegean coast may be considered as an interface for Turkey's maritime borders and have geopolitical significance as they are the only man-made structures on remote islands. This presents a great visibility to these structures both physically and socially. Thus, it may be an important potential for their conservation.

# CHAPTER 5

# PRINCIPLES FOR CONSERVATION AND MANAGEMENT OF LIGHTHOUSES AS A PART OF MARITIME HERITAGE IN AEGEAN COAST, TURKEY

## 5.1. Goals (G) and Actions (A)

The meaning and significance of lighthouses lie in the complex relationships between lighthouses, their close (sites) and distant (regions) environments, service providers and users not only at a specific moment in time but over the centuries. Thus, any conservation proposal must regard the relationship of the lighthouse to the maritime routes it is inherently tied with as well as the other cultural heritage nearby. Lighthouses have a unique architecture that have emerged as a reflection of technology through centuries for a specific and continuous function; a navigational aid. They are symbols that have inspired arts. They are the markers of maritime routes and coastal landscapes/ seascapes. Lighthouses are the seedbed of lightkeeping. They are important financial resources and have always been a testimony of political power. The principles for conservation and management of lighthouses as a part of maritime heritage are derived from the inherent values of lighthouses and proposed as goals and actions to ensure their longevity.

### 5.1.1. Goals (G) and Actions (A) regarding the conservation of functional/ architectural values of lighthouses

*G1. Registration of all lighthouses in two years*

A1.1. Identification, documentation, evaluation and designation of all lighthouses in two years are critical and urgent actions.

A1.2. Providing a principle decision to operate together with Law No. 2863 for the conservation of lighthouses and designation of light structures which are significant due to their relationships with the natural, manmade, temporal, aesthetic, functional, legal, social, economic and spiritual contexts rather than the structures themselves.

This principle decision may involve the foundation of a buffer zone around the lighthouses/ light stations to ensure the protection of the coastal silhouette with the lighthouses as the primary markers, no permission to new light towers- mandatory restoration of obsolete, original light towers, no permission to any kind of structures/ vegetation that will touch the lighthouse structures, no permission to any kind of structures that will compete/ be higher or larger than the existing or ruined lighthouse structures, no permission to any intervention that will damage or significantly alter the natural context of lighthouses, no permission to any intervention that will damage or significantly alter the social context of lighthouses which will lead to the alteration of physical fabric, the guidelines for the preparation of a conservation, interpretation and management plan for each lighthouse.

A1.3. The designation of cultural maritime routes that constitute the significance of the lighthouses and light structures on a local, regional and international level is critical.

*G2. Integration of lighthouses and near enviroments in planning studies at national and regional level*

A2.1. Providing national communication and increasing the identification of lighthouses.

A2.2. Formation of a coordination committee among different institutions and interested parties. The committee may include General Directorate of Coastal Safety under the Ministry of Transport, Maritime Affairs and Communications, Ministry of Defense, Office of Navigation, Hydrography and Oceanography under the Turkish Naval Forces, Ministry of Culture and Tourism, Ministry of Forestry, Ministry of Environment and Urbanism, Ministry of Agriculture, marine scientists, professional

seafarers, amateur seafarers, fishermen, local communities, local administrations (governorship, municipalities, muhtarlık?), visitors and tourism agencies.

A2.3. Formation of a web based digital spatial communication and data processing platform (web mapping, navigation, analysis, predictive modelling and decision-making tools) for all institutions

A2.4. Integration of the environmental systems with socio-economic and cultural systems

A2.5. Integration of Aids to Navigation Master Plan to development plans and conservation development plans to include conservation management of maritime heritage and lighthouses

*G3. Conservation, Restoration and adaptive re-use of lighthouses*

A3.1. Production of a conservation and management plan for each of the lighthouses

A3.2. Evaluation of priorities for the implementation of conservation and management plans

A3.3. Planning of the implementation of the conservation process

A3.4. Preparing a technical model for the implementation of the conservation process

A3.5. Planning of the financial sources for the preparation of the conservation and management plans (Reserving a certain percent of income gathered by the use of lighthouses annually)

A3.6. Planning of the financial sources for the implementation process (Reserving a certain percent of income gathered by the use of lighthouses annually)

A3.7. Preparation of a framework lease agreement for the Complimentary Use of Lighthouses

A3.8. Constant monitoring and revision of conservation and management plans every five years or with every leasing aggrement

*G4. Regular maintenance of lighthouses*

A4.1. All of the parts of the lighthouses should be maintained on a regular basis, rather than just the optic systems and the solar energy panels which are regularly maintained and cleaned.

A4.2. Provision of a manual for the diagnosis of common problems and clear directions on how to intervene

*G5. Enhancing scientific research and collaboration with academic institutions regarding lighthouses*

A5.1. Promoting scientific research on materials, weathering and decay patterns, conservation of the environment.

*G9. Reinforcing infrastructure and staff*

A9.1. Provision of more staff specialized in architecture and conservation which will work on the identification, documentation and assessment of lighthouses for registration as cultural heritage, control and monitoring

A9.2. Provision of relevant heritage training for current staff

A9.3. Provision of more boats for access/ a vessel fleet outside coastal city centers

A9.4. Monitoring of lighthouses with drones especially on disadvantaged weather days/ nights but also for security reasons

A9.5. Formation of a digital, open access archive for recording of interventions and monitoring. Not only the lighthouses themselves but also the environment. Keeping track of environment and threats. Reporting.

A9.6. Digitization of analog documents related to lighthouses like original drawings, sketches etc.

A9.7. Reduction of paper reporting

*G10. Reinforcement of legal conservation of maritime heritage and lighthouses/ A principle decision to operate with Law No. 2863*

A10.1. Providing the necessary, specialized conservation conditions for lighthouses by the formation of a principle decision under Law No. 2863 for conservation of cultural and natural heritage (special intervention principles like maximum height, maximum ground size, facade proportions, open-closed area proportion, material use, possible uses)

### 5.1.2. Goals (G) and Actions (A) regarding the conservation of artistic values of lighthouses

Goals (G1) and (G10) along with their actions are also valid for the conservation of artistic values of lighthouses.

*G16. Enhancing artistic research and collaboration with academic institutions and locals regarding lighthouses*

A16.1. Promoting artistic research and collaboration on fine arts, written and oral literature, music regarding lighthouses.

A16.2. Documentation of oral literature and folklore music regarding lighthouses.

### 5.1.3. Goals (G) and Actions (A) regarding the conservation of group/ contextual values of lighthouses

*G12. Marketing the experience of navigating the sea/ being on the journey/ on a maritime route/ feeling of discovery*

A12.1. Lighthouses are constructed to be in service to mariners and maritime vessels. They can be best understood on water. Experiencing the sea and navigating via the

help of lighthouses may open the way for their conservation not only as lights but also as structures and cultural values.

*G13. Protecting the environment*

A13.1. Using the legislative context to protect the marine/ maritime/ terrestrial/ coastal environment home to maritime heritage and lighthouses in particular

*G15. Protecting the cultural context and the significance of lighthouses*

A15.1. Taking measures to ensure the longevity of the functional, architectural, contextual, social, economic and historic/ political values of lighthouses that make them significant

A15.2. Recording, reporting and monitoring heritage values annually through photographs, videos, written documentation and drawings.

### 5.1.4. Goals (G) and Actions (A) regarding the conservation of social values of lighthouses

*G11. Documentation and Reinforcement of Intangible Cultural Heritage of Light Keeping*

A11.1. Interviewing lightkeepers and their families for the documentation of light keeping. This is also important for practical reasons: Light keepers know their lighthouses the best.

A11.2. UNESCO Memory of the World Heritage for lightkeeping intangible heritage

A11.3. Providing the means to utilize light keepers in future management plans, thus enliven light keeping tradition

*G14. Protecting the socio-economic context*

A14.1. Continuing the primary function of lighthouses as navigational aids with all the existing members regardless of their current state of preservation

A14.2. Safeguarding an adaptive-reuse which will be compatible with the values, characteristics and capacity of lighthouses and benefit the public.

A14.3. Safeguarding an adaptive-reuse which will first try to employ lightkeepers

*G7. Increasing public awareness of maritime heritage and lighthouses*

A7.1. Celebrating ATONs (Aids to Navigation) on July 1 World ATON Day

A7.2. Memorial coins/ stamps/ lottery tickets/ money

A7.3. Use of logos/ posters on official documents

A7.4. Advertising

A7.5. Arranging public visits to lighthouses

A7.6. Preparing an interpretation plan for each of the lighthouses with signage, publications and organized events/ activities

### 5.1.5. Goals (G) and Actions (A) regarding the conservation of use/ economic values of lighthouses

*G8. Constitution of conservation-use balance*

A8.1. Conserving lighthouses in place, regarding their characteristics and capacity wherever possible

Goal (G3) and Action (A3.6) are valid for the conservation of these values.

### 5.1.6. Goals (G) and Actions (A) regarding the conservation of historic/ political values of lighthouses

*G6. Enhancing international collaboration/ exchange of experience*

A6.1. Encouraging international collaboration and exchange of experience for the conservation of lighthouses, maritime heritage, marine environment and the terrestrial hinterland of maritime heritage.

A6.2. Adapting national conservation policies of maritime heritage and lighthouses to an international level as the heritage in question is affected by elements beyond the political boundaries

Lighthouses in Turkey constitute a significant part of Turkish maritime heritage which represent an important group within the larger system of cultural heritage in Turkey. This heritage is the outcome of centuries old relationships formed at/ by the sea, starting from a local scale, developing to regional and international to embrace the whole world. Maritime heritage and lighthouses are testimony to these cultural, commercial, traditional, religious, military and political relationships. In this respect, the conservation of lighthouses and maritime heritage is critical for a comprehensive and inclusive representation of Turkish culture and future.

# CHAPTER 6

# CONCLUSION

Since the very beginning of human activities at/ by the sea, the maritime routes had been rendered by light: Solar light through the day and stellar light through the night as well as prevailing winds and currents helped mariners. The light provided by the lighthouses had become the second aid which marked the maritime routes, making them visible and tangible for the mariners. Thus, lighthouses came to bear several meanings: First, they acted as the marker of maritime routes, the intersection of the lights drew the route, making the intangible route "visible". Secondly, they stood as a structure functioning as a navigational aid which developed its unique architecture as a response to technological challenges. This unique architecture with an integral landscape/ seascape turned lighthouses into universal symbols which inspired arts for centuries and talismans which protected people from the dangers of the sea. Lighthouses led to the emergence and continuation of light keeping. And finally, lighthouses became the marker of coasts drawing the coastal silhouettes, as an outcome of historical geography signifying power and politics.

From 7$^{th}$ century BC onwards, lighthouses and light keeping started to emerge all around the world coasts and had continued with the same function throughout several millenia. While medieval period witnessed the construction of significant examples, the Age of Discoveries was the booming point for the spread of lighthouses. These structures had developed in response to technology and faced automation during mid 20$^{th}$ century, resulting in the removal of light keepers from lighthouses. In late 1970s comprehensive efforts had raised to conserve lighthouses globally.

Turkey, as a peninsular geography surrounded by seas on three sides and the intersection of continents, had been equipped with lighthouses as a part of the diverse

maritime heritage since antiquity. Having a lighthouse was a rare priviledge bestowed to a city in ancient period. Most of these initial examples were used well into the medieval period, supported with coastal fortresses. In 1855, as the outcome of political and economic turbulences, the Ottoman Empire had decided to have lighthouses built along its coasts via the surrogate of the French "Fenerler İdaresi". In 45 years, 225 lighthouses were built from the Black Sea to Red Sea. In 1937, half of these lighthouses were handed over to Turkish Republic. Few additional lighthouses were built around 1940s. Fenerler İdaresi became Kıyı Emniyeti Genel Müdürlüğü (KEGM). In late 1990s, the lighthouses were automated and light keepers were removed from the site to central offices. In 2006, KEGM started to lease lighthouses without prior study and evaluation. This situation created challenges in physical, functional, visual-aesthetic, social, economic and legal-administrative contexts of lighthouses in many scales.

This research is based upon authentic data collected from systematic literature survey, site studies and interviews with light keepers and related technicians. Within this context, the first contribution of this study in the field is the spatial documentation of maritime heritage in Turkey on a map through a literature survey. The map explores the interaction of overland roads with maritime routes from prehistoric times until today and shows the maritime heritage as an interface accumulated not only on the mainland coasts but also on islands, open sea and underwater. This documentation is used to evaluate the significance of lighthouses within maritime heritage in broader cultural heritage of Turkey.

The data collected in the second part of literature survey regards physical (natural, man-made, temporal), functional, visual-aesthetic, social, economic and legal-administrative aspects of 33 lighthouses in many scales, located along the Aegean Coast of Turkey. Site studies involve comprehensive site and architectural surveys at 1/100 scale, the survey of materials, condition and alterations as well as any on-site data regarding the above aspects. Photographs and videos support the documentation of on-site data. Interviews with the light keepers and technicians aim

to document the intangible heritage of lightkeeping and understand the life, architecture and modifications of lighthouses. The different aspects mentioned above not only guide the data collection but also the organization, analysis and assessment phases of this data.

The second contribution of this study in the field is the authentic data collected, organized, analyzed, assessed, presented and made accessible regarding the 33 lighthouses of the Aegean Coast of Turkey and their link to maritime heritage, which represent 30% of the whole lighthouses in Turkey regarding Pharology definition. This data may be utilized in further studies.

Regarding the assessment, this study shows that lighthouses of Aegean Coast in Turkey mostly originate from 19th century, with few examples from antiquity and Turkish Republic after 1940s. Research lighthouses present a significant position among the other cases in the world. This significance lies in the emergence and development of contextual aspects of these examples rather than their singular architectural characteristics. The existence and continued use of Aegean lighthouses since antiquity, their integrity with the landscape/ seascape and links with the rest of the Mediterranean and the World, their historical/ political significance make them outstanding examples among the rest of lighthouses. However, on a building scale, the architecture of Aegean examples represent a modest group which can be traced in the contemporary urban buildings of the time both in Turkey and in Europe. Regardless of the modesty of architecture, the integrity of Aegean lighthouses with their natural environment had turned them into symbols defining coastal silhouettes which inspired arts and engraved them on both personal and collective memories.

All lighthouses in Aegean Coast of Turkey are owned by the state. As a building type, these lighthouses are still continous financial resources, generating significant revenue for state budget through varied uses. The ratio of the money spent for the maintenance and conservation of lighthouses to the revenue raised by them is very low.

Regarding the collected data with the constraints of this research, it may be concluded that lighthouses are either composed of just one structure; the light tower, or enhanced with a lightkeeper's residence for remote examples. Sometimes, service structures are added to this complex and all buildings are wrapped around a courtyard. The footprint of structures are always limited and kept small to ease construction and maintenance. The location of lighthouses does not affect the design as we see the same type of plan at different parts of Turkey.

The third contribution offered by our research is the enhancement of plan typology of lighthouses, formerly offered by Olcay Yerlikaya. Yerlikaya's typology is composed of 5 groups that involve light towers and keeper's residences, elaborating on 21 examples. Our typology offers 7 groups including single light towers and single light towers with inherent keeper's residences, elaborating on 48 examples. This typology is presented and made accessible to be enhanced with further studies.

In our research, it has been documented that lightkeeping had continued through generations since the foundation of many lighthouses, yet it has been under threat. The number of lightkeepers had been decreased significantly to 32 and they are assigned in central offices. Lightkeeping is not documented nor passed unto next generations anymore. Our research contributes to the documentation of lightkeeping with interviews of 9 lightkeepers or technicians and introduction of 4 lightkeeper genealogies derived from literature survey where possible.

The values that constitute the significance of Aegean lighthouses lie in the connectivity of these lighthouses with their close and distant natural and man-made environments, continued function as a navigational aid, integrity with social and economic systems. The challenges that pose a greater risk towards these values stem from the alteration of these aspects rather than the physical fabric of the single lighthouse structures. However, some of these challenges may be viewed as potentials for some cases.

The last and most important contribution of the research is to reveal the meaning and significance of lighthouses as a part of maritime heritage and broader family of cultural heritage in Turkey. The management and conservation of lighthouses need to be inclusive regarding the stakeholders and involve a multidisciplinary, scientific approach. Any proposal should consider the lighthouses as a part of dynamic maritime networks that had been formed over time and are still evolving. While this process has diverse aspects, the current system may be improved regarding certain principles and implementing actions proposed by our research. These principles are related to the main steps of conservation planning; understanding, evaluating, developing policy, managing and reviewing.

Regarding the framework of the research, this study collected, organized, analyzed and evaluated enough data to develop separate and detailed conservation proposals for each of the 33 lighthouses discussed. However, the time constraints of the thesis dictated the level of detail for conservation and management proposals, limiting them to goals and actions. Further studies are going to be developed as an extension and detailing of this current research.

Due to the the time and accessibility constraints, this research was limited with the Aegean Lighthouses of Turkey including Çanakkale, Balıkesir, İzmir and Aydın examples. Though a part of the Aegean, Muğla had to be excluded from the initial research area. Muğla lighthouses may be elaborated as a future topic in the following steps of this research. Likewise, study of Mediterranean and Black Sea coast lighthouses presents a natural and necessary extension of this research. As the majority of Marmara examples had been studied in previous researches, the completion of the other coasts presents an important part for the comprehensive conservation and management studies of lighthouses as a part of maritime heritage.

Documentation of lightkeeping through in-depth interviews and using literature survey to fill in gaps is an important future topic to enhance this study. As the number of light keepers are decreasing by the day, the necessity of this

documentation is even higher than the architectural surveys. Another topic to be explored in relation to lightkeeping is the work of female lightkeepers. Some are mentioned explicitly in legal documents and discovered through literature surveys. But it must be remembered that due to challenging environments of lighthouses, lightkeeping is a family occupation, rather than a single person's job. Thus, the responsibility of women in keeping lights is much more than what is already poorly portrayed and certainly must be explored in more depth.

Most of the lighthouses in Turkey discussed in our research originate from the 19th century, from the reign of Ottoman Empire, with few examples from the ancient, medieval or Turkish Republican period. Thus, these examples represent a fragmented unity whose parts exist in other nation states of the world today. For Aegean examples, particularly for the insular ones, lighthouses were constructed in batches to aid navigation on certain routes which connected the Capital and Black Sea to the rest of the Mediterranean and the world. The lighthouses of these former routes lie on Turkish and Greek territorial waters today. Thus, study of especially Greek lighthouses, possible international scientific collaborations would enhance the understanding, evaluation, conservation and management of this heritage. Considering the close proximity of lighthouses in the Aegean, such joint studies are not only important for architectural conservation but also for marine conservation as well as international politics and economy.

Lighthouses are important markers of maritime networks. Their conservation requires to protect their connectivity to maritime routes as a value and source of significance. While some of the lighthouses in our research lie within the vicinity of designated, local/ regional cultural routes, they are not really integrated to these systems. Representation and interpretation of lighthouses within these local/ regional cultural routes are important. However, lighthouses point to a much wider network on an international level. Therefore, designation of international maritime cultural routes constitutes an important step for conservation of maritime heritage and lighthouses in particular. An important part of our research aims to document maritime heritage of

Turkey through literature survey. Critical future steps in this direction may be the enhancement of this documentation through site studies, enlargement of the geography it covers and links to, constituting a public inventory to be developed and contributed further. Lighthouses are interfaces between landscape and seascape as the outcome of centuries old maritime and terrestrial relationships. The link between lighthouses and maritime heritage is yet to be explored more in depth. Such an extended research may be utilized for the designation of maritime cultural routes as well.

Lighthouses in Turkey is an important part of Turkish maritime heritage and a significant group within the larger family of cultural heritage in Turkey. This heritage is the outcome of cultural, artistic, architectural, commercial, traditional, religious, military and political relationships which had been formed over centuries on a local, regional and global scale. In this respect, the conservation of lighthouses and maritime heritage is crucial for a comprehensive and inclusive representation of Turkish culture and future.

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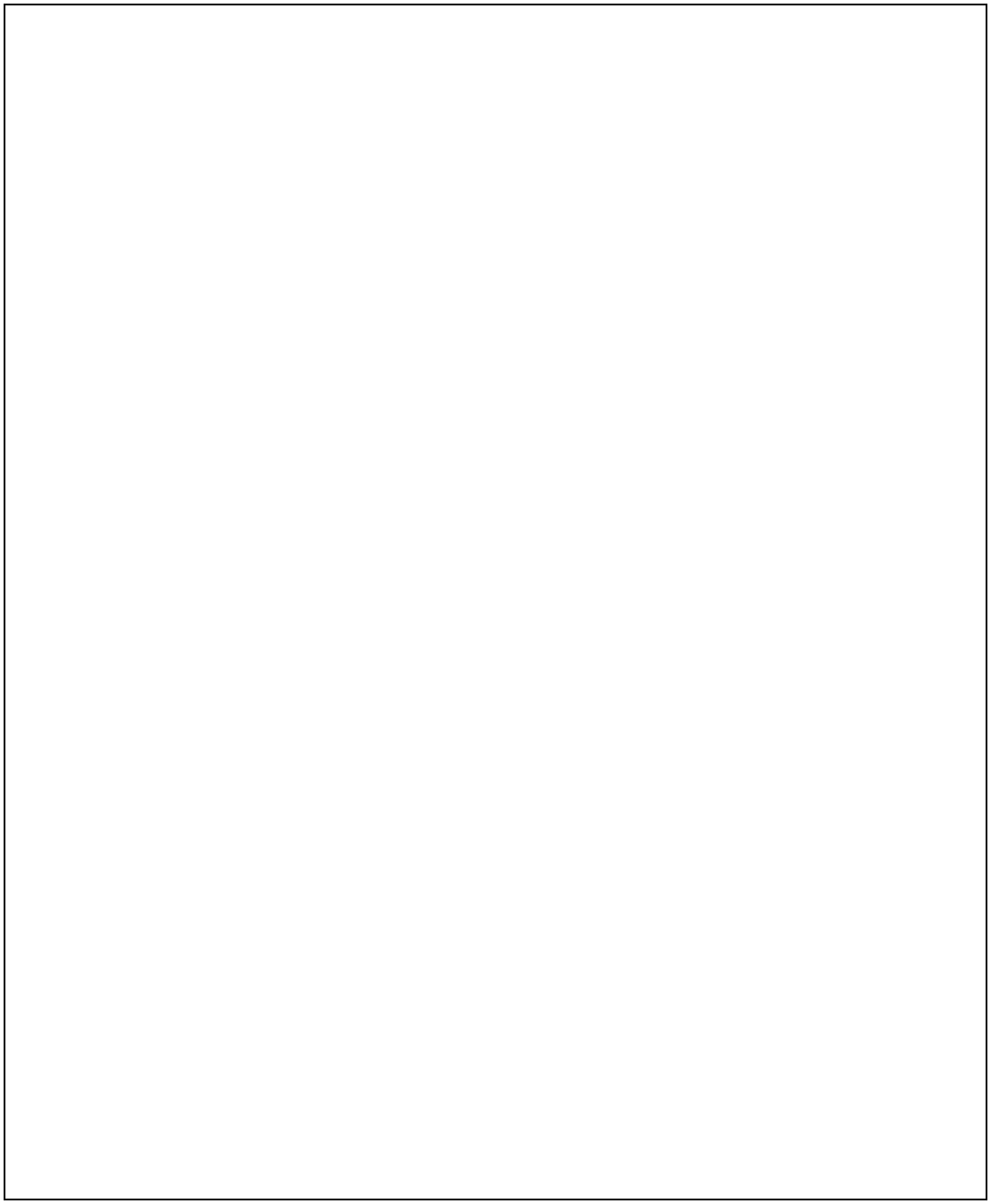
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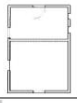
# APPENDICES

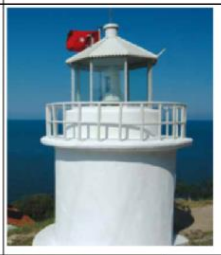
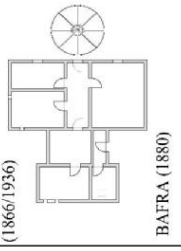
## A. Map of Maritime Heritage in Turkey (Author)

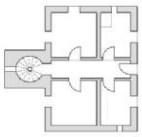
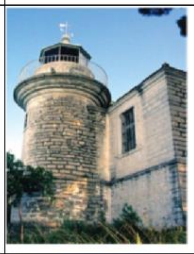
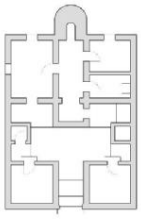


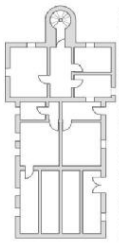
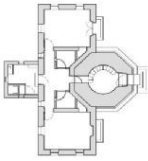
## B. Catalogue of Lighthouses in Turkey

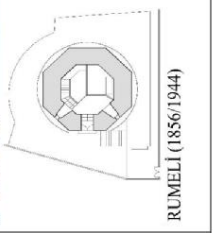
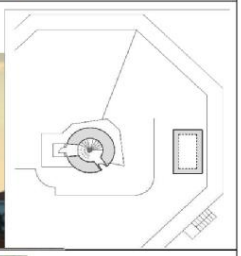
**LIGHTHOUSES OF TURKEY**

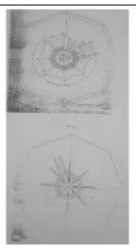
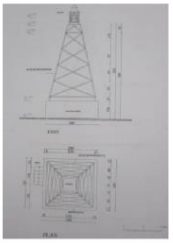
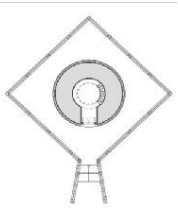
| | National/ International Code | Name | Location | Region | Coordinates | Description | Construction/ Repair Date | Registration Status | Registration Date | Height from the sea | Tower Height | Photo and Plan |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10000/ E5779 | Hopa- Sarp | Georgian Border | Black S | 41 31.2N/ 41 32.8E | Metal black pylon with rectangular white-orange-white panel | 1980 | ? | | 34m | 27m |  |
| 2 | 10010 /E5780 | Hopa (Çamlı Cape) | Artvin- Hopa | Black S | 41 22.0N/ 41 20.5E | White concrete tower and house | 1935/ 1980 | R | 2005 | 23m | 12m |    HOPA (1935) |
| 3 | 10020/ E5781 | Pazar- Kızkalesi | Rize- Pazar | Black S | 41 11.0N/ 40 52.5E | Metal truss Pylon on 1st century BC fortress | 1960? | ? | | 16m | 4m |  |
| 4 | 10070/ E5786 | Işıklı Cape/ Yeros/ Yaroz | Trabzon- Çarşıbaşı | Black S | 41 06.5N/ 39 25.3 E | White concrete tower and house | 1886/ 1926 | R | 2005 | 25m | 18-8m |  |
| 5 | 10085/ E5787.5 | Eynesil Fortress Cape | Giresun | Black S | 41 04.8N/ 39 09.8E | White metal truss pylon on 1st cent BC fortress | | ? | | 30m | 7m |  |
| 6 | 10090/ E5788 | Tirebolu Fortress Cape | Giresun | Black S | 41 00.5N/ 38 49.3E | White metal truss pylon on concrete base on fortress | 1911 | NR | | 31m | 18m |  |

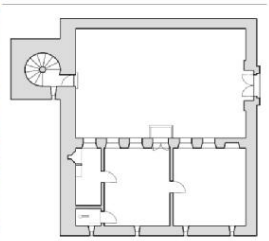
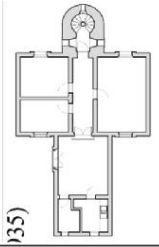
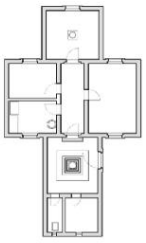
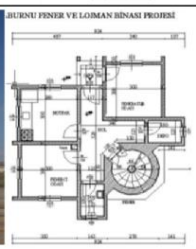
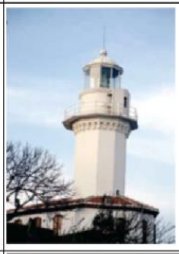
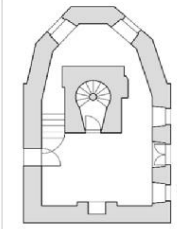
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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 10110/ E5790 | Giresun Fortress | Giresun | Black S | 40 55.4N/ 38 23.4E | White galvanized metal tower | 1861/ 1971 | NR | | 111m | 12m |  |
| 8 | 10150/ E5794 | Çamburnu/ Vona | Ordu-Perşembe | Black S | 41 07.0N/ 37 47.2E | White concrete tower | 1880 | R | 2005 | 39m | 6m |  |
| 9 | 10160/ E5795 | Yason/ Yasun Cape | Ordu-Perşembe | Black S | 41 08.3N/ 37 41.0E | White galvanized metal tower-near archaeological area | after 1980? | NR | | 11m | 7m |  |
| 10 | 10200/ E5799 | Çaltı Cape | Samsun-Terme | Black S | 41 15.8N/ 37 01.2E | White metal truss pylon and house-constructed during Ottoman Period then moved to current location | 1961 | NR | | 17m | 15m |  |
| 11 | 10210/ E5800 | Çiva Cape | Samsun | Black S | 41 21.8N/ 36 41.1E | White concrete tower-qualified example | 1880 | ? | | 23m | 18m |  |
| 12 | 10270/ E5806 | Bafra Cape | Samsun-Bafra | Black S | 41 43.9N/ 35 56.8E | White metal buttressed, circular column tower and house | 1880 | R | ? | 25m | 25m |   (1866/1936) BAFRA (1880) |

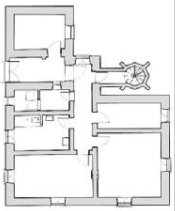
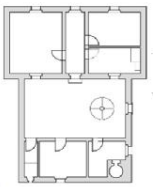
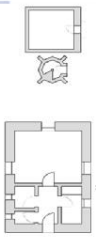
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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | 10280/ E5807 | Gerze. Köşk Cape | Sinop | Black S | 41 48.2N/ 35 12.4E | White concrete tower | | ? | ? | 15m | 6m |  |
| 14 | 10290/ E5808 | Boztepe Cape | Sinop | Black S | 42 01.2N/ 35 12.5E | White concrete tower and house. lantern mounted on a concrete pedestal and attached to the seaward side of a small 1-story concrete keeper's house. | 1863/ 1945 | NR | | 107m | 4m |  |
| 15 | 10310/ E5810 | İnceburun | Sinop | Black S | 42 05.9N/ 34 56.7E | White concrete tower and house.masonry tower with lantern & gallery, attached to a 1-story masonry keeper's house. The upper portion of the tower is octagonal & the lower portion is square. | 1863 | R | 2005 | 26m | 12m |   İNCEBURUN (1863) |
| 16 | 10330/ E5812 | İnebolu Cape | Kastamonu | Black S | 41 58.8N/ 33 45.8E | White concrete tower and house | 1863/ 1946 | R | 2005 | 38m | 9m |   İNEBOLU FENERİ(1946) |
| 17 | 10370/ E5816 | Kerempe | Kastamonu-Cide | Black S | 42 01.1N/ 33 20.2E | White concrete tower and house | 1884/ 1937 | R | 2005 | 82m | 8m |   KEREMPE (1884/1937) |
| 18 | 10375/ E5816.5 | Cide Harbour Köpekkaya Cape | Kastamonu-Cide | Black S | 41 54.5N/ 32 59.1E | White concrete tower | 1960 | ? | | 203m | 7m |  |

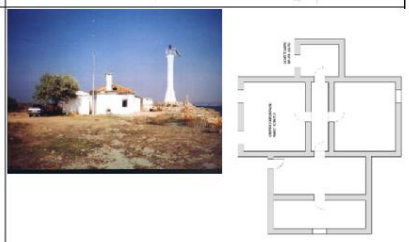
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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19 | 10380/ E5817 | Amasra Peninsula, hill top | Bartın-Amasra | Black S | 41 45.2N/ 32 23.0E | White concrete tower and house | 1863 | NR | | 77m | 4m |  |
| 20 | 10410/ E5820 | Zonguldak | Zonguldak | Black S | 41 27.9N/ 31 47.3E | White concrete tower and house | 1908 | R | 2009 | 53m | 9m |  |
| 21 | 10470/ E5826 | Ereğli Ölüce Cape | Zonguldak-Karadeniz Ereğlisi | Black S | 41 18.8N/ 31 24.0E | White concrete tower and house | 1863/ 1908/ 1910 | NR | | 78m | 9m |   ORLUCE/EREGLI(1863/1908/1910) |
| 22 | | Heraklia Pontika | Zonguldak-Karadeniz Ereğlisi | Black S | | stone masonry tower | 2nd cent AD Roman | | | | |   |
| 23 | 10510/ E5830 | Kefken, west of the island | Kocaeli | Black S | 41 13.0N/ 30 15.5E | On the watch tower, first constructed in 1869 then rebuilt | | inside registered site | | 24m | 10m |  |
| 24 | 10530/ E5832 | Şile/ Kilya (restored) | İstanbul- Şile | Black S | 41 10.8N/ 29 37.0E | White stone masonry tower with black stripes and house | 1859 | R | ? | 60m | 19m |   ŞİLE (1859/2000) |

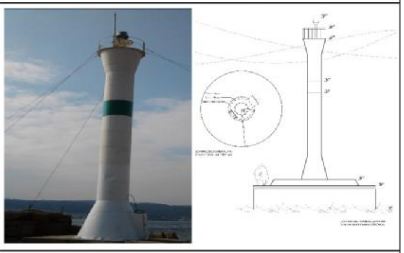
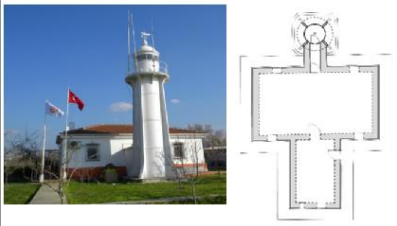
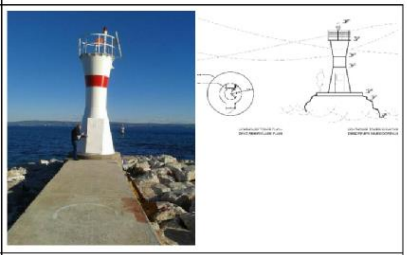
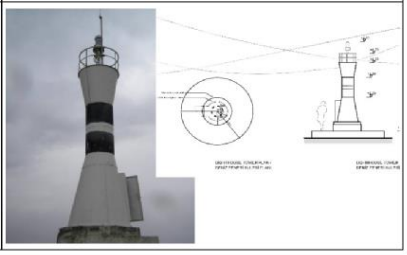
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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 10640/ E4964 | Rumeli Karaburun | İstanbul-Çatalca | Black S | 41 21.0N/ 28 41.0E | White metal truss pylon | 1853/ 1968 | R | | 54m | 12m |  |
| 26 | 10660/ E4966 | İğneada Koru Cape | İstanbul | Black S | 41 53.1N/ 28 03.4E | White concrete tower and house | 1866/ 1924 | R | 2005 | 44m | 8m |  |
| 27 | 20560/ E4956 | Türkeli/ Rumeli (restored) | İstanbul-Sarıyer | İstanbul St | 41 14.1N/ 29 06.8E | White concrete tower and house | 1856 | R | | 58m | 30m |    |
| 28 | 20580/ E4958 | Anadolu | İstanbul-Beykoz | İstanbul St | 41 13.1N/ 29 09.1E | White concrete tower and house | 1648/ 1856/ 1937 | R | ? | 75m | 19m |   |
| 29 | 20710/ E4950 | Kireç Cape | İstanbul-Tarabya | İstanbul St | 41 09.0N/ 29 02.8E | White galvanized tower with green stripes | 1861/ 1919 | ? | | 11m | 9m |  |
| 30 | 20740/ E4948 | Kanlıca Cape, 50m inside the cape | İstanbul | İstanbul St | 41 06.2N/ 29 04.0E | White truss iron tower | 1861 | ? | | 12m | 11m |  |

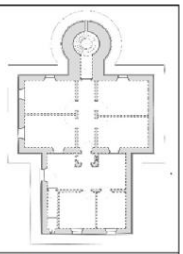
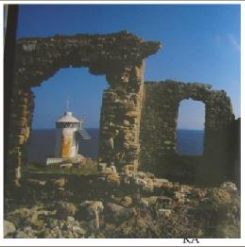
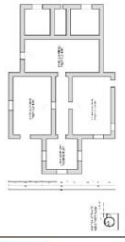
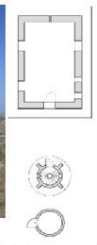
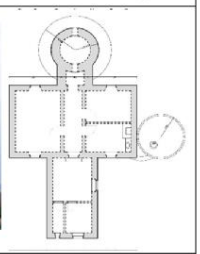
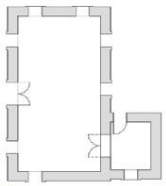
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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 31 | 20760/ E4946 | Aşiyan Cape | İstanbul | İstanbul St | 41 05.0N/ 29 03.4E | Metal cylindrical white tower with green stripes | 1861/ 1944 | ? | | 7m | 5m |  |
| 32 | 20780/ E4944 | Kandilli | İstanbul-Üsküdar | İstanbul St | 41 04.5N/ 29 03.4E | White metal truss pylon, renewed, now on traffic control tower | 1861/ 1988 | NR | | 27m | 10m |  |
| 33 | 20810/ E4941 | Bebek, on the bank | İstanbul-Beşiktaş | İstanbul St | 41 04.7N/ 29 02.8E | White concrete tower, renewed | 1856 | ? | | 5m | 5m |   |
| 34 | 20878/ E4903.8 | Kızkulesi | İstanbul-Üsküdar | İstanbul St | 41 01.3N/ 29 00.3E | White metal tower with red stripes and house | 1857 | R | | 11m | 9m |   |
| 35 | 20903/ E4903 | Ahırkapı | İstanbul-Eminönü | İstanbul St | 41 00.4N/ 28 59.1E | Black and white tower on building | 1857 | R | | 36m | 29m |   |
| 36 | 20952/ E4904.2 | Haydarpaşa, outer mole, southern jetty | İstanbul-Kadıköy | İstanbul St | 40 59.8N/ 29 00.8E | White concrete tower | 1961 | NR | | 8m | 4m |   |

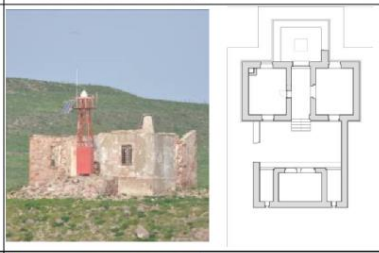
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| 37 | 21010/ E4910 | Fenerbahçe Cape | İstanbul-Kadıköy | İstanbul St | 40 58.2N/ 29 01.9E | White concrete tower and house | 1562/ 1856 | R | 2005 | 25m | 20m |   |
| 38 | 21130/ E4922 | Yelkenkaya | Kocaeli Bay-Gebze | Marmara S | 40 45.4N/ 29 21.3E | White concrete tower and house | 1896/ 1946 | R | | 20m | 15m |   |
| 39 | 21150/ E4924 | Dil Cape | Kocaeli Bay | Marmara S | 40 44.5N/ 29 30.9E | White metal truss pylon | 1863/ 1896/ 1950 | NR | | 12m | 20m |   |
| 40 | 21170/ E4926 | Kaba/ Kava Cape | Kocaeli | Marmara S | 40 46.1N/ 29 31.1E | White concrete tower and house | 1863/ 1955/ 2008 (concrete reconstr.) | R | | 15m | 12m |    |
| 41 | 21250/ E4902 | Yeşilköy/ Ayastefanos | İstanbul-Bakırköy | İstanbul St | 40 57.6N/ 28 50.3E | White concrete tower and house | 1857/ 1945/ 1971/ 1988 | R | | 23m | 10m |   |
| 42 | 21300/ E4898 | Marmara Ereğlisi | Tekirdağ-Marmara Ereğlisi | Marmara S | 40 58.1N/ 27 57.7E | White metal tower and house | 1861/ 1946 | R | | 52m | 26m |  |

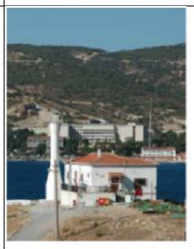
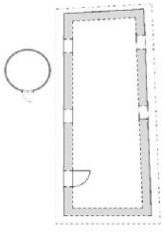
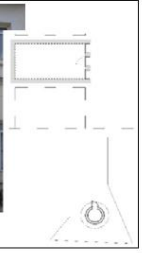
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| 43 | 21340/ E4896 | Hoşköy | Tekirdağ-Mürefte-Marmara Ereğlisi | Marmara S | 40 42.0N/ 27 18.5E | White iron tower and house | 1861 | R | 2005 | 50m | 22m |  |
| 44 | 21400/ E4900 | Bozburun | Yalova-Armutlu-Gemlik Bay | Marmara S | 40 32.0N/ 28 47.0E | White metal tower and house | 1902 | NR | | 77m | 9m |   |
| 45 | 21490/ E4886 | Fener Island north tip-Ayasandros | Balıkesir-Bandırma Harbour | Marmara S | 40 27.8N/ 28 04.0E | White iron column and house | 1910 | NR | | 43m | 12m |   |
| 46 | 21496/ E4890 | Kapstil Cape-Kapstile | Balıkesir-Bandırma Harbour | Marmara S | 40 28.7N/ 28 02.1E | White concrete tower and house | 1945 | R | 2007 | 20m | 10m |   |
| 47 | 21497/ E4884 | Balyoz Cape Balyos | Balıkesir-Bandırma Harbour | Marmara S | 40 29.7N/ 27 41.0E | White galvanized tin tower and house | 1861/ 1945 | NR | | 38m | 12m |  |
| 48 | 21500/ E4892 | Asmalıada east of Marmara Island | Marmara Island | Marmara S | 40 38.0N/ 27 45.6E | White iron truss pylon and house | 1857/ 1946 | NR | | 40m | 9m |   |

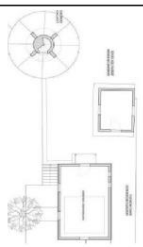
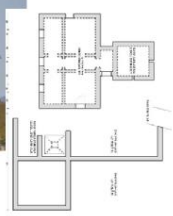
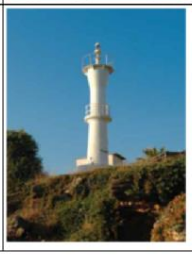
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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 49 | 21540/ E4882 | Ekinlik, on the rocks to the west of Araplar Island | Balıkesir-Erdek Bay | Marmara S | 40 30.9N/ 27 28.7E | White galvanized tin tower (and house?) | 1861/ 1946 | NR | | 18m | 10m |  |
| 50 | 21580/ E4894 | Hayırsız Island | Marmara Island | Marmara S | 40 38.7N/ 27 29.2E | White metal truss pylon and house | 1857/ 1968? | ? | | 112m | 20m |  |
| 51 | 21660/ E4878 | Gelibolu | Çanakkale-Gelibolu | Dardanel St | 40 24.7N/ 26 41.0E | White concrete tower and house | 1856 | R | | 35m | 9m |  |
| 52 | 21680/ E4876 | Çardak Cape | Gelibolu-Çanakkale | Dardanel St | 40 23.2N/ 26 42.5E | White concrete tower | 1846/ 1857/ 1991 | NR | | 12m | 11m |   |
| 53 | 21720/ E4872 | Karakova | Çanakkale-Gelibolu | Dardanel St | 40 19.3N/ 26 35.3E | Galvanized tin tower (+house) | 1858 | NR | | 10m | 10m |  |
| 54 | 21780/ E4866 | Akbaş Cape (Sestros) | Eceabat-Çanakkale | Dardanel St | 40 13.3N/ 26 25.4E | White tin tower | 193-211 AD | NR | | 6m | 5m |  |

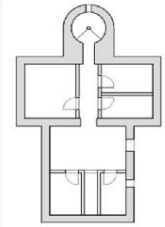
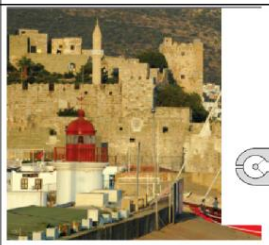
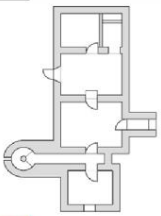
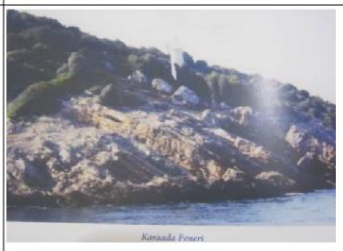
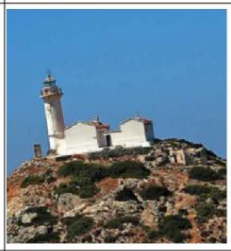
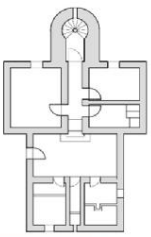
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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 55 | 21840/ E4862 | Nara Cape (Abydos) | Çanakkale Nara Cape | Dardanel St | 40 11.9N/ 26 24.1E | White tin tower on concrete pedestal / ARCHAEOLOGICAL ancient Stone masonry tower | 222-235 AD | NR | | 10m | 9m |  |
| 56 | 21890/ E4857 | Çanakkale Çimenlik Cape | Çanakkale | Dardanel St | 40 08.9N/ 26 23.9E | White tin tower, at the foot of Çimenlik Fortress | 1856/ 1946/ 2002 | NR | | 16m | 14m |  |
| 57 | 21900/ E4856 | Kilitbahir | Eceabat-Çanakkale | Dardanel St | 40 08.8N/ 26 22.9E | White galvanized tin tower | 1857/ 1954 | NR | | 7m | 4m |  |
| 58 | 21930/ E4854 | Kepez | Çanakkale | Dardanel St | 40 05.7N/ 26 21.9E | White metal tower and house | 1861/ 1926/ 1946 | R | | 10m | 10m |  |
| 59 | 21956/ E4852.6 | Seddülbahir | Eceabat-Çanakkale | Dardanel St | 40 02.5N/ 26 11.5E | concrete tower | 1861/ 1965 | NR | | 6m | 5m |  |
| 60 | 21990/ E4848 | Kumkale Cape | Çanakkale | Dardanel St | 40 00.6N/ 26 11.9E | White galvanized tin tower | 1856/ 1945 | NR | | 12m | 6m |  |

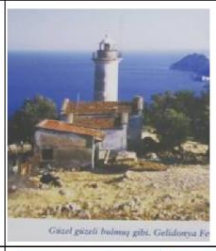
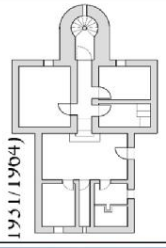
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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 61 | 22010/ E4850 | Mehmetçik Cape | Eceabat-Çanakkale | Dardanel St | 40 02.7N/ 26 10.5E | White concrete tower and house | 1856/ 1926/ 1946 | R | 2010 | 50m | 25m |   |
| 62 | 30030/ E4559 | Aydıncık Cape/ İmroz/ Kefalos | Çanakkale-Gökçeada | Aegean S | 40 09.8 N/ 26 00.7 E | White buttressed metal tower+ruined house? | 1890/ 1935 | NR | | 23m | 3m |   |
| 63 | 30040/ E4560 | Tavşan Island | Çanakkale-Bozcaada | Aegean S | 39 56.2N/ 26 03.6E | White metal truss pylon and house | 1936 | NR | | 45m | 9m |   |
| 64 | 30080/ E4564 | Bozcaada Batıburnu/ Polente | Çanakkale-Bozcaada | Aegean S | 39 50.3N/ 25 57.9E | White metal truss pylon and house | 1861/ 1907/ 1945 | R | 2008 | 32m | 20m |   |
| 65 | 30090/ E4565 | Damlacık/ On the islet off the east side-Gadaro | Çanakkale-Bozcaada | Aegean S | 39 50.6N/ 26 05.5E | White galvanized tin tower+house | 1861/ 1965 | NR | | 8m | 3m |   |
| 66 | 30120/ E4568 | Bozcaada Mermer Cape (Oinus Cape) | Çanakkale-Bozcaada | Aegean S | 39 48.1N/ 26 04.9E | White tin tower | 1861/ 1945/ 1961 | NR | | 35m | 10m |  |

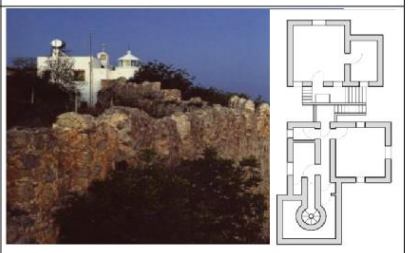
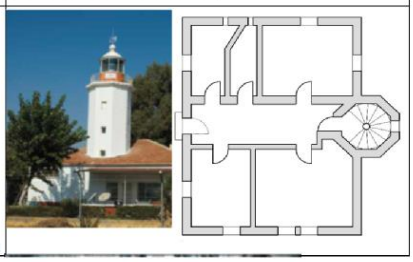
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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 67 | 30320/ E4588 | Baba Cape-Babakale | Çanakkale-Ayvacık-Musellim Channel | Aegean S | 39 28.9N/ 26 03.9E | White metal truss pylon | 1937 | NR | | 32m | 10m |  |
| 68 | 30340/ E4590 | Sivrice (restored as a library in 2009) | Çanakkale-Ayvacık-Musellim Channel | Aegean S | 39 28.1N/ 26 14.6E | white concrete tower and house | 1863/ after 1945 | R | 2007 | 16m | 12m |  |
| 69 | | Edremit/ Karaburun | Balıkesir | | | | 1937 | NR | | 14m | 13m |  |
| 70 | 30540/ E4610 | Güneş Island hill top/ Elyas Island | Balıkesir-Dikili Pass-Ayvalık | Aegean S | 39 19.7N/ 26 32.4E | White concrete tower+house | 1867/ 1933 | NR | | 66m | 5m |  |
| 71 | 30560/ E4612 | Çıplak (Gaymino) Island/ Fener Cape | Balıkesir-Dikili Pass-Ayvalık | Aegean S | 39 17.0N/ 26 36.2E | white metal truss pylon+ruined house | 1890 | NR | | 18m | 8m |  |
| 72 | 30596/ E4615.6 | Bademli Cape | Dikili | Aegean S | 39 01.0N/ 26 48.0E | White galvanized tin tower | | NR | | 31m | 7m |  |

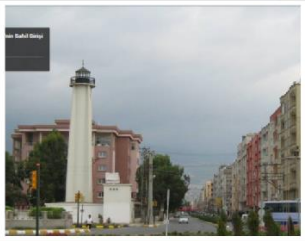
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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 73 | 30600/ E4616 | Tavşan Island | Gulf of Çandarlı | Aegean S | 38 51.1N/ 26 53.1E | White metal truss pylon | | NR | | 61m | 6m |  |
| 74 | 30603/ E4616.3 | Ilıca Burun-Aliağa | Gulf of Çandarlı | Aegean S | 38 49.5N/ 26 53.7E | White cocnrete tower | | NR | | 50 | 9 |  |
| 75 | 30620/ E4618 | Fener Island (Oğlak Island) | İzmir- Foça | Aegean S | 38 40.6N/ 26 42.7E | White concrete tower+house | 1887/ 1920 | NR | | 25m | 6m |   |
| 76 | 30640/ E4620 | Fener Cape Değirmen Cape | İzmir- Foça | Aegean S | 38 40.2N/ 26 44.7E | White galvanized tin tower+house | 1887 | R | 2005 | 20m | 12m |   |
| 77 | 30660/ E4622 | Uzunada north cape Kösten | İzmir- Foça | Aegean S | 38 32.5N/ 26 42.8E | White metal truss pylon | 1863/ 1920 | NR | | 50m | 12m | |
| 78 | 30760/ E4628 | Pasaport.On the tip of mole | İzmir Bay | Aegean S | 38 25.8N/ 27 07.9E | White concrete tower + house on Pasaport Pier | 1863/ 1927? | ? | | 7m | 5m |    |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 79 | 30770/ E4630 | Karaburun/ Sarpıncık | İzmir- Karaburun | Aegean S | 38 39.6N/ 26 21.7E | White concrete tower and house | 1938 | R | 2005 | 97m | 13m |   |
| 80 | 31040/ E4657 | Çeşme Fener Cape | Çeşme Pass | Aegean S | 38 19.3N/ 26 16.9E | concrete tower | 1879/ 1949 | NR | | 10m | 4m |  |
| 81 | 31050/ E4658 | Sungukaya Island/ Pasparikо | İzmir- Çeşme | Aegean S | 38 17.6N/ 26 11.7E | Iron metal truss tower+HOUSE | 1863/ 1919 | NR | | 43m | 9m |   |
| 82 | 31110/ E4664 | Kuşadası Güvercin Island | Aydın- Kuşadası | Aegean S | 37 51.9N/ 27 14.8E | White concrete tower and house | 1864/ 1938 | NR | | 20m | 12m |   |
| 83 | 31120/ E4665 | Bayrakadası (Panagya) | Aydın- Kuşadası | Aegean S | 37 41.6N/ 27 01.1E | White metal truss pylon+HOUSE | 1901 | NR | | 23m | 7m |   |
| 84 | 31124/ E4665.4 | Fener Cape (Çamlık) | Muğla- Güllük Bay | Aegean S | 37 14.3N/ 27 35.4E | White concrete tower | 1960 | NR | | 11m | 9m |  |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 85 | 31590/ E4712 | Hüseyin Cape/ Kefaluka | Muğla- Bodrum Channel | Aegean S | 36 58.0 N/ 27 15.9 E | White concrete tower and house | 1864/ 1931/ 1964 | R | 2005 | 15m | 9m |   |
| 86 | | Kumburnu Feneri/ Üçyandası (Kargı Adası) | | | | | 1864? | | | | | |
| 87 | 31760/ E4730 | Bodrum Harbour on west mole | Muğla- Bodrum | Aegean S | 37 01.9 N/ 27 25.5 E | White concrete tower and house | 1880/ 1945 | R | 2005 | 8m | 7m |   |
| 88 | 31775/ E4731.5 | Kara ada | Muğla- Gökova Bay | Aegean S | 36 59.7 N/ 27 25.5 E | (white concrete tower and house) White cylindrical metal tower with black stripes | | | | 31m | 7m |   |
| 89 | 31780/ E4732 | Deveboynu Cape/ Kriyo/ Knidos | Muğla- Datça | Aegean S | 36 41.3N/ 27 21.8E | White concrete tower and house | 1931 | R | | 104m | 9m |   |
| 90 | 31785/ E4732.5 | İnce Cape | Muğla- Datça | Aegean S | 36 39.6 N/ 27 42.8 E | White concrete tower | | | | 14m | 8m |  |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 91 | 32500/ E5836 | Kadırga Cape | Muğla-Marmaris Harbour | Aegean S | 36 43.8 N/ 28 18.0 E | White metal truss pylon and house | 1886/ 2005 | R | 2005 | 39m | 12m |  |
| 92 | 32520/ E5838 | Keçi Island South. On the islet | Muğla-Marmaris Harbour | Aegean S | 36 48.0 N/ 28 15.5 E | White metal truss pylon and house | 1886 | | | 30m | 12m |  |
| 93 | 32550/ E5841 | Kızıl Island south cape (restored as restaurant-cafe) | Muğla-Fethiye Bay | Aegean S | 36 39.2 N/ 29 02.5 E | White concrete tower and house | 1910 | R | 2005 | 32m | 13m |  |
| 94 | 32584/ E5844.4 | Kötü Cape | Muğla-Fethiye Bay | Aegean S | 36 23.4 N/ 29 06.2 E | white metal truss pylon and house? | | | | | | |
| 95 | 32640/ E5850 | Taşlık Cape Şıldanlar (Gelidonya) | Antalya-Finike | Mediter. | 36 13.2N/ 30 24.6E | White concrete tower and house | 1866/ 1936 | R | | 227m | 9m |    |
| 96 | 32680/ E5854 | Çavuşköy-Adrasan | Kumluca-Antalya | Mediter. | 36 18.0N/ 30 29.4E | White galvanized tin tower+house | 1939 | NR | | 45m | 10m |   |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 97 | 32720/ E5858 | Baba Cape | Antalya | Mediter. | 36 50.8N/ 30 45.5E | White concrete tower and house | 1920/ 1945 | R | 2005 | 35m | 6m |  |
| 98 | 32740/ E5860 | Alanya on the fortress | Antalya-Alanya | Mediter. | 36 31.9N/ 31 59.6E | White concrete tower and house | 1880/ 1938 | R | | 209m | 6m |  |
| 99 | | Patara | Antalya-Kaş | Mediter. | 36 15.48N/ 29 18.29E | Roman lighthouse from the reign of Nero | 64- 65 AD | ? | | | |  |
| 100 | 32760/ E5862 | Anamur Cape | Mersin-Anamur | Mediter. | 36 01.2N/ 32 48.1E | White concrete tower and house | 1912 | R | | 68m | 10m |  |
| 101 | 32855/ E5871.5 | İncekum Cape (Lişan ül kahbe) | Mersin-Taşucu Bay-Silifke | Mediter. | 36 13.8N/ 33 57.3E | Metal tower on pillared platform | 1864/ 1947 | NR | | 13m | |  |
| 102 | 32860/ E5872 | Mersin | Mersin Harbour | Mediter. | 36 47.1N/ 34 37.1E | White concrete tower and house | 1864/ 1938 | R | 2009 | 14m | 12m |  |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 103 | | Mersin | Mezitli-Soli Pompeiopolis | Mediter. | 36 44.24N/ 34 32.31E | masonry | ancient (Romn Peri., 2nd cent) | R | | | |  |
| 104 | 32880/ E5874 | Karataş Cape. Fener Cape | Adana-Karataş | Mediter. | 36 32.5N/ 35 20.5E | White concrete tower and house | 1864/ 1950 | R | | 38m | 12m |  |
| 105 | | Adana | Adana-Yumurtalık-Aigai | Mediter. | 36 46.7N/ 35 47.40E | masonry | ancient (Romn Period, 3rd cent) | R | | | |  |
| 106 | 32950/ E5916 | İskenderun | Hatay-İskenderun Harbour | Mediter. | 36 34.0N/ 36 02.2E | white concrete tower | 1940s? | IN | | 4m | 5m |  |
| 107 | 32960/ E5917 | Akıncı (Domuz) Cape/ Resul Hnzır | Hatay-İskenderun Harbour | Mediter. | 36 19.1N/ 35 46.9E | White concrete tower and house | 1933 | R | | 109m | 5m |  |

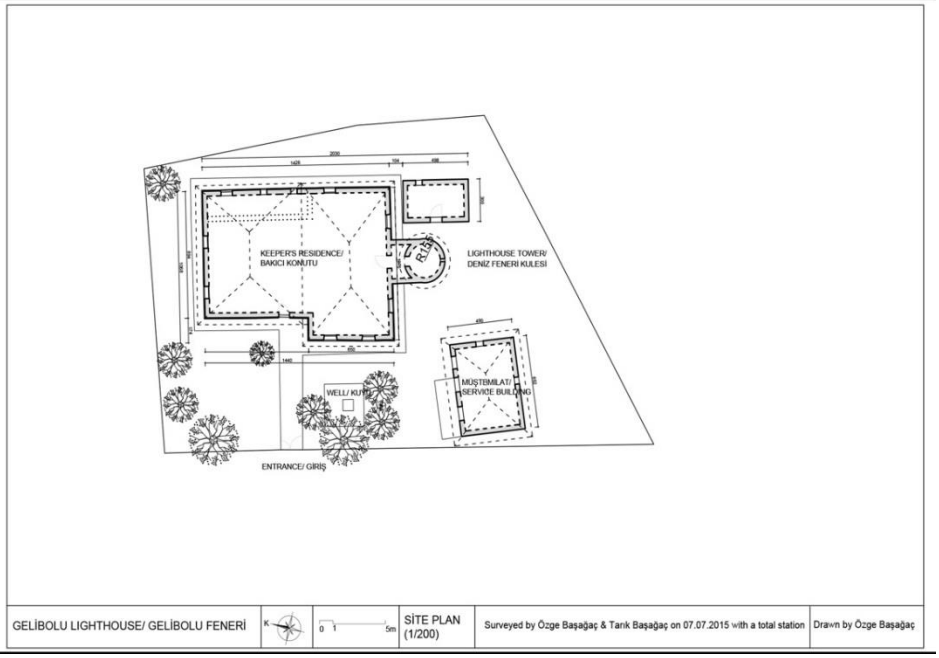
## C. Lighthouses in Aegean Coast, Turkey- Survey Sheets

| | **LIGHTHOUSES IN AEGEAN COAST** |
|---|---|
| C1 | **Gelibolu** |
| C2 | **Kepez** |
| C3 | **Sivrice** |
| C4 | **Güneş Island/ Elyas Island** |
| C5 | **Dikili Bademli Cape** |
| C6 | **Karaburun Sarpıncık** |
| C7 | **Kuşadası Güvercin Island** |

| C1 | LIGHTHOUSE SITE/ COURTYARD/ GARDEN SURVEY SHEET-PART 1(07.07.2015) | | |
|---|---|---|---|
| **Name(s):** | Gelibolu | **Construction Date:** | |
| **City/ Suburb** | Çanakkale/Gelibolu | **Repair Date(s):** | |
| **Neightbourhood** | Hoca Hamza Mah. | **Inscription Panel:** | Yes ( ) No ( x ) |
| **Bldg Sheet No** | Feneryolu Sok.No:13 | **Significant Mark:** | Yes ( ) No ( x) |
| **Bldg block No** | | **Registration Status:** | Yes ( x) No ( ) |
| **Bldg lot No** | | **Size:** | |

| **Location:** | **Accessibility** | **No of Visitors/hour:** |
|---|---|---|
| ( )On the peninsula, same level with the sea | ( x) Land paved road | |
| ( x )On the peninsula, …….m above the sea | ( ) Land pathway | **No of Visitors/day:** |
| ( )Distanced from the sea as the topography had changed | ( ) Sea quay | |
| ( x)On a high hill overlooking the sea | ( ) Sea w/o quay | |
| ( )On a sloping ground starting from the sea coast | **Old Physical Context** | **New Physical Context** |
| ( )On an island | ( ) Urban | ( x ) Urban |
| ( )Within the bay, same level with the sea | ( ) Rural | ( ) Rural |
| ( )On the mole | ( ) Archaeological | ( ) Archaeological |
| ( )… | ( x) Historical | ( x ) Historical |
| | ( ) Industrial | ( ) Industrial |
| | ( ) Natural | ( ) Natural |

**SITE PLAN**



| LIGHTHOUSE SITE/ COURTYARD/ GARDEN SURVEY SHEET- PART 1(07.07.2015) | | | | |
|---|---|---|---|---|
| **Function of neighbouring bldg lots** | cafe/çay bahçesi+park | | | |
| **landuse of neighbouring bldg lots** | in forest, makilik, near settlement, mera, su deposu Recreation,konut, park, çay bahçesi | | | |
| **ownership of neightbouring bldg lots** | şahıs, hazine, vakıf, köy tüzel kişilik, dernek, …Belediye-Parkın ötesi konut, özel mülkiyet | | | |
| **Potential areas & landmarks nearby** | Gelibolu Milli Parkı,gelibolu Plajı, Orduevi, kentsel çekim alanları | | | |
| **Keeper's Residence** | **KR. Inhabitance** | **KR. Function** | **Other buildings** | |
| Yes( x ) No( ) | ( x ) Inhabited | | Ek bakıcı konutu | |
| | ( ) Empty | | Depo | |
| | ( ) Rented | | | |
| **Tower proximity with residence** | Adjacent( x ) Separate( ) Inside ( ) | **Tower door location:** | inside | |
| **Energy Source for tower:** | | | | |
| **Infrastructure** | ( )internet access ( )water facilities ( x)electricity ( x )telephone ( ) solar power ( ) heating ( )cooling | | | |
| **Tower Spaces** | ( x) optical device room | ( x ) outer gallery/balcony | ( ) keeper's room | ( ) fuel depot |
| | ( ) cistern | ( ) depot | ( ) | |
| **Tower Form:** | ( ) cylindrical ( x ) conical ( ) buttressed ( ) rectangular ( ) polygonal | | | |
| **Tower Alteration:** | ( ) altered ( ) reconst. w same mat. ( ) recons. w different mat. (x)same | | | |
| **Problems on bldg lot:** | ( ) 1. Change/ alteration of the periphery boundary (enclosure wall, fence, landscaping etc…) | | | |
| | ( ) 2. Construction of annexes | | | |
| | ( x ) 3.Addition of new buildings | | | |
| | ( ) 4. Partial reconstruction | | | |
| | ( ) 5. Total reconstruction | | | |

| C2 | LIGHTHOUSE SITE/ COURTYARD/ GARDEN SURVEY SHEET-PART 2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WALL/ FENCE | MATERIAL | | HEIGHT | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | Rubble Stone | | below eye level | | addition | | | | |
| | Cut Stone | | at eye level | | alteration | | | | |
| | Brick | | above eye level | | removal | | | | |
| | Brick+stone | | | | unidentified | | | | |
| | Concrete | | | | | | | | |
| | Metal | x | | | | | | | |
| DOOR1 | MATERIAL | | FORM | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | wood | | | | addition | | | | |
| | metal | x | | | alteration | | | | |
| | | | | | removal | | | | |
| | | | | | unidentified | | | | |
| DOOR2 | MATERIAL | | FORM | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | wood | | | | addition | | | | |
| | metal | | | | alteration | | | | |
| | | | | | removal | | | | |
| | | | | | unidentified | | | | |
| PAVEMENT | MATERIAL | | FORM | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | stone | | | | addition | | | | |
| | marble | | | | alteration | | | | |
| | screed | x | | | removal | | | | |
| | soil | x | | | unidentified | | | | |
| | | | | | | | | | |
| **SPATIAL FEATURES** | | | | | | | | | |
| KITCHEN | MATERIAL | | | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| WC | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| x | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| woodshed | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| BARN | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| PERGOLA | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| POULTRY | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| **ARCHITECTURAL ELEMENTS** | | | | | | | | | |

| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
|---|---|---|---|---|---|---|
| WELL | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | x | unidentified | | | | |
| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| FOUNTAIN | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| KILN | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| FURNACE | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| STAIRS | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| POOL | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| TREEBED | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |

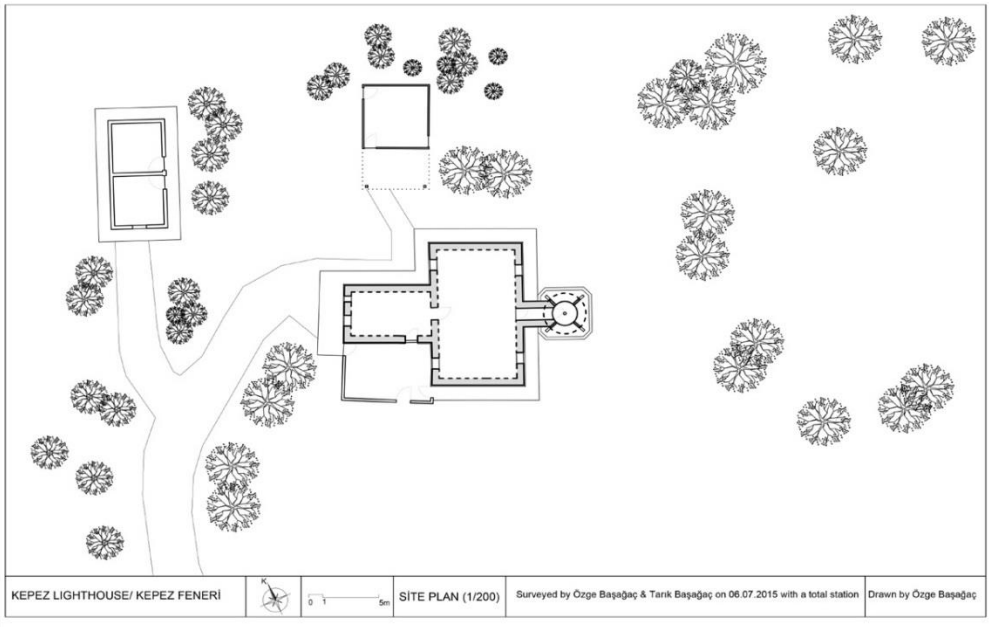
**ABBREVIATIONS**

| MATERIAL | | | | | DETERIOR. | | DAMAGE |
|---|---|---|---|---|---|---|---|
| cut stone | CS | cement | C | | discoloration | D | (1)no damage |
| rough cut st | RC | paint | P | | flaking | F | (2)slight damage |
| rubble stone | RS | trad.roof tile | TT | | disintegration | DS | (3)modert. dam. |
| brick | B | mod.roof tile | MT | | material loss | ML | (4)severe dam. |
| mudbrick | MB | metal | M | | rising damp | RD | |
| timber | T | iron | IR | | rain penetrtn | RP | |
| wood lath | WL | alternating | A | | condensation | CD | |
| mud plaster | MP | cement plas. | CP | | insects | I | |
| lime plaster | LP | | | | | | |

| C1 | LIGHTHOUSE SITE/ COURTYARD/ GARDEN SURVEY SHEET- PART 1 | | |
|---|---|---|---|
| **Name(s):** | Kepez | **Construction Date:** | 1861 |
| **City/ Suburb** | Çanakkale/Kepez | **Repair Date(s):** | 1926/1946 |
| **Neightbourhood** | | **Inscription Panel:** | Yes ( ) No ( ) |
| **Bldg Sheet No** | | **Significant Mark:** | Yes ( ) No ( ) |
| **Bldg block No** | | **Registration Status:** | Yes ( ) No ( ) |
| **Bldg lot No** | | **Size:** | |

| **Location:** | **Accessibility** | **No of Visitors/hour:** |
|---|---|---|
| ( )On the peninsula, same level with the sea | ( ) Land paved road | |
| ( )On the peninsula, ……m above the sea | ( ) Land pathway | **No of Visitors/day:** |
| ( )Distanced from the sea as the topography had changed | ( ) Sea quay | |
| ( )On a high hill overlooking the sea | ( ) Sea w/o quay | |
| ( )On a sloping ground starting from the sea coast | **Old Physical Context** | **New Physical Context** |
| ( )On an island | ( ) Urban | ( ) Urban |
| ( )Within the bay, same level with the sea | ( ) Rural | ( ) Rural |
| ( )On the mole | ( ) Archaeological | ( ) Archaeological |
| ( )… | ( ) Historical | ( ) Historical |
| | ( ) Industrial | ( ) Industrial |
| | ( ) Natural | ( ) Natural |

**SITE PLAN**



| LIGHTHOUSE SITE/ COURTYARD/ GARDEN SURVEY SHEET- PART 1 | | | | |
|---|---|---|---|---|
| **Function of neighbouring bldg lots** | | | | |
| **landuse of neighbouring bldg lots** | in forest, makilik, near settlement, mera, su deposu | | | |
| **ownership of neightbouring bldg lots** | şahıs, hazine, vakıf, köy tüzel kişilik, dernek, …Belediye-Parkın ötesi konut, özel mülkiyet | | | |
| **Potential areas & landmarks nearby** | | | | |
| **Keeper's Residence** | **KR. Inhabitance** | **KR. Function** | **Other buildings** | |
| Yes( x ) No( ) | ( ) Inhabited | | | |
| | ( ) Empty | | | |
| | ( ) Rented | | | |
| **Tower proximity with residence** | Adjacent( x ) Separate( ) Inside ( ) | **Tower door location:** | inside | |
| **Energy Source for tower:** | | | | |
| **Infrastructure** | ( )internet access ( )water facilities ( )electricity ( )telephone ( ) solar power ( ) heating ( )cooling | | | |
| **Tower Spaces** | ( ) optical device room | ( ) outer gallery/balcony | ( ) keeper's room | ( ) fuel depot |
| | ( ) cistern | ( ) depot | ( ) | |
| **Tower Form:** | ( ) cylindrical ( ) conical ( ) buttressed ( ) rectangular ( ) polygonal | | | |
| **Tower Alteration:** | ( ) altered ( ) reconst. w same mat. ( ) recons. w different mat. (x)same | | | |
| **Problems on bldg lot:** | ( ) 1. Change/ alteration of the periphery boundary (enclosure wall, fence, landscaping etc…) | | | |
| | ( ) 2. Construction of annexes | | | |
| | ( ) 3.Addition of new buildings | | | |
| | ( ) 4. Partial reconstruction | | | |
| | ( ) 5. Total reconstruction | | | |

| C2 | LIGHTHOUSE SITE/ COURTYARD/ GARDEN SURVEY SHEET-PART 2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WALL/ FENCE | MATERIAL | | HEIGHT | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | Rubble Stone | | below eye level | | addition | | | | |
| | Cut Stone | | at eye level | | alteration | | | | |
| | Brick | | above eye level | | removal | | | | |
| | Brick+stone | | | | unidentified | | | | |
| | Concrete | | | | | | | | |
| | Metal | x | | | | | | | |
| DOOR1 | MATERIAL | | FORM | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | wood | | | | addition | | | | |
| | metal | x | | | alteration | | | | |
| | | | | | removal | | | | |
| | | | | | unidentified | | | | |
| DOOR2 | MATERIAL | | FORM | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | wood | | | | addition | | | | |
| | metal | | | | alteration | | | | |
| | | | | | removal | | | | |
| | | | | | unidentified | | | | |
| PAVEMENT | MATERIAL | | FORM | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | stone | | | | addition | | | | |
| | marble | | | | alteration | | | | |
| | screed | x | | | removal | | | | |
| | soil | x | | | unidentified | | | | |
| | | | | | | | | | |
| **SPATIAL FEATURES** | | | | | | | | | |
| KITCHEN | MATERIAL | | | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| WC | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| x | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| woodshed | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| BARN | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| PERGOLA | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| POULTRY | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |

**ARCHITECTURAL ELEMENTS**

| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
|---|---|---|---|---|---|---|
| WELL | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | x | unidentified | | | | |
| FOUNTAIN | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| KILN | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| FURNACE | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| STAIRS | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| POOL | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| TREEBED | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |

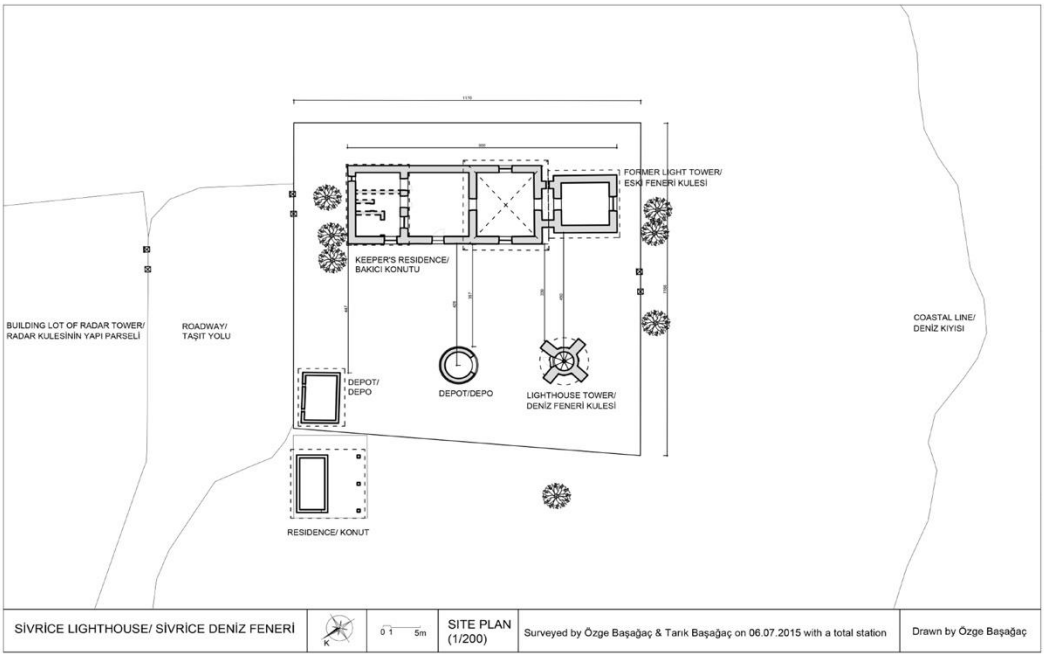
**ABBREVIATIONS**

| MATERIAL | | | | | DETERIOR. | | DAMAGE |
|---|---|---|---|---|---|---|---|
| cut stone | CS | cement | C | | discoloration | D | (1)no damage |
| rough cut st | RC | paint | P | | flaking | F | (2)slight damage |
| rubble stone | RS | trad.roof tile | TT | | disintegration | DS | (3)modert. dam. |
| brick | B | mod.roof tile | MT | | material loss | ML | (4)severe dam. |
| mudbrick | MB | metal | M | | rising damp | RD | |
| timber | T | iron | IR | | rain penetrtn | RP | |
| wood lath | WL | alternating | A | | condensation | CD | |
| mud plaster | MP | cement plas. | CP | | insects | I | |
| lime plaster | LP | | | | | | |

| C1 | LIGHTHOUSE SITE/ COURTYARD/ GARDEN SURVEY SHEET- PART 1/ SİVRİCE | | |
|---|---|---|---|
| **Name(s):** | Sivrice | **Construction Date:** | 1863 |
| **City/ Suburb** | Çanakkale/Ayvacık-Sivrice | **Repair Date(s):** | 1945 |
| **Village** | Bektaş | **Inscription Panel:** | |
| **Bldg Sheet No** | Feneryolu Sok.No:13 | **Significant Mark:** | Yes ( ) No ( ) |
| **Bldg block No** | | **Registration Status:** | Yes ( x) No ( ) |
| **Bldg lot No** | | **Size:** | |

| **Location:** | **Accessibility** | **No of Visitors/hour:** |
|---|---|---|
| ( )On the peninsula, same level with the sea | ( x) Land paved road | |
| ( x )On the peninsula, 4……m above the sea | ( ) Land pathway | **No of Visitors/day:** |
| ( )Distanced from the sea as the topography had changed | ( ) Sea quay | |
| ( x)On a high hill overlooking the sea | ( ) Sea w/o quay | |
| ( )On a sloping ground starting from the sea coast | **Old Physical Context** | **New Physical Context** |
| ( )On an island | ( ) Urban | ( ) Urban |
| ( )Within the bay, same level with the sea | ( ) Rural | ( ) Rural |
| ( )On the mole | ( ) Archaeological | ( ) Archaeological |
| ( )… | ( ) Historical | ( ) Historical |
| | ( ) Industrial | ( ) Industrial |
| | ( ) Natural | ( ) Natural |

**SITE PLAN**



| LIGHTHOUSE SITE/ COURTYARD/ GARDEN SURVEY SHEET- PART 1/ SİVRİCE | | | | |
|---|---|---|---|---|
| **Function of neighbouring bldg lots** | radar tower, fishing shelter, fields, | | | |
| **landuse of neighbouring bldg lots** | military, agriculture, fishing | | | |
| **ownership of neightbouring bldg lots** | military, private | | | |
| **Potential areas & landmarks nearby** | Assos/Behramkale(east), Babakale (West) | | | |
| **Keeper's Residence** | **KR. Inhabitance** | **KR. Function** | **Other buildings** | |
| Yes( x ) No( ) | ( ) Inhabited | | Ek bakıcı konutu | |
| | ( ) Empty | | Depo | |
| | ( x) Rented | | | |
| **Tower proximity with residence** | Adjacent( ) Separate( x ) Inside ( ) | **Tower door location:** | inside | |
| | | | outside | |
| **Energy Source for tower:** | solar power | | | |
| **Infrastructure** | ( )internet access ( )water facilities ( x)electricity ( x )telephone ( ) solar power ( ) heating ( )cooling | | | |
| **Tower Spaces** | ( x) optical device room | ( x) outer gallery/balcony | ( ) keeper's room | ( ) fuel depot |
| | ( ) cistern | ( ) depot | ( ) | |
| **Tower Form:** | ( ) cylindrical ( x) conical ( x ) buttressed ( ) rectangular ( ) polygonal | | | |
| **Tower Alteration:** | ( ) altered ( ) reconst. w same mat. ( ) recons. w different mat. (x)same | | | |
| **Problems on bldg lot:** | ( ) 1. Change/ alteration of the periphery boundary (enclosure wall, fence, landscaping etc…) | | | |
| | ( ) 2. Construction of annexes | | | |
| | ( x ) 3.Addition of new buildings | | | |
| | ( ) 4. Partial reconstruction | | | |
| | ( ) 5. Total reconstruction | | | |

| C2 | LIGHTHOUSE SITE/ COURTYARD/ GARDEN SURVEY SHEET-PART 2 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| WALL/ FENCE | MATERIAL | | HEIGHT | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | Rubble Stone | | below eye level | | addition | x | | | |
| | Cut Stone | | at eye level | x | alteration | | | | |
| | Brick | | above eye level | | removal | | | | |
| | Brick+stone | | | | unidentified | | | | |
| | Concrete | | | | | | | | |
| | Metal | x | | | | | | | |
| DOOR1 | MATERIAL | | FORM | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | wood | | | | addition | | | | |
| | metal | x | | | alteration | | | | |
| | | | | | removal | | | | |
| | | | | | unidentified | | | | |
| DOOR2 | MATERIAL | | FORM | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | wood | | | | addition | | | | |
| | metal | | | | alteration | | | | |
| | | | | | removal | | | | |
| | | | | | unidentified | | | | |
| PAVEMENT | MATERIAL | | FORM | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | stone | | | | addition | | | | |
| | marble | | | | alteration | | | | |
| | screed | x | | | removal | | | | |
| | soil | x | | | unidentified | | | | |
| | | | | | | | | | |
| **SPATIAL FEATURES** | | | | | | | | | |
| KITCHEN | MATERIAL | | | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| WC | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| x | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| woodshed | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| BARN | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| PERGOLA | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| POULTRY | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |

**ARCHITECTURAL ELEMENTS**

| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
|---|---|---|---|---|---|---|
| WELL | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | x | unidentified | | | | |
| FOUNTAIN | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| KILN | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| FURNACE | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| STAIRS | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| POOL | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| TREEBED | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |

**ABBREVIATIONS**

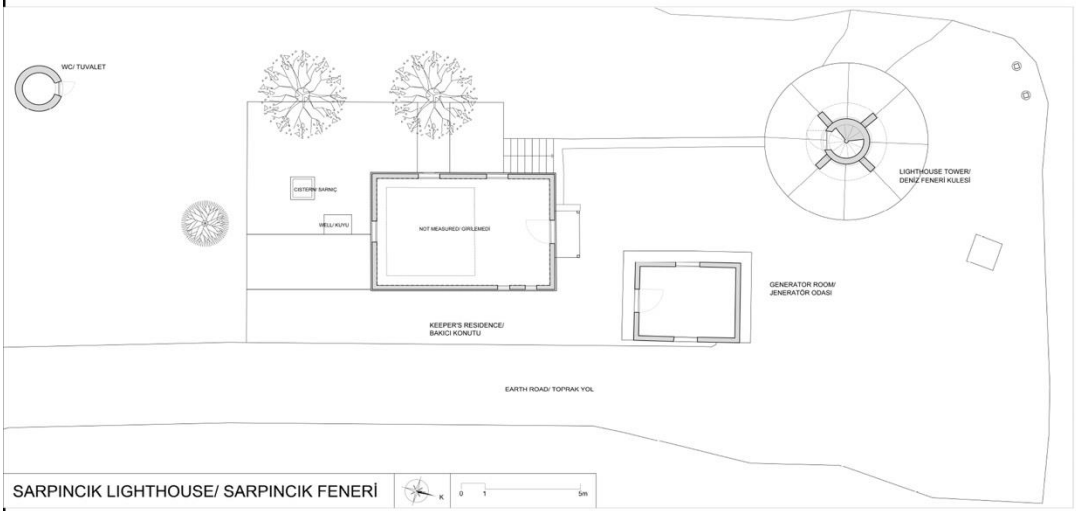
| MATERIAL | | | | | DETERIOR. | | DAMAGE |
|---|---|---|---|---|---|---|---|
| cut stone | CS | cement | C | | discoloration | D | (1)no damage |
| rough cut st | RC | paint | P | | flaking | F | (2)slight damage |
| rubble stone | RS | trad.roof tile | TT | | disintegration | DS | (3)modert. dam. |
| brick | B | mod.roof tile | MT | | material loss | ML | (4)severe dam. |
| mudbrick | MB | metal | M | | rising damp | RD | |
| timber | T | iron | IR | | rain penetrtn | RP | |
| wood lath | WL | alternating | A | | condensation | CD | |
| mud plaster | MP | cement plas. | CP | | insects | I | |
| lime plaster | LP | | | | | | |

| S | | SYAL DURUM ANKETİ-AYVALIK-Sivrice…… | | | | |
|---|---|---|---|---|---|---|
| No | Hane Başkanına Yakınlığı | Yaşı | Cinsiyeti | Eğitimi | Mesleği | Sosyal Güvencesi |
| 1 | Hasan Basri Yaman | | | | | |
| 2 | Eşi | | | | | |
| 3 | 3 çocuk(2 kız/ 1 erkek) | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 1) | Nerelisiniz? | | | Ayvalık | | |
| | Ne kadar zamandır bu şehirde oturuyorsunuz? | | | | | |
| | Bu şehre geliş sebebiniz nedir? | | | Cunda | | |
| | Memleketinize dönmeyi düşünüyor musunuz? | | | ( )Evet | Neden? | |
| | | | | ( )Hayır | Neden? | |
| 2) | Kaç yıldır bu mahallede oturuyorsunuz? | | | | | |
| | Bu mahallede oturmanızın nedeni nedir? | | | | | |
| | Mahallenizden memnun musunuz? | | | | | |
| | Komşularınız var mı? | | | ( )Evet | ( )Hayır | |
| | Ne kadar uzaktalar? | | | | | |
| | Hangi sıklıkta görüşüyorsunuz? | | | | | |
| | Yakında olmasını istediğiniz yapılar var mı? | | | ( )okul | ( )camii | ( )sağlık ocağı |
| | | | | ( )pazar yeri | ( )iskele | |
| | | | | | | |
| | Olanağınız olsa bu mahalleden taşınır mısınız? | | | ( )Evet | Neden?Nereye? | |
| | | | | ( )Hayır | Neden? | |
| 3) | Kaç yıldır bu fenerde oturuyorsunuz? | | | | | |
| | Olanağınız olsa bu fenerden taşınır mıydınız? | | | ( )Evet | Neden?Nereye? | |
| | | | | ( )Hayır | Neden? | |
| | Olanağınız olsa bu feneri satın alır mıydınız? | | | ( x)Evet | Çıplakada,yüzme | |
| | | | | ( )Hayır | Neden? | |
| 4) | Feneriniz tescilli mi? | | | ( )Evet | ( )Hayır | |
| | Tescil durumu sorun yaratıyor mu? | | | ( )Evet | ( )Hayır | Neden? |
| 5) | Fenerinize bakım ve onarım yaptınız mı? | | | ( )Evet | | |
| | | | | ( )Hayır | Neler yaptınız? | |
| | Bakım & onarımları düzenli yapabiliyor musunuz? | | | ( )Evet | Ne sıklıkta? | |
| | | | | ( x )Hayır | Neden? | Adam yok. |
| | Fenerin bakım & onarımı için yıllık ne kadar ayrılıyor/ ayırıyorsunuz? | | | Neden? Fenerler birbirinden uzak.Çok iş var. | | |
| 6) | İmkanınız olsa fenerinizde yapmak istediğiniz bakım ve onarımlar nelerdir? | | | Neden?Orijinaline uygun kule yapardım.Çıplakadanın dışı tamir ed | | |
| | İmkanınız olsa fenerinize hangi mekanları eklemek istersiniz? | | | Neden? | | |
| 7) | İçinde yaşadığınız bu fener, konutlar ve çevresi ile ilgili bir koruma-iyileştirme kooperatifi kurulmasını ister misiniz? | | | ( )Evet | ( )Hayır | |
| | Bu türde bir kooperatif kurulsa fenerinizin onarımı sürecinde geçici olarak kalabileceğiniz bir yer var mı? | | | ( )Evet | ( )Hayır | |
| 8) | Yemekleri nerede pişiriyorsunuz? | | | ( )Mutfak | ( )Diğer | ? |
| | Nerede yemek yiyorsunuz? | | | | | |
| 9) | Ayrı ebeveyn odası var mı? | | | ( )Evet | ( )Hayır | |
| 10) | Misafir geldiğinde nerede yatırıyorsunuz? | | | | | |
| 11) | Nerede yıkanıyorsunuz? | | | ( )Banyo | ( )Diğer | |
| | Banyo nerede? | | | ( )içeride | ( )dışarıda | |
| | Banyo yeterli mi? | | | ( )Evet | ( )Hayır | ? |
| 12) | Tuvalet nerede? | | | ( )içeride | ( )dışarıda | |
| | Tuvalet yeterli mi? | | | ( )Evet | ( )Hayır | ? |
| 13) | Isınmak için ne yakıt kullanıyorsunuz? | | | | | |
| | Ne ile ısınıyorsunuz? (soba, kalorifer vb) | | | | | |
| | Hangi odaları ısıtıyorsunuz? | | | | | |
| | Yakacak deponuz var mı? | | | | | |

| | | | | |
|---|---|---|---|---|
| 14) | Toplu olarak yaptığınız eğlence veya etkinlik var mı? | ( )Evet | ? | |
| | | ( )Hayır | | |
| 15) | Düğünler genelde nerede oluyor ve yöreye özgü gelenekleriniz var mı? | | | |
| 16) | Fenerinizin yerini bize tarif eder misiniz? (landmarks) | | | |
| 17) | Aracınız var mı? | ( )Evet | Park problemi var mı? | |
| | | ( )Hayır | Ulaşım nasıl? | |
| 18) | Belediye çöplerinizi alıyor mu? | ( )Evet | ( )Hayır | |
| | Belediye hizmeti alıyor musunuz? | ( )Evet | | |
| | | ( )Hayır | Neler olmalı? | |
| | | | | |
| 19) | Fenerinizin su ihtiyacı nasıl karşılanıyor? | | | |
| | Suyunuz düzenli ve yeterli mi? | ( )Evet | ( )Hayır | |
| 20) | Yağmur mevsiminde taşkın veya sel oluyor mu? | ( )Evet | ( )Hayır | |
| 21) | Fenerinizin elektrik ihtiyacı nasıl karşılanıyor? | | | |
| | Elektriğiniz düzenli ve yeterli mi? | ( )Evet | ( )Hayır | |
| 22) | Fenerde hangi cihazlarınız var? | ( )televizyon | ( )telefon | ( )buzdolabı |
| | | ( )çamşr mak. | ( )müzik seti | ( )dikiş mak. |
| | | ( )bulşk mak. | ( )bilgisayar | ( )internet |
| 23) | Kendinize ait başka bir eviniz var mı? | ( )Evet | Nerede? | |
| | | ( )Hayır | | |
| | Araziniz var mı? | ( )Evet | Nerede? Ne ekiyorsunuz? | |
| | | ( )Hayır | | |
| | Kirada veya sizin işlettiğiniz bir işyeriniz var mı? | ( )Evet | Nerede? | |
| | | ( )Hayır | | |
| 24) | Ne kadar zamandır bu görevde çalışıyorsunuz? | | | |
| | Ailenizde sizden önce bu görevde bulunmuş insanlar var mı? | | | |
| | Fener bekçiliği görevini bir sonraki kuşağa aktarmak için sizce neler gereklidir? | ektronik olmamalı. Bazı şeyler manuel olmalı. Sistemin tecrübesi al | | |
| | Emekli olduktan sonra ne yapmayı planlıyorsunuz? | Balıkçılık | | |
| 25) | Fenerde bir gününüz nasıl geçiyor? | 2 parçada. 12 fener var.Kontrolü hallediyor. | | |
| 26) | Fenerde eskiden bir gün nasıl geçerdi? | | | |
| 27) | Fenere hiç ziyaretçi geliyor mu? | ( )Evet | ( )Tanıdık | ( )Yabancı |
| | | ( )Hayır | | |
| 28) | Fenere eskiden ziyaretçi gelir miydi? | ( )Evet | ( )Tanıdık | ( )Yabancı |
| | | ( )Hayır | Bilmiyoruz. | |
| 29) | Fenere ziyaretçi gelmesini ister misiniz? | ( x )Evet | Ama restore edilmeli. | Nasıl? |
| | | ( )Hayır | Neden? | Nasıl? |
| 30) | Fener ve çevresine başka kimler geliyor? | Çıplakada-Tarım Müze, cafe, lokanta,hastane(akıl hastalıkları) | | |
| | Fener ve çevresi başkaları tarafından nasıl kullanılıyor? | | | |
| 31) | Ailenizde sizden başka çalışan var mı? | ( )Evet | | |
| | | ( )Hayır | | |
| 32) | Evde veya başka bir yerde bir şey üretiyor musunuz? | ( x )Evet | Ne üretiyorsunuz? Balıkçılık | |
| | | ( )Hayır | | |
| | Ürünlerinizi satıyor musunuz? | ( )Evet | Kime? | Nasıl? |
| | | ( )Hayır | | |

| C1 | LIGHTHOUSE SITE/ COURTYARD/ GARDEN SURVEY SHEET-PART 1 | | |
|---|---|---|---|
| **Name(s):** | Karaburun Sarpıncık | **Construction Date:** | 1938(cons.Start on 1933) |
| **City/ Suburb** | İzmir/Karaburun | **Repair Date(s):** | |
| **Neightbourhood** | Sarpıncık Village | **Inscription Panel:** | Yes ( ) No ( x ) |
| **Bldg Sheet No** | | **Significant Mark:** | Yes ( ) No ( x ) |
| **Bldg block No** | | **Registration Status:** | Yes ( x ) No ( ) |
| **Bldg lot No** | | **Size:Bldg Lot Size:** | 97.000 m2 |
| **Location:** | | **Accessibility** | **No of Visitors/hour:** |
| ( )On the peninsula, same level with the sea | | ( x ) Land paved road(Belli bir yere kadar) | |
| ( x)On the peninsula, ……m above the sea | | ( x) Land pathway | **No of Visitors/day:** |
| ( )Distanced from the sea as the topography had changed | | ( ) Sea quay | |
| ( )On a high hill overlooking the sea | | ( ) Sea w/o quay | |
| ( )On a sloping ground starting from the sea coast | | **Old Physical Context** | **New Physical Context** |
| ( )On an island | | ( ) Urban | ( ) Urban |
| ( )Within the bay, same level with the sea | | ( x) Rural | ( x ) Rural/Natunal Regis.Site |
| ( )On the mole | | ( ) Archaeological | ( ) Archaeological |
| ( )… | | ( ) Historical | ( ) Historical |
| | | ( ) Industrial | ( x) IndustrialWind Tirbunes |
| | | ( ) Natural | |

**SITE PLAN**



| LIGHTHOUSE SITE/ COURTYARD/ GARDEN SURVEY SHEET- PART 1 | | | | |
|---|---|---|---|---|
| **Function of neighbouring bldg lots** | | | | |
| **landuse of neighbouring bldg lots** | in forest, makilik, near settlement, mera, su deposu | | | |
| **ownership of neightbouring bldg lots** | Wind mills-private | | | |
| **Potential areas & landmarks nearby** | Sarpıncık Village | | | |
| **Keeper's Residence** | **KR. Inhabitance** | **KR. Function** | **Other buildings** | |
| Yes( x) No( ) | ( ) Inhabited | | Generator Room | |
| | ( x) Empty | | | |
| | ( ) Rented | | | |
| **Tower proximity with residence** | Adjacent( ) Separate( x) Inside ( ) | **Tower door location:** | Exterior | |
| **Energy Source for tower:** | Solar | | | |
| **Infrastructure** | ( )internet access ( x)water facilities ( x )electricity ( )telephone ( x ) solar power ( ) heating ( )cooling (cisterm line from spring) (generator) | | | |
| **Tower Spaces** | ( ) optical device room | ( ) outer gallery/balcony | ( ) keeper's room | ( ) fuel depot |
| | ( ) cistern | ( ) depot | ( ) | |
| **Tower Form:** | ( ) cylindrical ( x) conical ( ) buttressed ( ) rectangular ( ) polygonal | | | |
| **Tower Alteration:** | ( ) altered ( ) reconst. w same mat. ( ) recons. w different mat. | | | |
| **Problems on bldg lot:** | ( ) 1. Change/ alteration of the periphery boundary (enclosure wall, fence, landscaping etc…) | | | |
| | ( ) 2. Construction of annexes | | | |
| | ( ) 3.Addition of new buildings | | | |
| | ( ) 4. Partial reconstruction | | | |
| | ( ) 5. Total reconstruction | | | |

**Surveyed on 20.04.2014**

| C2 | LIGHTHOUSE SITE/ COURTYARD/ GARDEN SURVEY SHEET-PART 2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WALL/ FENCE | MATERIAL | | HEIGHT | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | Rubble Stone | | below eye level | | addition | | | | |
| | Cut Stone | | at eye level | | alteration | | | | |
| | Brick | | above eye level | | removal | | | | |
| | Brick+stone | | | | unidentified | | | | |
| | Concrete | | | | | | | | |
| | Metal | | | | | | | | vall,no fence.Open site |
| DOOR1 | MATERIAL | | FORM | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | wood | | | | addition | | | | |
| | metal | | | | alteration | | | | |
| | | | | | removal | | | | |
| | | | | | unidentified | | | | |
| DOOR2 | MATERIAL | | FORM | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | wood | | | | addition | | | | |
| | metal | | | | alteration | | | | |
| | | | | | removal | | | | |
| | | | | | unidentified | | | | |
| PAVEMENT | MATERIAL | | FORM | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | slate | x | | | addition | x | only surf. | | |
| | marble | | | | alteration | x | dete. | | |
| | screed | | | | removal | | good/medium | | |
| | soil | | | | unidentified | | | | |
| | | | | | | | | | l screed with soil in be |
| **SPATIAL FEATURES** | | | | | | | | | |
| KITCHEN | MATERIAL | | | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| WC | FLOOR | slate | | | addition | | | | |
| | WALLS | slate | | | alteration | | | | |
| | CEILING | timber lag | | | removal | | | | |
| | ROOF | timber lag | | | unidentified | | | | |
| DEPOT | FLOOR | | | | addition | x | | | |
| | WALLS | porickt cem. Plt paint | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | Timber, inckhed | | | unidentified | | | | (Added instead of tank |
| woodshed | FLOOR | T | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| BARN | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| PERGOLA | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| POULTRY | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |
| | FLOOR | | | | addition | | | | |
| | WALLS | | | | alteration | | | | |
| | CEILING | | | | removal | | | | |
| | ROOF | | | | unidentified | | | | |

| ARCHITECTURAL ELEMENTS | | | | | | | |
|---|---|---|---|---|---|---|---|
| WELL | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES | |
| | concrete | addition | x | good/medium | only sur. | | |
| | | alteration | | | | | |
| | | removal | | | | | |
| | | unidentified | | | | | |
| FOUNTAIN | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES | |
| | | addition | | | | | |
| | | alteration | | | | | |
| | | removal | | | | | |
| | | unidentified | | | | | |
| KILN | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES | |
| | | addition | | | | | |
| | | alteration | | | | | |
| | | removal | | | | | |
| | | unidentified | | | | | |
| FURNACE | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES | |
| | | addition | | | | | |
| | | alteration | | | | | |
| | | removal | | | | | |
| | | unidentified | | | | | |
| STAIRS | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES | |
| | | addition | | | | | |
| | | alteration | | | | | |
| | | removal | | | | | |
| | | unidentified | | | | | |
| POOL | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES | |
| | | addition | | | | | |
| | | alteration | | | | | |
| | | removal | | | | | |
| | | unidentified | | | | | |
| TREEBED | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES | |
| | | addition | | | | | |
| | | alteration | | | | | |
| | | removal | | | | | |
| | | unidentified | | | | | |
| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES | |
| | concrete | addition | x | 2. only surf. | | | |
| | | alteration | | | | | |
| | | removal | | | | | |
| | | unidentified | | | | | |
| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES | |
| | | addition | | | | | |
| | | alteration | | | | | |
| | | removal | | | | | |
| | | unidentified | ? | | | | |

| ABBREVIATIONS | | | | | | | |
|---|---|---|---|---|---|---|---|
| MATERIAL | | | | | DETERIOR. | | DAMAGE |
| cut stone | CS | cement | C | | discoloration | D | (1)no damage |
| rough cut st | RC | paint | P | | flaking | F | (2)slight damage |
| rubble stone | RS | trad.roof tile | TT | | disintegration | DS | (3)modert. dam. |
| brick | B | mod.roof tile | MT | | material loss | ML | (4)severe dam. |
| mudbrick | MB | metal | M | | rising damp | RD | |
| timber | T | iron | IR | | rain penetrtn | RP | |
| wood lath | WL | alternating | A | | condensation | CD | |
| mud plaster | MP | cement plas. | CP | | insects | I | |
| lime plaster | LP | | | | | | |

# E

EXTERIOR SURVEY SHEET- …Sarpıncık Tower……

| | | | | | tower | StC. | GROUND | StC. | 1. | StC. | 2. | StC | 3. | ROOF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STRUCTURAL SYSTEM & CONSTRU | STEEL SKL.timber s. | | | | | | | | | | | | | x |
| | MASONRY | | | | x | | | | | | | | | |
| | CONCRETE SKL. | | | | x | | x | | x | | x | | x | xTerrace Roo |
| | FINISHING | | | | cp.+p | | cp+p | | cp+p | | cp+p | | cp+p | cp+p |
| DETERIORATIONS | STRUCTURAL DEFORMATIONS | DEFORM. | | VERT. | | | | | | | | | | |
| | | | | HORI. | | | | | | | | | | |
| | | CRACKS | | VERT. | | | | | | | | | | |
| | | | | HORI. | | | | | | | | | | |
| | | | | DIAG. | | | | | | | | | | |
| | | | | TOOT. | | | | | | | | | | |
| | MTRL DECAY | STEEL | | | | | | | | | | | | |
| | | BRICK | | | | | | | | | | | | |
| | | STONE | | | | | | | | | | | | |
| | | CONCR. | | | x | | x | | x | | x | | x | x |
| | | PLASTER | | | x | | x | | x | | x | | x | x |
| CHANGE | ADDITION | | | | | | | | | | | | | solar power u |
| | REMOVAL | | | | | | | | | | | | | |
| | ALTERATION | | | | | | | | | | | | | |

| | FEATURES | MATRL | CNDTN | ADDITN | RMVAL | ALTR |
|---|---|---|---|---|---|---|
| ARCHITECTURAL ELEMENTS | DOORS | iron | 1 | | | x |
| | WINDOWS | PVC | 1 | | | xfrom timber |
| | PROJECTIONS | conc. | 2 | | | |
| | BRACKET | | | | | |
| | RAILINGS | Alüminium | 1 | | | x |
| | CHIMNEYS | | | | | |
| | GUTTERS | | | | | |
| | EAVES | co. | 3 | | | |
| | OTHER | | | | | |

| ABBREVIATIONS | | | |
|---|---|---|---|
| MATERIAL | | DETERIOR. | |
| cut stone | CS | discoloration | D |
| rough cut st | RC | flaking | F |
| rubble stone | RS | disintegration | DS |
| brick | B | material loss | ML |
| mudbrick | MB | rising damp | RD |
| timber | T | rain penetrtn | RP |
| wood lath | WL | condensation | CD |
| mud plaster | MP | insects | I |
| lime plaster | LP | DAMAGE | |
| cement plas. | CP | no damage | 1 |
| cement | C | slight damage | 2 |
| paint | P | modert. dam. | 3 |
| trad.roof tile | TT | severe dam. | 4 |
| mod.roof tile | MT | | |
| metal | M | | |
| iron | IR | | |
| alternating | A | | |

# E

## EXTERIOR SURVEY SHEET- …Sarpıncık House……

| | | | | PDSTAL | StC. | GROUND | StC. | 1. | StC. | 2. | StC | 3. | ROOF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STRUCTURAL SYSTEM & CONSTRUCTION MATERIAL | STEEL SKL.timber | | | | | | | | | | | | x |
| | MASONRY | | | ?x | | | | | | | | | |
| | CONCRETE SKL. | | | | | x | | | | | | | |
| | FINISHING | | | cp. | | | | | | | | | |
| DETERIORATIONS | STRUCTURAL DEFORMATIONS | DEFORM. | VERT. | | | | | | | | | | |
| | | | HORI. | | | | | | | | | | |
| | | CRACKS | VERT. | | | | | | | | | | |
| | | | HORI. | | | x | | | | | | | |
| | | | DIAG. | | | | | | | | | | |
| | | | TOOT. | | | | | | | | | | |
| | MTRL DECAY | STEEL | | | | | | | | | | | |
| | | BRICK | | | | | | | | | | | |
| | | STONE | | | | | | | | | | | |
| | | CONCR. | | | | | | | | | | | |
| | | PLASTER | | x | | x | | | | | | | |
| CHANGES | ADDITION | | | | | | | | | | | | |
| | REMOVAL | | | | | | | | | | | | |
| | ALTERATION | | | | | | | | | | | | |

| | FEATURES | MATRL | CNDTN | ADDITN | RMVAL | ALTR |
|---|---|---|---|---|---|---|
| ARCHITECTURAL ELEMENTS | DOORS | T | 3 | | | x |
| | WINDOWS | PVC | 1 | | | x |
| | PROJECTIONS | | | | | |
| | BRACKET | | | | | |
| | RAILINGS | | | | | |
| | CHIMNEYS | co+cp | 2 | | | x |
| | GUTTERS | | | | | |
| | EAVES | co. | 3 | | | |
| | OTHER | | | | | |

ABBREVIATIONS

| MATERIAL | | DETERIOR. | |
|---|---|---|---|
| cut stone | CS | discoloration | D |
| rough cut st | RC | flaking | F |
| rubble stone | RS | disintegration | DS |
| brick | B | material loss | ML |
| mudbrick | MB | rising damp | RD |
| timber | T | rain penetrtn | RP |
| wood lath | WL | condensation | CD |
| mud plaster | MP | insects | I |
| lime plaster | LP | DAMAGE | |
| cement plas. | CP | no damage | 1 |
| cement | C | slight damage | 2 |
| paint | P | modert. dam. | 3 |
| trad.roof tile | TT | severe dam. | 4 |
| mod.roof tile | MT | | |
| metal | M | | |
| iron | IR | | |
| alternating | A | | |

| S | | SOSYAL DURUM ANKETİ-Karaburun/ Sarpıncık.(18.04.2014) | | | | |
|---|---|---|---|---|---|---|
| No | Hane Başkanına Yakınlığı | Yaşı | Cinsiyeti | Eğitimi | Mesleği | Sosyal Güvencesi |
| 1 | Mustafa Canıtez | 44 | Erkek | | Fener Bakıcısı | İzmir'de 2010'dan bu yana |
| 2 | Nilgün Canıtez | 41 | Kadın | | Ev Hanımı(Oralı, o köyden) | |
| 3 | İlknur Canıtez | 21 | Kadın | | | |
| 4 | Öznur Canıtez | 18 | Kadın | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 1) | Nerelisiniz? | | | İzmir-Karaburun-Sarpıncık | | |
| | Ne kadar zamandır bu şehirde oturuyorsunuz? | | | Doğumdan beri | | |
| | Bu şehre geliş sebebiniz nedir? | | | | | |
| | Memleketinize dönmeyi düşünüyor musunuz? | | | ( )Evet | Neden? | |
| | | | | (x)Hayır | Neden? | |
| 2) | Kaç yıldır bu mahallede oturuyorsunuz? | | | 1993- 2010 | | |
| | Bu mahallede oturmanızın nedeni nedir? | | | Zaten o köyden | | |
| | Mahallenizden memnun musunuz? | | | Evet | | |
| | Komşularınız var mı? | | | ( )Evet | (x)Hayır | |
| | Ne kadar uzaktalar? | | | Yaklaşık 6 km. | | |
| | Hangi sıklıkta görüşüyorsunuz? | | | Haftada bir | | |
| | Yakında olmasını istediğiniz yapılar var mı? | | | (x)Okul | ( )camii | ( )sağlık ocağı |
| | | | | ( )pazar yeri | ( )iskele | |
| | | | | (Okul Karaburun'da, taşımalı sistem) | | |
| | Olanağınız olsa bu mahalleden taşınır mısınız? | | | ( )Evet | Neden?Nereye? | |
| | | | | (x)Hayır | Neden?Seviyorlar o bölgeyi | |
| 3) | Kaç yıldır bu fenerde oturuyorsunuz? | | | 1993- 2010 | | |
| | Olanağınız olsa bu fenerden taşınır mıydınız? | | | ( )Evet | Neden?Nereye? | |
| | | | | (x)Hayır | Neden?Sakin,oraya alışkın,havadar,manzara | |
| | Olanağınız olsa bu feneri satın alır mıydınız? | | | (x)Evet | | |
| | | | | ( )Hayır | Neden? | |
| 4) | Feneriniz tescilli mi? | | | (x)Evet | ( )Hayır | |
| | Tescil durumu sorun yaratıyor mu? | | | ( )Evet | ( x)Hayır | Neden? |
| 5) | Fenerinize bakım ve onarım yaptınız mı? | | | ( x)Evet | | |
| | | | | ( )Hayır | | |
| | Bakım & onarımları düzenli yapabiliyor musunuz? | | | ( x)Evet | Ne sıklıkta? | |
| | | | | ( )Hayır | Neden? | |
| | Fenerin bakım & onarımı için yıllık ne kadar ayrılıyor/ ayırıyorsunuz? | | | Kıyı Emn.Gen.Md. Yaptırıyor.Küçük şeyleri Md. Veriliyor. Fener bekçisi işçiliğini yapıyor. | | |
| 6) | İmkanınız olsa fenerinizde yapmak istediğiniz bakım ve onarımlar nelerdir? | | | Neden? | | |
| | İmkanınız olsa fenerinize hangi mekanları eklemek istersiniz? | | | 2 Oda. Yaşama-Yatma. | | |
| 7) | İçinde yaşadığınız bu fener, konutlar ve çevresi ile ilgili bir koruma-iyileştirme kooperatifi kurulmasını ister misiniz? | | | ( )Evet | ( x )Hayır | Zaten KEGM. İlgileniyor. |
| | Bu türde bir kooperatif kurulsa fenerinizin onarımı sürecinde geçici olarak kalabileceğiniz bir yer var mı? | | | ( x)Evet | ( )Hayır | Köydeki diğer evinde kalmışlar. 3 ay sürmüş. |
| 8) | Yemekleri nerede pişiriyorsunuz? | | | ( x)Mutfak | ( )Diğer | ? |
| | Nerede yemek yiyorsunuz? | | | Salonda,büyük odada | | |
| 9) | Ayrı ebeveyn odası var mı? | | | ( x)Evet | ( )Hayır | 2 oda+bodrum(sonra dan kiler oldu) |
| 10) | Misafir geldiğinde nerede yatırıyorsunuz? | | | | | |
| 11) | Nerede yıkanıyorsunuz? | | | ( x)Banyo | ( )Diğer | |
| | Banyo nerede? | | | ( x )içeride | ( )dışarıda | |
| | Banyo yeterli mi? | | | ( )Evet | ( x)Hayır | Tesisat,boyut yetersiz |
| 12) | Tuvalet nerede? | | | ( )içeride | ( x )dışarıda | |
| | Tuvalet yeterli mi? | | | ( )Evet | ( x)Hayır | ? |
| 13) | Isınmak için ne yakıt kullanıyorsunuz? | | | | | |
| | Ne ile ısınıyorsunuz? (soba, kalorifer vb) | | | Kuzine,odun | | |
| | Hangi odaları ısıtıyorsunuz? | | | Büyük olan ama kapı açılınca oda da ısınıyor. | | |
| | Yakacak deponuz var mı? | | | Dışarıda sundurma altında | | |
| 14) | Toplu olarak yaptığınız eğlence veya etkinlik var mı? | | | ( x)Evet | Toplu buluşma | |
| | | | | ( )Hayır | | |
| 15) | Düğünler genelde nerede oluyor ve yöreye özgü gelenekleriniz var mı? | | | Köy meydanında ,klarinet+davul.2-3 gün. Zeybek+ kına gecesi | | |
| 16) | Fenerinizin yerini bize tarif eder misiniz? (landmarks) | | | Karaburun'dan batıya ,yeni limandan sonraki 2.köy.2 Kahve- 1 çeşme-meydan-meydandan devam-Hamzabükü levhası-ilk çağ- | | |
| 17) | Aracınız var mı? | | | (x)Evet | Yazın 10-15 araçtan fazla gelenler oluyor.K | |
| | | | | ( )Hayır | Ulaşım nasıl? | |

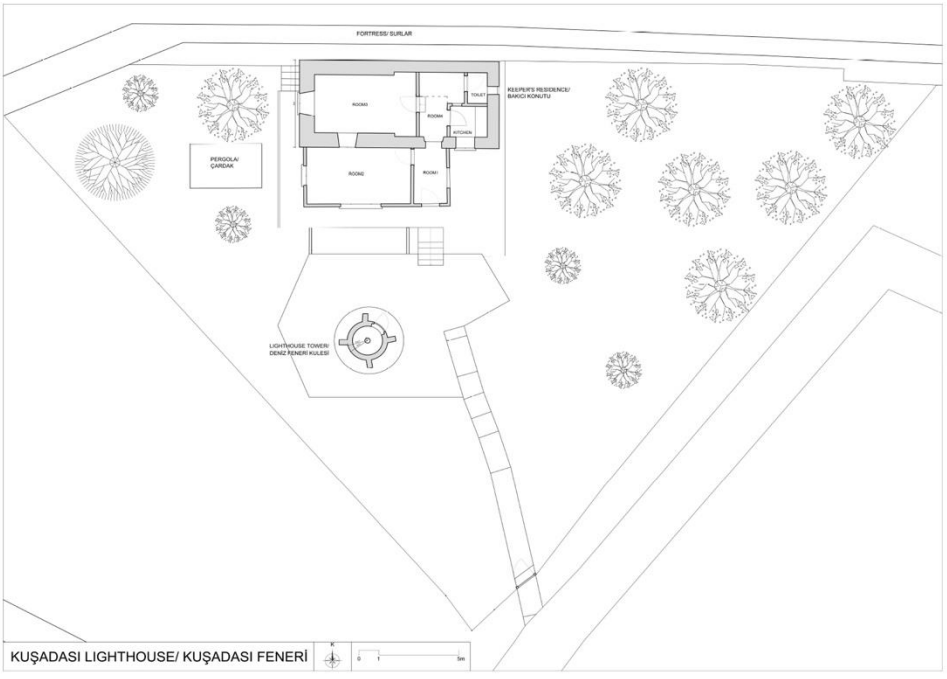
| | | | | |
|---|---|---|---|---|
| 18) | Belediye çöplerinizi alıyor mu? | ( )Evet | ( x)Hayır | Organikleri toprağa, diğerlerini varilde biriktirip yakıyormuş. |
| | Belediye hizmeti alıyor musunuz? | ( )Evet | | |
| | | ( x )Hayır | Neler olmalı? | Elektrik |
| 19) | Fenerinizin su ihtiyacı nasıl karşılanıyor? | Sarnıç,kaynaktan su,hidrofor. | | |
| | Suyunuz düzenli ve yeterli mi? | ( x)Evet | ( )Hayır | |
| 20) | Yağmur mevsiminde taşkın veya sel oluyor mu? | ( )Evet | ( )Hayır | |
| 21) | Fenerinizin elektrik ihtiyacı nasıl karşılanıyor? | Rüzgar gülü ama bozuk.Yeri kötü. | | |
| | Elektriğiniz düzenli ve yeterli mi? | | ( x )Hayır | Jeneratör. |
| 22) | Fenerde hangi cihazlarınız var? | ( x)televizyon | ( )telefon | ( )buzdolabı |
| | | ( )çamşr mak. | ( )müzik seti | ( )dikiş mak. |
| | | ( )bulşk mak. | ( )bilgisayar | ( )internet |
| 23) | Kendinize ait başka bir eviniz var mı? | ( x)Evet | Nerede? | Köyde. |
| | | ( )Hayır | | |
| | Araziniz var mı? | ( x)Evet | Nerede? Ne ekiyorsunuz?Nergis,enginar,zeytinlik. | |
| | | ( )Hayır | | |
| | Kirada veya sizin işlettiğiniz bir işyeriniz var mı? | ( )Evet | Nerede? | |
| | | ( x)Hayır | | |
| 24) | Ne kadar zamandır bu görevde çalışıyorsunuz? | 1993'ten beri. | | |
| | Ailenizde sizden önce bu görevde bulunmuş insanlar var mı? | .Ona babasından kalma. Dayısının babasından. 1939-40'ta babası b | | |
| | Fener bekçiliği görevini bir sonraki kuşağa aktarmak için sizce neler gereklidir? | teknolojiye geçti.daha az insana ihtiyaç var.Merkezde 83 fenere 5 | | |
| | Emekli olduktan sonra ne yapmayı planlıyorsunuz? | Sarpıncık'ta köyde olacak.Çiftçilik/Zeytin,bahçe.Arılar var. | | |
| 25) | Fenerde bir gününüz nasıl geçiyor? | Kış aylarında içeride. | | |
| 26) | Fenerde eskiden bir gün nasıl geçerdi? | Asetilenli ….kendiniz açıp kapatıyorsunuz. 3 ayda bir bitiyor.4 tüp yak. 9 ay giderdi. | | |
| 27) | Fenere hiç ziyaretçi geliyor mu? | ( x)Evet | ( x )Tanıdık | ( x)Yabancı |
| | | ( )Hayır | 100 kişi. Günlük Günbatımı syretmeye. | |
| 28) | Fenere eskiden ziyaretçi gelir miydi? | ( x )Evet | ( x)Tanıdık | ( x)Yabancı |
| | | ( )Hayır | Yazın.haftasonu. | |
| 29) | Fenere ziyaretçi gelmesini ister misiniz? | ( x )Evet | Neden? | Nasıl?Araçla |
| | | ( )Hayır | Neden?Muhabbet, mar | Nasıl? |
| 30) | Fener ve çevresine başka kimler geliyor? | Çoban, tarım yok. Köyün arazisinde. | | |
| | Fener ve çevresi başkaları tarafından nasıl kullanılıyor? | Mangal, olta, balık,günbatımı izlemeye,kumsala yüzmeye. | | |
| 31) | Ailenizde sizden başka çalışan var mı? | ( x)Evet | Büyük kızı, eşi. | |
| | | ( )Hayır | | |
| 32) | Evde veya başka bir yerde bir şey üretiyor musunuz? | ( )Evet | Ne üretiyorsunuz?Zeytinyağı,nergis,enginar. | |
| | | ( )Hayır | | |
| | Ürünlerinizi satıyor musunuz? | (x )Evet | Kime?İş adamı | Nasıl?hemen bahçenin yanında.Karaburun/İzmir'den toptancıya zeytinyağı.Karaburun'da Gaile Köyü zeytinyağı fabrikasına. |
| | | ( )Hayır | | |

| S | | SOSYAL DURUM ANKETİ-Sarpıncık…… | | | | |
|---|---|---|---|---|---|---|
| No | Hane Başkanına Yakınlığı | Yaşı | Cinsiyeti | Eğitimi | Mesleği | Sosyal Güvencesi |
| 1 | Cavit Taykan | 1935(doğum) | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 1) | Nerelisiniz? | | | Sarpıncık Köyü | | |
| | Ne kadar zamandır bu şehirde oturuyorsunuz? | | | | | |
| | Bu şehre geliş sebebiniz nedir? | | | | | |
| | Memleketinize dönmeyi düşünüyor musunuz? | | | ( )Evet | Neden? | |
| | | | | ( )Hayır | Neden? | |
| 2) | Kaç yıldır bu mahallede oturuyorsunuz? | | | | | |
| | Bu mahallede oturmanızın nedeni nedir? | | | | | |
| | Mahallenizden memnun musunuz? | | | | | |
| | Komşularınız var mı? | | | ( x )Evet(Çoban,kahya | ( )Hayır | |
| | Ne kadar uzaktalar? | | | Yakın | | |
| | Hangi sıklıkta görüşüyorsunuz? | | | | | |
| | Yakında olmasını istediğiniz yapılar var mı? | | | ( )okul | ( )camii | ( )sağlık ocağı |
| | | | | ( )pazar yeri | ( )iskele | |
| | Olanağınız olsa bu mahalleden taşınır mısınız? | | | ( )Evet | Neden?Nereye? | |
| | | | | ( )Hayır | Neden? | |
| 3) | Kaç yıldır bu fenerde oturuyorsunuz? | | | | | |
| | Olanağınız olsa bu fenerden taşınır mıydınız? | | | ( )Evet | Neden?Nereye? | |
| | | | | ( )Hayır | Neden? | |
| | Olanağınız olsa bu feneri satın alır mıydınız? | | | ( )Evet | | |
| | | | | ( )Hayır | Neden? | |
| 4) | Feneriniz tescilli mi? | | | x | ( )Hayır | |
| | Tescil durumu sorun yaratıyor mu? | | | ( )Evet | ( )Hayır | Neden? |
| 5) | Fenerinize bakım ve onarım yaptınız mı? | | | ( )Evet | | |
| | | | | ( )Hayır | Neler yaptınız? | |
| | Bakım & onarımları düzenli yapabiliyor musunuz? | | | ( x)Evet | Ne sıklıkta? | |
| | | | | ( )Hayır | Neden? | |
| | Fenerin bakım & onarımı için yıllık ne kadar ayrılıyor/ ayırıyorsunuz? | | | Neden? | | |
| 6) | İmkanınız olsa fenerinizde yapmak istediğiniz bakım ve onarımlar nelerdir? | | | Neden? | | |
| | İmkanınız olsa fenerinize hangi mekanları eklemek istersiniz? | | | Neden? | | |
| 7) | İçinde yaşadığınız bu fener, konutlar ve çevresi ile ilgili bir koruma-iyileştirme kooperatifi kurulmasını ister misiniz? | | | ( )Evet | ( )Hayır | |
| | Bu türde bir kooperatif kurulsa fenerinizin onarımı sürecinde geçici olarak kalabileceğiniz bir yer var mı? | | | ( )Evet | ( )Hayır | |
| 8) | Yemekleri nerede pişiriyorsunuz? | | | ( x )Mutfak | ( )Diğer | ? |
| | Nerede yemek yiyorsunuz? | | | Yazın dışarıda | | |
| 9) | Ayrı ebeveyn odası var mı? | | | ( )Evet | ( )Hayır | |
| 10) | Misafir geldiğinde nerede yatırıyorsunuz? | | | İçeride/dışarıda/Çadırda kalmışlar. | | |
| 11) | Nerede yıkanıyorsunuz? | | | ( )Banyo | ( )Diğer | |
| | Banyo nerede? | | | x | ( )dışarıda | |
| | Banyo yeterli mi? | | | ( )Evet | ( x )Hayır | Özgün tuvaleti banyo yapmışlar. |
| 12) | Tuvalet nerede? | | | ( )içeride | ( )dışarıda | |
| | Tuvalet yeterli mi? | | | ( )Evet | ( x)Hayır | ? |
| 13) | Isınmak için ne yakıt kullanıyorsunuz? | | | Odun/soba (1,5 ton odun veriyorlar.) | | |
| | Ne ile ısınıyorsunuz? (soba, kalorifer vb) | | | soba | | |
| | Hangi odaları ısıtıyorsunuz? | | | Oda ısınıyor ama mutfakta ocak. | | |
| | Yakacak deponuz var mı? | | | Hayır,dışarıda duruyormuş. | | |

| | | | | |
|---|---|---|---|---|
| 14) | Toplu olarak yaptığınız eğlence veya etkinlik var mı? | ( x)Evet | ? | |
| | | ( )Hayır | | |
| 15) | Düğünler genelde nerede oluyor ve yöreye özgü gelenekleriniz var mı? | | | |
| 16) | Fenerinizin yerini bize tarif eder misiniz? (landmarks) | | | |
| 17) | Aracınız var mı? | (x )Evet | Park problemi var mı? | |
| | | ( )Hayır | Ulaşım nasıl? | |
| 18) | Belediye çöplerinizi alıyor mu? | ( )Evet | ( )Hayır | |
| | Belediye hizmeti alıyor musunuz? | ( )Evet | | |
| | | ( )Hayır | Neler olmalı? | |
| 19) | Fenerinizin su ihtiyacı nasıl karşılanıyor? | | | |
| | Suyunuz düzenli ve yeterli mi? | ( )Evet | ( )Hayır | |
| 20) | Yağmur mevsiminde taşkın veya sel oluyor mu? | x | ( )Hayır | Pencereden su giriyor. |
| 21) | Fenerinizin elektrik ihtiyacı nasıl karşılanıyor? | | | |
| | Elektriğiniz düzenli ve yeterli mi? | ( )Evet | ( x )Hayır | |
| 22) | Fenerde hangi cihazlarınız var? | ( )televizyon | ( )telefon | ( )buzdolabı |
| | | ( )çamşr mak. | ( )müzik seti | ( )dikiş mak. |
| | | ( )bulşk mak. | ( )bilgisayar | ( )internet |
| 23) | Kendinize ait başka bir eviniz var mı? | ( x )Evet | Nerede? | Köyde |
| | | ( )Hayır | | |
| | Araziniz var mı? | ( x )Evet | Nerede? Ne ekiyorsunuz?Zeytin | |
| | | ( )Hayır | | |
| | Kirada veya sizin işlettiğiniz bir işyeriniz var mı? | ( )Evet | Nerede? | |
| | | ( )Hayır | | |
| 24) | Ne kadar zamandır bu görevde çalışıyorsunuz? | | | |
| | Ailenizde sizden önce bu görevde bulunmuş insanlar var mı? | Babası | | |
| | Fener bekçiliği görevini bir sonraki kuşağa aktarmak için sizce neler gereklidir? | | | |
| | Emekli olduktan sonra ne yapmayı planlıyorsunuz? | Bahçe,Zeytinlik- 300 kök. | | |
| 25) | Fenerde bir gününüz nasıl geçiyor? | | | |
| 26) | Fenerde eskiden bir gün nasıl geçerdi? | | | |
| 27) | Fenere hiç ziyaretçi geliyor mu? | x | ( )Tanıdık | ( x )Yabancı(Almanla |
| | | ( )Hayır | | |
| 28) | Fenere eskiden ziyaretçi gelir miydi? | ( )Evet | ( )Tanıdık | ( )Yabancı |
| | | ( )Hayır | | |
| 29) | Fenere ziyaretçi gelmesini ister misiniz? | ( )Evet | Neden? | Nasıl? |
| | | ( )Hayır | Neden? | Nasıl? |
| 30) | Fener ve çevresine başka kimler geliyor? | | | |
| | Fener ve çevresi başkaları tarafından nasıl kullanılıyor? | | | |
| 31) | Ailenizde sizden başka çalışan var mı? | ( )Evet | | |
| | | ( )Hayır | | |
| 32) | Evde veya başka bir yerde bir şey üretiyor musunuz? | ( )Evet | Ne üretiyorsunuz? | |
| | | ( )Hayır | | |
| | Ürünlerinizi satıyor musunuz? | ( )Evet | Kime? | Nasıl? |
| | | ( )Hayır | | |

| C1 | LIGHTHOUSE SITE/ COURTYARD/ GARDEN SURVEY SHEET-PART 1(03.05.2014) | | |
|---|---|---|---|
| **Name(s):** | Kuşadası/Güvercinada | **Construction Date:** | |
| **City/ Suburb** | AYDIN/ KUŞADASI | **Repair Date(s):** | |
| **Neightbourhood** | GÜVERCİNADA | **Inscription Panel:** | |
| **Bldg Sheet No** | FORTRESS | **Significant Mark:** | |
| **Bldg block No** | | **Registration Status:** | Yes ( x) No ( ) |
| **Bldg lot No** | | **Size:** | |
| **Location:** | | **Accessibility** | **No of Visitors/hour:** |
| ( )On the peninsula, same level with the sea | | ( x) Land paved road | 100 |
| ( x )On the peninsula, …...m above the sea | | ( ) Land pathway | **No of Visitors/day:** |
| ( )Distanced from the sea as the topography had changed | | ( ) Sea quay | |
| ( x)On a high hill overlooking the sea | | (x) Sea w/o quay | |
| ( )On a sloping ground starting from the sea coast | | **Old Physical Context** | **New Physical Context** |
| ( x)On an island later carnected | | ( ) Urban | ( ) Urban |
| ( )Within the bay, same level with the sea | | ( ) Rural | ( ) Rural |
| ( )On the mole | | ( ) Archaeological | ( ) Archaeological |
| ( )… | | ( x) Historical | ( x ) Historical |
| | | ( ) Industrial | ( ) Industrial |
| | | ( ) Natural | ( ) Natural |

**SITE PLAN**



| LIGHTHOUSE SITE/ COURTYARD/ GARDEN SURVEY SHEET- PART 1(03.05.2014) | | | | |
|---|---|---|---|---|
| **Function of neighbouring bldg lots** | | | | |
| **landuse of neighbouring bldg lots** | (on island) inside fortress | | | |
| **ownership of neightbouring bldg lots** | (Hazine) Kültür Bakanlığı ? Belediye? | | | |
| **Potential areas & landmarks nearby** | Fortress,Etes | | | |
| **Keeper's Residence** | **KR. Inhabitance** | **KR. Function** | **Other buildings** | |
| Yes( x ) No( ) | | | Ek bakıcı konutu | |
| | ( x) Empty | | Depo | |
| | ( ) Rented | | | |
| **Tower proximity with residence** | Adjacent( ) Separate(x ) Inside ( ) | **Tower door location:** | inside | Exterior |
| **Energy Source for tower:** | Solar | | | |
| **Infrastructure** | ( x)internet access ( x )water facilities ( x)electricity ( )telephone ( x ) solar power ( ) heating ( )cooling | | | |
| **Tower Spaces** | ( ) optical device room | ( x ) outer gallery/balcony | ( ) keeper's room | ( ) fuel depot |
| | ( ) cistern | ( ) depot | ( ) | |
| **Tower Form:** | ( x) cylindrical ( ) conical ( ) buttressed ( ) rectangular ( ) polygonal | | | |
| **Tower Alteration:** | ( ) altered ( ) reconst. w same mat. ( ) recons. w different mat. (x)same | | | |
| **Problems on bldg lot:** | ( ) 1. Change/ alteration of the periphery boundary (enclosure wall, fence, landscaping etc…) | | | |
| | ( ) 2. Construction of annexes | | | |
| | ( x ) 3.Addition of new buildings | | | |
| | ( ) 4. Partial reconstruction | | | |
| | ( ) 5. Total reconstruction | | | |

| C2 | LIGHTHOUSE SITE/ COURTYARD/ GARDEN SURVEY SHEET-PART 2 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| WALL/ FENCE | MATERIAL | | HEIGHT | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | Rubble Stone | | below eye level | x | addition | x | | | |
| | Cut Stone | | at eye level | | alteration | | | | |
| | Brick | | above eye level | | removal | | | | |
| | Brick+stone | | | | unidentified | | | | |
| | Concrete | | | | | | | | |
| | Metal | x | | | | | | | |
| DOOR1 | MATERIAL | | FORM | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | wood | | | | addition | x | | | |
| | metal | x | | | alteration | | | | |
| | | | | | removal | | | | |
| | | | | | unidentified | | | | |
| DOOR2 | MATERIAL | | FORM | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | wood | | | | addition | | | | |
| | metal | | | | alteration | | | | |
| | | | | | removal | | | | |
| | | | | | unidentified | | | | |
| PAVEMENT | MATERIAL | | FORM | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | stone | | | | addition | | | | |
| | marble | | | | alteration | | | | |
| | screed | x | | | removal | | | | |
| | soil | | | | unidentified | ? | | | |
| | | | | | | | | | |

**SPATIAL FEATURES**

| | MATERIAL | | ALTERATION | | CONDITION | DETERIORATN | NOTES |
|---|---|---|---|---|---|---|---|
| KITCHEN | FLOOR | | addition | | | | |
| | WALLS | | alteration | | | | |
| | CEILING | | removal | | | | |
| | ROOF | | unidentified | | | | |
| WC | FLOOR | | addition | | | | |
| | WALLS | | alteration | | | | |
| | CEILING | | removal | | | | |
| | ROOF | | unidentified | | | | |
| x | FLOOR | | addition | | | | |
| | WALLS | | alteration | | | | |
| | CEILING | | removal | | | | |
| | ROOF | | unidentified | | | | |
| woodshed | FLOOR | | addition | | | | |
| | WALLS | | alteration | | | | |
| | CEILING | | removal | | | | |
| | ROOF | | unidentified | | | | |
| BARN | FLOOR | | addition | | | | |
| | WALLS | | alteration | | | | |
| | CEILING | | removal | | | | |
| | ROOF | | unidentified | | | | |
| PERGOLA | FLOOR | screed | addition | | | | |
| | WALLS | metal post | alteration | | | | |
| | CEILING | hasır | removal | | | | |
| | ROOF | | unidentified | | | | |
| POULTRY | FLOOR | | addition | | | | |
| | WALLS | | alteration | | | | |
| | CEILING | | removal | | | | |
| | ROOF | | unidentified | | | | |
| | FLOOR | | addition | | | | |
| | WALLS | | alteration | | | | |
| | CEILING | | removal | | | | |
| | ROOF | | unidentified | | | | |

| ARCHITECTURAL ELEMENTS | | | | | | |
|---|---|---|---|---|---|---|
| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| WELL | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| FOUNTAIN | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| KILN | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| FURNACE | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| STAIRS | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| POOL | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| TREEBED | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |
| | MATERIAL | ALTERATION | | CONDITION | DETERIORATN | NOTES |
| | | addition | | | | |
| | | alteration | | | | |
| | | removal | | | | |
| | | unidentified | | | | |

| ABBREVIATIONS | | | | | | | |
|---|---|---|---|---|---|---|---|
| MATERIAL | | | | | DETERIOR. | | DAMAGE |
| cut stone | CS | cement | C | | discoloration | D | (1)no damage |
| rough cut st | RC | paint | P | | flaking | F | (2)slight damage |
| rubble stone | RS | trad.roof tile | TT | | disintegration | DS | (3)modert. dam. |
| brick | B | mod.roof tile | MT | | material loss | ML | (4)severe dam. |
| mudbrick | MB | metal | M | | rising damp | RD | |
| timber | T | iron | IR | | rain penetrtn | RP | |
| wood lath | WL | alternating | A | | condensation | CD | |
| mud plaster | MP | cement plas. | CP | | insects | I | |
| lime plaster | LP | | | | | | |

# E

## KUŞADASI/GÜVERCİNADA TOWER 03.05.2014

| | | | | PDSTAL | StC. | GROUND | StC. | 1. | StC. | 2. | StC | 3. | ROOF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STRUCTURAL SYSTEM & CONSTRUCTION MATERIAL | STEEL SKL. | | | | | | | | timber | | steel | | |
| | MASONRY | | | brick | stone | | | | | | | | |
| | CONCRETE SKL. | | | | | x | | | | | | | |
| | FINISHING | | | | | | | | | | | | |
| DETERIORATIONS | STRUCTURAL DEFORMATIONS | DEFORM. | VERT. | | | | | | | | | | |
| | | | HORI. | | | | | | | | | | |
| | | CRACKS | VERT. | x | | | | | | | | | |
| | | | HORI. | | | | | | | | | | |
| | | | DIAG. | | | | | | | | | | |
| | | | TOOT. | | | | | | | | | | |
| | MTRL DECAY | | STEEL | | | | | | | | | | |
| | | | BRICK | x | | | | | | | | | |
| | | | STONE | | | | | | | | | | |
| | | | CONCR. | x | | | | | | | | | |
| | | | PLASTER | x | | | | | | | | | |
| CHANGES | ADDITION | | | | | | | x | | x | | | |
| | REMOVAL | | | | | | | | | | | | |
| | ALTERATION | | | | | | | | | | | | |

| | FEATURES | MATRL | CNDTN | ADDITN | RMVAL | ALTR |
|---|---|---|---|---|---|---|
| ARCHITECTURAL ELEMENTS | DOORS | metal | | | | |
| | WINDOWS | metal | | | | x |
| | PROJECTIONS | con. | | | | |
| | BRACKET | | | | | |
| | RAILINGS | metal | | | | |
| | CHIMNEYS | | | | | |
| | GUTTERS | | | | | |
| | EAVES | conet plaster | | | | |
| | OTHER | | | | | |

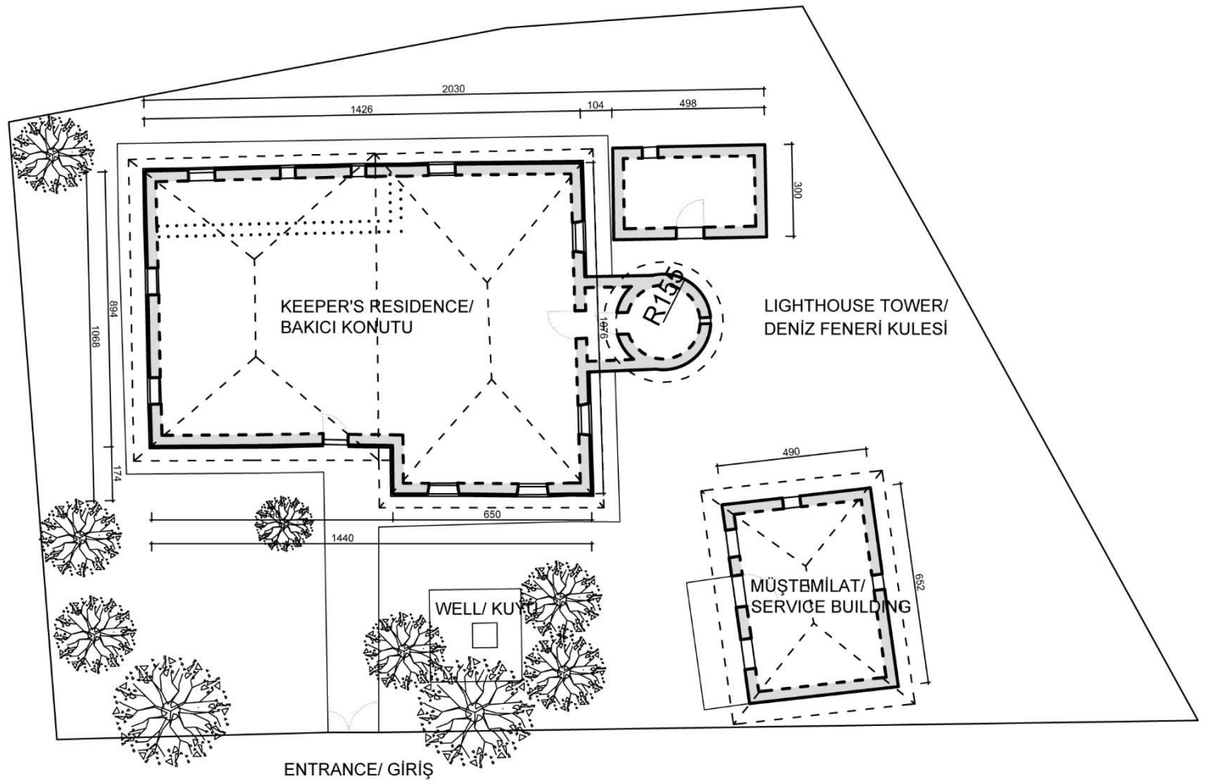
| ABBREVIATIONS | | | |
|---|---|---|---|
| MATERIAL | | DETERIOR. | |
| cut stone | CS | discoloration | D |
| rough cut st | RC | flaking | F |
| rubble stone | RS | disintegration | DS |
| brick | B | material loss | ML |
| mudbrick | MB | rising damp | RD |
| timber | T | rain penetrtn | RP |
| wood lath | WL | condensation | CD |
| mud plaster | MP | insects | I |
| lime plaster | LP | DAMAGE | |
| cement plas. | CP | no damage | 1 |
| cement | C | slight damage | 2 |
| paint | P | modert. dam. | 3 |
| trad.roof tile | TT | severe dam. | 4 |
| mod.roof tile | MT | | |
| metal | M | | |
| iron | IR | | |
| alternating | A | | |

| S | | SOSYAL DURUM ANKETİ-GÜVERCİNADA(KUŞADASI FEN | | | | |
|---|---|---|---|---|---|---|
| No | Hane Başkanına Yakınlığı | Yaşı | Cinsiyeti | Eğitimi | Mesleği | Sosyal Güvencesi |
| 1 | Bayram Keskinkılıç | 1977 | | | Fener bakıcısı | |
| 2 | Nuray Keskinkılıç | 1982 | | | | |
| 3 | Nur Nisa | 2000 | | | | |
| 4 | Hasan Basri Keskinkılıç | 2004 | | | | |
| 5 | | | | | | |
| 6 | 1826 Hacı İlyas kaleyi yaptırdı. 1850 Deprem- kalede hasar. 1864 Fenerin inşası bitiyor. 1938 fenerde onarım 1970'ler kalede onarım. 2012-2013 kalede onarım. Halil Bereket-1981'e kadar. 1983-2006 Temmuz Ali Osman deneri. 2006 Ağustos-2013 Bayram Keskinkılıç | | | | | |
| 1) | Nerelisiniz? | Kırşehirli | | | | |
| | Ne kadar zamandır bu şehirde oturuyorsunuz? | 2000'den-2005/2006 İskenderun | | | | |
| | Bu şehre geliş sebebiniz nedir? | İş sebebiyle | | | | |
| | Memleketinize dönmeyi düşünüyor musunuz? | ( )Evet | Neden? | | | |
| | | (x) Hayır | Neden?Memnun buradan | | | |
| 2) | Kaç yıldır bu mahallede oturuyorsunuz? | | | | | |
| | Bu mahallede oturmanızın nedeni nedir? | İş sebebiyle | | | | |
| | Mahallenizden memnun musunuz? | Kuşadası'ndan memnundu.Artık memnun değil. | | | | |
| | Komşularınız var mı? | ( )Evet | ( )Hayır | Halil İbrahim Hoca | | |
| | Ne kadar uzaktalar? | Kaleiçi imamla sohbete gider ancak günlük namazda.Haftada bir gündüzleri hanım sohbete gider. | | | | |
| | Hangi sıklıkta görüşüyorsunuz? | | | | | |
| | Yakında olmasını istediğiniz yapılar var mı? | ( )okul | ( )camii | ( )sağlık ocağı | | |
| | | ( )pazar yeri | ( )iskele | | | |
| | | herşey yakında | | | | |
| | Olanağınız olsa bu mahalleden taşınır mısınız? | ( )Evet | Neden?Nereye? | | | |
| | | ( x)Hayır | Neden?Zorunlu olarak taşındı. | | | |
| 3) | Kaç yıldır bu fenerde oturuyorsunuz? | 2006'dan beri | | | | |
| | Olanağınız olsa bu fenerden taşınır mıydınız? | ( )Evet | Neden?Nereye? | | | |
| | | ( )Hayır | Neden? | | | |
| | Olanağınız olsa bu feneri satın alır mıydınız? | ( )Evet | | | | |
| | | ( )Hayır | Neden? | | | |
| 4) | Feneriniz tescilli mi? | ( x )Evet | ( )Hayır | | | |
| | Tescil durumu sorun yaratıyor mu? | ( )Evet | ( x)Hayır | Neden? | | |
| 5) | Fenerinize bakım ve onarım yaptınız mı? | ( )Evet | Malzeme desteği kurumdan,bayrakNeler yaptınız? | | | |
| | | ( )Hayır | | | | |
| | Bakım & onarımları düzenli yapabiliyor musunuz? | ( )Evet | Ne sıklıkta? | 3 ay | | |
| | | ( )Hayır | Neden? | | | |
| | Fenerin bakım & onarımı için yıllık ne kadar ayrılıyor/ ayırıyorsunuz? | Büyük çaplı onarım fotoğrafları kurumla paylaştım. Çiçeklendirme yaptım. 2-3 günde bir fenere geliyorum. | | | | |
| 6) | İmkanınız olsa fenerinizde yapmak istediğiniz bakım ve onarımlar nelerdir? | Neden?Çocuk odası lazım. Fotoğraflar gönderdim. Fenerin onarıln | | | | |
| | İmkanınız olsa fenerinize hangi mekanları eklemek istersiniz? | Neden? | | | | |
| 7) | İçinde yaşadığınız bu fener, konutlar ve çevresi ile ilgili bir koruma-iyileştirme kooperatifi kurulmasını ister misiniz? | ( x)Evet | ( )Hayır | | | |
| | Bu türde bir kooperatif kurulsa fenerinizin onarımı sürecinde geçici olarak kalabileceğiniz bir yer var mı? | ( x )Evet | ( )Hayır | Daha iyi olur.İşler hızlanır. | | |
| 8) | Yemekleri nerede pişiriyorsunuz? | ( x)Mutfak1,5 m2Dar | ( )Diğer | ? | | |
| | Nerede yemek yiyorsunuz? | Odada yemek yeniyor | | | | |
| 9) | Ayrı ebeveyn odası var mı? | ( )Evet | ( )Hayır | 2 oda var | | |
| 10) | Misafir geldiğinde nerede yatırıyorsunuz? | Oturma odası (Avusturya'da anne-baba) | | | | |
| 11) | Nerede yıkanıyorsunuz? | ( )Banyo dar | ( )Diğer | | | |
| | Banyo nerede? | ( x )içeride | ( )dışarıda | wc-banyo aynı mekan | | |
| | Banyo yeterli mi? | ( )Evet | ( x )Hayır | ? | | |
| 12) | Tuvalet nerede? | ( x )içeride | ( )dışarıda | | | |
| | Tuvalet yeterli mi? | ( )Evet | ( x)Hayır | ? | | |
| 13) | Isınmak için ne yakıt kullanıyorsunuz? | | | | | |
| | Ne ile ısınıyorsunuz? (soba, kalorifer vb) | Soba odun -kömür taşıma problemi | | | | |
| | Hangi odaları ısıtıyorsunuz? | Bol yakıyoruz.Oturma odasunda soba. | | | | |
| | Yakacak deponuz var mı? | Depo var ama yıkıldı | | | | |
| 14) | Toplu olarak yaptığınız eğlence veya etkinlik var mı? | ( )Evet | ? | | | |
| | | ( )Hayır | | | | |

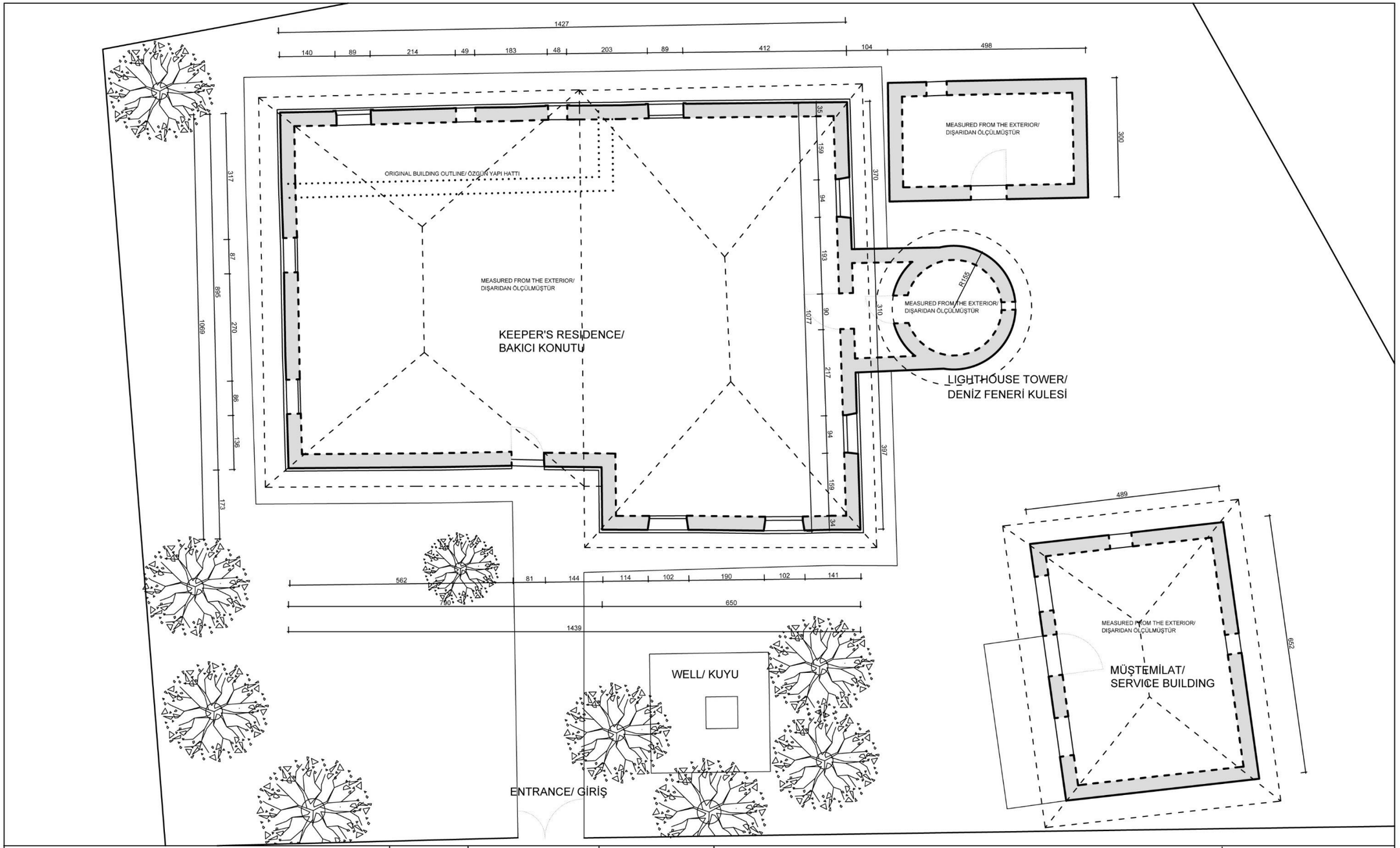
| | | | | |
|---|---|---|---|---|
| 15) | Düğünler genelde nerede oluyor ve yöreye özgü gelenekleriniz var mı? | Kandillerde eş, dost, iş arkadaşları,müdürler. Doğum günleri dışardan güzel | | |
| 16) | Fenerinizin yerini bize tarif eder misiniz? (landmarks) | | | |
| 17) | Aracınız var mı? | ( x)Evet(motosiklet | ) | |
| | | ( )Hayır | Ulaşım nasıl? | |
| 18) | Belediye çöplerinizi alıyor mu? | ( )Evet | (x) Hayır Restoranların oraya | |
| | Belediye hizmeti alıyor musunuz? | ( )Evet | | |
| | | ( x)Hayır | Neler olmalı? | |
| | | Kanalizasyon rogar var. Belediye pancar motoruyla çekiyordu. | | |
| 19) | Fenerinizin su ihtiyacı nasıl karşılanıyor? | Şebeke vardı. Kör tıpa takılı.Mayıs sonu su gelir.Şebeke suyu | | |
| | Suyunuz düzenli ve yeterli mi? | ( )Evet | ( )Hayır | Kuyu yok. |
| 20) | Yağmur mevsiminde taşkın veya sel oluyor mu? | ( )Evet | ( )Hayır | |
| 21) | Fenerinizin elektrik ihtiyacı nasıl karşılanıyor? | Şebekeden | | |
| | Elektriğiniz düzenli ve yeterli mi? | ( x)Evet | ( )Hayır | |
| 22) | Fenerde hangi cihazlarınız var? | ( x)televizyon | ( )telefon | ( x)buzdolabı |
| | | (x )çamşr mak. | ( )müzik seti | ( )dikiş mak. |
| | | ( )bulşk mak. | ( x)bilgisayar | ( x )internet |
| 23) | Kendinize ait başka bir eviniz var mı? | ( x )Evet | Nerede? | |
| | | ( )Hayır | | |
| | Araziniz var mı? | ( )Evet | Nerede? Ne ekiyorsunuz? | |
| | | ( )Hayır | Memlekette Kırşehir | |
| | Kirada veya sizin işlettiğiniz bir işyeriniz var mı? | ( )Evet | Nerede? | |
| | | x | | |
| 24) | Ne kadar zamandır bu görevde çalışıyorsunuz? | 2000'de girer 2006 burada (Kuşadası) | | |
| | Ailenizde sizden önce bu görevde bulunmuş insanlar var mı? | yok | | |
| | Fener bekçiliği görevini bir sonraki kuşağa aktarmak için sizce neler gereklidir? | Çocuklarımız fenerci olsun. Lojman gerekli. | | |
| | Emekli olduktan sonra ne yapmayı planlıyorsunuz? | Deniz işleri. Su sporları. Ufak tekne. | | |
| 25) | Fenerde bir gününüz nasıl geçiyor? | Eş-dost sohbeti .Restoranda oturma.Bahçe bGündüz fenerde Kızımda tekvandocu haftada 3 gün sporda. | | |
| 26) | Fenerde eskiden bir gün nasıl geçerdi? | | | |
| 27) | Fenere hiç ziyaretçi geliyor mu? | ( x)Evet | ( x)Tanıdık | ( x)Yabancı |
| | | ( )Hayır | | |
| 28) | Fenere eskiden ziyaretçi gelir miydi? | ( x )Evet | ( x )Tanıdık | (x )Yabancı |
| | | ( )Hayır | | |
| 29) | Fenere ziyaretçi gelmesini ister misiniz? | ( x )Evet | Neden?Yalnızlık | Nasıl? |
| | | ( )Hayır | Neden? | Nasıl? |
| 30) | Fener ve çevresine başka kimler geliyor? | Girmek yasaktır. Fenere çıkalım mı zorlaması çok geldi. Yasak demekten yoruldum. | | |
| | Fener ve çevresi başkaları tarafından nasıl kullanılıyor? | Turistler geliyor.kalesurlarına mendireğe geliyor. Fotoğraf çekiyor. | | |
| 31) | Ailenizde sizden başka çalışan var mı? | ( )Evet | | |
| | | ( x )Hayır | | |
| 32) | Evde veya başka bir yerde bir şey üretiyor musunuz? | ( )Evet | Ne üretiyorsunuz? | |
| | | ( )Hayır | 3 aylık kurankursuna gidip evde çalıştı. | |
| | Ürünlerinizi satıyor musunuz? | ( x )Evet | Kime? | Nasıl? |
| | | ( )Hayır | | |

## D. Lighthouses in Aegean Coast, Turkey- Drawings

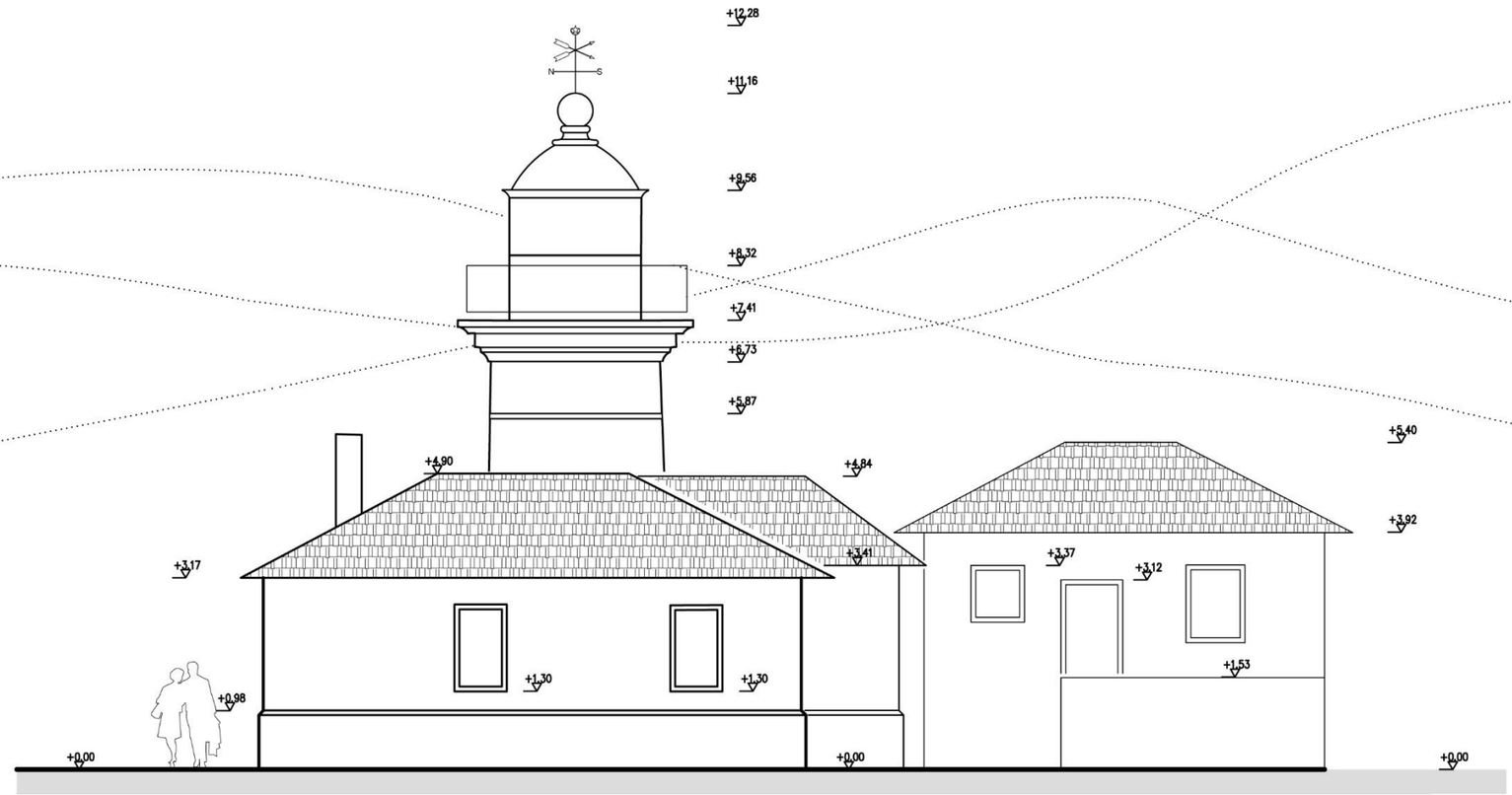
| | LIGHTHOUSES IN AEGEAN COAST |
|---|---|
| D1 | **Gelibolu** |
| D2 | **Çardak** |
| D3 | **Karakova** |
| D4 | **Akbaş Cape (Sestos)** |
| D5 | **Nara Cape (Abydos)** |
| D6 | **Çanakkale Çimenlik Cape** |
| D7 | **Kilitbahir** |
| D8 | **Kepez** |
| D9 | **Seddülbahir** |
| D10 | **Kumkale Cape (Sigeon)** |
| D11 | **Mehmetçik Cape** |
| D12 | **Aydıncık Cape/ İmroz/ Kefalos** |
| D13 | **Tavşan Island/ Bozcaada** |
| D14 | **Bozcaada West Cape/ Polente** |
| D15 | **Damlacık/ Gadaro** |
| D16 | **Bozcaada Mermer Cape/ Oinus Cape** |
| D17 | **Baba Cape/ Babakale** |
| D18 | **Sivrice** |
| D19 | **Edremit Karaburun** |
| D20 | **Güneş Island/ Elyas Island** |
| D21 | **Çıplak/ Gaymino Island Fener Cape** |
| D22 | **Dikili Bademli Cape** |
| D23 | **Tavşan Island (Aliağa)** |
| D24 | **Ilıca Cape (Aliağa)** |
| D25 | **Fener/ Oğlak Island** |
| D26 | **Değirmen Cape** |
| D27 | **Aslan Cape** |
| D28 | **Pasaport** |
| D29 | **Karaburun Sarpıncık** |
| D30 | **Çeşme Fener Cape** |
| D31 | **Süngükaya Island/ Pasparikо** |
| D32 | **Kuşadası Güvercin Island** |
| D33 | **Bayrak Island/ Panagya** |



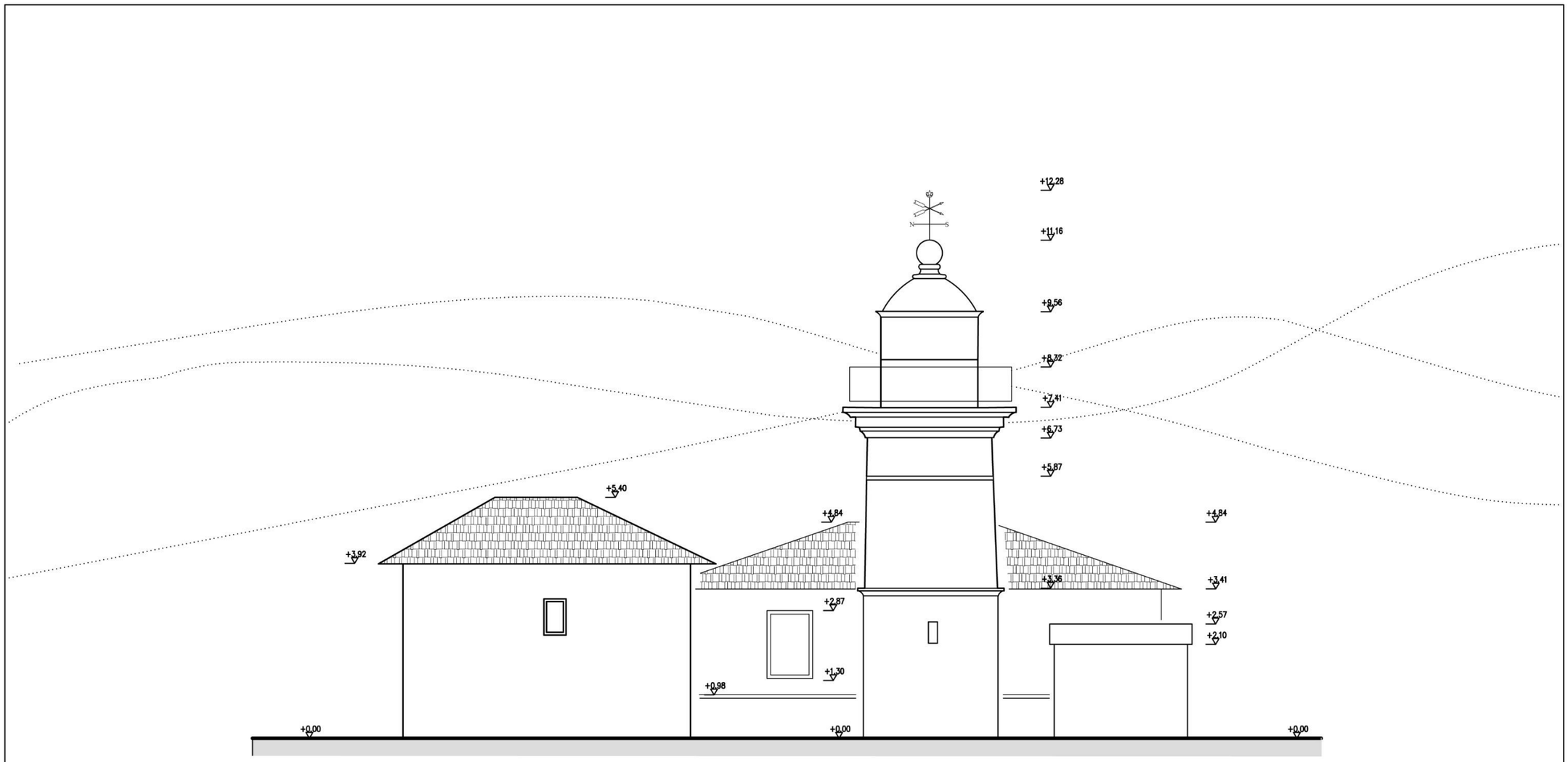

| | | | | | |
|---|---|---|---|---|---|
| GELİBOLU LIGHTHOUSE/ GELİBOLU FENERİ | K | 0 1 5m | SİTE PLAN (1/200) | Surveyed by Özge Başağaç & Tarık Başağaç on 07.07.2015 with a total station | Drawn by Özge Başağaç |



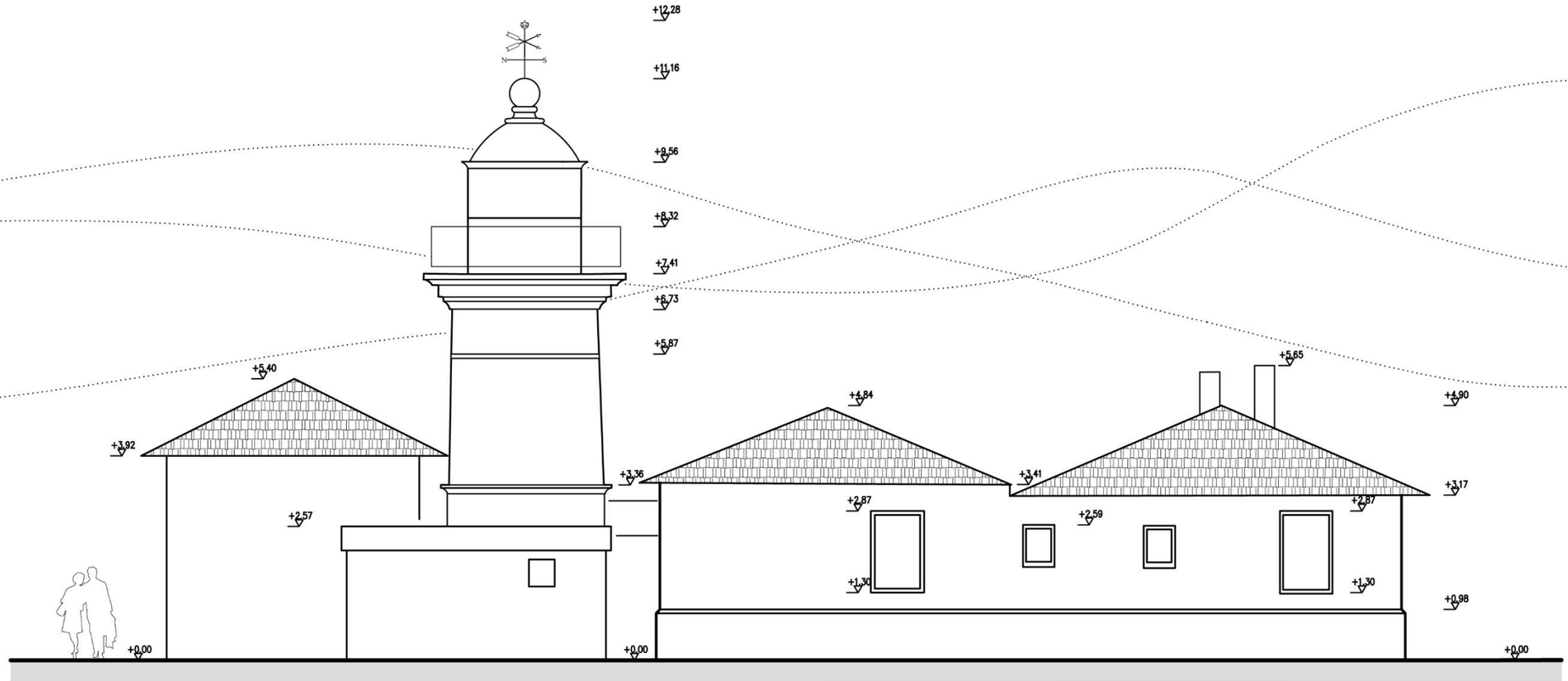

| GELİBOLU LIGHTHOUSE/ GELİBOLU FENERİ | | PLAN (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç on 07.07.2015 with a total station | Drawn by Özge Başağaç |
|---|---|---|---|---|



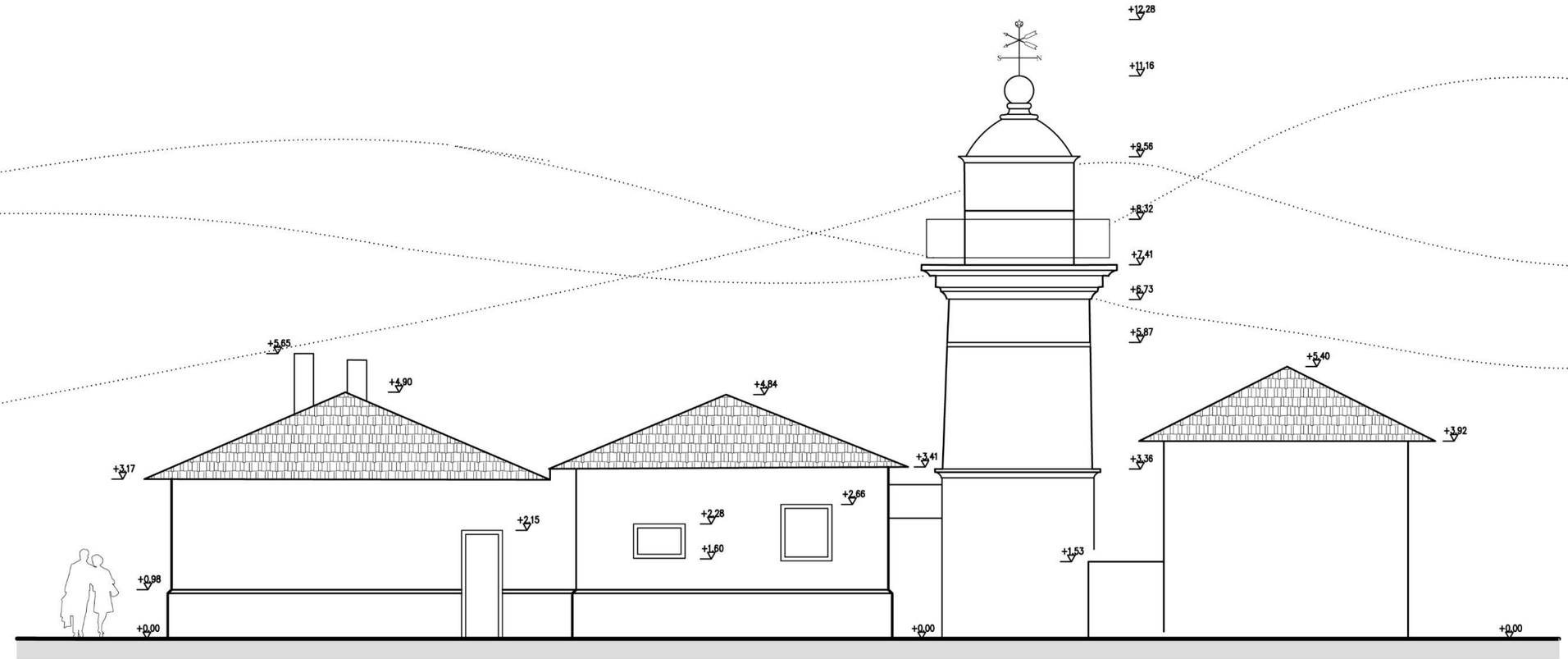

| | | | | | |
|---|---|---|---|---|---|
| GELİBOLU LIGHTHOUSE/ GELİBOLU FENERİ | K | 0 1 5m | NORTH ELEVATION (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç on 07.07.2015 with a total station | Drawn by Özge Başağaç |



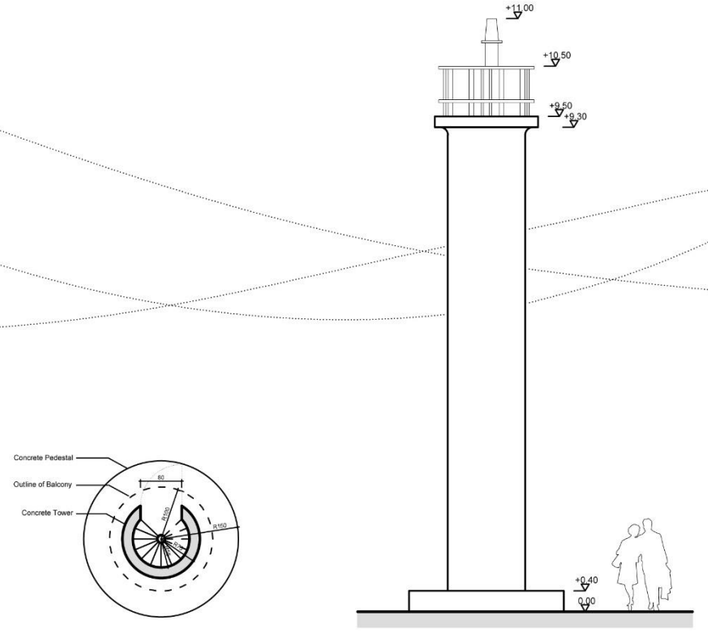

| | | | | | |
|---|---|---|---|---|---|
| GELİBOLU LIGHTHOUSE/ GELİBOLU FENERİ | K | 0 1 5m | SOUTH ELEVATION (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç on 07.07.2015 with a total station | Drawn by Özge Başağaç |




| | | | | | |
|---|---|---|---|---|---|
| GELİBOLU LIGHTHOUSE/ GELİBOLU FENERİ | K | 0 1 5m | EAST ELEVATION (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç on 07.07.2015 with a total station | Drawn by Özge Başağaç |




| | | | | | |
|---|---|---|---|---|---|
| GELİBOLU LIGHTHOUSE/ GELİBOLU FENERİ | K | 0 1 5m | WEST ELEVATION (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç on 07.07.2015 with a total station | Drawn by Özge Başağaç |







LIGHTHOUSE TOWER PLAN /
DENİZ FENERİ KULESİ PLANI

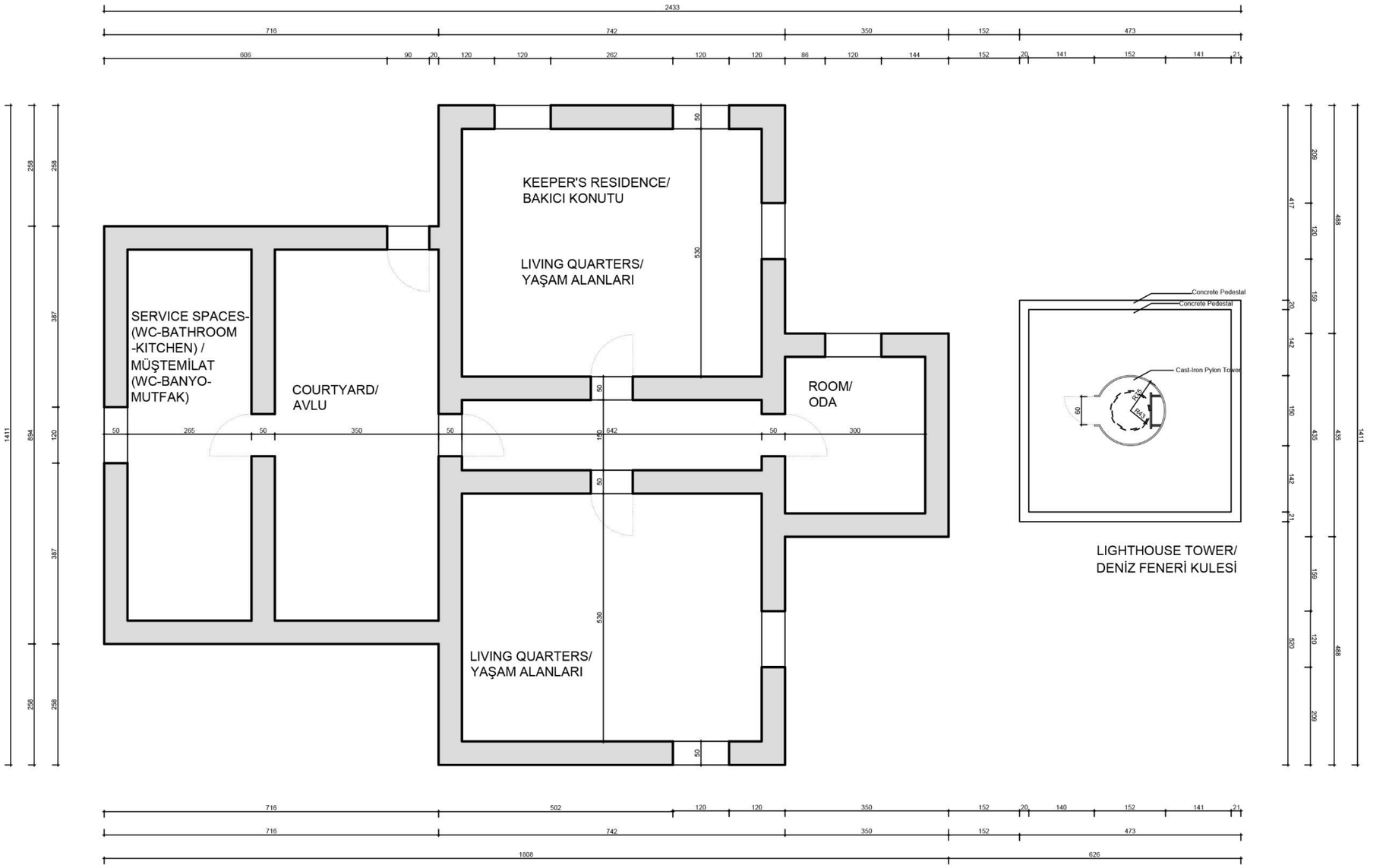
LIGHTHOUSE TOWER ELEVATION/
DENİZ FENERİ KULESİ GÖRÜNÜŞ

ÇARDAK LIGHTHOUSE / ÇARDAK DENİZ FENERİ

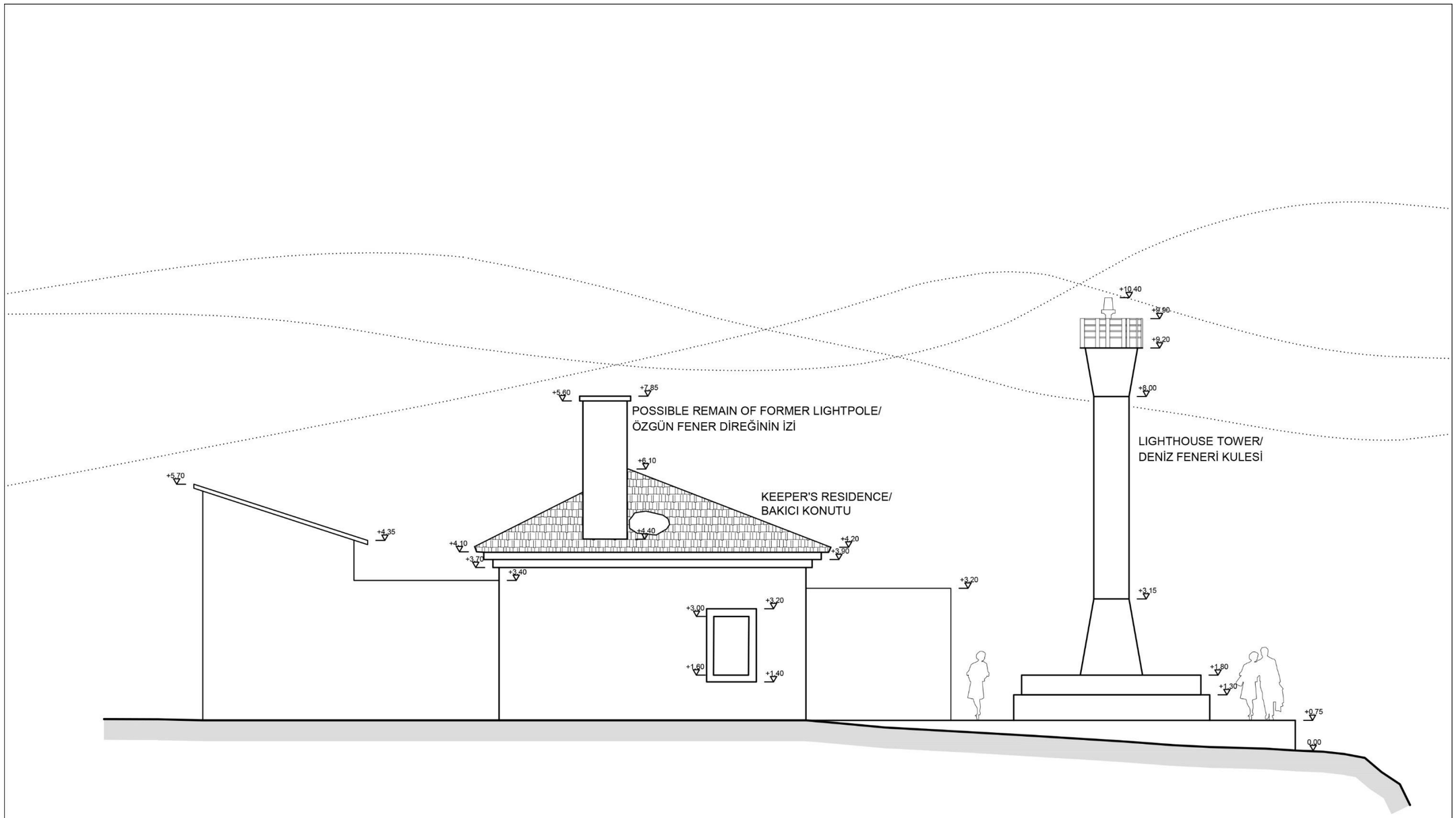
0 1 5m

K

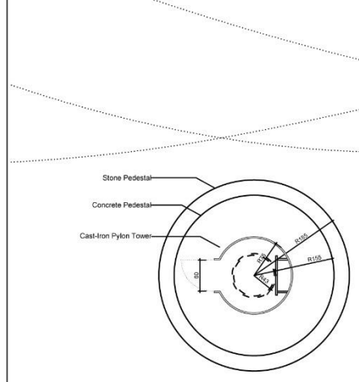
Scaled sketch by Özge Başağaç on 07.07.2015



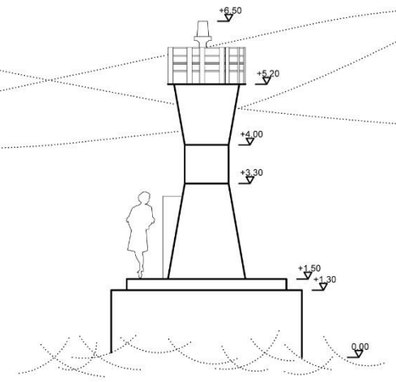

| KARAKOVA LIGHTHOUSE/ KARAKOVA FENERİ | K | 0 1 5m | PLAN (1/100) | Scaled Sketch by Özge Başağaç |
|---|---|---|---|---|




| | | | |
|---|---|---|---|
| KARAKOVA LIGHTHOUSE/ KARAKOVA FENERİ | 0 1 5m | SOUTH WEST ELEVATION (1/100) | Scaled Sketch by Özge Başağaç |




LIGHTHOUSE TOWER PLAN /
DENİZ FENERİ KULESİ PLANI



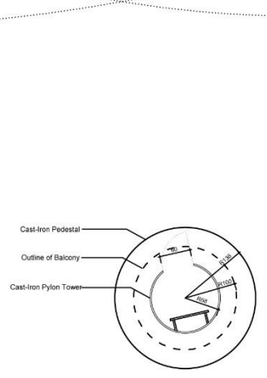

LIGHTHOUSE TOWER ELEVATION/
DENİZ FENERİ KULESİ GÖRÜNÜŞ

AKBAŞ CAPE LIGHTHOUSE / AKBAŞ BURNU DENİZ FENERİ

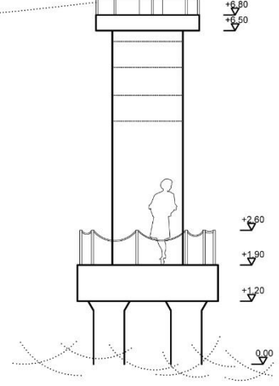
0 1 5m

K

Scaled sketch by Özge Başağaç on 07.07.2015




LIGHTHOUSE TOWER PLAN /
DENİZ FENERİ KULESİ PLANI



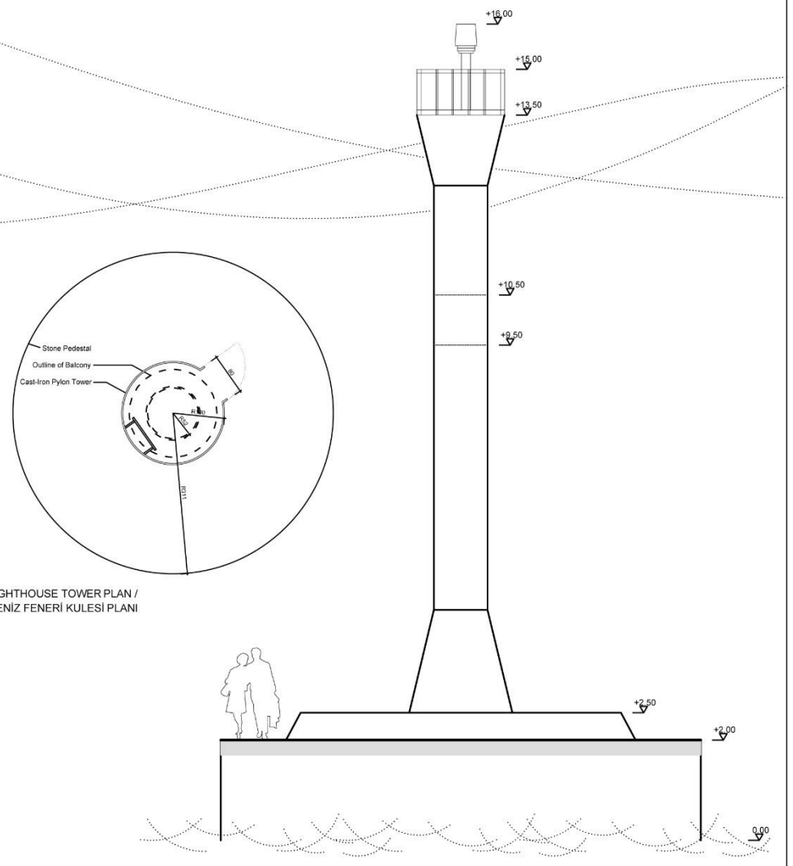

LIGHTHOUSE TOWER ELEVATION/
DENİZ FENERİ KULESİ GÖRÜNÜŞ

NARA CAPE LIGHTHOUSE / NARA BURNU DENİZ FENERİ

0 1 5m

K

Scaled sketch by Özge Başağaç on 07.07.2015




LIGHTHOUSE TOWER PLAN /
DENİZ FENERİ KULESİ PLANI

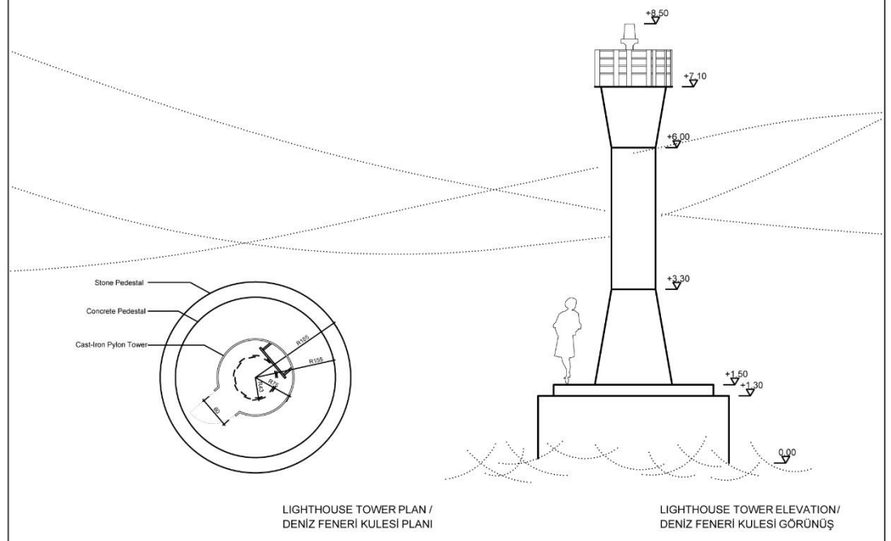
LIGHTHOUSE TOWER ELEVATION/
DENİZ FENERİ KULESİ GÖRÜNÜŞ

ÇİMENLİK CAPE LIGHTHOUSE / ÇİMENLİK BURNU DENİZ FENERİ

0 1 5m

K

Scaled sketch by Özge Başağaç on 07.07.2015




LIGHTHOUSE TOWER PLAN /
DENİZ FENERİ KULESİ PLANI

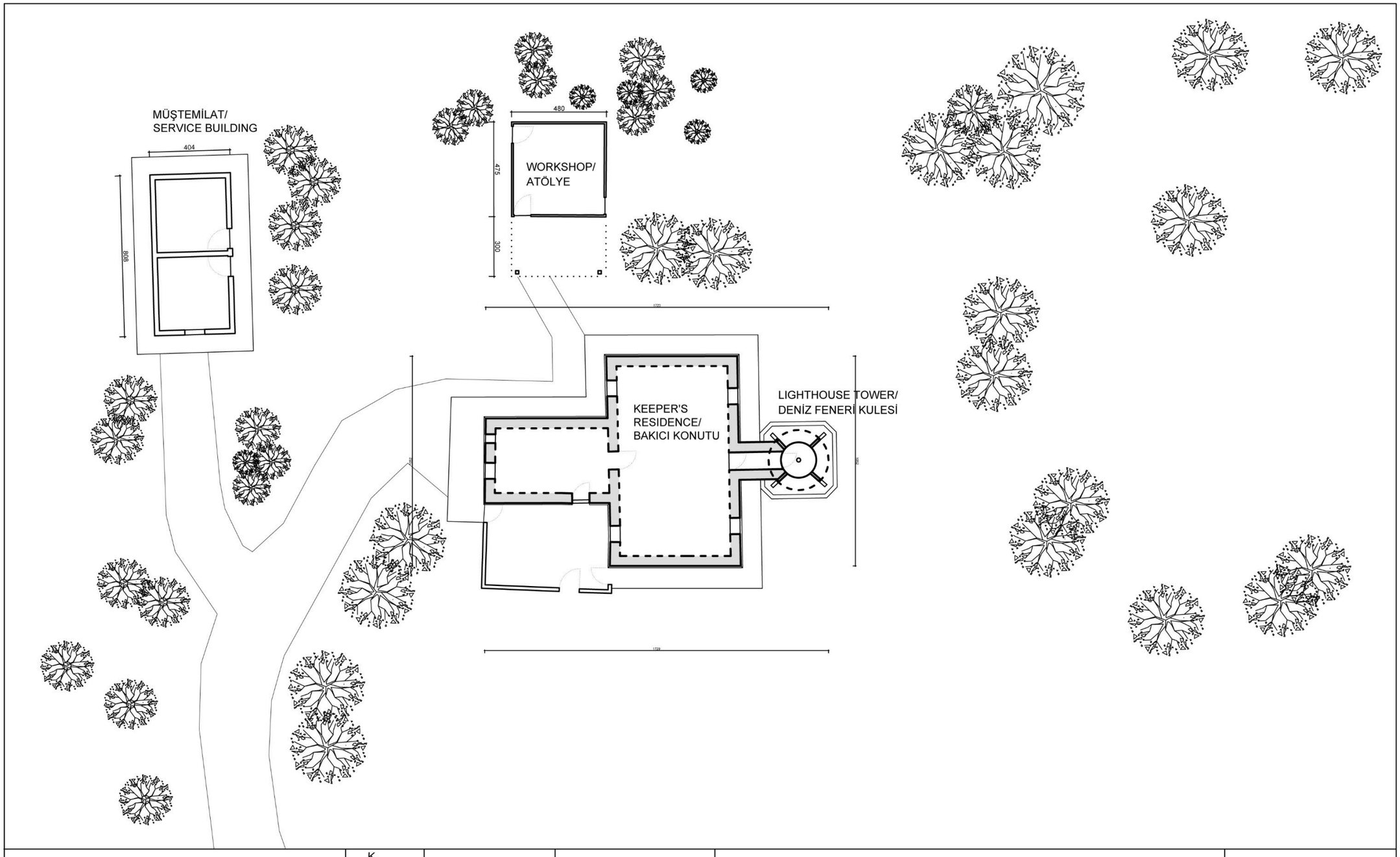
LIGHTHOUSE TOWER ELEVATION/
DENİZ FENERİ KULESİ GÖRÜNÜŞ

KİLİTBAHİR LIGHTHOUSE / KİLİTBAHİR DENİZ FENERİ

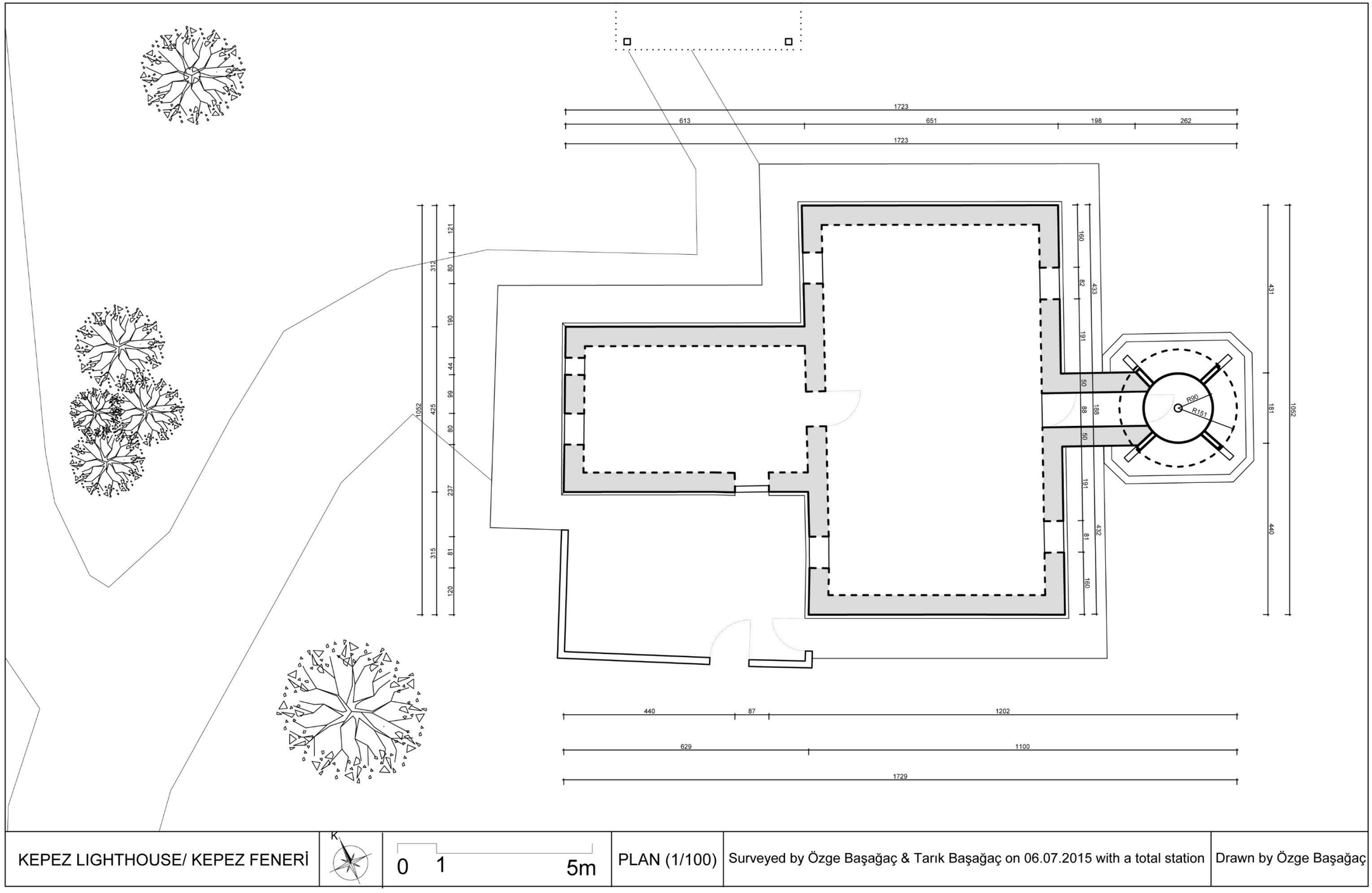
0 1 5m

K

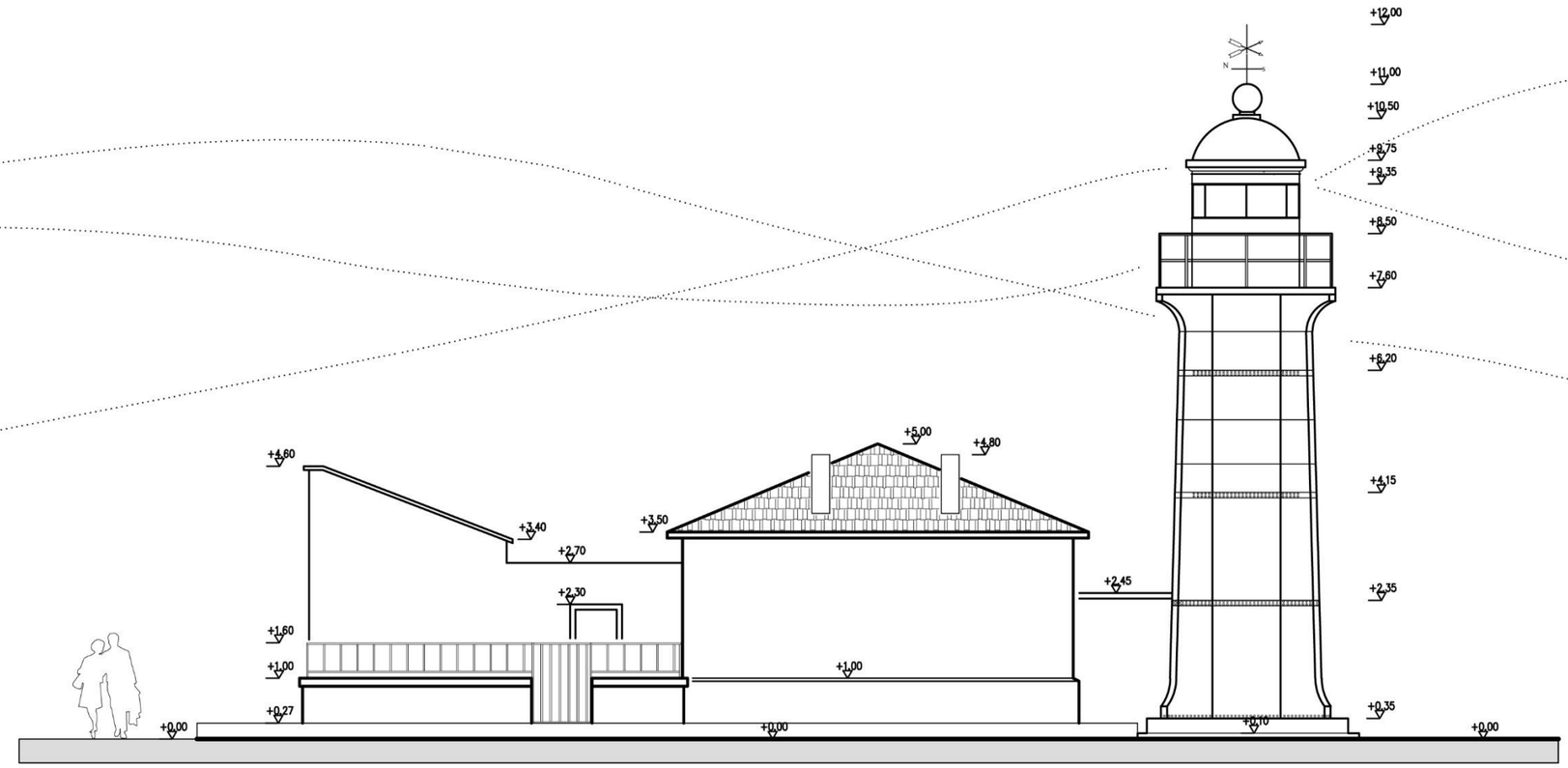
Scaled sketch by Özge Başağaç on 07.07.2015



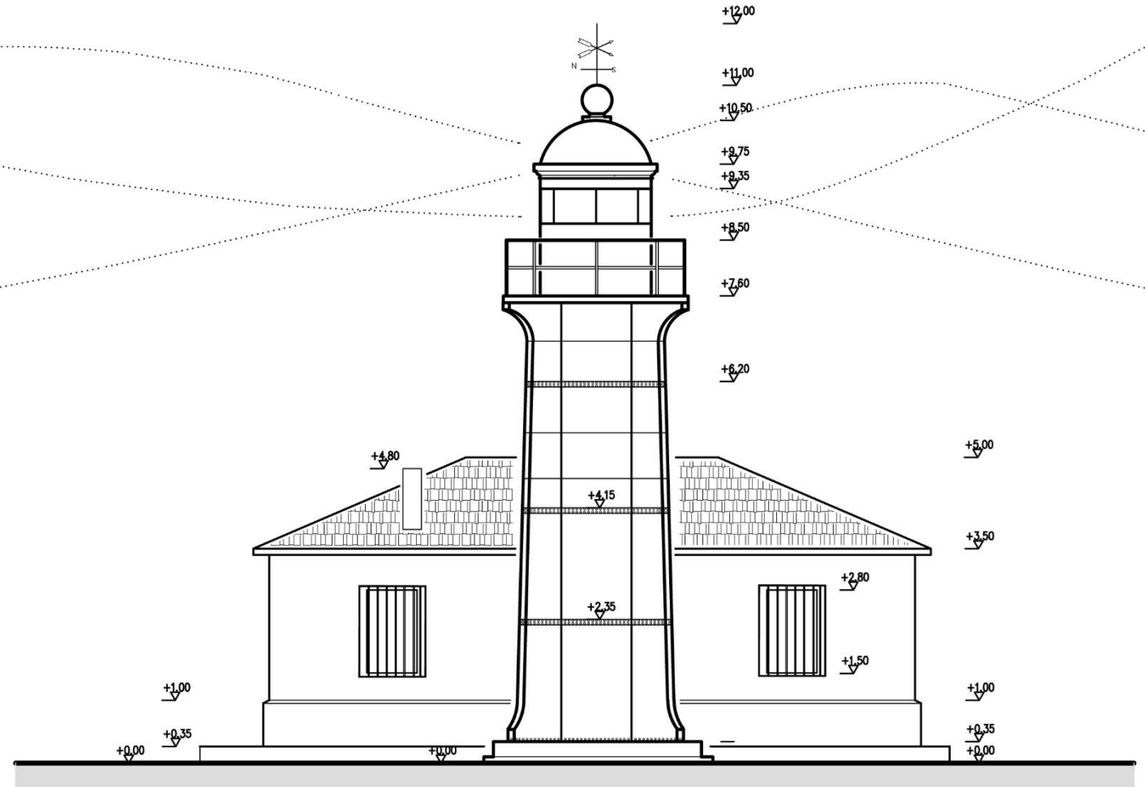

| KEPEZ LIGHTHOUSE/ KEPEZ FENERİ | | SİTE PLAN (1/200) | Surveyed by Özge Başağaç & Tarık Başağaç on 06.07.2015 with a total station | Drawn by Özge Başağaç |
|---|---|---|---|---|



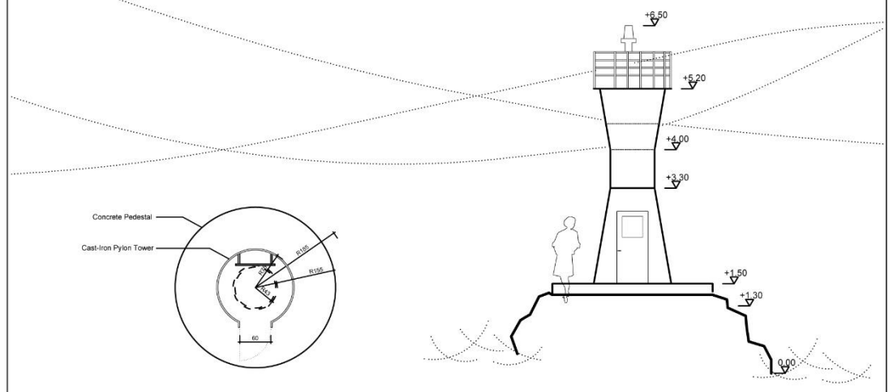

| KEPEZ LIGHTHOUSE/ KEPEZ FENERİ | | PLAN (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç on 06.07.2015 with a total station | Drawn by Özge Başağaç |
|---|---|---|---|---|




| | | | | | |
|---|---|---|---|---|---|
| KEPEZ LIGHTHOUSE/ KEPEZ FENERİ | K | 0 1 5m | SOUTH ELEVATION (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç<br>on 06.07.2015 with a total station | Drawn by Özge Başağaç |




| | | | | | |
|---|---|---|---|---|---|
| KEPEZ LIGHTHOUSE/ KEPEZ FENERİ | K | 0 1 5m | EAST ELEVATION (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç<br>on 06.07.2015 with a total station | Drawn by Özge Başağaç |




LIGHTHOUSE TOWER PLAN /
DENİZ FENERİ KULESİ PLANI

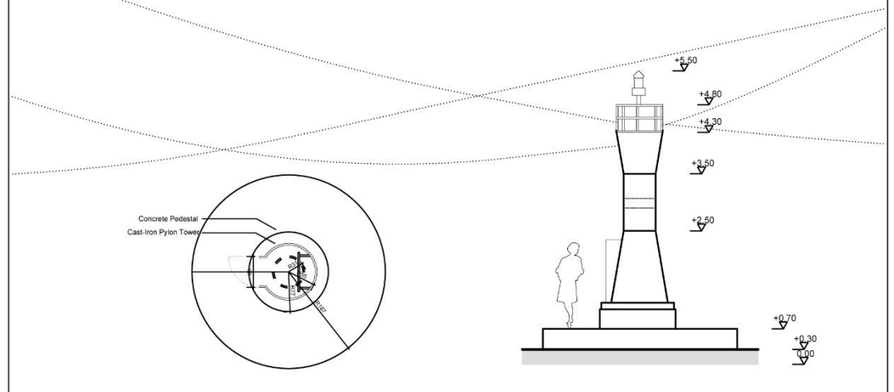
LIGHTHOUSE TOWER ELEVATION /
DENİZ FENERİ KULESİ GÖRÜNÜŞ

SEDDÜLBAHİR LIGHTHOUSE / SEDDÜLBAHİR DENİZ FENERİ

0 1 5m

K

Scaled sketch by Özge Başağaç on 07.07.2015




LIGHTHOUSE TOWER PLAN /
DENİZ FENERİ KULESİ PLANI

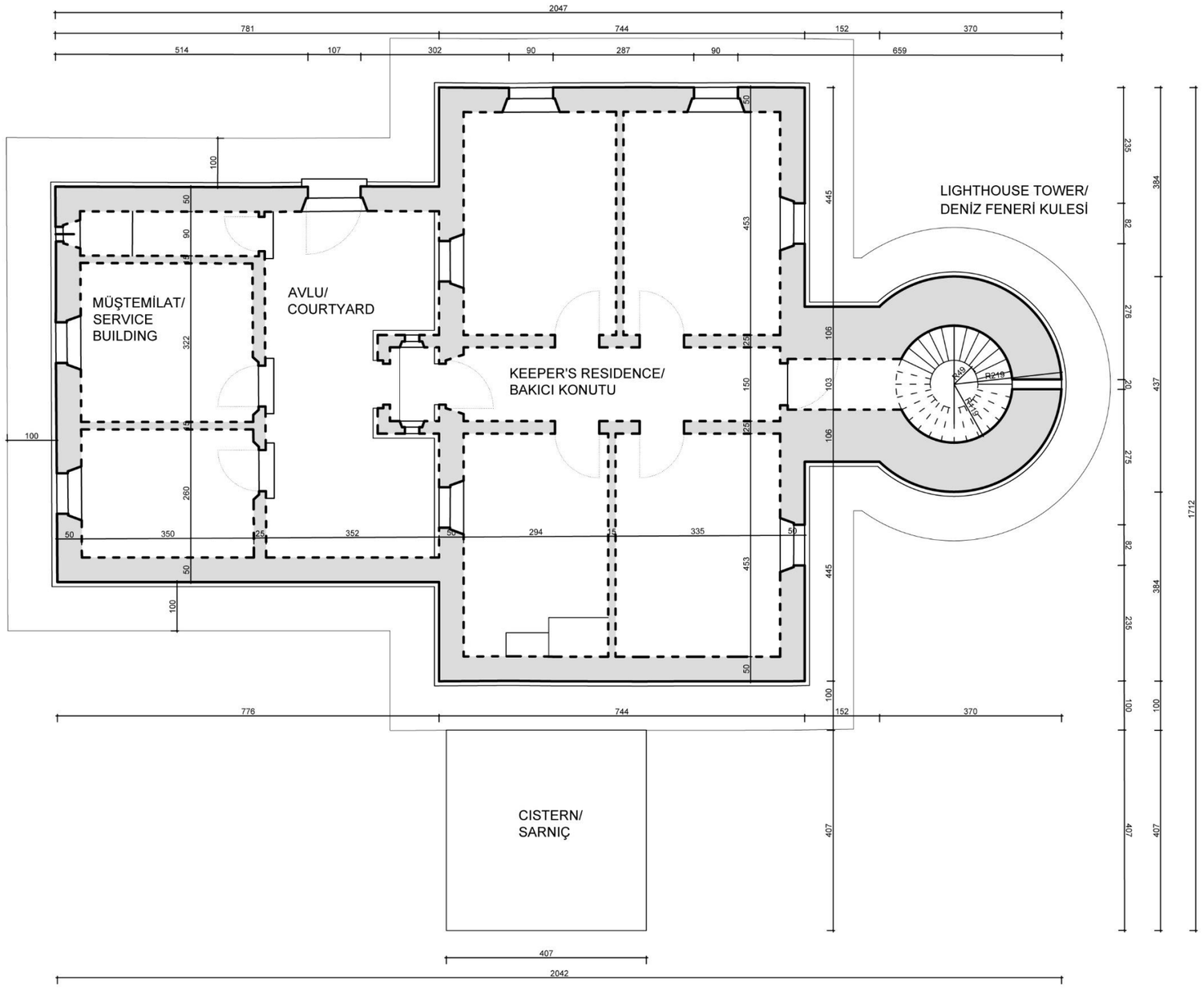
LIGHTHOUSE TOWER ELEVATION /
DENİZ FENERİ KULESİ GÖRÜNÜŞ

KUMKALE CAPE LIGHTHOUSE / KUMKALE BURNU DENİZ FENERİ

0 1 5m

K

Scaled sketch by Özge Başağaç on 07.07.2015

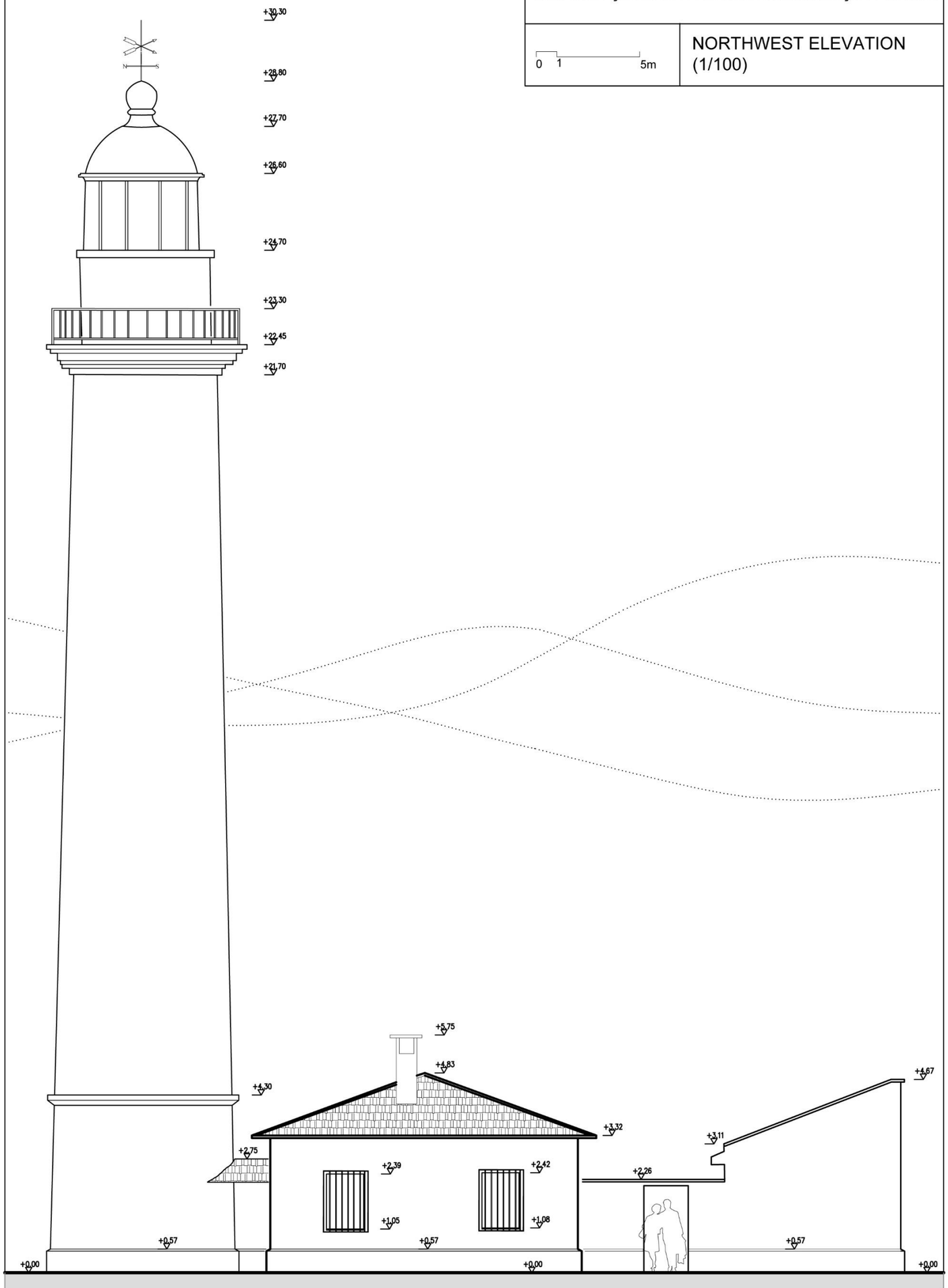



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|---|---|---|---|---|---|
| MEHMETÇİK LIGHTHOUSE/ MEHMETÇİK FENERİ | K | 0 1 5m | PLAN (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç on 07.07.2015 with a total station | Drawn by Özge Başağaç |

MEHMETÇİK LIGHTHOUSE/ MEHMETÇİK FENERİ

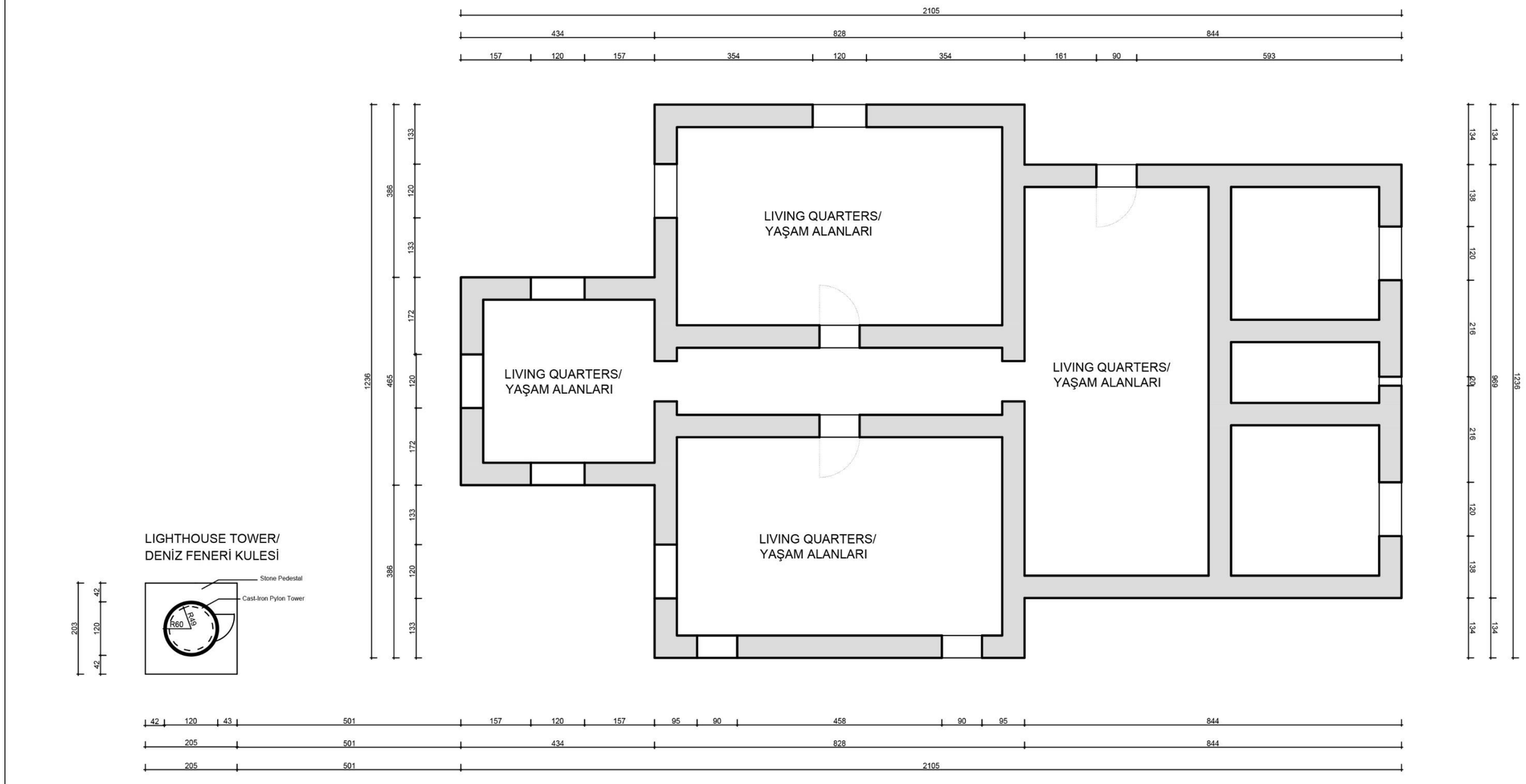
0 1 5m

NORTHWEST ELEVATION
(1/100)

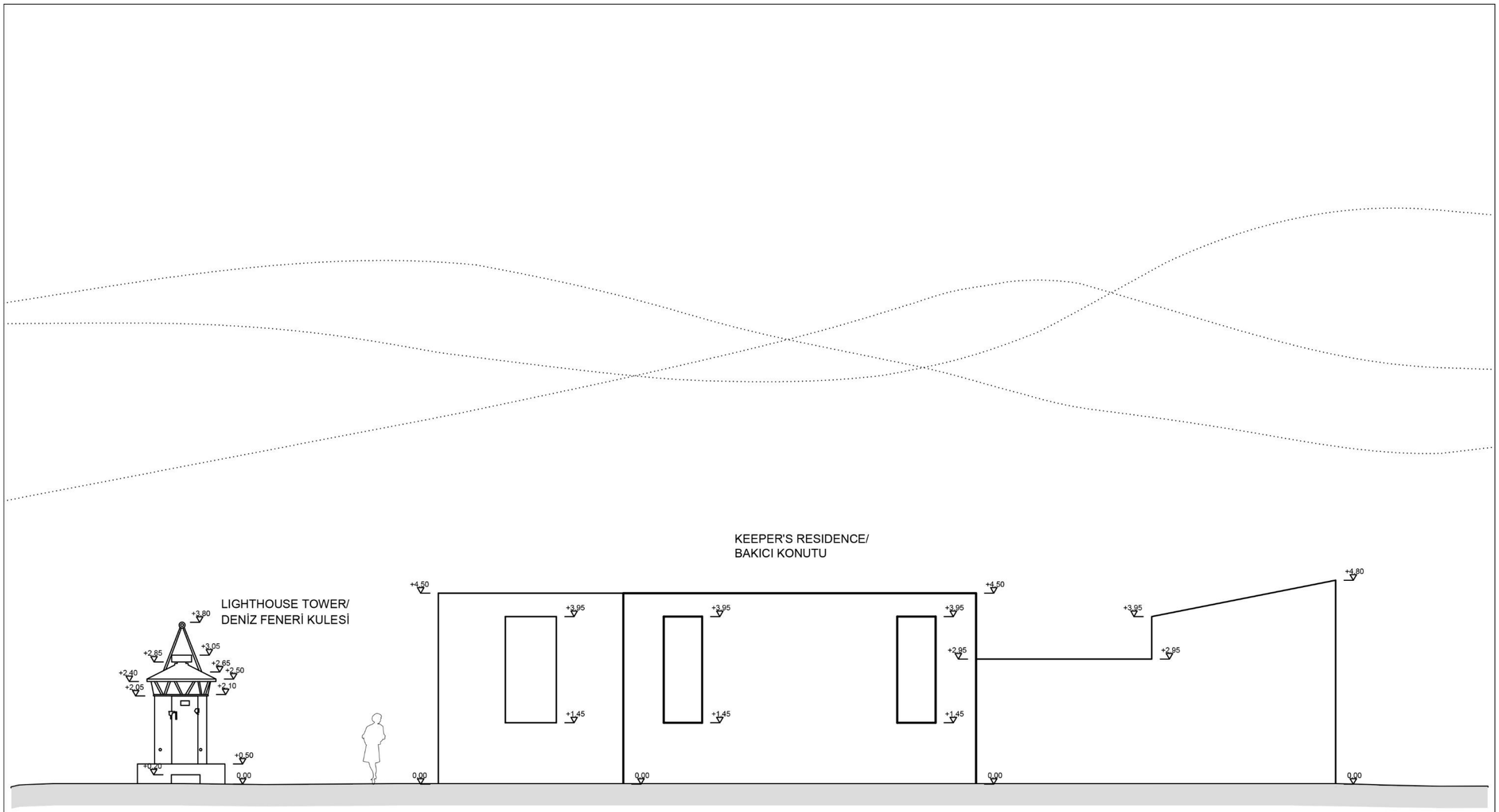



Surveyed by Özge Başağaç & Tarık Başağaç on 07.07.2015 with a total station

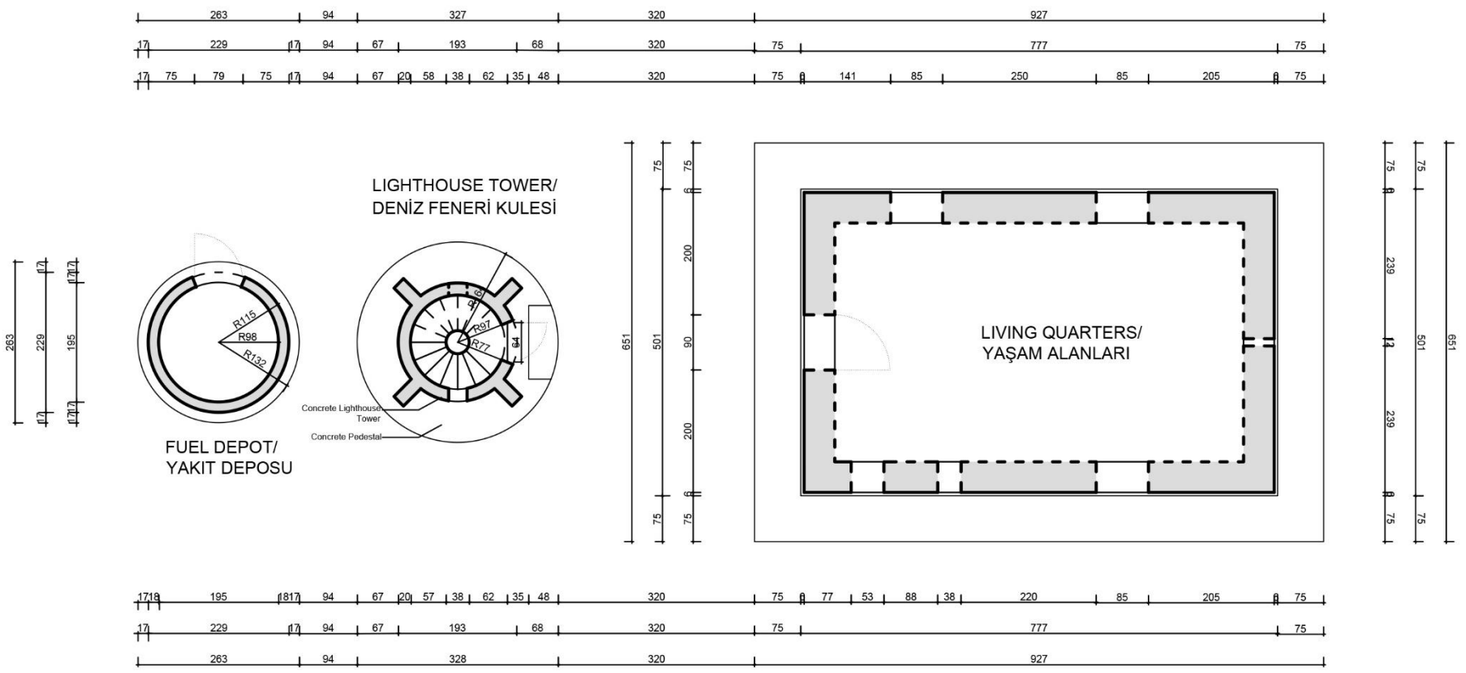
Drawn by Özge Başağaç



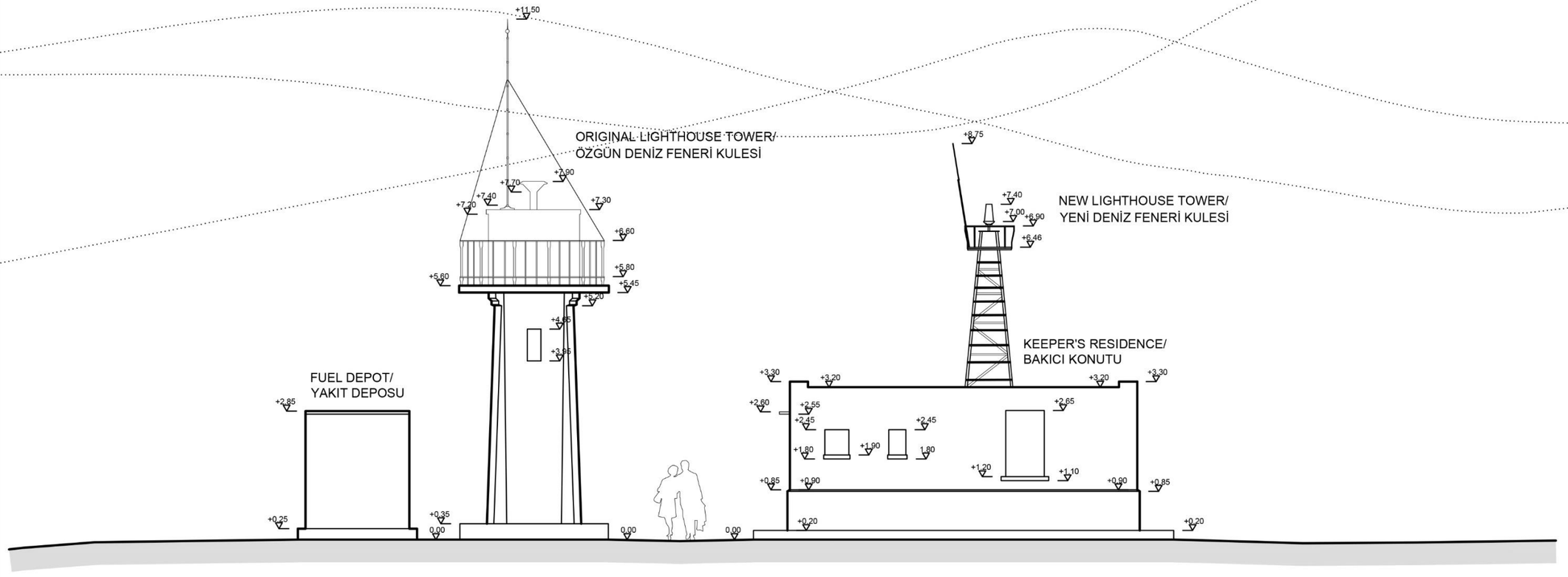

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|---|---|---|---|---|
| AYDINCIK KEFALOS LIGHTHOUSE/ AYDINCIK KEFALOS FENERİ | K | 0 1 5m | PLAN (1/100) | Scaled Sketch by Özge Başağaç |



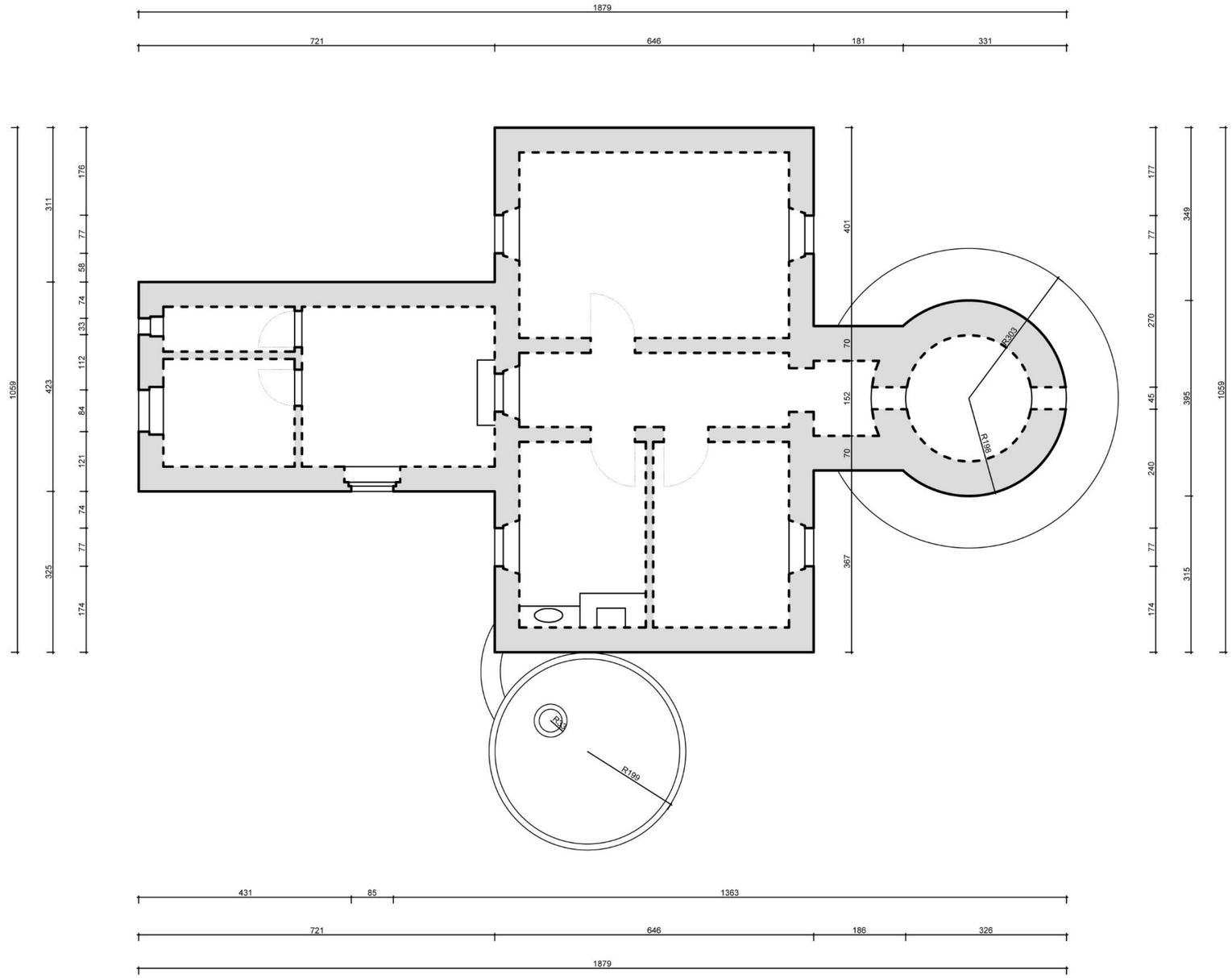

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|---|---|---|---|
| AYDINCIK KEFALOS LIGHTHOUSE/ AYDINCIK KEFALOS FENERİ | 0 1 5m | NORTH WEST ELEVATION (1/100) | Scaled Sketch by Özge Başağaç |



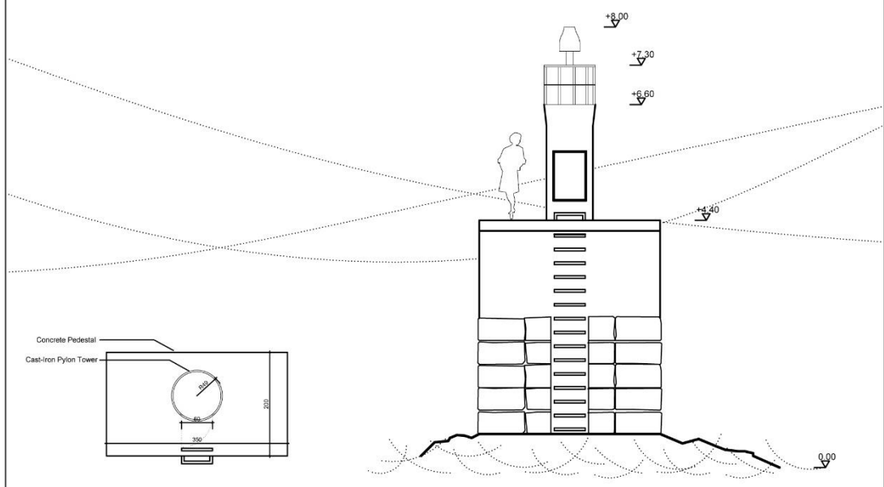

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|---|---|---|---|---|---|
| TAVŞAN ISLAND LIGHTHOUSE/ TAVŞAN ADASI DENİZ FENERİ | K | 0 1 5m | PLAN (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç on 09.07.2015 with a total station | Drawn by Özge Başağaç |




| | | | | |
|---|---|---|---|---|
| TAVŞAN ISLAND LIGHTHOUSE/ TAVŞAN ADASI DENİZ FENERİ | 0 1 5m | SW ELEVATION (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç on 09.07.2015 with a total station | Drawn by Özge Başağaç |




| | | | | | |
|---|---|---|---|---|---|
| BOZCAADA POLENTE LIGHTHOUSE/<br>BOZCAADA POLENTE FENERİ | K | 0 1 5m | PLAN (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç on 07.07.2015 with a total station | Drawn by Özge Başağaç |




LIGHTHOUSE TOWER PLAN /
DENİZ FENERİ KULESİ PLANI

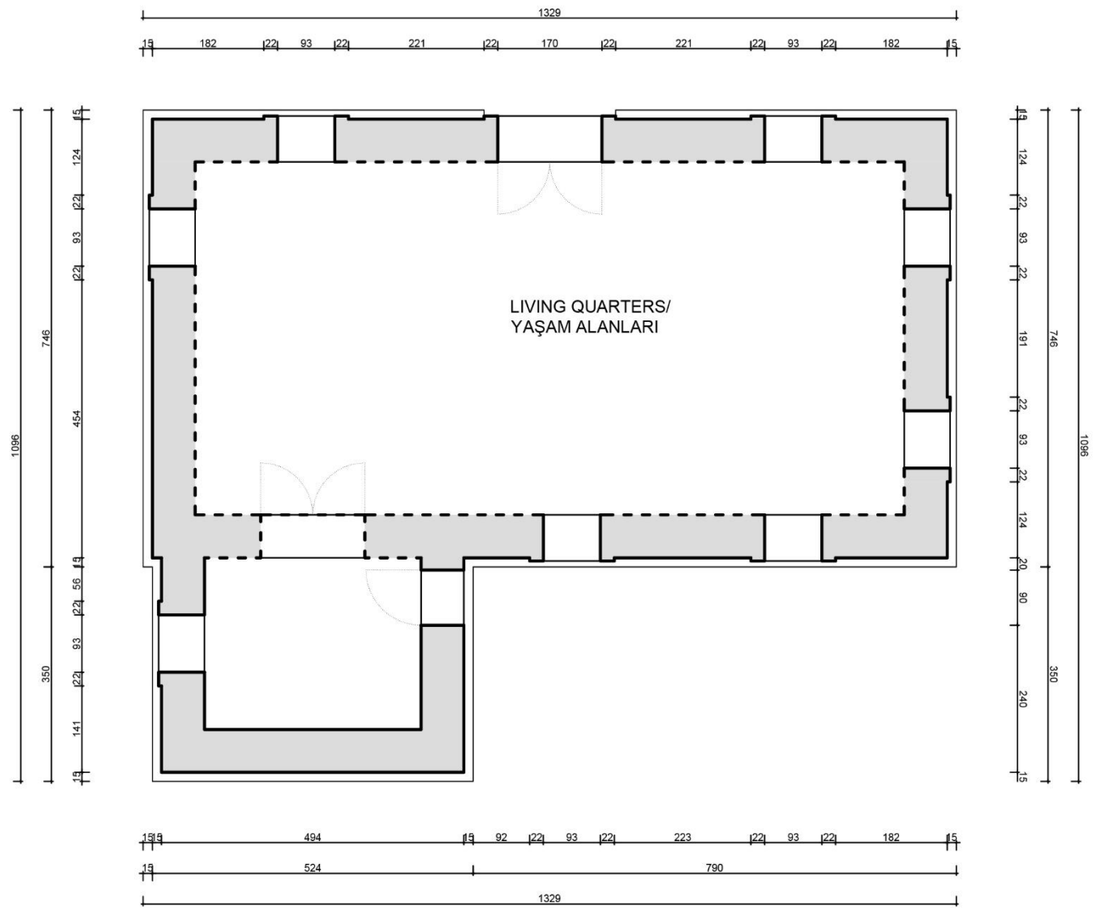
LIGHTHOUSE TOWER ELEVATION/
DENİZ FENERİ KULESİ GÖRÜNÜŞ

DAMLACIK ISLAND LIGHTHOUSE / DAMLACIK ADASI DENİZ FENERİ

0 1 5m

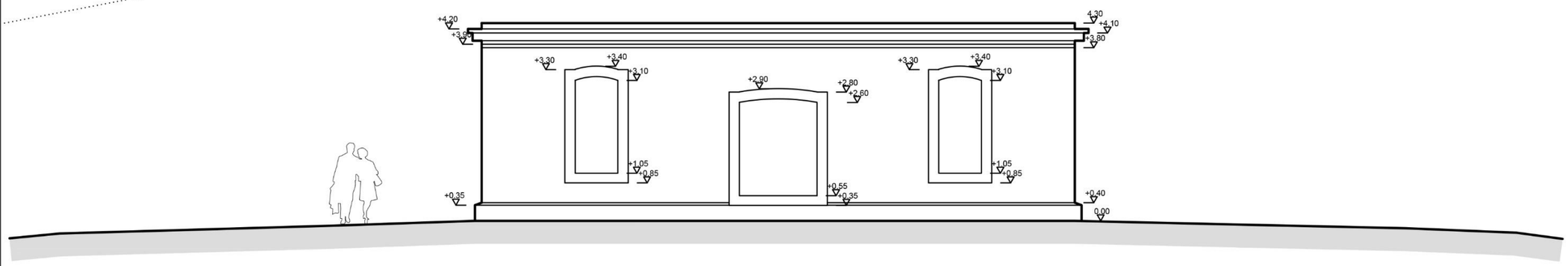
K

Scaled sketch by Özge Başağaç on 07.07.2015

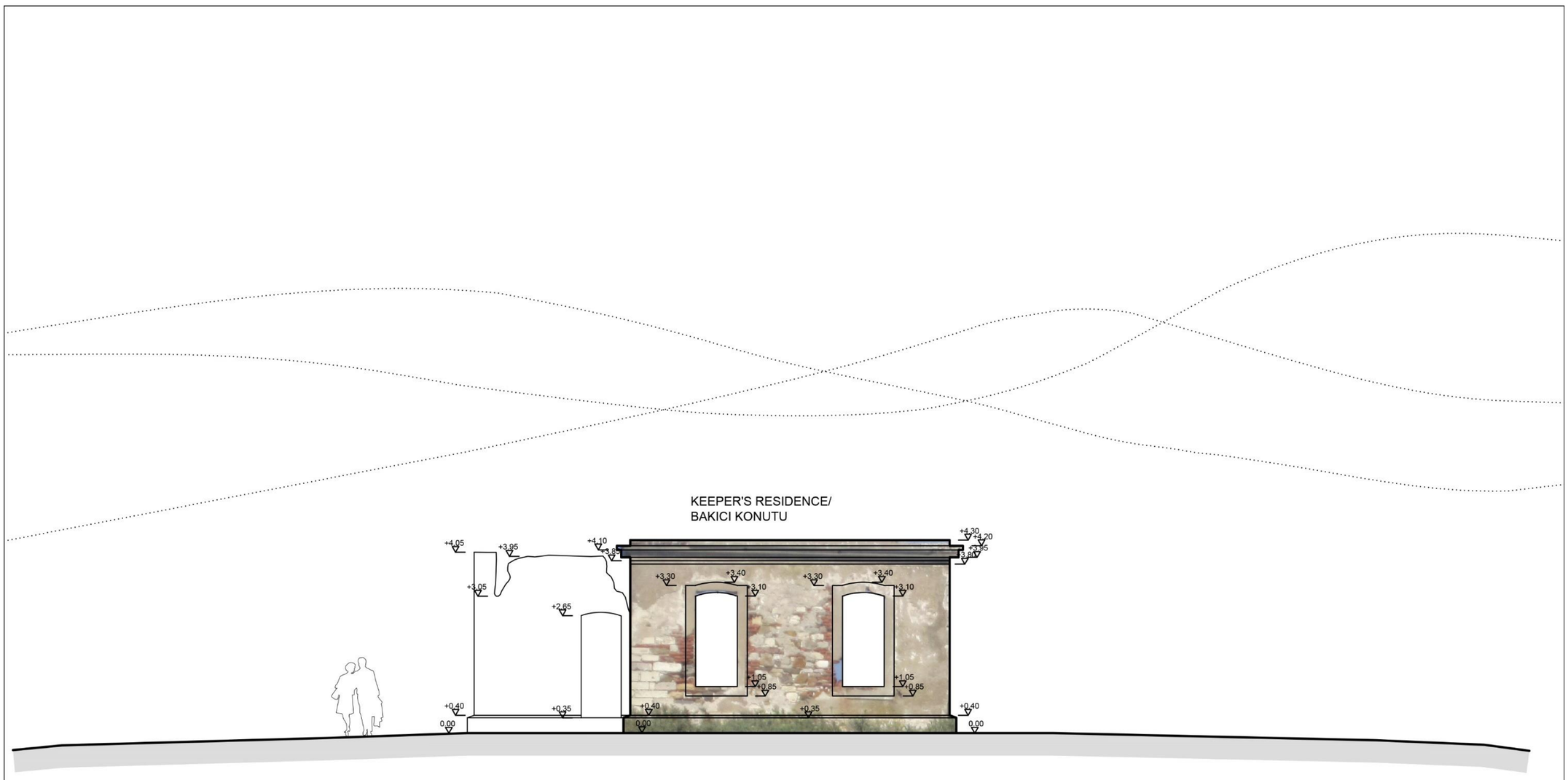



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|---|---|---|---|---|
| DAMLACIK/ GADARO ISLAND LIGHTHOUSE/ DAMLACIK/GADARO ADASI DENİZ FENERİ | K | 0 1 5m | PLAN (1/100) | Scaled Skecth by Özge Başağaç |

KEEPER'S RESIDENCE/
BAKICI KONUTU

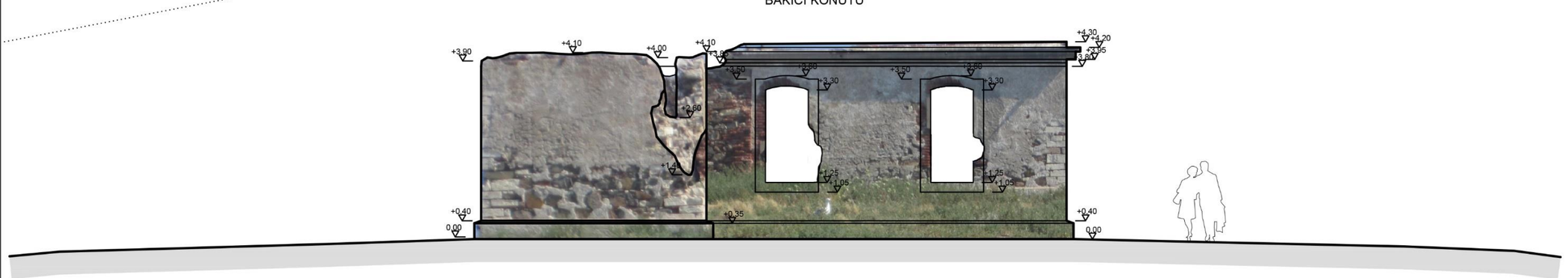



| | | | |
|---|---|---|---|
| DAMLACIK/ GADARO ISLAND LIGHTHOUSE/ DAMLACIK/GADARO ADASI DENİZ FENERİ | 0 1 5m | NORTH ELEVATION (1/100) | Scaled Skecth by Özge Başağaç |

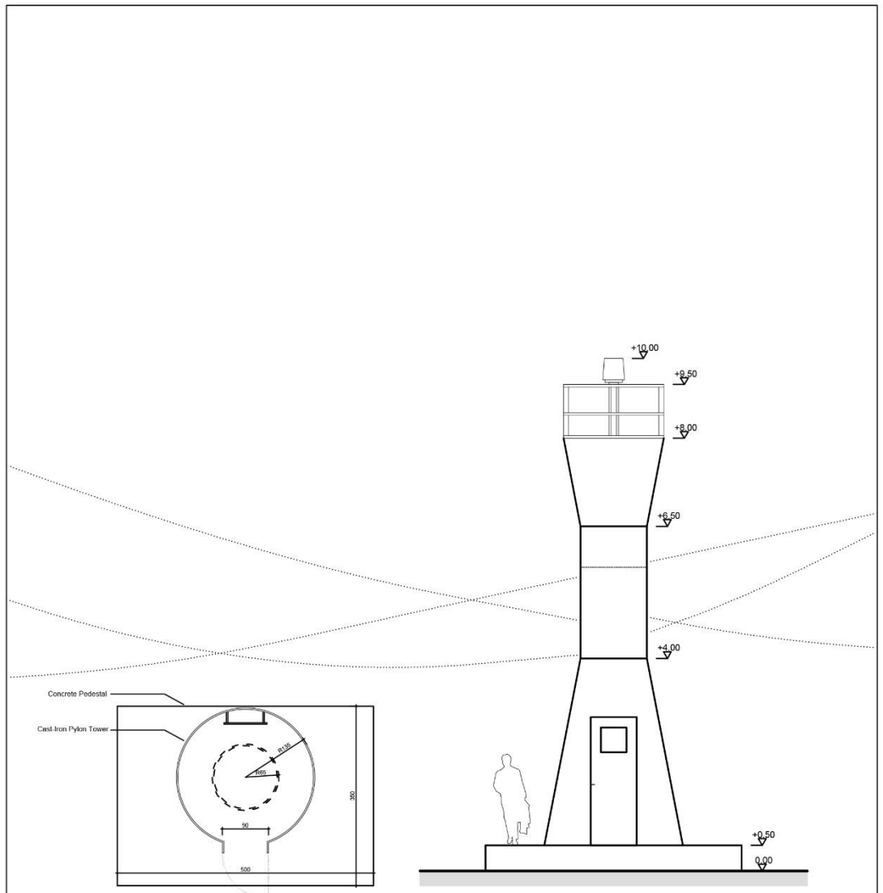



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|---|---|---|---|
| DAMLACIK/ GADARO ISLAND LIGHTHOUSE/ DAMLACIK/GADARO ADASI DENİZ FENERİ | 0 1 5m | EAST ELEVATION (1/100) | Scaled Skecth by Özge Başağaç |

KEEPER'S RESIDENCE/
BAKICI KONUTU




| | | | |
|---|---|---|---|
| DAMLACIK/ GADARO ISLAND LIGHTHOUSE/ DAMLACIK/GADARO ADASI DENİZ FENERİ | 0 1 5m | SOUTH ELEVATION (1/100) | Scaled Skecth by Özge Başağaç |




LIGHTHOUSE TOWER PLAN /
DENİZ FENERİ KULESİ PLANI

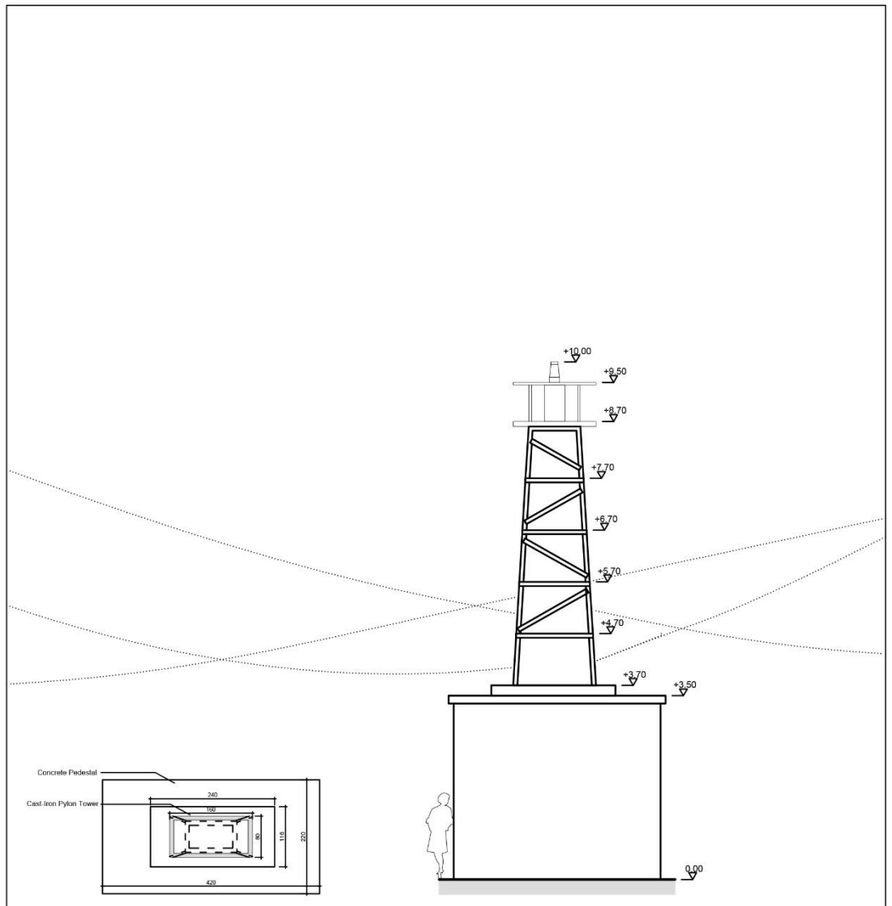
LIGHTHOUSE TOWER ELEVATION/
DENİZ FENERİ KULESİ GÖRÜNÜŞ

BOZCAADA MERMER CAPE LIGHTHOUSE / BOZCAADA MERMER BURNU DENİZ FENERİ

0 1 5m

K

Scaled sketch by Özge Başağaç on 07.07.2015




LIGHTHOUSE TOWER PLAN /
DENİZ FENERİ KULESİ PLANI

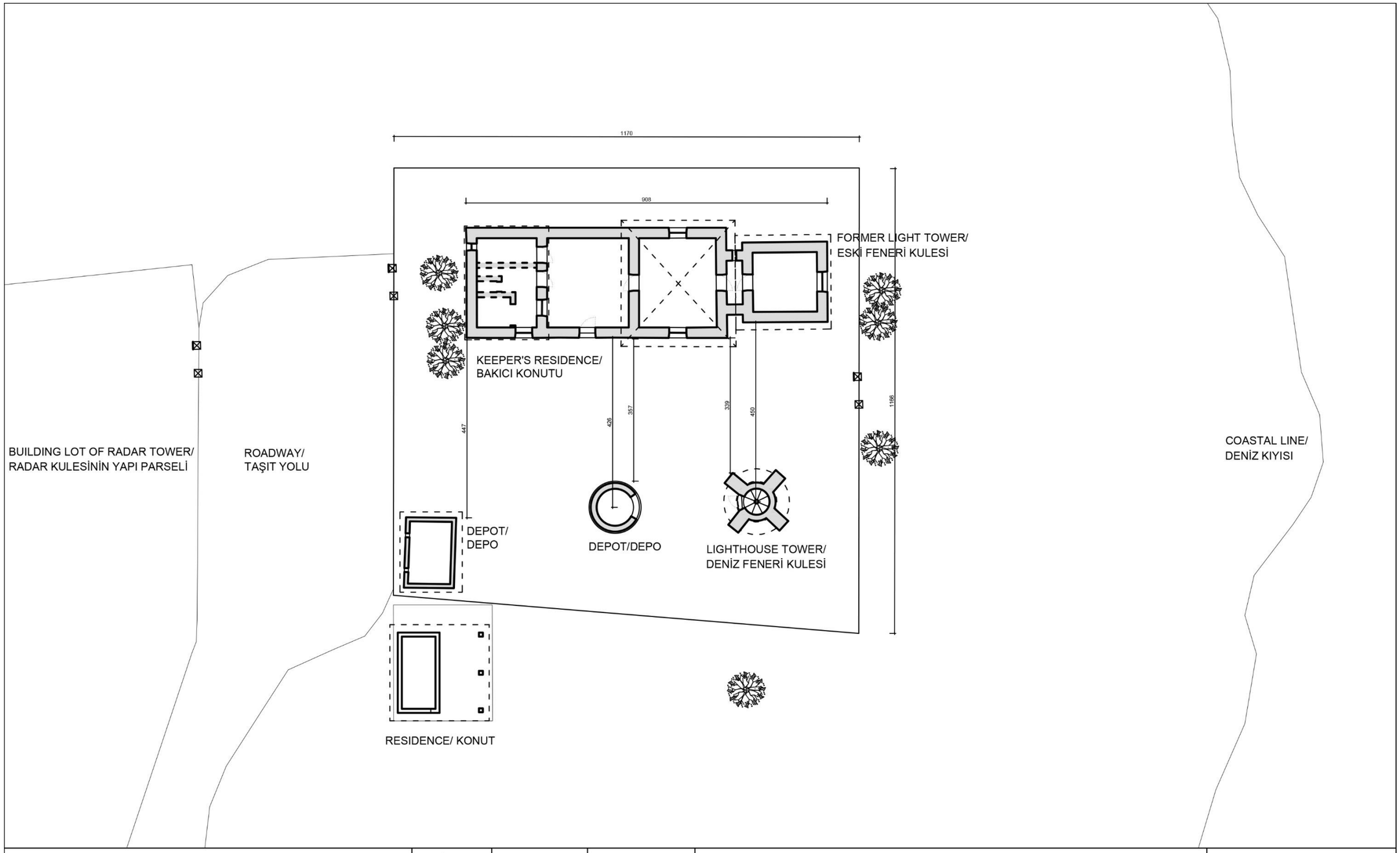
LIGHTHOUSE TOWER ELEVATION/
DENİZ FENERİ KULESİ GÖRÜNÜŞ

BABAKALE LIGHTHOUSE / BABAKALE DENİZ FENERİ

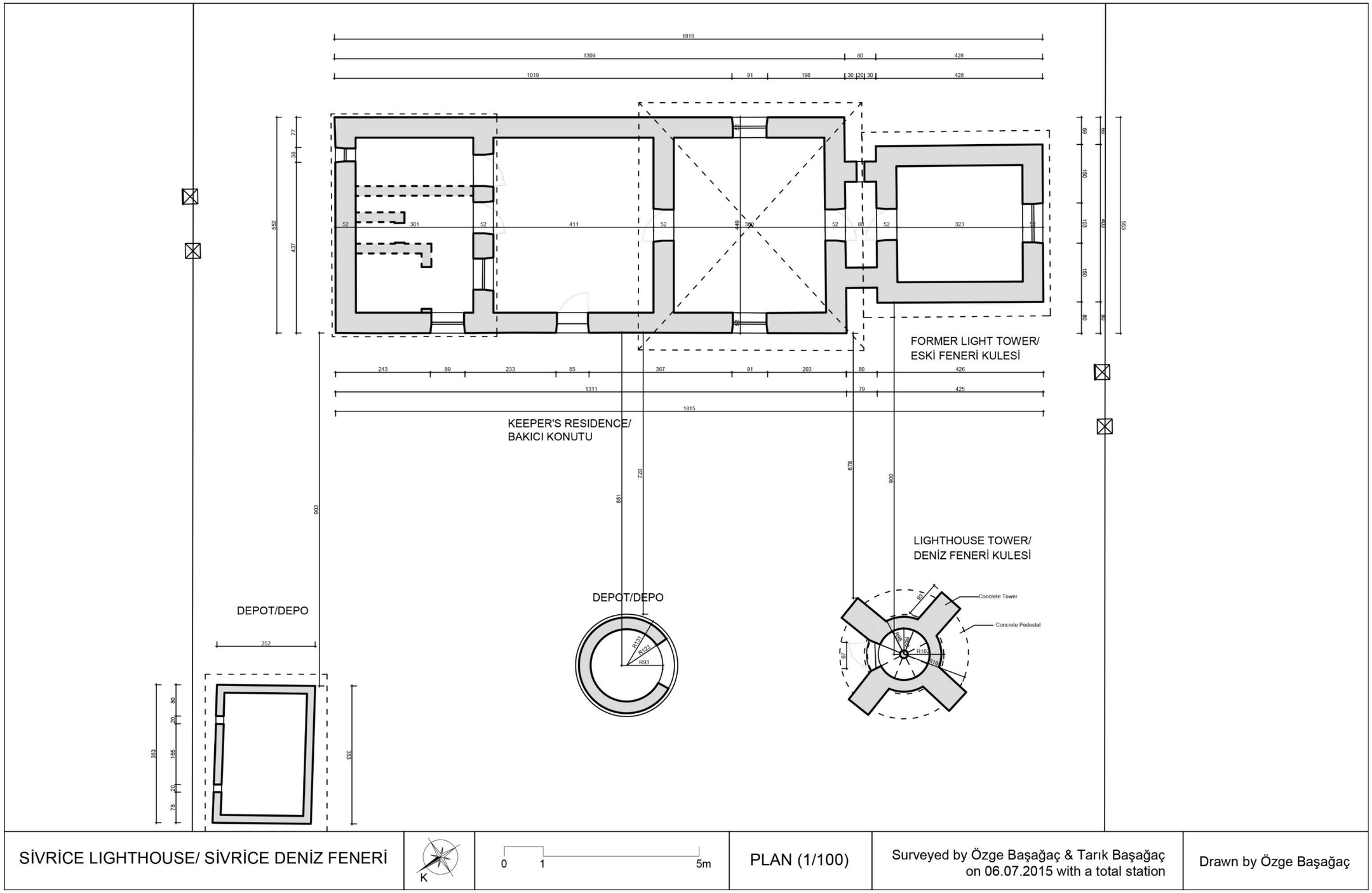
0 1 5m

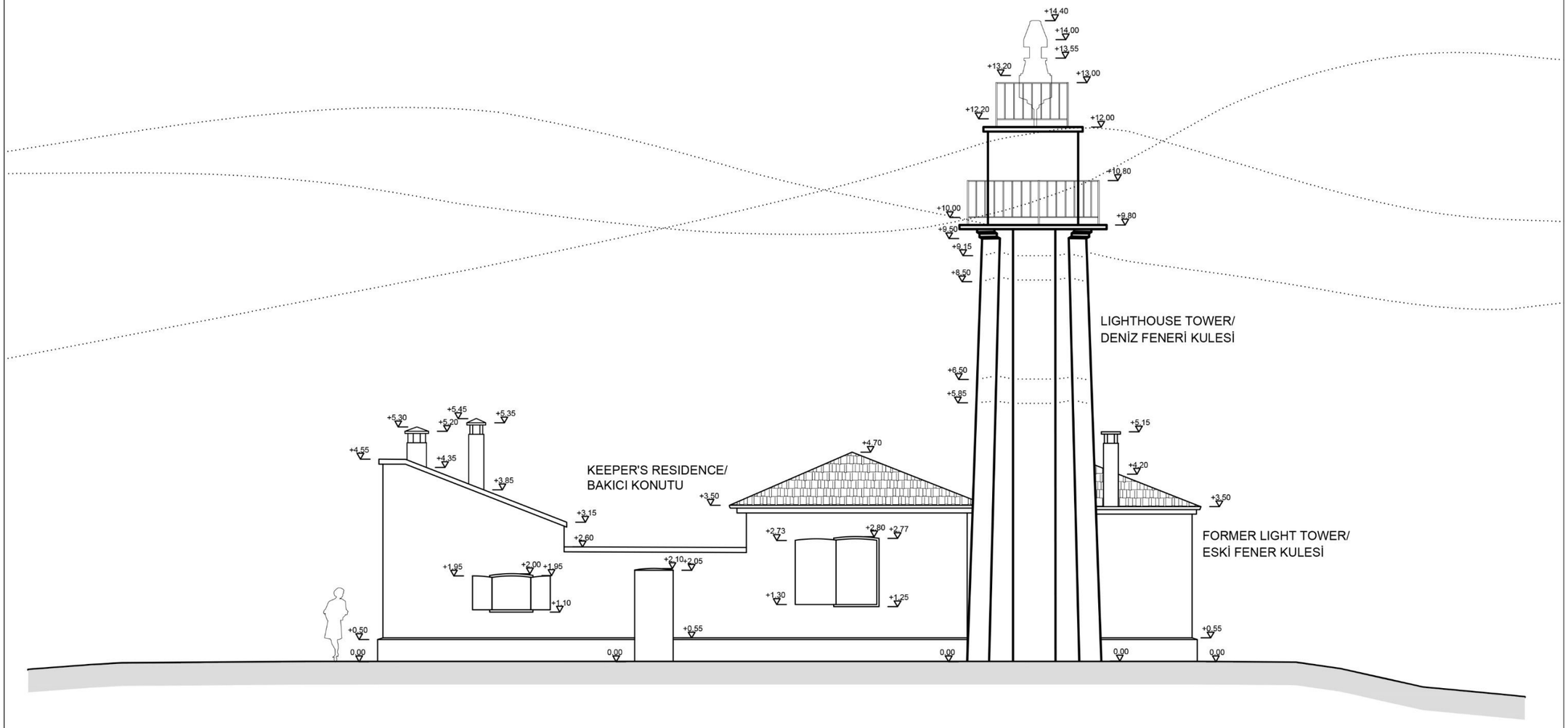
K

Scaled sketch by Özge Başağaç on 07.07.2015

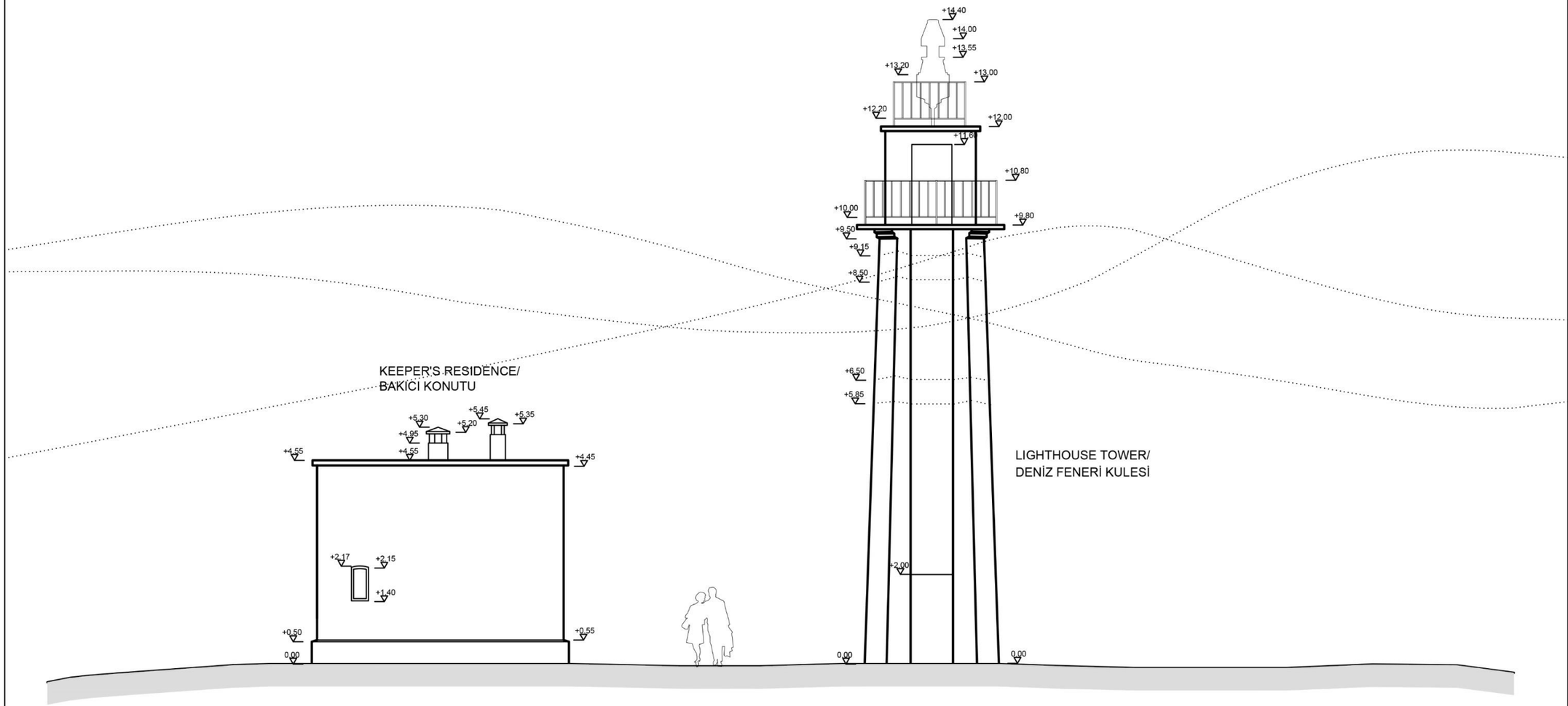



| | | | | | |
|---|---|---|---|---|---|
| SİVRİCE LIGHTHOUSE/ SİVRİCE DENİZ FENERİ | K | 0 1 5m | SITE PLAN (1/200) | Surveyed by Özge Başağaç & Tarık Başağaç on 06.07.2015 with a total station | Drawn by Özge Başağaç |

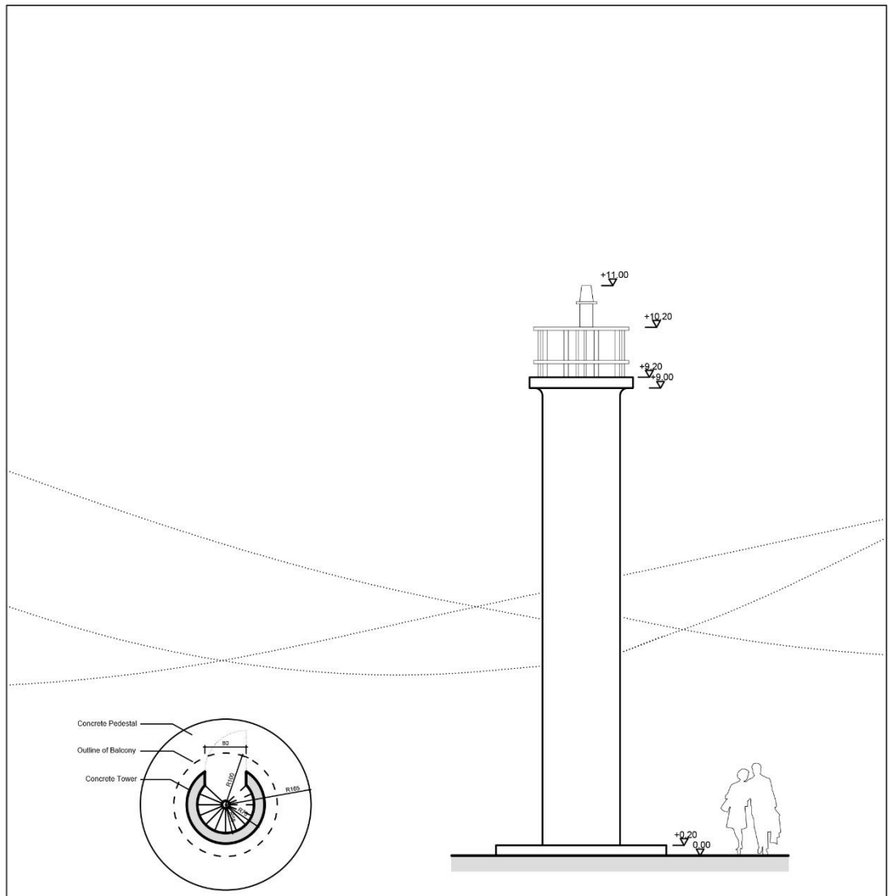

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1309
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1019
91
198
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77
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437
52
301
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411
52
449
52
80
52
323
52
69
69
150
100
445
150
80
80
563
FORMER LIGHT TOWER/
ESKİ FENERİ KULESİ
243
89
233
85
367
91
203
80
426
1311
79
425
1815
KEEPER'S RESIDENCE/
BAKICI KONUTU
903
851
720
678
900
LIGHTHOUSE TOWER/
DENİZ FENERİ KULESİ
DEPOT/DEPO
252
DEPOT/DEPO
R131
R123
R93
Concrete Tower
Concrete Pedestal
R91
R83
R76
R10
67
80
20
155
20
78
353
353
SİVRİCE LIGHTHOUSE/ SİVRİCE DENİZ FENERİ
K
0
1
5m
PLAN (1/100)
Surveyed by Özge Başağaç & Tarık Başağaç
on 06.07.2015 with a total station
Drawn by Özge Başağaç




| | | | | |
|---|---|---|---|---|
| SİVRİCE LIGHTHOUSE/ SİVRİCE DENİZ FENERİ | 0 1 5m | WEST ELEVATION (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç on 06.07.2015 with a total station | Drawn by Özge Başağaç |




| | | | | |
|---|---|---|---|---|
| SİVRİCE LIGHTHOUSE/ SİVRİCE DENİZ FENERİ | 0 1 5m | NORTH WEST ELEVATION (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç on 06.07.2015 with a total station | Drawn by Özge Başağaç |




LIGHTHOUSE TOWER PLAN /
DENİZ FENERİ KULESİ PLANI

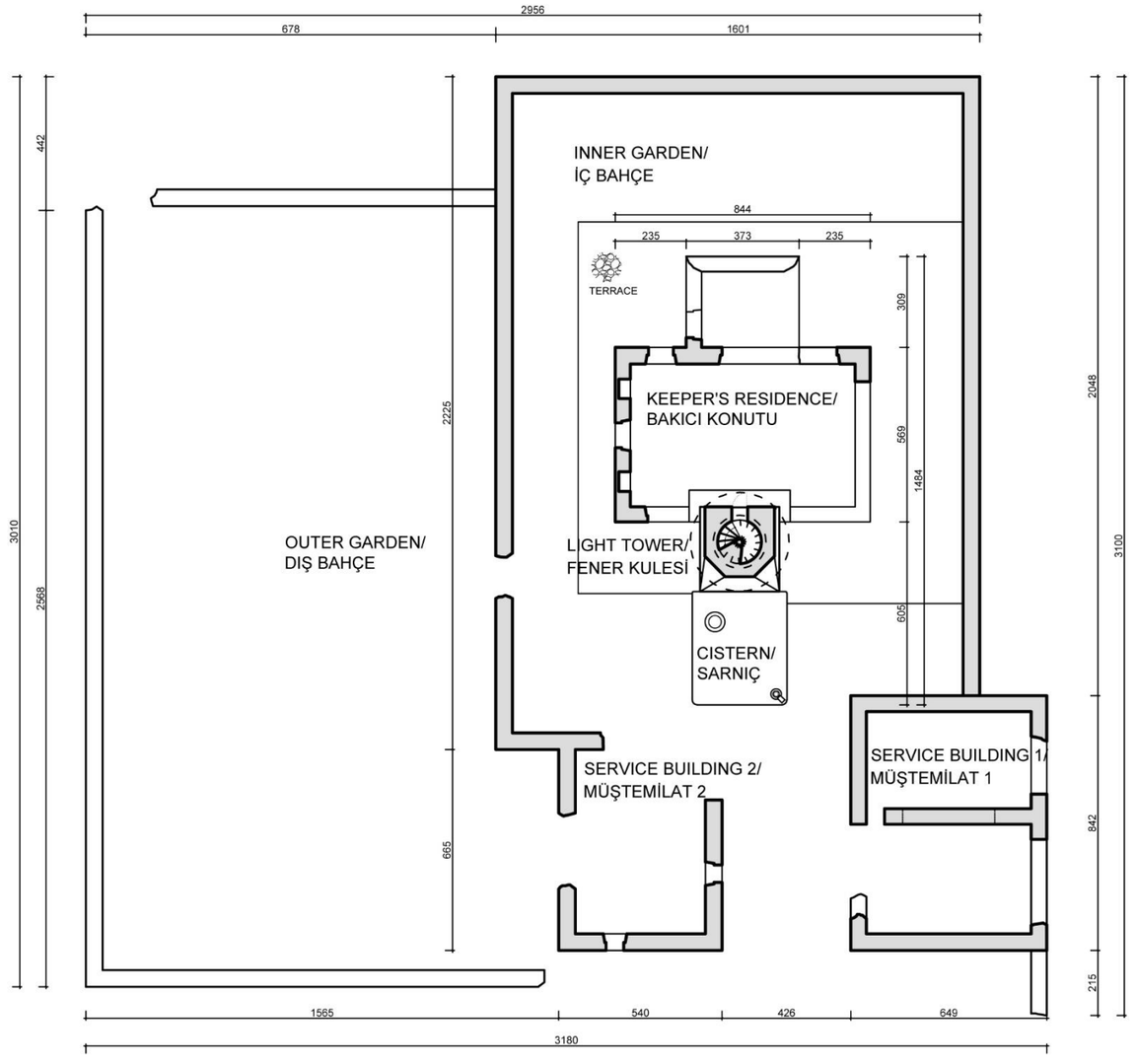
LIGHTHOUSE TOWER ELEVATION/
DENİZ FENERİ KULESİ GÖRÜNÜŞ

EDREMİT KARABURUN LIGHTHOUSE / EDREMİT KARABURUN DENİZ FENERİ

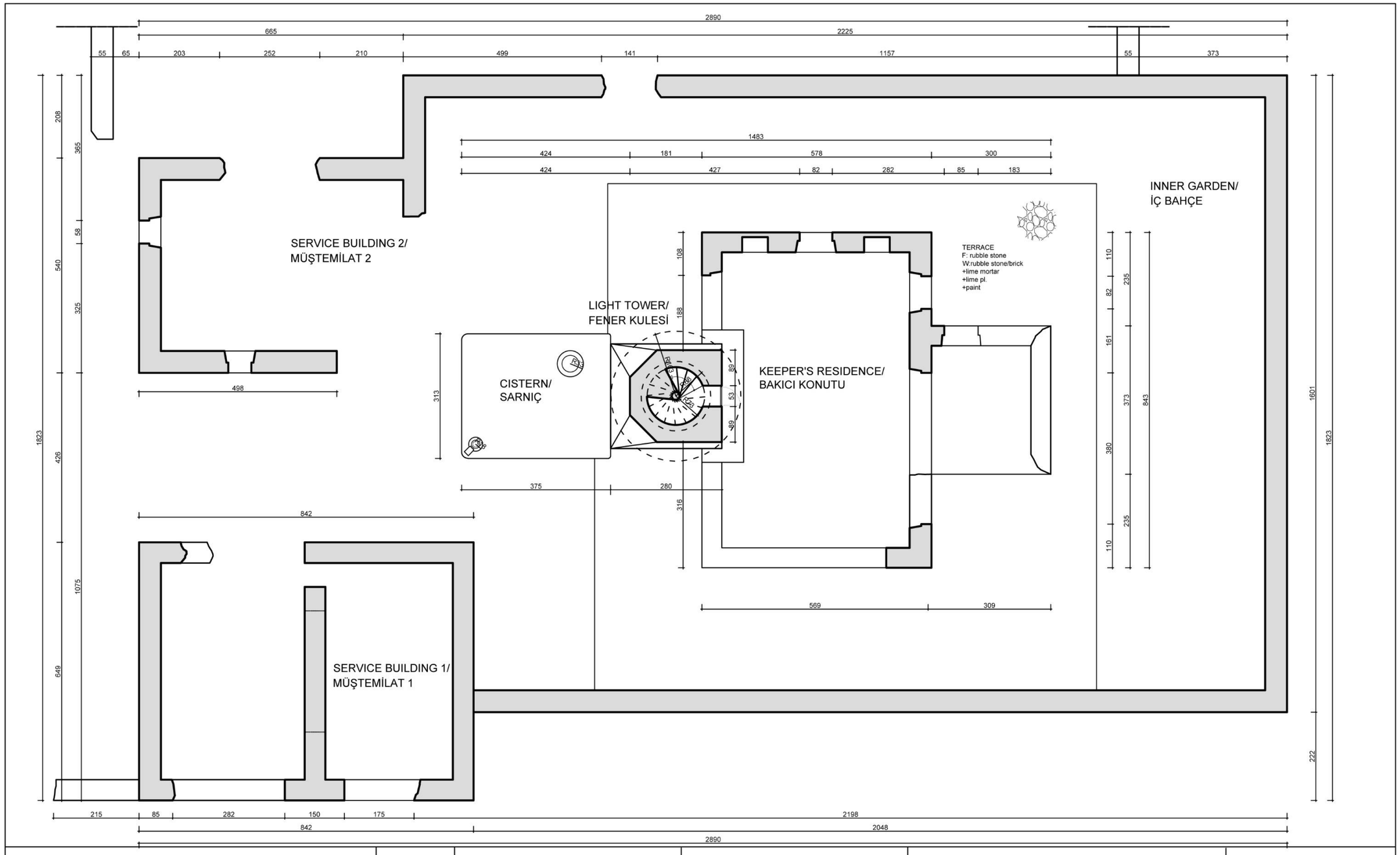
0 1 5m

K

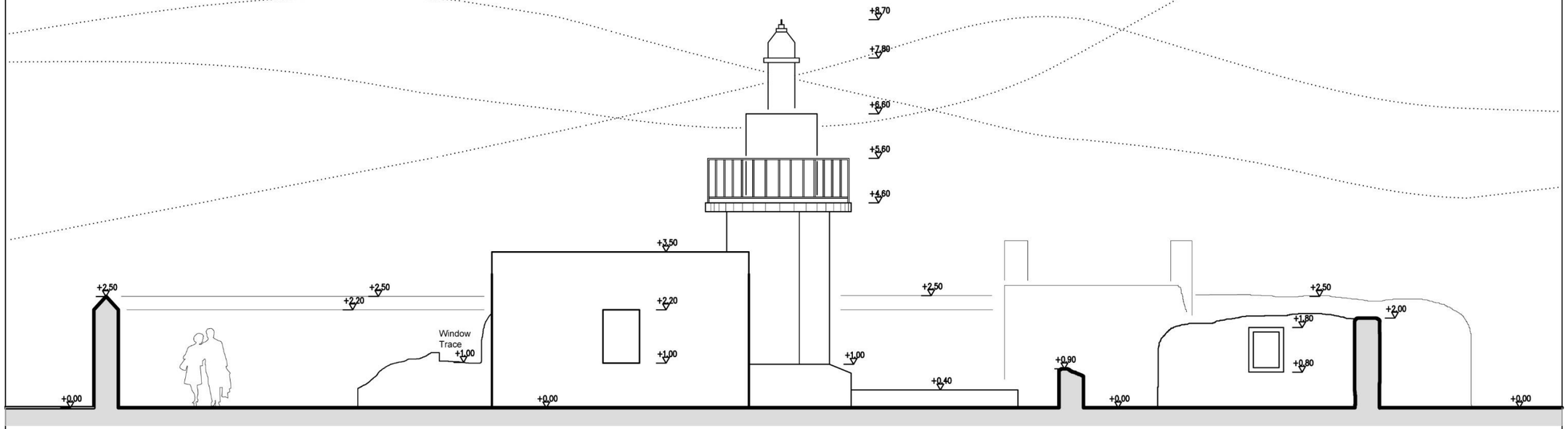
Scaled sketch by Özge Başağaç on 07.07.2015



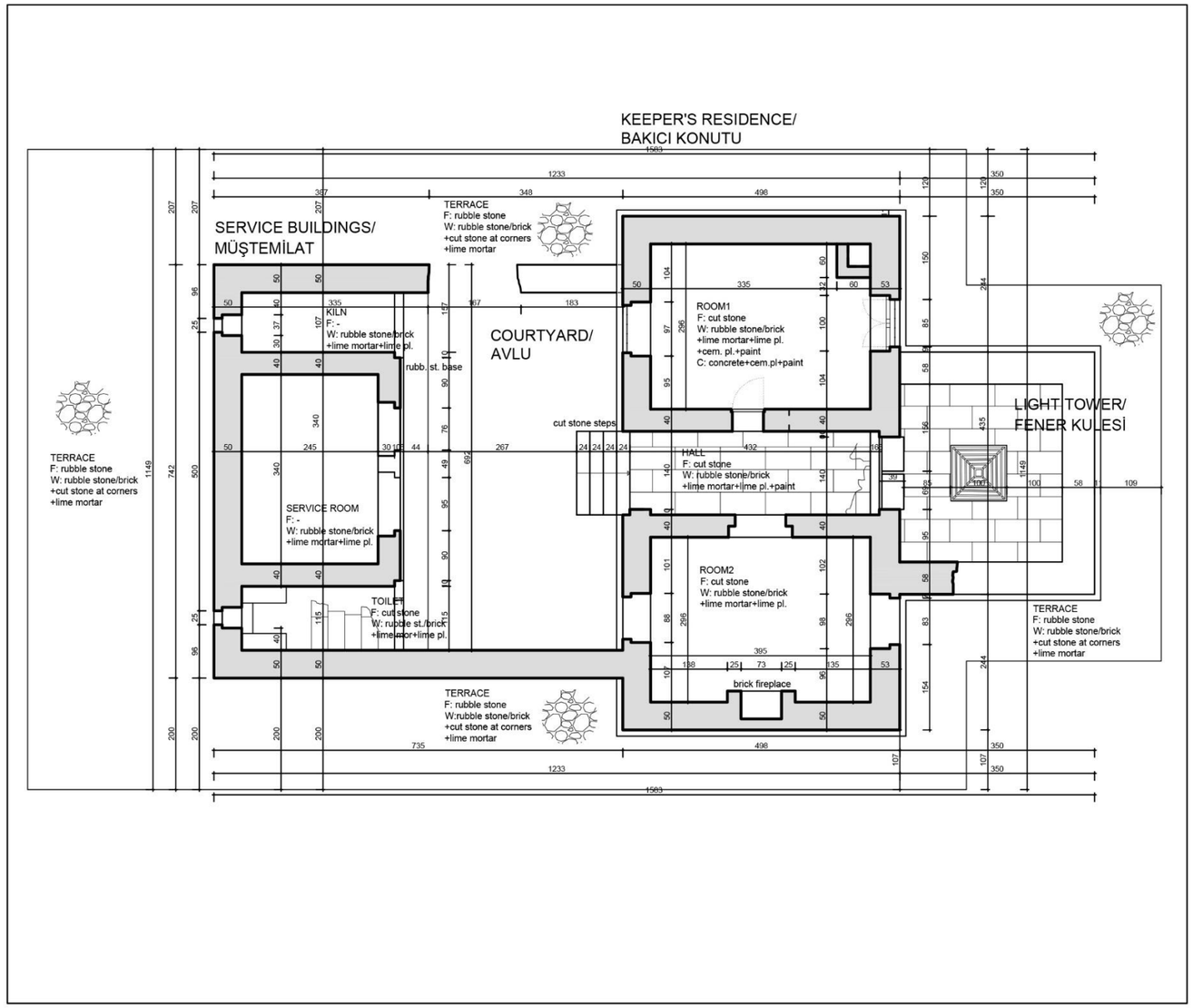

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|---|---|---|---|---|---|
| GÜNEŞ ISLAND LIGHTHOUSE/ GÜNEŞ ADASI FENERİ | K | 0 1 5m | SİTE PLAN (1/200) | Surveyed by Özge Başağaç & Tarık Başağaç on 16.11.2014 manually | Drawn by Özge Başağaç |



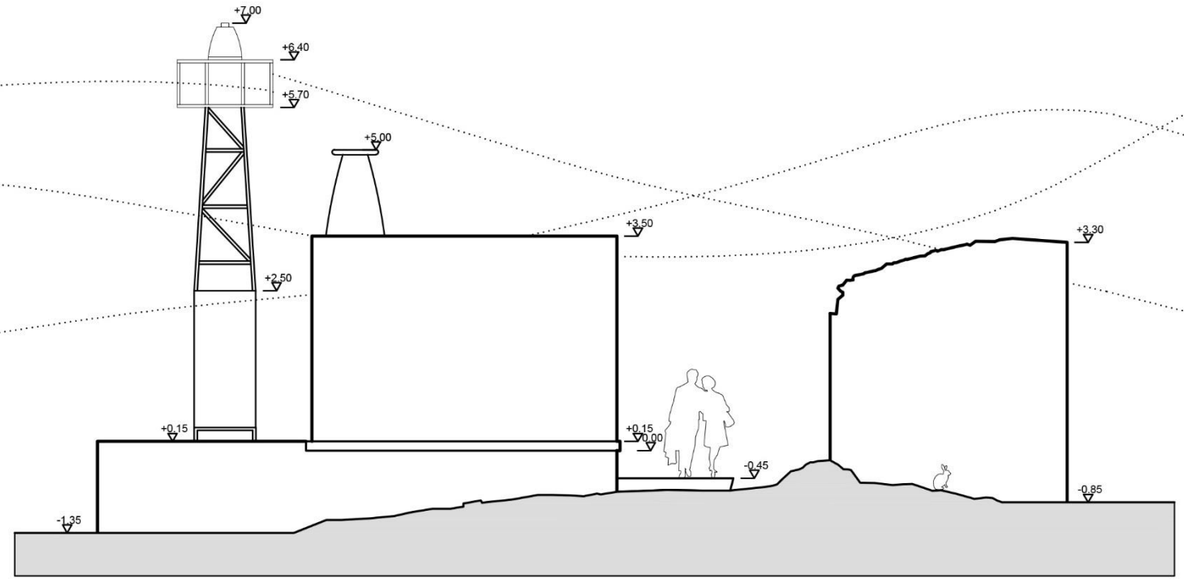

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|---|---|---|---|---|---|
| GÜNEŞ ISLAND LIGHTHOUSE/<br>GÜNEŞ ADASI FENERİ | N | 0 1 5m | PLAN (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç<br>on 16.11.2014 manually | Drawn by Özge Başağaç |



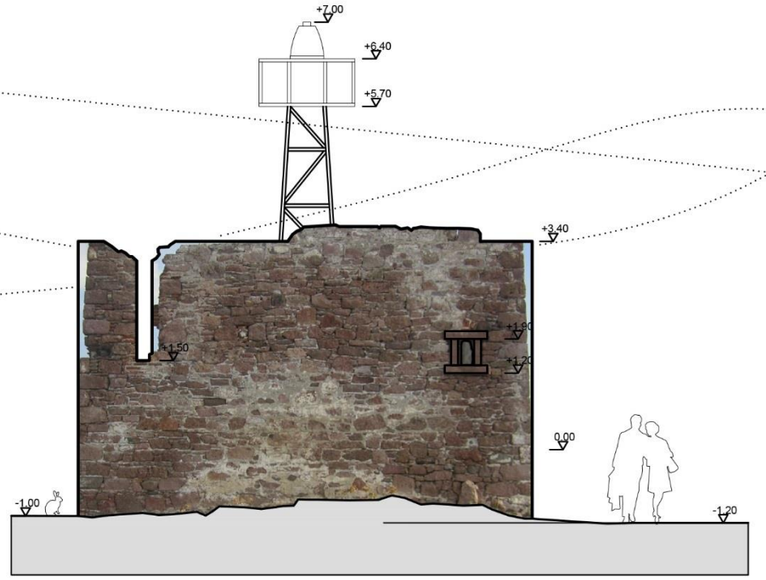

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|---|---|---|---|---|---|
| GÜNEŞ ISLAND LIGHTHOUSE/<br>GÜNEŞ ADASI FENERİ | K | 0 1 5m | WEST ELEVATION (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç<br>on 16.11.2014 manually | Drawn by Özge Başağaç |



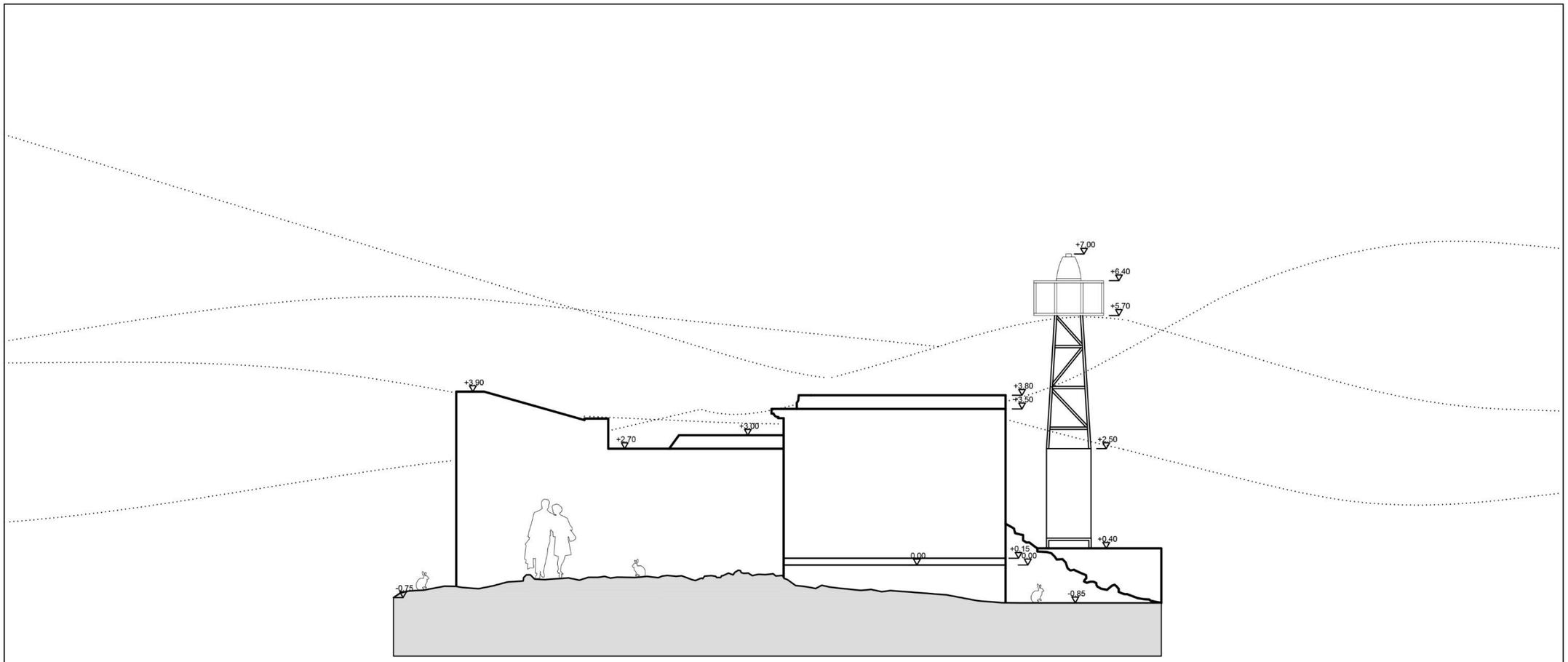

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|---|---|---|---|---|---|
| ÇIPLAKADA LIGHTHOUSE/ ÇIPLAKADA FENERİ | K | 0 1 5m | PLAN (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç on 16.11.2014 manually | Drawn by Özge Başağaç |



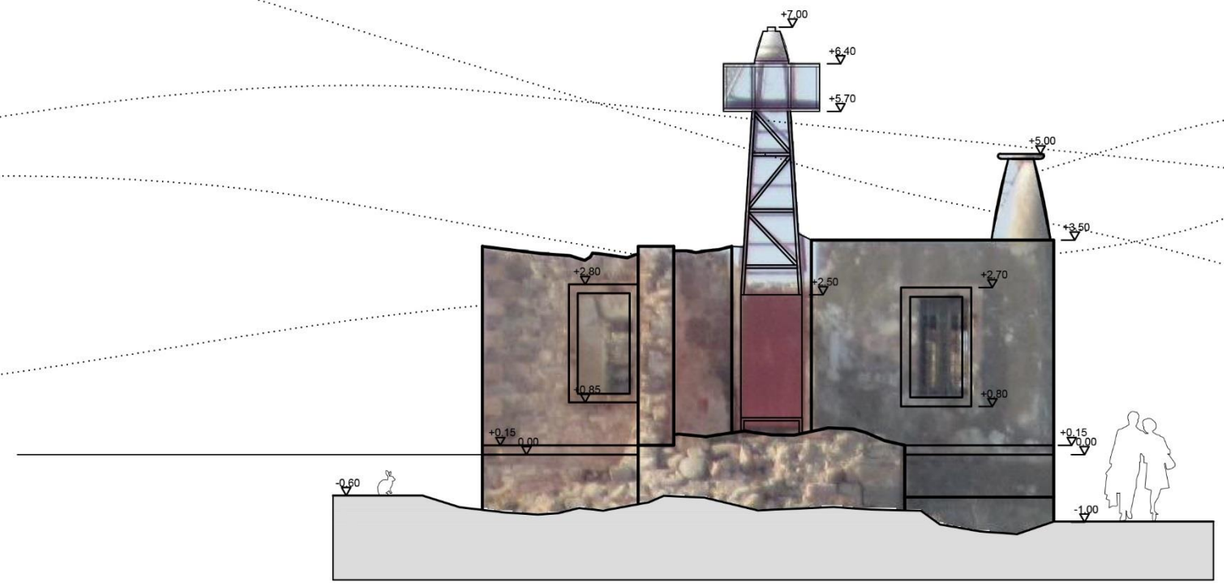

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|---|---|---|---|---|
| ÇIPLAKADA LIGHTHOUSE/ ÇIPLAKADA FENERİ | 0 1 5m | NORTHEAST ELEVATION (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç on 16.11.2014 manually | Drawn by Özge Başağaç |



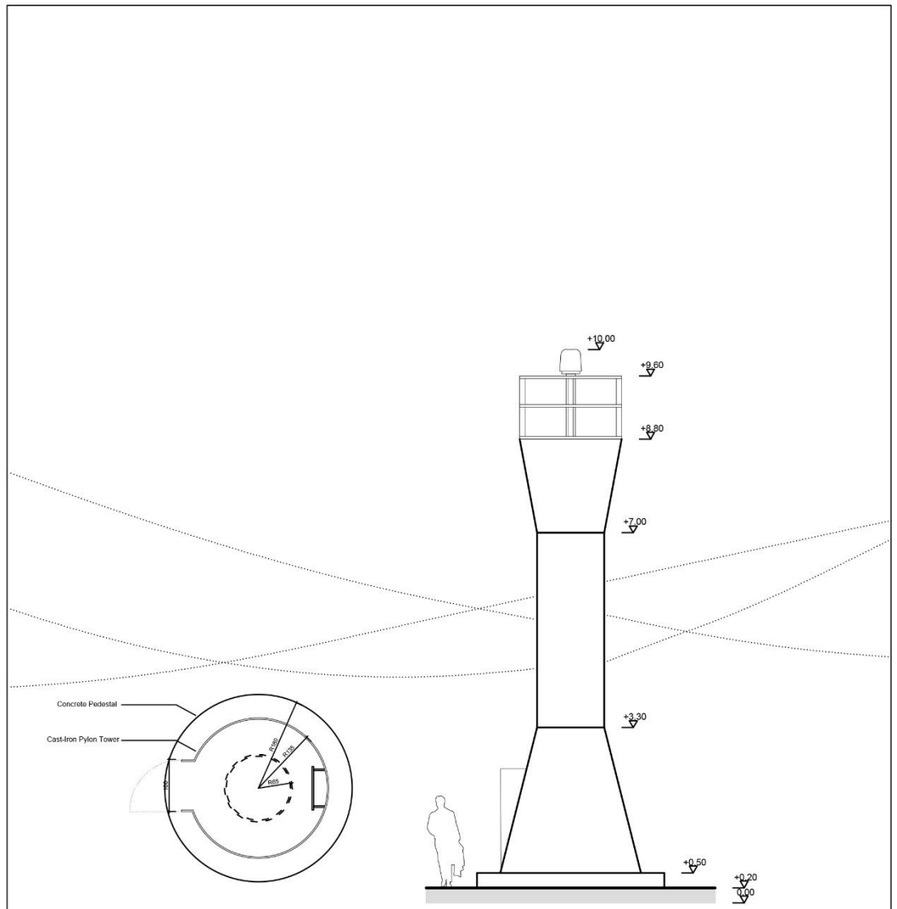

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|---|---|---|---|---|
| ÇIPLAKADA LIGHTHOUSE/ ÇIPLAKADA FENERİ | 0 1 5m | NORTHWEST ELEVATION (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç on 16.11.2014 manually | Drawn by Özge Başağaç |




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|---|---|---|---|---|
| ÇIPLAKADA LIGHTHOUSE/ ÇIPLAKADA FENERİ | 0 1 5m | SOUTHWEST ELEVATION (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç on 16.11.2014 manually | Drawn by Özge Başağaç |




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|---|---|---|---|---|
| ÇIPLAKADA LIGHTHOUSE/ ÇIPLAKADA FENERİ | 0 1 5m | SOUTHEAST ELEVATION (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç on 16.11.2014 manually | Drawn by Özge Başağaç |




LIGHTHOUSE TOWER PLAN /
DENİZ FENERİ KULESİ PLANI

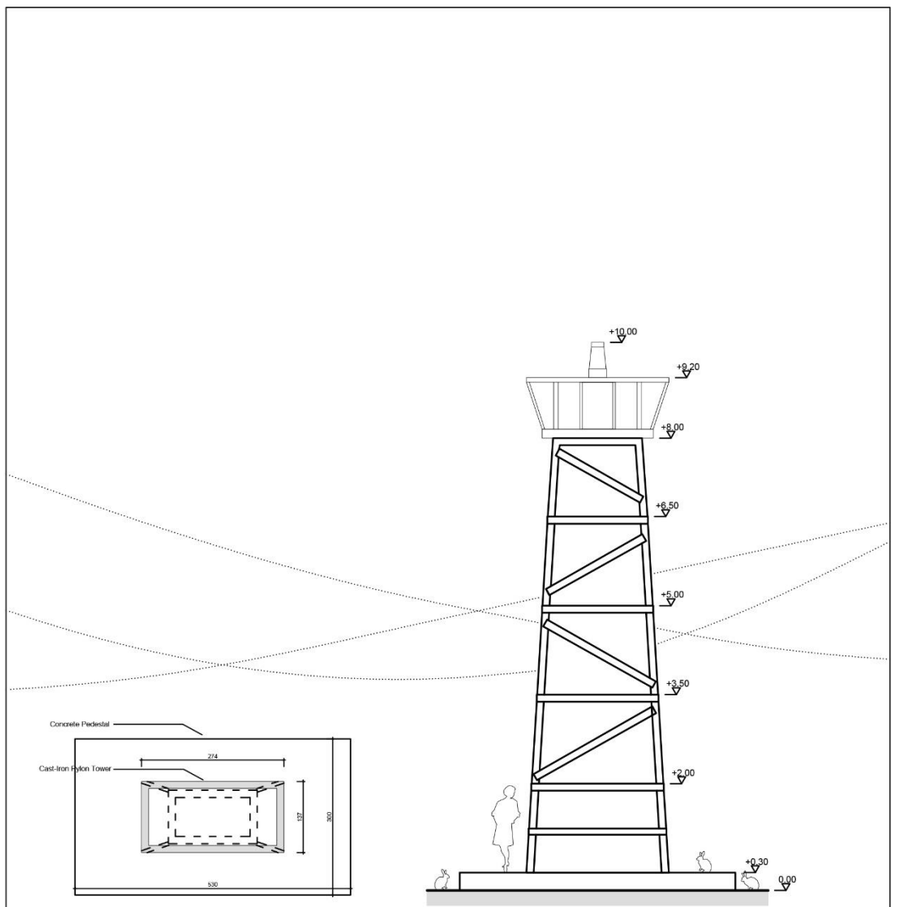
LIGHTHOUSE TOWER ELEVATION/
DENİZ FENERİ KULESİ GÖRÜNÜŞ

DİKİLİ BADEMLİ LIGHTHOUSE / DİKİLİ BADEMLİ DENİZ FENERİ

0 1 5m

K

Scaled sketch by Özge Başağaç on 07.07.2015




LIGHTHOUSE TOWER PLAN /
DENİZ FENERİ KULESİ PLANI

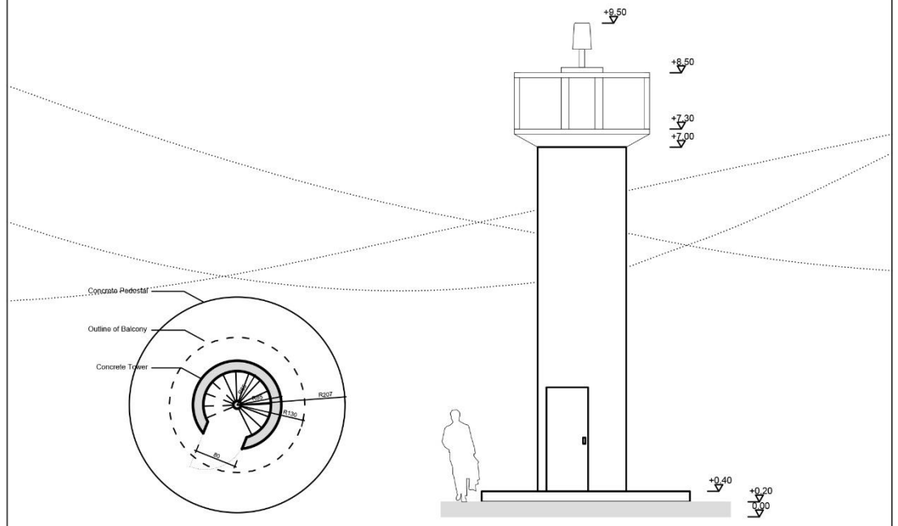
LIGHTHOUSE TOWER ELEVATION/
DENİZ FENERİ KULESİ GÖRÜNÜŞ

ALİAĞA TAVŞAN ISLANDLIGHTHOUSE / ALİAĞA TAVŞAN ADADENİZ FENERİ

0 1 5m

K

Scaled sketch by Özge Başağaç on 07.07.2015




LIGHTHOUSE TOWER PLAN /
DENİZ FENERİ KULESİ PLANI

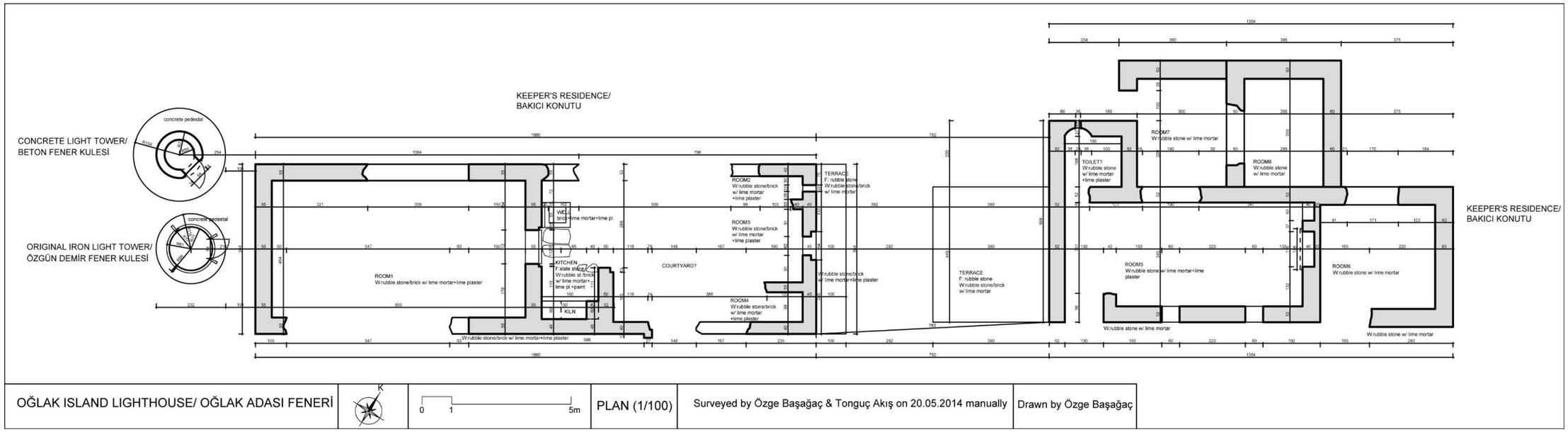
LIGHTHOUSE TOWER ELEVATION/
DENİZ FENERİ KULESİ GÖRÜNÜŞ

ILICA CAPE LIGHTHOUSE / ILICA BURNU DENİZ FENERİ

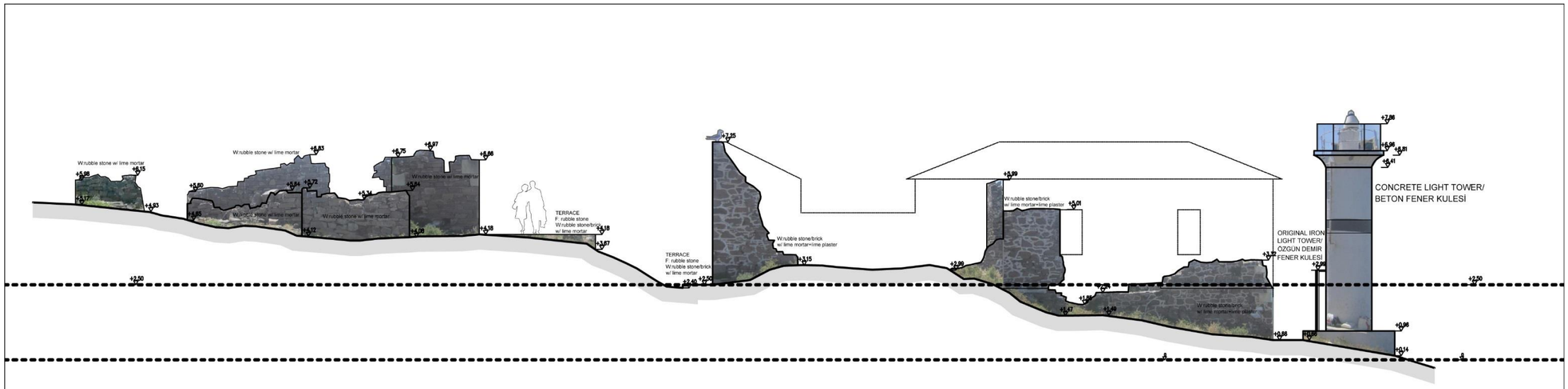
0 1 5m

K

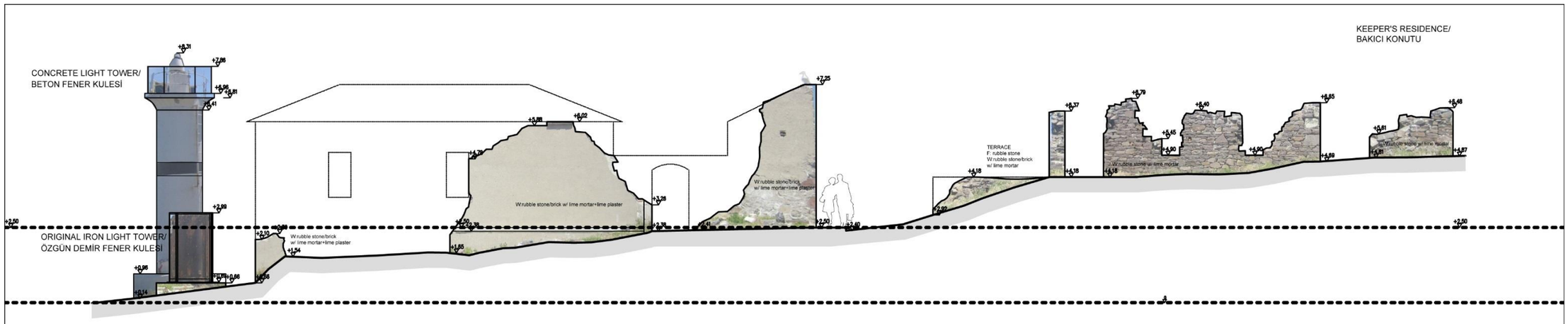
Scaled sketch by Özge Başağaç on 07.07.2015



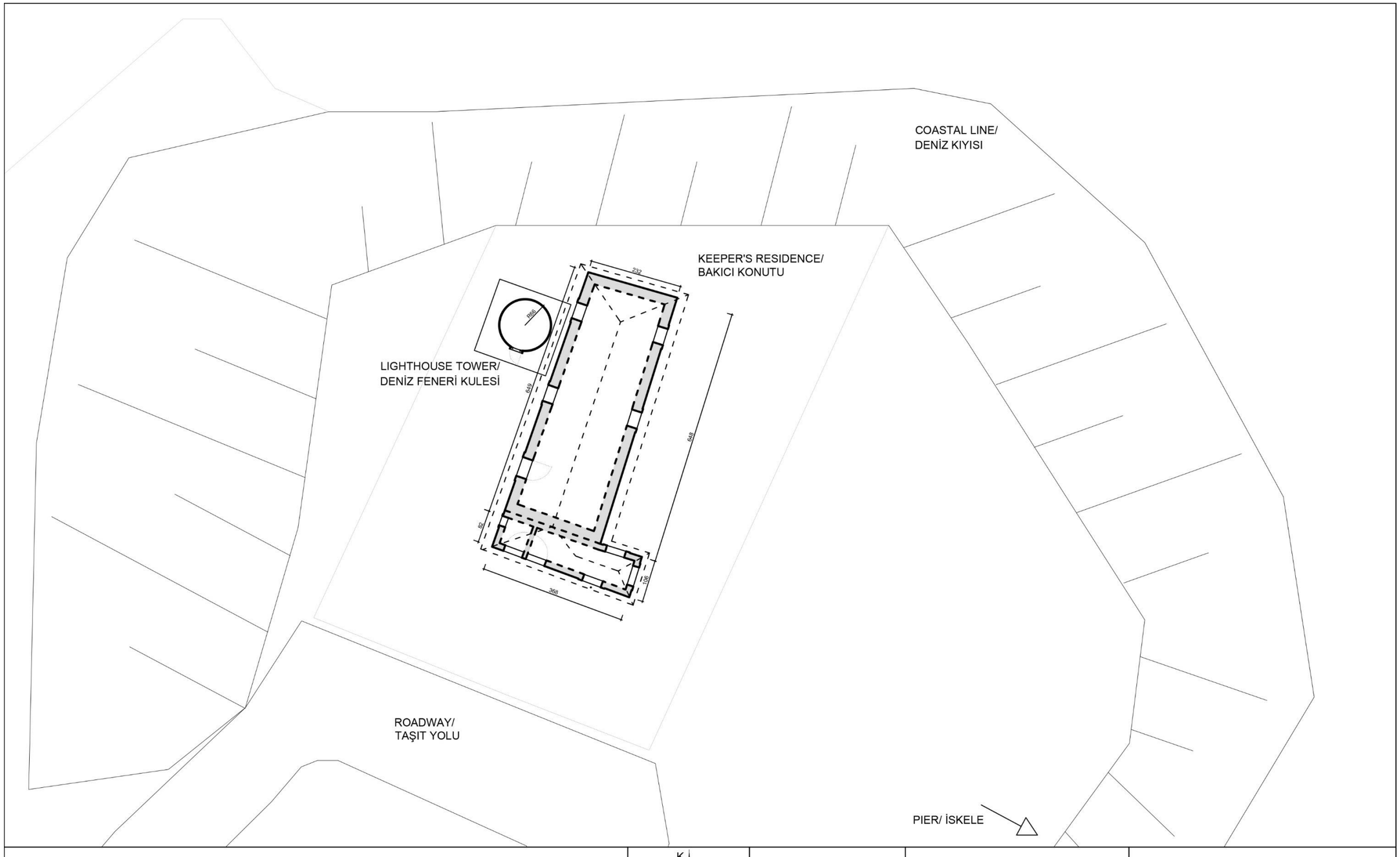

| OĞLAK ISLAND LIGHTHOUSE/ OĞLAK ADASI FENERİ | K | 0 1 5m | PLAN (1/100) | Surveyed by Özge Başağaç & Tonguç Akış on 20.05.2014 manually | Drawn by Özge Başağaç |
|---|---|---|---|---|---|



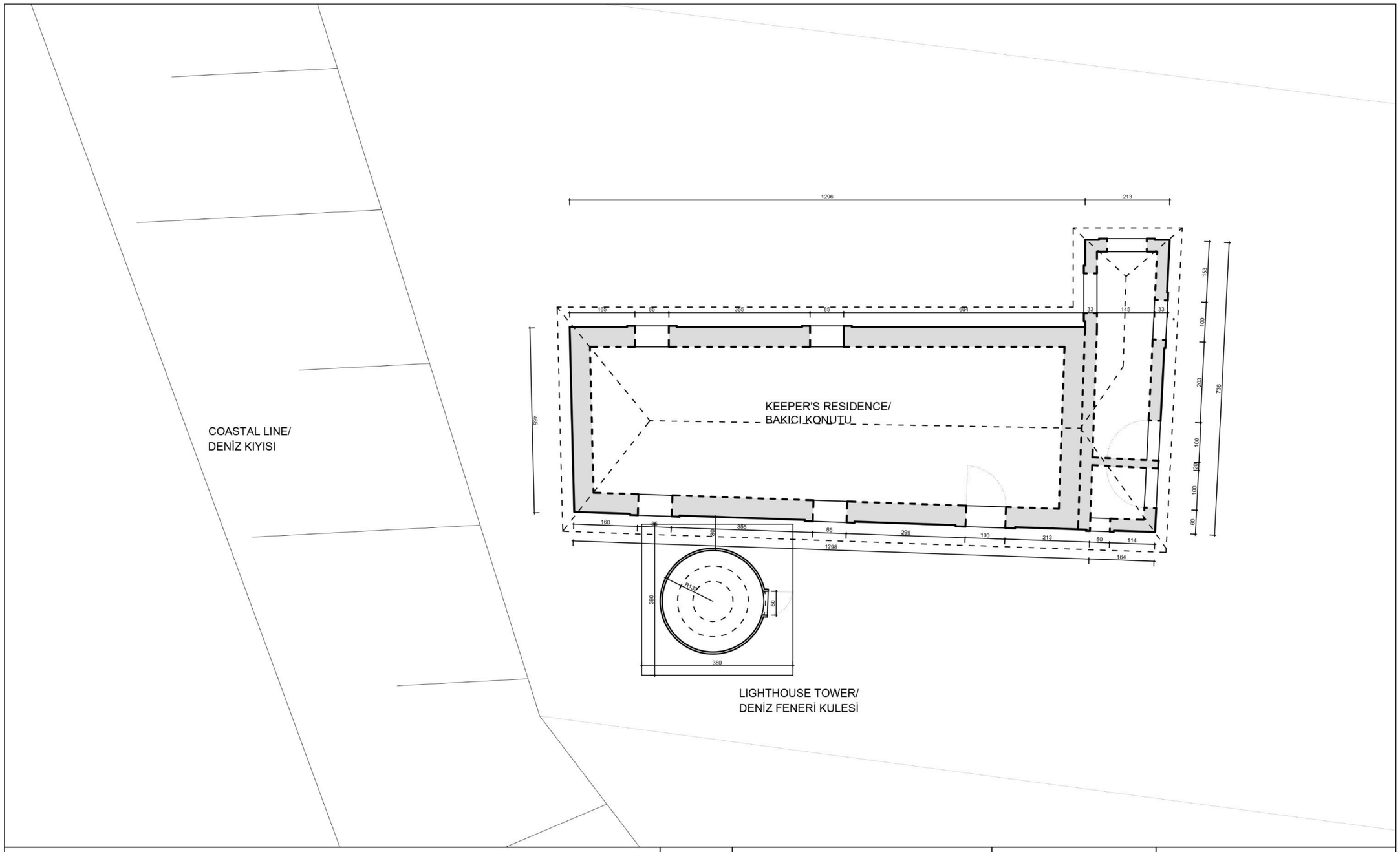

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|---|---|---|---|---|
| OĞLAK ISLAND LIGHTHOUSE/ OĞLAK ADASI FENERİ | 0 1 5m | NORTH ELEVATION (1/100) | Surveyed by Özge Başağaç & Tonguç Akış on 20.05.2014 manually | Drawn by Özge Başağaç |



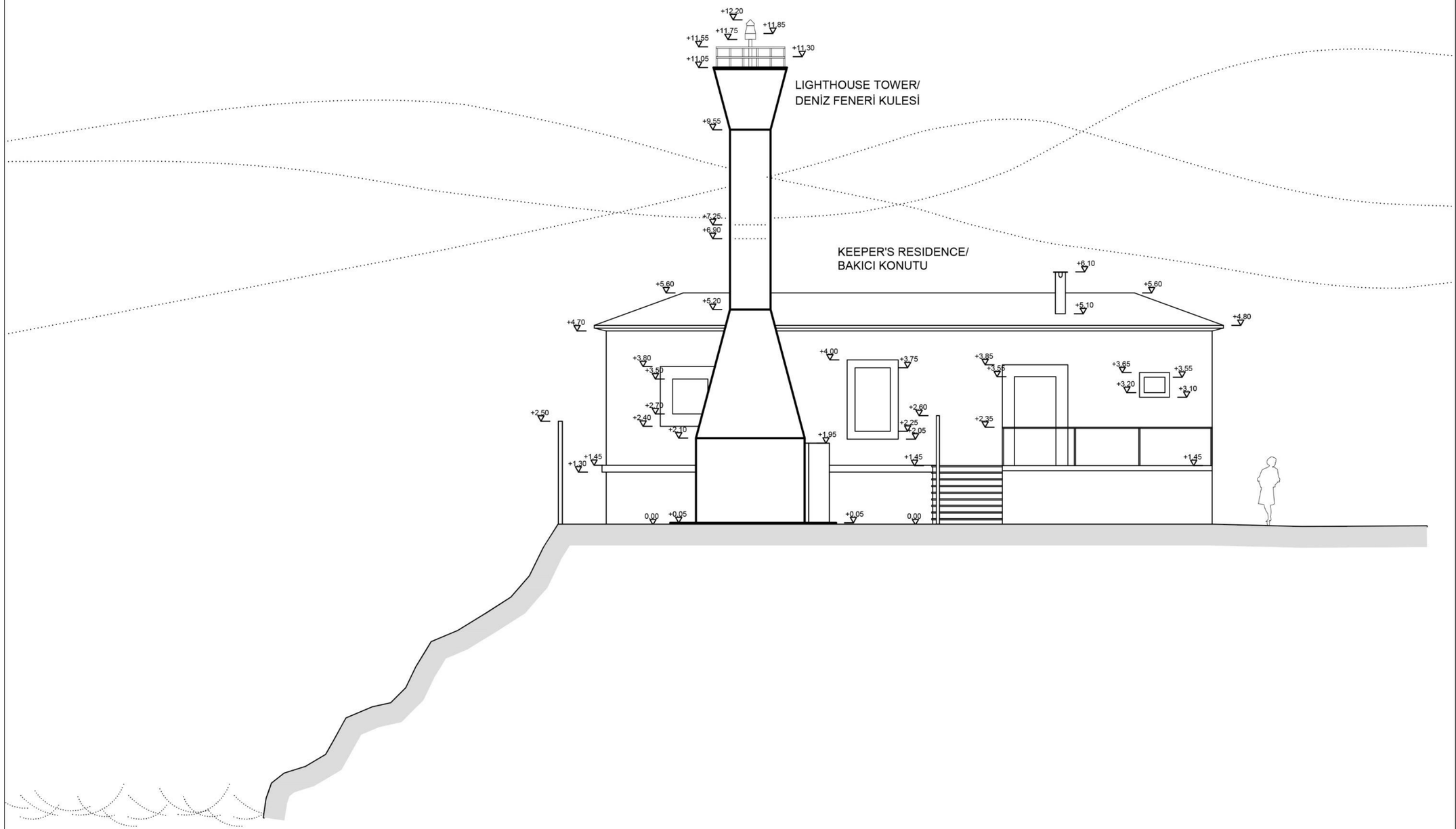

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|---|---|---|---|---|
| OĞLAK ISLAND LIGHTHOUSE/ OĞLAK ADASI FENERİ | 0 1 5m | SOUTH ELEVATION (1/100) | Surveyed by Özge Başağaç & Tonguç Akış on 20.05.2014 manually | Drawn by Özge Başağaç |



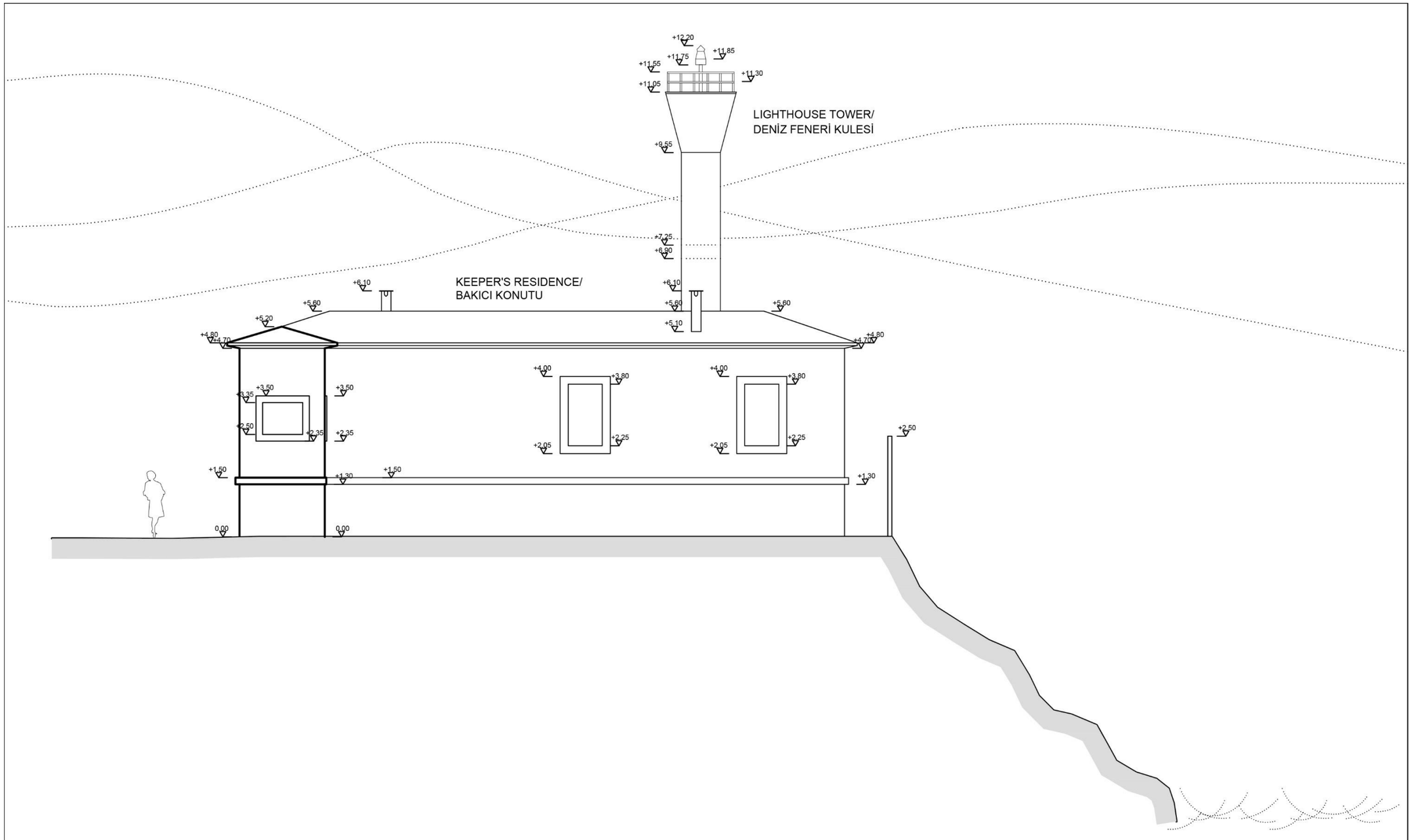

| DEĞİRMEN CAPE LIGHTHOUSE/ DEĞİRMENBURNU DENİZ FENERİ | K | 0 1 5m | SITE PLAN (1/200) | Scaled sketch by Özge Başağaç |
|---|---|---|---|---|



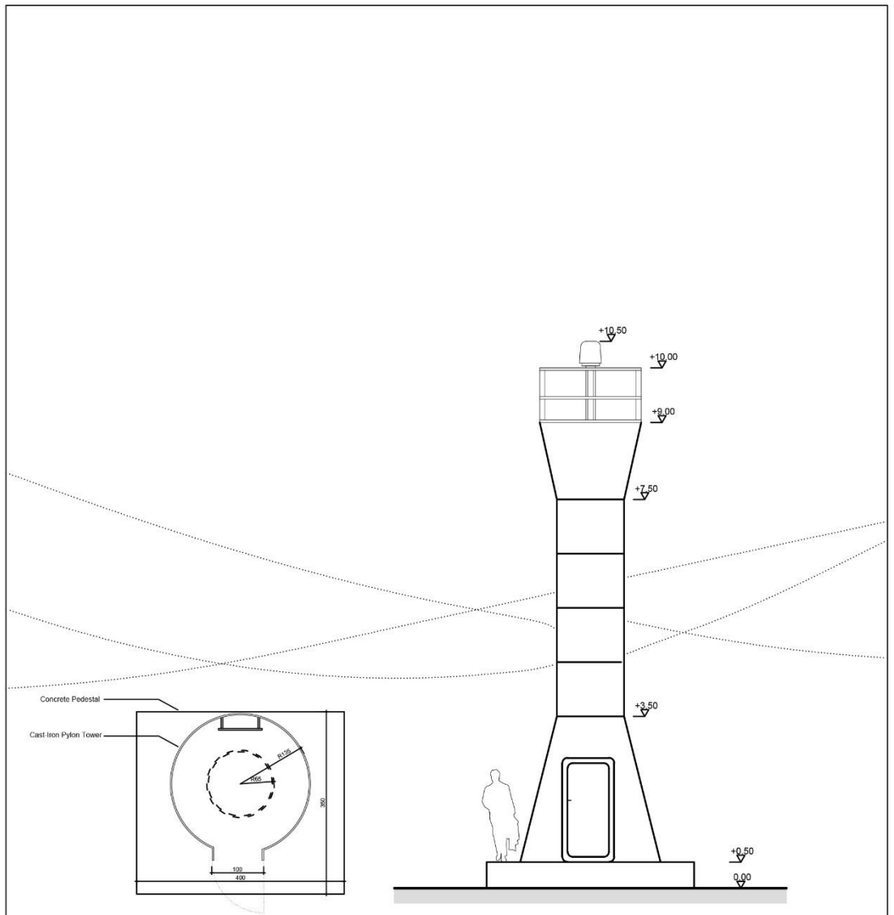

| DEĞİRMEN CAPE LIGHTHOUSE/ DEĞİRMENBURNU DENİZ FENERİ | | PLAN (1/100) | Scaled sketch by Özge Başağaç |
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|---|---|---|---|
| DEĞİRMEN CAPE LIGHTHOUSE/ DEĞİRMENBURNU DENİZ FENERİ | 0 1 5m | WEST ELEVATION (1/100) | Scaled sketch by Özge Başağaç |




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|---|---|---|---|
| DEĞİRMEN CAPE LIGHTHOUSE/ DEĞİRMENBURNU DENİZ FENERİ | 0 1 5m | EAST ELEVATION (1/100) | Scaled sketch by Özge Başağaç |




LIGHTHOUSE TOWER PLAN /
DENİZ FENERİ KULESİ PLANI

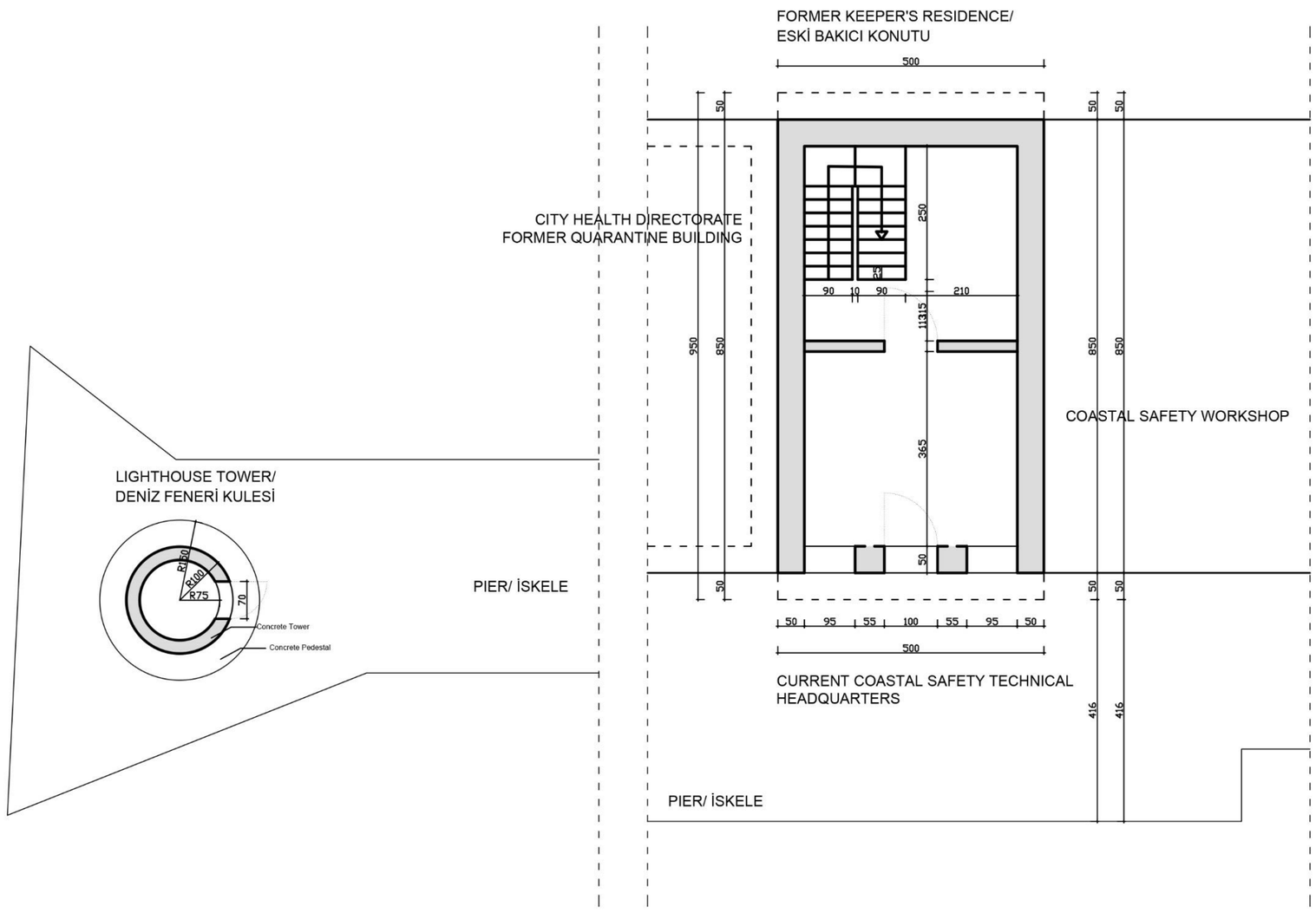
LIGHTHOUSE TOWER ELEVATION/
DENİZ FENERİ KULESİ GÖRÜNÜŞ

ASLAN CAPE LIGHTHOUSE / ASLAN BURNU DENİZ FENERİ

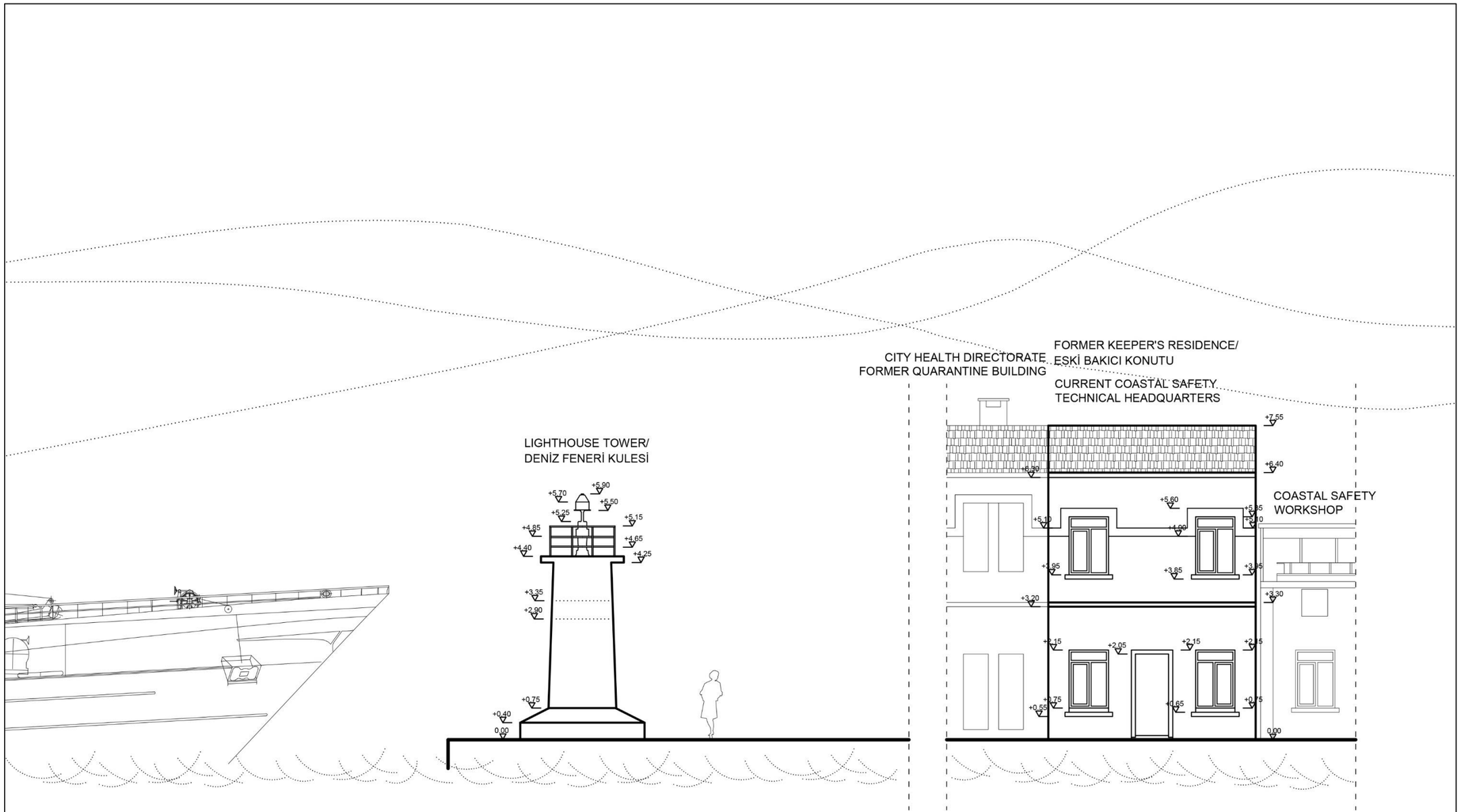
0 1 5m

K

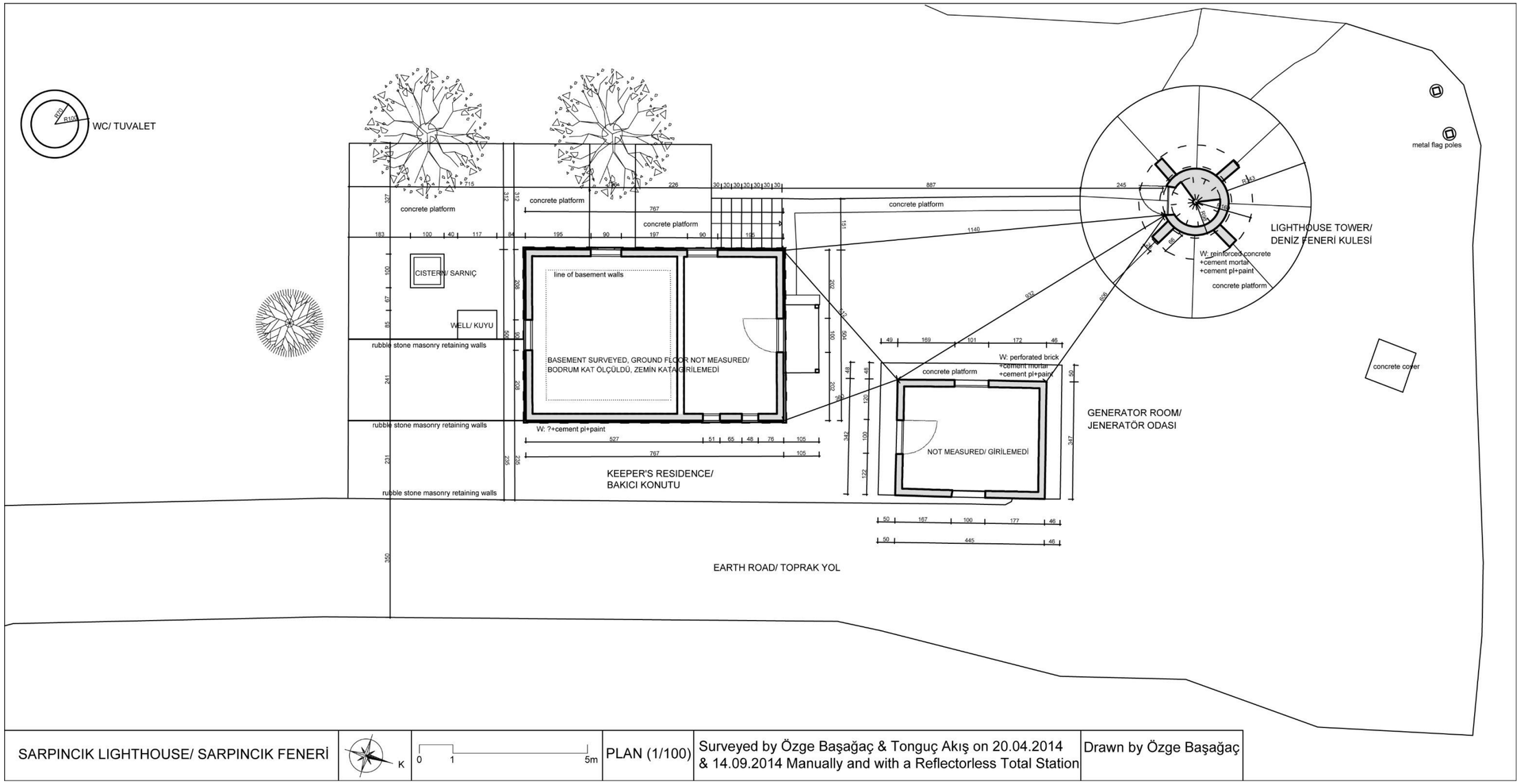
Scaled sketch by Özge Başağaç on 07.07.2015



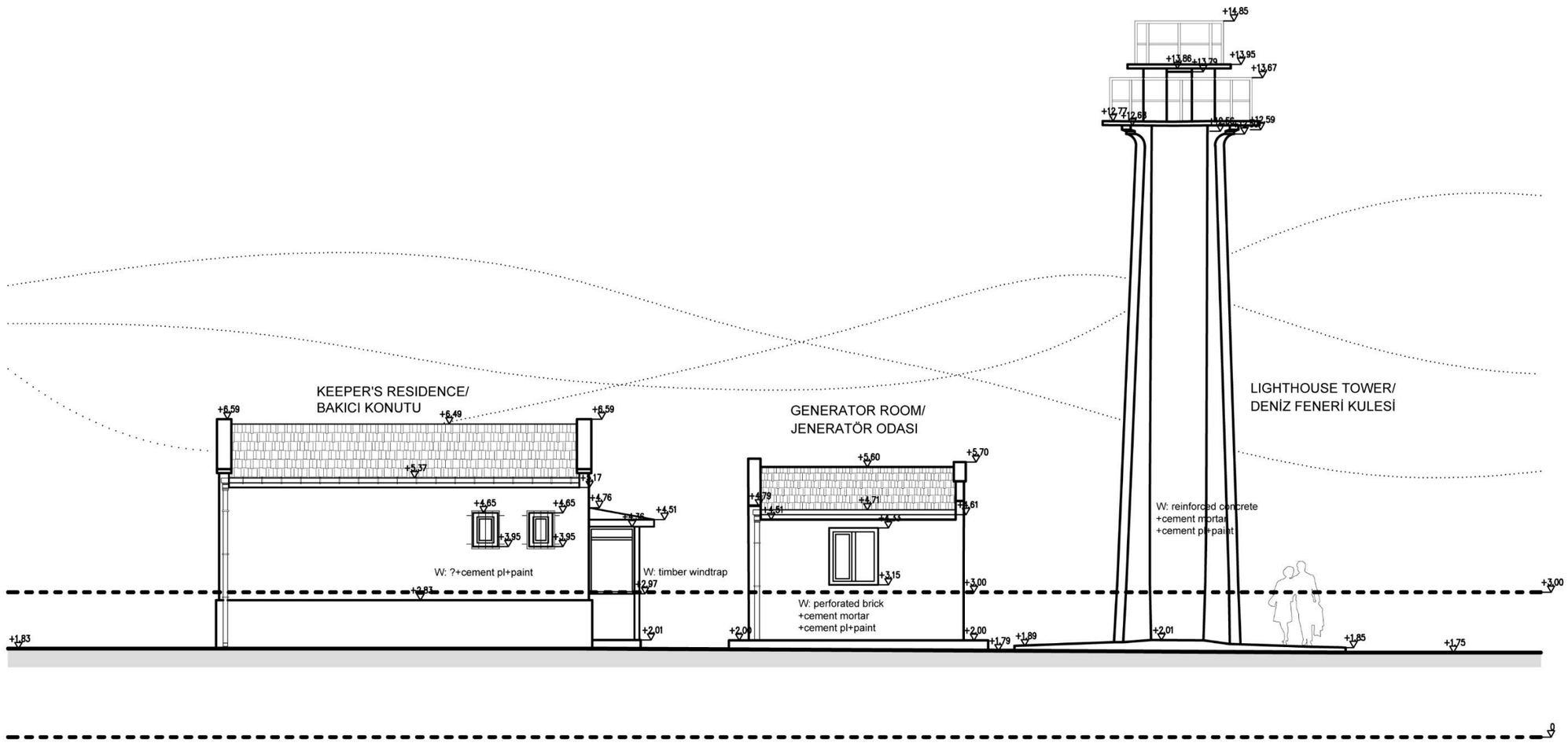

| PASAPORT LIGHTHOUSE/ PASAPORT DENİZ FENERİ | K | 0 1 5m | PLAN (1/100) | Scaled sketch by Özge Başağaç |
|---|---|---|---|---|



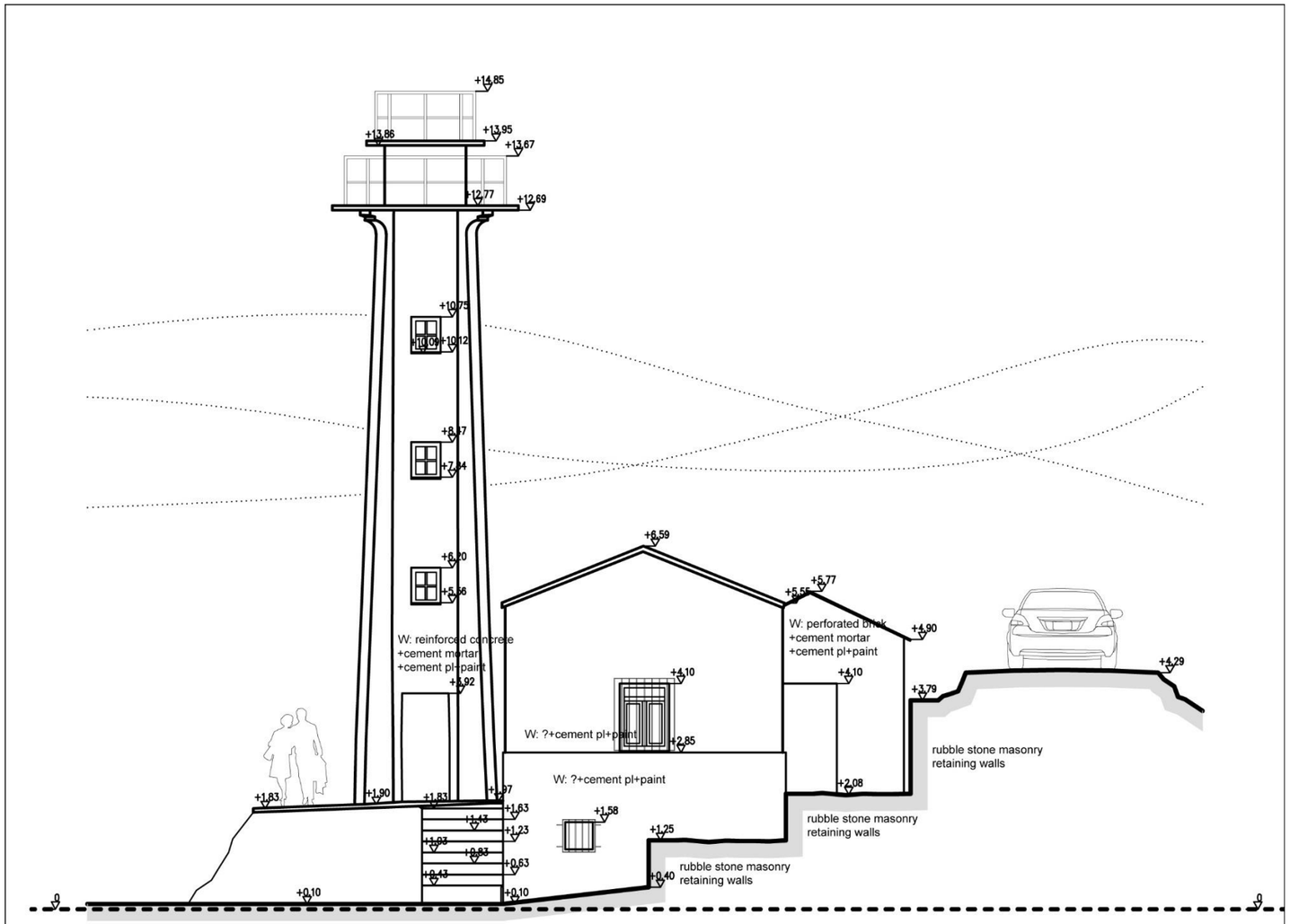

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|---|---|---|---|
| PASAPORT LIGHTHOUSE/ PASAPORT DENİZ FENERİ | 0 1 5m | SOUTH WEST ELEVATION (1/100) | Scaled sketch by Özge Başağaç |



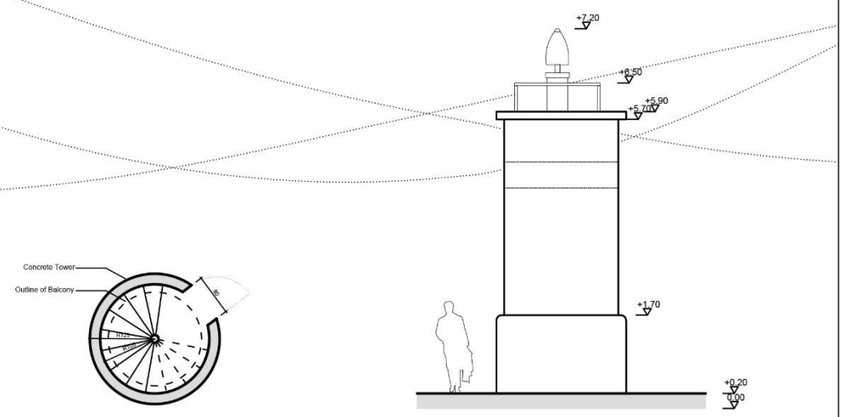

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|---|---|---|---|---|---|
| SARPINCIK LIGHTHOUSE/ SARPINCIK FENERİ | K | 0 1 5m | PLAN (1/100) | Surveyed by Özge Başağaç & Tonguç Akış on 20.04.2014 & 14.09.2014 Manually and with a Reflectorless Total Station | Drawn by Özge Başağaç |




| | | | | |
|---|---|---|---|---|
| SARPINCIK LIGHTHOUSE/ SARPINCIK FENERİ | 0 1 5m | EAST ELEVATION (1/100) | Surveyed by Özge Başağaç & Tonguç Akış on 20.04.2014 & 14.09.2014 manually & with a reflectorless total station | Drawn by Özge Başağaç |




| | | |
|---|---|---|
| SARPINCIK LIGHTHOUSE/ SARPINCIK FENERİ | 0 1 5m | SOUTH ELEVATION (1/100) |
| Surveyed by Özge Başağaç & Tonguç Akış on 20.04.2014 & 14.09.2014 manually & with a reflectorless total station | Drawn by Özge Başağaç | |




LIGHTHOUSE TOWER PLAN /
DENİZ FENERİ KULESİ PLANI

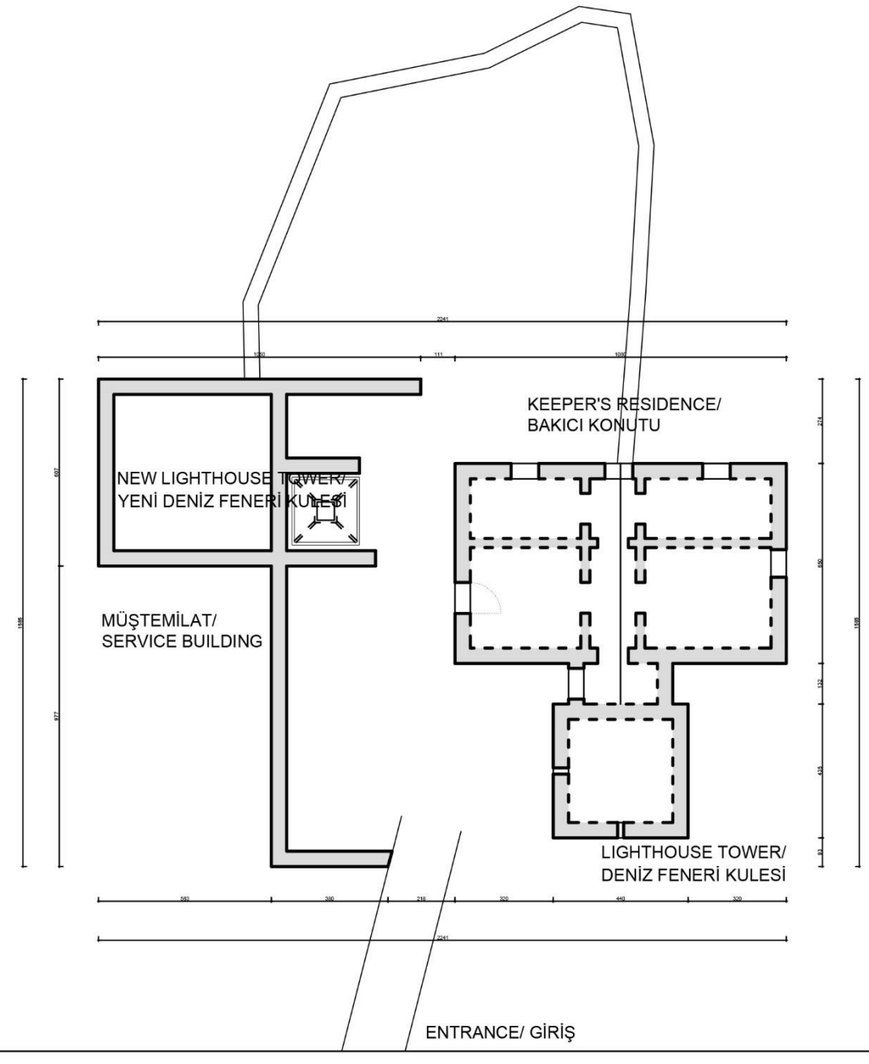
LIGHTHOUSE TOWER ELEVATION/
DENİZ FENERİ KULESİ GÖRÜNÜŞ

ÇEŞME CAPE LIGHTHOUSE / ÇEŞME BURNU DENİZ FENERİ

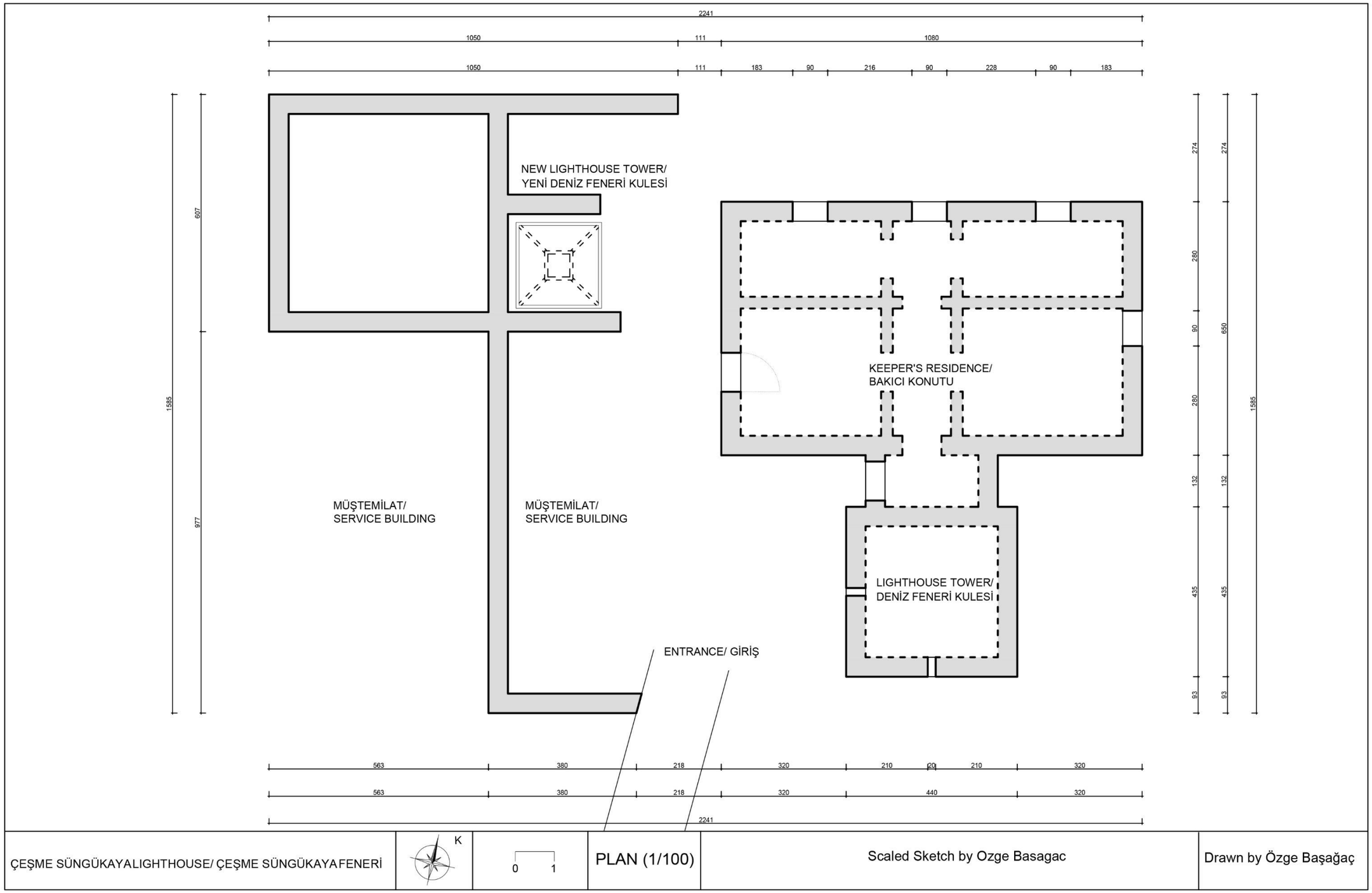
0 1 5m

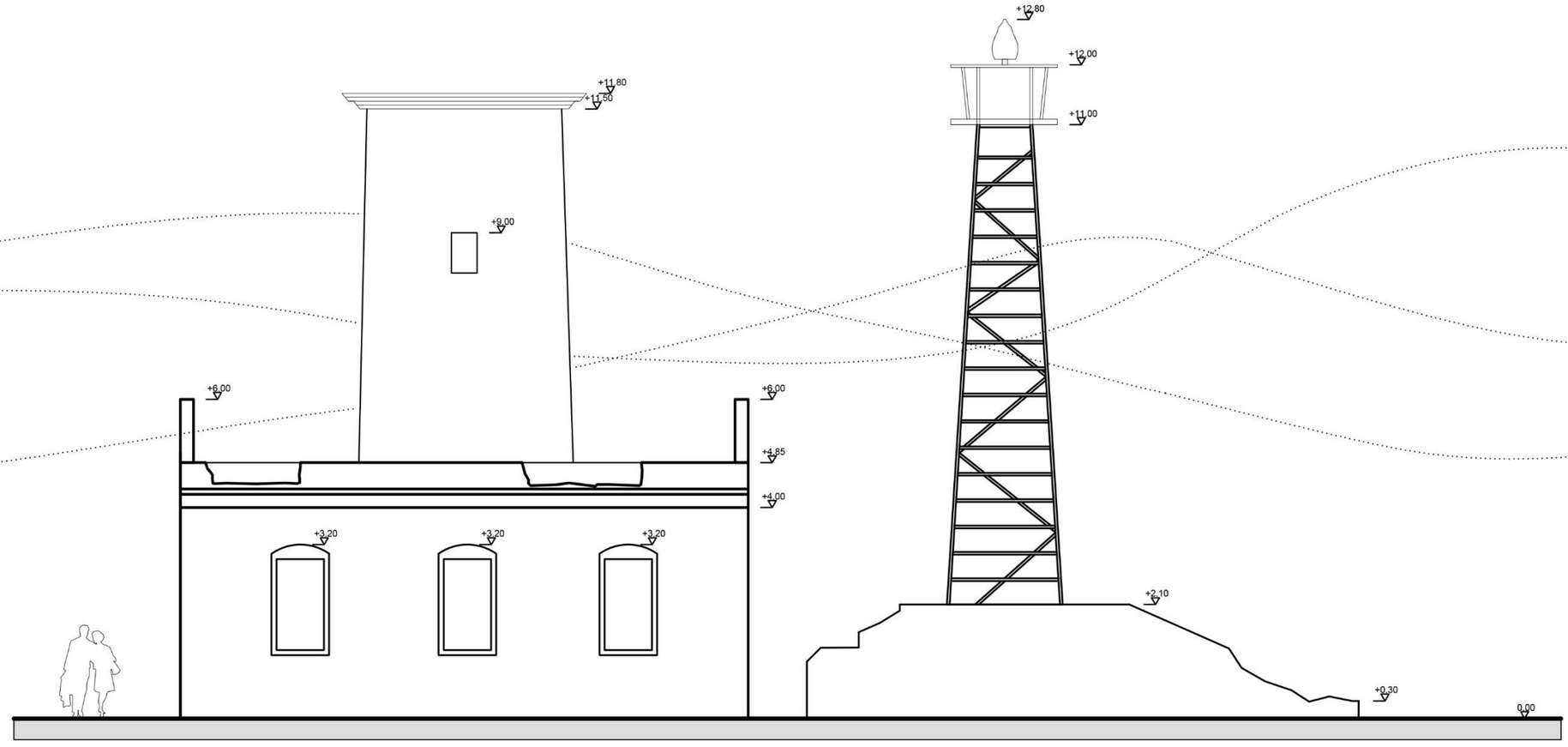
K

Scaled sketch by Özge Başağaç

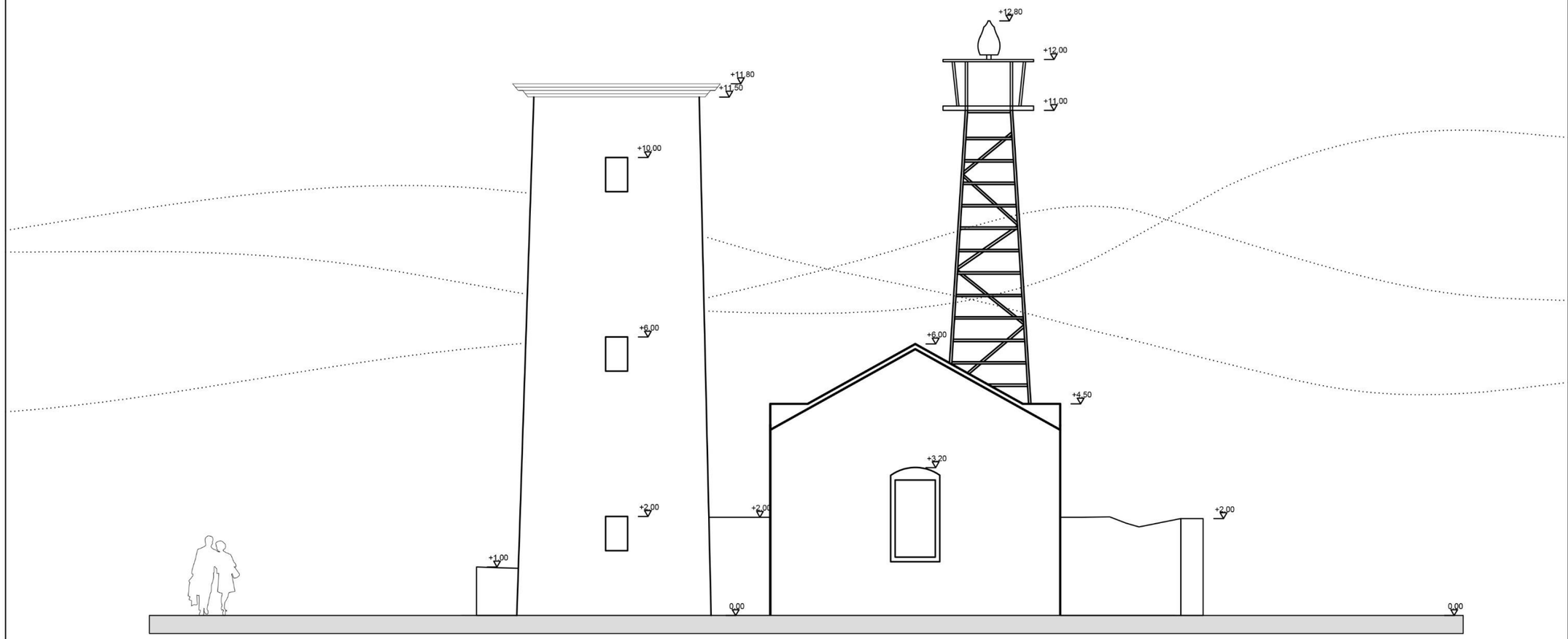



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|---|---|---|---|---|---|
| ÇEŞME SÜNGÜKAYALIGHTHOUSE/ ÇEŞME SÜNGÜKAYAFENERİ | K | 0 1 5m | SİTE PLAN (1/200) | Scaled Sketch by Ozge Basagac | Drawn by Özge Başağaç |

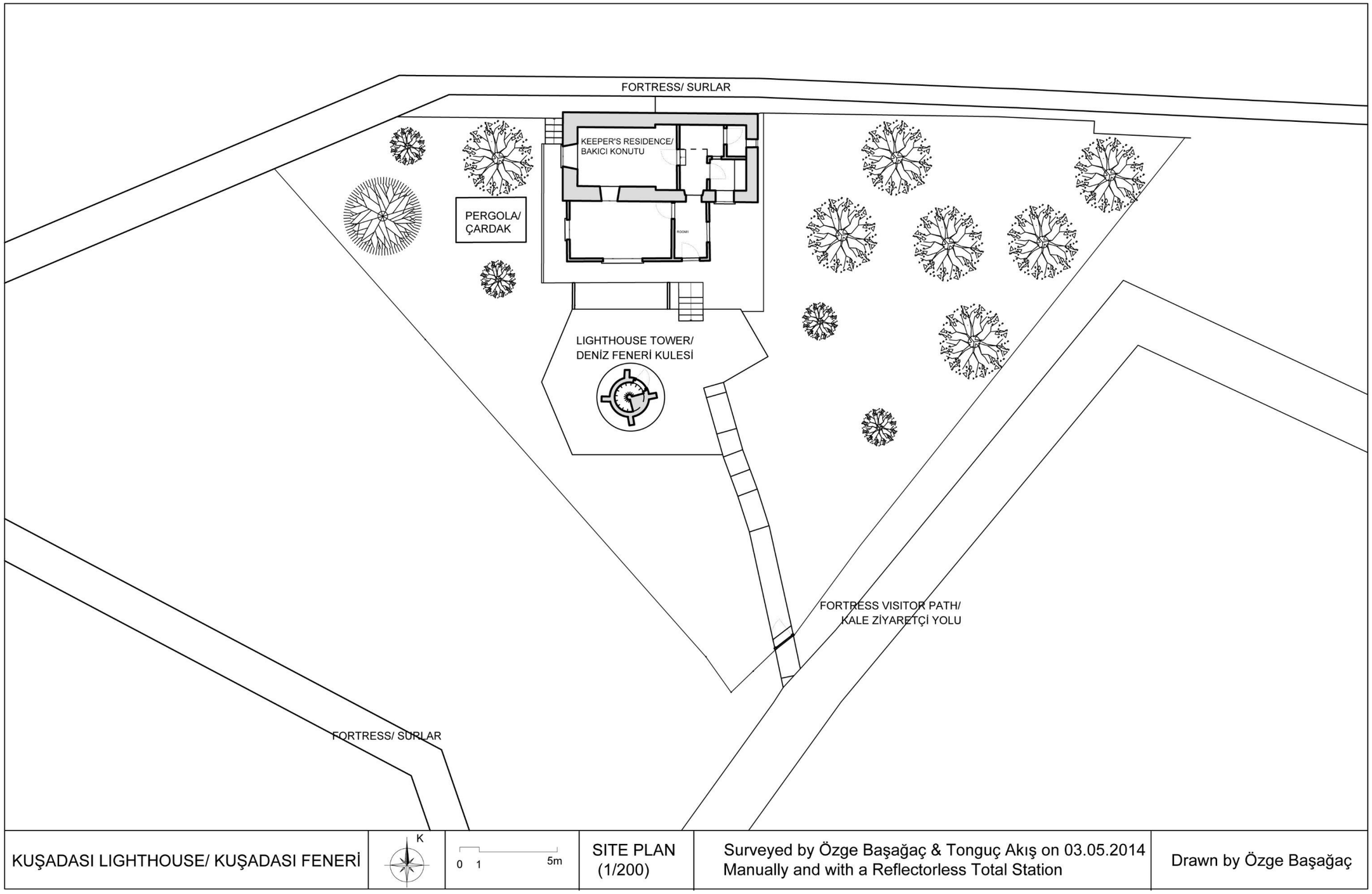

2241
1050
111
1080
1050
111
183
90
216
90
228
90
183
607
977
1585
NEW LIGHTHOUSE TOWER/
YENİ DENİZ FENERİ KULESİ
KEEPER'S RESIDENCE/
BAKICI KONUTU
MÜŞTEMİLAT/
SERVICE BUILDING
MÜŞTEMİLAT/
SERVICE BUILDING
LIGHTHOUSE TOWER/
DENİZ FENERİ KULESİ
ENTRANCE/ GİRİŞ
274
280
90
280
132
435
93
274
650
132
435
93
1585
563
380
218
320
210
20
210
320
563
380
218
320
440
320
2241
K
0
1
PLAN (1/100)
ÇEŞME SÜNGÜKAYALIGHTHOUSE/ ÇEŞME SÜNGÜKAYA FENERİ
Scaled Sketch by Ozge Basagac
Drawn by Özge Başağaç



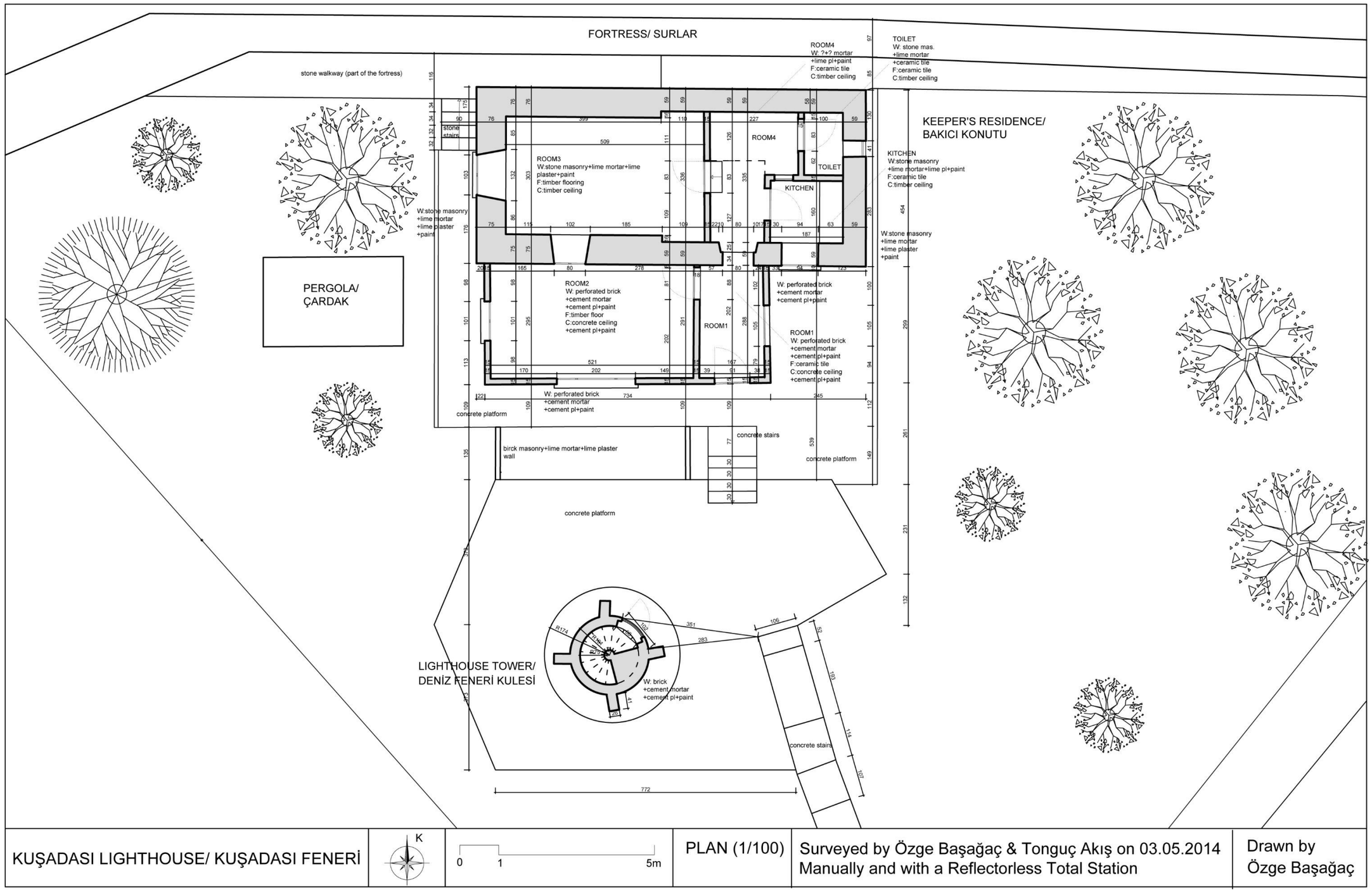

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|---|---|---|---|---|
| ÇEŞME SÜNGÜKAYA LIGHTHOUSE/ ÇEŞME SÜNGÜKAYA FENERİ | 0 1 5m | NORTH ELEVATION (1/100) | Scaled Sketch by Ozge Basagac | Drawn by Özge Başağaç |



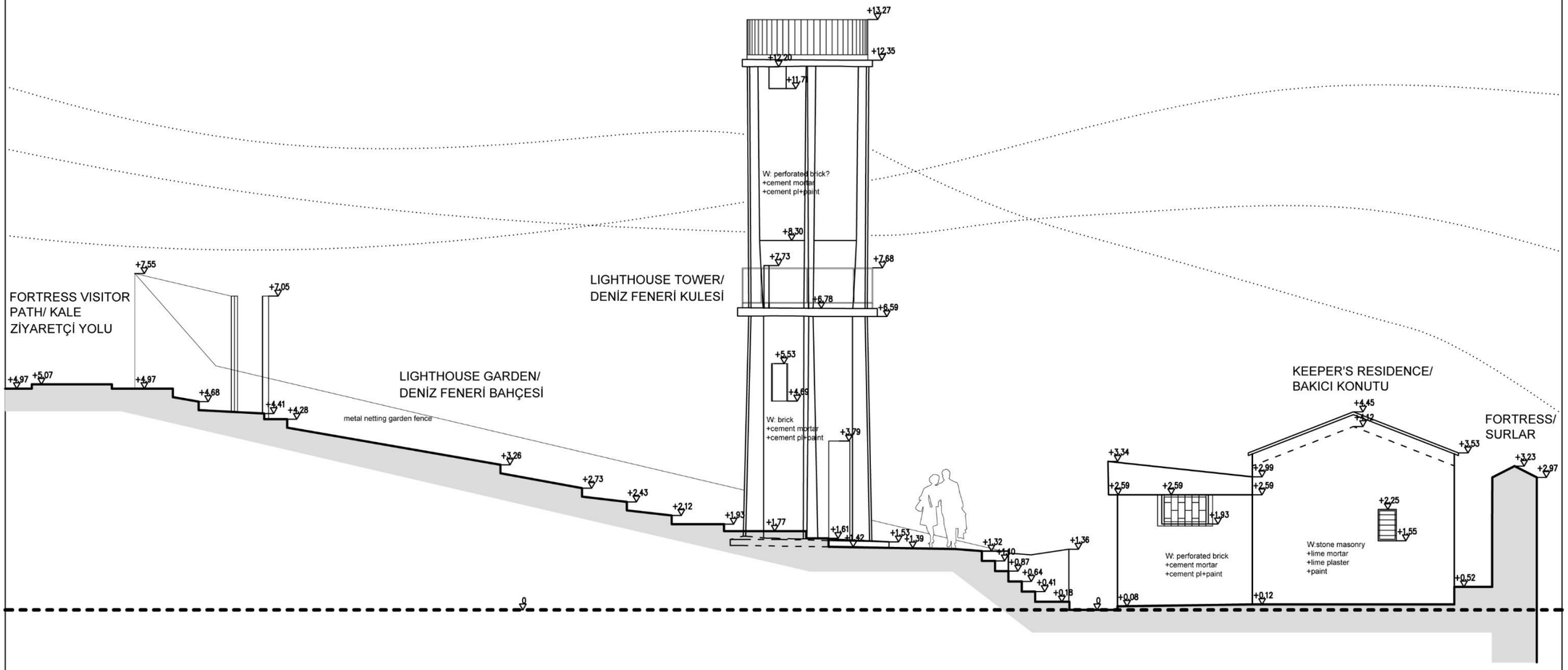

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|---|---|---|---|---|
| ÇEŞME SÜNGÜKAYALIGHTHOUSE/ ÇEŞME SÜNGÜKAYAFENERİ | 0 1 5m | WEST ELEVATION (1/100) | Scaled Sketch by Ozge Basagac | Drawn by Özge Başağaç |



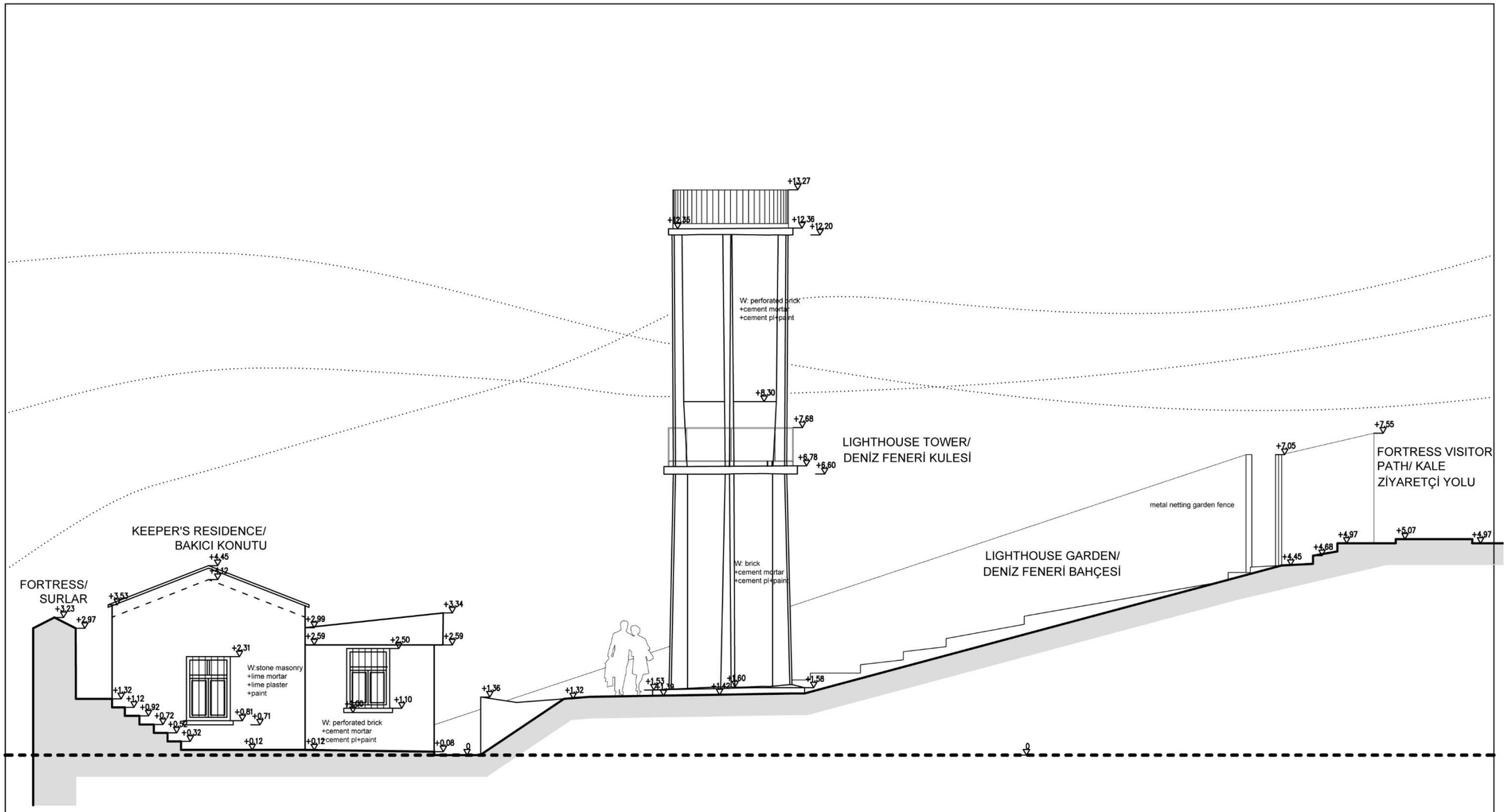

| KUŞADASI LIGHTHOUSE/ KUŞADASI FENERİ | | SITE PLAN (1/200) | Surveyed by Özge Başağaç & Tonguç Akış on 03.05.2014 Manually and with a Reflectorless Total Station | Drawn by Özge Başağaç |
|---|---|---|---|---|



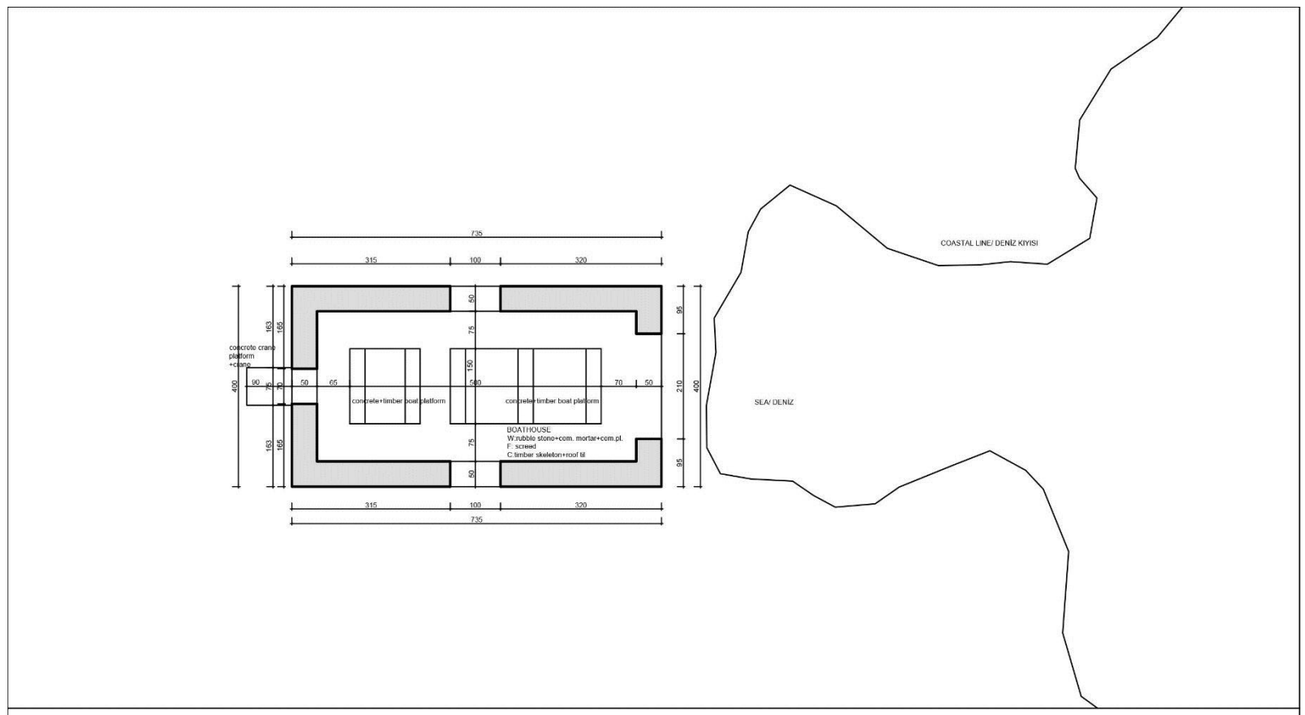

| KUŞADASI LIGHTHOUSE/ KUŞADASI FENERİ | | PLAN (1/100) | Surveyed by Özge Başağaç & Tonguç Akış on 03.05.2014<br>Manually and with a Reflectorless Total Station | Drawn by<br>Özge Başağaç |
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|---|---|---|---|---|---|
| KUŞADASI LIGHTHOUSE/ KUŞADASI FENERİ | K | 0 1 5m | EAST ELEVATION (1/100) | Surveyed by Özge Başağaç & Tonguç Akış on 03.05.2014 Manually and with a Reflectorless Total Station | Drawn by Özge Başağaç |

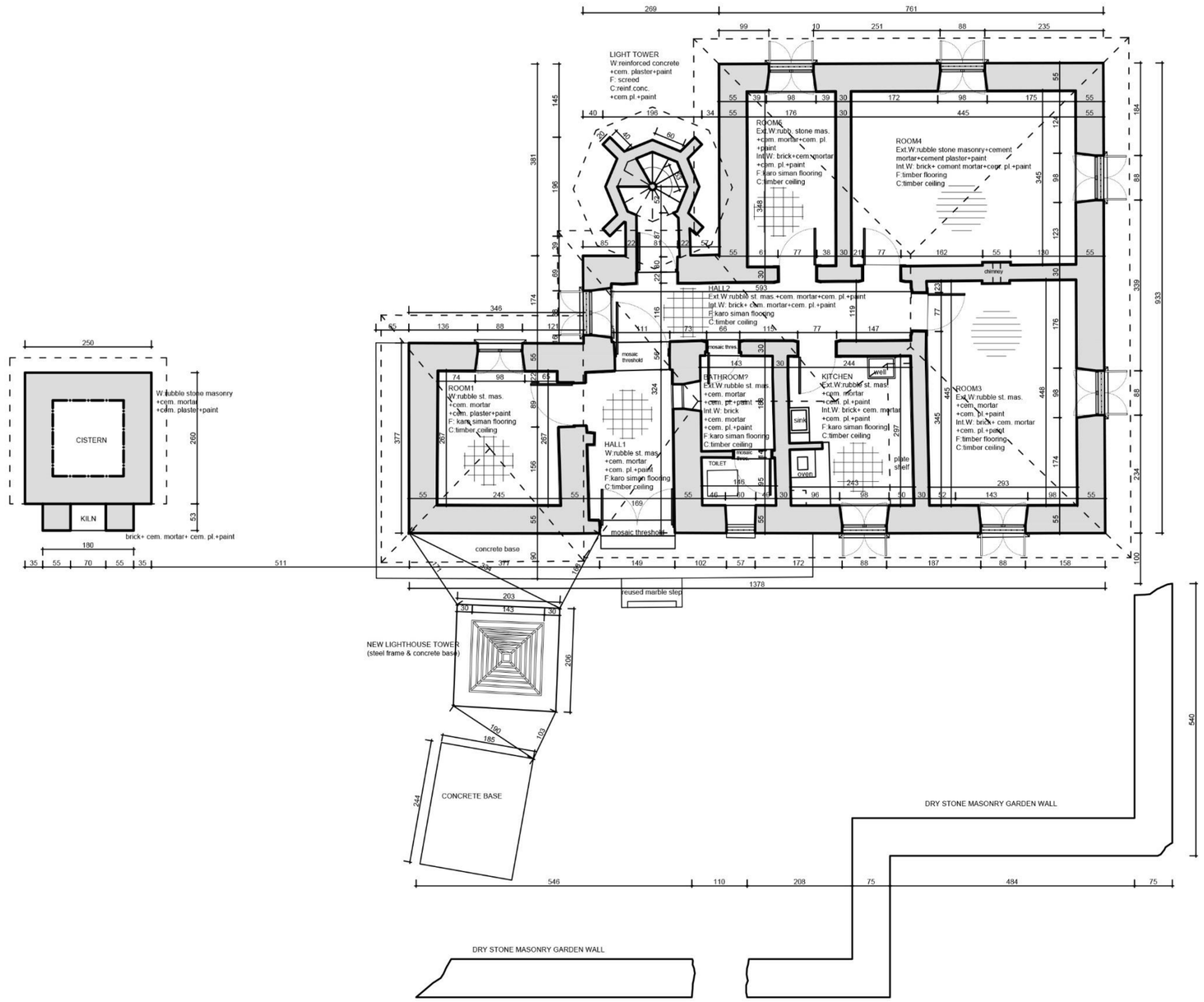



| | | | | | |
|---|---|---|---|---|---|
| KUŞADASI LIGHTHOUSE/<br>KUŞADASI FENERİ | K | 0 1 5m | WEST ELEVATION<br>(1/100) | Surveyed by Özge Başağaç & Tonguç Akış on 03.05.2014<br>Manually and with a Reflectorless Total Station | Drawn by Özge Başağaç |

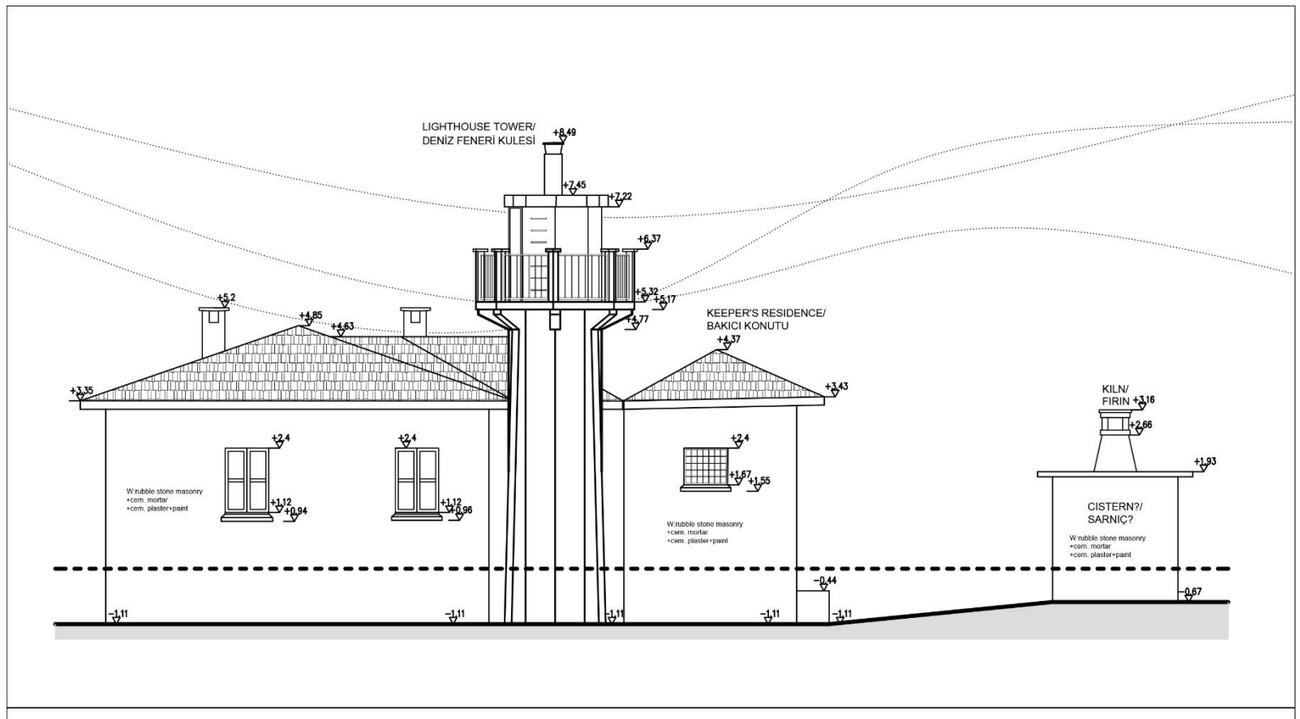



BAYRAK ISLAND (PANAGYA) BOATHOUSE/ BAYRAK ADASI (PANAGYA) KAYIKHANESİ

| | | | | |
|---|---|---|---|---|
| K | 0 1 5m | PLAN (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç<br>on 12.06.2014 manually and with a Reflectorless Total Station | Drawn by Özge Başağaç |

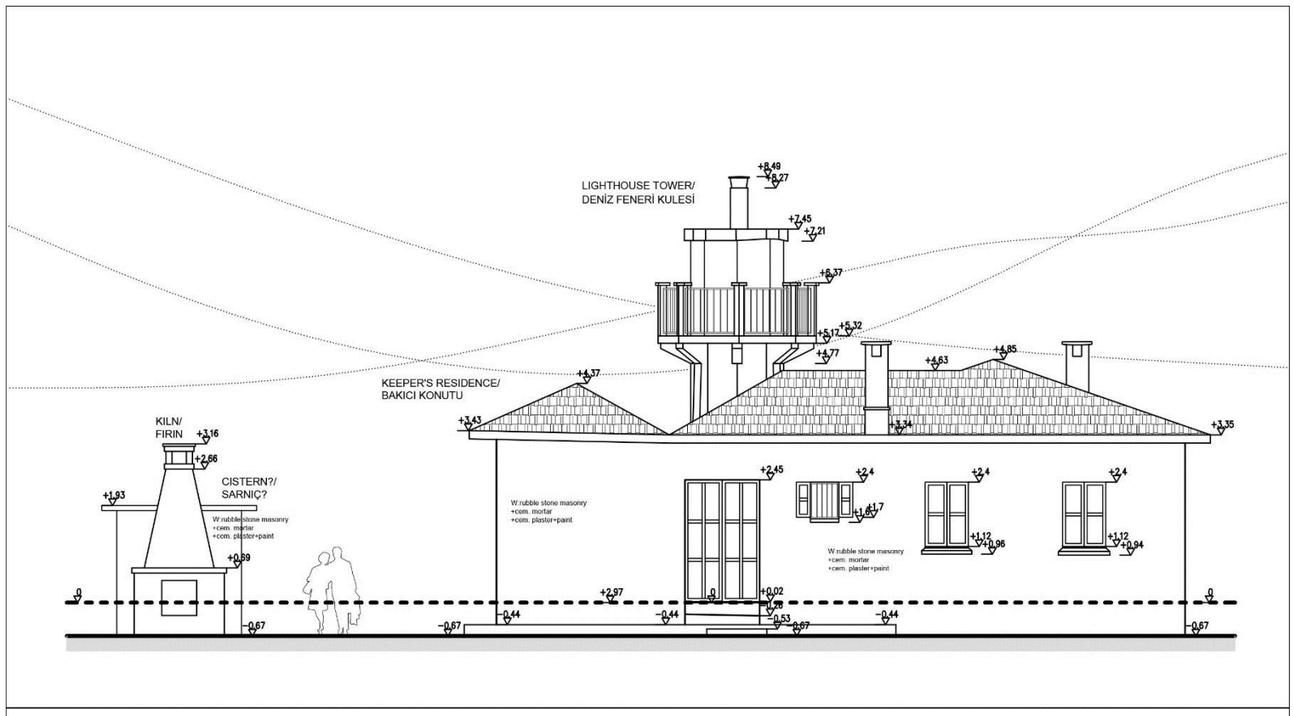



| | | | | | |
|---|---|---|---|---|---|
| BAYRAK ISLAND (PANAGYA) LIGHTHOUSE/<br>BAYRAK ADASI (PANAGYA) DENİZ FENERİ | K | 0 1 5m | PLAN (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç<br>on 12.06.2014 manually and with a Reflectorless Total Station | Drawn by Özge Başağaç |




BAYRAK ISLAND (PANAGYA) LIGHTHOUSE/ BAYRAK ADASI (PANAGYA) DENİZ FENERİ

| 0 1 5m | NORTH ELEVATION (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç on 12.06.2014 manually and with a Reflectorless Total Station | Drawn by Özge Başağaç |
|---|---|---|---|




BAYRAK ISLAND (PANAGYA) LIGHTHOUSE/ BAYRAK ADASI (PANAGYA) DENİZ FENERİ

| 0 1 5m | SOUTH ELEVATION (1/100) | Surveyed by Özge Başağaç & Tarık Başağaç on 12.06.2014 manually and with a Reflectorless Total Station | Drawn by Özge Başağaç |
|---|---|---|---|

## CURRICULUM VITAE

### PERSONAL INFORMATION


| | |
|---|---|
| Surname, Name | : Başağaç, Özge |
| Nationality | : Turkish (TC) |
| Date and Place of Birth | : 12 January 1978, İzmir |
| Phone | : +90 232 445 13 83 |
| E-mail | : e106269@metu.edu.tr |


### EDUCATION

| Degree | Institution | Year of Graduation |
|---|---|---|
| PhD | METU Architecture/ Conservation of Cultural Heritage | 2019 |
| MSci | METU Architecture/ Restoration | 2005 |
| BS | METU Architecture | 2001 |

### WORK EXPERIENCE

| Year | Place | Enrollment |
|---|---|---|
| 2007-Present | Yerdeniz Mimarlık Restorasyon Tasarım | Founder- Architect |
| 2017-Present | Yaşar University | Part-time Instructor |
| 2007-2014 | İzmir University of Economics | Part-time Instructor |

### FOREIGN LANGUAGES

Advanced English, Beginner Italian

### PUBLICATIONS

1. Başağaç, Ö., & Altınöz, G. (2018). An Important Maritime Heritage: Lighthouses of Turkey, The Case of Aegean Coast. *TÜBA-KED*, 143-161.

2. Başağaç, Ö. (2018). Denizcilik Kültür Mirasının Korunması: Türkiye Deniz Fenerleri Işığında Akdeniz ve Ege Kıyıları. *AKMED Uluslararası Genç Bilimciler*

*Buluşması II: Anadolu Akdenizi Sempozyumu 04-07 Kasım 2015 Antalya Sempozyum Bildirileri* (pp. 91-114). Koç University AKMED publication.

3. Başağaç, Ö., & Akış, T. (2014). Sarpıncık (Karaburun) Denizfeneri/ Sarpıncık (Karaburun) Lighthouse. *Docomomo Turkey National Study Group Poster Presentations Local Evolution of Modernism in Turkish Architecture X, 31 October-02 November 2014* (p. 139). Erzurum: Atatürk University.