



# DAID FORUM FOR RESEARCH AND DESIGN SOLUTIONS

2024/25,

VOL. II, STUDIO IV,

Design of Museums, Libraries  
and Exhibition Halls,  
Chapter One: Case Studies

Editor in Chief: Prof. Arch, Paul Mwangi Maringa  
(PHD), CBS, FAAK, MKIP





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DEPARTMENT OF ARCHITECTURE AND  
INTERIOR DESIGN (DAID)

SCHOOL OF ENGINEERING AND  
ARCHITECTURE (SEA)

KENYATTA UNIVERSITY (KU)





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Halls



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**Editor-in-Chief:**

**Prof. Arch. Paul Mwangi Maringa (PhD), CBS, FAAK, MKIP**

Department of Architecture and Interior Design (DAID),  
School of Engineering and Architecture (SEA), Kenyatta University (KU),  
Nairobi, Kenya.



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SCHOOL OF ENGINEERING AND ARCHITECTURE (SEA),  
KENYATTA UNIVERSITY (KU)



# DEPARTMENT OF ARCHITECTURE AND INTERIOR DESIGN (DAID) FORUM FOR RESEARCH AND DESIGN SOLUTIONS

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# FOREWORD



It is with great pride and joy that I present this book showcasing the architectural work of 4<sup>th</sup> year second semester Design Studio students work. This collection reflects not only the quality of their final designs but also the deep commitment, creativity, and growth each student has demonstrated throughout the semester.

This semester's focus on museum complexes, public libraries, and exhibition halls opened-up rich discussions on culture, memory, identity, and public space. It was a pleasure to journey alongside the students as we explored these essential typologies, unpacking their roles in society, their spatial demands, and their potential to inspire and connect communities.

I've been particularly impressed by the ability of the students to translate critical thinking into architectural form, and how their designs responded to context with sensitivity and ambition. Their dedication, willingness to learn, and capacity to push creative boundaries have made this studio a truly rewarding experience.

Thanks, my dear students for your hard work, resilience, and passion. I hope this book stands as a proud milestone in your academic path and a source of continued inspiration

Dr. Rehab Hamdy Elnaggar, Studio Master, Department of Architecture and Interior Design Kenyatta University, Nairobi, Kenya.

September 2025



## EDITORIAL NOTE

**C**uriosity, inquiry, and the spark of discovery form the lifeblood of creative learning within the hallowed halls of academia. Here, the unlocking of imagination in architectural minds calls forth the bold and the supple, those who dare to wander the wilds of possibility while weaving their dreams within the measured loom of structured thought. The horizon of potential is as boundless as the designers themselves, each vision shaped by the unique tapestry of their context and illuminated by the wisdom of distant and local precedents, offering treasures both practical and profound.

We are delighted to unveil reflections that dance between freedom and order, visions kindled by the fire of restless minds. These ideas, born of rigorous principles and carefully woven methodologies, are united by a shared devotion: to conjure spaces that are thoughtful, creative, and alive; real-world sanctuaries sculpted for the stories of life.

Through these works, we offer our distilled approach: a path toward solutions that are not merely innovative, but deeply attuned to context, rooted in the rich soil of the learning environment. True innovation, we believe, is not a solitary flower; it flourishes in the fertile ground of collaboration, nourished by the ever-shifting realities of each project's place and people.

The learning journey undertaken guides emerging designers through a landscape of knowledge, studying echoes of the past, wandering through sites, and pondering the philosophical bedrock of design. This odyssey crescendos in the design studio, a crucible where vision is forged through iterative rituals of critique, deep analysis, and the alchemy of concept. Each step is a meditation on need, on society, on values, and on the singular character of space; yielding design resolutions that marry the poetry of constructability with the clarity of representation, rendered through a symphony of annotated drawings and models; each a testament to the power of thoughtful creation.

Welcome to this didactic discourse of an empirical, creative architectural design process.

Prof. Arch. Paul Mwangi Maringa (PHD), CBS, FAAK, MKIP,

Adjunct Professor of Architecture and Planning, Department of Architecture and Interior Design (DAID), School of Engineering and Architecture (SEA), Kenyatta University (KU).



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# PREFACE

## PRINCIPAL POLICY ANCHORS:

### Museums and Public Libraries

- I. Sustainable Development Goal (SDG)4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
- II. Africa Agenda 2063 goal 2: Well-educated citizens and skills revolution underpinned by science, technology, and innovation.

### Museum and Exhibition Hall

- III. Sustainable Development Goal (SDG)11: Make cities and human settlements inclusive, safe, resilient and sustainable.
- IV. Africa Agenda 2063 goal 1: A high standard of living, quality of life and well-being for all citizens

### **A-Museums:**

Museums play a vital role in the cultural, educational, and social fabric of cities. They are more than just repositories of art, history, and science; they are dynamic spaces that connect people to their past, enrich their present, and inspire their future. Here are some key reasons why museums are so important in urban settings:



# PREFACE

## **DESIGN OBJECTIVES**

### **1. Cultural Preservation and Education**

Museums serve as guardians of a city's heritage. They preserve artifacts, artworks, and historical documents that reflect the unique stories of a community, region, or nation. By housing these items, museums help ensure that future generations can learn about and appreciate their history and cultural heritage. They are educational hubs where both locals and visitors can deepen their understanding of the world, gaining insights into diverse cultures, traditions, and historical events. This educational role is particularly important in cities, where people from various backgrounds come together.

### **2. Community Identity and Pride**

Museums often act as symbols of a city's identity. Whether showcasing local art, historical landmarks, or the achievements of its people, museums reflect the collective spirit of a community. For residents, these institutions foster a sense of pride and connection to their city's past and present. Museums celebrate local achievements, commemorate significant events, and give communities a place to tell their own stories. This sense of ownership and pride can strengthen social cohesion and create a shared understanding of what makes a city unique.

### **3. Civic Engagement and Social Interaction**

Museums are spaces where people can come together, exchange ideas, and engage in meaningful conversations. They are inclusive environments that encourage dialogue, reflection, and critical thinking. Exhibitions often address complex societal issues, which can spark conversations about culture, history, and identity. In this way, museums contribute to the ongoing civic discourse within a city, allowing individuals to explore topics that shape their community and the world at large.

### **4. Tourism and Economic Impact**

Museums are significant drivers of tourism, attracting visitors both domestically and internationally. Iconic museums, such as the Louvre in Paris or the British Museum in London, have become major cultural landmarks that boost the economy of their cities. The influx of tourists visiting museums supports local businesses, including restaurants, hotels, and transport services. Additionally, museum events and exhibitions often generate revenue and provide jobs, contributing to the economic vitality of the urban area.



# PREFACE

## **5. Inspiration and Creativity**

Museums inspire creativity by showcasing works of art, science, and innovation. For artists, students, and creatives, museums are spaces of inspiration where they can encounter new ideas and reflect on the work of others. Many museums also host workshops, lectures, and performances that nurture creativity in the local community. In cities, where innovation and artistic expression are often at the forefront of urban culture, museums provide a platform for new ideas to flourish.

## **6. Accessibility and Inclusivity**

In many cities, museums are open to all, offering a level of accessibility that allows people from different backgrounds, economic statuses, and abilities to experience cultural enrichment. Many museums offer free or reduced-price entry, making them accessible to a wide range of people. Additionally, many modern museums are increasingly committed to inclusivity, offering accessible exhibits for those with physical or cognitive disabilities and creating programs that serve diverse communities.

## **7. Preserving Natural History and Science**

While art and history museums are essential, museums dedicated to natural history and science play an equally critical role. These institutions help explain the natural world, from the origins of life on Earth to the latest scientific discoveries. They educate the public about environmental issues, biodiversity, and the importance of sustainability—critical concerns in today’s world. By providing interactive exhibits and hands-on experiences, science museums engage citizens of all ages, fostering a deeper understanding of science and nature.

## **8. Promoting Lifelong Learning**

Museums encourage lifelong learning. They offer visitors the opportunity to explore new ideas, revisit old interests, and challenge their thinking. For children, museums provide hands-on learning experiences that complement traditional education. For adults, they offer a space for continued exploration and intellectual growth. Many museums also offer lectures, courses, and other educational programs that support personal development and lifelong curiosity.



# PREFACE

## A.9 Fostering Global Understanding

In an increasingly globalized world, museums act as bridges between cultures. They allow people to engage with art, artifacts, and ideas from around the world, fostering cross-cultural understanding and empathy. For cities that are diverse or have international ties, museums can be a space for dialogue, helping to build connections between different cultural groups and promoting global awareness.

## CONCLUSION:

In summary, museums are essential to the cultural, social, and economic life of cities. They preserve and share the stories of the past, offer educational opportunities, inspire creativity, and foster a sense of community. Museums also have an important role in promoting inclusivity, engaging with global issues, and boosting the local economy. In a city's bustling urban environment, museums provide spaces for reflection, learning, and connection—reminding us of the value of history, culture, and art in shaping the future

## **B-Public Library:**

Public modern libraries are invaluable assets to cities, serving as vital community centers that foster learning, promote literacy, and enhance the overall well-being of urban populations. In an era where information is constantly evolving, these libraries are not just places to borrow books—they are dynamic spaces that offer diverse resources, services, and opportunities for personal and collective growth. Below are several key reasons why modern public libraries being essential in cities:



# PREFACE

## **DESIGN OBJECTIVES**

### **1. Access to Knowledge and Information**

At their core, public libraries are gateways to knowledge. They provide free access to books, research materials, digital resources, and databases that might otherwise be inaccessible to many members of the community, particularly those from lower-income backgrounds. In cities, where socioeconomic disparities can be more pronounced, libraries ensure that everyone has an equal opportunity to learn and grow, regardless of their financial situation. Whether it's a student needing textbooks, an adult looking to improve their skills, or a senior citizen interested in reading the latest novels, libraries are the great equalizer, offering resources for all.

### **2. Promoting Literacy and Lifelong Learning**

Modern libraries are crucial in promoting literacy, both for children and adults. They offer programs that support early childhood education, reading programs for all age groups, and adult education classes. In an increasingly knowledge-based economy, the importance of fostering literacy and critical thinking skills cannot be overstated. Libraries provide a supportive environment where individuals can access resources to improve their reading, writing, and analytical abilities. Furthermore, they promote lifelong learning by offering a variety of educational programs, workshops, and lectures, helping people of all ages continue to grow intellectually throughout their lives.

### **3. Community Engagement and Social Interaction**

Libraries are often described as "third places"—spaces that are neither home nor work but where people can come together to engage with their community. In urban environments, where people often lead busy and isolated lives, libraries offer a welcoming, neutral space for social interaction. They host community events, book clubs, discussion groups, and cultural programs that allow individuals to connect, share ideas, and build relationships. These activities create a sense of belonging and cohesion in diverse urban populations, fostering a stronger, more engaged community.



# PREFACE

## **4. Digital Access and Technological Equity**

As technology continues to advance, modern public libraries play a key role in bridging the digital divide. Many city residents may not have access to the internet, computers, or other technological tools at home, but libraries offer free access to these resources. Public libraries provide computer terminals, Wi-Fi, and digital literacy training, helping individuals develop essential technology skills. In a world where digital access is increasingly important for education, job opportunities, and communication, libraries are instrumental in ensuring that no one is left behind in the digital age.

## **5. Cultural Enrichment and Arts**

Modern public libraries are not only places of reading but also cultural hubs that promote the arts and local culture. Many libraries host art exhibits, film screenings, live performances, author talks, and other cultural events that enrich the lives of city dwellers. Libraries also provide access to a wide range of multimedia resources—movies, music, audiobooks, and digital art—offering diverse forms of cultural expression. For cities with diverse populations, libraries can serve as platforms for showcasing the richness of different cultures and fostering mutual respect and understanding.

## **6. Supporting Research and Academic Growth**

Libraries are indispensable resources for academic and professional development. For students, researchers, and professionals, public libraries provide access to a vast range of academic journals, reference materials, and research databases that may not be available elsewhere. They also offer study spaces, quiet areas for focused work, and meeting rooms for group collaborations. In cities with universities, research institutions, and a thriving workforce, libraries become essential partners in academic success and career advancement.

## **7. Providing Resources for Job Seekers and Career Development**

Public libraries increasingly serve as job resource centers, providing services like resume writing assistance, job search support, interview coaching, and access to job boards. Many libraries also host career workshops, provide access to specialized software for professional development, and offer training in high-demand skills such as coding, graphic design, or digital marketing. In cities with competitive job markets, libraries provide critical support to individuals looking to improve their employment prospects, helping them navigate the complexities of the modern job market.



# PREFACE

## **8. A Safe and Inclusive Space**

Libraries are one of the few public spaces that are open to everyone, regardless of background, age, race, or social status. They provide a neutral, non-judgmental environment where people can feel safe and welcomed. In urban areas with diverse populations, libraries act as inclusive spaces that support all community members, including marginalized groups, immigrants, and refugees. They also offer services for individuals with disabilities, creating an accessible environment for all. Libraries can be sanctuaries for those who may not have other places to go, providing a sense of comfort and security.

## **9. Environmental Sustainability and Green Spaces**

Many modern public libraries are designed with sustainability in mind, incorporating green building practices and energy-efficient technologies. Libraries can also serve as centers for promoting environmental awareness, hosting events and educational programs on sustainability, conservation, and climate change. In cities where access to green spaces can be limited, libraries with outdoor areas or green roofs provide much-needed places for relaxation, reflection, and environmental education. These libraries contribute to the overall well-being of the city and its residents, making the urban environment more liveable and sustainable.

## **10. Fostering Civic Engagement and Democracy**

Libraries play a crucial role in promoting civic engagement and supporting democratic values. They offer programs that teach people about their rights and responsibilities as citizens, provide access to legal resources, and host discussions on important social and political issues. In cities where diverse populations may not always have equal access to political information or public services, libraries act as vital hubs for democratic participation, encouraging informed decision-making and active involvement in civic life.

## **Conclusion:**

Public modern libraries in cities are far more than just places to borrow books—they are dynamic, multifaceted community centers that provide essential services and resources to a wide range of people. From promoting literacy and lifelong learning to offering access to technology and supporting job seekers, libraries are crucial to the intellectual, social, and economic development of urban areas. They foster community engagement, cultural enrichment, and inclusivity, while also serving as safe spaces for reflection, creativity, and personal growth. In short, modern public libraries are pillars of urban life, making cities more vibrant, connected, and equitable for all.



# PREFACE

## **C- Exhibition Hall:**

Exhibition halls play a critical role in the cultural, economic, and social life of cities. These spaces are not only venues for showcasing art, innovation, and industry but also serve as catalysts for community engagement, education, and economic development. Whether they host art exhibitions, trade shows, conventions, or cultural festivals, exhibition halls are key components of a city's infrastructure, contributing to its vibrancy, creativity, and global connectivity. Here are several reasons why exhibition halls are so important in urban environments:

### **DESIGN OBJECTIVES**

#### **1. Cultural and Artistic Expression**

Exhibition halls are central to the arts and culture scene in cities. They provide a platform for artists, designers, and creators to showcase their work, whether it be visual art, sculpture, photography, or multimedia installations. By hosting exhibitions, these venues give the public access to new ideas, perspectives, and forms of creative expression. They contribute to the cultural richness of a city, drawing in local, national, and international visitors who are eager to experience new artistic trends and cultural movements. Cities with thriving exhibition halls often become cultural hubs, attracting art collectors, curators, critics, and tourists. These spaces also foster collaborations between artists, curators, and cultural institutions, helping to elevate the city's cultural profile on a global scale. Furthermore, exhibition halls often serve as venues for public art projects, community-based exhibitions, and educational programs that engage diverse audiences and promote cultural dialogue.

#### **2. Economic Impact and Tourism**

Exhibition halls are significant drivers of the local economy. Large-scale exhibitions, conventions, trade shows, and expos often attract thousands of attendees, including professionals, exhibitors, and tourists from around the world. This influx of visitors generates revenue for local businesses, including hotels, restaurants, transportation services, and retail outlets. The economic impact of these events can be substantial, with many cities investing in exhibition halls as long-term infrastructure projects designed to boost their economies. In addition to the immediate economic benefits, exhibition halls can enhance a city's reputation as a destination for business and leisure travel. Events like international trade shows, product launches, and industry conferences can position a city as a global center for specific sectors, whether it be technology, fashion, design, or the arts. Over time, this can lead to increased investment, tourism, and job creation, making exhibition halls an important pillar of a city's economic development strategy.



# PREFACE

### **3. Platform for Innovation and Knowledge Sharing**

Exhibition halls are not only about showcasing art and culture but also serve as venues for sharing knowledge, innovation, and new ideas. Trade shows and conventions are spaces where industries come together to display the latest technologies, products, and services. Whether it's a tech expo, a healthcare conference, or a green energy exhibition, these events foster the exchange of ideas, stimulate creativity, and promote professional networking. They help businesses stay up to date with the latest trends and innovations in their fields, providing valuable opportunities for collaboration, investment, and growth. Moreover, exhibition halls often host educational programs, workshops, and panel discussions that encourage learning and skill development. By bringing together experts, thought leaders, and entrepreneurs, these spaces create an environment conducive to knowledge sharing and the advancement of new solutions to global challenges.

### **4. Community Engagement and Social Interaction**

Exhibition halls serve as community gathering spaces where people from diverse backgrounds and interests can come together. Whether it's a local art exhibition, a cultural festival, or a public event, these venues provide opportunities for social interaction, dialogue, and collective experiences. They foster a sense of community by encouraging people to explore shared interests, celebrate common values, and learn from each other. For cities with diverse populations, exhibition halls can act as platforms for cultural exchange, allowing different communities to share their stories, traditions, and artistic expressions. This promotes greater social inclusion and understanding, while also enriching the city's cultural fabric. In this way, exhibition halls can contribute to social cohesion and help build stronger, more interconnected communities.

### **5. Supporting Local Artists and Creators**

Exhibition halls are vital spaces for the promotion of local artists, creators, and entrepreneurs. These venues provide a stage for emerging talent to showcase their work, gain exposure, and connect with potential buyers, collectors, and collaborators. Many exhibition halls host dedicated spaces for local artists, crafts persons, and designers, helping them reach broader audiences and gain recognition within their fields. By hosting exhibitions that focus on local art, heritage, and craftsmanship, these venues help preserve and celebrate a city's unique cultural identity. They provide opportunities for local artists to engage with global trends while staying rooted in their communities. Additionally, exhibition halls often partner with schools, universities, and cultural organizations to offer mentorship programs, workshops, and educational initiatives that support the growth of the local creative economy.



# PREFACE

## **6. Education and Cultural Literacy**

Exhibition halls are important educational resources, providing opportunities for people of all ages to learn about art, history, science, and culture in an interactive and immersive way. They often feature exhibits that are designed to educate visitors on a wide range of topics, from historical events and social issues to technological advancements and scientific discoveries. These exhibitions make learning engaging and accessible, often incorporating multimedia, interactive displays, and hands-on activities that cater to diverse learning styles. Many exhibition halls also host educational programs for schools, families, and individuals, offering workshops, guided tours, and lectures that deepen visitors' understanding of the subjects on display. For children, in particular, these spaces can spark curiosity, creativity, and critical thinking, helping to cultivate a lifelong love of learning.

## **7. Architectural and Urban Development**

Exhibition halls can also have a significant impact on the physical and architectural landscape of a city. Well-designed exhibition venues often become iconic landmarks, contributing to the city's aesthetic appeal and architectural heritage. They may be housed in innovative, cutting-edge buildings that attract attention and serve as architectural showcases in their own right. In addition, the development of exhibition halls can spur urban regeneration and revitalization. By creating attractive, functional spaces for cultural and business events, cities can revitalize neglected or underutilized areas, attracting investment, improving infrastructure, and enhancing the overall quality of life for residents. Exhibition halls, particularly when integrated into mixed-use developments, can help create vibrant urban districts that combine culture, commerce, and public spaces.

## **8. Fostering Global Connectivity**

Exhibition halls are essential for fostering global connectivity and international collaboration. Many large-scale exhibitions, such as world expos or international trade fairs, bring together countries, industries, and professionals from across the globe. These events provide platforms for showcasing global innovations, discussing international issues, and exploring cross-cultural connections. For cities, hosting international exhibitions and events enhances their global profile and strengthens diplomatic, trade, and cultural ties. It allows local industries to gain exposure on the world stage while attracting foreign investment and partnerships. In this way, exhibition halls contribute to a city's position as a global player, helping to promote international exchange and understanding.



# PREFACE

## CONCLUSION

Exhibition halls are indispensable to the cultural, economic, and social fabric of cities. They are more than just spaces for displaying art and products—they are dynamic, multifaceted venues that contribute to the growth and development of urban areas. By providing platforms for cultural expression, innovation, education, and community engagement, exhibition halls enrich the lives of city residents and visitors alike. They also stimulate economic activity, attract tourism, and promote global connectivity, helping cities thrive in an increasingly interconnected world. Whether hosting a local art exhibition or a major international conference, exhibition halls are vital to the continued vibrancy and progress of cities.

# CHAPTER ONE

## CASE STUDIES

# REFLECTIONS ON THE NEW TAIPEI CITY ART MUSEUM

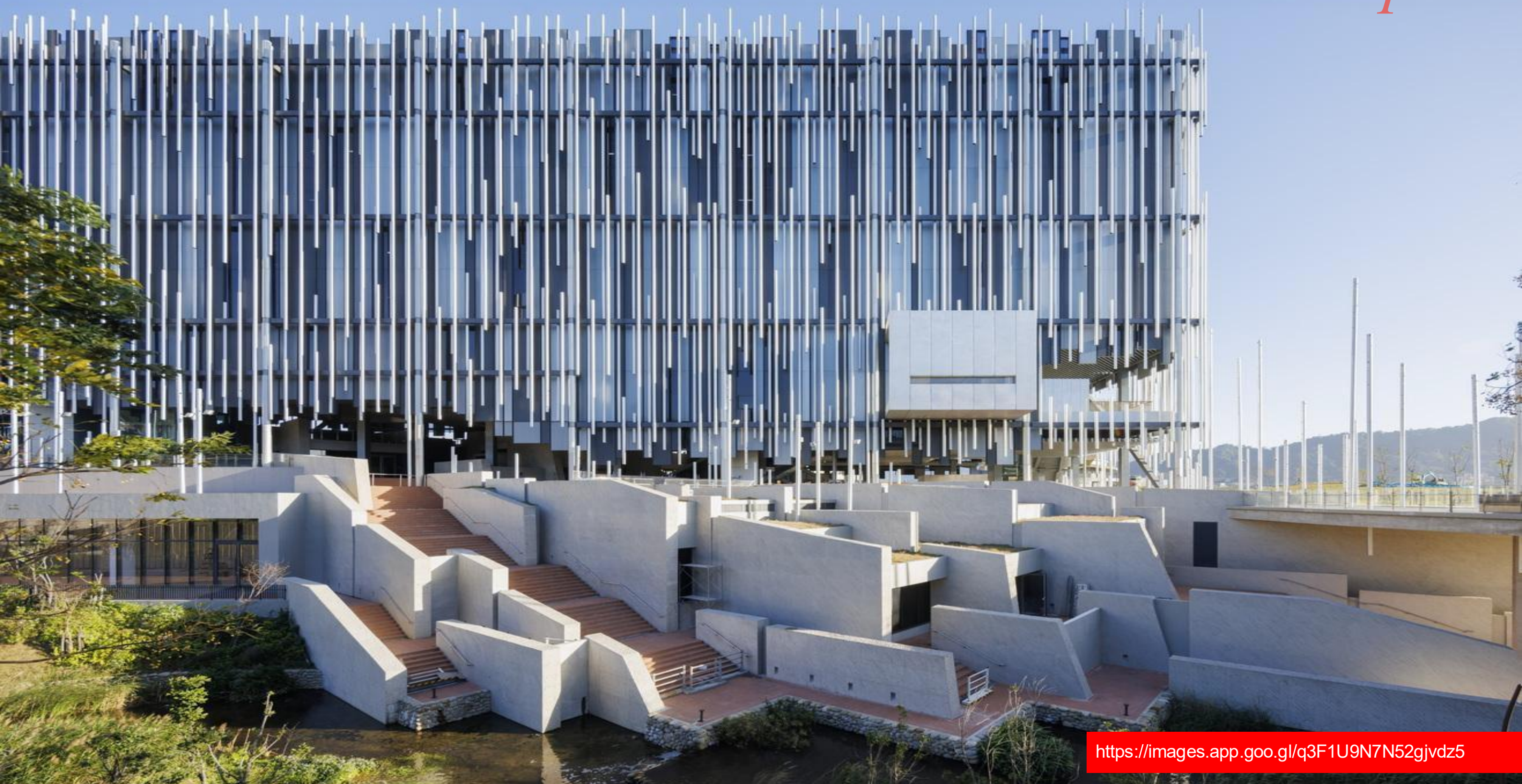
The focus of discussion here is on a well analysed international, award winning precedent of an architectural design project of a Museum and in its analysis that emphasises concepts and technical considerations.

**B.A.S YEAR IV CONTRIBUTING STUDENT RESEARCHERS  
AND DESIGNERS - 2024/2025**

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9. Nick Marete
10. Sulayman Kimutai
11. Tabitha Maina
12. Victor Kimani

# *New Taipei City Art Museum*

*Group 1*



# Introduction

The New Taipei City Art Museum is located in the Yingge District, just a 30-minute drive from Taiwan's vibrant capital, Taipei.

Renowned for its rich ceramic heritage, Yingge provides a culturally significant backdrop for the museum.

The building is situated on reclaimed land at the confluence of the Yingge and Dahan Rivers, offering a unique natural setting that enhances its architectural presence.

The site commands scenic views—facing Guishan and the historic Yingge district to the north, and the flowing DaHan River with the majestic Xue Mountain range to the south—creating a harmonious relationship between the museum and its surrounding landscape.



A map for the location of the museum

**Source:** Google Earth. (n.d.). [Location map of New Taipei, Taiwan]. Retrieved January 19, 2025, from <https://earth.google.com>



Exterior view during construction

Exterior view after construction

**Source :**ArchDaily. (n.d.). *New Taipei City Art Museum* [Photograph]. ArchDaily. <https://www.archdaily.com/1023080/new-taipei-city-art-museum-kris-yao-artech>

## Stakeholder Requirements:

**Architects:** KRIS YAO|ARTECH

**Area:** 32641 m<sup>2</sup>

**Year of construction:**2018-2023

**Location:** New Taipei, Taiwan

**Structure Consultants:** Arup, Chuang Wei Structural Engineering Inc.

**Architect:** Kris Yao

**Clients:** Cultural Affairs Department, New Taipei City Government

**Inspection Architect:** Glen Lu

**MEP:** Arub

**HVAC:** I.S. LIN & Associates Consulting Engineers

**Landscape Design:** SWA Group

**Landscape Execution:** CNHW Planning & Design Consultants

**Façade:** maRco façade Studio

**Contractors:** Joyear Group Construction Co. Ltd

# Design brief

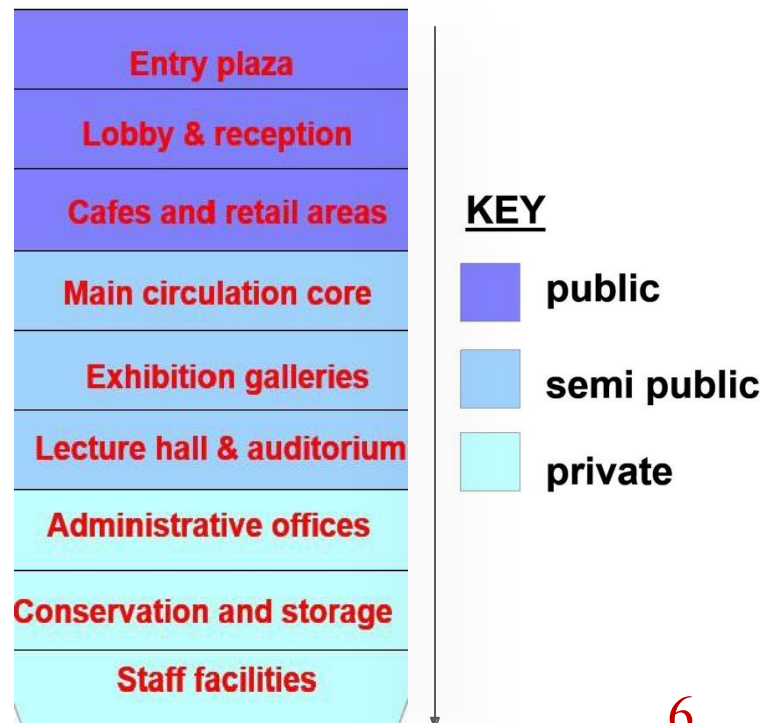
## HIERARCHY OF SPACES

### OBJECTIVES

- **Promotion of art and culture:** To serve as a hub for artistic and cultural activities, promoting contemporary and traditional art in Taiwan and beyond.
- **Supporting local artists:** Providing a platform for local artists to showcase their work and foster creative talent within the region.
- **Enhancing public engagement:** Encouraging greater public interest and participation in the arts by offering diverse exhibitions, events, and educational programs.
- **Cultural tourism:** Attracting visitors from across Taiwan and internationally, contributing to the cultural and economic growth of New Taipei City.
- **Community development:** Creating a space that integrates art with public life, fostering a sense of community and enriching the urban environment.

- 1. Public realm** (Ground level & outdoor spaces)
  - Entry plaza
  - Lobby & reception
  - Cafes and retail areas (bookstore and gift shop)
- 2. Semi-public zones** (Circulation & exhibition areas)
  - Main circulation core
  - Exhibition galleries
  - Lecture hall & auditorium
- 3. Private and restricted zones**
  - Administrative offices
  - Conservation and storage areas
  - Staff facilities: break rooms, meeting spaces, and logistical areas

### PRIVACY GRADIENT



### AREA ANALYSIS

#### Gallery/Exhibition spaces

Includes permanent collections, temporary exhibitions, multimedia exhibits, and installations. Approximate size: **7,000 m<sup>2</sup>**

#### Public amenities

Includes lobbies, auditoriums, cafes, restaurants, gift shops, and visitor services. Approximate size: **4,000 m<sup>2</sup>**

#### Education spaces

Includes classrooms, studios, libraries, and workshop spaces for learning. Approximate size: **2,000 m<sup>2</sup>**.

#### Administration and staff areas

Includes Offices, staff lounges, meeting rooms. Approximate size: **2,000 m<sup>2</sup>**.

#### Storage and conservation spaces

Includes art storage, conservation labs, and archives. Approximate size: **2,500 m<sup>2</sup>**

#### Circulation and building services.

Includes corridors, staircases, elevators, HVAC systems. Approximate size: **3,000 m<sup>2</sup>**.

### USER ANALYSIS

- **Primary visitors:** Art enthusiasts, students, tourists, and local residents.
- **Age groups:** A mix of young visitors, middle-aged art patrons, and elderly cultural enthusiasts.



(Visitors of all ages. Source: Peter Chen, Oct, 2023)

- **Cultural diversity:** Given Taiwan's rich cultural heritage and international tourism, the museum attracts both local and global audiences.
- **Educational background:** Visitors may range from casual observers to art professionals, requiring varying levels of information and interaction.

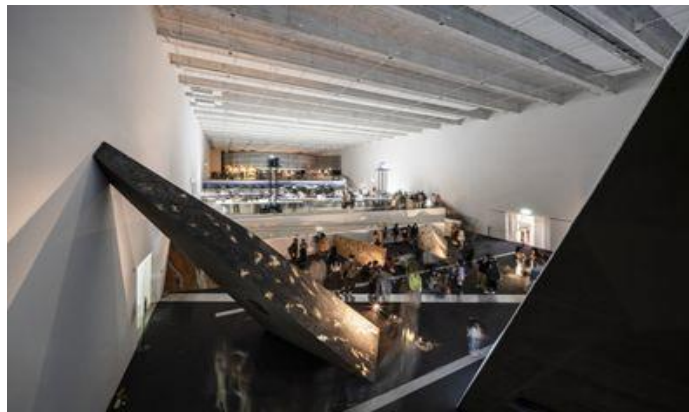
# Design brief

(Key spaces, Functions & Design attributes)

## 1. Exhibition Spaces

### a. Permanent Galleries:

- Showcase the museum's collection of Taiwanese and international contemporary art.
- Adaptable wall systems to accommodate diverse display formats. Lighting and climate control systems ensure optimal preservation and viewing conditions.



(Permanent Gallery Space; Source: Samm Liu, Oct 2023)

### b. Temporary Exhibition Halls

- Host rotating exhibitions, art installations, and international collaborations.
- Characterized by open layouts and high ceilings, providing flexibility for experimental art forms, large-scale sculptures, and multimedia works.



(Temporary Exhibit; Source: Chi chen, 2023)

### c. Interactive and Immersive Art Spaces

- Engage visitors with hands-on and participatory art experiences.
- Equipped with digital screens, augmented reality (AR), and virtual reality (VR) systems to create interactive art environments.

## 2. Educational and Workshop Areas

### Areas

#### a. Art Studios and Workshops

- Encourage creativity among visitors of all ages through hands-on art-making sessions.
- Equipped with art supplies, workstations, and facilities for pottery, painting, sculpture, and digital art.

#### b. Children's museum

- Space dedicated to engaging young visitors. It is designed to foster creativity, exploration, and learning through interactive and age-appropriate exhibits.



(Children Museum; Source: Sam stone, 2023)



(Children's book area; Source: Chia chi liu, 2023)

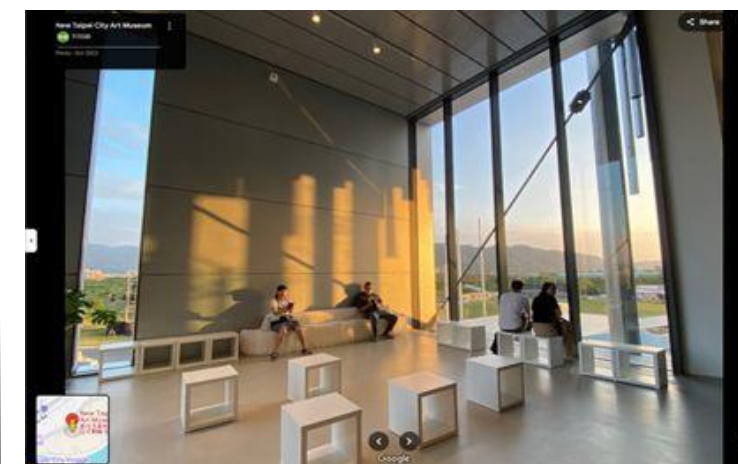
#### c. Lecture Hall

- Facilitates art talks, seminars, and panel discussions on topics related to art, culture, and design.
- Acoustically optimized and equipped with modern audiovisual technology.

## 3. Public and Recreational Spaces

#### a. Sky Gardens and Viewing Decks

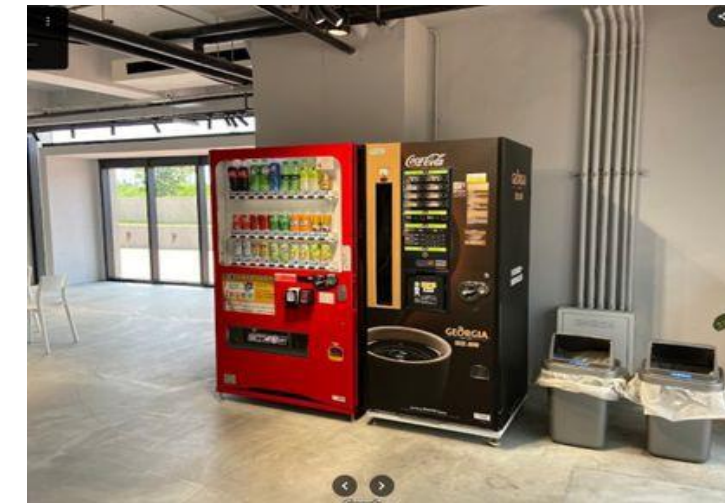
- Offer panoramic views of the surrounding Yingge District and act as tranquil retreats for visitors.



(Viewing Deck; Source: Herseth Hsieh, 2023)

### b. Café and Retail Spaces(bookstore & gift shop)

- Enhance the visitor experience with food, beverages, and curated art-related merchandise.
- The café and museum shop are designed to be visually appealing and accessible, incorporating art-inspired aesthetics.



(Cafe; Source: Junka young, 2024)

## 4. Administrative and Support Spaces

#### a. Staff Offices

- Provide workspaces for curators, administrators, and museum staff.
- Ergonomic designs and collaborative meeting rooms ensure productivity and efficiency.

#### b. Archives and Storage

- Preserve and catalog the museum's art collections.
- Equipped with climate-controlled storage and secure systems for safeguarding valuable artifacts.

# Justification of The Study

## Functionality:

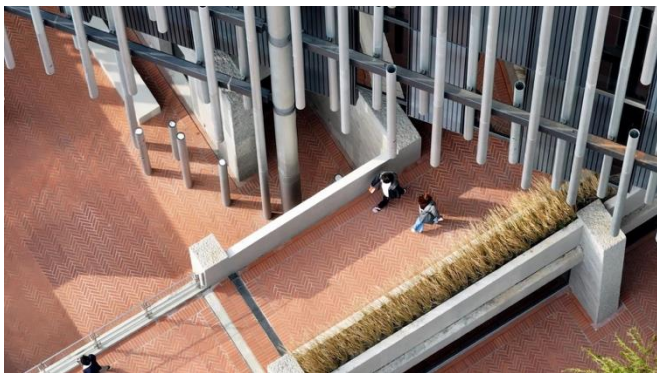
The New Taipei City Museum of Art embodies the core purpose of exhibition, preservation, and public engagement, which aligns directly with the objectives the project.

## User-Centric Design:

The museum prioritizes visitor experience through spatial organization, circulation, and diverse programmatic spaces.

## Innovative Design:

The museum reflects a cutting-edge, contemporary architectural design. The structural design incorporates wide-span spaces using advanced engineering techniques an example being the landscape bridge at the entrance of the site is constructed using weathering steel, which develops unique color and texture over time.



Entrance bridge with weathered steel.  
New Taipei City Art Museum / KRIS ArchDaily YAO | ARTECH

## Iconic and Contextual:

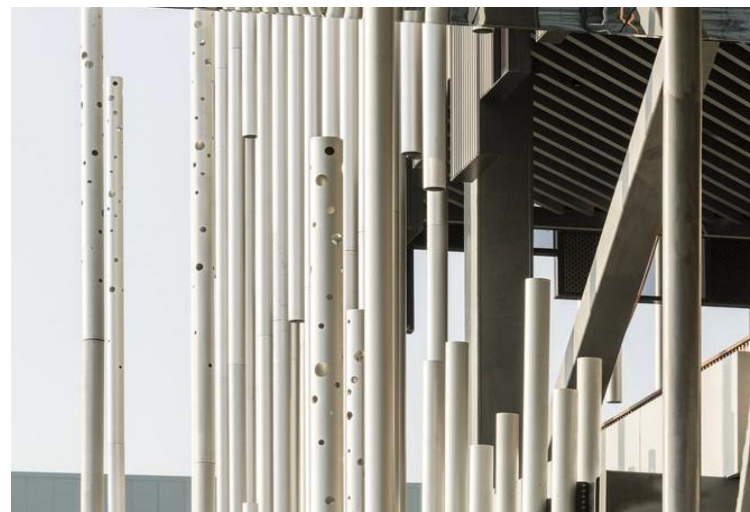
The building has become an architectural landmark, showcasing how a museum can integrate bold design with local identity.

Drawing inspiration from the region's rich history and culture, the design incorporates elements such as the dry riverbed, the quaint charm of old streets and brick buildings.

The museum won a Merit Award in an international competition for its design.

## Adaptation to Climate:

The museum integrates passive design strategies suitable for Taiwan's subtropical climate i.e incorporation of sun-shading elements on the facades and the open floor layout to allow airflow.



Aluminium tubes fitted on the facade. New Taipei City Art Museum / KRIS ArchDaily YAO | ARTECH

## Landscape and Building

### Integration:

The design intelligently blends the natural and the fabricated, interpreting elements of one in the form of the other, and vice versa.

The distinctive façade is composed of a series of sandblasted aluminium tubes of varying heights and lengths, paired with vertically segmented three-color aluminum panels arranged in a staggered manner.

From afar, this linear screen conjures the blurry beauty of reeds swaying in the wind.



Aerial landscape view. New Taipei City Art Museum / KRIS ArchDaily YAO | ARTECH



Overall facade displaying the aluminium tubes. New Taipei City Art Museum / KRIS ArchDaily YAO | ARTECH

## Programmatic Versatility:

The New Taipei City Museum of Art is designed to accommodate diverse exhibits and events, emphasizing spatial adaptability and multifunctionality



Gallery space. New Taipei City Art Museum / KRIS ArchDaily YAO | ARTECH

# Concept

The design aimed to create “a **Contemporary Museum of Art among the Reeds,**” The building fuses the local landscape and cultural imagery. At the base level of the building, the art streets and outdoor sculpture garden take a form imitating the cracks of the near-by Da Han River riverbed. By following the slope of the base, visitors can enjoy the sculptures in the sculpture park or linger around the art street.



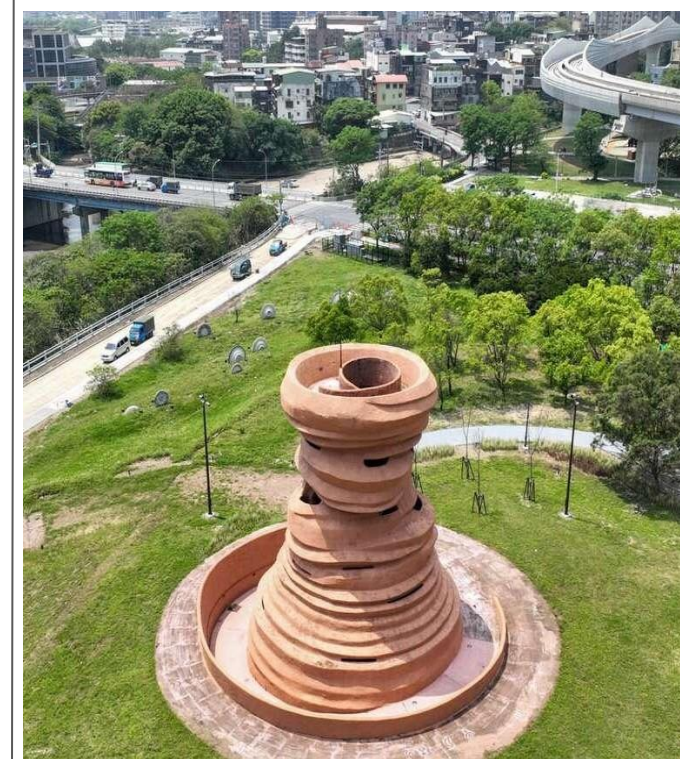
New Taipei City Art Museum / KRIS ArchDaily YAO | ARTECH |

- The distinctive exterior of the New Taipei City Art Museum is defined by a composition of vertical structural tubes of varying heights, giving the building a striking and dynamic silhouette.
- This vertically linear elevation draws inspiration from the soft, ephemeral beauty of reeds gently swaying in the wind—an homage to nature’s unpredictability and the ever-shifting play of light and shadow.
- Through this architectural language, designer Kris Yao seeks to create not just a building, but a meaningful “place”—one that resonates with the local community, invites public interaction, and becomes a canvas for future collective memories shared by the citizens of New Taipei City.



The outdoor area features several public artworks integrated with Yingge’s ceramic art culture. The most prominent among them is a 15-meter-high orange-red installation art resembling a coil-formed unfired clay, symbolizing the inception of pottery-making. When stepping inside, one can feel the sunlight filtering through the top of this artwork, instantly imparting a sense of divinity to the entire site

New Taipei City Art Museum / KRIS ArchDaily YAO | ARTECH |



New Taipei City Art Museum / KRIS ArchDaily YAO | ARTECH |

# Site Layout

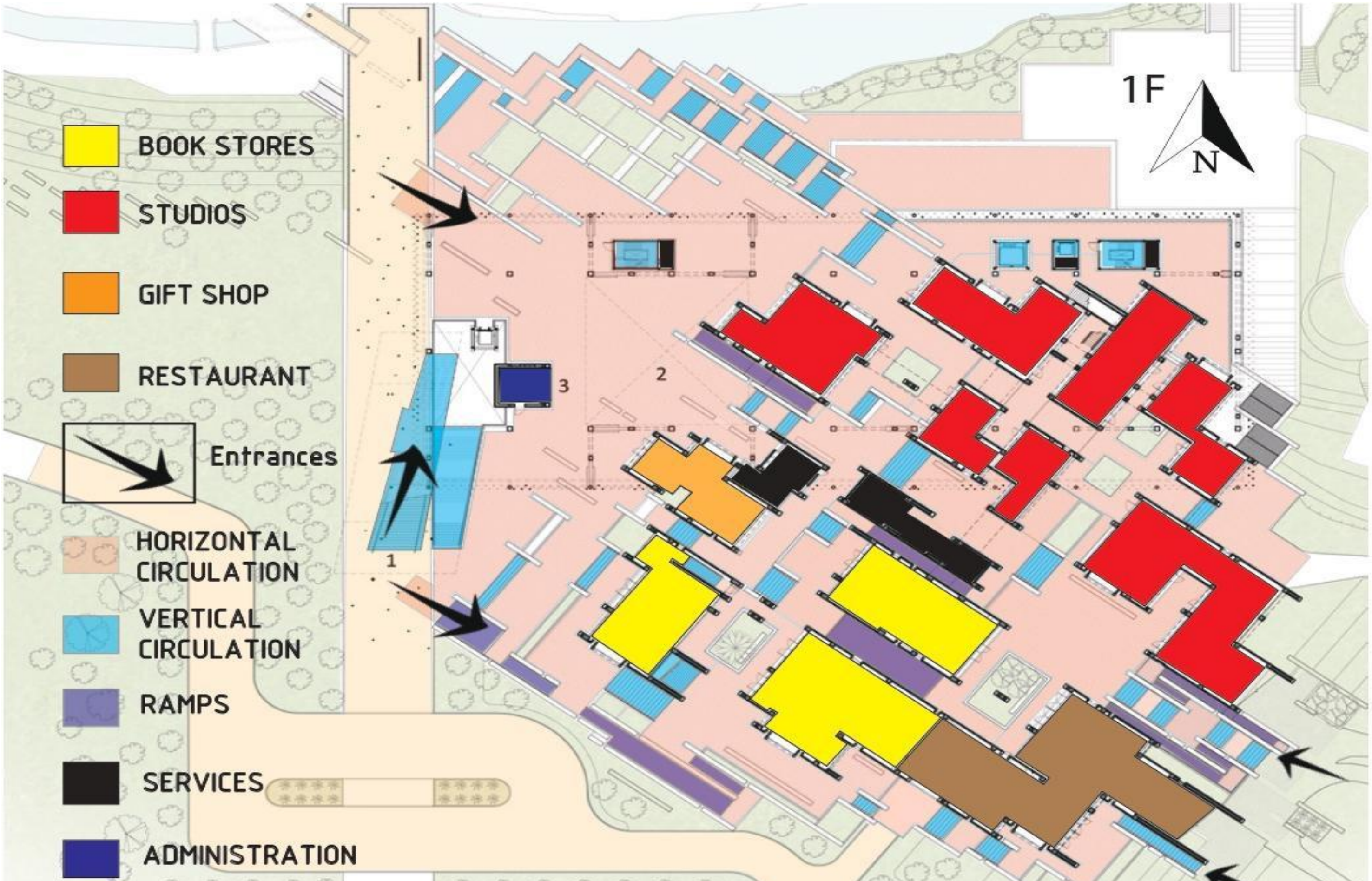


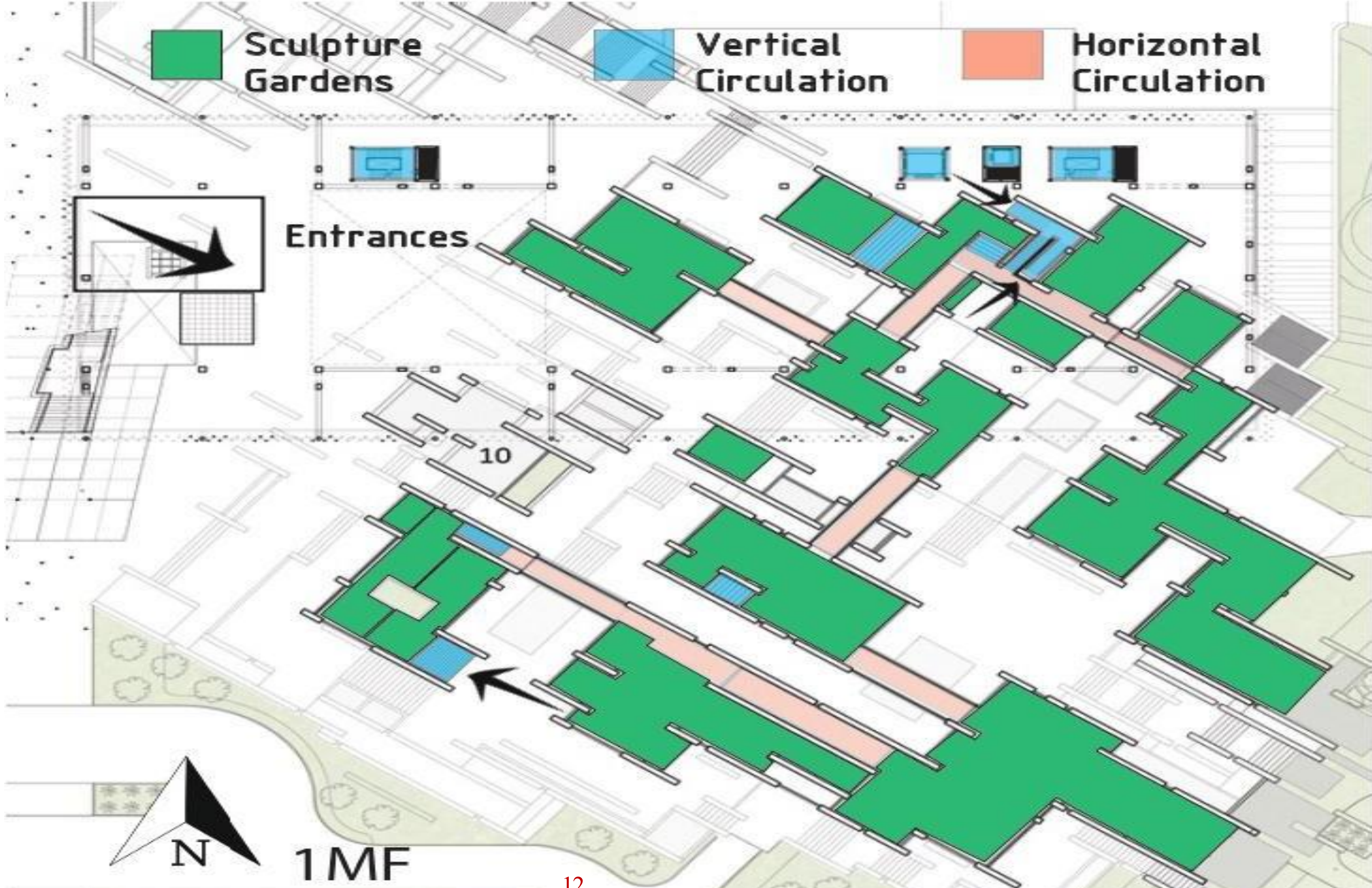
Image Adapted from New Taipei City Art Museum / KRIS YAO | ARTECH | ArchDaily

# Site Layout



Google. (n.d.). [Google Maps of New Taipei City Art Museum, Taipei, Taiwan]. [All photos in this page]. Retrieved January 19, 2025, from <https://maps.app.goo.gl/mqiS2oSCo4dkPibP7>.

# Mezzanine Floor





Sculpture gardens



Sculpture gardens

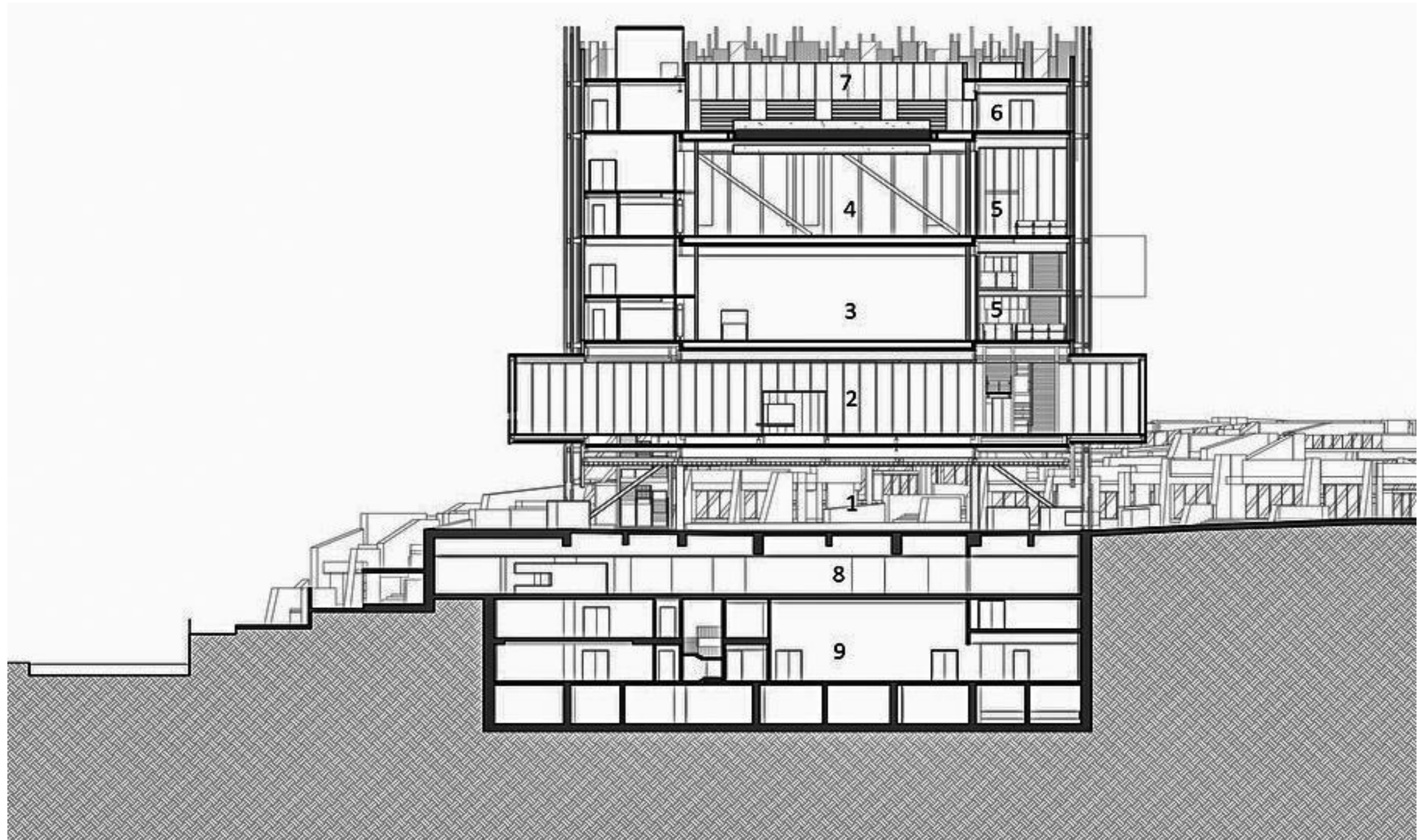


Exhibition Spaces



Exhibition Spaces

# Section 01



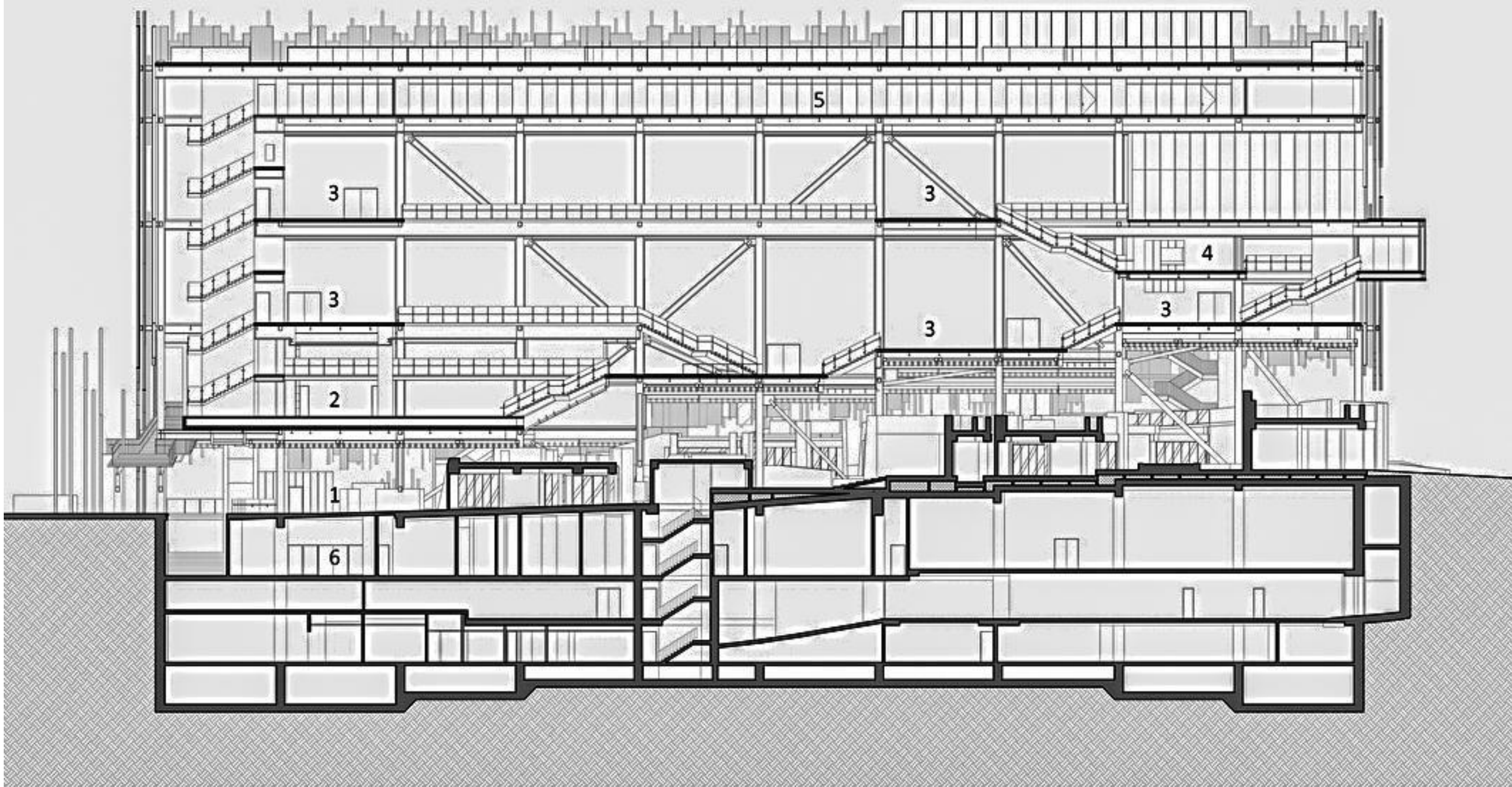
<b>SECTION</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
	Art Streets	Lobby	Immersive Exhibition Room	Thematic Exhibition Room	Foyer	DIY Classroom	Sky Garden	Children's Art Museum	Lecture Hall

Image Adapted from New Taipei City Art Museum / KRIS YAO | ARTECH | ArchDaily



Image Adapted from New Taipei City Art Museum / KRIS YAO | ARTECH | ArchDaily

# Section 02



**SECTION**

- 1 Art Streets
- 2 Lobby
- 3 Foyer
- 4 Cafe
- 5 DIY Classroom
- 6 Children's Art Museum

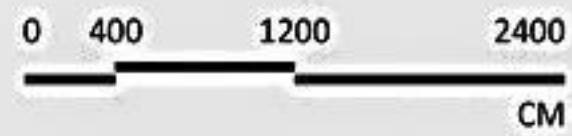
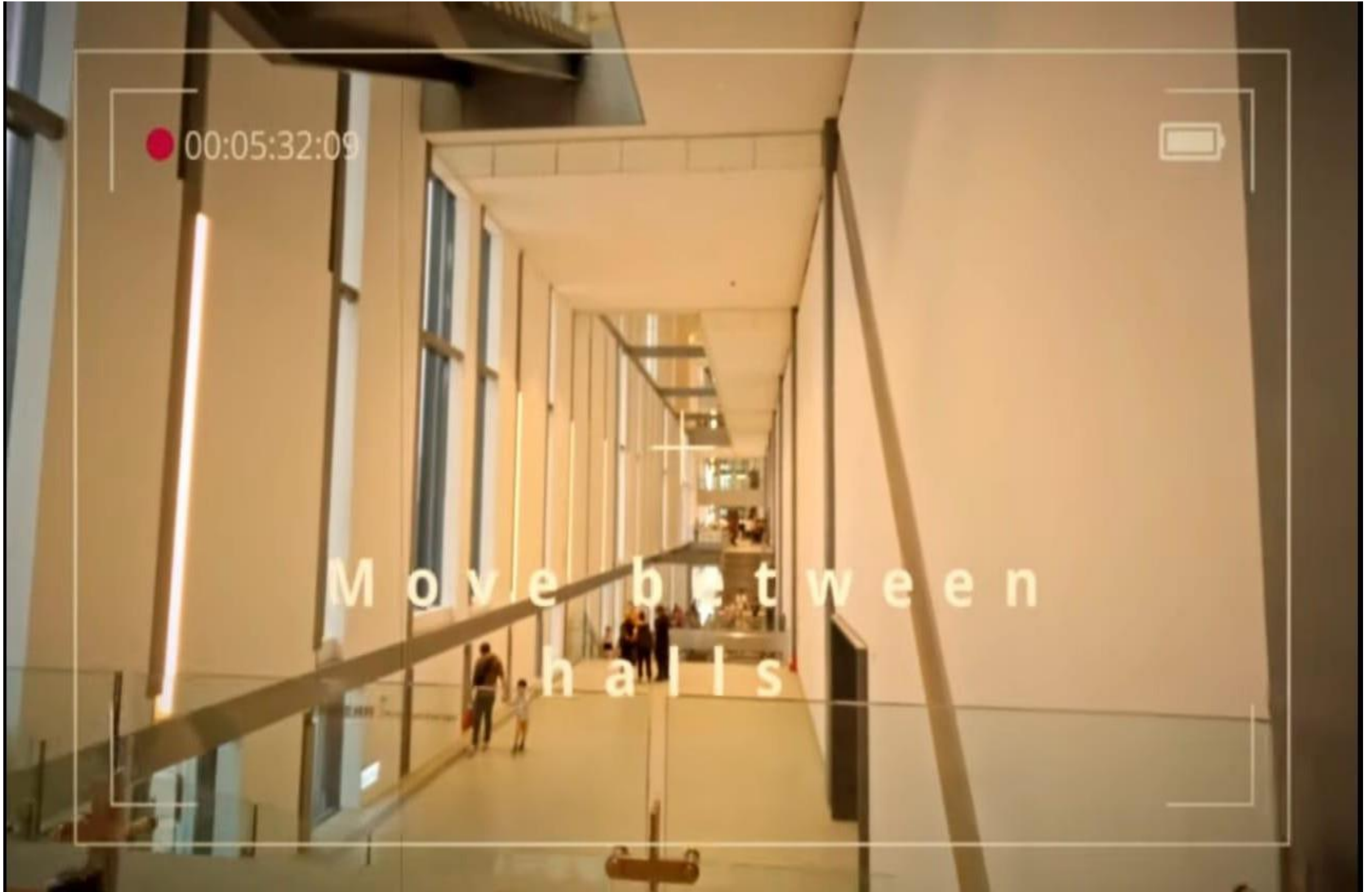
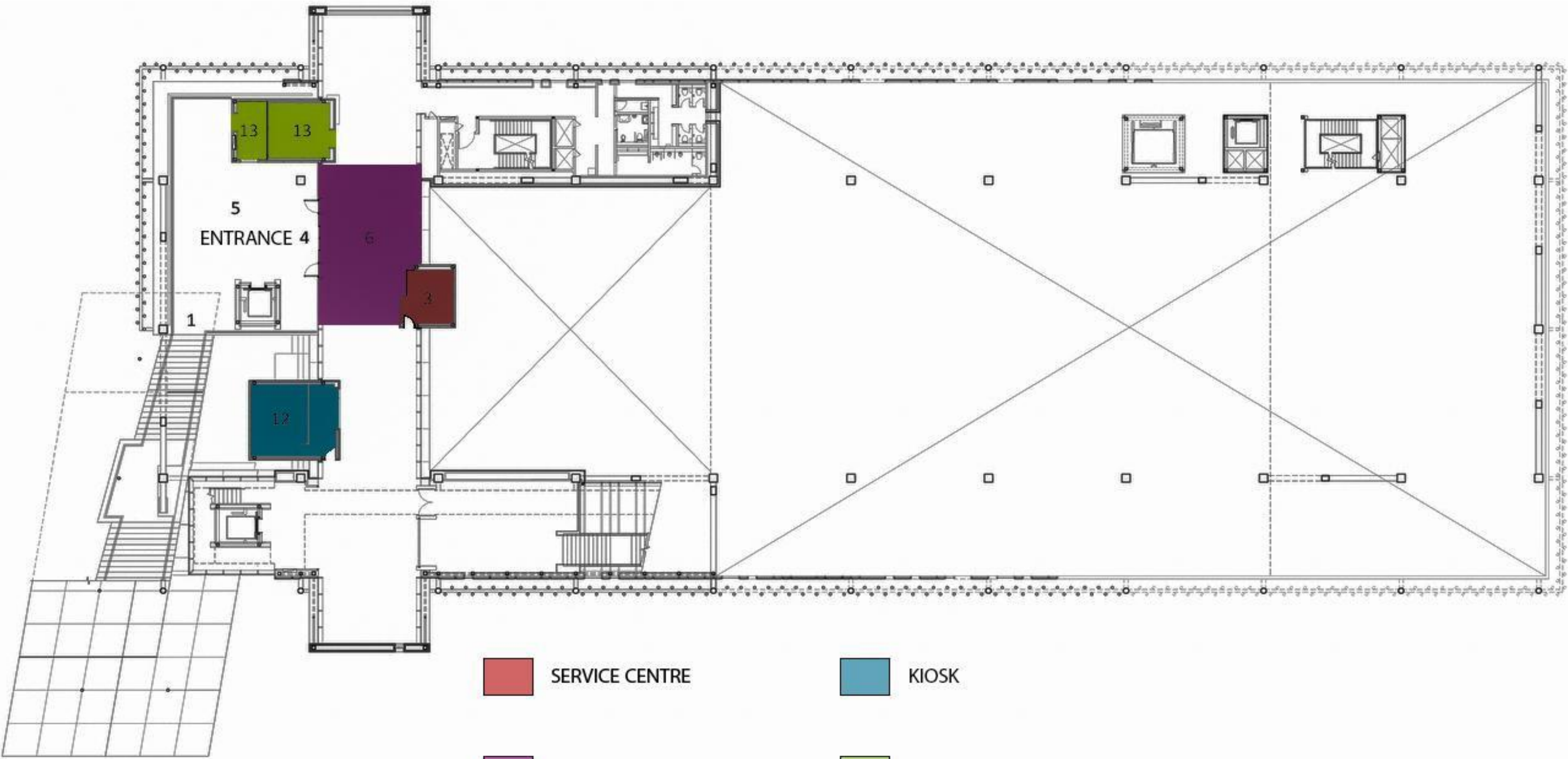


Image Adapted from New Taipei City Art Museum / KRIS YAO | ARTECH | ArchDaily



<https://www.youtube.com/watch?v=y4q0yDJDsk0>

# First Floor



 SERVICE CENTRE	 KIOSK
 LOBBY	 LOCKERS

- 2F PLAN**
- |                  |                              |
|------------------|------------------------------|
| 1 Grand Stairs   | 6 Lobby                      |
| 3 Service Center | 12 Interactive Service Kiosk |
| 4 Entrance       | 13 Lockers                   |
| 5 Elevator Lobby |                              |

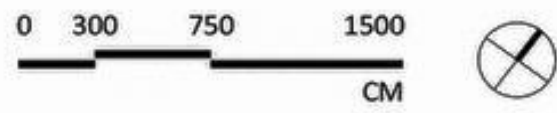
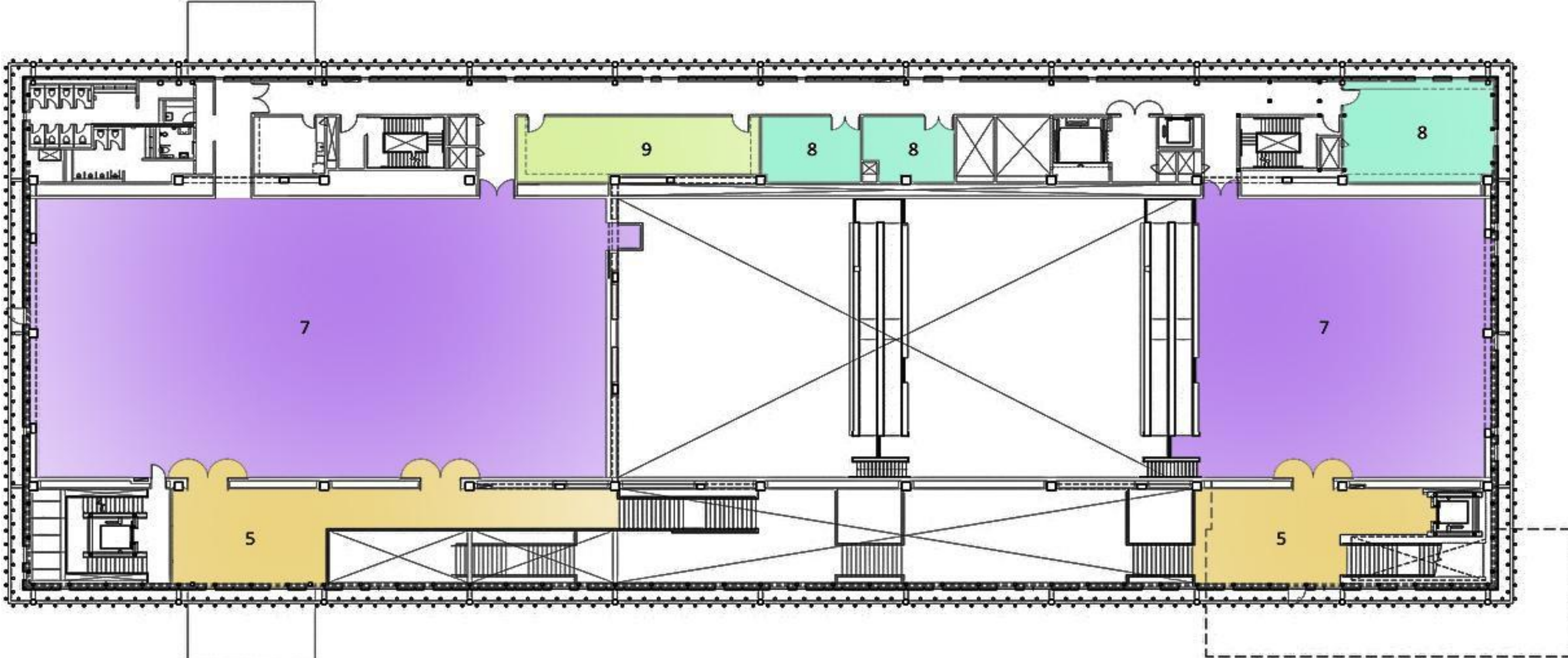






Image Adapted from New Taipei City Art Museum / KRIS YAO | ARTECH | ArchDaily

# Third Floor



## KEY

- |   |   |
|---|---|
|  LOBBY           |  OFFICES         |
|  EXHIBITION ROOM |  CONFERENCE ROOM |

- 4F PLAN**
- 5 Elevator Lobby
  - 7 Exhibition Room
  - 8 Office
  - 9 Conference Room



Image Adapted from New Taipei City Art Museum / KRIS YAO | ARTECH | ArchDaily



Sculpture gardens



Sculpture gardens

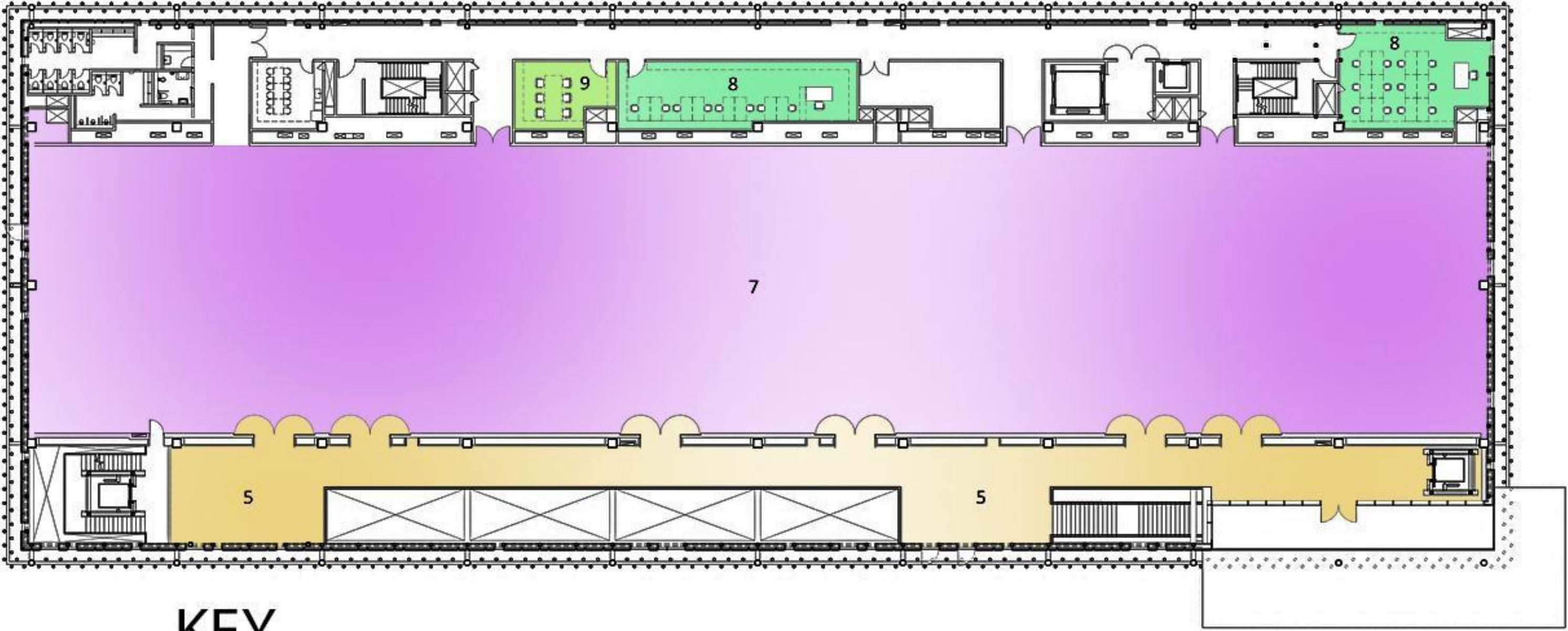


Exhibition Spaces

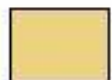



Exhibition Spaces

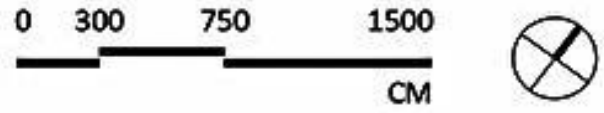
# Fifth Floor



## KEY

- |  |  |
|--|--|
|  LOBBY      |  OFFICES    |
|  EXHIBITION |  CONFERENCE |

- 6F PLAN**
- 5 Elevator Lobby
  - 7 Exhibition
  - 8 Office
  - 9 Conference



Source-Image Adapted from New Taipei City Art Museum / KRIS YAO | ARTECH | ArchDaily



Exhibition Spaces



Exhibition Spaces



Exhibition Spaces



Exhibition Spaces

# SUSTAINABILITY

## Green Roof and Landscaping:

- The museum features a **green roof** that serves multiple purposes. It acts as an insulating layer to reduce the amount of energy required for heating and cooling, helps manage rainwater runoff, and provides aesthetic value with its vegetation. The green roof also contributes to the overall ecological health of the urban area.



Archdaily New Taipei City Art Museum / KRIS YAO | ARTECH

- The landscaping around the museum is designed to blend with the natural environment and promote biodiversity, with careful selection of local plant species that require less water and maintenance



Archdaily New Taipei City Art Museum | ARTECH

## Adaptive Reuse and Urban Integration :

- The museum integrates well with the surrounding urban landscape. It is designed to be a cultural and civic hub that attracts visitors while maintaining the integrity of the existing urban fabric. The museum's placement and design make use of the city's existing infrastructure, which reduces the environmental cost of building new roads and utilities.



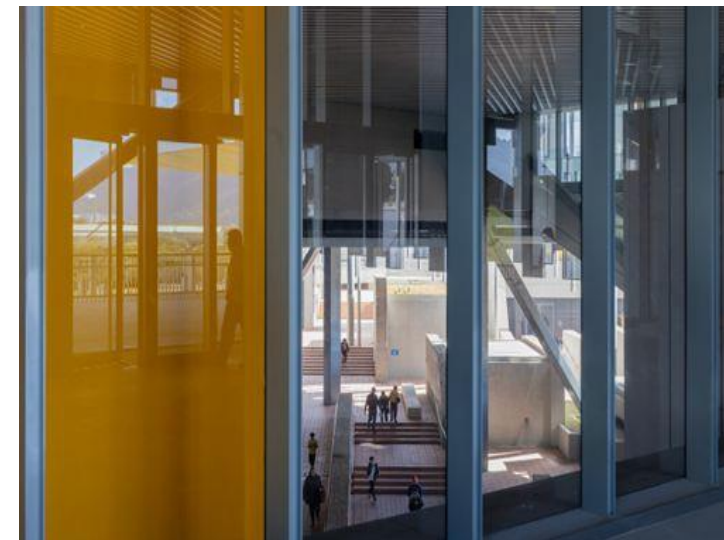
Aerial view . Source ArchDaily

- By being located in a central, accessible area, the museum encourages public transport use and pedestrian mobility, thus reducing car dependency and promoting sustainable transportation.

## Energy-Efficient Design :

### Natural Ventilation and Daylighting:

The museum is designed with large windows and open spaces that promote natural daylighting, reducing the need for artificial lighting during the day. The design also incorporates natural ventilation to allow fresh air circulation, minimizing the need for air conditioning and reducing overall energy consumption.



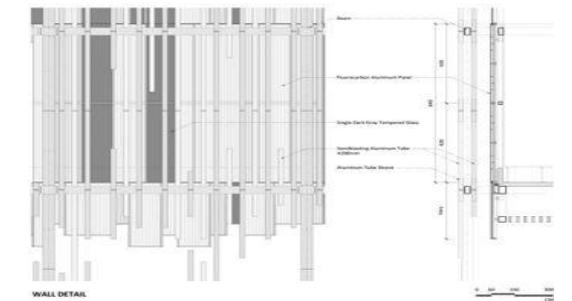
New Taipei City Museum of Art Proposal / Federico Soriano Pelaez



New Taipei City Museum of Art Proposal / Federico Soriano Pelaez

## Use of Sustainable Materials

The materials used in the construction of the museum are selected based on sustainability criteria. The building makes use of locally sourced materials to reduce transportation-related carbon emissions.



New Taipei City Museum of Art Proposal / Federico Soriano Pelaez

## Water Conservation

- The museum incorporates water-saving technologies such as low-flow fixtures and water-efficient landscaping. The green roof and surrounding landscaping help manage stormwater runoff, promoting better water management and minimizing flooding risks in the urban environment.



New Taipei City Museum of Art Proposal / Federico Soriano Pelaez

# Functionality- User Experience

## 1. Interactive Spaces:

The museum integrates interactive exhibition areas that allow visitors to engage with art beyond viewing. Hands-on workshops and digital installations are part of the visitor journey.

## 2. Intuitive Wayfinding:

The architecture includes clear signage and seamless navigation through open corridors and transitions between spaces. This encourages exploration while minimizing confusion for visitors.

## 3. Engaging Guides and Programs:

Museum guides are trained to adapt their tours to the educational and cultural backgrounds of their audiences.

Guided tours are augmented by multimedia aids, including augmented reality (AR) and virtual reality (VR), providing layers of interpretation and context for the displayed artworks.

## 4. Integration of Outdoor Spaces:

The museum blends indoor and outdoor spaces with landscaped gardens, terraces, and open-air courtyards, inviting visitors to enjoy art in both traditional and natural environments, enhancing spatial fluidity.



# Functionality- Flexibility and Adaptability

## 1. Column-Free Galleries:

- The structural design incorporates wide-span spaces using advanced engineering techniques, such as Vierendeel trusses and diagonal bracing.
- These allow galleries to remain free of internal columns, creating highly flexible spaces for curators to mount exhibitions of varying scales and mediums.

## 2. Tiered and Modular Spaces:

- The museum includes tiered lower-level galleries that can function as either individual rooms or interconnected exhibition areas.
- Moveable walls and modular fixtures enhance the adaptability of spaces for different types of exhibitions, from large-scale installations to smaller, intimate displays.

## 3. Multi-Purpose Halls:

- Facilities such as the auditorium and community halls are designed for diverse uses, including film screenings, performances, lectures, and panel discussions.
- These spaces are equipped with adaptable seating arrangements and advanced acoustics for maximum versatility.

## 4. Dynamic Exhibition Programming:

- The museum's design supports rotating exhibitions, artist residencies, and collaborative projects, making it a living, ever-changing cultural space that fosters creativity, dialogue, and community engagement.



New Taipei City Art Museum / KRIS YAO | ARTECH | ArchDaily



New Taipei City Museum of Art Proposal / Federico Soriano Pelaez

# FUNCTIONALITY- ACCESSIBILITY

## 1. Physical Accessibility:

- The museum complies with universal design principles, featuring barrier-free access throughout the building.
- Facilities include wide ramps, elevators, and tactile floor indicators for the visually impaired.
- Wheelchair-accessible seating areas are provided in auditoriums and public spaces.

## 2. Inclusive Signage and Guides:

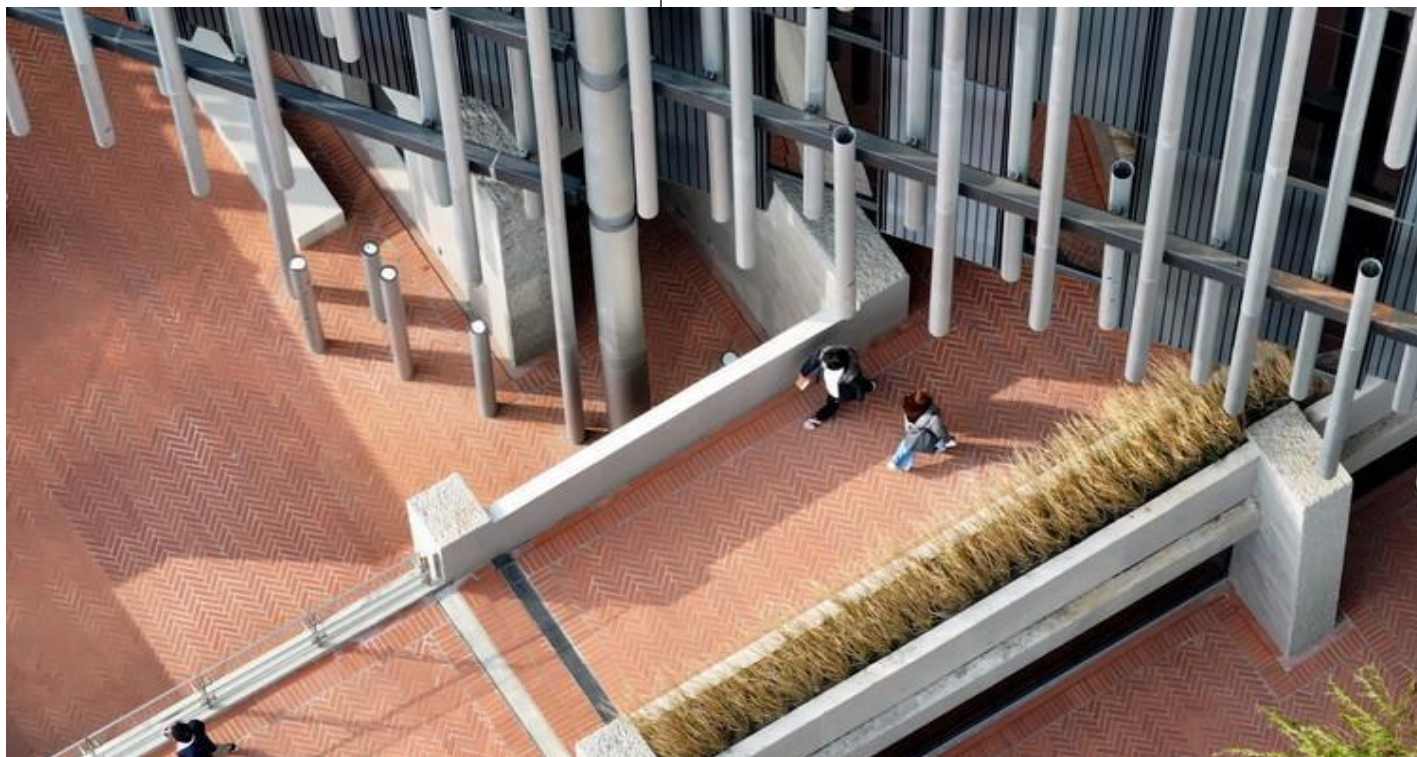
- Multi-language signage and braille are thoughtfully integrated into all key areas of the museum, ensuring accessibility for both local and international visitors.
- In addition, audio guides and sign language interpretation are available for exhibitions and events, reflecting the museum's commitment to inclusivity and providing an enriching experience for visitors of all abilities.

## 3. Family-Friendly Facilities:

- Designated areas for children, such as interactive activity zones and kid-friendly workshops, make the museum especially welcoming to families.
- These spaces encourage creativity and hands-on learning, allowing younger visitors to engage with art in playful and meaningful ways.

## 4. Community Integration:

- Outreach programs specifically target underserved communities and individuals with disabilities, ensuring art is accessible to all.
- Free admission days and subsidized tickets are part of the museum's strategy to reach a broader audience.



Archdaily New Taipei City Art Museum / KRIS YAO | ARTECH



New Taipei City Museum of Art — LTL Architects

# MATERIALS



Archdaily New Taipei City Art Museum / KRIS YAO | ARTECH

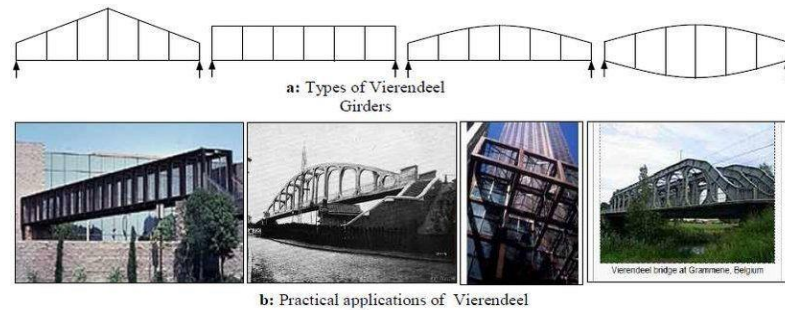
## 1. Facade Material

The facade features sandblasted aluminium panels which reference the reeds and vertically segmented three-color aluminum panels arranged in a staggered manner. of the nearby rivers, integrating with the natural surrounding. This design choice creates a blurred visual effect, softening the rectilinear edges of the building

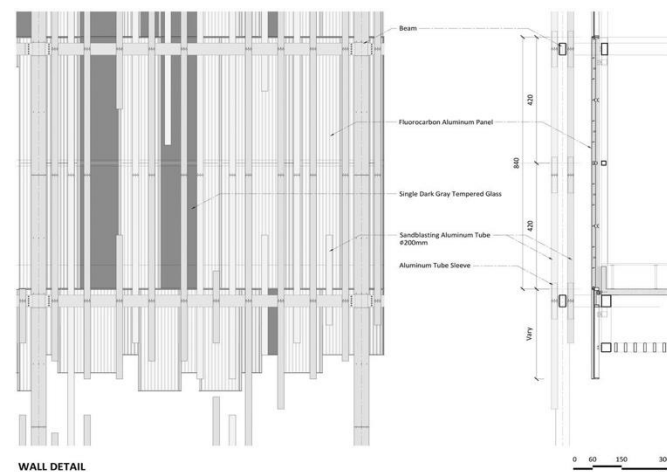
## 2. Structural Material

### Vierendeel Trusses

To achieve column free gallery spaces spanning 72 feet , the design incorporates vierendeel trusses which allows for flexible exhibition layouts and unobstructed views



<https://sl.bing.net/kzo1fxKAs7E>



Archdaily New Taipei City Art Museum / KRIS YAO | ARTECH



Archdaily New Taipei City Art Museum / KRIS YAO | ARTECH 27

## 3. Ground Level Material

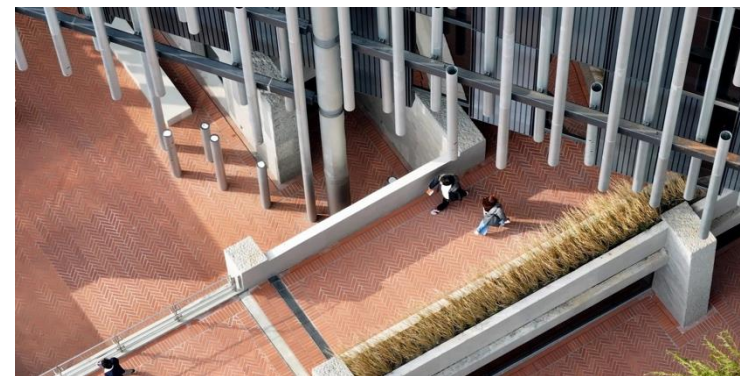
### Concrete with Wood Cedar

#### Imprints

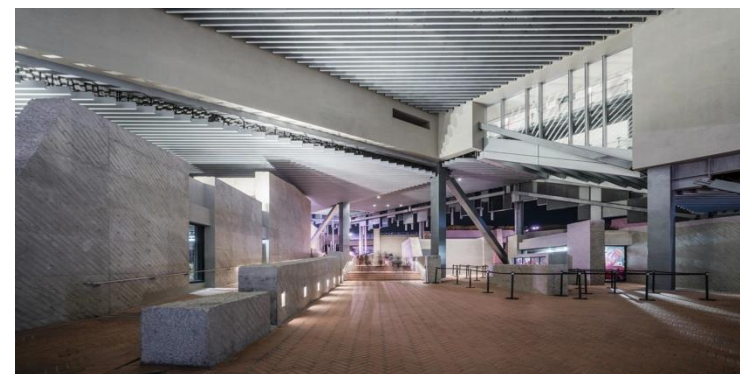
Concrete walls referencing the typology of river erosions with imprints from diagonally arranged cedar wood planks . This treatment adds a tactile quality and visual interest contrasting with the aluminium facade above

### Brick Pavement

It complements the concrete walls. Used in open art village area to create dynamic and inviting public spaces that encourage community engagement



Archdaily New Taipei City Art Museum / KRIS YAO | ARTECH



Archdaily New Taipei City Art Museum / KRIS YAO | ARTECH

## 4. Landscape Bridge

### Weathering Steel.

The entrance features a landscape bridge constructed from weathering steel, which develops a unique patina over time. This material choice not only ensures durability but also harmonizes with the natural environment, guiding visitors into the museum.



<https://youtu.be/Nz67Nbr3Rlw?si=xrCKQPTWpDiL5rpU>



<https://youtu.be/Nz67Nbr3Rlw?si=xrCKQPTWpDiL5rpU>

# Significance to The City and The Community

## 1. Promoting urban aesthetics.

The museum's inclusive approach aims to promote harmony between cultural and economic growth. The museum's unique design and location also make it a landmark in the city.



Exterior view of the Museum building design



Views of the surrounding landscape from the Museum building

## 2. Cultural hub

Promotes local art and culture, and connects the city to the global art world. The museum supports local artists by providing a platform for local artists to create and exhibit their work.



A woven pod at the entrance of the Museum building



A piece of art exhibited in the Museum

## 3. Educating the public

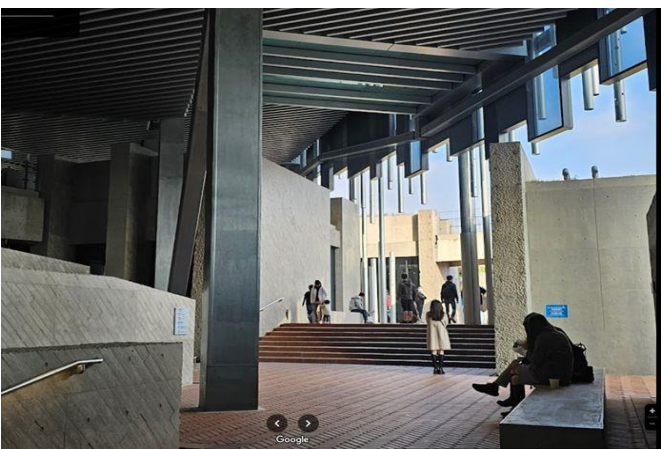
The museum offers programs for people of all ages, including museum-school collaborations.



School kids inside a workshop

## 4. Community Interactions

It also creates a space for human interactions through design of open spaces with benches



Sitting areas for human interactions in the Museum

## 5. Tourism & economic development

The museum connects art and culture with tourism and encourages people to explore the city's cultural heritage strengthening the city's economy through cultural innovation.



Visitors inside the Museum



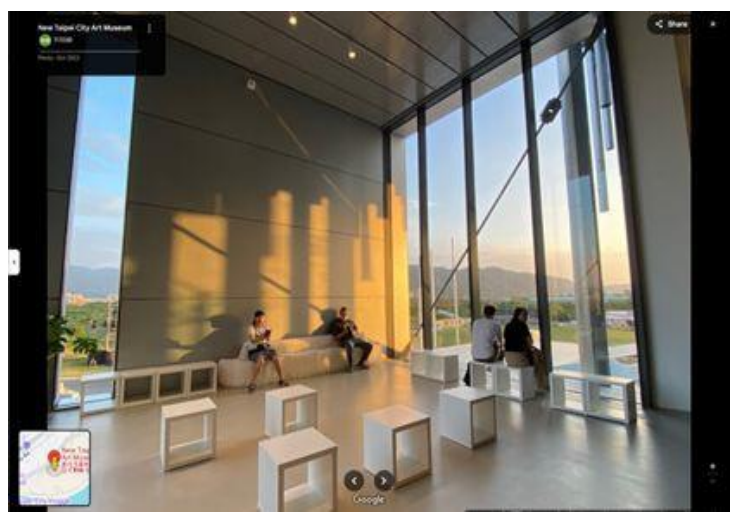
Visitors inside an exhibition space

Google. (n.d.). [Google Maps of New Taipei City Art Museum, Taipei, Taiwan]. [All photos in this page]. Retrieved January 19, 2025, from <https://maps.app.goo.gl/mqiS2oS2Co4dkPibP7>.

# Lessons Learnt

## 1. Integration with the Natural Environment:

The museum seamlessly blends with its surroundings, utilizing natural light and ventilation while respecting the local ecology. This approach creates a harmonious and sustainable building that minimizes its environmental impact.



(Herseht Hsieh, 2023)

## 2. Flexibility and Adaptability:

The museum's design prioritizes flexibility, allowing for various exhibition configurations and future adaptations.

Modular galleries, movable partitions, and versatile open spaces enable diverse curatorial approaches, supporting everything from large-scale installations to smaller, focused exhibits. Ensures the building stays relevant and responsive to evolving artistic practices



Gallery space



Visitors inside an exhibition space 29

## 3. Iconic Design:

The architecture often becomes a landmark due to its iconic and memorable form. garnered international recognition and established it as an exemplar of contemporary museum design.



## 4. Emphasis on Artistic Experience:

The museum's architecture prioritizes the visitor experience, creating a dynamic and engaging environment that enhances the appreciation of art.

The thoughtful use of natural light, fluid spatial transitions, and well-planned circulation patterns guide visitors intuitively through the galleries, fostering a sense of discovery and connection.



Exhibition Spaces



A piece of art exhibited in the Museum

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# REFLECTIONS ON THE GABRIEL GARCIA MARQUEZ LIBRARY

The focus of discussion here is on a well analysed international, award-winning precedent of an architectural design project of a Library, and in its analysis that emphasises concepts and technical considerations.

**B.A.S YEAR IV CONTRIBUTING STUDENT RESEARCHERS  
AND DESIGNERS - 2024/2025**

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Murigo Nguti

Pauline Wambua

Victor Shayo



GABRIEL GARCIA  
MARQUEZ  
LIBRARY  
Barcelona, Spain

# PROJECT DESCRIPTION

**Name:** Gabriel García Márquez Library

**Location:** Barcelona, Spain.

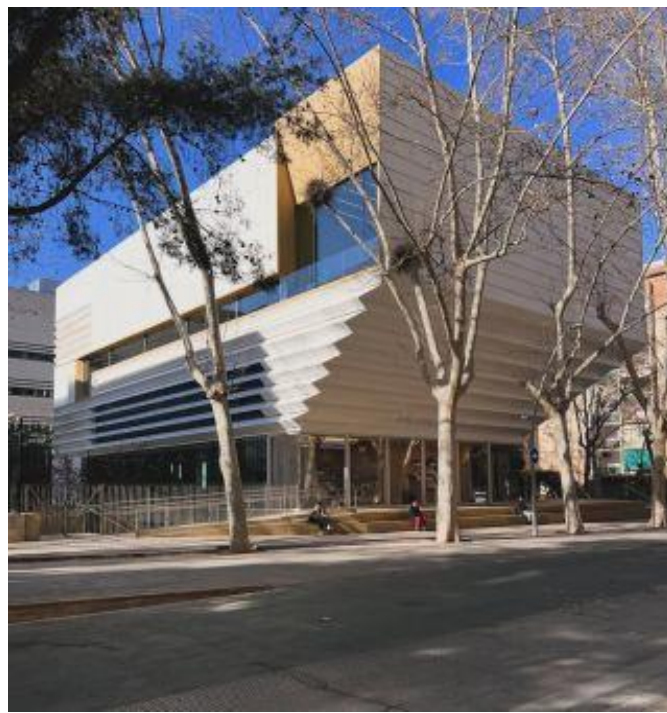
**Architects:** The library was designed by SUMA Arquitectura.

**Year of Completion:** The library was completed in 2022.

**Area:** 4170msq

**Awards:** Best Public Library in the world, 2023 by International Federation of Library Associations and Institutions

- 1, Gabriel García Márquez Library is the result of a competition won in 2015 by SUMA Arquitectura, an architecture studio led by Elena Orte and Guillermo Sevillano.
2. The Gabriel García Márquez Library has received recognition for its architectural excellence and sustainability practices, including achieving LEED Gold certification, which highlights its commitment to environmentally responsible design and construction.



*Main facade .  
Source: Jesús Granada*

## Overview of the Gabriel García Márquez Library Project

The Gabriel García Márquez Library is a striking architectural landmark located in a dense urban area of Barcelona, specifically designed to fit within the city's grid layout and to engage with the surrounding environment. The library is characterized by its innovative use of materials, particularly a hybrid structure of cross-laminated timber (CLT) and Glue laminated timber (GLT), which not only provides structural integrity but also contributes to sustainability by reducing the ecological footprint of the building. The design features an origami-inspired façade that serves both aesthetic and functional purposes, creating a visually engaging exterior while facilitating natural ventilation and thermal control .

Inside, the library orbits around a central void that allows natural light to permeate the space, enhancing the user experience and creating a welcoming atmosphere for the community. The layout includes flexible spaces that can accommodate various activities, from quiet reading areas to multipurpose rooms for events, making it a versatile hub for social interaction and learning . The library also incorporates advanced technological solutions, such as photovoltaic panels and rainwater collection systems, further emphasizing its commitment to sustainability .



*Atrium and staircases  
Source: Jesús Granada*

## Justification for Case Study Use

**Innovative Architectural Design:** The library exemplifies cutting-edge architectural practices that integrate aesthetics with functionality. Its unique design elements, such as the origami-inspired façade and the use of sustainable materials.

**Sustainability Practices:** The project showcases effective strategies for reducing carbon emissions and promoting environmental sustainability. The use of prefabricated timber components, energy-efficient systems, and water management techniques provides a model for future construction projects aiming for LEED certification and other sustainability benchmarks.

**Community Engagement:** The library serves as a social condenser, fostering community interaction and collaboration. Its design process involved input from various stakeholders, ensuring that the library meets the diverse needs of its users.

**Technological Integration:** The incorporation of modern technologies for energy efficiency and user comfort positions the library as a forward-thinking project. It serves as a reference for integrating smart building technologies in public architecture, which is increasingly relevant in today's context of urban development.

**Holistic Approach to Design:** The library's design reflects a holistic understanding of architecture as an ecosystem, where structure, function, and user experience are interconnected. This perspective can inspire future projects to consider the broader implications of architectural design on community and environment.



*Forum of ideas area.  
Source: Jesús Granada*

**Incubator for Innovation and Learning:** The Gabriel García Márquez Library functions as an incubator for creativity, knowledge, and social interaction. By providing flexible spaces for workshops, community events, and educational programs, the library encourages innovation and collaboration among its users. This role as an incubator not only supports individual growth but also fosters a culture of learning and community engagement, making it a vital resource for the neighborhood.



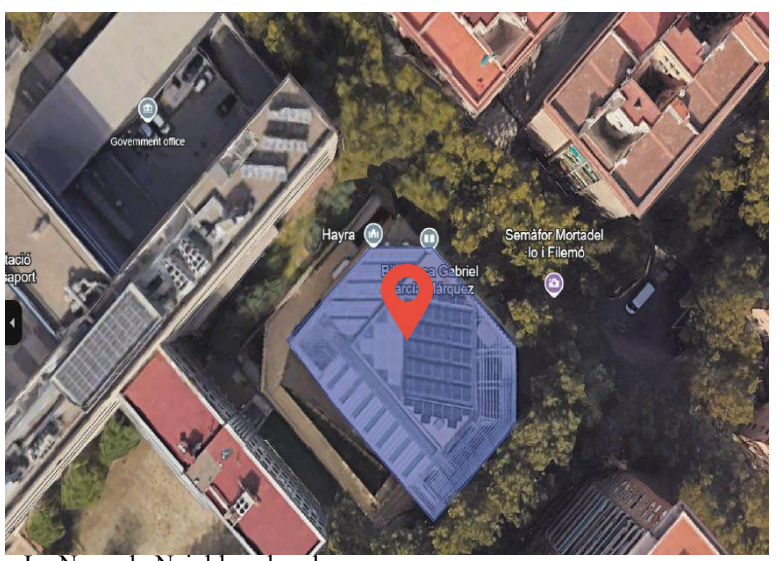
*Side facade  
Source: Jesús Granada*

# CONTEXT:

## Location:



Spain  
Source: Researchgate



La Nevada Neighbourhood  
Source: Google Earth

Biblioteca Gabriel Marquez Library is found in **La Nevada** neighbourhood located in **Sant Marti District** in **Barcelona, Spain**.

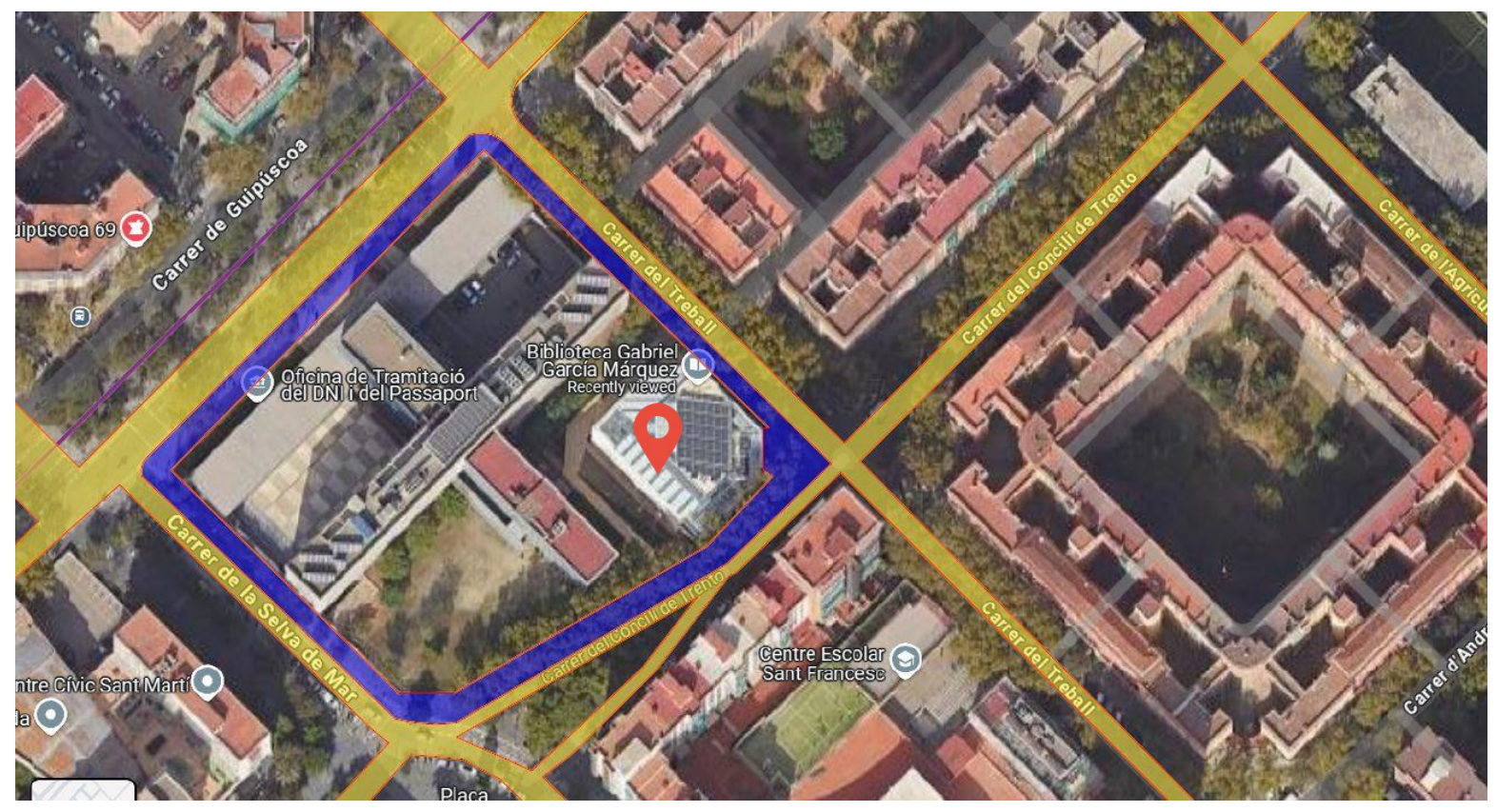
Geographical coordinates:  
**41 degrees North, 2 degrees East.**

## Access:

The library is located at a junction between 2 streets; **Carrer del Treball** and **Carrer del Concili de Trento**. The main entrance of the library is at the chamfered end that is open to the street for local residents of the neighbourhood.



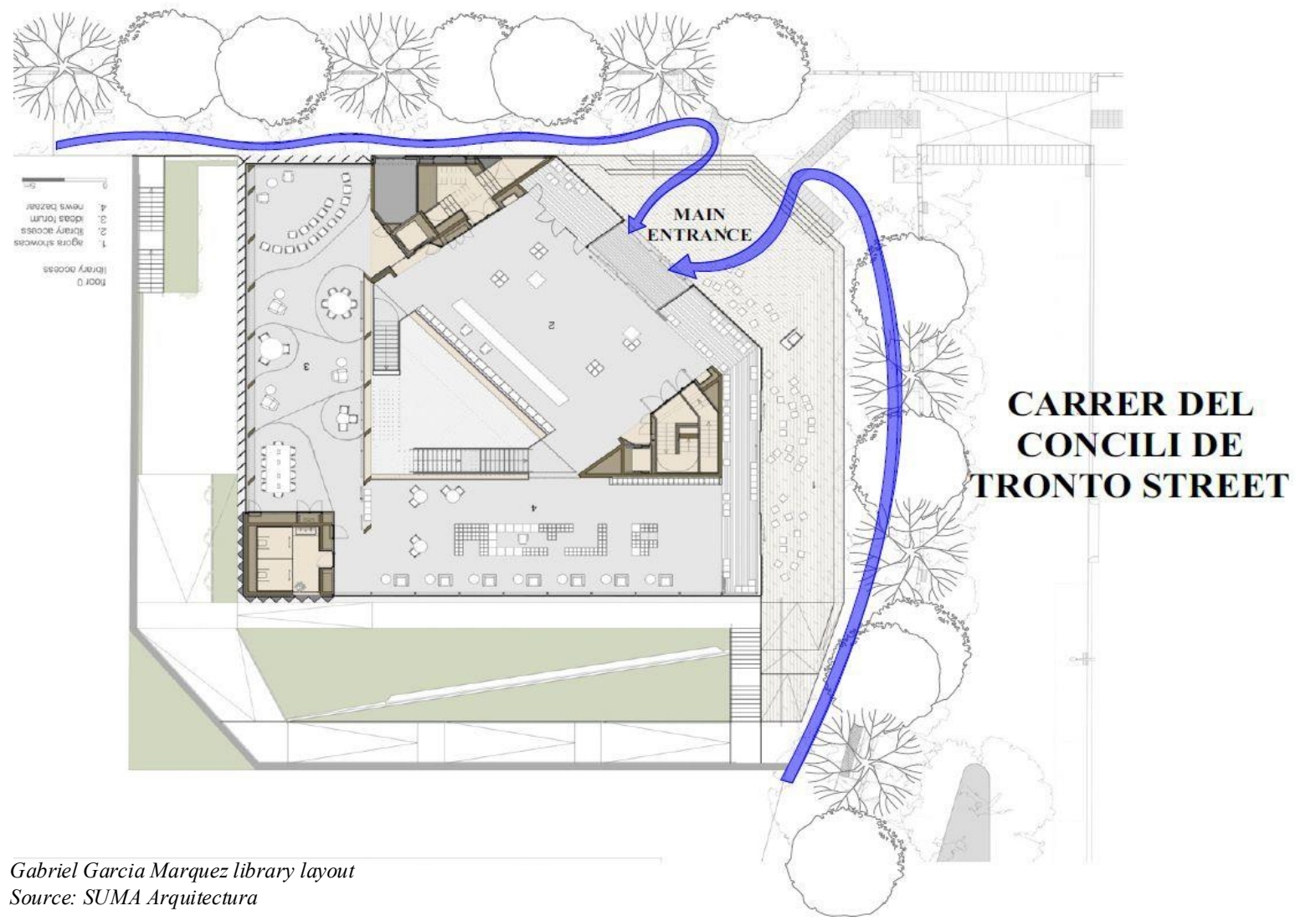
Motorists can access the library using the streets around the library. There is no parking in the library, so motorists park on the streets. Pedestrians can access the library using paved paths that are shaded by trees. The library's main entrance is raised so pedestrians have to climb steps to access the entrance. The library also has ramps for easy access to the disabled persons.



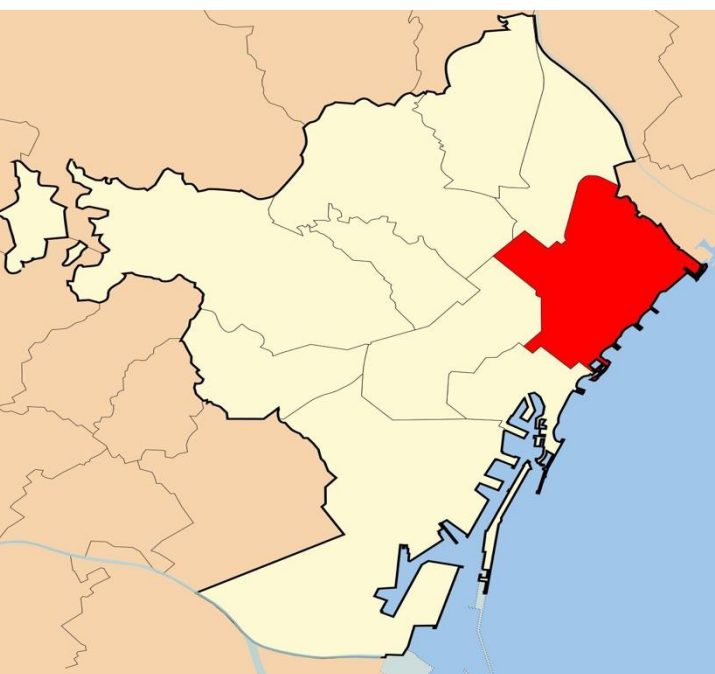
La Nevada Neighbourhood  
Source: Google Earth

- Pedestrian access
- Vehicular access

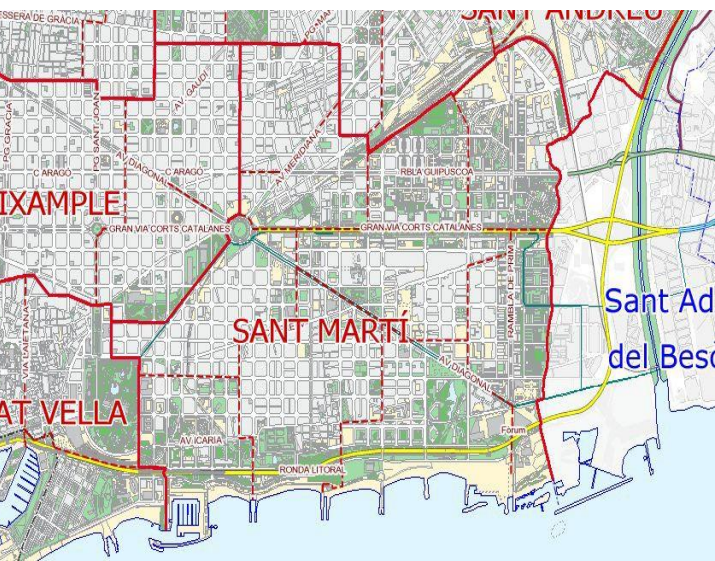
## CARRER DEL TRABALL STREET



Gabriel Garcia Marquez library layout  
Source: SUMA Arquitectura

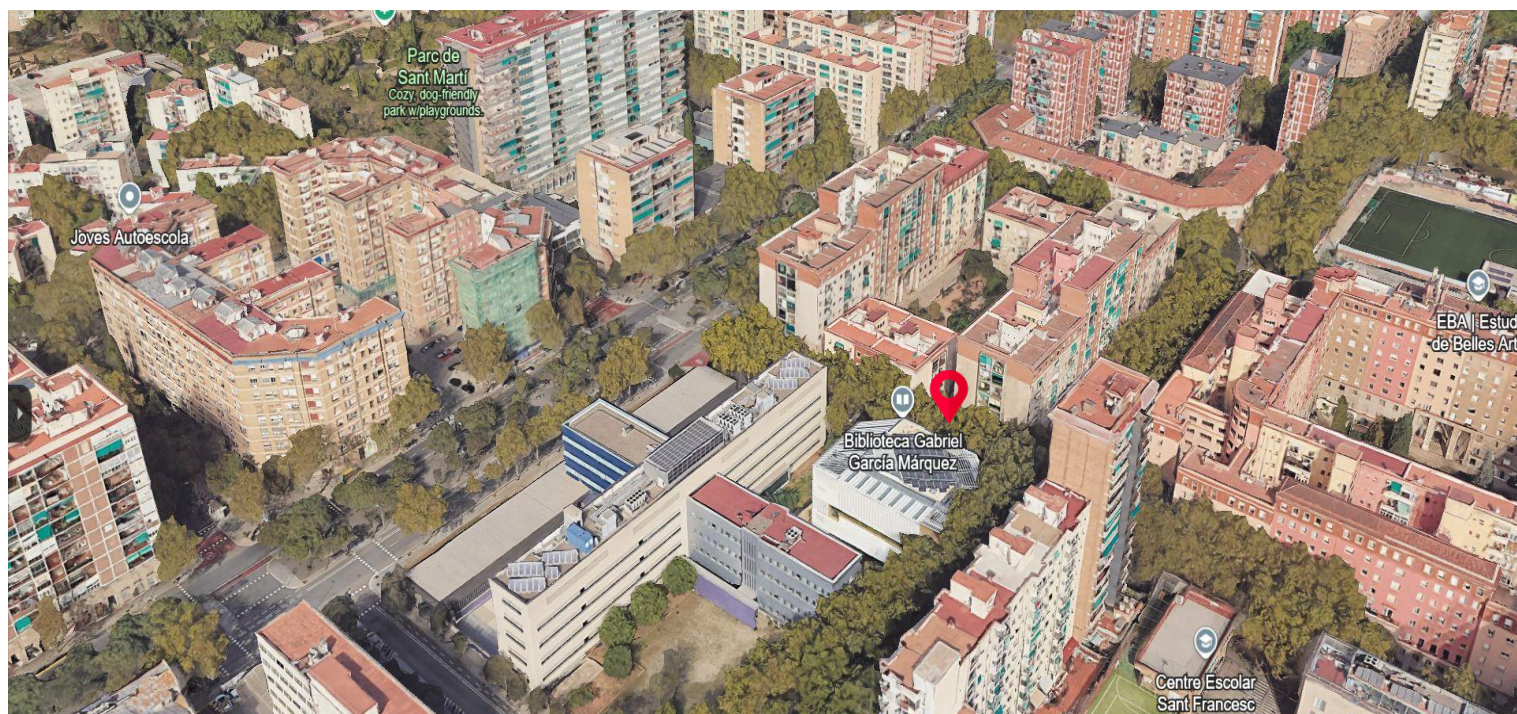


Barcelona  
Source: Wikipedia



Sant Marti District  
Source: Gifex.com

**Neighbourhood:**



The chamfer is inspired by the corners of Ildefons Cerda's urban project.



Aerial view of surroundings of Garcia Marquez Library  
Source: Google Earth

The library is a community, social and educational resource/facility for the local residents. SUMA arquitectura aimed to make the library an extension of the residents home.

Aerial view of La Nerveda neighbourhood with Garcia Marquez library  
Source: Google Earth

The library is located in **La Nerveda neighbourhood** in **Sant Martí neighbourhood** in one of the plots of Barcelona's grid.

Context causes the geometry of construction to adapt to conditions of the environment, replicating the **chamfer**, a typical urban resource of Barcelona that is consistently found in the metropolis.

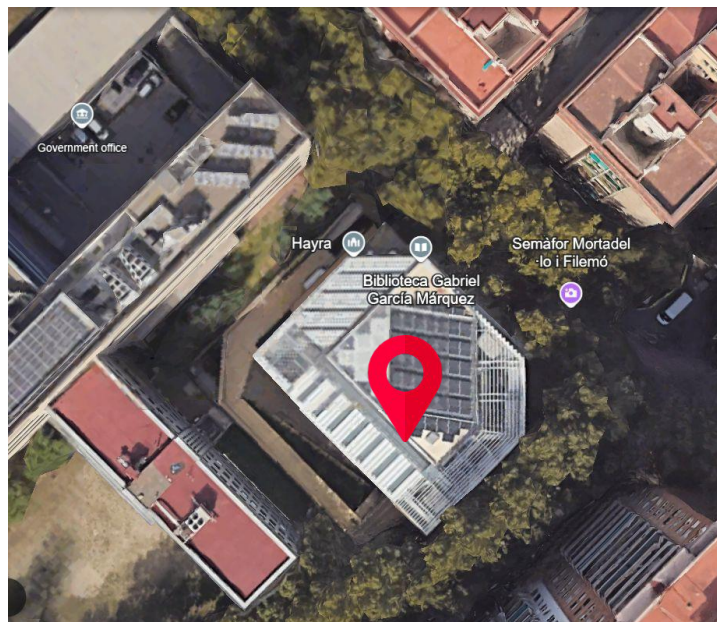


Aerial view of Ildefons Cerda's Urban project  
Source: Westend61/ Amazing Aerial  
Library is open to the direct gaze of the surrounding streets around allowing a cozy atmosphere inside the library, thus integrating it with the urbanism of Barcelona.

The library being 5 storeys high makes it of a smaller scale which is in contrast to surrounding high rise buildings.

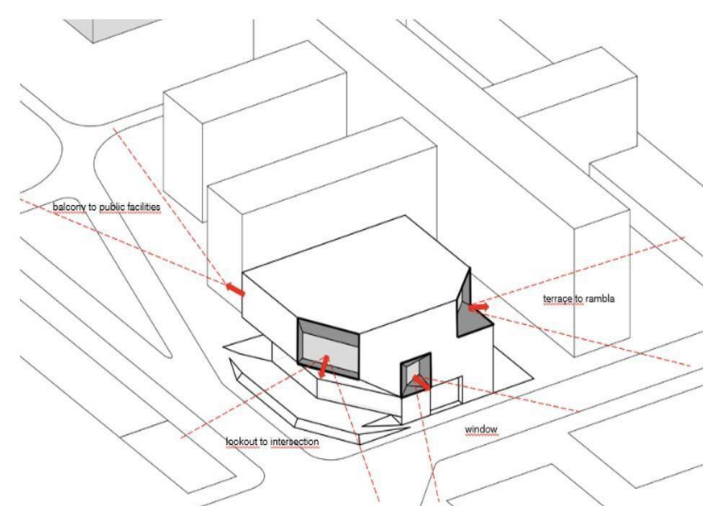
**Social and cultural environment:**

The library is open to every one of the local residents in Sant Martí district which is home to **240,000** people. It is the district's central library, in the traditional densely populated working class neighbourhoods.



Gabriel Garcia Marquez Library with chamfered ends  
Source: Google Earth

The chamfered ends integrate smoothly into the surrounding streets as well. The library being at junction of 2 streets also influences its shape.



Exterior view of Garcia Marquez Library  
Source: Metalocus



Exterior view of Garcia Marquez Library  
Source: Jesus Granada

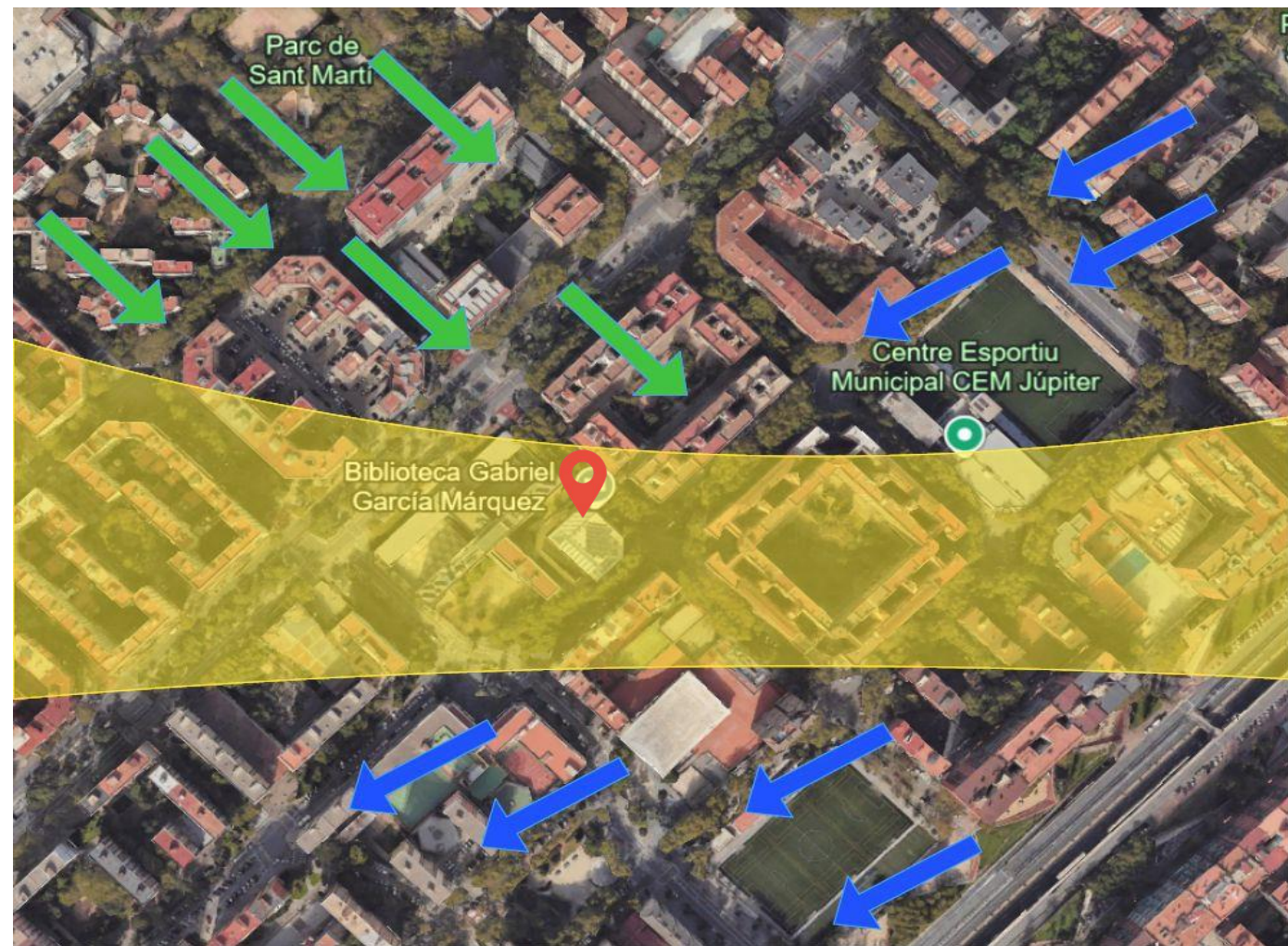


Interior view of Garcia Marquez Library  
Source: Jesus Granada

The library works a great deal with the Latino community who see the library as their own cultural space since it is specialized in Latin America literature and houses a collection of cartoonist called Francisco Ibanez.

**Site Analysis:**

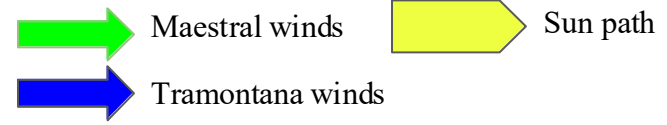
**Climate:**



RESIDENTIAL COMMERCIAL ADMINISTRATION PUBLIC/ INSTITUTIONS OPEN SPACES/PARKS

Zoning plan of Sant Marti District  
Source : Google Earth

Map showing sun path and winds experienced in Sant Marti district.  
Source: Google Earth



Sant Marti being in Spain experiences **short warm dry and mostly clear summers** and **long cold windy and partly cloudy winters**

**Temperature:**  
Hot season lasts for 3 months with average daily high temperature of 26.1 degrees Celsius.  
Hottest month- **July** with **28 degrees Celsius**  
Coldest month- **January** with **13 degrees Celsius**

**Sunshine:**  
Shortest day of sunshine is in **December** with averagely **9 hrs 7 min** of daylight.  
Longest day of sunlight is in **June** with averagely **15 hrs 15 min** of daylight.

**Humidity**  
Most humid month of the year is in **August** while least humid month of the year is in **March**.

**Winds:**  
The area experiences Maestral and Tramontana winds.  
Windyest period is between **October and April** With wind speeds of upto **13 km/hr**.  
Most calm period of the year is between **April and October** with wind speeds of upto **11 km/hr**

**Rainfall:**  
The wettest month of the year is in May while the driest month of the year is in July.  
The wet period spans a duration of 10 months while dry period spans a period of 2 months.  
During winter, the area experiences precipitation in form of snow/rainfall.

**Topography:**  
Sant Marti District is a generally sloping region and is fairly flat.

The district has various zones where different activities take place. Majority of the area is comprised of **Residential apartments** for **accomodation** of the local residents. There also exist **green parks and dog parks** which are green spaces where local residents can use for recreation.

The **administration zones** have **offices** where administration services are offered to the residents of the district. The **commercial areas** are where local residents engage in buying and selling of goods and services. Finally, the **public zones and institutions** are areas where the public can congregate for a specific function. The **library** falls under the public spaces.

- Residential:**  
Apartments
- Commercial:**  
Bar and grill  
Restaurant  
Mall  
Hairdresser  
Money transfer services  
Nail salon  
Supermarket
- Administration:**  
Passport office  
Legal services office
- Open spaces/Parks:**  
Dog parks  
Playgrounds  
City park
- Public spaces/institutions:**  
Schools  
Bingo hall  
Auditorium  
Church  
Library  
Soccer fields  
Basketball club  
Education centre

# BRIEF ANALYSIS

Public libraries serve as accessible hubs of knowledge and cultural enrichment, welcoming all community members and fostering literacy, education, and intellectual growth.



[https://commons.wikimedia.org/wiki/File:Boston\\_Public\\_Library\\_Reading\\_Room.jpg](https://commons.wikimedia.org/wiki/File:Boston_Public_Library_Reading_Room.jpg)

Libraries have transcended their traditional role as mere repositories of books, evolving into dynamic community hubs that foster learning, creativity, and social interaction.



<https://agentsofchangeprep.com/blog/library-social-work/>

They exemplify the concept of a third place; the informal spaces that are often mainstays in a neighborhood, places where both random and intentional in-person relationships are made.

## PROGRAM REQUIREMENTS OF A LIBRARY

- Collection Spaces/Book Stack Areas
- Technology and Multimedia Zones
- User Seating Spaces/Study Areas
- Staff Work Spaces
- Community and Event Spaces
- Special Collection and Archives
- Non Assignable Space
- Site and Parking

### 1. COLLECTION SPACES/BOOK STACKS

Collection spaces in libraries refer to the areas specifically designed for housing and accessing the library's physical and digital collections.

These spaces can include traditional areas like book stacks and reading rooms, as well as more modern spaces like digital media labs, maker spaces, and collaborative learning areas.



Photo : Book Stack section ,Hodgeman County Elementary School Library  
Source  
[https://www.usd227.org/vimages/shared/vnews/stories/4e5478b4596f9/1\\_1314158801718.jpg](https://www.usd227.org/vimages/shared/vnews/stories/4e5478b4596f9/1_1314158801718.jpg)

## SPATIAL CONSIDERATIONS

- Environmental Control

**Temperature and Humidity:** Consistent temperature (18–22°C) and relative humidity (30–50%) to prevent mold growth, paper degradation, and binding damage.

**Air Quality:** Incorporate filtration systems to minimize dust, pollutants, and odors that can damage books.

**Light Exposure:** Use UV-filtered glass and low-intensity lighting to reduce light exposure, as it can fade and degrade materials over time.



Source : <https://www.freepik.com/author/EyeEm>



Photo : Triangular Void acting as a solar chimney, Gabriel García Márquez Library  
Source : Jesus Granada



source : <https://www.freepik.com/author/artefacti>

- Fire Safety

Effective fire safety measures, including sprinkler systems, fire alarms, and clearly marked evacuation routes, are crucial to protect invaluable collections. Accessibility

Aisles are wide enough for safe navigation, including wheelchair access.

- Scalability

Design storage areas with the ability to expand as the book collection grows.



<https://www.partitions-walls.com/supplier-883>  
40p14-sliding-partition-walls

## 2. TECHNOLOGY AND MULTIMEDIA ZONES

There is a demand that all public and staff areas of the library provide for the connection of computers and information appliances, both mobile and fixed, that use two-way voice, data and/or video communications services.



Source: <https://i.pinimg.com/736x/41/41/b9/4141b9cc190e1e7c300182eab319d7bc.jpg>

Technology affects the library's electrical and wiring needs. Buildings should be capable of supporting wired (up to 1 GBPS) and/or wireless (up to 2 MBPS - primarily for mobile devices) access to digital communications services that may originate from within the building or from external networks.

In addition, libraries may want to consider exterior (wall or roof) mounting of a satellite antenna (e.g., DBS) for satellite reception, if the same signals are not available through the communications facilities described above.



Ventilation for equipment and sufficient power outlets are important spatial considerations.

## 3. USER SEATING SPACE/STUDY AREA

These are dedicated spaces for quiet study, group discussions, and leisure reading.

The section can be divided into:

- Individual desks or cubicles: This area should have individual desks or carrels, providing quiet spaces for focused individual work.



Source: <https://i.pinimg.com/736x/bb/eb/99/bbe998d608f6e2c4db37706b00c2efa.jpg>

- Group study rooms or collaborative areas: This section should have larger tables and comfortable seating for group projects and discussions.



Group Study Section, **Gabriel García Márquez Library**

Source: Jesus Granada 2023

- Comfortable seating like armchairs for leisure reading: This area should be equipped with whiteboards, easels, and comfortable seating to encourage brainstorming and creative thinking.



**Gabriel García Márquez Library**

Source: Jesus Granada 2023

Libraries should provide 5 user seats for every 1,000 people in their projected service area. Libraries serving less than 10,000 residents should provide 7 to 10 seats for every 1,000 residents.

For seating at tables the design should allow 2.5 square meters per seat; for seating at study carrels, 2.8 square meters and for seating in lounge chairs 3.3 square meters.

## SPATIAL CONSIDERATIONS

- Creating a balance of open and enclosed spaces to cater to diverse study styles.
- Ensuring adequate natural and artificial lighting to minimize eye strain.
- Incorporating acoustic treatments to minimize distractions.
- Providing comfortable and ergonomic seating options, strategically placing power outlets and Wi-Fi access points.
- Flow of traffic to prevent congestion and maintain a peaceful atmosphere. Additionally, the design should.
- Prioritizing accessibility for all users, including those with disabilities, by incorporating ramps, elevators, and adjustable furniture.

## 4. STAFF WORK AREA

This includes Workstations, offices meeting rooms, service stations, lounges and break rooms for the library management and operations staff.

These spaces should be close to public spaces for oversight.



<https://www.index.ae/services/it-services/>

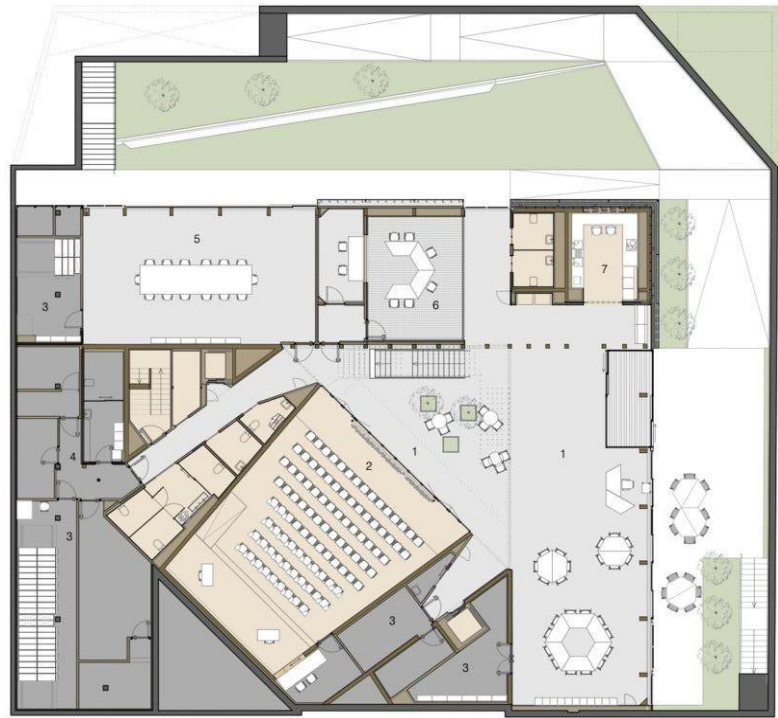
## 5. COMMUNITY AND EVENTS SPACES

Most public libraries provide spaces to accommodate library-sponsored programs and other community meetings.

The determination of the number and size of meeting rooms should consider the library's long-range plan, anticipated programming activities, and the availability of comparable meeting spaces within the community for other local groups.

There are two basic types of event spaces:

- lecture hall or theater seating
- Conference room seating.



**Gabriel García Márquez Library**  
Source: <https://images.adsttc.com/media/images/6451/6819/c7f6/0801/7cac/acef/slideshow/screen-shot-2023-05-02-at-15-38-47-17.jpg?1683056687>

## 6.SPECIAL COLLECTION/ARCHIVES

An archives section within a library is a dedicated space for preserving and providing access to historical records and other unique materials of enduring value.

These can include manuscripts, photographs, maps, audio recordings, and ephemera.

The archives play a vital role in preserving local history, supporting research, and connecting the community to its past.

They serve as valuable resources for scholars, genealogists, historians, and the general public, offering insights into the social, cultural, and political development of a region or community.



<https://www.barnesfoundation.org/research>

## 7.NON-ASSIGNABLE SPACE

Non-assignable space is that portion of the building that cannot be applied directly toward library service.

They include the utility service and circulation spaces such as : janitor's closets, storage rooms (including space for staff supplies), vestibules, security systems near entrances and circulation desks, corridors, stairwells, elevator shafts, and restrooms.



Group Study Section, *Gabriel García Márquez Library*  
Source: Jesus Granada 2023



Photo : Tainan Public Library  
Source : Ethan Lee

## 8.SITE AND PARKING

The library grounds should be well lit and clean with a prominent lighted outside sign designating the building or portion of the building as the library.

The total number of parking spaces should be one for each staff member plus one-half the number of adult seats in the building.

## THE SOCIAL IMPACT OF LIBRARIES

**Fostering Literacy and Education:** Libraries provide free access to books, educational resources, and digital tools, making them cornerstones of lifelong learning. They play a crucial role in improving literacy rates, especially among children, and support academic success at all levels.

**Bridging the Digital Divide:** Many libraries offer free internet access and digital literacy programs, ensuring that everyone has the opportunity to participate in the digital world. This is particularly important for low-income families and individuals who may not have access to computers or reliable internet at home.



Source :  
<https://www.linkedin.com/pulse/four-tips-bridge-digital-divide-nilesh-mistry>

**Preserving Cultural Heritage:** Libraries collect and preserve valuable historical materials, such as books, manuscripts, photographs, and local archives. This helps to ensure that the community's history is preserved and accessible to future generations.



Photo : Tainan Public Library  
Source : Ethan Lee

## SPATIAL CONSIDERATIONS

- Separate access to the meeting space even when the library is closed.
- A kitchen in or close to the general meeting room.
- A lockable storage area connected to the general meeting room for chairs, tables, and equipment.

# DESIGN BRIEF

## SCHEDULE OF ACCOMMODATION

### FLOOR -1

1. Atrium
2. Multipurpose space
3. Warehouse
4. Backstage
5. Archive
6. Radio
7. Kitchen

### FLOOR 0

1. Agora Showcase
2. Library Access
3. Ideas Forum
4. News Bazaar

### FLOOR +1

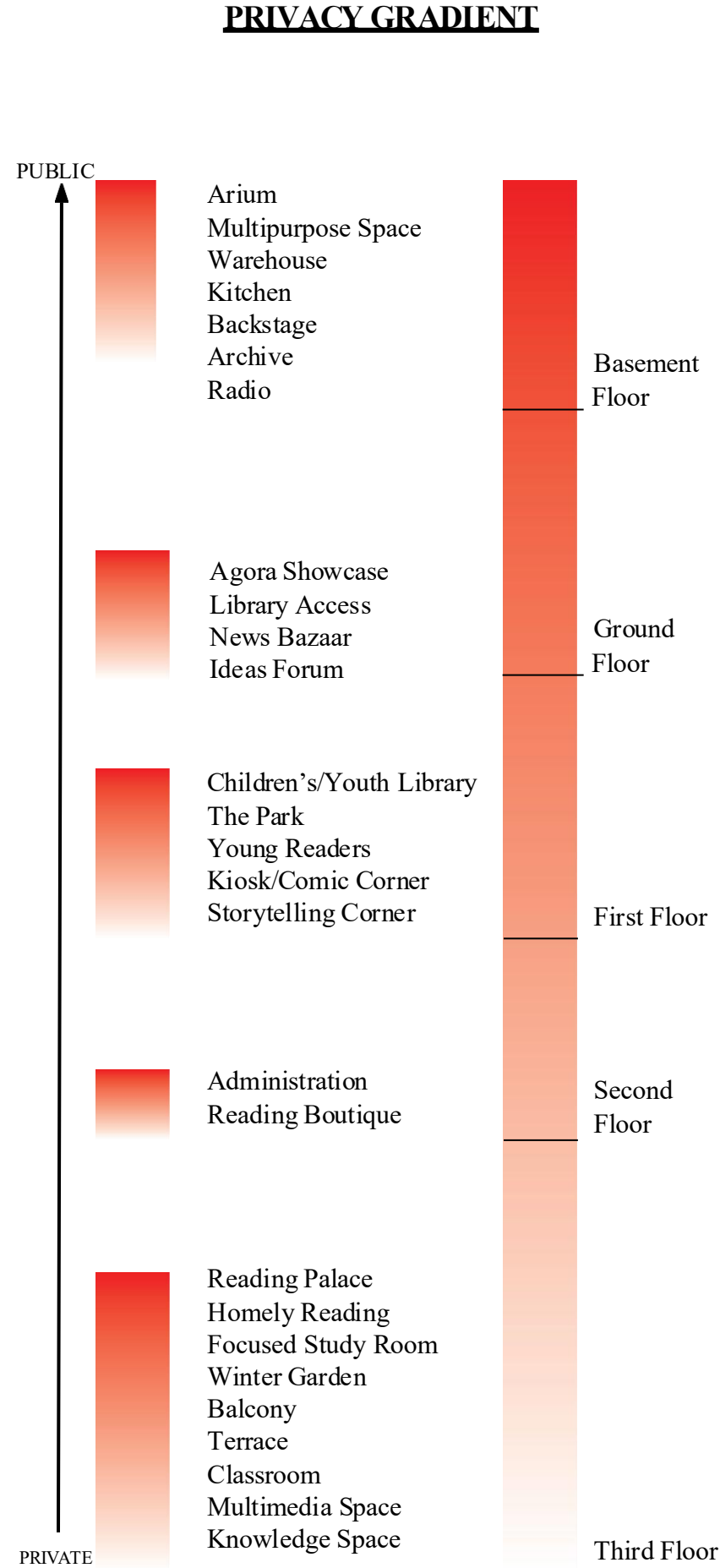
1. Storytelling Corner
2. Young Readers
3. The Park
4. Kiosk/Comic Corner
5. Children's/Youth Library

### FLOOR +2

1. Reading Boutique
2. Administration

### FLOOR +3

1. Winter Garden
2. Balcony
3. Homely Reading
4. Reading Palace
5. Focused Study Room
6. Terrace
7. Knowledge Space
8. Multimedia Space
9. Classroom



## SPATIAL ANALYSIS

SPACE	AREA	FLOOR	CONSIDERATIONS
LIBRARY ACCESS	180	GROUND	<b>Circulation:</b> Pathing and traffic patterns. <b>Access:</b> Ease of entry and exit. <b>Security :</b> Control of entry and exit
MULTIPURPOSE SPACE	150	BASEMENT	<b>Capacity:</b> Number of people it can accommodate. <b>Flexibility:</b> Ability to be rearranged. <b>Acoustics:</b> Sound quality and control.
ADMINISTRATION	170	SECOND	<b>Privacy:</b> Confidentiality for staff and patrons. <b>Visibility:</b> Supervision and observation.
YOUTH LIBRARY	200	FIRST	<b>Engagement:</b> Interactive and stimulating environment. <b>Exploration:</b> Opportunities for discovery and curiosity.
KITCHEN	25	BASEMENT	<b>Safety:</b> Fire safety and hygiene. <b>Storage:</b> Ample space for food.
ARCHIVE	110	BASEMENT	<b>Security:</b> Protection from theft, damage, and unauthorized access.
RADIO	54	BASEMENT	<b>Stability:</b> Environmental control <b>Acoustics:</b> Sound quality and control <b>Isolation:</b> Soundproofing to minimize external noise.
STORYTELLING CORNER	42	FIRST	<b>Flexibility:</b> Adaptable to different group sizes. <b>Aesthetics:</b> Visually appealing and engaging decor.
FOCUSED STUDY ROOM	120	THIRD	<b>Ventilation:</b> Adequate airflow and temperature control. <b>Lighting:</b> Adjustable lighting levels.
CLASSROOM	38	THIRD	<b>Flexibility:</b> Adaptable to different seating arrangements. <b>Visibility:</b> Clear sightlines to the instructor.
MULTIMEDIA SPACE	50	THIRD	<b>Technology:</b> Integration of audiovisual equipment. <b>Flexibility:</b> Adaptability to various uses and configurations. <b>Connectivity:</b> Reliable internet access and power outlets.

**DESIGN ANALYSIS:**

**CONCEPT & FORM DEVELOPMENT**

**“THE LIBRARY AS AN URBAN LOUNGE”**

The library is designed as a social condenser, fostering interaction and collaboration among residents. The design was meant for the lifestyle of individuals.

Suma Arquitectura proposed for a holistic redefinition of the relationships between architecture, collection, staff and users to offer a repertoire of ecosystems whose experience is irreplaceable by electronic media.

**HOW IT MANIFESTS:**

The library is designed as a result of the combination of a diversity of spaces, designed holistically to foster the experience of accessing, exchanging and producing knowledge for all age groups and audiences.

**1. THE AGORA-SHOWCASE**



The Agora showcase at the entrance  
Source: Jesús Granada

This space offers a permeable and reconfigurable meeting and exhibition space at the entrance.

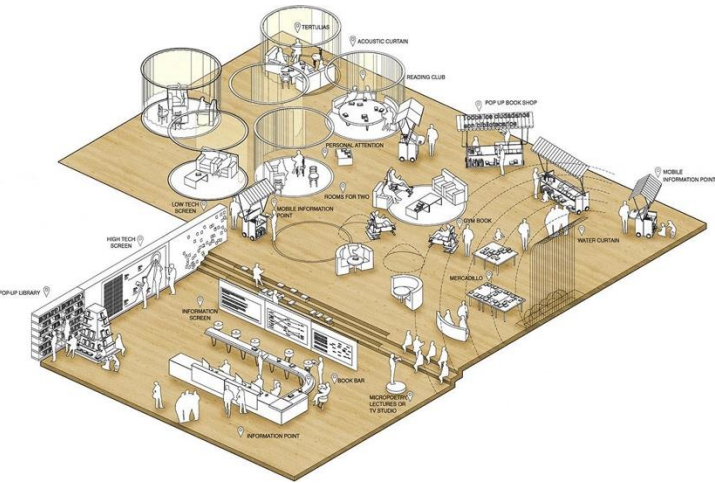
It acts as a bridge between the library and the surrounding urban landscape, inviting pedestrian traffic and blending seamlessly with the neighborhood cultural activities.



Axonometric view of Agora Showcase  
Source: SUMA Arquitectura

**2. FORUM OF IDEAS**

The forum of ideas just as the name suggests was designed to offer various types of meetings with furniture of various heights and sizes, with semi transparent curtains. The flexibility of the space mirrors the inviting, adaptable atmosphere of a



Axonometric view of forum of ideas  
Source: SUMA Arquitectura



The Forum of ideas area.  
Source: Jesús Granada

**3. READING PALACE**

This space is designed in way that allows each user to a different reading experience from taking shelter on a sofa, to reading on the terrace or in the winter garden among rocking chairs or hammocks.



Axonometric view of Reading palace  
Source: SUMA Arquitectura



The Reading Palace.  
Source: Jesús Granada

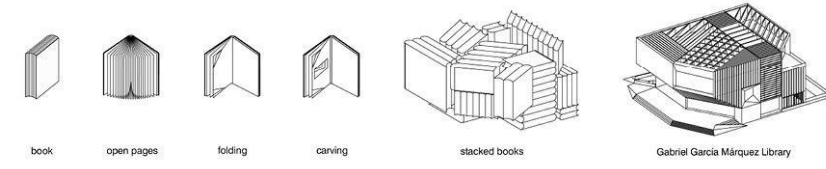
The building is configured for the user as a complex, enriching landscape, a spiral of encounter dedicated to various culture where one can find their place just as a lounge is designed and designated to be.

**FORM DEVELOPMENT**

The form of the building is inspired by “books”. The facade design is such that it appears as a multiple layer of open books or books with folded or perforated pages.

The “books” are created by a dense structure of wood panels that are oriented in different directions.

The building appears also as a cube, altered through series of cut outs and a facade arranged in a fragmented way alternating transparencies and corrugated textures.

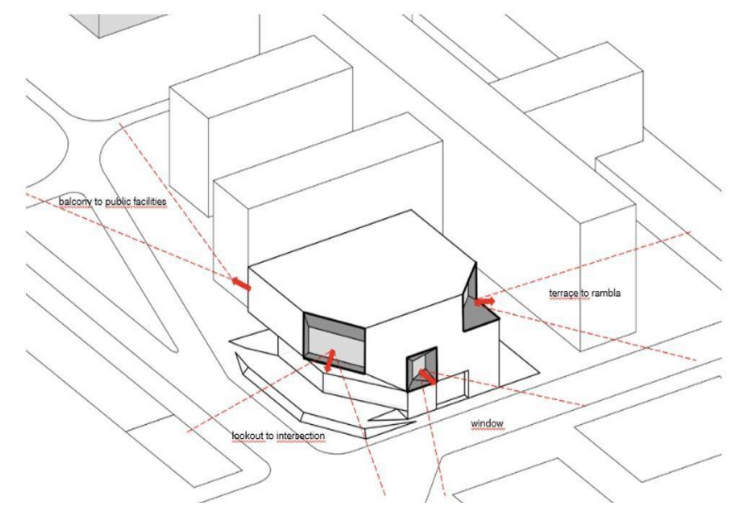


Conceptual Scheme.  
Source: Metalocus



Facade design.  
Source: Jesús Granada

The main corner is a reinterpretation of the characteristic chamfer of Barcelona's Eixample inspired by Ildefons Cerda’s urban project, chamfered at an angle of 45 degrees.



Exterior view showing the cut-outs  
Source: Jesús Granada

# ACCESS AND CIRCULATION

In this section we shall discuss the following:

1. External Circulation
2. Internal circulation
3. Functional aspects

## 1. External Circulation

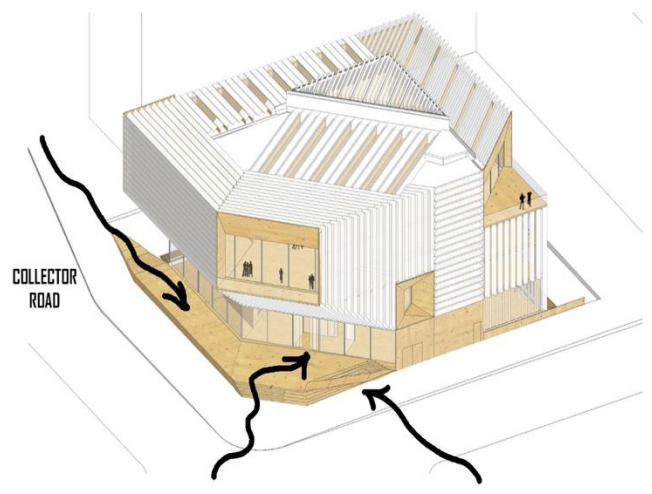
The external circulation system not only ensures ease of access for vehicles and pedestrians but also enhances the connection between the library and its cultural and natural setting.



Source: google earth

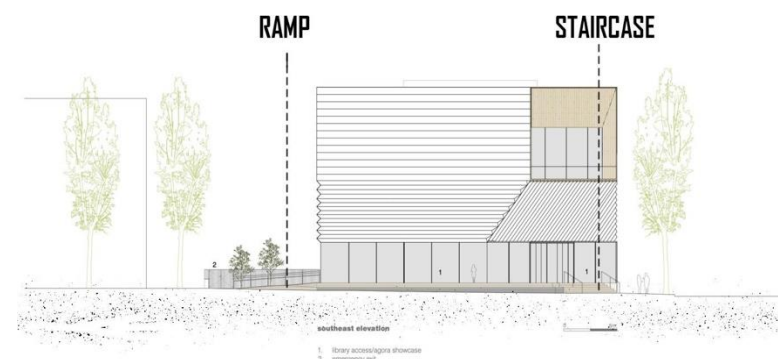
- Access Points and Pathways

The library's main entrance is located on an **elevated square**, which serves as both a transitional zone and a focal point for arrival.



Source: Metalocus

The square is accessible via ramps and stairs, ensuring inclusivity for all users, including individuals with mobility challenges.



Source: Metalocus

Wide pedestrian pathways from nearby streets, such as Rambla de Guipúscoa and Carrer del Treball, converge at this elevated platform.



Source: google earth

- Integration with Urban Context

The library is located along a **cultural axis**, making it an integral part of the neighborhood's social and cultural life.



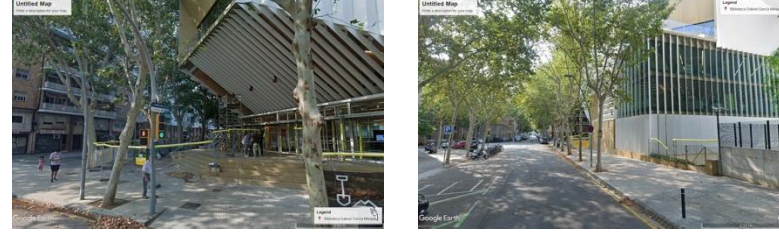
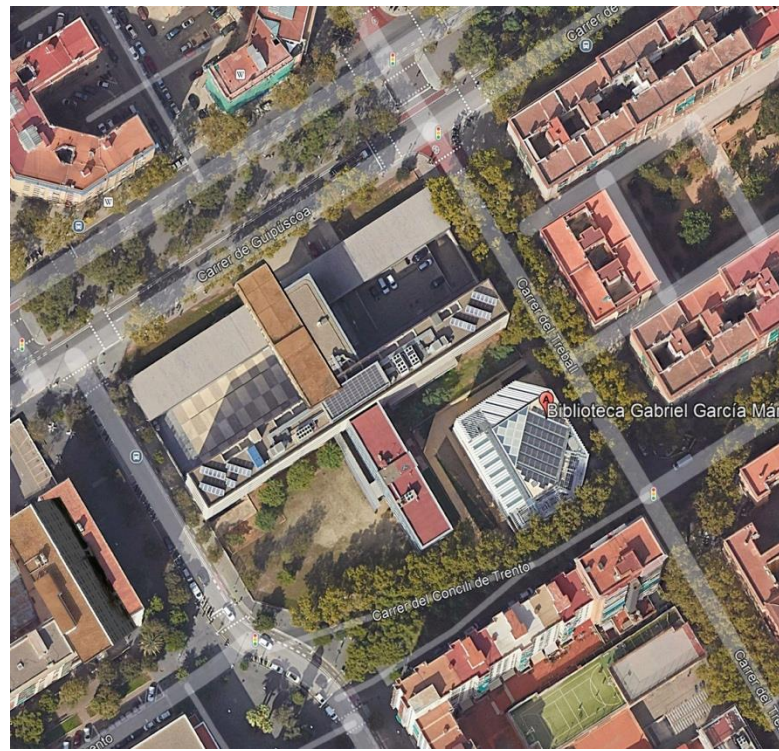
Source: google earth

Surrounding roads and pedestrian paths are designed to converge seamlessly with the library, ensuring it is easily approachable from all directions.



Source: Metalocus

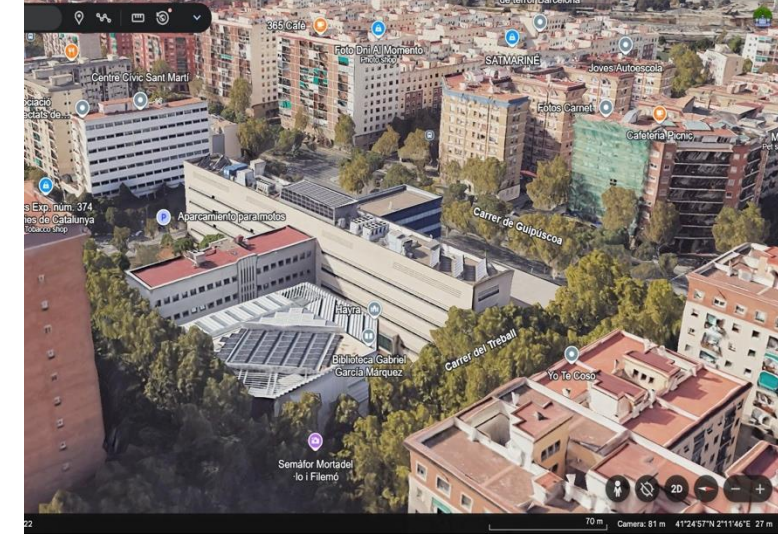
Landscaping elements, such as preserved trees and planted terraces, create a harmonious transition between the library and the urban environment, reducing the impact of the built form on the natural setting.



Source: google earth

- Vehicular Access

Parking and drop-off points are strategically placed near the library but at a distance from the main pedestrian areas to avoid congestion and maintain a safe, walkable environment.



Source: google earth

These facilities are accessible from Carrer del Treball and nearby roads, ensuring convenience for visitors arriving by car.

The library is well-connected to public transport routes, with nearby bus stops and metro stations providing easy access for visitors without vehicles.



Source: google earth

The shaded **porticoed plaza** at the entrance creates a welcoming transition from the bustling street to the serene interior of the library.

Wide pedestrian pathways and the lack of vehicular intrusion enhance the comfort and safety of visitors moving around the site.



Source: Libertad Digital

# ACCESS AND CIRCULATION

## 1. Internal Circulation

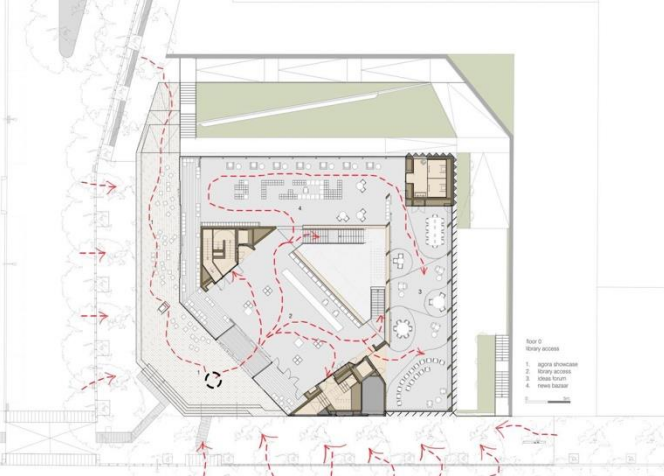
The circulation design of the Gabriel García Márquez Library by SUMA Arquitectura is integral to its architectural concept and functional efficiency. Here's an analysis of both horizontal and vertical circulation, highlighting their unique features and organization:

- **Horizontal Circulation**

**Design and Layout:**

The library's horizontal circulation is designed to be fluid and intuitive, promoting seamless movement through its public spaces.

The ground floor and open plaza areas encourage free-flowing pedestrian movement, harmoniously integrating the building with its urban surroundings.



Source: Metalocus



Source: Metalocus

Corridors and passageways are uncluttered and logically arranged, connecting spaces like the Forum of Ideas and reading terraces without interrupting the flow.



Source: Metalocus

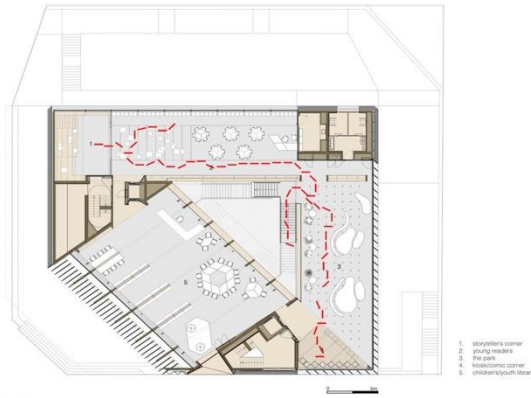
Spaces such as the Agora-Showcase and Reading Palace prioritize user movement by avoiding unnecessary partitions, ensuring smooth transitions between areas.



Source: Metalocus

**Flow of Movement:**

The use of linear and radial pathways directs movement toward key spaces like the reading areas and the exhibition zones.



Source: Metalocus

The ground floor plaza acts as an anchor point, inviting visitors into the library and distributing them to different areas via expansive hallways.



Source: Metalocus

**Flexibility:**

Spaces are multifunctional, allowing for a blend of circulation and activity. For instance, pathways in the exhibition areas also serve as informal gathering spots, enhancing the library's dynamism.



Source: Metalocus

- **Vertical Circulation**

**Core Features:**

Vertical movement is facilitated through several centralized circulation cores containing elevators and staircases. The design ensures easy access to all five floors, with vertical circulation elements integrated into the building's sculptural aesthetic.



Source: Metalocus



Source: Metalocus

Open staircases are not only functional but also sculptural, contributing to the library's aesthetic identity. Their placement within the atrium ensures abundant natural light, making movement between floors a pleasant experience.

Secondary staircases are positioned in less prominent areas of the library, providing additional routes for localized movement between adjacent floors.

These staircases also function as part of the building's **emergency evacuation plan**, adhering to fire safety regulations and ensuring rapid egress when necessary.

# ACCESS AND CIRCULATION

## Materiality and Experience:

The staircases utilize materials such as wood and perforated steel, balancing durability with a warm, tactile quality.

These materials contribute to the library's contemporary design language while ensuring safety and comfort.



Source: Metalocus

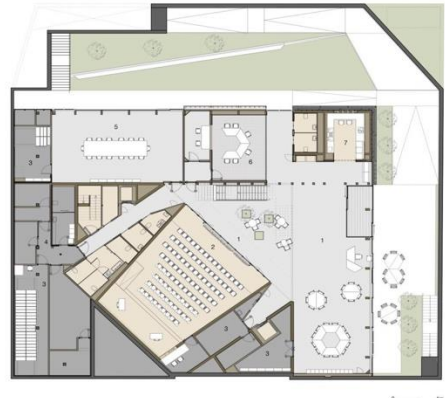


The staircases encourage use by offering a visually pleasing and engaging experience, blending practicality with moments of pause and observation.

The vertical circulation through material choice and design is able to create a unique feel as one goes through the different levels of the library. The different sun positions of the day also creates unique shadows adding to the beauty of the building.

## Organizational Logic and Spatial Hierarchy:

The vertical circulation design reflects the spatial hierarchy of the library. Public areas, such as the Agora-Showcase and Forum of Ideas, are easily accessible via prominent circulation paths.



Source: Metalocus

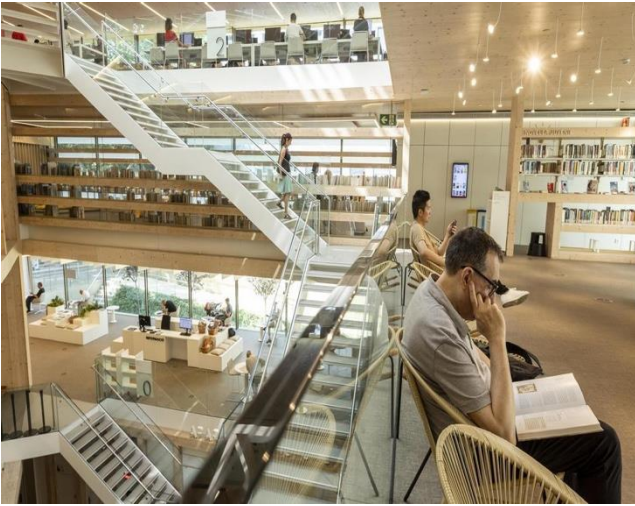
Staff-only areas, including archives and operational zones, have restricted access through separate, less-visible vertical routes.

## Progression of Spaces:

Vertical circulation supports a gradual transition from active, public spaces on lower floors to quieter, more contemplative spaces on upper floors, such as reading terraces and the winter garden.



Source: Metalocus



Source: Metalocus

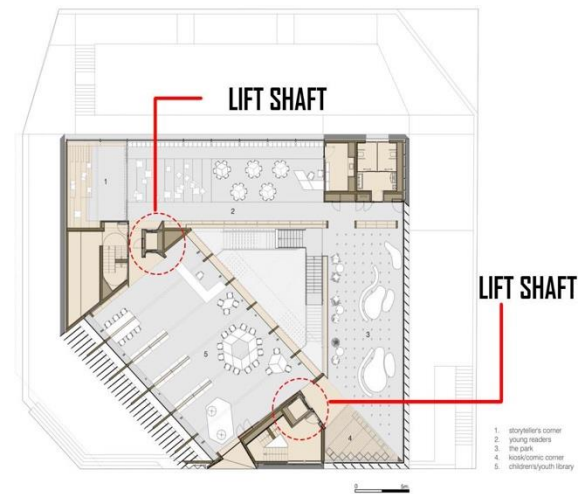
## Elevators:

Elevators provide barrier-free access to all levels, ensuring inclusivity for individuals with mobility challenges or those carrying heavy materials.



Source: Metalocus

Located within the vertical core, elevators are easily identifiable and spacious enough to accommodate multiple users, including those with wheelchairs or strollers.



Source: Metalocus

The number and placement of elevators minimize waiting times and ensure efficient vertical movement, even during peak hours.



Source: Metalocus

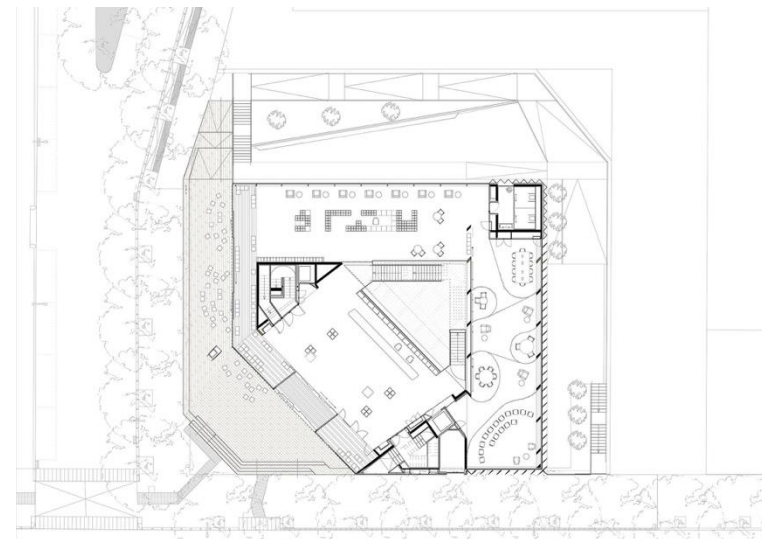
The vertical circulation in the Gabriel García Márquez Library is more than a means of moving between floors—it is an integral part of the building's architectural and experiential design. By combining efficiency, accessibility, and aesthetic value, the library offers users a journey that is as enjoyable and inspiring as the spaces it connects.

## 3. Functional Aspects

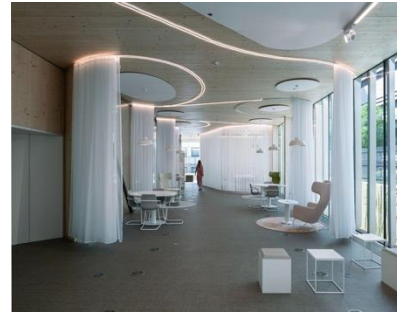
In the context of the Gabriel García Márquez Library, functional aspects of circulation refer to how the movement of people through the building supports the intended purpose and usability of the space. It encompasses the efficiency, accessibility, and adaptability of circulation systems in enabling users to navigate between various functions and zones, such as public reading areas, exhibition spaces, and quieter study zones.

## Intuitive Navigation:

The library employs an open-plan design in most public areas, allowing users to intuitively find their way through the space. Clear sightlines guide visitors naturally toward focal points such as the Agora-Showcase, Reading Palace, and vertical cores.



Source: Metalocus



Source: Metalocus

Diagram showing wayfinding in the library

# ACCESS AND CIRCULATION

## Accessibility for All Users:

Circulation systems are designed to accommodate all visitors, including individuals with mobility challenges, parents with strollers, and elderly users.



Source: SUMA arquitectura

Features such as wide doorways, gentle ramps, and barrier-free access points ensure that everyone can move freely within the library.



Elevation showing ramps and staircase used for access of the building by users. Source: Metalocus

## Flow and Efficiency:

Wide corridors and pathways prevent overcrowding, even during peak hours or events.

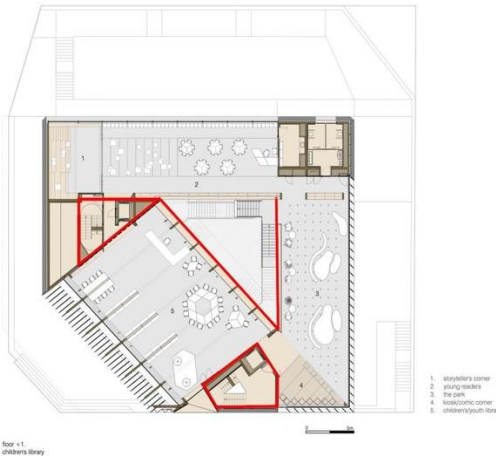


Source: Metalocus

Multiple entry points and the decentralized placement of secondary staircases allow localized movement without reliance on a single circulation core.



Source: Metalocus



Source: Metalocus

Separate service routes for staff and maintenance ensure that operational activities do not interfere with the public flow of movement. These routes include discreet stairways and service elevators connecting staff-only areas like archives and back-of-house zones.

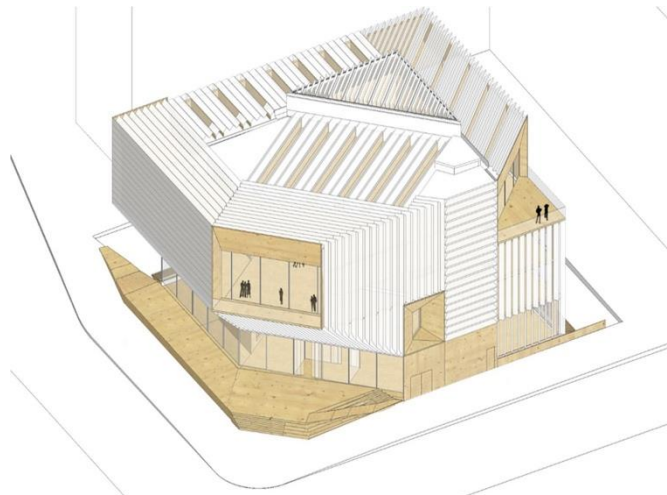


Source: Metalocus

The adaptable nature of circulation areas ensures they can accommodate a variety of events, from high-footfall exhibitions to quieter academic functions, without compromising flow.



Source: Metalocus



Source: Metalocus

## 10 Key Takeaways from the Circulation and Access Study of the Gabriel García Márquez Library:

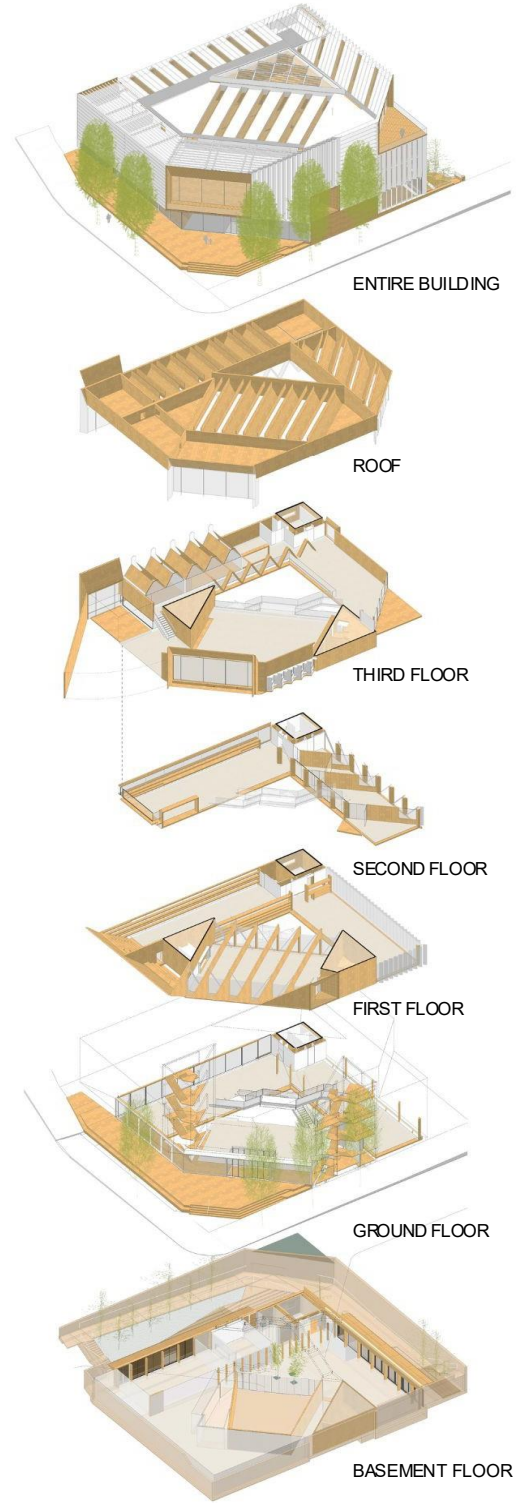
1. Ensure intuitive navigation with clear sightlines and logical connections between spaces.
2. Centralize the vertical circulation core with elevators and staircases for ease of access.
3. Design all circulation elements to be inclusive and accessible for diverse users.
4. Seamlessly integrate access points and external circulation with the surrounding urban context.
5. Establish clear zoning with hierarchical circulation paths for public and private areas.
6. Make circulation spaces multifunctional to support gatherings, exhibitions, and interaction.
7. Create smooth transitions between horizontal and vertical circulation for better flow.
8. Maximize natural light in circulation areas to enhance comfort and orientation.
9. Incorporate well-planned, visually unobtrusive emergency evacuation routes.
10. Blend functional circulation design with aesthetic harmony to enrich user experience.

# SPATIAL ANALYSIS

Recognizing that the online world poses a challenge to the concept of a library as a space for civic engagement, SUMA sought to explore how its proposal could counteract this impact.

Sevillano stated that they were interested in analyzing what a library could represent in the 21st century and how it might continue to serve as a paradigm of public space in the city.

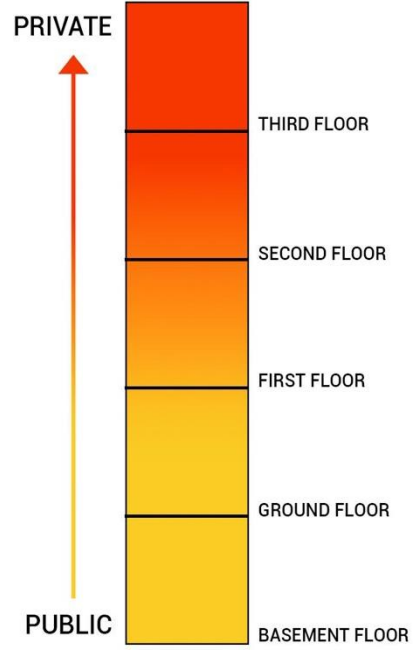
As a result, the sustainable design by SUMA redefined the traditional library program.



Programme axonometric  
Source: SUMA Arquitectura.

The Library is five-story building with an open layout.

The spaces flow naturally from public and interactive on the lower levels to private and focused on the upper levels.



Privacy gradient  
Source: Sudi Hussein (2025)

On the ground floor, reading spaces open directly to the street, while the "Ideas Forum"—areas that can be curtained off for privacy—benefits from close proximity to other spaces, fostering engagement between local organizations and clubs.

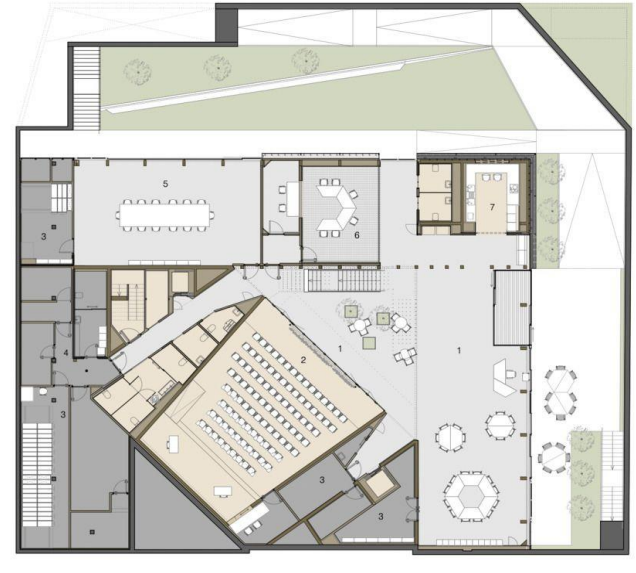
The basement houses a meeting or theatre space alongside a local radio station.

The first floor, dedicated to children, features sensory rooms, while the top level of the light-filled atrium offers adults multimedia and "concentration" rooms, terraces, and winter gardens.

The triangular courtyard ties the spaces together by bringing in natural light and air, creating a cohesive and comfortable environment.

## Basement floor

This floor is primarily for operational and event-based activities, with minimal visitor interaction unless attending a specific event.



floor -1  
multipurpose room - archive

Basement floor plan  
Source: SUMA Arquitectura.

Atrium: An open space connecting various functions and fostering interaction.



Atrium  
Source: Jesús Granada

Multipurpose space: hosts a variety of events, including book launches, lectures, cultural performances, and community discussions.

Warehouse: Storage for library and event resources

Backstage: Supports multipurpose space operations.

Archives: Repository for historical and rare documents, accessible for research.

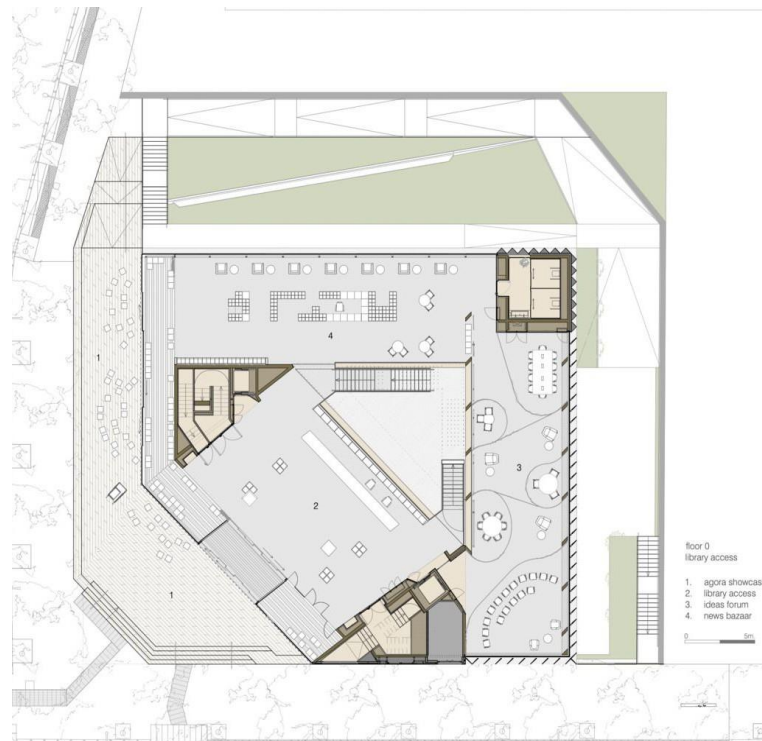
Radio Room: A local broadcasting station allowing the community to share stories, culture, and news through broadcasts.

Kitchen: Used for event catering or staff support.



Radio room  
Source: Jesús Granada

## Ground floor



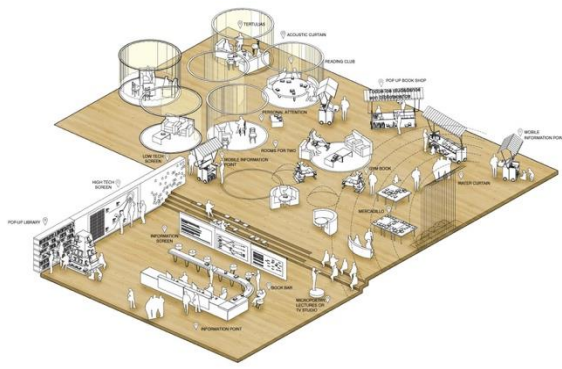
Ground floor plan  
Source: SUMA Arquitectura.

This floor brings in the more intellectual and interactive spaces where visitors can engage with latest media and brainstorm in the ideas forum.

These areas foster social and community engagement

Library Access (Foyer): The main entryway for visitors, providing orientation and access to other spaces.

Staffs also help to guide visitors through the library and help them navigate to different spaces



Ground floor axonometry  
Source: SUMA Arquitectura.

## First floor (Children's library)

This floor provide a transition from more adult-focused activities to spaces designed for younger audiences, allowing children to engage with the library in a dynamic and interactive way.

It encouraging exploration and interaction among children and families. Child-friendly seating, low bookshelves, and colorful designs make the space inviting and accessible



First floor plan  
Source: SUMA Arquitectura.

Storytelling Corner: A cozy, interactive area designed for live storytelling sessions and creative engagement..

Young Readers: Dedicated space to younger children, with books and materials curated to their developmental stages and interests.

Offers picture books, easy readers, and interactive materials aimed at early literacy and creative exploration.



Young readers and storytelling corner  
Source: Jesús Granada

Park: An indoor recreational area for children that encourages free play, relaxation, and family interaction in a creative setting.



The park  
Source: Jesús Granada

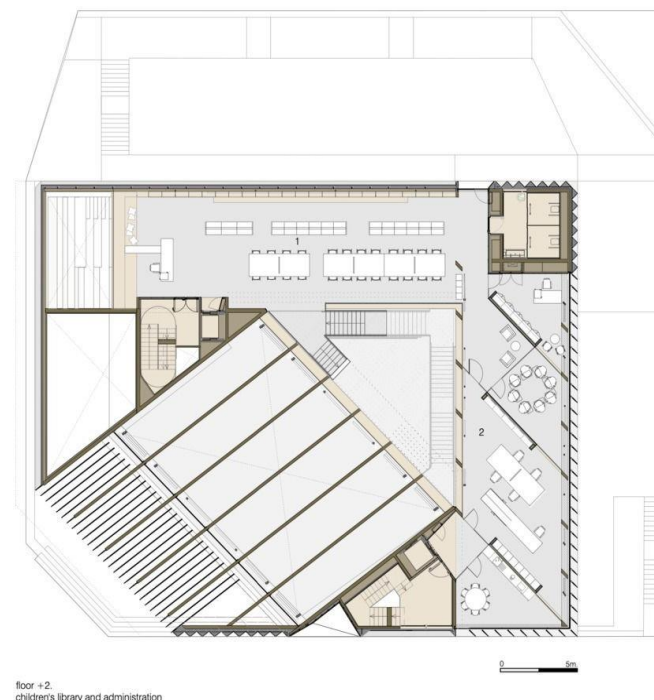
Comic corner: A kiosk dedicated to Francisco Ibáñez (famous Spanish comic book author and neighbor)

Youth Library: Offers a quiet and inspiring space for learning, reading, and personal growth especially for teenagers and young adults..

Features novels, Storybooks, nonfiction, and educational resources tailored to teens' interests and academic needs

## Second floor

Features a reading area and the administration zone



floor +2:  
children's library and administration

48

Second floor plan  
Source: SUMA Arquitectura.

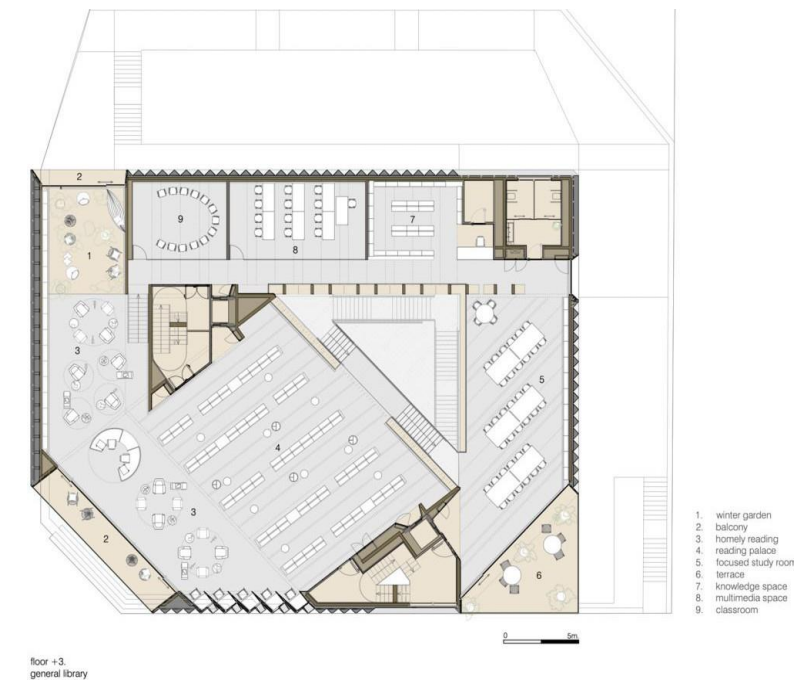
Reading Boutique: A curated space designed for a more intimate and focused reading experience that offers a quiet and refined environment for readers

Administration: Houses the library's administrative offices and staff operations that help supports the overall management, coordination of library programs, and daily operations.

## Third floor (General Library)

It, serves as the core of the library, with open, quiet spaces for study and exploration.

These spaces are designed to be calm, dedicated areas for learning, fostering concentration and solitude.



floor +3:  
general library

Third floor plan  
Source: SUMA Arquitectura.

Winter Garden: An enclosed space offering a serene environment for relaxation and reflection with rocking chairs and hammocks



Winter garden  
Source: Jesús Granada

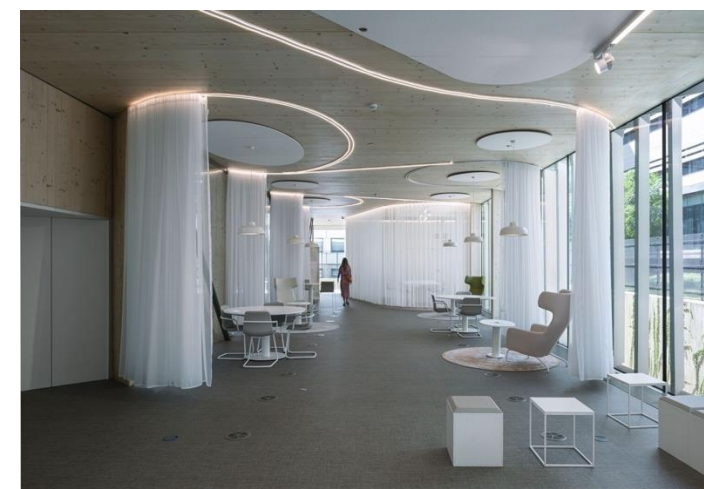


Agora showcase  
Source: Jesús Granada

Agora Showcase: offers a permeable and reconfigurable meeting and exhibition space at the entrance

News Bazaar: A vibrant space for exploring newspapers, magazines, and current publications.

Ideas Forum: A dynamic space where different types of meetings are offered with seats and tables of different sizes and heights, surrounded by semi-transparent curtains



Ideas forum  
Source: Jesús Granada

Balcony: Provides an open-air area for people to enjoy views and fresh air.

Homely Reading Area: A cozy, informal space designed to feel like home, ideal for leisurely reading.



Homely reading area  
Source: Jesús Granada

Reading Palace: A grand, elegant area for quiet reading and exploration of diverse literature.



Reading palace  
Source: Pol Viladoms

Focused Study Room: Dedicated space for concentrated academic or personal study.

Terrace: Purpose: An outdoor space for relaxation and informal gatherings.

Knowledge Space: An area containing shelves for diverse literature and research materials

Multimedia Space: Equipped with technology for digital learning, presentations, and media consumption.

Classroom: A formal learning environment for workshops, classes, and educational programs



Multimedia space  
Source: Jesús Granada

## STRUCTURES AND MATERIALS

In Suma Arquitectura, Structures is not a separate problem from the building therefore it should be dealt with holistically and from relational point of view

The wholistic approach of structures when designing the library made them explore and design structural systems with strength necessary to satisfy needs of all kinds from space, form and material, fabrication and transportation of construction material

The building appears as a sculptural solid seated on an elevated plaza.



Gabriel Garcia Marquez library  
Source: Jesus Granada, 2023

The building has 3 vertical **Cross laminated timber** cores. 2 of the cores have the staircase and the elevator. They are triangular in shape and they are next to interior courtyard

The other core is square in shape and it encloses restrooms and storage areas

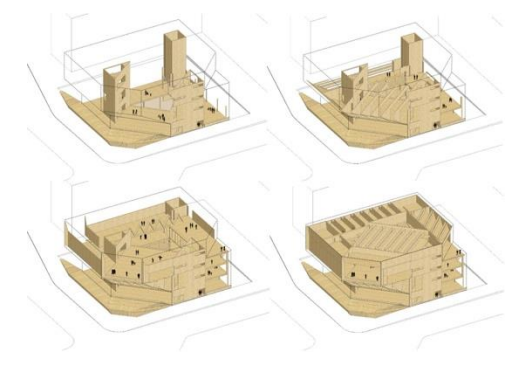


Illustration of 3 cores of Gabriel Garcia Marquez library  
Source: SUMA Arquitectura, 2022

Along these vertical cores, two different spatial typologies are alternately developed and visibly defined by their function

1. Enclosed spaces  
There is dense mix structure of wood and steel oriented according to lighting and view conditions  
The space enclose the most demanding acoustic activities.
2. Open spaces  
Most of the structure disappear here. This provides for large space and lightness for development of the main programme.



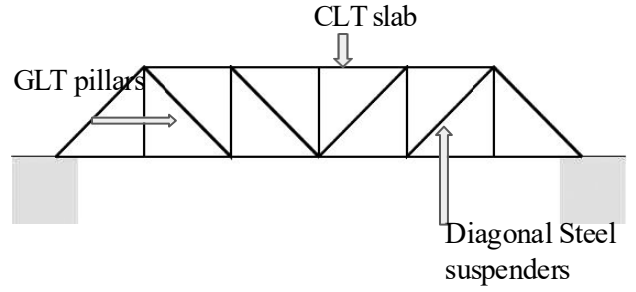
sección transversal a-a'  
cross section a-a'

1. balcón, balcony
2. palacio de la lectura, reading palace
3. espacio de concentración, study room
4. biblioteca infantil y juvenil, children's/youth library
5. administración, administration
6. el parque, the park
7. acogida, library access
8. foro de ideas, ideas forum
9. sala polivalente, multipurpose space
10. patio, atrium

Section: Gabriel Garcia Marquez library  
Source: Suma Arquitectura

Huge spans with no mid spans are achieved by a hybrid spatial truss system where cross laminated timber used as slab form the upper and the lower chord of 3D structure and **Glue laminated timber** pillars used as vertical posts are interconnected.

Both CLT and GLT pillars are connected by diagonal steel suspenders that complete the **Pratt truss system**. This hybrid system allows the lower level to unfold as large open for social programmes and allowing for flexibility



Pratt truss system  
Source: Frank Griggs Jr

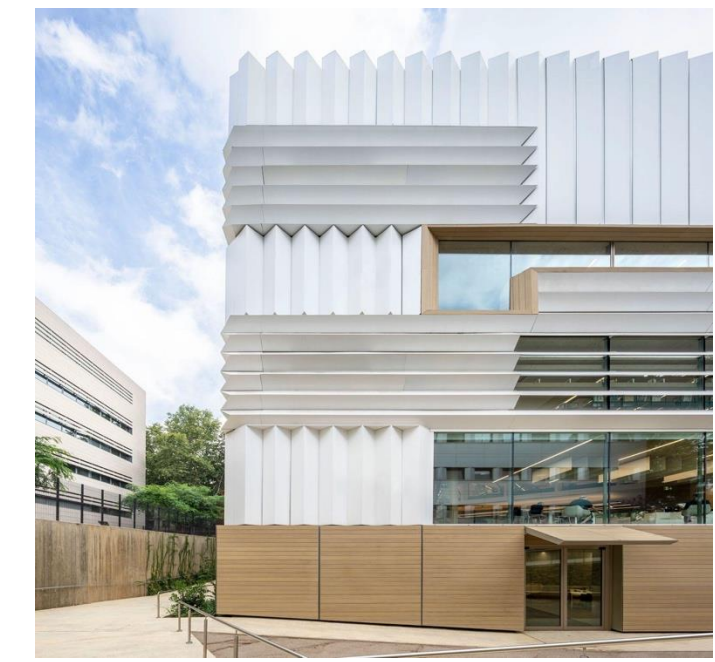
## THE ENVELOPE

The envelope folds like origami sheets to externalize the original idea of stacked books

Even for the roof, the envelope is folded and works as a 5th facade.

The envelope is made of large prefabricated **fiberglass** dihedral shaped pieces for opaque parts of facade and triangular section for louvres.

To link the building with the urban environment, a **glazed** plane has been used to separate the interior from the exterior



Fibre glass facade: Gabriel Garcia Marquez library  
Source: Jesus Granada 2023

## Characteristics of materials used for the structure and the envelope

### 1. Cross Laminated Timber

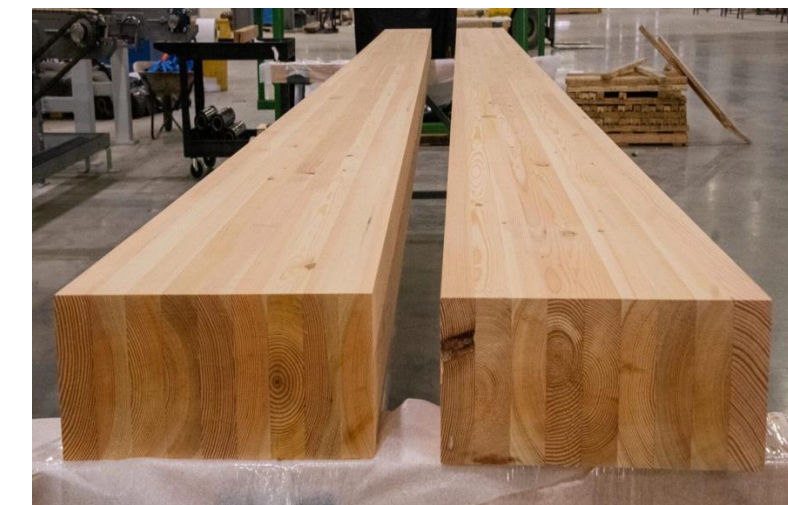
**Cross laminated timber** is a building material made from layers of wood that are glued together at right angles. CLT is strong, stiff, and stable, making it suitable for use in taller buildings and larger span



*Cross laminated timber*  
Source: Jose Thomas Franco 2019.

### 2. Glued laminated timber

**Glued laminated timber**, commonly referred to as glulam, is a type of structural engineered wood product constituted by layers of dimensional lumber bonded together with durable, moisture-resistant structural adhesives so that all of the grain runs parallel to the longitudinal axis.



*Glued laminated timber beam*  
Source: Kalensikoff 2025

In terms of load bearing capacity, CLT concentrates its strength on multi direction therefore suitable for slabs while GLT concentrates its load on one direction hence suitable for beams and columns.

## Advantages of CLT and GLT

**Strength and stability:** The cross-lamination process significantly enhances the strength and stiffness of the wood, making it comparable to concrete and steel in many applications. CLT can span up to 15-20 meters for slabs depending on the panel thickness, grade of timber, and loading conditions. GLT can span significantly longer distances for beams, often exceeding 20 meters and reaching 30-40 meters or more depending on the beam depth and grade of timber.

**Sustainability:** CLT is an environmentally friendly material, as wood is a renewable resource that sequesters carbon dioxide. For the library, timber is supplied from forests managed in a sustainable way since the trees are continuously renewed

**Fire Resistance:** Surprisingly, large GLT members have good fire resistance. The outer charring layer insulates the inner wood, allowing it to retain its structural integrity for a significant time during a fire.

**Prefabrication:** GLT components can be prefabricated off-site with high precision, leading to faster on-site assembly, reduced construction time, and lower labor costs.

**Design Flexibility:** It can be manufactured in curved and complex shapes, offering architects greater design freedom and aesthetic possibilities that are difficult to achieve with traditional timber or steel

**Aesthetics:** CLT offers a warm and natural aesthetic that can enhance the interior and exterior of buildings.

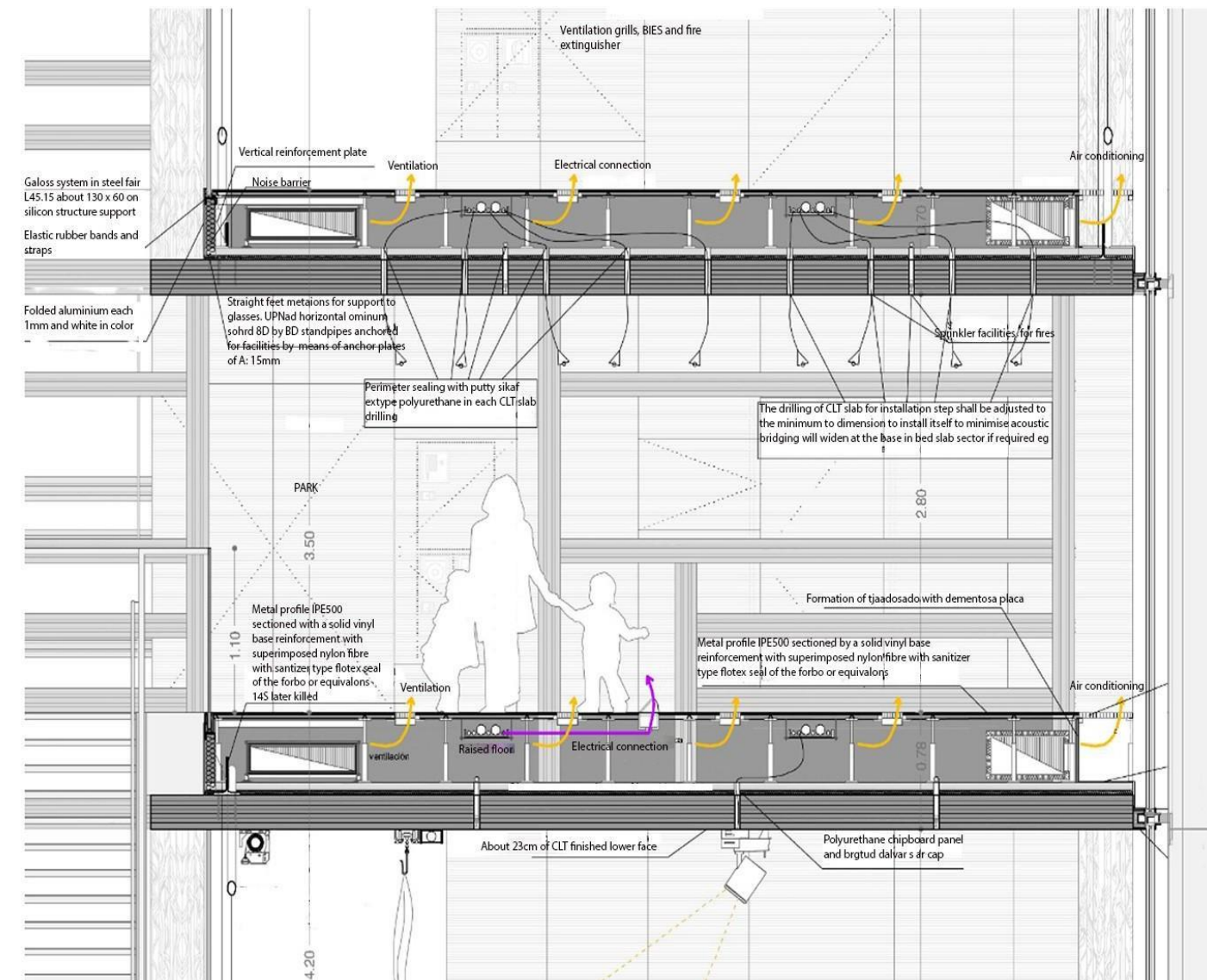
**Speed of construction:** CLT panels are prefabricated off-site, which can significantly reduce construction time on-site



*Warm aesthetics appearance of CLT; Gabriel Garcia Marquez library. Source: Jesus Granada 2023*

**3. Fibreglass** is a material made from extremely thin strands of glass that are woven together or twisted together in great mass

## ***BUILDING SERVICES***



*Building section: Gabriel Garcia Marquez library*  
Source: Maguta 2025 adapted from Jesus Granada 2023



*Fiberglass*  
Source: Piedmont plastics 2025

### Advantages of fibreglass for the building envelope

It is suitable for cladding as it is lightweight, weather resistant and aesthetically pleasing to traditional material

It is also suitable for roofing because it is moisture resistance, fire and UV radiation resistant making it a durable construction material.

The library contains different services ranging from fire fighting, HVAC and electrical connection.

The services are located in horizontal ducts between the ceiling of the lower floor and the raised floor of the above floor.

The pores on the floor levels enable usage of these services by users of the spaces. These pores are made to be the minimum diameter to minimise loss of acoustic properties of the floor slab.

The noise barrier is also installed between the floor of a higher level and the ceiling of the lower level.

# SUSTAINABILITY

## A. Energy efficiency

### 1. Insulation and Thermal Performance

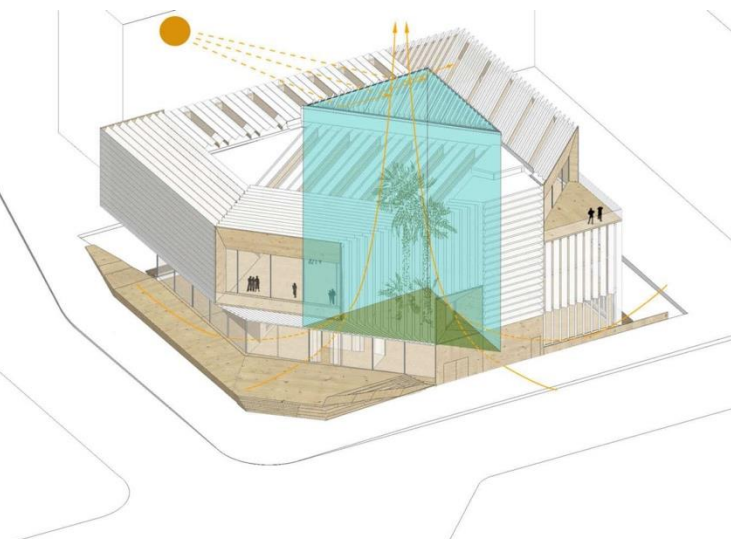
- Use of high-quality insulation materials which helps to reduce heat transfer between the interior and exterior of the building, ensuring that indoor temperatures remain stable regardless of external weather conditions.
- The library's façade is designed with optimized glazing systems that enhance thermal performance. By using double or triple-glazed windows, the library can maintain a comfortable indoor environment without excessive reliance on HVAC systems.



Source: Guiding Architects Barcelona, 2023

### 2. Natural Ventilation Strategies

- The central courtyard acts as a solar chimney, facilitating airflow throughout the building.



### 3. Use of Renewable Energy Sources

- Photovoltaic (PV) panels are installed on the roof to capture solar energy, which is then converted into electricity for use within the building.

### 4. Lighting Design and Controls

- Employs LED lighting fixtures throughout its spaces due to their low power consumption and long lifespan compared to traditional incandescent bulbs.
- Additionally, advanced lighting controls such as occupancy sensors and daylight harvesting systems are utilized within the library.



Source: U.S. Green Building Council, 2024

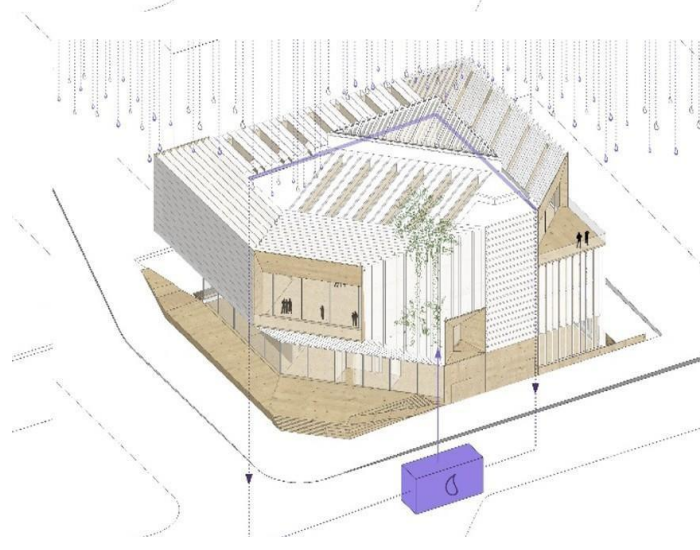


Source: Metalocus, 2023

## B. Environmental Impact

### 1. Water Usage and Management

- Rainwater harvesting systems which allow for the collection and storage of rainwater for irrigation purposes.



Source: Metalocus, 2023

- Furthermore, low-flow fixtures in restrooms help minimize water consumption without compromising user experience.

### 2. Waste Management Practices

Provision of clearly marked bins throughout the library facilities for paper, plastics, and organic waste, promotes recycling.

### 3. Material Selection

- **Sustainable Sourcing:** The wood that is used in the library's structure is gotten from forests certified by organizations like the (FSC) or the (PEFC), ensuring that the timber is harvested sustainably, promoting biodiversity and minimizing deforestation.
- **Low-Impact Materials:** The library incorporates low-impact materials that have a reduced carbon footprint compared to conventional options. For example, using composite materials made from recycled content can lower resource extraction impacts and reduce waste.
- **Durability and Longevity:** Selecting durable materials reduces the need for frequent replacements or repairs, thereby conserving resources over time. This approach contributes to lower lifecycle emissions associated with manufacturing new materials.

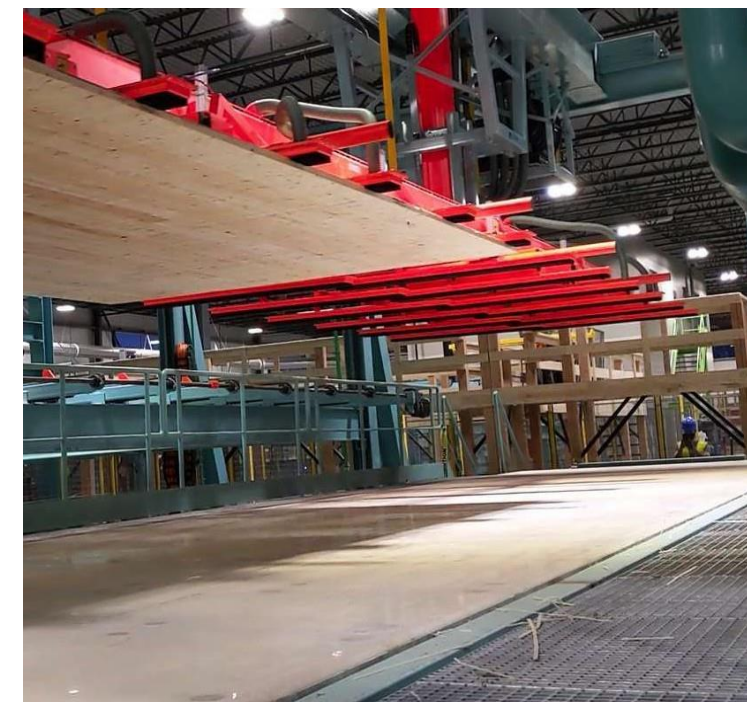
## 4. Circular Economy Principles

- **Reusability of Materials.**
- **Waste Reduction Strategies:** By focusing on materials that can be recycled or composted after their useful life, the library supports waste reduction initiatives within its operational framework.
- **Life Cycle Assessment (LCA):** Implementing LCA during planning helps assess potential environmental impacts associated with different material choices throughout their lifecycle—from extraction to disposal—allowing for informed decision-making aimed at minimizing ecological footprints.

## C. Resource Management

### 1. Prefabrication

- Cross laminated timber and glue laminated timber used in the construction of the library are manufacturing products. The construction time is considerably reduced as less time is used in assembling.



CLT during manufacturing  
Source: treehugger.com

### 2. Use of wood

CLT and glulam take less time and energy for production compared to other manmade materials which require considerable amounts of fossil fuels. Hence, reducing the amount of time and energy needed in production.

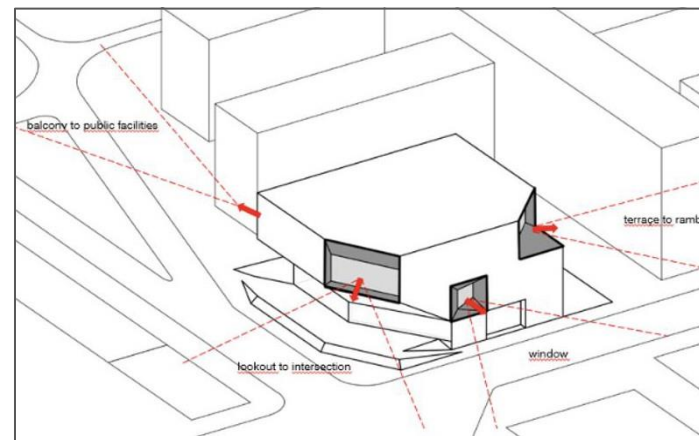


CLT layering  
Source: thinkwood.com



Above: Image showing the facade  
Source: Metalocus official website

- Along the solid white, four bay windows open up, focusing the views and directing the gaze towards the great attractors of the surroundings.



The two images above show the bay windows on the Library's facade. They provide natural lighting as well as promote connection to the external environment.  
Source: Metalocus official website

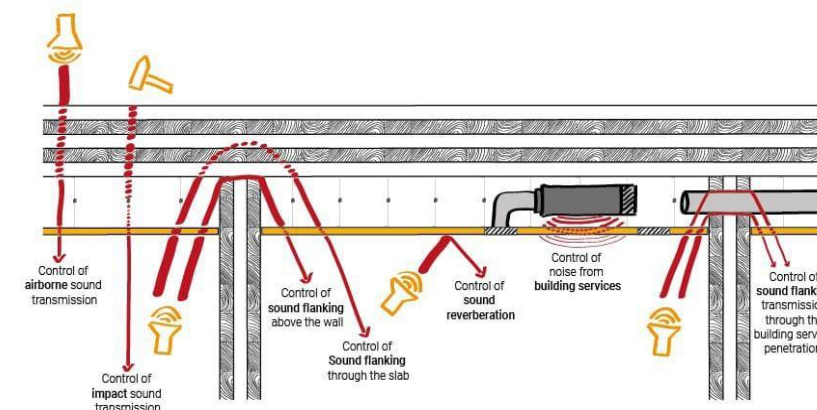
- The wood left in its natural form in the interior creates a warm, cosy and inviting atmosphere for the users of the space.



Gabriel Garcia Marquez Library interior  
Source: Metalocus official website

## 2. Acoustics

- Wood offers excellent acoustic properties in buildings, hence perfect for the library. At the same time, it reduces the resources needed to achieve acoustic comfort.
- The library accommodates several functions, including noise-generating activities. It was, therefore, necessary to provide acoustic comfort to the users in more private and quiet spaces. Wood came across as the ideal material for this design challenge.
- With cross-laminated timber being made of several layers of wood, it reduces sound transmission to a great extent.



Sound transmission through CLT  
Source: Atelier Crescendo

## E. Adaptability

- Combination of wood and steel elements enables construction of larger spans, hence open plan design. This makes the library functionally flexible to adapt to new requirements that may arise.



A section within the library's interior showing how the beams span great lengths, hence the open, flexible spaces.  
Source: Metalocus official website

# PROJECT RELEVANCE

The relevance of the Gabriel García Márquez Library project lies in its architectural, cultural, environmental, and community-oriented contributions

## 1. CULTURAL RELEVANCE

**Tribute to Literature:** The library is named after Gabriel García Márquez, one of Latin America's most celebrated writers, symbolizing a dedication to literature and knowledge. It serves as a repository of Latin American literature, connecting visitors with the region's cultural heritage.

**Cultural Hub:** The library is a space for education, cultural exchange, and community engagement, fostering intellectual growth and creativity.

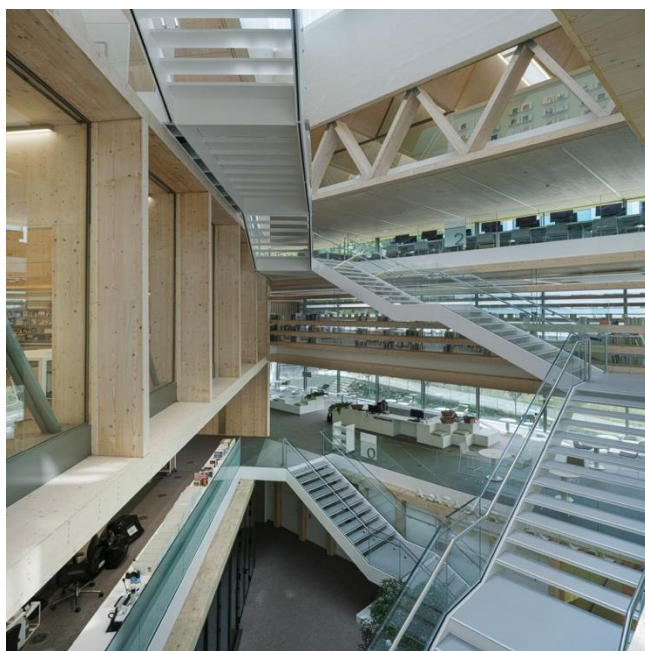


A group of people gathered in the Gabriel Garcia Marquez library  
Source: [www.alamy.com](http://www.alamy.com)

## D. Health and Wellbeing

### 1. Adequate ventilation, natural lighting and connection with nature

- A central courtyard in the design provides adequate natural ventilation, by acting as a solar chimney, as well as providing natural light to the innermost parts of the structure.
- Extensive use of glass facades ensures ample lighting within the spaces. Coupled with the angled wooden slats on the facade which double as shading devices, the building is provided with ambient conditions in the interior, ensuring the comfort of the users.



Above: Image showing the central courtyard at Gabriel Garcia Marquez Library  
Source: Metalocus official website

## 2. ARCHITECTURAL RELEVANCE

**Urban Integration:** The project respects the urban fabric of Barcelona, particularly the chamfered corners typical of its city blocks, blending seamlessly with the neighborhood.

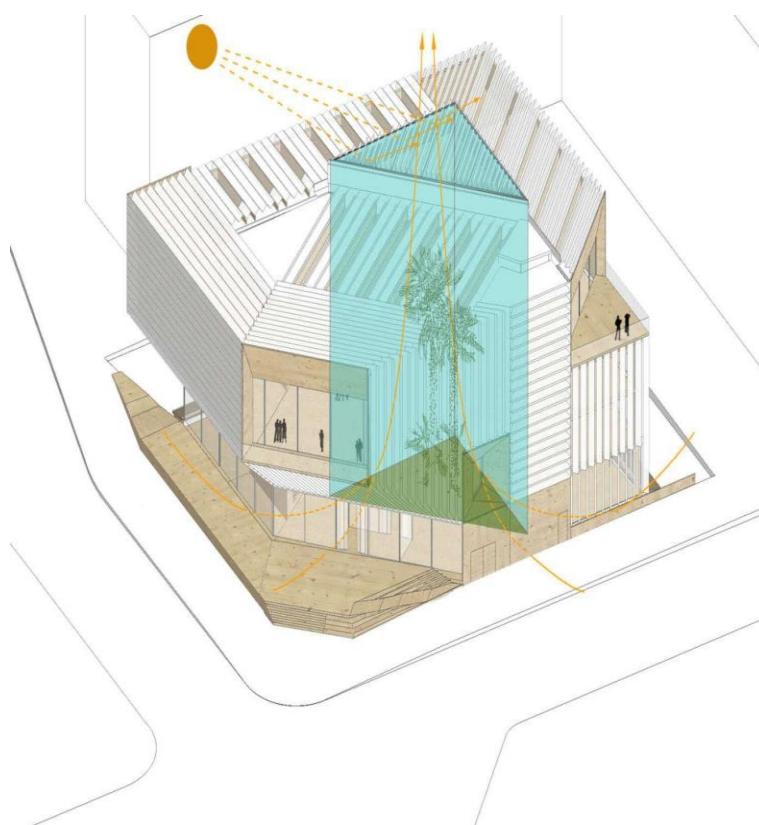
**Innovative Design:** Inspired by the concept of open books, the library's architecture makes a strong visual statement, embodying its literary theme.

**Recognition:** The library's design has received international acclaim, including being named the "best new public library in the world" by IFLA in 2023.



Library interior showing extensive use of wood  
Source: Metalocus

**Energy Efficiency:** Ventilated façades and passive ventilation strategies, like the central courtyard acting as a solar chimney, enhance sustainability by minimizing energy use.



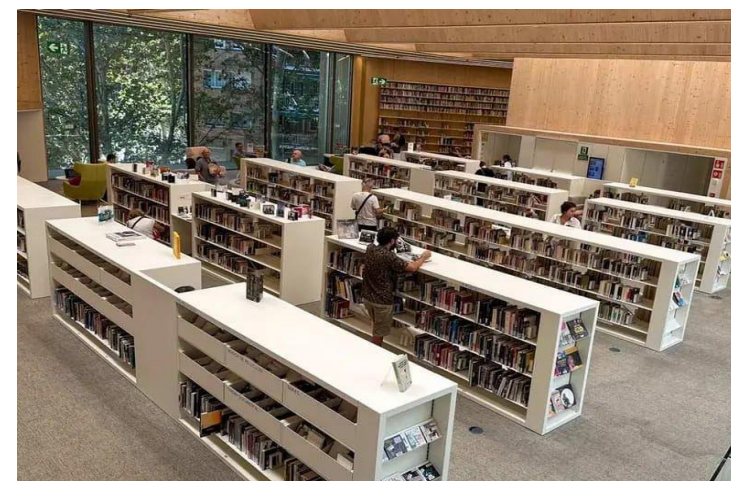
<https://www.world-architects.com/en/architecture-news/products/by-the-book>

**Climate Adaptation:** The design addresses local climatic conditions, making the library a benchmark for green architecture.

## 4. CULTURAL AND SOCIAL RELEVANCE

**Public Engagement:** As the third-largest library in Barcelona, it provides free access to resources, acting as a space for social interaction and learning. (Library as a third place)

53



Source: Metalocus

**Neighborhood Identity:** By integrating with the urban context and emphasizing accessibility, the library enhances the identity and vibrancy of the Sant Martí district.

## Overall Significance

The Gabriel García Márquez Library demonstrates how thoughtful design can combine environmental responsibility, cultural identity, and social inclusivity, making it a model for contemporary public spaces globally

## LESSONS LEARNT

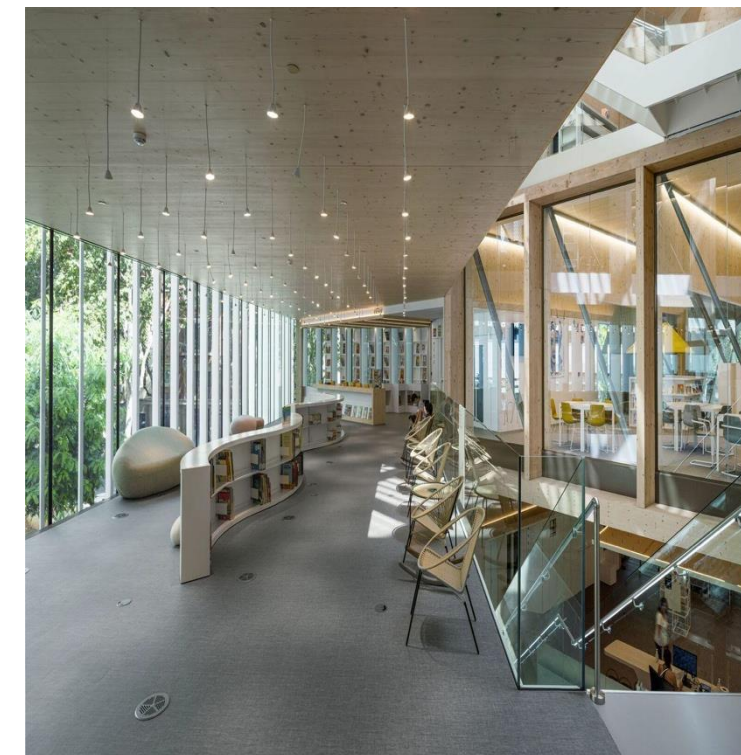
### 1. User-Centric Design

**Inclusivity and Accessibility:** Libraries must be designed to accommodate a wide range of users, from all ages, abilities, and backgrounds. This includes accessibility through ramps, elevators, tactile surfaces, and clear signage.



[https://www.ara.cat/cultura/fusta-vidre-hamaques-catifes-obre-l-ulti-ma-gran-biblioteca-barcelona\\_1\\_4380818.html](https://www.ara.cat/cultura/fusta-vidre-hamaques-catifes-obre-l-ulti-ma-gran-biblioteca-barcelona_1_4380818.html)

**Flexible Spaces:** Libraries have to accommodate various activities such as reading, research, events, meetings, and social interactions. The design of flexible spaces is therefore critical to be able to serve different purposes.



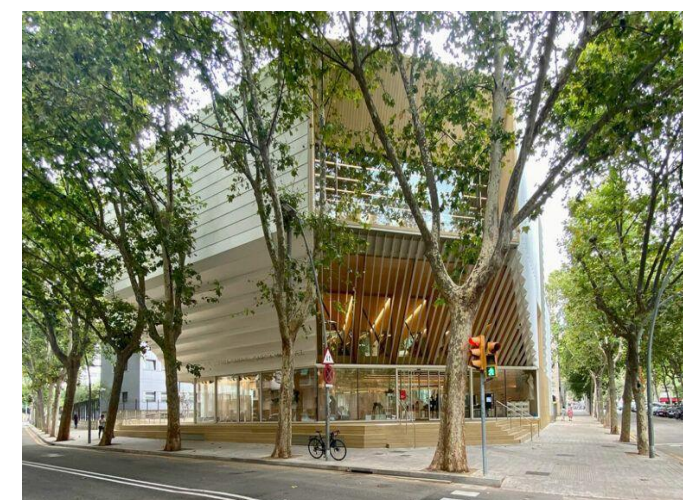
## 2. Integration with the Community

**Community Engagement:** Libraries are community hubs, so involving locals in the design phase would mean that the resultant space is attuned to their needs and priorities.



<https://www.world-architects.com/es/architecture-news/products/by-the-book>

**Public and Private Zones:** It is equally crucial to balance open public areas with quieter private spaces for focused activities in order to cater to both the social and solitary needs of users.



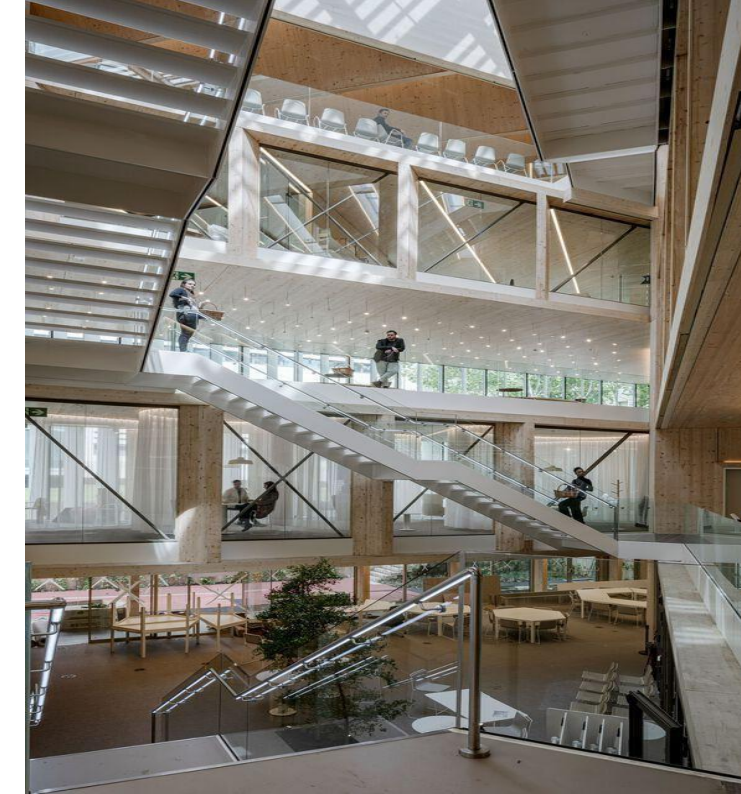
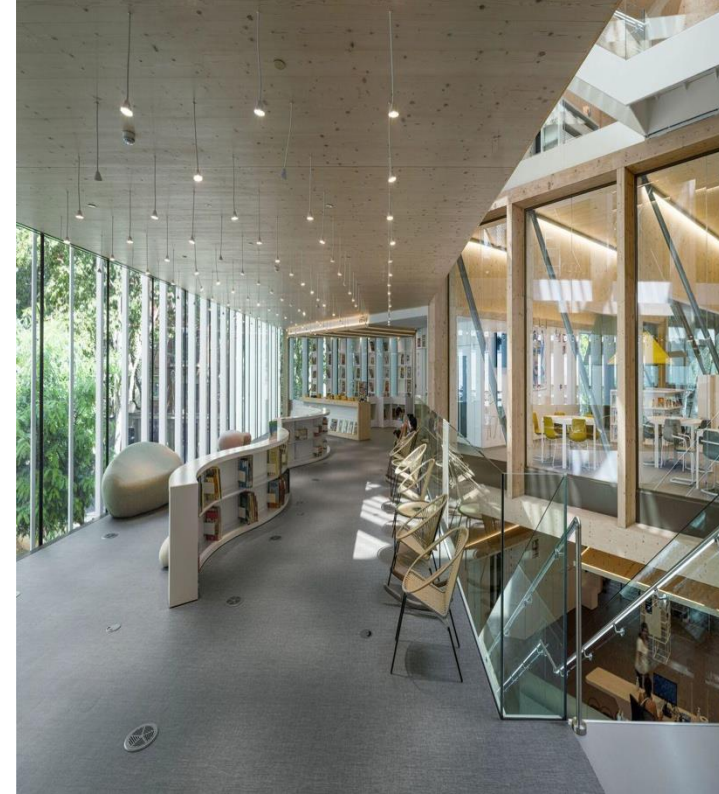
Library block with chamfered corner  
Source: GA Barcelona



Source: google earth

## 3. ENVIRONMENTAL RELEVANCE

**Sustainability:** The use of wood as a primary structural and aesthetic material reduces the building's carbon footprint.



### 3. Sustainability and Environmental Design

**Energy Efficiency:** Natural light, passive ventilation, and energy-efficient materials could reduce the ecological footprint of the library while offering a better environment for its users.

### 4. Acoustic and Environmental Comfort

**Acoustic Considerations:** Libraries have to be quiet places where people can concentrate on studying and reading. The use of materials that will absorb sound and reduce distractions is an effective approach.

### 5. Circulation and Spatial Layout

**Functionality :** has ensured that the design guarantees clear, intuitive navigation through the building, supported by clear signage, logical organization of book collections, and easy access to different zones.

### 6. Public Engagement and Education

**Learning and Cultural Programs:** Libraries are not just about books. They often host cultural, educational, and community-building events. Designing spaces that support such activities—like auditoriums, workshops, or exhibition halls—can expand the library's role as a cultural center.



**Green Design:** Sustainable landscaping, green roofs, and eco-friendly materials are what will give the library a long-term impact on the environment and community.

**Climate Control:** The libraries should be comfortable all the year round with proper heating, cooling, and ventilating systems. A well-balanced climate also ensures the preservation of books and other media.

*Reading Palace.*

*Source: Jesús Granada*

**Separation of Functions:** Quiet reading spaces, meeting rooms, and event spaces are kept separate to avoid disturbance and provide the right support for each activity.

*Atrium*

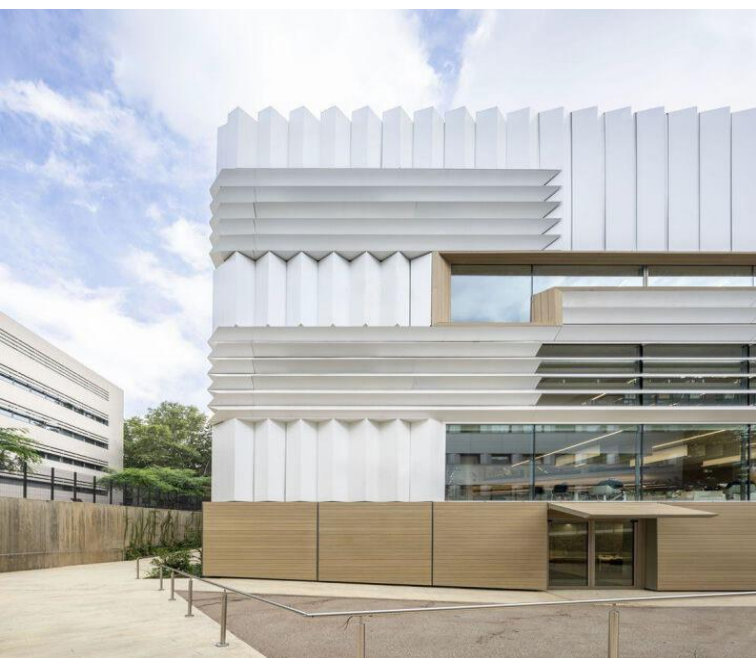
*Source: Jesús Granada*

**Children and Family Spaces:** Designing interesting and attractive spaces for children with appropriate furniture, educational tools, and interactive elements can instill early learning and cultivate lifelong love for reading.



## 7. Symbolic and Architectural Identity

**Civic Pride and Cultural Expression** The design of a public library should reflect the cultural and civic identity of a community. This can be achieved through some thoughtful design considerations that take into account public art, use of local materials and a design which speaks to the local heritage.



Facade design.  
Source: Jesús Granada

**Iconic Form and Visibility:** A library can be a landmark or symbol of the city's commitment to education and knowledge sharing, making the building easily identifiable and inviting.

## 8. Adaptability and Future Growth

**Scalability:** The library needs to be able to accommodate changes in a time of evolving needs, be it in technology, user behavior, or service offerings. This can easily be done through modular design approaches or adaptable spaces with future expansions or modifications.



Forum of Ideas.  
Source: Jesús Granada

**Space for Innovation:** Space for makerspaces, collaborative zones, community event spaces, and the like allows room for future innovation and keeps the library a dynamic place.

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- [https://www.archdaily.com/1000198/gabriel-garcia-marquez-library-suma-arquitectura?ad\\_source=search&ad\\_medium=projects\\_tab](https://www.archdaily.com/1000198/gabriel-garcia-marquez-library-suma-arquitectura?ad_source=search&ad_medium=projects_tab)

# REFLECTIONS ON THE EXHIBITION SPACES OF HAIDONG CITY URBAN PLANNING EXHIBITION HALL / CADG

The discussion here focuses on meticulously analyzed international, award-winning precedents of architectural design projects for exhibition centres, emphasizing conceptual frameworks and technical considerations.

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## **CASE STUDY THREE:**

# **HAIDONG City Urban Planning Exhibition Hall / CADG**

The **Haidong City Urban Planning Exhibition Hall**, designed by the **China Architecture Design & Research Group (CADG)**, serves as both a cultural landmark and a gateway to the city's vision for sustainable urban development. Located in Haidong, Qinghai Province, the exhibition hall integrates contemporary architectural expression with contextual sensitivity, reflecting the region's natural landscape and cultural heritage. Beyond its role as a public exhibition space, the project embodies Haidong's aspirations for modernization, ecological balance, and community engagement, offering visitors an immersive experience of the city's planning strategies, historical evolution, and future ambitions

*Haidong-city-urban-planning-exhibition-hall-cadg\_14 Source*

*[https://images.adsttc.com/media/images/6657/e6ee/f2be/dj36/9b94/dd63/slideshow/haidong-city-urban-planning-exhibition-hall-cadg\\_14.jpg?1717036807](https://images.adsttc.com/media/images/6657/e6ee/f2be/dj36/9b94/dd63/slideshow/haidong-city-urban-planning-exhibition-hall-cadg_14.jpg?1717036807)*

## EXHIBITION HALLS

Exhibition halls are venues for showcasing art and innovations.

Types of Exhibition spaces

1. Exhibition spaces for physical display
2. Exhibition spaces for digital, audio-visual and interactive display
3. A store front exhibition space

### THE BRIEF:

- Design considerations
- Spaces
- sub-spaces

## DESIGN CONSIDERATIONS

### Space planning

- A flexible layout: mostly open plan layouts.
- high ceilings to provide spaces for large displays
- loading docks; to offload and onload exhibits easily

### Accessibility

- all areas should be accessible to people with disabilities
- provision of wide aisles and pathways for navigation and viewing

### Lighting

- accomodate both natural and artificial lighting
- adjustable lighting to suit different exhibits

### Utilities

- electricity
- water Climate control
- hvac systems
- humidity control essential for sensitive exhibits

### Safety and Security

- fire safety
- surveillance

### Technology integration

- internet
- built in audiovisual equipment for demonstrations and presentations

### Signage and wayfinding

- clear signage
- interactive maps
- information kiosks

### Exhibit support

- modular walls customizable exhibit spaces
- storage areas

### Sustainability

- eco friendly materials
- energy efficiency

### Amenities

- restrooms
- cafe areas
- information desk

## ESSENTIAL SPACES IN AN EXHIBITION HALL

1. main exhibition area
2. loading and unloading area
3. breakout rooms
  - meeting rooms
  - conference rooms
4. restrooms
5. cafe
6. information desk/ ticket booth
7. outdoor spaces
8. demo areas/ interactive stations
9. seating areas
10. control room for audio-visual equipment

The spaces needed in an exhibition hall and their approximate areas (in square meters) will depend on the scale and type of exhibition

1. Entrance & Reception Area
  - Size:50–200 m<sup>2</sup>
  - Purpose: Welcomes visitors, ticketing, registration, and information desk.
2. Exhibition Space (Main Hall)
  - Size:500–5,000 m<sup>2</sup> (or more, depending on the exhibition size)
  - Purpose: Displays booths, exhibits, and installations.
3. Booths & Stalls
  - Individual Booths:6–20 m<sup>2</sup> each
  - Total Booth Area: 300–3,000 m<sup>2</sup> (depending on the number of exhibitors)
  - Purpose: Space for individual exhibitors to showcase products or services.

### 4. Walkways & Aisles

Size: 20–30% of total exhibition space (e.g., 300–1,500 m<sup>2</sup>)

Purpose: Ensures smooth visitor movement.

### 5. VIP & Lounge Areas

Size: 50–300 m<sup>2</sup>

Purpose: Reserved seating for VIPs, special guests, and business meetings.

### 6. Conference & Seminar Rooms

Small Rooms: 50–100 m<sup>2</sup>

Large Conference Hall: 200–1,000 m<sup>2</sup>

Purpose: Presentations, workshops, and panel discussions.

### 7. Catering & Refreshment Area

Size: 100–500 m<sup>2</sup>

Purpose: Cafeteria, food stalls, and refreshment stations.

### 8. Storage & Backstage Areas

Size: 100–500 m<sup>2</sup>

Purpose: Equipment storage, exhibitor preparation zones.

### 9. Restrooms & Sanitation Facilities

Size: 50–200 m<sup>2</sup>

Purpose: Toilets and handwashing stations.

### 10. Security & Control Room

Size: 30–100 m<sup>2</sup>

Purpose: Surveillance, emergency response, and security operations.

### 11. Parking Area (if applicable)

Size: 500–5,000 m<sup>2</sup>

Purpose: Vehicle parking for visitors, exhibitors, and staff.

Would you like a layout recommendation based on a specific exhibition type?

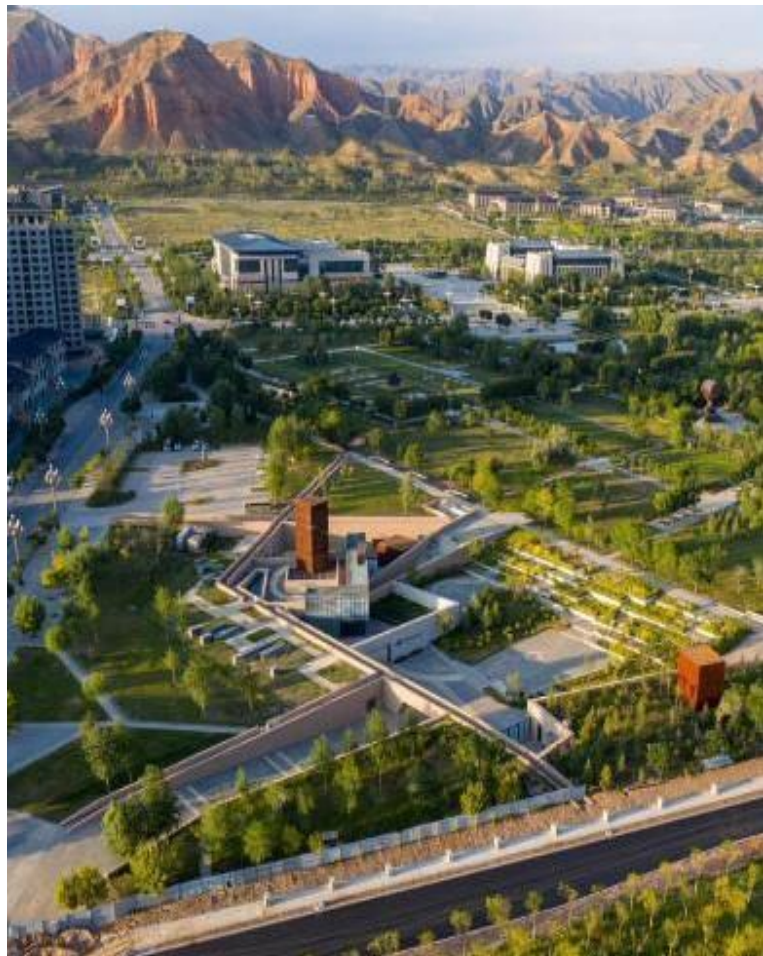
# LOCATION

The Haidong City Urban Planning Exhibition Hall, completed in 2022, is a significant cultural landmark situated in Haidong, Qinghai City Urban Planning Exhibition Hall is a Province, China.

Designed by the China Architecture Design Group (CADG).

Area: 25,000-square-meter facility serves multiple functions, including planning exhibitions, tourism reception, and relics display.

Contextual Analysis: Strategically positioned at the southwest corner of the Nanliang Relics Park in Haidong City, the exhibition hall occupies a site of profound historical significance. It is effectively serving as the “Central Park” The exhibition hall’s is bridging the city’s rich historical heritage with its contemporary urban development



**Architectural Design and Material Use:** The architectural design of the Haidong harmonious blend of modern aesthetics and traditional elements. The use of locally sourced materials not only reduces the environmental impact but also ensures that the structure resonates with the regional architectural vernacular.



**Cultural and Symbolic Significance:** The exhibition hall stands as a testament to Haidong’s commitment to preserving its cultural heritage while embracing modernity. By integrating functions such as planning exhibitions and relics display, the facility serves as a cultural hub where the past and future converge. The design incorporates symbolic references to the Nanliang Kingdom, reflecting the city’s historical narrative and fostering a sense of identity and continuity among residents and visitors alike.



**Human Experience and Interaction** Visitors to the Haidong City Urban Planning Exhibition Hall are invited exploring the city’s evolution from its ancient roots to its contemporary urban landscape. Designed interior spaces facilitate navigation which has informative and engaged . The integration of public spaces within the facility also promotes community interaction.

**Impact on the City** Since its completion, the Haidong City Urban Planning Exhibition Hall has become a focal point for cultural tourism, attracting visitors from across the region and beyond. Moreover, it is contributing to the city’s economic growth and urban revitalization.



Source of all pictures-<https://www.archdaily.com/1017195/haidong-city-urban-planning-exhibition-hall-cadg/6657e6f0e167101b3315c571-haidong-city-urban-planning-exhibition-hall-cadg-photo>

# CONCEPT

## ISSUES TO BE ADDRESSED

- **Historical preservation**

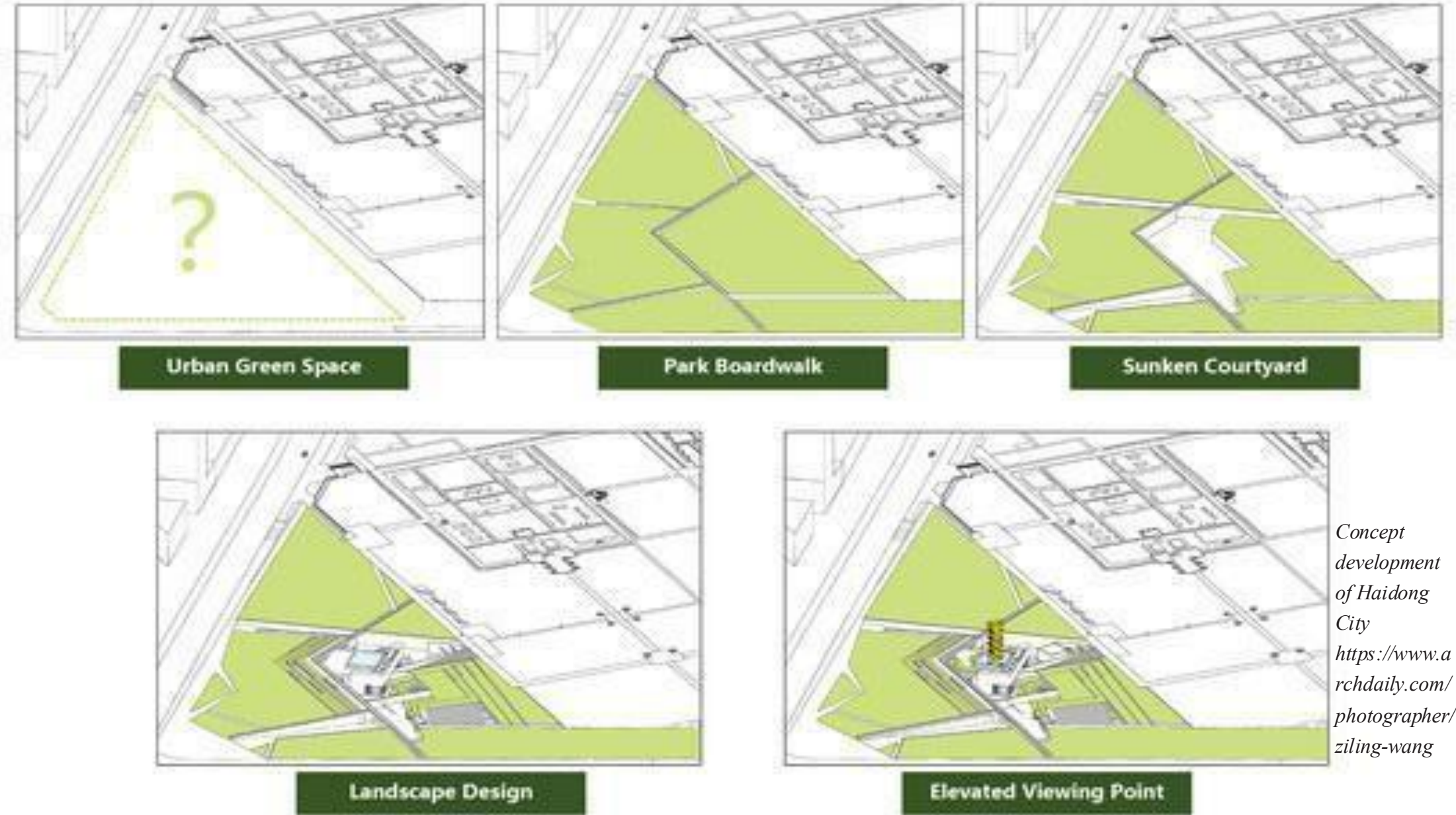
According to the historical protection principle of the relics park, it is necessary to minimise the architectural figure above the ground.

- **Connectivity of people and place**

The project is meant to create a natural and seamless connection between the people, place and surrounding earthscape.

## DESIGN CONCEPT

Taking inspiration from the root system of a tree, the design uses the method of excavating the ground creating an architectural figure which disappears into the ground rather than one which rises above it.



Concept development of Haidong City  
<https://www.archdaily.com/photographer/ziling-wang>



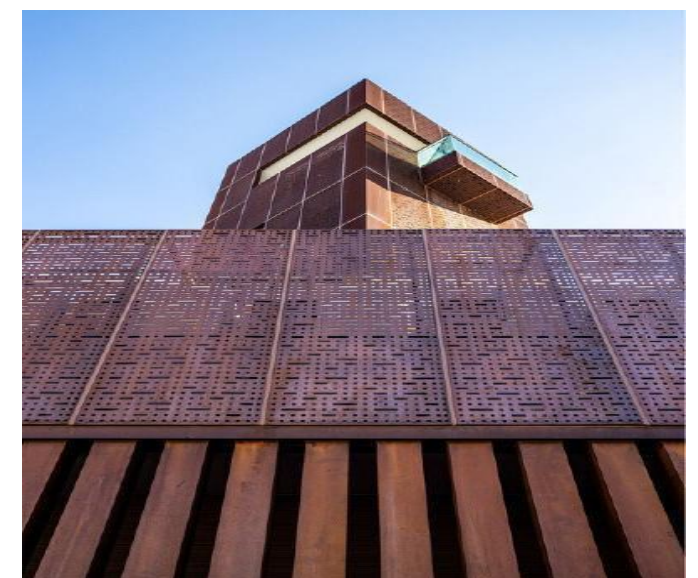
Image of a tree root system TreeNewal Staff The TreeNewal Blog May 09, 2022

## CONCEPT ACTUALIZATION

- The use of sprawling interwoven plank roads, stairs and ramps take the form of roots that connect both people and nature as they walk through them. the exterior gives the effect of a tree stump with the corridors mimicking the roots (showing the way to stand in the earth) and viewing deck mimicking the trunk (showing the way to rise to the sky)



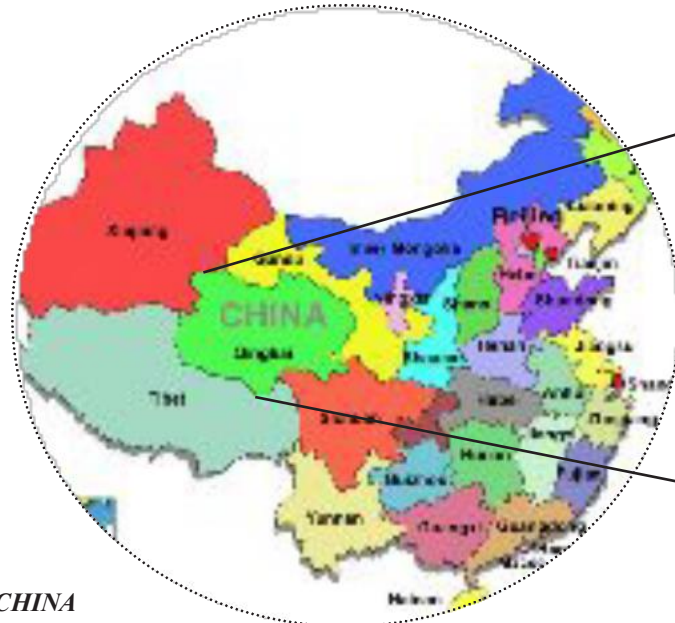
Aerial view of Haidong City  
<https://www.archdaily.com/photographer/ziling-wang>



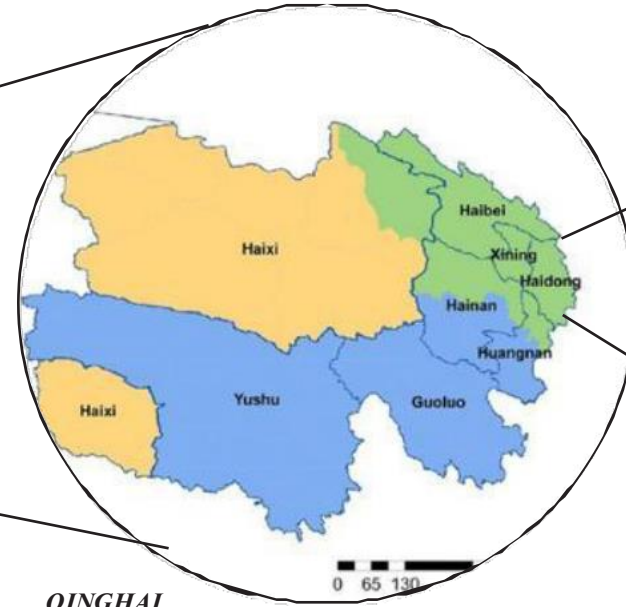
Worm's eye view of the viewing deck  
<https://www.archdaily.com/photographer/ziling-wang>

# MASTERPLAN

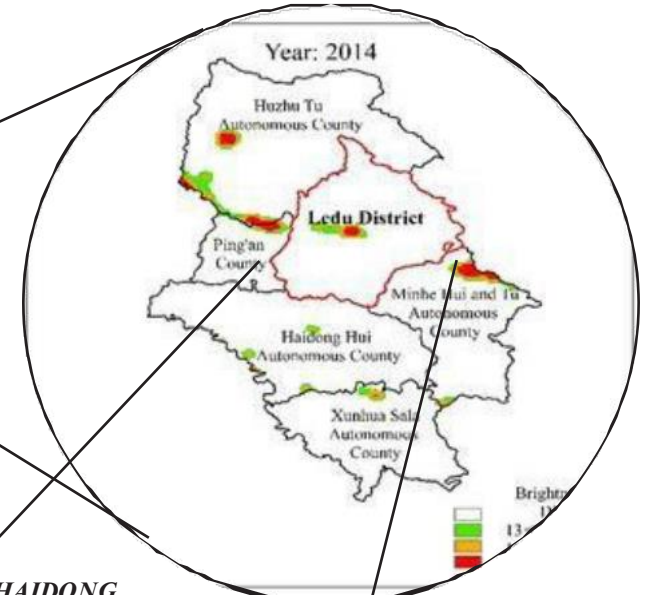
The Haidong City Urban Planning Exhibition Hall is located in Haidong City, within Qinghai Province, China, a region known for its cultural diversity and historical significance. Qinghai, positioned on the northeastern edge of the Tibetan Plateau, is characterized by its vast landscapes and rich ethnic heritage, with Haidong serving as a critical link between the plateau and the rest of China. The exhibition hall is situated in Ledu District, historically significant as the site of the ancient Nanliang Kingdom, one of China's Sixteen Kingdoms during the 4th and 5th centuries. The hall is aligned along the main axis of Ledu, directly referencing the planning principles of the ancient capital, emphasizing continuity between historical urban layouts and modern city planning. Positioned within the Nanliang Relics Park, the hall's integration with its surrounding landscape and heritage-rich environment symbolizes the blending of Haidong's past and future, reflecting both its historical roots and aspirations for sustainable urban growth.



**CHINA**  
*Map-of-China-<https://www.chinadiscovery.com/china-maps-china-provincial-map.html>*



**QINGHAI**  
*Map-of-Qinghai-Province-China-by-climate-zone-and-prefecture*



**H Aidong**  
*County-to-district-upgrading-in-Haidong-City-Qinghai-Province-China\_Q320*



**EXHIBITION HALL**  
*Screenshot taken from goole earth website.com*



**H Aidong City**  
*Screenshot taken from goole earth website.com*



**GOOGLE MAPS REFERENCE**  
*Screenshot taken from goole earth website.com*

# MASTERPLAN



## INTEGRATED DESIGN

The design of the Haidong City Urban Planning Exhibition Hall embraces an integrated approach, positioning it as a key element within a broader network of complementary urban spaces. The surrounding Nanliang Relics Park does not exist in isolation but connects seamlessly with adjacent facilities that enhance its cultural and civic relevance. These include the Huitai Cultural Square, a vibrant public space for gatherings and events; a commercial district that supports business activities and visitor amenities; and a historical complex dedicated to preserving and interpreting the rich heritage of the Nanliang Kingdom. Together, these elements create a dynamic and interconnected urban fabric that blends history, culture, commerce, and leisure into a cohesive, sustainable environment.

<https://www.archdaily.com/photographer/ziling-wang>

## SUSTAINABILITY GOALS

The design emphasizes green energy and sustainable urban living by integrating multiple parks, vast green spaces, and abundant tree coverage that enhance the ecological value of the area. Prioritizing environmental consciousness, the site design deliberately excludes vehicle parking, encouraging the use of public transportation, walking, and cycling to promote physical exercise and reduce carbon emissions. This approach not only fosters a healthier, more active lifestyle but also aligns with broader sustainability goals, creating a model for eco-friendly urban development that harmonizes with the natural landscape and cultural heritage

<https://www.archdaily.com/photographer/ziling-wang>

## POPULATION GROWTH

In response to the challenges posed by population growth and the proliferation of high-rise apartments with limited green space, the design of the Haidong City Urban Planning Exhibition Hall intentionally incorporates ample open areas. By leaving enough room for parks, green spaces, and trees, the design aims to counterbalance the density of urban development, providing residents and visitors with much-needed recreational areas and environmental relief. This approach ensures that as the city grows vertically, it also nurtures a healthy, sustainable living environment, promoting a balance between urban density and green, open spaces.

<https://www.archdaily.com/photographer/ziling-wang>

## CULTURE

The design of the Haidong City Urban Planning Exhibition Hall deeply reflects the region's rich cultural heritage, particularly its connection to the Nanliang Kingdom. Architectural elements, materials, and spatial arrangements are carefully crafted to honor the area's historical significance while celebrating its diverse ethnic traditions. The exhibition hall's integration into the Nanliang Relics Park and its proximity to the Huitai Cultural Square highlight the importance of preserving and showcasing local culture. The design fosters cultural continuity, blending modern urban planning with historical references to create a space that resonates with the identity of Haidong and

<https://www.pinterest.com/ideas/guiyang/94362385182>

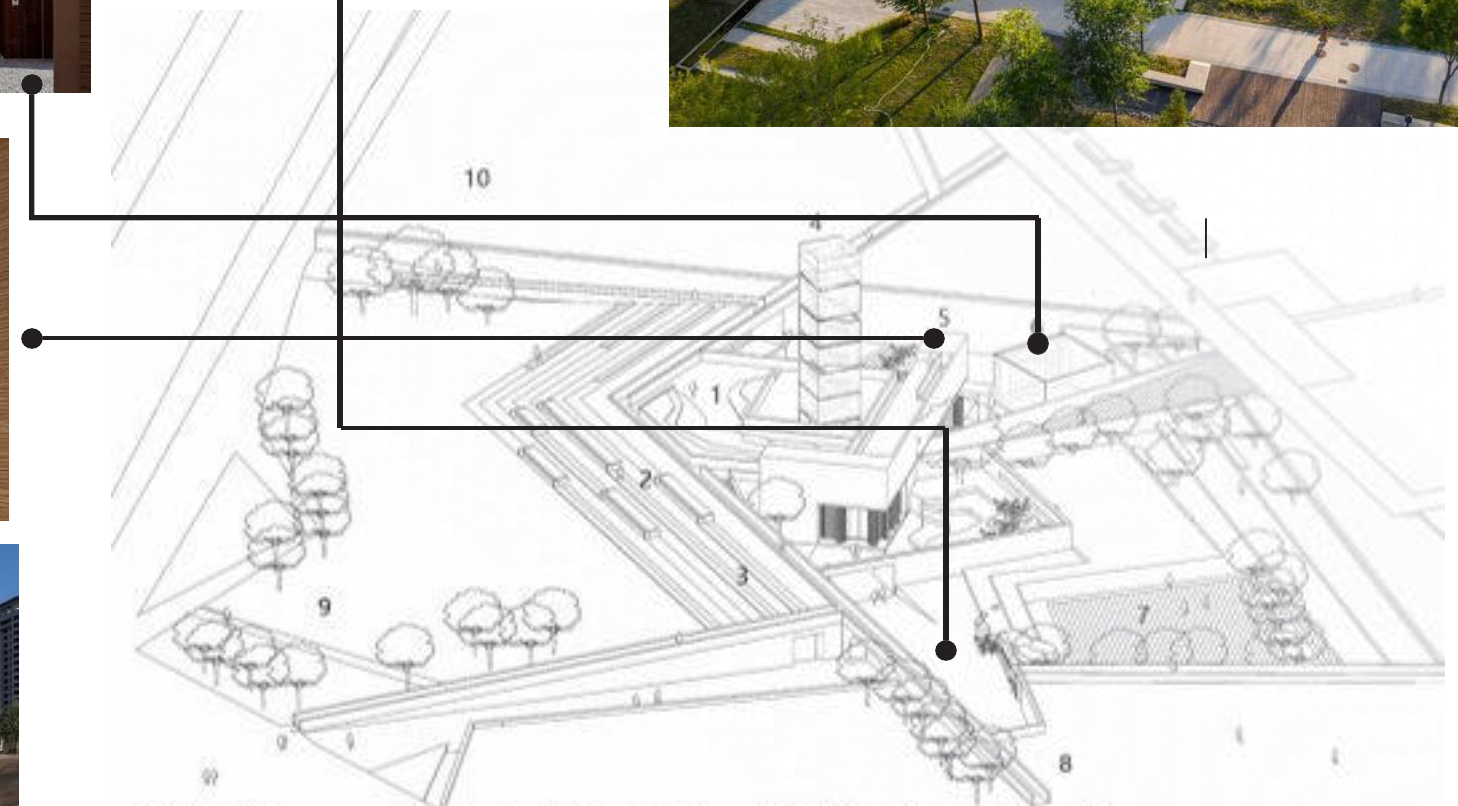
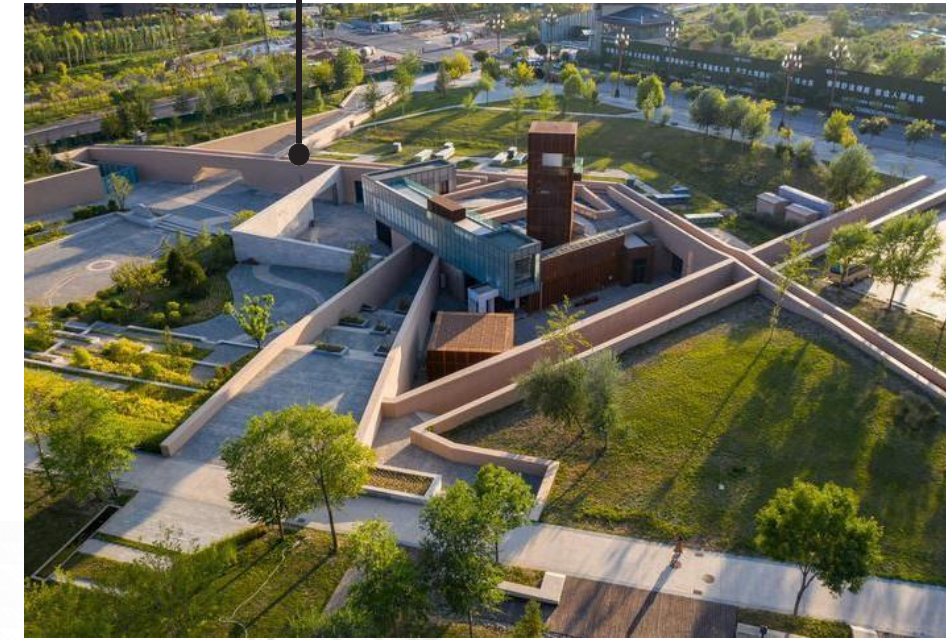
5/

*“The design of the Haidong City Urban Planning Exhibition Hall is shaped by key external factors. Cultural heritage, tied to the ancient Nanliang Kingdom, influences its architectural expression, while integration with existing structures ensures harmony with the Nanliang Relics Park and Ledu District's historical axis. Population density and growth drive considerations for space usage and visitor flow, while a focus on sustainability goals incorporates eco-friendly materials and energy-efficient systems. Together, these factors create a design that balances historical continuity, urban connectivity, and environmental responsibility.”*

# MASTER PLAN



3D MASTER PLAN SKETCH



- 1 Urban Exhibition
- 2 Historical Exhibition
- 3 Conference Reception
- 4 High Vantage Point for Overlooking
- 5 Scenic Tearoom
- 6 Souvenir Store
- 7 Public Assembly
- 8 Public Restroom
- 9 Urban Green Space
- 10 Eco-Parking

The vision of the master plan for the Haidong City Urban Planning Exhibition Hall seeks to establish the Exhibition Hall as a dynamic hub that embodies the city's future aspirations while celebrating its rich cultural heritage.

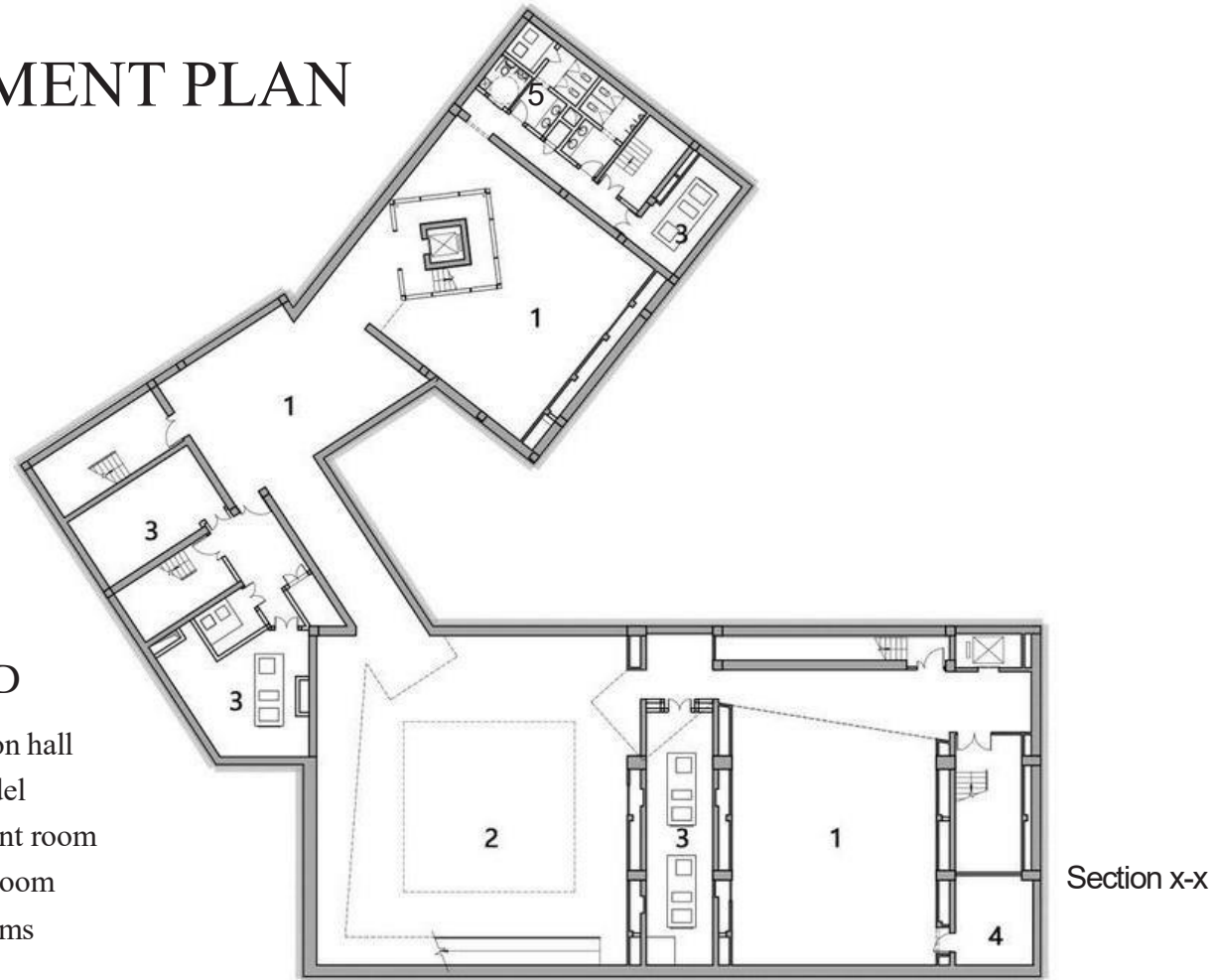
Source of all pictures-<https://www.archdaily.com/1017195/haidong-city-urban-planning-exhibition-hall-cadg/6657e6f0e167101b3315c571-haidong-city-urban-planning-exhibition-hall-cadg-photo>

# SPACE ANALYSIS

The functional spaces in the project include the following:

- 1. MAIN EXHIBITION AREA**
  - Exhibition hall
  - City Model
  - Gallery
- 2. BREAKOUT ROOMS**
  - Lecture halls
- 3. STORAGE AREAS**
  - Souvenirs store
  - Equipment storage
  - Storage rooms
- 4. CATERING AREAS**
  - Tearoom
- 5. NETWORKING AREA**
  - Indoor courtyard
  - Watch tower
  - Porch
- 6. VISITOR SERVICES**
  - Info services
- 7. RESTROOM**
  - Washrooms
- 8. OUTDOOR AREAS**
  - Outdoor courtyards
  - Roof garden

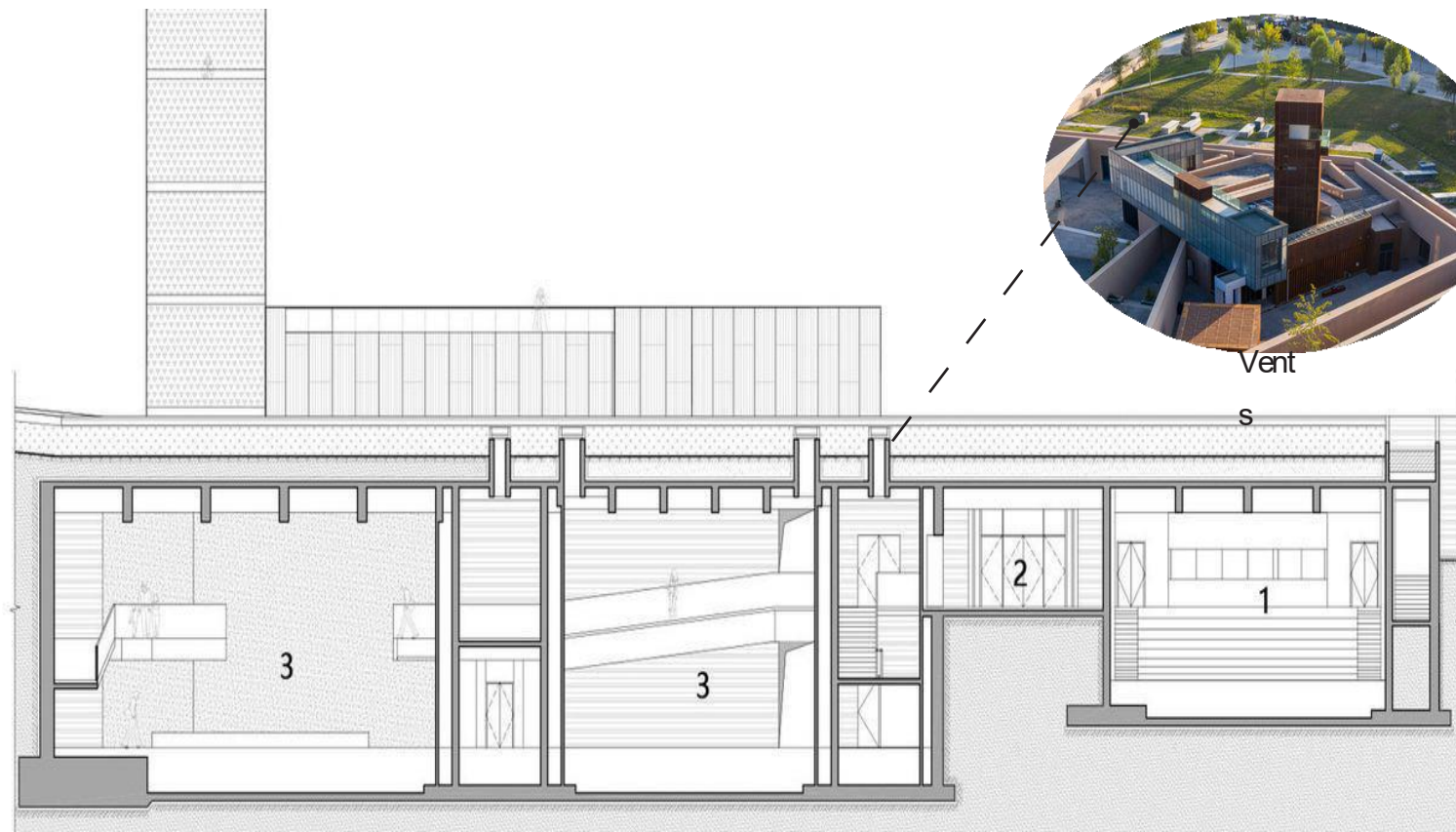
## BASEMENT PLAN



### LEGEND

- 1. Exhibition hall
- 2. City model
- 3. Equipment room
- 4. Storage room
- 5. Washrooms

<https://www.archdaily.com/haidong-city-urban-planning>



Section x-x <https://www.archdaily.com/haidong-city-urban-planning>

- 1. Lecture hall
- 2. Foyer
- 3. Exhibition hall

# DESIGN ATTRIBUTES

## *Exhibition and city model*

- Large spaces with open floor plan layouts for flexibility in exhibition and display.
- high ceilings for ventilation and fitted with external vents to the surface .
- Spaces are designed for inclusive accessibility for all. Incorporation of staircases and ramps for access.

## *Equipment room*

- Exhibit storage are situated near the exhibition areas exhibition.
- They are served by service access that lead directly to the storage spaces away from the general access.
- Both the service access and exhibit • There is also a separate general stor-age for the other general supplies and is also served by a service access that is secured.

## *Washrooms*

- Washrooms are designed for inclusion of all persons both in access and utilities.

## HIERARCHY OF SPACES

### *Public spaces*

- 1. Exhibition hall
- 2. City model

### *Semi-private spaces*

- 1. Washrooms

### *Private spaces*

- 1. Equipment hall
- 2. Storage room

# FIRST FLOOR PLAN



Courtyard



Entrance



Sunken square

## LEGEND

- |                  |                         |
|------------------|-------------------------|
| 1. Entrance      | 6. Gallery              |
| 2. Sunken square | 7. Info services        |
| 3. Courtyard     | 8. Lecture hall         |
| 4. Foyer         | 9. Over exhibition hall |
| 5. Tearoom       | 10. Souvenirs store     |

# HIERARCHY OF SPACES

## Public spaces

1. Outdoor courtyard
2. Entrances
3. Foyer
4. Info services
5. Gallery
6. Washrooms

## Semi-private

1. Lecture hall
2. Tearoom
3. Indoor courtyard

## Private spaces

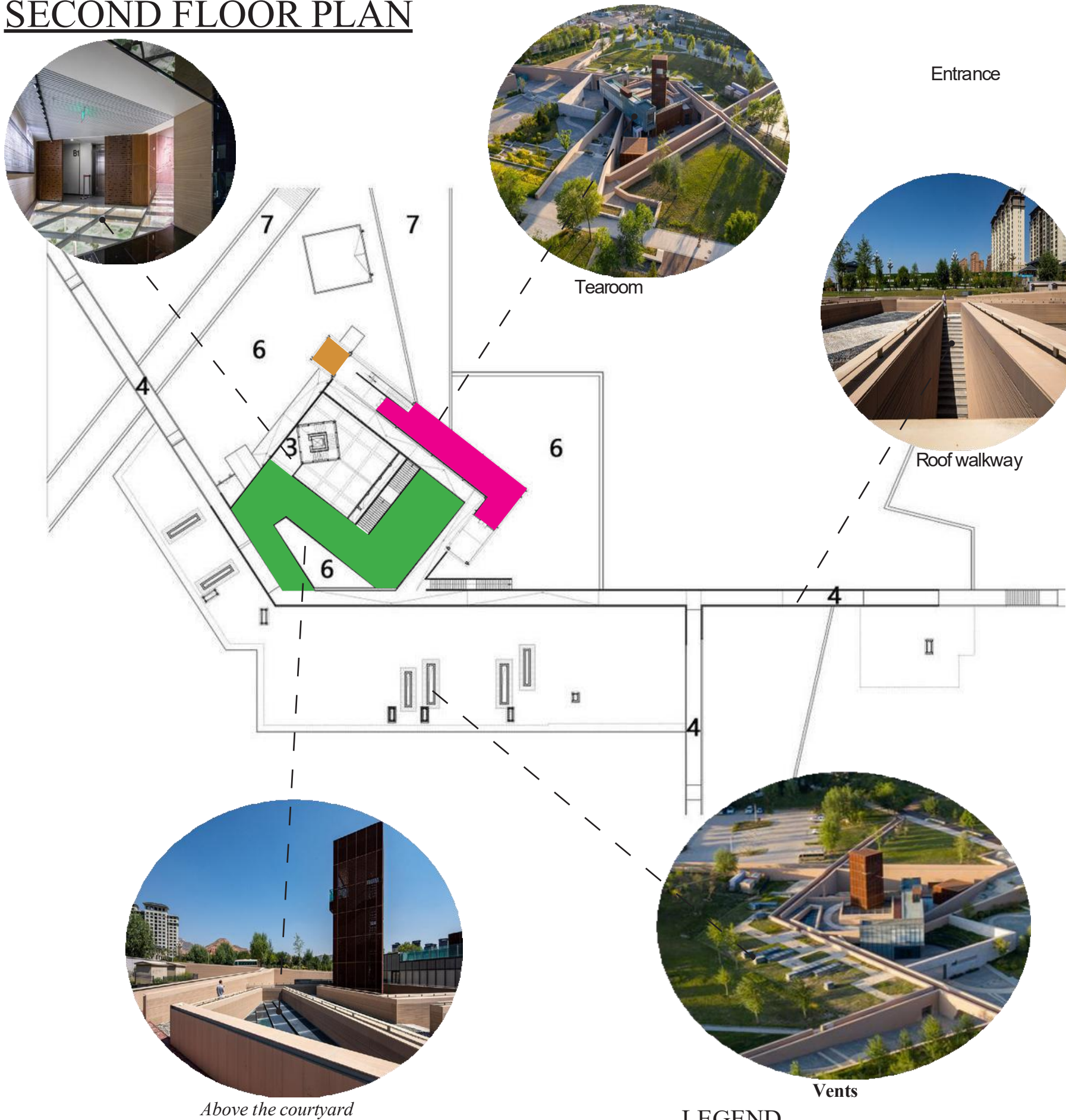
1. Souvenirs store
2. Storage rooms

# DESIGN ATTRIBUTES

- Corridors that join different exhibition spaces have been converted into gallery exhibition to ensure continuity of exhibition.
- enabling creation of interesting corridors that engage the users as well as save space while ensuring continuity of the story.
- Inclusion various entry points to ensure ease in traffic flow as well as ease in exit in case of emergencies.
- Integration of various green spaces to allow group gathering inside the spaces such as the: courtyard and foyer.

Source of all pictures-<https://www.archdaily.com/haidong-city-urban-planning>

# SECOND FLOOR PLAN

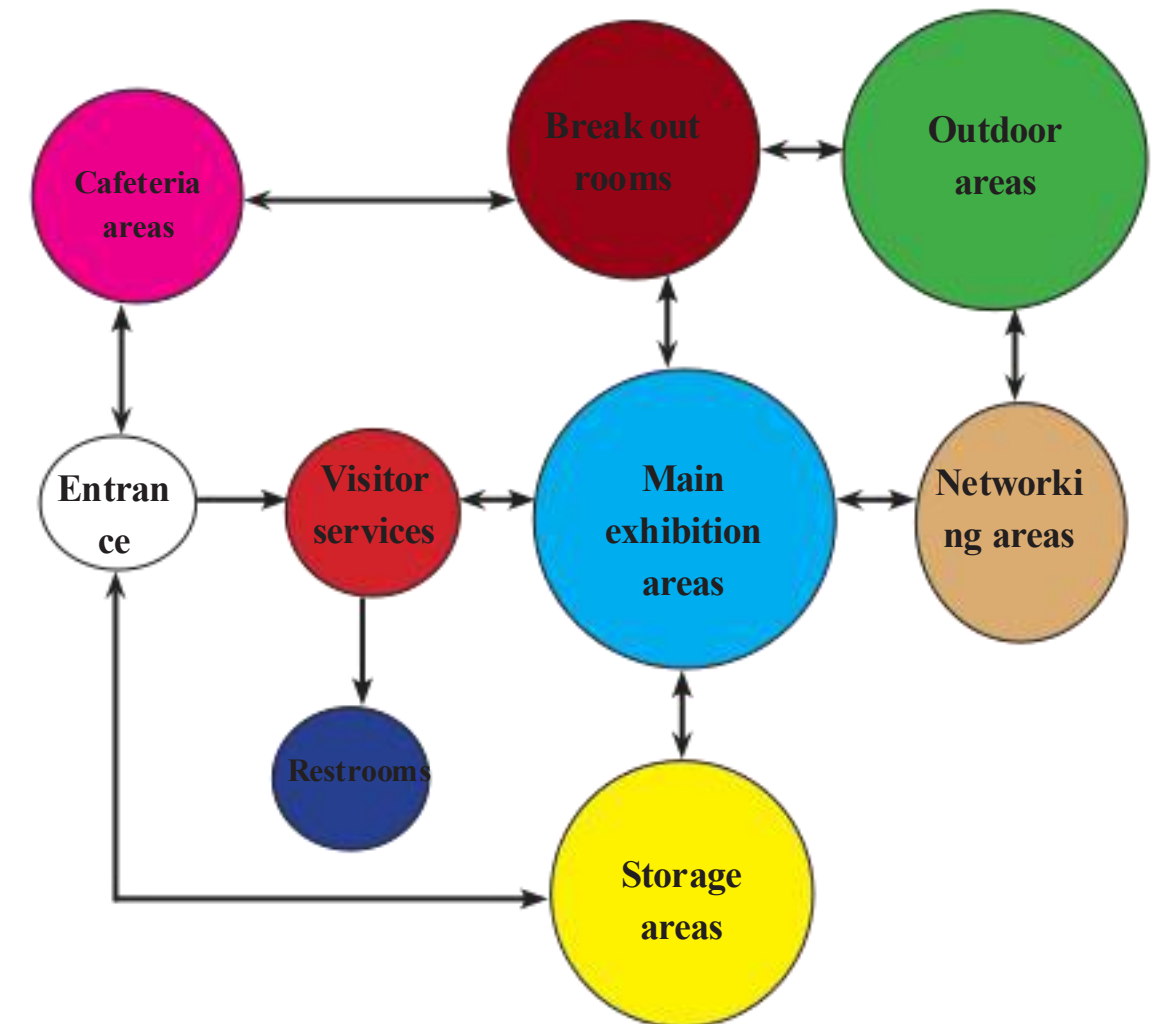


# DESIGN ATTRIBUTES

## Watchtower

The sunken courtyard generates a scattered and organic roof level, allowing the activity space of tourists to interact at different elevations, becoming the “standing way on the earth” of the building. Spiritual Space - • The viewing tower with a perforated board surface of rusted steel rises from the underground exhibition hall, passing through the transparent skylight to a height of 20 meters, as if a fortress stands, as the “way to rise to the sky” of the building. Tearroom • Starting from the elevation of the street corner square, all artificial “walls” are strictly controlled below the line of eye-sight, achieving an open view and the vicissitudes of history. It is the “way to extend to the surroundings” of the building. • The tearroom therefore stands at a vantage point that enables users to have an amazing view of the surrounding while still maintaining scale of the structure and its neighbourhood.

# GENERAL SPATIAL RELATIONSHIP



## LEGEND

- 1. Tearroom
- 2. Porch
- 3. Watch tower
- 4. Roof walkway
- 5. Roof garden
- 6. Over the courtyard
- 7. Over the ramp

# CIRCULATION

**PARKING SPACE**

**SOUVENIR STORE**



haidong-city-urban-planning-exhibition-hall-cadg\_16.jpg

**PUBLIC ASSEMBLY**

**PUBLIC RESTROOM**

**SCENIC TEAROOM**

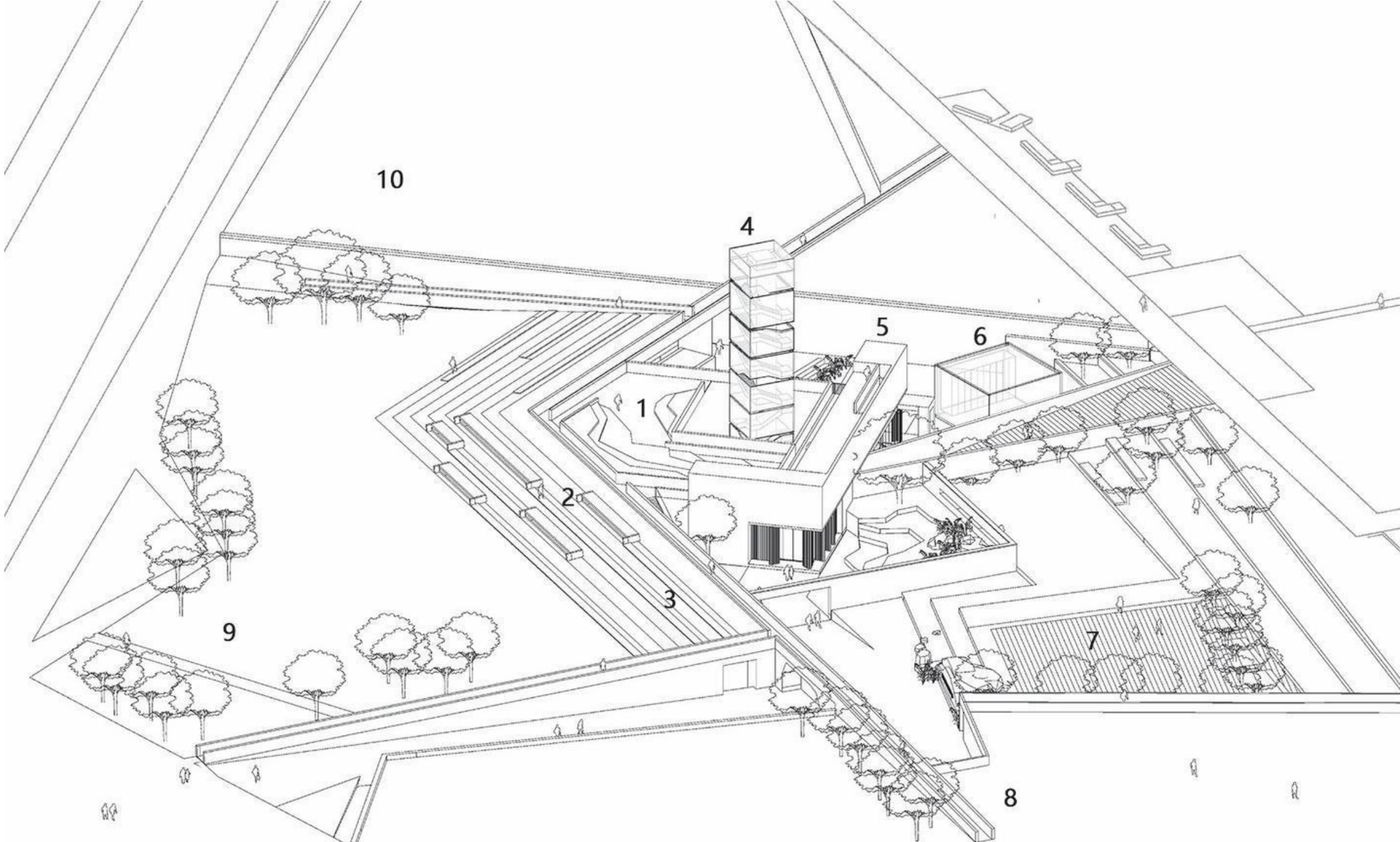
**CONFERENCE  
RECEPTION**

**URBAN EXHIBITION**

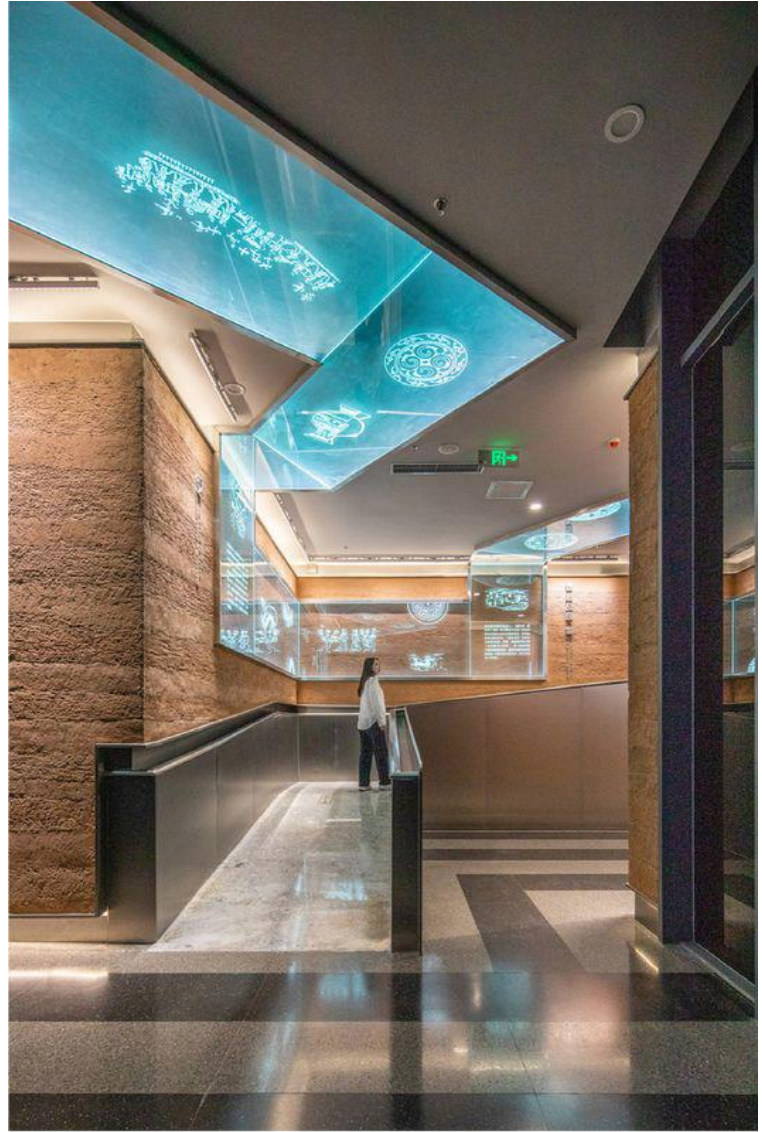
**HISTORIC  
EXHIBITION**

Source of all pictures-haidong-city-urban-planning-exhibition-hall-cadg\_3.jpg

# CIRCULATION



- 1 Urban Exhibition      4 High Vantage Point for Overlooking      7 Public Assembly      10 Eco-Parking
- 2 Historical Exhibition      5 Scenic Tearoom      8 Public Restroom
- 3 Conference Reception      6 Souvenir Store      9 Urban Green Space



# CIRCULATION

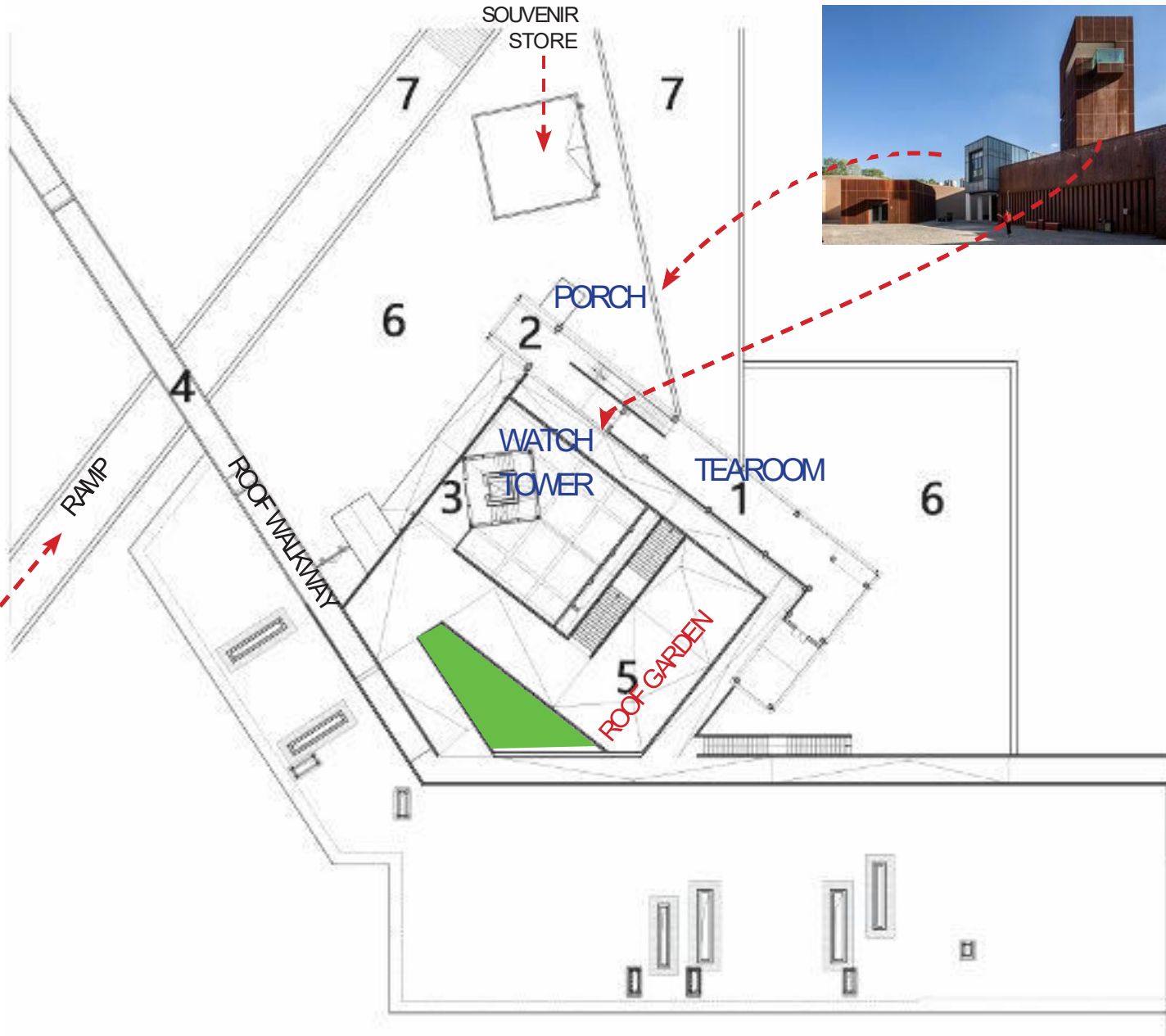


## SPACES

1. Entrance
2. Sunken Square
3. Courtyard
4. Foyer
5. Tearoom
6. gallery
7. Info Services
8. Lecture Hall
9. Over the Exhibition Hall
10. Souvenirs Square

- VERTICAL CIRCULATION
- EXHIBITION SPACES( WITH BASEMENT)
- WASHROOMS

# CIRCULATION



## SPACES

- 1. Tearoom
- 2. Porch
- 3. Watchtower
- 4. Roof Walkway
- 5. ROOF Garden
- 6. Over the Courtyard
- 7. Over the Ramp



SUNKEN BOARDWALK

Source of all pictures-haidong-city-urban-planning-exhibition-hall-cadg\_3.jpg

# SUSTAINABILITY

## INTEGRATION WITH NATURE

The design achieved integration with nature through its root system prototype. In order to have spaces disappearing into the landscape, some parts were excavated to create sunken courtyards. This hence aid a greater percentage of the landscape to be conserved to still serve as a park with its beautiful landscape.



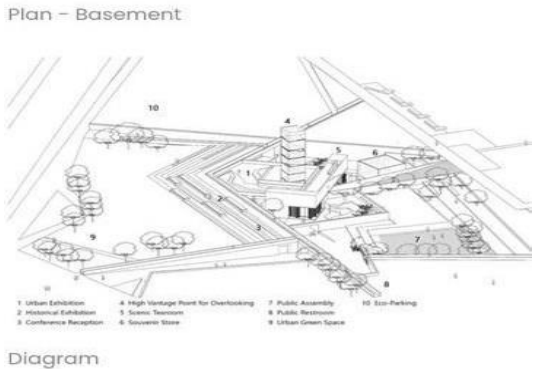
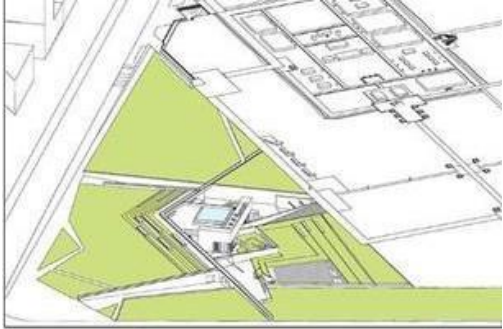
Source: <https://pin.it/25gbh0mhF>

## SOCIAL CONNECTION

The interwoven path also will aid to bring people together guided by the paths.



Source: <https://pin.it/KHThzNrEW>



**MATERIAL USE**  
The design made greater use of natural materials in order to still connect with the environment. It used the local stone in the form of \ exposed aggregate to express the roughness of the plateau River value. This helps to reduce the embodied energy in form of transportation.

*“The wooden material choice for the guiding external path aims at blending with the landscape and mimicking the root material”*

Also , a strip ceramic board that was used for the walls serves durability and is also renewable. It also echoes the local rammed earth walls ( still a way to blend with the environment)



*Emulating the roughness of the local stone*



# SUSTAINABILITY

## ENERGY EFFICIENCY

Through large windows and skylights, a large amount of light is thrown into the underground space. Also the sunken courtyard aid in bringing light into the interior space environment) Also some windows and openings, design perforations are ways to encourage proper air flow



skylight

fins for sun-shading

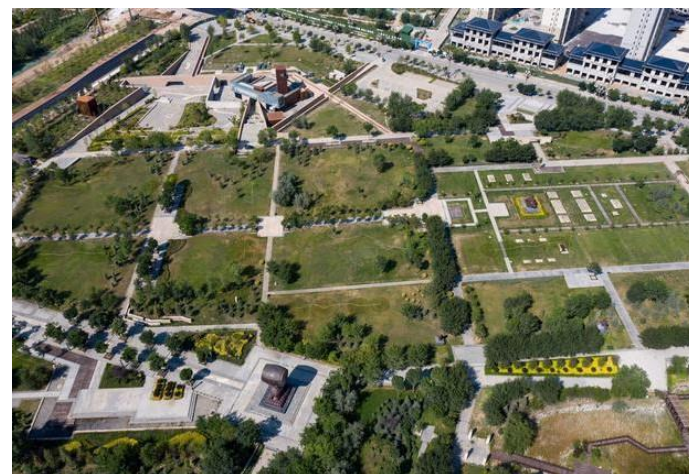


openings to enhance airflow

The green roof and landscape aid in improving the air quality and also prevent heat island effect

## PASSIVE DESIGN

some Part of the building use fins to shade light and also perforated walls



lit from open space under



sunken courtyard

## TECHNOLOGIES USED

### DISPLAY TECHNOLOGIES

Large screen video walls: For immersive presentations and showcasing plans Multi Shaped LED displays: To create dynamic and eye-catching visuals. Projection mapping: To project images and information onto complex surfaces. 3D projection fusion: To create realistic 3D visualisations. Vertical simulation: To allow visitors to experience future urban environments.

### INTERACTIVE TECHNOLOGIES

Touch screens: To provide interactive access to information and data. Augmented reality (AR): To overlay digital information onto the physical environment. Virtual reality (VR): To allow visitors to virtually explore city plans.



Interior view of Haidong City

<https://www.archdaily.com/photographer/ziling-wang>

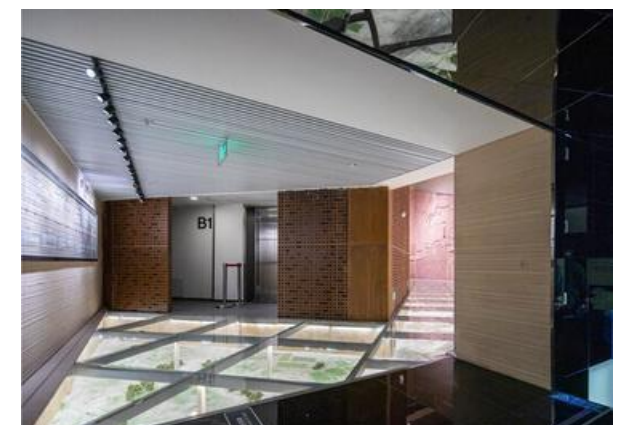


Interior view of Haidong City

<https://www.archdaily.com/photographer/ziling-wang>

## OTHER TECHNOLOGIES

Smart lighting systems: To create dynamic and energy-efficient lighting. Building automation systems (BAS): To manage building operations and optimize energy usage.



Interior view of Haidong City

<https://www.archdaily.com/photographer/ziling-wang>

# SUSTAINABILITY

## SUSTAINABILITY HAIDONG CITY EXHIBITION CENTER

**Integration with the Landscape** The building is designed to blend seamlessly with the surrounding landscape. By excavating the ground and using the “root system” as a prototype, the structure appears to disappear into the earth, reducing its visual impact and preserving the natural environment.



*haidong-city-urban-planning-exhibition-hall-cadg\_19 Source: [https://images.adsttc.com/media/images/6657/e6ee/f2be/df36/9b94/dd63/slideshow/haidong-city-urban-planning-exhibition-hall-cadg\\_14.jpg?1717036807](https://images.adsttc.com/media/images/6657/e6ee/f2be/df36/9b94/dd63/slideshow/haidong-city-urban-planning-exhibition-hall-cadg_14.jpg?1717036807)*

### USE OF MATERIALS

The exterior walls are made of strip ceramic boards that mimic the color and texture of rammed earth, echoing the traditional construction methods of the region. The site also uses the local Huangshui Stone to express the roughness of the plateau river valley. The guiding path superimposed with local materials makes people walking in it seem to be historical transgressors, step by step immersed in it. The design uses the method of excavating, the building disappears into the earth landscape - the sprawling interwoven plank roads, stairs, and ramps become the



*Main Entrance View  
Haidong City  
<https://www.archdaily.com/photographer/ziling-wang>*



*Sunken Boardwalk of  
Haidong City  
<https://www.archdaily.com/photographer/ziling-wang>*

beginning of the narrative of time and space, achieving the convergence of people from all directions

### ENERGY EFFICIENCY

The design incorporates sunken courtyards and a scattered, organic roof level to allow natural light and ventilation, reducing the need for artificial lighting and air conditioning.



*Sustainability clipart: <https://www.bing.com/>*

### CULTURAL PRESERVATION

The hall is located in the Nanliang Relics Park, which is a historical site. The design respects and preserves the historical significance of the area while providing a modern space for exhibitions and tourism. Historical protection principle of the relics park, it is necessary to minimize the architectural figure above ground while naturally and seamlessly connecting the site area to enrich the scene experience of visitors

### VISITOR EXPERIENCE

The building's layout and materials create an immersive experience for visitors, making them feel like they are stepping back in time while exploring the exhibition hall.

The plank road, corridor bridge, and wall-like walking path create experiences such as tracing roots, climbing high and looking for, and visiting the exhibition garden.

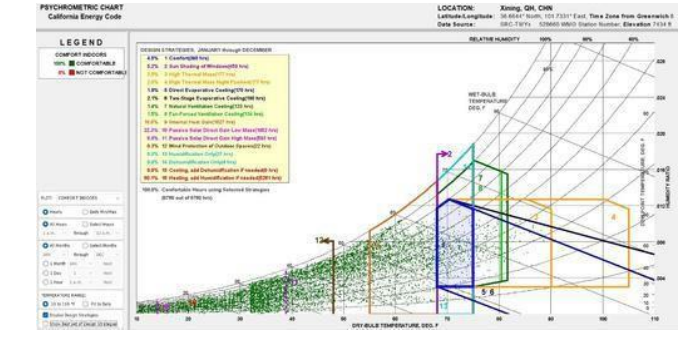
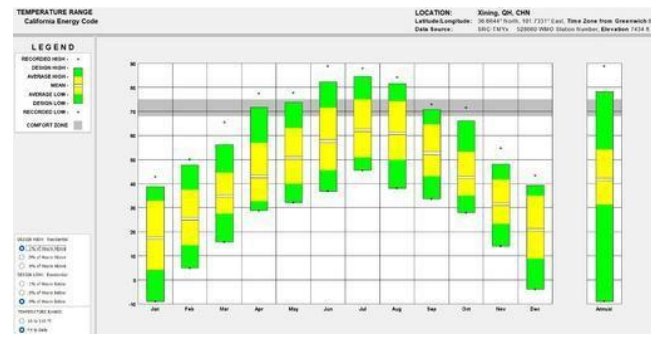
# CLIMATE RESPONSE

## DESIGN STRATEGIES

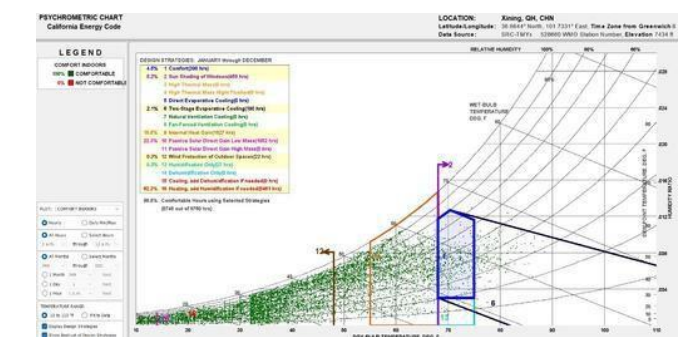
## RESPONSE

## RESPONSE

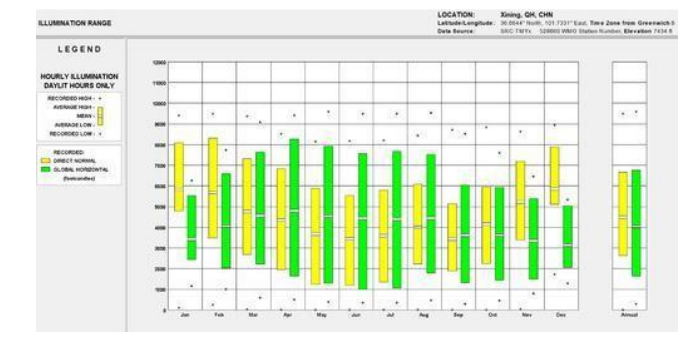
### TEMPERATURE



### BEST DESIGN STRATEGIES

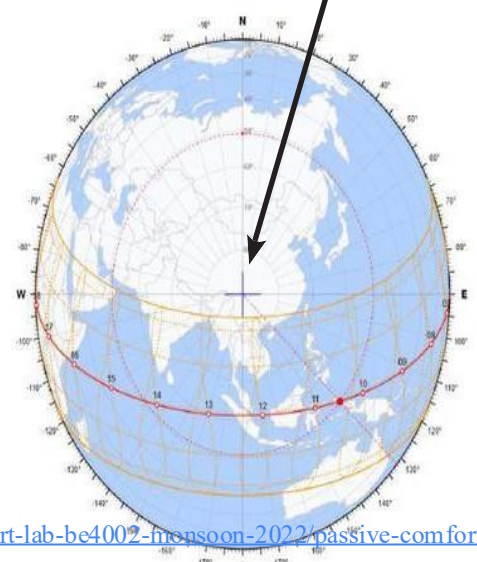


### ILLUMINATION RANGE

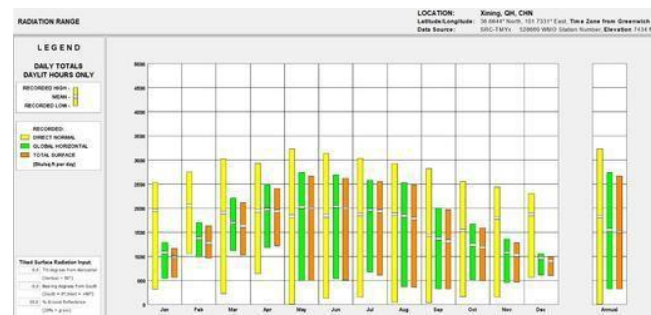


### SUN PATH

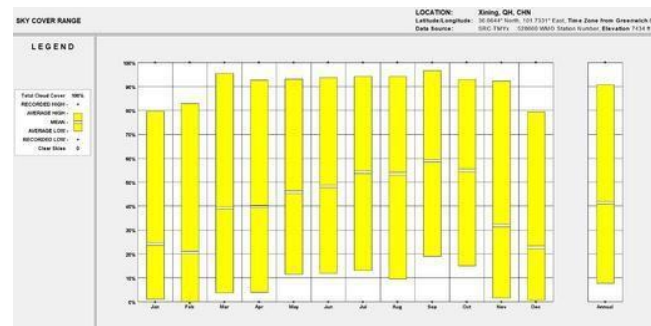
Haidong City Urban Planning Exhibition Hall.



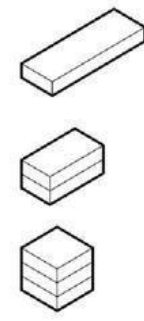
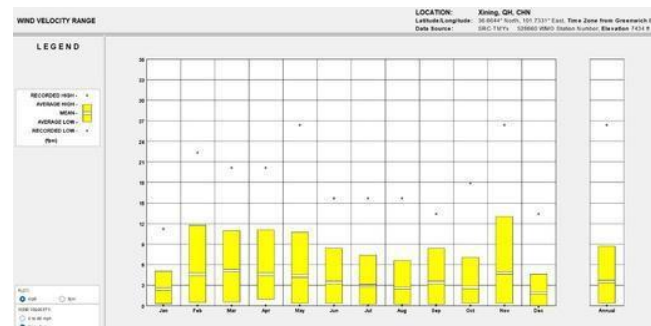
### RADIATION RANGE



### SKY COVER RANGE



### WIND VELOCITY RANGE



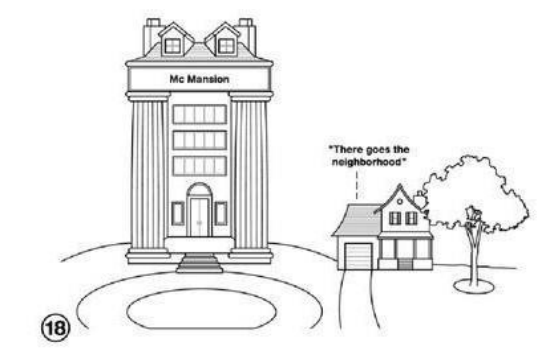
**BAD**  
TOTAL VOLUME = 13,824  
SURFACE AREA = 4,992  
SVR = 0.36

**BETTER**  
TOTAL VOLUME = 13,824  
SURFACE AREA = 2,688  
SVR = 0.19

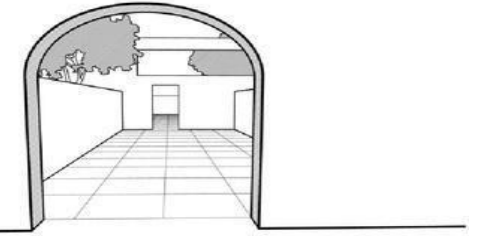
**BEST**  
TOTAL VOLUME = 13,824  
SURFACE AREA = 1,850  
SVR = 0.14

Use compact building form with square-ish floorplan and multiple stories to minimize heat loss from building envelope (minimize surface to volume ratio)

Compact building form

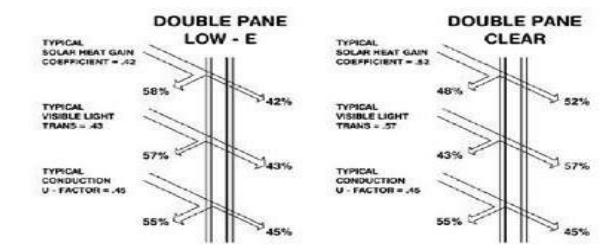


Keep the building small (right-sized) because excessive floor area wastes heating and cooling energy



Sunny wind-protected outdoor spaces can extend living areas in cool weather (seasonal sun rooms, enclosed patios, courtyards, or verandahs)

Sunken courtyard



Provide double pane high performance glazing (Low-E) on west, north, and east, but clear on south for maximum passive solar gain

Double pane clear



# LESSONS LEARNT

The Haidong City Urban Planning Exhibition Hall provides several key lessons for urban development and planning:

## 1. Comprehensive Vision:

The exhibition emphasizes the importance of a long term and comprehensive vision for urban development. Effective urban planning considers not only the current needs of a City but also anticipates future growth, environmental sustainability, and technological advancements.

## 2. Integration of Culture and Heritage:

cities remain functional and reduce congestion. The hall highlights how urban planning should incorporate cultural and historical Aspects to preserve a city's identity while modernizing infrastructure. Maintaining a balance between tradition and innovation can enrich the urban landscape.

## 3. Sustainability:

One of the key takeaways is the focus on sustainable urban solutions, including green spaces, energy-efficient buildings, and environmentally friendly transportation options. These strategies help ensure a high quality of life while addressing climate change and resource conservation.

## 4. Public Engagement: The exhibition

underscores the significance of involving the public in the planning process. Listening to community feedback ensures that urban development meets the needs and aspirations of its residents, fostering a sense of ownership and cooperation.

## 5. Technological Integration:

The role of smart city technologies in urban planning is also emphasized. Incorporating data analytics, IoT devices, and smart

infrastructure can improve city management, with livability, and innovation with enhance services, and create a more connected urban environment.

## 6. Transportation and Mobility:

The planning of efficient, accessible transportation systems is crucial. Integrating diverse modes of transport public transit, cycling, urban environments.

walking paths, and roads ensures that tion.

## 7. Mixed-Use Development:

proach promotes mixed-use development, where residential, commercial, and recreational spaces coexist. This enhances convenience, reduces commute times, and creates vibrant, multi-functional neighborhoods. These lessons serve as valuable insights for cities aiming for balanced, forward-thinking, and inclusive urban development.

## CONCLUSION,

the Haidong City Urban Planning Exhibition Hall provides a compelling case study in the importance of holistic, sustainable, and inclusive urban development. By integrating long term visioning, cultural preservation, technological advancements, and public engagement, Haidong demonstrates how cities can evolve to meet the challenges of modern urbanization. The exhibition serves as a valuable model for balancing growth with sustainability, efficiency heritage. As cities around the world face increasing pressures from population growth, environmental concerns, and evolving technologies, the lessons from Haidong's urban planning offer practical solutions for creating resilient and thriving

<https://www.archdaily.com/photographer/ziling-wang>



Kenyatta University continues to stand at the forefront of higher education in Africa, driven by its commitment to excellence in teaching, research, and community engagement. Over the past year, the University has expanded its investment in infrastructure and digital learning platforms to enhance both in-person and remote study experiences. This focus has ensured that students benefit from world-class academic programmes delivered in an environment that promotes creativity, innovation, and collaboration. As of April 2025, Kenyatta University maintained its high global standing, ranked among the top institutions in Africa for research output, industry partnerships, and alumni impact. The University's emphasis on practical, hands-on training remains central to its mission, enabling graduates to seamlessly integrate into the workplace with industry-ready skills. Strong links with corporate partners, NGOs, and government agencies have led to expanded internship and employment opportunities for students, ensuring that they remain competitive in the global job market.

The Department of Architecture & Interior Design (DAID) has strengthened its role as a leader in sustainable design education, responding to emerging trends and global environmental priorities. In partnership with the School of Engineering and Architecture, the Department has introduced new courses in advanced building technologies, smart city planning, and climate-resilient design, equipping students to address modern urban and rural challenges. The curriculum continues to integrate sustainability principles into every stage of the design process, with an emphasis on energy efficiency, renewable materials, and community-focused development. The department's project-based learning model remains a core feature, giving students real-world problem-solving experience through studio-based projects, industry collaborations, and fieldwork. DAID's faculty—comprising experienced academics and practitioners from Kenya and abroad—have enhanced research and innovation output through collaborative projects, exhibitions, and publications. The Department's modern facilities, including design studios, workshops, laboratories, and digital fabrication labs, have been upgraded to support advanced learning needs. This environment nurtures a new generation of architects and interior designers who are equipped to contribute meaningfully to the evolving built environment, both locally and internationally.

## THE TEAM



### **Dr. Rehab Hamdi Elnaggar (PHD), EEE-EES**

Rehab Hamdi Elnaggar is a lecturer, architect and urban designer with 25 years of academic and professional experience. She has been a lecturer at Kenyatta University since 2021. Dr. Elnaggar began her academic journey by earning a Bachelor's degree (BSc Hons) in Architecture and Urban Design from Ain Shams University in 1997. She furthered her education by obtaining a Master's degree (MSc) from the same institution in 2007 and a PhD from Cairo University in 2015.

Dr. Elnaggar's teaching career spans nearly two and a half decades, including her tenure at Arab Academy for Science, Technology and Maritime Transportation (AASTMT) from 2000 to 2019 and at AI Shorouk Academy from 2016 to 2019. Throughout these years, she has demonstrated an unwavering commitment to education and the advancement of architectural knowledge. In parallel with her academic endeavours, Dr. Elnaggar has developed a robust professional practice. Since her graduation, she has designed and supervised the implementation of numerous significant and specialized projects, ranging from hospitals and residential towers to resorts, schools, private residences, showrooms and a variety of interior design projects. Her dual career as an educator and practicing architect highlights her dedication to both the academic and practical dimensions of architecture and urban design.

### **Prof. Arch. Paul Mwangi Maringa (PHD), CBS, FAAK, MKIP**

He is an Adjunct Professor of Architecture and Planning at JKUAT, KU and UoN, with 36 years of academic and professional experience. He has taught various courses, published widely, and served as editor for academic journals, and research books. Maringa has also worked as a consulting architect/planner for government and private firms. He is a registered architect and member of several professional bodies. Additionally, he has held senior expatriate roles in Kigali, Rwanda, serving as Ag., Deputy Vice Chancellor AA in KIST; technical expert & master trainer, associate project team leader (SCE) & Senior Expert project management and planning in WDA. He was a long serving State Officer - Principal Secretary in Kenya's Ministry of Transport, Infrastructure, Housing, Urban Development, and Public Works, in three of its five state departments. He has considerable expertise in sustainability, urban growth management, and TVET planning.

Google Scholar: [https://scholar.google.com/scholar?hl=en&as\\_sdt=0%2C5&q=Paul+Mwangi+Maringa&oiq=](https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=Paul+Mwangi+Maringa&oiq=)

Orcid: <https://orcid.org/0009-0007-3471-8028>.

ResearchGate: <https://www.researchgate.net/profile/Paul-Maringa-2/publications>

Academica.Edu: <https://jkuat.academia.edu/PaulMwangiMaringa>

Amazon:

[https://www.amazon.com/Books-Prof-Paul-Mwangi-Maringa/s?rh=n%3A283155%2Cp\\_27%3AProf%2BPaul%2BMwangi%2BMaringa](https://www.amazon.com/Books-Prof-Paul-Mwangi-Maringa/s?rh=n%3A283155%2Cp_27%3AProf%2BPaul%2BMwangi%2BMaringa)



### **Arch. Robinson Manguro**

Robinson Manguro is a registered Architect with 19 years of practical experience in architectural design, supervision and project management within the East African region (Kenya, Uganda, Rwanda, DR Congo and Tanzania). He is a PMP Certified Project Manager with 10 years' experience at senior management level and has participated in International Conferences, Trainings and Workshops. He holds a masters in Architecture for Health from Sapienza University of Rome, a master of Arts in Project Planning and Management as well as a bachelor of Architecture from the University of Nairobi. He has a passion in healthy designs and affordable housing. He also has keen interest in education and is currently engaged as an adjunct lecturer at Kenyatta University department of Architecture. He has a passion for mentoring young people and has lectured at Kirinyaga University, the Technical University of Kenya and Maseno University.



### **Landscape Arch. Regina Wango Kasau**

A Landscape Architect and Lecturer at Kenyatta University, Department of Architecture & Interior Design, specializing in Environmental Design. With a robust academic foundation, that includes a Master's degree in Architecture (Environmental Design option) and a Bachelor's degree in Landscape Architecture, Regina conveys a profound understanding of how built and natural environment intersect to effect ecological and human wellbeing. Her works emphasize the incorporation of sustainable principles into landscape and architectural design, specifically regarding how spaces can support emotional well-being. Among her published works include:

1) Inmates' perception of environmental factors affecting psychological well-being: a case of Kamiti maximum security prison in Nairobi, Kenya. *Journal of African Interdisciplinary Studies*, 8(10), 121-140.

2) The built environment of Kamiti maximum security prison, Nairobi: implications for rehabilitation and psychological well-being. *East African Journal of Interdisciplinary Studies*, 8(1), 176-191. <https://doi.org/10.37284/eajis.8.1.2865>.

3) Thermal comfort in urban open spaces in the tropics: a case of Nairobi County, Kenya. *Innovare Academic Sciences*.

Students' thesis supervised:

1) Impact of inclusive design on gender diversity in sports grounds: a case of Stima Sports Club, Nairobi, Kenya.

2) The role of biophilic design enhancing recovery of drug addicts in rehabilitation centres in Murang'a County.

3) Influence of architecture on human-wildlife coexistence in safari lodges: a case of Nanyuki, Kirinyaga County, Kenya.





# DAID FORUM FOR RESEARCH AND DESIGN SOLUTIONS

2024/25, Vol. II, Studio IV,  
Design of Museums, Libraries and Exhibition Halls,  
Chapter One: Case Studies.

