

# Cruquius Cape Center

mixed-use building

2024



## ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE FAKULTA ARCHITEKTURY

**AUTOR, DIPLOMANT:** Bc. Tomáš Sepeši  
AR 2023/2024, ZS

**NÁZEV DIPLOMOVÉ PRÁCE:**  
(ČJ) PELERÍNA CRUQUIUS CENTRUM

(AJ) CRUQUIUS CAPE CENTER

**JAZYK PRÁCE:** ANGLICKÝ

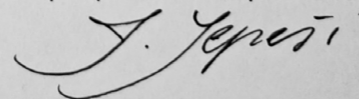
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<b>Oponent práce:</b>	Ing. arch. Jakub Obůrka	
<b>Klíčová slova (česká):</b>	Polyfunkční budova, hybridní budova, kultura, residence, amsterdam,	
<b>Anotace (česká):</b>	Každý člověk má potřebu prostoru na bývání, práci a rekreaci. Verím, že skutečně polyfunkční budovy by měly tyto aspekty organizovat vertikálně. Úlohou tohoto projektu je kombinovat všechny 3 aspekty a vytvořit hybridní stavbu která bude sloužit širokému okolí východního Amsterdamu. Projekt se nachází na „poloostrově“ Cruquius, na okraji vnitřního diaľničního obvodu Amsterdamu, který sa v posledných rokoch pretvára z priemyselnej oblasti na novú polyfunkčnú mestskú štvrť. Lokalita je ľahko dostupná z centra avšak trochu odňatá od súvislého osídlenia. Je teda ideálna pre projektový zámer. Cieľom projektu je navrhnuť energeticky úspornú stavbu ponúkajúcu prostredie v ktorom sa stretávajú rôzni ľudia, a okrem práci a bývania sa môžu seberealizovať a rekreovať.	
<b>Anotace (anglická):</b>	Every person has the need for space for living, work, and recreation. I believe that truly multifunctional buildings should organize these aspects vertically. The task of this project is to combine all three aspects and create a hybrid structure that will serve the wider community of East Amsterdam. The project is located on the "peninsula" of Cruquius, on the edge of the inner highway ring of Amsterdam, which in recent years has been transforming from an industrial area into a new multifunctional urban quarter. The location is easily accessible from the center but somewhat secluded from continuous settlement. It is therefore ideal for the project's intention. The goal of the project is to design an energy-efficient building offering an environment where various people can meet, and besides working and living, they can self-realize and recreate.	

### Prohlášení autora

Prohlašuji, že jsem předloženou diplomovou prací vypracoval samostatně a že jsem uvedl veškeré použité informační zdroje v souladu s „Metodickým pokynem o etické přípravě vysokoškolských závěrečných prací.“

V Praze dne 11.01.2024

podpis autora-diplomanta



Tento dokument je nedílnou a povinnou součástí diplomové práce / portfolia a CD.

České vysoké učení technické v Praze, Fakulta architektury  
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Mgr. program navazující

jméno a příjmení: Tomáš Sepeši

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vedoucí diplomové práce: prof. Dr. Henri Hubertus Achten

téma diplomové práce: Polyfunkční objekt Cruquius, Amsterdam

zadání diplomové práce:

1/ popis zadání projektu a očekávaného cíle řešení

Každý člověk má potřebu priestoru na bývanie, prácu a rekreáciu. Mnoho polyfunkčných stavieb sa sústreďujú len na 2 z týchto aspektov – administratíva + bývanie. Úlohou tohto projektu je kombinovať všetky 3 aspekty a vytvoriť stavbu ktorá bude slúžiť širokému okoliu východného Amsterdamu. Projekt sa nachádza na „poloostrove“ Cruquius, na okraji vnútorného diaľničného obvodu Amsterdamu, ktorý sa v posledných rokoch pretvára z priemyselnej oblasti na novú polyfunkčnú mestskú štvrť. Lokalita je ľahko dostupná z centra avšak trochu odňatá od súvislého osídlenia. Je teda ideálna pre projektový zámer. Cieľom projektu je navrhnuť energeticky úspornú stavbu ponúkajúcu prostredie v ktorom sa stretávajú rôzni ľudia, a okrem práci a bývania sa môžu seberealizovať a rekreovať.

2/ Pro AU/ součástí zadání bude jasné a konkrétně specifikovaný stavební program

Komplexná polyfunkčná stavba/súbor stavieb. Kaviareň/Reštaurácia, Dielne, Atrium, Administratíva, Apartmány


3/ popis závěrečného výsledku, výstupy a měřítka zpracování

- Urbanistická analýza pozemku
- Návrh a posúdenie stavebnej geometrie
- Návrh stavby
- Rezy A-A', B-B'
- Pôdorys
- Situačné výkresy
- Konečná vizualizácia

4/ seznam dalších dohodnutých částí projektu (model)

- model v měřítku podľa dohody s vedoucím DP

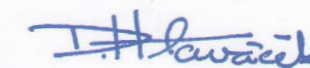
Datum a podpis studenta 22.9.2023 

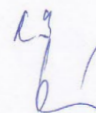
Datum a podpis vedoucího DP 22.9.2023 

Datum a podpis děkana FA ČVUT

registrováno studijním oddělením dne

13.11.2023



11.9.23 

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# INTRODUCTION

The project site is located in Cruquius, Amsterdam. Cruquius is an urban district in east Amsterdam, undergoing transformation from an industrial port island, into a mixed-use city district. This project aims to design a mixed-use building on a plot located at the cape of the island. The building should not only work as a singular unit but respond to the needs of its surroundings and contribute to a socially sustainable neighborhood.

My mission is to design a building that will respond to high housing demand, but also introduce a work and leisure program in a flexible fashion characteristic to hybrid buildings.



(1)



(2)



(3)

## AMSTERDAM

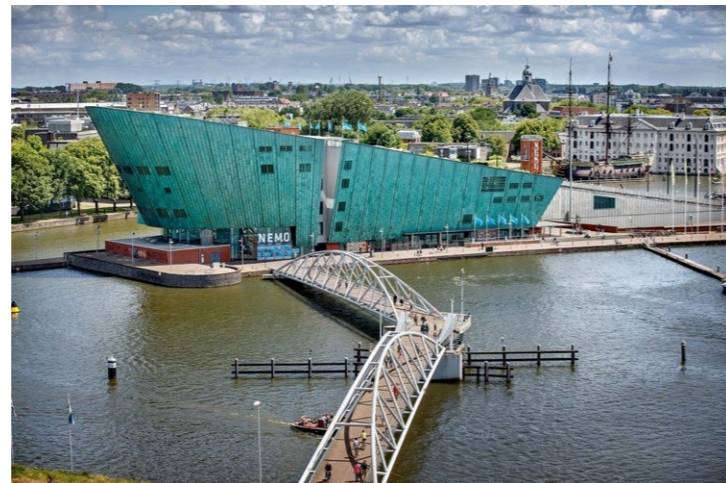
Amsterdam is the capital and the most populated city in the Netherlands.

The origins of the city date back to the 12th century and was founded by fishermen living in the area along the Amstel River. During the 14th and 15th centuries, Amsterdam underwent rapid development, which ultimately led to the Golden Age. During this era, most of the historical city center developed along with some of the most important historical buildings such as Dam Square, the Westerkerk, and Zuiderkerk.

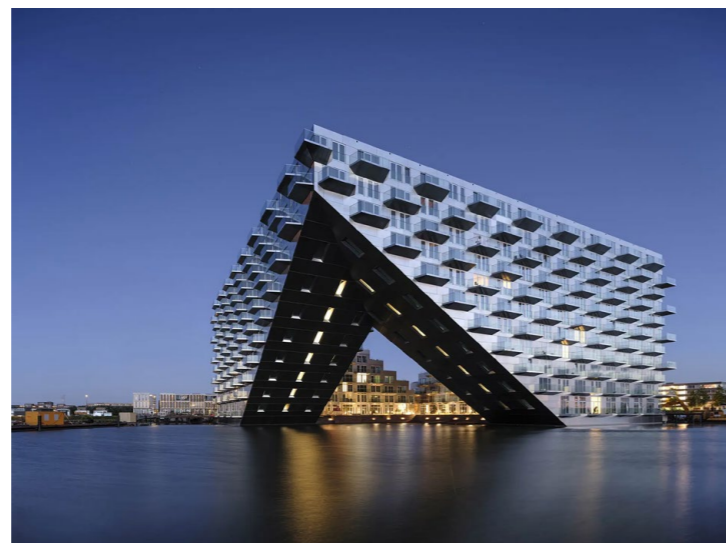
Throughout the 17th century, Amsterdam kept its trade dominance and prosperity, which shows in much of the historical architecture in the city center. At the beginning of the 19th century, however, Amsterdam fell into a recession that led to many houses collapsing from lack of repair. Since then, Amsterdam has recovered and in the 20th century, a population boom caused rapid development. Modern, utilitarian architectural style took the stage and has continued evolving until nowadays.

NEMO Science Museum among others.

The recent housing crisis in the Netherlands presents another generation-defying challenge. The pressure on the housing market is high and architects are forced to adapt their design to changing needs.



NEMO Science Museum / Renzo Piano (4)



Sluishuis Residential Building / BIG + Barcode Architects (5)

The Netherlands have always been known for pushing the boundaries of architecture and urban planning. Few countries can boast of having so many era-defining architects as the Netherlands. Amsterdam embraces innovation and sustainability in architecture like few other cities. The Dutch architectural landscape features avant-garde designs that prioritize functionality, energy efficiency, and community integration. In Amsterdam, the juxtaposition of historical structures with modernist marvels creates a captivating urban panorama. Amsterdam is rich with modern and contemporary architectural marvels such as Sluishuis and



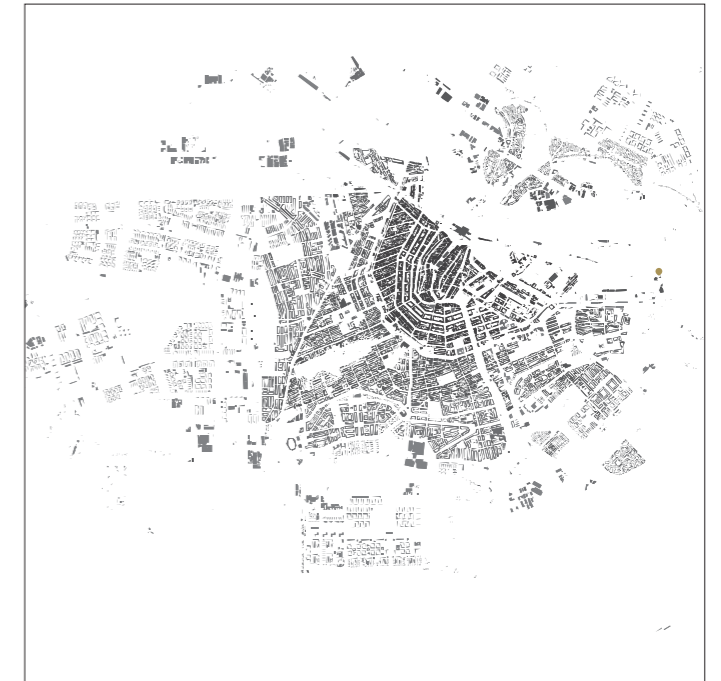
< 1860



1860 - 1919



## URBAN DEVELOPMENT OF AMSTERDAM (6)



1920 - 1939



1940-present



Rijnkanaal in operation

(7)

Cruquius, is an entirely man-made island in east Amsterdam. Before being shaped into what it is now, it used to be a swampy wetland area. What shaped the district happened to be the Amsterdam-Rhine Canal, or Rijnkanaal. Conceived in the late 19th century, the canal aimed to enhance navigation and trade between Amsterdam and the Rhine River. Its construction transformed the waterways, fostering economic growth and industrial expansion.

Cruquius island, nestled along the canal's route, became a strategic point in this aquatic network. Initially an industrial heartland, it leveraged the canal for transporting goods and materials, contributing significantly to the city's economic prosperity. Over the years, the canal and Cruquius evolved together, witnessing industrial shifts and urban development.

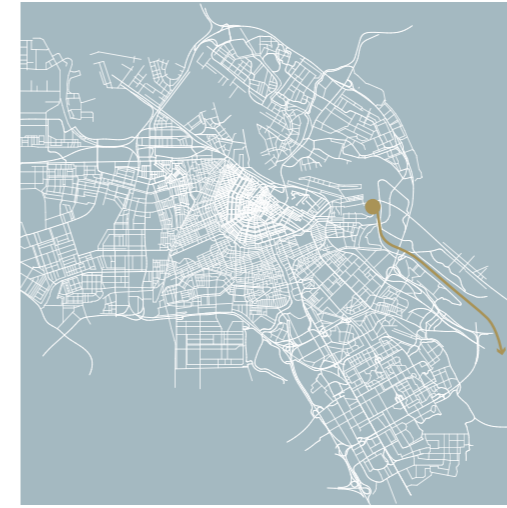
Today, the Amsterdam-Rhine Canal stands as a testament to Amsterdam's ingenuity in water management and trade, while Cruquius island reflects the enduring connection between infrastructure and urban growth along its historic waterways.



Island of Cruquius, serving as an industrial port

(8)

## CARVED BY WATER - HISTORY OF CRUQUIUS



Amsterdam-Rhine Canal and its direction towards Utrecht



Map of Amsterdam from 1820 showing the area of Cruquius just as a wetland polder, divided from the sea by a dike. (10)



Lock building in Tiel in Amsterdam-Rijnkanaal Date: 13 October 1949

(9)



Map of Amsterdam from 1909. Rijnkanaal is established, Cruquius is starting to take shape and multiple warehouses are built on its surface. (11)



The Harbor Club / LEVS

(12)

## CRUQUIUS NOW, AND IN THE FUTURE..

Since the district's transformation commenced in 2008, Cruquius has witnessed the integration of numerous newly constructed projects. Predominantly, these developments manifest as mixed-use structures, with a primary focus on residential projects.

The ongoing housing crisis in the Netherlands has necessitated a more intensified architectural approach compared to traditional Dutch designs. Notably, structures in the district typically range between 6 to 15 stories in height, aligning with the contemporary need for increased density.

Given the industrial history of Cruquius island, characterized by a lack of historical architecture, the district presents a clean slate for architects and designers. This absence of historical constraints allows for creative freedom. In recent years, Cruquius has become a canvas for a diverse array of projects, including several award-winning designs, showcasing the district's adaptability and innovation in contemporary architecture.



The Binnenbocht / LEVS

(13)



Cruquius 1.3 in Amsterdam / Arons and Gelauff architects

(14)

The municipality of Amsterdam, a majority stakeholder in Cruquius's real estate, lays out the plans for the development of the district as follows:

“ “

The Cruquius area is changing from an industrial area to a working and residential area. There is still a lot of construction going on on the new homes. Once the work is completed, we will make the area greener. There will also be a new bridge and a supermarket in the area, and we are looking at the possibilities for a public transport connection.

2008

- Decision to change the Cruquius area from an industrial area to a new part of the city. Where Amsterdam residents can live, work and spend their free time.

2011

- Start construction of homes by developers

2021

- October: planting 29 trees on the DKC De Kleine Kapitein schoolyard
- November: fell 9 Canadian poplars Cruquiusweg
- November 2021 – autumn 2022: raising and temporary redevelopment of Cruquiusweg

2023

- 1st quarter: Delivery Pearl of Amsterdam
- 3rd or 4th quarter: Delivery of Berkhout location
- 3rd or 4th quarter: Delivery of lot 1.6
- 4th quarter: Start of construction Kop van Cruquius

2024

- 1st quarter: Opening of supermarket
- 1st quarter: Start of demolition of Drenththal
- Start construction of the bridge for slow traffic towards Flevoparkweg

2025

- Final layout of Cruquiusweg
- Completion of the bridge for slow traffic towards Flevoparkweg

2028

- Delivery of new Drenththal and mid-priced homes

2030

- The transformation of the Cruquius area is complete.

Contrasts between the old and the new are visible across the Cruquius island. The industrial history of the district is a markable feature of recent architectural design in the area. While some architects decide to sway away from architectural history, others try to embrace it by introducing modern designs with a historical twist.



2PEER / LEVS

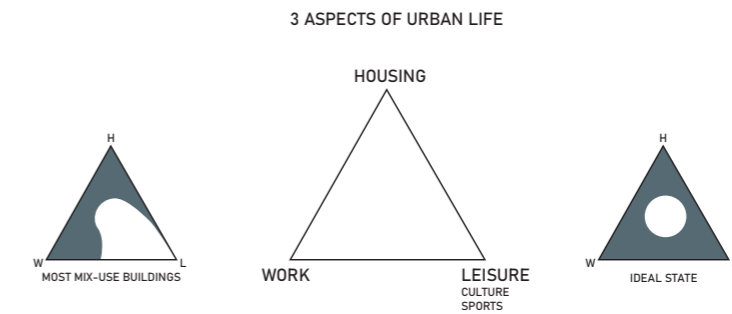
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# /2 ANALYSIS

## THEORETICAL BASIS

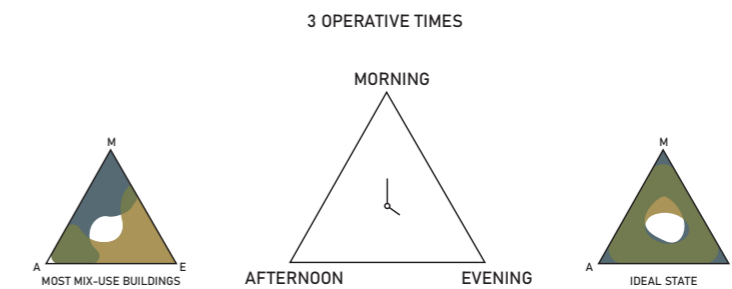
Urban zoning, a strategy born in the 20th-century modernist movement, has brought order into rapidly growing cities but came at the cost of spatial segregation. Modern zoning compartmentalized living, commerce, and recreation, resulting in isolated city zones. The absence of mixed zones resulted in dependence on cars and a disconnect between the people and their surroundings. The urbanism in 21st century strives to correct the zoning mistakes we have committed in the past. Concepts such as “15-minute city” attempt to address such issues on an urban planning

and design level. I think, however, that greater emphasis should be placed not only on the urban but also on individual buildings. We can divide aspects of urban life into three categories: housing, work, and leisure. In an ideal world, every building would house all three of these aspects. That way we could reach an optimal balance of these functions while keeping them as close to their users as possible. Mixed-use development addresses this problem to a certain degree, but often leaves out leisure, creating a disbalance in our cities.



Embracing the flexibility of building programming is crucial for creating dynamic urban spaces. Unlike rigid zoning, a versatile approach allows structures to serve diverse functions, increasing their utility and community impact. Incorporating mixed-use elements, such as combining residential, commercial, and recreational spaces within a single building, fosters a richer and more interactive urban environment. Flexible programming accommodates evolving needs,

encouraging adaptive reuse and reducing the risk of obsolete structures. This approach not only enhances the efficiency of land use but also promotes a sense of place and community engagement. By embracing diverse programming, buildings become adaptable assets, capable of evolving with the dynamic demands of a modern, interconnected society. Buildings characterized by diverse and integrated building programs are often referred to as Hybrid buildings.



Hybrid buildings seamlessly blend the flexibility of diverse programming with the efficiency of mixed-use zoning. They embrace the idea that urban spaces should be fluid and adaptable to changing community needs. This holistic approach optimizes land use and fosters vibrant, interconnected neighborhoods. The diversity brought by such buildings results in the mixing of various social groups and fosters a sense of cohesion and identity. The flexibility offered by hybrid buildings not only manifests itself in the programming but also

in the operative times of such buildings. We can divide the operative time of a building into three segments: morning, afternoon, and evening. Ideally, buildings should operate throughout the day, decreasing the load on the building and the infrastructure. Such dynamic fusion would ensure continual activity, optimizing operational hours and fostering vibrant city life around the clock.



# CASE STUDY VALLEY - MVRDV

Valley from the architectural firm MVRDV is a prime example of a truly mixed-use building. MVRDV is taking

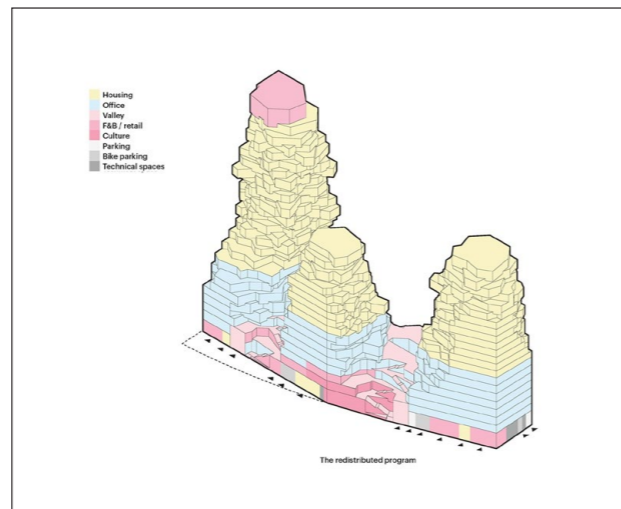
Valley is a vertical city, with a mixed-use program including offices, residential spaces, retail establishments, and cultural amenities. The public functions are located on the lower portion of the building and feature "The Grotto" a publicly accessible walkway surrounded by commercial functions and amazing views of the towers. The floors above are dedicated to offices and above, residential towers with stunning views of the surroundings.

The building's distinct form, resembling three interconnected, asymmetrical towers, facilitates the incorporation of various functions. The staggered heights and terraced façade create dynamic outdoor spaces, contributing to a sense of community and interaction.

The most remarkable feature about the Valley, however, is the public staircase leading up the building, curving around and then coming back down. This feature reaches towards the public space and extends up and into the building's embrace. To me it is elements such as this, which offer an experience to a visitor free of cost, are the ones that can transcend traditional urbanism with hard borders between the private and the public and create an interconnected urban experience.

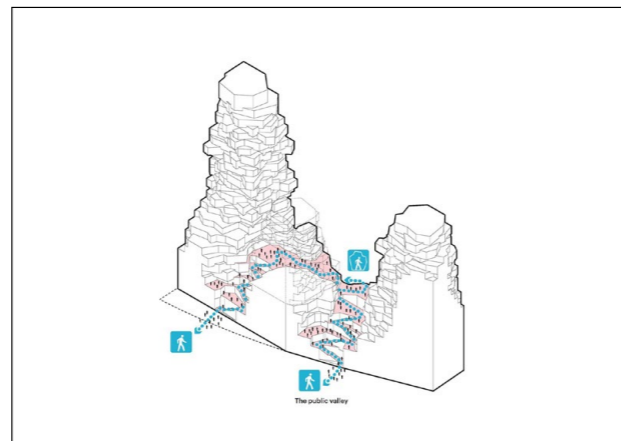


(16)



program diagram

(16)



public access diagram

(16)



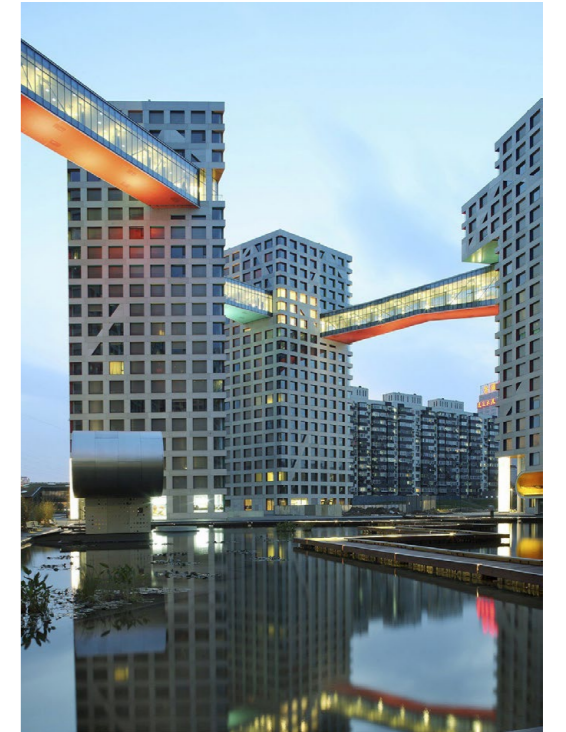
# CASE STUDY LINKED HYBRID - STEVEN HOLL ARCHITECTS

Linked Hybrid by Steven Holl Architects is an impressive example of architectural innovation and programmatic diversity. The complex is located in Beijing, China, and stands as a hybrid structure that challenges traditional urban norms. The project consists of eight linked towers, forming a complex of residential, commercial, and public functions. The project could be described as a city within a city, offering a rich and diverse program.

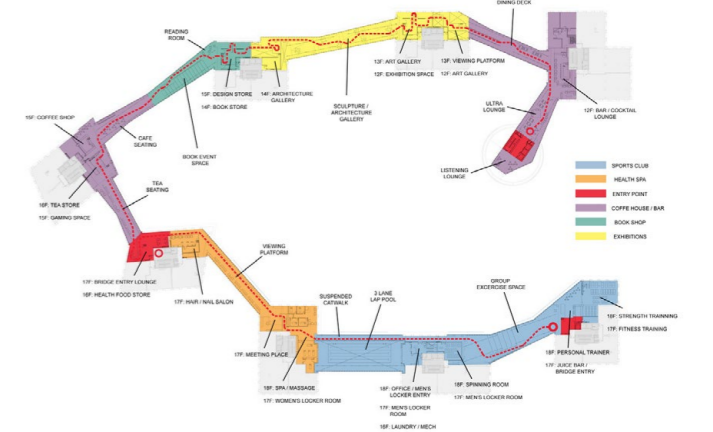
The ground floor features publicly accessible open passages, leading to a microcosm of small-scale urban spaces. Small retail complements this and brings liveliness into the neighborhood. The building program features a hotel, cinema, kindergarten, school, underground car park, commercial zones, and public garden space. All of the public spaces on the ground level are connected to a central green area.

Connecting the eight residential towers and the hotel tower, a set of sky bridges on the 12th to the 18th floors includes a wide range of amenities, including a swimming pool, fitness room, café, gallery, and auditorium, and offers unparalleled views of the surrounding landscape.

In conclusion, Linked Hybrid is a remarkable example of a hybrid building, offering a complex program scattered across the entire complex. Such arrangement increases social mixing and creates cohesion and a sense of identity in those living there, as well as those who are just visiting the site.

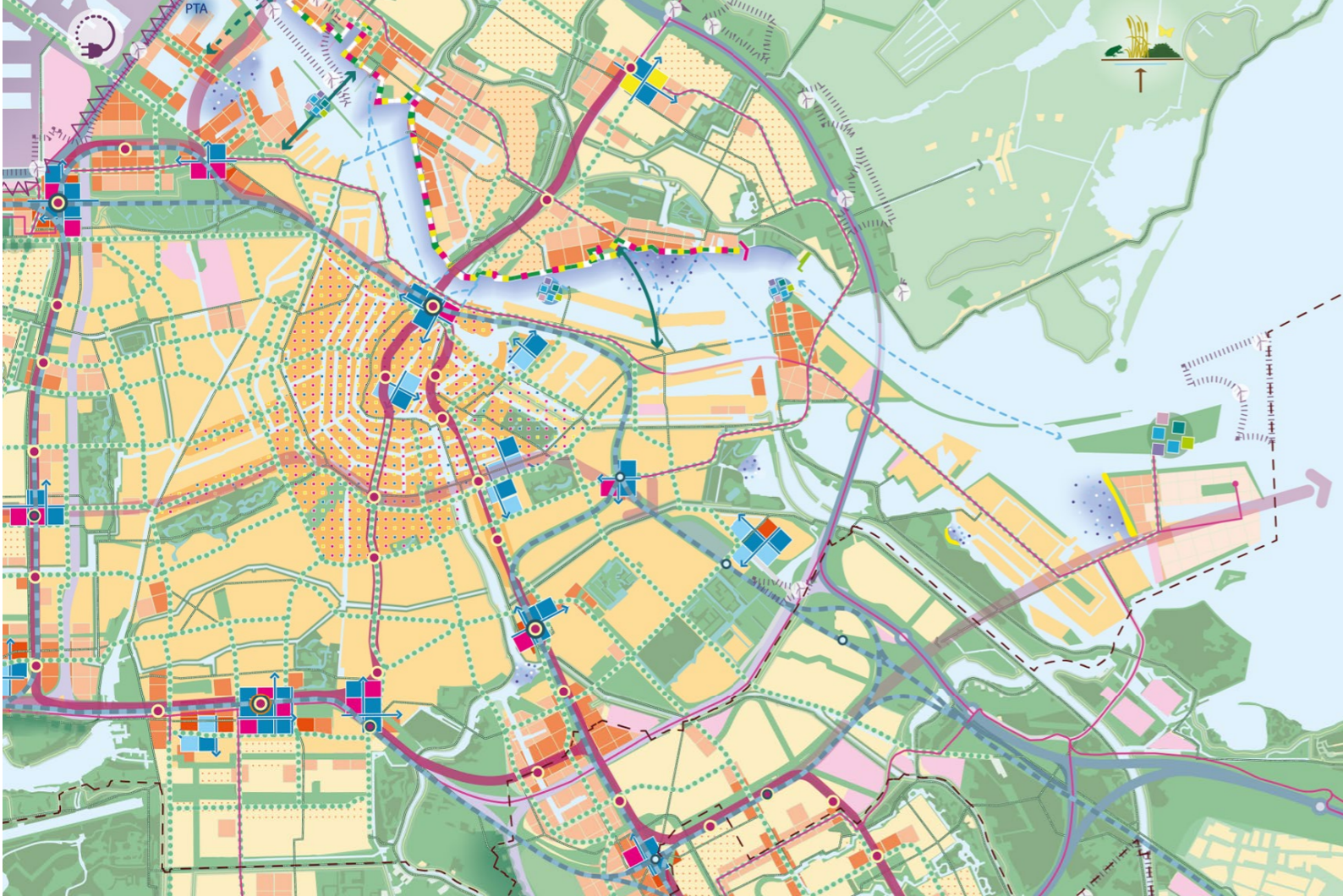


(17)



(17)





(18)

- General**
  - Sheltered areas
  - Mixed areas
  - Center area
  - Business park
  - Buildings outside the agglomeration
  - Amsterdam municipal boundary
- Green and Landscape**
  - Park and landscape park
  - Landscape
  - Water
  - City beach
  - Dykes
- Urban Development**
  - Low-key city neighborhood
  - Mixed city neighborhood
  - Urban area
  - Urban center
  - Small-scale development and transformation
  - Pilot area for large-scale intensification
  - Regional development around NZ line stops
  - Port area and industry
  - Coordinated development of city and port
  - Port-related activities and logistics
- Places with urban significance**
  - Station quarter
  - Knowledge Quarter
  - Urban center
  - Green-blue hotspot
  - Green-blue bead necklace
  - Center area
- Connections**
  - Network of city streets and city avenues
  - Long-line bicycle network
  - Connection city and landscape
  - Reduce barrier effect
  - Metro with station
  - High-quality public transport
  - Railway with station
  - Distribution ring A10 with an important function for urban traffic
  - National highway with exit
  - Ferry connection
  - Bridge over the IJ
  - Indicative bank connection
  - PTA Search area Passenger Terminal Amsterdam

## ATLAS ENVIROMENTAL VISON

The Municipality of Amsterdam has unveiled an Environmental Vision Atlas outlining the city's future plans and infrastructure. Cruquius island is prominently marked in orange, denoting it as a "highly urban neighborhood." The vision entails the development of residential areas with dense urban structures, incorporating ample space for non-residential zones. Greenery is strategically integrated into the streets, pocket parks, and expansive city parks.

A neighboring district sharing this urban characterization is Sluisbuurt, an emerging area to the east of Cruquius. The map signals a prospective ferry line connecting Sluisbuurt to Eastern Docklands, with potential extension to Cruquius. This strategic initiative aligns with the broader environmental vision, emphasizing interconnectedness and accessibility between evolving urban districts in the Amsterdam landscape.

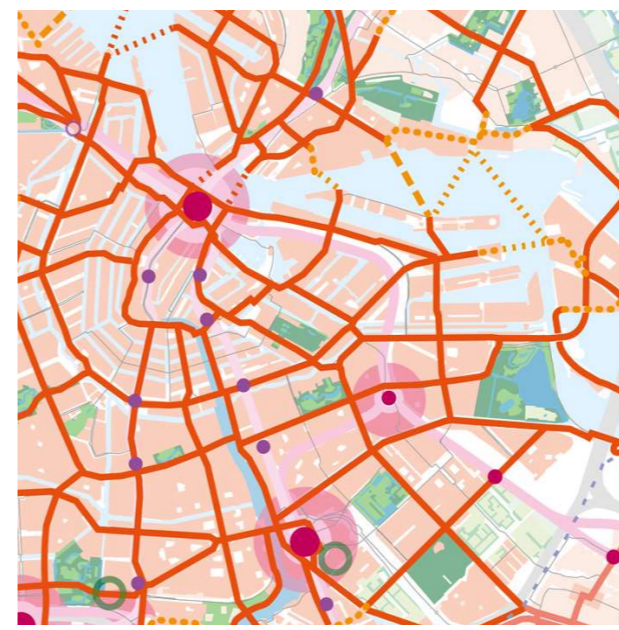


(18)

## THE GREEN-BLUE FRAMEWORK

Map showing current green-blue infrastructure of the city. we can observe that although there are numerous parks in a relatively short distance, Cruquius area is virtually devoid of greenery.

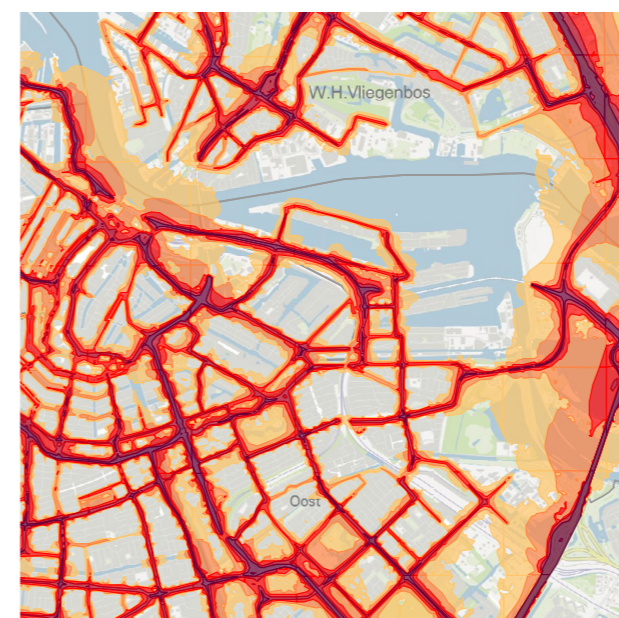
- Green-blue framework**
  - Green ribbon
  - Green corridor
  - Park
  - Landscape park
  - Landscape
  - Urban nature
  - Rural North



(18)

## TRAFFIC NETWORKS

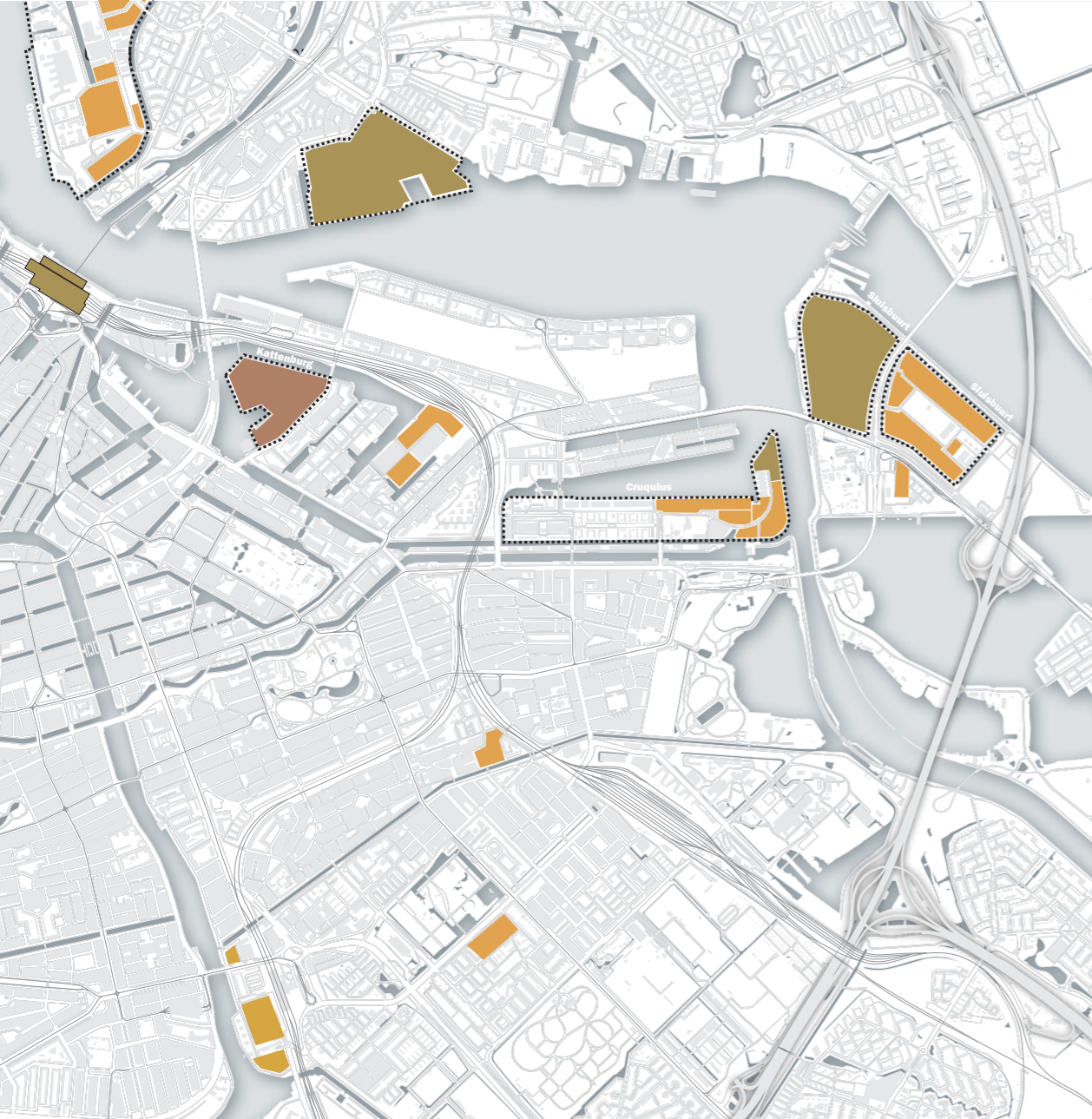
- Network bicycle**
  - Long-line bicycle network
  - Search area missing parts
  - Ferry connection across the IJ
  - Bridges over the IJ
  - Existing plus net bicycle
  - Sprinter/intercity train station
  - Metro station existing/new
  - Hubs
  - Parks
  - Landscapes around the city
  - Station quarter
  - Central urban mobility environment
  - Mobility environment agglomeration



(18)

## TRAFFIC NOISE

- Road traffic 24 hours a day**
  - Very noisy 75 dB or more
  - Noisy 70-75 dB
  - Very loud 65-70 dB
  - Loud 60-65 dB
  - Vivid 55-60 dB



## HOUSING PLANS / DEVELOPMENT

Cruquius stands as a distinctive enclave within East Amsterdam, representing one of the few expansive development districts in the region. The emphasis lies on high-density mixed-use transformations, giving rise to multifunctional city districts that seamlessly integrate residential, commercial, and public spaces.

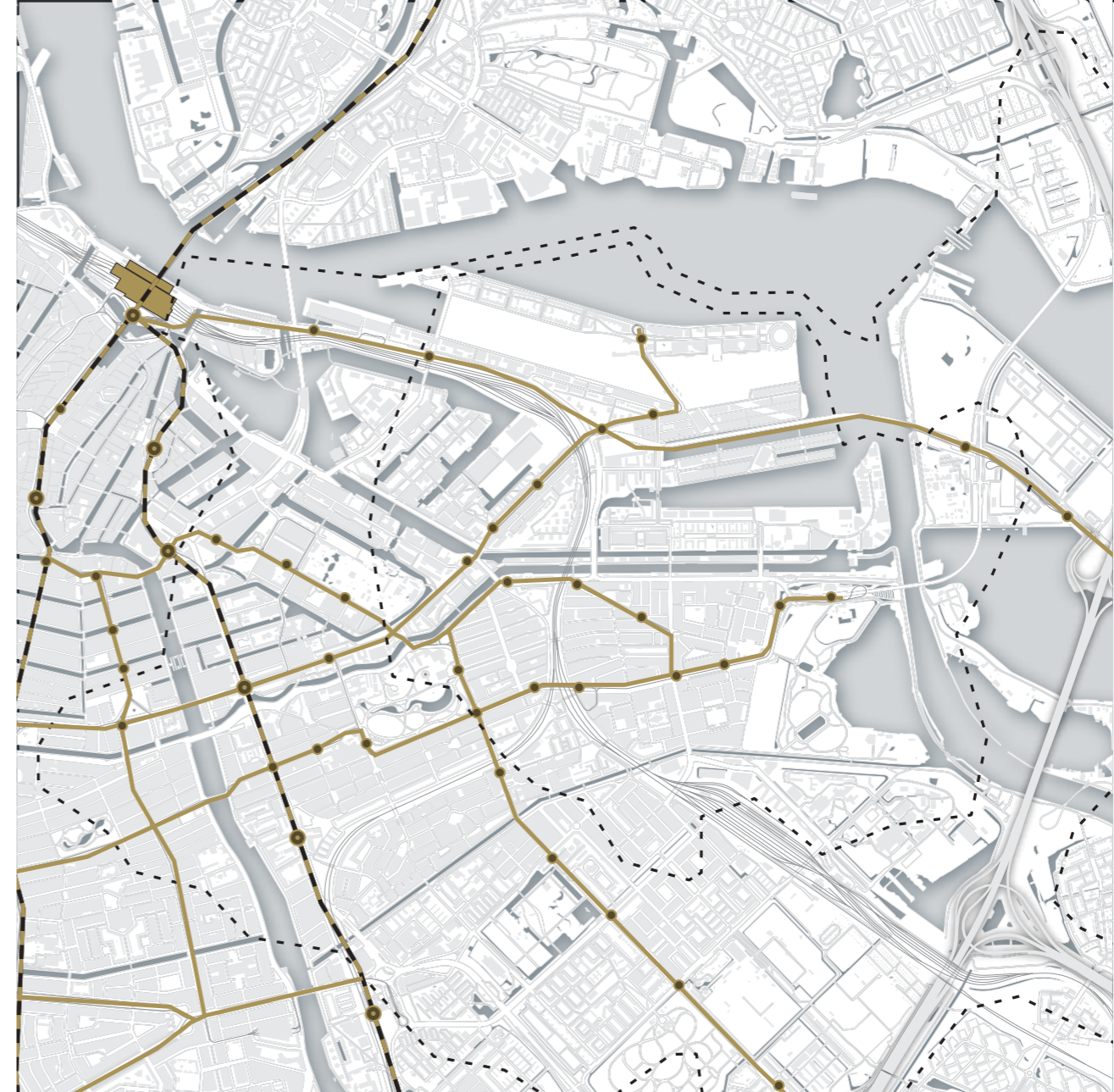
Commencing its journey in 2008, Cruquius is undergoing a comprehensive evolution that encompasses the strategic amalgamation of public infrastructure, essential amenities, housing, and office spaces. Notably, the focal point of this metamorphosis is the creation of a thriving residential community, with plans outlining the development of 1700

homes. Additionally, the blueprint allocates a substantial 18,000 square meters of office space, reflecting a balanced approach to urban functionality.

This development is slated for completion by 2030.

Another development nearby called Sluisbuurt, will house approximately 12000 inhabitants. This presents an opportunity for the connection of these neighborhoods and create a larger patch of interconnected urban form.

- Decision in principle taken
- Investment decision taken
- Under construction (since 2018)

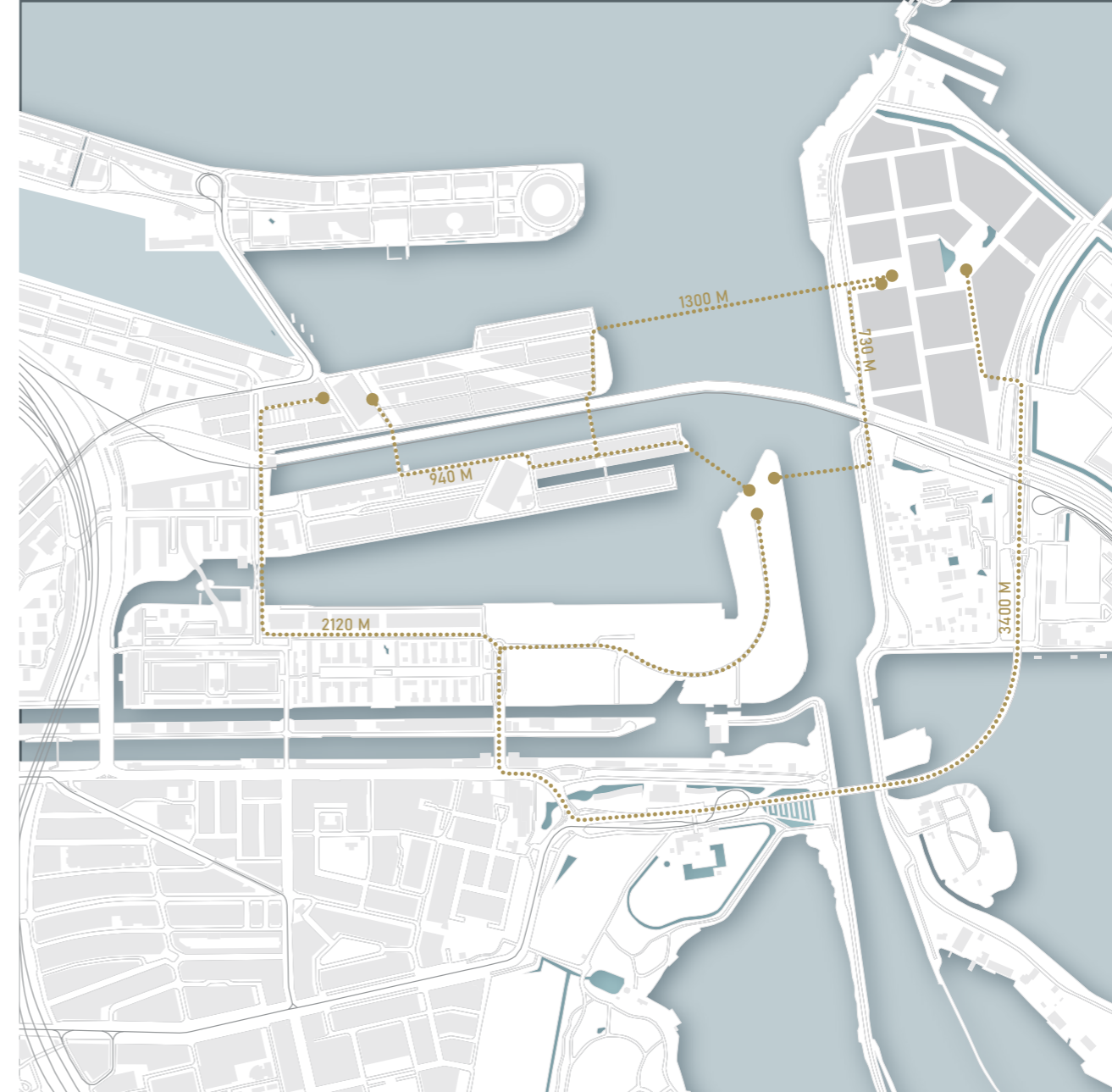
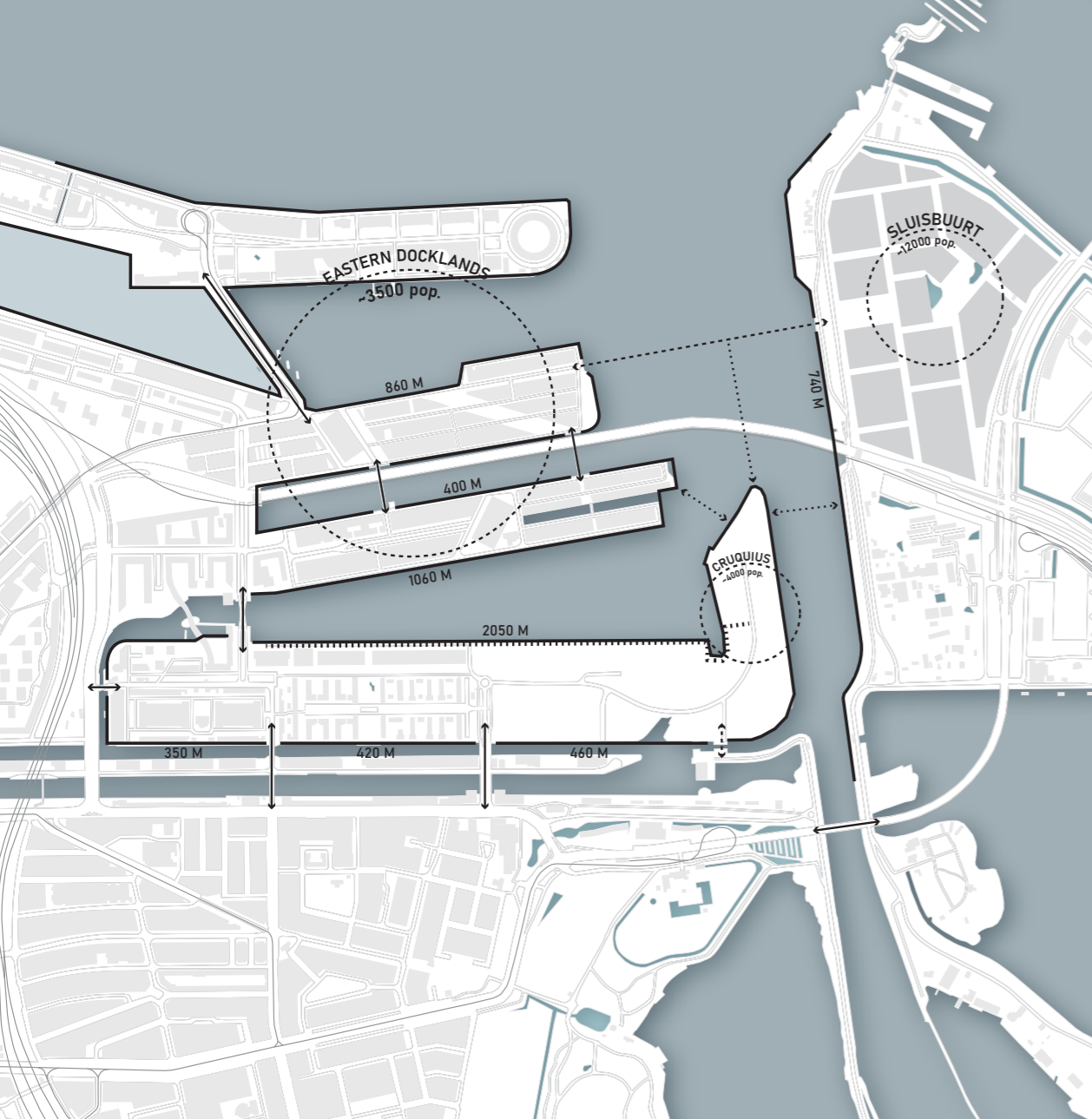


## ACCESSIBILITY

To assess the project site's viability, an examination of its accessibility was undertaken. Presently, Cruquius lacks comprehensive public transport infrastructure, with a tram line situated approximately 15 minutes on foot from the project site. Despite this relative remoteness, the site enjoys good accessibility by bicycle, constituting a significant proportion of Amsterdam's traffic.

Remarkably, Amsterdam Centraal and historic core are a mere 15-minute bike ride from the project site, emphasizing its strategic location for intentional visits rather than serendipitous encounters. This unique characteristic positions Cruquius as an ideal locale for activities that draw intentional engagement, as opposed to those

reliant on chance discovery within a specific area. The nuanced accessibility profile, balancing proximity to key transportation nodes and reliance on popular modes of transportation, augurs well for the site's potential for purposeful and planned urban activities.



## BARRIERS AND CONNECTIONS

The project's geographical context is characterized by close proximity to neighboring areas, yet it is geographically separated by water bodies. Notable among these regions are Eastern Docklands, hosting approximately 3500 residents, and more significantly, Sluisbuurt, a burgeoning development slated for around 12,000 inhabitants. Establishing proper access to these neighborhoods has the potential to positively impact land value in the area.

To assess the significance of creating connections and identify potential linkages, I undertook a mapping exercise to measure distances along unconnected shorelines. Positioned at the cape of the island, the project site lies at the midpoint of a 2km-

long unconnected waterfront — the lengthiest such stretch on the island. Consequently, it becomes imperative to consider the feasibility of establishing connections, be it through a bridge or ferry, between the cape and neighboring landmasses. This strategic decision holds implications for enhancing accessibility and fostering integration within the broader urban context.

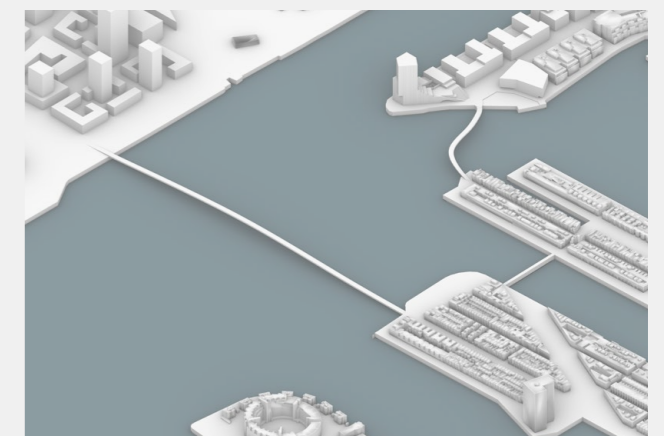
## ROUTES

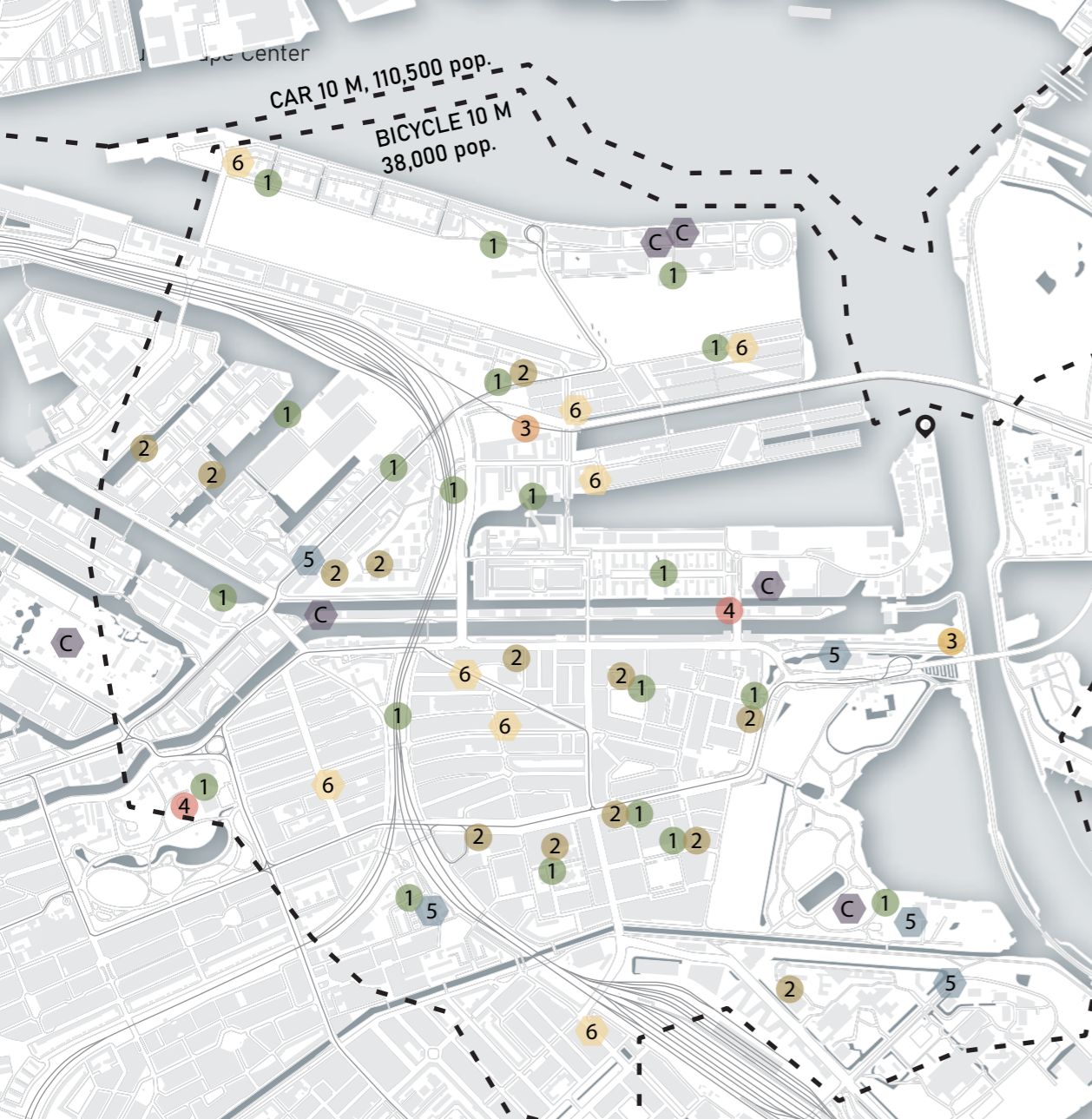
Following my earlier observations, I found it pertinent to delve into potential connections with neighboring districts and assess their proximity.

In the eventuality of the municipal proposal for a pedestrian/bike bridge gaining approval, linking the Cruquius cape to Eastern Docklands could substantially reduce the distance from the project site to the center of Sluisbuurt by one-third. While extending the bridge eastwards, traversing the Rijnkanaal, could further diminish the distance to Sluisbuurt, it wouldn't establish a direct connection with Eastern Docklands.

The city of Amsterdam has long deliberated the connectivity of

Sluisbuurt to adjacent districts, contemplating the construction of either a bridge or a ferry. Opting not to actively pursue this initiative, I've integrated my design with potential future connections in mind, ensuring adaptability to the evolving urban infrastructure.





- 1 football
- 2 basketball
- 3 tennis
- 4 fitness
- 5 sports hall
- 6 gymnasium
- C culture

## LEISURE AND CULTURE

Analyzing the current sports, cultural, and recreational infrastructure was imperative to identify voids within the project neighborhood. The northern peninsula of Cruquius notably lacks these amenities, with a notable abundance of outdoor sports fields like football and basketball evenly dispersed. Conversely, fitness centers are conspicuously scarce, with a singular cross-fit facility located in the southern region of the island.

Cultural spaces are also limited, primarily comprising diminutive art and craft studios. The prospect arises to amalgamate these absent functions, giving rise to a centralized sports and cultural hub within the cape of Cruquius.

Such a convergence would fulfill a discernible need, addressing the current scarcity of facilities in the area.

## HIEGHT ANALYSIS

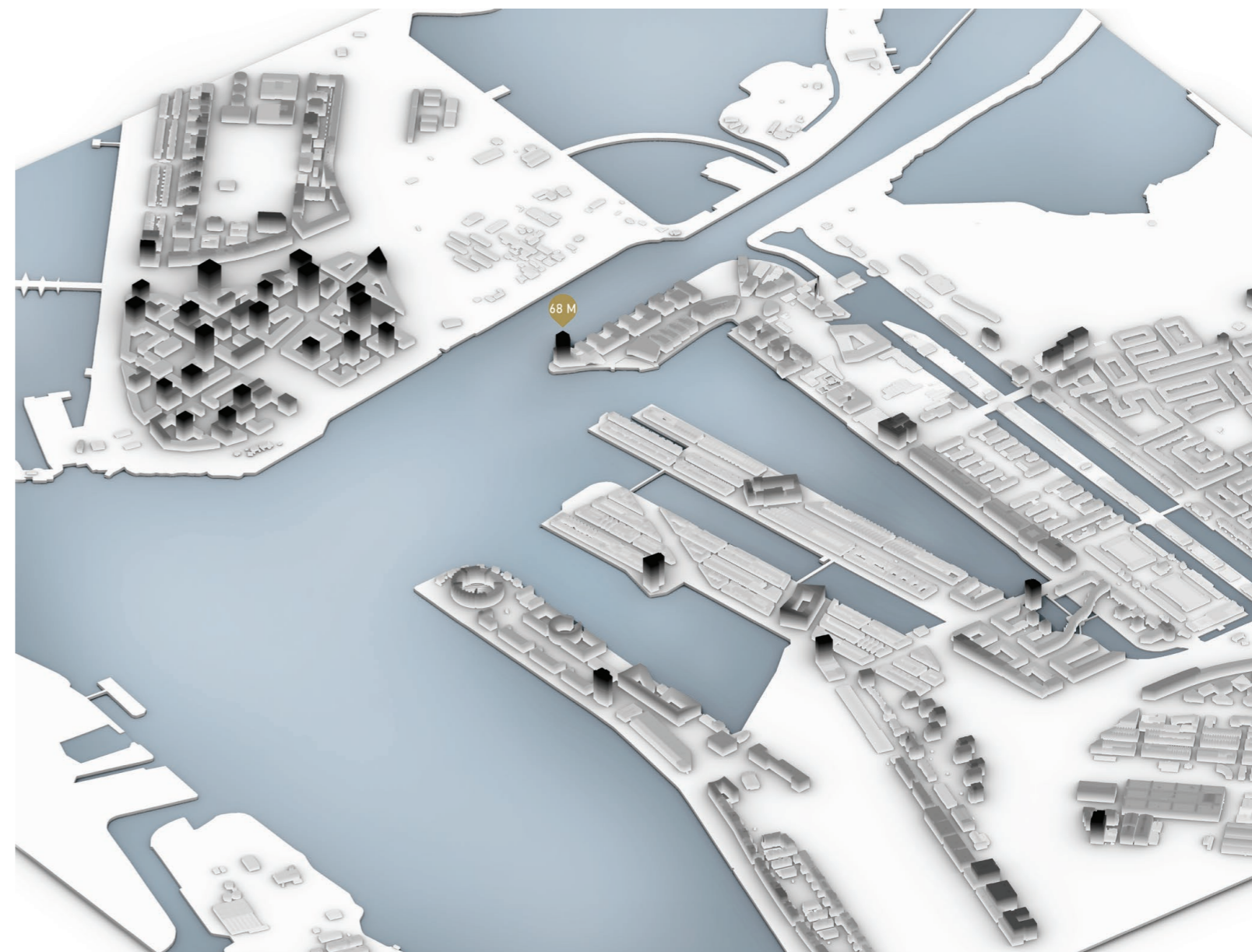
In light of the absence of a municipal regulatory plan for the studied area in Amsterdam, determining acceptable building heights required a thorough investigation.

Given the substantial distance from Schiphol airport, the area does not have a general building height restriction. While most structures on Cruquius island adhere to a modest 7-story limit, this precedent isn't binding. Analysis of the surrounding East Amsterdam context reveals a penchant for taller structures, exceeding the local norm and contributing to a more dynamic skyline. Although these buildings commonly reach around 60m, they seldom breach the 70m threshold.

Notably, the burgeoning Sluisbuurt

district to the east anticipates the construction of several buildings reaching up to 70m, setting a precedent for increased verticality in the evolving urban fabric. This nuanced exploration of contextual building heights informs a strategic approach to the project's architectural articulation.

Consequently, the strategic conclusion is to design the project with a taller building height, aligning with the evolving urban fabric and contributing to a distinctive and forward-looking skyline.



- Low traffic noise levels in the area due to the separation of the rest of the city by water.
- Unique 270-degree access to water increases the desirability of the area.
- Lower initial property price because of its location further from the city center.
- A wide variety of architectural works in the area gives the designer a lot of freedom - the area does not bear much historical significance in terms of architecture and is therefore free for experimentation.

- Cruquius is a fairly remote area. Although it is easily accessible from the city center, it is somewhat disconnected from the wider city fabric.
- There are multiple public amenities missing in the area, such as a fitness center, grocery store, schools, etc.

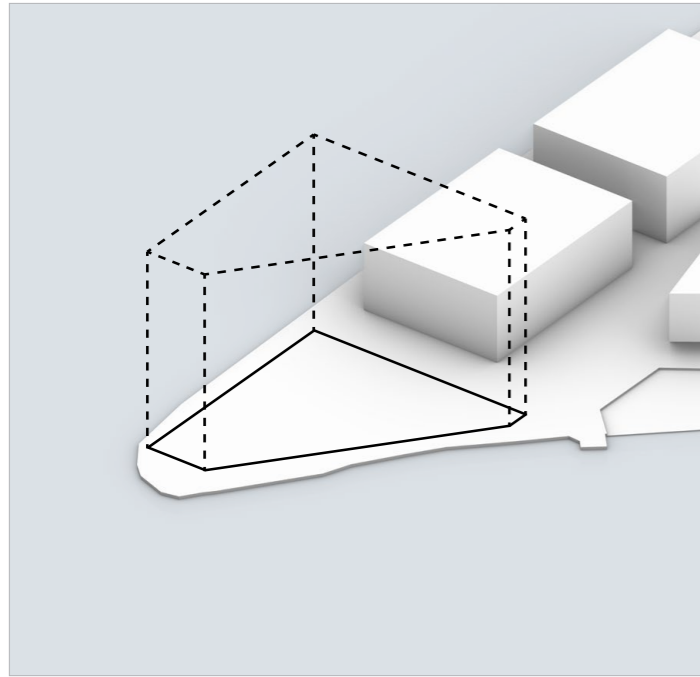
S W  
O T

- The proximity to water presents an opportunity for a ferry service or other services and activities connected to water.
- Sluisbuurt, a newly developing district nearby, will house roughly 12000 inhabitants. Connecting Cruquius to Sluisbuurt could be beneficial in various ways.
- The location has a potential for high-end living and the development of luxurious apartments because of its desirable location
- The lack of public amenities can be solved by including them in the programming of this project.

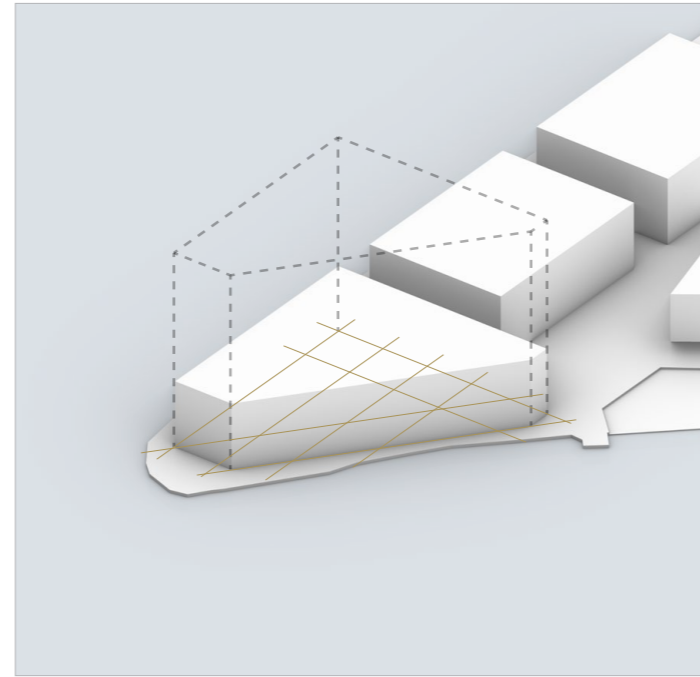
- The lack of public transport and traffic infrastructure presents a challenge, especially once the district gains in population.
- Rising sea levels might threaten the district in the next century.

/3  
DESIGN

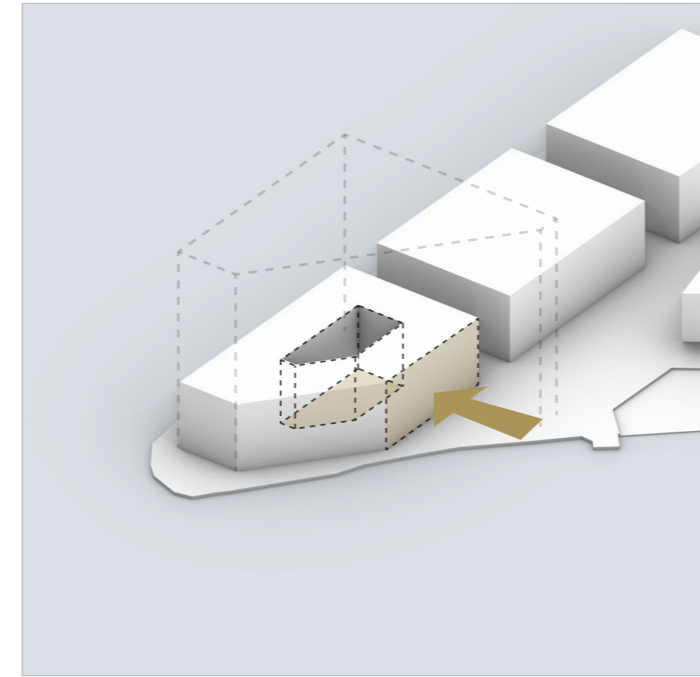




Building line defining the maximum usable area and height of the building

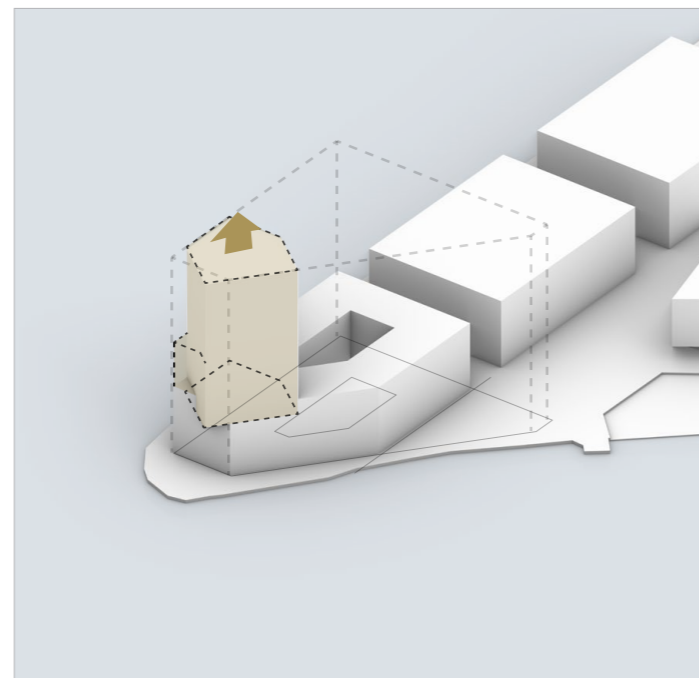


Establishing gridlines on 2 dominant axes of the site. Determining the depth of the building.

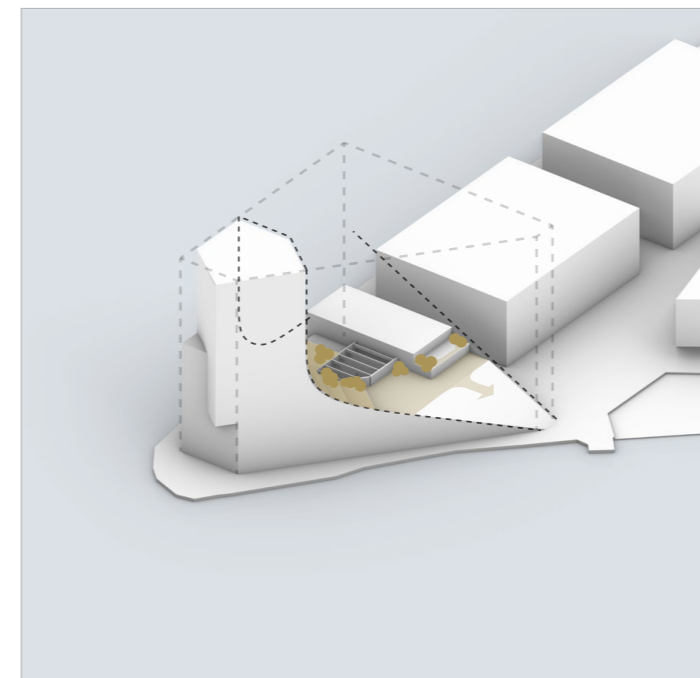


Creating an atrium in the middle of the volume and trimming the sharp side of the volume to optimize for daylight.

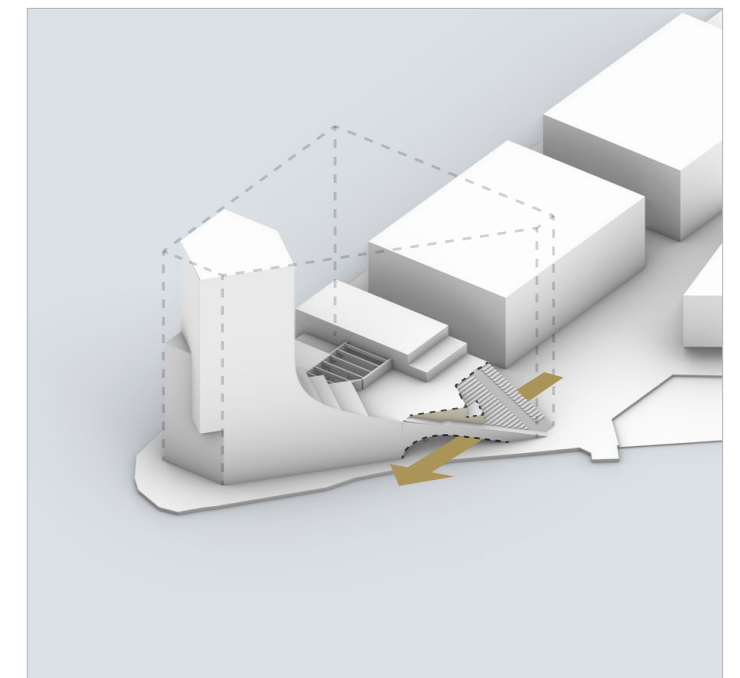
## CONCEPT



Establishing a tower in the front of the volume - north, to prevent shading and maximize the views to the sea and the city.



Adding a rooftop program and creating a access for the public via a staircase. Completing the volume by connecting the design feature with a curve.



Extending the rooftop program, increasing access to the seaside. Connecting the street to the sea by penetrating the building volume with a stylized arch.



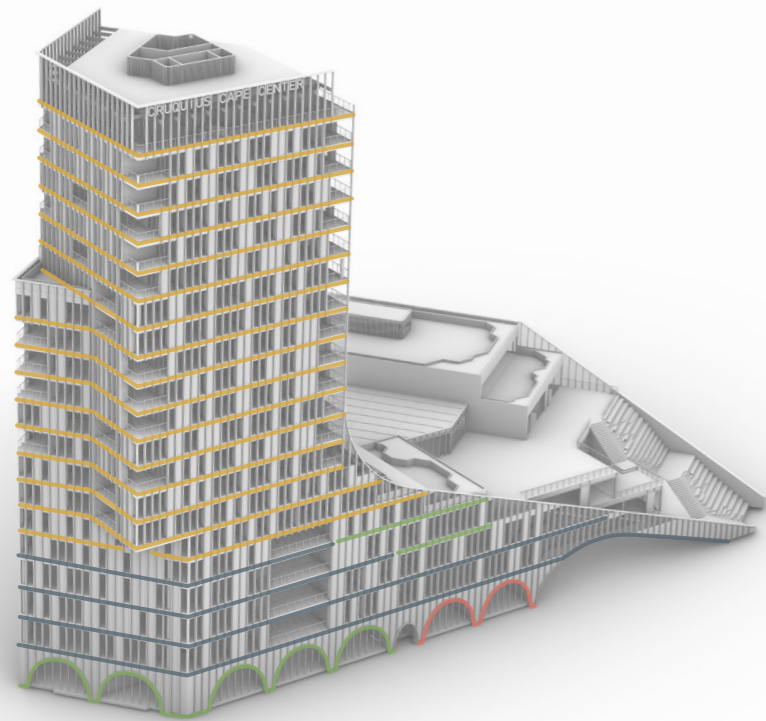
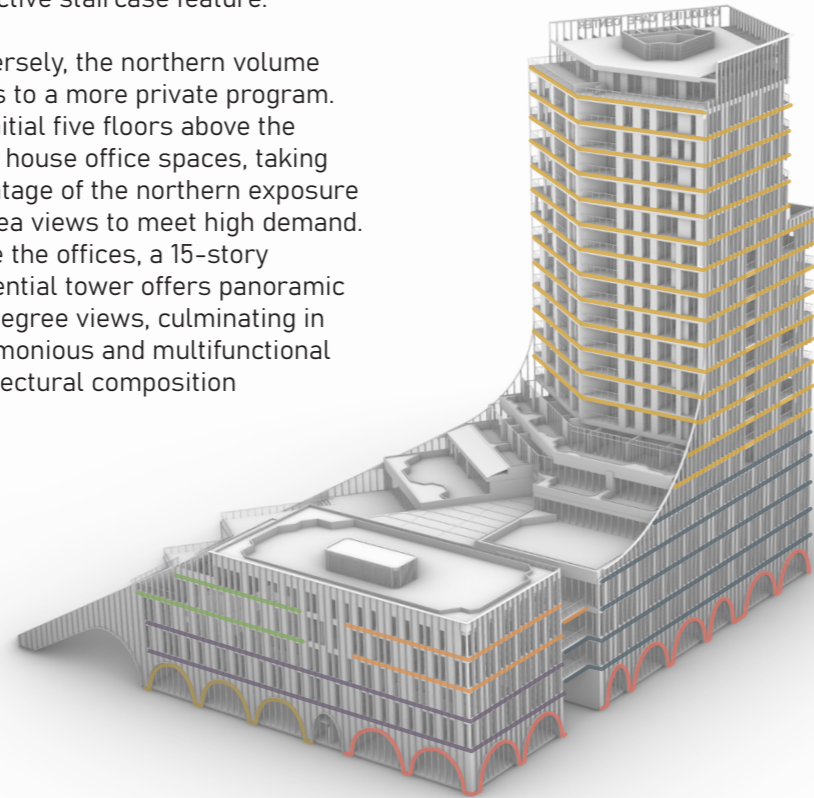
## BUILDING PROGRAMMING

The paramount objective of this design was to curate a comprehensive building program, encompassing residential, administrative, cultural, dining, fitness, retail, and grocery spaces.

At the base, the plinth accommodates public functions like retail and a grocery store, with the main entrance leading to a publicly accessible atrium that seamlessly interconnects all areas. The southern volume, though physically linked, operates as an autonomous unit. The first two floors host a cultural center with creative studios and educational facilities, followed by a fitness center with an outdoor workout platform towards the east and a westward-facing restaurant linked to an elevated public terrace and the

distinctive staircase feature.

Conversely, the northern volume caters to a more private program. The initial five floors above the plinth house office spaces, taking advantage of the northern exposure and sea views to meet high demand. Above the offices, a 15-story residential tower offers panoramic 360-degree views, culminating in a harmonious and multifunctional architectural composition



- housing
- office
- culture
- restaurant
- retail
- fitness

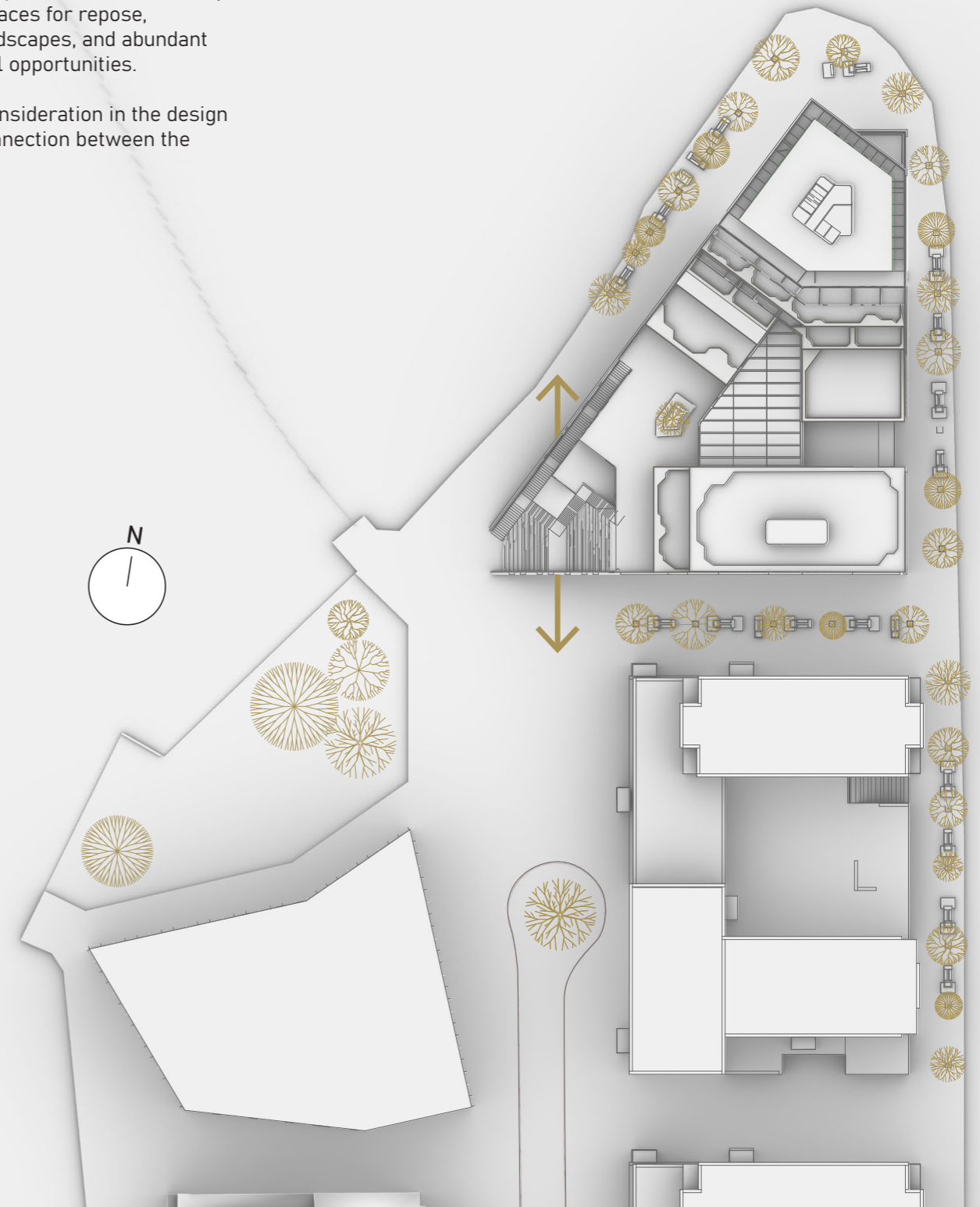
## SITE PLAN

Nestled at the extremity of the island's cape, the site presents an ideal canvas for an urban nexus. By curating a diverse program and extending an invitation to the public, this initiative democratizes the sweeping 270-degree vistas of the sea and the city.

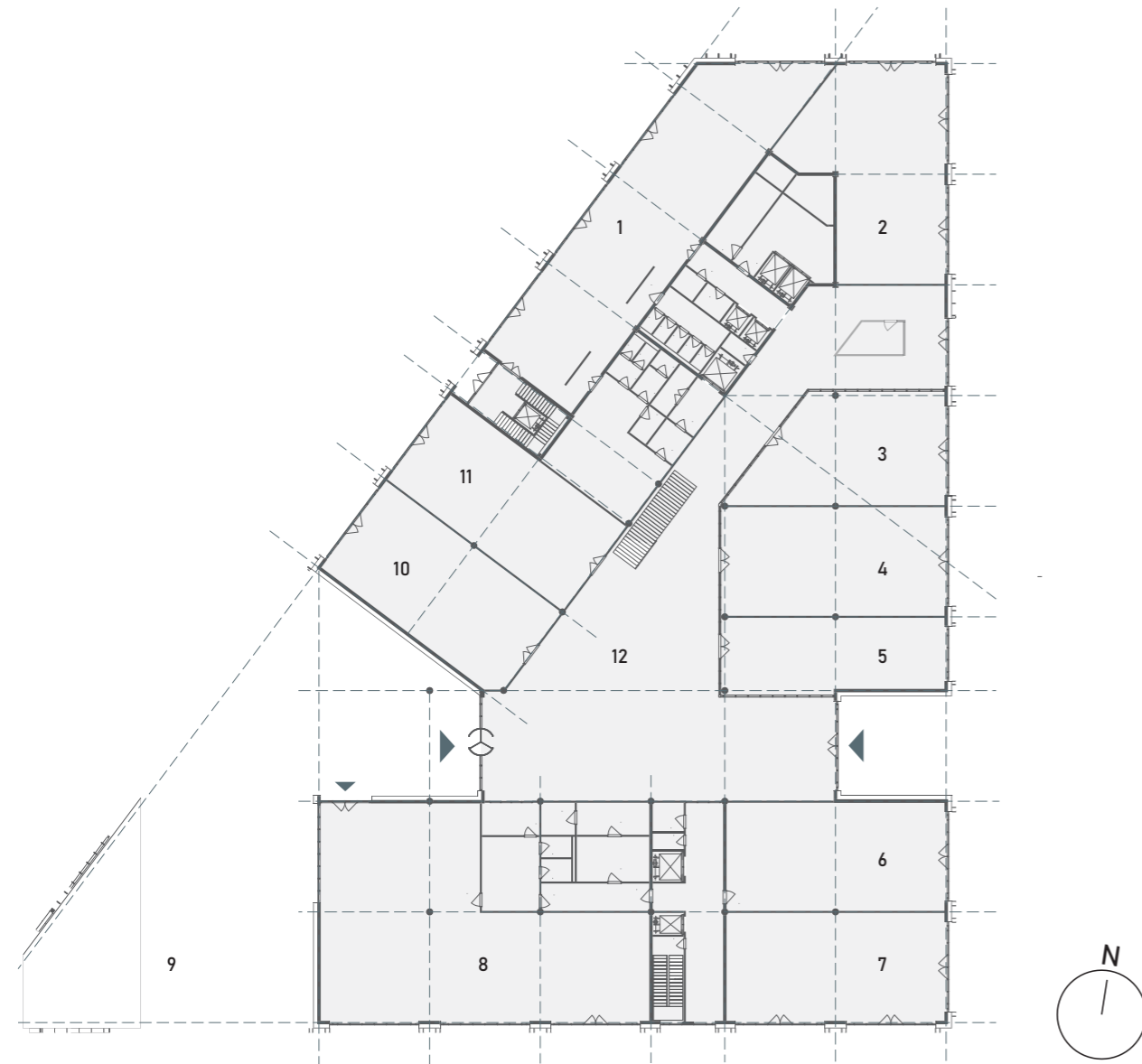
The cape, currently dominated by mixed-use structures with a predominant residential focus, affords ample space for this project to cater to the communal requisites of the neighborhood. I conceptualized a waterside promenade, seamlessly blending spaces for repose, verdant landscapes, and abundant recreational opportunities.

A pivotal consideration in the design was the connection between the

existing road and the waterside. The introduction of an arch in this linear link not only enhances the visual dynamism but also accommodates the potential future assembly of a ferry station. This strategic design element ensures unimpeded traversal for travelers, allowing them to seamlessly navigate the area without obstruction from the architectural volume.







## GROUND FLOOR scale: 1:500

The primary entrance to the building is positioned beneath the graceful arch of the staircase, providing a seamless entry point into the central atrium.

Occupying the north-western facades is a restaurant spanning 328 m<sup>2</sup>, offering the flexibility to extend its seating area outdoors. Multiple retail spaces are available, providing prospective owners the opportunity to purchase and customize these areas according to their preferences.

In the south-western corner, a neighborhood grocery store takes its place, serving as a convenient and integral amenity within the building. This strategic allocation of functional

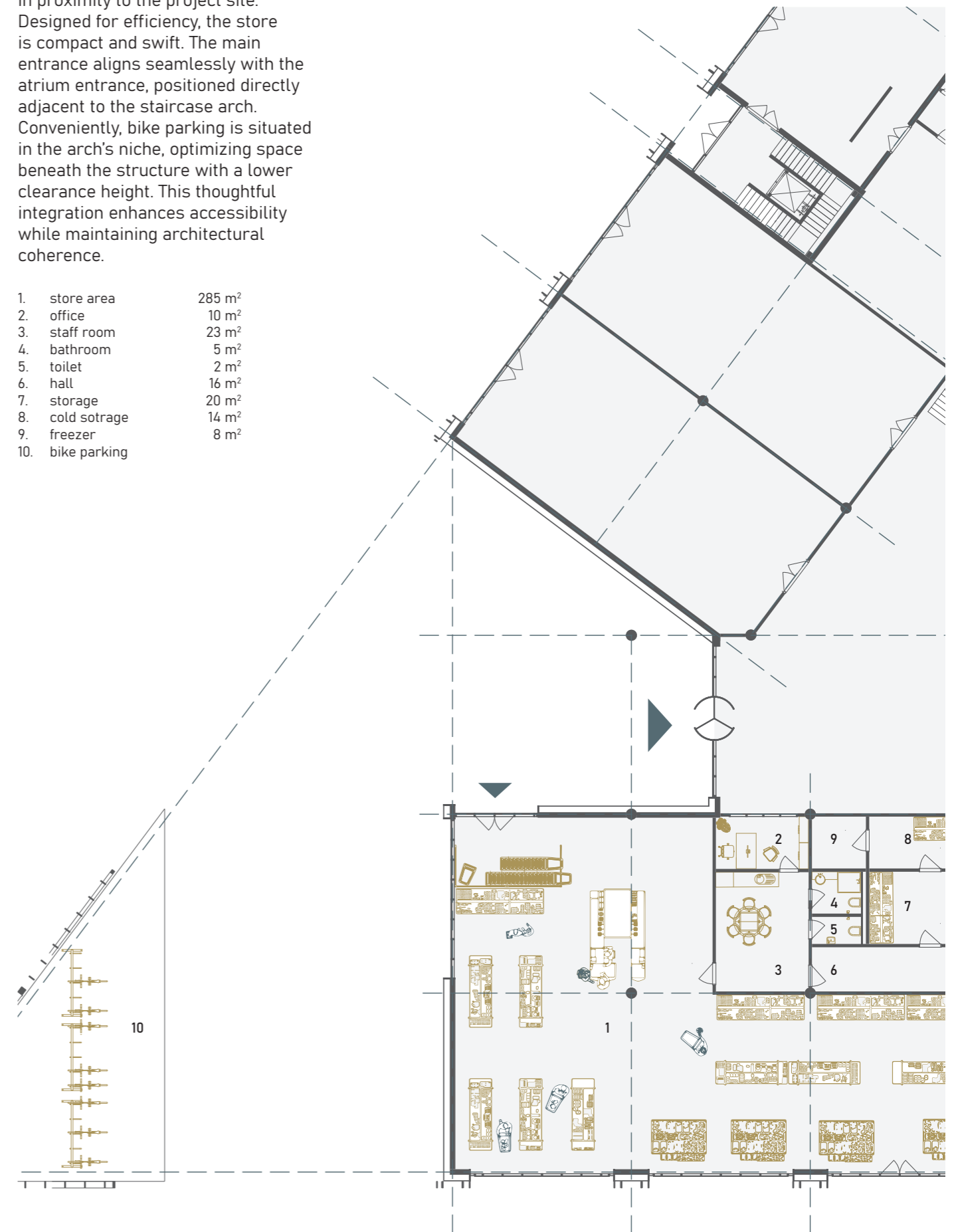
spaces enhances the building's accessibility and commercial vitality, contributing to a dynamic and user-centric architectural experience.

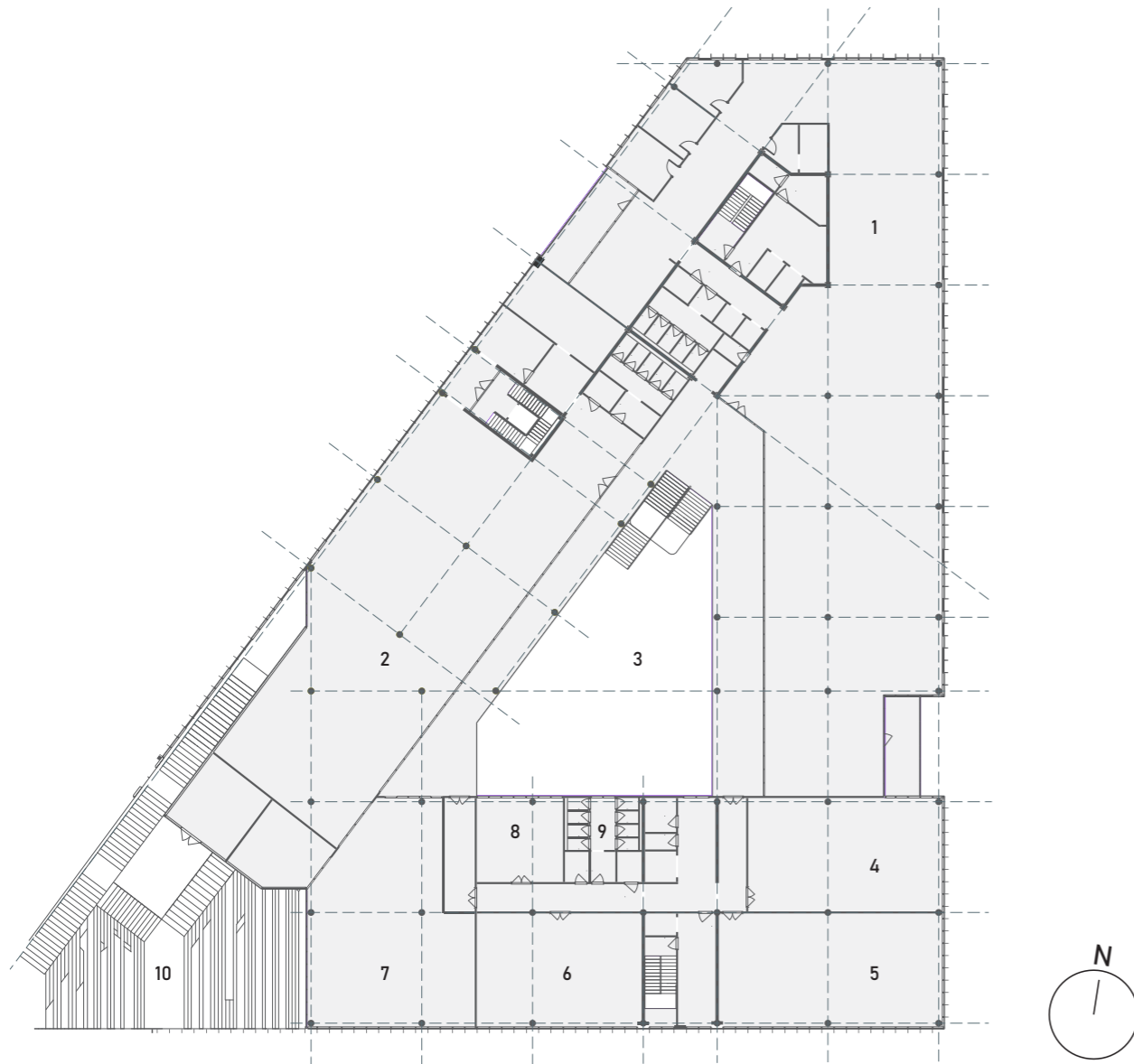
1.	restaurant	328 m <sup>2</sup>
2.	retail / cafe	148 m <sup>2</sup>
3.	retail / cafe	110 m <sup>2</sup>
4.	retail / cafe	130 m <sup>2</sup>
5.	retail / cafe	90 m <sup>2</sup>
6.	retail / cafe	126 m <sup>2</sup>
7.	retail / cafe	126 m <sup>2</sup>
8.	grocery store	396 m <sup>2</sup>
9.	bike parking	126 m <sup>2</sup>
10.	retail / cafe	126 m <sup>2</sup>
11.	retail / cafe	126 m <sup>2</sup>
12.	atrium + entrance	480 m <sup>2</sup>

## GROCERY STORE

Introducing a vital amenity to the neighborhood, the grocery store addresses a notable absence in proximity to the project site. Designed for efficiency, the store is compact and swift. The main entrance aligns seamlessly with the atrium entrance, positioned directly adjacent to the staircase arch. Conveniently, bike parking is situated in the arch's niche, optimizing space beneath the structure with a lower clearance height. This thoughtful integration enhances accessibility while maintaining architectural coherence.

1.	store area	285 m <sup>2</sup>
2.	office	10 m <sup>2</sup>
3.	staff room	23 m <sup>2</sup>
4.	bathroom	5 m <sup>2</sup>
5.	toilet	2 m <sup>2</sup>
6.	hall	16 m <sup>2</sup>
7.	storage	20 m <sup>2</sup>
8.	cold sotrage	14 m <sup>2</sup>
9.	freezer	8 m <sup>2</sup>
10.	bike parking	





**2ND - 3RD FLOORS** scale: 1:500

2nd and 3rd floors feature a similar layout. central atrium is extended with balconies serving both as access point and work/relax zone.

There are 2 offices of 950m<sup>2</sup> and 650m<sup>2</sup> respectively, both of which enjoy sea-side views and one with an access to the waterfront via the staircase feature.

The southern volume consists of spaces for culture and recreation.

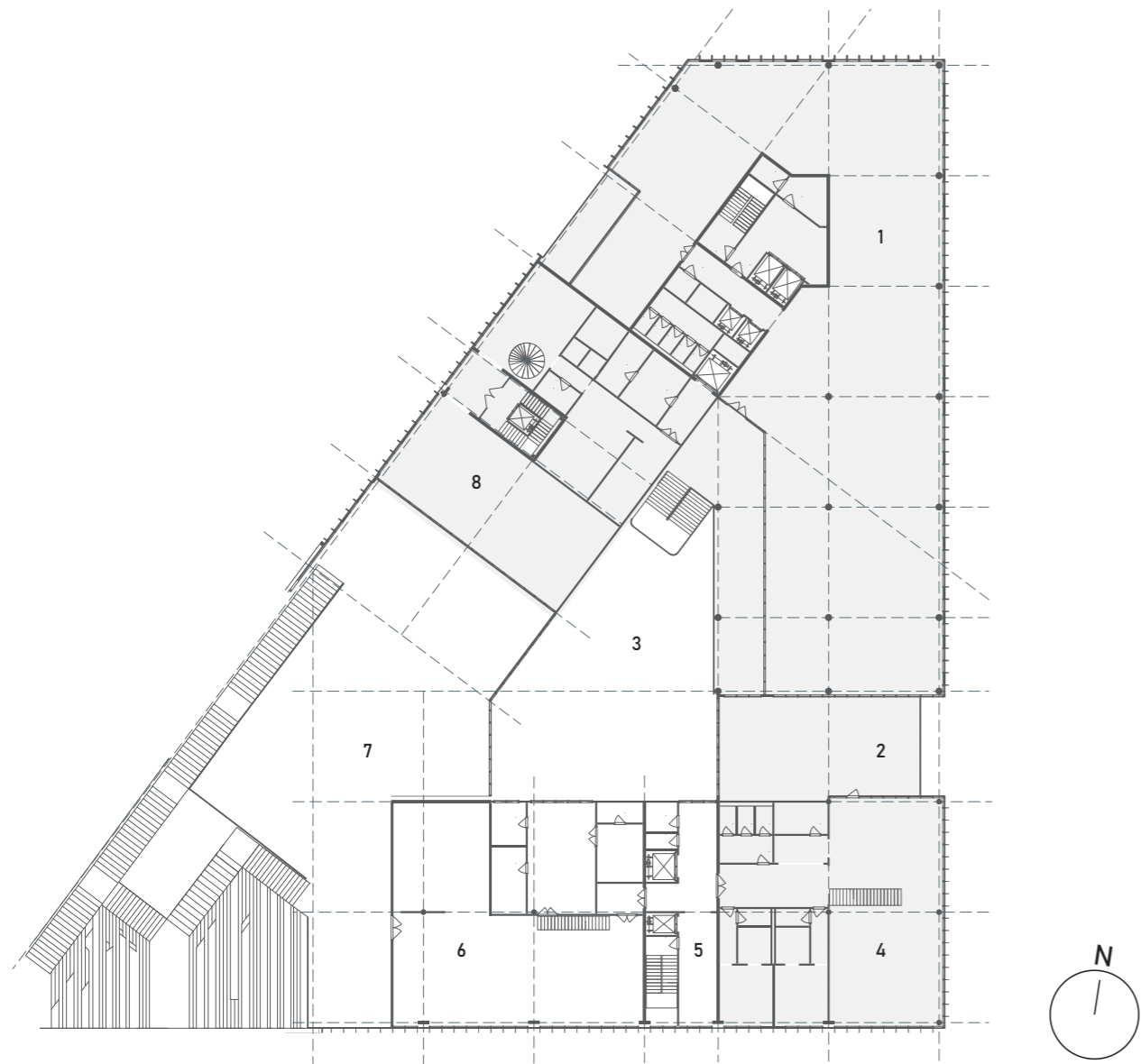
The entire floor plan is designed with a flexibility in mind, all spaces are connected with a corridor which allows for their modification based on the current needs.

1.	office 1	950 m <sup>2</sup>
2.	office 2	650 m <sup>2</sup>
3.	atrium	505 m <sup>2</sup>
4.	cultural 1	118 m <sup>2</sup>
5.	cultural 2	138 m <sup>2</sup>
6.	cultural 3	100 m <sup>2</sup>
7.	cultural 3	170 m <sup>2</sup>
8.	cultural office	40 m <sup>2</sup>
9.	restrooms	36 m <sup>2</sup>
10.	staircase	

**OFFICE 1**

1.	structural core	67 m <sup>2</sup>
2.	hall	16 m <sup>2</sup>
3.	restrooms	25 m <sup>2</sup>
4.	disabled wc	4 m <sup>2</sup>
5.	kitchen/dinning	46 m <sup>2</sup>
6.	balcony	22 m <sup>2</sup>
7.	meeting	15 m <sup>2</sup>
8.	meeting	16 m <sup>2</sup>
9.	office	14 m <sup>2</sup>
10.	print	6 m <sup>2</sup>
11.	server room	7 m <sup>2</sup>
12.	open office space	560 m <sup>2</sup>
13.	entrance/reception	45 m <sup>2</sup>
14.	atrium	284 m <sup>2</sup>
15.	open balcony	224 m <sup>2</sup>
16.	relax area	65 m <sup>2</sup>





### 4TH FLOOR - ROOFTOP scale: 1:500

The fourth floor introduces a diverse range of features, encompassing a compact office space and two restaurants equipped with industrial kitchens. Oriented towards the south-west, these dining establishments seamlessly expand onto the public terrace, fostering a harmonious connection with the outdoor space. Both restaurants share access to a central core, housing a cargo elevator dedicated to the efficient transport of goods.

Each restaurant enjoys the added dimension of a second floor, accompanied by private terraces that provide elevated views to the west. This architectural arrangement not only maximizes functional

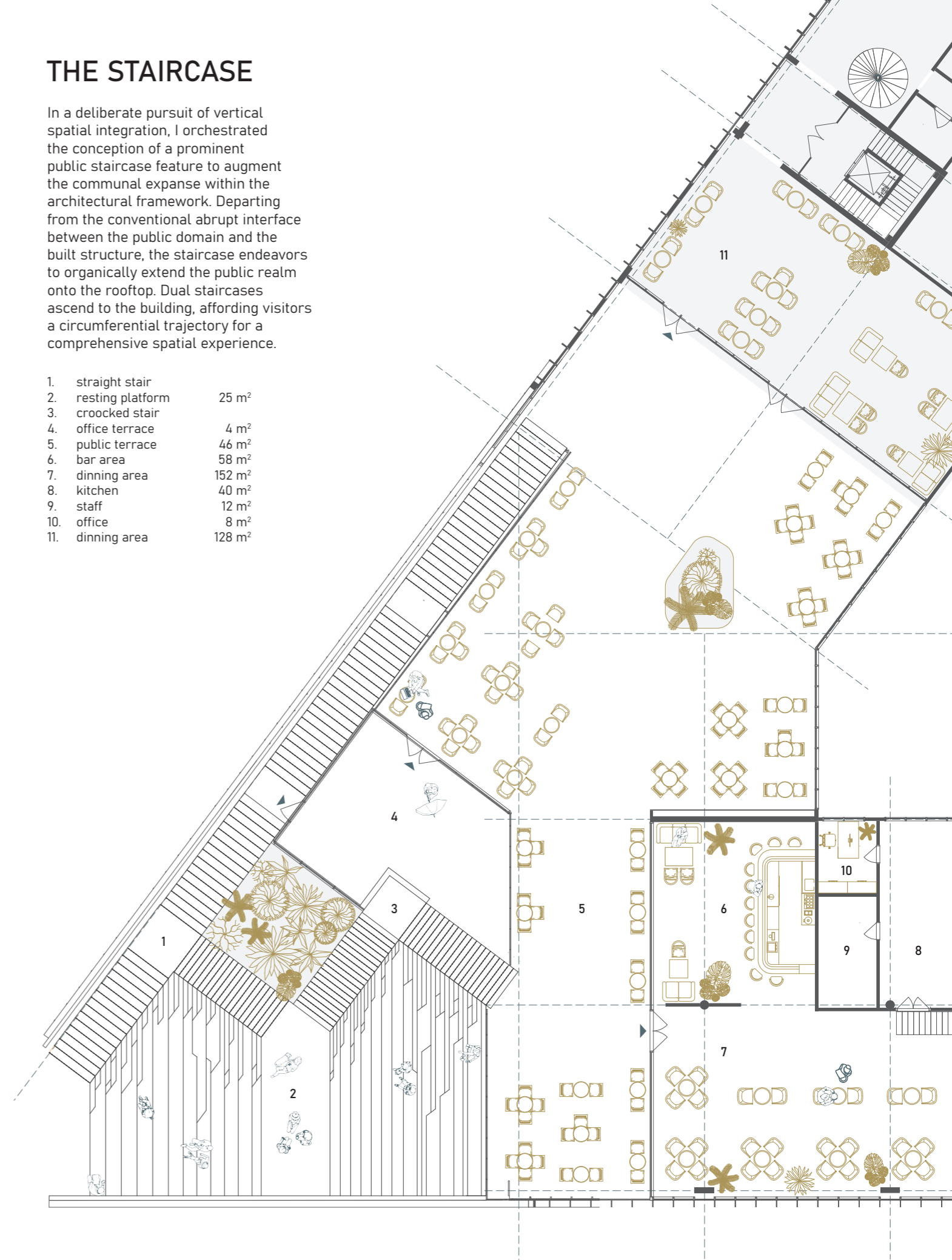
efficiency but also capitalizes on the surrounding vistas, creating a layered and engaging spatial experience on the fourth floor

1.	office	804 m <sup>2</sup>
2.	fitness platform	112 m <sup>2</sup>
3.	atrium	505 m <sup>2</sup>
4.	fitness centre	275 m <sup>2</sup>
5.	hall	50 m <sup>2</sup>
6.	restaurant	304 m <sup>2</sup>
7.	public terrace	427 m <sup>2</sup>
8.	restaurant	327 m <sup>2</sup>

## THE STAIRCASE

In a deliberate pursuit of vertical spatial integration, I orchestrated the conception of a prominent public staircase feature to augment the communal expanse within the architectural framework. Departing from the conventional abrupt interface between the public domain and the built structure, the staircase endeavors to organically extend the public realm onto the rooftop. Dual staircases ascend to the building, affording visitors a circumferential trajectory for a comprehensive spatial experience.

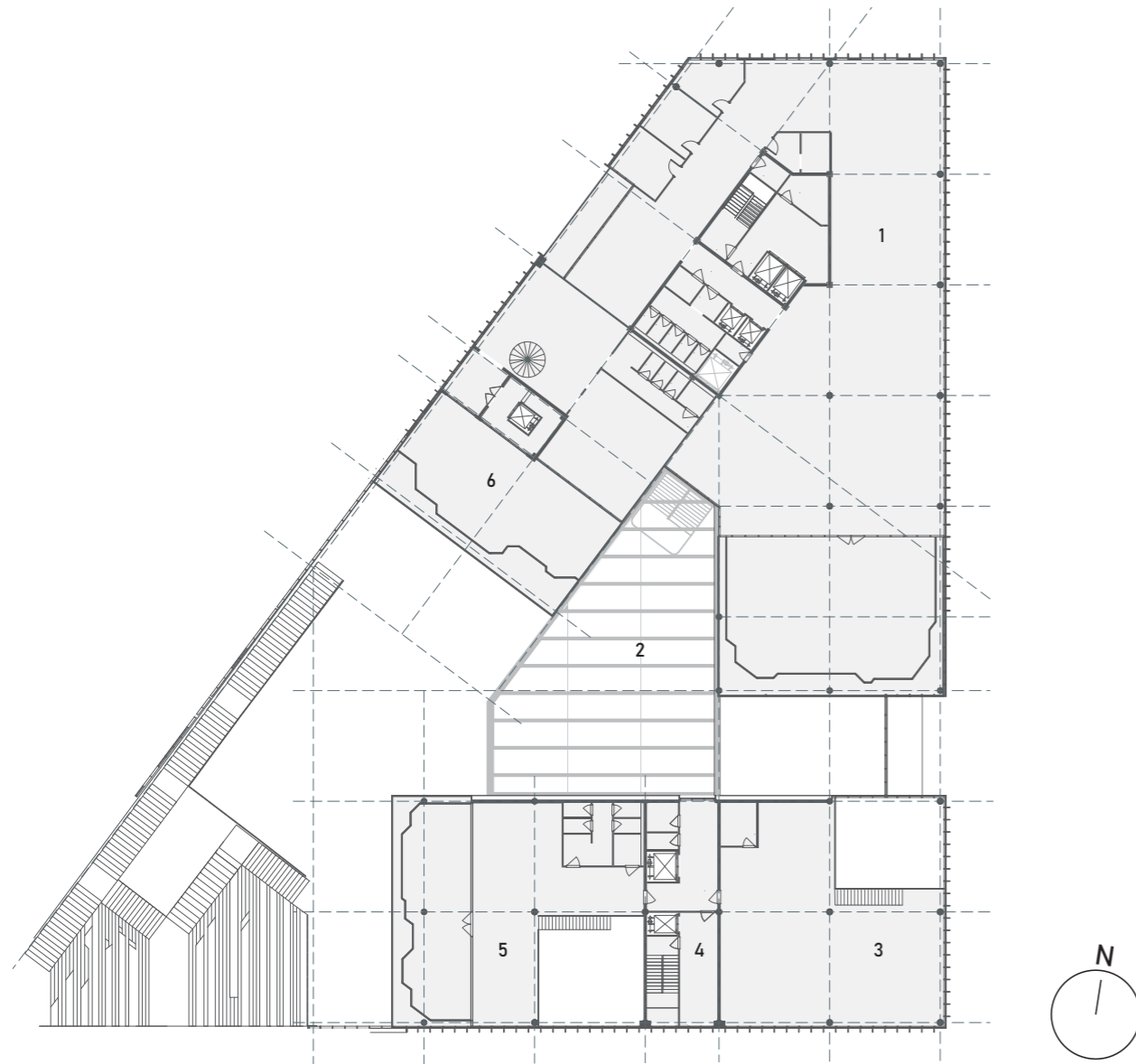
1.	straight stair	
2.	resting platform	25 m <sup>2</sup>
3.	crooked stair	
4.	office terrace	4 m <sup>2</sup>
5.	public terrace	46 m <sup>2</sup>
6.	bar area	58 m <sup>2</sup>
7.	dinning area	152 m <sup>2</sup>
8.	kitchen	40 m <sup>2</sup>
9.	staff	12 m <sup>2</sup>
10.	office	8 m <sup>2</sup>
11.	dinning area	128 m <sup>2</sup>



This architectural intervention incorporates expansive seating and relaxation zones, thereby fulfilling not only the recreational needs of the wider public but also catering to the inhabitants of the edifice. Oriented to the west and the central axis of Amsterdam, the staircase offers unparalleled panoramic vistas of the sunset. Ascending further, the rooftop unfolds into a commodious terrace, featuring refined gastronomic establishments and al fresco seating arrangements.

Beneath the staircase feature, a substantial stylized arch punctures the architectural volume, serving as a commanding element that accentuates the primary entrance to the building, discreetly positioned beneath the graceful ascent. This intricately designed feature not only aligns with the architectural ethos but also contributes significantly to the building's distinctive visual language





**5TH FLOOR** scale: 1:500

The 5th floor encompasses a compact office space complemented by a spacious roof terrace suitable for company events, lunches, or relaxation. The remaining floor plan mirrors the functions below, with restaurants and the gym extending across two floors. The intentional orientation of the gym towards the east ensures that morning users can benefit from the sunrise, aligning with natural circadian rhythms. The gym also connects to a private roof terrace, offering a dedicated space for activities like yoga, pilates, or stretching.

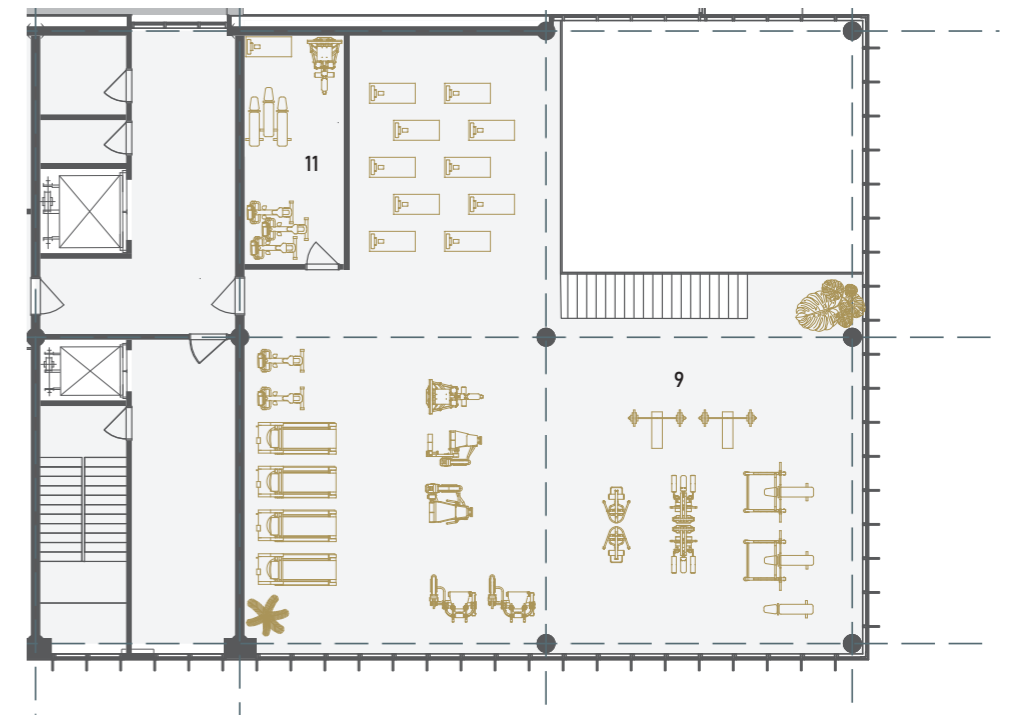
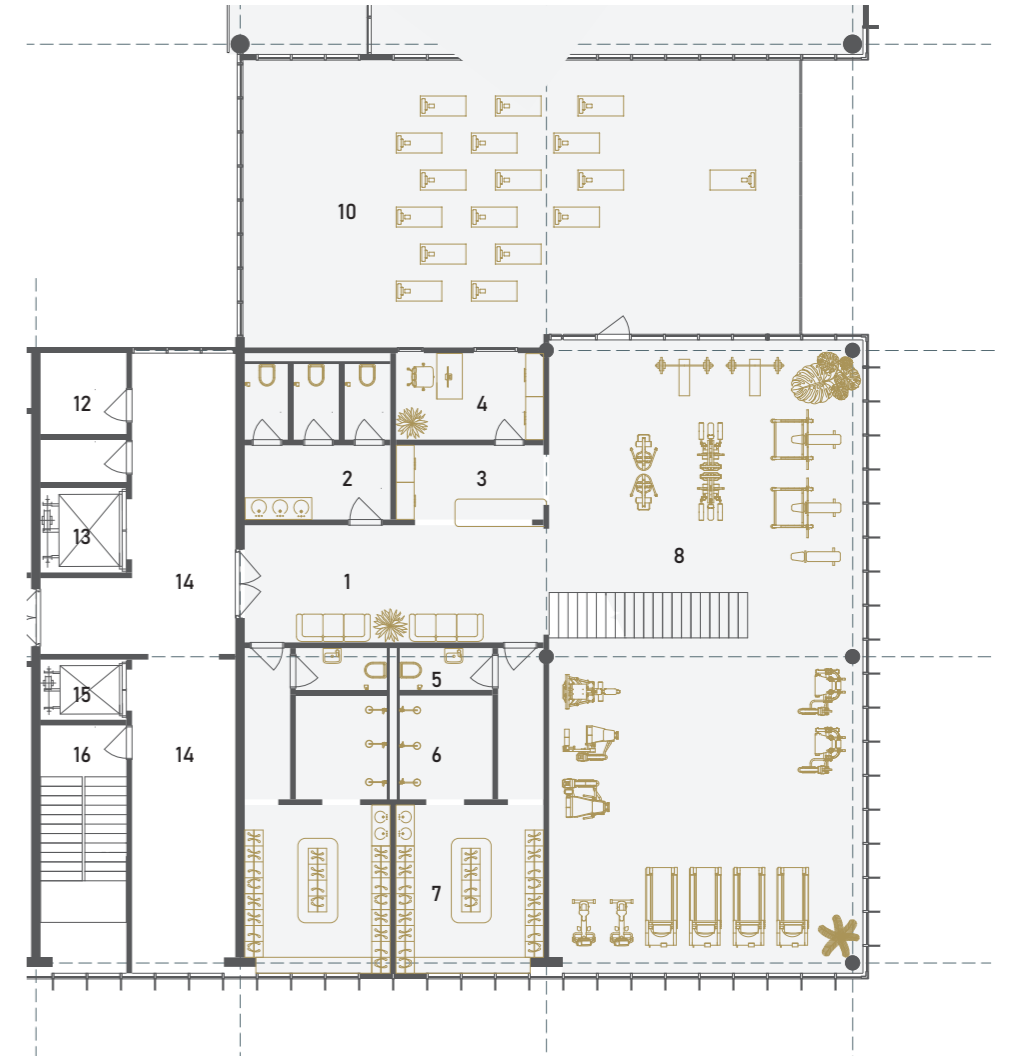
On the western side, dining establishments feature private terraces providing picturesque

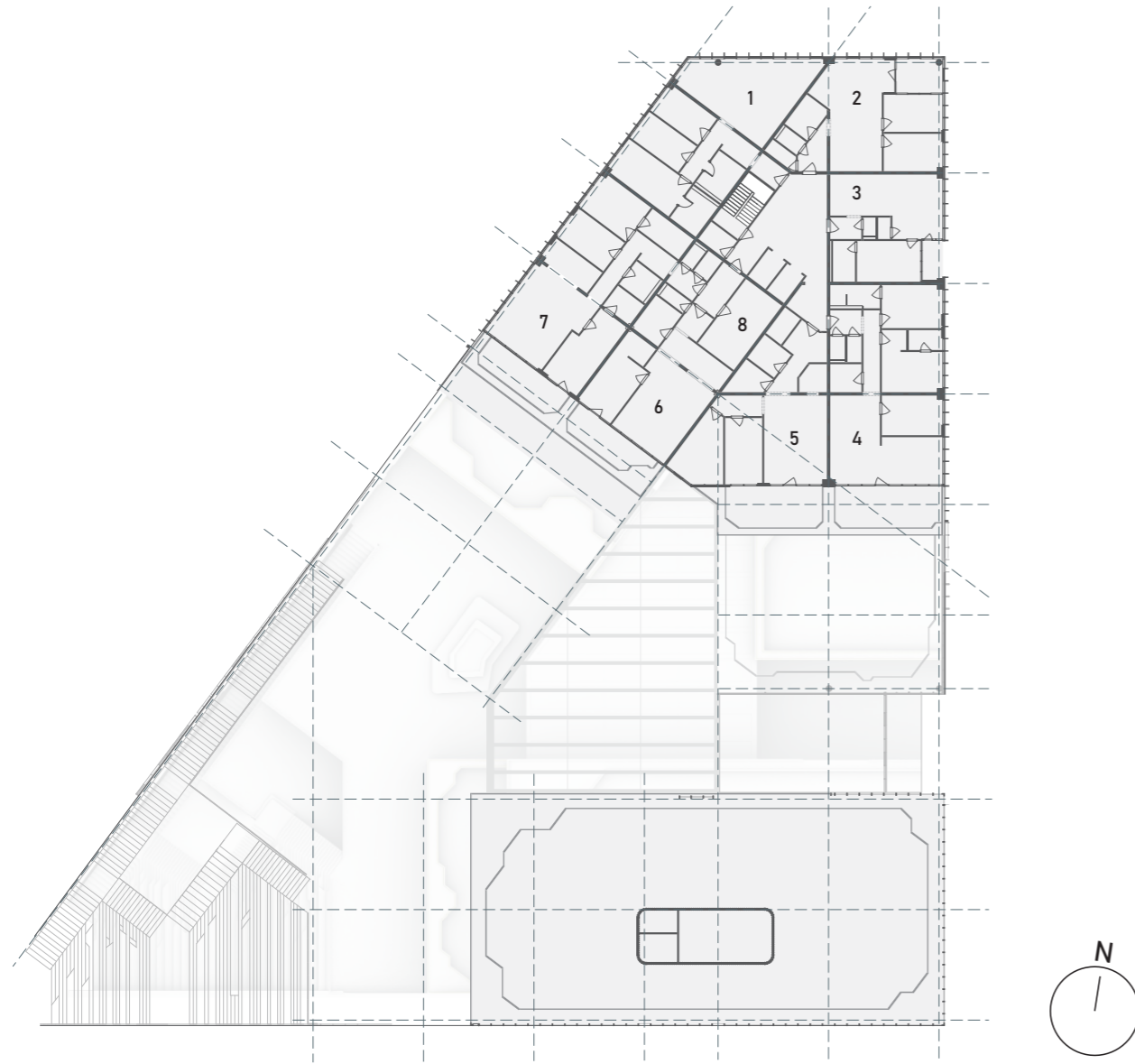
views of the west and the city center, enhancing the overall spatial experience and engagement with the surrounding urban context.

1.	office	804 m <sup>2</sup>
2.	atrium	505 m <sup>2</sup>
3.	gym	275 m <sup>2</sup>
4.	hall	50 m <sup>2</sup>
5.	restaurant	304 m <sup>2</sup>
6.	restaurant	327 m <sup>2</sup>

**GYM**

1.	entrance lobby	67 m <sup>2</sup>
2.	restrooms	16 m <sup>2</sup>
3.	reception	25 m <sup>2</sup>
4.	office	4 m <sup>2</sup>
5.	toilet	46 m <sup>2</sup>
6.	showers	22 m <sup>2</sup>
7.	changing room	15 m <sup>2</sup>
8.	workout space 4th	16 m <sup>2</sup>
9.	workout space 5th	14 m <sup>2</sup>
10.	aerobic platform	6 m <sup>2</sup>
11.	storage	7 m <sup>2</sup>
12.	technical + cleaning	560 m <sup>2</sup>
13.	cargo elevator	45 m <sup>2</sup>
14.	vestibule	284 m <sup>2</sup>
15.	passanger elevator	224 m <sup>2</sup>
16.	staircase	65 m <sup>2</sup>





**6TH & 7TH FLOOR** scale: 1:500

The 6th floor serves as the foundation of the residential tower, uniquely distinguished by its outward offset in comparison to the floors above. This intentional design choice facilitates the implementation of a terraced housing typology. Southern apartments on this level, as well as the one above, feature expansive private terraces facing south. These terraces provide residents with the opportunity to cultivate crops or ornamental plants within dedicated planters. The underlying concept of this typology is to craft apartments with individual private gardens, effectively organizing them vertically within the confines of an urban tower. This approach aims to merge the principles of terraced housing with the verticality inherent to a

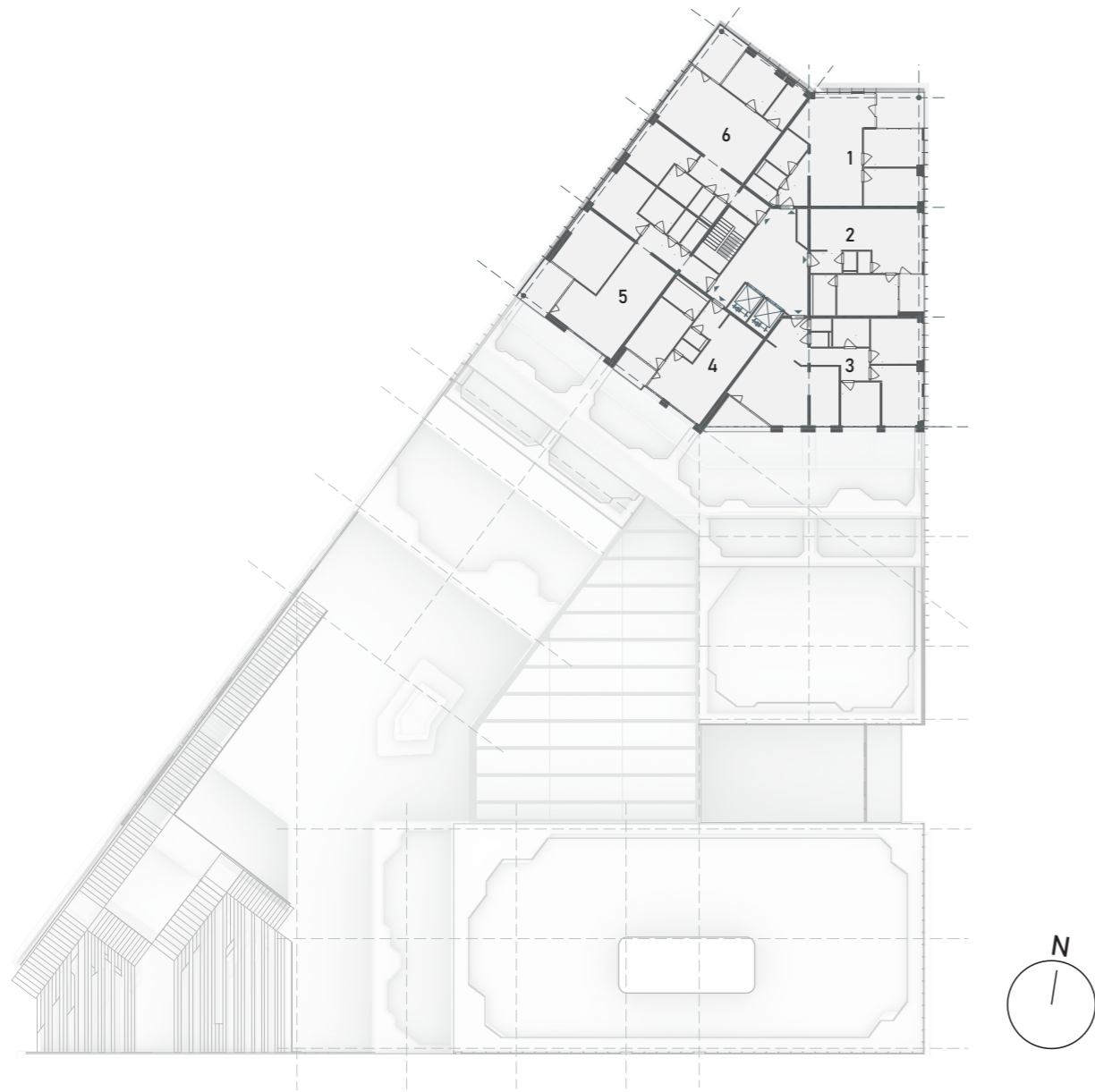
tower structure.

Additionally, this floor accommodates a technical room housing service equipment pertinent to the administrative and public functions beneath, serving as a technological partition between the residential tower and the administrative base. This strategic allocation ensures the efficient separation and operation of the distinct functionalities within the overall architectural composition.

1.	3 bedroom apt.	104 m <sup>2</sup>
2.	2 bedroom apt.	84 m <sup>2</sup>
3.	1 bedroom apt.	65 m <sup>2</sup>
4.	3 bedroom apt.	134 m <sup>2</sup>
5.	2 bedroom apt.	120 m <sup>2</sup>
6.	1 bedroom apt.	94 m <sup>2</sup>
7.	3 bedroom apt.	133 m <sup>2</sup>
8.	technical room	19 m <sup>2</sup>



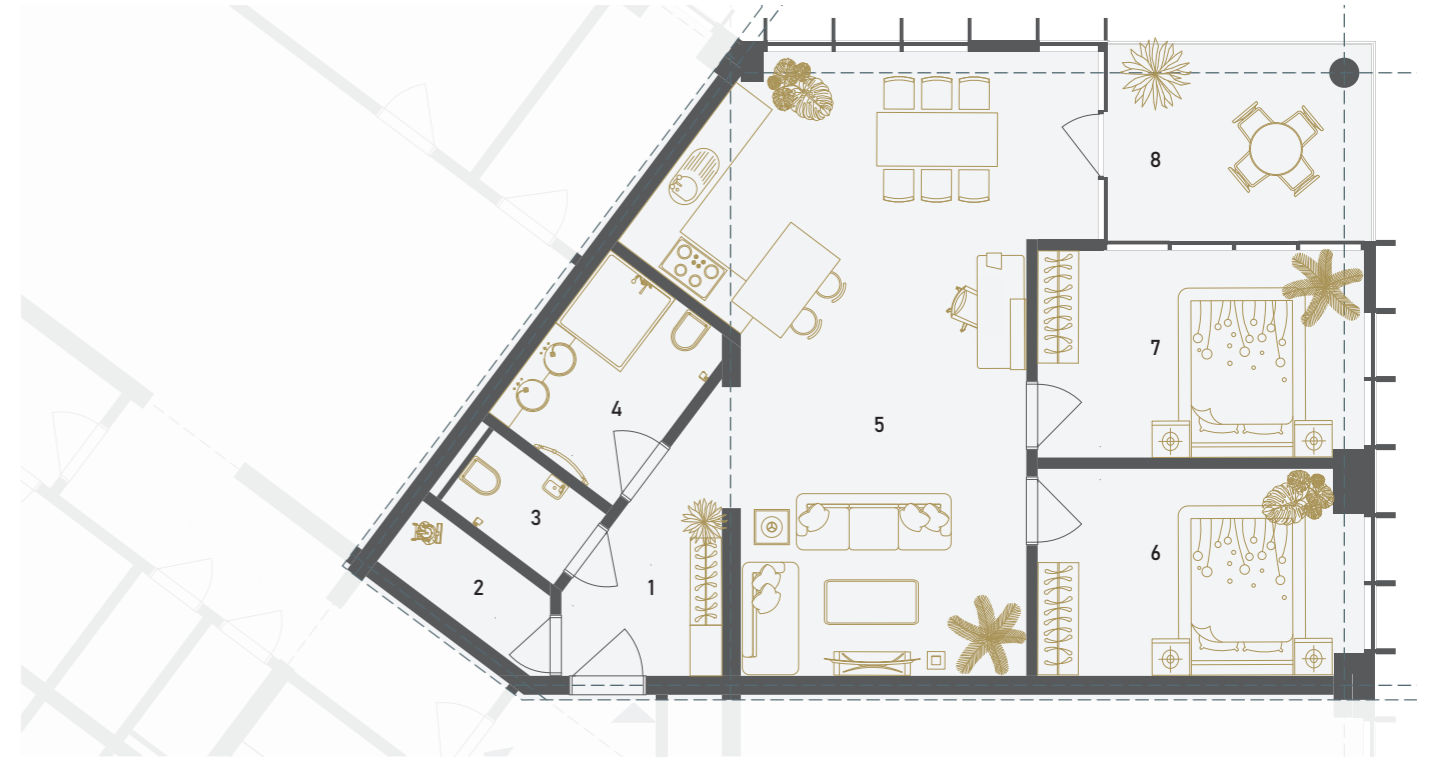




**8TH-20TH (ALTERNATING)** scale: 1:500

Spanning from the 8th to the 20th floor, the residential tower houses residential units. Each floor encompasses six apartments linked to a centralized lobby. Virtually all apartments boast expansive loggias, providing ample space for a dining set and connecting inhabitants to the outdoors. The floorplan encompasses one, two, and three-bedroom apartments, along with a studio. This versatile arrangement caters to a diverse range of users, accommodating individuals and families alike. The design prioritizes flexibility to suit varying lifestyles within the residential tower.

1.	2 bedroom apt.	87 m <sup>2</sup>
2.	1 bedroom apt.	65 m <sup>2</sup>
3.	3 bedroom apt.	104 m <sup>2</sup>
4.	1 bedroom apt.	65 m <sup>2</sup>
5.	2 bedroom apt.	98 m <sup>2</sup>
6.	3 bedroom apt.	102 m <sup>2</sup>



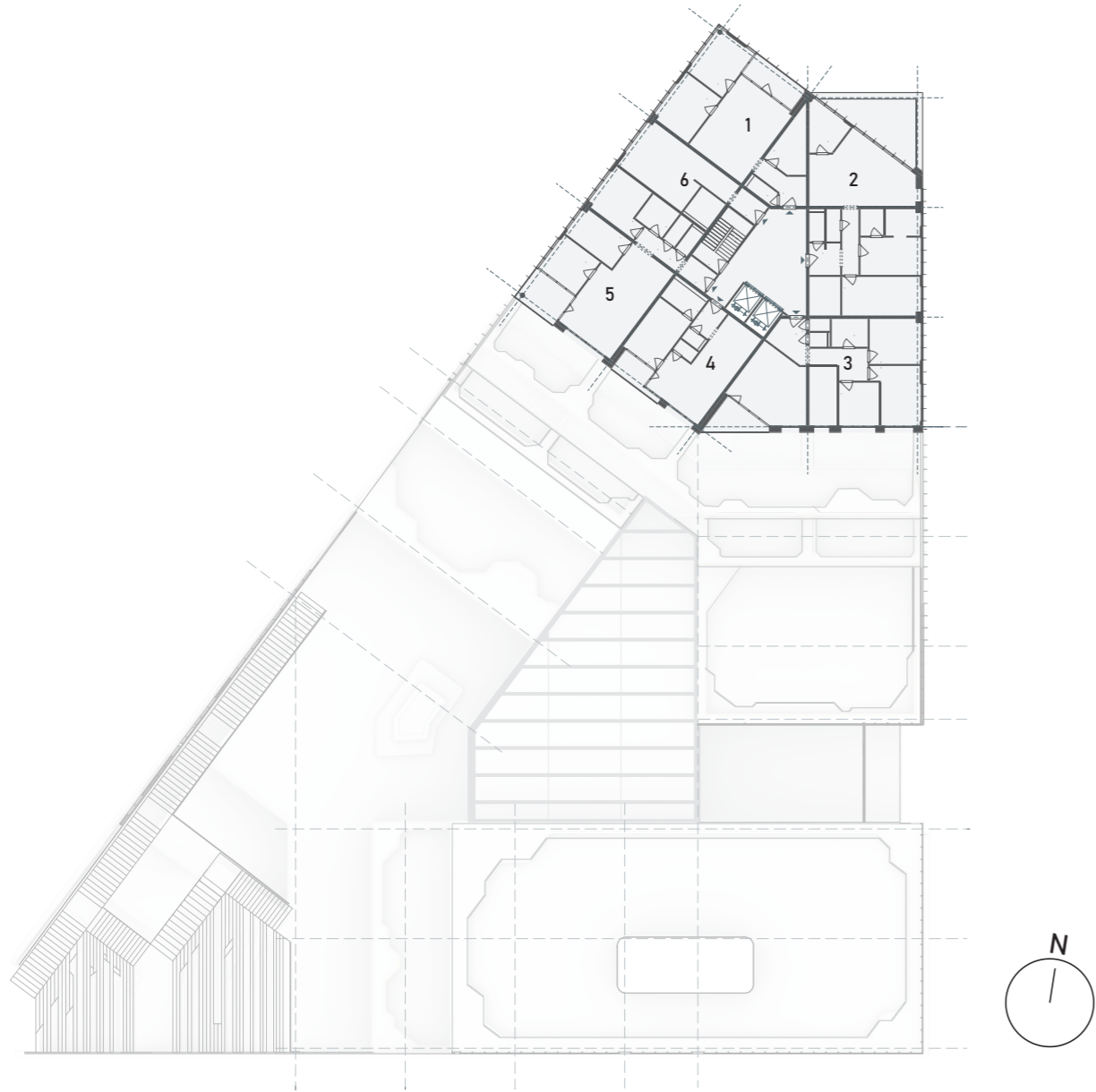
**APARTMENT 1**  
**87m<sup>2</sup>**

1.	entrance hall	5 m <sup>2</sup>
2.	technical	2 m <sup>2</sup>
3.	toilet	2 m <sup>2</sup>
4.	bathroom	5 m <sup>2</sup>
5.	living space	37 m <sup>2</sup>
6.	bedroom	11 m <sup>2</sup>
7.	bedroom	11 m <sup>2</sup>
8.	loggia	9 m <sup>2</sup>



**APARTMENT 6**  
**102m<sup>2</sup>**

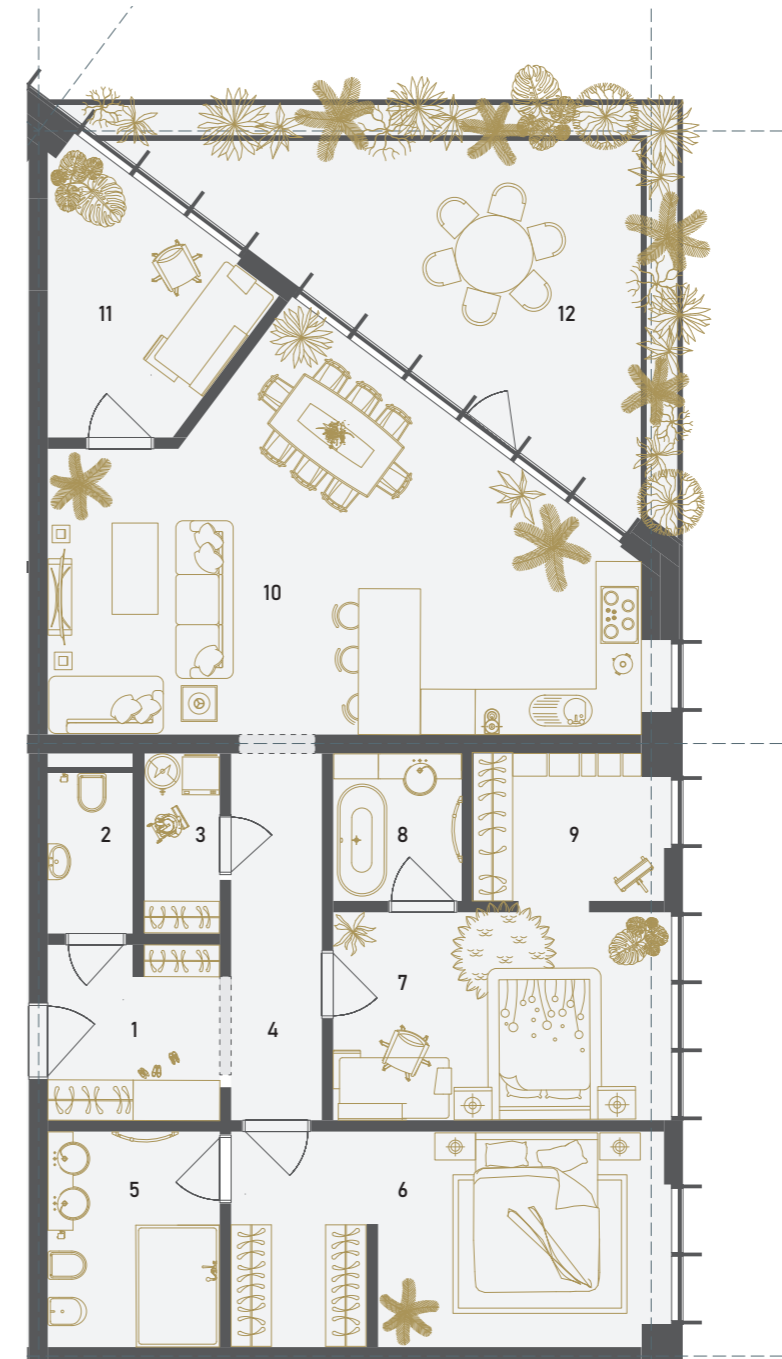
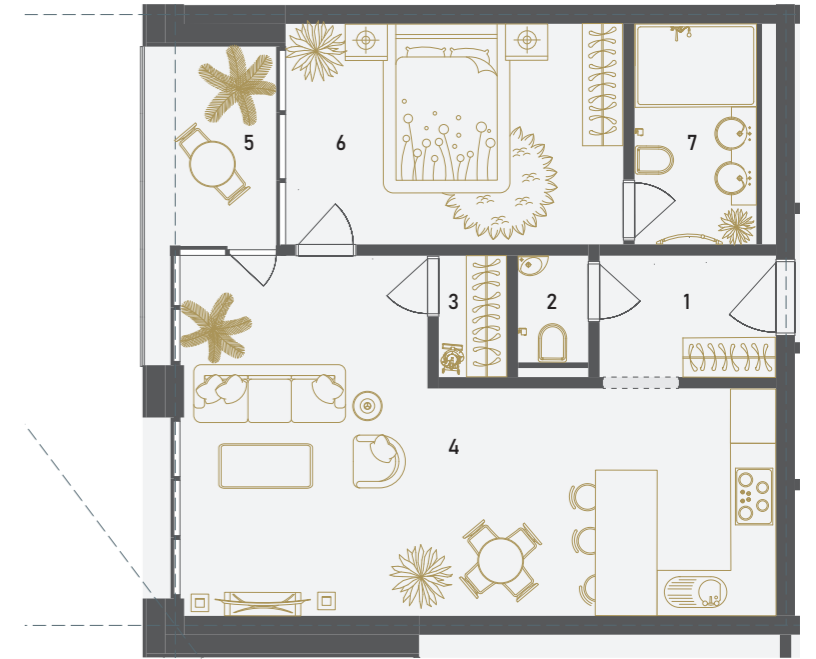
1.	entrance hall	4 m <sup>2</sup>
2.	hall	6 m <sup>2</sup>
3.	toilet	2 m <sup>2</sup>
4.	technical	2 m <sup>2</sup>
5.	bathroom	5 m <sup>2</sup>
6.	bedroom	12 m <sup>2</sup>
7.	living space	39 m <sup>2</sup>
8.	bedroom	12 m <sup>2</sup>
9.	office	5 m <sup>2</sup>
10.	loggia	9 m <sup>2</sup>



- 1. 2 bedroom apt. 87 m<sup>2</sup>
- 2. 3 bedroom apt. 127 m<sup>2</sup>
- 3. 3 bedroom apt. 104 m<sup>2</sup>
- 4. 1 bedroom apt. 65 m<sup>2</sup>
- 5. 2 bedroom apt. 98 m<sup>2</sup>
- 6. studio 38 m<sup>2</sup>

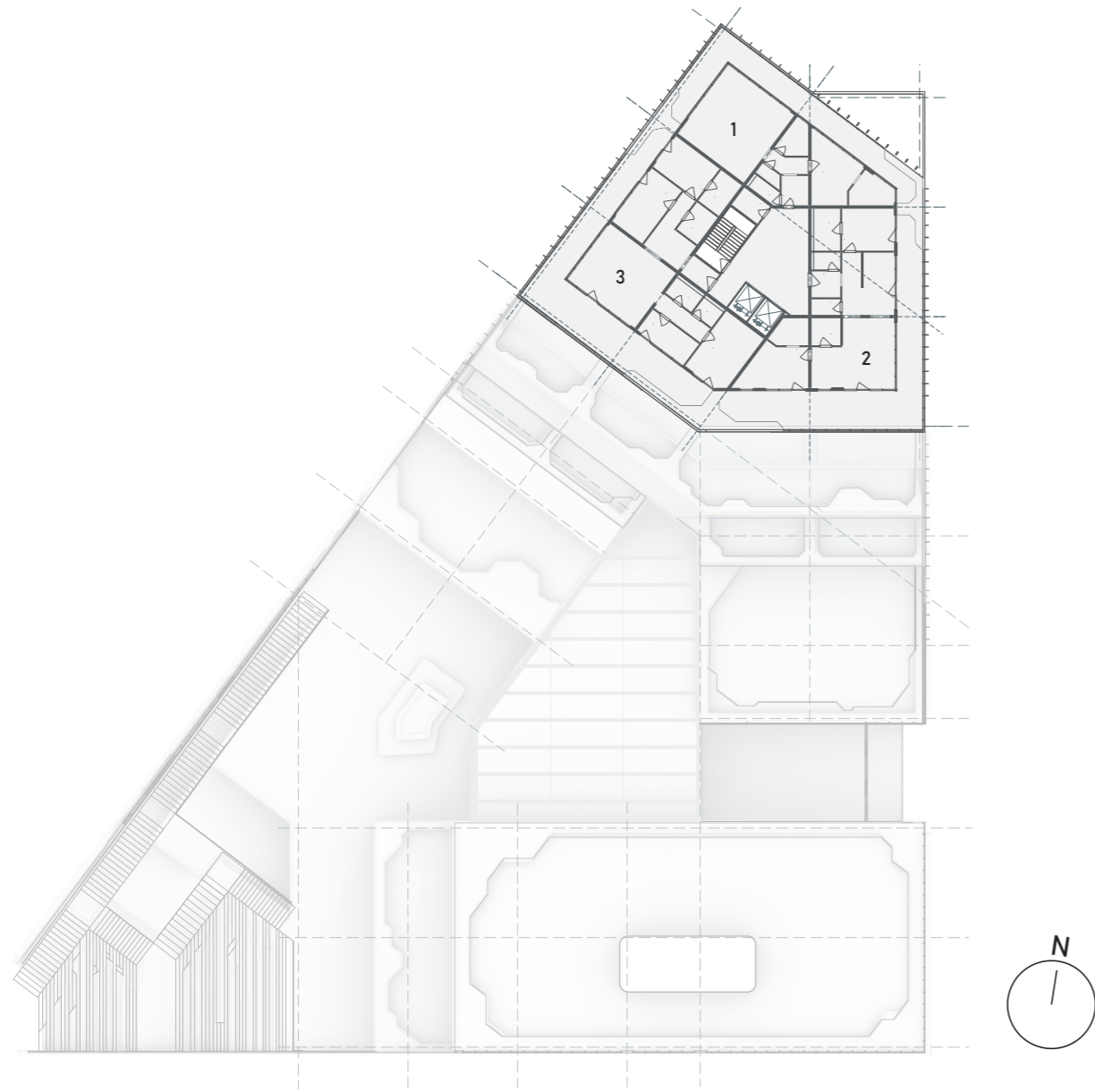
## APARTMENT 4 65m<sup>2</sup>

- 1. entrance hall 4 m<sup>2</sup>
- 2. toilet 1 m<sup>2</sup>
- 3. technical 1 m<sup>2</sup>
- 4. living space 30 m<sup>2</sup>
- 5. loggia 5 m<sup>2</sup>
- 6. bedroom 13 m<sup>2</sup>
- 7. bathroom 5 m<sup>2</sup>



## APARTMENT 2 127m<sup>2</sup>

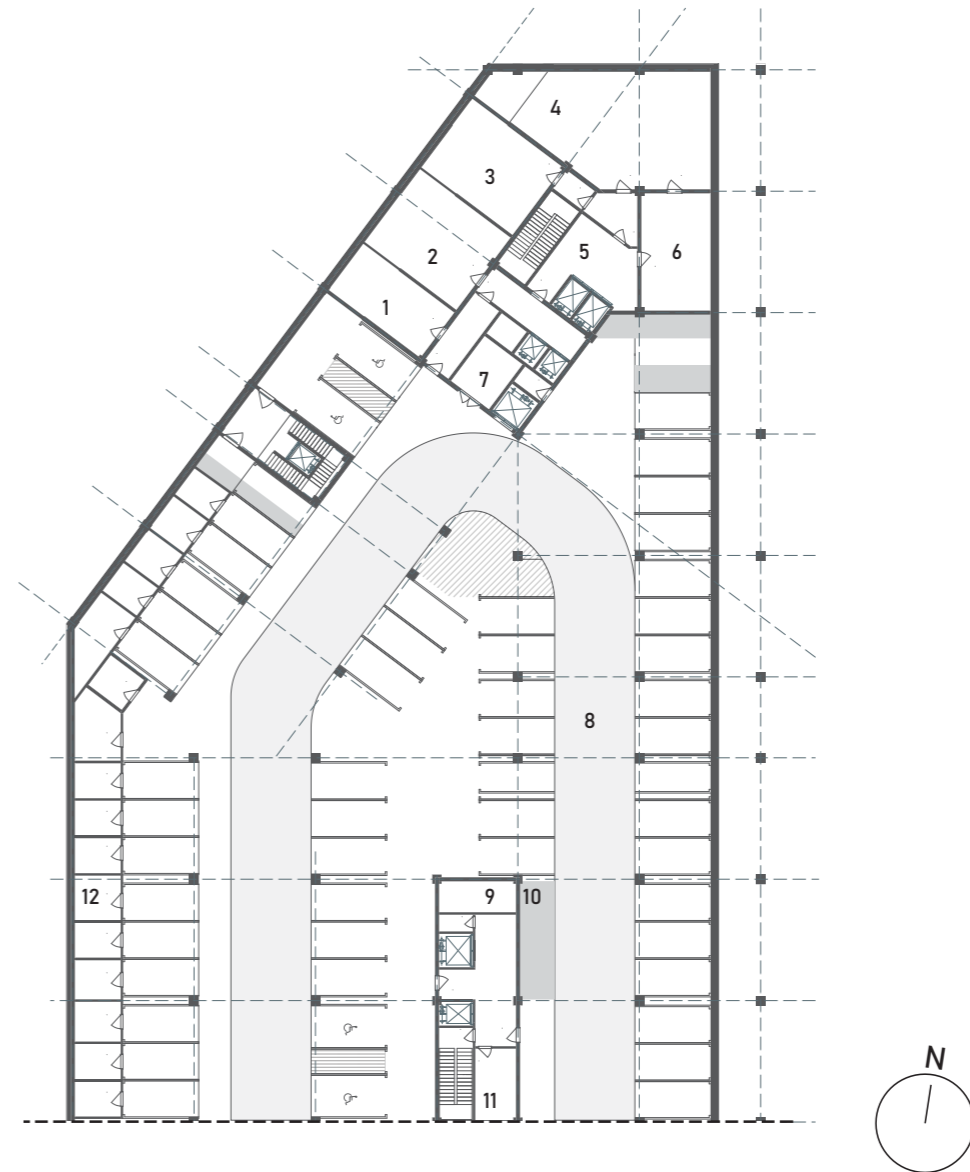
- 1. entrance hall 5 m<sup>2</sup>
- 2. toilet 2 m<sup>2</sup>
- 3. technical 2 m<sup>2</sup>
- 4. hall 6 m<sup>2</sup>
- 5. bathroom 6 m<sup>2</sup>
- 6. bedroom 16 m<sup>2</sup>
- 7. bedroom 12 m<sup>2</sup>
- 8. bathroom 4 m<sup>2</sup>
- 9. walk-in closet 5 m<sup>2</sup>
- 10. living space 33 m<sup>2</sup>
- 11. office 9 m<sup>2</sup>
- 12. roof terrace 19 m<sup>2</sup>



**21TH FLOOR - PENTHOUSES** scale: 1:500

The pinnacle of the building comprises three luxurious penthouse apartments, each distinguished by an expansive terrace offering panoramic views of the surroundings. The apartments boast configurations of 1, 2, and 3 (or 4) bedrooms, each intricately connected to a private bathroom. This design not only emphasizes the opulence of the living spaces but also ensures a seamless integration of private and outdoor elements, providing an elevated and refined residential experience on the top floor.

- 1. 1 bedroom apt 134 m<sup>2</sup>
- 2. 2 bedroom apt 174 m<sup>2</sup>
- 3. 3/4 bedroom apt 200 m<sup>2</sup>



**PARKING GARAGE -1** scale: 1:500

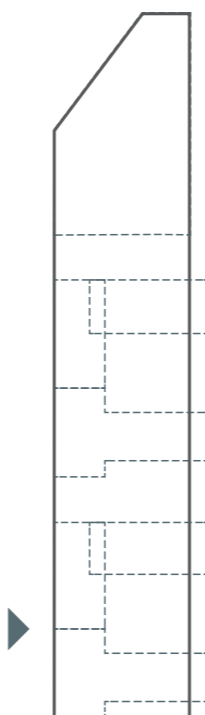
In adherence to the Municipality of Amsterdam's development plan, the Cruquius cape area is designated as car-free. Consequently, the building I have designed, along with two others, shares a unified underground garage. The entrance to this garage is situated within the southernmost building.

As the building plans for the other structures were not made available, my design process did not draw upon or these undisclosed plans.

The underground garage accommodates a total of 52 parking spaces, which include provisions for 5 spots designated for disabled access. The upper segment of the

building houses various technical amenities such as the HVAC room, technical rooms, and facilities for trash collection,

- 1. technical room 28 m<sup>2</sup>
- 2. transformer st. 42 m<sup>2</sup>
- 3. HVAC room 46 m<sup>2</sup>
- 4. storage 96 m<sup>2</sup>
- 5. structural core 68 m<sup>2</sup>
- 6. technical room 36 m<sup>2</sup>
- 7. trash collection 16 m<sup>2</sup>
- 8. parking lot 1800 m<sup>2</sup>
- 9. technical room 11 m<sup>2</sup>
- 10. storage 13 m<sup>2</sup>
- 11. bike parking
- 12. private storage 8 m<sup>2</sup>



## ONE SPACE, TO CONNECT THEM ALL

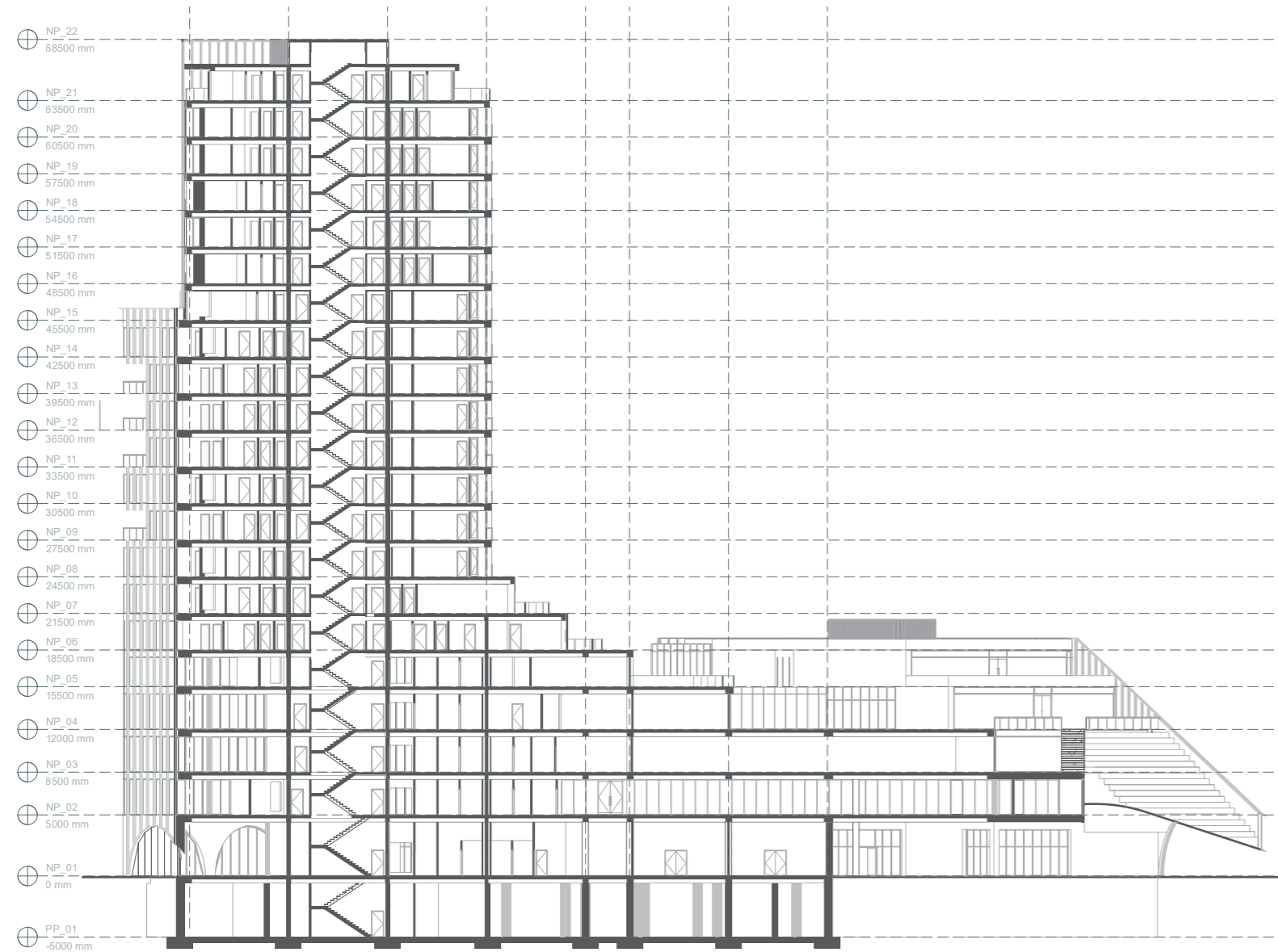
The atrium serves as a multifunctional centerpiece, fulfilling diverse roles within the structure. Functioning as an expansive source of natural light, its openness bathes the building's interior in daylight throughout the day. Unlike traditional atriums, this design not only capitalizes on energy efficiency but also cleverly harnesses solar heat while facilitating ample natural ventilation.

At the ground level, the atrium serves as a nexus, seamlessly connecting three main entrances to the building. The flexible central space becomes a dynamic hub for exhibitions and gatherings, adapting to the evolving needs of the occupants. A grand staircase takes center stage, providing access to the upper floors and their respective spaces. Balconies within the Atrium interconnect the entire building, fostering a sense of unity while allowing for a programmatically flexible environment that can evolve over time.

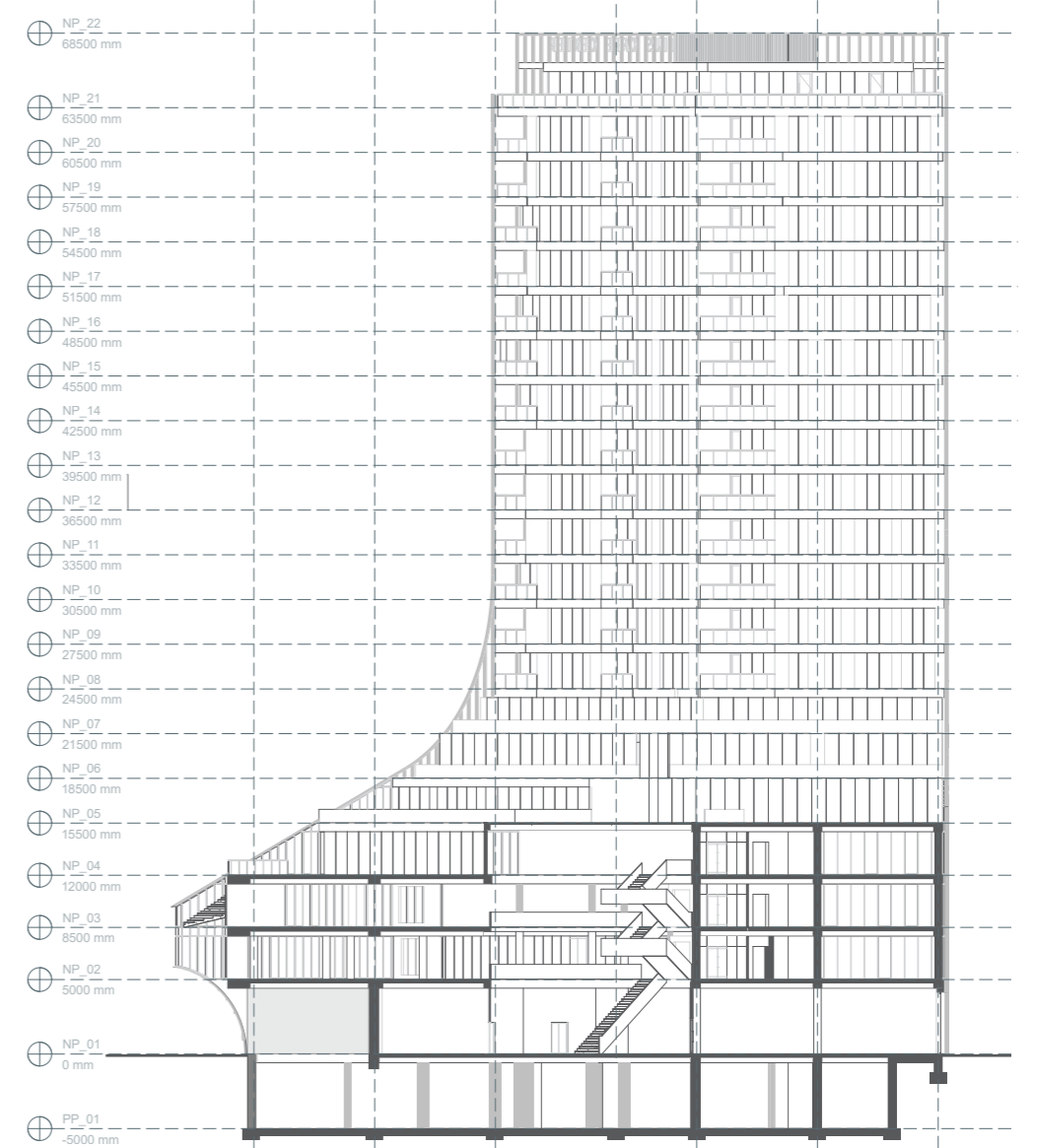


# SECTIONS

SECTION A-A'  
1:500



SECTION B-B'  
1:500



## FACADES

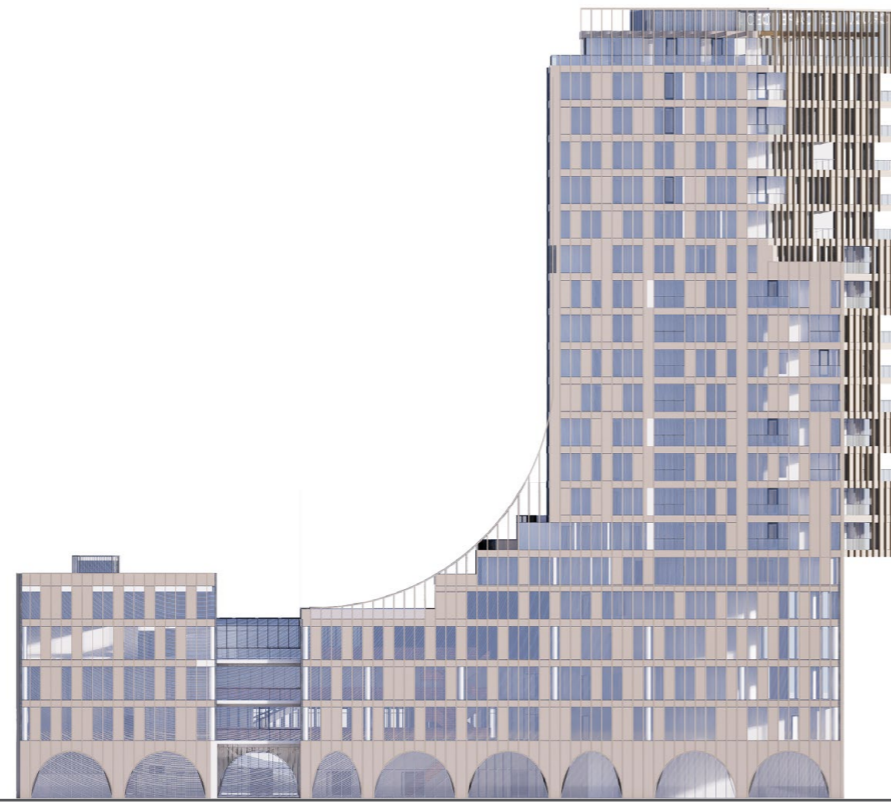
The design narrative of the building's facade is a poetic exploration of nature's curvature, reminiscent of a falling veil delicately obscuring its subject while retaining transparency. The ground floor, features expansive arches that not only reference the past but also introduce a softer aesthetic to the building.

Moving upward, vertical lamellas, spaced at regular intervals of 900mm, become the focal point, accentuating the verticality of the structure. These lamellas are more than architectural elements; they emulate falling strands of fabric, gracefully descending before encountering the arches that delicately bend them.

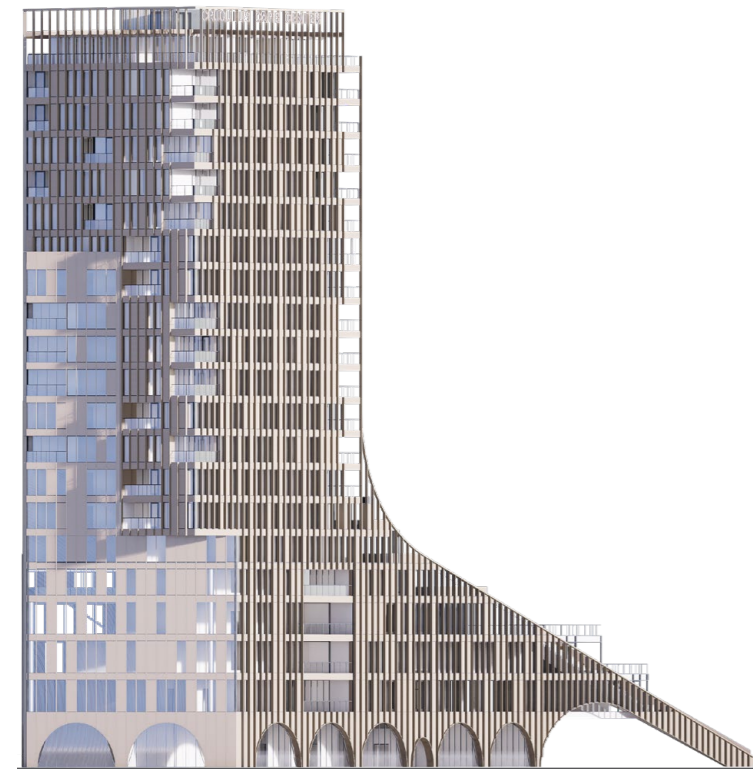
Beyond its aesthetic allure, the facade serves a dual purpose — allowing ample natural light while shielding the interior spaces from sharp southern sunlight.



EAST



SOUTH



NORTH



WEST

# /4 EPILOGUE

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