



दिल्ली मेट्रो रेल कॉर्पोरेशन लिमिटेड
Delhi Metro Rail Corporation Limited

THE DELHI RIDGE: DELHI'S ECOLOGICAL HEARTBEAT



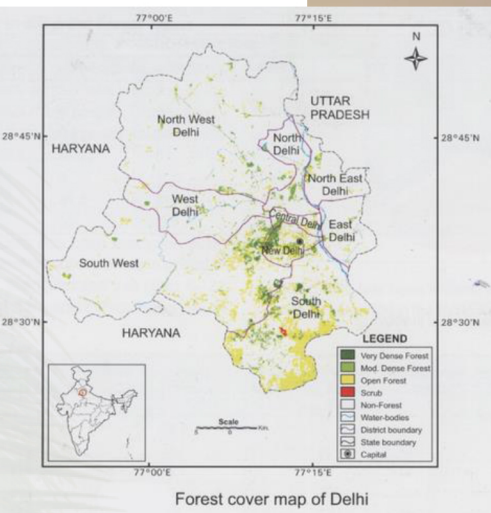
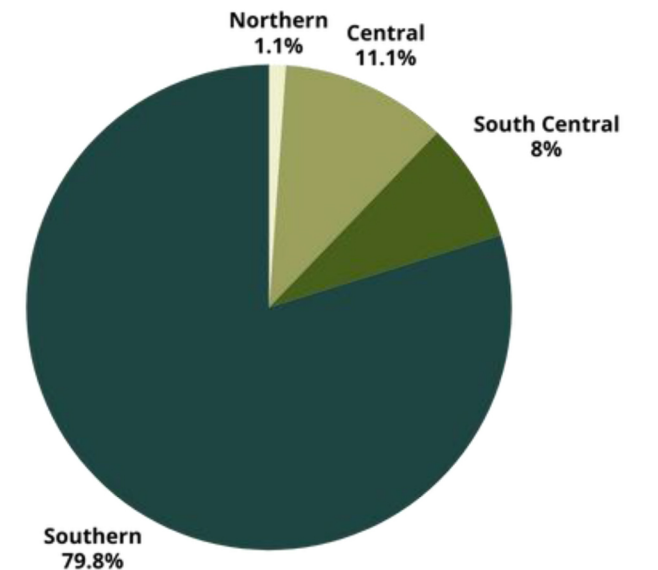
ABOUT THE DELHI RIDGE

The Delhi Ridge is a northern extension of the *Aravalli Range*, covering parts of Delhi and acting as the city's "green lung".

Spanning approximately 35 km, from the Tughlaqabad area in the south to Wazirabad in the north, it provides vital ecological balance by reducing air pollution and offering a natural habitat for flora and fauna.

Divided into four main sections—

- 1. North Ridge-----1.1%
- 2. Central Ridge-----11.1%
- 3. South-Central Ridge----8%
- 4. The Southern Ridge-----79.8%





THE DELHI RIDGE: DELHI'S ECOLOGICAL HEARTBEAT

A vital ecological zone that serves as the "green lungs" of one of India's largest metropolises.



Biodiversity Sanctuary

Home to **over 200** bird species, dozens of butterfly varieties, and diverse native flora



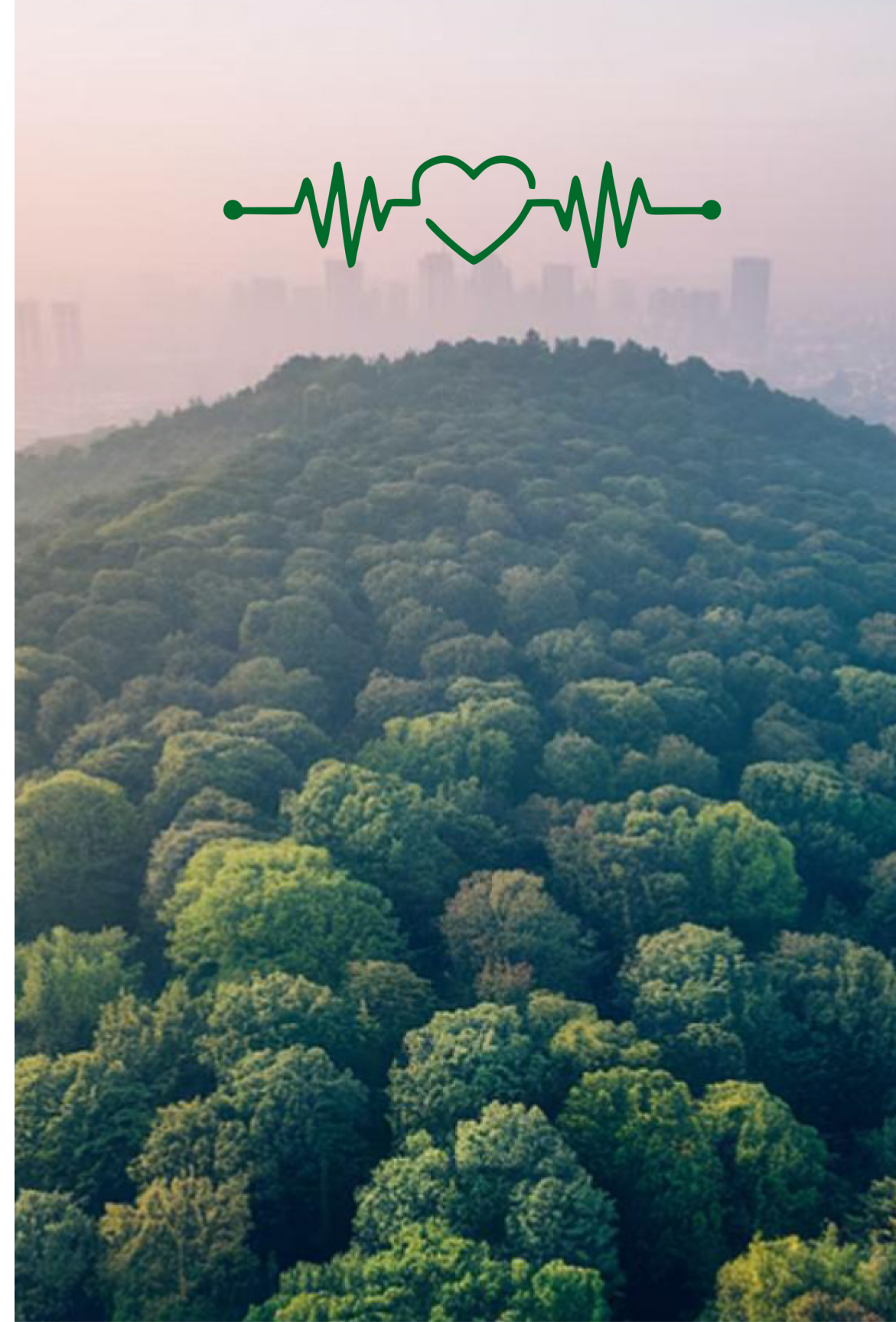
Environmental Regulator

Naturally filters air pollution and helps maintain Delhi's ecological balance



Historical Significance

Ancient Aravalli hills extension with centuries of cultural and ecological importance





HISTORICAL SIGNIFICANCE + URBAN ECOLOGY + CONSERVATION PRACTICES

=

**FOSTERING HUMAN RELATIONSHIPS
WITH NATURE**



Historical Significance



Strategic Defense

Served as **crucial defensive position** during 1857 revolt



Biodiversity Hotspot

Second richest bird population after Nairobi, Kenya



Water Management

Regulates **groundwater levels** crucial for Delhi's sustainability



Urban Ecology

Fosters human relationships with nature in urban setting



Home to a rich bird population, making Delhi the second richest city in terms of bird species after Nairobi, Kenya.

Historically, it served as a strategic defense point during the 1857 revolt.

The Ridge also helps regulate groundwater levels, making it essential for Delhi's environmental sustainability.

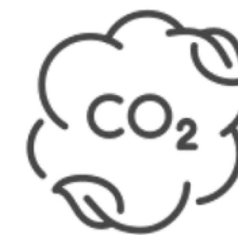
IMPORTANCE OF RIDGE IN DELHI'S ECOSYSTEM



Air Purification



Climate Regulation



Carbon Absorption



Soil Health



Pollination



ABOUT THE PROJECT

AIM

AIM OF THE PROJECT

The Delhi Ridge Interpretation Center would be a dedicated space, which will aim to educate visitors about the ecological, historical, and environmental significance of the Delhi Ridge.

MISSION

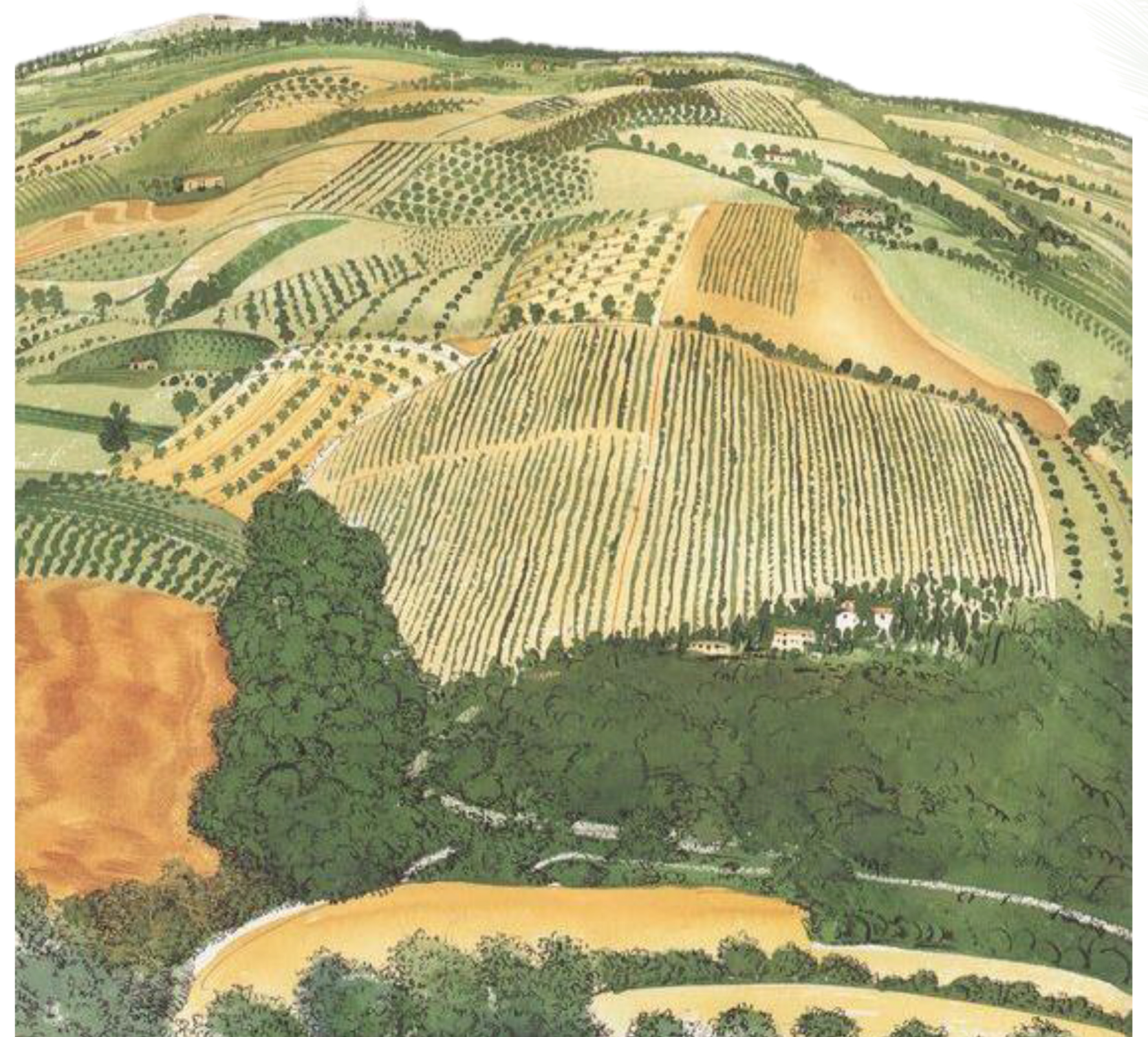
MISSION OF THE PROJECT

To educate and inspire visitors of all ages to understand, appreciate, and protect the New Delhi Ridge through interactive, immersive experiences which creates a deep connection to its biodiversity, cultural significance, & ecological role in the urban landscape.

VISION

VISION OF THE PROJECT

To be a leading environmental interpretation hub, promoting the New Delhi Ridge as a model of urban ecological conservation by raising awareness and encouraging responsibility.



Mission of the *Project*

Connect

Create *immersive experiences* fostering connection to biodiversity

Protect

Encourage *responsibility* toward urban ecological conservation

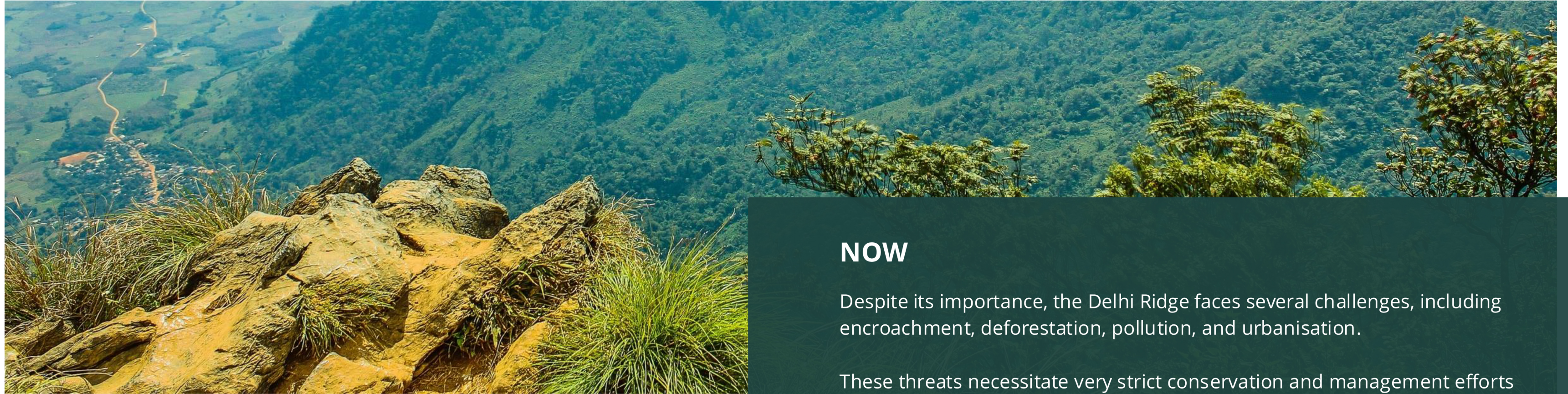
Educate

Inspire visitors about *ecological* and historical significance

Environmental Hub

Promote Ridge as *model* of urban ecological conservation





RIDGE INTERPRETATION CENTRE

The Ridge Interpretation Centre will educate visitors about the Delhi Ridge's ecology and history through interactive and immersive exhibits.

NOW

Despite its importance, the Delhi Ridge faces several challenges, including encroachment, deforestation, pollution, and urbanisation.

These threats necessitate very strict conservation and management efforts to preserve this critical natural feature.

While initiating large-scale initiative, DMRC values the potential collective impact of individual contributions, and hence aims to encourage the public in this direction through this RIC.

RIC's APPROACH FOR BETTER TOMORROW

Raise Environmental Awareness.

Promote Conservation Efforts.

Bridge Knowledge Gaps.

Foster Community Engagement.

Empower visitors with the knowledge of protection & sustainability



Current Ridge Challenges



Encroachment

Urban development **pressure** on natural areas



Deforestation

Loss of tree cover and habitat



Pollution

Air and water **contamination** affecting ecosystem



Urbanisation

Shrinking natural spaces from expansion

RIC's Approach for Better Tomorrow



Environmental Awareness

Educational initiatives highlighting **ridge importance**



Conservation Promotion

Encouraging **public participation** in preservation



Knowledge Bridge

Connecting **research** to public **understanding**



Community Engagement

Fostering **local stewardship** of natural resources





Target Demographics



TARGET DEMOGRAPHICS

DELHI, INDIA

The population of Delhi in 2024 is estimated to be 3.38Cr.

TARGET AUDIENCE

- School Students & Teachers
- Delhi Residents
- Visitors to Delhi

40 Lakh+

Students are currently enrolled in government & private schools of Delhi.

1.46 Lakh+

Teachers are there in government & private schools of Delhi.





Delhi School Demographics



Government Schools

2,762 schools across Delhi

Serving majority of Delhi's student population

Total **5,372 schools** with 33.8 lakh students and **1.46 lakh teachers** across *Delhi*

Private Schools

2,610 schools across Delhi

Complementing the educational landscape



Student Enrollment Distribution

1 7 . 8 M

Government Schools

Students enrolled in Delhi

1 6 M

Private Schools

Students enrolled in Delhi

8 4 . 5 K

Government Teachers

Educators in public schools

6 2 . 4 K

Private Teachers

Educators in private institutions

CASE STUDY 1

National Science Centre

Total Number of Visitors (23-24):
9.7 Lakh visitors

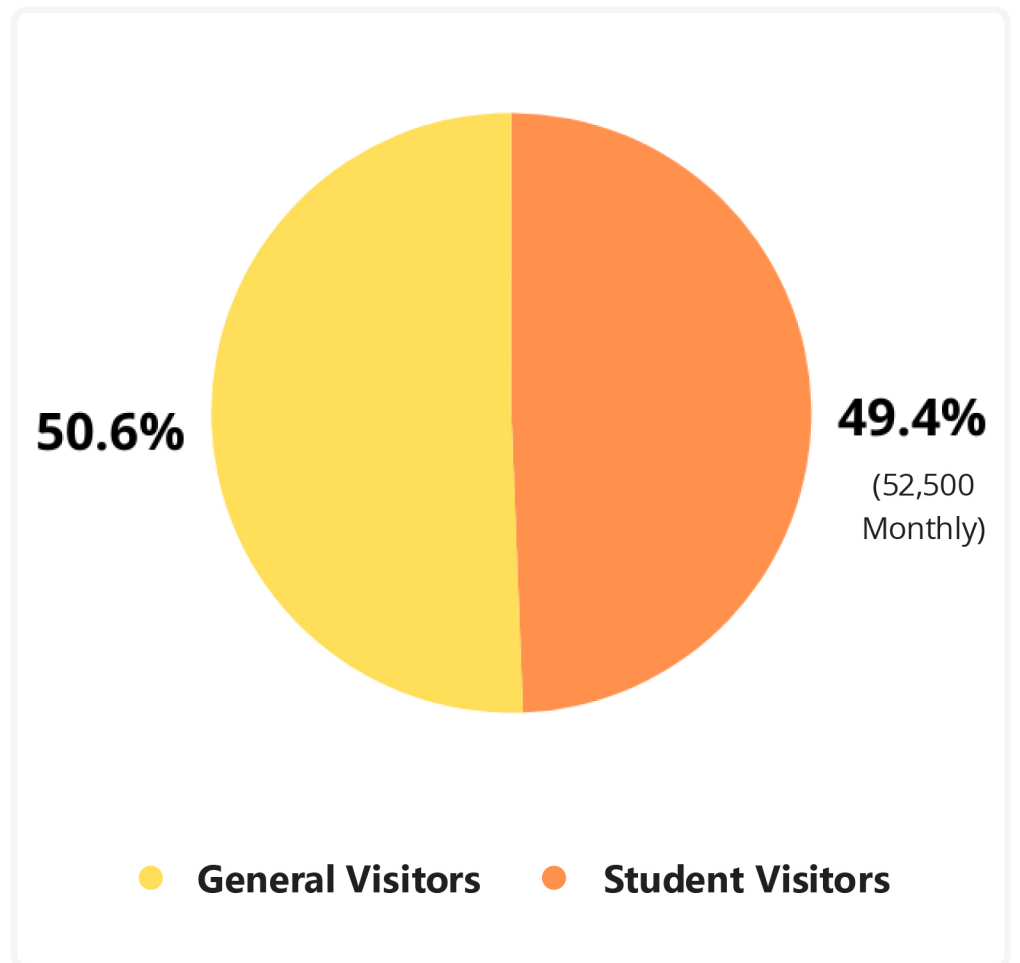
4.79 Lakh+

Students visited National
Science Center Museum,
Delhi during 2023-24

11.9%

Delhi students visited the
National Science Centre
from various schools
(2023-24).

Annual Footfall (2023-24)



Case Study: National Science Centre
Built up area: 14000 sq ft.

CASE STUDY 2

Nehru Planetarium

Total Number of Visitors (2023-24):
2.5 Lakh visitors (approx.)

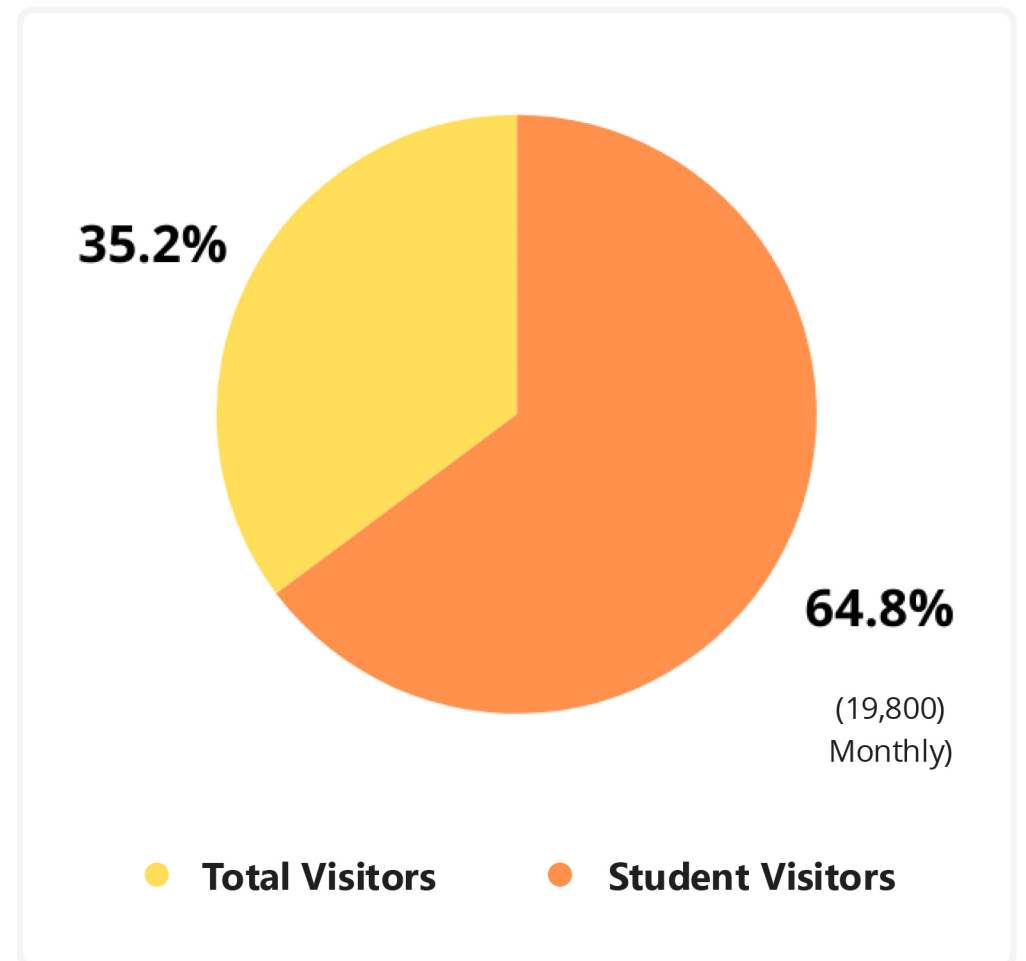
1.62 Lakh+

Students visited Nehru Planetarium, Delhi during 2023-24

4.79%

Delhi students visited the Nehru Planetarium from Delhi's schools visited (2023-24).

Annual Footfall (2023-24)





USER PERSONA



NAME: AARAV SHARMA
AGE: 10
GRADE: 7TH STANDARD

GOALS

- **Wants to learn more about how the environment works.**
- **Wants to contribute to protecting nature & reducing pollution.**



NAME: RAHUL MEHTA
Age: 34
Profession: Urban Planner

GOALS

- **Understand Delhi's Approach to Urban Ecology**
- **Discover Best Practices for Green Spaces**
- **Share Knowledge and Collaborate**



NAME: SHASHIKANT VERMA
Age: 43
Profession: History Professor

GOALS

- **To explore the historical significance of the Delhi Ridge.**
- **Influence on Delhi's cultural landscape.**
- **Learn about the Delhi Ridge's role in balancing nature and urbanization.**



DELHI METRO RAIL
CORPORATION LIMITED

Site Study

Site Study

Timings: Open Tuesday to Sunday, 10:00 AM to 4:00 PM.

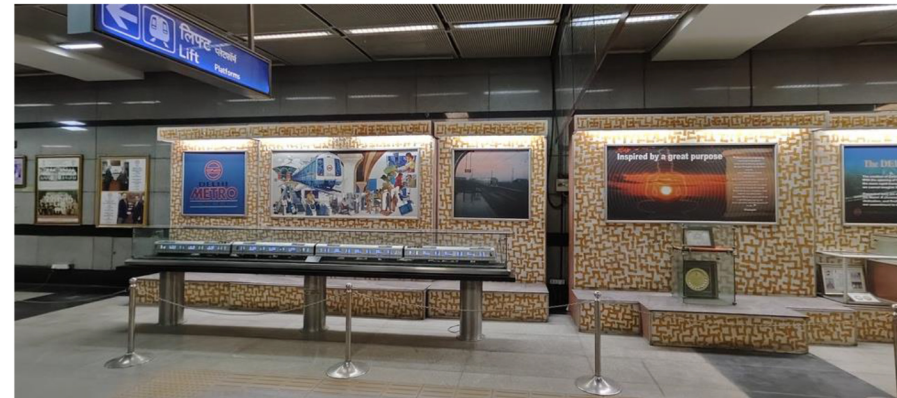
Entry Fee to the station: Admission is free.

Entry Fee to museum gallery: Nominal Fee suggested

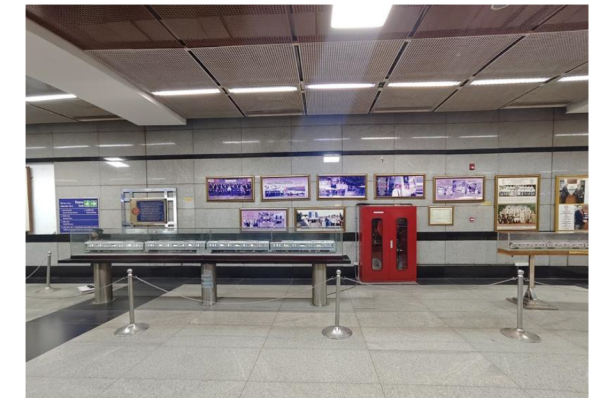
Overall Area of the Site

Overall Length of the Space: 196'

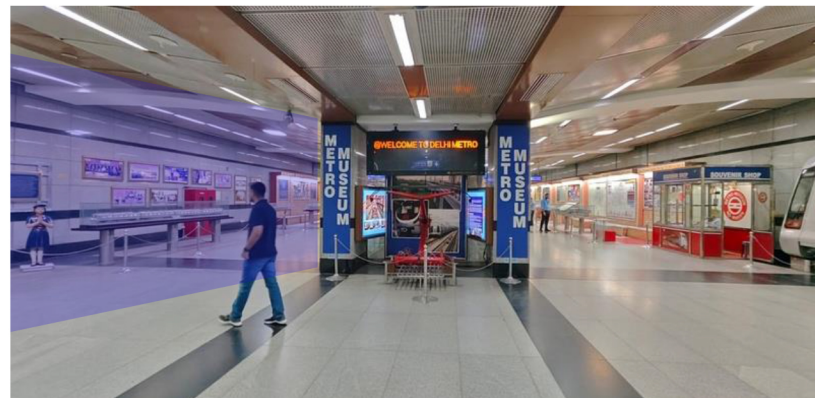
Overall Width of the Space: 57'



Display of awards received by Delhi Metro, alongside informative wall panels detailing its achievements.



Display of 3D metro models of different lines, with a timeline of construction and completion milestones on the wall.



Museum Area 1

Museum Area 1

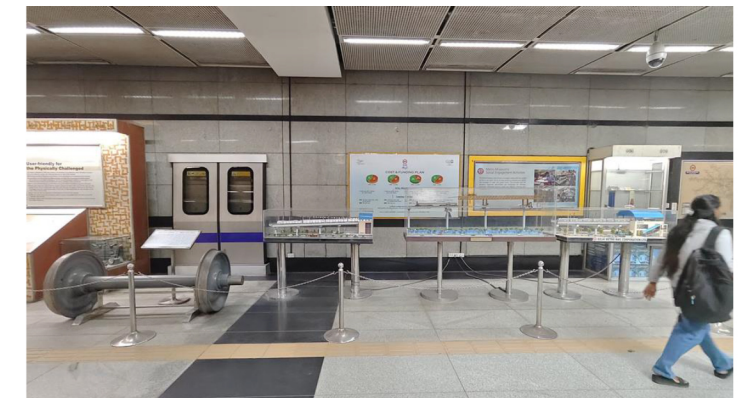
Length of the Space: 59.7m

Width of the Space: 6.6m

To be utilized: 3.3 m



Two backlit panels showcase global metro systems and an Indian metro map. Adjacent displays highlight the Delhi Metro's regenerative energy use and a user-friendly guide for accessibility.



A model of metro wheels with detailed information is displayed, followed by additional metro models. Nearby panels provide insights into the metro's cost and funding plans, details of the Metro Museum's and social engagement activities.



Site Study

Timings: Open Tuesday to Sunday, 10:00 AM to 4:00 PM.

Entry Fee to the station: Admission is free.

Entry Fee to museum gallery: Nominal Fee suggested

Overall Area of the Site

Overall Length of the Space: 196'

Overall Width of the Space: 57'



Starting Area 2 in the U-shaped layout, we see a display model of a metro station, a scale model of the metro bridge at Pragati Maidan, and a model of the Yamuna Bank metro area. Adjacent to these, a small model of the tunnel boring machine is displayed, with a large wall display of the cutter head positioned behind it.



Four displays on metro design and facts, with awards and certificates showcased in front.



Museum Area 2

Museum Area 2

Length of the Space: 59.7m

Width of the Space: 6.6m

To be utilized: 3.3 m



A display of Rajiv Chowk metro station is accompanied by two wall maps showcasing the entire Delhi Metro network.



On the other side, Area 2 begins with a souvenir shop, and, adjacent to these, there are two displays of metro facades: one of the Pink Line metro and the other of the 2002 Shahdara metro.



Observations

Pros and Cons of the Current Museum Display Approach

PROS	CONS
<p>In Public Eye Positioned in a high-traffic area, the museum enjoys visibility among daily metro commuters.</p>	<p>Static Content While the location is ideal, the static nature of displays may cause them to blend into the surroundings, risking them being overlooked by the public.</p>
<p>Prime Location Centrally located, it's easily accessible to a diverse audience.</p>	<p>Information Overload Heavy, text-focused displays can deter engagement, potentially reducing knowledge transfer and public interest in the exhibits.</p>
<p>Free Admission Free entry encourages spontaneous visits, making the museum accessible to all.</p>	<p>Competing Distractions The bustling metro environment, with constant movement and noise, may draw attention away from the museum, making it easy for visitors to miss or overlook the displays.</p>
<p>Leverages Existing Footfall The museum can benefit from the high volume of daily metro users, potentially increasing visitor numbers and exposure.</p>	<p>No exclusivity - no sense of discovery With all displays fully visible to every commuter at all times, there's little opportunity to build curiosity or create a sense of discovery, reducing the allure of exploring the space.</p>



Current Space Analysis



Prime Location

Central *accessibility*,
high visibility



Static Content

Displays **blend** into
surroundings



Free Admission

Encourages
spontaneous **visits**



Competing ***Distractions***

Bustling environment
diverts attention



Ridge Interpretation Centre Concept

Our vision for the Ridge Interpretation Centre revolves around four interconnected principles:



Immersive Education

Interactive **learning experiences** that engage visitors in understanding the Ridge's ecological significance



Nature-Inspired Design

Aesthetic *reflecting* natural elements of the Delhi Ridge landscape



Technology Integration

Modern displays enhancing engagement with interactive maps and ecological information



Community Connection

Fostering environmental stewardship through local participation and awareness



DELHI METRO RAIL
CORPORATION LIMITED

Concept

Introduction

The Ridge Interpretation Centre (RIC) aims to be an immersive, educational space that re-connects citizens with the ecological, **environmental** and cultural significance of the Delhi Ridge, an extension of the Aravalli range. The centre blends technology, nature, and design to create a unique experience.



ECOLOGY OF DELHI, AN INTRODUCTION

Based on the geology and the geomorphology, the region of the city of Delhi can be broadly divided into four parts – **Kohi** (hills) which comprises the hills of Aravalli, **Bangar** (main land), **Khadar** (sandy alluvium) along the river Yamuna and **Dabar** (low lying area/flood plains).

Leaving the hills and the plains, the river abandoned its original course and urban development in the 19th and 20th century gradually pushed it eastwards on to the lowest elevation leaving behind six old courses in the region.

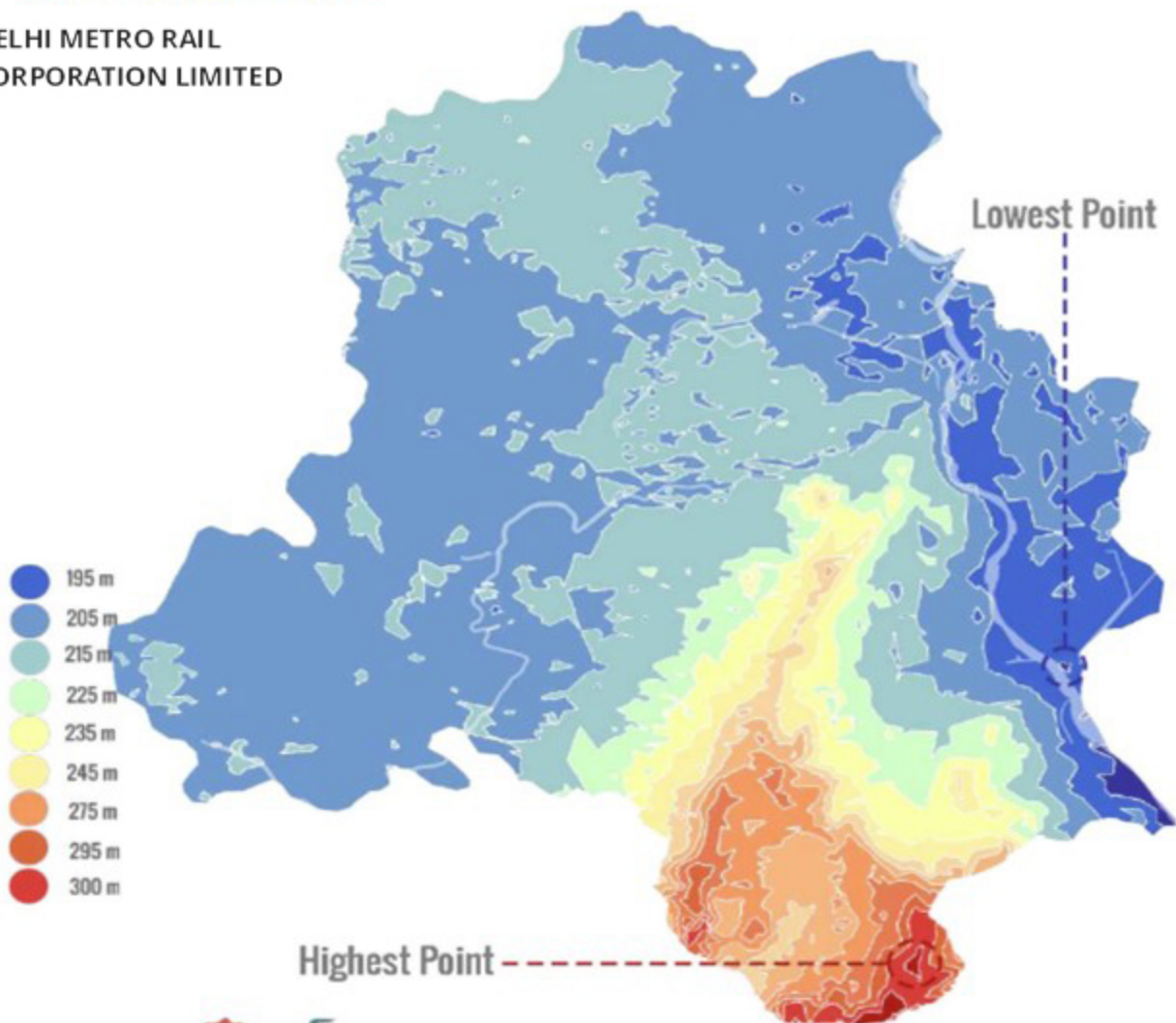
Spurs of Aravalli (known as Ridge in Delhi) – the oldest fold mountains in India – and river Yamuna – a tributary of river Ganga – are two natural features which frame the triangular alluvial region. While there was a scattering of settlements in the region, the urban settlements of Delhi developed, more profoundly, around the eleventh century on the Aravalli Ridge to the south of the alluvial plain.

A spur of the Aravalli hills enter the Delhi region from present-day Gurugram in the south, and continue northwards, descending gradually towards the north east side, ending in Wazirabad near the river. The vegetation of Ridge comprises dry and deciduous trees which have adapted to the shallow soil and limited water. Some parts of the Ridge on the southern side have deep alluvial basins where there is a change in vegetation. The land flanking the river has sandy and coarse soils with shallow ground water table while the south western side is low lying. The composite climate of the region is characterized by a dry and hot summer (March to June) and a dry cold winter (October to February) interspersed by a brief monsoon period.

CONTOURS OF DELHI



DELHI METRO RAIL CORPORATION LIMITED



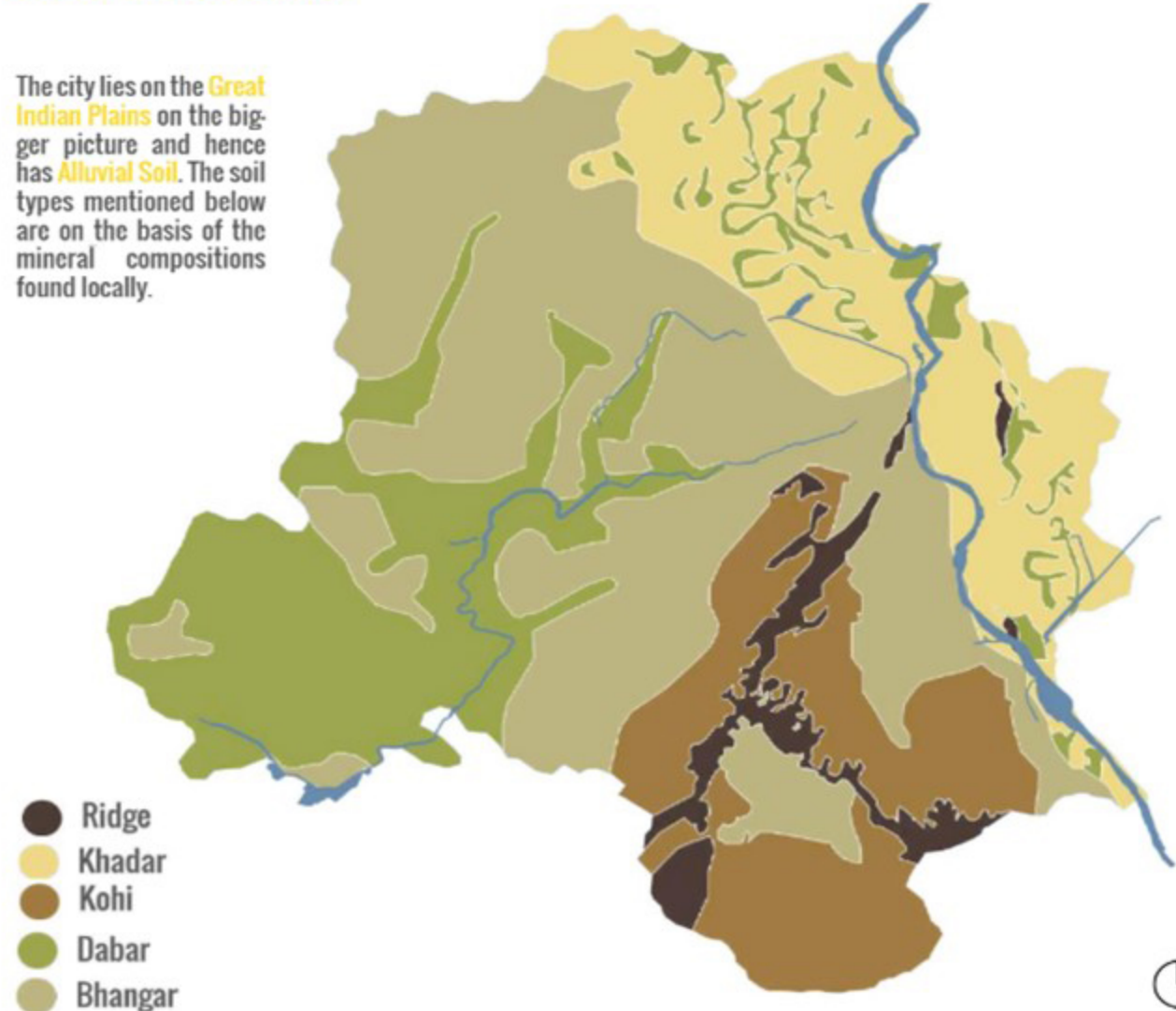
The city of Delhi is situated at a mean **225 m above sea level**. Delhi's terrain is affected by two major geographical elements: the **Aravalli Ranges** and the **Yamuna River Plain**. These also contain the highest and the lowest point of the city.

The hydrogeological set-up and the groundwater occurrence are further influenced by the four distinct physiographic units: (i) alluvial plain on the eastern and western sides of the ridge; (ii) Yamuna flood plain deposits; (iii) isolated and nearly closed Chattarpur alluvial basin; and (iv) NNE-SSW-trending quartzitic ridge.

	Ht. above sea level	Location	Co-ordinates	Land-use
Highest Point	318 m	In Asola-Bhatti Wildlife Sanctuary, Southern Bhatti Kalan District	28°26'27"N, 77°13'29"E	Recreational-Regional Parks
Lowest Point	192 m	In River Yamuna, near Kalindi Kunj Bridge, South-East Delhi	A point inside the river	River

SOIL MAP OF DELHI

The city lies on the **Great Indian Plains** on the bigger picture and hence has **Alluvial Soil**. The soil types mentioned below are on the basis of the mineral compositions found locally.



The terrain of Delhi is flat in general except for the NNE-SSW trending elevated ridge, which is an extension of the Aravalli hill and buried under the Yamuna alluvium in the northern parts of Delhi. River Yamuna is another prominent feature of Delhi, enters the city from north and flows southward with an eastern bend near Okhla.

Soil Type	Texture	Percentage	Location	Remarks
Ridge	Rocky	4%	Aravalli Ranges, mainly in Asola-Bhatti region.	Degradation due to quarrying and encroachment.
Kohi	Silty clay/Loamy	15%	Foothills of Aravalli Ranges.	Uneven topography leads to erosion
Bhangar	Old Alluvium	41%	Alipur, Shera, Narela, Ladpur, Najafgarh.	Generally fertile with high moisture content.
Khadar	New Alluvium	18%	Along the River Plain in Balla, Shahdara, Gokalpur, Madanpur.	Recent flood plain.
Dabar	Saline Alkali	22%	Low-lying areas in Najafgarh, Palam, Ladpur, Shikharpur.	Poor drainage affects the soil texture.

ECOLOGICAL LAYERS OF DELHI

The ecological layers of Delhi are the representation of the rich and varied history the city has in its possession. Urban Delhi includes swathes of semi-wild places at its edge, shades off into wasteland or agricultural fields which support characteristic trees too. Delhi's natural vegetation is sometimes called a 'thorn forest', which forms a transition zone where dry deciduous forest shades into desert scrub. The ridge and the river Yamuna play a significant role in the generation of these various layers of ecology.

There are a lot of artificial water systems created in the various historical cities of Delhi. The baolis, the kurds and the lakes are some examples.

The ridge is located in a high contour level area. The Kohi soil can be observed to mark the foothills of the Aravalli Ranges. Along the banks of Najafgarh Drain, we can observe dabar soil lines. The bhangar and khadar soil are more fertile, with the new alluvium soil along the River Yamuna and Bhangar forming the base ground for other canals, therefore the presence of agricultural land. Agricultural ground on the periphery is due to the presence of fertile soil khadar.

ECOLOGICALLY SENSITIVE AREAS :

- FORESTS**
 Northern Ridge
 Central Ridge
 South Central Ridge
 Southern Ridge

LAKES, BIODIVERSITY PARKS, MARSHY LAND & MAIN DRAINS

Aravalli Biodiversity Park, Asola Wildlife Sanctuary, Barapullah Drain, Bhalswa Lake, Burari Drain, Hari Nagar Lake, Hauz Khas Lake, Najafgarh Drain, Okhla Bird Sanctuary, Paschim Vihar Lake, Purana Qila Lake, Sanjay Lake, Shamsi Talab, Tughluqabad Biodiversity Park, Yamuna Biodiversity Park.

Many parts of the forest area are barren landscape devoid of any dense vegetation due to extensive quarrying activities that have now been banned. In addition to these, there are few patches of protected forests in the city Rajokri, Mitraon, Mukhmel Pur, Ghumenhera and Bawana. Many of the forested areas in the suburbs have been converted into agricultural fields. The catchment area is observed in the banks of River Yamuna. There are mainly two catchment areas. One, where the Najafgarh Drain flows into the River, and the other where Barapullah Drain and Shahdara Drain flows into the River.

A distinctive feature of the distribution of open space in the city is that a variety of major open spaces occupy an extensive area at the centre of the city, representing its natural, ceremonial and recreational character. Dense vegetation of trees along the roads with extensive open spaces creates an environment friendly microclimate that gives the area a distinct identity.

SOIL

- Ridge
- Kohi
- Bhangar
- Khadar
- Dabar

VEGETATION

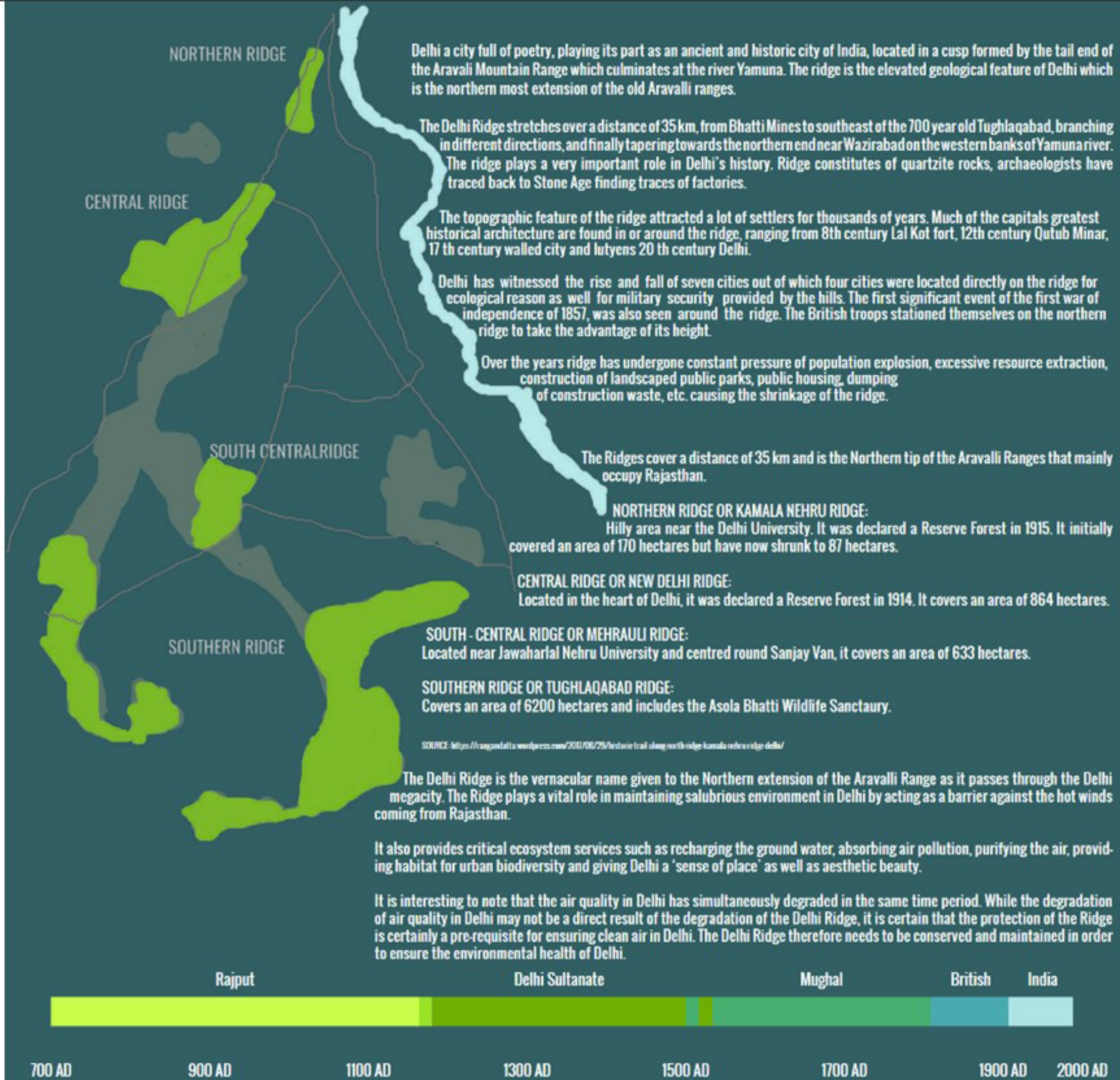
- Outskirts Farm
- Forest
- Crop Fields
- Natural Reserve
- Brownfields
- Meadow
- Golf Courses
- Greenfield
- Pitch
- Woods
- Parks
- River Islets
- Health
- Playgrounds
- Scrub
- Grasslands
- Garden
- Farmyard
- Farmlands
- Plant Nurseries



DELHI: ridge & evolution



DELHI: ridge & evolution





History Control and Management

The Ridge has been the topographic feature that attracted settlers to the area for thousands of years. From the eighth-century Lal Kot fort and 12th century Qutub Minar, to Shah Jahan's 17th century walled city and Lutyens' 20th century Delhi, much of the Capital's historical architecture is found in and around the Ridge. In the 14th century, the Ridge forest was covered with thorny scrubs with very little green cover. In the early 1900s, the British began restoring some of the Mughal gardens, and when their Imperial capital shifted from Calcutta (now Kolkata) to Delhi.

DELHI SULTANATE: TUGLAQ DYNASTY

1351

Pir Ghaib, the 14th century monument and the stepwell next to it built by Sultan Firuz Shah Tughla, found use as a hunting lodge and also as an astronomical observatory.

Ashoka pillar was shifted from Meerut by Feroz Shah Tughlaq and was placed at his hunting place. It is a monoithic pillar.

1356

1351-1388

The Chauburja Mosque, four-domed corner turrets was built during Firoz Shah Tughlaq's reign as a mausoleum.

Flagstaff Tower built by the British Indian Army, the building was part of the British cantonment and was used as a signal tower. It is a one-room, castellated tower.

1828

1863

The Mutiny Memorial was built in 1863 in the memory of the officers and soldiers of the Delhi Field Force who were killed in 1857.

The Delhi Ridge was notified as 'Reserve Forest' under Indian Forest Act, 1927.

1994

2001

Under MPD 2001, the morphological Ridge area was notified as forest and the area was included in the 'Regional Park'.

Provisions of the MPD 2021 makes it mandatory that the Ridge is to be kept free from encroachers and its pristine glory must be maintained.

2021



PIR GHAIB



CHAUBURJA MOSQUE



FLAGSTAFF TOWER



ASHOKAN PILLAR



MUTINY MEMORIAL



Exhibits

Considering the diverse nature and features of the Ridge, the following themes are proposed:

1. Vedic references – importance of preservation of ridge
2. Introduction about the Ridge
3. Relief Map/model of Ridge with interactive identifiers
4. History of control and Management
5. Ridge Management Strategies
6. Experience the Ridge (VR Corner/immersive space)
7. Impact of Ridge on Heat/Air Quality/Water
8. Flora of Ridge
9. Medicinal Plants
10. Fauna - Wildlife Conservation (Asola Bhatti)
11. Conservation – Past , Present and Future
12. Technological Interventions
13. DMRC Contributions
14. Souvenir Shop



Ridge Management History



Colonial Management

British forestry practices focused on **resource extraction**



Post-Independence Control

Multiple agencies with *overlapping jurisdictions*



Legal Protection

Court decisions strengthening conservation status



Collaborative Governance

Current **multi-stakeholder** conservation approach



Proposed Exhibition Themes



Vedic References

Ancient importance of **ridge preservation**



Ridge Introduction

Basic geography and *ecological significance*



Interactive Relief Map

3D visualization with interactive elements



Management History

Evolution of **conservation approaches**



Final Exhibition Themes



Medicinal Plants 🌿

Traditional and **modern uses** of ridge flora

2

Fauna Display 🦋

Wildlife conservation at Asola Bhatti



Conservation Timeline ⌚

Past, present, and future protection efforts



Technological Interventions 💻

Modern solutions for ecological challenges

Patel Chowk Metro Station



Location

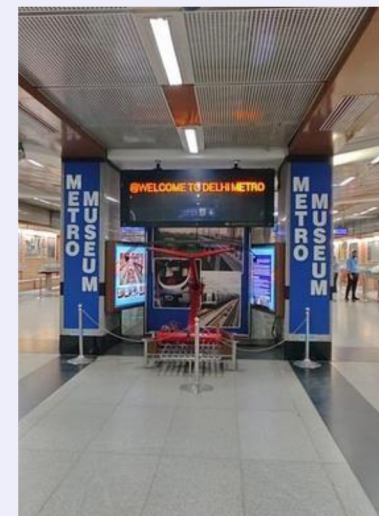
Patel Chowk Metro Station (-1 Level)

Visibility

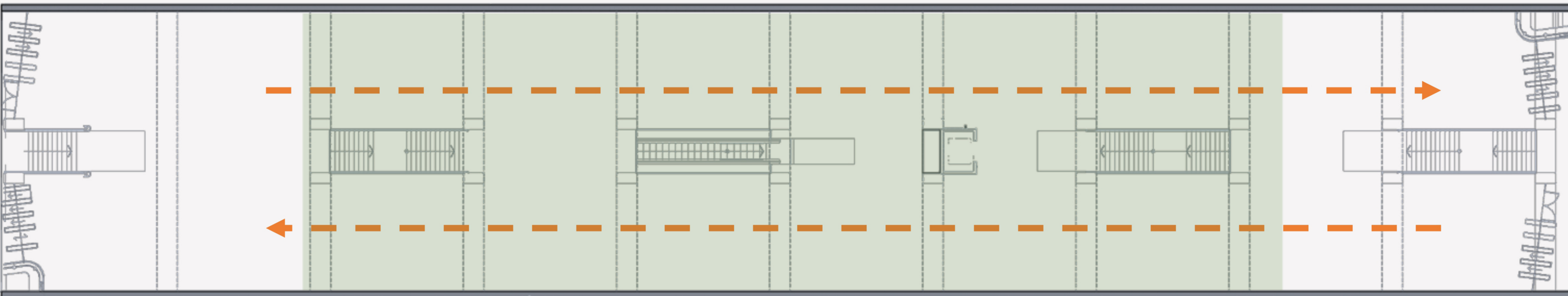
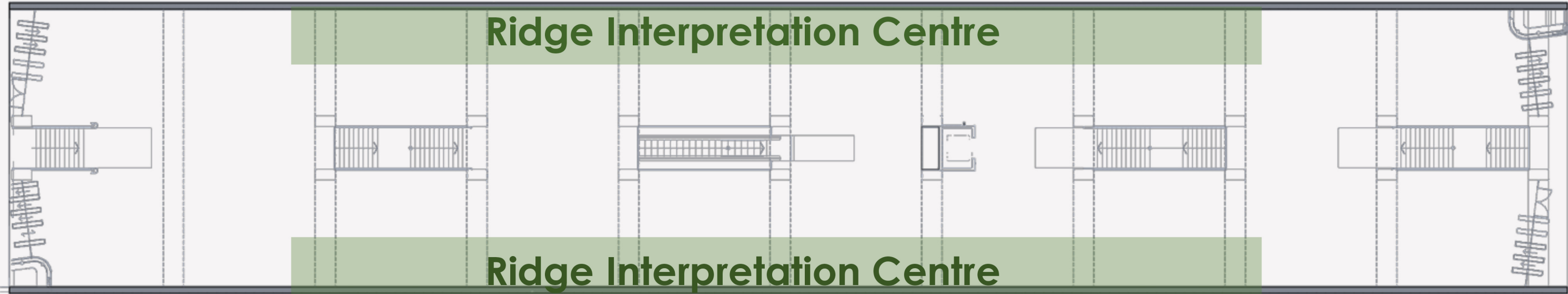
High-traffic zone with excellent public exposure

Space Allocation

Dedicated area for Ridge Interpretation Centre



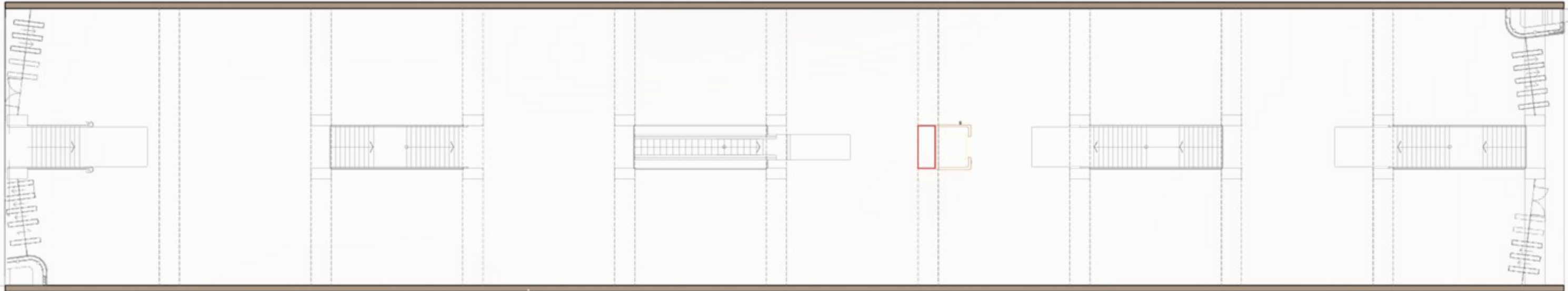
Area allocated for Ridge Interpretation Centre



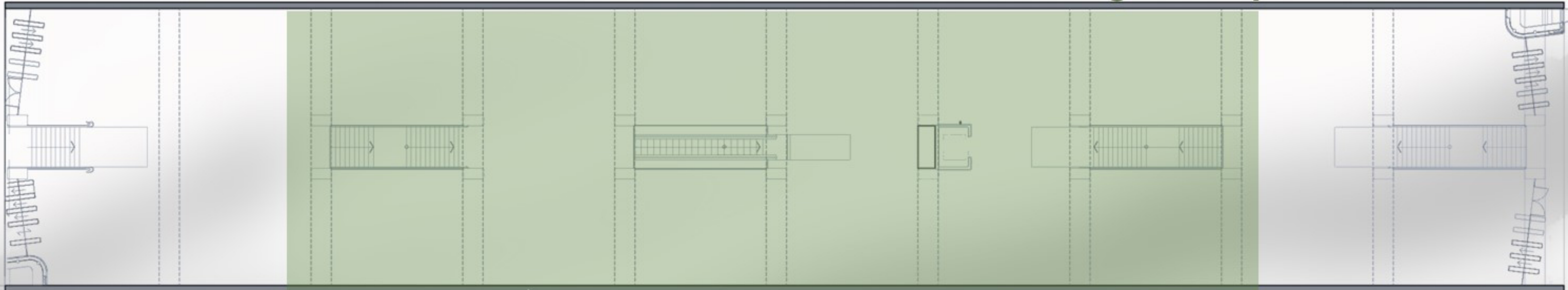
Multiple entry points for easy visitor flow

Plan

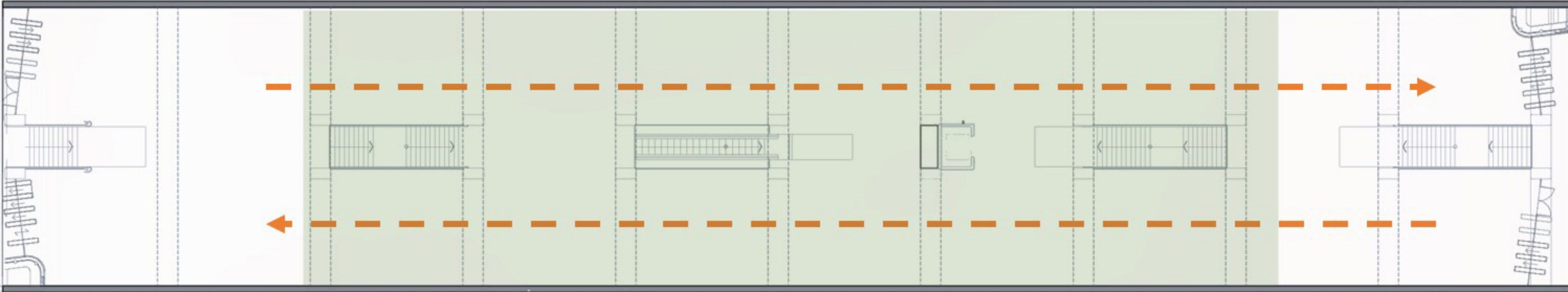
Patel Chowk Metro Station (-1 Level)



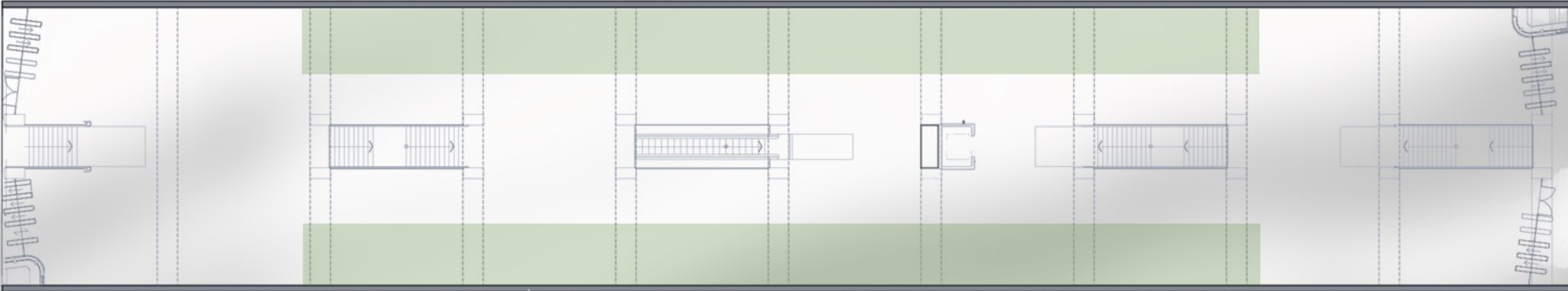
Area allocated for Ridge Interpretation Centre



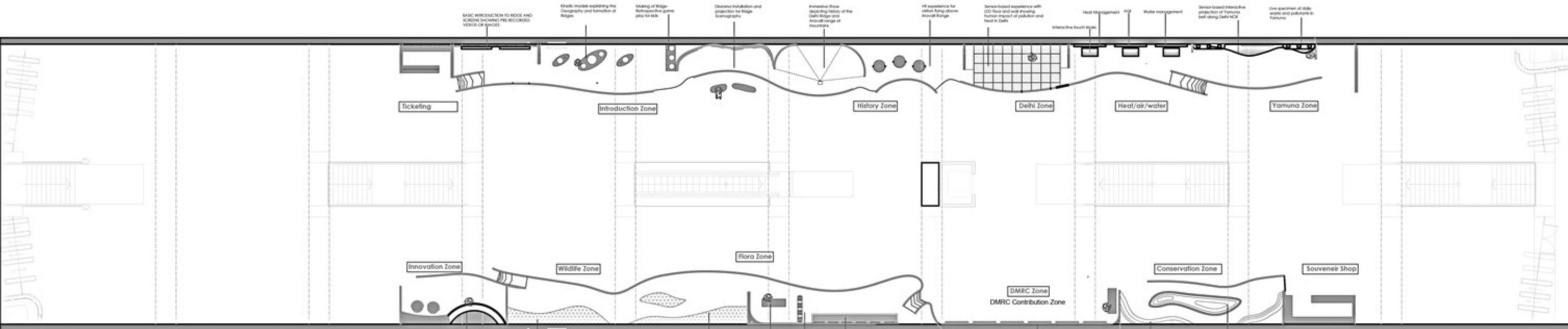
Pedestrian traffic for Metro commute at the station



Shifting experience zones along station walls to orient the transit of RIC and metro



Proposed Floor Plan



BASIC INTRODUCTION TO RIDGE AND SCREENS SHOWING PRE-RECORDED VIDEOS OR IMAGES

Kinetic models explaining the Geography and formation of Ridge

Making of Ridge Retrospective game play for kids

Diorama installation and projection for Ridge Scenography

Immersive Show depicting history of the Delhi Ridge and Aravalli range of mountains

VR experience for visitors flying above Aravalli Range

Sensor based experience with LED floor and wall showing human impact of pollution and heat in Delhi

Heat Management AQI Water management

Sensor based interactive projection of Yamuna belt along Delhi NCR

Live specimen of daily waste and pollutants in Yamuna

Innovation Zone

Wildlife Zone

Flora Zone

DMRC Zone
DMRC Contribution Zone

Conservation Zone

Souvenir Shop

Touch label interaction showcasing new technological interventions

Projection on Models to showcase their biological and special attributes

A walk in the Ridge scenography exploring all the wildlife present in the region

Videos showcasing different medicinal plants and their benefit in daily life

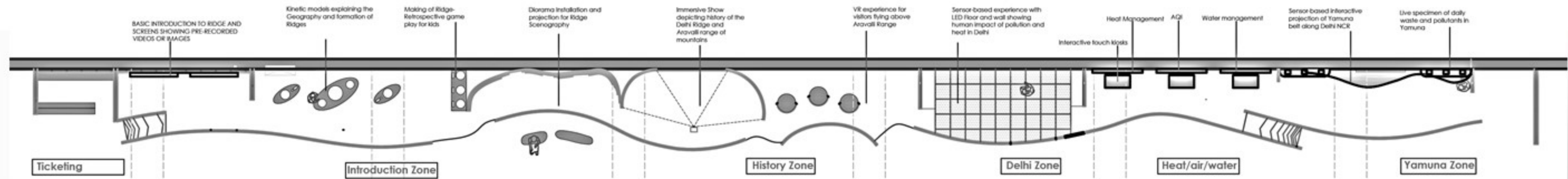
Various flora specimen and samples collected in glass boxes

Sensorial experience for visitors to smell different flowers and plants from the Ridge

Various achievements and information about Delhi Metro displayed in wall panels and table

Information panels placed about different laws and conservation norms for the Ridge

Walk on Map experience of the Ridge Zones with AR pods to peek through the Ridge in different years.



BASIC INTRODUCTION TO RIDGE AND SCREENS SHOWING PRE-RECORDED VIDEOS OR IMAGES

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Making of Ridge Retrospective game play for kids

Diorama installation and projection for Ridge Scenography

Immersive Show depicting history of the Delhi Ridge and Aravalli range of mountains

VR experience for visitors flying above Aravalli Range

Sensor based experience with LED floor and wall showing human impact of pollution and heat in Delhi

Heat Management AQI Water management

Sensor based interactive projection of Yamuna belt along Delhi NCR

Live specimen of daily waste and pollutants in Yamuna

Ticketing

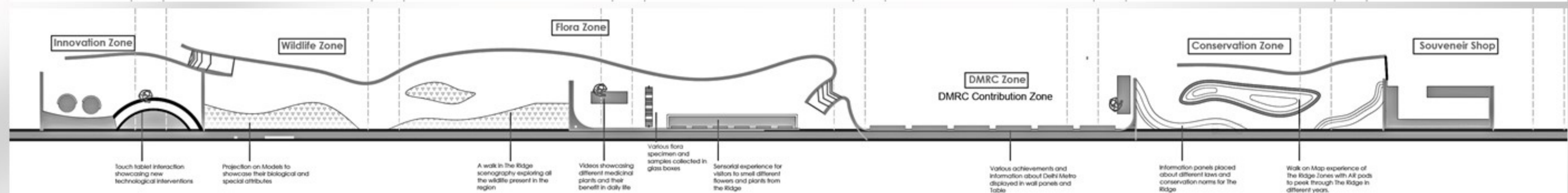
Introduction Zone

History Zone

Delhi Zone

Heat/air/water

Yamuna Zone



Touch label interaction showcasing new technological interventions

Projection on Models to showcase their biological and special attributes

A walk in the Ridge scenography exploring all the wildlife present in the region

Videos showcasing different medicinal plants and their benefit in daily life

Various flora specimen and samples collected in glass boxes

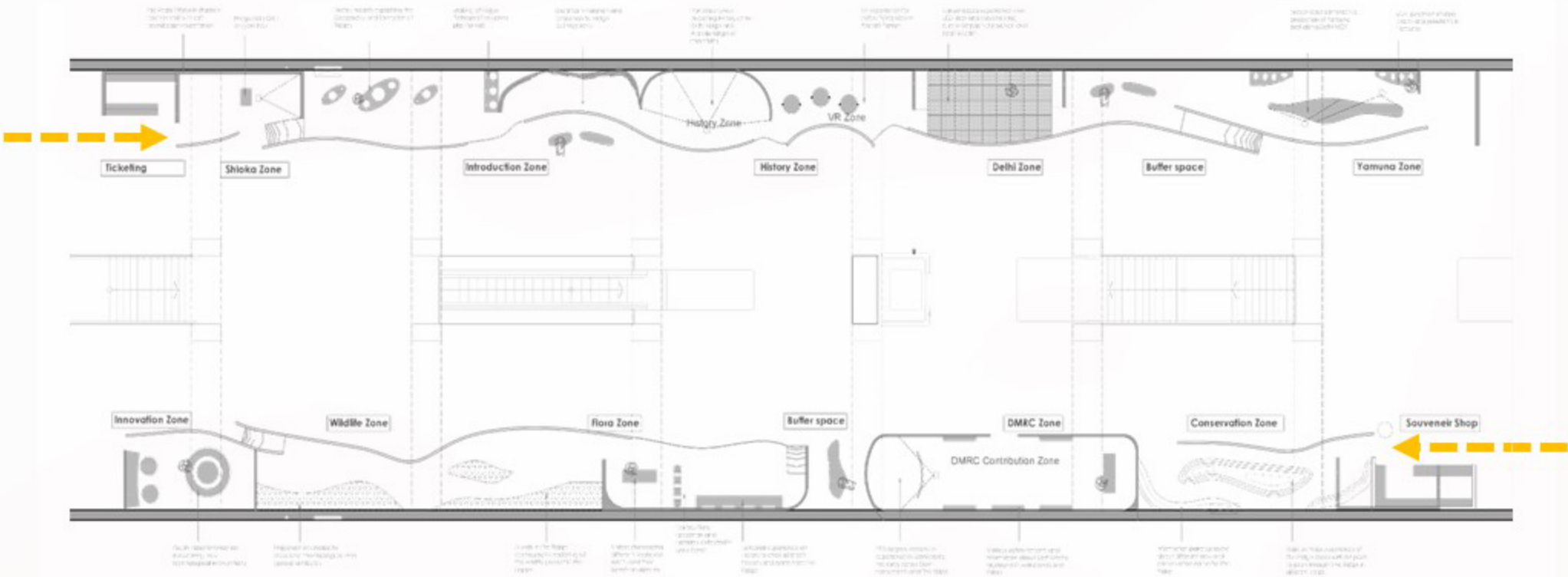
Sensorial experience for visitors to smell different flowers and plants from the Ridge

Various achievements and information about Delhi Metro displayed in wall panels and table

Information panels placed about different laws and conservation norms for the Ridge

Walk on Map experience of the Ridge Zones with AR pods to peek through the Ridge in different years.

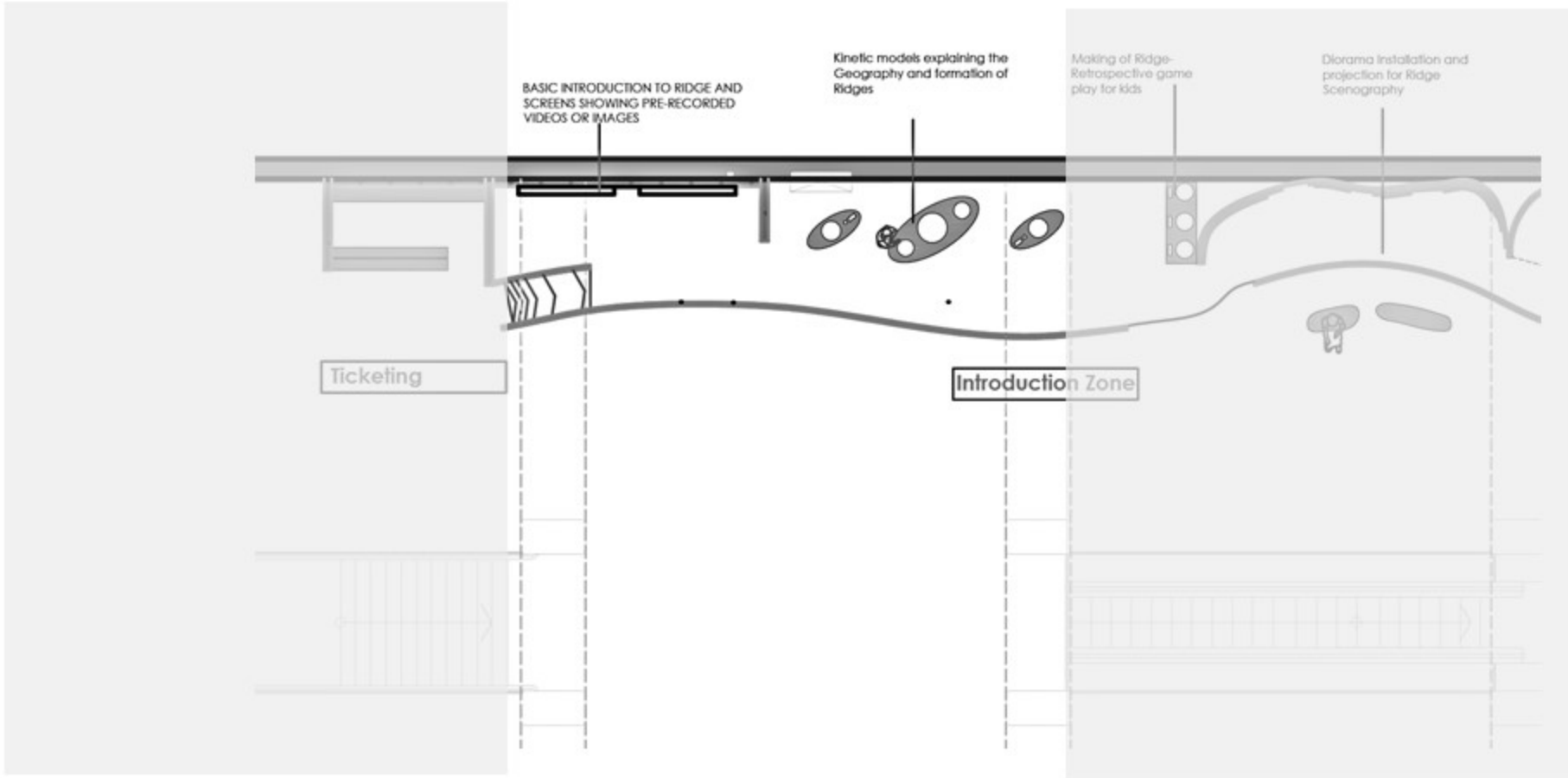
Entry Points



Visitor Flow

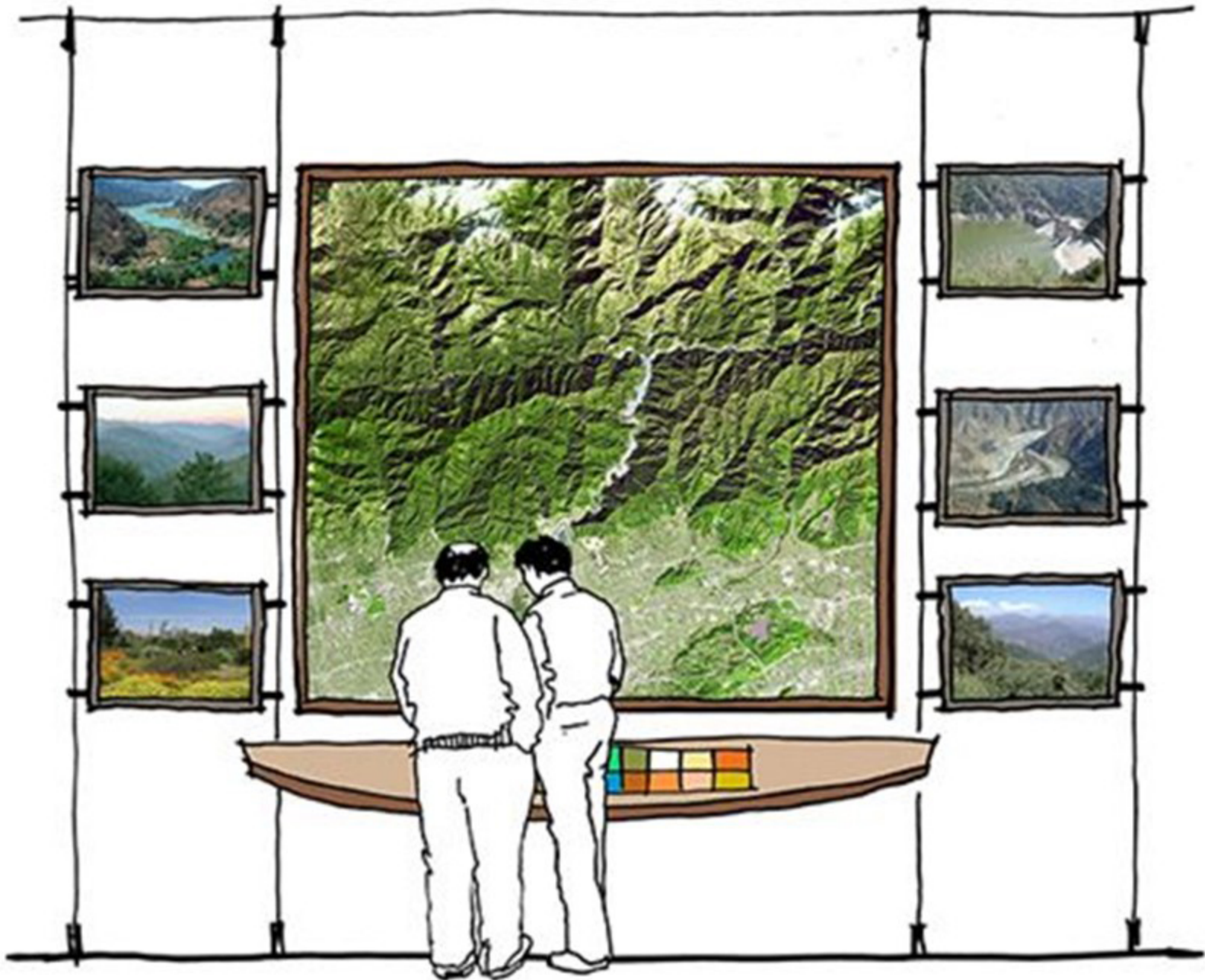


ORIGIN ZONE

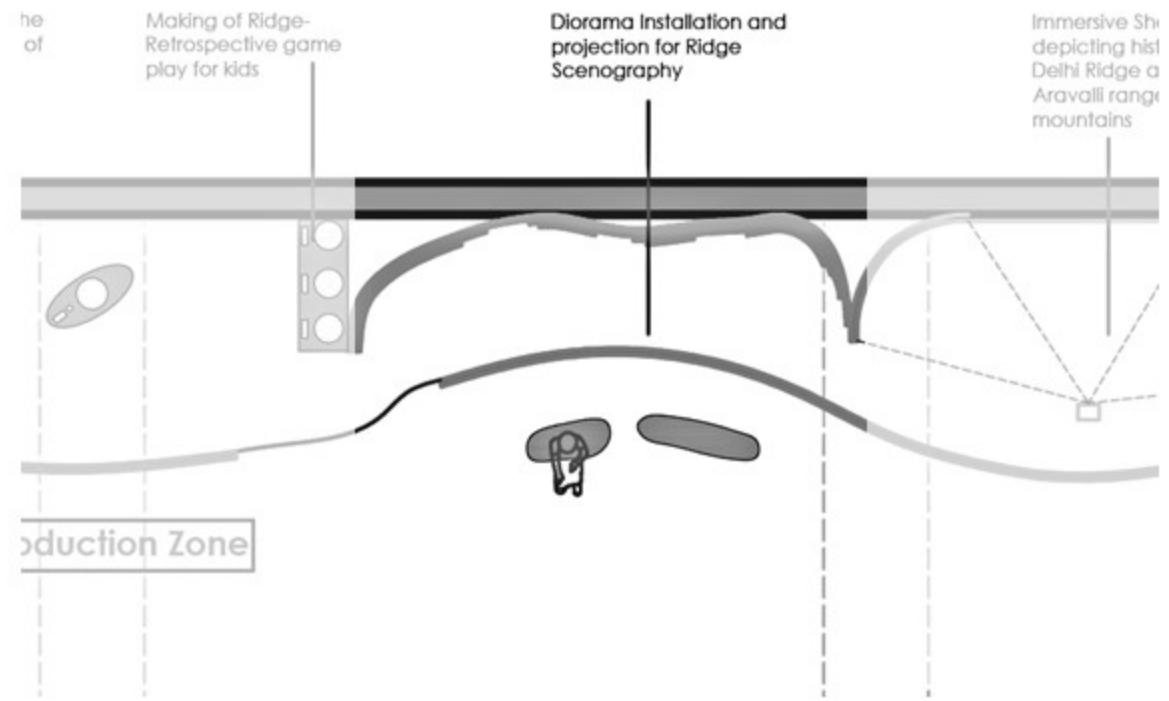


Reference

INTRODUCTION TO RIDGE



SIGNIFICANCE & HISTORY



Reference

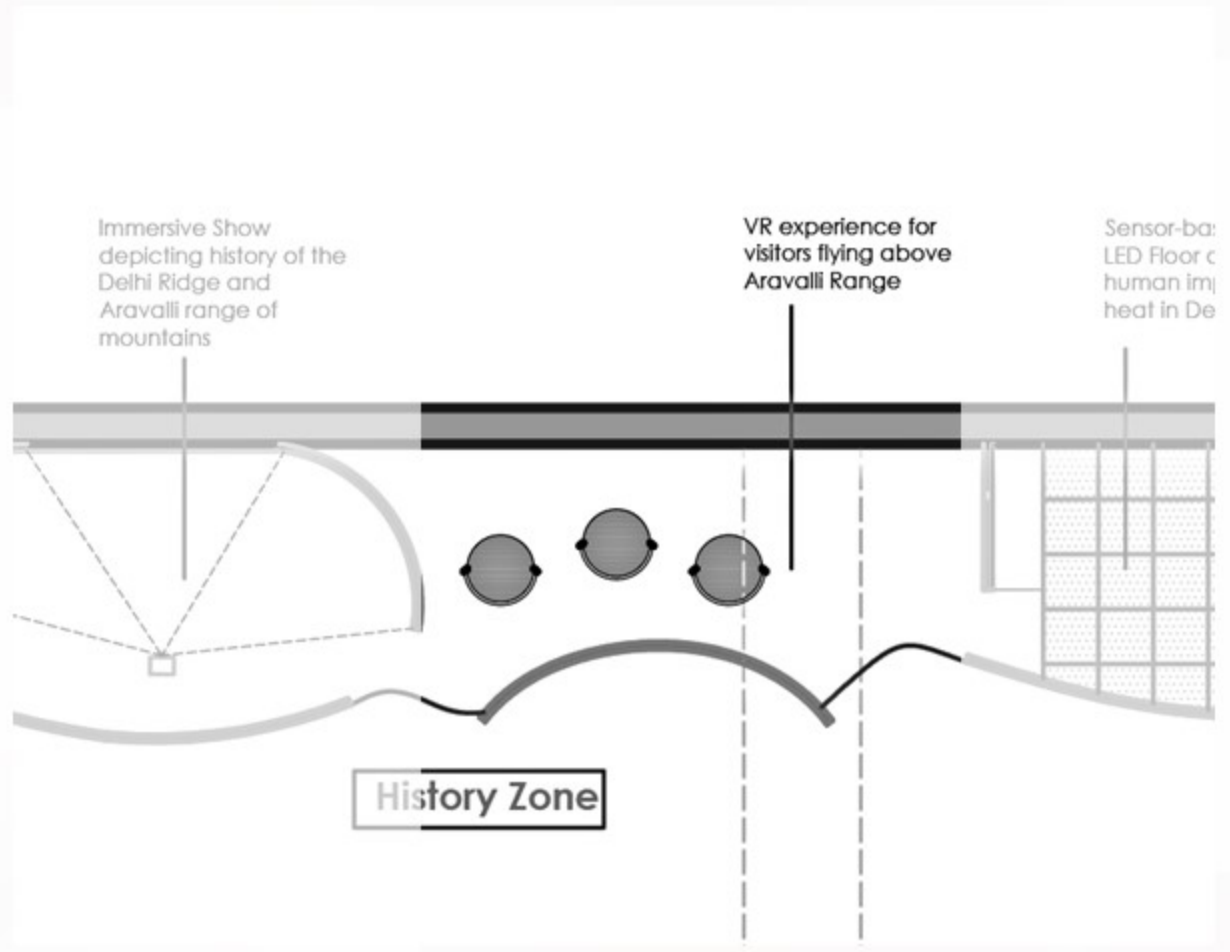
Realistic terrain models of the ridge, representing seasonal changes and flora-fauna interactions.

**DIORAMA
INSTALLATION (RIDGE
SCENOGRAPHY)**



VR Experience

Touch-based interactive displays showcasing conservation technology, research models, and smart monitoring tools.

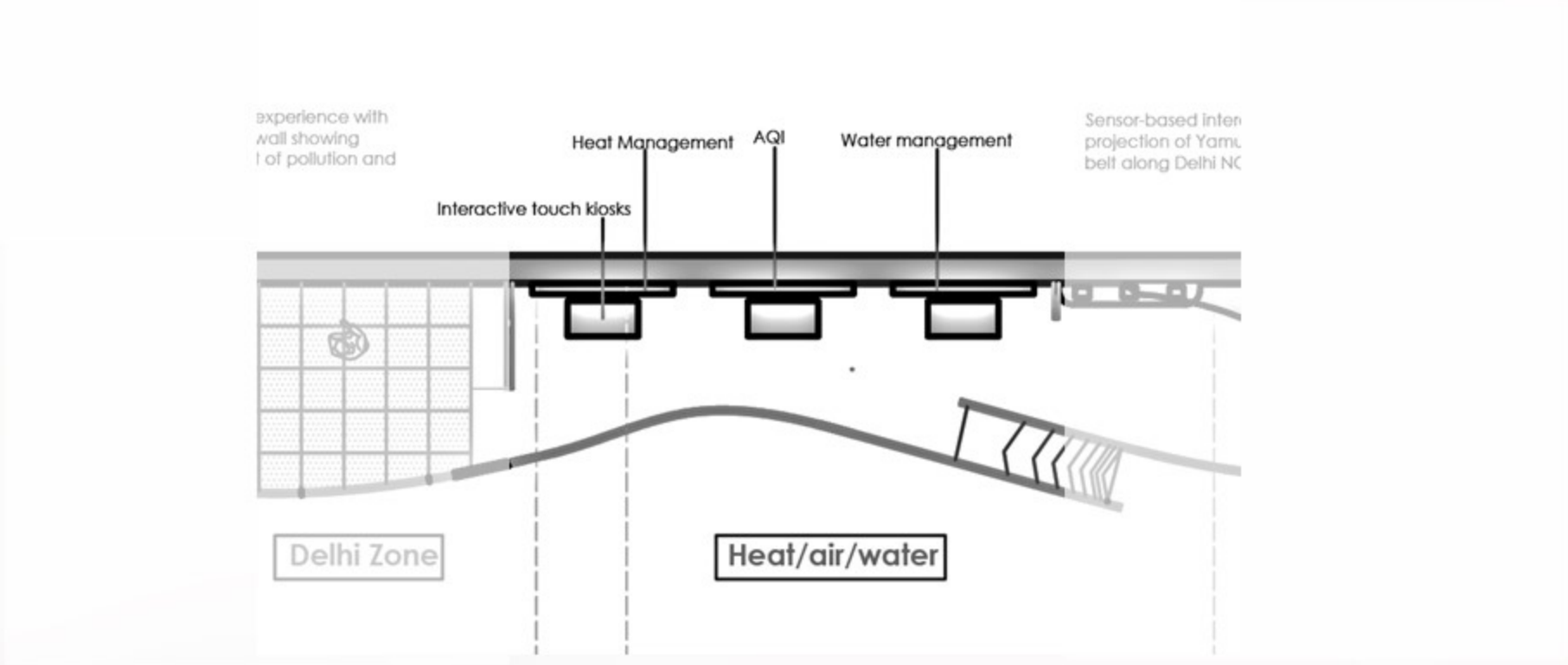


VR Experience

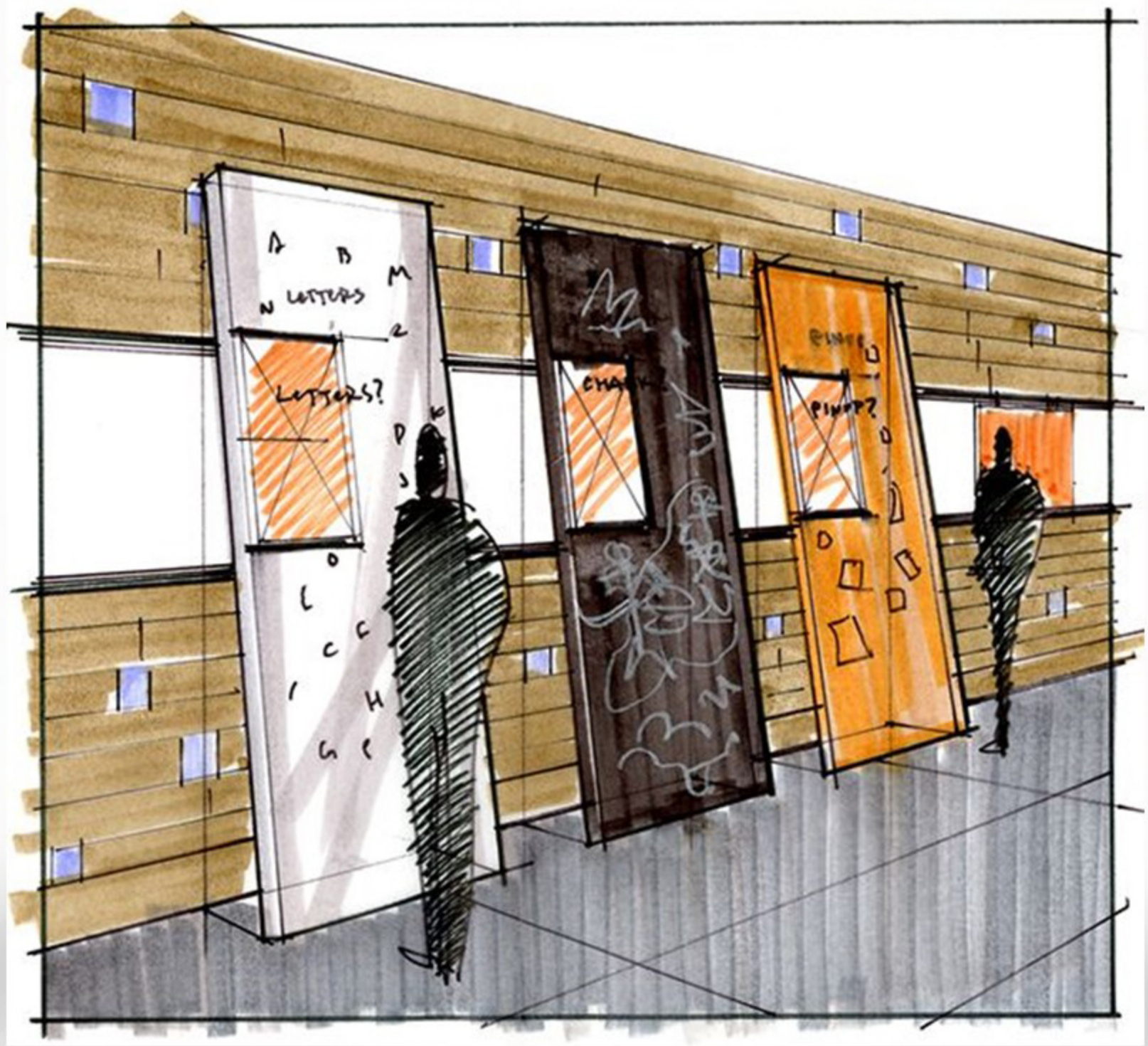
Touch-based interactive displays showcasing conservation technology, research models, and smart monitoring tools.



Heat/AQ/Water Management



Heat/AQ/Water Management



Environmental Impact Zone

2-3C

Temperature Reduction
Ridge's **cooling effect** on Delhi

20%

Air Quality
Pollution reduction in surrounding areas

40%

Groundwater
Improved **recharge** in Ridge vicinity

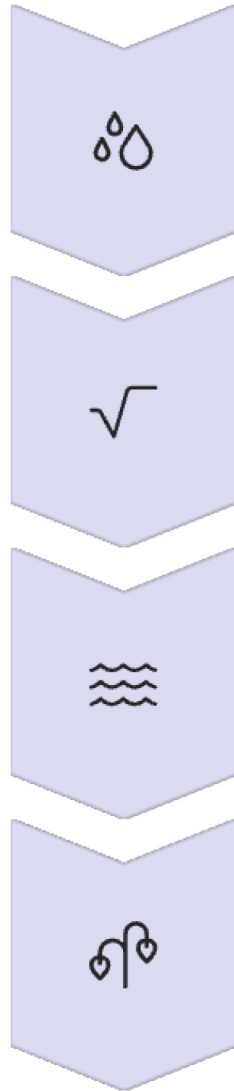
300+

Species
Biodiversity supported by Ridge

DELHI
RIDGE
FOREST



Water Resource Management



Rainfall Capture

Ridge foliage **slows** water movement

Soil Infiltration

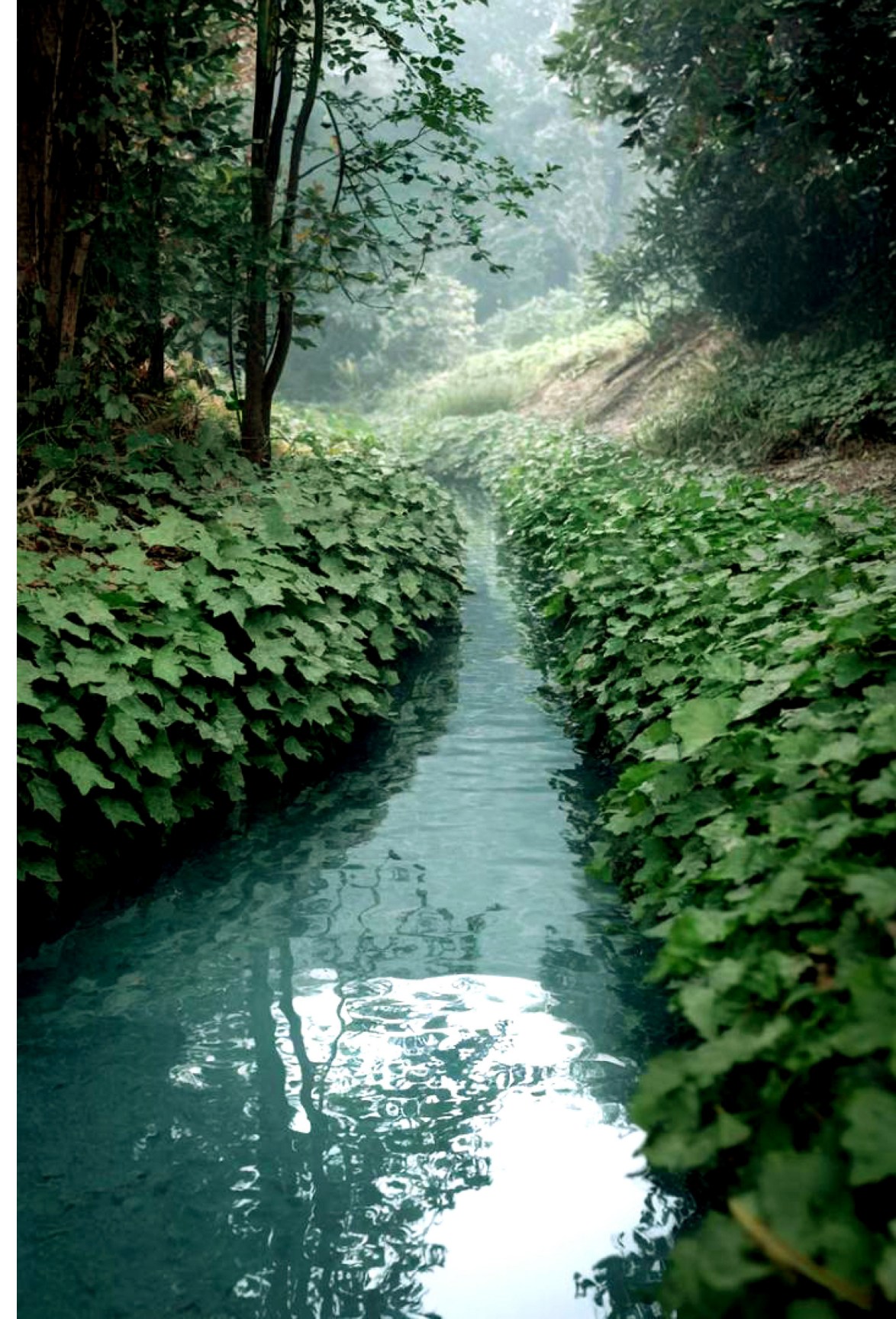
Root systems **enhance** water absorption

Groundwater Recharge

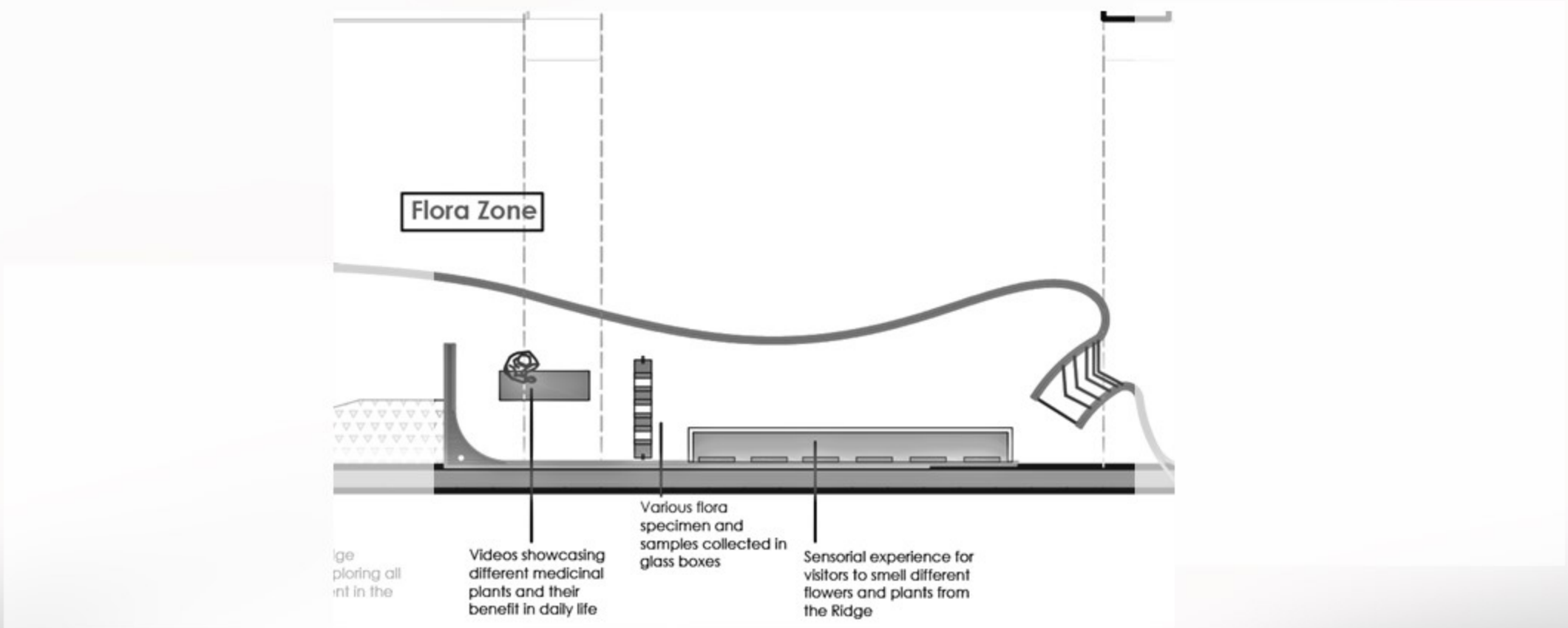
Natural **replenishment** of aquifers

Erosion Prevention

Vegetation **reduces** soil loss and runoff

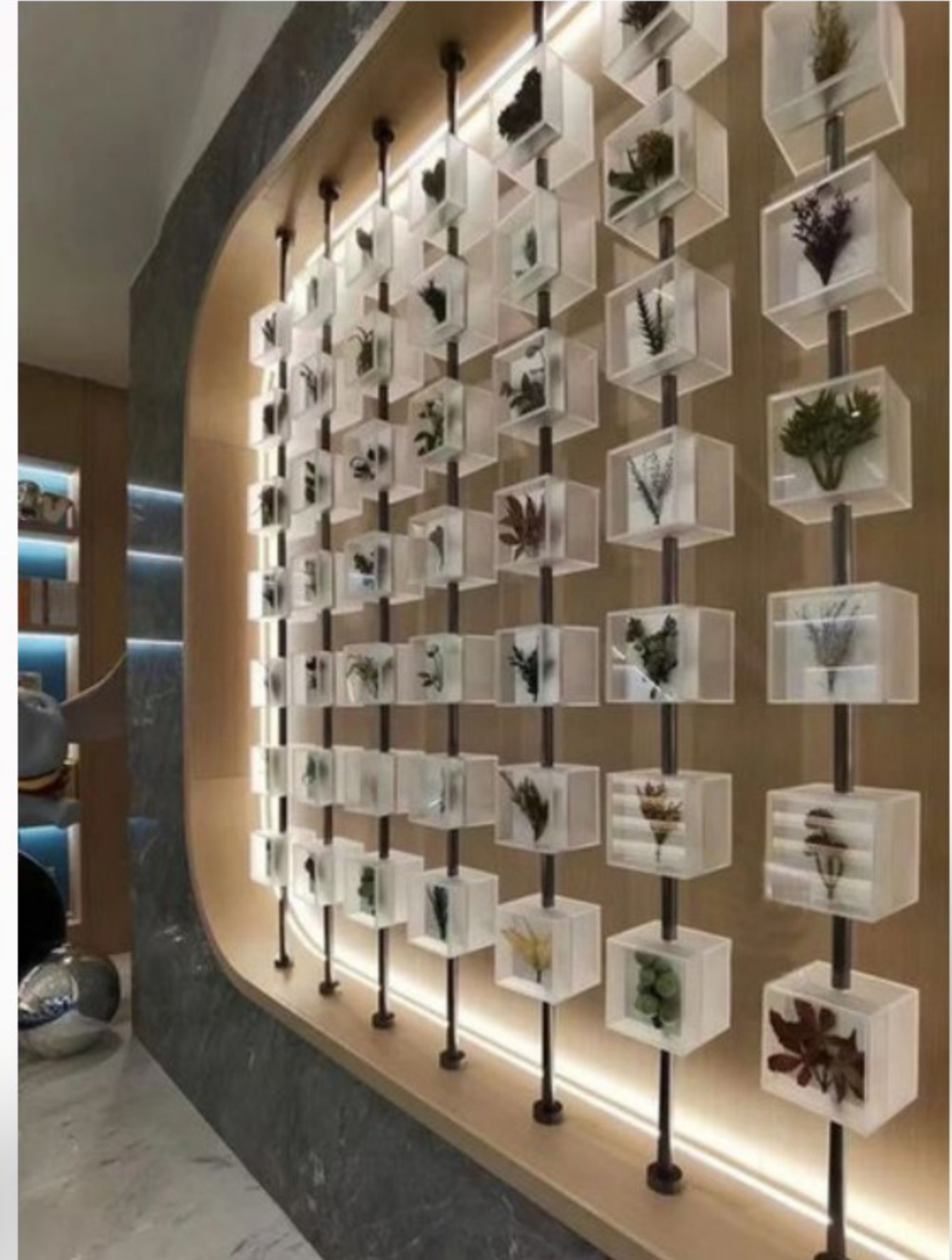


Interactive multi-sensorial displays to engage visitors through smell and touch, simulating native plants and trees.



Flora

Interactive multi-sensorial displays to engage visitors through smell and touch, simulating native plants and trees.





Native Tree Species



Interactive display of **key native species** with information on their ecological importance, *adaptations* to local conditions, and **cultural significance** 🌳



Medicinal Plants Zone



Traditional Medicine

Ancient **Ayurvedic**
and folk remedies
from Ridge plants



Modern Applications

Current
**pharmaceutical
research** using Ridge
flora



Threatened Species

Protection of
**valuable medicinal
plants** from extinction

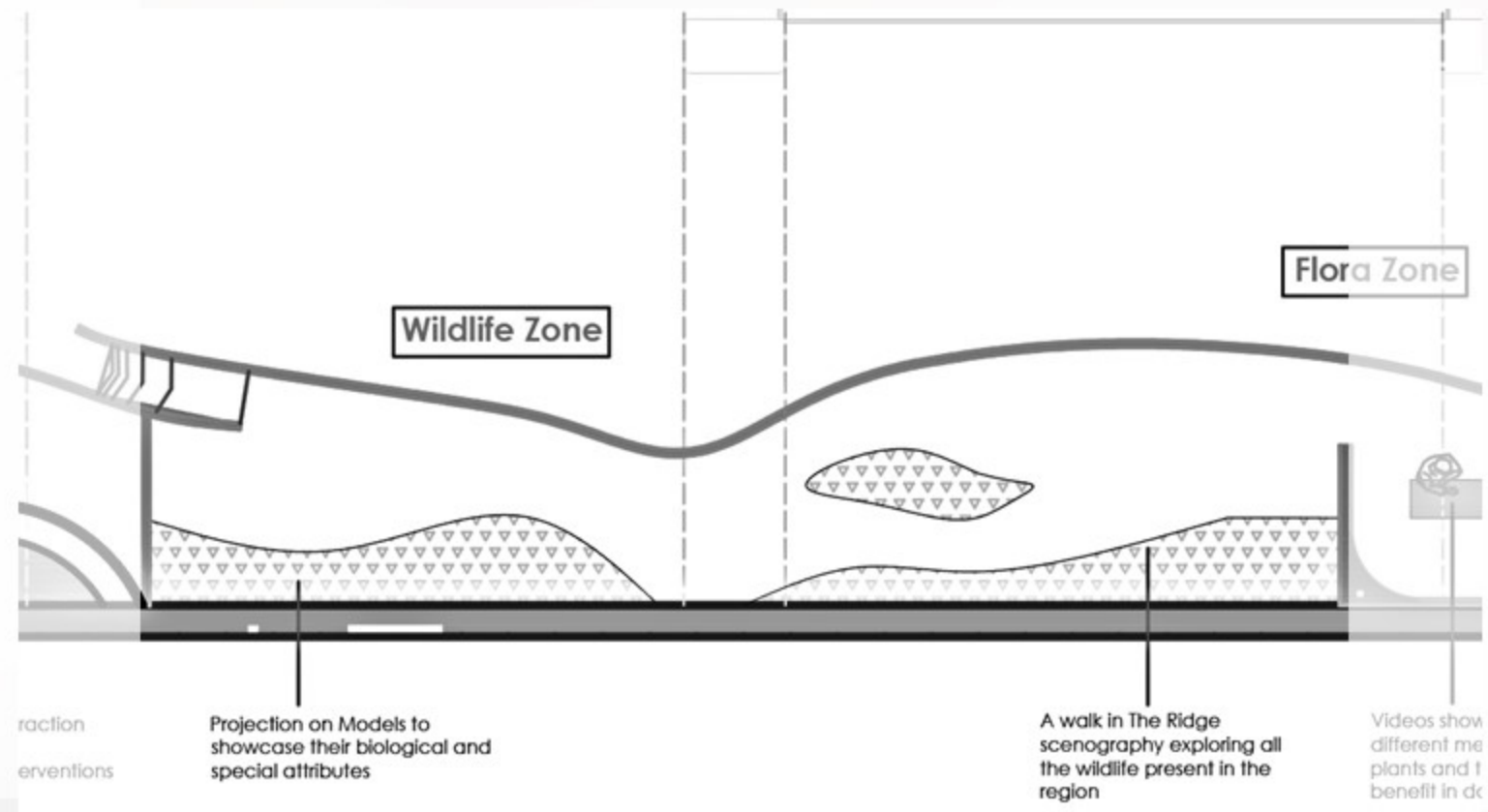


Sustainable Harvesting

Ethical collection
and cultivation
practices

Medicinal Plants





Wildlife Interaction Displays

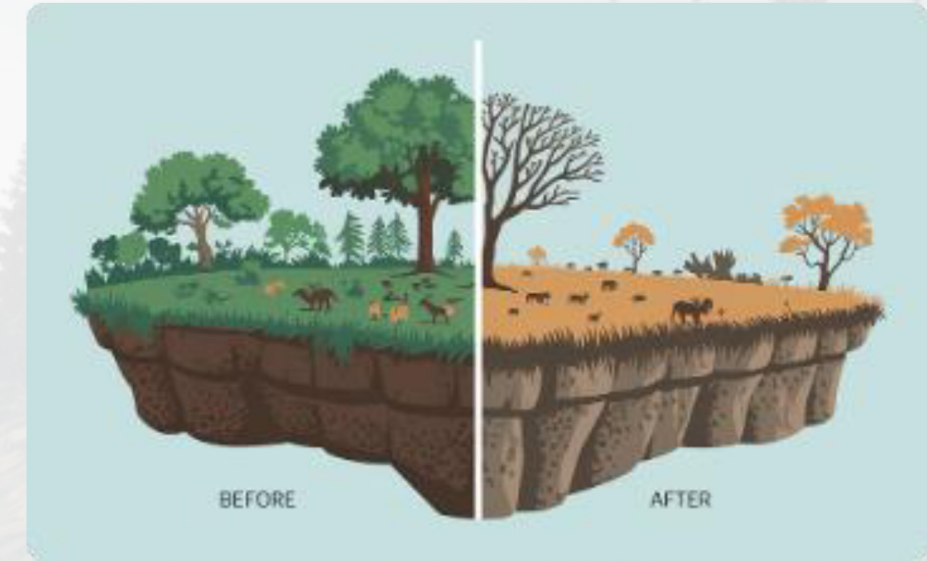


Magic Mirror

AR technology showing **animals** in realistic behavior patterns

Floor Projections

Animals that respond to visitor movements



Ecological Change

Species **adaptation** to environmental shifts



Magic mirror and interactive projection setups that simulate wildlife behavior before and after ecological changes.



Conservation Timeline



Historical Protection

Traditional conservation through **cultural practices**



Legal Intervention

Court cases and **legislation** protecting Ridge



Current Initiatives

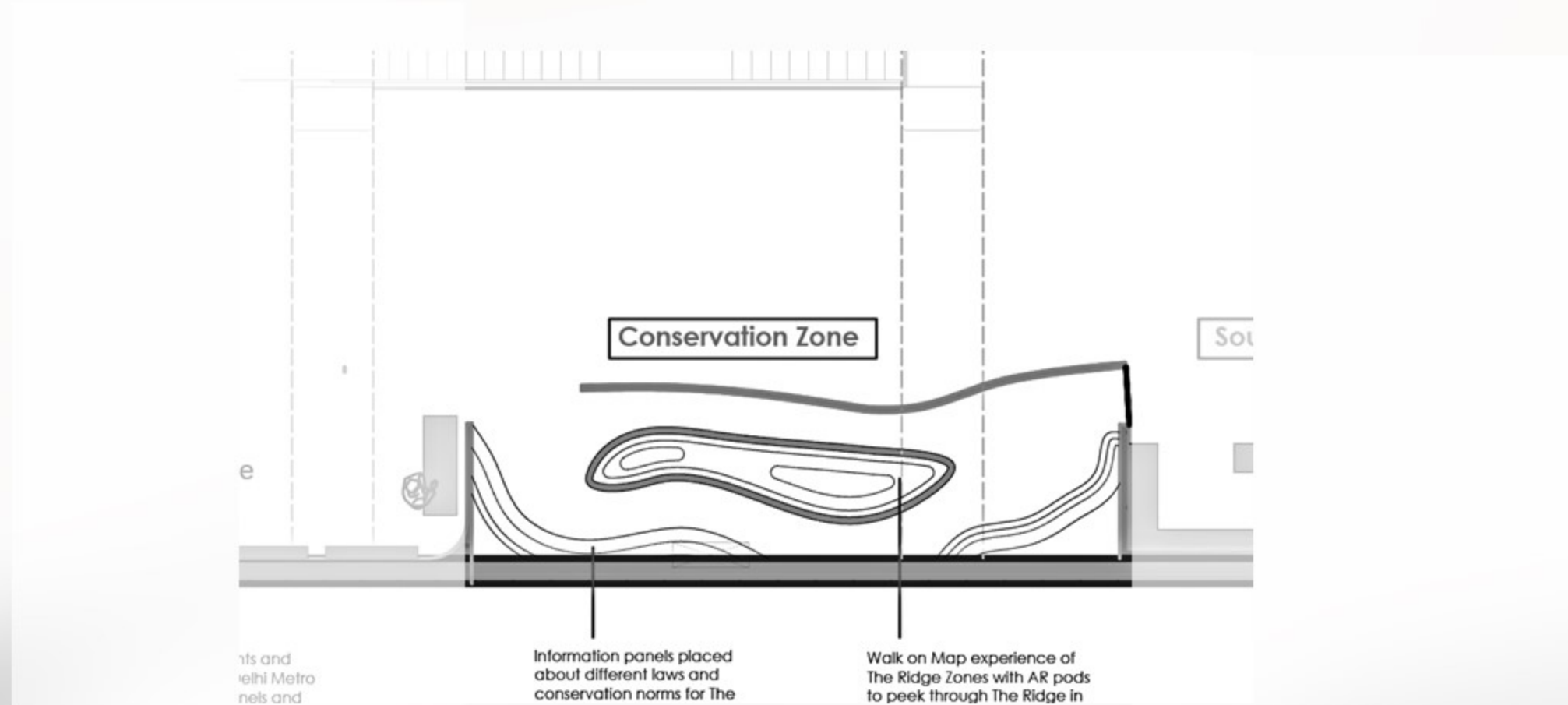
Ongoing community and government efforts



Future Vision

Technological and policy innovations planned

Conservation – Past , Present and Future





DELHI METRO RAIL
CORPORATION LIMITED

Case Study



Adega Dos Frades

Interpretative Centre in Batalha Monastery

Architects: Menos é Mais

Location: Batalha, Portugal

About

The Interpretative Centre at Batalha Monastery, known as "Adega dos Frades," was designed by the Portuguese architectural firm Menos é Mais.

This center serves as an exhibition space within the historic monastery, aiming to enhance visitors' understanding of its rich history and cultural significance.

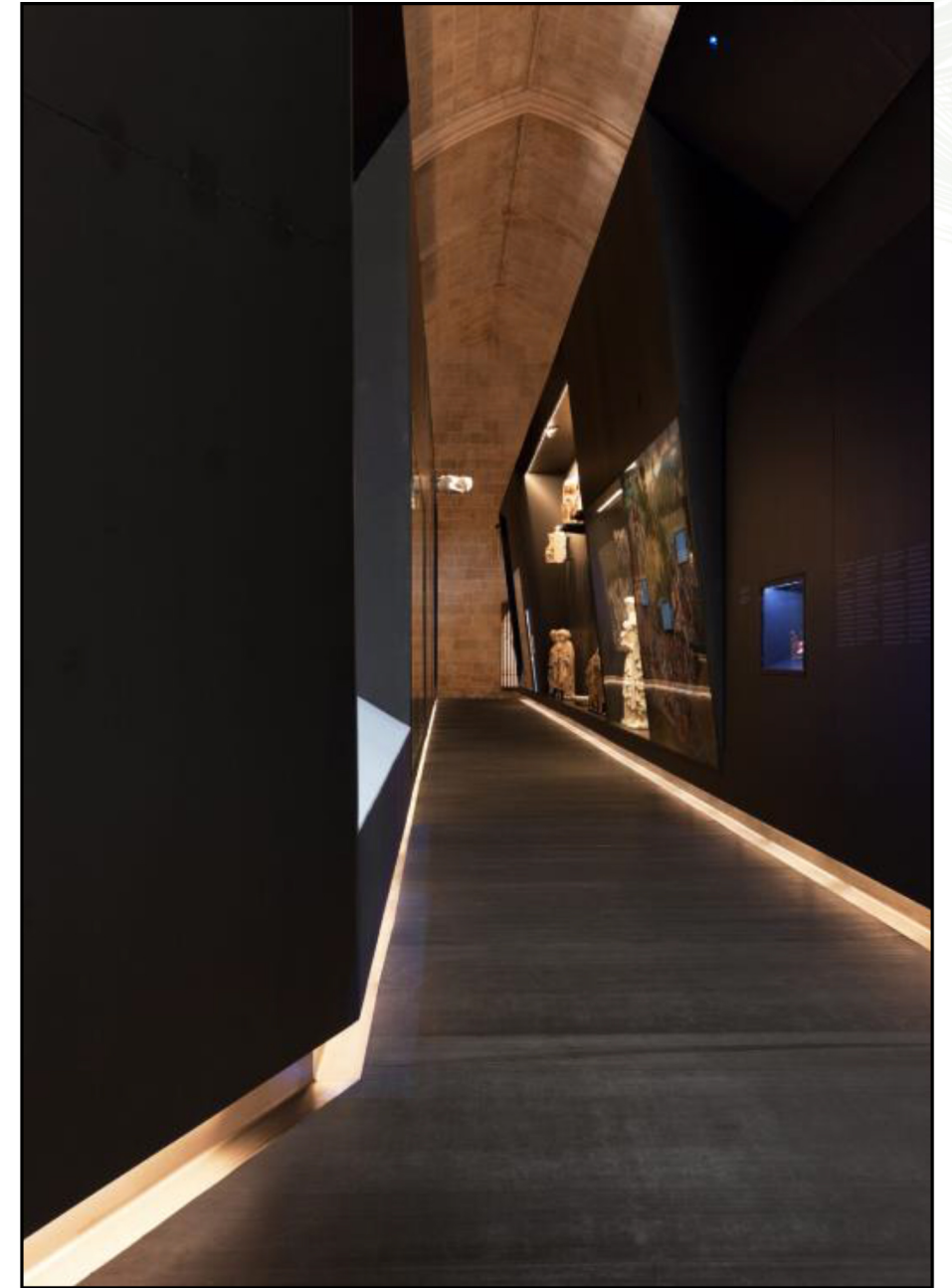
Design Concept

Historical Context

The centre is situated within the historic Batalha Monastery, a UNESCO World Heritage site renowned for its Gothic and Manueline architecture.

Visual Elements

The use of soft net veils and warm lighting creates a dematerialized presence, offering a theatrical ambiance that guides visitors through the monastery's narrative.





Adega Dos Frades

Interpretative Centre in Batalha Monastery

Architects: Menos é Mais

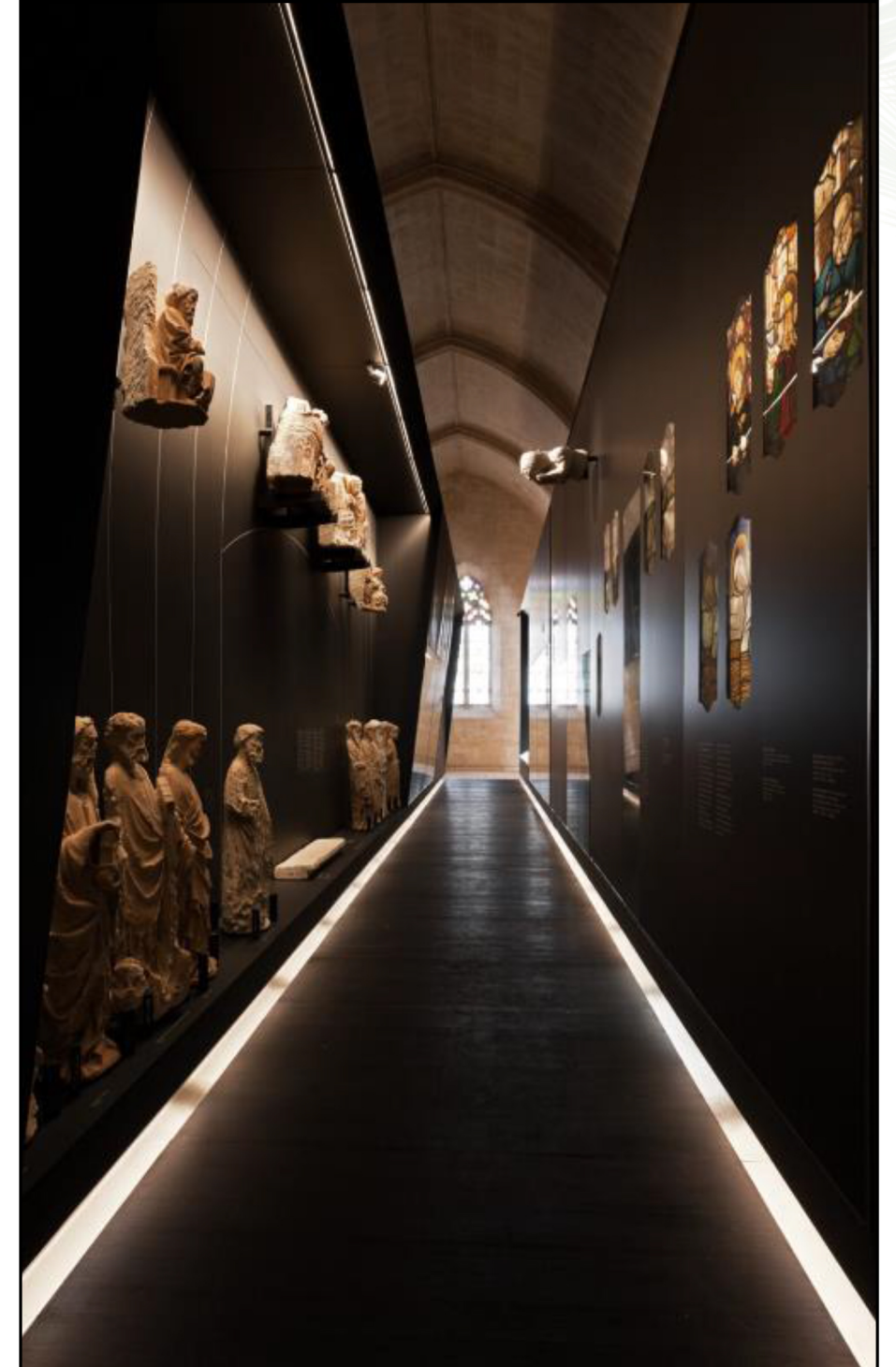
Location: Batalha, Portugal

Exhibition Content

The centre showcases original 14th-century artifacts, including stained glass and sculptures, alongside contemporary multimedia elements such as videos and sound installations.

Visitor Engagement

This blend of historical artifacts and modern technology provides an immersive "theater of memory," enhancing visitors' understanding of the monastery's history and cultural significance.





Damião de Góis Museum

And The Victims of the Inquisition

Architects: Spaceworkers

Location: Alenquer, Portugal

About

The Damião de Góis Museum and the Victims of the Inquisition, designed by spaceworkers, is a thoughtful restoration housed in a historic church in Alenquer, Portugal.

The modern installation contrasts yet harmonizes with its historic setting, inviting visitors to explore Portugal's rich yet complex past.

Design Concept

Historical Context

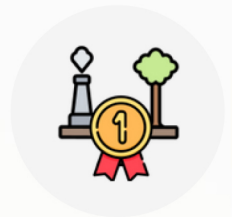
The museum is situated within a restored church, serving as a "container" space with distinct vaulted ceilings and textured brick walls.

Design Approach

The intervention introduces a central, fragmented exhibition structure that respects the existing architecture by maintaining distance from the walls and ceiling.

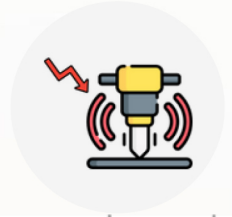


Achievements of DMRC



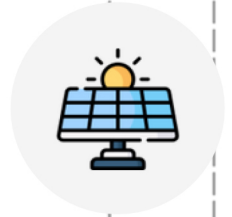
Carbon Credits Certification: DMRC became the world's first metro to earn carbon credits for emissions reduction via regenerative braking.

Pollution Reduction: DMRC helped reduce 6.3 lakh tonnes of CO2 annually by shifting passengers from private vehicles to metro, cutting vehicular emissions.



Dust & Sound Control at Construction Sites: DMRC uses mist-based sprays and mandatory vehicle washing to reduce dust pollution and employs noise control measures.

Construction Waste Recycling: Set up a Construction & Demolition (C&D) waste recycling facility with a 150 TPD capacity.

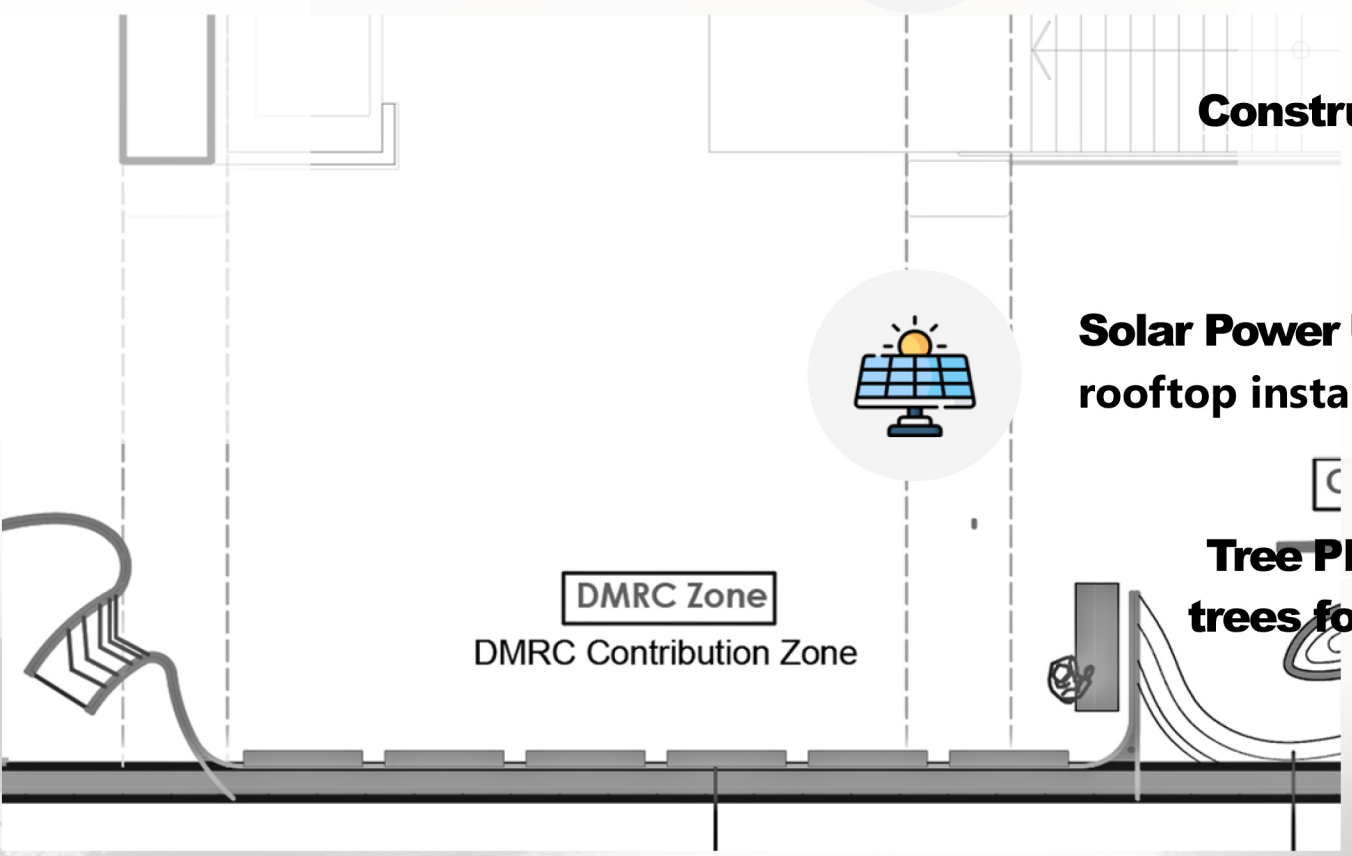


Solar Power Usage: DMRC generates 50 MWp of solar power from rooftop installations across its network.

Tree Plantation and Reforestation: The DMRC has pledged to plant ten trees for every tree removed or transplanted as part of its commitment.



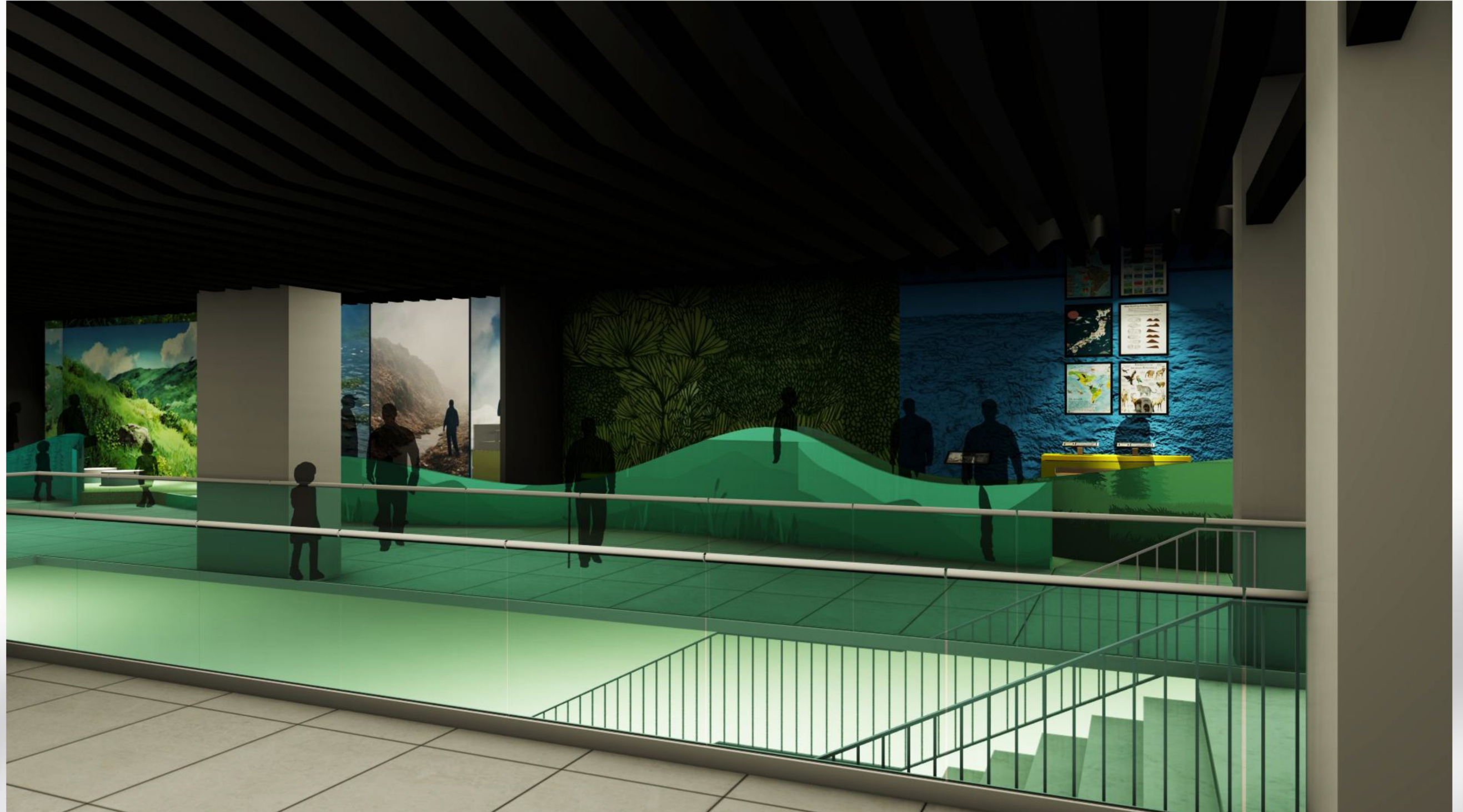
KEY PLAN



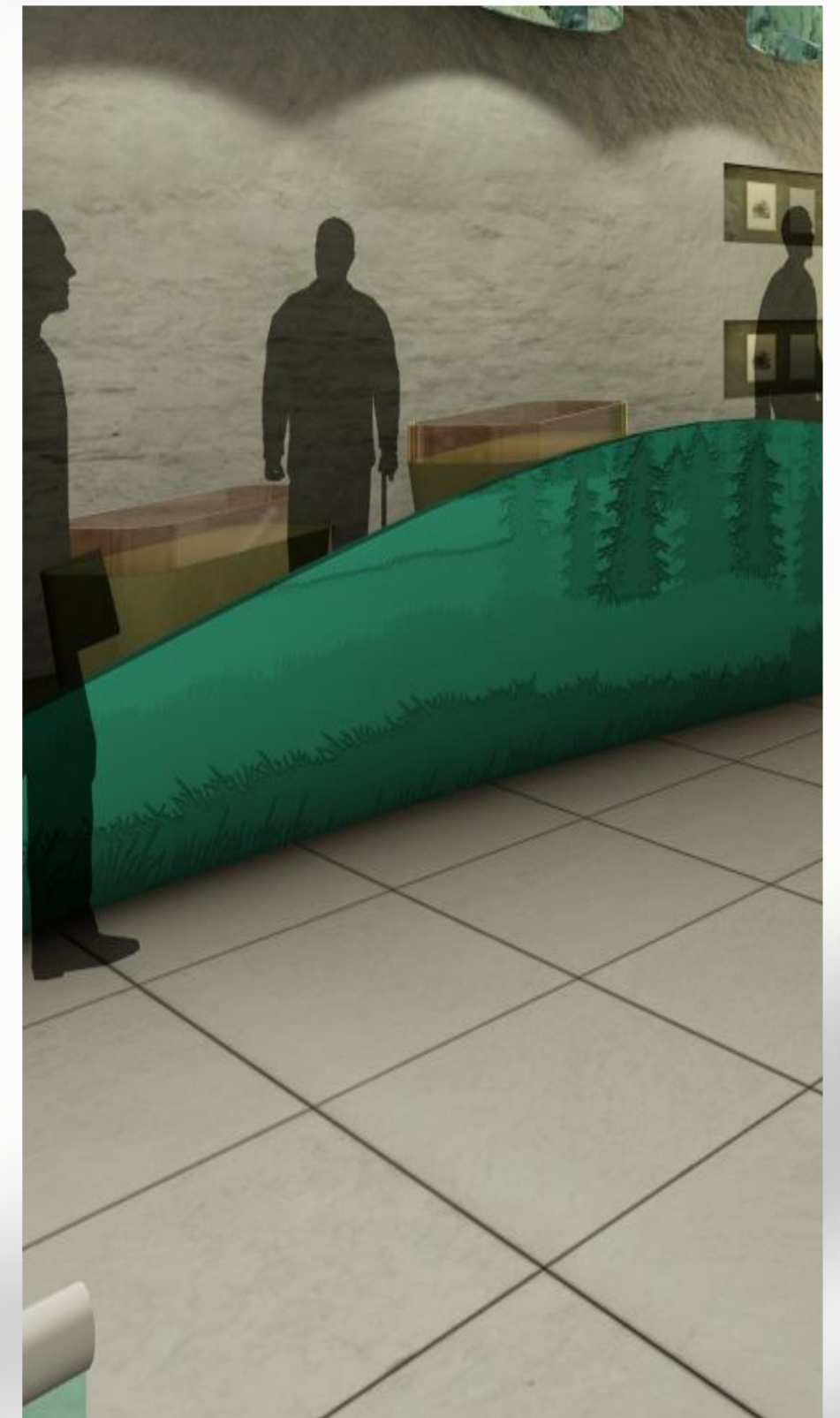




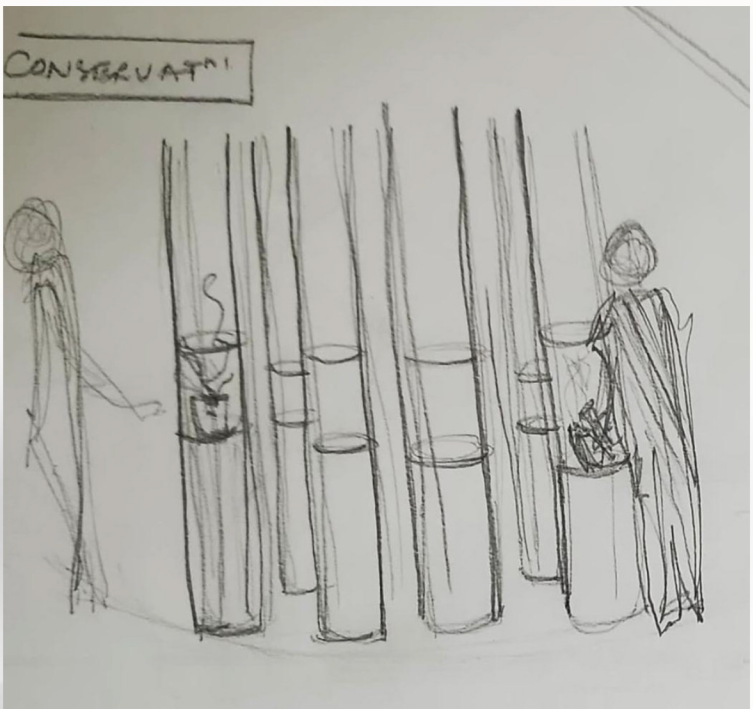
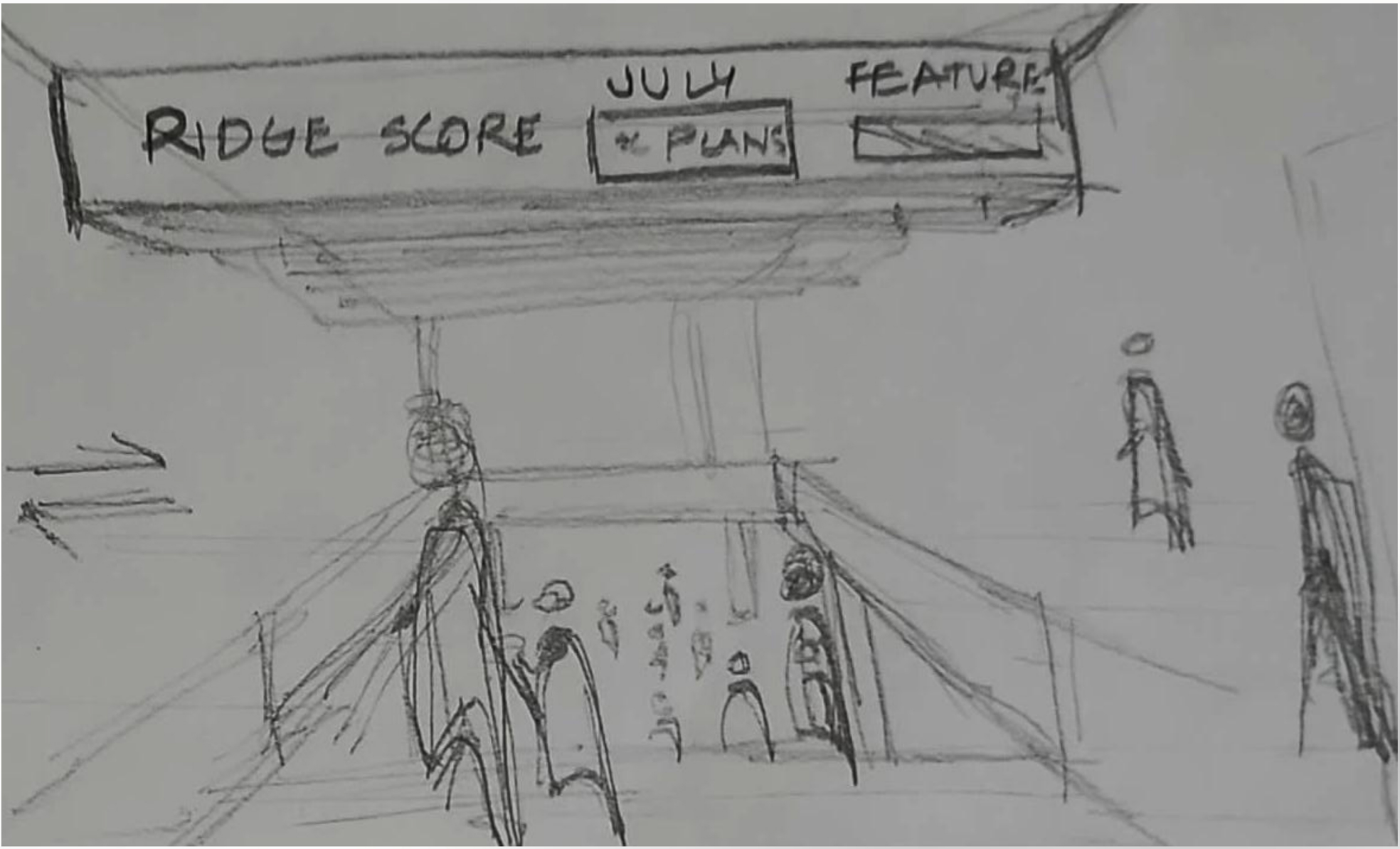
• Proposed Visuals



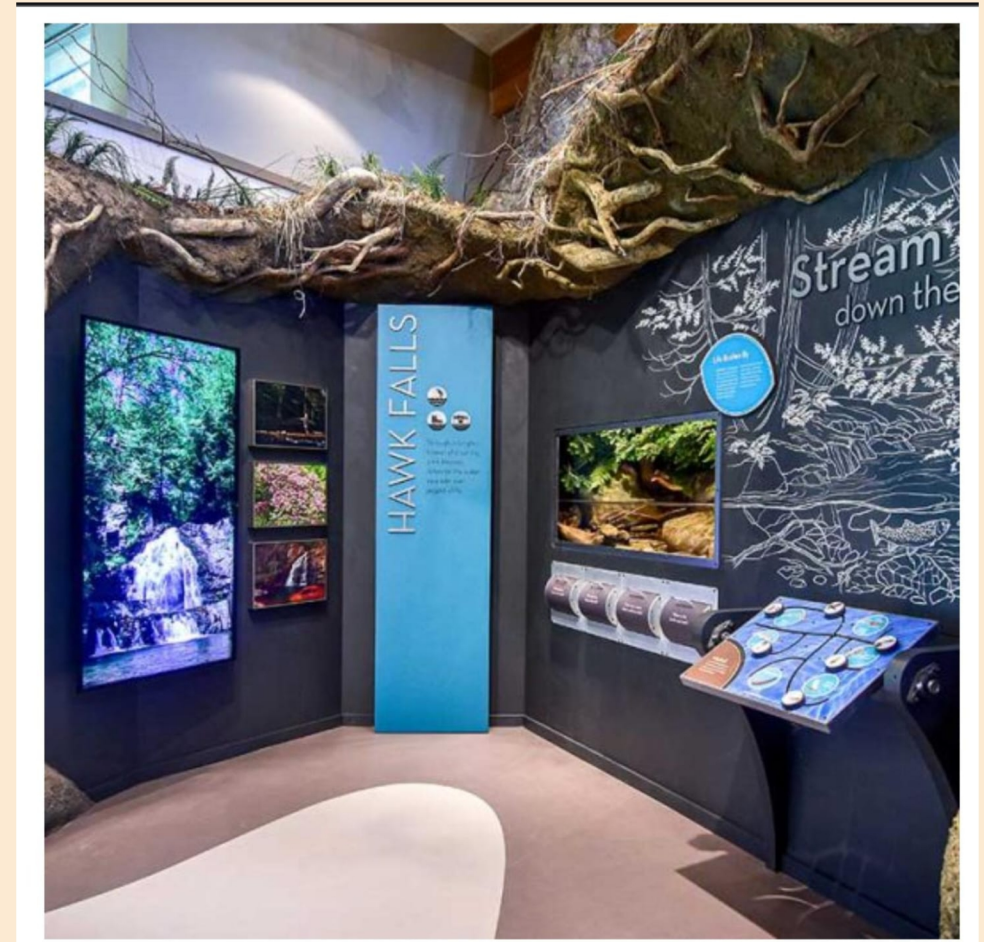
Visuals



Sketches



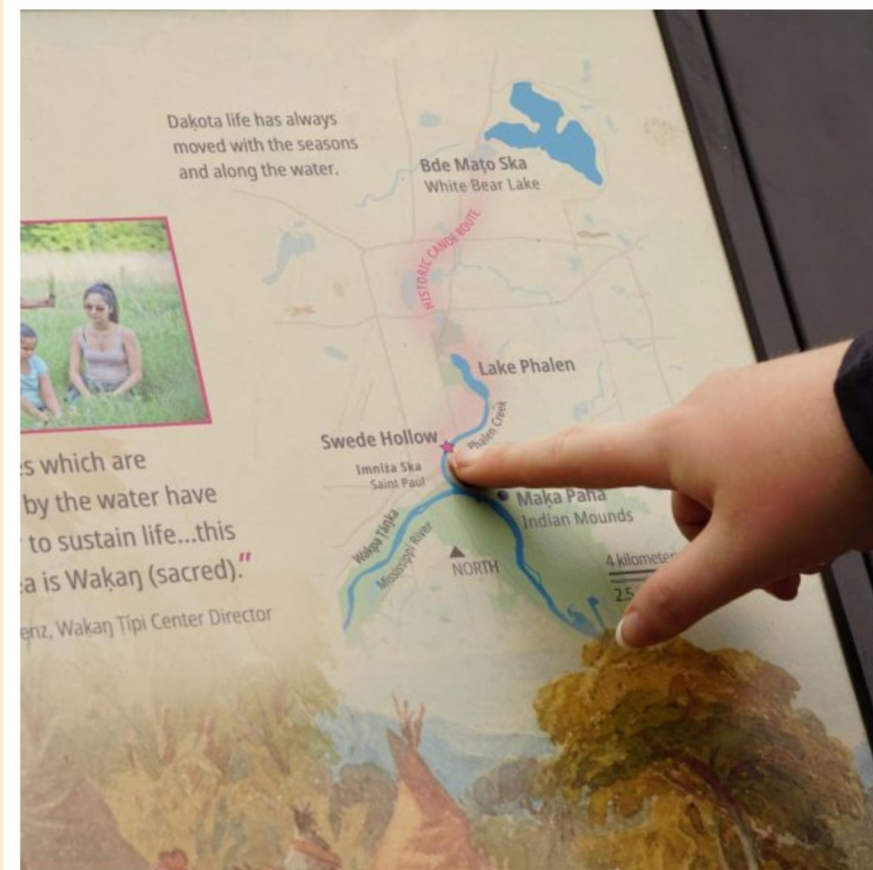
Reference Images



Reference Images



Reference Images



Reference Images



Reference Images



Reference Images



Thankyou