

The Natural History Museum

“Understanding The Natural World And Its Evolution”

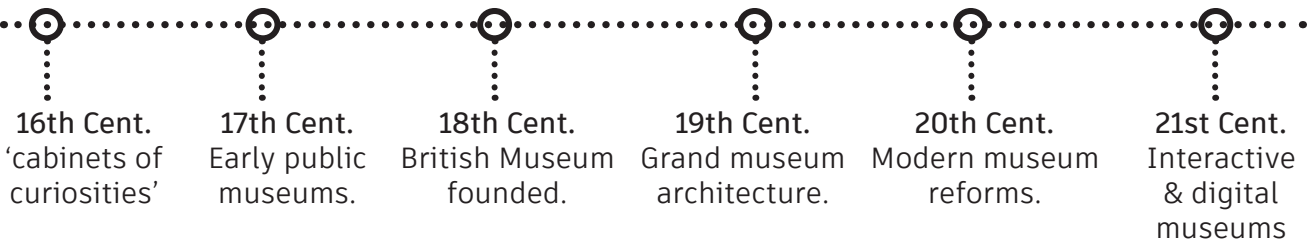
Introduction To Museums:

- Preserve & showcase history, culture, and nature.
- Display artifacts & exhibitions for public engagement.
- Support research and knowledge development.
- Serve as educational & cultural hubs for learning.



It is usually a cultural institution but can also be scientific depening upon the exhibit.

History Of Museum In Global Context:

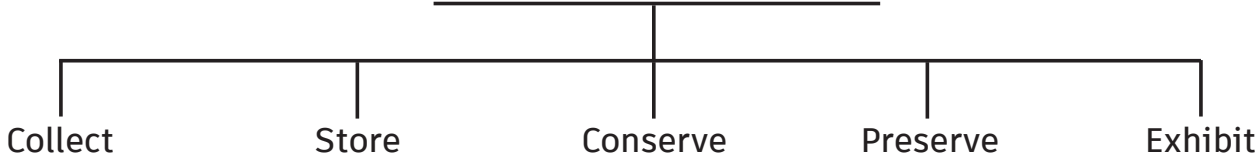


History Of Museum In Context Of Nepal:



- Most major museums in Nepal are adaptive reuse projects.
- Originally palaces, hostels, or government buildings, later converted into museums.

Five Functions Of Museum



Introduction To Natural History Museums:

- It preserves, studies, and displays the natural world.
- They educate visitors about natural processes shaping life on Earth.
- Exhibits include fossils, specimens, and interactive displays.
- They highlight the dynamic relationship between nature and life.



Geology



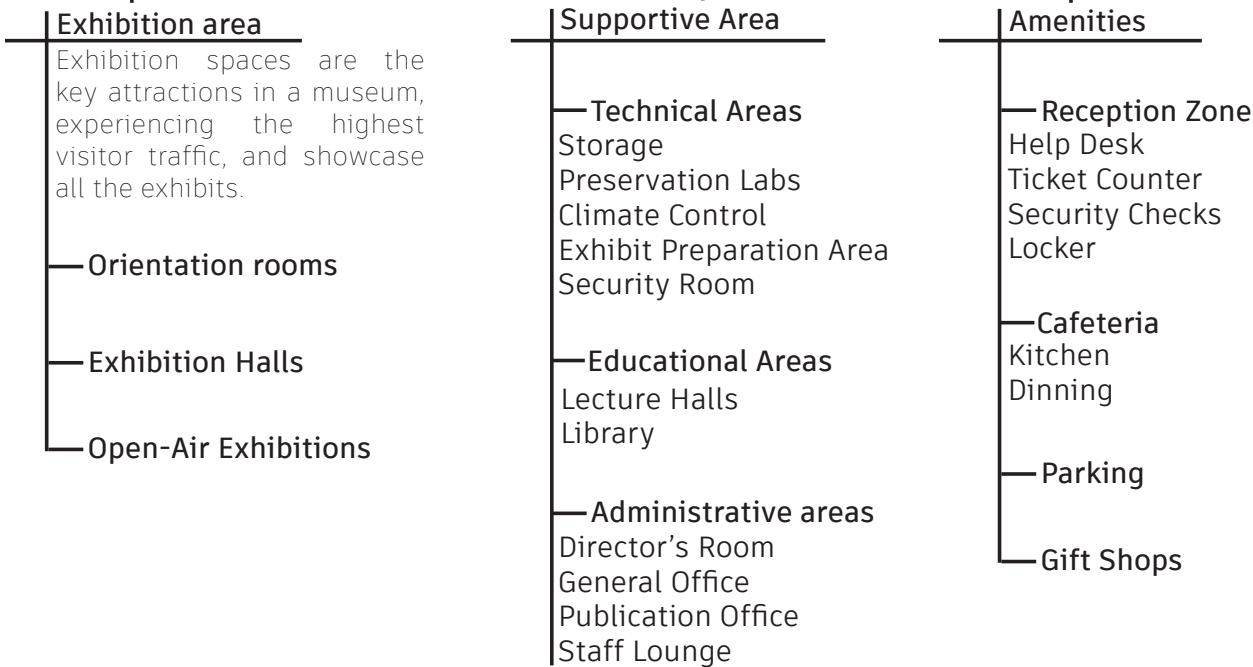
Flora



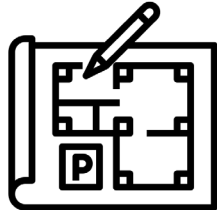
Fauna

Evolution

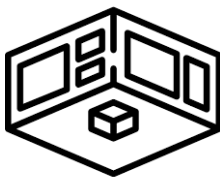
Space Requirements



Factors Affecting Natural History Museum Design:



Circulation



Display Strategies



Lighting



Site

Entrance and Exit

Entry Experience

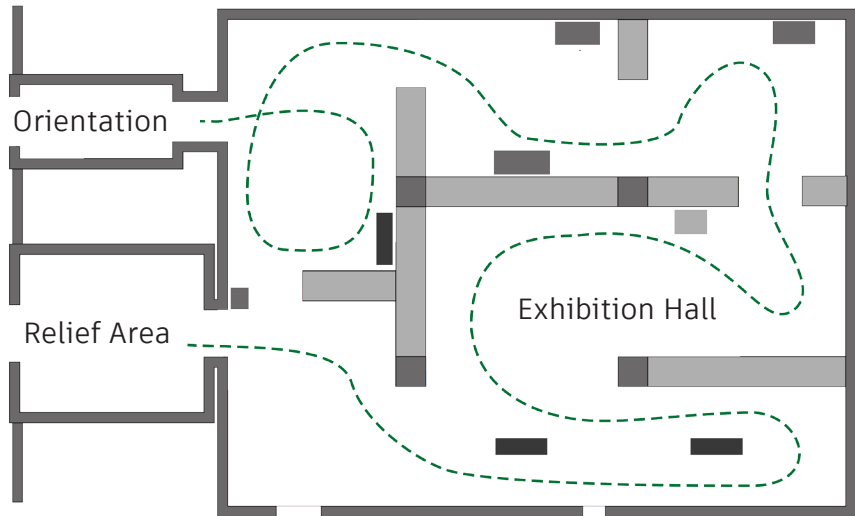
Visitors focus on:

1. Locating the museum.
2. Understanding the parking.
3. Finding the front door.
4. Context of the exhibit.

Exit Experience

Visitors focus on:

1. Waiting for a group
2. Reflecting on the visit.
3. Seeking relaxation.
4. Locating transportation



Floor plan showing Entry and Exit points.

Purbanchal University

Khwopa Engineering College

Department of Architecture

Libali, Bhaktapur

Final Presentation

B. Arch. Thesis

Name: Kusum Sharma

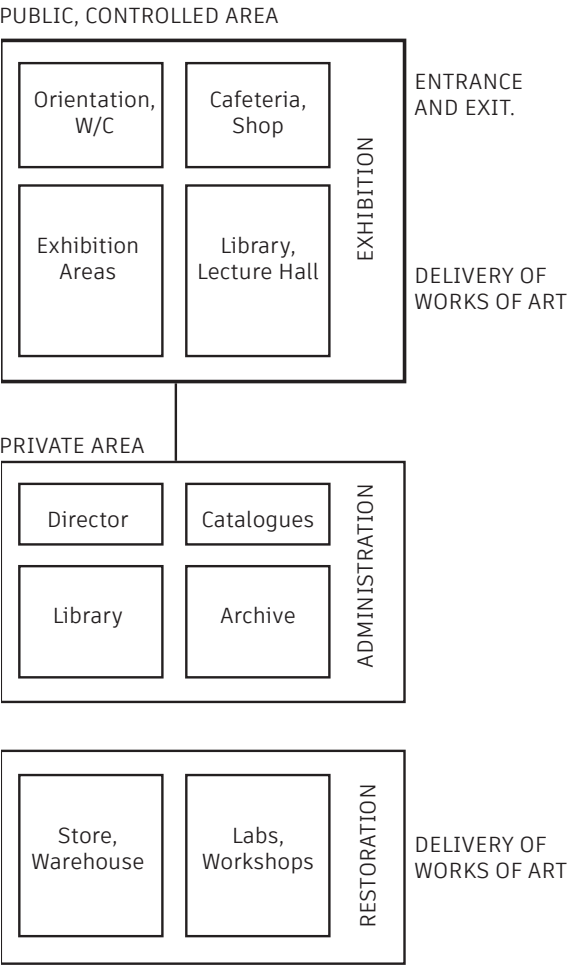
Roll. No.: 760118

Date: 2082 - 04 - 27

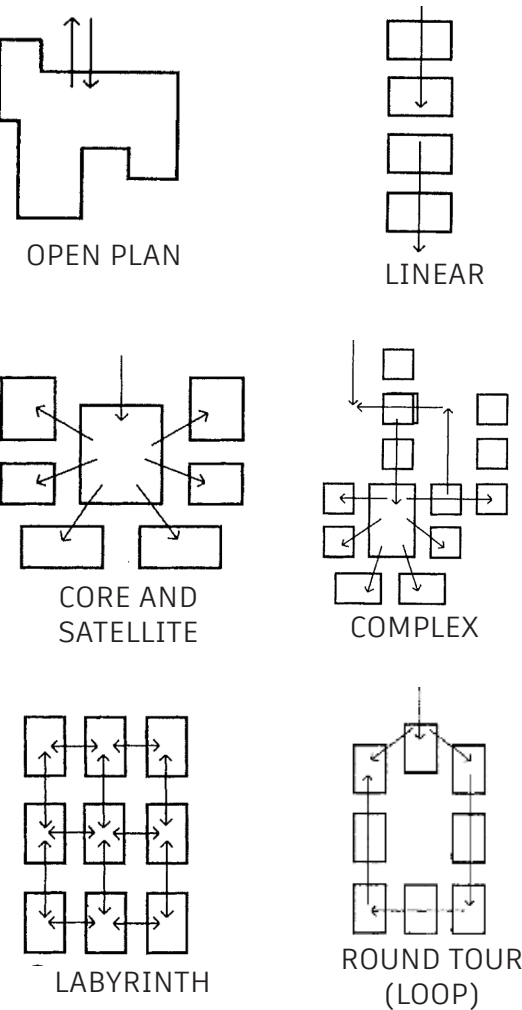
Sheet No.:

NATURAL HISTORY MUSEUM

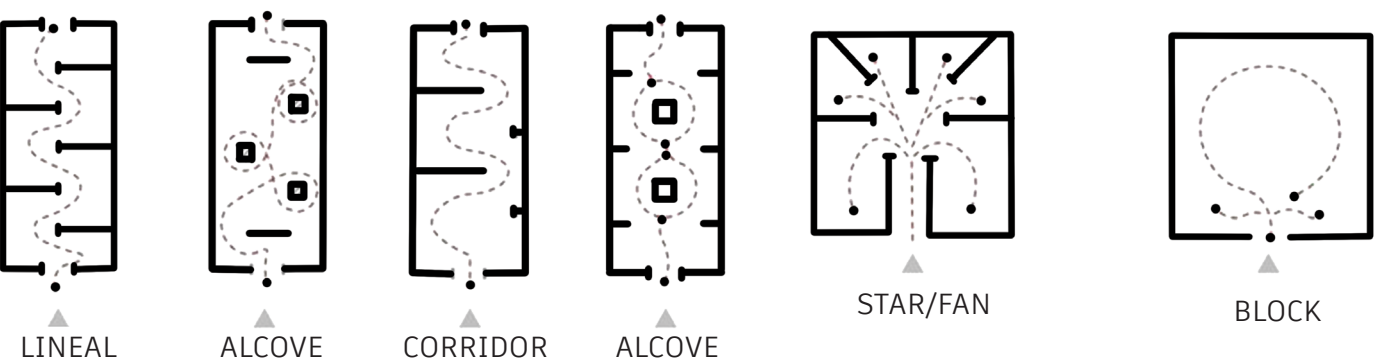
FUNCTIONAL SCHEME OF MUSEUM



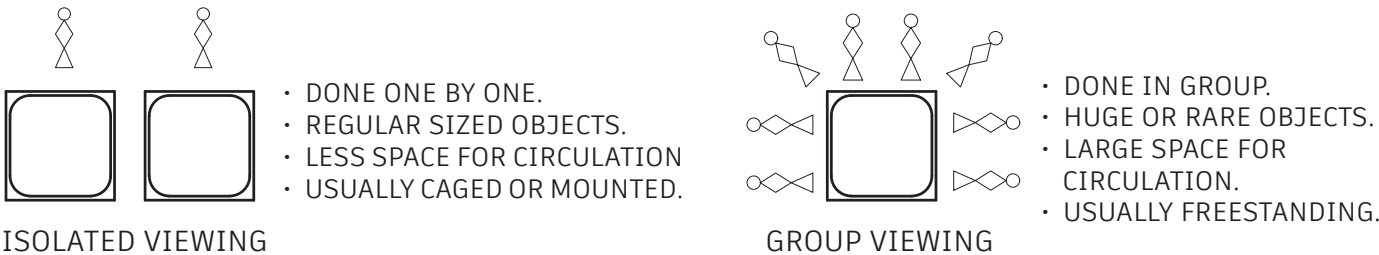
EXHIBITION ROUTE FORMATION



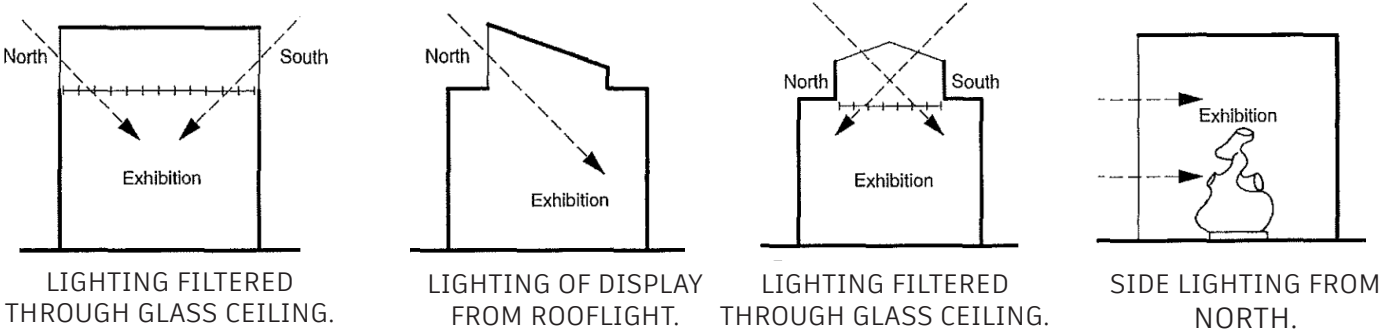
CIRCULATION PATTERN



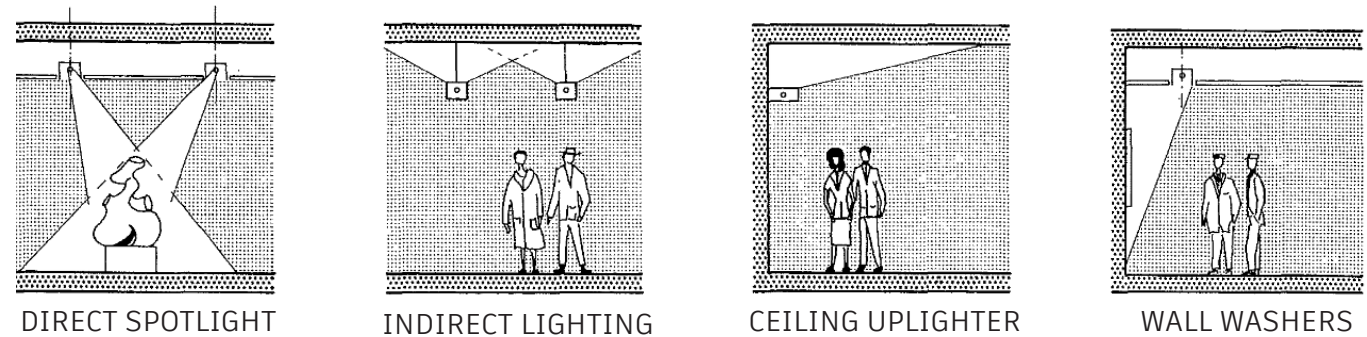
DISPLAY SCHEME



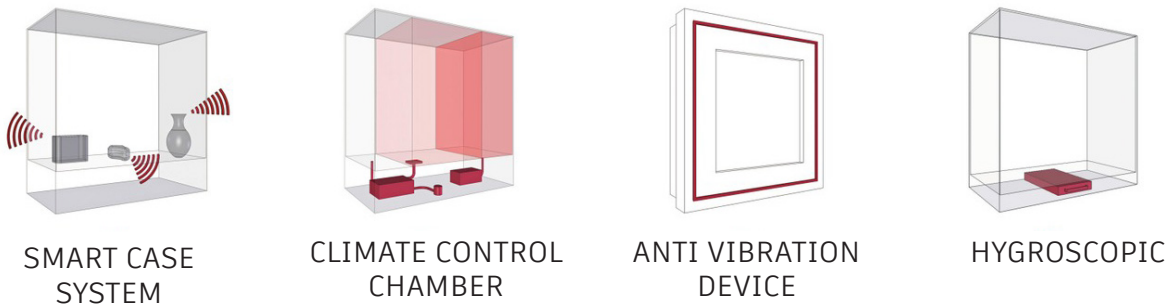
NATURAL LIGHTING STRATEGIES



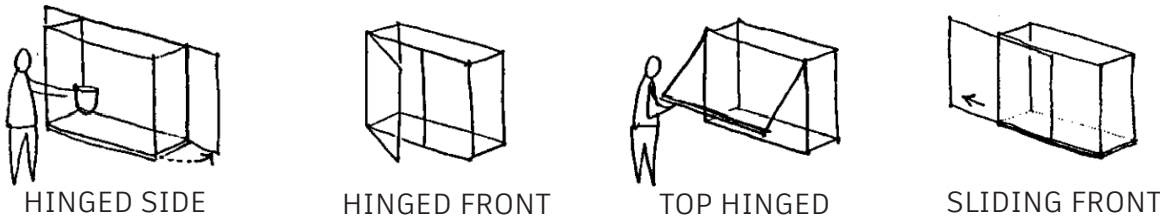
ARTIFICIAL LIGHTING STRATEGIES



DISPLAY CASES PROTECTION FOR PHYSICAL DISPLAY



ACCESS TO DISPLAY CASES



NATURAL HISTORY MUSEUM

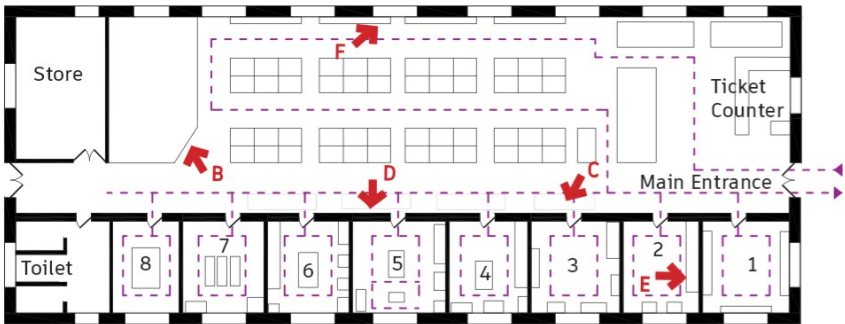
NATURAL HISTORY MUSEUM

INFORMATION

- LOCATION: SWAYAMBHU STUPA
- TOTAL LAND AREA: 12 ROPANIES
- VISITORS: TOURISTS AND STUDENTS
- YEAR: 1975

COLLECTIONS:

1. FAUNA: 4,500 SPECIMENS
2. FLORA: 9,500 SPECIMENS
3. GEOLOGY: 500 SPECIMENS



Ground Floor Plan of the Museum Hall

GALLERIES EXHIBITION

1. INTERACTION ROOM
2. ARTHROPODA ROOM
3. HERBARIUM
4. BRYOPHYTES ROOM
5. LEPIDOPTERA ROOM
6. BIRDS ROOM
7. REPTILES ROOM
8. FOSSILS ROOM

PRESENTATION AND DISPLAY

TAXIDERMY DISPLAY



View from B

SKELETAL DISPLAY



View from C

PICTORIAL DISPLAY



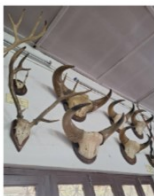
View from D

PANEL DISPLAY



View from E

WALL MOUNTED DISPLAY



View from F

SECURITY



Figure showing channel gate and window grill

LIGHTING



Figures showing reflection issue

VENTILATION



Fig showing ceiling and exhaust fan

NEPAL NATIONAL MUSEUM

INFORMATION

- LOCATION: CHHAUNI, KATHMANDU
- SITE AREA: 20,000 SQ.M
- OWNERSHIP: GOVERNMENT OF NEPAL
- BUILDING TYPE: ADAPTIVE REUSE

1. JUDDHA JATIYA GALLERY
2. BUDDHIST ART GALLERY
3. MAIN MUSEUM GALLERY

LANDSCAPE AND FENCING



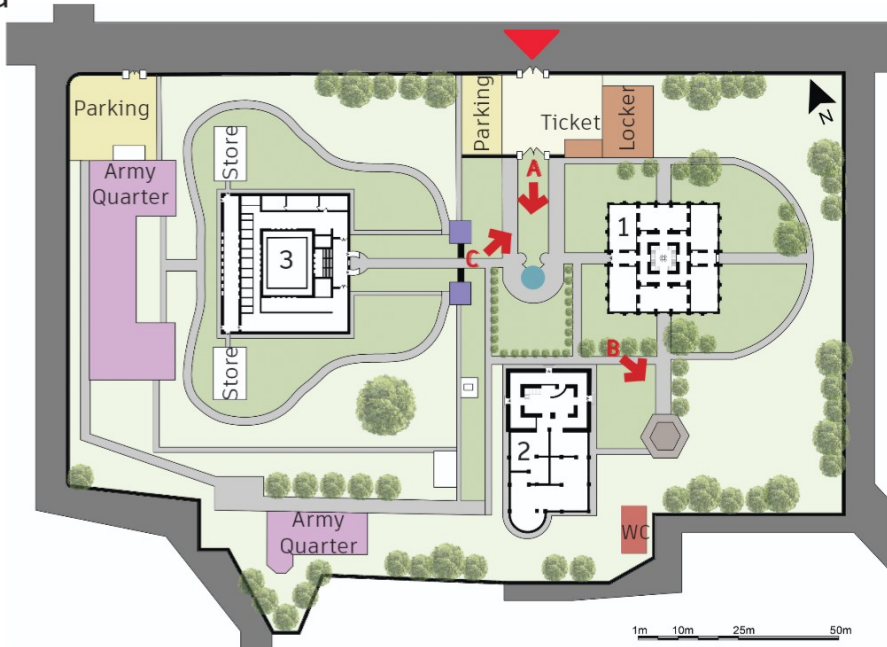
View From A



View From B



View From C

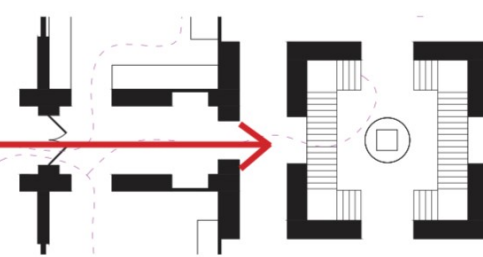


Master Plan of Nepal National Museum, Chhauni

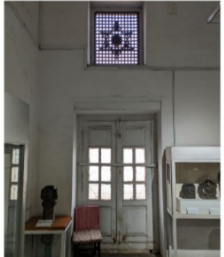
MASTER PLANNING AND ZONING

1. BUILDINGS ARE ARRANGED IN TWO MUTUALLY PERPENDICULAR DIRECTIONS.
2. PARKING AND TICKET COUNTER RIGHT NEXT TO THE ENTRANCE.
3. ALL THREE BLOCKS ARE CLEARLY VISIBLE FROM THE CENTRAL COURTYARD.
4. CIRCULATION TO THOSE 3 BUILDINGS IS STRAIGHT FORWARD.

VIEW OF THE ENTRANCE OF THE MUSEUM



LIGHTING AND VENTILATION



INTERNATIONAL CASE STUDY

SHANGHAI NATURAL HISTORY MUSEUM

INFORMATION

- LOCATION: SHANGHAI, CHINA
- ARCHITECTS: PERKINS+WILL
- AREA: 44517 M²
- YEAR: 2015
- CLIMATE: HUMID SUBTROPICAL.

SITE

THE MUSEUM INTEGRATES SEAMLESSLY WITH JING'AN SCULPTURE PARK ENHANCING LANDSCAPE OF THE AREA.



ARIEL VIEW OF THE MUSEUM AND ITS SITE

FACADE DESIGN



LIVING WALL (VIEW FROM A)



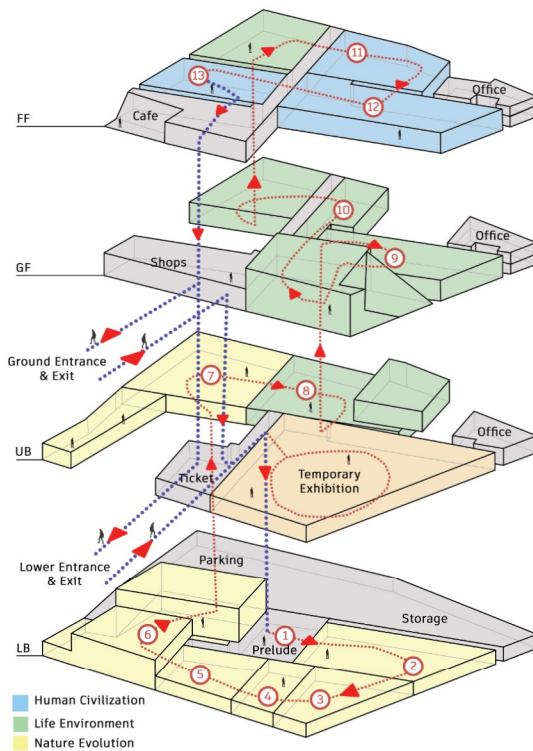
MAIN ENTRANCE (VIEW FROM

FORM &
VOLUME:



NAUTILUS SHELL

VERTICAL CIRCULATION



CALIFORNIA ACADEMY OF SCIENCES

INFORMATION

LOCATION: SAN FRANCISCO, CALIFORNIA,
ARCHITECT: RENZO PIANO
TYPE: NATURAL HISTORY MUSEUM.
AREA: 23,225 SQ.M
CLIMATE: MEDITERRANEAN CLIMATE

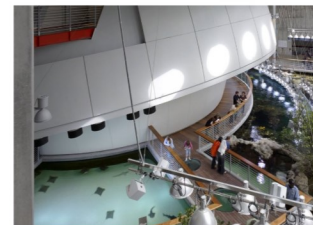
CONCEPT



"SEVEN HILLS" OF SAN FRANCISCO.



ARIEL VIEW OF THE MUSEUM AND ITS SITE



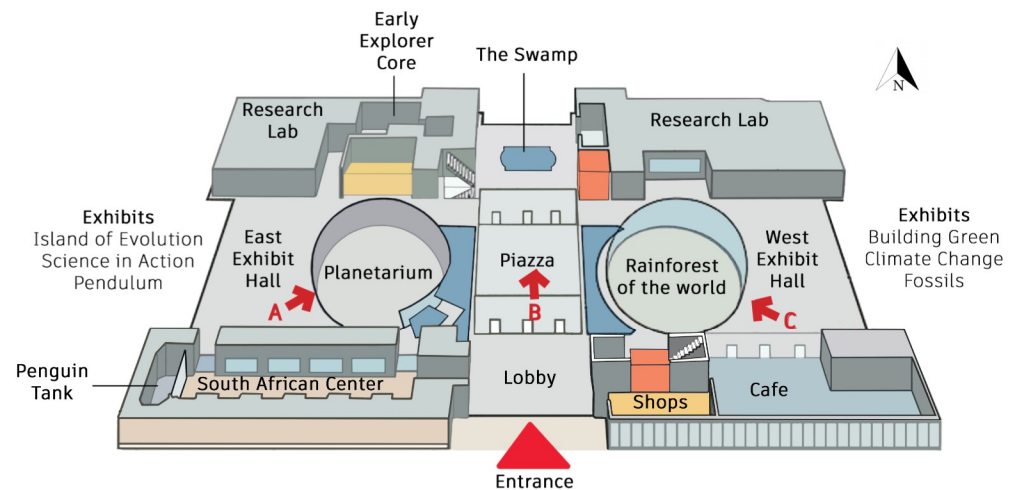
PLANETARIUM (VIEW FROM A)



PIAZZA (VIEW FROM B)



RAINFOREST (VIEW FROM C)



CIRCULATIONS AND EXHIBITS IN THE GROUND FLOOR OF THE MUSEUM

SITE ANALYSIS

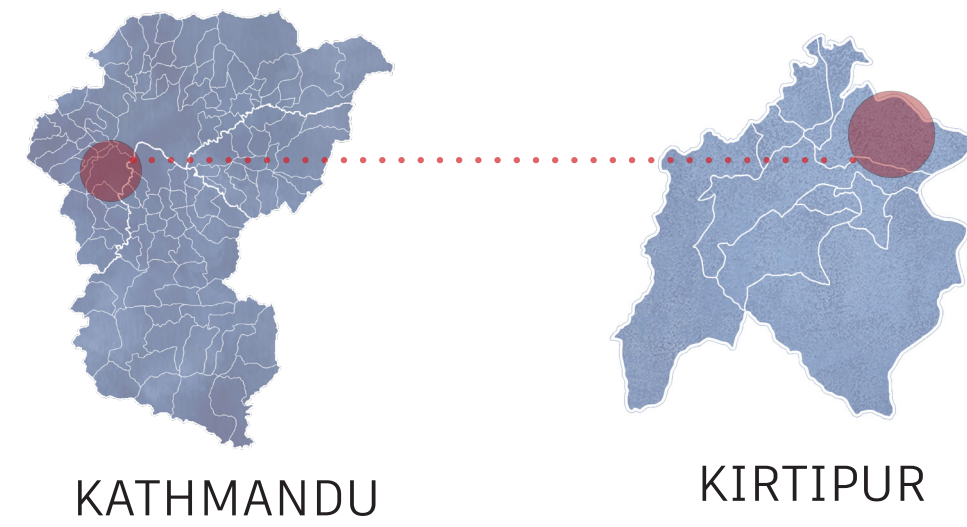
"NATURAL HISTORY MUSEUM"

INFORMATION

LOCATION: T.U., NEPAL

AREA: 22 ROPANIES (11,220 SQ.M.)

ALTITUDE: 1327 M (ABOVE SEA)



KATHMANDU

KIRTIPUR

BUILDING BYE-LAWS

Land Use/Zoning	Building Type	Set Back	Ground Coverage	FAR	Parking
Institutional	Educational	3 m	40%	2.5	15%

SITE PHOTOGRAPH

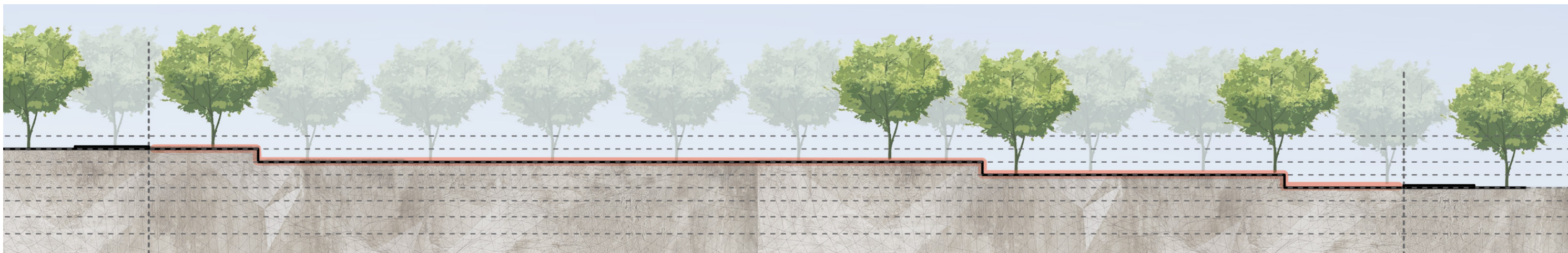


SITE PHOTOGRAPH FROM T.U. ROAD.

CLIMATE ANALYSIS

- TEMPERATURE:** WARM SUMMERS (~30°C), COOL WINTERS (~3°C).
- RAINFALL:** HEAVY MONSOON (JUNE–SEPT), DRY WINTERS.
- HUMIDITY:** HIGH IN MONSOON, MODERATE OTHERWISE.
- WIND:** PREVAILING WEST/SOUTHWEST WINDS, AFTERNOON BREEZES.

SITE SECTION



SECTION THROUGH A-A

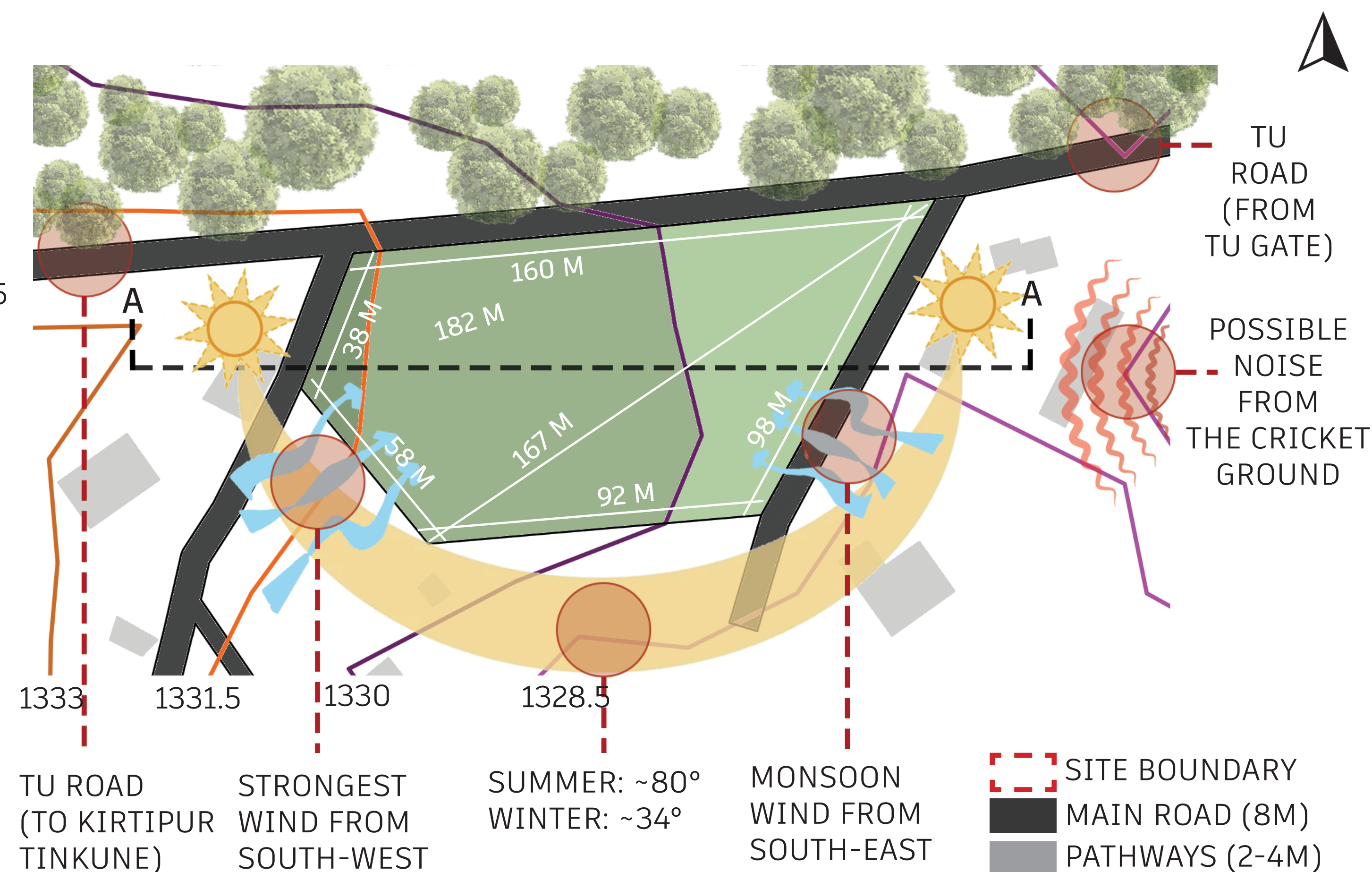
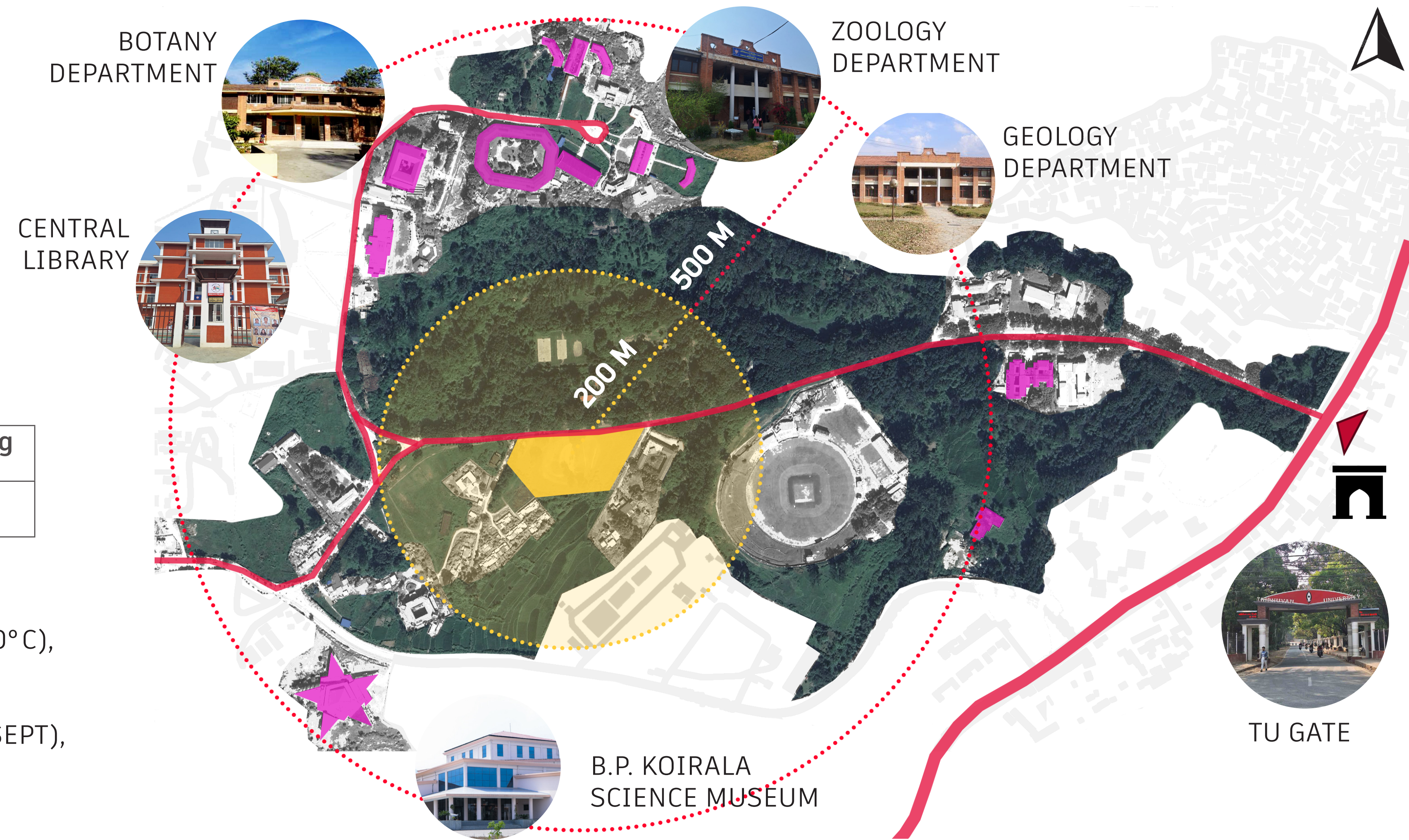
(MILD CONTOUR THROUGHOUT THE SITE OF 1.5M EACH WITH THE FOREST IN THE BACKGROUND)

- S** • AMPLE NATURAL LIGHT AND WIND.
- EASY ROAD ACCESS.
- ALL REQUIRED INFRASTRUCTURE.

- W** • SLOPING TERRAIN (CUT AND FILL).

- O** • COLLABORATION WITH TU FOR RESEARCH.
- INCORPORATING PASSIVE SOLAR STRATEGIES.
- DESIGNING WITH NATURAL ELEMENTS.

- T** • NEARBY URBAN DEVELOPMENT.
- NOISE POLLUTION FROM THE STADIUM.



PROGRAM FORMULATION

“NATURAL HISTORY MUSEUM”

EXHIBITION HALLS

GEOLOGY BLOCK

S.N.	DESCRIPTION	CAPACITY	TOTAL
1.	ORIENTATION ROOM	24	36 m²
1.	HALL OF EARTHS FORMATION	30	144 m²
2.	HALL OF TECTONIC COLLISION	25	72 m²
3.	HALL OF FOSSILS	80	252 m²
4.	HALL OF ROCKS	50	72 m²
5.	DINOSAUR ATRIUM	60	315 m²
	TOTAL		890 m²

FLORA BLOCK

S.N.	DESCRIPTION	CAPACITY	TOTAL
1.	GREEN HOUSE	40	155 m²
2.	COVERED GARDEN	72	260 m²
3.	OUTDOOR GARDEN (NI)	150	710 m²
4.	POND (NI)	-	72 m²
	TOTAL		415 m²

FAUNA BLOCK

S.N.	DESCRIPTION	CAPACITY	TOTAL
1.	HALL OF INVERTEBRATES	60	288 m²
2.	AQUARIUM	20	432 m²
3.	HALL OF REPTILES & AMPHIBIA	50	288 m²
4.	HALL OF BIRDS	50	288 m²
5.	HALL OF LARGE HERBIVORES	60	432 m²
6.	HALL OF SMALL HERBIVORES	70	288 m²
7.	HALL OF CARNIVORES	70	288 m²
8.	HALL OF HUMAN EVOLUTION	60	432 m²
9.	HALL OF CLIMATE CHANGE	50	288 m²
10.	COURTYARD OF FAUNA	80	410 m²
	TOTAL		3435 m²

PARKING

S.N.	DESCRIPTION	AREA	QUANTITY	TOTAL
1.	CAR	12.5 m²	24	300 m²
2.	BIKE	2.5 m²	105	260 m²
3.	BUS	50 m²	2	150 m²
4.	MINI TRUCK	36 m²	2	72 m²
	TOTAL			780 m²

TECHNICAL/ WORKSPACE

S.N.	DESCRIPTION	AREA	QUANTITY	TOTAL
1.	STORE ROOM	36 m²	2	72 m²
2.	TAXIDERMY	144 m²	1	144 m²
3.	SECURITY	72 m²	1	72 m²
4.	ELECTRICAL	36 m²	1	36 m²
	TOTAL			325 m²

EDUCATIONAL

S.N.	DESCRIPTION	AREA	QUANTITY	TOTAL
1.	LIBRARY	216 m²	1	217 m²
2.	E-LIBRARY	72 m²	1	72 m²
3.	LECTURE HALL	72 m²	1	72 m²
4.	AR/VR ROOM	216 m²	1	108 m²
	TOTAL			470 m²

ESTIMATED DAILY VISITORS

PEAK VISITORS: 400 PER DAY (WEEKENDS/HOLIDAYS)
REGULAR WEEKDAYS: 200 PER DAY

MUSEUM OPEN 7 HOURS/DAY (10 AM–5 PM)

VISITOR DISTRIBUTION: 40-50 /HOUR

ENTRANCE

S.N.	DESCRIPTION	AREA	QUANTITY	TOTAL
1.	TICKET & LOCKER	15 m²	1	50 m²
2.	ENTRY PLAZA	216 m²	1	216 m²
3.	ENTRY VESTIBULE	28 m²	1	20 m²
5.	TOILET	36 m²	3	108 m²
	TOTAL			400 m²

ADMINISTRATION

S.N.	DESCRIPTION	AREA	QUANTITY	TOTAL
1.	DIRECTOR’S	36 m²	1	36 m²
2.	STAFF LOUNGE	72 m²	1	72 m²
3.	PUBLICATION	36 m²	1	36 m²
4.	MEETING HALL	36 m²	1	36 m²
	TOTAL			180 m²

RECREATIONAL

S.N.	DESCRIPTION	AREA	QUANTITY	TOTAL
1.	CAFETERIA	180 m²	1	180 m²
2.	SOUVENIR	108 m²	1	108 m²
	TOTAL			288 m²

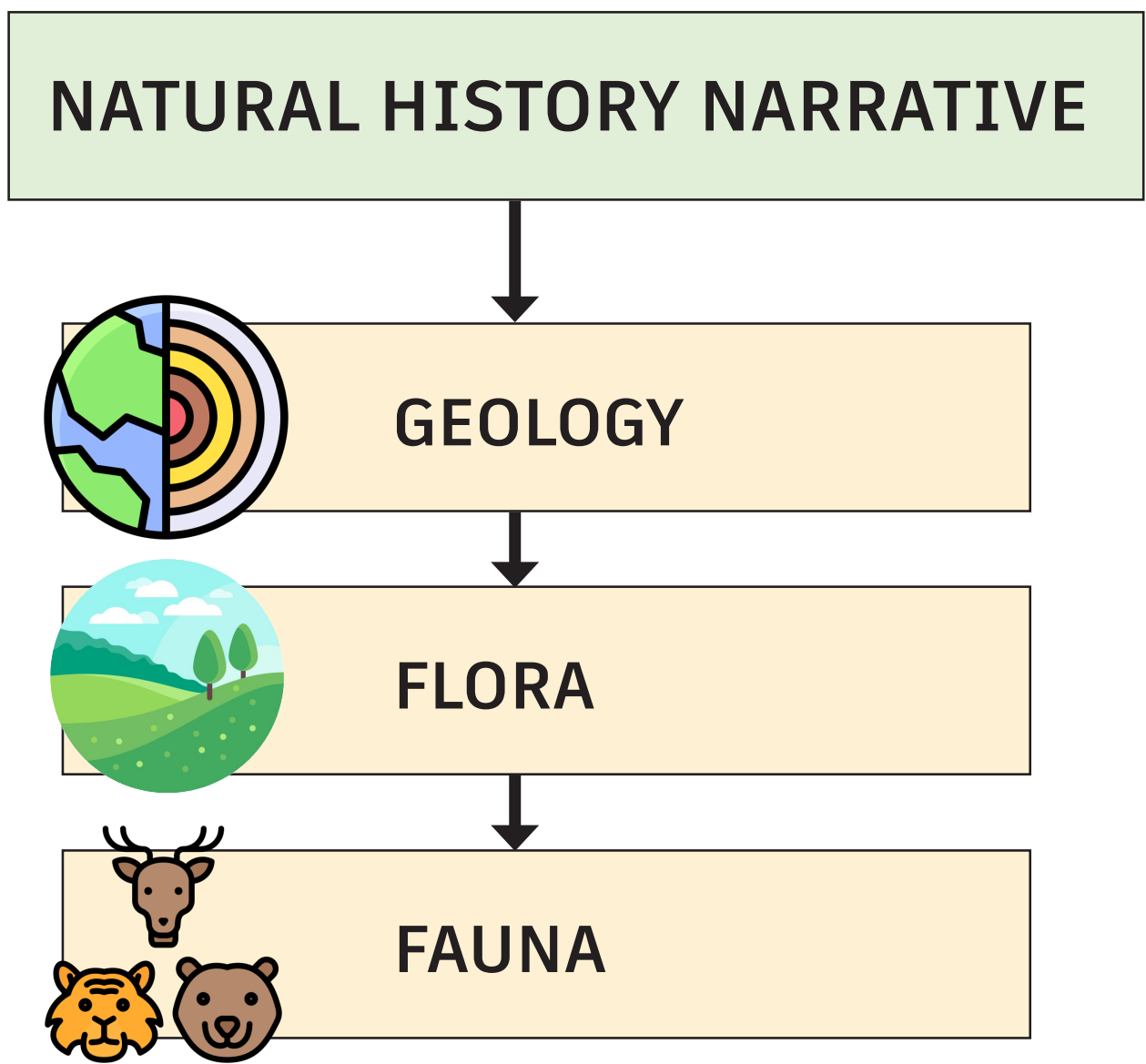
TOTAL EXHIBITION AREA: 4,740 M2
TOTAL SUPPORTIVE SPACES AREA: 2,440 M2

TOTAL GROUND COVERAGE: 3,990 M2 (35%)
TOTAL SITE AREA: 11,220 M2

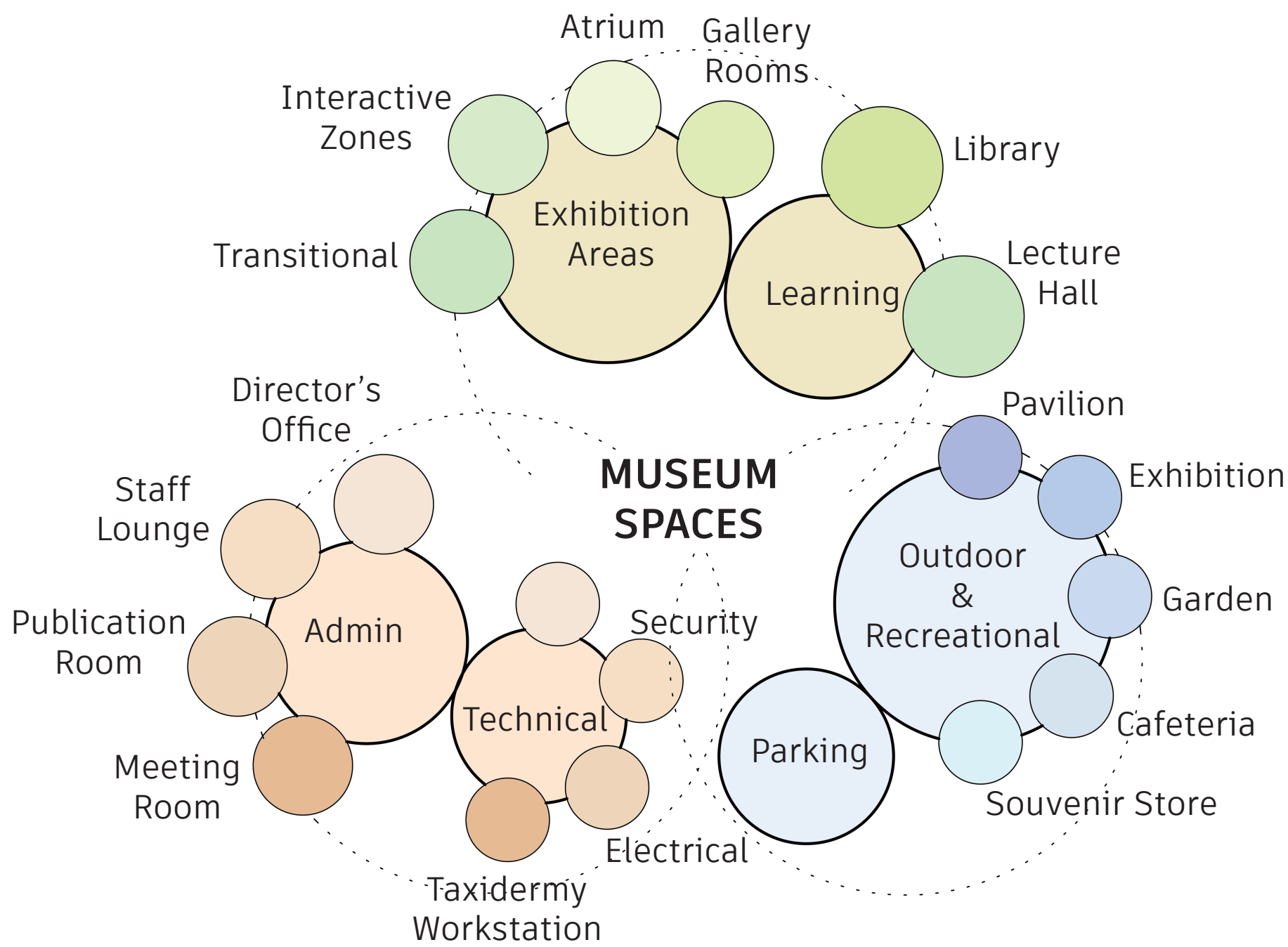
TOTAL BUILT UP AREA: 9,040 M2

NATURAL HISTORY MUSEUM, KIRTIPUR

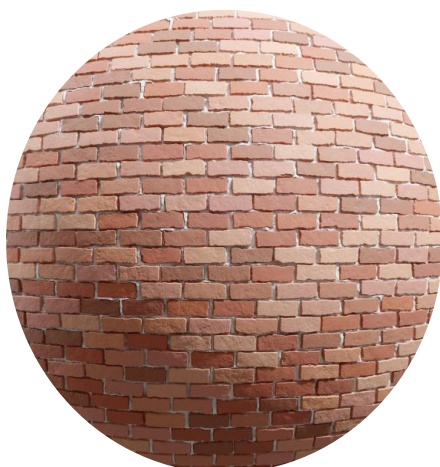
“CONCEPT: INTERPRETING NATURE THROUGH SPATIAL NARRATIVE”



SPACE CLASSIFICATION IN MUSEUM



BUILDING MATERIALS



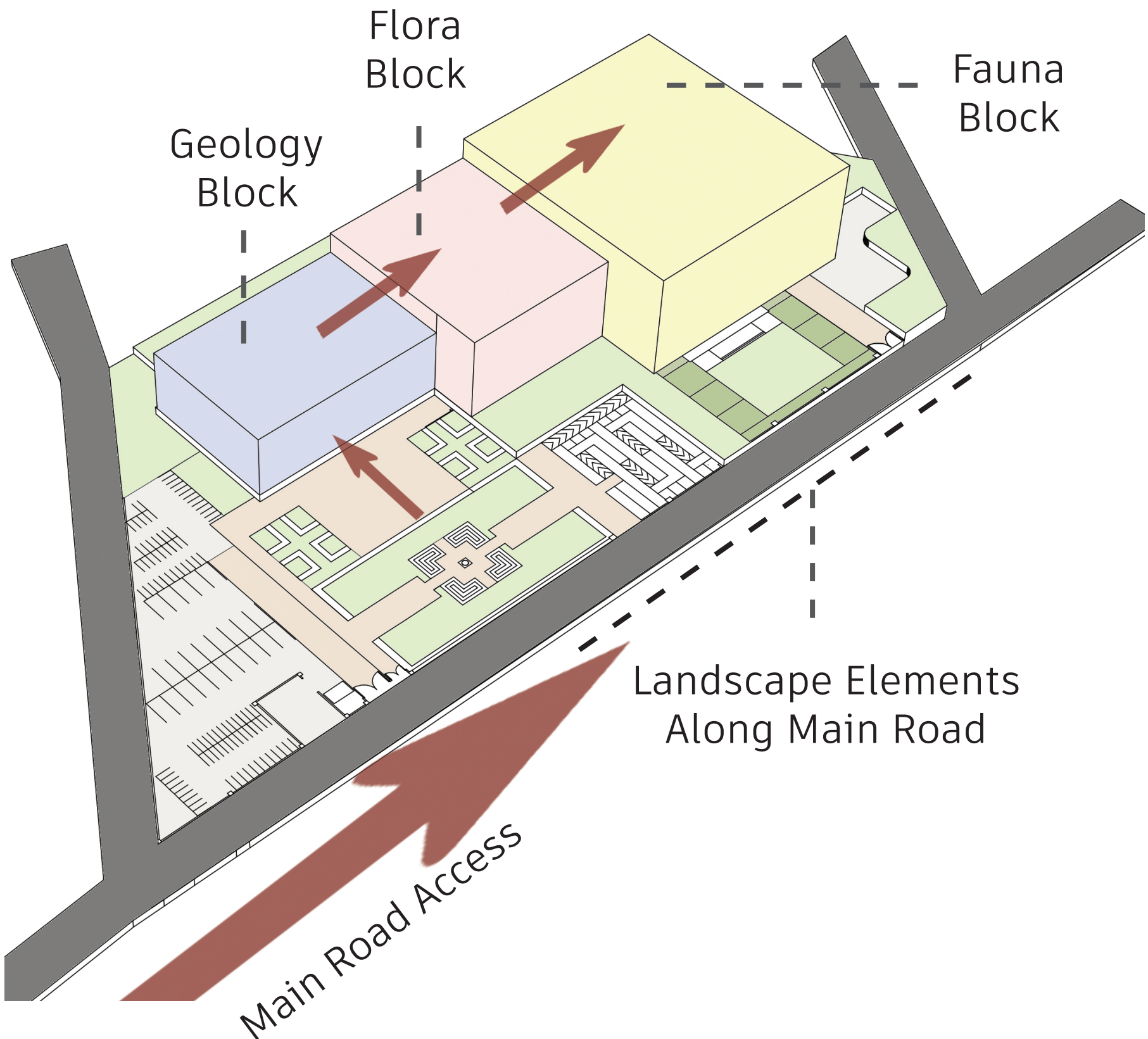
Brick Facing Facade



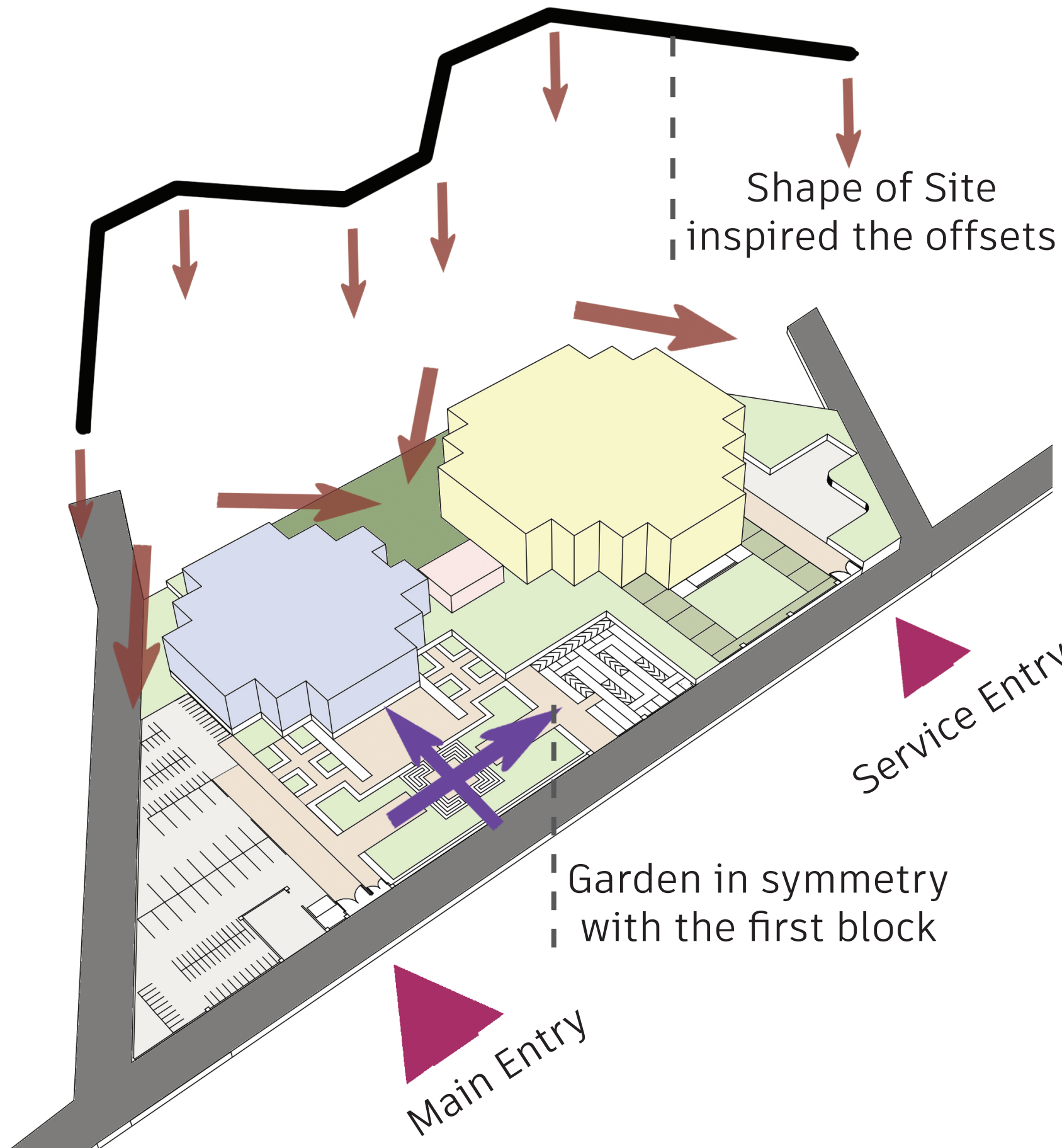
White Stucco



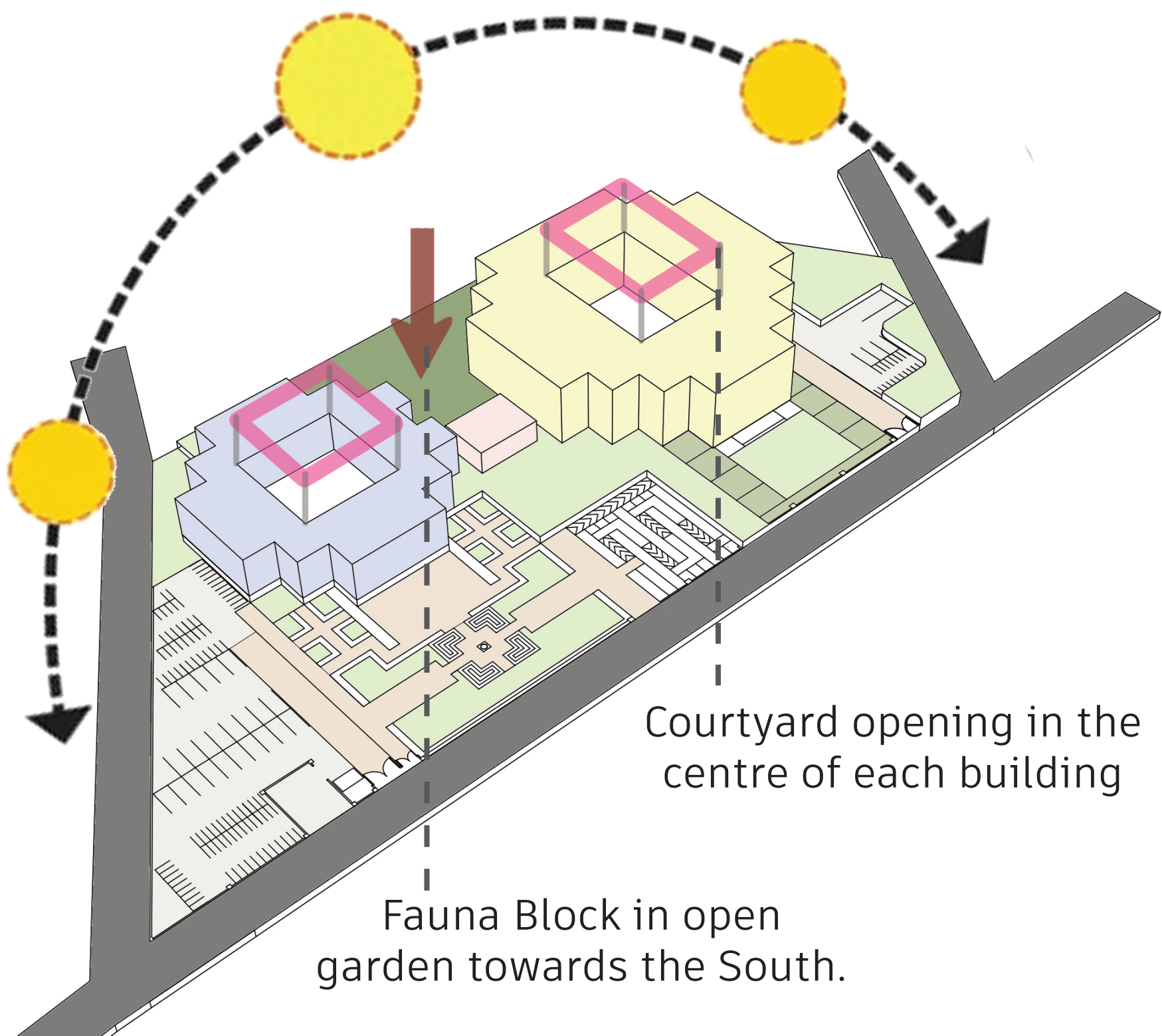
Polycarbonate Sheet with UV Filter



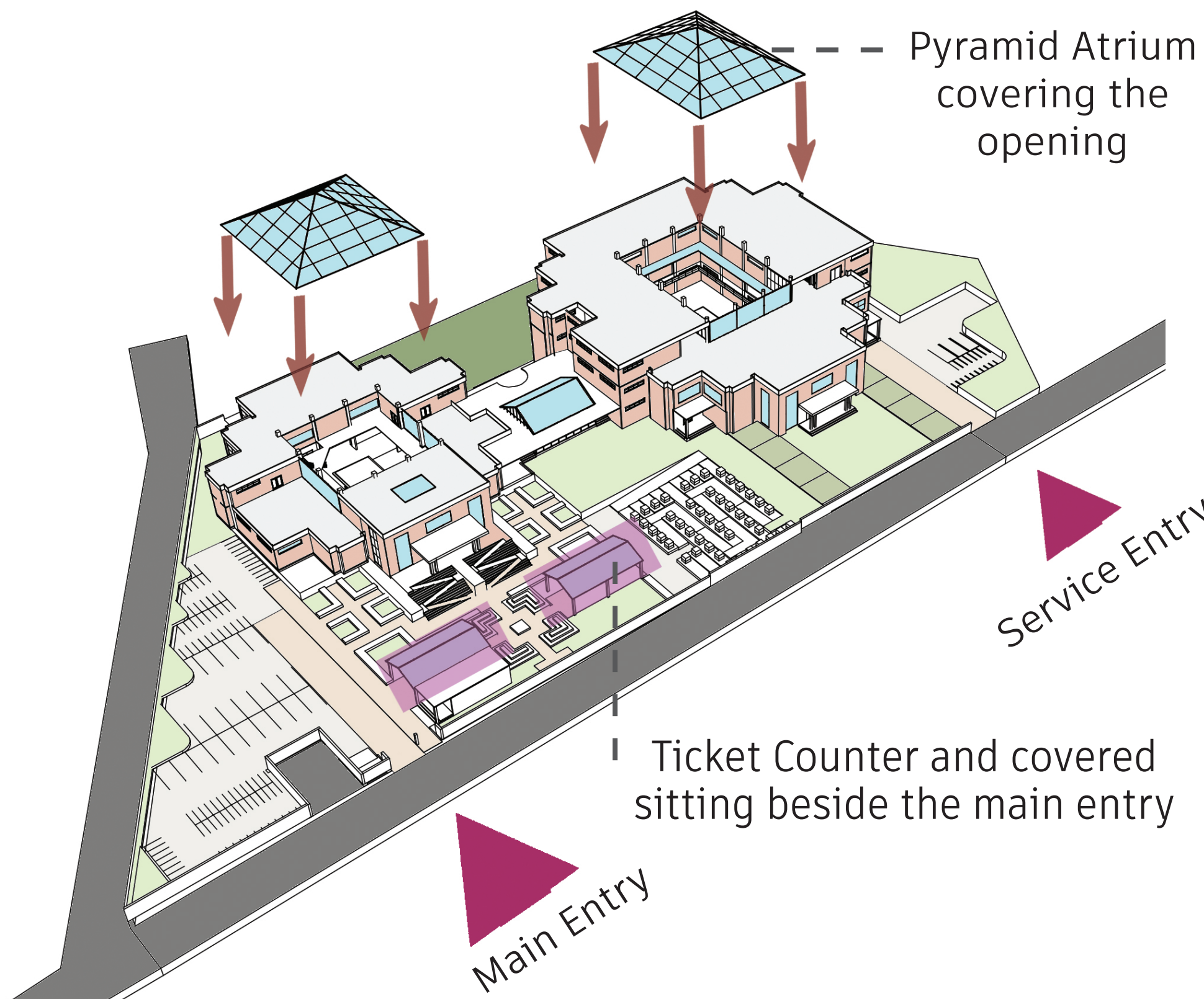
A. Placement of 3 blocks of Natural History Branch in order of evolution.



B. Building shape's offset inspired from the shape of the site.

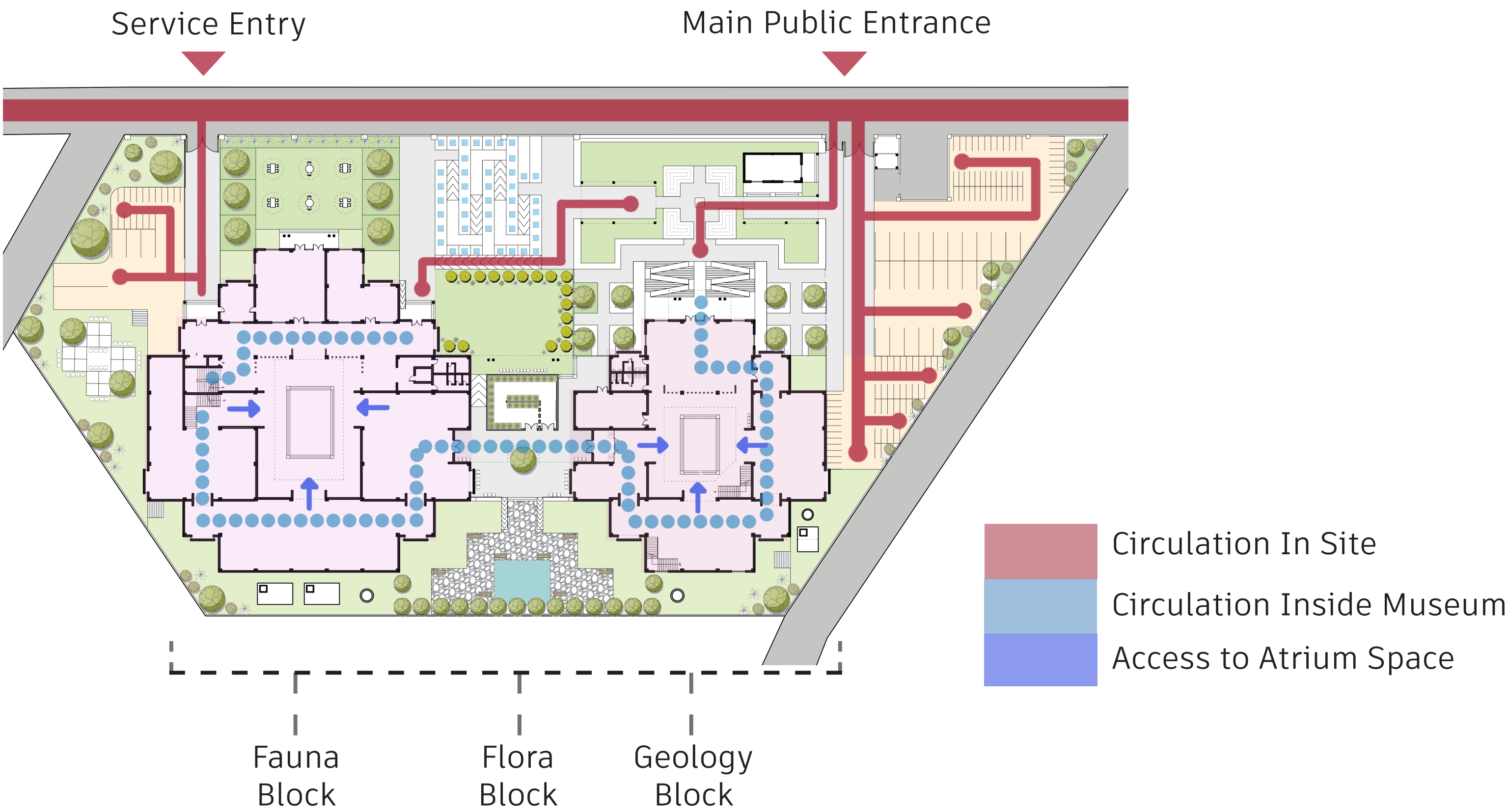


C. Creation of Courtyard for Natural Light and Ventilation.

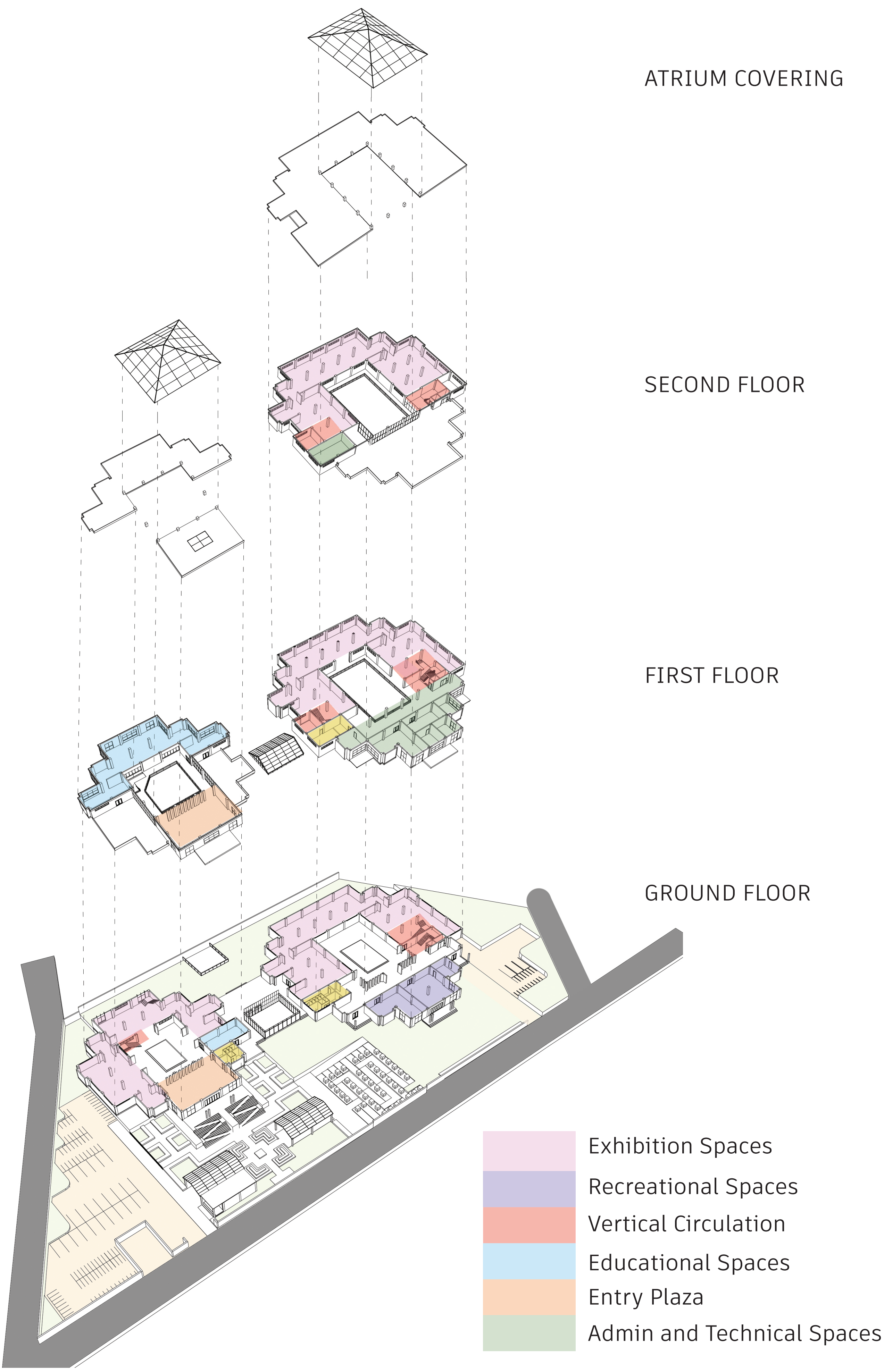
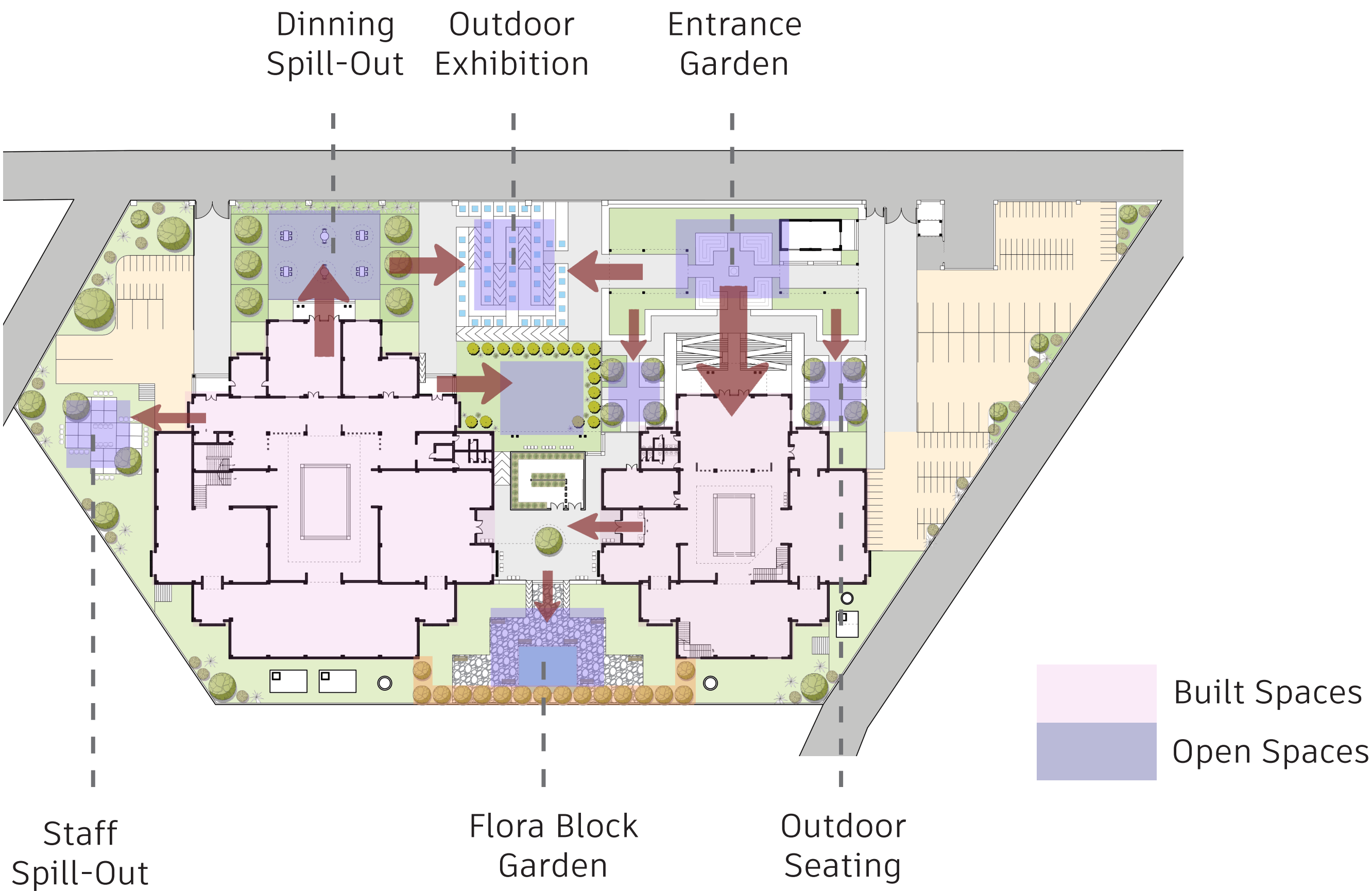


D. Use of Pyramid covering for Atrium space as both functional and architectural design element.

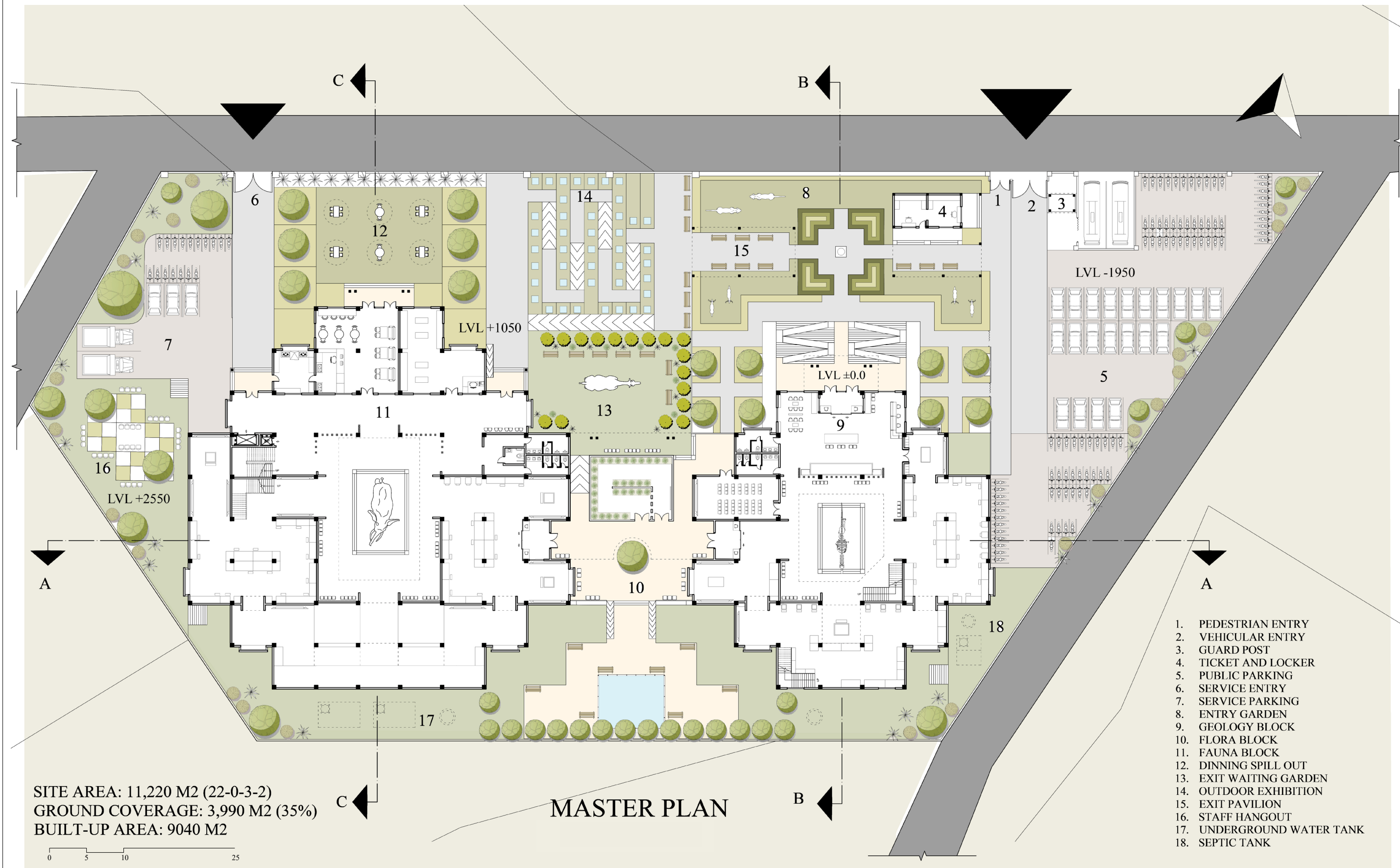
ENTRANCE AND CIRCULATION IN MUSEUM



BUILT AND OPEN SPACE RELATION



NATURAL HISTORY MUSEUM



Purbanchal University
Khwopa Engineering College
Department of Architecture
Libali, Bhaktapur

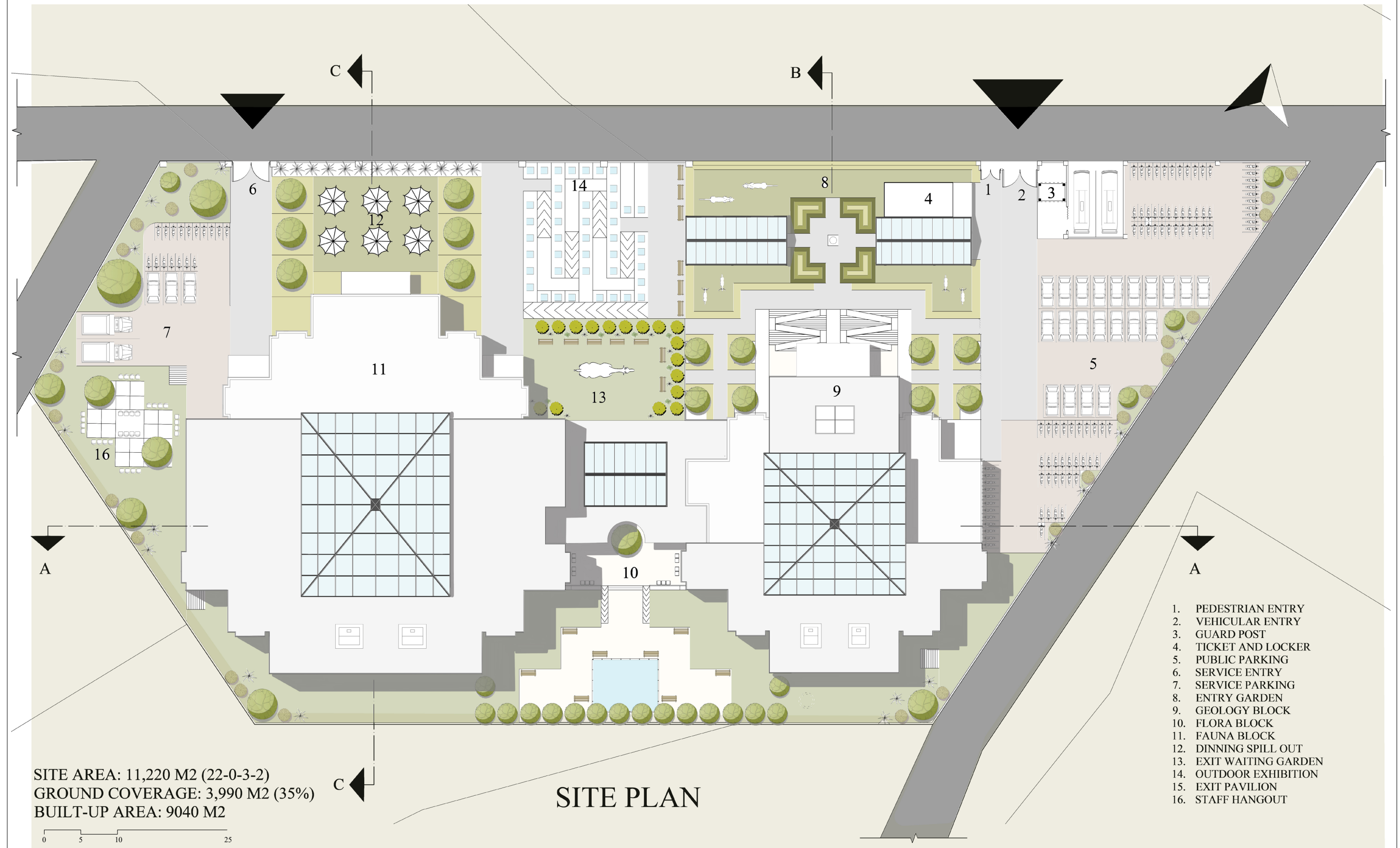
Final Presentation
B. Arch. Thesis

Name: Kusum Sharma
Roll. No.: 760118

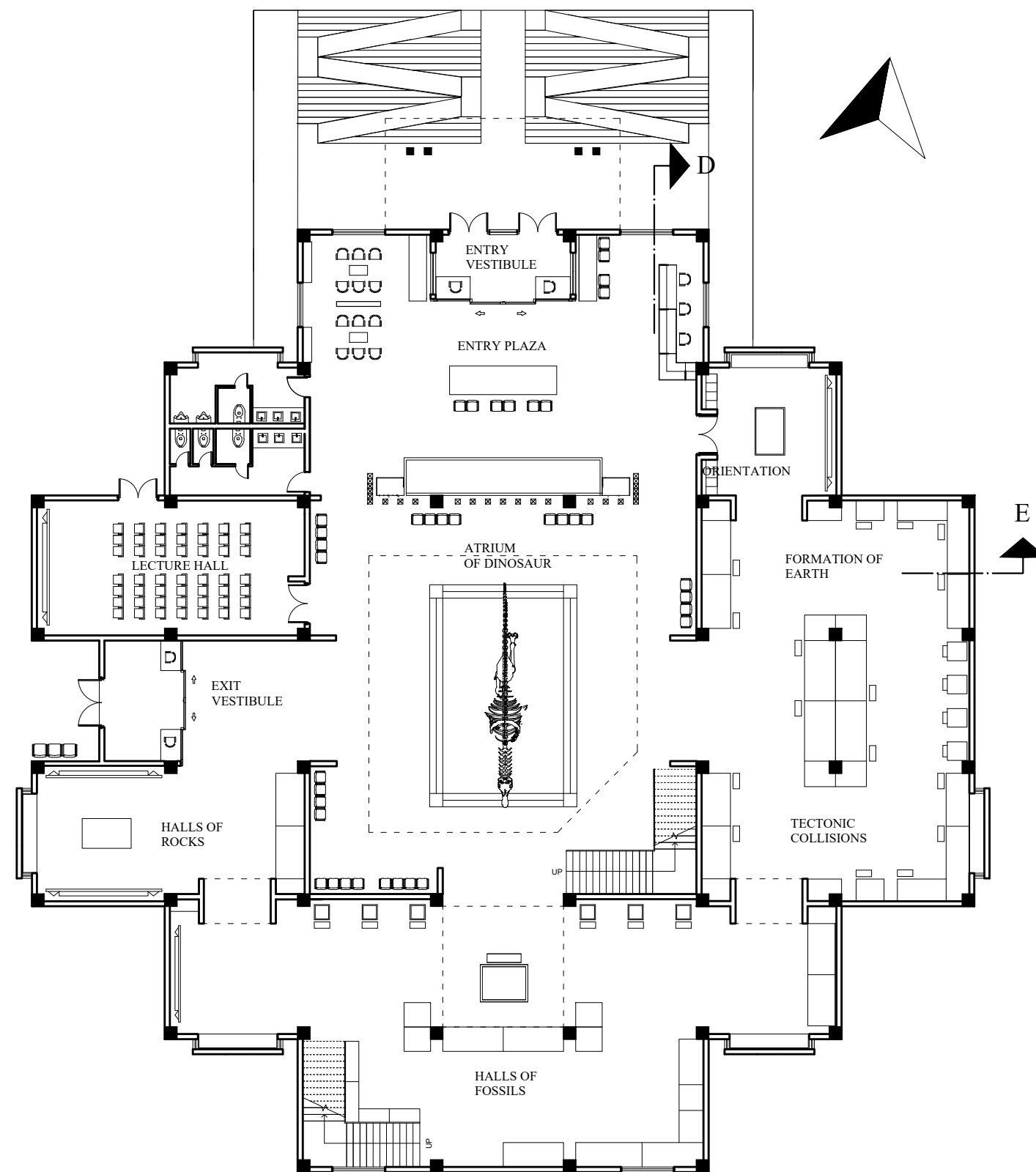
Date: 2082 - 04 - 27

Sheet No.:

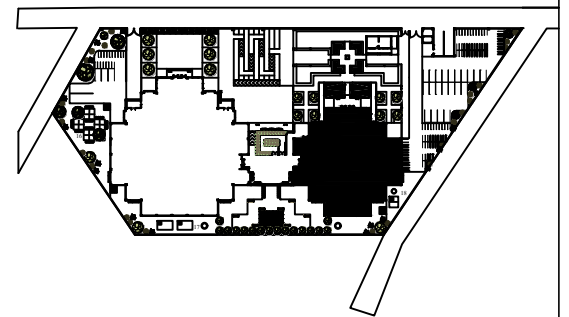
NATURAL HISTORY MUSEUM



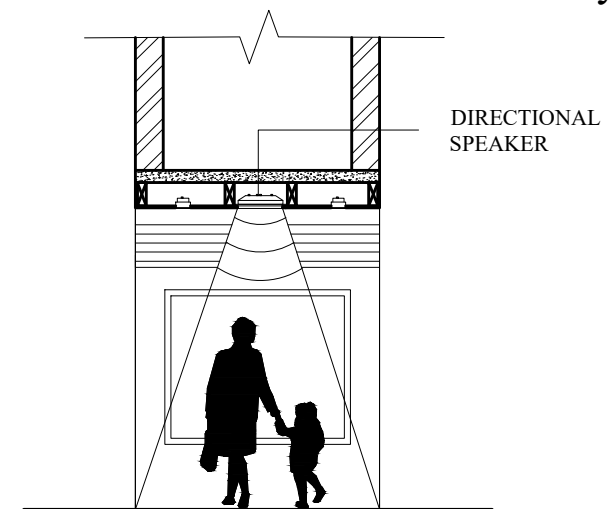
Purbanchal University Khwopa Engineering College Department of Architecture Libali, Bhaktapur	Final Presentation	Name: Kusum Sharma	Date: 2082 - 04 - 27	Sheet No.:
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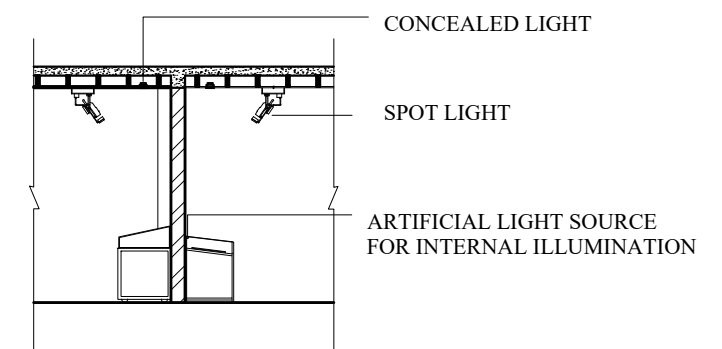
GEOLOGY GROUND FLOOR PLAN



Key Plan



DETAIL AT A
SCALE: 1:25



ARTIFICIAL LIGHTING DETAILS
SCALE: 1:50

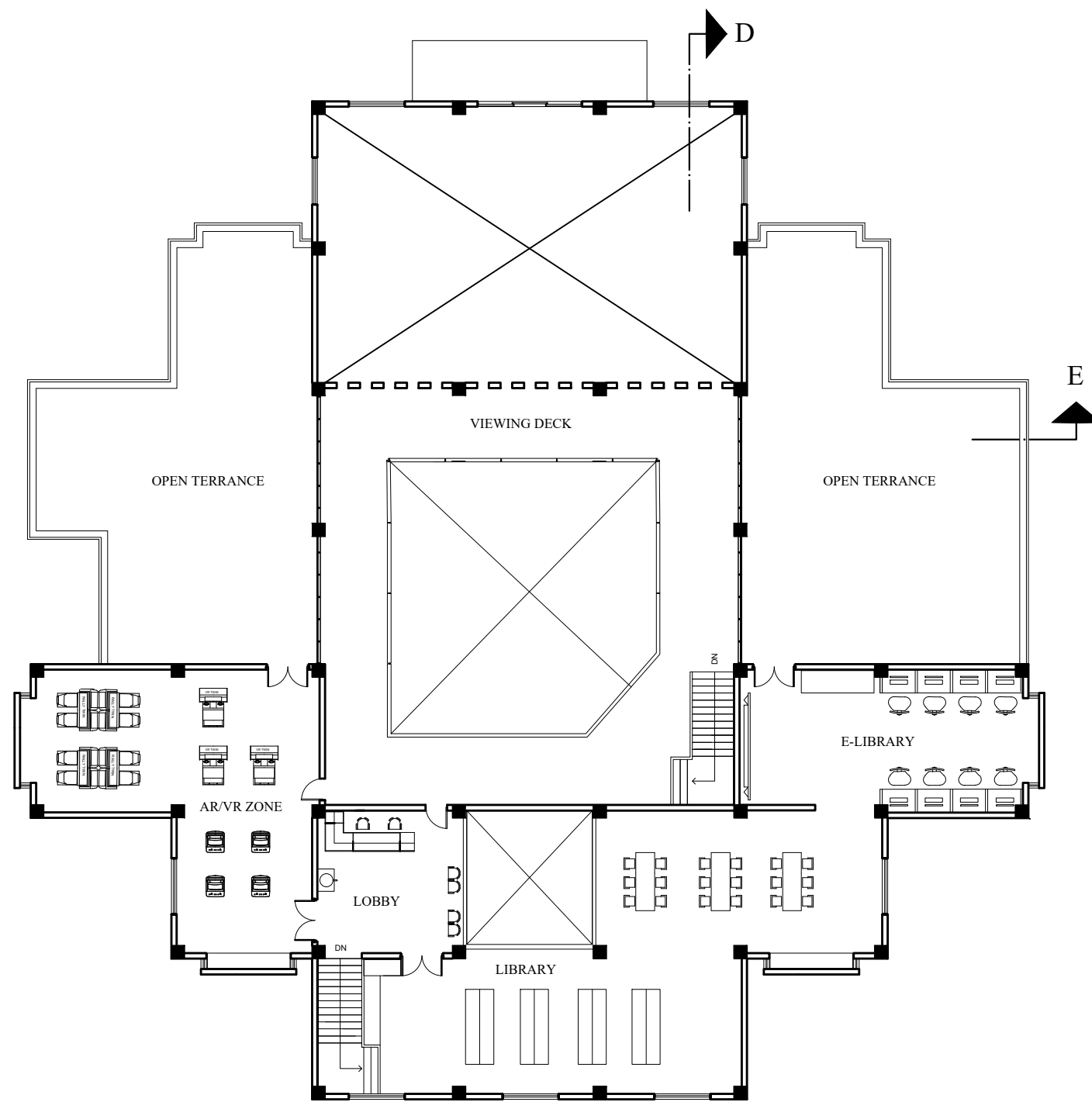
Purbanchal University
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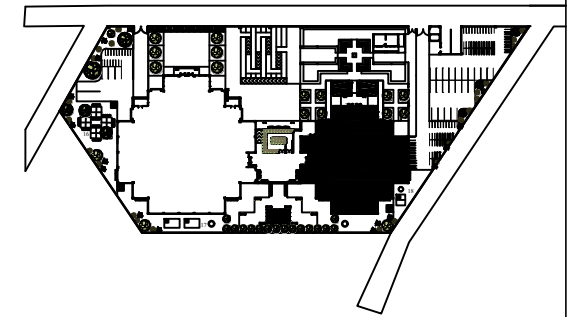
Name: Kusum Sharma
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Date: 2082 - 04 - 27

Sheet No.:



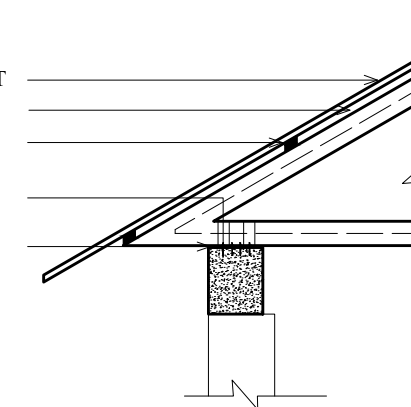
GEOLOGY FIRST FLOOR PLAN



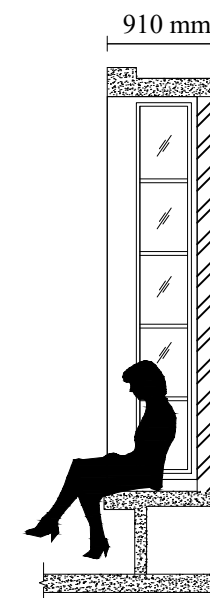
Key Plan

POLY-CARBONATE SHEET
100X100X6 SHS SECTION
50X50X6 STEEL FRAMING

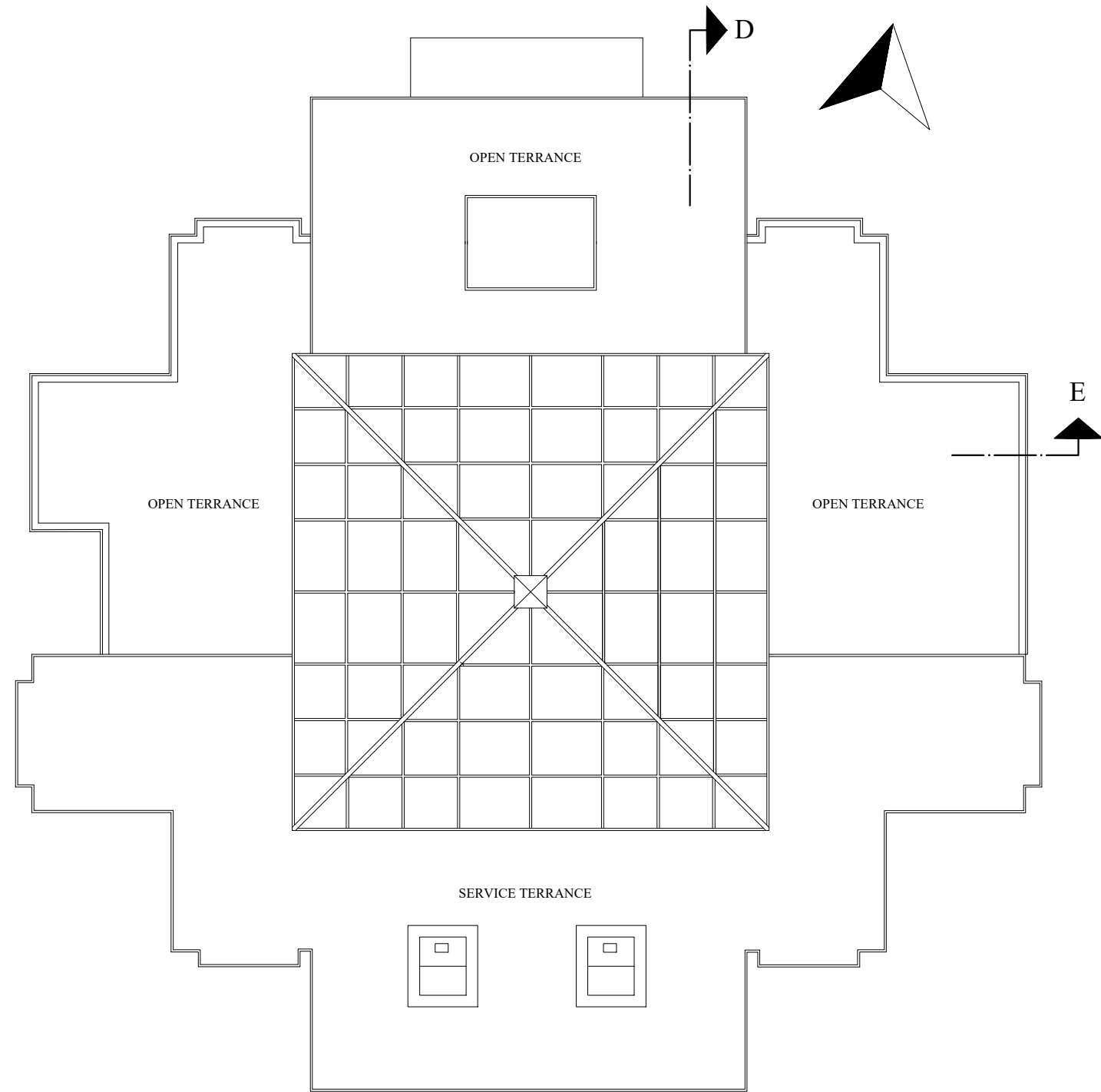
M16 BOLT
BASE PLATE



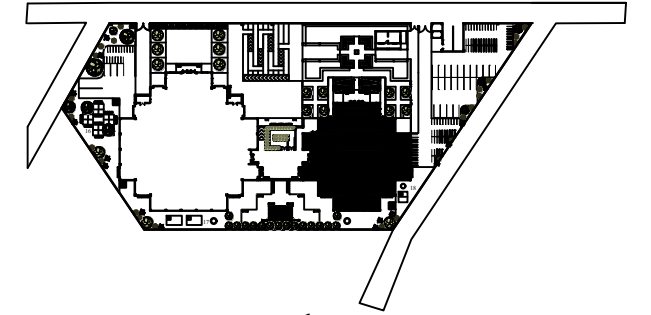
DETAIL AT B
SCALE: 1:25



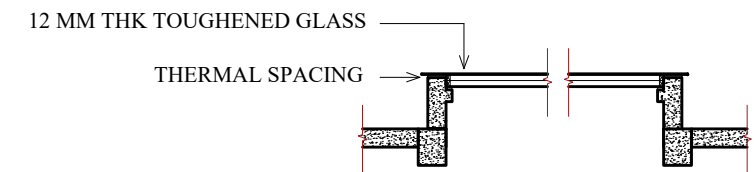
DETAIL AT C
SCALE: 1:25



GEOLOGY TOP FLOOR PLAN



Key Plan



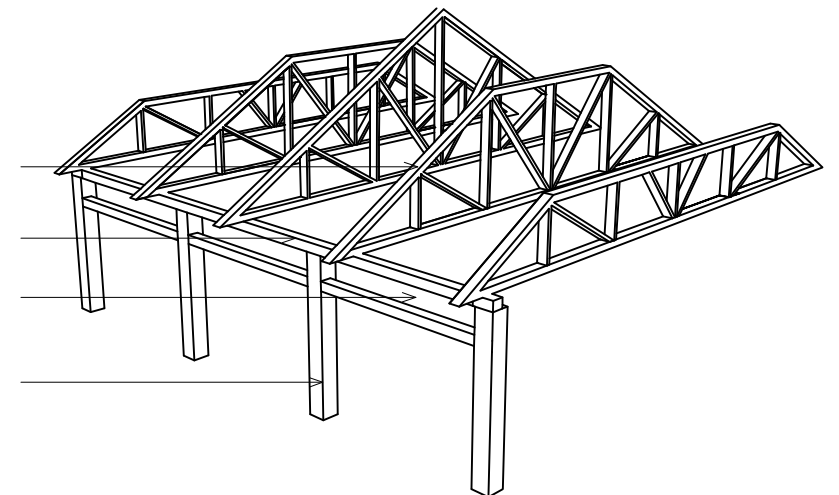
DETAIL AT D
SCALE: 1:25

STEEL TRUSS OF DESCENDING
ORDER

TRUSS RESTING ON
450 X 550 BEAM

800MM GAP FOR VENTILATION

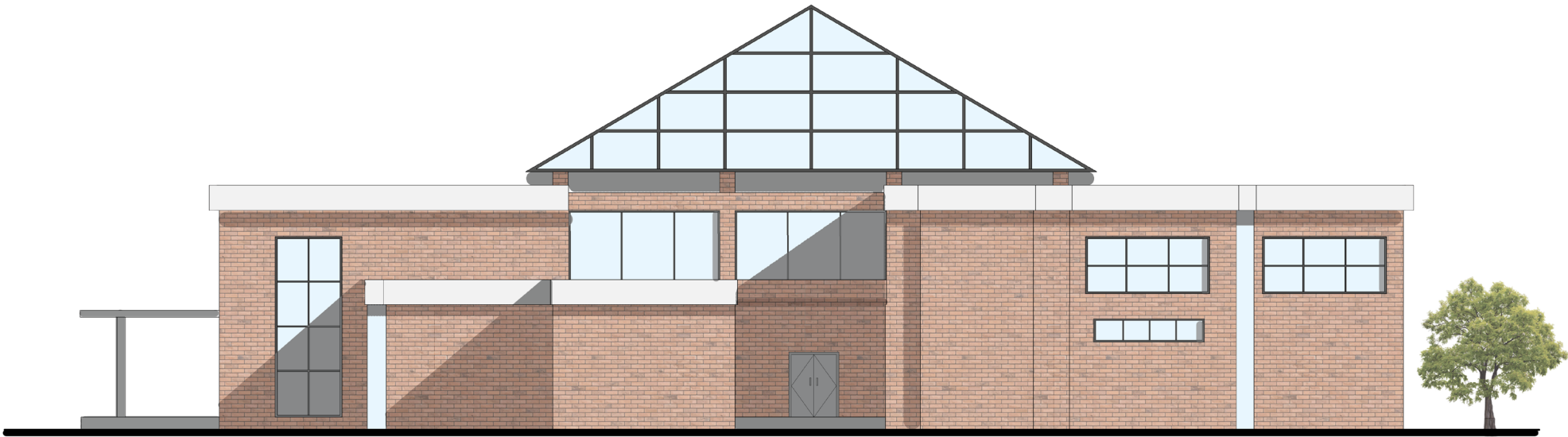
550 X 550 MM COLUMN



NATURAL HISTORY MUSEUM

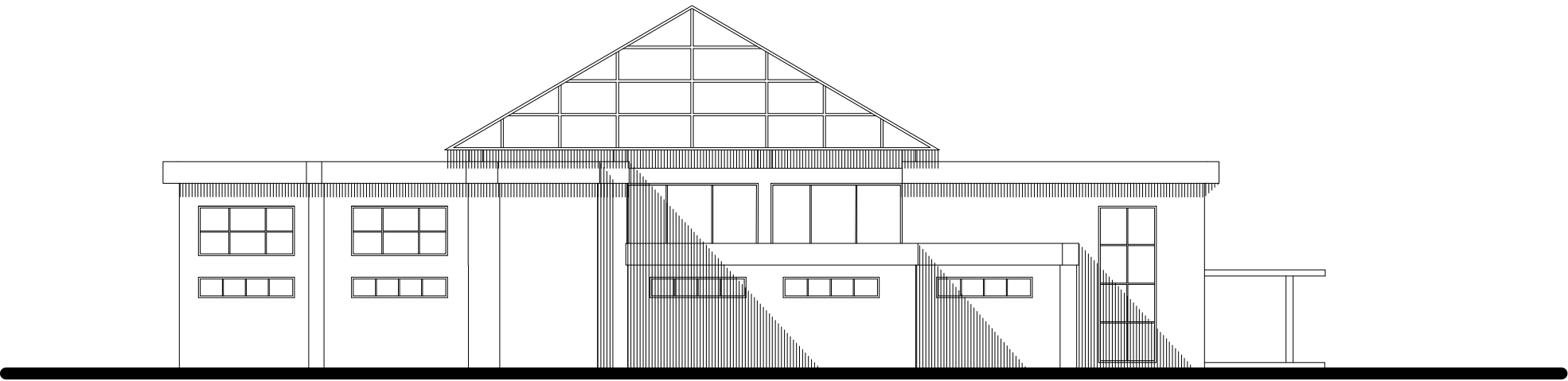


NORTH ELEVATION

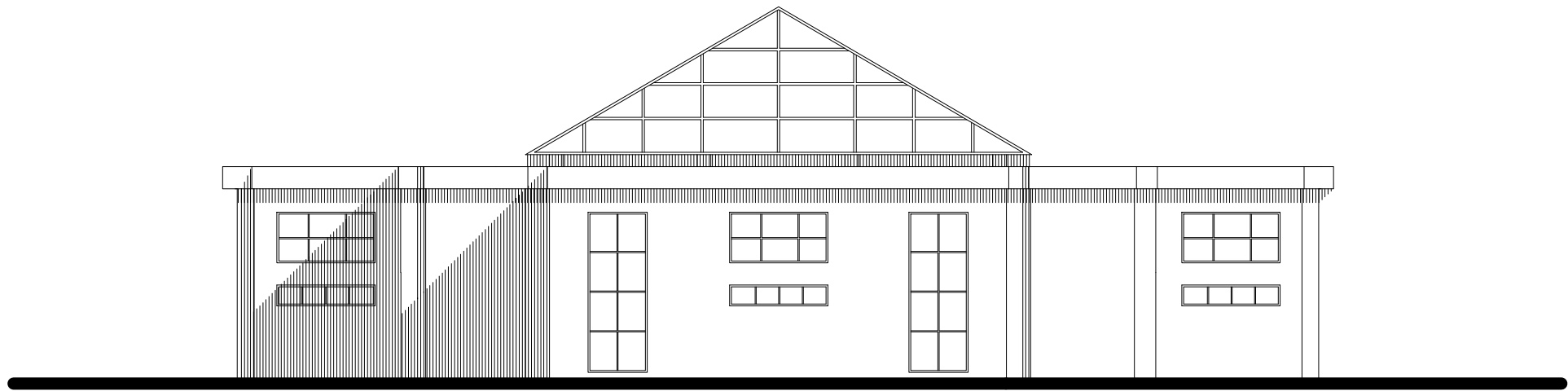


WEST ELEVATION

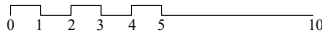
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	B. Arch. Thesis	Roll. No.: 760118		



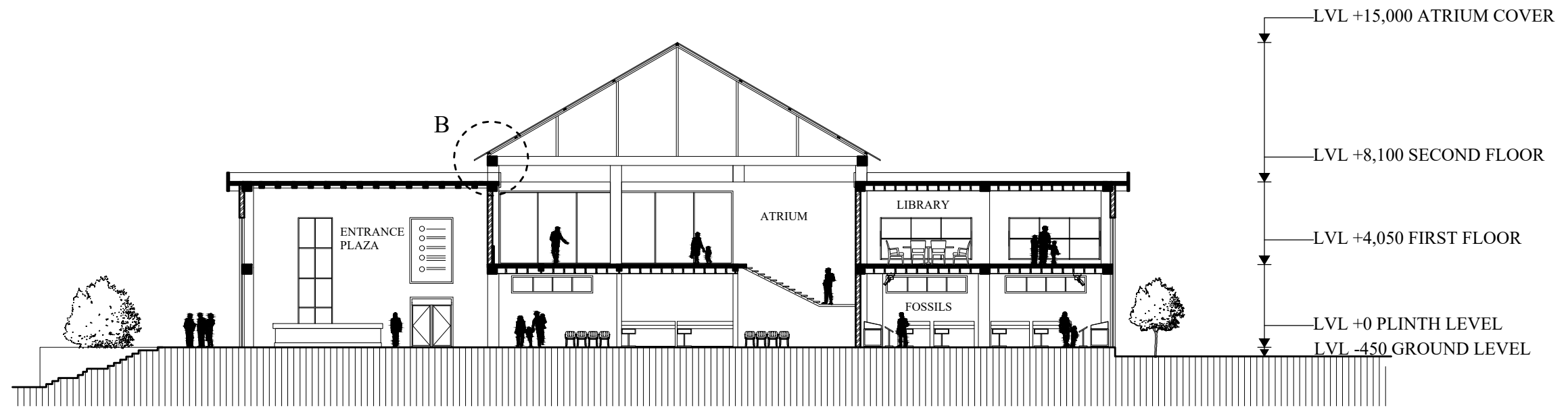
EAST ELEVATION
SCALE: 1:100



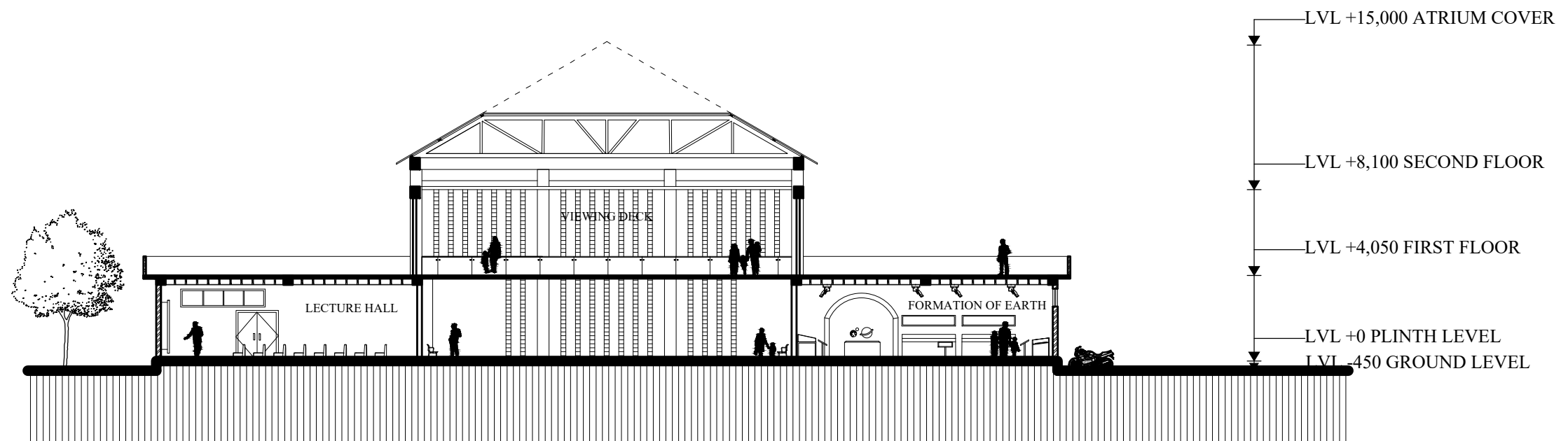
SOUTH ELEVATION
SCALE: 1:100



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SECTION THROUGH D-D



SECTION THROUGH E-E

0 1 2 3 4 5 10

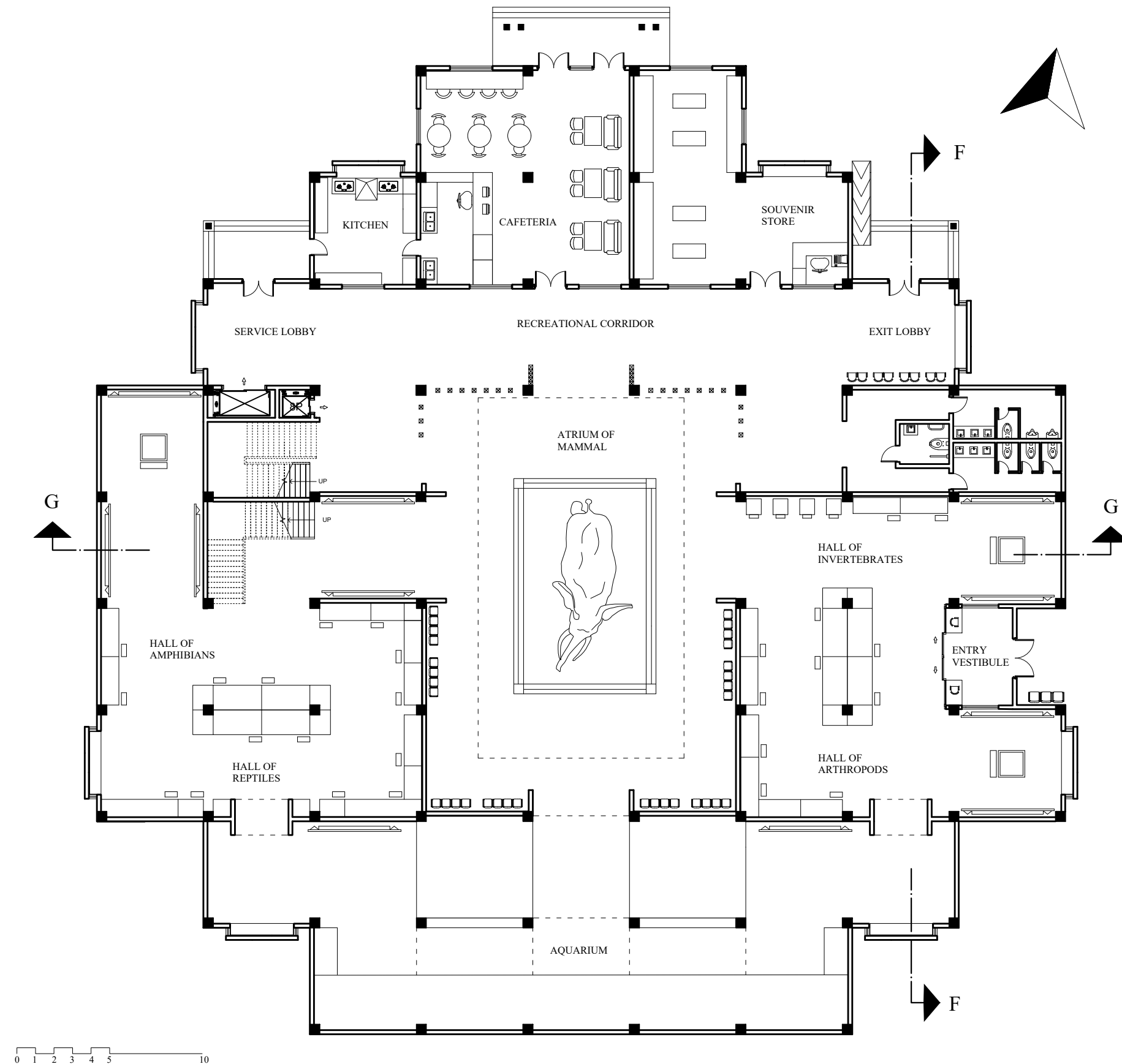
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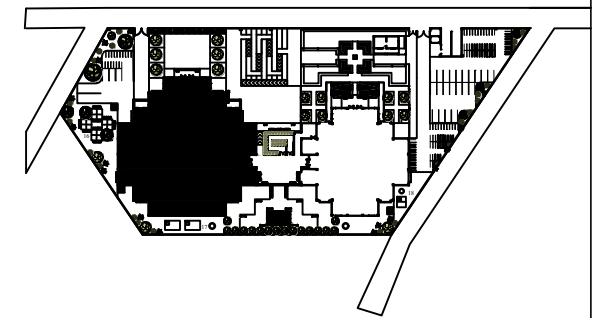
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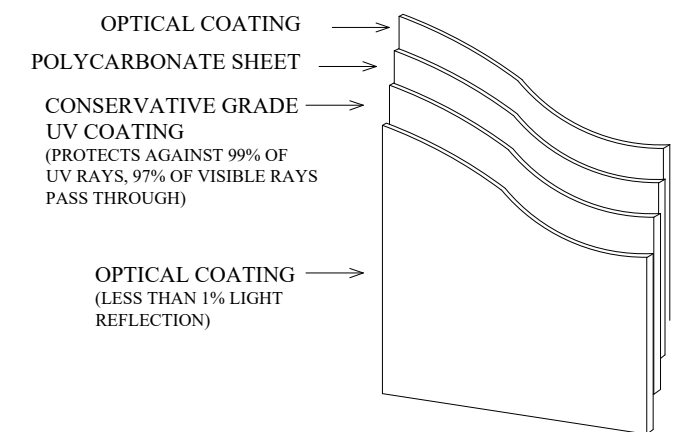
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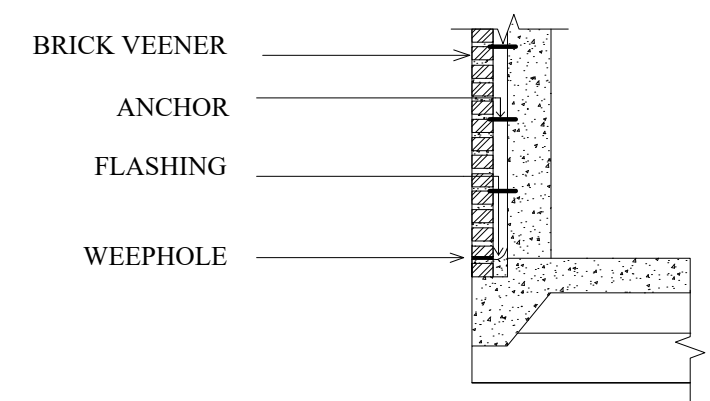
GROUND FLOOR PLAN



Key Plan



UV LIGHT FILTER IN ATRIUM



BRICK FACING WALL DETAILS
SCALE: 1:10

0 1 2 3 4 5 10

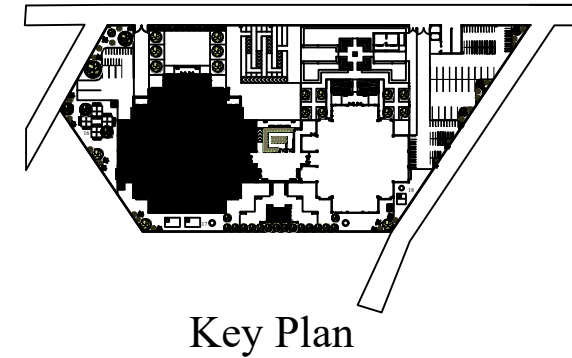
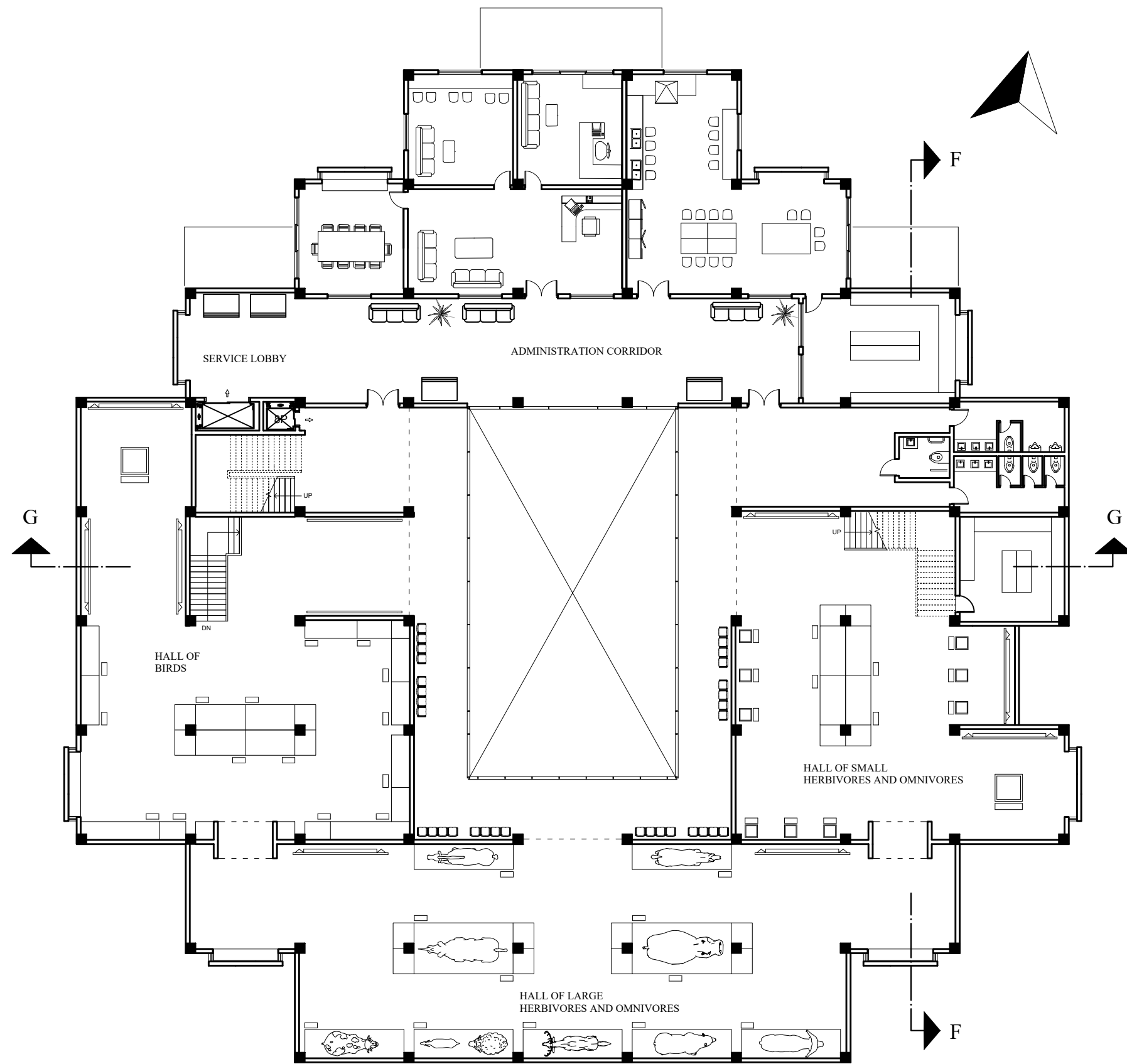
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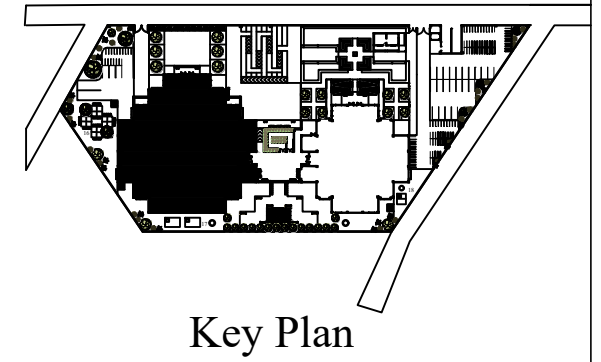
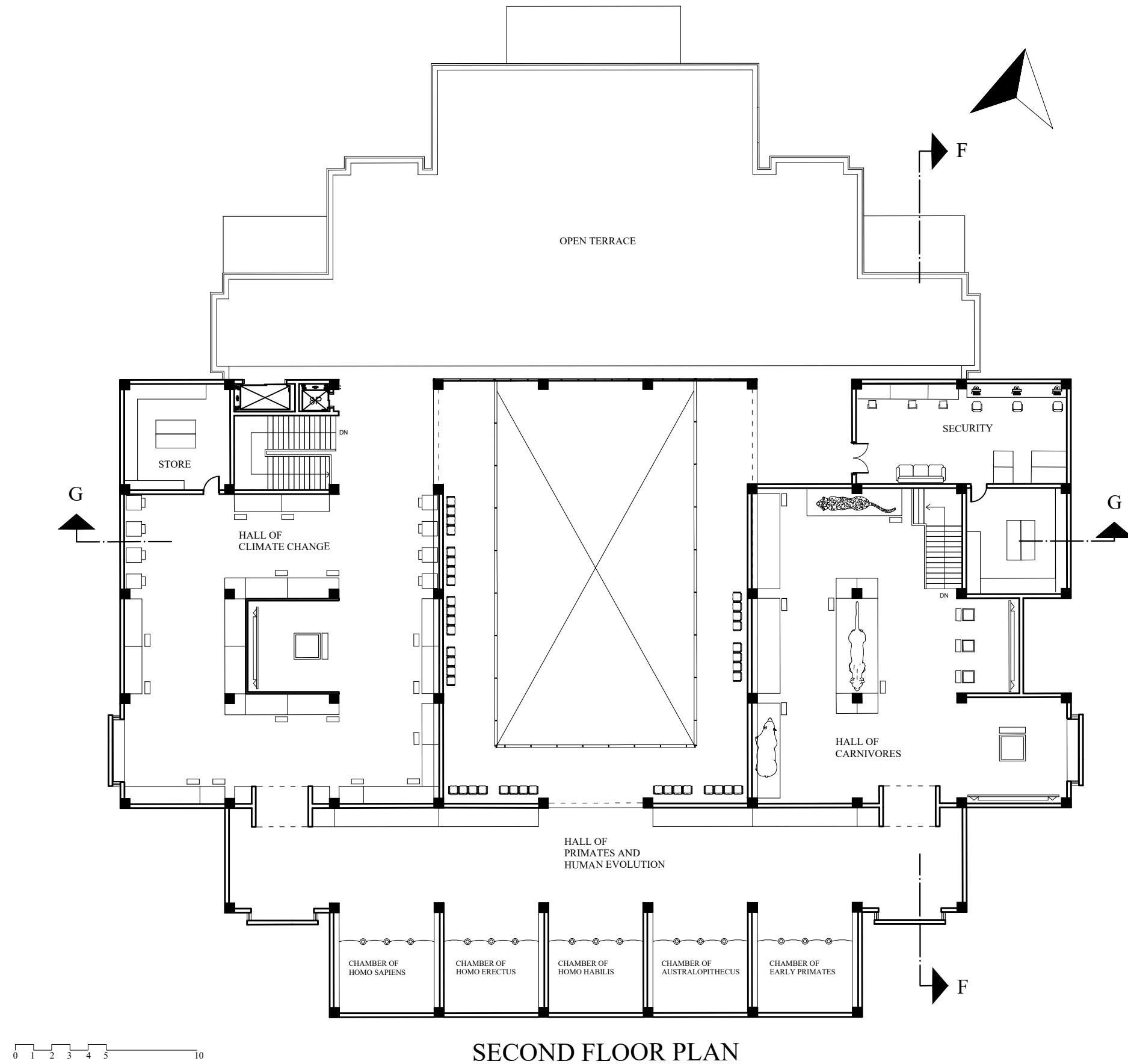
Sheet No.:



0 1 2 3 4 5 10

FIRST FLOOR PLAN

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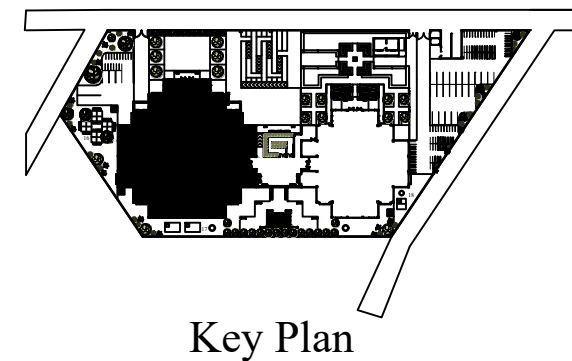
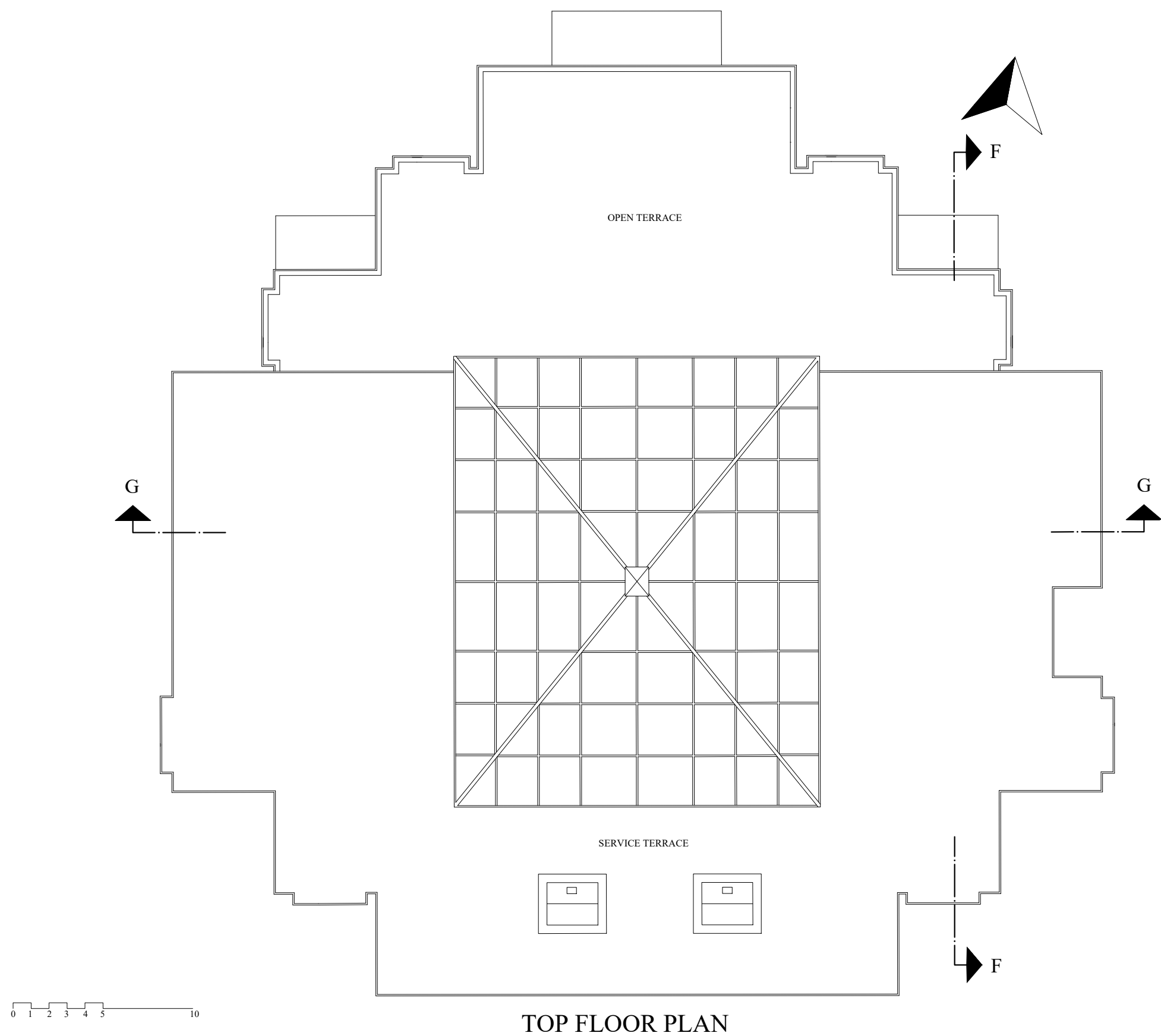
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NATURAL HISTORY MUSEUM

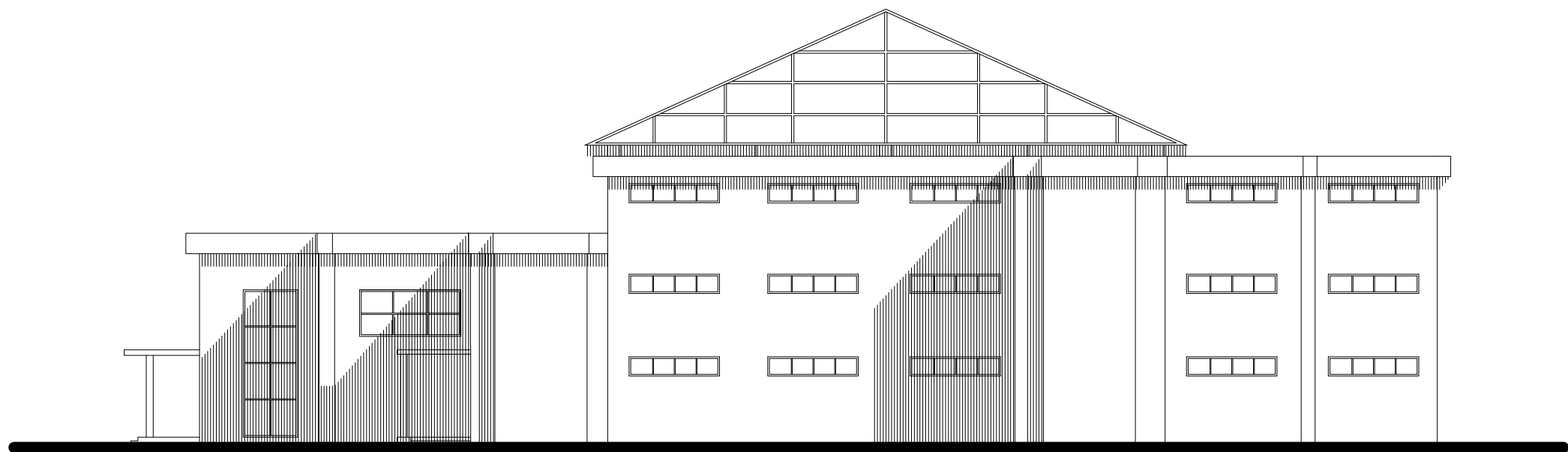


NORTH ELEVATION

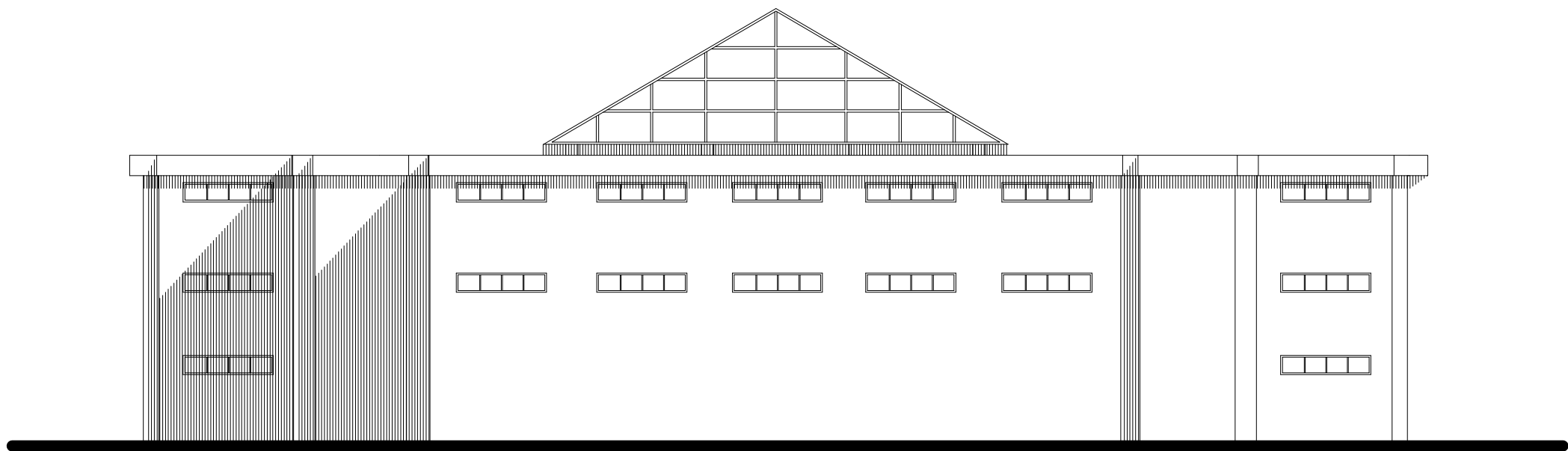


WEST ELEVATION

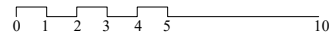
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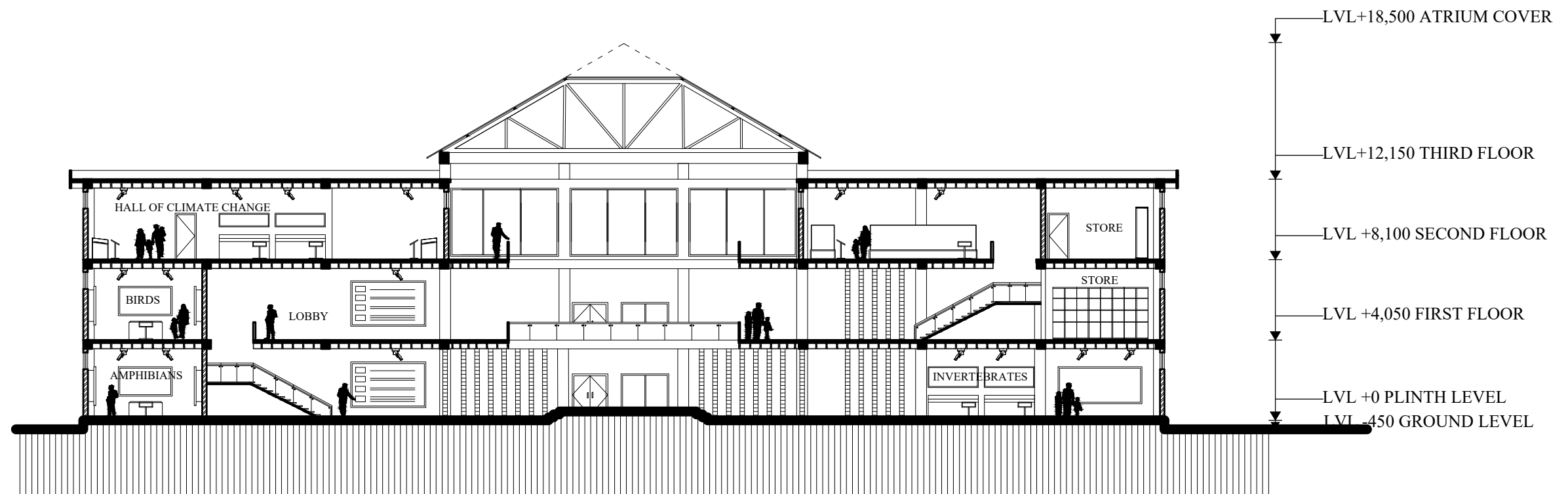
WEST ELEVATION



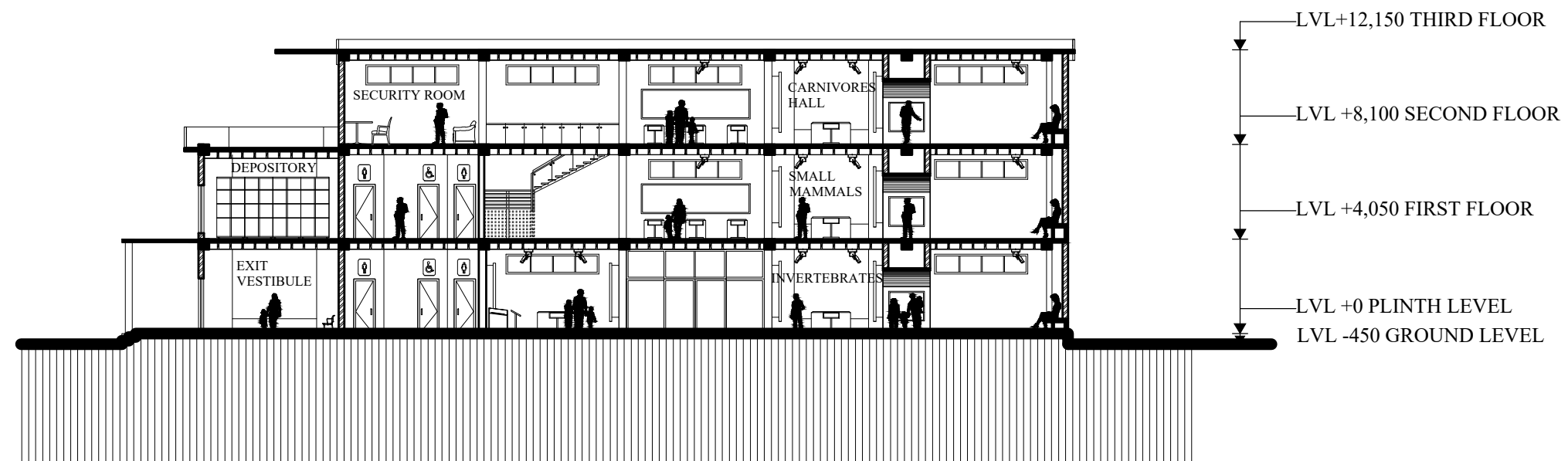
SOUTH ELEVATION



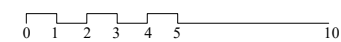
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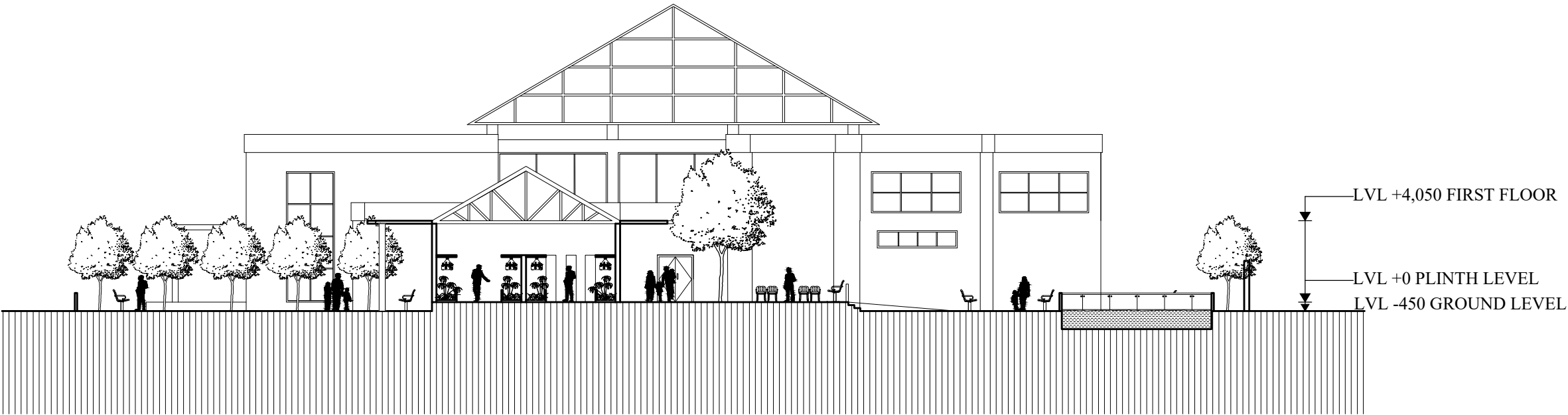
SECTION THROUGH H-H



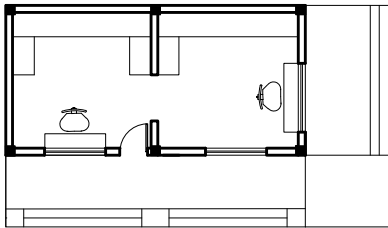
SECTION THROUGH G-G



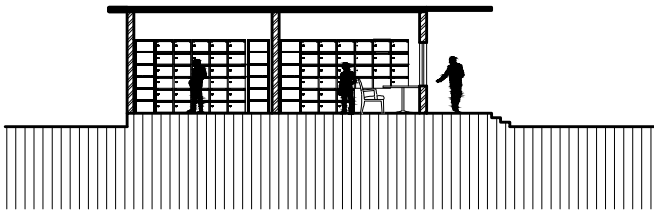
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	B. Arch. Thesis	Roll. No.: 760118		



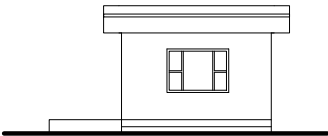
Section Through The Green House



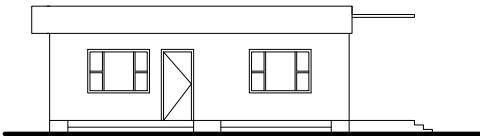
Ticket and Locker Block



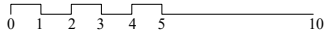
Section Through A-A



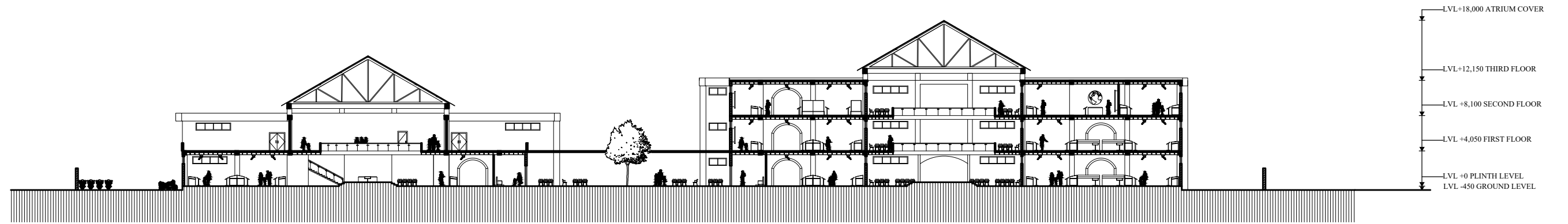
Side (East) Elevation



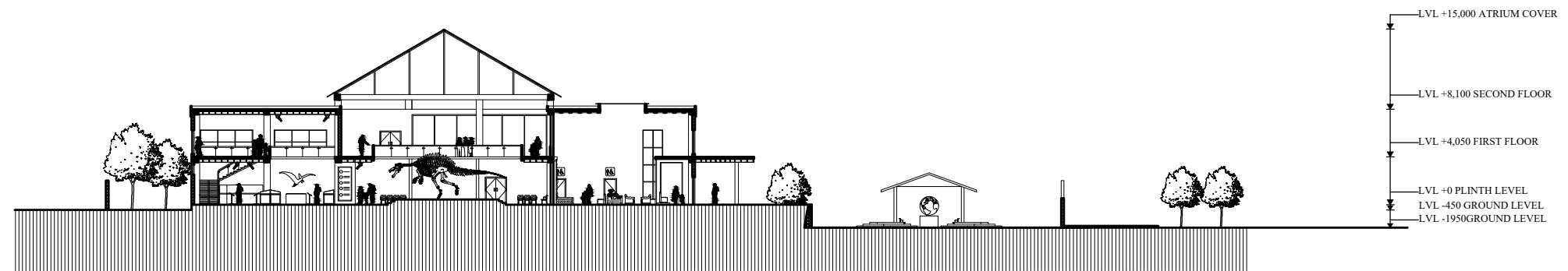
Front (South) Elevation



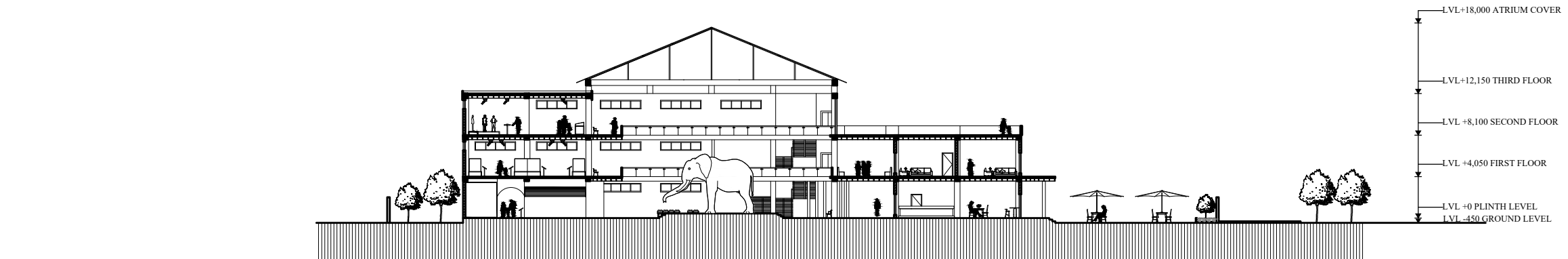
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SECTION THROUGH A-A



SECTION THROUGH B-B



SECTION THROUGH C-C

0 5 10 25

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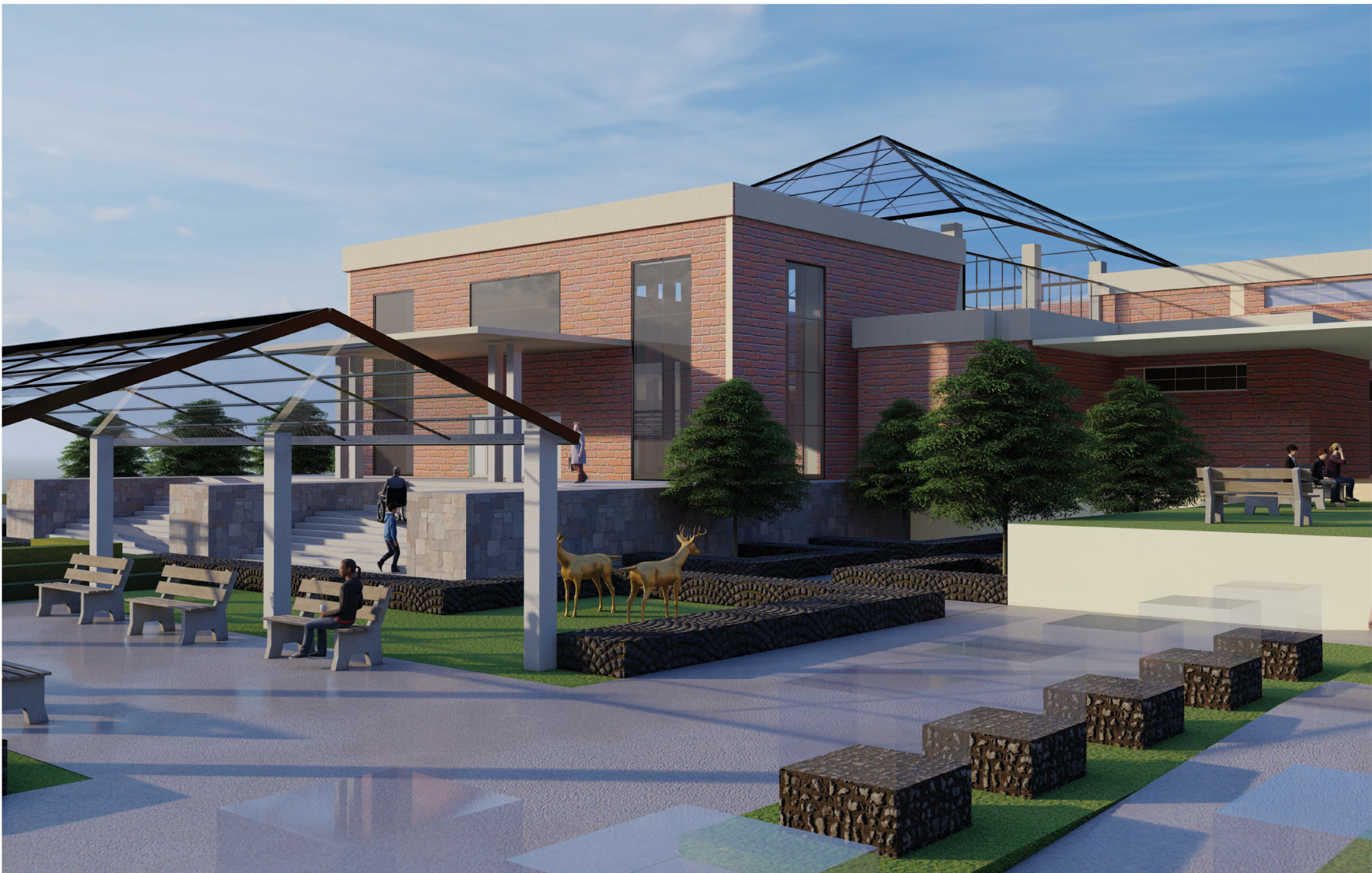
NATURAL HISTORY MUSEUM



VIEW OF EXIT GARDEN AND LECTURE SPILL OUT



VIEW OF STRAMP



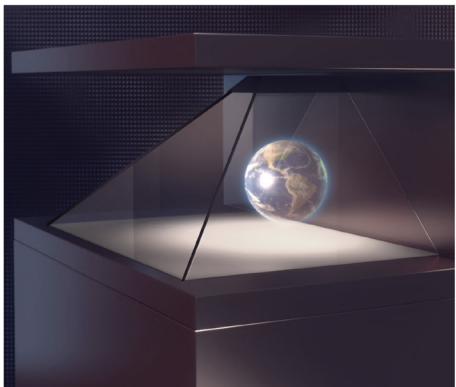
VIEW OF GEOLOGY BLOCK FROM EXHIBITION



TOUCH SCREEN FOR EXHIBIT LABEL



LARGE TABLE TOUCH PANEL



PYRAMID HOLOGRAM



LED HOLOGRAM

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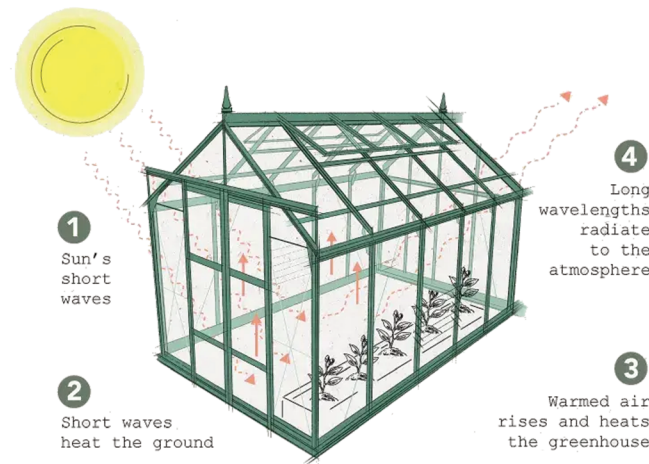
NATURAL HISTORY MUSEUM



VIEW OF THE GEOLOGY TO FAUNA BLOCK



VIEW OF THE OUTDOOR EXHIBITION



GREEN HOUSE DETAILS



VIEW OF THE ENTRANCE PLAZA



VIEW OF THE ATRIUM SPACE

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NATURAL HISTORY MUSEUM



View Of Garden, Pergola And Geology Block



View Of The Museum Front Facade



View Of The Fauna Block and Dinning Spillout



View Of The Ticket and Locker Block



View Of The Overall Museum From Birds Eye View



View Of The Museum Front Facade

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