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TECHNISCHE
UNIVERSITÄT
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DIPLOMARBEIT

MUSEUM OF UNDERWATER ANTIQUITIES **MOUA**

ausgeführt zum Zwecke der Erlangung
des akademischen Grades einer
Diplom-Ingenieurin unter der Leitung von

O. Univ. Prof. Dipl. - Ing William Alsop

Institut für Architektur und Entwerfen E253
Abteilung Hochbau und Entwerfen E253.4

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von

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Wien, am März 2015

DIPLOMARBEIT

transformation of the old Cereals Stock
house building Complex into a Museum
of Underwater Antiquities.

BETREUER

O. Univ. Prof. Dipl. - Ing William Alsop

Acknowledgements

I want to kindly thank my Prof. William Alsop for the important support and help he assisted me during the completion of my Diplomarbeit. Thank you for the helpful suggestions and the kind cooperation.

The Diplomarbeit is dedicated to my Father.

Das neue Museum für Unterwasserantiquitäten befindet sich auf dem historischen Hafen von Piräus, auf der südöstlichen Seite der Ikonion Küste Docks und steht deswegen in direkter Verbindung mit dem Meer, den Reisen, der Entdeckung, den Expeditionen, der Erforschung, den Erkenntnissen und dem wachsenden Selbstbewusstsein. Ein Museum, das sich aus menschlichen Abenteuern, historischen Andenken und kollektiven Identitäten ergibt. Das Silo-Gebäude, ein bedeutendes Denkmal der griechischen Industriekultur und -tradition, wird weiterhin eine lebende Zelle der Stadt sein, das für die neue Funktionalität des Hafens und die umfassenden Entwicklungsziele im Bereich des Kulturtourismus angepasst wird.

Dieses ist Griechenlands erstes Museum, das den Materialkulturresten, die durch archäologische Feldforschungen aufgedeckt wurden, völlig gewidmet ist. Die breite Palette und der Reichtum an entdeckten Objekten decken die Zeitlosigkeit der griechischen Kultur ab. Dadurch wird dieses Museum als ein der national und international wichtigsten archäologischen Museen etabliert. Zusätzlich stellt die Vielfalt von Exponaten und Ausstellungen die historische Evolution und Revolution des Mittelmeers dar. Dementsprechend entwickelt sich das Museum zu einem interdisziplinären Zentrum des interkulturellen Austausches und Dialogs.

Als Hauptziel des Projekts gilt die Umwandlung des Getreide-Lagers und -Gebäudekomplexes in zu einem Museum für Unterwasserantiquitäten und somit zu einer internationalen Attraktion, die das wachsende Interesse nicht nur der spezialisierten wissenschaftlichen Gemeinschaft, sondern auch der allgemeinen Öffentlichkeit erweckt. In diesem Zusammenhang sollten die Hauptherausforderung der Neugestaltung sowie der Verwaltung ins neue Museum bewältigt werden. Dabei spielt die neue und interaktive Infrastruktur eine Rolle von großer Bedeutung, so dass das wissenschaftliche, pädagogische und allgemein soziale Engagement der Staat verstärkt und gespiegelt wird. Darüber hinaus, um das Interesse des Publikums zu erwecken, sollten die erforderlichen Voraussetzungen für den Zugang der Gesellschaft erfüllt werden. Die Öffentlichkeit profitiert deswegen von dem breiten angebotenen Spektrum an zugänglichen Einrichtungen und Infrastrukturen, körperlichen und geistigen Bildungsmöglichkeiten und hohen kulturellen Leistungen und Services.

In an era full of political transformations and social changes, the museum owes to correlate material culture with the intangible heritage, to reconcile the antiquities with technology, to connect past and present, to accompany the story in the experience and reconcile the past with the younger generations.

In einer Zeit intensiver politischer und sozialer Transformationen und Umwandlungen, definiert das Museum die Schnittstelle zwischen der Materialkultur und des immateriellen Kulturerbens. Hiermit werden die Altertümer mit Technik in Einklang gebracht, um Vergangenheit mit Gegenwart zu verbinden, so dass die Geschichte in Erfahrung umgewandelt werden kann und sie mit den jüngeren Generationen in Verbindung gesetzt wird.

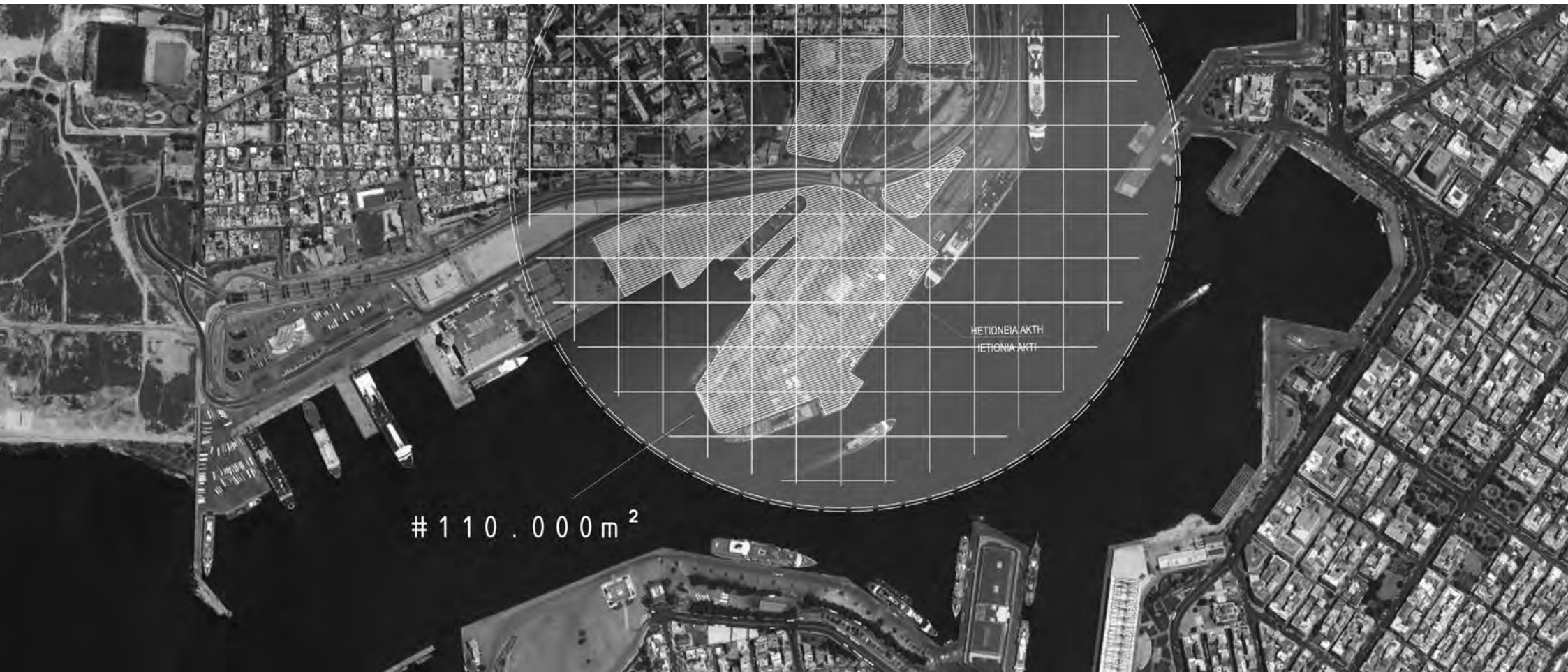
A Abstract

The new Museum Of Underwater Antiquities, located on the Southeast side of the dock of Ietionia Coast in the historic port of Piraeus, is directly associated with the sea, travel, discovery, expeditions, research, knowledge and self-awareness. The museum is therefore emerging the human adventure and highlights historical memories and collective identities. The Silo building is a captivating monument of the Greek industrial heritage, which will continue to be a living cell of the town, directly adapted to the new functions of the port and the wider development objectives in the field of cultural tourism.

This is the first museum in Greece, which is utterly dedicated to the residues of the material culture revealed mainly through the underwater archaeological fieldwork. The range and richness of the objects found, cover the timelessness of the Greek culture and make it a major archaeological museum both at National and International level. Additionally, the variety of exhibits document the historical exchanges in the Mediterranean sea, transforming the museum into an interdisciplinary center of Intercultural dialogue.

The main objective of the project is to transform the Cereals Stock house building Complex into a Museum of Underwater Antiquities, an International attraction, which will meet the growing interest not only of the specialized scientific community, but also the general open-public. This is precisely the main challenge of re-designing and transforming into the new museum, while meeting the appropriate infrastructure in order to satisfy the scientific, educational and wider social role of the country. Moreover, it creates appropriate conditions for fully accessible facilities and infrastructure.

In an era full of political transformations and social changes, the museum owes to correlate material culture with the intangible heritage, in order to reconcile the antiquities with technology, to connect past and present, to accompany the story in the experience and reconcile the past with the younger generations.



#110.000m²

HETIONEIA AKTH
IETIONIA AKTI

Museum of **U**nderwater **A**ntiquities

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FOREWORD

Structure, Motivation

FUNDAMENTALS

Greece, Piraeus, Silo fabric, Harbor - development, New port

ARCHITECTURE

Space of Memory and Imagination

REFERENCES

PROJECT

Location , Design, Evolution, Concept, Space program,
Inspiration

APPENDIX

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P R E F A C E

The **Cultural Coast Of PIRAEUS** aims at coupling Tourism and Culture through the implementation of an urban regeneration project. The project essentially aims to improve the quality of life of 1,000,000 inhabitants, giving access to the sea to the wider population of West Athens. In a region, which suffers from de-industrialization, the shift to new economic activities is essentially the only safe way out of the recession development.

The re-design of the Cultural Coast will provide:

- The organic linking between the city and the port area by creating a green lung and concentrating the cultural activities.
- The emergence of archaeological sites.
- The intergration of a network of pedestrian streets - bicycle paths.
- The use of the existing building stock through its transformation into museum spaces and function cultural events.

1. The design of the Piraeus SILO, fills a major gap in the museum Map - a country with a unique character in quantity and in the marine life. It

will present to the public parts of the history by exposing a number of significant findings today which are scattered in various museums or stored somewhere that are not being used.

The premises of the new museum will be housed in an emblematic industrial building on the harbor and the city of 30s Piraeus, which until recently served as a transit and storage of cereals (SILO).

The close proximity of the building to the sea, the history and the role it has played in the life of the port, the distinctive architectural features make the area ideal for conversion into a Museum of Underwater Antiquities.

To give a new quality of public space and upgrade the outdoor activities of residents by creating innovative spaces and cultural activities and entertainment that are missing from the waterfront of the city. This landmark will reshape the current concept for the port - area and will cut off from the daily life - with its transformation into an area attractive and unique, placing culture in everyday life, not only for the residents

of the area, but also for the numerous visitors (ordinary tourists, cruise tourists, residents from other surrounding areas).

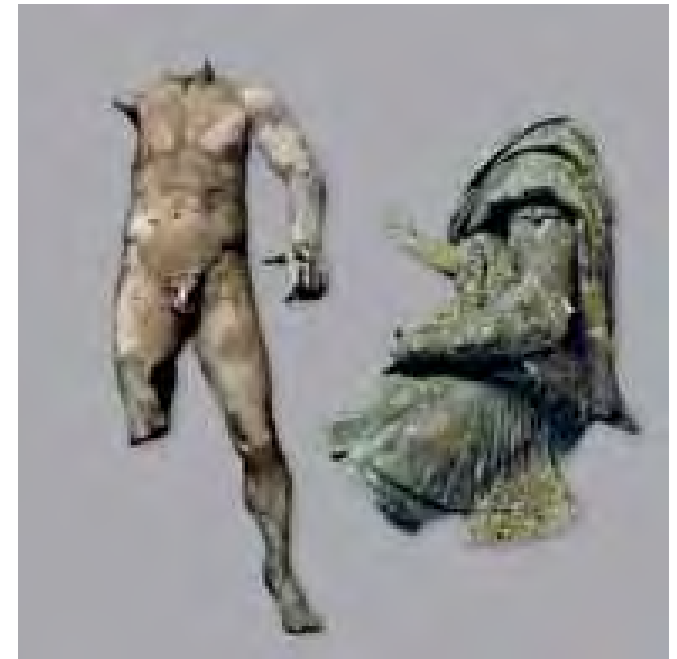
To pursue the application of modern and pioneering methods for creating sustainable growth conditions throughout the Cultural Coast and to further the Piraeus port model bioclimatic design.

The study area includes all outdoors, coastal area of the Cultural Coast south avenue Cecropos.



Despite the fact that our people characterized as a literal sailor and the history of our country is directly linked with the water element, which surrounds, with navigation, which already starts from the 8th millennium BC, there was none until now proportional museum, except some thematic seafarers KON museums in Attica and provinces, which expose mainly historical findings. The founding of the Museum of Underwater Antiquities, necessary in a nautical country, now will give the opportunity for the Department of Underwater Antiquities, after 36 years research project on Greek seas, to present to the public a rich archaeological material from the depths, stretching from prehistory and up to modern times. The SILO is an industrial building, constructed between 1934 - 1936, closely connected with the history and character of Piraeus port as having emblematic both in its position, that dominates the harbor seafront but also to the meaning.

The founding of the Museum of Underwater Antiquities will contribute the emergence of numerous and already conserved findings, which remain until today unknown scattered in various Warehouses.



Part of the wooden hull of the wreck of Antikithyron, Roman

The silo of Piraeus, the simple presence of the bulk by crowning the clock, with its sleek elongated linear arm - the belt - flanked dynamically the blower cranes in the central position at the entrance of the harbor, along the ancient rock becomes as the most emblematic presence in Letioneias Coast and precursor for cultural transformation. This building, broke off recently on the functioning and keeps alive the memories of the area. A museum unique and special that will provide and emerge from water life objects and culture, different stories of people and marine disasters. This will affect the visitor in an interactive game of knowledge, enjoyment and admiration.

In the atmosphere of the sea breeze , the harbor guests are immersed in a tour of the area of myth, adventure and experience the original operation of the Silo complex. Parallel to this the port will not only offer the space for hurrying passengers but also become an attractive cultural destination for citizens, a daily hangout.



GREECE

Capital ::: Athens
Official Language ::: Greek
Religion ::: Greek Orthodox
Demonym ::: Greek
Government ::: Unitary Parliamentary Constitutional Republic
Area ::: 131,957 km
Population ::: 10,816,286

ATHENS

Geographic region ::: Central Greece
Administrative region ::: Attica
Districts ::: 7
Population ::: 664,046
Area ::: 38.964 km² (15 sq mi)
Density ::: 17,043 /km² (44,140 /sq mi)



PIRAEUS PORT 

NODE INTERNATIONAL TRANSPORT



PIRAEUS PORT

Piraeus Port offers unique advantages because of its strategic location and its infrastructure. It is considered to be the most significant gate of imports and exports of the country. In short deviation from other International maritime trade routes, it holds the key geographical position, as the only European port in the Eastern Mediterranean with the necessary infrastructure to service transit trade.

PIRAEUS DISTANCES FROM NEIGHBORING PORTS

THESSALONIKI	252	11
INSTANBUL	352	15
PORT SAID	593	25
ASHDOD	657	27
CONSTANZA	548	23
KOPER	835	35
GENOA	972	41
MARSAXLOKK	517	22
NOVOROSSIYSK	808	34
GIBRALTAR	1.481	65





PIRAEUS, ATHENS

Administrative region ::: Attica

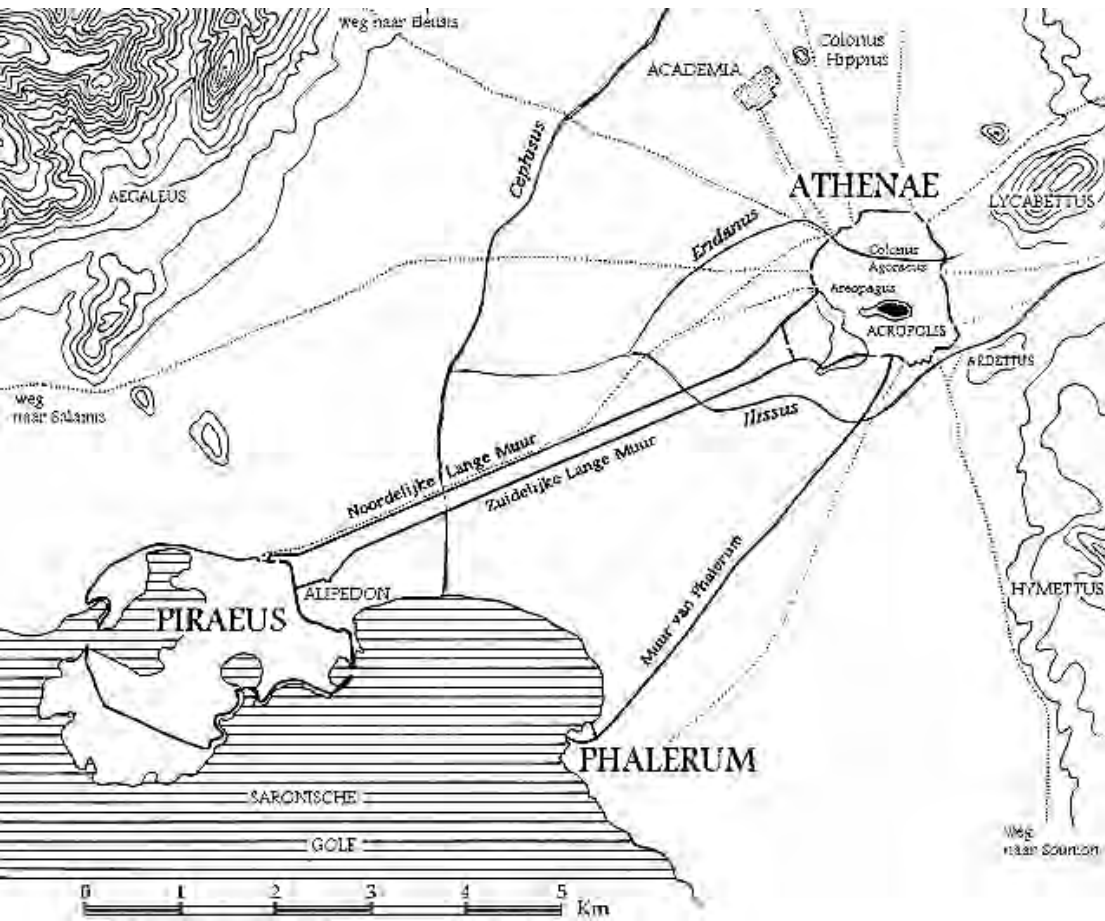
Regional unit ::: Piraeus

Population ::: 163,688

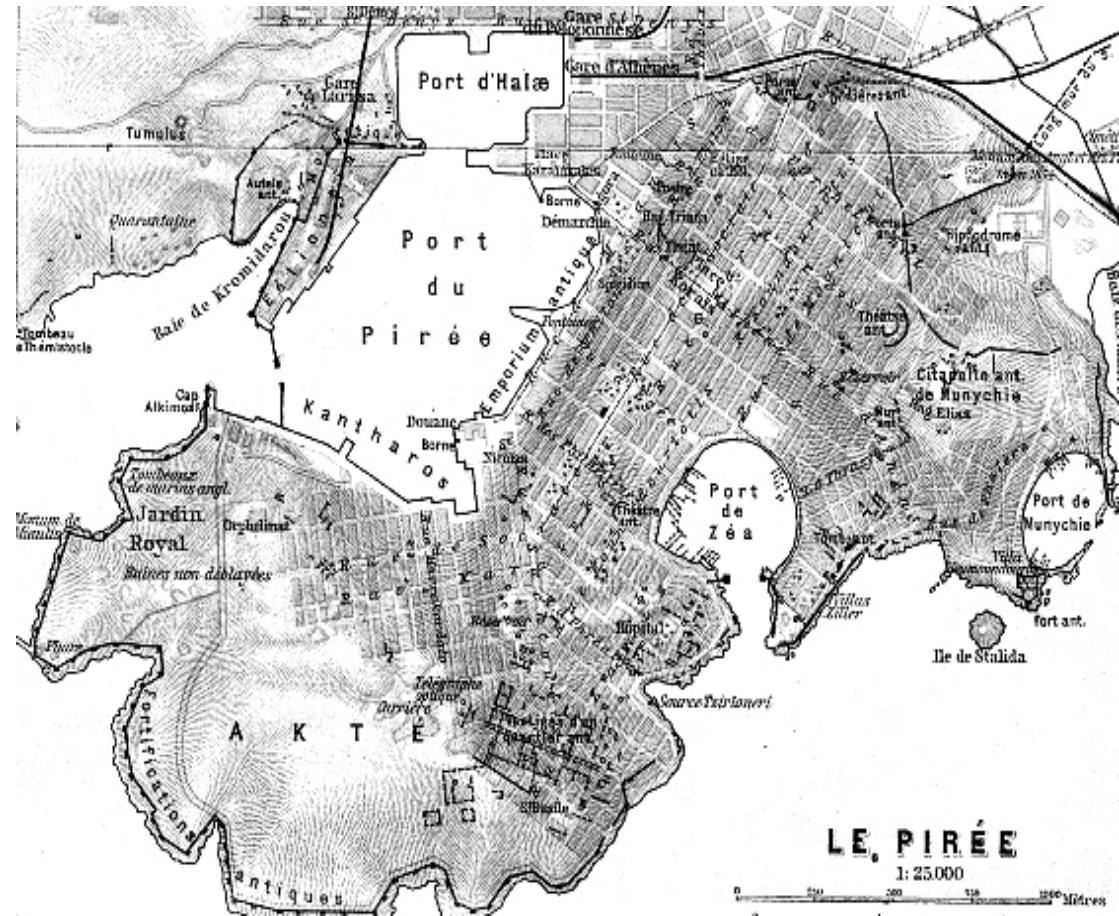
Area ::: 10.865 km² (4 sq mi)

Density ::: 15,066 /km² (39,020 /sq mi)





The Long Walls connecting the ancient city of Athens to its port of Piraeus.



Map of Piraeus, 1908

Peiraieús is a port city in the region of Attica, Greece. Piraeus is located within the Athens urban area, 12 kilometres (7 miles) southwest from its city center (municipality of Athens), and lies along the east coast of the Saronic Gulf.

The port has a long recorded history, dating to ancient Greece. The city was largely developed in the early 5th century BC, when it was selected to serve as the port city of classical Athens and was transformed into a prototype harbour, concentrating all the import and transit trade of Athens. Consequently, it became the chief harbour of ancient Greece, but declined gradually after the 4th century AD, growing once more in the 19th century, especially after Athens' declaration as the capital of Greece. In the modern era, Piraeus is a large city, bustling with activity and an integral part of Athens, acting as home to the country's biggest harbour and bearing all the characteristics of a huge marine and commercial-industrial centre.

The port of Piraeus is the chief port in Greece, the largest passenger port in Europe and the third largest in the world, servicing about 20 million passengers annually.

With a throughput of 1.4 million TEUs, Piraeus

is placed among the top ten ports in container traffic in Europe and the top container port in the Eastern Mediterranean. The city hosted events in both the 1896 and 2004 Summer Olympics held in Athens.

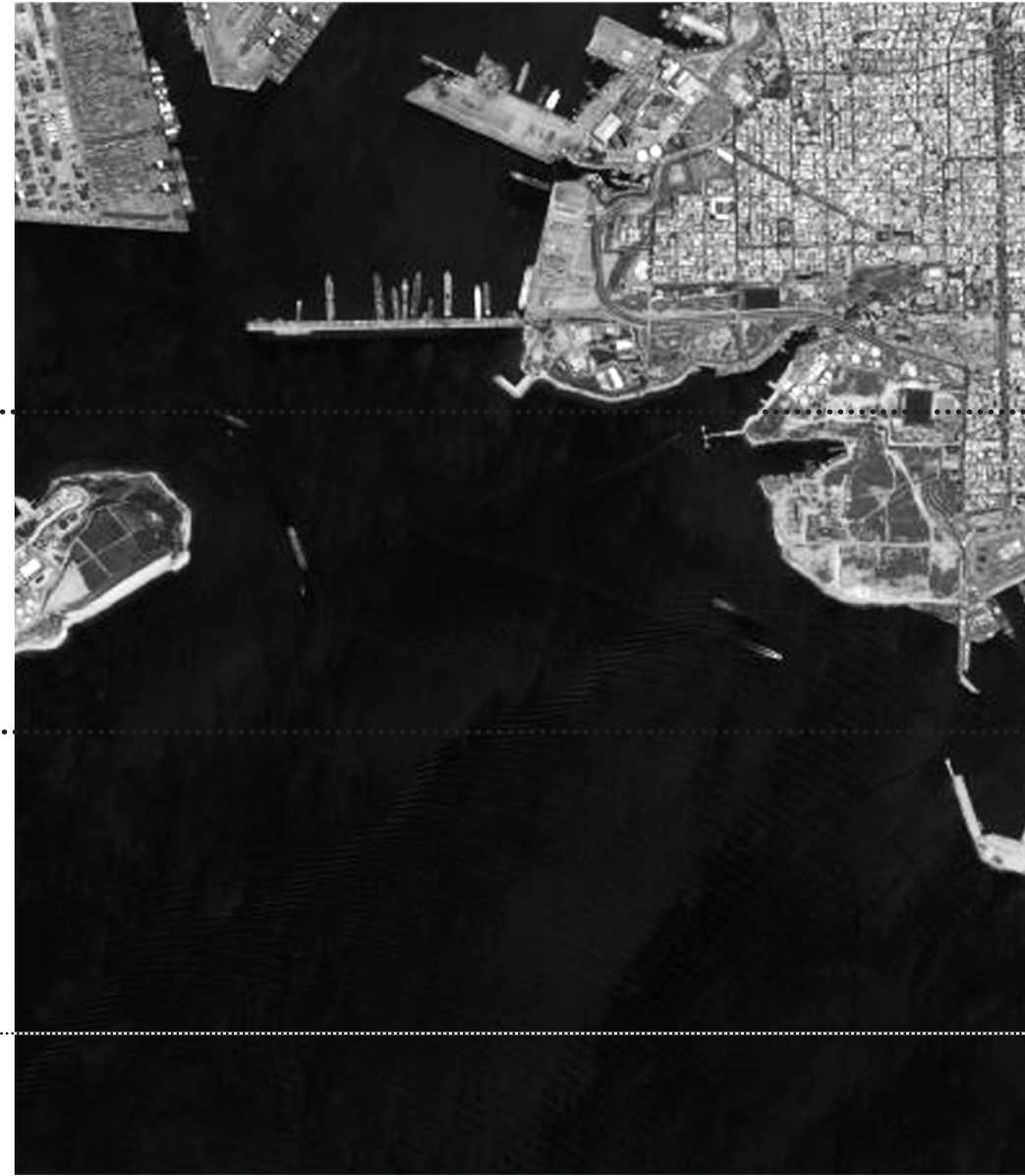
Piraeus, which roughly means 'the place over the passage', has been inhabited since the 26th century BC. In prehistoric times, Piraeus was a rocky island consisting of the steep hill of Munichia, modern-day Kastella, and was connected to the mainland by a low-lying stretch of land that was flooded with sea water most of the year, and used as a salt field whenever it dried up. Consequently, it was called the Halipedon, meaning the 'salt field', and its muddy soil made it a tricky passage.

In ancient Greece, Piraeus assumed its importance with its three deep water harbours, the main port of Cantharus and the two smaller of Zea and Munichia, and gradually replaced the older and shallow Phaleron harbour, which fell into disuse.



Population 13,968
Area: 1.725 km²

Archaiological Museum of Piraeus



The **PEACE & FRIENDSHIP STADIUM** is located in the privileged transportation hub on the western corner of the Faliro Bay in Neo Faliro, between Mikrolimano and the River Kifissos, at the start of the coastal zone Faliron-Sounion.



MIKROLIMANO or **Koumoundourou** port former **Tourkolimano** and in antiquity **Mounichia Port** is nowadays a tourist site and is included in the wider neighborhood of **Kastella**. Located Northeast of Piraeus peninsula bordering the district of Neo Faliro.

THEORETICAL APPROACH - THE SIGNIFICANCE OF THE SHADOW

As the preceding brief survey suggests, the privileging of the sense of sight over the other senses is an inarguable theme in Western thought, and it is also an evident bias in the architecture of our century. The negative development in architecture is, of course, forcefully supported by forces and patterns of management, organisation and production as well as by the abstracting and universalising impact of technological rationality itself. The negative developments in the realm of the senses cannot, either, be directly attributed to the historical privileging of the sense of vision itself.

The problems arise though from the isolation of the eye outside its natural interaction with other sense modalities, and from the elimination and suppression of other senses, which increasingly reduce and restrict the experience of the world into the sphere of vision. This separation and reduction fragments the innate complexity, comprehensiveness and plasticity of the perceptual system, reinforcing a sense of detachment and alienation. In this second part, I will survey the interactions of the senses and give some personal impressions of the realms of the senses in the expression and experience of architecture. In this essay I proclaim a sensory architecture in opposition to the prevailing visual understanding of the art of building.

The perception of sight as our most important sense is well grounded in physiological, perceptual and psychological facts.

The Eye is the organ of distance and separation, whereas touch is the sense of nearness, intimacy and affection. The eye surveys, controls and investigates, whereas touch approaches and caresses.

Deep shadows and darkness are essential, because they exacerbate the sharpness of vision, provide depth and distance ambiguous peripheral vision and tactile fantasy.

The imagination and daydreaming are stimulated by dim light and shadow. In order to think clearly, the sharpness of vision has to be suppressed, for thoughts travel with an absent-minded and unfocused gaze. Homogenous bright light paralyses the imagination in the same way that homogenization of space weakens the experience of a human being and wipes away the sense of place.

Mist and twilight awaken the imagination by making visual images unclear and ambiguous, a Chinese painting of a foggy mountain landscape, or the raked sand garden of Ryoan-ji Zen Garden give rise to an unfocused way of looking, evoking a trance-like, meditative state absent-minded gaze penetrates the surface of the physical image and focuses in infinity.

In his book *In Praise of Shadows*, Junichiro Tanizaki points out that even Japanese cooking depends upon shadows, and that it is inseparable from darkness. 'And when Y kan is served in a lacquer dish, it is as if the darkness of the room were melting on your tongue. In olden times, the blackened teeth of the geisha and her greenblack lips as well as her white painted face were all intended to emphasise the darkness and shadows of the room. (*Junichiro Tanizaki, *In Praise of Shadows* Leete's Island Books, 1977 p16)

Likewise, the extraordinary powerful sense of focus and presence in the paintings of Caravaggio and Rembrandt arises from the depth of shadow in which the protagonist is embedded like a precious object on a dark velvet background that absorbs all light. The shadow gives shape and life to the object in light. It also provides the realm from which fantasies and dreams arise.

In great architectural spaces, there is a constant, deep breathing of shadow and light' shadow inhales and illumination exhales light.

Moreover, light has turned into a mere quantitative matter and the window has lost its significance as a mediator between two worlds, between enclosed and open, interiority, private and public, shadow and light. Having lost its ontological meaning, the window has turned into a mere absence of the wall. Architects all over the world have been mistaken in the proportions which they have assigned to large plate windows or spaces opening to the outside.

Likewise, most contemporary public buildings would become more enjoyable through a lower light intensity and its uneven distribution. The dark womb of the council chamber of Alvar Aalto's Säynätsalo Town Hall recreates a mystical and mythological sense of community, darkness recreates a mystical and mythological sense of community, darkness creates a sense of solidarity and strengthens the power of the spoken word.

We have lost our sense of intimate life, and have become forced to live public lives, essentially away from home', writes Luis Barragan,

In emotional states, sense stimuli seem to shift from the more refined senses towards the more archaic, from vision down to hearing, touch and smell, and from light to shadow. A culture that seeks to control its citizens is likely to promote the opposite direction of interaction, way from intimate individuality and identification towards a public and distant detachment. A society of surveillance is necessarily a society of the voyeuristic and sadistic eye. An efficient method of mental torture is the use of a constantly high level of illumination that leaves no space for mental withdrawal or privacy; even the dark interiority of self is exposed and violated.

We as human beings have an innate capacity for remembering and imagining places. Perception, memory and imagination are in constant interaction; the domain of presence fuses into images of memory and fantasy. We keep constructing an immense city of evocation and remembrance, and all the cities we have visited are precincts in this metropolis of the mind. Literature and cinema would be devoid of their power of enchantment without our capacity to enter a remembered or imagined place. The spaces and places enticed by a work of art are real in the full sense of the experience.

Similarly, the architecture of Michelangelo does not present symbols of melancholy, his buildings actually mourn. When experiencing a work of art, a curious exchange takes place. The melancholy in Michelangelo's architecture is fundamentally the viewer's sense of his own melancholy enticed by the authority of the work.

Memory takes us back to distant buildings, and transport us through buildings invoked by the magic of the writer's word. The rooms, squares and streets of a great writer are as vivid as any that we have visited. The city of San Francisco unfolds in its multiplicity through the montage of Hitchcock's *Vertigo*. We enter the haunting edifices in the steps of the protagonist and see them through the incantations of Dostoevsky.

The buildings of filmmakers, built up of momentary fragments, envelop us with the full vigour of realities. The streets in great paintings continue around corners and past the edges of the picture frame into the invisible with all the intricacies of life. '[The painter] makes [houses], that is, he creates an imaginary

house on the canvas and not a sign of a house. And the house which thus appears preserves all the ambiguity of real houses,' writes Sartre.

There are buildings that remain, mere distant visual images when remembered, and other that are remembered in all their vivacity. The memory re-evokes the delightful building with all its sounds and smells and variations of light and shade.

When experiencing a work of art, a curious exchange takes place.

The eyes want to collaborate with the other senses. All the senses, including vision, can be regarded as extensions of the sense of touch- as specialisations of the skin. They define the interface between the skin and the environment- between the opaque interiority of the body and the exteriority of the world. In the view of Rene Spitz, 'all perception begins in the oral cavity, which serves as the primeval bridge from inner reception to external perception. Even the eye touches; the gaze implies an unconscious touch, bodily mimesis and identification. As Martin Jay remarks when describing Merleau-Ponty's philosophy of the senses, 'through vision we touch the sun and the stars'. Preceding Merleau-Ponty, the 18th-century Irish philosopher and clergyman George Berkeley related touch with vision and assumed that visual apprehension of materiality, distance and spatial depth would not be possible at all without the cooperation of the haptic memory. In Berkeley's view, vision needs the help of touch, which provides sensations of 'solid-

ity, resistance, and protrusion' sight detached from touch could not 'have any idea of distance, outness, or profundity, nor consequently of space or body. In accord with Berkeley, Hegel claimed that the only sense which can give a sensation of spatial depth is touch, because touch 'senses the weight, resistance, and three-dimensional shape (gestalt) of material bodies, and thus makes us aware that things extend away from us in all directions.

Vision reveals what the touch already knows. We could think of the sense of touch as the unconscious of vision. Our eyes stroke distant surfaces, contours and edges, and the unconscious tactile sensation determines the agreeableness or unpleasantness of the experience. The distant and the near are experienced with the same intensity, and they merge into one coherent experience.

The most essential auditory experience created by architecture is tranquility. Architecture presents the drama of construction the drama of construction silenced into matter, space and light. Ultimately, architecture is the art of petrified silence. When the clutter of construction work ceases, and the shouting of workers dies away, a building becomes a museum of a waiting, patient silence. In Egyptian temples we encounter the silence that surrounded the pharaohs, in the silence of the Gothic cathedral we are reminded of the last dying note of a Gregorian chant, and the echo of Roman footsteps has just faded away from the walls of the Pantheon. Old houses take us back to the slow time and silence of the past. The salience of architecture is a responsive, remembering silence. A powerful architectural experience silences all external noise, it focuses our attention on our very existence and as with all art, it makes us aware of our fundamental solitude.

The incredible acceleration of speed during the last century has collapsed time into the flat screen of the present, upon which the simultaneity of the world is projected.

Architecture emancipates us from the embrace of the present and allows us to experience the slow, healing flow of time. Buildings and cities are instruments and museums of time. They enable us to see and understand the passing of history, and to participate in time cycles that surpass individual life.

Architecture connects us with the dead; through buildings we are able to imagine the bustle of the medieval street, and picture a solemn procession approaching the cathedral. The time of architecture is a detained time in the greatest of buildings time stand firmly still. In the Great Peristyle at Karnak time has petrified into an immobile and timeless present. Time and space are eternally locked into each other in the silent spaces between these immense columns; matter, space and time fuse into one singular elemental experience, the sense of being.

The great works of modernity have forever halted the utopian time of optimism and hope; even after decades of trying fate they radiate an air of spring and promise. Alvar Aalto's Paimio Sanatorium is heartbreaking in its radiant belief in a humane future and the success of the societal mission of architecture. Le Corbusier's Villa Savoye makes us believe in the union of reason and beauty, ethics and aesthetics. Through periods of dramatic and tragic social and cultural change, Konstantin Melnikov's Melnikov House in Moscow has stood as a silent witness of the will and utopian spirit that once created it.

Experiencing a work of art is a private dialogue between the work and the viewer, one that excludes other interactions. 'Art is memory's mise-en-scene', and 'Art is made by the alone for the alone', as Cyril Connolly writes in *The Unquiet Grave*. Significantly, these are sentences underlined by Luis Barragan in his copy of this book of poetry. A sense of melancholy lies beneath all moving experiences of art; this is the sorrow of beauty's immaterial temporality. Art projects an unadmirable ideal, the ideal of beauty that momentarily touches the eternal.

REFERENCES



is a major business district of the Paris Metropolitan Area and of the Île-de-France region, located in the commune of Courbevoie, and parts of Puteaux and Nanterre, just west of the city of Paris. La Défense is Europe's largest purpose-built business district with 560 hectares (5.6 million square metres) area, 72 glass and steel buildings and skyscrapers, 180,000 daily workers, and 3.5 million square metres (37.7 million sq ft) of office space. Around its Grande Arche and esplanade ("le Parvis"), La Défense contains many of the Paris urban area's tallest high-rises, and is home to no fewer than 1,500 corporate head offices, including those of 15 of the top 50 companies in the world.

The district is located at the westernmost extremity of the ten-kilometre-long Historical Axis of Paris, which starts at the Louvre in Central Paris, and continues along the Champs-Élysées, well beyond the Arc de Triomphe along the Avenue de la Grande Armée before culminating at La Défense. The district is centred in an orbital motorway straddling the Hauts-de-Seine département municipalities of Courbevoie, Nanterre and Puteaux. La Défense is primarily a business district, and hosts only a population of 25,000 permanent residents and 45,000 students. La Défense is also visited by 8,000,000 tourists each year, and houses an open-air museum

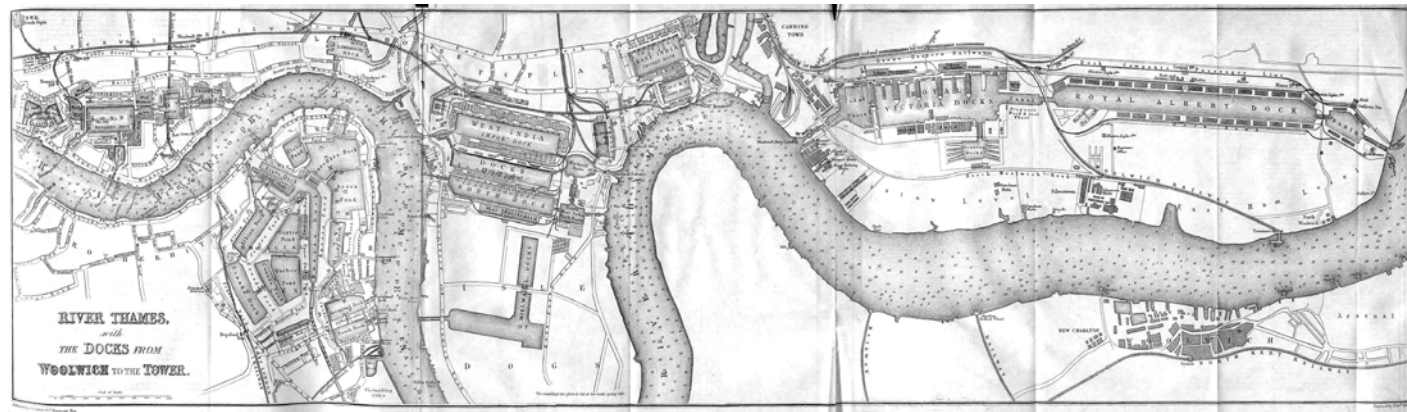


DOCKLANDS, London



In England there have been realised within the urban, fabric large scale redevelopments related to conversions of old industrial and port facilities into green spaces, culture and business. In London, the regeneration of the DOCKLANDS has been characterised from large state enterprises and private capitals, that it represents a project that is linked to the effort of pioneering redesign of the AVANT-GARDE, in order to expand the business center of east City as well as the upgrade of the metropolitan character of London in total. The regeneration of the Docklands begun to realise from the '80 on government of M. Thatcher and is

characterised from the particularly strong exploitation of the urban land. The regeneration concerned the remodeling of one particular section of the port eastward of London and hosted port facilities in 18th and 19th century, a port with the highest mobility in the world and from the end of '60 has been abandoned. The redevelopment of the area started in 1979 in an area of 22km². The main asset of the project were the infrastructure projects, the making fo the green spaces and the restoration and development of the port facilites so as to host buildings related to the banking systems and offices of multinational companies.



Kop van Zuid is a neighborhood of Rotterdam, Netherlands, located on the south bank of the Nieuwe Maas opposite the center of town. The district is relatively new and includes the Wilhelmina Pier as well as the V bounded by the Rose Street and railway line on one side and the Rotterdam-Dordrecht Hilledijk, Hill Street and Rijnhaven on the other.

The Kop van Zuid is built on old, abandoned port areas around the Binnenhaven, Entrepothaven, Spoorweghaven, Rijnhaven and the Wilhelmina Pier. These port sites and the Nieuwe Maas made for a large physical distance between the center and north of the Maas and southern Rotterdam. By converting this area into an urban area, and providing better infrastructure, planners sought to unite the northern and southern parts of the city.



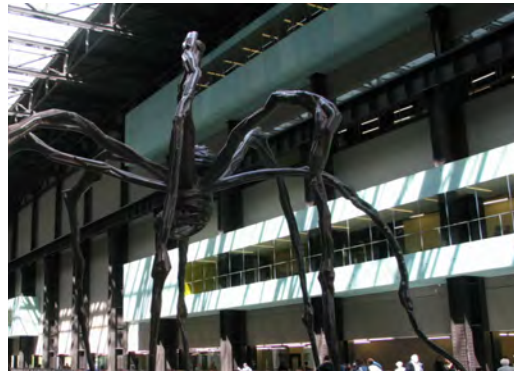
Potsdamer Platz is an important public square and traffic intersection in the centre of Berlin, Germany, lying about 1 km (1,100 yd) south of the Brandenburg Gate and the German Parliament Building), and close to the southeast corner of the Tiergarten park. It is named after the city of Potsdam, some 25 km (16 mi) to the south west, and marks the point where the old road from Potsdam passed through the city wall of Berlin at the Potsdam Gate. After developing within the space of little over a century from an intersection of rural thoroughfares into the most bustling traffic intersection in Europe, it was totally laid waste during World War II and then left desolate during the Cold War era when the Berlin Wall bisected its former location. Since German reunification, Potsdamer Platz has been the site of major redevelopment projects.



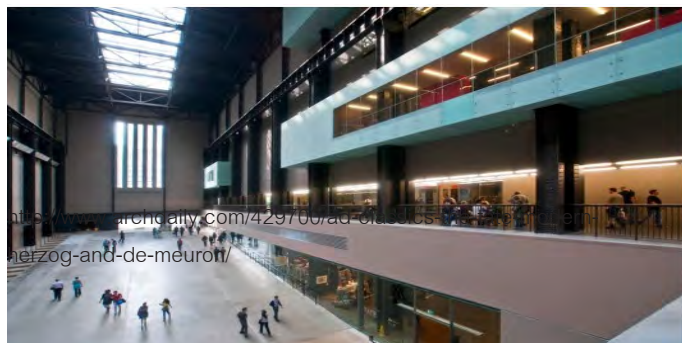
TATE MODERN, London



The oil-fired Bankside Power Station operating in 1963 in Southwark, London, designed by Sir Giles Gilbert Scott.



The galleries are housed in the former Bankside Power Station, which was originally designed by Sir Giles Gilbert Scott, the architect of Battersea Power Station, and built in two stages between 1947 and 1963. The power station closed in 1981. In 1992 The Tate Gallery at the British National Art Museum proposed a competition to build a new building for modern art. The purpose for the new building would help with the ever-expanding collection on modern and contemporary art. In 1995 it was announced that Herzog & de Meuron had won the competition with their simple design. The architects decided to reinvent the current building instead of demolishing it. The Tate modern is an example of adaptive reuse, the process of finding new life in old buildings. The building itself still resembles the 20th century factory in style from the outside and that is reflected on the inside by the taupe walls, steel girders and concrete floors. The façade of the building is made out of 4.2 million bricks that are separated by groups of thin vertical windows that help create a dramatic light inside. The history of the site as well as information about the conversion was the basis for a 2008 documentary Architects Herzog and de Meuron: Alchemy of Building & Tate Modern. This challenging conversion work was carried by Carillion.



HafenCity Hamburg is a project of urban regeneration where the old port warehouses of Hamburg are being replaced with offices, hotels, shops, official buildings, and residential areas. The project is the one of the largest rebuilding project in Europe in scope of landmass (approximately 2,2 km²). The area of the HafenCity used to be part of the free port, but with the decreased economic importance of free ports in an era of European Union free trade, large container ships and increased border security, the Hamburg free port was reduced in size, removing the current HafenCity area from its restrictions. When completely developed, it will be home to about 12,000 people and the workplace of 40,000 people mostly in office complexes. The prospect for completion is not very clear, but will probably be around 2020-2030.





MUSEUM OF UNDERWATER ANTIQUITIES



CHARACTER OF THE MUSEUM

The Museum under way will be unique, not only for Greek but also for international museum standards, given that, presently, there is no other similar museum in the Greek territory in respect to this thematic but also range of its collections, but also because museums dedicated solely to underwater archaeology abroad remain scarce.

- This will be a primarily archaeological Museum; however, special attention will be given
- (a) to the balanced development of archaeological finds and new technologies, so as to ensure the promotion of the Museum's archaeological material, a great part of which will be exhibited to the broader public for the first time
 - (b) to ensure the Museum's participative – experiential character and
 - (c) to promote its educational role, addressed to all its visitors irrespectively of age.



SILO Complex

EXHIBITION MATERIAL

The Museum's exhibition material will include primarily archaeological finds, reaching approximately 2.000 objects and deriving mainly from the autopsies, research and excavations conducted over the past 35 years by the Ephorate of Underwater Antiquities in the territory of its jurisdiction (sea, lake and river zones). A considerable number of finds will be received from confiscations and voluntary returns from private individuals. The category of original archaeological material will also include commercial amphorae, utility and table ware, statues, fragments of sculptures and architectural members, complete architectural members and building material, trading means, hulls and equipment from ships, personal armor and tools for weaponry, inscriptions, clothing and toiletry items, tools and other objects such as dried fruit, fishing gear, and others.

Apart from the archaeological material, the exhibition will include copies of emblematic ancient objects (obsidian tools, frying-pan vases, etc.), models of prehistoric, classical and Byzantine vessels and ships (cf. 'papyrella' and 'Olympias', 'dromon', etc.). It is also possible that the exhibition will include part of the original hull of a 12th c. Byzantine vessel, which is today still in the seabed (at the port of Rhodes).

Exhibits will include maps or archive material, such as maps, engravings, literary editions of the Odyssey and the Argonautic Expedition, as well as the correspondence between Ch. Tsoundas and the Archaeological Society concerning the underwater investigations to find evidence from the Battle of Salamis.

A contemporary artist's installation, inspired by the close and diachronic relation of

the Greeks with the sea, will form a unique exhibit. Finally, the exhibition will hold a special place for digital exhibits, such as applications bearing oral testimonies of fishermen, sailors or diving archaeologists on the myths of the sea or the experience of an underwater excavation, e-books for 'leafing through' maps; Byzantine portolans, and others.

THEMATIC AXES

The Museum's permanent exhibition will be organized around a properly structured, flowing narration, facilitating visitors to understand the main points but also allowing them to 'submerge' into the fascination provoked by the exhibition material.

The exhibition narrative will comprise a broad range of subjects with special or general interest, as are: the perpetual conversation and interaction between sea-natural environment and man; the diachronic character of marine history for Greeks; the shipbuilding technology in the Mediterranean; shipwrecks in the Greek seas as 'Hellenic history' snapshots; the assistance rendered by the discipline of Underwater Antiquity in the field of the preservation and study of these shipwrecks but also for lake or coastal settlements, etc.

In the interest of managing effectively the anticipated high number of visitors, the exhibition narrative will be developed through six distinct thematic axes, which will be 'read' independently of each other but also combined. These axes will include, as much original archaeological material as possible and will be complemented by various interpretive means and by a considerable number of educational actions, in approximately equiponderant proportion, in order to serve a shorter or longer visit of the Museum. These thematic axes are the following:

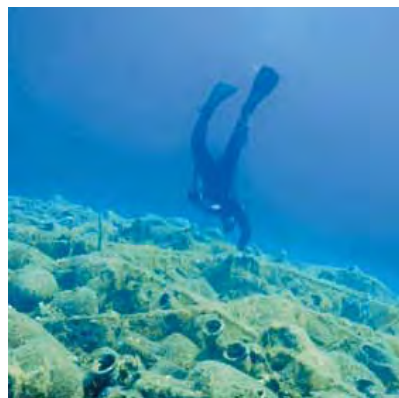
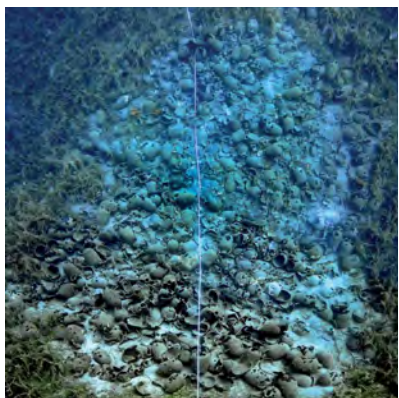
Sea, environment, man.

Underwater Archaeology: Research and excavations in an aquatic environment.
'Time capsules' in the seabed ... moments in time.

Migrating on land or staying in the seabed: the protection, management and promotion of underwater cultural heritage. Shipwrecks as reflected in the arts and letters.

The Piraeus SILO: Landmark of a city, symbol of an era.

Each thematic axis will include a number of sections and subsections, constituting smaller or larger integral stories.

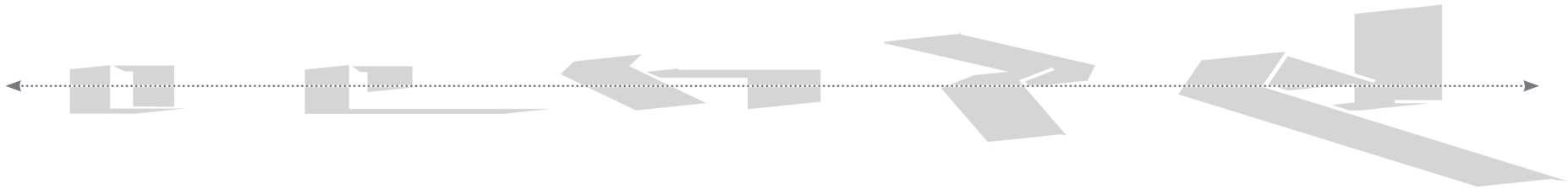


OUTSIDE EXHIBITION ZONE

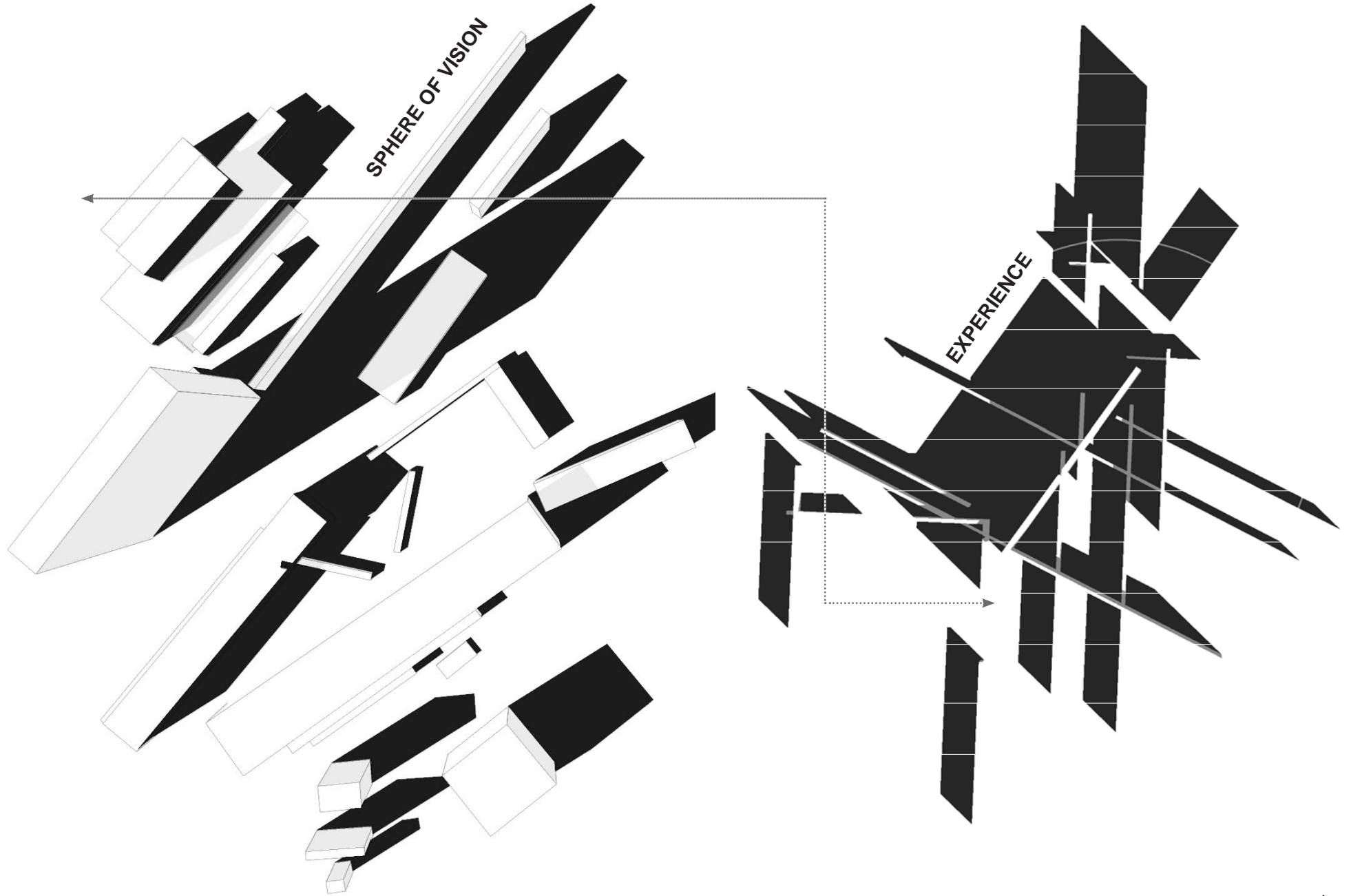
inally, the Museum's participatory character is also fulfilled outside the exhibition zone. More particularly, the 800 m² -zone dedicated to Educational Programs and Scientific Events, anticipates a special 150 m² room for participatory educational actions mainly addressed to children and families, while the Museum's surrounding area provides for a 300 m² area for technical diving.

Given that the Museum of Underwater Antiquities aspires to become a participatory museum, the planning and materialization of its exhibition narrative will incorporate many of the exhibition and educational practices seen in Natural History and Technology Museums, which constitute the participative and interactive museums par excellence.

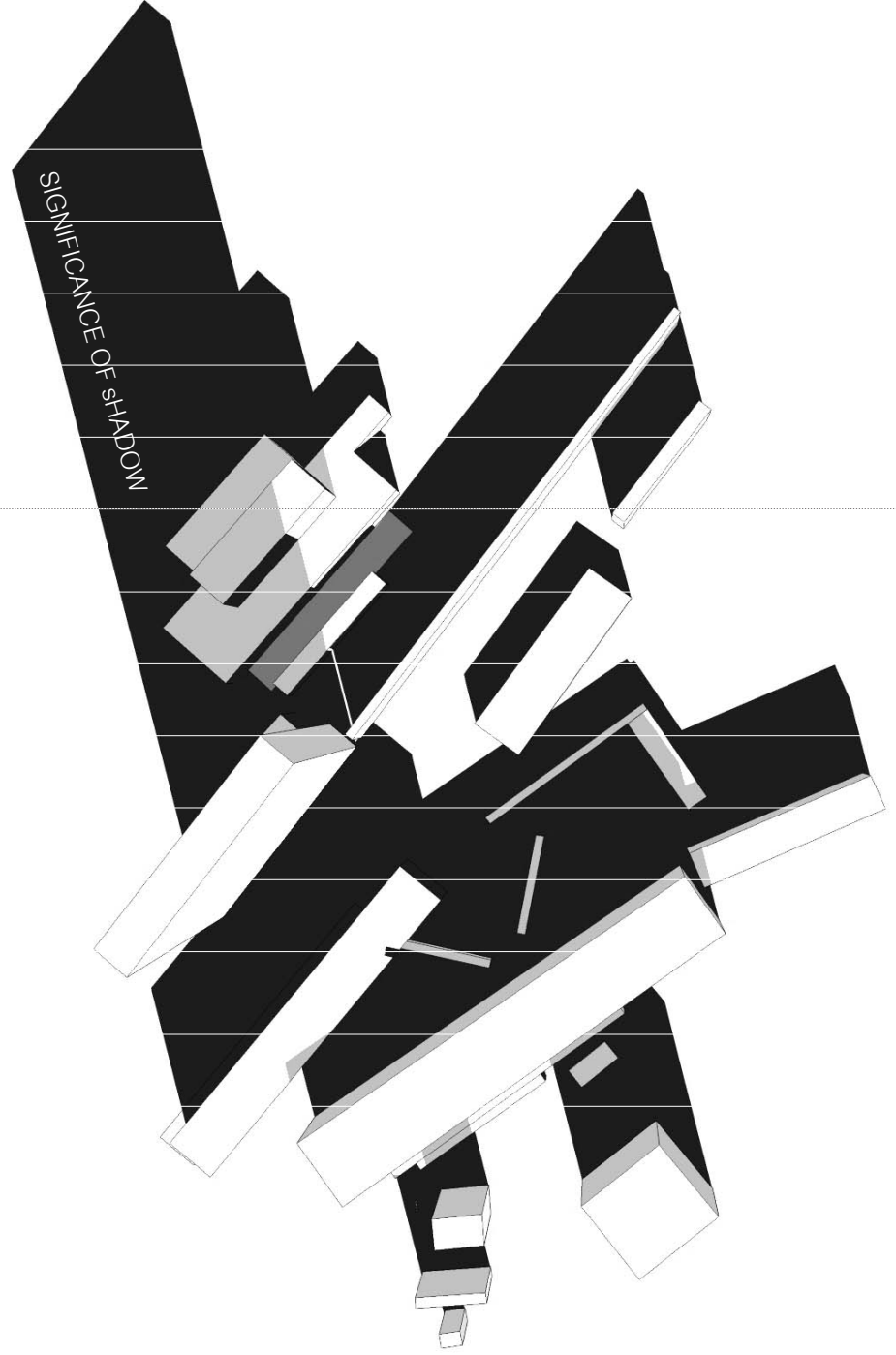
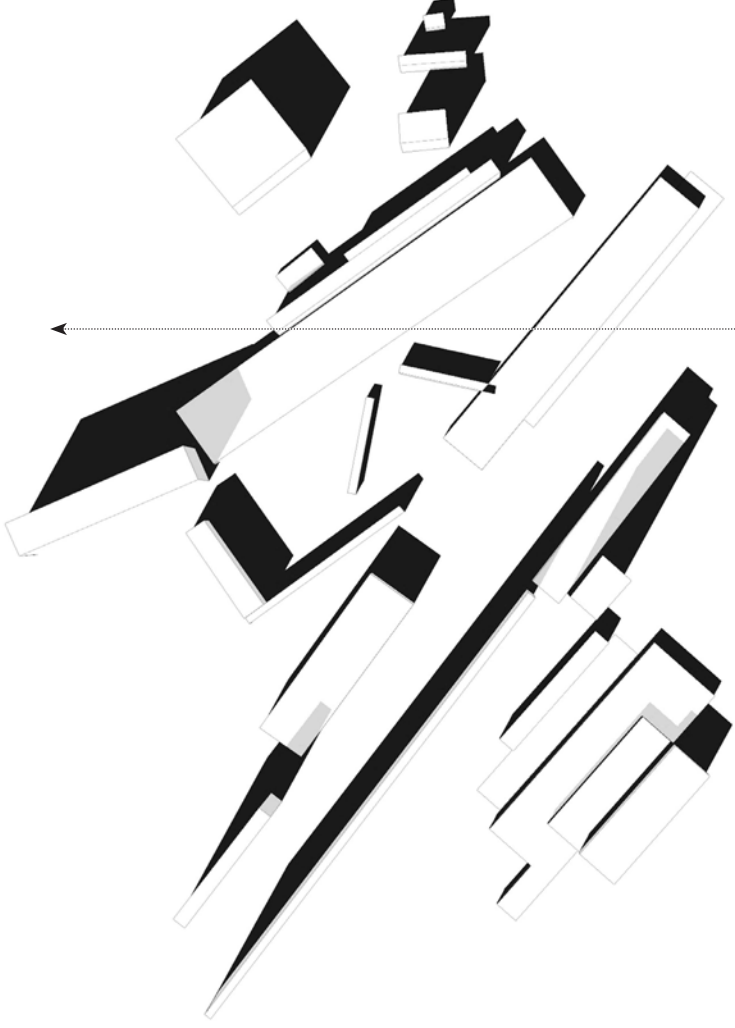
The definitive museological and museographical study will preserve part of the SILO's initial use, which will be attributed a museum use, and to include all the handling and storage stages of the wheat commodities. It is therefore desirable that the area exceed the 11.000 m² assigned for museum space, as well as preserve part of the cells and conveyors and at least one of the suction pylons, which can also be attributed to museum use. More particularly, preserved elements will include: a) One conveyor belt, b) as many cells as deemed necessary for the sufficient understanding of the function of the SILO mechanisms, c) at least one of the three suctions (or suction pylons).



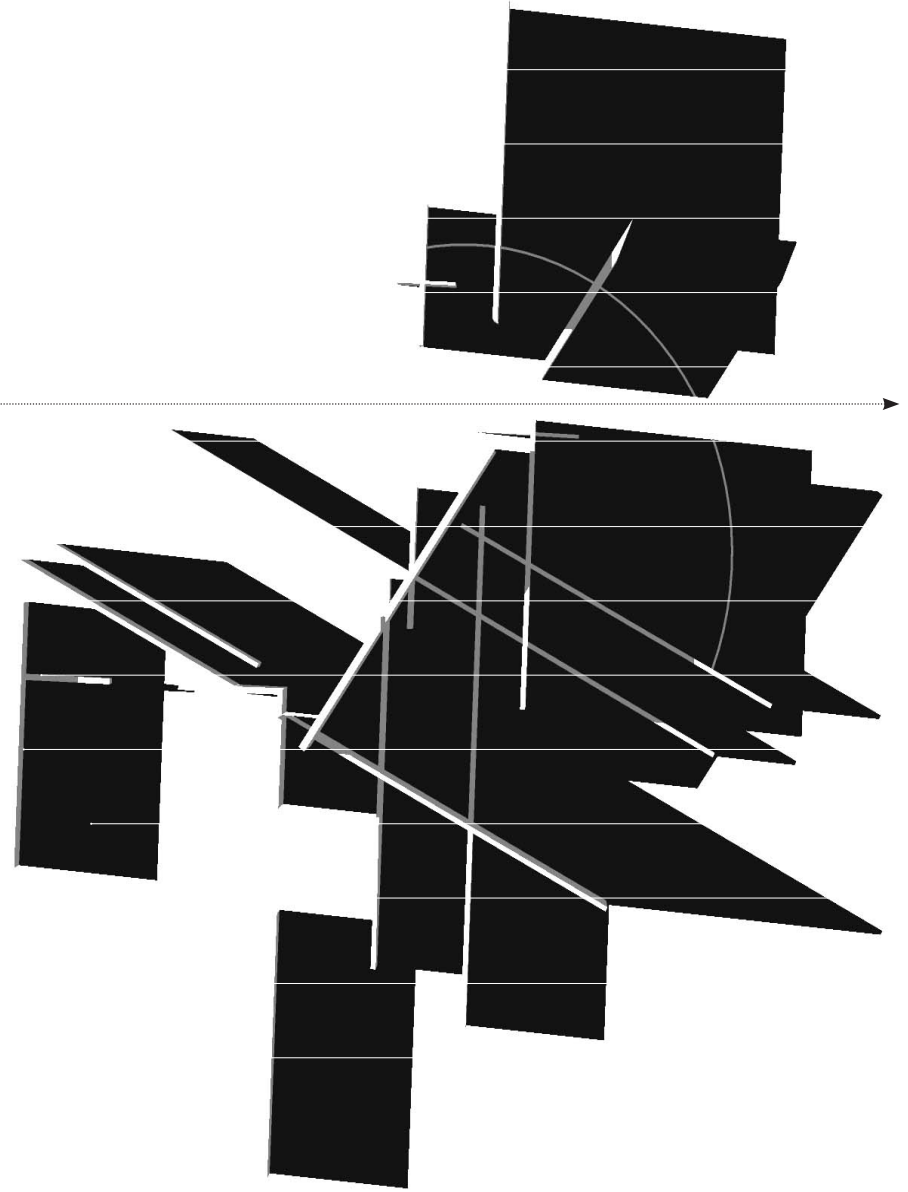
GEORGE BERKELEY _ RELATED TOUCH AND VISION AND ASSUMED THAT VISUAL APPREHENSION OF METRIALITY, DISTANCE AND SPATIAL DEPTH WOULD NOT BE POSSIBLE AT ALL WITHOUT THE COOPERATION OF THE HAPTIC MEMORY



SILENCE ::: TIME ::: SOLITUDE



SPACES OF MEMORY AND IMAGINATION



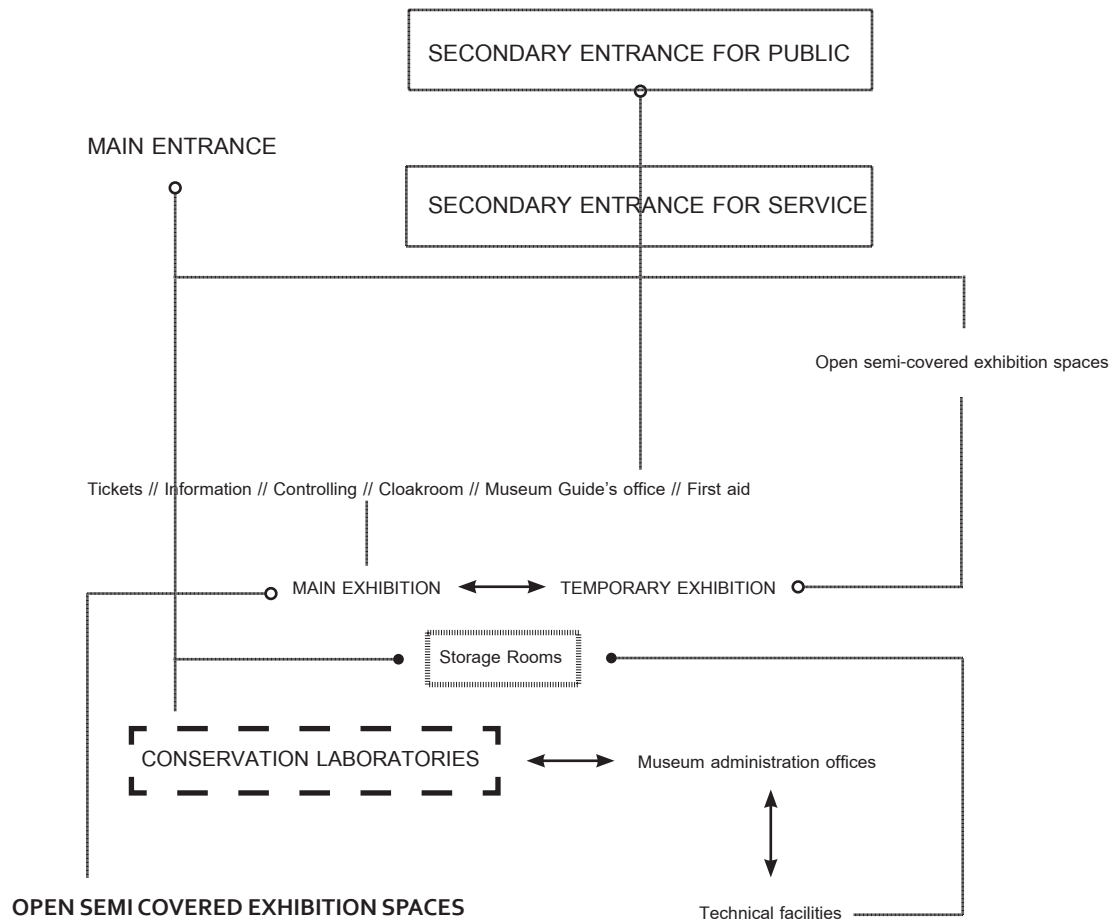
THE MUSEUM OF UNDERWATER ANTIQUITIES :::

- Visitors servicing spaces
- Exhibition spaces: Spaces are anticipated for permanent exhibitions – thematic sections (headroom of 15m, 10m, and 4,5m). Temporary exhibition space, as well as open-air and semi-covered areas are also anticipated.
- Educational programs – Scientific activities spaces
- Conservation, study and exhibition support laboratories
- Storage Rooms
- Museum Direction offices (Administration)
- Technical facilities
- Surrounding landscape: courtyards for the public and the personnel, parking space for visitors and personnel, as well as the Diving Technique area.
- Closed spaces in the aforementioned building program require a gross floor area of 13100 m².



.....
Dry Docks, outside the museum

BUILDING PROGRAMME - MUSEUM OF UNDERWATER ANTIQUITIES



A separate entrance is used for the amphitheater/multi-purpose hall (belonging to the educational programs' section) and for the restaurant/refreshment area, thus allowing these areas to function independently of the main museum's opening hours.

Part of the conservation laboratories is anticipated to dispose a transparent glass, so that visitors can follow conservation works.

PIRAEUS CULTURAL COAST



CIRCULATION



PUBLIC SPACE



BUILT SPACE



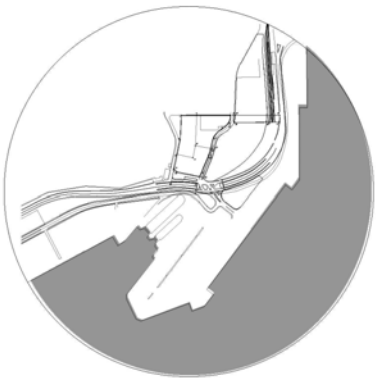
GREEN SPACE



PHASE I



CIRCULATION



PUBLIC SPACE



BUILT SPACE



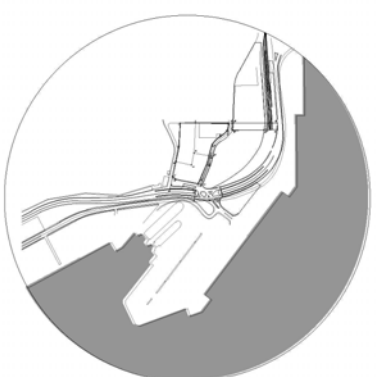
GREEN SPACE



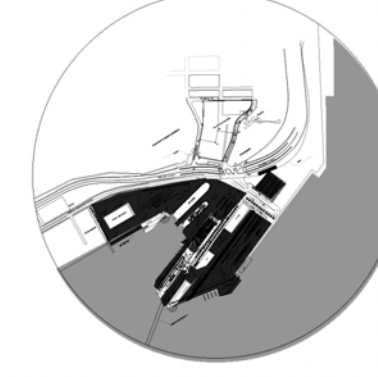
PHASE II



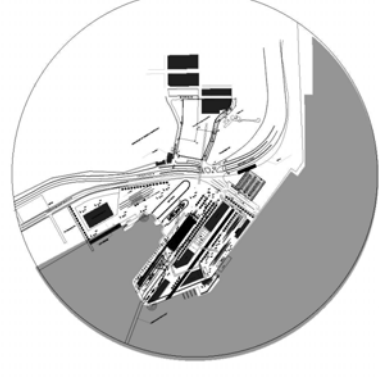
CIRCULATION



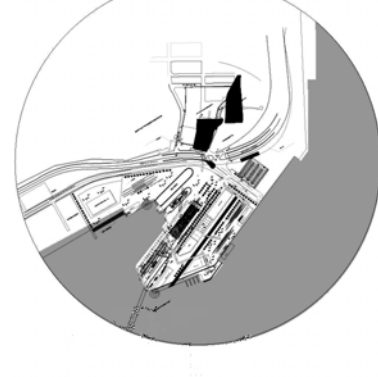
PUBLIC SPACE



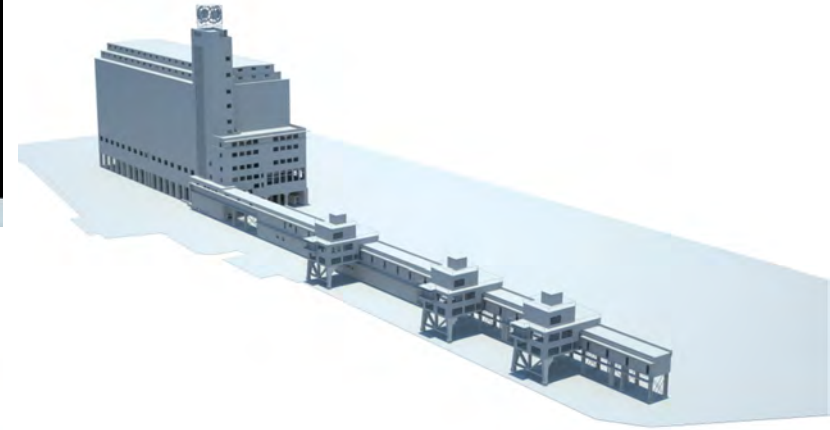
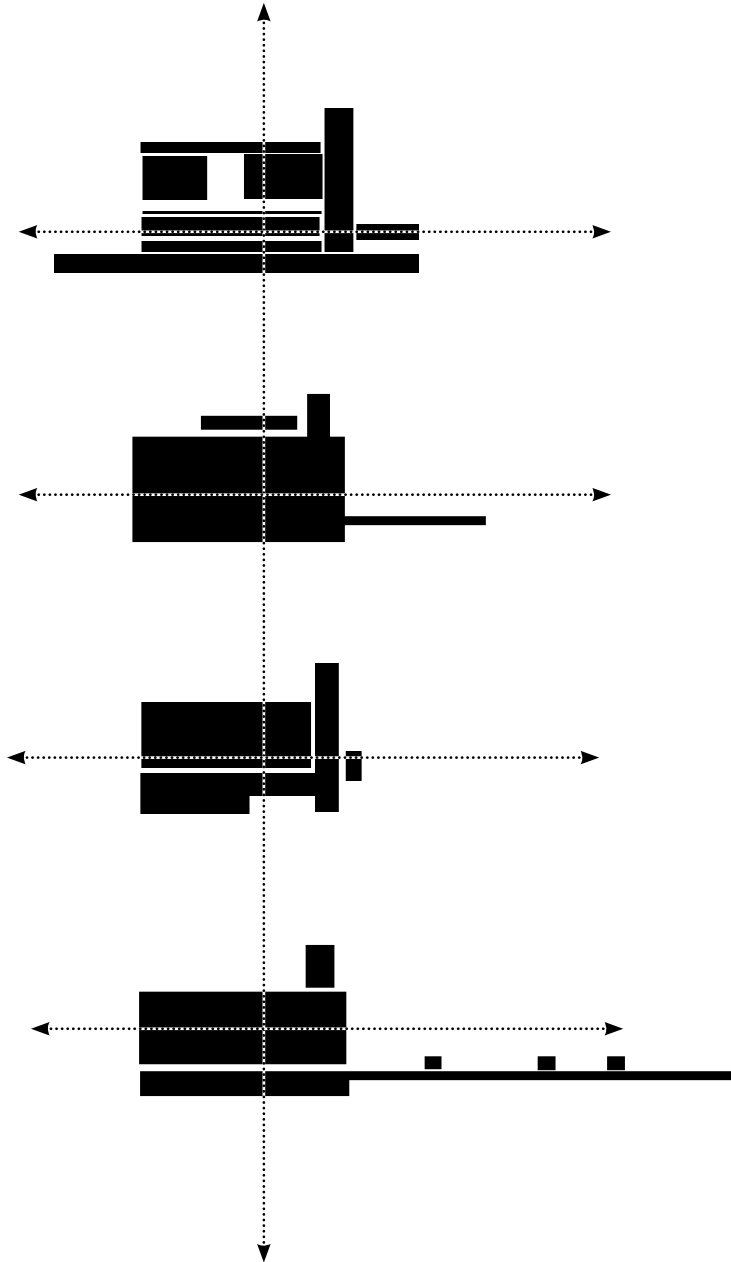
BUILT SPACE



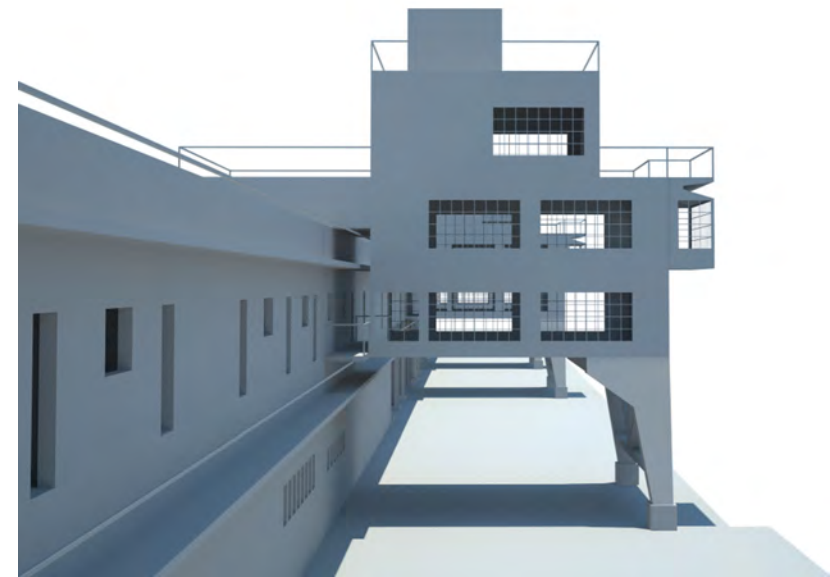
GREEN SPACE



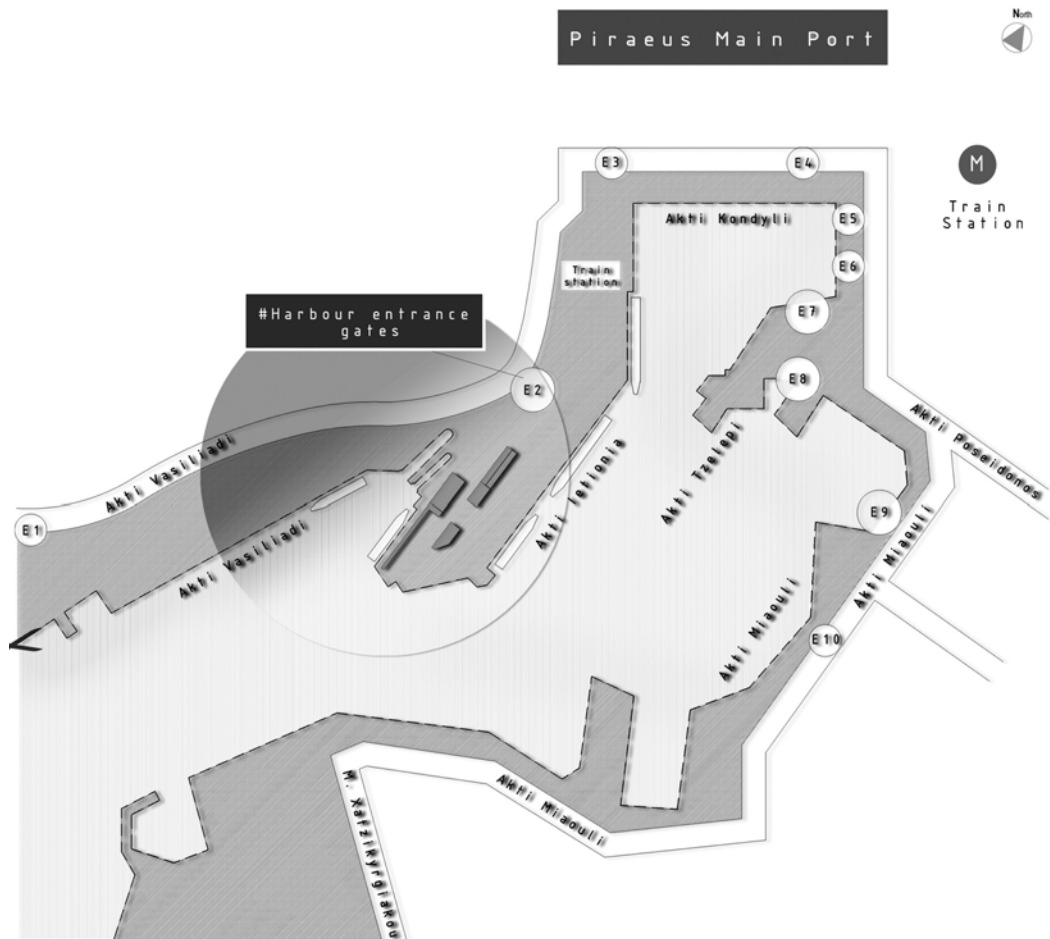
Division of functions



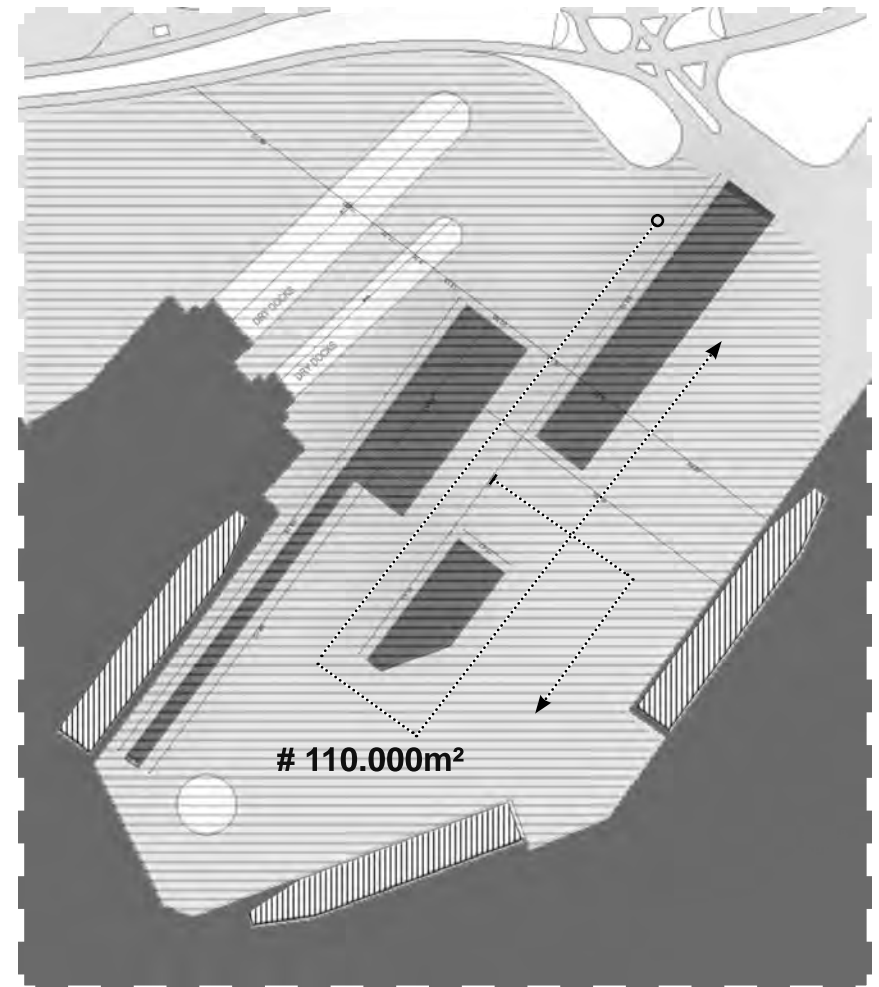
The existing Silo complex with the conveyor belt





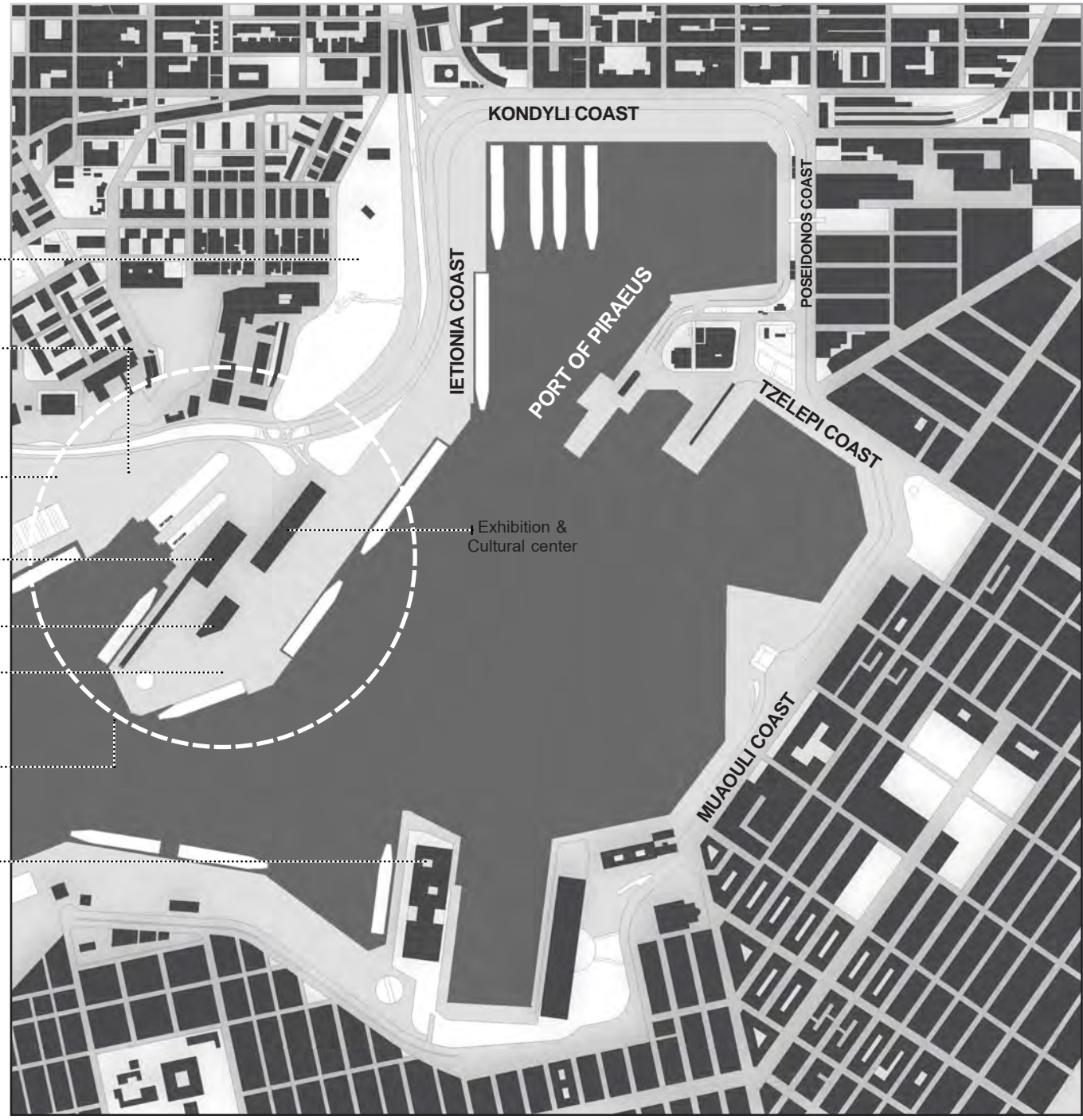


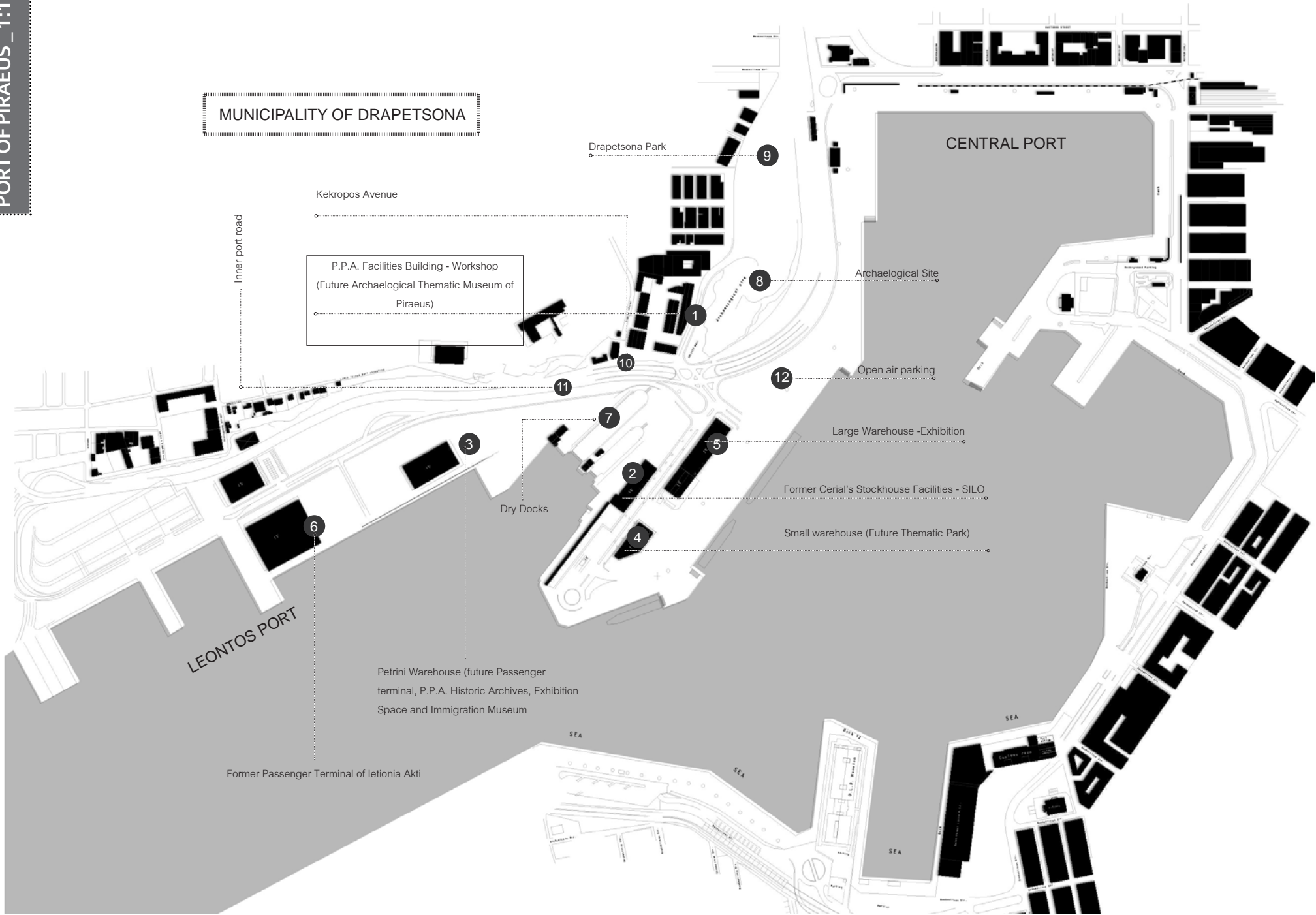
Different port gates within the harbor



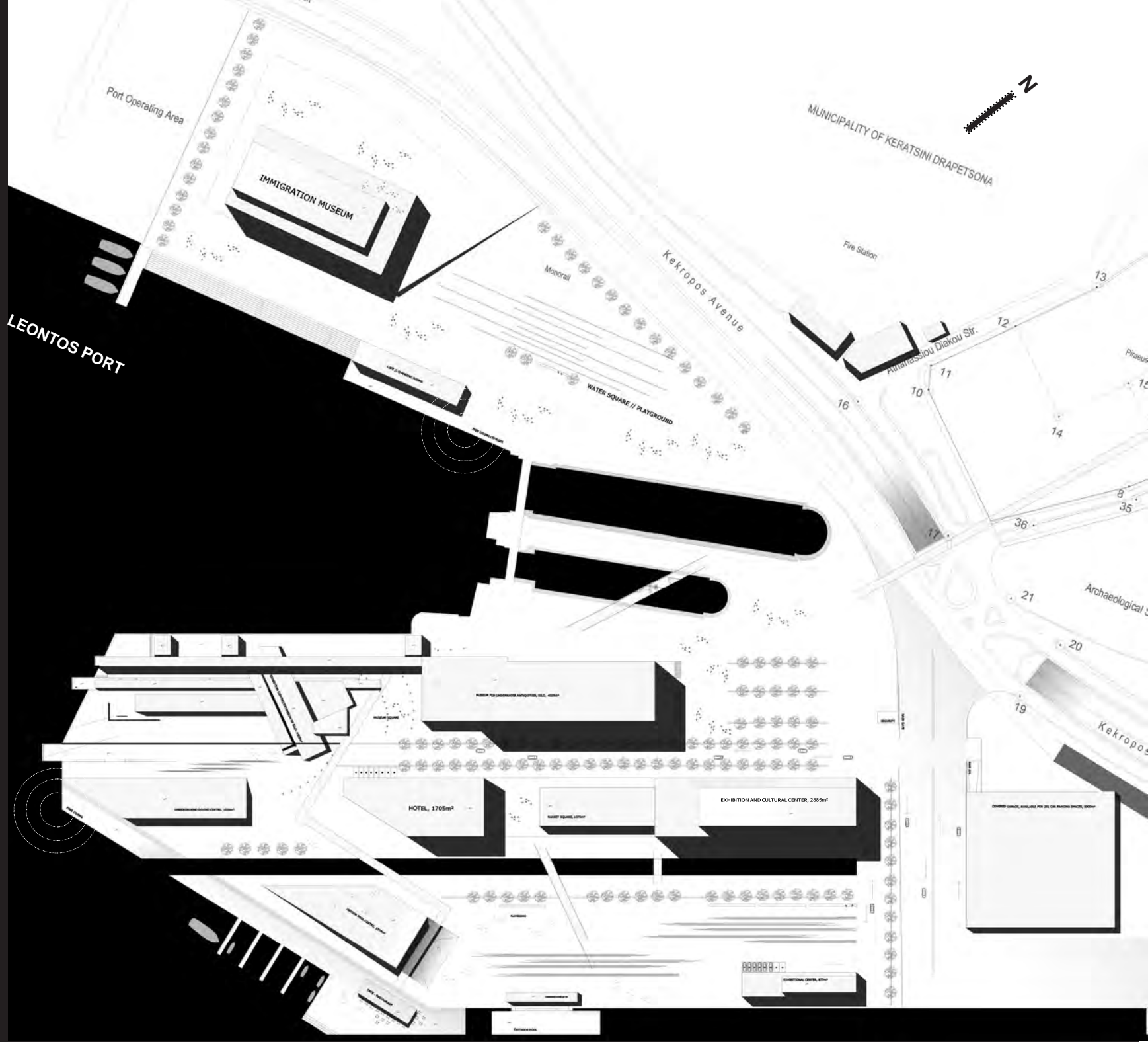
Basic dimensions of site

- Archaiological Museum of Piraeus
- Water Park
- Refugees Museum & Park
- MUSEUM OF UNDERWATER ANTIQUITIES
- Hotel
- Central square
- Underwater walkway for connection Port Lions with Cultural Coast
- Piraeus Port Central Authority

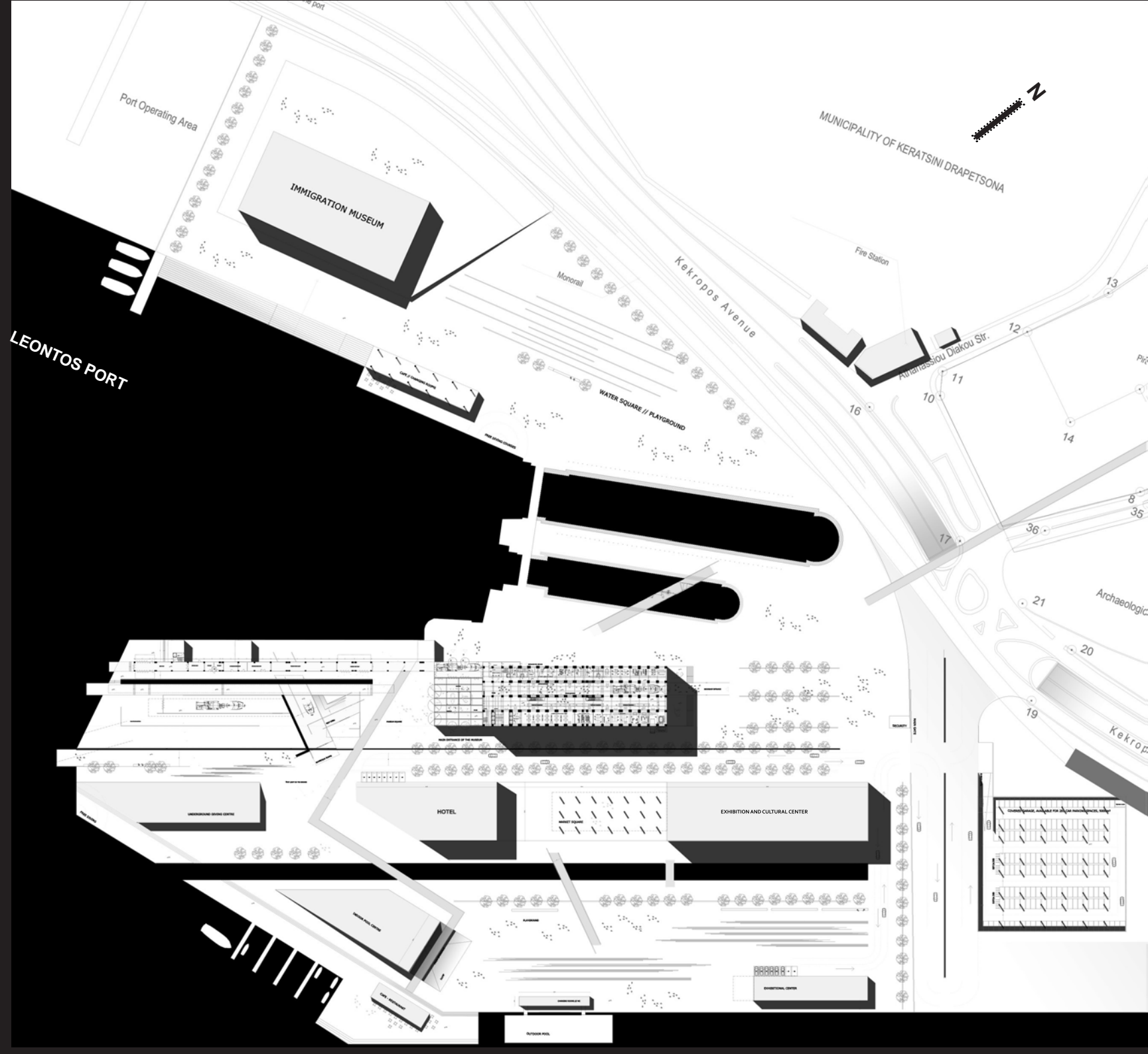




SITEPLAN_ 1:2000_Phase II



MASTER PLAN _GF_ 1:2000 _Phase II



MASTER PLAN_ 1:2000??

The visitor of the coast searches for a more entertained experience that covers with pioneering methods its needs.

UNDERWATER CONNECTION WITH AKTI LEODOS

The port sustains the buildings and shows parallel the respect towards it's history.

NEW EXTENSION OF MUSEUM

SCULPTURE PARK

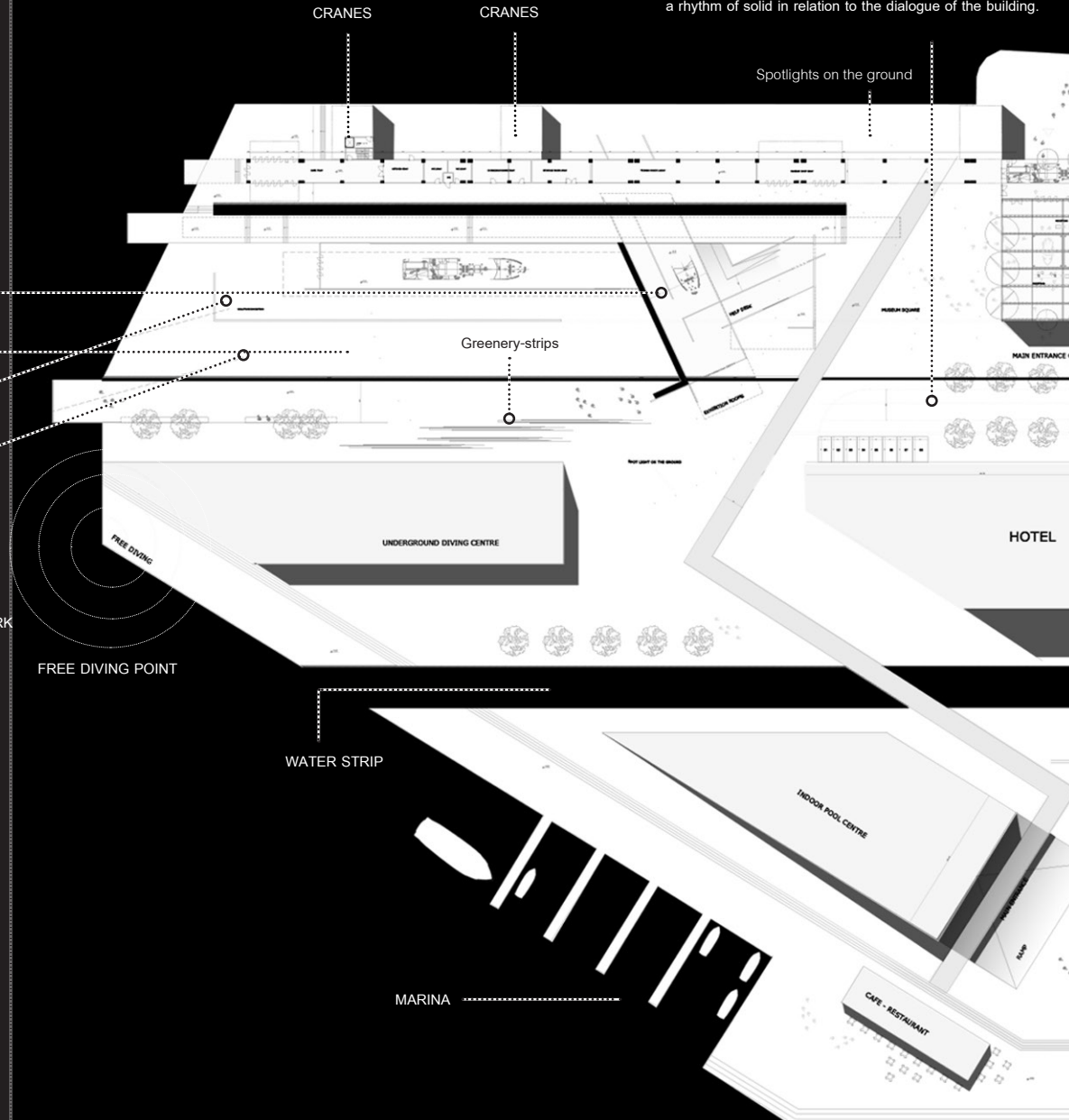
FREE DIVING POINT

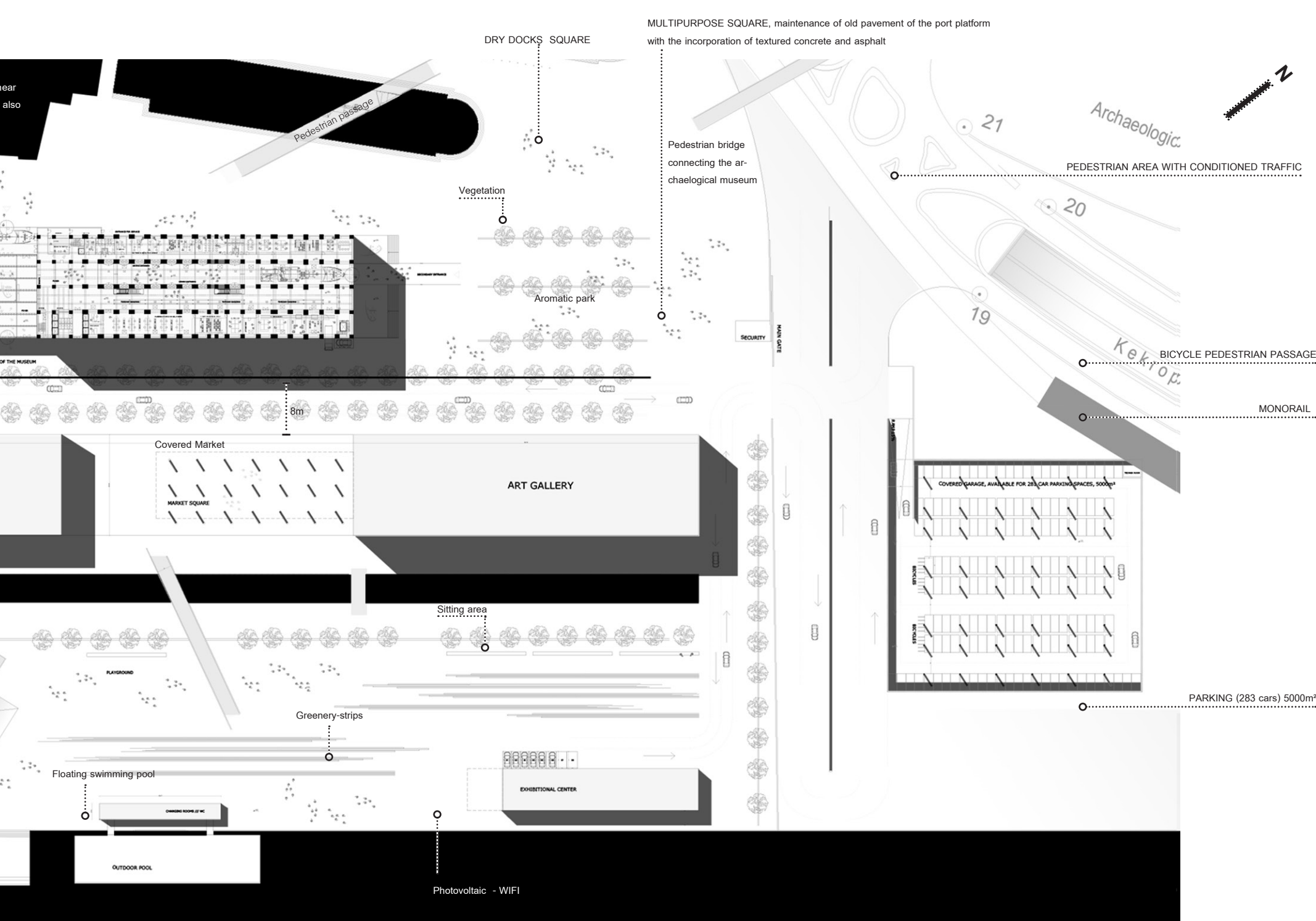
WATER STRIP

MARINA

CENTRAL STREET

In the great space of confrontation between two built strips, there is a linear water strip, overshadowed in order to produce a cooler environment, but a rhythm of solid in relation to the dialogue of the building.





MULTIPURPOSE SQUARE, maintenance of old pavement of the port platform with the incorporation of textured concrete and asphalt

Pedestrian bridge connecting the archaeological museum

Archaeologic

PEDESTRIAN AREA WITH CONDITIONED TRAFFIC

BICYCLE PEDESTRIAN PASSAGE

MONORAIL

COVERED GARAGE, AVAILABLE FOR 283 CAR PARKING SPACES, 5000m²

PARKING (283 cars) 5000m²

Photovoltaic - WIFI



Museum shop storage room 80m²

Technik room 70m²



Storage room for restaurant & Technik room 169m²

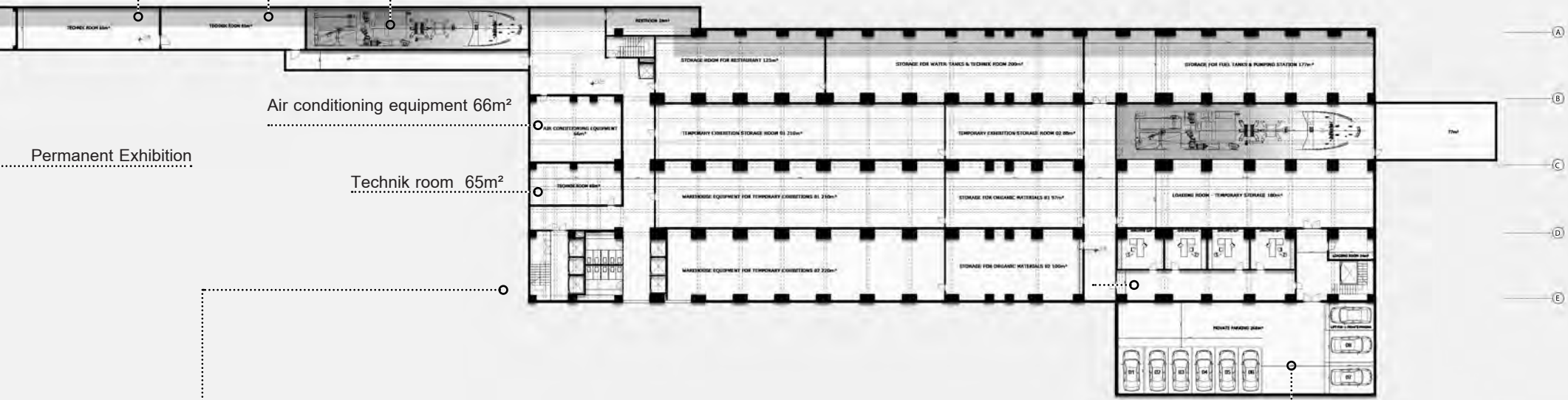
Projector

Laboratories // Educational activities

DRY DOCKS

2 x Technik room 65m²

24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48



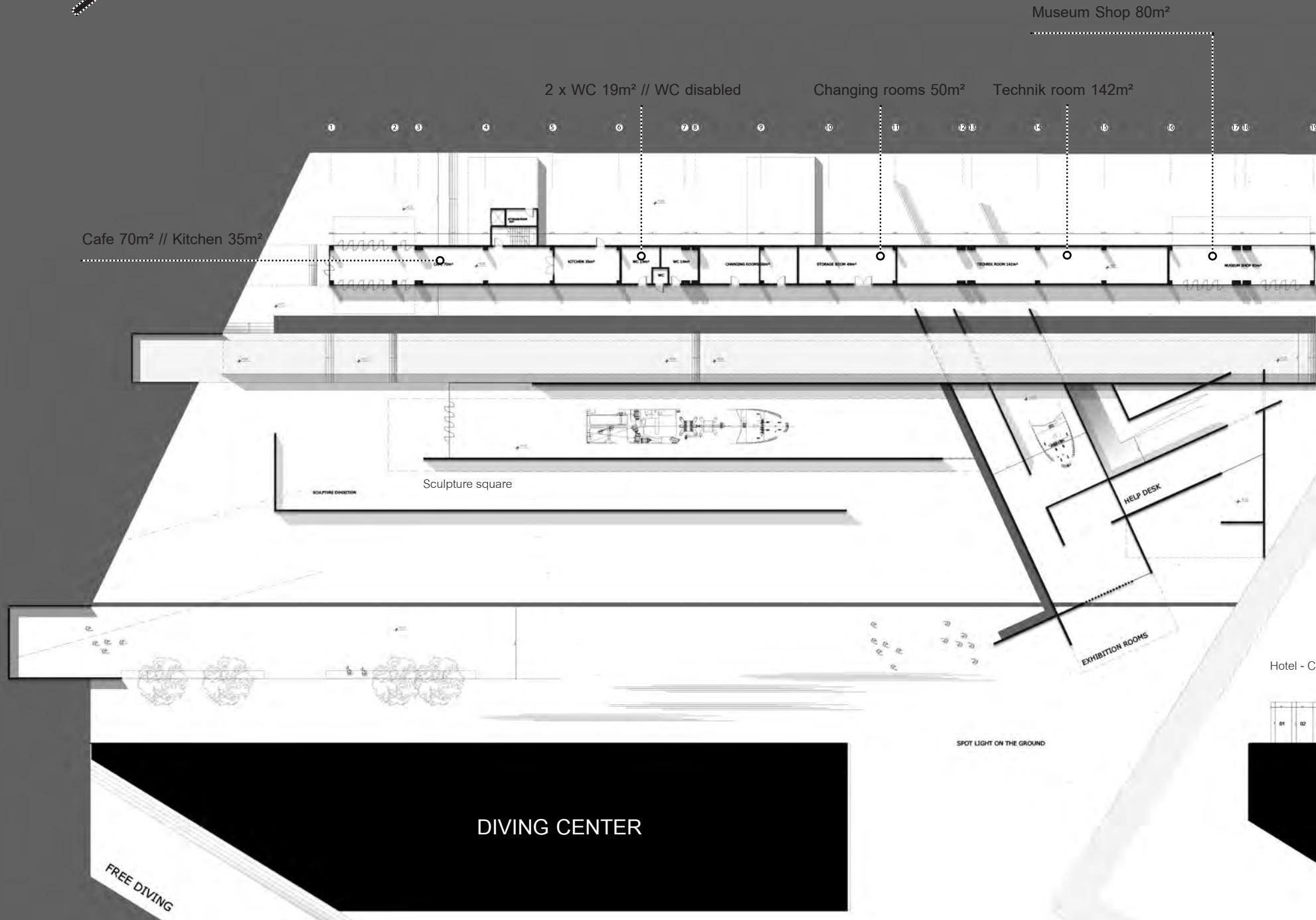
Permanent Exhibition

Air conditioning equipment 66m²

Technik room 65m²

Private Parking for employers 268m²

- Restroom 29m²
- Storage room for Restaurant 125m²
- Storage for water-tanks & technik room 200m²
- Temporary exhibition storage room 01 210m²
- Restroom 29m²
- Storage room for Restaurant 125m²
- Warehouse equipment for temporary exhibitions 01 210m²
- Warehouse equipment for temporary exhibitions 02 220m²
- Storage room for organic materials 01 97m²
- Temporary exhibition storage room 02 88m²
- Warehouse equipment for temporary exhibitions 01 210m²
- Warehouse equipment for temporary exhibitions 02 220m²
- Storage room for organic materials 02 100m²
- Storage for Fuel tanks & Pumping station 177m²
- Loading room - Temporary storage 180m²
- 4 x Admin offices 18m²
- Temporary loading room 14m²



Cafe 70m² // Kitchen 35m²

2 x WC 19m² // WC disabled

Changing rooms 50m²

Technik room 142m²

Museum Shop 80m²

Sculpture square

HELP DESK

EXHIBITION ROOMS

DIVING CENTER

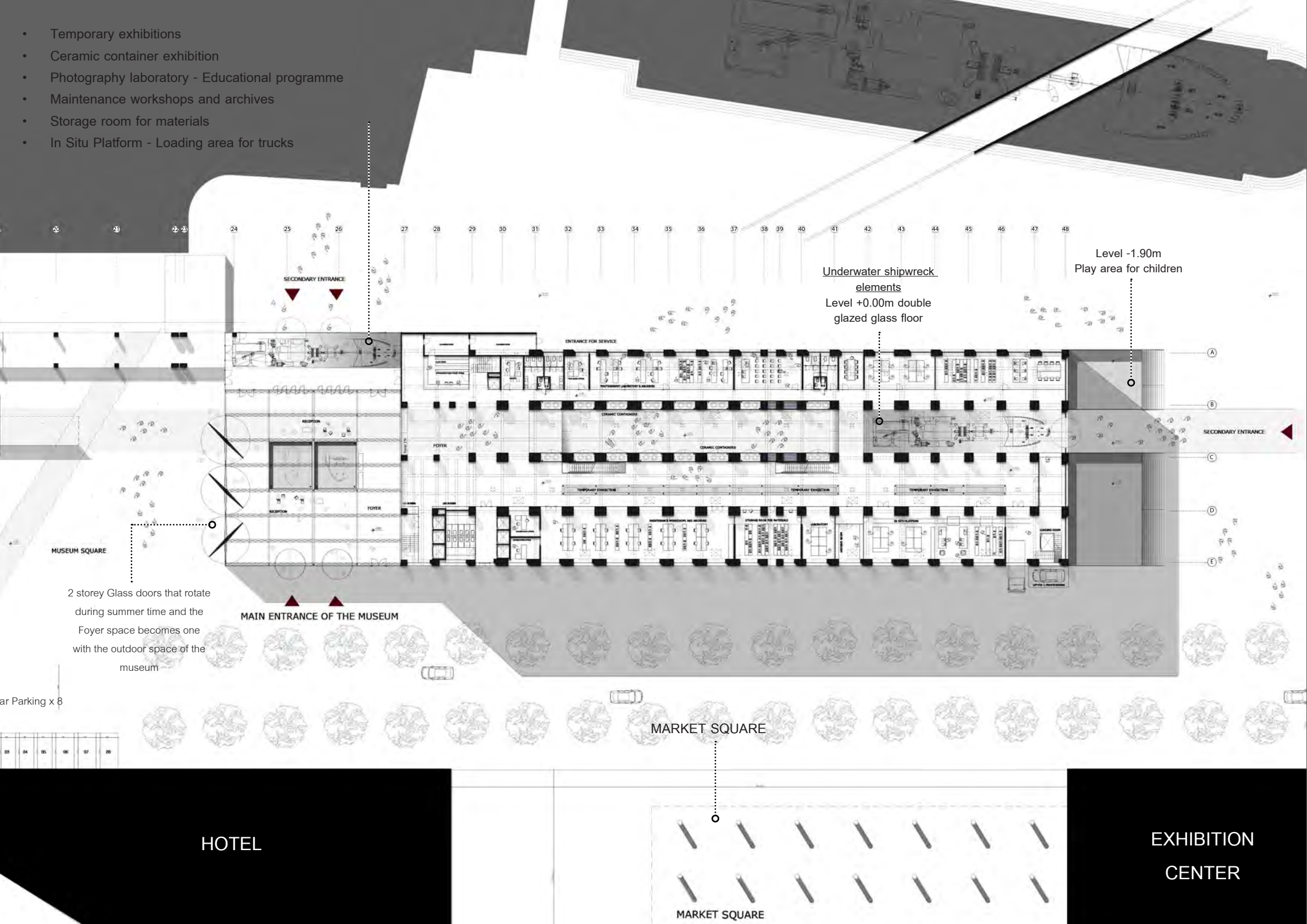
FREE DIVING

SPOT LIGHT ON THE GROUND

Hotel - C

01	02
----	----

- Temporary exhibitions
- Ceramic container exhibition
- Photography laboratory - Educational programme
- Maintenance workshops and archives
- Storage room for materials
- In Situ Platform - Loading area for trucks



20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48

Level -1.90m
Play area for children

Underwater shipwreck
elements
Level +0.00m double
glazed glass floor

A
B
C
D
E

MUSEUM SQUARE

2 storey Glass doors that rotate
during summer time and the
Foyer space becomes one
with the outdoor space of the
museum

MAIN ENTRANCE OF THE MUSEUM

SECONDARY ENTRANCE

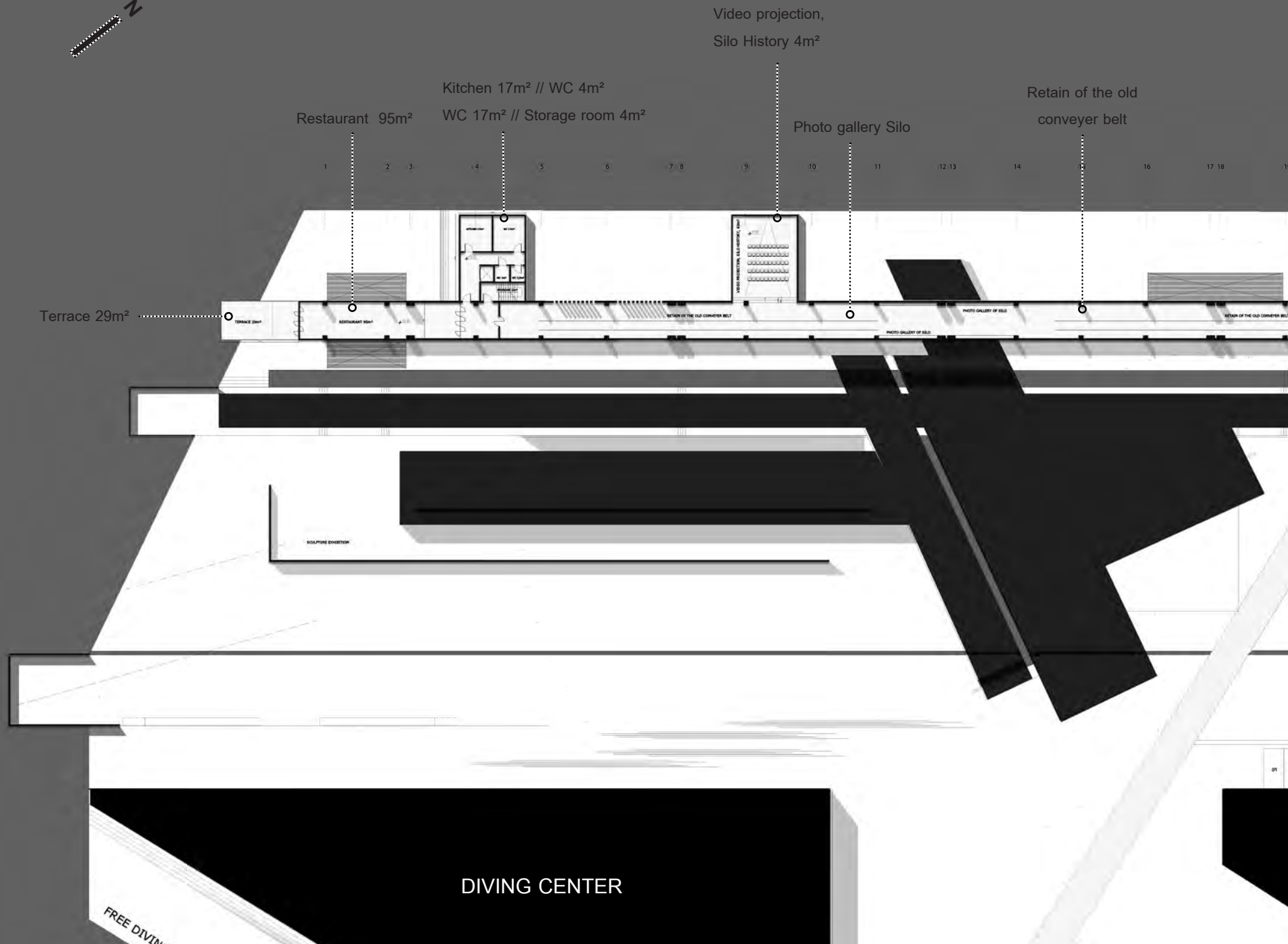
Car Parking x 8

MARKET SQUARE

HOTEL

EXHIBITION
CENTER

MARKET SQUARE



Video projection,
Silo History 4m²

Kitchen 17m² // WC 4m²

Restaurant 95m²

WC 17m² // Storage room 4m²

Photo gallery Silo

Retain of the old
conveyer belt

Terrace 29m²

DIVING CENTER

FREE DIVING

- Temporary exhibitions
- Storage room 190m²
- Storage room for museum shop 21m²

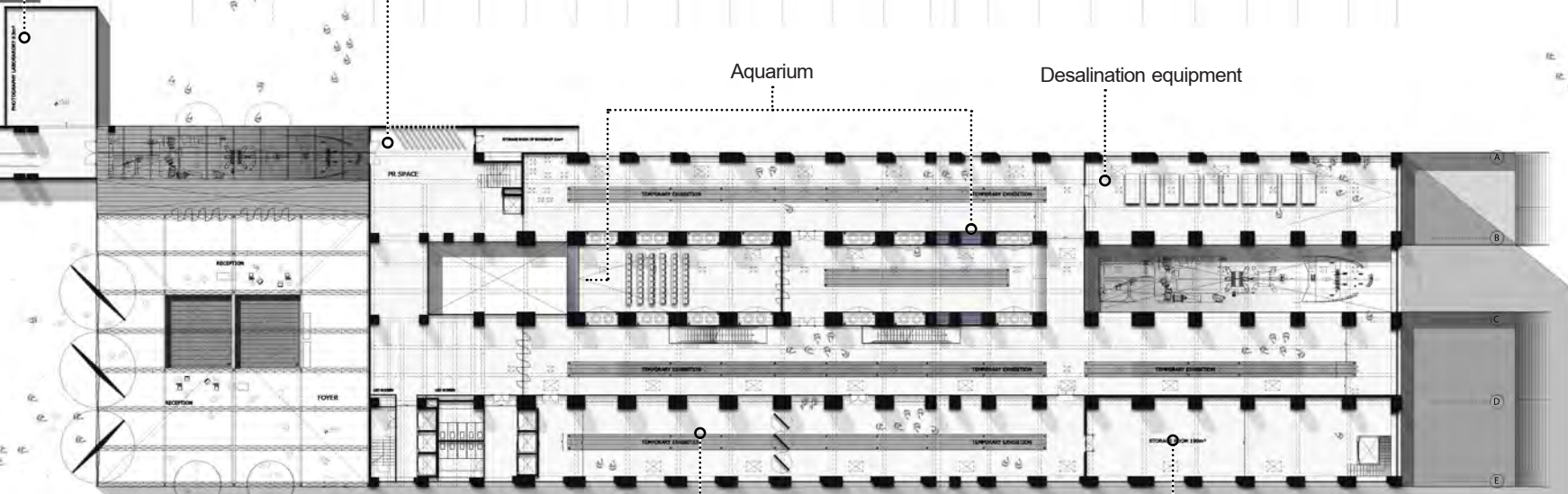
Photography
laboratory 83m²

20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48

Aquarium

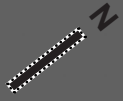
Desalination equipment

MUSEUM SQUARE



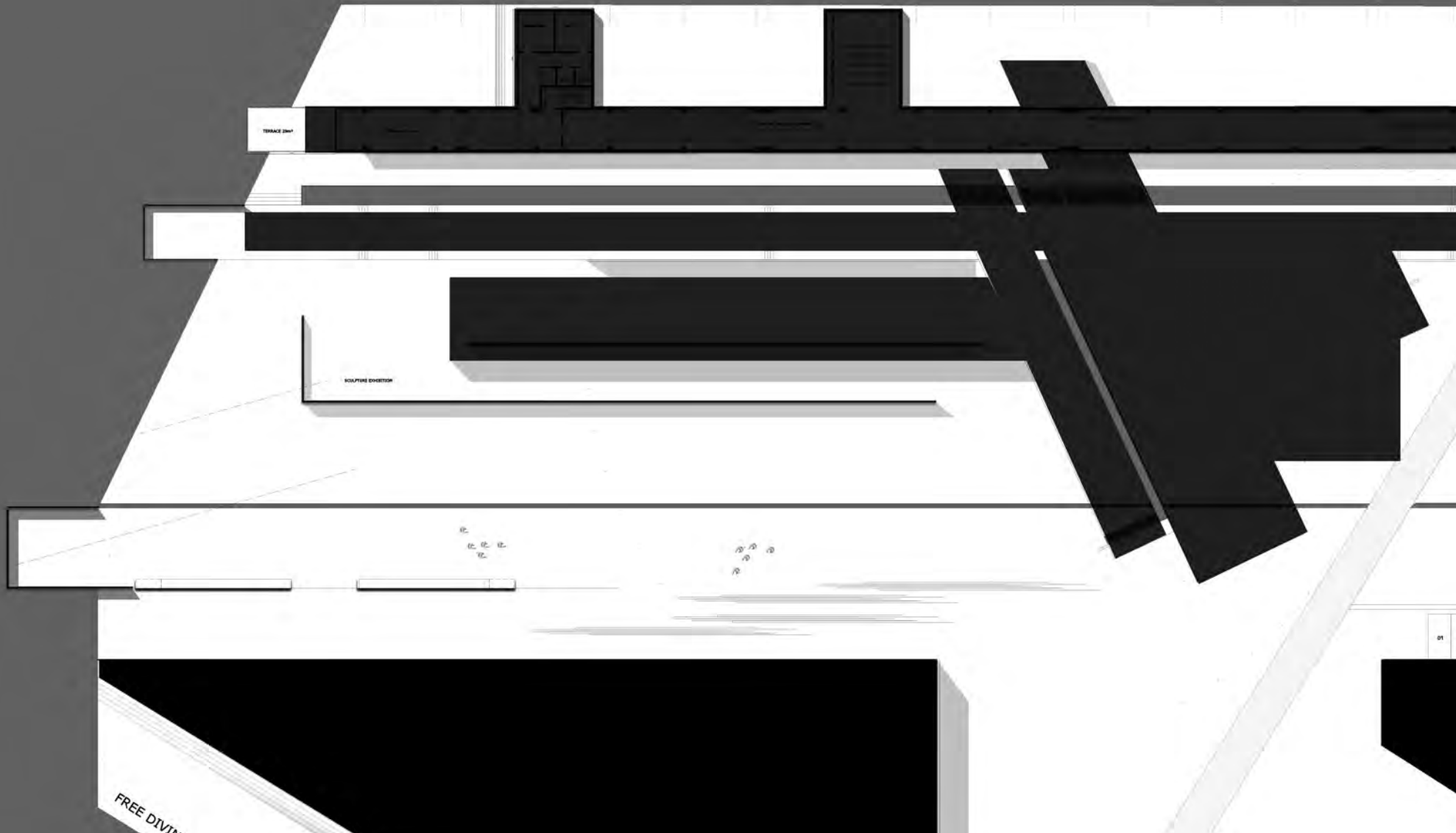
HOTEL

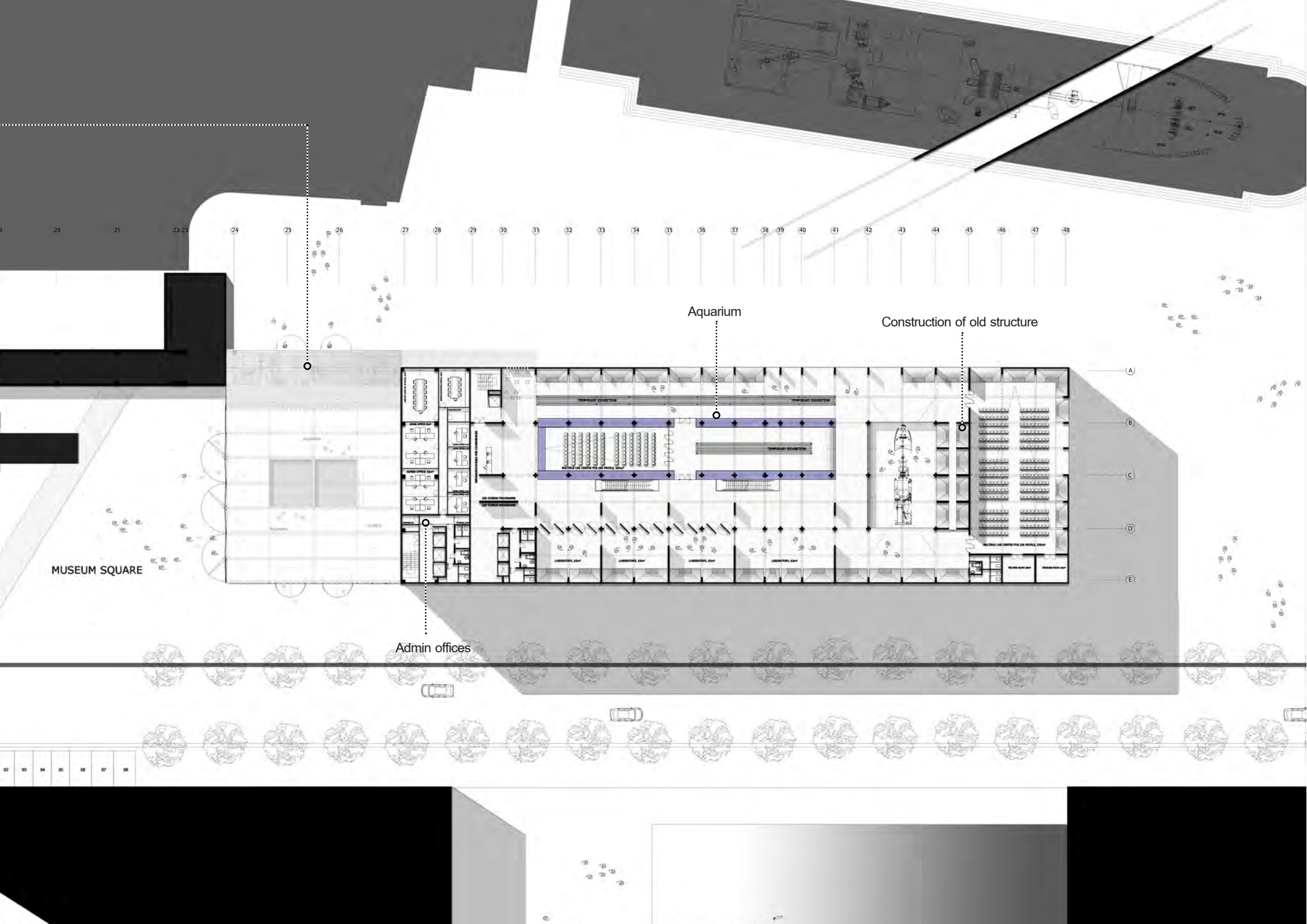
EXHIBITION
CENTER



- Admin offices
- Open Temporary exhibitions, Thematic axe
- 4 x Laboratory rooms 63m²
- Multiple use center for 108 people, 104m²
- Multiple use center for 228 people, 335m²
- Technik room + storage room

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18





20 21 22,23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48

Aquarium

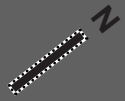
Construction of old structure

MUSEUM SQUARE

Admin offices

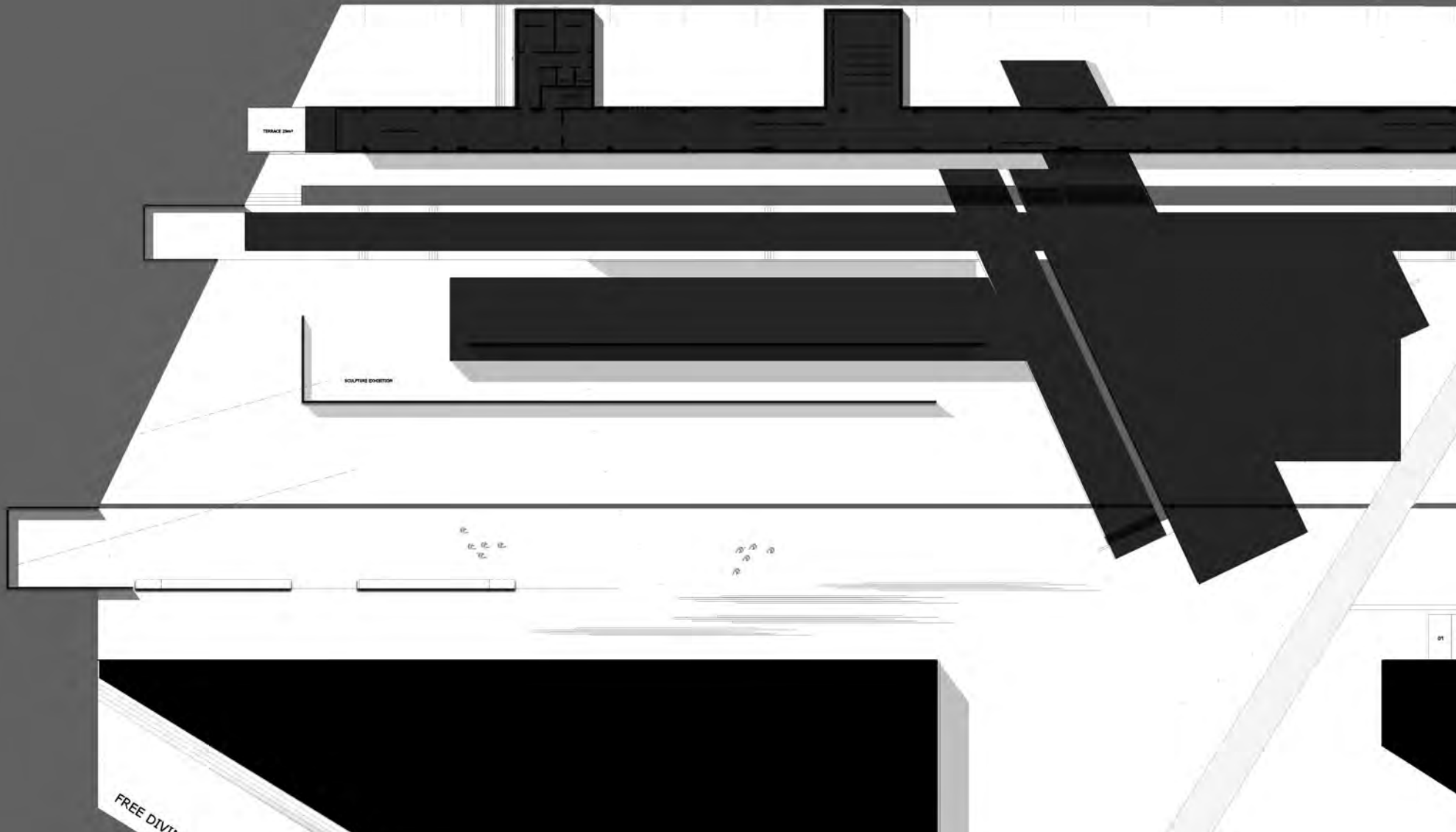
(A)
(B)
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(D)
(E)

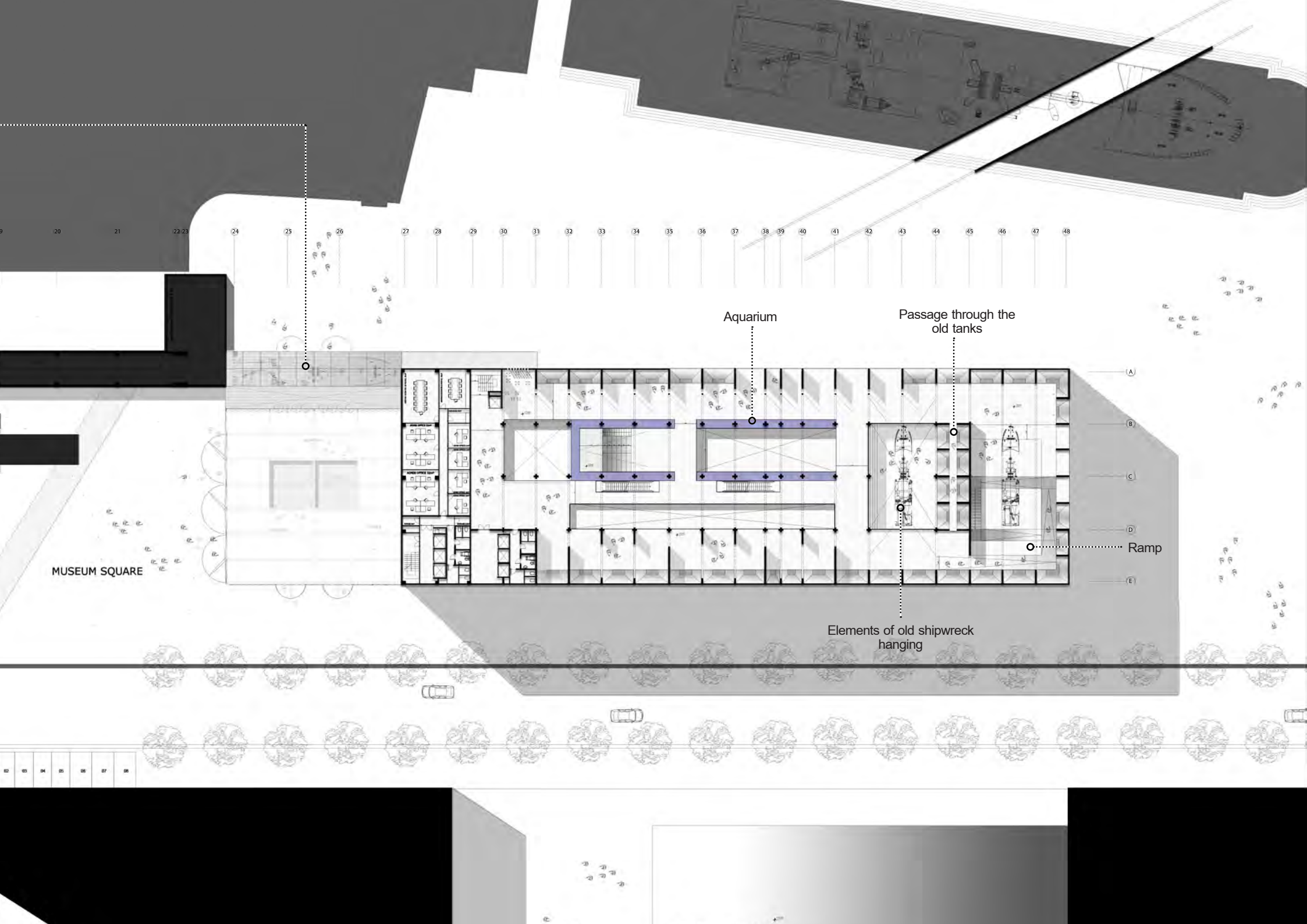
02 03 04 05 06 07 08



- Admin offices
- Open Temporary exhibitions, Thematic axe
- Small amphitheatre
- Permanent exhibition
- Open laboratories for wood treatment and organic materials

1 2 3 4 5 6 7 8 9 10 11 12,13 14 15 16 17 18 19





MUSEUM SQUARE

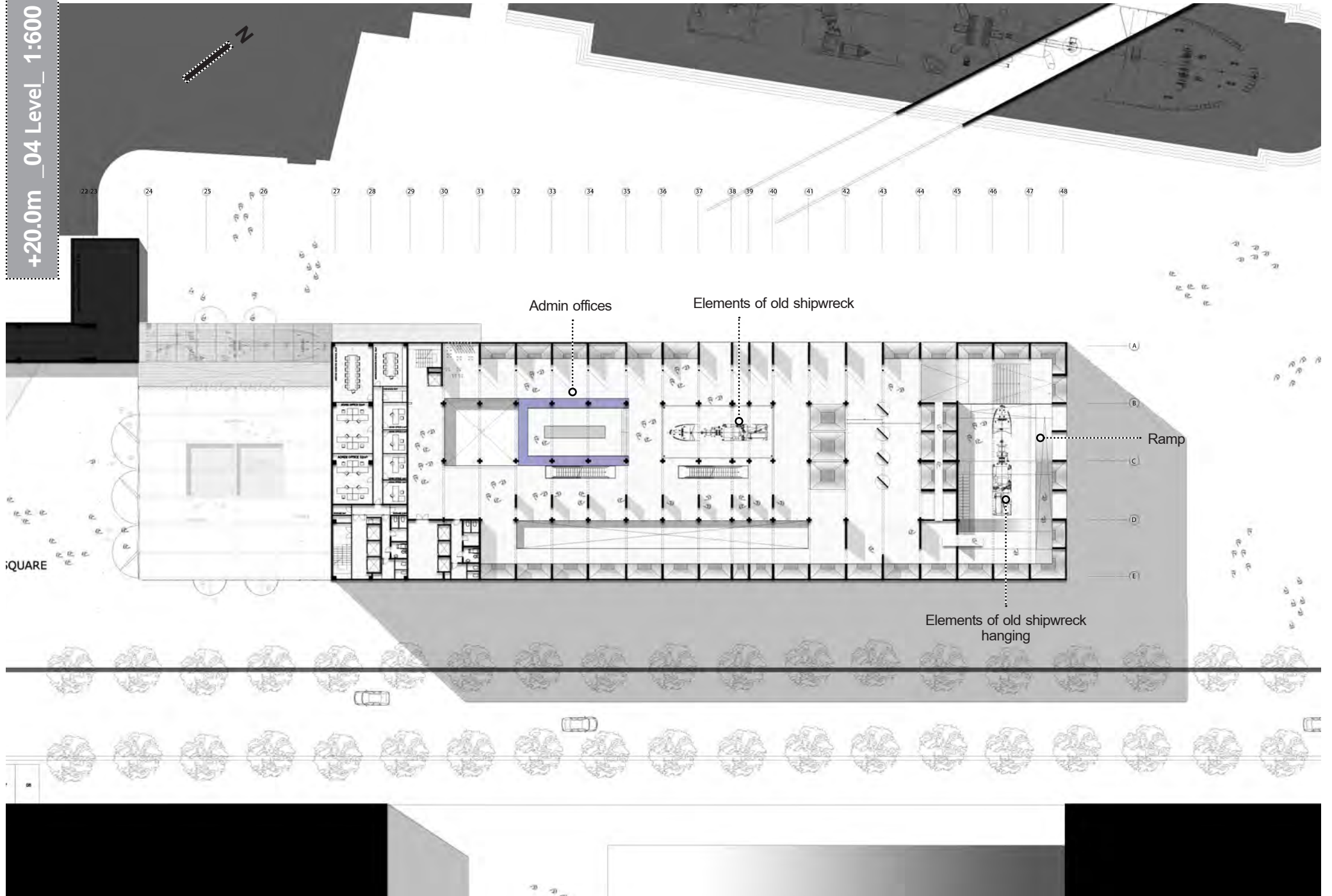
Aquarium

Passage through the old tanks

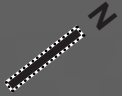
Ramp

Elements of old shipwreck hanging

02 03 04 05 06 07 08



+25.0m _05 Level_ 1:600

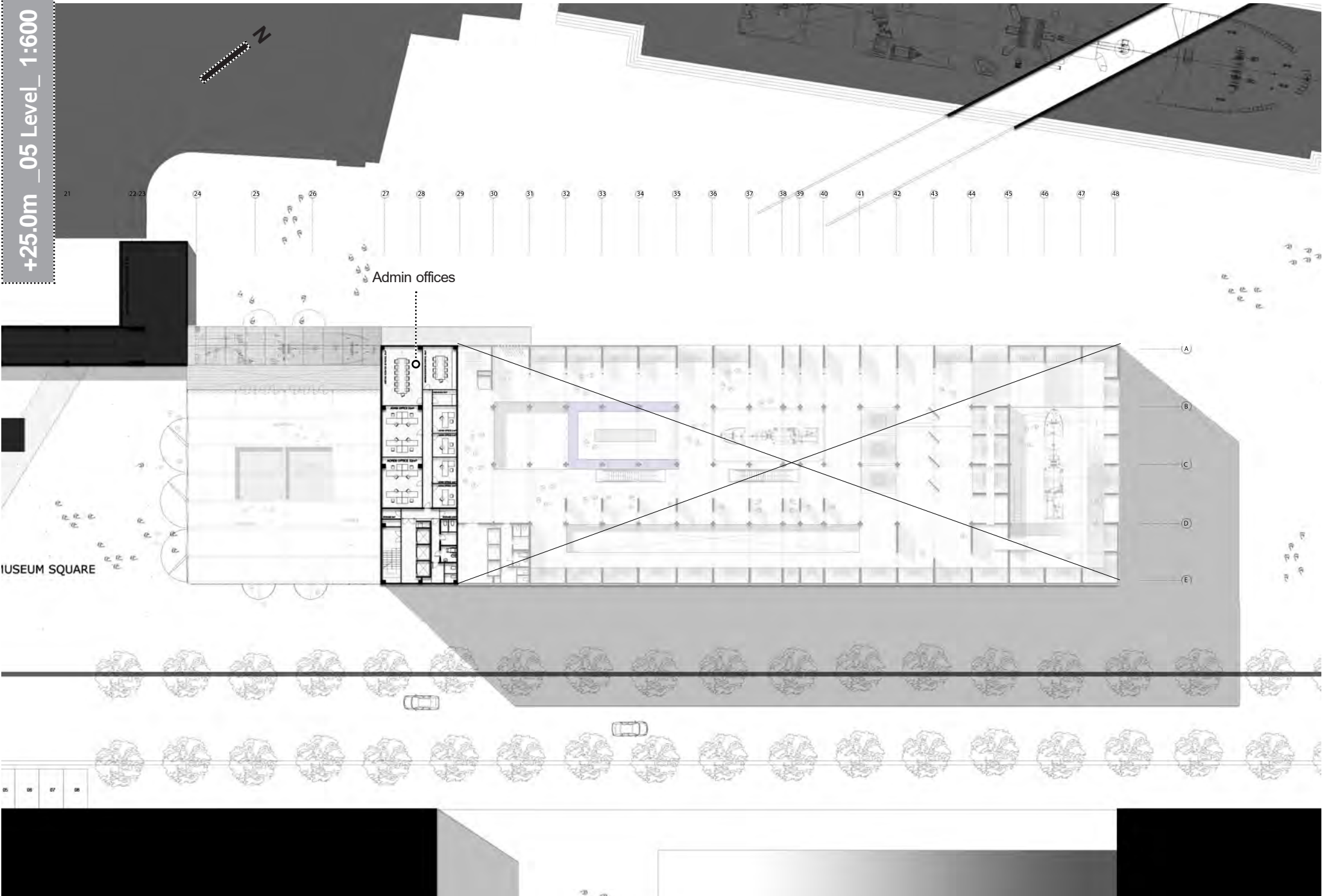


21 22,23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48

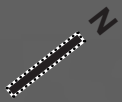
Admin offices

(A)
(B)
(C)
(D)
(E)

MUSEUM SQUARE



+30.0m _06 Level_ 1:600



21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48

Ramp

Shipwreck permanent exhibition

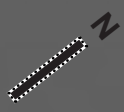
MUSEUM SQUARE

Ramp

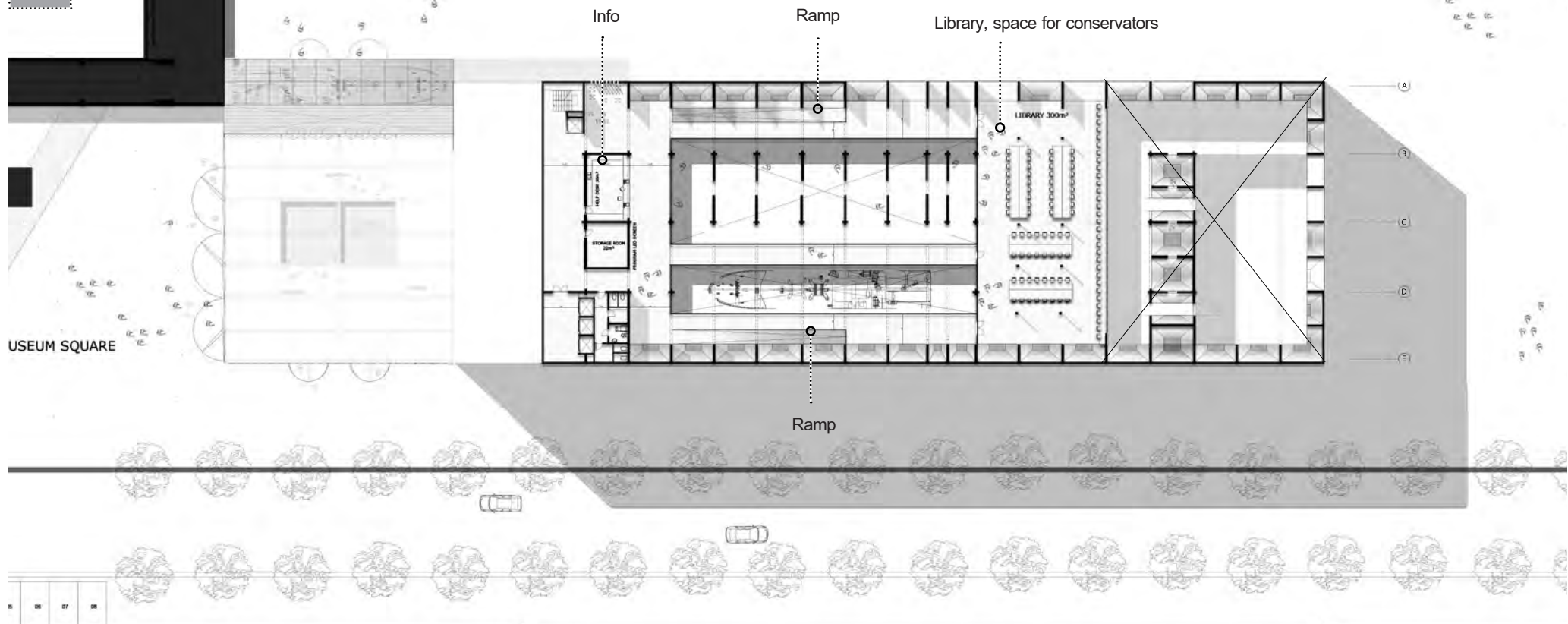
(A)
(B)
(C)
(D)
(E)

05 06 07 08

+39.0m _07 Level_ 1:600



21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48



USEUM SQUARE

Info

Ramp

Library, space for conservators

LIBRARY 300m²

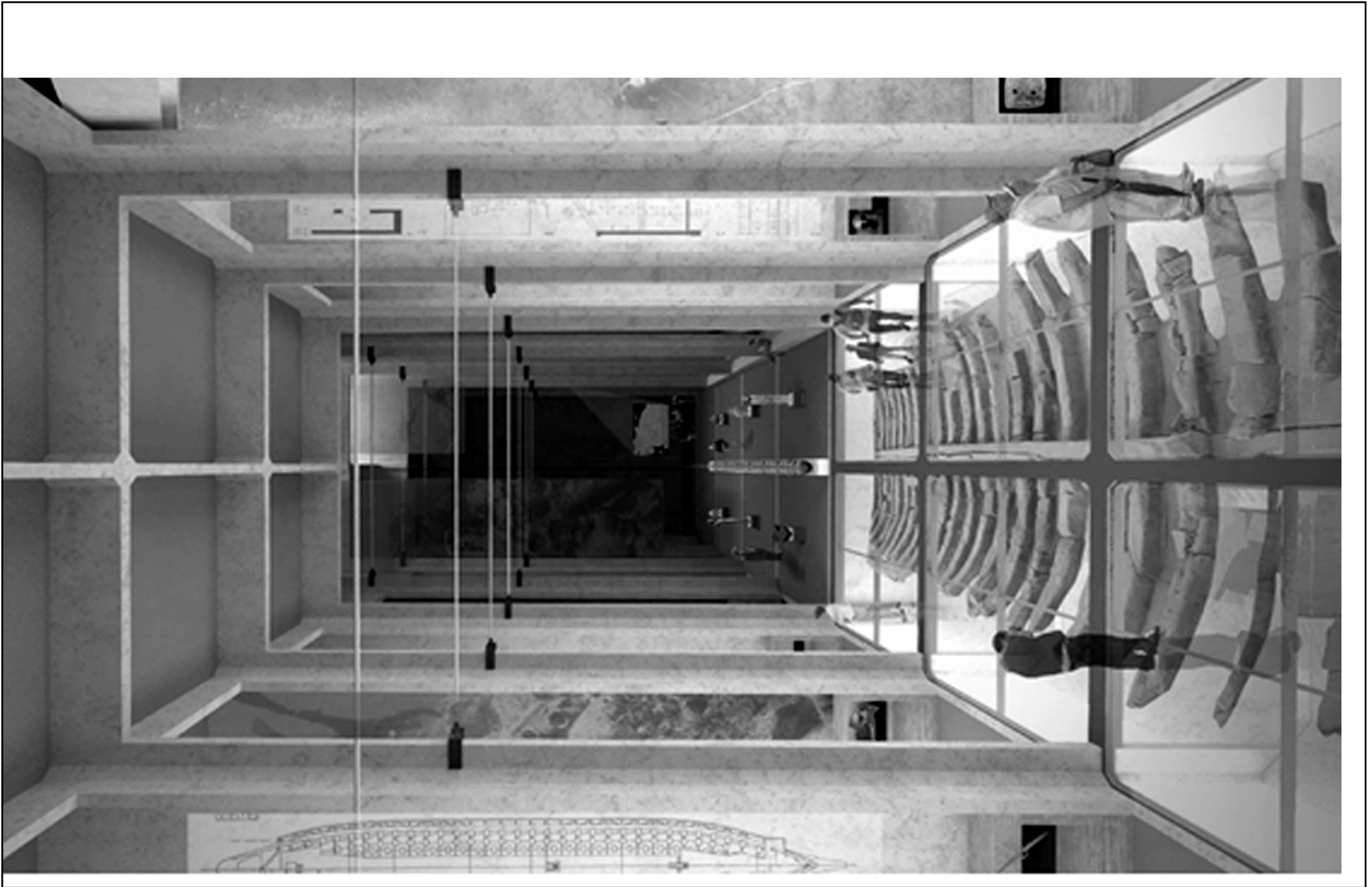
STORAGE ROOM 22m²

Ramp

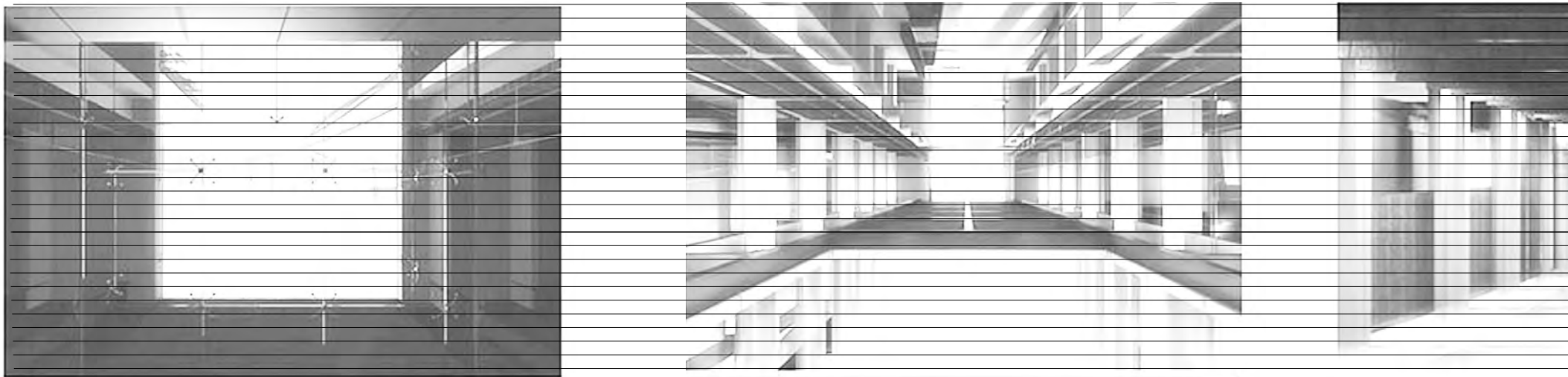
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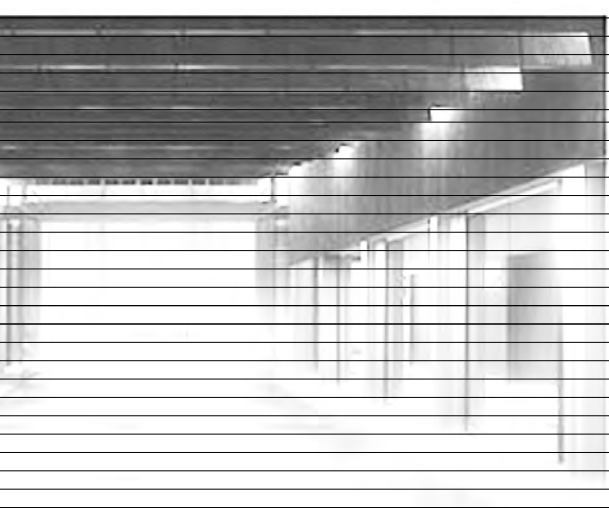
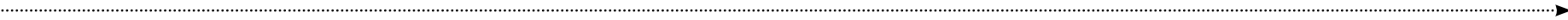
View showing the cell structure and the void

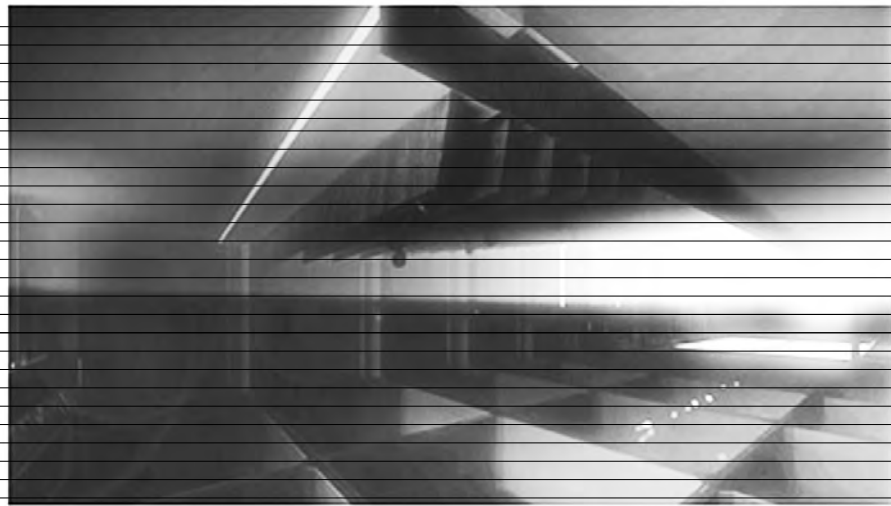
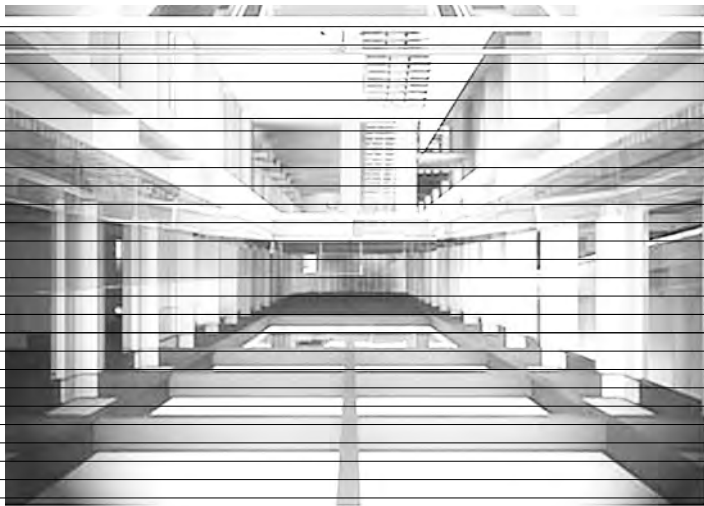


Interior of museum, showing shipwreck remnants

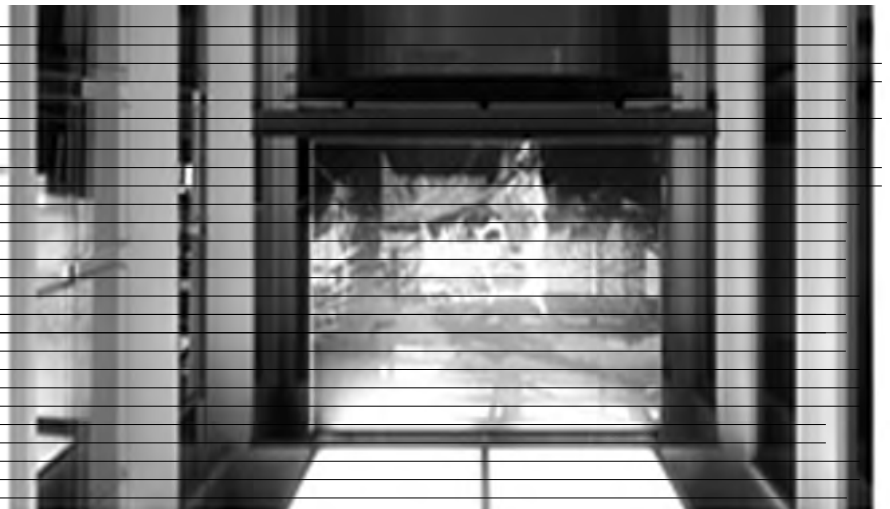
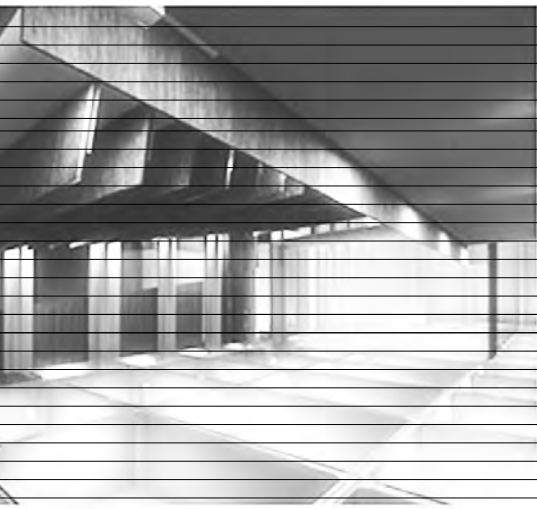


Views inside the museum





Views inside the museum



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