

FROM PATTERN TO PLACE.

The Architecture of a Living Fish Market in Gothenburg

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ABSTRACT.

In today's urbanized and digitized world, knowledge of where food comes from is increasingly scarce and access to fresh, locally sourced food becomes rare. Supermarket culture, convenience-driven lifestyles and industrial food systems weaken our relationship with food origins, turning nourishment into a transaction rather than an experience. This disconnection threatens not only public health and sustainability but also cultural identity.

In Gothenburg, a city historically tied to the sea, traditional fish markets lose much of their civic and cultural significance. This thesis explores how architecture restores these connections by reimagining the fish market as a spatial and social regeneration tool.

Drawing from Christopher Alexander's A Pattern Language and the theory of living structures, the project adopts a narrative, site-specific design methodology. It develops a framework through modular exploration, pattern testing and site analysis in Fiskhamnen.

The design mirrors the rhythms of local marketplace interactions and provides transparency in food production through living spaces that offer education and experience.

Two research questions guide the project:

How can architectural design and food spaces such as a fish market reconnect social interactions among food producers and consumers in one place?

How can pattern-based design methods shape a contemporary fish market that is suited to Fishmarket in Fiskhamnen, Gothenburg?

The resulting design is more than a market.

It becomes a spatial narrative. Traditionally, processes such as gutting, sorting and storage are hidden from public view. This project makes them partially visible through architectural elements like the Salt Trace, ice storage and Gut Room. These spaces serve as infrastructure and educational tools, transforming the market from a purely commercial typology into a civic space that dissolves boundaries between front and back, clean and messy, public and private.

By merging pattern-based architectural methodology with storytelling and ecological awareness, this thesis reimagines public markets as active learning environments and living systems that are functional, felt, understood and remembered through architecture.



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ABOUT AUTHOR.

Let people move through space with meaning

Diana Kotama is a designer who approaches architecture through patterns not for repetition but to reveal rhythm. She explores modules, grids and spatial flows as tools for shaping meaningful experiences.

Her process allows architecture to grow organically, beginning with small-scale human rituals and evolving into spaces that hold memory, friction and everyday life.

Architecture is not about imposing form but cultivating relationships between people, materials and the invisible systems that shape our lives. She believes meaningful design begins at the human scale and builds outward from the inside out.

Her practice is guided by curiosity, reflection and a belief that architecture should be felt and understood before it is seen. She continues to seek challenges that allow her to deepen this language where architecture is not assembled but lived into place.

DIANA KOTAMA

EDUCATIONS

- 2023 - 2025 Master of Architecture | Chalmers University of Technology, Sweden
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- 2022 - 2019 Bachelor of Architecture | Chalmers University of Technology, Sweden

WORK EXPERIENCE

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PREFACE.

My interest in the connection between food and architecture came from my family and personal experiences. One of my favorite childhood memories was going to the market with my grandmother. I always felt excited and happy during those visits, especially when we spent time together enjoying a meal at the market or bought fresh ingredients to cook together at home. Those moments were about more than just shopping. They were about connection, togetherness, and creating special memories.

As the years passed, I moved to Sweden and noticed how much I missed those times. The markets here felt different. The connection to fresh food, the smells, and the energy I had grown up with in Thailand were missing. The markets in Sweden felt colder and less lively in comparison. The excitement between my past and present experiences made me think deeply about how spaces around food, like market and restaurant areas, could shape our emotions and connections with others.

Reflecting on the future, I felt concerned that these kinds of moments might fade even more. In today's lifestyles, people spend so much time on computers and devices that they often lose their connection to the outside world. It scared me to think that experiences like spending time with loved ones, sharing meals, and being present in the moment could slowly disappear.

This reflection inspired me to explore the relationship between food and architecture in my work. I wanted to study how spaces could help people reconnect to their surroundings and create memorable moments. This exploration led me to propose a new type of market hall: one that serves as a place to shop and a space for learning, connection and sustainable living.

'I would like to sincerely thank my family, especially my grandmother, who were my first source of inspiration. I missed them deeply and they are a big part of why I truly want to become an architect. I also extend my heartfelt thanks to my supervisor and examiner for their invaluable support, knowledge and guidance throughout this journey. This thesis would not have been possible without you.'

Best,
Diana Kotama





Supermarket Scenes and Consumer Disconnectedness

This digital collage created by the author, contrasts the commercial abundance of modern supermarkets with symbolic imagery representing seasonal produce and emotional detachment. The work reflects on the disconnection between contemporary food environments that the thesis critiques of industrialized consumer culture.

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1 BACKGROUND

Throughout history, food and architecture have been central to human survival, culture and community. Food sustains life, while architecture gives form to the spaces in which food is grown, shared, and remembered. However, in today's globalized world, the systems that connect people to their food have become fragmented. Industrial agriculture, global supply chains and supermarket culture have replaced local food markets and personal interactions with anonymous and standardized experiences. This disconnection has deep consequences. It contributes to environmental degradation, food waste and a loss of cultural identity. Many urban consumers no longer know where their food comes from or how it is produced. Nowhere is this disconnection more evident than in the seafood sector, where the journey from ocean to plate is often invisible and untraceable.

In Gothenburg a city with a rich maritime history traditional fish markets have declined in social and civic importance. Despite their historical role as community gathering places and centers of trade, many markets today feel static or commercialized. The city's deep fishing roots and local food systems are increasingly under pressure from global competition and ecological strain.

To address this, the thesis turns to architecture not only as a physical solution but as a cultural and spatial tool. Specifically, it explores pattern-based design as a method to reconnect people with food, place and each other. Patterns as described by Christopher Alexander in A Pattern Language are recurring spatial solutions that support human life, memory and emotion. Unlike fixed blueprints, patterns respond to human behavior and evolve through use. They help create environments that are both intuitive and alive.

Using patterns allows designers to work from the small scale outward beginning with everyday rituals like buying fish, eating with family or learning about food preservation and growing into larger frameworks that shape civic space. This

approach offers a more human-centered, flexible and narrative-based alternative to industrial or overly rationalist models of architecture.

In this way, the pattern becomes more than just a design tool. It becomes a bridge: between the visible and invisible, between function and feeling and between individuals and the systems that nourish them. This thesis proposes that by reimagining the fish market through a pattern-based methodology, we can revive local food systems and create spaces that are transparent, educational and rooted in shared community experience.

Contemporary Challenges in Sweden's Seafood Sector

Informal insights gathered from a representative of Sjömatsfrämjandet, based in Fiskhamnen, further underscore the urgency of reconnecting people with food systems in Sweden.

The representative highlighted that approximately 75% of Sweden's seafood is imported, a figure that exposes the country's vulnerability to global supply disruptions. This dependency is particularly problematic in times of crisis, when access to international food sources may be limited or unstable.

Consumer trust has also become a significant concern. Unclear and overly generalized health warnings such as those related to toxin levels in fish have contributed to public uncertainty.

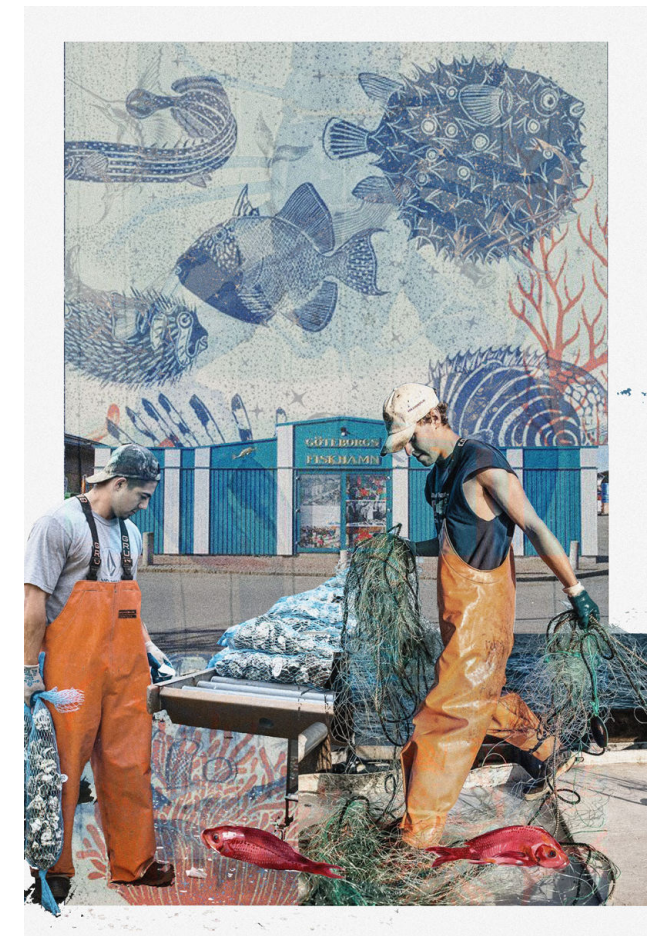
For example, although southern Baltic herring meets safety standards, it is often avoided due to broad advisories that discourage consumption of all herring. As a result, much of this nutritious and affordable local fish is diverted to animal feed rather than consumed by people.

Further compounding the issue is Sweden's near-total reliance on Norwegian farmed salmon,

Which makes up about 90% of national salmon consumption. Because these producers sell to the highest bidders, prices and availability fluctuate frequently, making it harder for Swedish consumers to access a consistent and affordable supply. Meanwhile, overall seafood consumption remains below the national dietary recommendations of two to three servings per week.

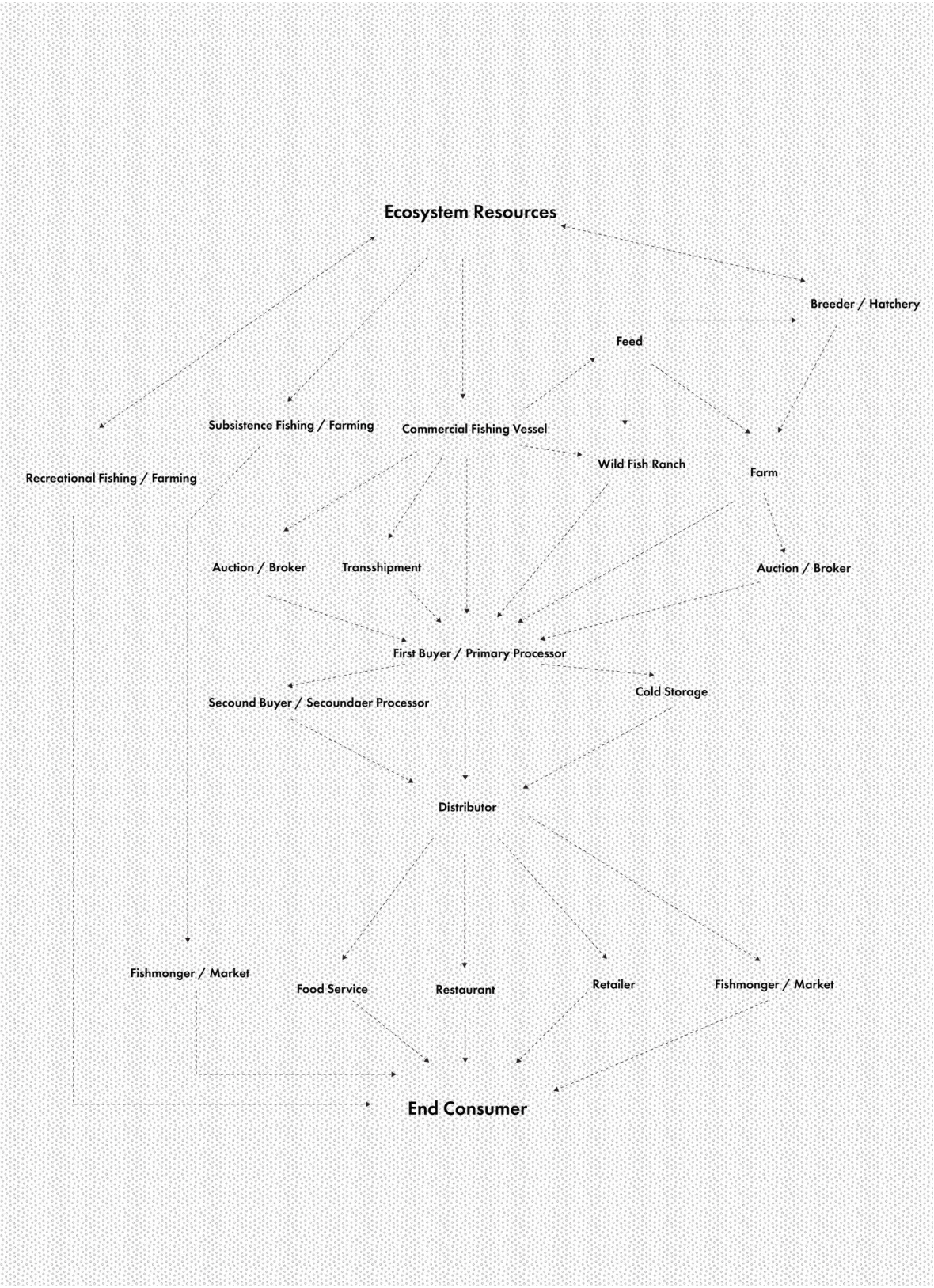
These insights reveal a seafood system marked by structural imbalances, misinformation and lost opportunities for local resilience. The gap between production and consumption is not only logistical but also spatial and culturally shaped by how food is communicated, displayed and experienced.

Addressing these disconnections requires more than policy reform; it calls for new ways of designing spaces that educate, connect and rebuild trust between people and the systems that nourish them.



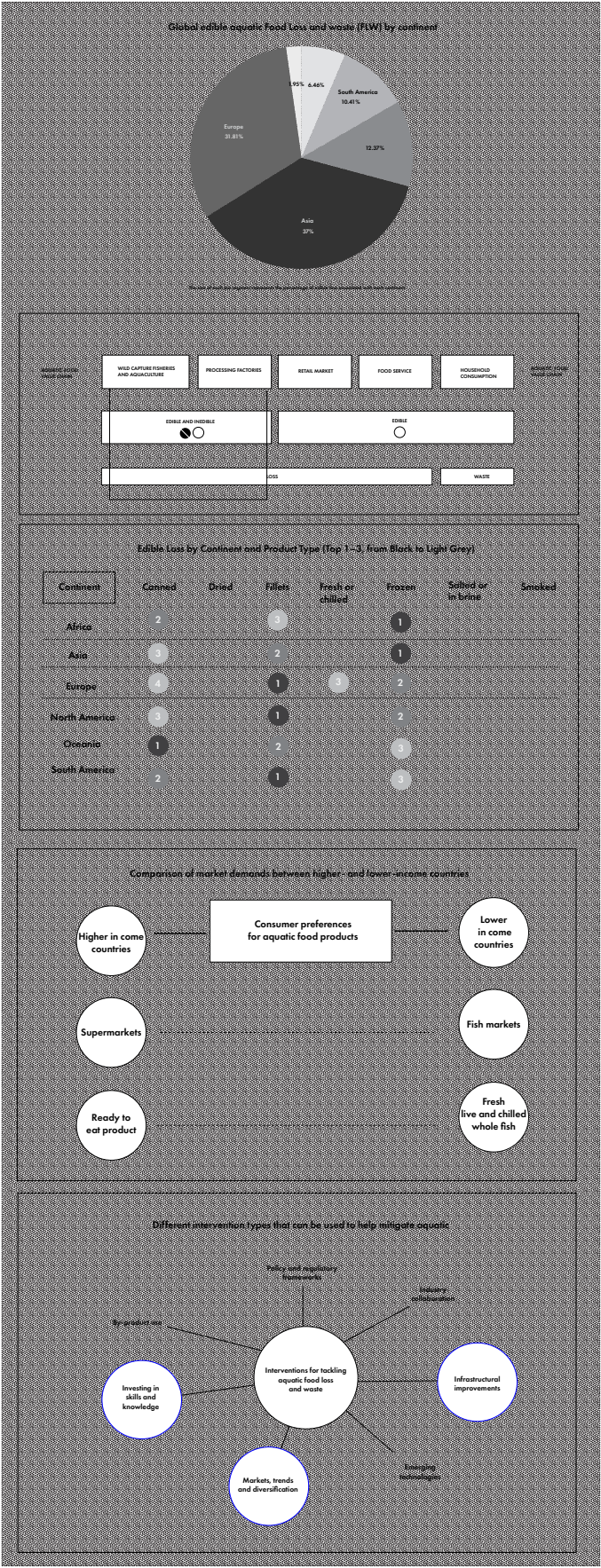
Project vision for new fish market in Fiskhamnen

The digital collage created by the authors illustrates the project vision, combining elements of the old industrial harbour as imagined from the past with the role of fishermen in uniforms. It shows how the food chain process will integrate into the new market building.



The modern fish market system.

Flowchart illustrating the modern fish market system. The diagram outlines the sequence from fishing and landing operations through distribution, retail and ultimately to consumption. Each stage includes key stakeholders and logistics as the importance of cold chain management and traceability throughout the supply chain. This illustration was developed by the author based on information from the FAO (2022) and SALT/FAO (2020).



Global Food Loss and Waste.

Global Food Loss and Waste. Infographic created by the author, based on data from the World Economic Forum (2023) and the Food and Agriculture Organization (2021).

2 INTRODUCTION

Research Questions

How can architectural design and food spaces such as a fish market reconnect social interactions among food producers and consumers in one place?

How can pattern-based design methods shape a contemporary fish market that is suited to Fishmarket in Fiskhamnen , Gothenburg?

Method

This thesis applies a pattern-based design methodology rooted in Christopher Alexander’s concept of a pattern language and the theory of living structures. His framework offers a structured yet intuitive way to design environments that support human connection, ritual and emotional resonance. The theoretical foundation expands on this methodology by drawing from a range of thinkers. Carolyn Steel’s Hungry City explores how food shapes urban life and critiques the industrial food system’s detachment from place and community. Nikos A. Salingaros supports the biological and cognitive necessity of patterns, grounding spatial design in human perception. Helen Tangires offers a historical perspective on public markets as civic infrastructure, while Jan Gehl emphasizes how thoughtful urban design fosters both active and passive social interaction. The theoretical framework is a combination of both architecture side and food production blending as a grounded information and knowledge while the pattern shaping the spatial design in the market as solution and possibility.

Delimitations

This thesis focuses on the architectural design of a fish market in Gothenburg as a means to reconnect urban consumers with the origins of their food. The scope is limited to the design of spaces related to fish and seafood, reflecting the city’s strong maritime context. The study is site-specific and does not extend to other cities or regions. The proposal remains conceptual and does not include cost estimation, technical detailing, or demolition planning. These aspects are acknowledged as important but fall outside the scope of this academic exploration. Future research could expand on this work by developing detailed construction strategies, integrating interdisciplinary collaboration and exploring how the proposed market could be implemented in practice.

Project Vision

The new fish market will serve multiple functions: a marketplace, a learning environment, and a community space. Through thoughtful spatial design, it will promote transparency in food systems, support sustainable seafood practices and strengthen the connection between urban life and local resources. The market will be a space where consumers can meet producers, attend workshops and learn about food. It will blend architecture, sustainability and education to support a more resilient and place-based food culture. In doing so, it aims to revive the social and cultural role of the fish market and contribute to a more sustainable urban future.

3 THEORETICAL FRAMEWORK

The Evolution of Food Through Human History

Understanding the long-term evolution of food systems offers a critical context for evaluating current food distribution, consumption and sustainability challenges. A historical lens reveals how values related to food and food-related spaces have changed and how these values influence modern urban behaviors and design expectations. This awareness strengthens the theoretical foundation of this thesis by connecting past food cultures to present-day architectural responses, particularly those that aim to restore social meaning in public food spaces like markets.

Hunter Gatherer Societies

In the earliest stages of human history, people relied on hunting, fishing, and foraging for survival. Hunter-gatherer societies were nomadic moving with the seasons to follow animal migrations and plant growth cycles. Their diets were diverse and closely tied to the natural environment, consisting of wild game, fish, fruits, nuts and edible plants. This way of life required a deep understanding of local ecosystems and fostered a sustainable approach to resource use (Lee & DeVore, 1968).

The Agricultural Revolution

The Agricultural Revolution marked a significant turning point in human history. During this period, people began to domesticate plants and animals, establishing settled communities. Grains such as wheat, rice, and maize became staple crops, while livestock such as cattle, sheep and goats provided meat, milk and labor. This transformation enabled population growth and the emergence of complex civilizations, but it also introduced new challenges, including issues of land ownership, social stratification and environmental degradation (Barker, 2006).

Traditional Farming and Local Markets

For centuries, traditional farming methods have dominated food production. Small-scale farmers grew crops and raised livestock using manual labor and simple tools. Food was primarily consumed locally, with surplus sold in nearby markets. Market halls and town squares became central hubs for trade and community interaction, where people could buy fresh, locally grown produce and exchange knowledge about food preparation and preservation. (Fernández-Armesto, F. (2001)

The Industrial Revolution

The Industrial Revolution of the 18th and 19th centuries brought profound changes to food systems. Advances in machinery, transportation and preservation techniques enabled mass production and global trade. Canned goods, refrigeration and railroads made transporting food over long distances possible, reducing seasonal limitations. However, this shift also led to the decline of small-scale farming and the rise of industrial agriculture, which prioritized efficiency over sustainability. (Smil,2001)

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Modern Industrial Food Systems

Food production is dominated by industrial systems that rely on global supply chains, mechanization, and chemical inputs. Supermarkets and fast-food chains have replaced local markets and traditional diets, offering convenience but often at the cost of nutritional quality and environmental sustainability. The rise of processed foods, meat-heavy diets, and food waste has contributed to health crises such as obesity and diabetes as well as environmental challenges like climate change and biodiversity loss. (Weis, 2013)

The role of fresh and sustainable food

The demand for fresh, healthy, and sustainable food has grown significantly in recent decades a trend often referred to as the “fresh food revolution” (Merrilees & Miller, 1997). For example, Australian superstores now allocate up to 50% of their retail space to fresh food, targeting time-poor consumers who seek one-stop shopping solutions. Similar trends have been observed across Europe and the United States, where growing health awareness and environmental concerns have made fresh food a central consumer priority (Merrilees & Miller, 1997

This shift aligns with the traditional role of fish markets, which have historically emphasized freshness and locality in their offerings. Fish market halls were designed with spatial separations such as cold and warm zones to preserve the quality and longevity of perishable seafood products. As consumer preferences continue to evolve, these markets are uniquely positioned to adapt by modernizing their practices. Incorporating sustainably sourced seafood, enhancing transparency in sourcing and offering educational experiences about marine ecosystems and responsible consumption can help fish markets reestablish themselves as community-centered spaces for fresh and sustainable food retail.



Fig 1. Ancient Fish Market Scene.

This illustration of how an ancient fish market may have looked was created by the author in collaboration with AI assistance A historical marketplace along the coast referencing the social and economic role of fish trade in early civilizations. Image generated using Open Ai. The image was generated in response to this prompt: ‘ A historical coastal fish market scene set in ancient times’

Market

Food shopping was often the first time people became aware of the industrial supply chain. As Steel (2008) observes, food shopping was often the first way people encountered the industrial supply chain. Supermarkets became the dominant food delivery system in cities, yet the final stage bringing food to individuals remains the most challenging.

Historically, markets were not just commercial centers but social spaces. While places like Borough Market demonstrate a lingering appreciation for these encounters, many traditional markets are vanishing. This shift reflects a cultural change in which food is no longer central to daily life but a luxury consumed through tourism or convenience. Foodmarkets, once personal have become impersonal “filling stations” that support individual lifestyles rather than social interaction. Unlike digital communication, food still offers opportunities for physical gathering and emotional connection highlighting the importance of market spaces (Steel, 2008).

The discussion around the evolution of marketplaces, particularly through Carolyn Steel’s (2008) lens, is central to the theoretical foundation of this thesis. Steel emphasizes how supermarkets have become the dominant interface between global food systems and everyday urban life often replacing traditional markets that once served as hubs for community, culture, and social interaction. This aligns with the thesis’s aim to reimagine the fish market not only as a place of commerce but also as a civic space where food can reconnect people to place, process, and each other.

Her insights also contextualize the cultural shift in which food, once integral to daily rituals, is now often consumed as a luxury or tourist attraction. This paradox explains the popularity of food tourism and the emotional nostalgia attached to markets abroad further supporting the thesis’s proposal to create a market that having local identity and shared experiences.

By integrating this narrative, the thesis not only critiques the shortcomings of contemporary food systems but also argues for the architectural potential of market halls as social infrastructures. Steel’s work validates the project’s core intention: to design a market that is not just functional but a living structure , open, experiential and rooted in community.

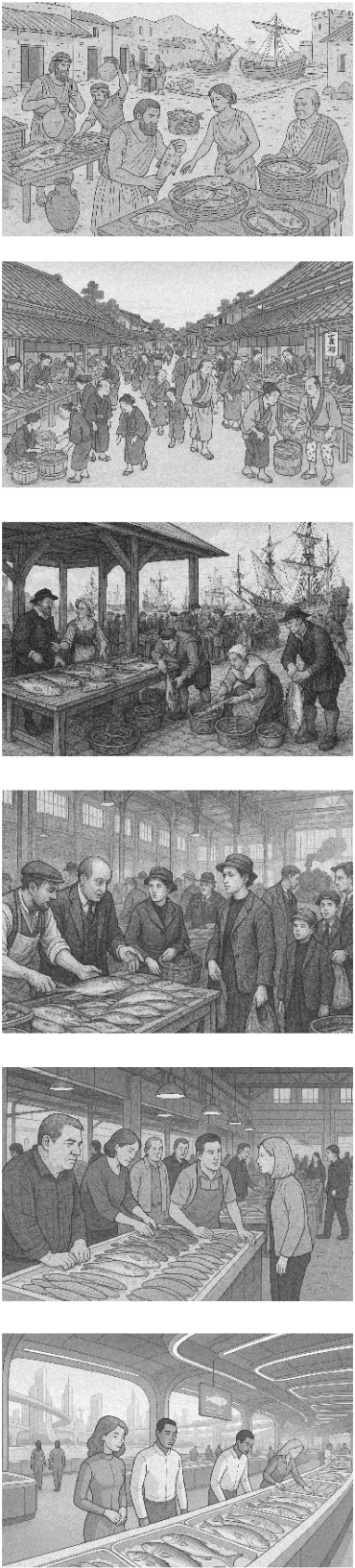


Fig 2. Evolution of Public Fish Markets.

This is a visual timeline created by the author in collaboration with AI assistance. The sequence illustrates key stages in the development of fish markets from antiquity to imagined future scenarios, highlighting changes in trade, social dynamics and infrastructure over time. Image generated using OpenAI The image was generated in response to this prompt : Ancient Roman coastal fish stalls, medieval European open-air markets with timber structures, 19th-century industrial fish halls with metal roofing and cold storage, modern indoor seafood markets'

Architecture and Marine Ecologies

A key goal of this thesis is to use architecture as a tool for consumer education, revealing the hidden systems behind fish handling, preservation and spatial logistics. By making technical processes some part visible. The fish market design serves both practical and pedagogical

At Sea: The Journey of the Fish

Fish preservation begins at sea using bulk ice storage, individual boxing, or iced seawater tanks, each shaped by weight, water, and time. Often concealed from public view, these processes are integrated into the architectural layout through insulated docks, visible storage, and narrative signage that explain technical systems.

Species-specific behavior also shapes spatial design. Pelagic fish (e.g., herring, mackerel) live near the surface and are fat-rich, while demersal fish (e.g., cod, flatfish) dwell deeper and require different handling. These biological distinctions inform catch strategies, spoilage rates, and zoning requirements.

Fish spoils rapidly due to microbial and enzymatic activity, especially at higher temperatures. For instance, herring remains fresh for up to six days at 0°C but less than 30 hours at 15°C (Food and Agriculture Organization [FAO], 1980). The design responds with cold zones, shaded gutting areas, and visible cooling infrastructure, transforming food safety protocols into spatial education.

ICE: A Visible Preservation System

Processing spaces are also species-sensitive, with different anatomical dimensions requiring tailored layouts. Rather than designing for machinery alone, the market accommodates each species’ ergonomic and spatial needs.

Ice, one of the oldest tools for preserving fish, plays a central role in the market’s infrastructure. Unlike high-tech refrigeration systems, ice offers a low-cost, portable, and intuitive cooling method, keeping fish just above freezing while preventing dehydration. Its apparent simplicity conceals its critical importance. Even the quality of the water used to produce ice is essential: ice made from contaminated sources can accelerate spoilage rather than prevent it (Food and Agriculture Organization [FAO],1980).

In this design, ice is not hidden but celebrated. It is visibly stored, reused, and explained in a transparent, educational food cycle. Importantly, not all ice is the same. Fish markets use flakes, blocks, plates, or tubes, each suited to different stages in the cold chain. Often concealed in



Fig 3. Ice Storage as Spatial Infrastructure.

The image emphasizes the role of ice not only as a preservation method but also as a visible, spatial component of food safety. As the design proposes such infrastructure is made accessible to the public to support transparency and consumer education. Image generated using OpenAI. The image was generated in response to this prompt: 'Ice storage'

Consumers Preferences and the Evolution of Food Retailing

The evolution of food retailing highlighted the relationships between consumers and retail formats. Over the last three decades, grocery shopping has expanded from traditional corner stores to various alternatives including supermarkets, hypermarkets, discount stores, convenience shops and online platforms(Kumar,1997).

Each format reflects shifting consumer priorities such as convenience, affordability, and access to fresh and healthy products.

Key consumer preferences

Convenience

Consumers highly valued flexibility in opening hours, streamlined layouts, and efficient purchasing processes (POPAI, 1998; Van Ossel, 1998).

Clarity and atmosphere

Consumers appreciated environments that offered clear organization or engaged them through sensory experiences such as vibrant displays and interactive features (Merrilees & miller, 1997)

Reliability

Ensuring consistent product availability was a critical factor in fulfilling consumer expectations.

Quality

Shoppers consistently sought high-quality products, including fresh and healthy foods, alongside professional service from staff and management (Keh & Park,1997)

While these preferences have driven innovation in food retail, they have also contributed to the fragmentation of public life and the loss of cultural and social value in food spaces. The design of the new fish market in Gothenburg acknowledges these behaviors but intentionally moves beyond them. Rather than replicating commercial models that prioritize speed and convenience, the project seeks to reintroduce slowness, transparency, and civic interaction, offering an alternative model that invites people not only to shop but to linger, learn, and reconnect with food producers and places.

While contemporary consumer preferences have shaped the evolution of food retail environments, often prioritizing convenience, efficiency, and sensory appeal, this thesis argues for a different kind of engagement. The project recognizes these behavioral patterns not as fixed demands but as reflections of a fragmented and industrialized food culture. Rather than replicating those systems, the design seeks to reframe the act of shopping as a public, social and ecological experience.

Helen Tangires and the Civic Role of Markets

As part of the theoretical framework for this thesis, the work of Helen Tangires (2005) offers a critical historical perspective on the civic and spatial significance of public markets. Her research emphasizes that markets have long operated beyond their economic role, functioning as visible reflections of municipal governance, shared values, and social organization. From the Middle Ages through the 19th century, markets were deliberately sited and designed to express public trust, often marked by flags, bells, or coats of arms that made them recognizable as regulated civic spaces.

Tangires' notion of spatial openness as a means of fostering civic confidence and social cohesion directly informs this thesis's emphasis on architectural transparency. By making food preparation, storage and educational processes visible, the proposed fish market design repositions the market as a civic arena that invites participation and learning and supports collective memory. Tangires' insights reinforce the thesis's central argument that architecture can reclaim the lost social functions of marketplaces in an era increasingly defined by digital interaction, efficiency-driven commerce and spatial disconnection.

The thesis proposes that specific architectural artifacts and industrial elements such as gutting tables, ice boxes, weighing stations, and salt containers should not be hidden but integrated as active components of the spatial narrative. Though often considered utilitarian, these features are embedded in labor and food culture rhythms. When made visible through intentional design, they become markers of cultural memory and local identity.

This includes not only traditional tools but also often-overlooked industrial components, such as stacked fish crates, metal sorting tables, refrigeration units, and loading docks. Their repetition and materiality contribute to a living pattern structure that expresses both utility and meaning.

Place Matters

Reclaiming Local Identity in a Global Food System

Anderson, Asche and Tveterås (2007) argue that the traditional fish market as a local hub where freshly caught seafood was sold directly to nearby consumers has been significantly diminished in many developed nations. With the globalization of seafood trade and advances in storage, transportation, and preservation technologies, seafood is routinely transported across continents and processed far from its source. This shift has allowed supermarkets and large retail chains to displace local fishmongers, fundamentally altering supply chain structures and diminishing local markets' cultural and social role.

Additionally, the rapid expansion of aquaculture has made seafood more available year-round. However, it has also intensified competition for small-scale fisheries, placing local producers and traditional markets under significant economic pressure. Within this context, reimagining a local fish market in Gothenburg seeks to reverse these trends by rebuilding relationships between consumers, local producers, and the surrounding ecology. The project aims to strengthen regional food networks, promote awareness of food origins, and restore the social significance of markets as civic spaces.

As Bestor (2004) writes in his study of Tokyo's Tsukiji Market, "Tsukiji cannot be dislocated from Tokyo and function in quite the same way... its

social, cultural, and economic meaning depends on that specific urban context". This observation underscores the importance of designing a fish market for Gothenburg that is deeply grounded in its local identity, spatial character and community practices rather than applying a generic or globalized model.

This section is essential to the thesis as it provides the economic and cultural context for the decline of local fish markets and the urgency of their revival. Anderson, Asche, and Tveterås's (2007) insights demonstrate how globalization and industrialization have disrupted traditional food systems, replacing community-based networks with impersonal, transnational structures. This directly supports the thesis's aim to reestablish the fish market as a civic space that reconnects people with local producers, food sources and ecological cycles.

Furthermore, Bestor's (2004) analysis highlights the importance of place-specific design. His observation reinforces the thesis argument that a thriving market must be context-sensitive and embedded in the cultural, spatial, and social fabric of Gothenburg rather than modeled after standardized global forms.

Together, these perspectives strengthen the theoretical foundation for designing a market that is not only functional but also culturally and

Social Activities in Public space and their role

Public spaces play an important role in supporting social interaction and community life. According to Gehl (2011), social activities occur when people are in the presence of others either actively, such as speaking or playing, or passively, such as watching or listening. These interactions often occur organically when individuals gather in shared spaces for different purposes. Be it at community events, workplaces, or social gatherings, the environment fosters connections and encourages natural exchanges among people.

Gehl refers to these as "resultant activities," social behaviors that emerge naturally from proximity. He explains, "These activities could be called resultant because they usually come from other activities. They happen because people are in the same place, meet each other, walk past each other, or can see each other." These moments of incidental contact are most commonly found in shared, open spaces such as parks, plazas and market halls.

The quality and type of social activity depend significantly on the design and scale of the space. In smaller, more local contexts like neighborhoods or workplaces, social interactions tend to be more personal and meaningful (Gehl, 2011). In this way, public markets are not just places of exchange but important urban settings for social

life. Revitalizing the fish market in Gothenburg as a civic, social, and food-based gathering space directly responds to Gehl's theories, offering the potential to foster active and passive interactions that reconnect people to each other and place.

This section is crucial because it frames the fish market not only as a commercial or architectural project but as a social infrastructure that fosters human connection. Gehl's (2011) concept of "resultant activities" highlights how incidental, everyday interactions like people-watching, casual conversation, or shared presence can strengthen community bonds in public spaces. These interactions are significant in cities where social life is often fragmented.

By applying Gehl's theory to the context of a reimagined fish market in Gothenburg, the thesis positions the market as a space that can facilitate both active and passive social engagement, making it more than a functional site of food exchange. Instead, it becomes a place of belonging, visibility, and informal interaction, contributing to urban vitality. This underscores the thesis's larger goal of revitalizing the market's function as a hub for civic and cultural engagement, rather than limiting it to an economic space alone. By enhancing the market's social value, it aims to create a community-focused environment that supports both individual connections and collective experiences.

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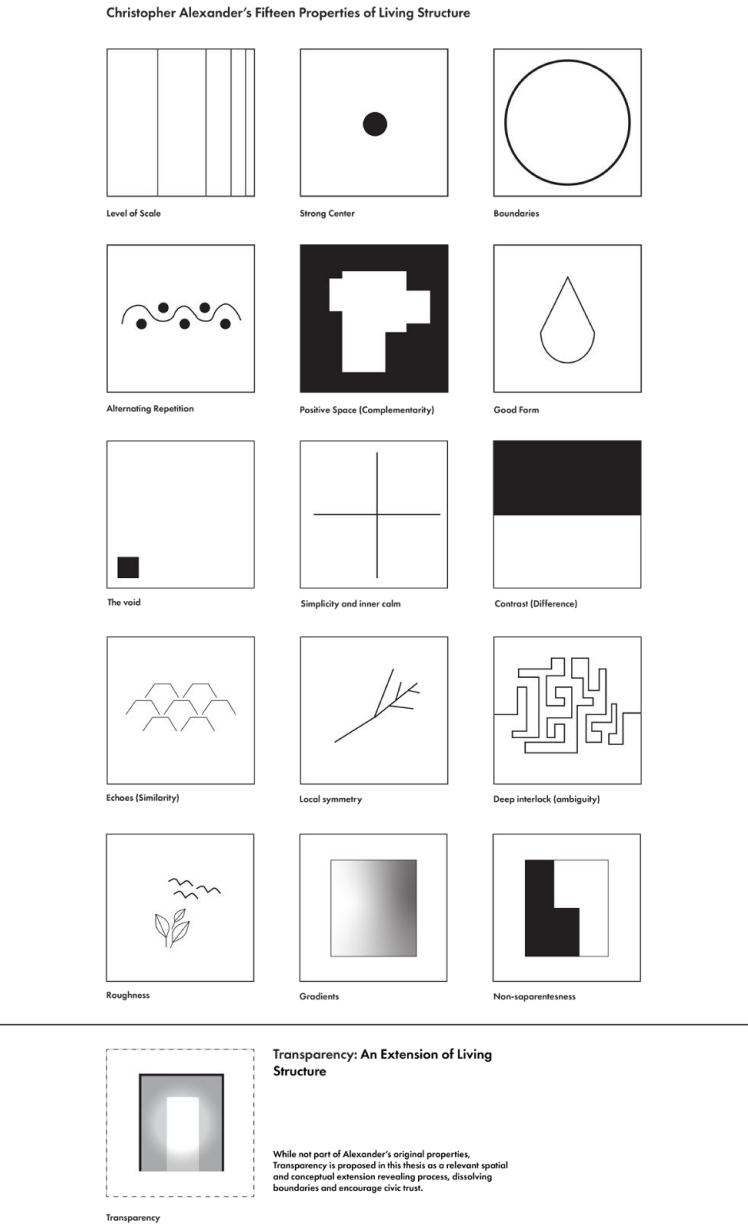
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Living Structure Alexander’s Properties and a Contemporary Addition



Christopher Alexander’s Fifteen Properties of Living Structure (above) with Transparency proposed as a contemporary extension (below). While not part of the original framework. Transparency is introduced in this thesis as a spatial tool to reveal hidden systems, dissolve boundaries and promote civic engagement. In addition to his pattern language, Christopher Alexander identified fifteen fundamental properties that contribute to what he called “living structure” environments that feel coherent, emotionally resonant and alive. These properties function as qualitative design tools and were used in this thesis to guide spatial decisions throughout the pattern development process.

As a contemporary contribution, this thesis proposes a sixteenth property: Transparency. It supports the project’s goal of making food systems visible by revealing typically hidden processes such as fish sorting, gutting and cooling. In doing so, it strengthens public understanding, invites interaction and blurs the boundary between back-of-house infrastructure and civic life.



GOTHENBURG

Gothenburg (Göteborg), Sweden's second-largest city, is a maritime hub situated on the country's west coast at the mouth of the Göta älv River. Founded in 1621, its urban fabric and economy have long been shaped by fishing, shipbuilding and trade (Gothenburg Municipality, 2023). The Fiskhamnen (Fish Harbour) district, operational since 1910, epitomizes this legacy, serving as a critical node for Sweden's seafood industry (Ramboll Sverige AB, 2014). However, globalization and industrialization have eroded the cultural significance of traditional fish markets like Feskekôrka ("Fish Church"), displacing local fisheries with imported seafood and anonymized supply chains (Anderson et al., 2007).

Local Markets

Stora Saluhallen

Located at Kungstorget and is the Gothenburg's largest indoor market hall that established in the late 19th century. It offers a wide range of products including cheeses, meats, seafood, baked goods and international delicacies.

Feskekôrka (Fish Church)

The old fishmarket in Gothenburg and it has a lot of values that represent the Gotheburg. One of the important destination for turists and people from outside to visit when they come to Gothenburg.

Lindholmen Street Food Market

Situated in the historic shipyard area of Hisingen, this vibrant market operates every Saturday. It features various restaurants, local breweries and a design market that is creating a lively atmosphere for food.

Haga

The Haga neighborhood and this market is known for its selection of local produce, handicrafts and antiques. The area is also lined with quaint cafés and boutiques, making it a popular spot for both locals and tourists.

Kville Saluhall

Located in the district of Hisingen and is a modern market hall offering fresh produce, meats, seafood and a variety of international cuisines. It's a contemporary space that serves as a culinary hub for the community.

FISKHAMNEN GOTHENBURG 4 SITE & CONTEXT

FISKHAMNEN

A Century-Long History

Fiskhamnen (the Fish Harbor), located near the seafront in the Majorna district of Gothenburg continues to operate as an active industrial port and remains central to the city's seafood economy. At its core is the Gothenburg Fish Auction Sweden's largest daily seafood auction which ensures a steady regional supply of high-quality fish through early morning sales to wholesalers. Although the auction officially handles seafood caught in Swedish waters and fish from neighboring Norway is frequently included due to shared marine zones and geographic proximity (Gothenburg Fish Auction, n.d.).

Historically, Fiskhamnen played a transformative role in the modernization of Gothenburg's fishing industry. In the early 20th century as the city faced increasing demands for improved seafood infrastructure. The harbor was strategically located along the Göta River within city limits rather than at the coast (Lorentsson, 2010).

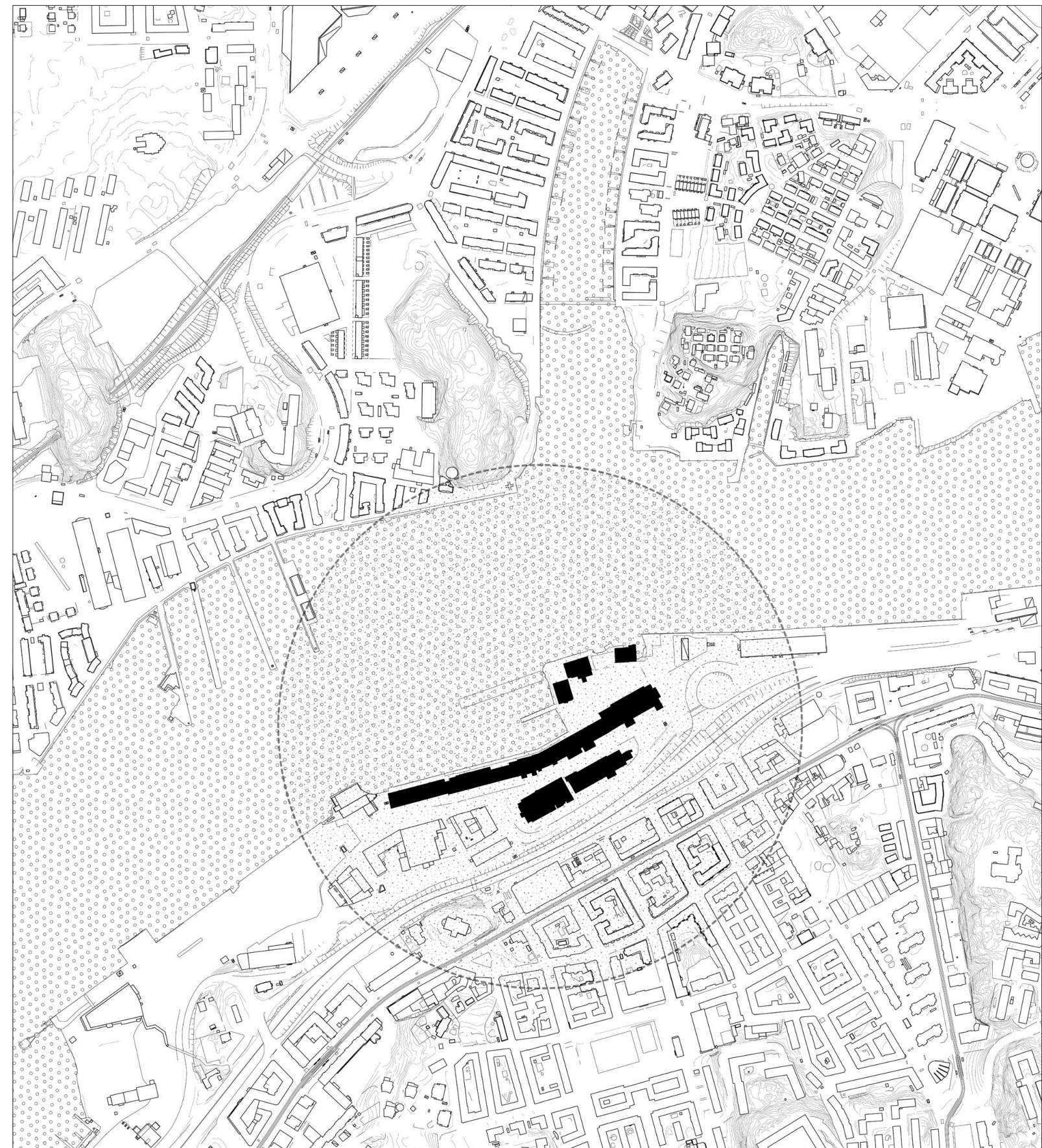
Construction began in 1908 and the harbor was opened on September 17, 1910. The first auction took place on October 10 of the same year. By 1914, significant expansions had been completed including a larger harbor basin, Auction Hall and administrative buildings. The fishing fleet grew rapidly during this period from 9 to 53 trawlers and over 70 smaller vessels (Lorentsson, 2010).

Despite setbacks due to World War I and economic constraints development continued. In 1925, a new auction and packing hall was completed followed by further expansion during the 1930s.

By the 1970s, Fiskhamnen had grown to approximately 5,000 square meters and was recognized as one of Northern Europe's most significant fish markets reflecting the deep-rooted connection between fishing and Gothenburg's identity (Lorentsson, 2010).

In the 1990s, parts of the original harbor were redeveloped. Older buildings were demolished, and sections of the harbor basin were filled to accommodate new construction marking a new chapter in Fiskhamnen's ongoing transformation.

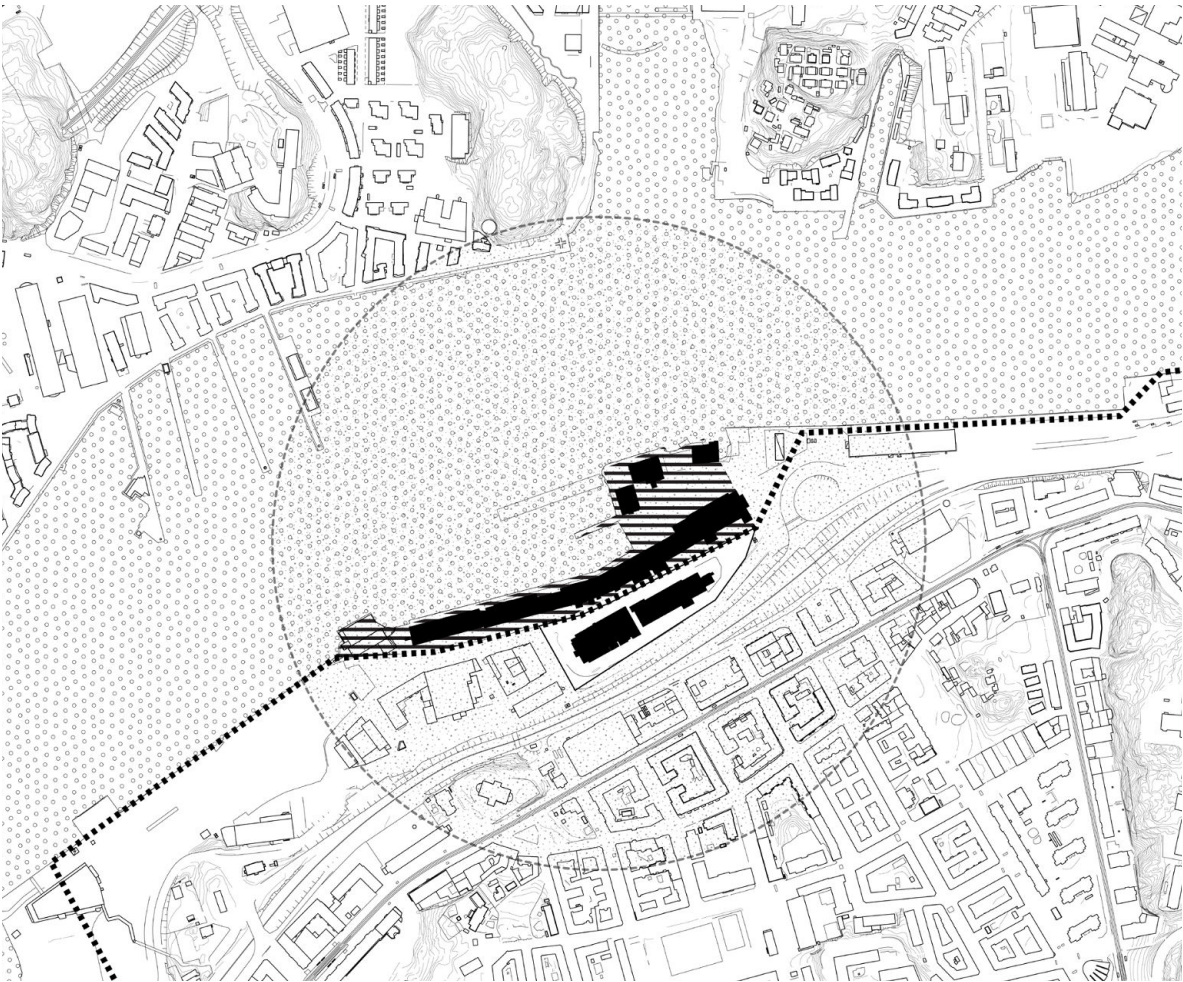
Today, Fiskhamnen remains a key node in Gothenburg's evolving food system and represents an opportunity to reimagine the relationship between urban infrastructure, ecological resilience and public life.



SITE : FISKHAMNEN

Resilient Edges

Flood Protection as Civic Architecture



Based on ground stability data provided in the Hydromodell Göteborg report, areas with insufficient soil bearing capacity were identified (marked with a dashed fill). In response, the project avoids placing permanent structures in these zones, instead treating them as landscape voids, wetlands or public open space. This approach minimizes the need for deep foundations or ground improvement and supports a sustainable site strategy. By concentrating built mass on geotechnically stable areas the design enhances structural feasibility while also shaping a spatial rhythm of solid and void echoing Alexander's principles of Positive Outdoor Space and Roughness. To address projected sea level rise in future scenarios, the design includes elevated ground layers built with lightweight fill over the existing quay. This method preserves the original structure

while integrating flood barriers into civic elements such as seating and promenade edges. Both the flood and soil strategies are informed by concepts and recommendations outlined in the Hydromodell Göteborg report (Göteborg Stad & Ramboll AB, 2014). While the report presents several alternatives for different locations along the Göta Älv, this solution was intentionally chosen for Fiskhamnen because it supports the vision of creating a new fish market one that reconnects people to food, place, and waterfront life. By integrating flood protection into accessible and meaningful public space and the design strengthens both ecological resilience and social interaction.

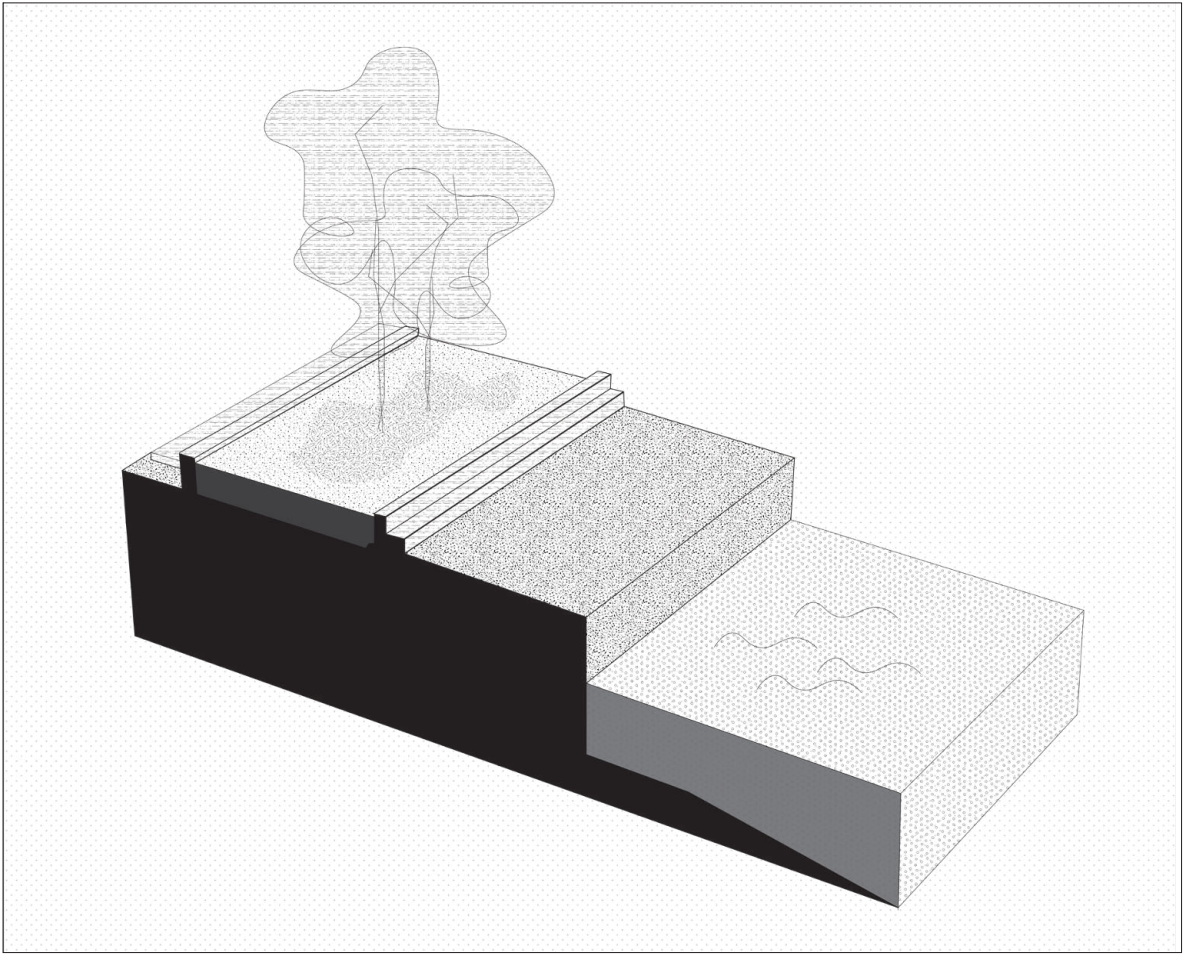
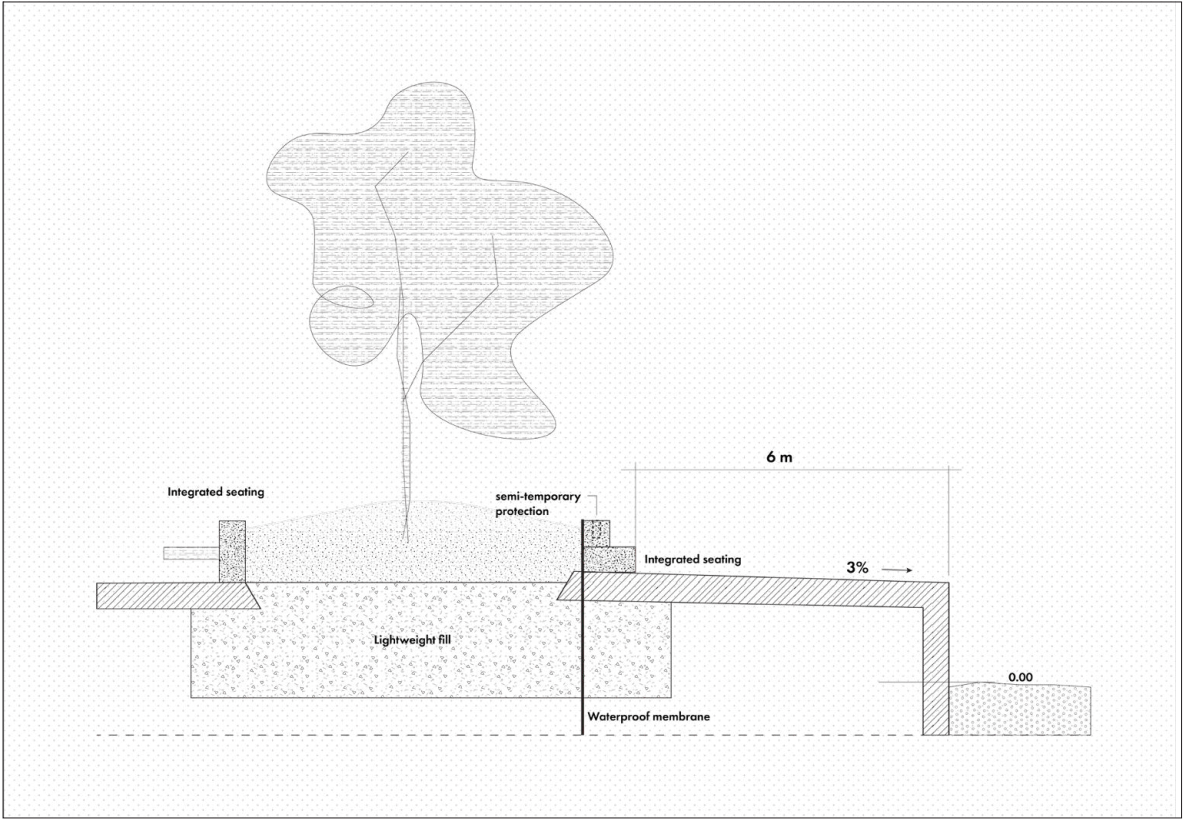


Fig 4. Section & axonometric showing flood protection integrated into the quay at Fiskhamnen. Drawing by the author, adapted from Hydromodell Göteborg (Göteborgs Stad & Ramböll AB, 2014).



Material Memory and Industrial Texture

An Inventory of the Site's Built Language

This building-scale inventory draws from both historical documentation and the existing architectural language found on site. It analyzes materials, proportions, rhythms and levels of transparency to establish a contextual foundation for the proposed fish market design.

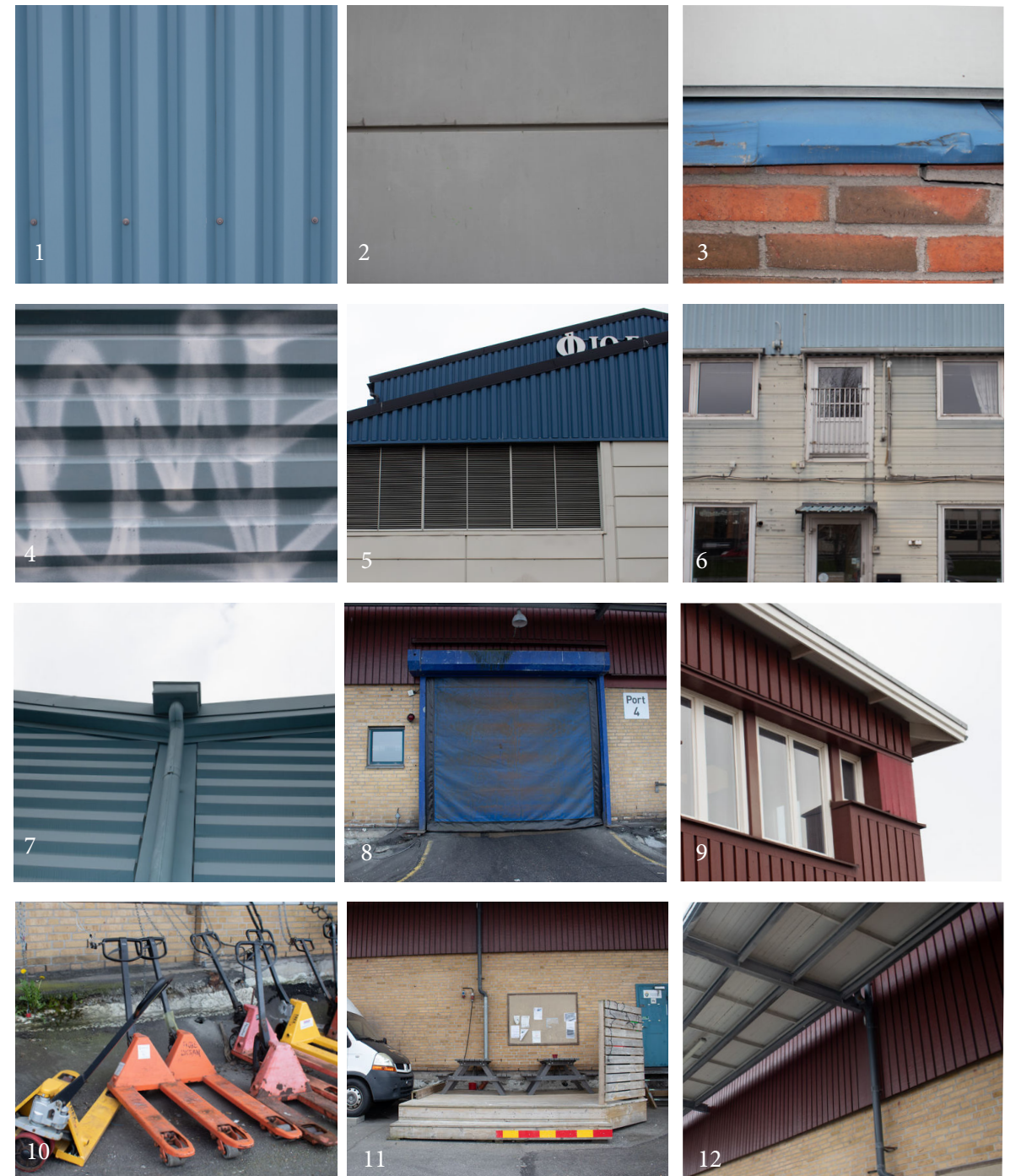
By examining how facades articulate public/private transitions as well as openings and textural variation. The study informs the pattern selection and material strategies within the new intervention.

A close-up photographic captures the material, color and surface character of the Fiskhamnen industrial area. The site reveals a landscape defined by pragmatic construction, low-maintenance materials and clear signs of wear, repair, and adaptation. Dominant elements include corrugated metal, exposed brick, painted timber, and utilitarian blues forming a cohesive yet unpolished industrial palette.

Rather than reject this identity, the project

embraces and reinterprets it by abstracting existing rhythms, tones and tectonics into a contemporary architectural language of transparency and process visibility.

MATERIALS & COLORS

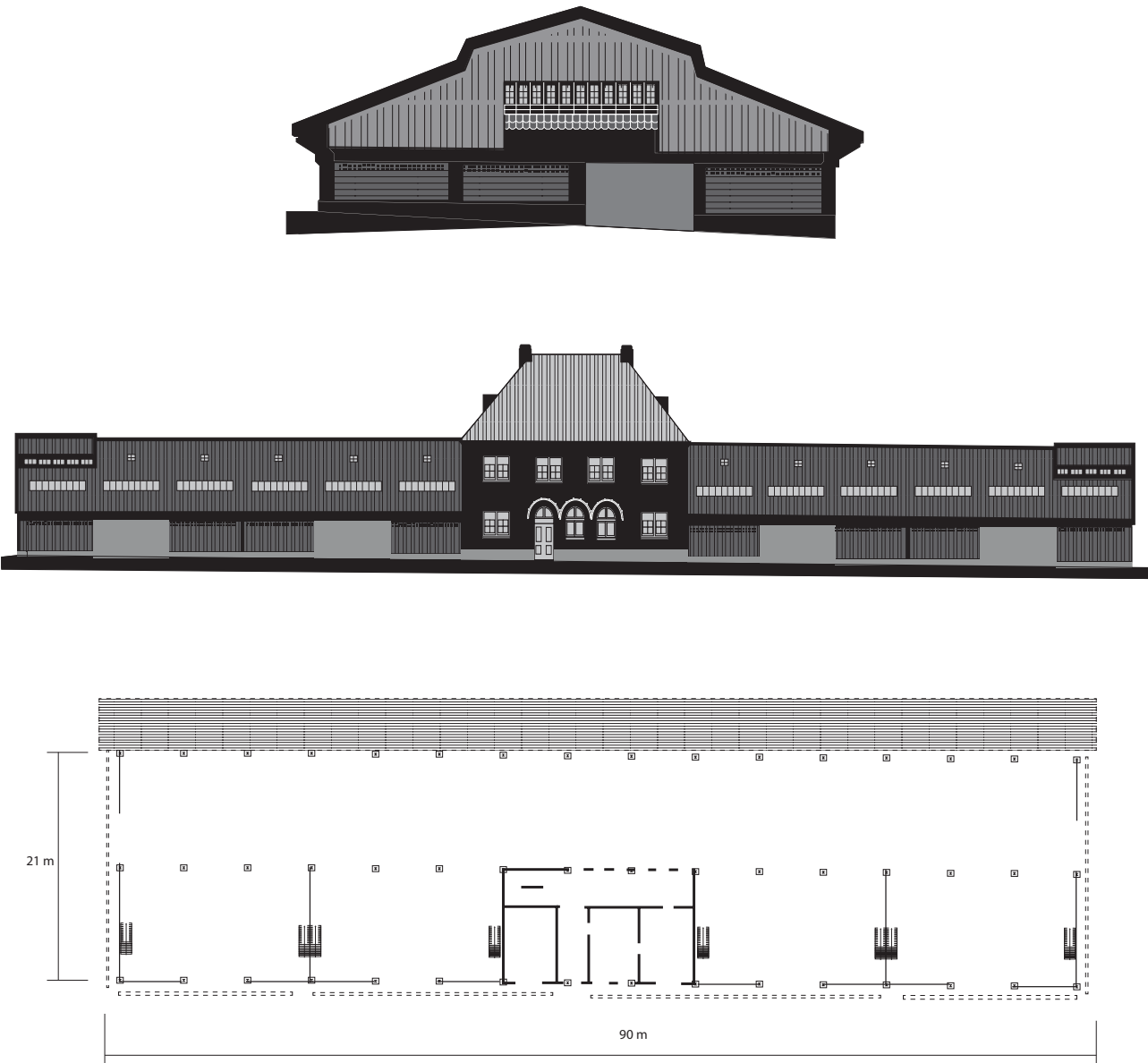


A photographic survey of facade materials, details and industrial objects in and around Fiskhamnen reveals a palette dominated by corrugated metal, brick, painted steel and aging infrastructure.

These fragments express a layered identity: utilitarian, weathered, and adaptable.

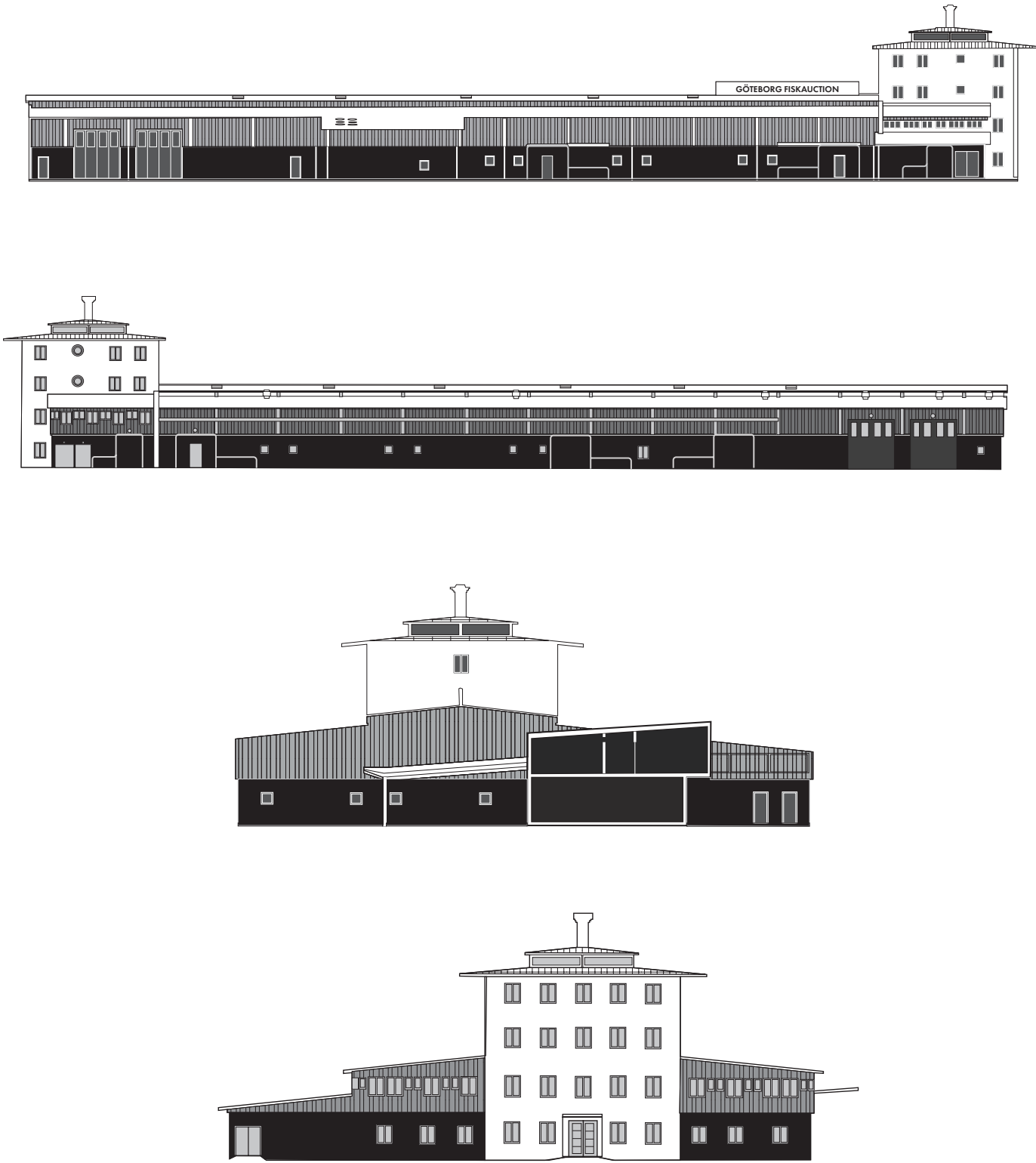
Facades and Plan Studies

Facade study of existing buildings in Fiskhamnen, illustrating the site’s architectural diversity. The elevations represent a range of industrial typologies from gable-roofed warehouses to flat-roofed modern additions reflecting different periods of the harbor’s development. This variation offers a rich material and formal vocabulary for future interventions on the site.

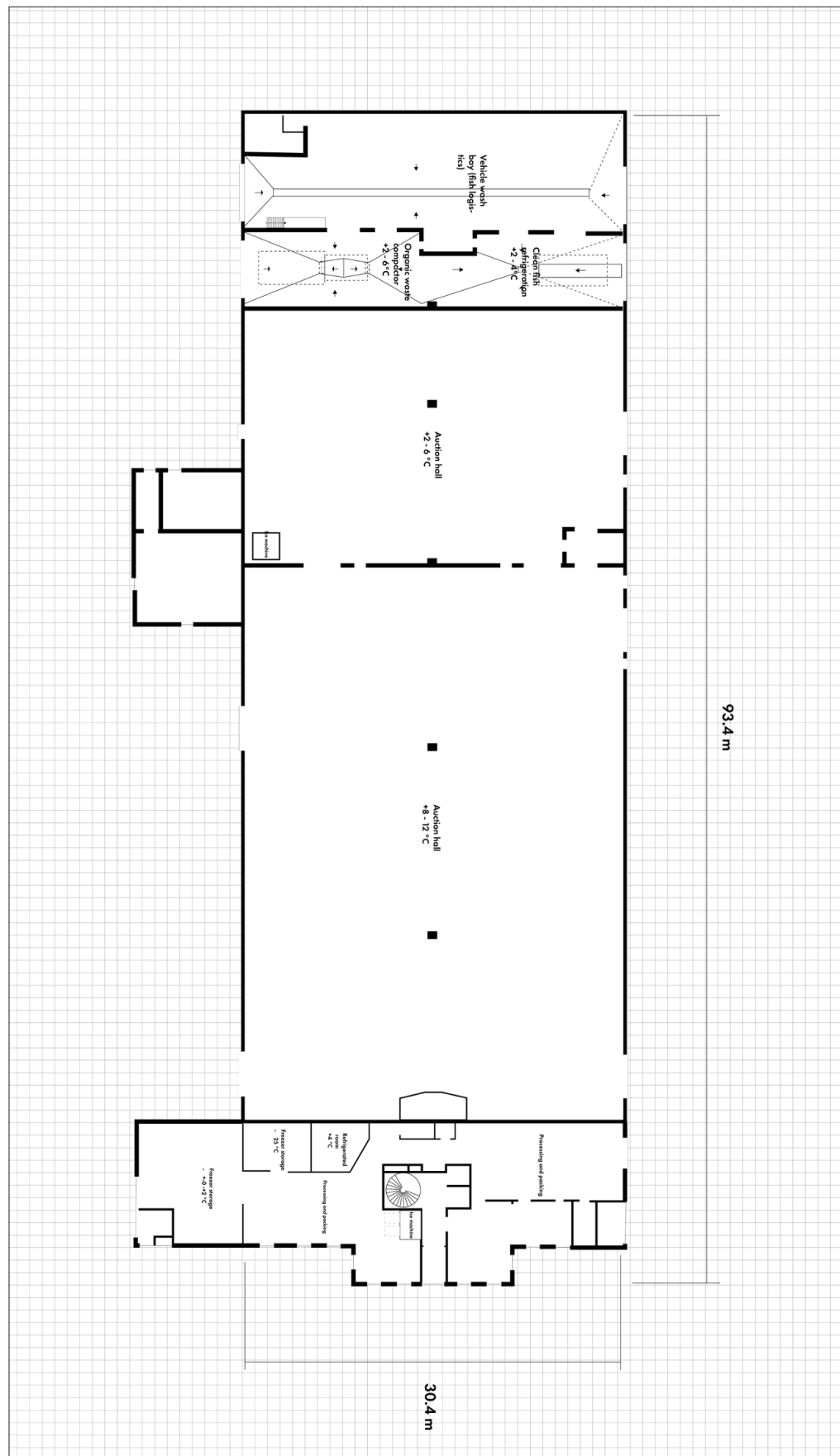


1910 Auction building

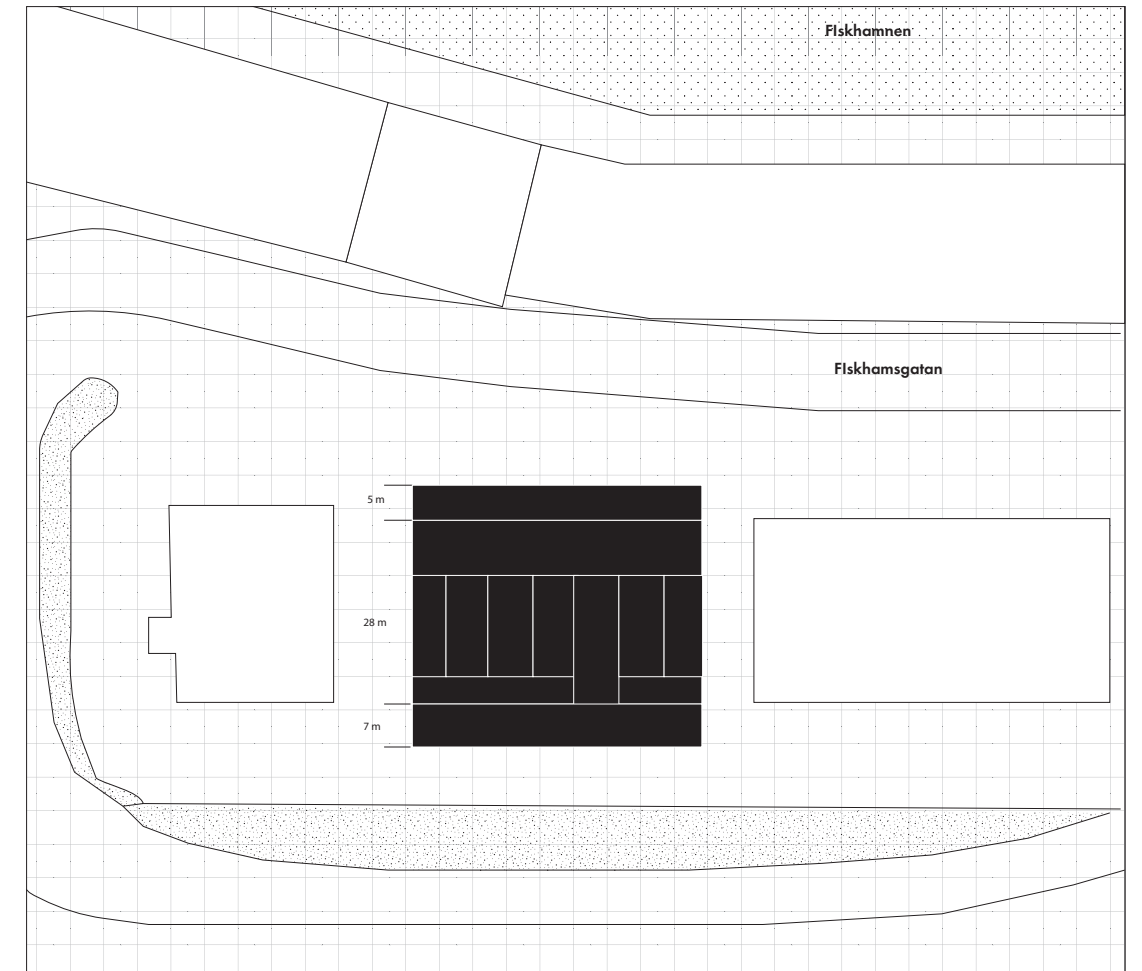
Elevations and plan of the Auction Hall (1910), Fiskhamnen. The facade structure reflects civic industrial values combining a monumental central entrance with modular wings suited for fish auction logistics. Open-span bays, a symmetrical layout and a defined civic entry create a spatial structure optimized for transparency and flow .



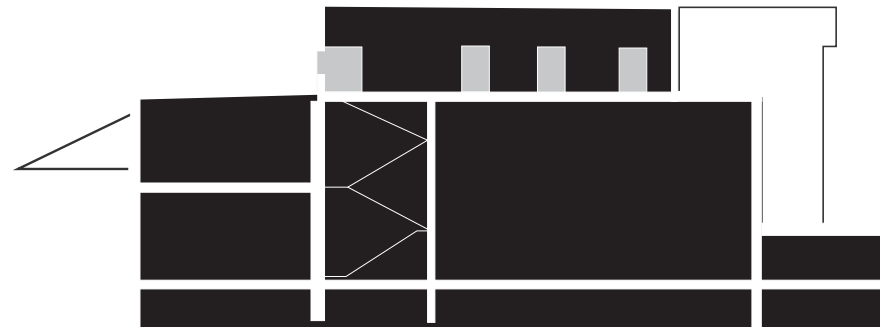
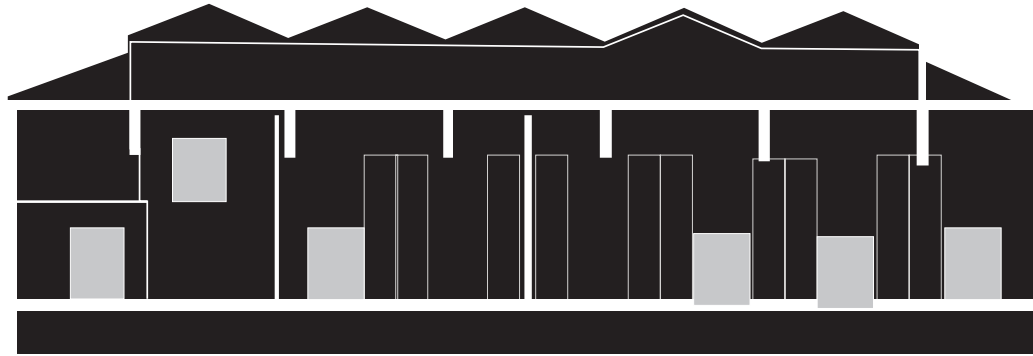
Göteborgs Fiskauktion, 1992 by Liljewall Arkitekter. A utilitarian structure of modular bays and industrial cladding, anchored by a central tower that introduces identity into a highly functional logistics building.



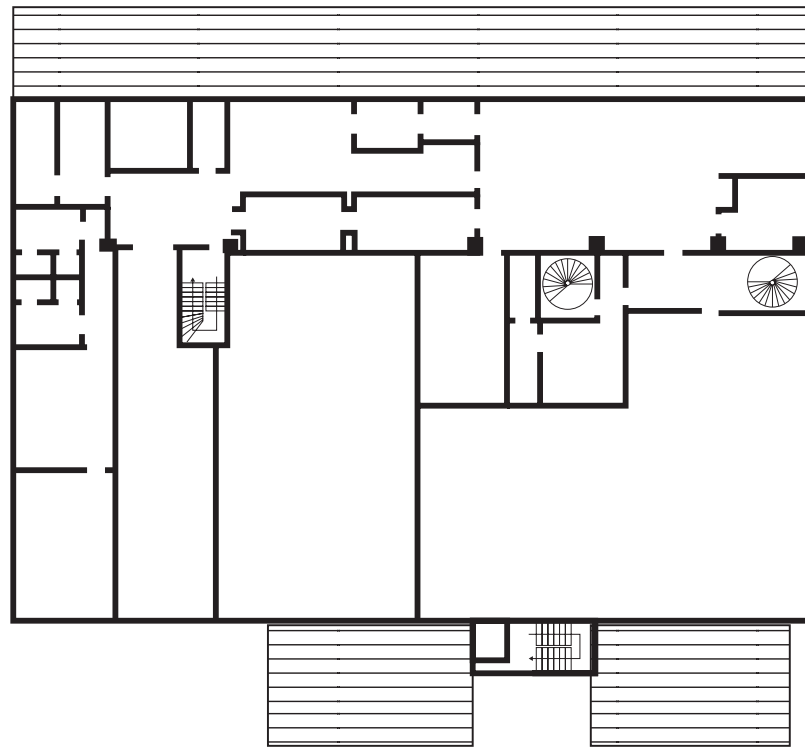
Programmatic plan of the existing auction hall and processing facility. Functional zones are strategically organized to support hygienic flow, temperature control and efficient fish handling from vehicle washing and delivery to auction, processing, refrigeration and freezing.



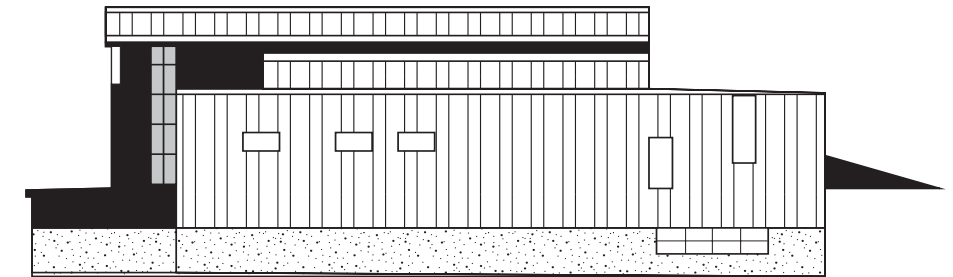
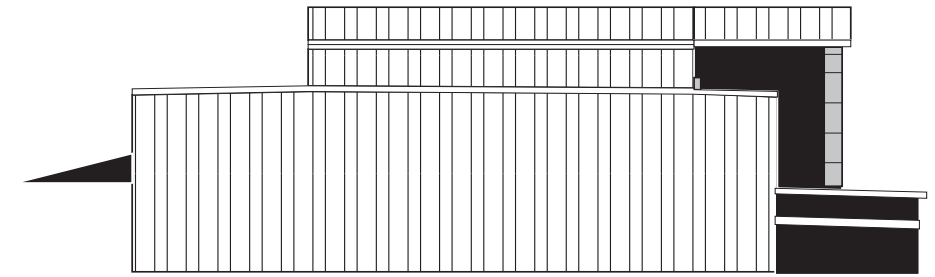
Fiskhamnen industrial hall with sawtooth roof. A layered facade expressing structural rhythm, daylight logic and programmatic adaptation over time.



Section through industrial building with sawtooth roof. Natural light enters through clerestories, modular structure and repeated bays reflect a logic of productivity and adaptability.



The floor plan demonstrates a clear zoning strategy organized around both process and flow.



Vertically clad industrial facades on site. Enclosed volumes with clerestory glazing provide modular order but minimal public interaction.



5 DESIGN METHODOLOGY WORKING WITH PATTERNS

Patterns, as both theory and tool, guide the methodology of this thesis. Rather than approaching design through static forms or predefined programs, the process begins with observing lived practices and evolves through testing, drawing, material iteration and site immersion. Each pattern becomes a spatial response shaped by context, ultimately forming the architectural system of the fish market proposal.

Contemporary Reframing of Architectural Patterns

Recent architectural discourse has seen a renewed and more rigorous engagement with the concept of pattern. As Helen Castle notes in the editorial for *The Patterns of Architecture*, guest editor Mark Garcia repositions pattern not as a decorative residue of past styles, but as a meaningful and analytical tool within contemporary design theory and practice (Garcia, 2009). Historically, pattern in architecture was often marginalized dismissed as imitative, ornamental, or associated with vernacular builders rather than serious architectural thought. Today, this perception is rapidly shifting.

Patterns are now recognized as essential across multiple disciplines including computer science, artificial intelligence, and biology where they serve as frameworks for analyzing systems and structures. This interdisciplinary reappraisal has liberated pattern from its ornamental stigma and repositioned it as a strategic design methodology. As Castle notes, the shift from “pattern-making” to “pattern recognition” enables architects to move beyond surface decoration and engage more deeply with behavior, form, and site-specific logic.

This evolution is evident in the work of architects such as Patrik Schumacher, who employs surface patterning within parametric design, and Alejandro Zaera-Polo, who explores pattern as both a semiotic and performative tool. Their approaches demonstrate how pattern can function as an architectural language bridging global systems with local specificities. This thesis builds on that idea, proposing pattern not only as spatial form, but as a ritual and sensory language for interpreting food systems and fish production processes.

The conceptual foundation of this thesis is rooted in Christopher Alexander’s *A Pattern Language* (1977), which defines patterns as timeless spatial configurations grounded in human experience and social interaction.

Expanding on this, Nikos A. Salingaros (n.d.) presents patterns not as cultural constructs but as biological and cognitive necessities. In *The Patterns of Architecture*, he argues that patterns support human spatial cognition by linking architectural form to deep perceptual, mathematical, and sensory systems. Both Alexander and Salingaros view pattern as more than aesthetic. it is a tool for meeting human needs, evoking memory, and shaping how we experience space.

Complementing these perspectives is the Wiley publication *The Patterns of Architecture* (n.d.), which offers a contemporary view of pattern as an evolving process shaped by design iteration, materiality, and user interaction. Rather than offering fixed rules, it presents pattern-making as a dynamic, adaptive practice responsive to context, time, and technological change. This aligns closely with the goals of this thesis: to reinterpret pattern not as repetition, but as an emergent language grounded in rhythm, ritual, and site-specific practice.

In this project, patterns are treated as spatial strategies that emerge from lived experience. They are generated through the movement of fish, the textures of salt, the cooling logic of ice, and the sensory culture of the market. Rather than applying decorative motifs, the design cultivates spatial forms that hold meaning rooted in the rhythms of production, labor and food.

Together, these theoretical perspectives provide a robust foundation for understanding and generating patterns that are culturally resonant, experientially rich and architecturally adaptive.

A PATTERN LANGUAGE

I. INDEPENDENT REGIONS	87. INDIVIDUALLY OWNED SHOPS	173. GARDEN WALL
2. THE DISTRIBUTION OF TOWNS	88. STREET CAFE	174. TRELLISED WALK
3. CITY COUNTRY FINGERS	89. CORNER GROCERY	175. GREENHOUSE
4. AGRICULTURAL VALLEYS	90. BEER HALL	176. GARDEN SEAT
5. LACE OF COUNTRY STREETS	91. TRAVELER'S INN	177. VEGETABLE GARDEN
6. COUNTRY TOWNS	92. BUS STOP	178. COMPOST
7. THE COUNTRYSIDE	93. FOOD STANDS	179. ALCOVES
8. MOSAIC OF SUBCULTURES	94. SLEEPING IN PUBLIC	180. WINDOW PLACE
9. SCATTERED WORK	95. BUILDING COMPLEX	181. THE FIRE
10. MAGIC OF THE CITY	96. NUMBER OF STORIES	182. EATING ATMOSPHERE
II. LOCAL TRANSPORT AREAS	97. SHIELDED PARKING	183. WORKSPACE ENCLOSURE
12. COMMUNITY OF 7000	98. CIRCULATION REALMS	184. COOKING LAYOUT
13. SUBCULTURE BOUNDARY	99. MAIN BUILDING	185. SITTING CIRCLE
14. IDENTIFIABLE NEIGHBORHOOD	100. PEDESTRIAN STREET	186. COMMUNAL SLEEPING
15. NEIGHBORHOOD BOUNDARY	101. BUILDING THOROUGHFARE	187. MARRIAGE BED
16. WEB OF PUBLIC TRANSPORTATION	102. FAMILY OF ENTRANCES	188. BED ALCOVE
17. RING ROADS	103. SMALL PARKING LOTS	189. DRESSING ROOM
18. NETWORK OF LEARNING	104. SITE REPAIR	191. THE SHAPE OF INDOOR SPACE
19. WEB OF SHOPPING	105. SOUTH FACING OUTDOORS	192. WINDOWS OVERLOOKING LIFE
20. MINI-BUSES	106. POSITIVE OUTDOOR SPACE	193. HALF-OPEN WALL
21. FOUR-STORY LIMIT	107. WINGS OF LIGHT	194. INTERIOR WINDOWS
22. NINE PER CENT PARKING	108. CONNECTED BUILDINGS	195. STAIRCASE VOLUME
23. PARALLEL ROADS	109. LONG THIN HOUSE	196. CORNER DOORS
24. SACRED SITES	110. MAIN ENTRANCE	197. THICK WALLS
25. ACCESS TO WATER	111. HALF-HIDDEN GARDEN	198. CLOSETS BETWEEN ROOMS
26. LIFE CYCLE	112. ENTRANCE TRANSITION	199. SUNNY COUNTER
27. MEN AND WOMEN	113. CAR CONNECTION	200. OPEN SHELVES
28. ECCENTRIC NUCLEUS	114. HIERARCHY OF OPEN SPACE	201. WAIST-HIGH SHELF
29. DENSITY RINGS	115. COURTYARDS WHICH LIVE	202. BUILT-IN SEATS
30. ACTIVITY NODES	116. CASCADE OF ROOFS	203. CHILD CAVES
31. PROMENADE	117. SHELTERING ROOF	204. SECRET PLACE
32. SHOPPING STREET	118. ROOF GARDEN	205. STRUCTURE FOLLOWS SOCIAL SPACES
33. NIGHT LIFE	119. ARCADES	206. EFFICIENT STRUCTURE
34. INTERCHANGE	120. PATHS AND GOALS	207. GOOD MATERIALS
35. HOUSEHOLD MIX	121. PATHSHAPE	208. GRADUAL STIFFENING
36. DEGREES OF PUBLICNESS	122. BUILDING FRONTS	209. ROOF LAYOUT
37. HOUSE CLUSTER	123. PEDESTRIAN DENSITY	210. FLOOR AND CEILING LAYOUT
38. ROW HOUSES	124. ACTIVITY POCKETS	211. THICKENING THE OUTER WALLS
39. HOUSING HILL	125. STAIR SEATS	212. COLUMNS AT THE CORNERS
40. OLD PEOPLE EVERYWHERE	126. SOMETHING ROUGHLY IN THE MIDDLE	213. FINAL COLUMN DISTRIBUTION
41. WORK COMMUNITY	127. INTIMACY GRADIENT	214. ROOT FOUNDATIONS
42. INDUSTRIAL RIBBON	128. INDOOR SUNLIGHT	215. GROUND FLOOR SLAB
43. UNIVERSITY AS A MARKETPLACE	129. COMMON AREAS AT THE HEART	216. BOX COLUMNS
44. LOCAL TOWN HALL	130. ENTRANCE ROOM	217. PERIMETER BEAMS
45. NECKLACE OF COMMUNITY PROJECTS	131. THE FLOW THROUGH ROOMS	218. WALL MEMBRANES
46. MARKET OF MANY SHOPS	132. SHORT PASSAGES	219. FLOOR-CEILING VAULTS
47. HEALTH CENTER	133. STAIRCASE AS A STAGE	220. ROOF VAULTS
48. HOUSING IN BETWEEN	134. ZEN VIEW	221. NATURAL DOORS AND WINDOWS
49. LOOPED LOCAL ROADS	135. TAPESTRY OF LIGHT AND DARK	222. LOW SILL
50. I JUNCTIONS	136. COUPLE'S REALM	223. DEEP REVEALS
51. GREEN STREETS	137. CHILDREN'S REALM	224. LOW DOORWAY
52. NETWORK OF PATHS AND CARS	138. SLEEPING TO THE EAST	225. FRAMES AS THICKENED EDGES
53. MAIN GATEWAYS	139. FARMHOUSE KITCHEN	226. COLUMN PLACE
54. ROAD CROSSING	140. PRIVATE TERRACE ON THE STREET	227. COLUMN CONNECTION
55. RAISED WALK	141. A ROOM OF ONE'S OWN	228. STAIR VAULT
56. BIKE PATHS AND RACKS	142. SEQUENCE OF SITTING SPACES	229. DUCT SPACE
57. CHILDREN IN THE CITY	143. BED CLUSTER	230. RADIANT HEAT
58. CARNIVAL	144. BATHING ROOM	231. DORMER WINDOWS
59. QUIET BACKS	145. BULK STORAGE	232. ROOF CAPS
60. ACCESSIBLE GREEN	146. FLEXIBLE OFFICE SPACE	233. FLOOR SURFACE
61. SMALL PUBLIC SQUARES	147. COMMUNAL EATING	234. LAPPED OUTSIDE WALLS
62. HIGH PLACES	148. SMALL WORK GROUPS	235. SOFT INSIDE WALLS
63. DANCING IN THE STREET	149. RECEPTION WELCOMES YOU	236. WINDOWS WHICH OPEN WIDE
64. POOLS AND STREAMS	150. A PLACE TO WAIT	237. SOLID DOORS WITH GLASS
65. BIRTH PLACES	151. SMALL MEETING ROOMS	238. FILTERED LIGHT
66. HOLY GROUND	152. HALF-PRIVATE OFFICE	239. SMALL PANES
67. COMMON LAND	153. ROOMS TO RENT	240. HALF-INCH TRIM
68. CONNECTED PLAY	154. TEENAGER'S COTTAGE	241. SEAT SPOTS
69. PUBLIC OUTDOOR ROOM	155. OLD AGE COTTAGE	242. FRONT DOOR BENCH
70. GRAVE SITES	156. SETTLED WORK	243. SITTING WALL
71. STILL WATER	157. HOME WORKSHOP	244. CANVAS ROOFS
72. LOCAL SPORTS	158. OPEN STAIRS	245. RAISED FLOWERS
73. ADVENTURE PLAYGROUND	159. LIGHT ON TWO SIDES OF EVERY ROOM	246. CLIMBING PLANTS
74. ANIMALS	160. BUILDING EDGE	247. PAVING WITH CRACKS BETWEEN THE STONES
75. THE FAMILY	161. SUNNY PLACE	248. SOFT TILE AND BRICK
76. HOUSE FOR A SMALL FAMILY	162. NORTH FACE	249. ORNAMENT
77. HOUSE FOR A COUPLE	163. OUTDOOR ROOM	250. WARM COLORS
78. HOUSE FOR ONE PERSON	164. STREET WINDOWS	251. DIFFERENT CHAIRS
79. YOUR OWN HOME	165. OPENING TO THE STREET	252. POOLS OF LIGHT
80. SELF-GOVERNING WORKSHOPS	166. GALLERY SURROUND	253. THINGS FROM YOUR LIFE
AND OFFICES	167. SIX-FOOT BALCONY	
81. SMALL SERVICES WITHOUT RED TAPE	168. CONNECTION TO THE EARTH	
82. OFFICE CONNECTIONS	169. TERRACED SLOPE	
83. MASTER AND APPRENTICES	170. FRUIT TREES	
84. TEENAGE SOCIETY	171. TREE PLACES	
85. SHOPFRONT SCHOOLS	172. GARDEN GROWING WILD	
86. CHILDREN'S HOME		

Understanding Pattern Language

Christopher Alexander's A Pattern Language (1977) introduced a new way of thinking about architecture not as creating isolated objects but as cultivating spaces that feel alive, connected and human. Central to his approach was the idea of "patterns": recurring spatial solutions to common design problems rooted in traditional wisdom and human behavior.

Patterns could describe anything from the street layout to a chair's placement. Each addressed a specific problem and offered a flexible solution that could be adapted to different contexts. Importantly, these patterns were not isolated. They were part of a broader language. Larger patterns (like A Street Cafe) contain smaller ones (like "Outdoor Seating" or Street Windows), while peer patterns work together to reinforce a coherent spatial experience. Alexander emphasized that patterns gain meaning only when they are combined. A single chair pattern is not enough. It only works harmoniously with related patterns such as table placement, lighting and room size. When patterns interlock successfully, the result is a space that feels natural, intuitive, and alive. This interconnectedness forms the essence of a pattern language, allowing designers and communities to generate places that are both functional and emotionally resonant.

Fig 4.

The complete list of 253 patterns from Christopher Alexander's A Pattern Language (1977). This thesis draws on this catalog as an exploratory framework. Selected patterns were analyzed and reinterpreted to inform the spatial design of a contemporary fish market.

From Theory to Built Form

Alexander’s Pattern-Based Design in projects.

PREVI EXPERIMENTAL HOUSING PROJECT, Lima, Peru

Christopher Alexander’s prototype for the PREVI (Proyecto Experimental de Vivienda) housing competition, Lima, 1969. His design demonstrated how a pattern language could be translated into modular, user-centered housing that supported daily rituals and cultural rhythms. ‘

This project serves as a precedent for this thesis, which similarly applies pattern-based design to shape spaces around food rituals and community interaction.

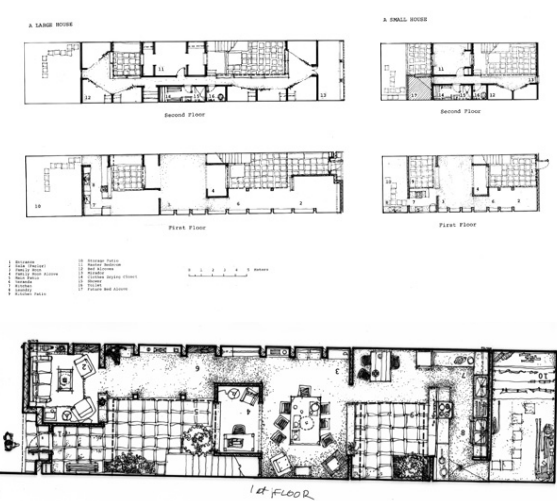


Fig 5. Pettern Common Areas at the Heart
Original elevation drawing of the Previ Experimental housing projectby Christopher Alexander and the Center for Environmental Structure (1980s).

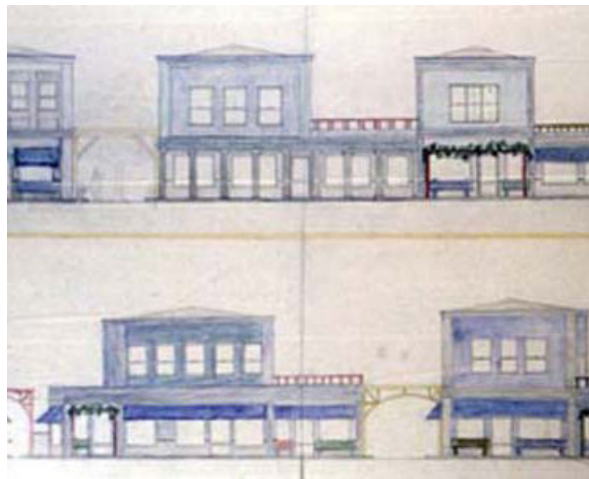
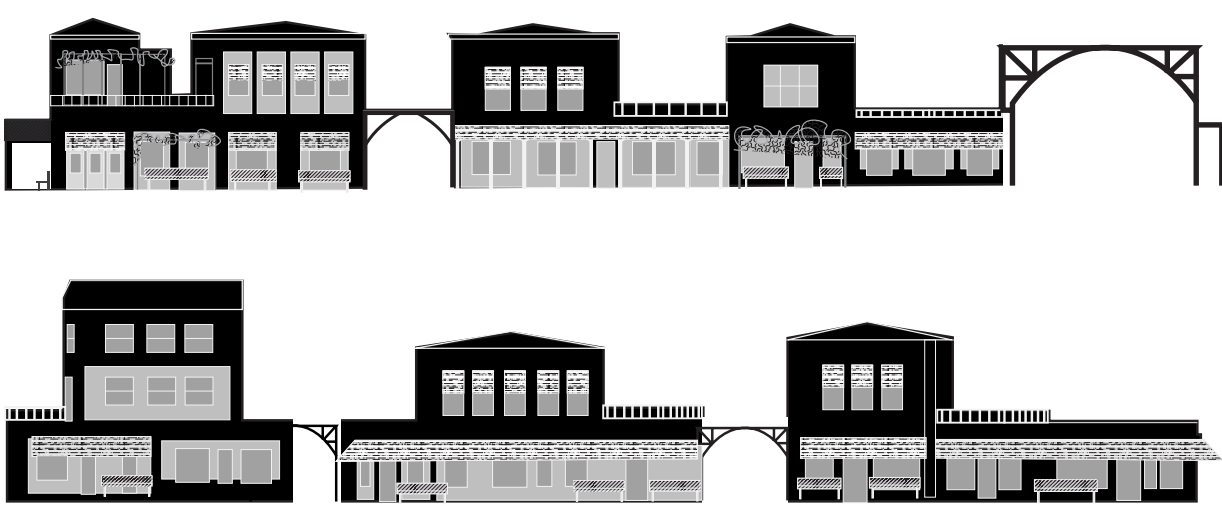


Fig 6. Pattern Market of Many Shops
Original elevation drawing of the Fresno Farmer's Market by Christopher Alexander and the Center for Environmental Structure (1980s).

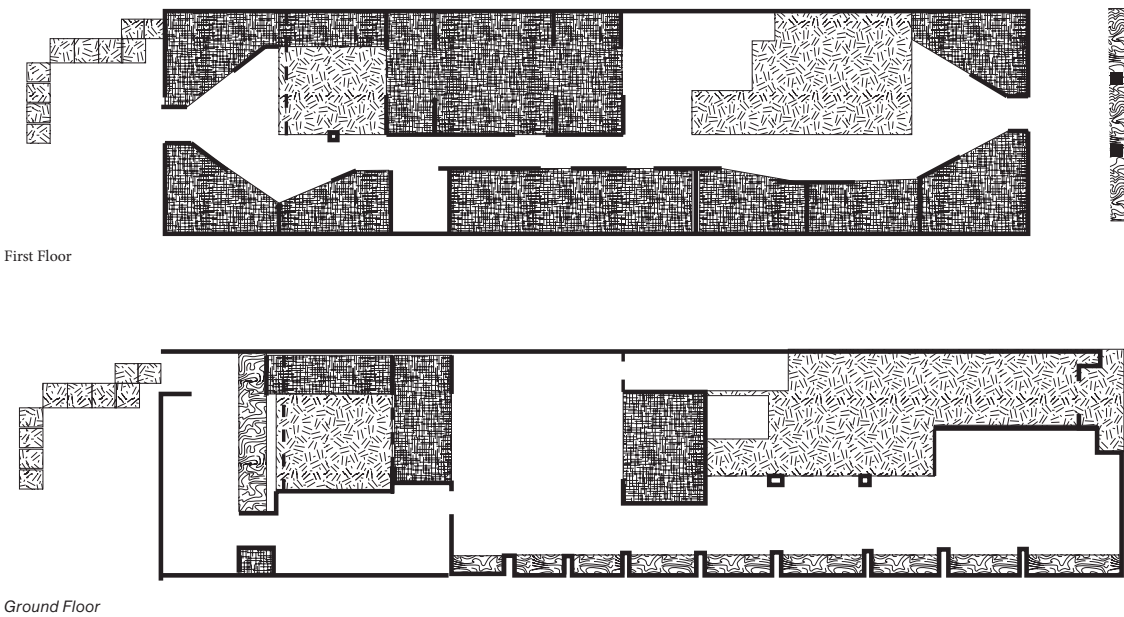
THE FRESNO FARMER'S MARKET, Fresno, CA 1988

The Fresno Farmer’s Market, designed by Christopher Alexander in the 1980s with Carl Lindberg and Gary Black, serves as a key precedent in understanding how pattern-based architecture can support everyday rituals, particularly those centered around food, exchange, and informal interaction. Built using techniques outlined in A Pattern Language and The Timeless Way of Building, the market’s open structural framework, modular layout, and socially calibrated scales demonstrate how pattern thinking can result in an architecture that is both functional and emotionally resonant.

This thesis draws directly from Alexander’s original sketches and design approach to better understand how a food market can physically manifest the principles of pattern language. Observing the Fresno Market reveals key strategies: the rhythm of shopfronts, the layering of spatial thresholds, and the calibrated openness of shared public space. Even the facade communicates pattern logic with pauses of open space, the clustering of entryways, and a living web of interconnected shops and community views.



Author’s analytical drawing of the Fresno Farmers’ Market facades, based on Christopher Alexander’s original design. The drawing highlights key spatial patterns from A Pattern Language, including “Web of Shops,” “Arcades,” and “Positive Outdoor Space.”



Author’s interpretation of the Previ Experimental Housing Project spatial pattern. The drawing illustrates the relationship between built mass and void and the organization of public versus private spaces. It was developed by the author based on the original architectural plan as observed in the Previ project documentation.

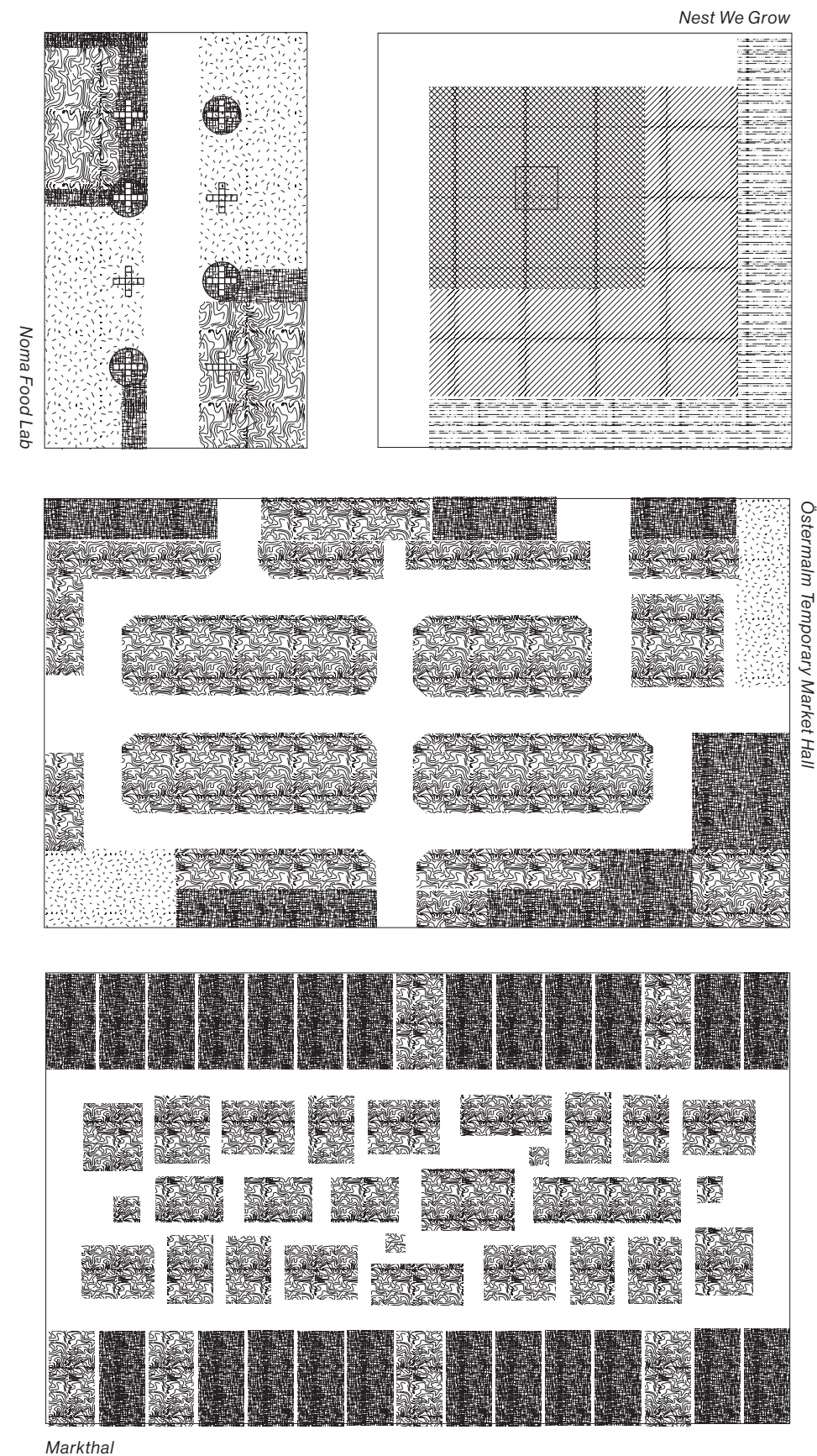
Patterns as Cognitive and Biological Necessities

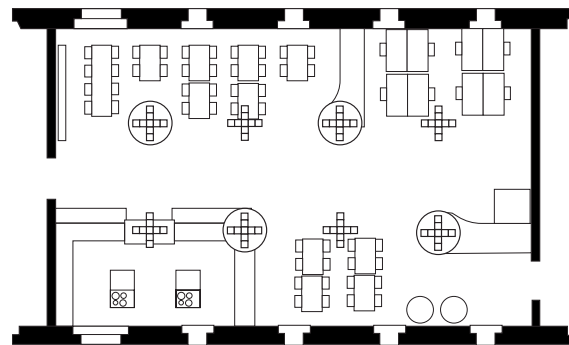
Building on Alexander's work, Nikos A. Salingaros (2000) reframes patterns not just as cultural or spatial strategies but as biological and cognitive imperatives. In *The Patterns of Architecture*, he argues that patterns support how human beings perceive and understand space. They are not arbitrary design tools; they reflect deep, measurable structures that align with how our brains process form, rhythm, and proportion.

Salingaros draws from mathematics, neuroscience, and urban morphology to position patterns as part of a universal architectural grammar. According to his theory, the human mind is more comfortable and responsive in environments that mirror naturally occurring patterns: fractals, gradients, symmetries and layered complexity. These structures reduce visual stress and enhance legibility, allowing people to orient themselves and feel at ease within space.

In this view, patterns are not only useful but essential. They connect us to our evolutionary instincts, helping us navigate the built environment with greater comfort, meaning, and emotional engagement. Salingaros' perspective supports Alexander's original insights but grounds them in cognitive science, making a strong case for why patterned design is not merely stylistic but biologically and psychologically grounded.

Learning from Reference Projects

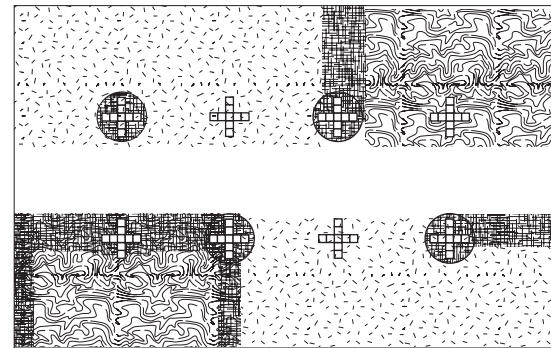




Floorplan

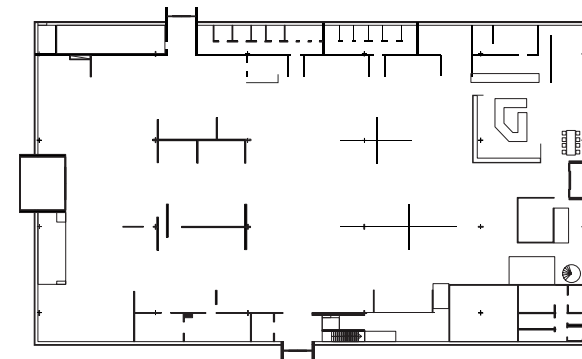
Noma Food Lab
Location: Copenhagen, Denmark
Architect: 3XN Architects

This project was chosen for its clear spatial choreography of food practices blending preparation, display and tasting into a continuous sequence. It demonstrates how architecture can support culinary experimentation while remaining accessible and legible to the public. Through a pattern-based lens, key spatial



Spatial Pattern Extraction from Noma Food Lab

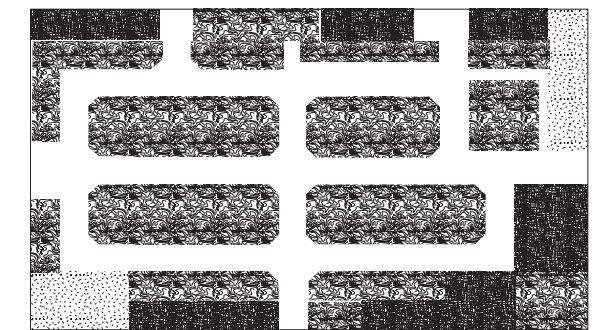
elements were extracted: the separation of public and private zones, the use of modular anchors (such as shelving and tasting counters), and the integration of sensory experience into spatial flow. These informed the thesis's own development of patterns where food is not just consumed but encountered and understood.



Floorplan

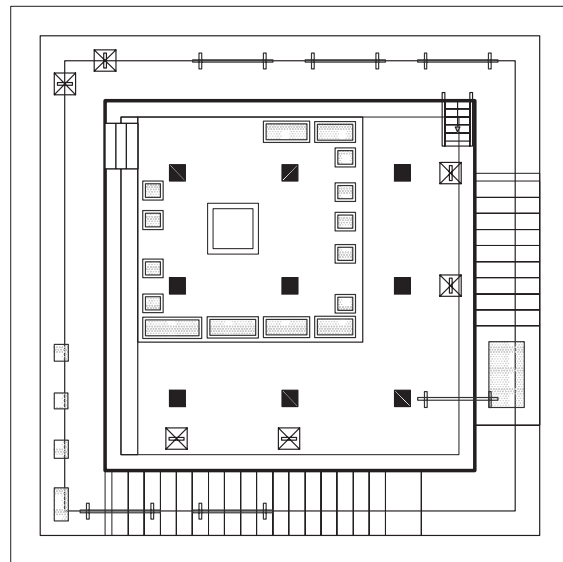
Östermalm Temporary Market Hall
Location: Stockholm, Sweden
Architect: Tengbom

This project was selected for its demonstration of how modular repetition, temporal adaptability and lightweight tectonics can support civic architecture. It emphasizes flexibility, quick assembly and reuse qualities aligned with the thesis's vision for food systems that are transparent, adaptable and publicly engaging.



Spatial Pattern Extraction from Östermalm Temporary Market Hall

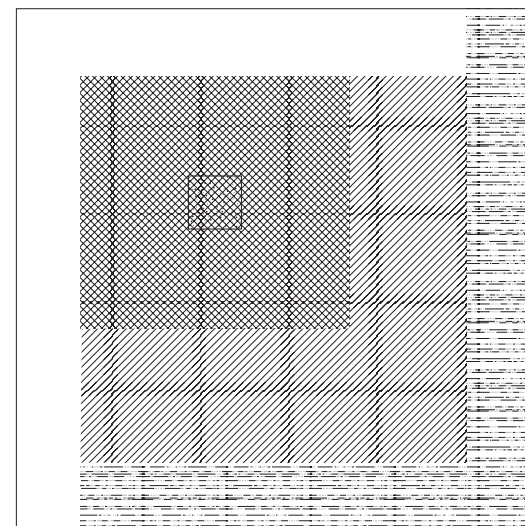
Its underlying spatial patterning is defined by parallel modular bays, which are arranged around central circulation corridors. This layout supports clear zoning of vendors and movement, while maintaining openness and visual connection across the market. The spatial logic extracted from this project grid-based repetition, framed voids, and process-oriented flow



Floorplan

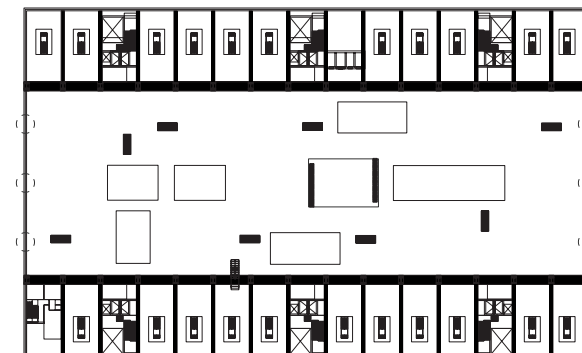
Nest We Grow
Location: Hokkaido, Japan
Architects: Kengo Kuma Associates + UC Berkeley CED Students

Nest We Grow was selected for its clear integration of food, architecture and community ritual. Designed as a seasonal gathering space for storing, preparing and sharing food, the structure uses an open timber frame and stacked volumes



Spatial Pattern Extraction from Nest We Grow

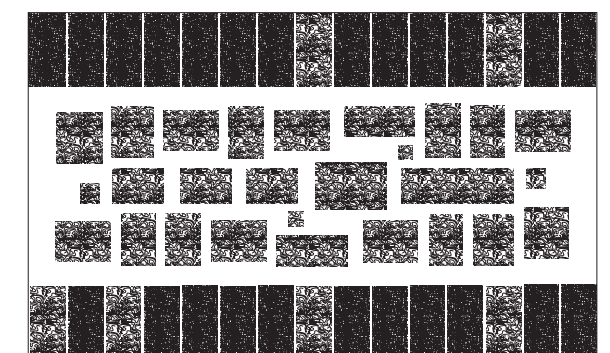
to choreograph movement, light and informal interaction. From a pattern perspective, the project demonstrates how horizontal rhythm and material transparency can structure not only physical space



Floorplan

Markthal
Location: Rotterdam, Netherlands
Architect: MVRDV

Markthal was selected for its bold integration of public food space and private housing within a singular architectural gesture. By placing a covered market hall beneath a sweeping arch of residential units, the building transforms food exchange into a shared urban spectacle activating both street life and the skyline.



Spatial Pattern Extraction from Markthal

From a spatial perspective, the plan reveals a clear horizontal rhythm: a strong central promenade flanked by modular market stalls and framed by residential blocks. Its strict grid of vendor units giving the central layout feels lively and human-scaled—its energy amplified by the contrast between the bustling public core and the quiet enclosing frame of private residences.

6 EXPLORATIONS

The design process involved a series of explorations to test and apply pattern-based strategies at various scales, drawing inspiration from Christopher Alexander's A Pattern Language. The approach aimed to develop original patterns while acknowledging the limitations of existing ones.

The design process involved a series of explorations to test and apply pattern-based strategies at various scales, drawing inspiration from Christopher Alexander's A Pattern Language and Living Properties. The approach evolved to develop original patterns while also challenging the limitations of those he proposed.

What happens when a pattern doesn't connect to others. When something unexpected appears that doesn't seem to belong in the space? These questions opened the door to new and combined patterns shaped by context and imagination.

The goal was to create an environment that enhances understanding and offers an educational experience for visitors, grounded in how the space feels and functions.

Exploration 1

Focused on selecting relevant patterns from the original 253 described by Christopher Alexander and applying them to an imagined urban context within the city of Gothenburg. These patterns were considered at an city scale to explore how they might inform the broader spatial structure of the site. The process began with a close reading of each pattern's written description in order to identify the underlying problem, the proposed solution and the anticipated spatial outcome. This analytical approach allowed for the translation of abstract theoretical concepts into practical design principles, offering a foundation for more contextually responsive urban interventions.

Exploration 2

Followed a similar approach, refining the selection of patterns based on their spatial relevance and applicability to the project context. To better understand how each pattern could function within a defined area, a series of 10x10 meter rectangles were used to establish boundaries for spatial testing. These simplified grids allowed for the exploration of spatial relationships and user experience within each pattern. Once isolated and analyzed, the patterns informed potential interventions at the building scale, translating theoretical principles into practical spatial configurations.

Exploration 3

This phase moved beyond the selection of existing patterns by combining them with newly developed

ones to create a site-specific pattern language. The focus was on generating original patterns that responded to the spatial and functional requirements of a contemporary fish market within the context of Fiskhamnen, Gothenburg. These patterns were crafted to reflect the unique character of the site, particularly its connection to local food systems, marine resources, and public space. The resulting patterns were synthesized into a cohesive "pattern recipe," which served as a strategic design framework. This recipe was fully integrated into the final architectural proposal for the fish market, informing its spatial organization, programmatic elements and overall user experience.

Exploration 4

Vertical Thinking From Pattern to building



DESIGN PROPOSAL

Exploration 1

Option 1 Free - Form Pattern Expression

This design option explores a more organic and flexible spatial layout, breaking away from traditional orthogonal grids. Inspired by key spatial patterns such as “Corner Grocery, Public Outdoor Room. The triangular forms introduce movement, dynamism and variety into the market context. Rather than rigid zoning, the layout encourages fluid pedestrian circulation with the overlapping functions and visual discovery.

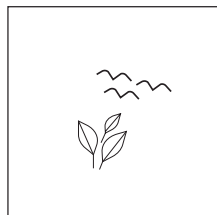
The angled geometry allows for unexpected alignments, opening up small plazas, framed views and corner moments reinforcing the patterns

“Something Roughly in the Middle” and “Positive Outdoor Space.” Triangular volumes act not only as structural enclosures but as activators of social space and guiding people toward gathering areas, food stands and water access points.

Although less conventional, this option aligns with Alexander’s principle of “degrees of publicness” by creating nuanced transitions between enclosed, semi-open and public zones. It also enhances sensory variety and architectural identity ,a key themes of the thesis.

FREE-FORM DESIGN WITH TRIANGULAR VOLUMES

A more organic, flexible layout that breaks away from rigid, rectangular structures. Incorporating triangular volumes adds dynamism and visual interest to the space and creating a sense of movement and flow.



Roughness

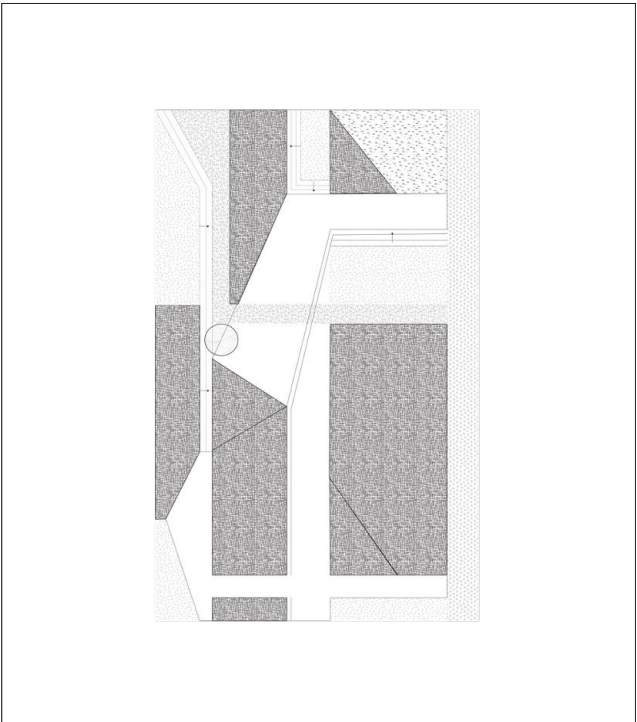
There is no perfect geometry, only a harmonious irregularity that feels alive.

KEY PATTERNS

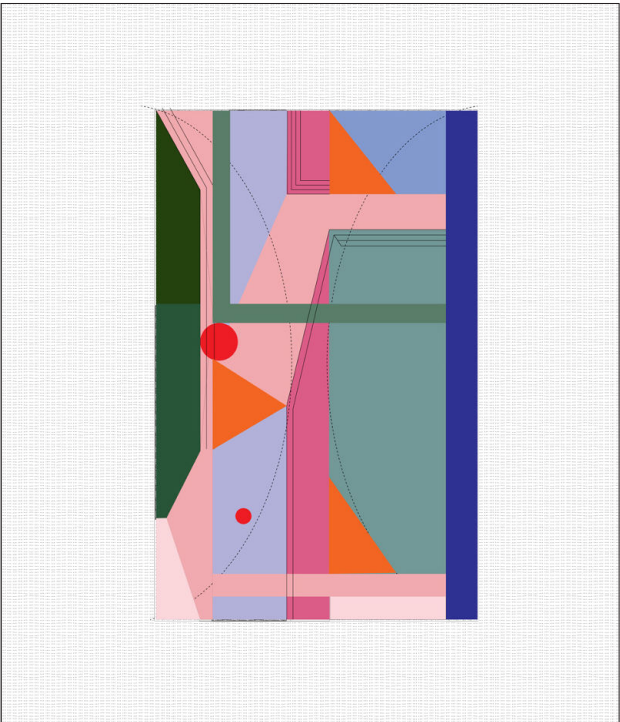
- 19.WEB OF SHOPPING
- 25.ACCESS TO WATER
- 31.PROMANADE
- 32. SHOPPING STREET
- 36. DEGREES OF PUBLICNESS
- 46.MARKET OF MANY SHOPS
- 51.GREEN STREET
- 60.ACCESS TO GREEN
- 69.PUBLIC OUTDOOR ROOM
- 89, CORNERGROCERY
- 88.STREET CAFE
- 93. FOOD STANDS
- 100. PEDERSTRIAN STREET
- 106.POSITIVE OUTDOOR SPACE
- 121 PATH SHAFE
- 125. STAIR SEATS
- 126. SOMETHING ROUGHLY IN THE MIDDLE
- 175.GREEN HOUSE

See diagrams on next page —————>

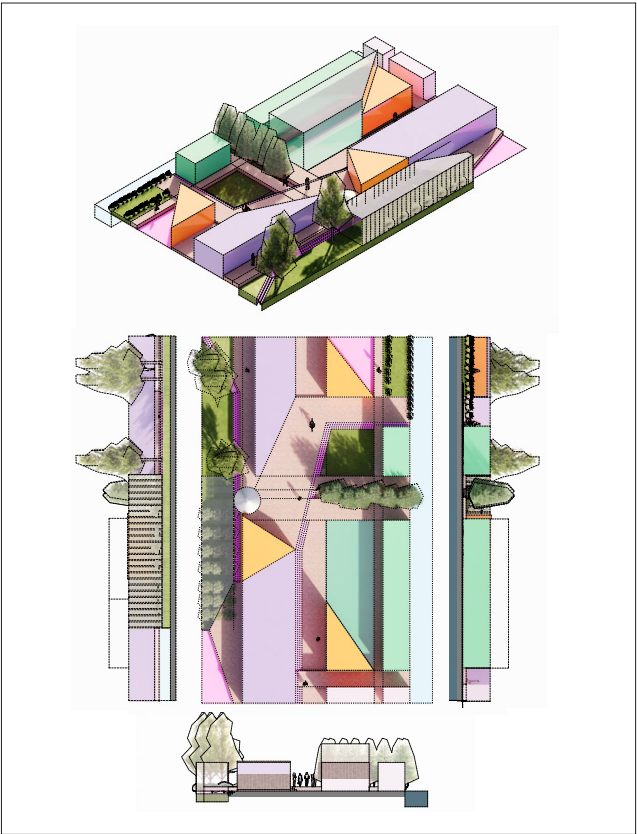
Free form Imagine patterns



Mass and void diagram showing the structural rhythm of open and built space.



Pattern diagram mapping social, spatial and functional layers according to Alexander's principles.



Axonometric study showing free-form triangular volumes shaping a dynamic sequence of spaces.



View of triangular courtyard space framed by dynamic walls shaped by free-form massing.

Option 2 Grid-like or Clustered Pattern Expression

This option explores a more ordered and grid-based spatial structure, emphasizing clarity, repetition, and legibility. The layout draws from Alexander’s patterns related to public rhythm and civic structure, such as Web of Shopping, Promenade and Market of Many Shops. The design organizes buildings and open spaces into a tight cluster of clearly defined zones, offering orientation, regularity, and a sense of balance.

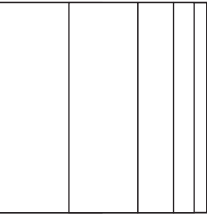
Rectilinear volumes form intimate courtyard spaces between blocks, supporting both movement and pause. The repetition of modules helps support flexibility over time for example, allowing seasonal food stands, seating, or greenhouse functions to shift with need. This option is especially suited for structured, modular programming, offering a strong backbone for organizing commercial and social activity.

Unlike the free-form variation in Option 1, this approach emphasizes Positive Outdoor Space and Access to Green and Degrees of Publicness through careful alignment and framing.

The formal regularity supports calmness and predictability while allowing richness to emerge in material, planting and social use.

GRID-LIKE OR CLUSTERED LAYOUT

with patterns organized in a way that creates interconnected zones. At the heart of the design is a main street that runs through the middle, serving as the central artery that connects all the key areas.



Level of Scale

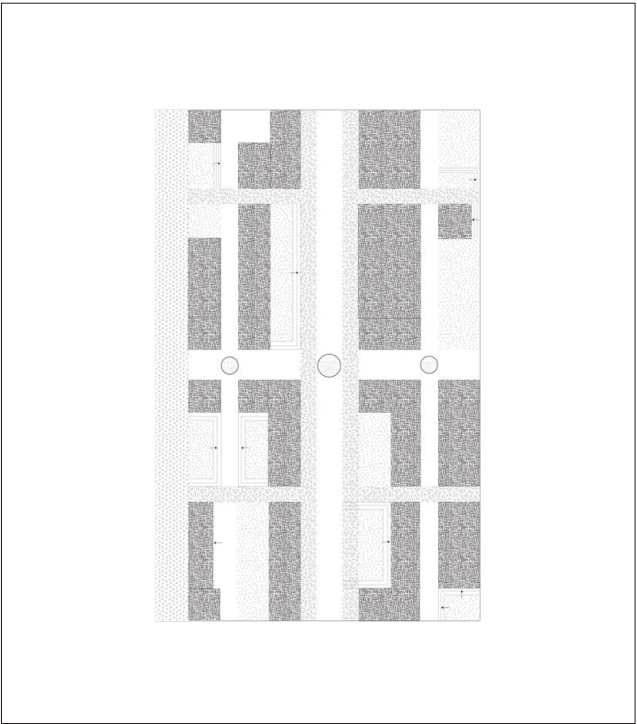
Living structure exists when every part of a place belongs to multiple larger and smaller wholes.

KEY PATTERNS

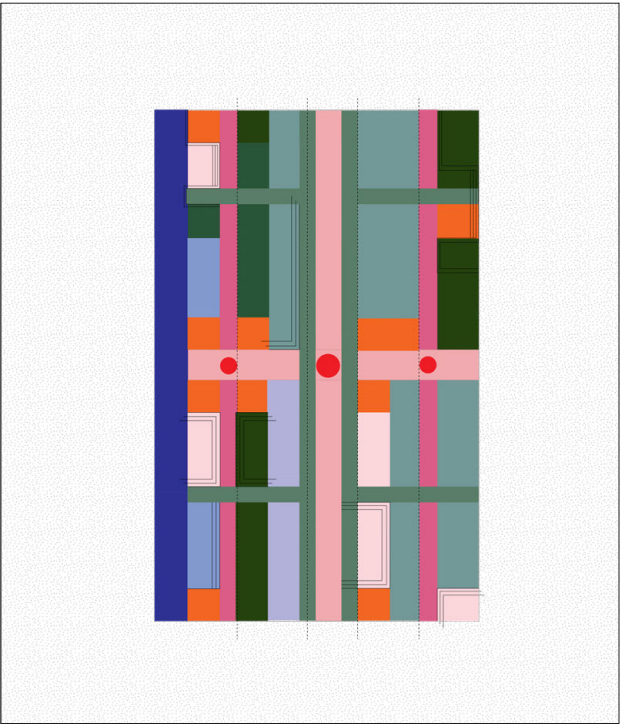
- 19.WEB OF SHOPPING
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- 175.GREEN HOUSE

See diagrams on next page —————>

Grid-like or clustered layout Imagine patterns



Mass and void diagram revealing a structured rhythm of built volumes and courtyard voids within a grid-based system.



Pattern diagram mapping modular civic, social and commercial uses based on Alexander's principles.



Axonometric study and ground plan showing clustered volumes and framed courtyards supporting modular public spaces, seasonal markets and green buffers.



View of promenade edge framed by aligned trees and brick walls, expressing spatial order and calm within a grid-based structure.

Option 3 Circular Offset Layout / Radial Sequence Expression

This option explores a spatial layout based on circular geometries and radial movement. Instead of following grid logic or free-form fragmentation, the design creates a series of concentric and overlapping circular spaces, guiding users through a flowing spatial sequence. This layout emphasizes centrality, orientation and presence, creating distinct focal zones that organize the market experience.

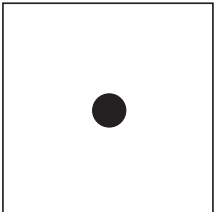
Drawing from Alexander’s patterns such as Something Roughly in the Middle, Public Outdoor Room and Stair Seats, the circular forms support spatial gathering, resting, and ritual. The radial sequence enhances the ceremonial dimension of food and place, recalling historical market forms where movement revolved around a core. By offsetting the circles within a rectangular frame,

the design introduces both contrast and cohesion inviting exploration while maintaining visual harmony. The resulting architecture is expressive, memorable, and emotionally resonant, offering moments of pause, framing the sky and creating spaces that feel both monumental and intimate.

This approach aligns most closely with Alexander’s principle of Strong Centers, where spatial meaning radiates from key focal points. It reinforces the idea that architectural form can evoke gathering, care, and attention essential elements in reconnecting people with food and place.

CIRCULAR OFFSET LAYOUT/
RADIAL SEQUENCE DESIGN
THE CONCEPT OF DEGREES
OF PUBLICNESS.

The numbers could represent angular offsets or positions around a circle, creating a radial layout. Each number might correspond to a specific point or zone within the design with the sequence defining the flow or progression around the circle.



Every living whole has a strong center. A core of gravity that gives meaning and coherence to the space around it.

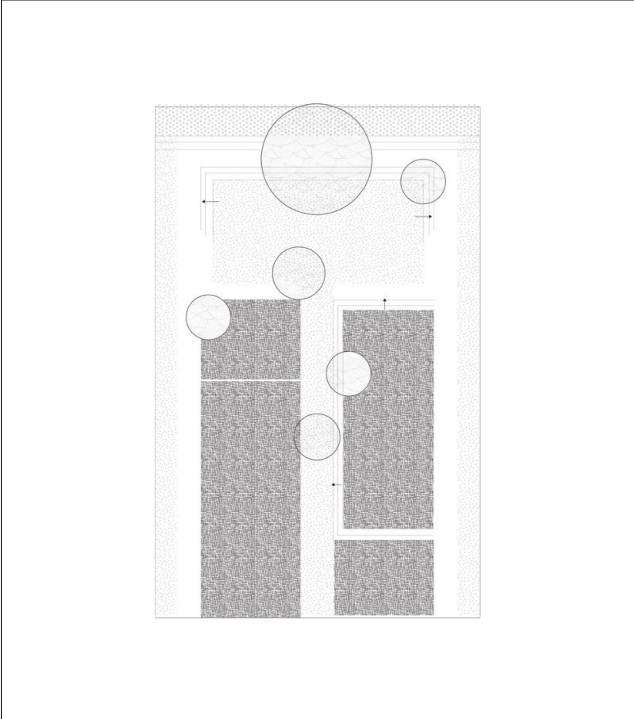
Strong Center

KEY PATTERNS

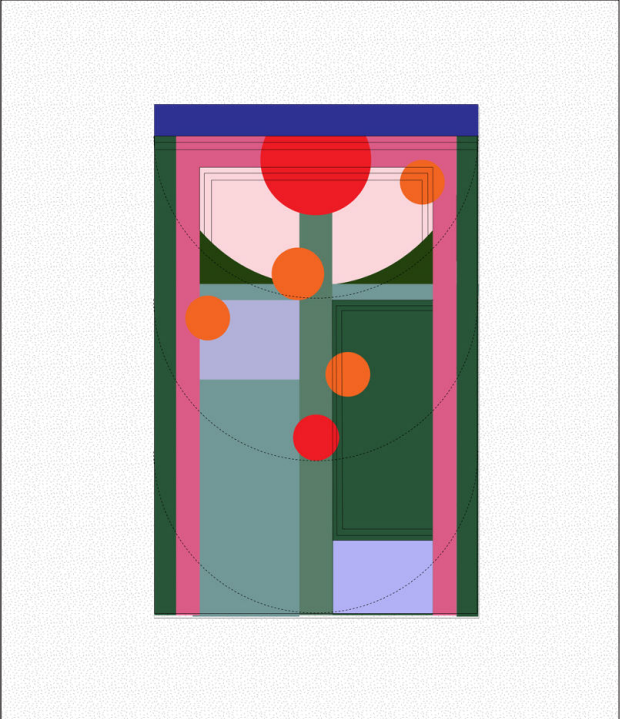
- 19.WEB OF SHOPPING
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See diagrams on next page —————>

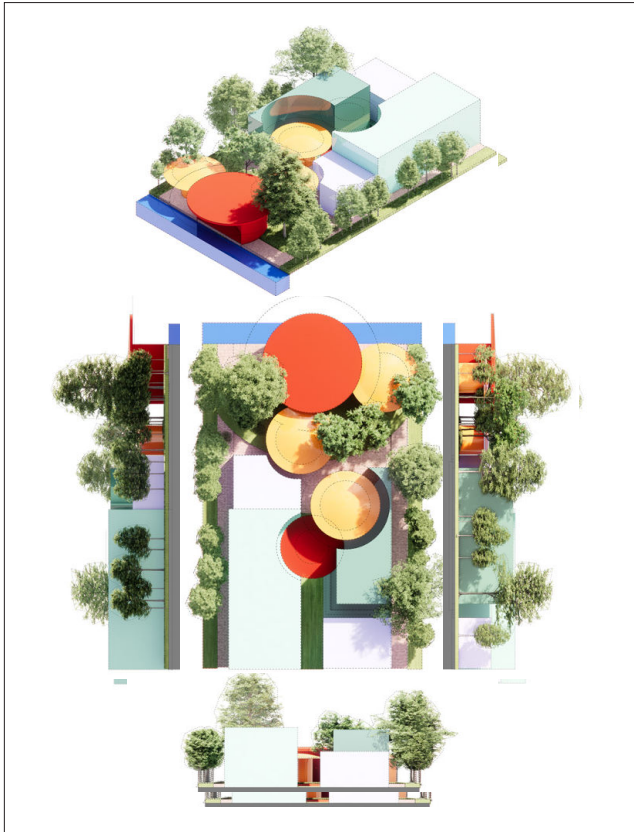
Circular Offset layout/ Radial Sequence Imagine patterns



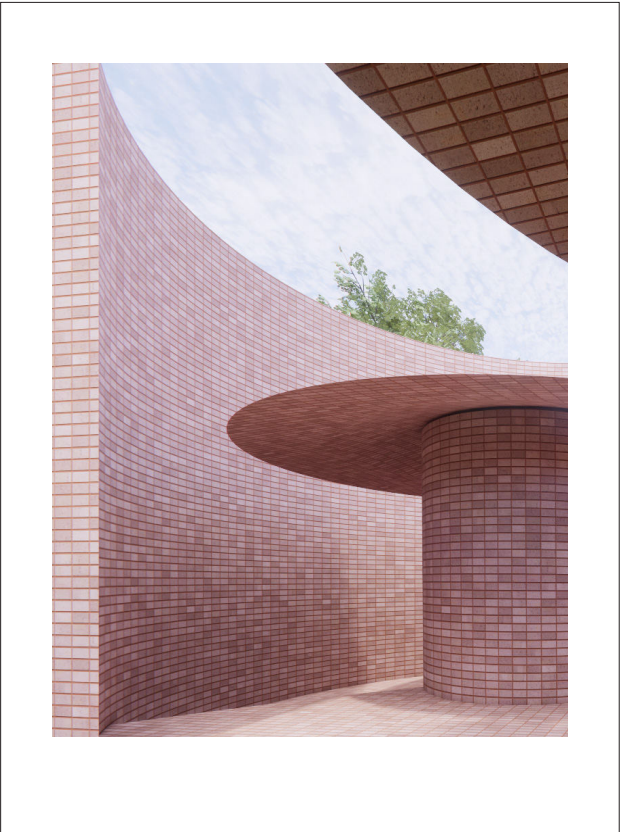
Mass and void diagram showing circular spatial logic nested within a rectangular site framework. The contrast enhances spatial rhythm and focus.



Pattern diagram expressing a radial spatial structure with central gathering points inspired by Alexander's principle.

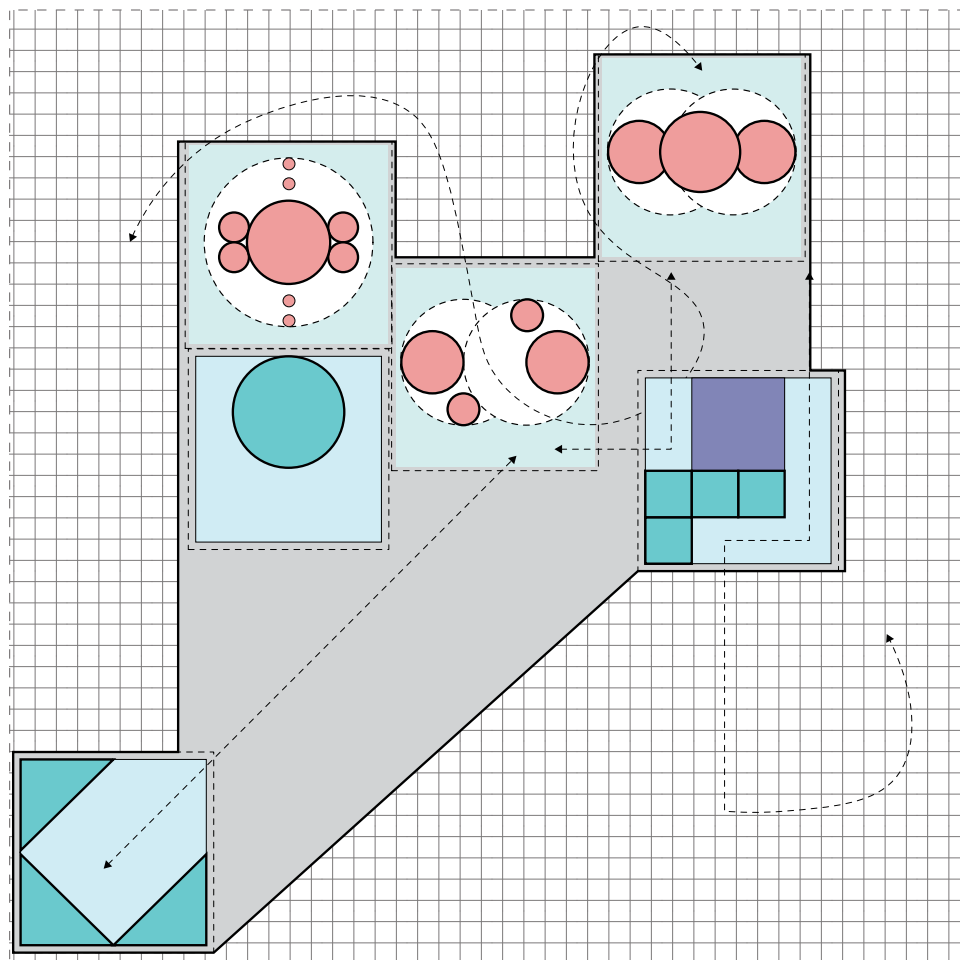


Axonometric and ground plan showing offset circular spaces arranged around central zones of activity. The layout invites ceremonial movement and multi-directional interaction.



View of a circular void framing the sky, illustrating how spatial centers can evoke stillness, reverence, and architectural identity.

Exploration 2



Small patterns grow into larger ones. A piece of furniture defines a room and a room defines a building. In this way, space is not assembled but layered pattern by pattern from the intimate to the architectural.

This phase focused on exploring how spatial patterns could be grouped, adapted and applied to meet the specific functional and experiential needs of the fish market. Building on the initial phase which aimed to understand the methodology of A Pattern Language through free-form experimentation. This second iteration adopted a more grounded and systematic approach.

The process began with an analysis of key functional requirements such as circulation, storage and experience zones. These were used as a foundation for spatial development not by applying patterns literally but by translating their underlying logic into strategies suited to the market.

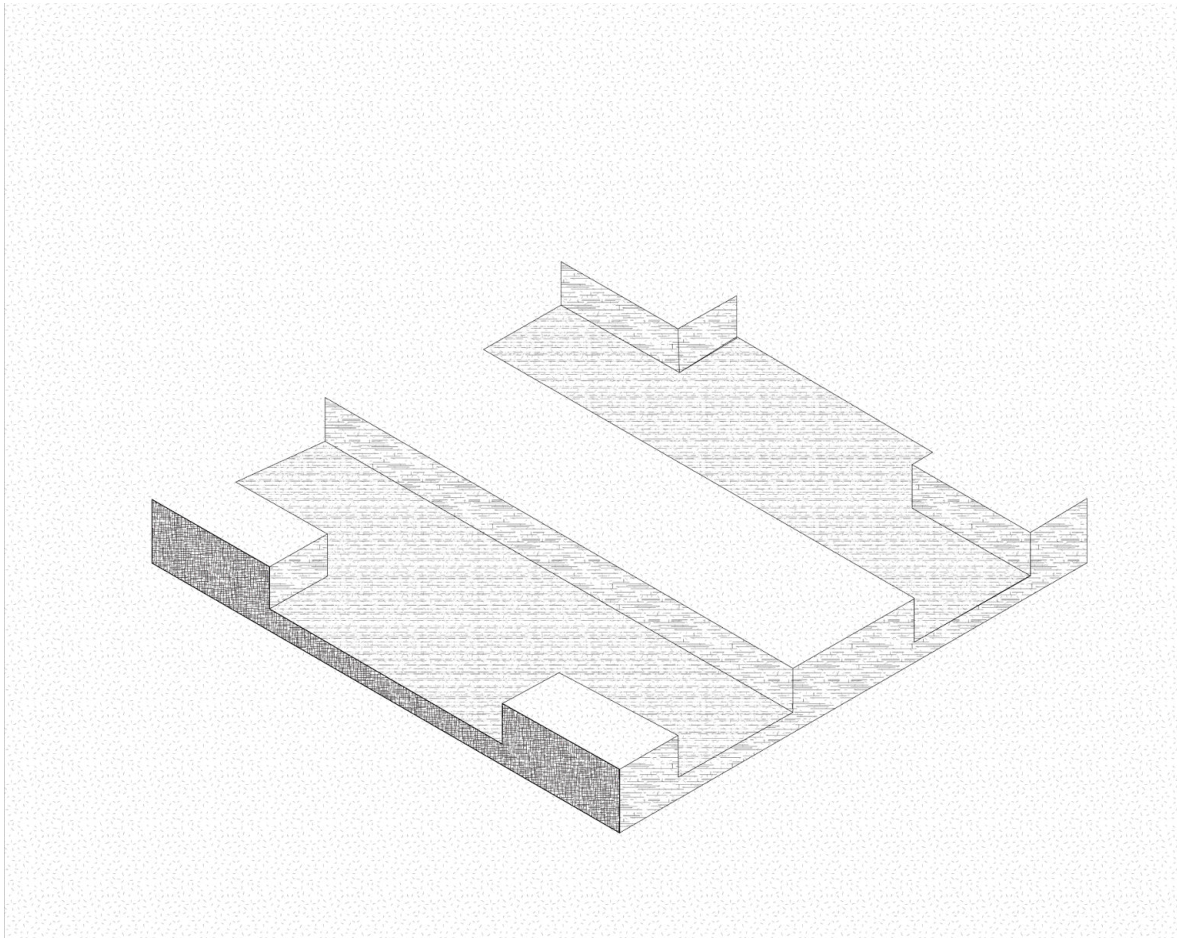
To improve clarity and support comparative analysis the selected patterns were organized into three families (A, B, and C) based on their geometric characteristics and spatial roles. This categorization helped establish a visual and conceptual system for understanding how different patterns could operate both individually and in combination.

As the exploration progressed, original patterns were adapted or developed to reflect specific spatial tasks and interactions within the fish market. These were tested through a shift from abstract diagramming to three-dimensional spatial studies. By mapping the plan onto a 10x10 meter grid. It became easier to analyze how spatial relationships and pattern combinations influenced function and flow.

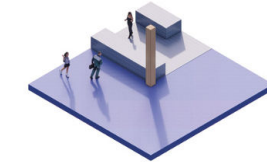
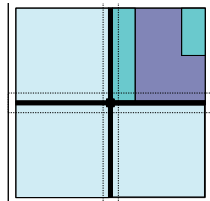
This exploration revealed that repeating a single pattern within a layout often leads to spatial redundancy an outcome common in conventional

architecture. However, combining patterns across different families introduced variation and generating more dynamic compositions. This method proved especially effective in parts of the fish market designed for layered programs or diverse user experiences.

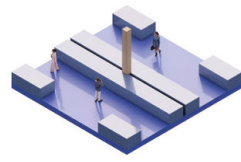
Spaces driven by variation and spatial rhythm were more successful in supporting public interaction and sensory richness. In contrast, overly repetitive areas often led to rigid spatial sequences that undermined experiential quality. Ultimately, this phase demonstrates how pattern variation and strategic repetition can operate within a unified modular system offering both order and adaptability. Even when users are unaware of specific patterns. Their experience of the space is shaped by them in subtle and meaningful ways.



GRID-LIKE OR CLUSTERED

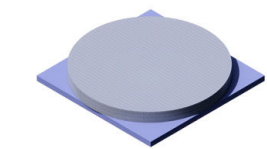
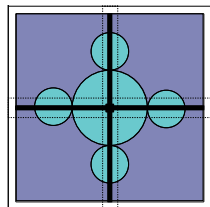


1 UNIT WITH OPEN PUBLIC SPACE AROUND.

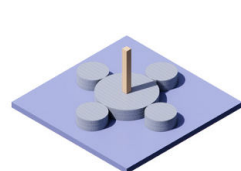


4 UNITS WITH CLOSED SPACE AROUND.

A CIRCULAR OR RADIAL ARRANGEMENT WITH OFFSETS, CREATING A DYNAMIC FLOW.

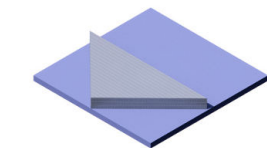
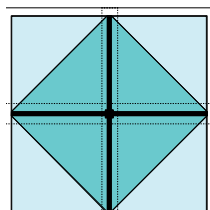


A CENTRAL SPACE.

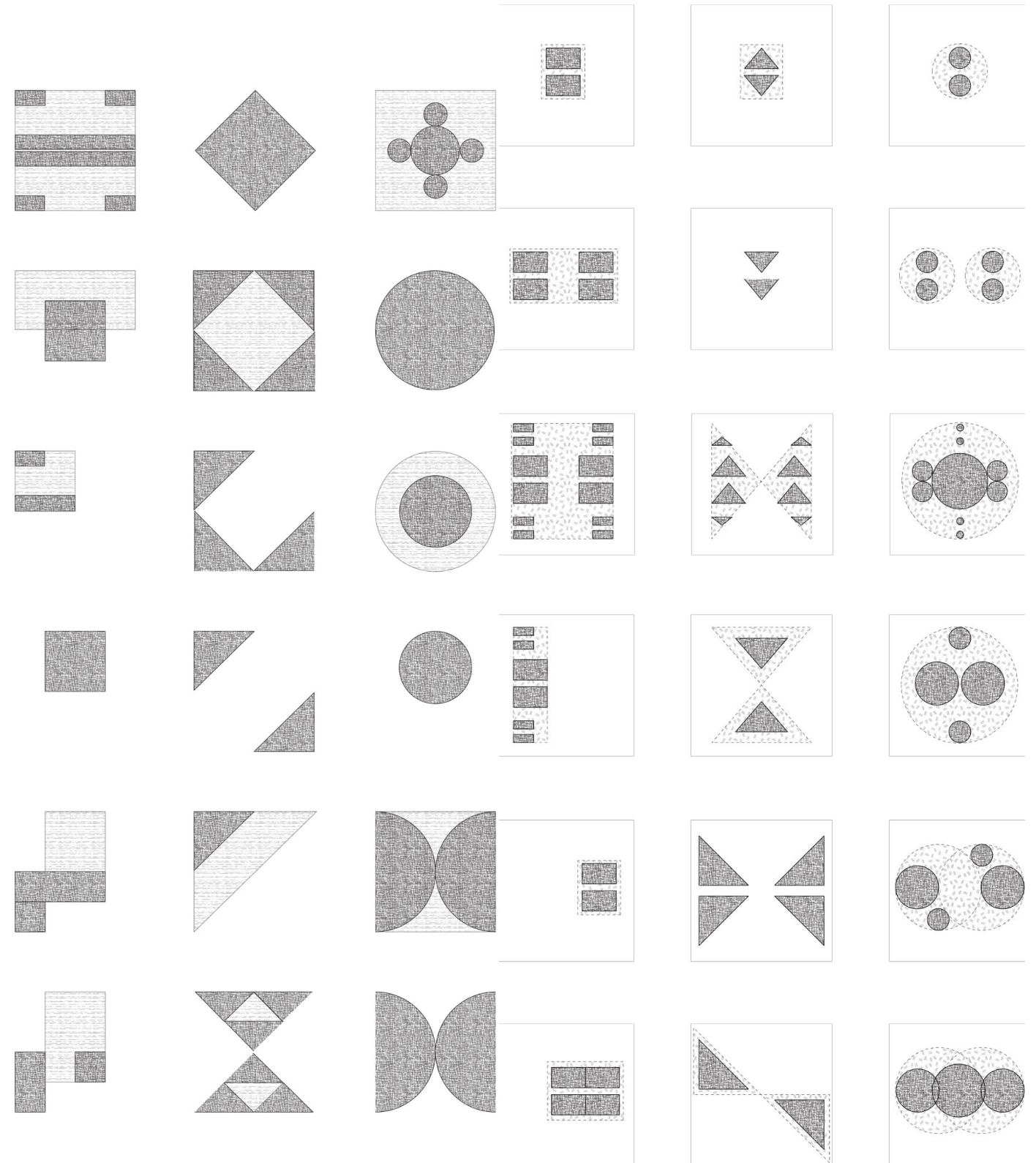
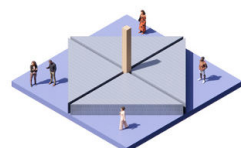


4 UNITS WITH ONE SHARED SPACE

FREE-FORM DESIGN WITH TRIANGULAR (10X10)

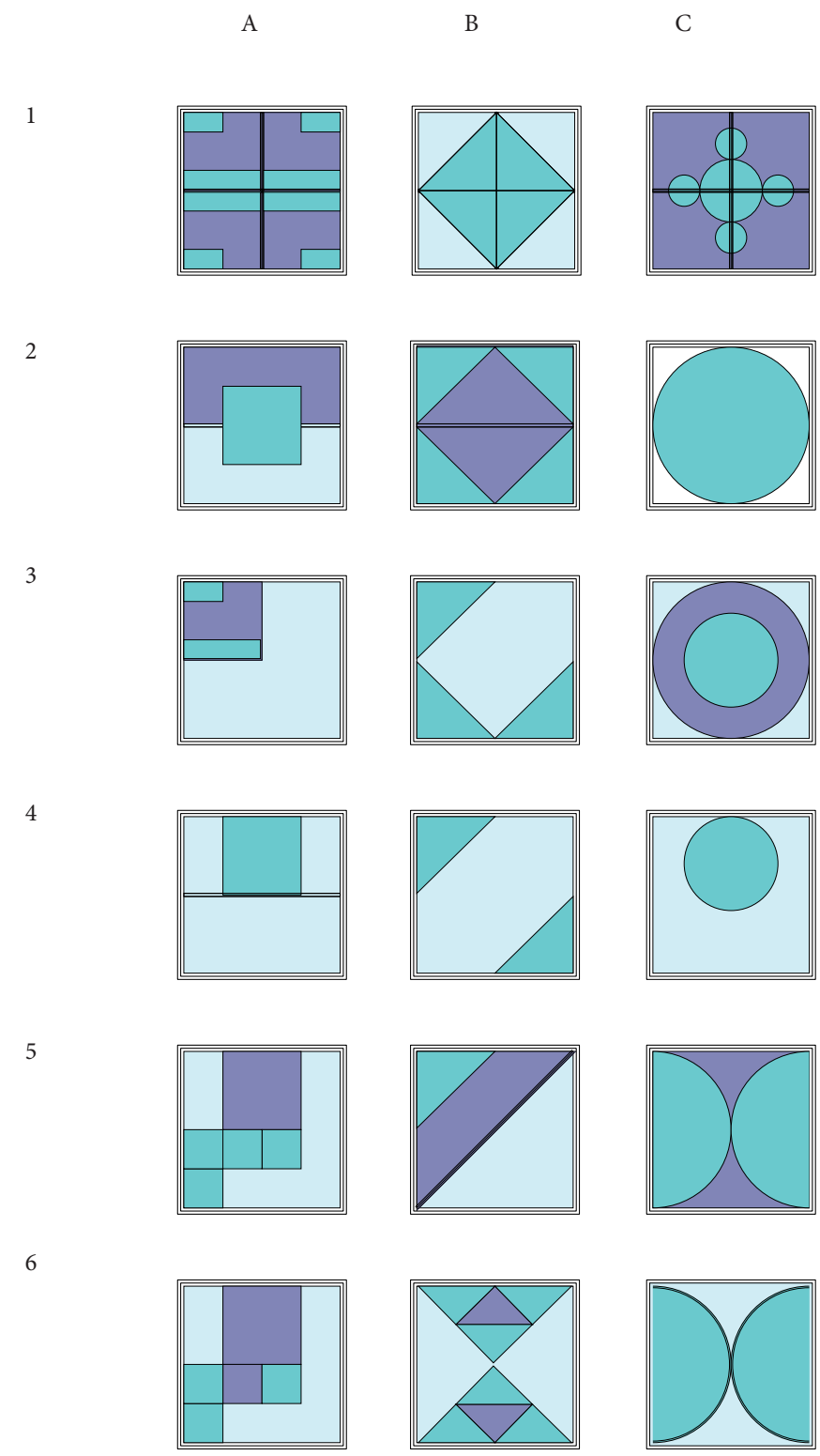


1 OPEN UNIT AND OPEN PUBLIC SPACE 4 UNITS WITH THEIR OWN SPACE IN THE MIDDLE



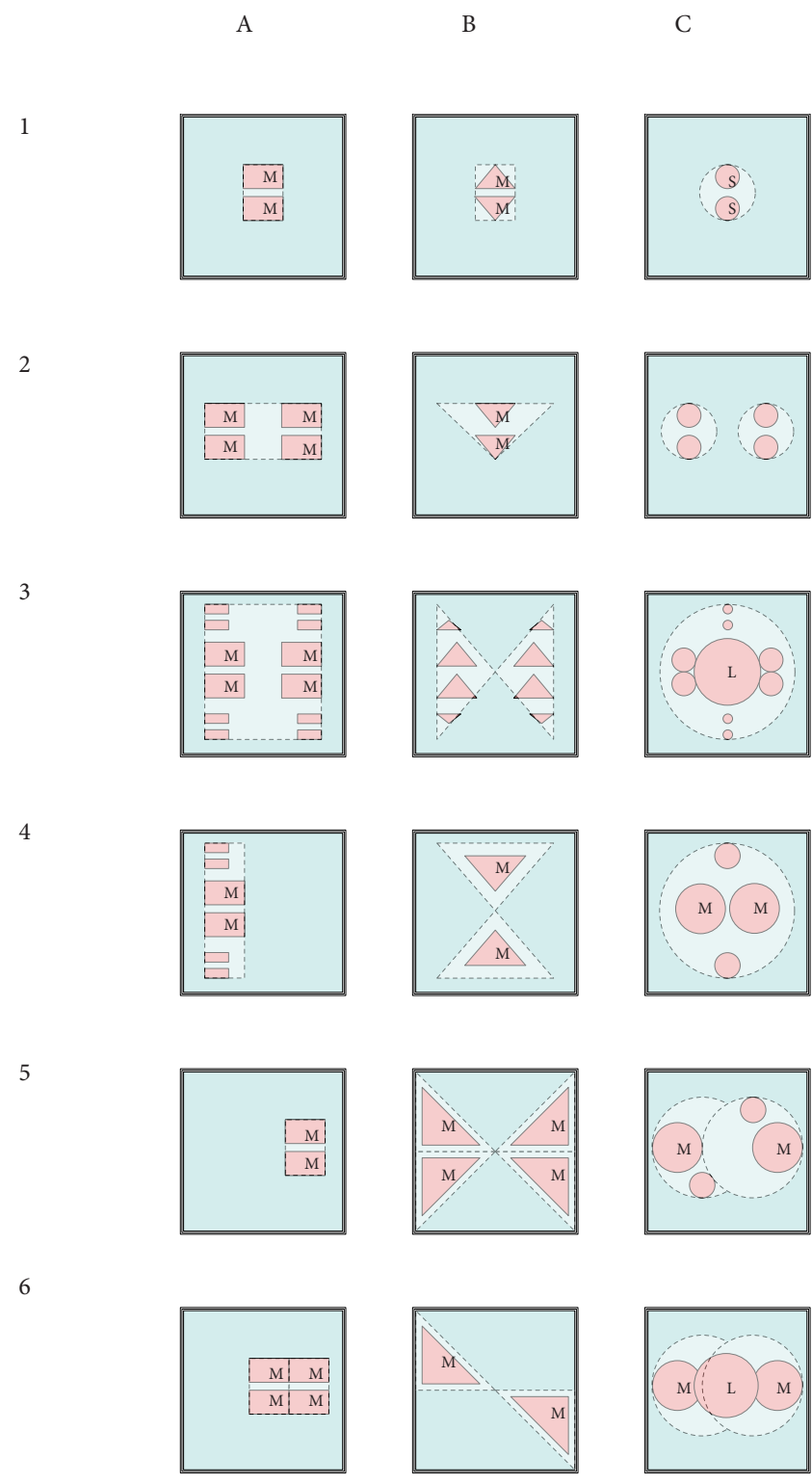
Imagine Patterns: Generating Spatial Language from Function

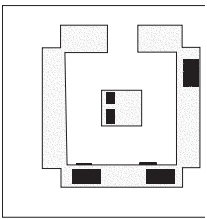
Fresh Fish counters area



Generating Spatial Language from Function

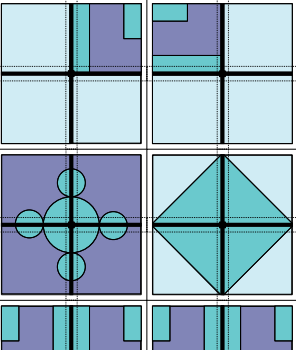
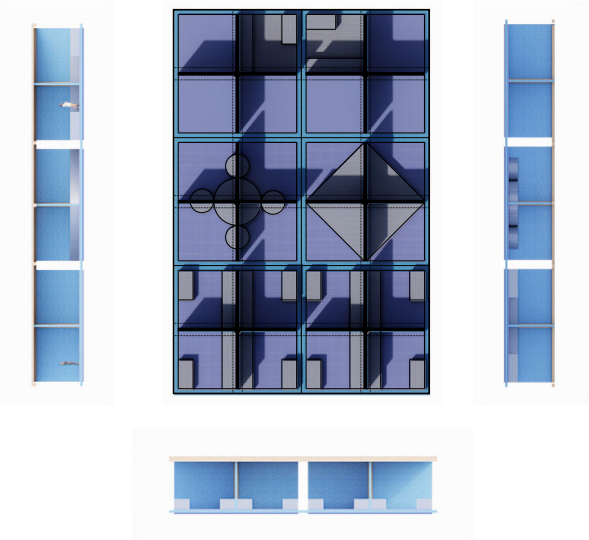
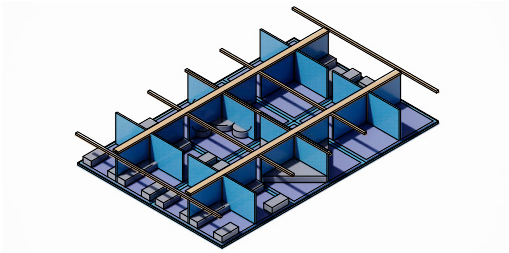
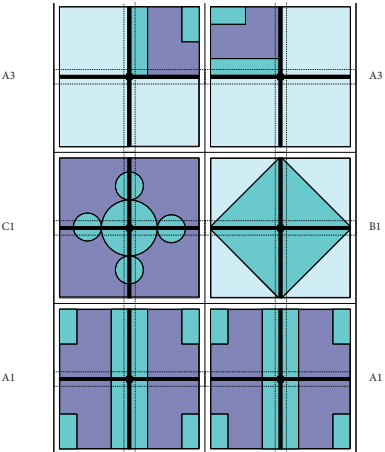
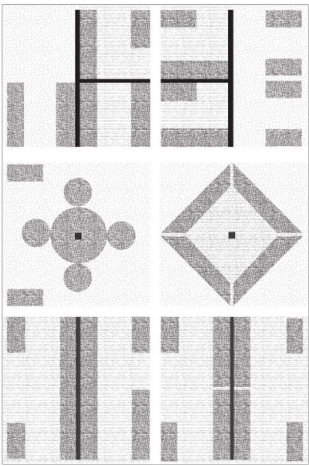
Aquaponic systems area





Fresh Fish counters area

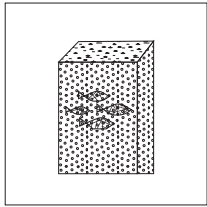
By starting from movement patterns, structural relationships and diagrammatic analysis, an architecture is shaped that not only responds to the needs of the site but also creates new spatial experiences.



D0 : Fresh Fish counters area

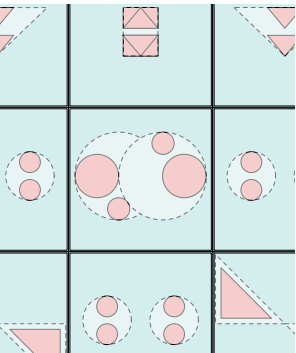
This area forms the heart of the public-facing experience within the fish market: a place of transaction, visibility and interaction. The design builds upon modular spatial patterns and a grid system derived from earlier exploration phases, creating stalls and passages that support both circulation and pause.

The central round counter acts as a spatial anchor a “strong center” in Alexander’s terms inviting customers while allowing fishmongers to move fluidly around it. Surrounding the counter, tiled surfaces in deep marine tones create a cleanable, durable and highly legible environment. The circular geometry softens the rigor of the underlying grid and reflects the rotational movement of service and display.



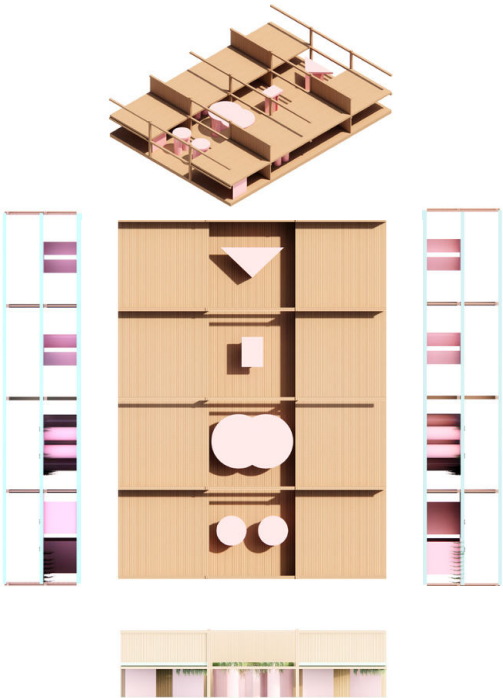
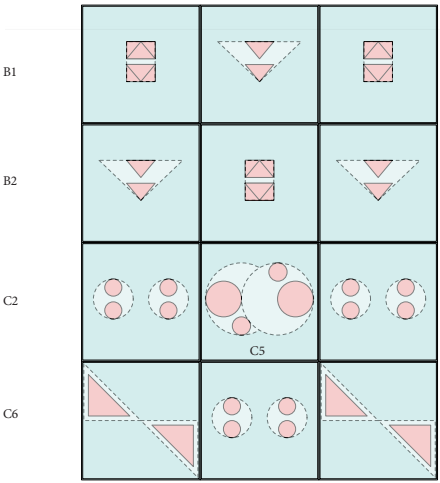
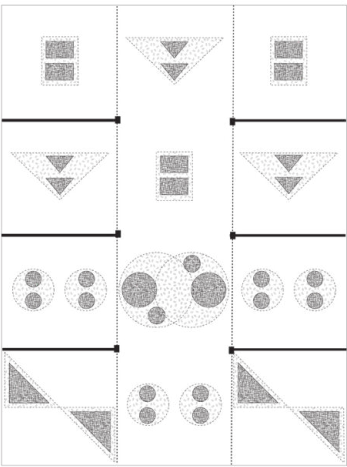
Hidden Secret area Aquaponic systems area

By starting from movement patterns, structural relationships and diagrammatic analysis, an architecture is shaped that not only responds to the needs of the site but also creates new spatial experiences.



D00 . Aquaponic systems area

The fish help the plants grow, and the plants help the fish it's a mutual system of care and balance. This hidden space reveals an alternative form of food production through aquaponics, offering visitors not only an experience but also inspiration to grow edible plants and perhaps even implement a small aquaponic system at home.



Exploration 3

Key own pattern

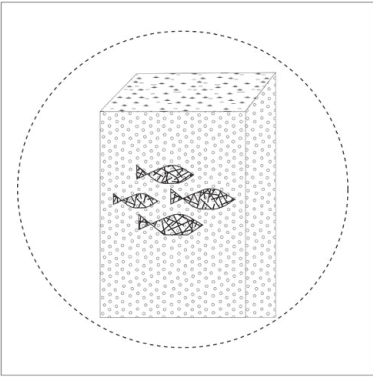
- D1. PLACE TO MEET THE SMELL
- D2. AREA TO SEE THE BACK OF THE HOUSE
- D3. CHILD CATH'S ZONE
- D4. TASTING THRESHOLD
- D5. TIDAL PAUSE
- D6: GUT ROOM
- D7: RHYTHM OF THE SEA
- D8 : SALT TRACE

Christopher Alexander’s A Pattern Language, the goal was not just to apply his patterns rigidly but to let them grow, shift and adapt to the rituals, needs, and context of the Gothenburg fish market. Through this process, new patterns emerged, imbuing the design with vitality.

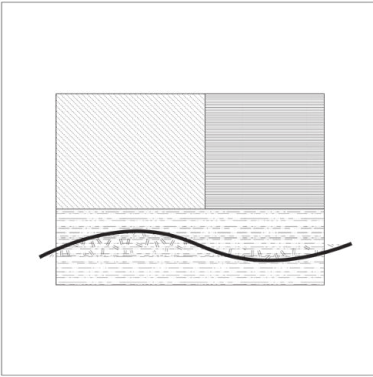
What’s missing in Alexander’s approach is the architect’s own imagination as his patterns often begin with users and their memories, leaving little room for speculative or unexpected interventions. As designers, however, can think beyond mere problem-solving. This exploration expresses patterns through the imagined potential of space what is felt or suggested rather than just functional resolutions.

Some spaces may defy rigid natural flows; imagine a pop-up structure that shouldn’t “belong” yet visibly disrupts, inviting new interactions.

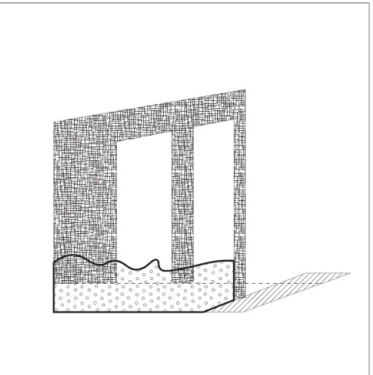
Patterns here were treated as malleable ingredients, not fixed rules. The design responded to the fishermen’s daily rhythms, the choreography of seafood auctions, and the sensory imprint of fresh fish. These elements distilled into a “pattern recipe” a framework for translating values like nature, warmth, openness and sustainability into spatial form. This recipe is not a replica of Alexander’s work but an evolution: a fusion of his philosophy with local traditions, practical systems, and Fiskhamnen’s environmental realities. Some patterns were adapted; others were invented through observation, storytelling, and iterative testing. The outcome is a unique spatial language a hybrid fish market that weaves together food, people, and place. and Design must reveal process and the emotion is structure.



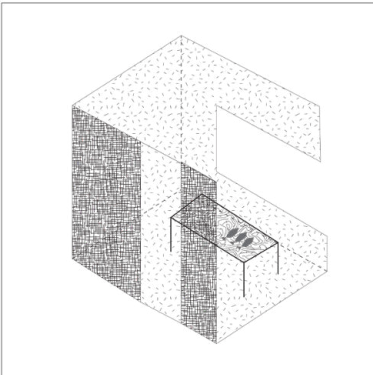
AREA TO SEE THE BACK OF THE HOUSE



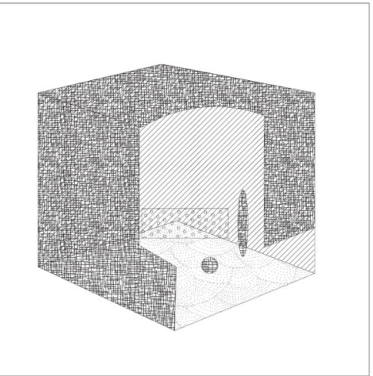
SALT TRACE



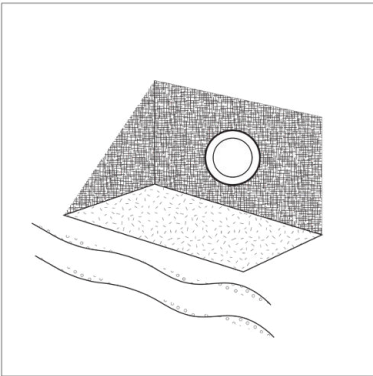
TIDAL PAUSE



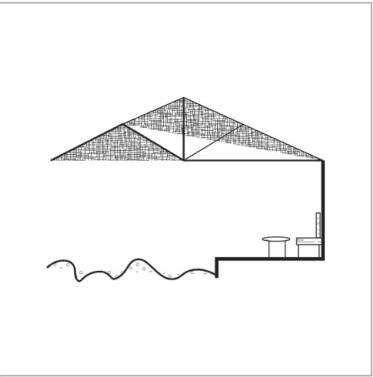
GUT ROOM



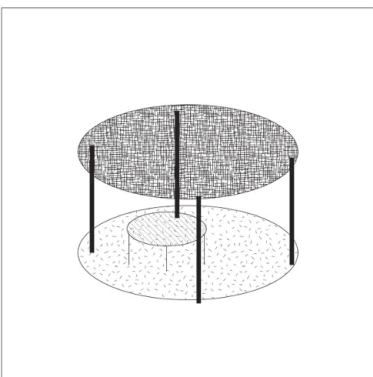
CHILD CATH'S ZONE



RHYTHM OF THE SEA



PLACE TO MEET THE SMELL



TASTING THRESHOLD

D1: Place to Meet the Smell

A narrow corridor opens to the sea breeze. Somewhere inside, the faint scent of brine, lemon, and crushed shell lingers. It's the first sensory handshake of the market. Here, the smell is not scrubbed away. it's held. People pause, breathe, remember a kitchen, a childhood, a shore.

Design implication:

This space could be a transitional threshold semi-enclosed but open to airflow. textured walls and flooring allow smell to pool gently. Visitors are drawn in not by signage but by scent.

D2: Area to See the Back of the House

A quiet rhythm unfolds behind the glass, a man sorts fish on ice, another sharpens a knife, a woman hoses down a counter. This is not performance. It's process. And the visitor watches not as a spectator but as someone being let in on a secret, food is labor and labor is care.

Design implication:

Use framed views, interior windows and careful spatial sequencing to reveal essential back-of-house rituals. Keep it clean , keep it honest and keep it framed with respect.

D3: Child Catch's Zone

Tiny fingers press against the glass of a shallow tank. A crab scuttles sideways. A father lifts his daughter to peek into a periscope pointed at the auction floor. There are floors to trace with feet, textures to rub with hands. Wonder swims everywhere.

Design implication:

Design for scale. Low viewing windows, marine mosaics in the floor, interactive zones for drawing or playing. This space should invite kids into the ecology of seafood, without needing to tell them it's educational.

D4: Tasting Threshold

A wooden counter wraps around a sunlit column. Steam rises from a ladle. A vendor leans over and offers a toothpick-sized sample of pickled herring. It's not just about flavor. it's about looking someone in the eye and saying: taste this ' I made it.'

Design implication:

Tasting counters can live at the junction of flows between market paths and near sitting walls, or next to info desks. They need water access, waste disposal, and informal seating. Keep them flexible and social.

D5: Tidal Pause

A low hall dips gently toward the harbor. At certain hours, the tide laps close. The air cools. Sounds change. Time slows. This space doesn't resist the sea it acknowledges its rhythm. Between high and low tide, between morning loading and afternoon rest. The space invites stillness.

Design implication:

Design a sunken or threshold space that holds water air or silence a "pause" in movement. Use soft seating, low steps, water-worn stone or soundscape devices. Align it with the temporal logic of the tide: shifting light, dampness and echo.

D6: Gut Room

This is the heart of the mess. The part many would rather not see. And yet it is where the fish is honored, cleaned, prepared. Guts hit the bin. Water sprays. Hands move with skill. There's rhythm here. Not performance.

Design implication: Design a contained, visible space for gutting and sorting with durable materials, good drainage and ventilation. Allow the public to observe from a distance or through a framed wall.

D7: Rhythm of the Sea

In the pre-dawn stillness, the harbor comes alive as fishermen prepare their vessels, the hum of engines breaking the silence. Navigating the open waters, they rely on experience and intuition to locate their catch. The sea offers its bounty but not without challenge, the work is arduous and the conditions unpredictable. As the sun rises, they return, decks laden with the day's harvest, ready to engage in the time-honored rituals of unloading, sorting and selling. This daily cycle of labor and reward is the heartbeat of the fishing community.

Design Implication:

To honor this rhythm, the market's architecture should reflect the temporal flow of a fisherman's day.

Spaces should accommodate early morning activity with accessible unloading zones and efficient pathways to processing areas.The space can be designed to engage visitors later in the day, offering educational exhibits or tasting areas that showcase the journey from sea to table.

D8: Salt Trace

A fine line of white glistens on the concrete floor the memory of brine, a mark left behind after the ice melts. This trace is not cleaned away. It is left as a soft reminder of what passed through: a crate of mackerel, a dripping net, a morning's work. Salt becomes map. Floor becomes memory.

Design implication:

Inscribe the ground plane with textures or shallow channels that capture water and salt. Use floor scoring, mosaic inlays, or etched patterns to suggest the natural residue of seafood movement. Visitors walk alongside these traces following the path from sea to stall.

Exploration 4

Vertical Thinking From Pattern to Building

This phase marked the shift from spatial language to architectural form. After identifying, testing and combining patterns, the challenge was to translate these conceptual frameworks into structural and spatial reality. This was not just about drawing plans; it was about preserving the life and logic of the patterns as they became walls, floors, rooms, thresholds and atmospheres.

Here, the grid became the canvas a deep structural logic that allowed for flexibility without losing coherence. Each pattern had to find its physical expression: a counter became a “strong center,” a window became a “frame for transparency,” and circulation lines became soft edges that gently guide rather than dictate.

This process required both compression and expansion, moving between intimate and larger programmatic zones. The result was an architectural framework that honors ritual, sequence and spatial rhythm.

Key pattern from Christopher

- 106. POSITIVE OUTDOOR SPACE
- 165. OPENING TO THE STREET
- 134. ZEN VIEW (GLIMPSES TOWARD WATER)
- 180. WINDOW PLACE
- 191 THE SHAPE OF INDOOR SPACE
- 205. STRUCTURE FOLLOW SOCIAL SPACE
- 209. ROOF LAYOUT
- 229. DUCT SPACE
- 241. CHAIR SPOTS

Key own pattern

- D1. PLACE TO MEET THE SMELL
- D2. AREA TO SEE THE BACK OF THE HOUSE
- D3. CHILD CATH’S ZONE
- D4. TASTING THRESHOLD
- D5. TIDAL PAUSE
- D6: GUT ROOM
- D7: RHYTHM OF THE SEA
- D8 : SALT TRACE

Key design statragy

- 1. Uses plain language
- 2. Focuses on practical improvements
- 3. Dont want people to rush out.
- 4. Some additional architectural ritual elements to create a new experince and knowleged
- 5. Avoids over-designing while still suggesting meaningful changes
- 6. Creating food experince and knowlede through space.



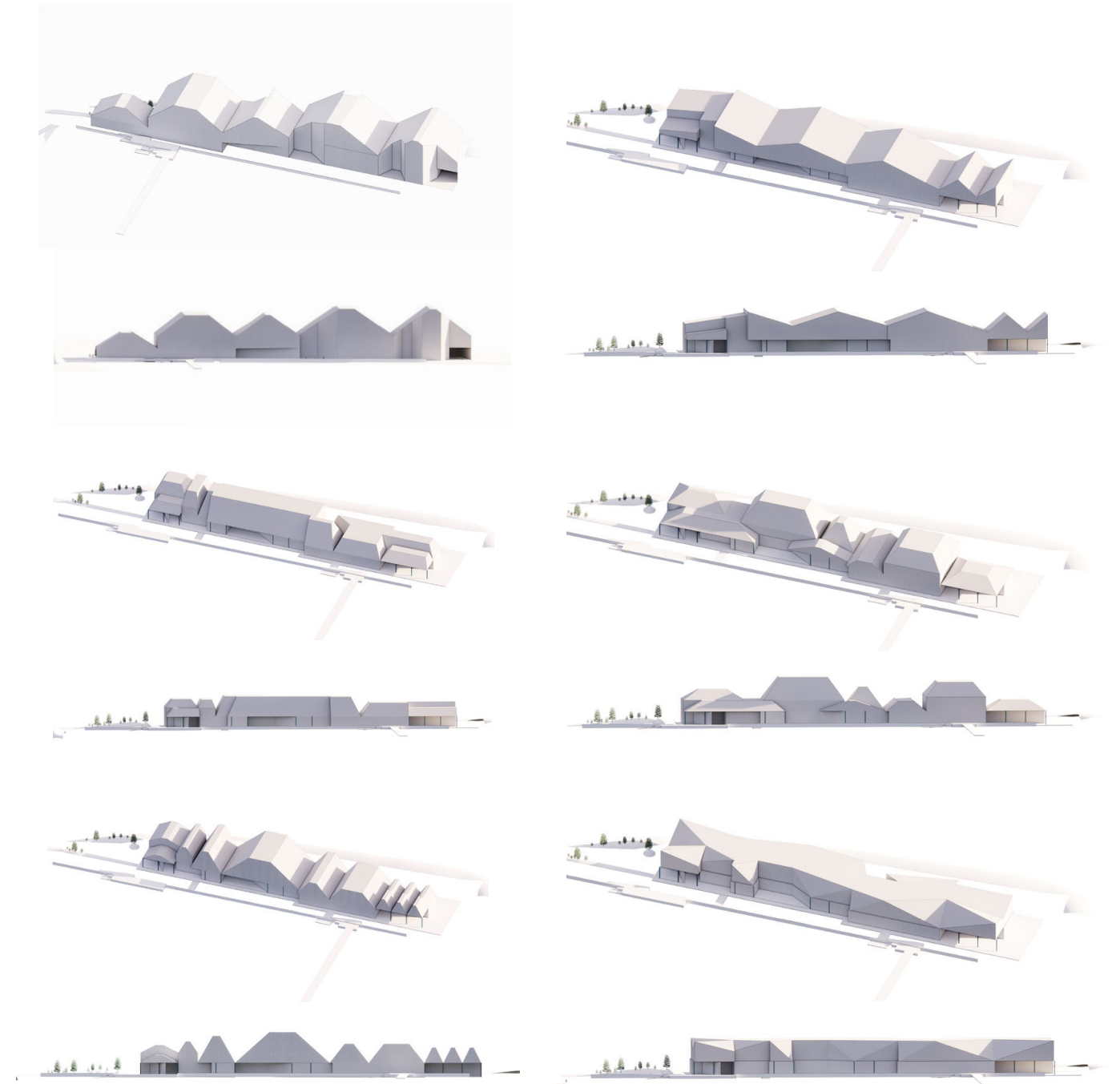
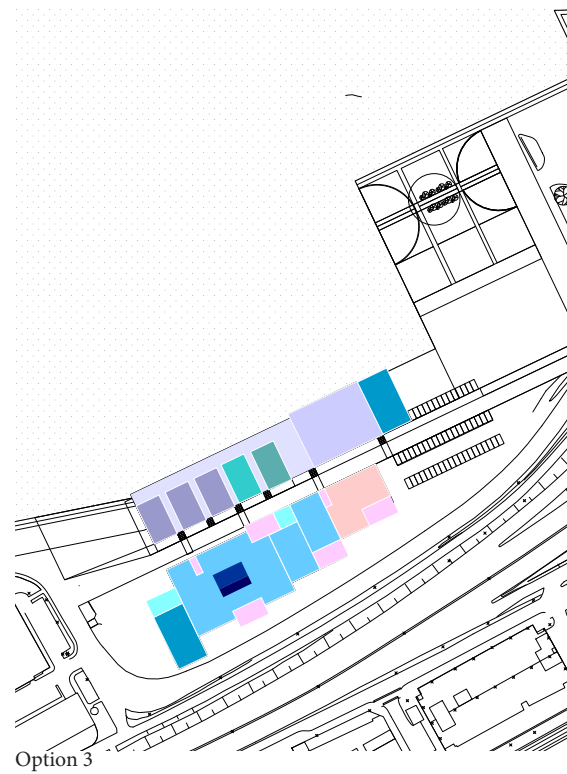
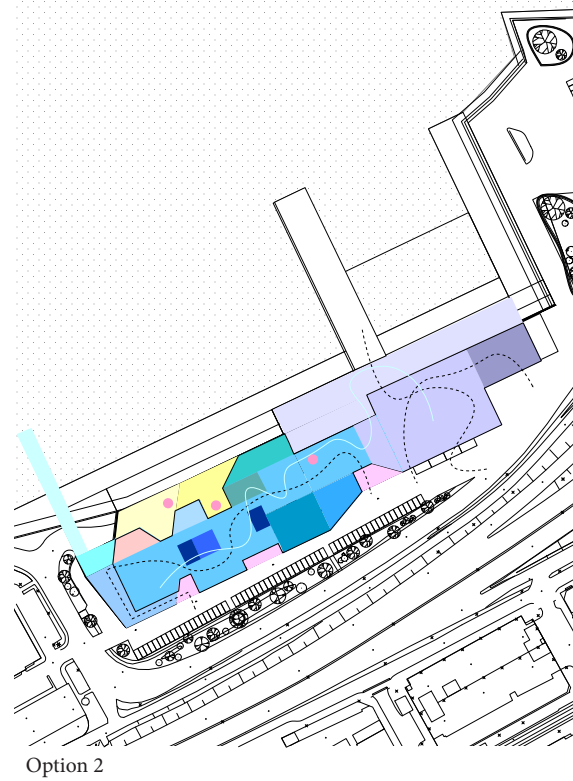
Fig 7.

Image generated using OpenAI based on the author’s architectural rendering. The prompt requested ‘The chaos, movement and atmosphere of daily fish market life.’



Fig 8.

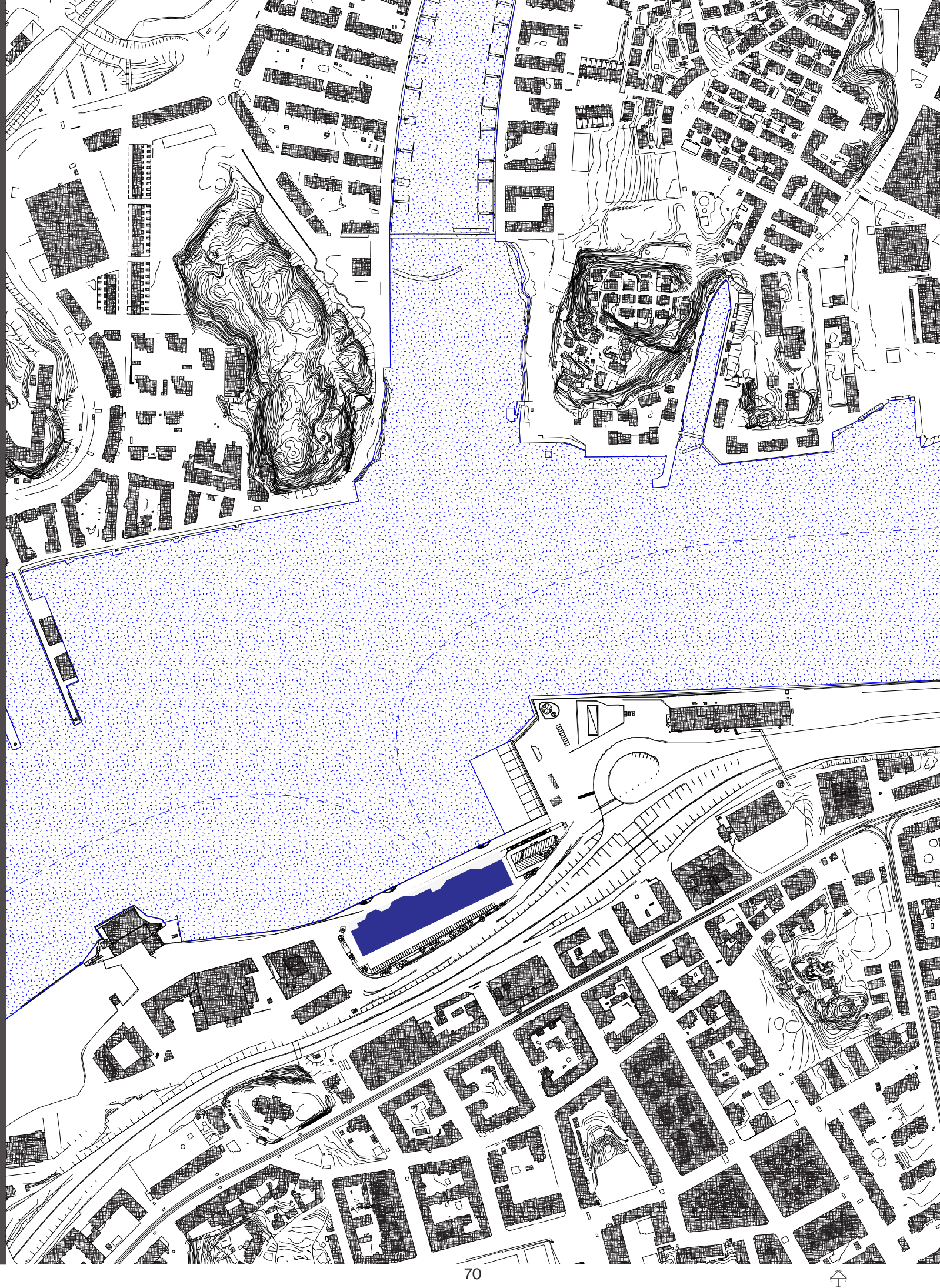
Image generated using OpenAI based on the author’s architectural rendering. The prompt requested ‘the, movement and atmosphere of daily fish market life.’



VERTICAL THINKING 209. ROOF LAYOUT

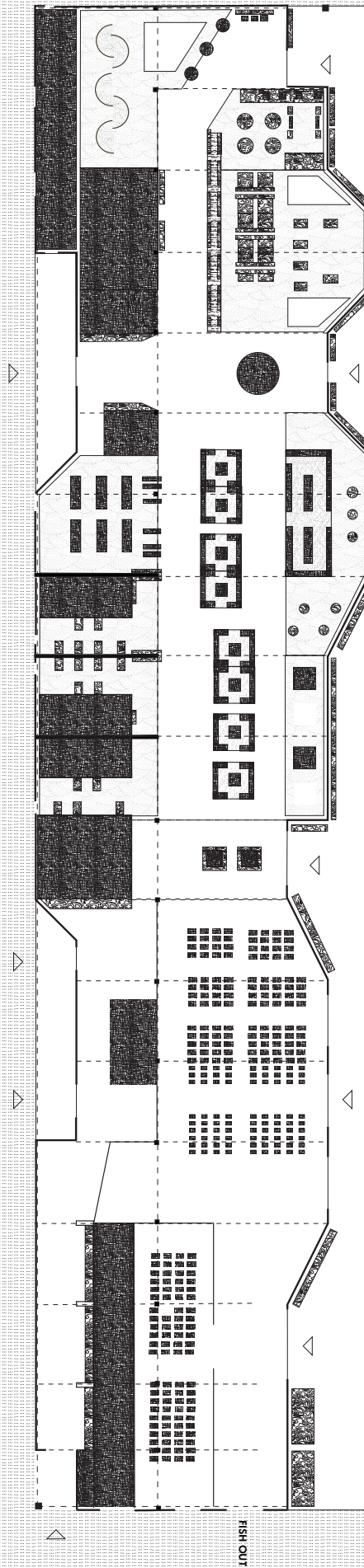
The design of the volume, tested through roof layout studies, becomes a key expression of pattern. It's not just a formal gesture but it carries the subtle imprint of how space unfolds, how one room links to another and how the whole responds to context.

Whether it echoes the memory of the old structure or reaches toward something new, the roof holds narrative weight. Its design becomes a quiet but powerful decision. Each option draws from the same underlying pattern yet each tells a different story. Even within shared logic, the roof can shift and reflect the architecture in its own way.



FISH MARKET

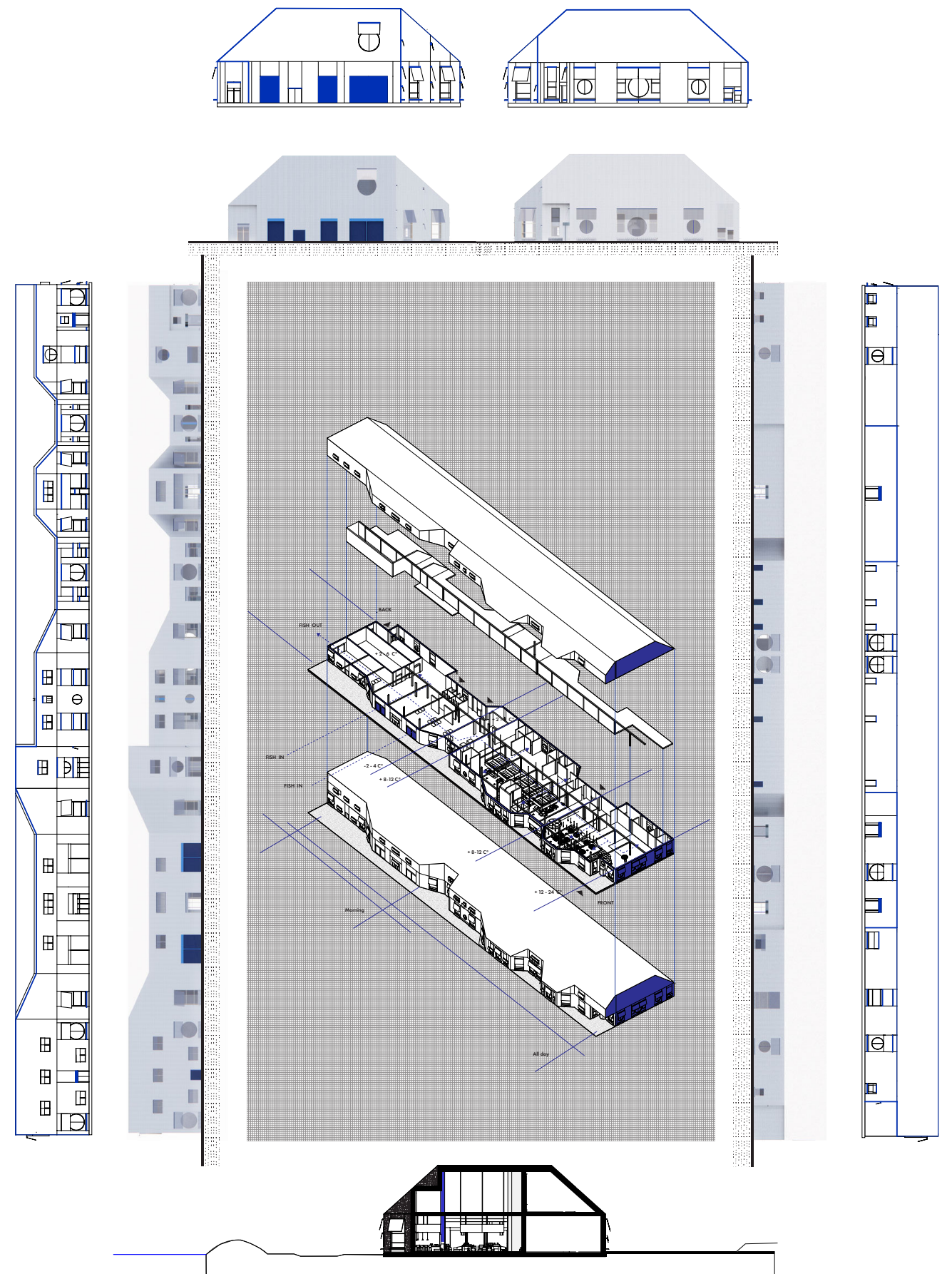
7 DESIGN PROPOSAL

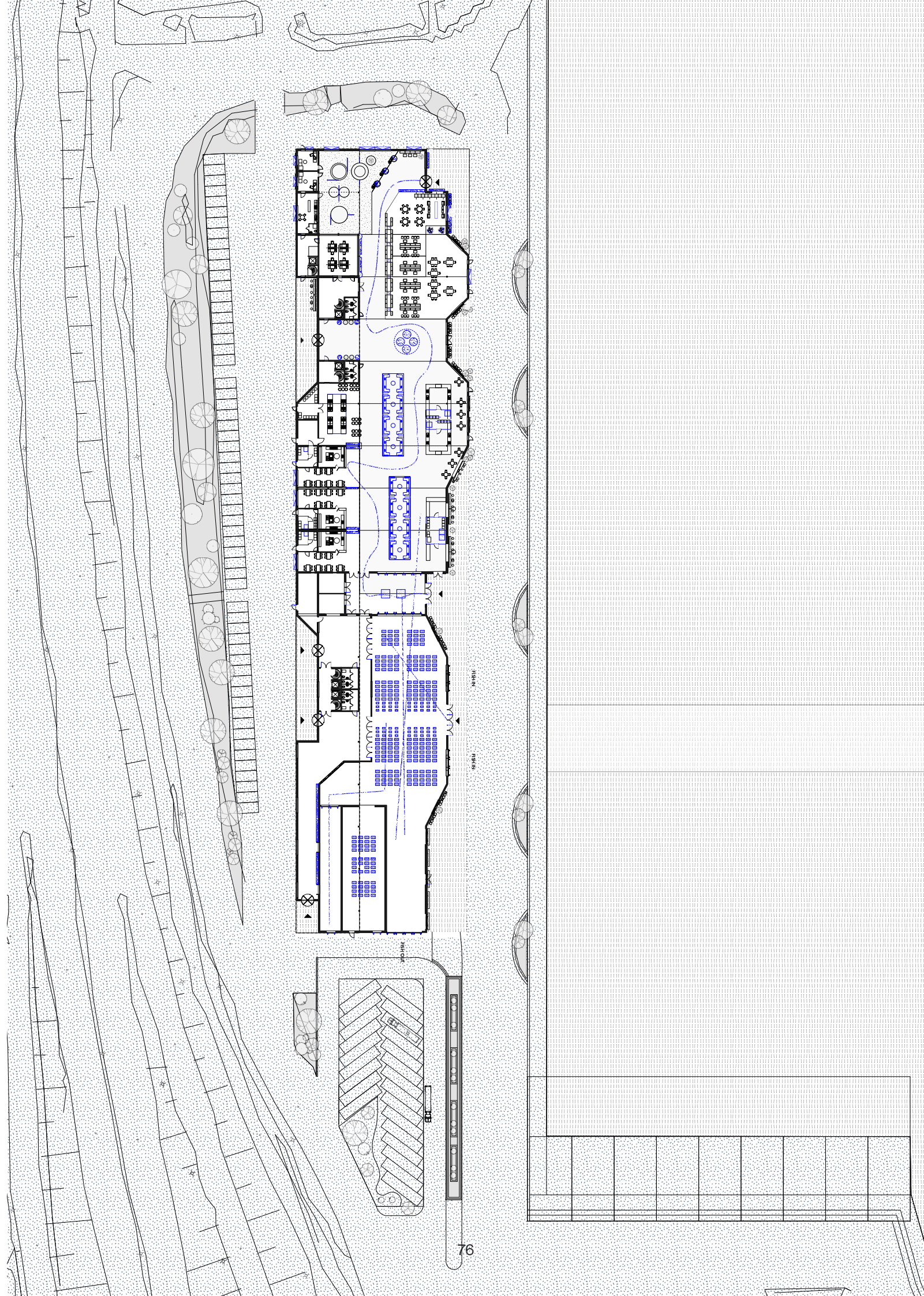
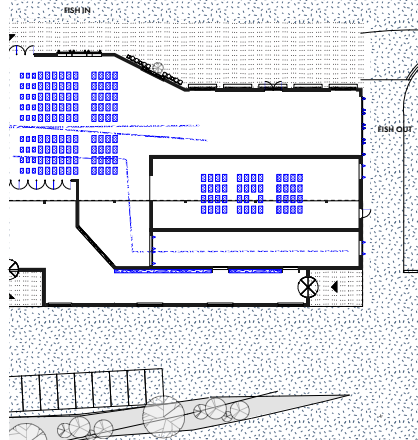
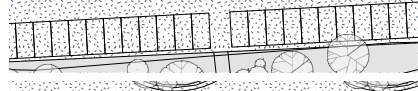
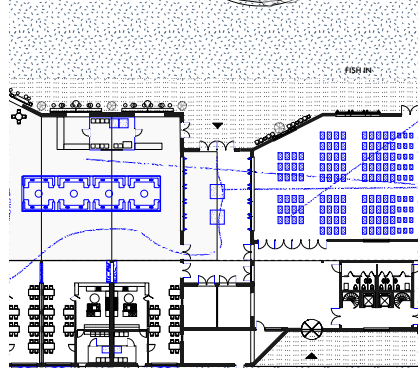
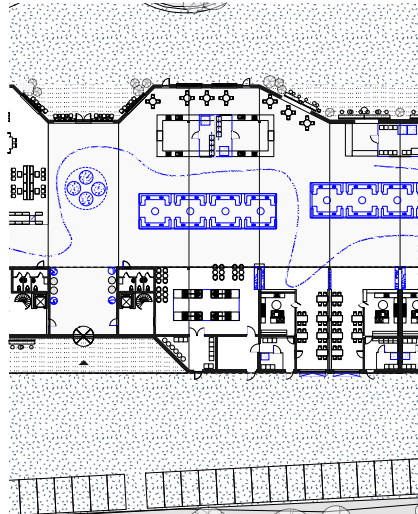
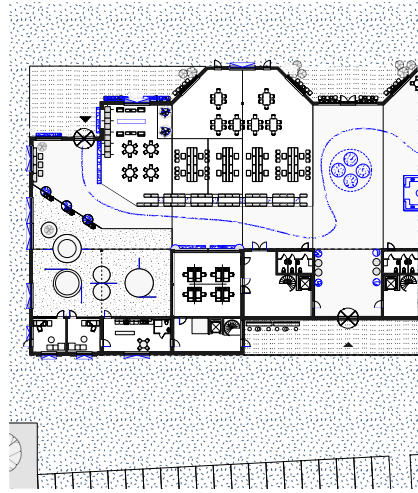
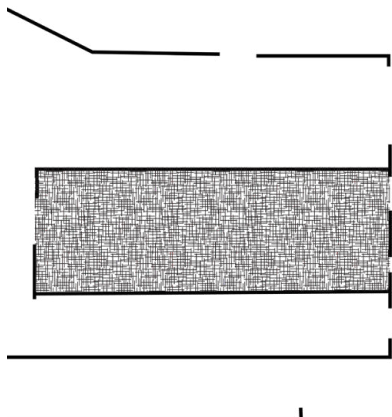
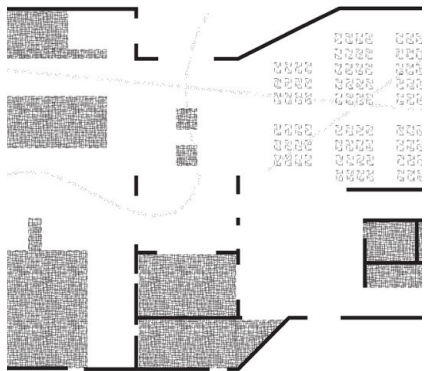
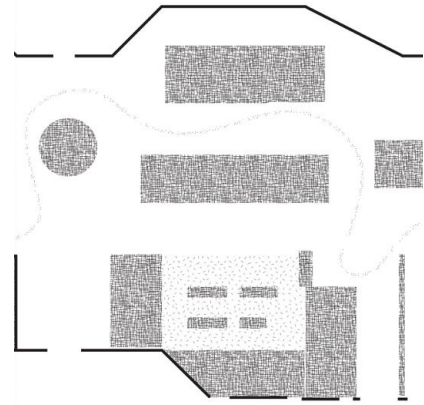
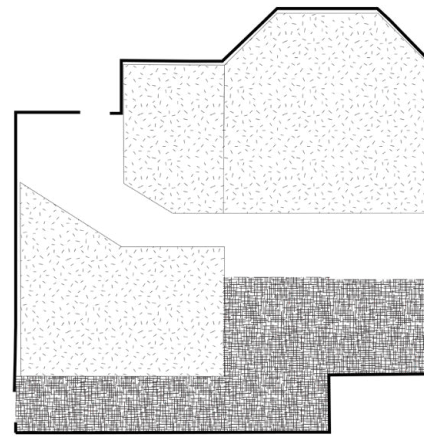


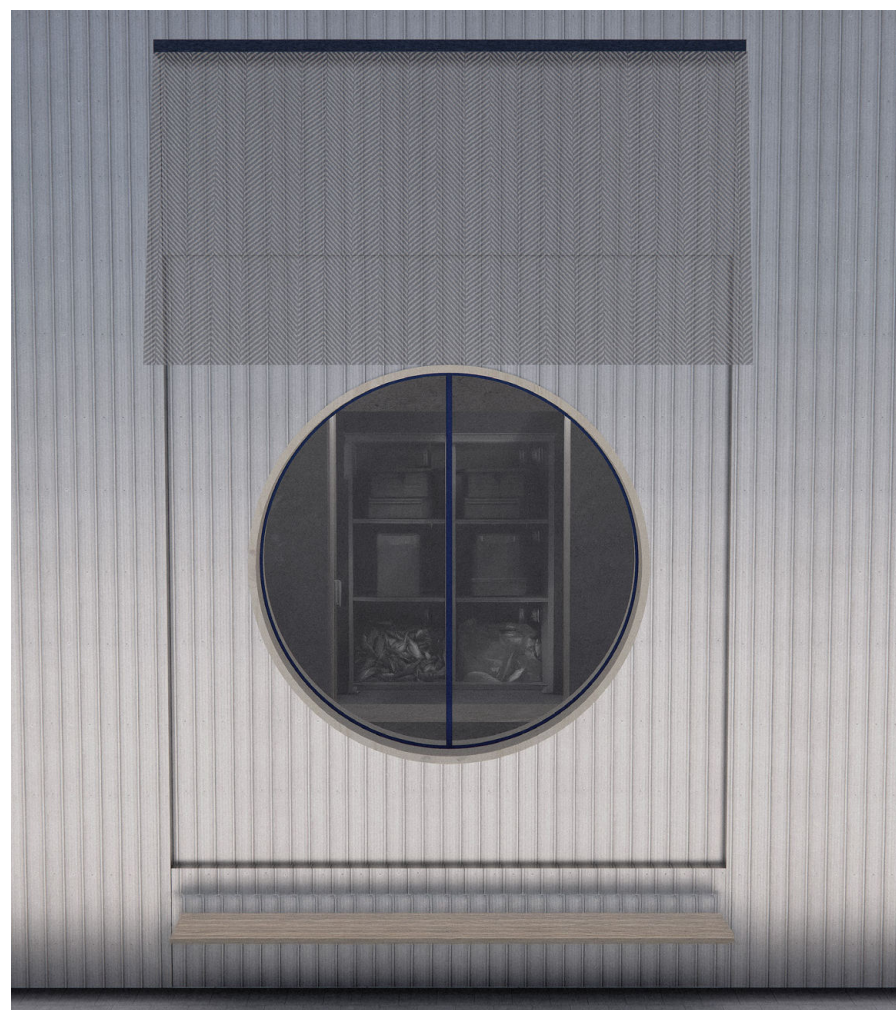
FISH IN FISH IN

FISH OUT











8 CONCLUSION/ DISCUSSION

This thesis set out to explore how architecture through a pattern-based and emotionally grounded approach can turn a fish market into a space of connection, openness, and civic meaning. The core question was: How can architecture help people reconnect with food, place, and each other especially in a time when those relationships have been weakened by industrial systems and invisible infrastructures? Instead of hiding fish handling, auctioning, and learning behind closed doors, this design brings them into public view.

Working with pattern language brought both benefits and challenges. Patterns gave the design rhythm and structure but without real user input, it was sometimes hard to know which patterns truly fit. That uncertainty opened the door for personal interpretation and creative risk. Some patterns were stretched or broken but those disruptions led to new ideas that emerged naturally from the site.

In this project, patterns acted like an added dimension of design different from functional programming. Patterns don't define what a space does (like selling or storing); instead, they shape how those activities feel. At times, this layering caused tension between abstract spatial ideas and practical needs. Without the pattern-based method, this thesis might have resulted in a more traditional, efficiency-focused proposal driven by commerce and conventional planning. But by embracing pattern language, the project aimed to go deeper combining function with atmosphere. This made the process slower and more complex but ultimately helped create spaces that feel intuitive and meaningful.

The final proposal is intentionally open-ended. It does not try to solve every technical detail or policy issue. Instead, it invites further development and discussion balancing tradition and innovation.

One unresolved tension is the absence of the older generation of wholesalers who worked in the original sheds. Because of unstable ground near the waterfront, the market had to be relocated and those structures removed. While this was a necessary choice, it also meant a cultural loss. The new market prioritizes transparency and public access, while the quiet, internal rhythms of the old wholesale model are no longer part of the space. Rather than erase that loss, the project asks: What do we lose when we make food systems public? What rituals are displaced in the name of civic architecture?

The new market cannot replace the old. It can only respond to its traces and propose a new kind of relationship between food, memory and shared space.

Another challenge was managing the different temperature needs of a working fish market. Cold storage must stay near 0–4°C, vendor areas must be cool but accessible and public spaces like cafés should be warm. But architecture can't always separate these zones strictly. The design addresses this by using thermal transitions and visual openness letting people see the process without being fully exposed to the cold. It reflects the broader challenge of designing spaces that support both production and participation. designing shared spaces that support both production and participation.

In the end, this thesis shows that with care, narrative and thoughtful design, markets can be more than commercial spaces.

They can be civic platforms places that help us reconnect with food systems and with the communities and cultures that sustain them.

IMAGES

Fig . 1

AI-generated illustration. OpenAI, & Author. (2025), ChatGPT [AI-generated image]. <https://chat.openai.com/>

Fig. 2

AI-generated illustration. OpenAI, & Author. (2025). Ancient fish market scene [AI-generated image]. ChatGPT. <https://chat.openai.com/>

Fig .3

AI-generated illustration. Adapted from OpenAI and author (2025). Ice storage as spatial infrastructure [AI-generated image]. ChatGPT. <https://chat.openai.com/>

Fig. 4

Göteborg Stad, & Ramboll AB. (2014). Översvämningsskydd längs Göta älv: Hydromodell Göteborg (Unr 1320001782). Göteborg Stad.

Fig. 5

Center for Environmental Structure. (n.d.). PREVI experimental housing project, Lima: Elevation drawing. Pattern Language Projects. <https://www.patternlanguage.com/projects/peru.html>

Fig .6

Center for Environmental Structure. (n.d.). Fresno Farmer's Market: Elevation drawing. Pattern Language Projects. <https://www.patternlanguage.com/projects/fresno.html>

Fig. 7

OpenAI, & Author. (2025). Perspective of civic edge and public promenade based on architectural rendering [AI-generated image]. ChatGPT. <https://chat.openai.com/>

Fig . 8

OpenAI, & Author. (2025). Interior fish market perspective based on architectural rendering [AI-generated image]. ChatGPT. <https://chat.openai.com/>

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