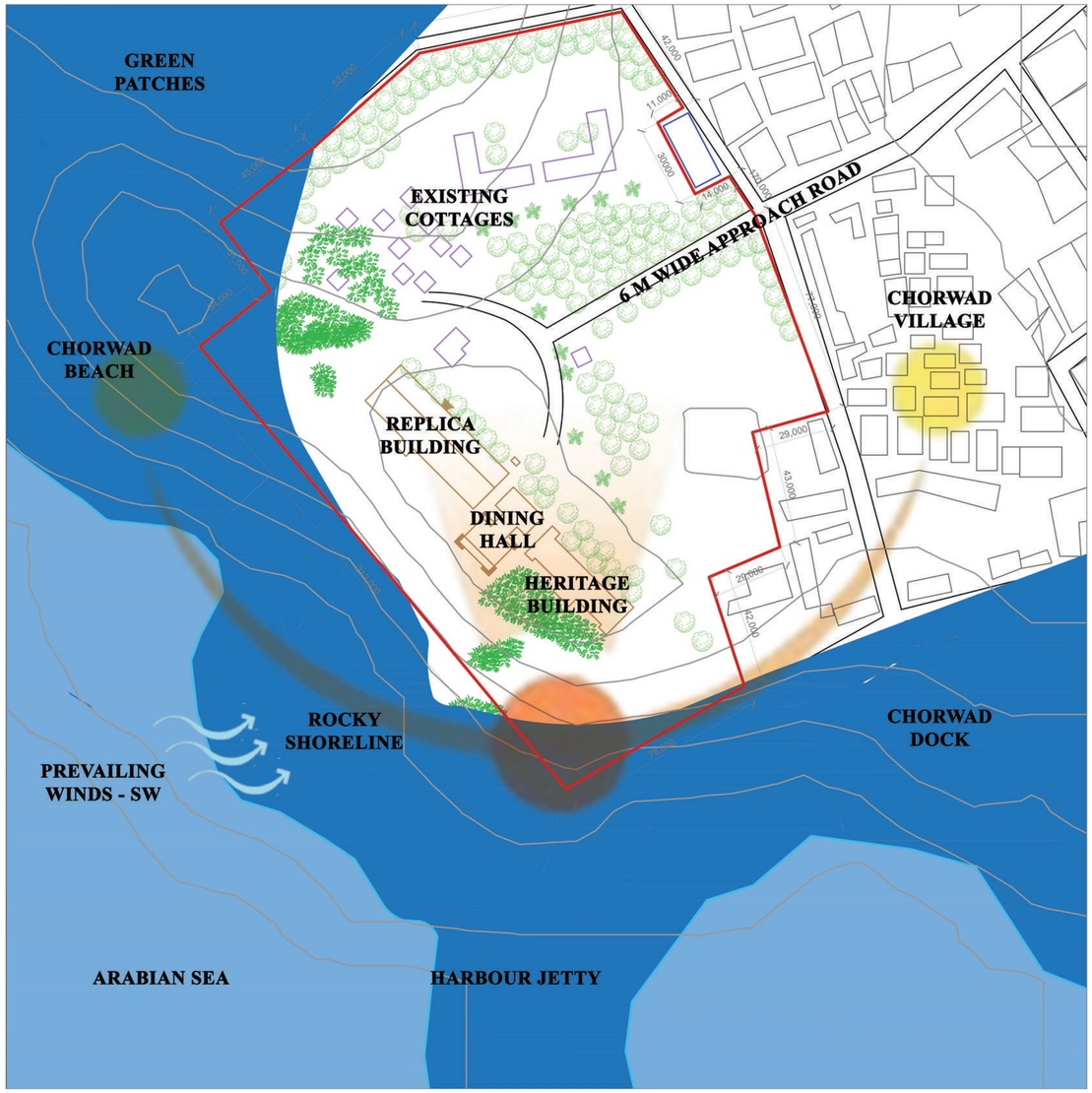
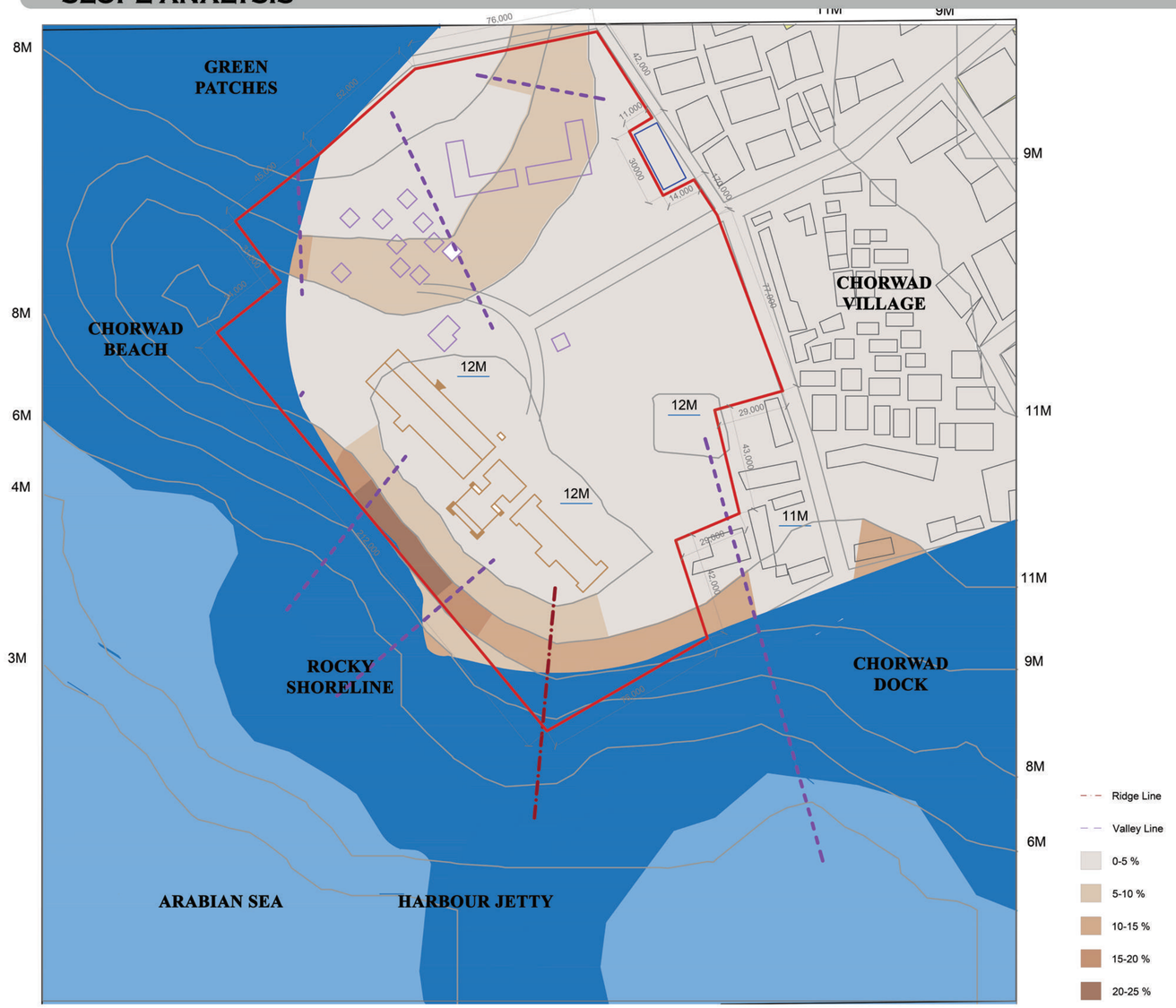
SITE ANALYSIS

SITE PLAN



SLOPE ANALYSIS

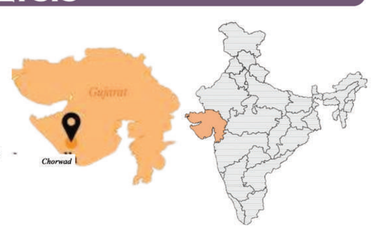


PROJECT BRIEF

Resort at Chorwad, Gujarat
Project: 3-Star Resort + Heritage Conservation of Holiday Home Palace
Client/Authority: Gujarat Tourism Development Corporation (GTDC)
Objective: Promote sustainable coastal tourism, conserve historic palace, support local economy.

LOCATION ANALYSIS

SITE DISCRIPTION
Location: Chorwad, Gujarat, India
Site Area: 48,100 m2
11.88 acres
Site Coordinates: 21.03°N, 70.23°E
Tender Publish Year: 2024
Administrative Region:
Gir Somnath District



BYE-LAWS DATA

Site & Built Form Parameters		Area
Site Area		48,100 m²
FAR (FSI)		1.8
Ground Coverage		65% 31,265 m²
Total Built-Up Area Permitted		86,580 m²
Max Height		10m
Setbacks		
	Front	4.5 m
	Sides & Rear	3 m
Entry/Exit Points		1 (main)
Service Entry Points		1
Between blocks		1/2 height rule

Open Space : 15–20% landscaped green area mandatory.
Fire Safety : Minimum 6 m wide approach road for fire tender access.

EXISTING VEGETATION ON SITE



Coconut Palms
Tall, salt-tolerant, provide shade & windbreak



Casuarina
Natural windbreaks along shore.



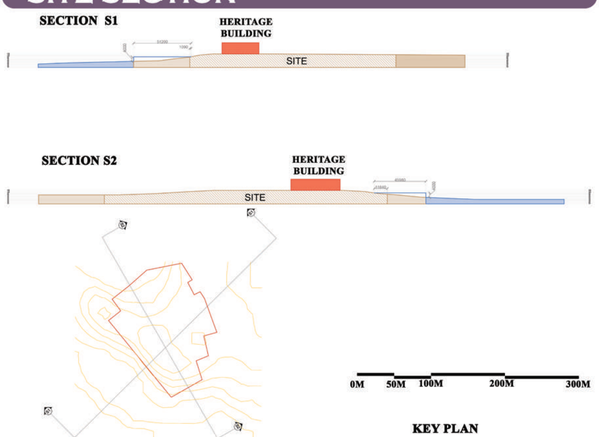
Acacia
Deciduous/Semi-evergreen; dry seasons preferred

Features
Salt-resistant, deep-rooted (prevents erosion), minimal irrigation needs, native habitat for birds.

PROXIMITY & LANDMARKS



SITE SECTION



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CONCEPTUAL DESIGN

"Echoes of the Royal Coast – Heritage Reimagined"

CORE DESIGN PHILOSOPHY

Conserve – Restore the heritage palace with minimal alteration, preserving original details.
Revive – Reintroduce forgotten cultural practices (folk music nights, traditional Kathiawari meals).
Blend – Integrate new resort structures in harmony with heritage and landscape.
Engage – Create spaces for both tourists and locals to interact through culture, crafts, and cuisine.
Sustain – Use local materials, natural ventilation, rainwater harvesting, and native coastal planting.

HISTORY & ARCHITECTURE OF CHORWAD

Chorwad Palace sits on the Arabian Sea coast, built as a seaside retreat for the Nawab of Junagadh in the early 20th century. The region of Saurashtra, and especially Junagadh's ruling class, had exposure to multiple cultural and architectural influences:

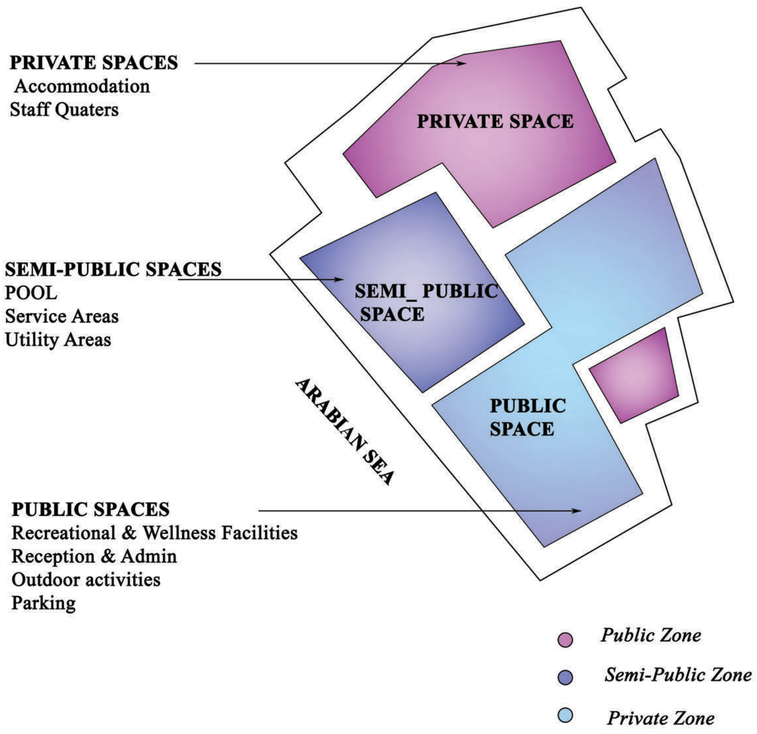
Colonial / European Influence
Arrived via British presence in Gujarat and coastal trade with Europe.
Reflected in symmetry, proportion, verandahs, balustrades, and large windows for sea views.

Islamic (Indo-Islamic / Mughal) Influence
Due to the Nawabs' Islamic heritage and Mughal-style patronage.
Seen in arches, jalis, domes, and intricate geometric ornamentation.

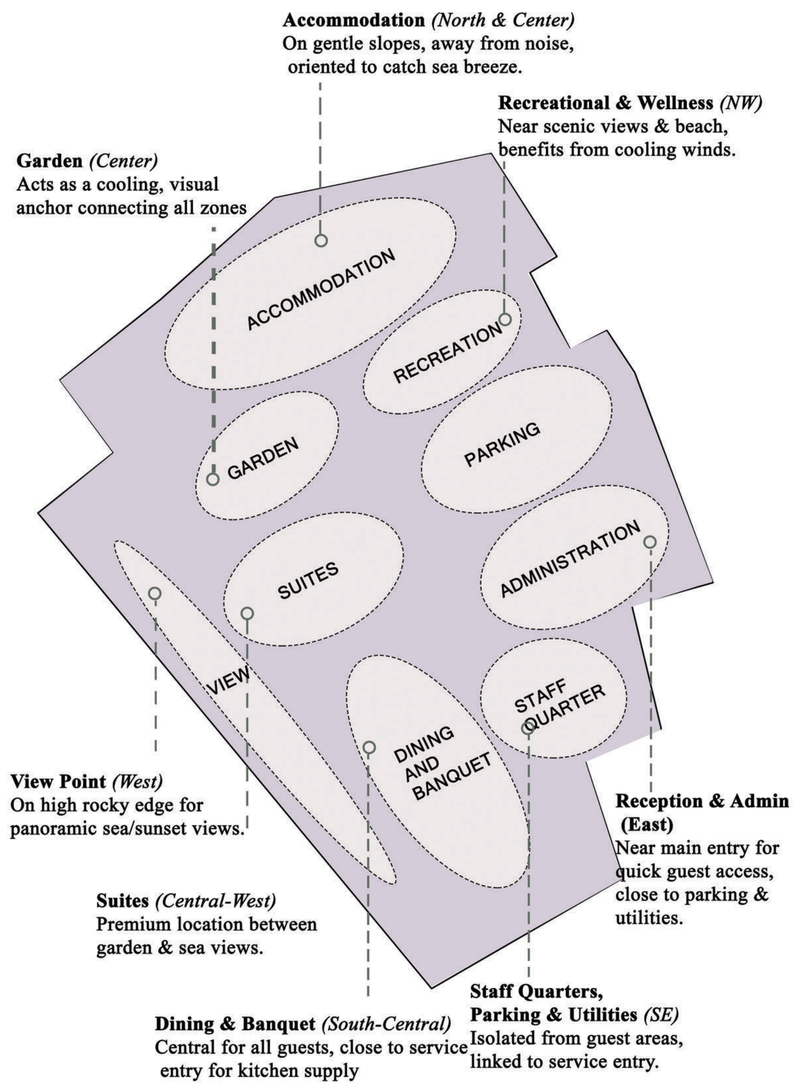
Indo-Saracenic Style
A hybrid style mixing European (Gothic/Neo-Classical) with Indian (Mughal/Rajput) features.
Very common in royal palaces and public buildings of princely states in the late 19th–early 20th centuries.
Chorwad Palace is likely a coastal Indo-Saracenic variant, softened for seaside climate.

ZONING DIAGRAM

Zoning: BAsed on public , semi- public and private areas.
Public Zone: Open to all users (outsiders,guests. staff).
Semi- Public Zone: Includes services, utilities and staff quaters (assessible to staff).
Private Zone: Reserved for resort guests (cottages) & staff.



SPACE ALLOCATION



Accommodation *(North & Center)*
On gentle slopes, away from noise, oriented to catch sea breeze.

Recreational & Wellness *(NW)*
Near scenic views & beach, benefits from cooling winds.

Garden *(Center)*
Acts as a cooling, visual anchor connecting all zones

View Point *(West)*
On high rocky edge for panoramic sea/sunset views.

Suites *(Central-West)*
Premium location between garden & sea views.

Reception & Admin (East)
Near main entry for quick guest access, close to parking & utilities.

Dining & Banquet *(South-Central)*
Central for all guests, close to service entry for kitchen supply

Staff Quarters, Parking & Utilities *(SE)*
Isolated from guest areas, linked to service entry.

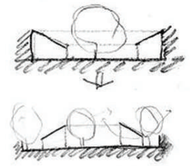
KEY STRATEGIC PRINCIPLES USED

Wind & Climate Orientation – SW prevailing winds harnessed for natural ventilation in guest zones; services shielded from wind exposure.
Topography-Responsive Placement – Steeper slopes left for open/viewing points, flatter zones used for heavy structures.
View Preservation – High-value guest spaces placed along prime sea-view corridors; low-rise forms avoid blocking sightlines.
Privacy Gradient – Public spaces at the periphery (entry side), semi-public in center, private towards sea-facing edges.
Service Segregation – Staff/service circulation fully separated from guest routes.

FEATURES OF HISTORICAL PERIODS

Pre-Palace Era
(Late 19th C)


Local stone walls

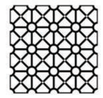

sea-oriented courtyards

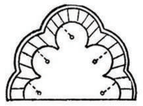
Palace Era
(Early 20th C – Colonial)


balustraded terraces


large arched windows

Islamic Influence


jali screens

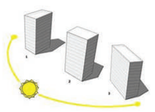

Cusped arches

Indo-Saracenic Influence


carved jharokha balconies

PASSIVE DESIGN STRATEGIES

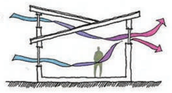
Orientation & Layout



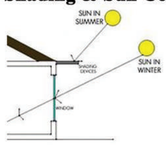
Orient main living/guest spaces to face south-west for sea views while minimizing harsh afternoon sun.
Use north-east orientation for service areas to capture cooler breezes.

Ventilation & Airflow

Large operable windows on windward (sea-facing) side and smaller openings on leeward side for natural cross-ventilation.
Use of verandahs and shaded balconies to buffer interiors from direct heat.



Shading & Sun Control



Deep overhangs, chajjas, and pergolas to block high summer sun.
Coastal Jali screens for diffused daylight without glare.
Vegetation belts (native trees like coconut, neem, and casuarina) as natural sun and wind filters

Thermal Comfort & Materials

Thick local stone walls (Junagadh/Porbandar stone) for thermal mass and temperature moderation.
Lime plaster finish to reflect heat and allow breathability.
Tiled sloping roofs with attic ventilation to reduce heat gain.



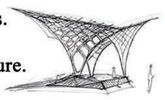
Permeable paving



Rainwater harvesting stepwells integrated into landscape.
Permeable paving for stormwater percolation.
Native coastal planting for soil stabilization and reduced irrigation needs.

Climate-Responsive Open Spaces

Courtyard layouts to create microclimates with shaded central green spaces.
Sea-facing shaded decks for evening cooling.
Open-air pavilions oriented to capture prevailing winds for dining and leisure.



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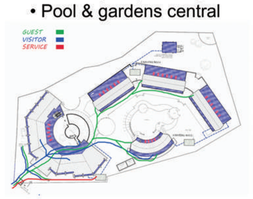
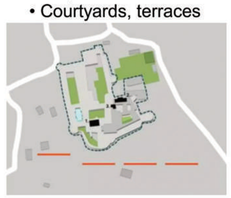
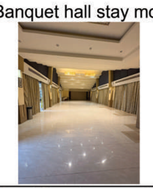
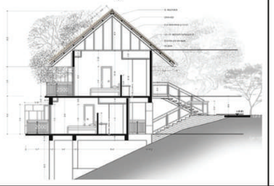
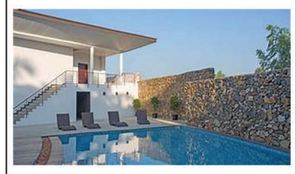
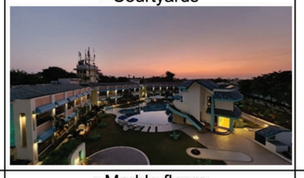
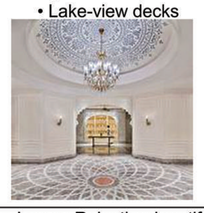
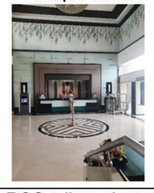
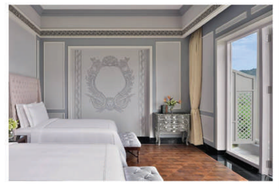
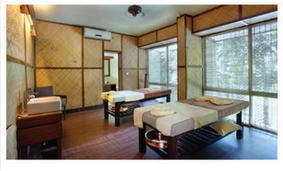
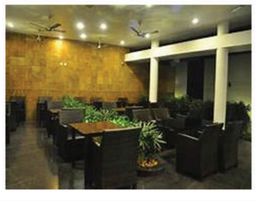
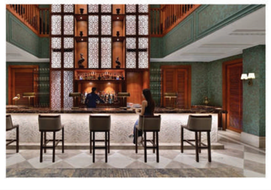
CASE STUDIES

Parameter	Hotel Kohinoor, Diu (Live)	Azzaro Resort & Spa, Diu (Live)	Dusai Resort & Spa (Desk)	Anora Beach Resort (Desk)	RAAS Devigarh (Desk)	Raffles Udaipur (Desk)	Chorwad Resort (Proposed Site)	Design Inference
Site & Location	• 1.3 acres near Nagoa Beach • Opp. Azzaro Resort • Coastal tourism hub	• 2.75 acres coastal site • Near Nagoa Beach & Diu Fort	• 19 acres forested hills • Sylhet, Bangladesh	• 14 acres seafront • Chennai, TN	• Hilltop fort (18th C) • Near Udaipur	• 21 acres, lake island • Udaipur	• 7.4 acres with palace • Arabian Sea frontage	Combine **heritage + seafront advantage**
Climate & Context	• Humid tropical • Strong sea winds • Moderate rainfall	• Coastal, humid • Avg. 560mm rainfall • Windy summers	• Humid subtropical • Heavy monsoon	• Tropical, hot-humid • Sea-facing winds	• Semi-arid • Harsh summers	• Humid subtropical • Monsoon influence	• Composite coastal • Hot summers, humid monsoon	Passive cooling + shaded courts
Site Planning	• Courtyard + pool focus • Central lawn + banquet 	• Courtyard planning • Pool & gardens central 	• Villas scattered in forest • Eco-sensitive zoning 	• Beachfront cottages • Low-rise cluster planning 	• Adaptive reuse of fort • Courtyards, terraces 	• Villas with lake decks • Axis to water views 	• Palace as heritage core • New villa clusters sea-facing	Courtyard + scattered villas
Accommodation	• 62 rooms • Deluxe + suites • Banquet hall stay model 	• 151 rooms • Club rooms + suites • Pool-facing planning 	• 44 villas • Each with private sit-out 	• 86 cottages/rooms • Waterfront cluster 	• 39 suites & villas • Heritage reuse 	• 101 villas/suites • Private pools 	• 45+ cottages (min) • Palace adaptive reuse	Mix heritage suites + cottages
Amenities	• Pool, bar, banquet hall •Discotheque, water park 	• Pool, spa, banquet • Gym, bar, lawns 	• Infinity pool • Cultural pavilion, eco trails 	• Pool, banquet lawns • Beach club, gym 	• Spa, fine dining • Cultural lounge 	• Spa, boating, luxury dining • Banquet halls 	• Spa, café, craft hub • Amphitheatre	Cultural + modern fusion
Architecture	• Portuguese-inspired • Arched windows • Red-tiled roofs 	• Colonial blend • Verandahs + tiled roofs • Courtyards 	• Local stone & bamboo • Sloped roofs 	• Pergolas, terraces • RCC + timber 	• Fort walls, arches, jaalis • Frescoes & courtyards 	• Mughal arches, domes • Lake-view decks 	• Indo-Portuguese arches • Local Kaand stone	Blend arches + verandahs
Interiors	• Bright colonial style • Wooden furniture 	• Marble floors • Antique décor 	• Natural earthy tones • Timber furniture 	• Minimalist palette • Sea-view balconies 	• Heritage fresco & stone 	• Luxury Rajasthani motifs 	• Lime plaster walls • Stone + timber	Coastal + heritage motifs
Materials	• RCC + plaster • Painted exteriors 	• RCC + lime plaster • Terracotta roofs 	• Stone, bamboo, bricks 	• RCC + timber finishes 	• Stone masonry + lime plaster 	• RCC + stone, glass 	• Stone, lime mortar • Timber & kaand stone	Local lime & stone focus

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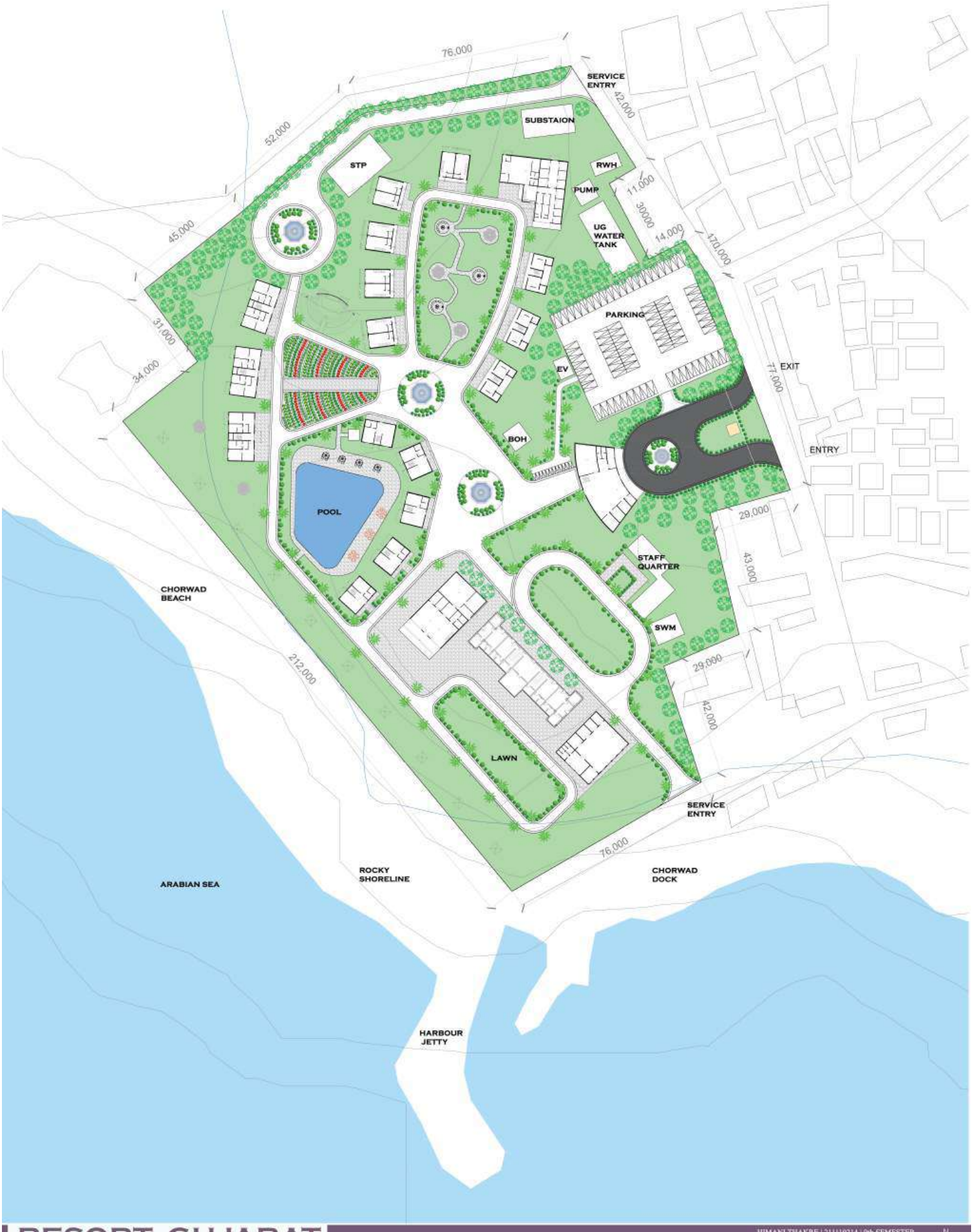
SITE PLAN

SCALE : 1:400



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SITE PLAN

SCALE : 1:600



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EXISTING ANALYSIS

CHORWAD PALACE

Name: Chorwad Palace (Holiday/Daria Mahal)
Location: Chorwad Beach, Junagadh, Gujarat
Built in: 1930s (Nawab of Junagadh)
Style: Italian + Muslim + Colonial (Indo-Portuguese influence)
Status: Abandoned, partially ruined, under TCGL redevelopment proposa



Replica Building



Palace Building

MATERIALS & CONSTRUCTION SYSTEM

Walls: Basalt/Trap stone masonry, lime mortar.
Ornamentation: Kaand limestone detailing, cornices.
Roof: Timber rafters + terracotta tiles (collapsed).
Floors: Marble (some), timber beams (failed).
Finishes: Lime plaster, decorative iron grilles, stained glass (lost).









BYELAWS & REGULATIONS

- CRZ 2019 :
  - NDZ 200m → only restoration, no new construction.
  - Beyond 200-500m → new resort infra allowed (FSI ≤ 0.33, max 9m G+1).
- Heritage Conservation :
  - No change in façade/plinth/exterior.
  - Interiors can be adaptively reused.
  - Use authentic materials (lime, stone, timber).
- TCGL Tender :
  - Mandatory: 45 rooms/cottages, ₹5 Cr reserved for palace restoration.
  - Optional: Spa, banquet, cultural pavilion.
- NBC 2016 (Heritage provisions):
  - Minimum intervention, reversibility, authenticity.

RESTORATION STRATEGIES

- Structural Works:
  - Roof reconstruction with timber truss + terracotta tiles.
  - Crack stitching, lime grout injection in stone walls.
  - Replace decayed timber beams with treated local timber.
- Material Conservation:
  - Lime plaster re-application on walls.
  - Cleaning & repointing of stone masonry.
  - Anti-corrosion treatment for iron grilles.
- Finishes & Interiors:
  - Restore marble floors, verandah railings.
  - Adaptive reuse: halls reception/museum, verandahs café, upper floors heritage suites.
- Services Integration (Reversible):
  - Concealed electrical conduits, AC ducts.
  - New plumbing in service shafts.
  - Fire safety & accessibility upgrades (ramps/lifts discreetly).

SWOT ANALYSIS

S
- Iconic coastal heritage, unique Indo-Portuguese architecture.
- Solid stone-lime structure still intact.
- Sea-view location, tourist potential

W
- Roof collapse, timber damage, plaster peeling.
- No utilities, unsafe interiors.

O
- Adaptive reuse museum, café, heritage suites.
- State funding (₹5 Cr) + eco-tourism boost.
- Cultural branding advantage

T
- Salt-laden winds accelerate decay.
- Monsoon flooding & erosion.
- Strict CRZ restrictions.

EXISTING DOCUMENTATION



Existing Cottages



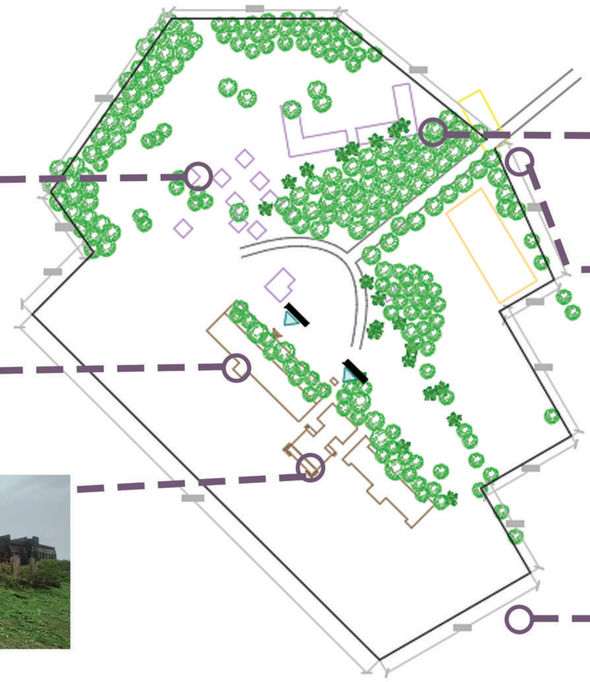
Arabian Sea



Replica Building



Dining Hall





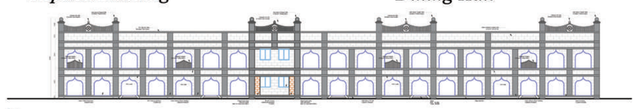
Existing Vegetation



Entrance to Site



Fishing Hub



Elevation E1



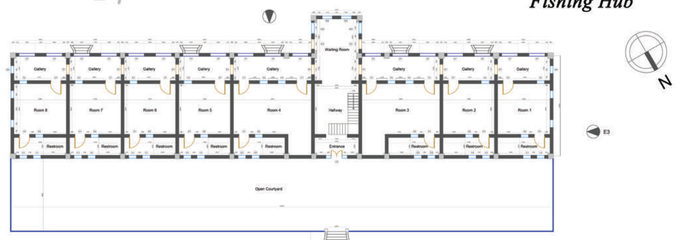
Elevation E2



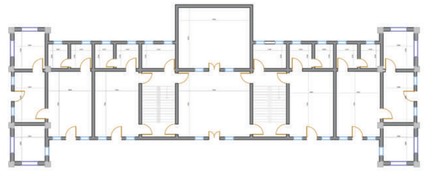
Elevation E3



Details



Replica Building



Heritage Building - Palace



Dining Hall

MATERIALS & CONSTRUCTION SYSTEM

- Roof collapse - exposure to rain, loss of shading.
- Cracks in stone masonry (weathering, vegetation growth).
- Peeling plaster, salt efflorescence due to coastal winds.
- Corroded iron fittings, broken timber beams.
- Unsafe interiors, debris in many halls.





SOIL & DISASTER ANALYSIS

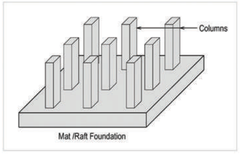
Soil Type
Sandy Loam with Coastal Alluvium –
Good drainage but low bearing capacity



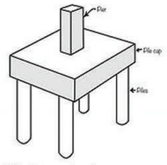
Disaster-Prone Analysis
Cyclones & High Winds – From Arabian Sea (especially during monsoon).
Coastal Flooding & Storm Surge – During extreme weather.
Salt-Laden Air Corrosion – Affects metals and concrete.

Proofing / Mitigation Ideas
Elevated plinths & floor levels (≥1 m above highest tide mark).
Cyclone-resistant roofing (anchored trusses, sloping away from sea).
Use corrosion-resistant materials (galvanized steel, treated timber).
Stormwater drainage towards sea with backflow preventers.
Plant Casuarina/palm belts as natural wind barriers

FOUNDATION TYPE



Raft Foundation
For uniform load distribution on low-bearing sandy soil.



Pile Foundation
For heavy loads, extending to deeper firm strata

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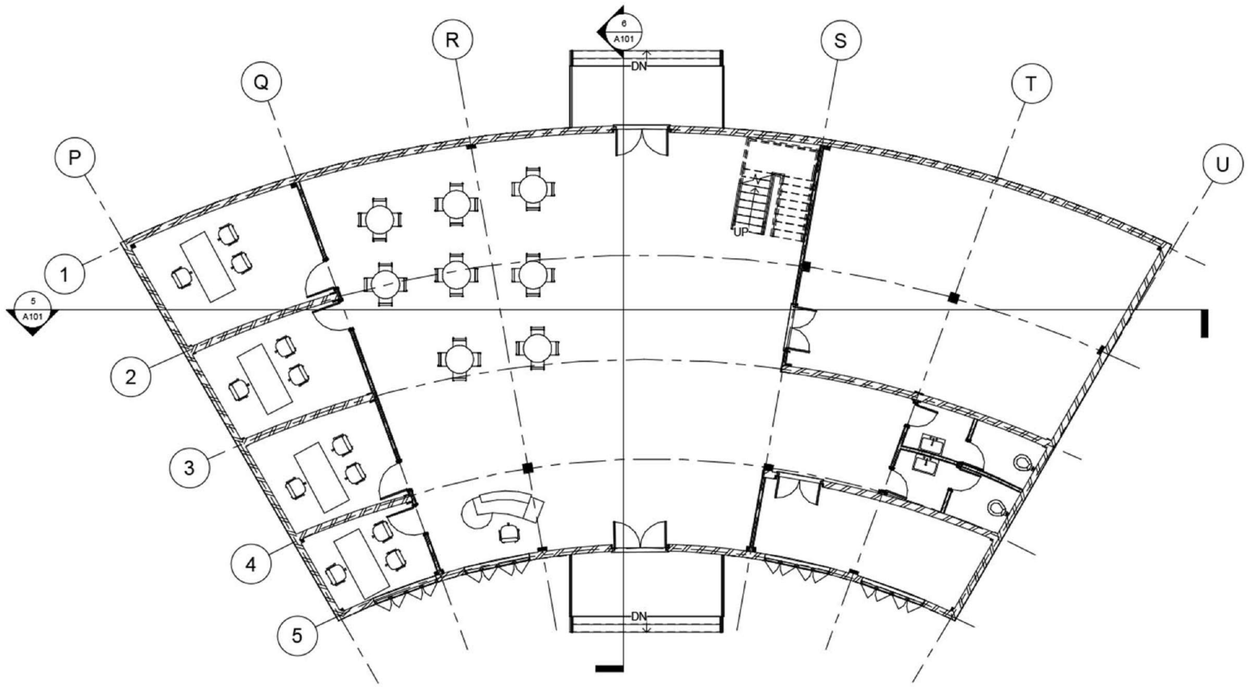
HIMANI THAKRE | 211110214 | 9th SEMESTER
Thesis Guide: Ar. SAVITA S RAJE

N

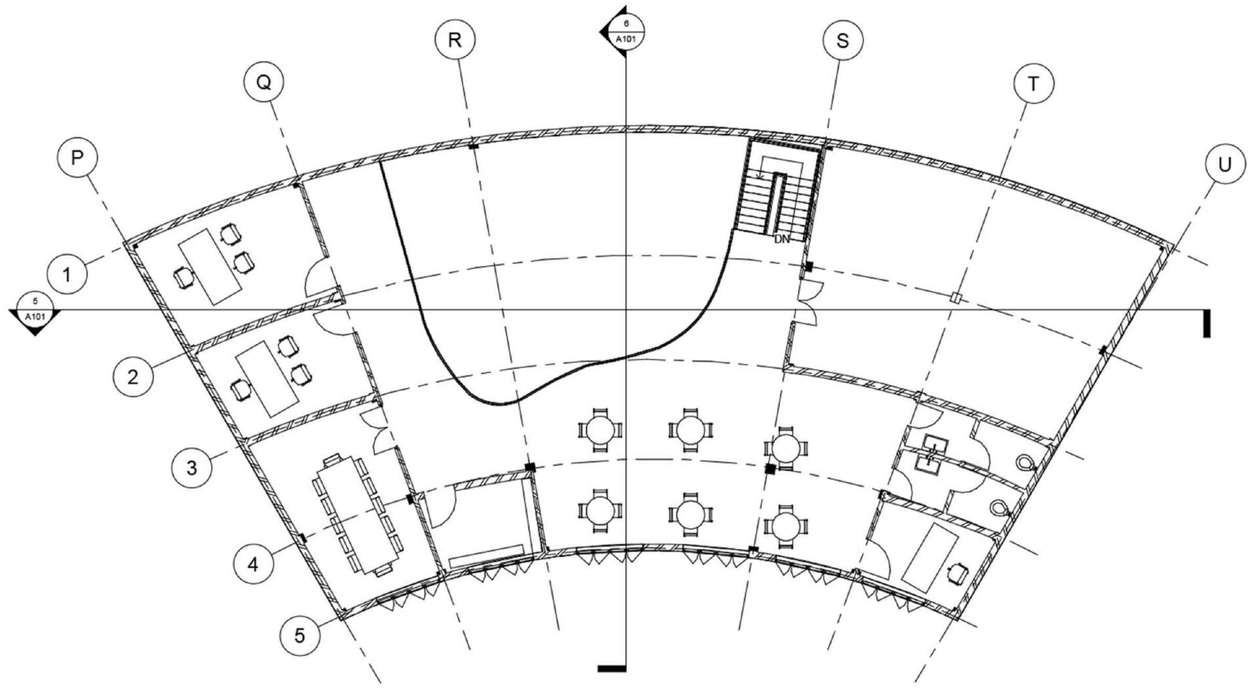
ADMINISTRATION BLOCK

SCALE : 1:100

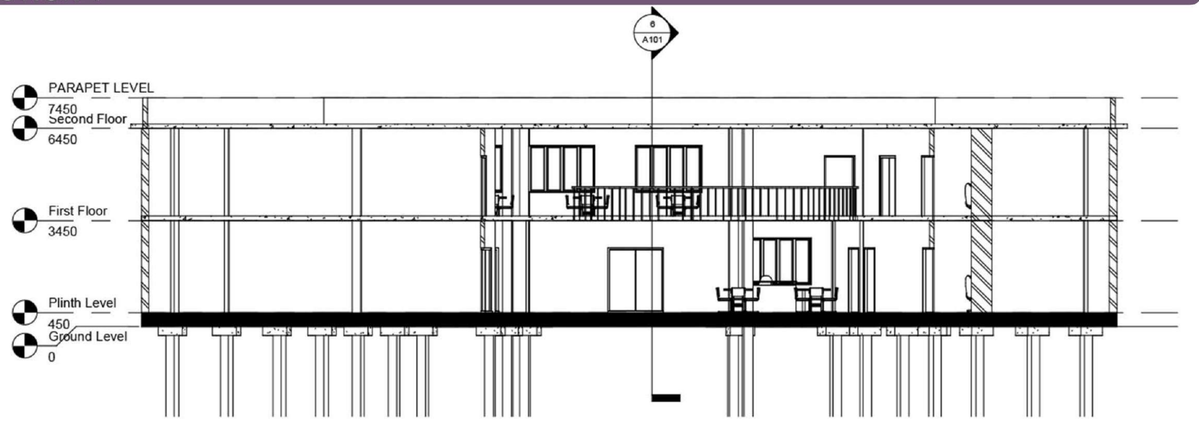
GROUND FLOOR PLAN



FIRST FLOOR PLAN



SECTION 1



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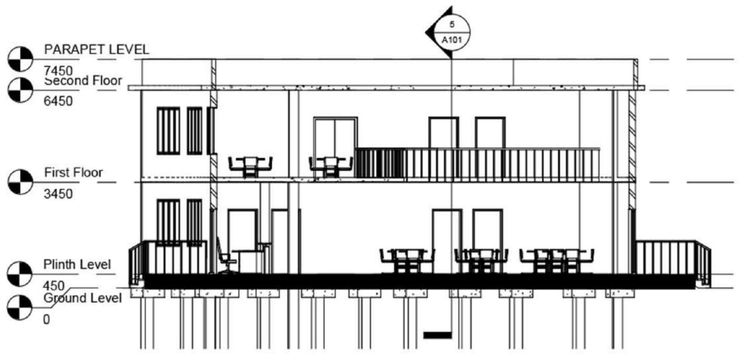
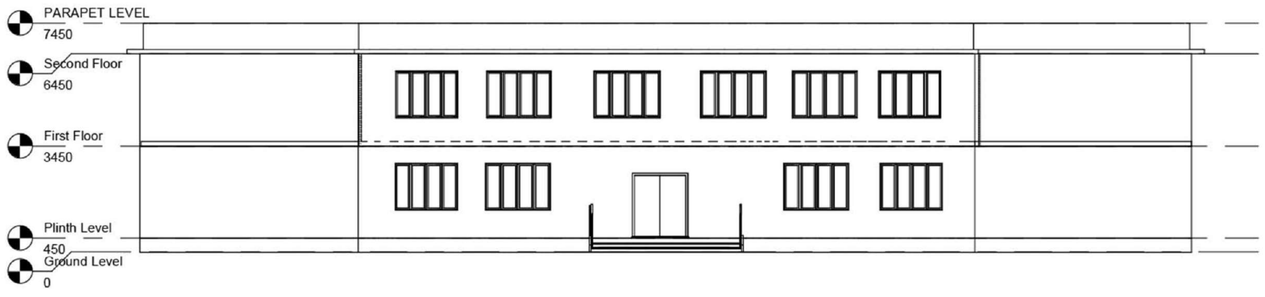
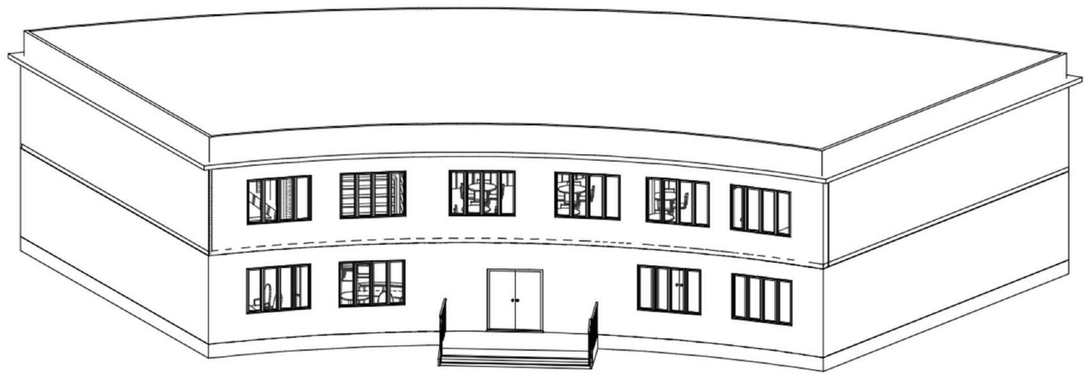


FRONT ELEVATION



VIEW



RESORT, GUJARAT

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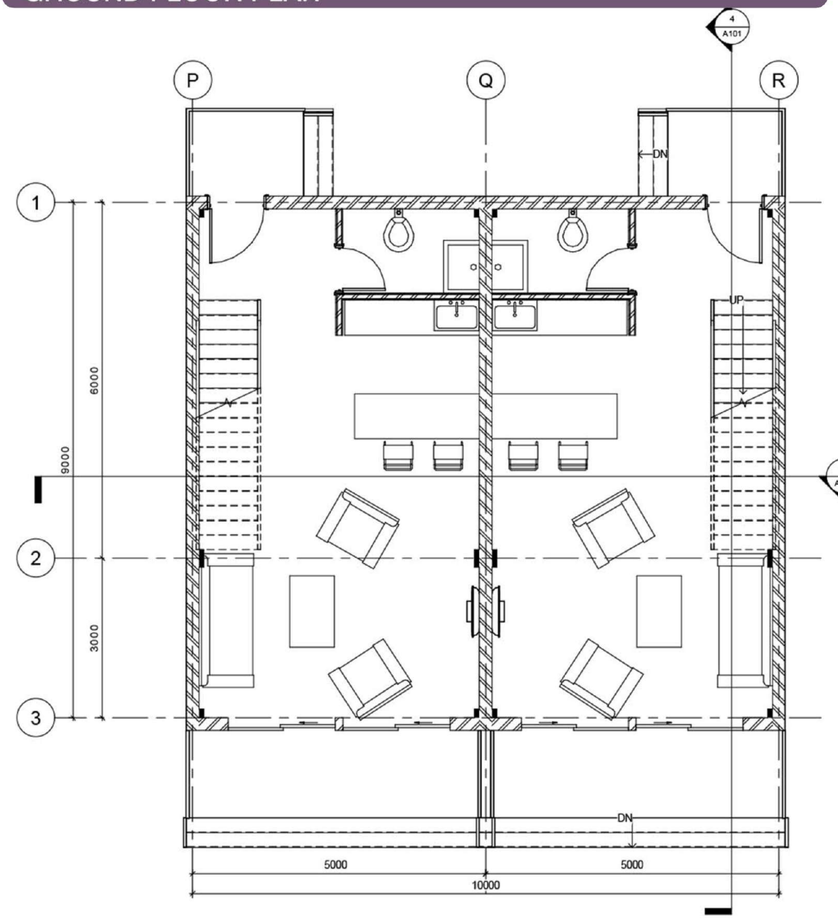
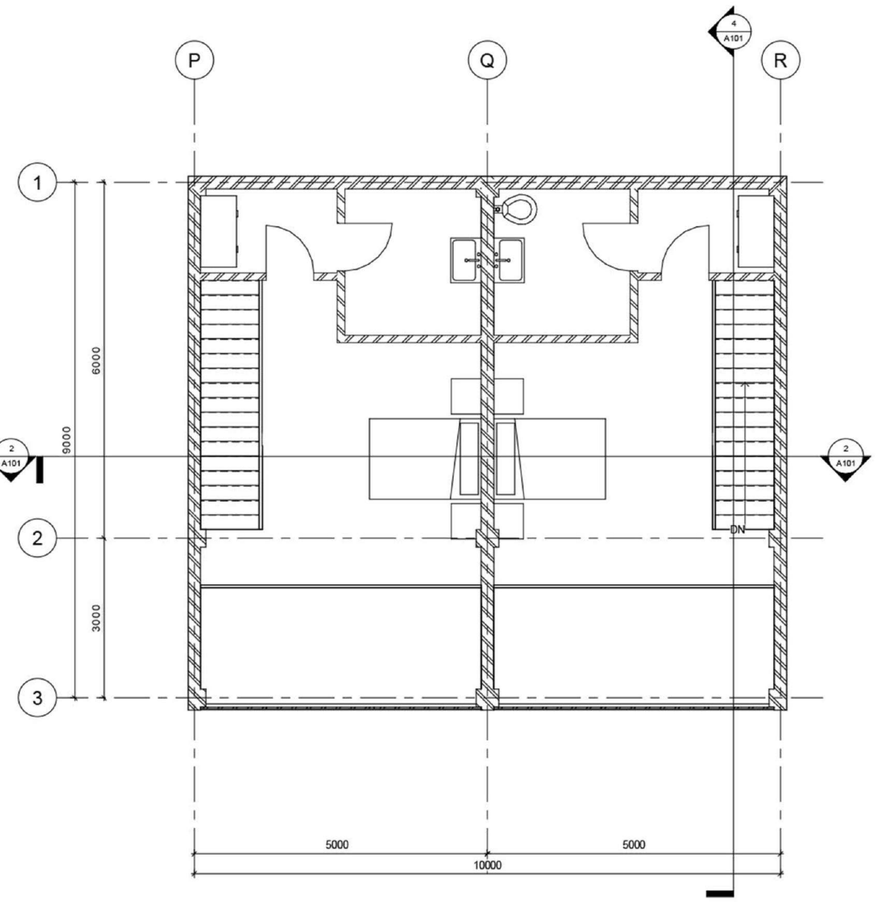
DELUXE COTTAGE

SCALE : 1:50

GROUND FLOOR PLAN



FIRST FLOOR PLAN



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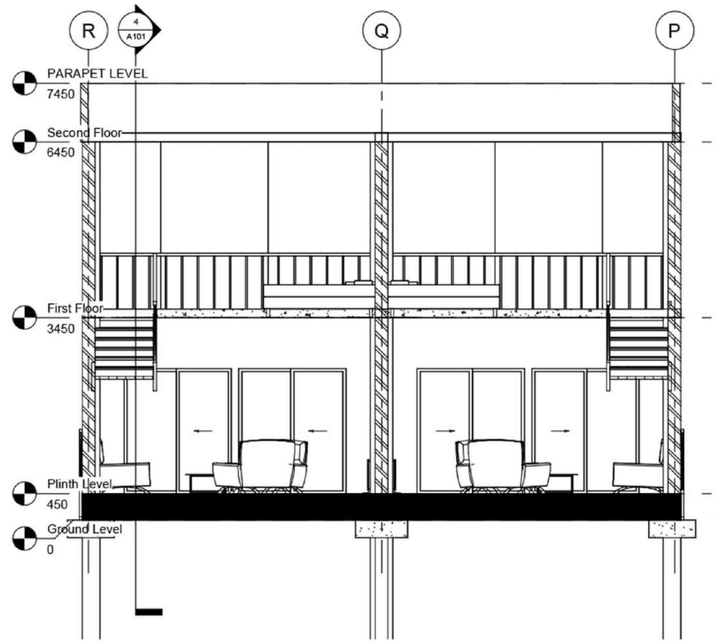

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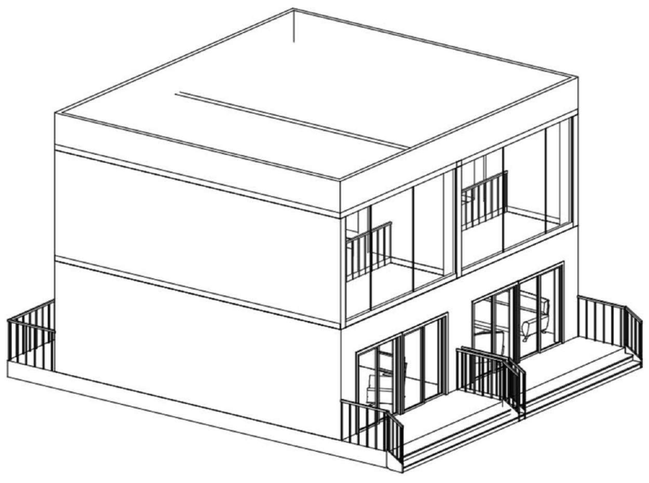
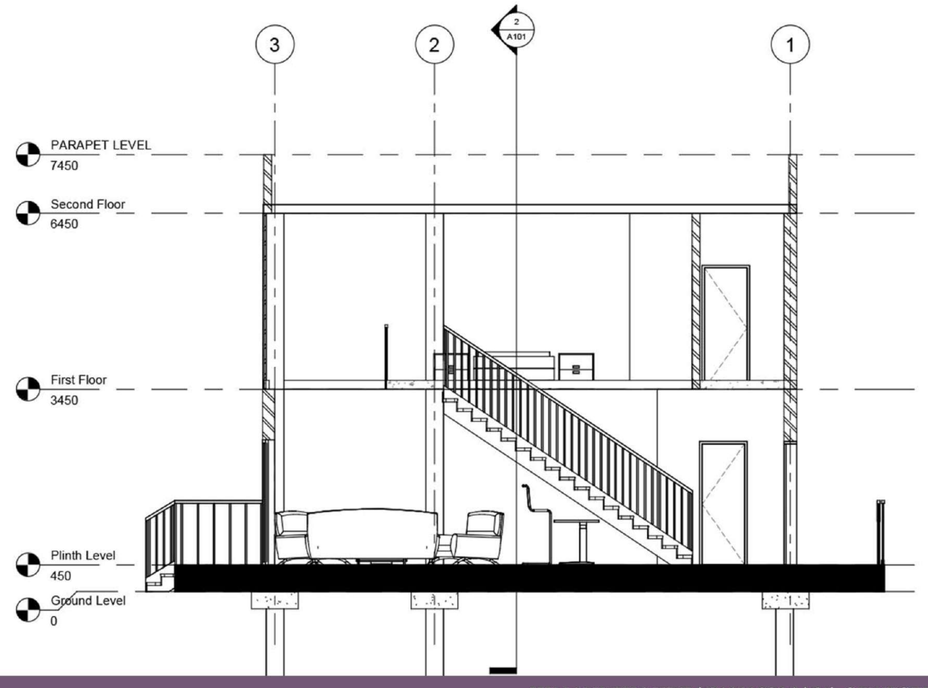


ELEVATION



SECTION 2



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HIMANI THAKRE | 211110214 | 9th SEMESTER
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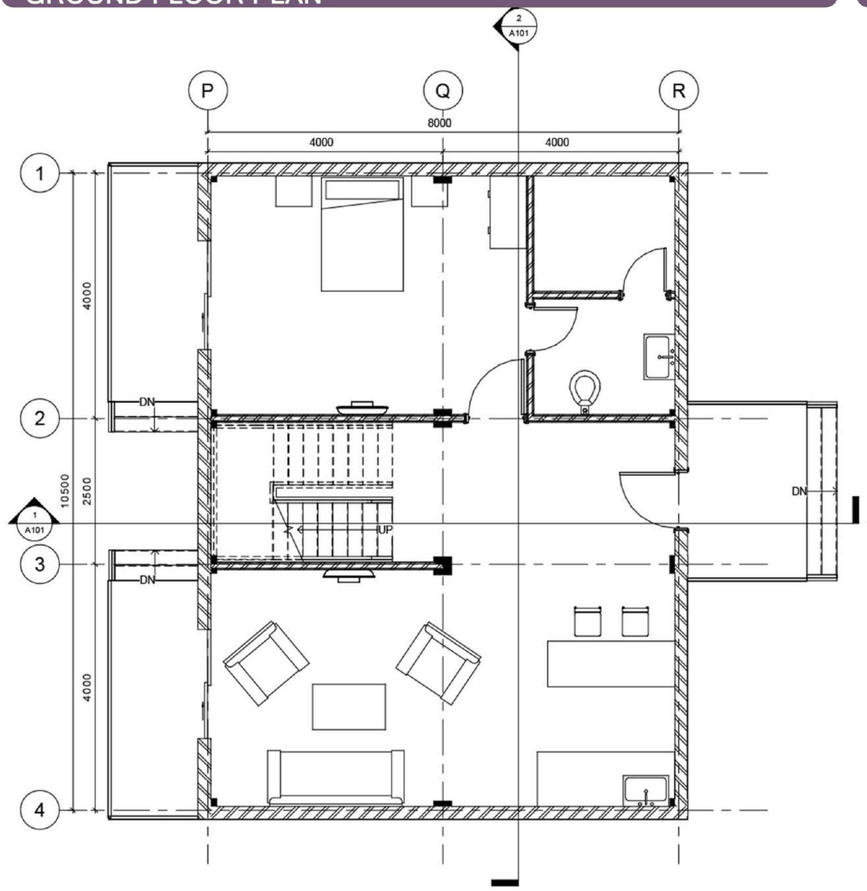
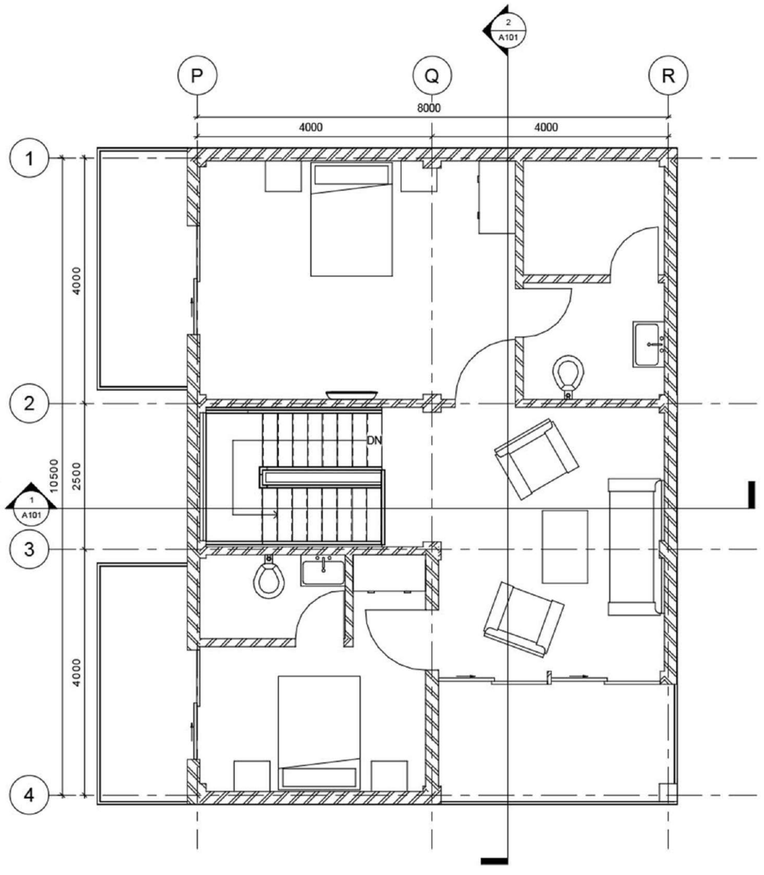
FAMILY COTTAGE

SCALE : 1:50

GROUND FLOOR PLAN



FIRST FLOOR PLAN



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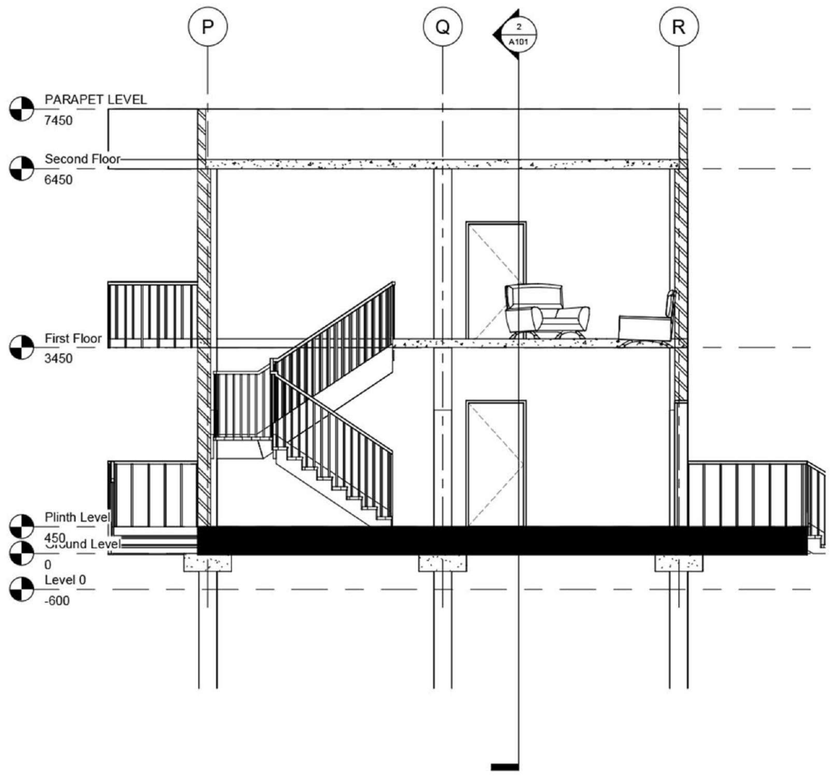

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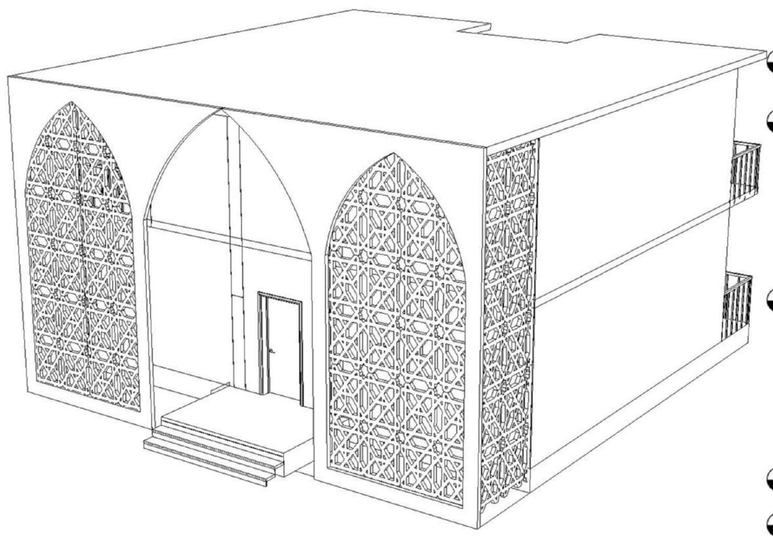

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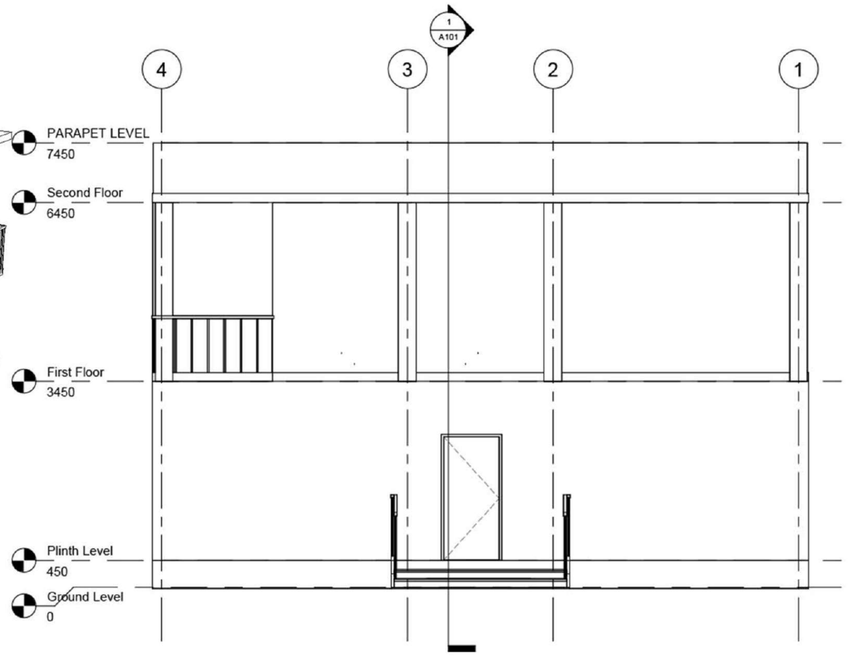

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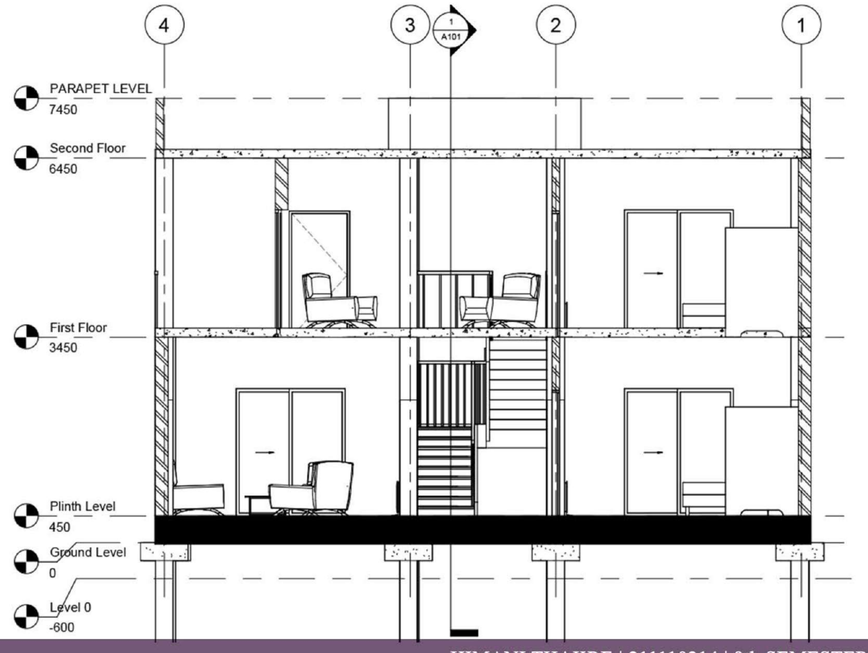

RESORT, GUJARAT

HIMANI THAKRE | 211110214 | 9th SEMESTER
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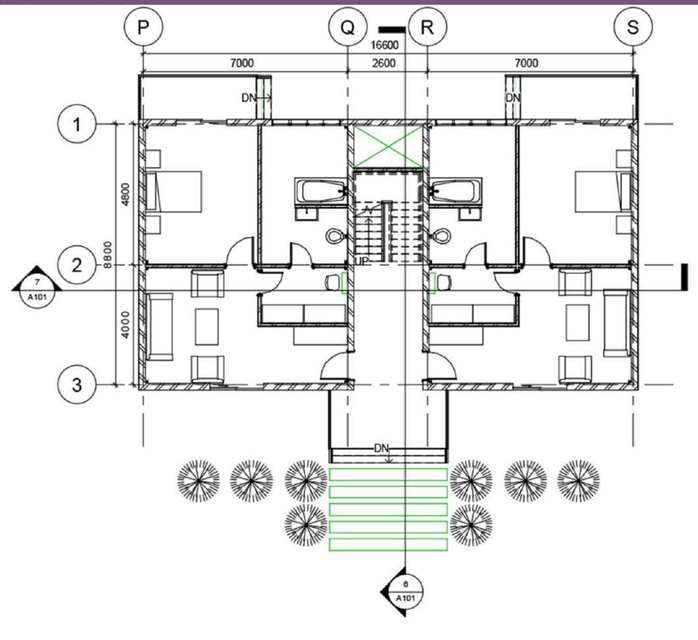
SUITE TYPE COTTAGE

SCALE : 1:100

GROUND FLOOR PLAN



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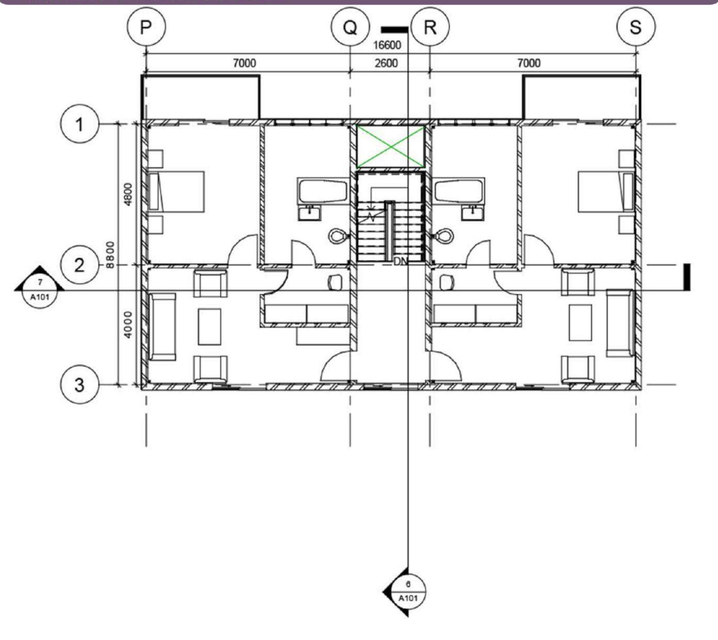
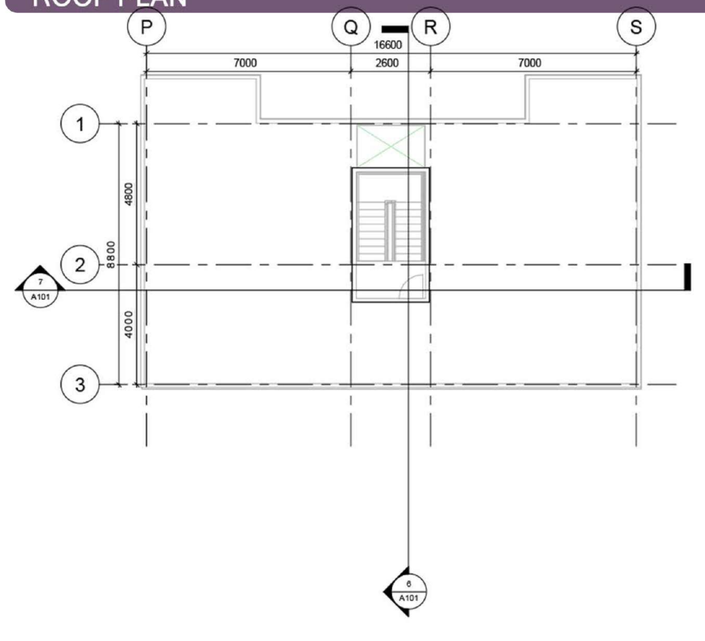


ROOF PLAN



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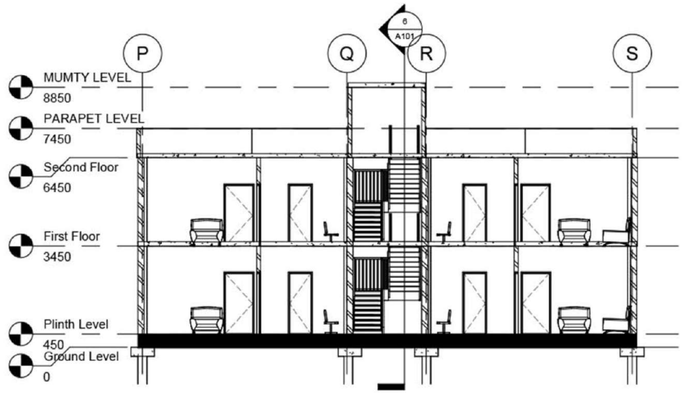

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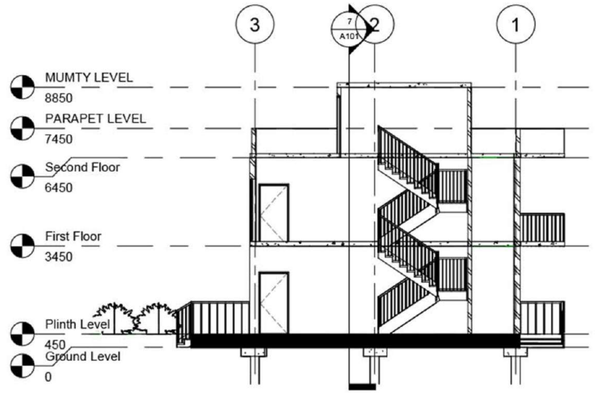

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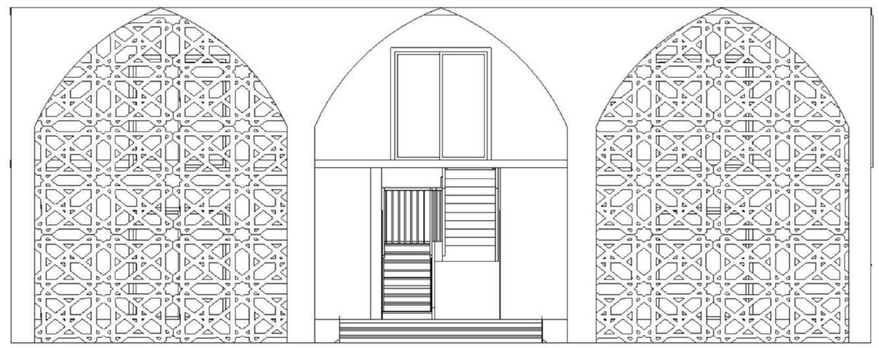

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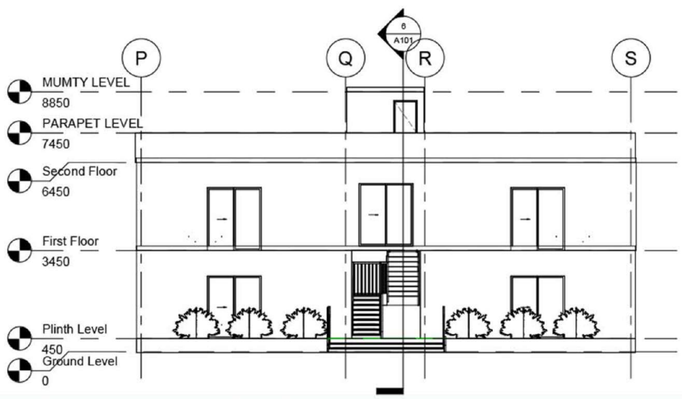

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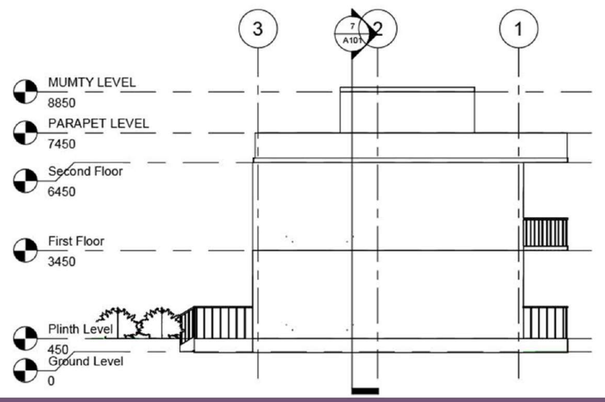

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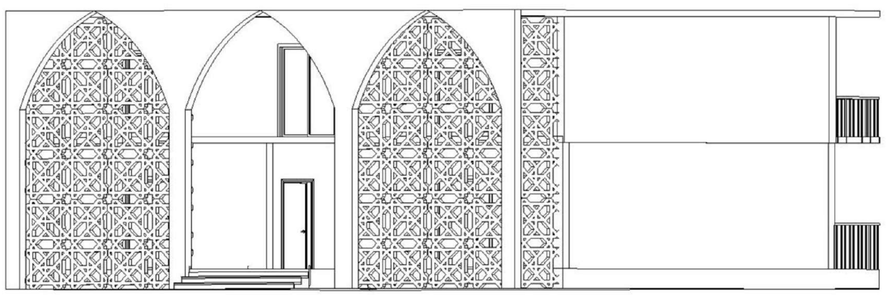

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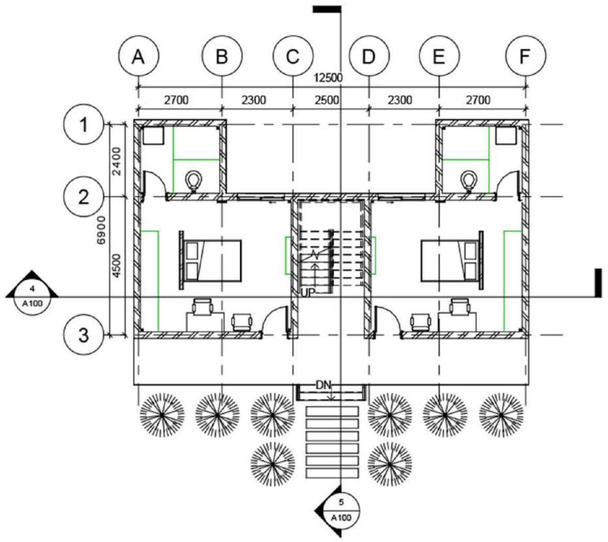
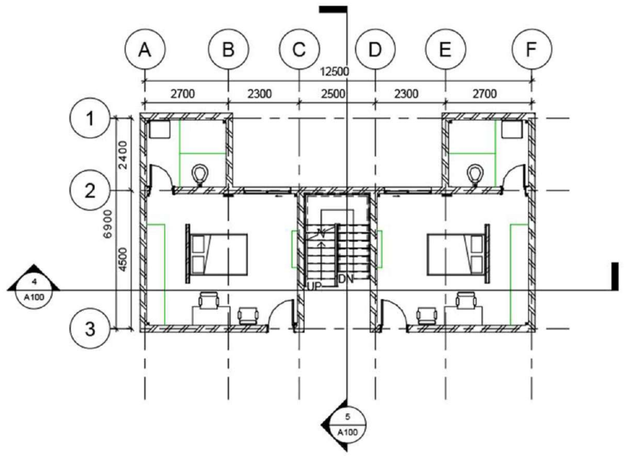
STANDARD COTTAGE

SCALE : 1:100

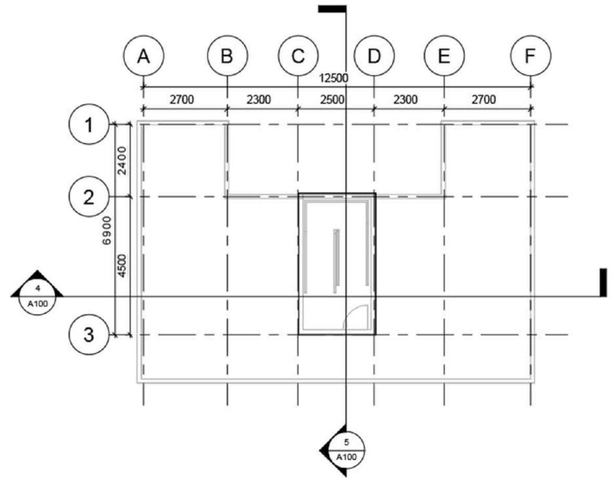
GROUND FLOOR PLAN



FIRST FLOOR PLAN



ROOF PLAN



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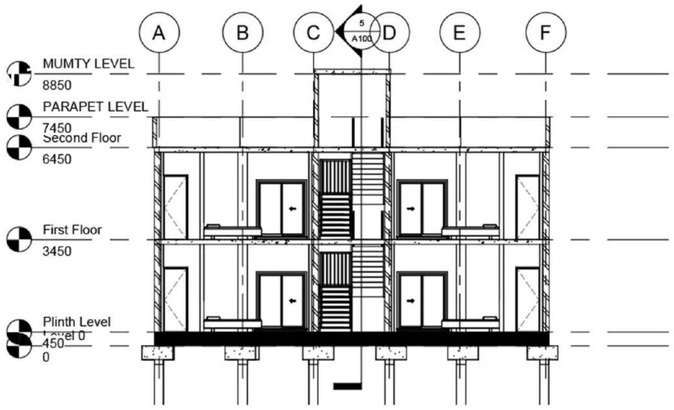

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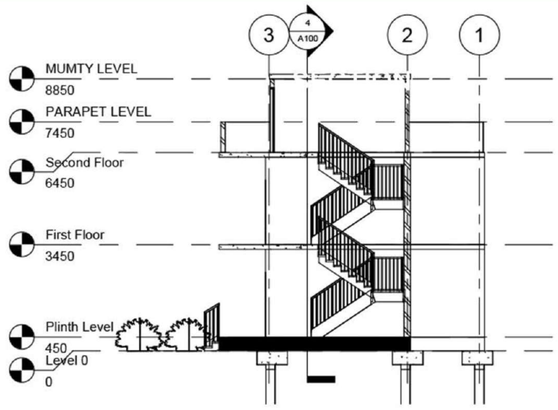

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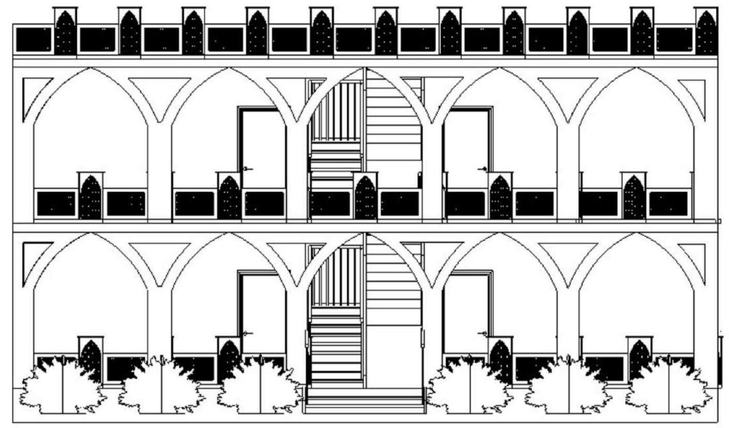

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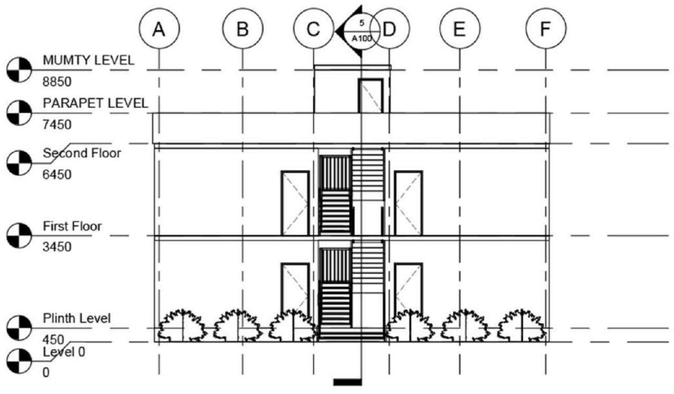

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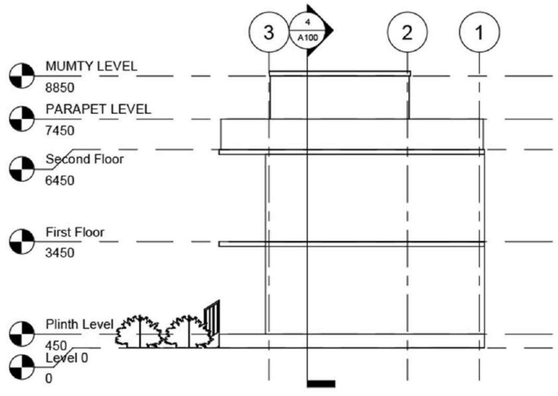

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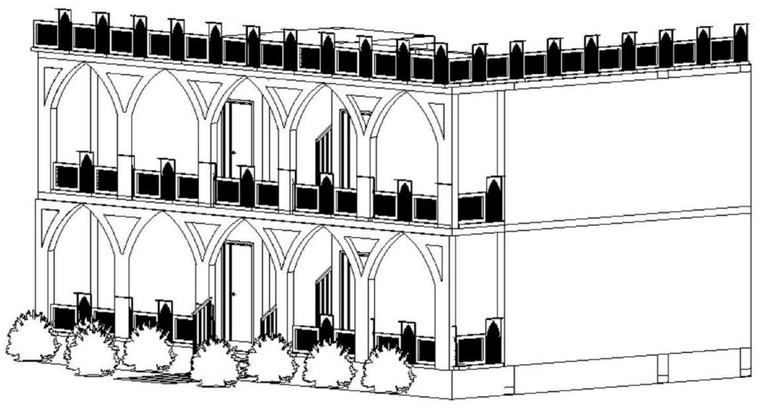

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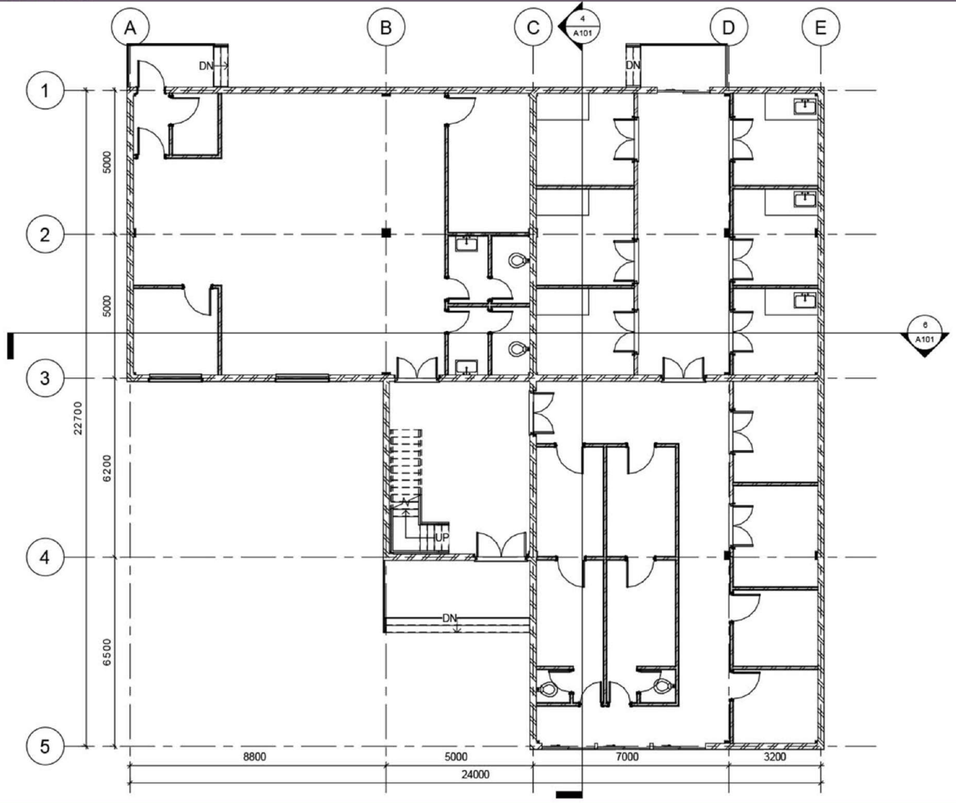
Thesis Guide: Ar. SAVITA S RAJE

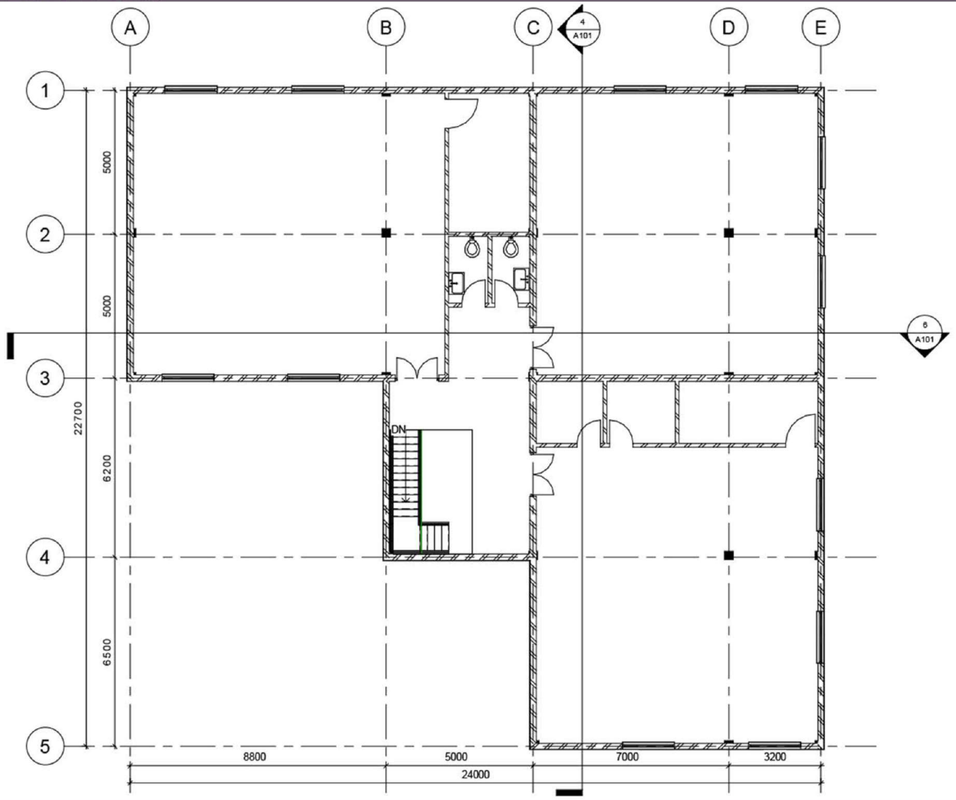
WELLNESS CENTRE

SCALE : 1:100

GROUND FLOOR PLAN



FIRST FLOOR PLAN



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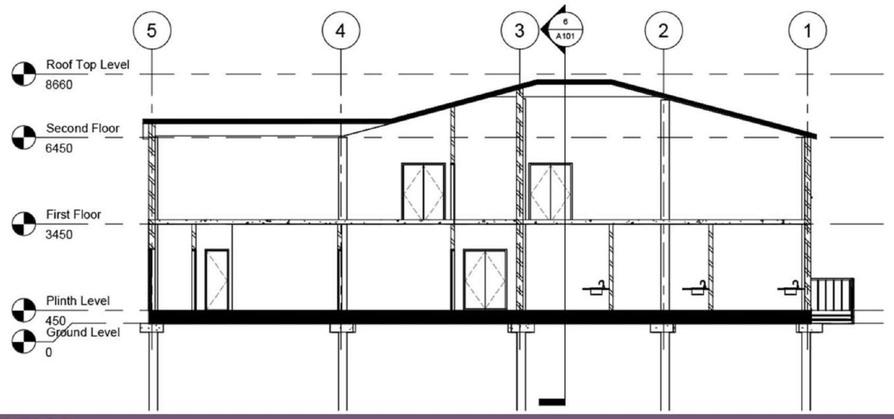

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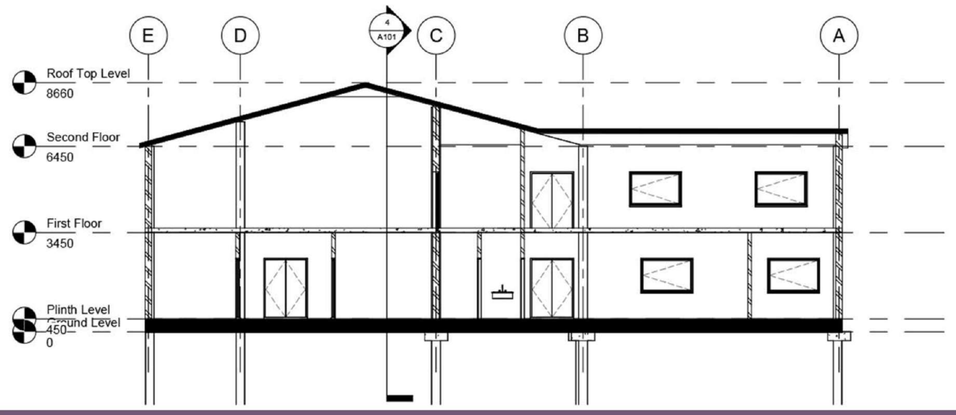
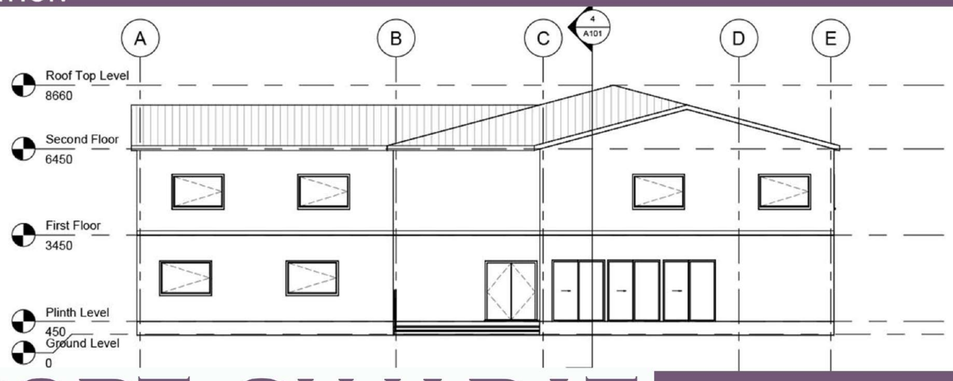


FRONT ELEVATION



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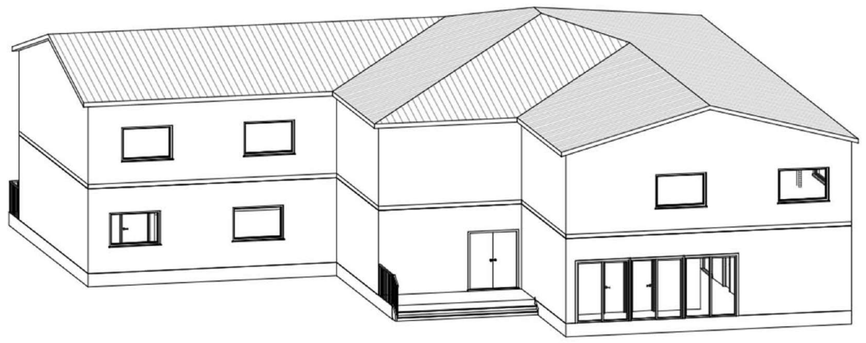

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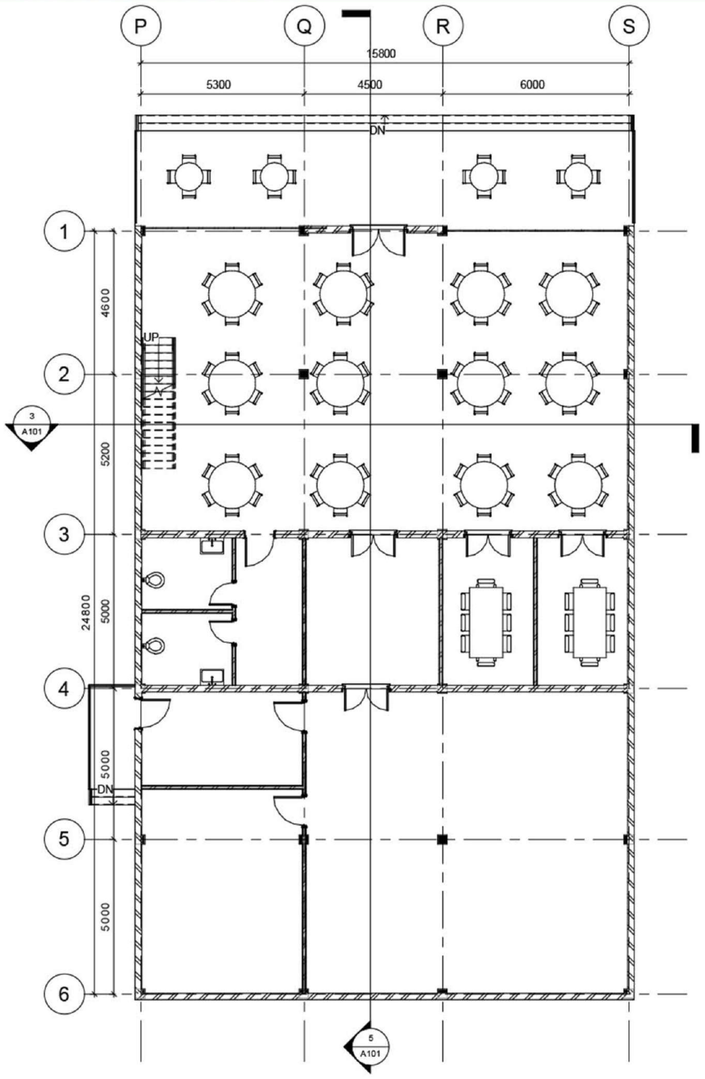
DINING HALL

SCALE : 1:100

GROUND FLOOR PLAN



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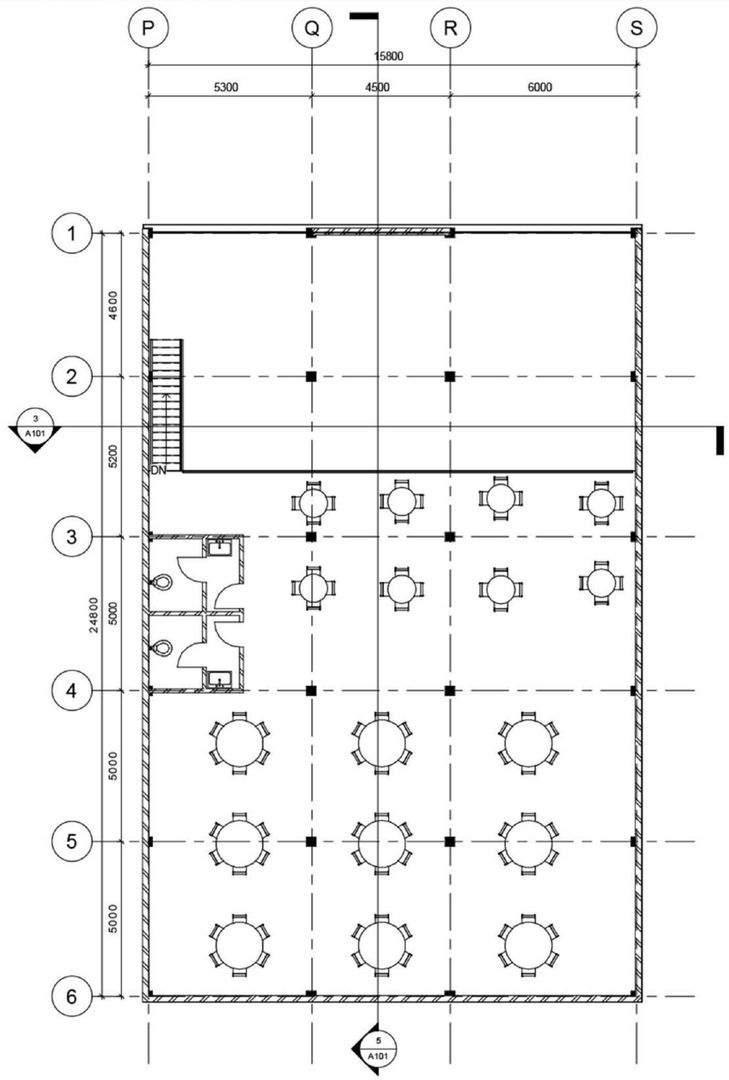
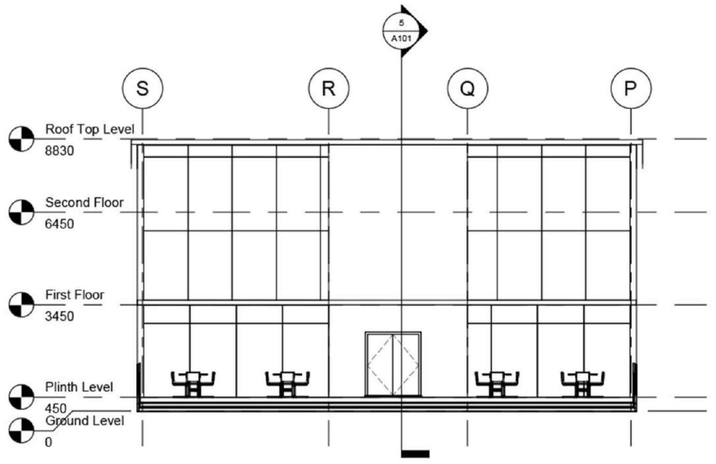


ELEVATION



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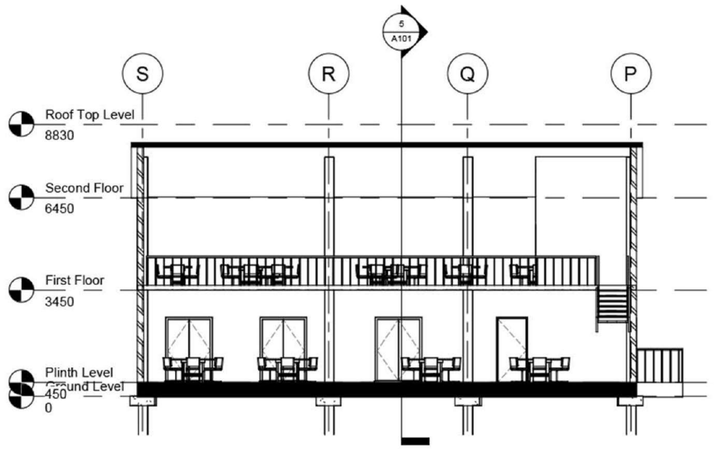

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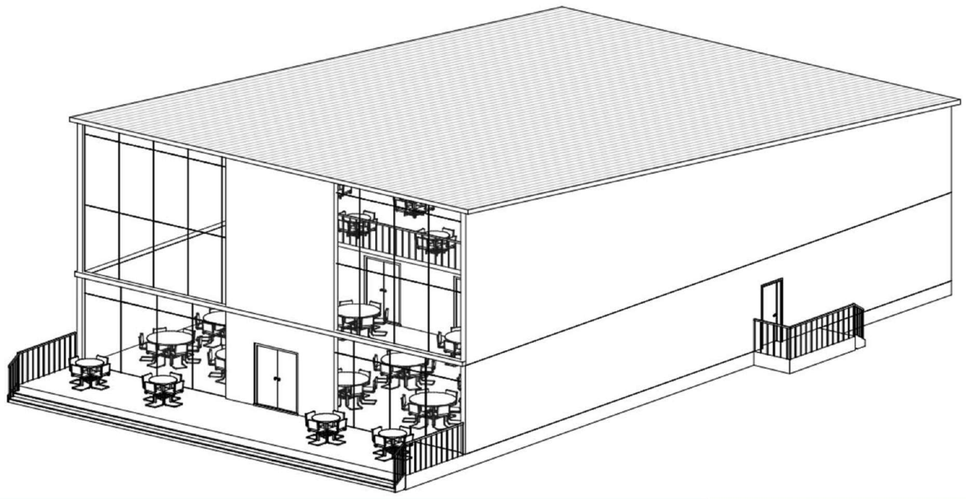

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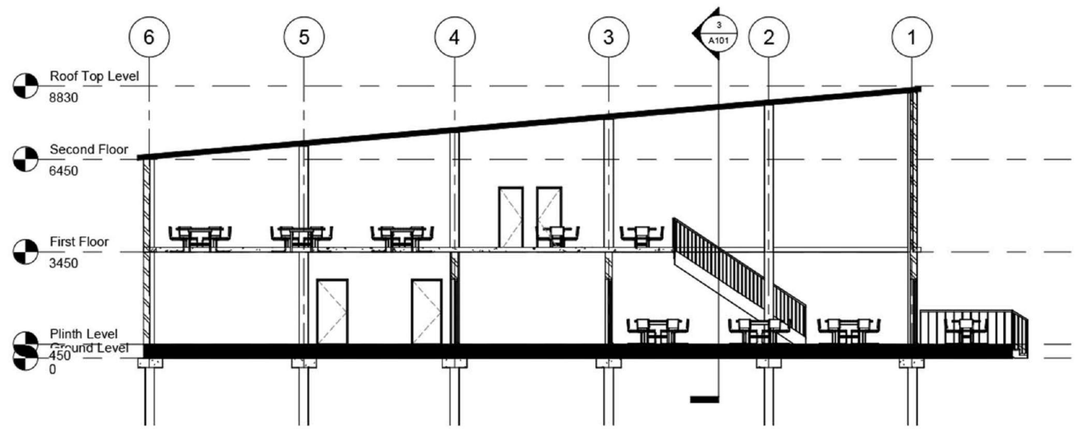

RESORT, GUJARAT

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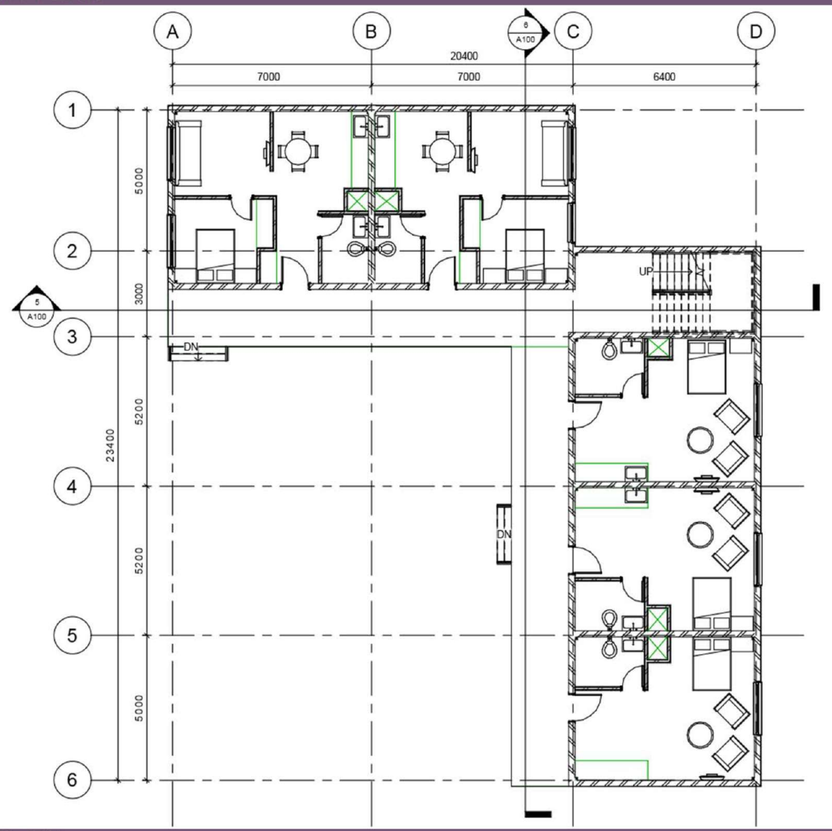
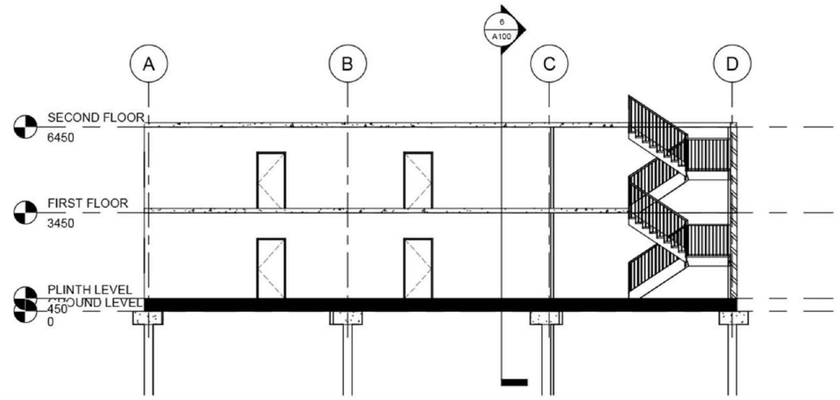
STAFF QUARTER

SCALE : 1:100

GROUND FLOOR PLAN



SECTION 1



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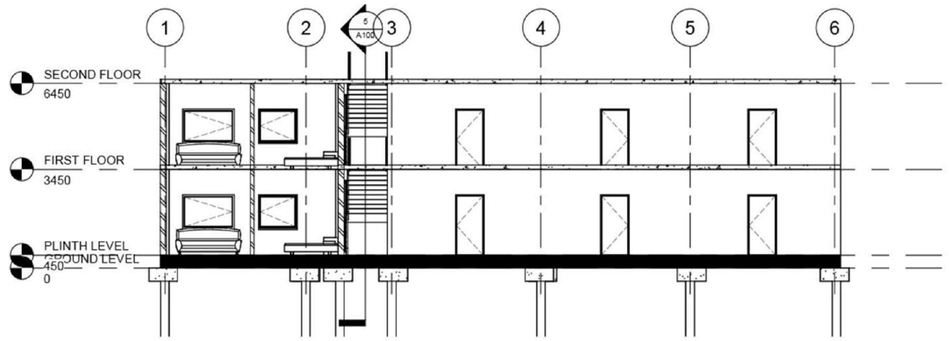
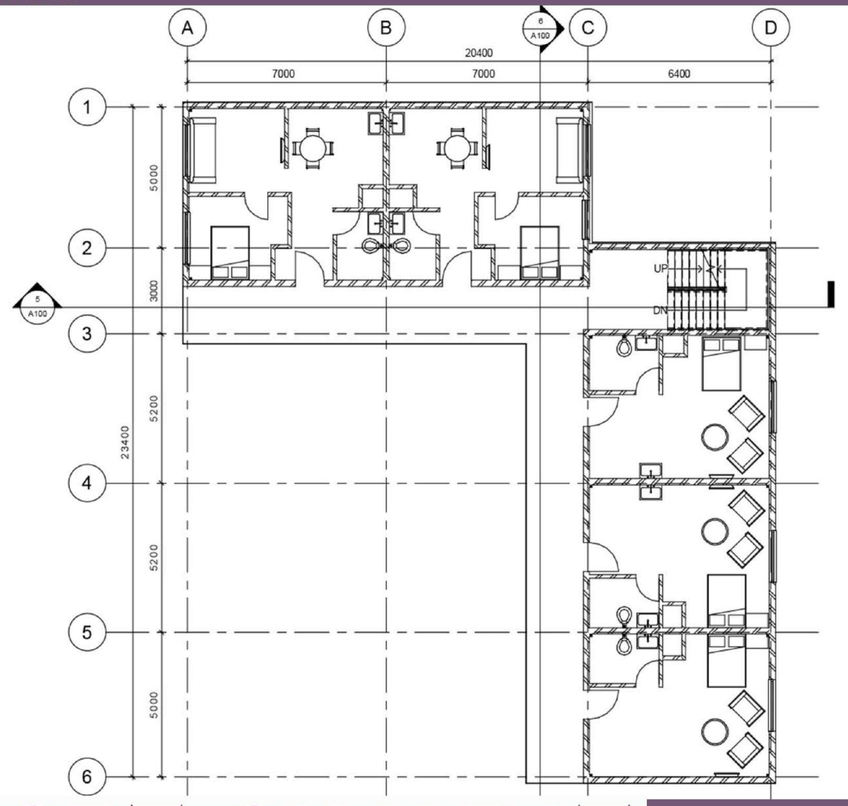
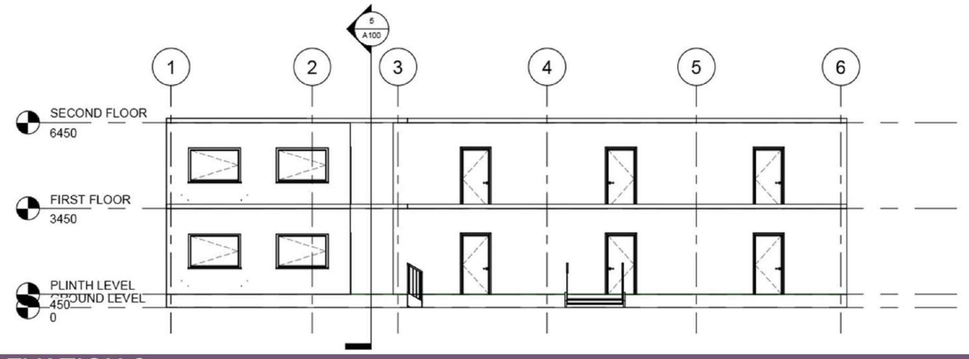


FIRST FLOOR PLAN



ELEVATION 1



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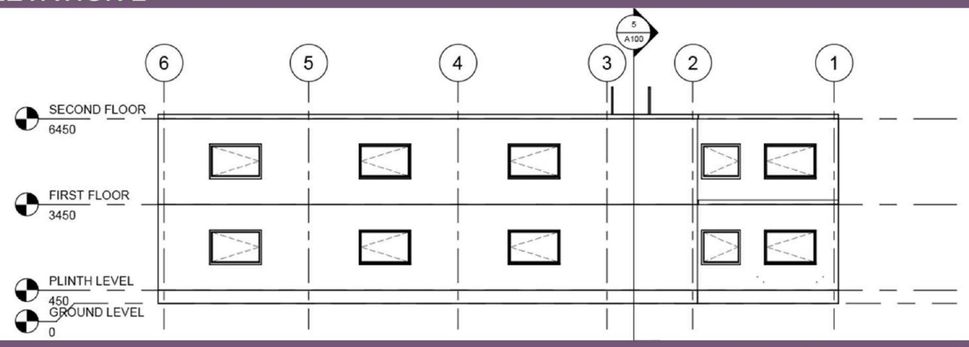

RESORT, GUJARAT

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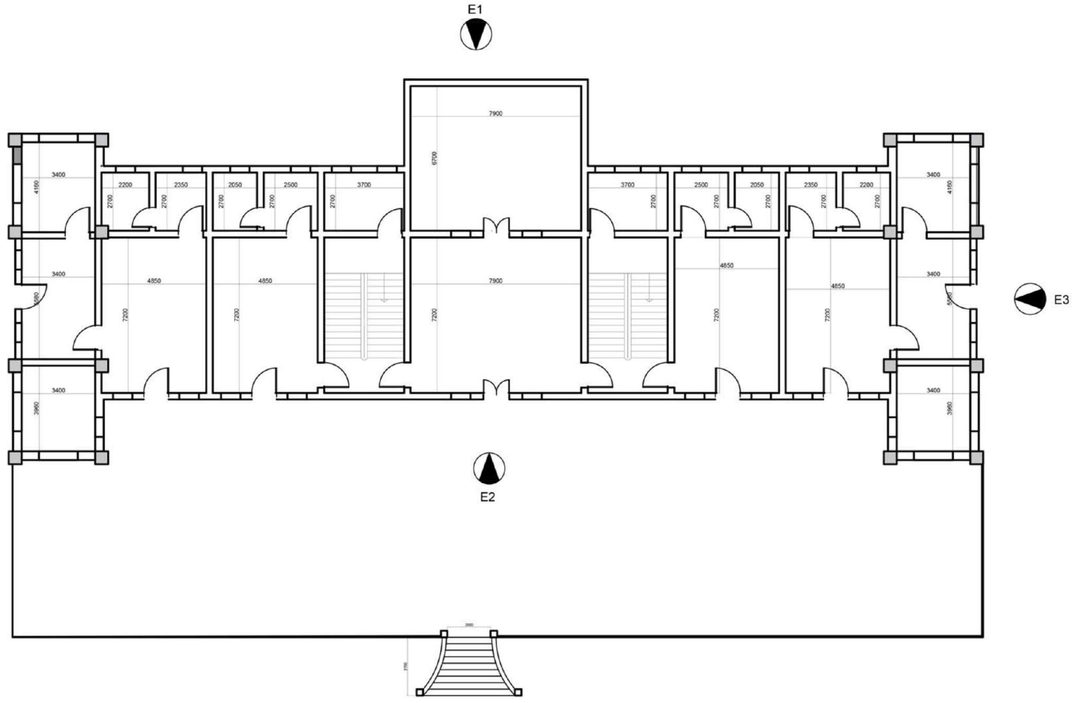
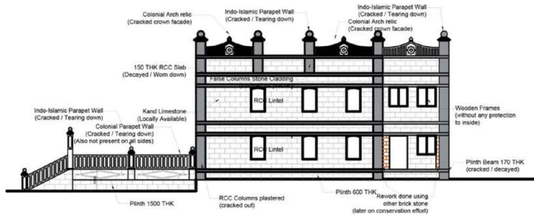
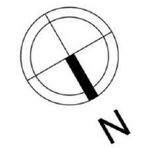
HERITAGE BUILDING

GROUND FLOOR PLAN



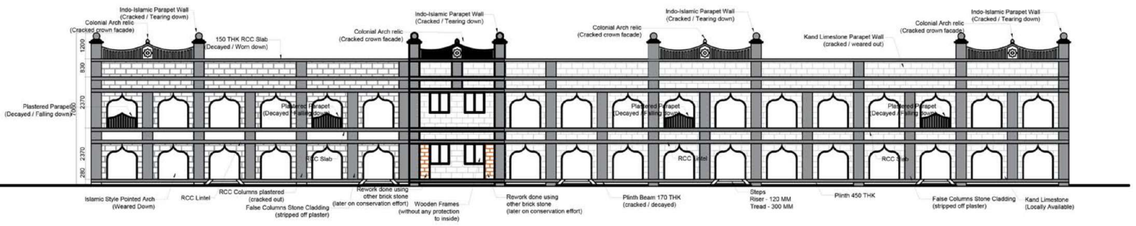
ELEVATION E3



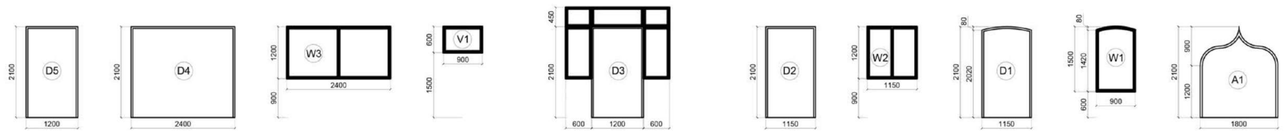


Arabian Sea

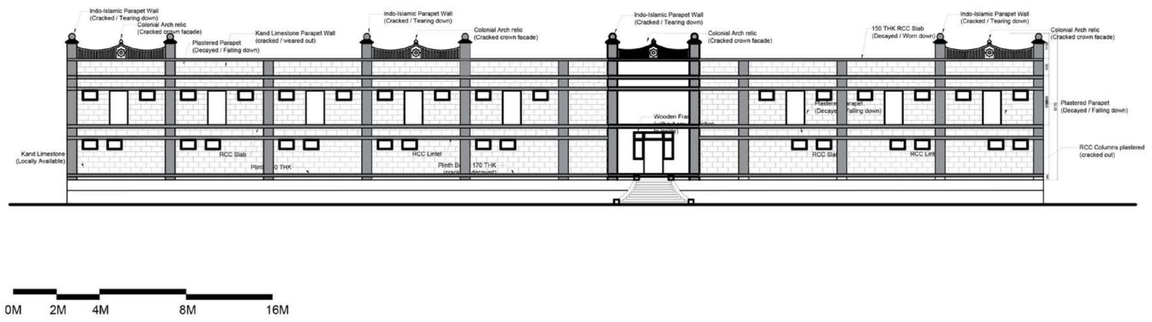
ELEVATION E1



DETAILS



ELEVATION E2



0M 2M 4M 8M 16M

IMAGES





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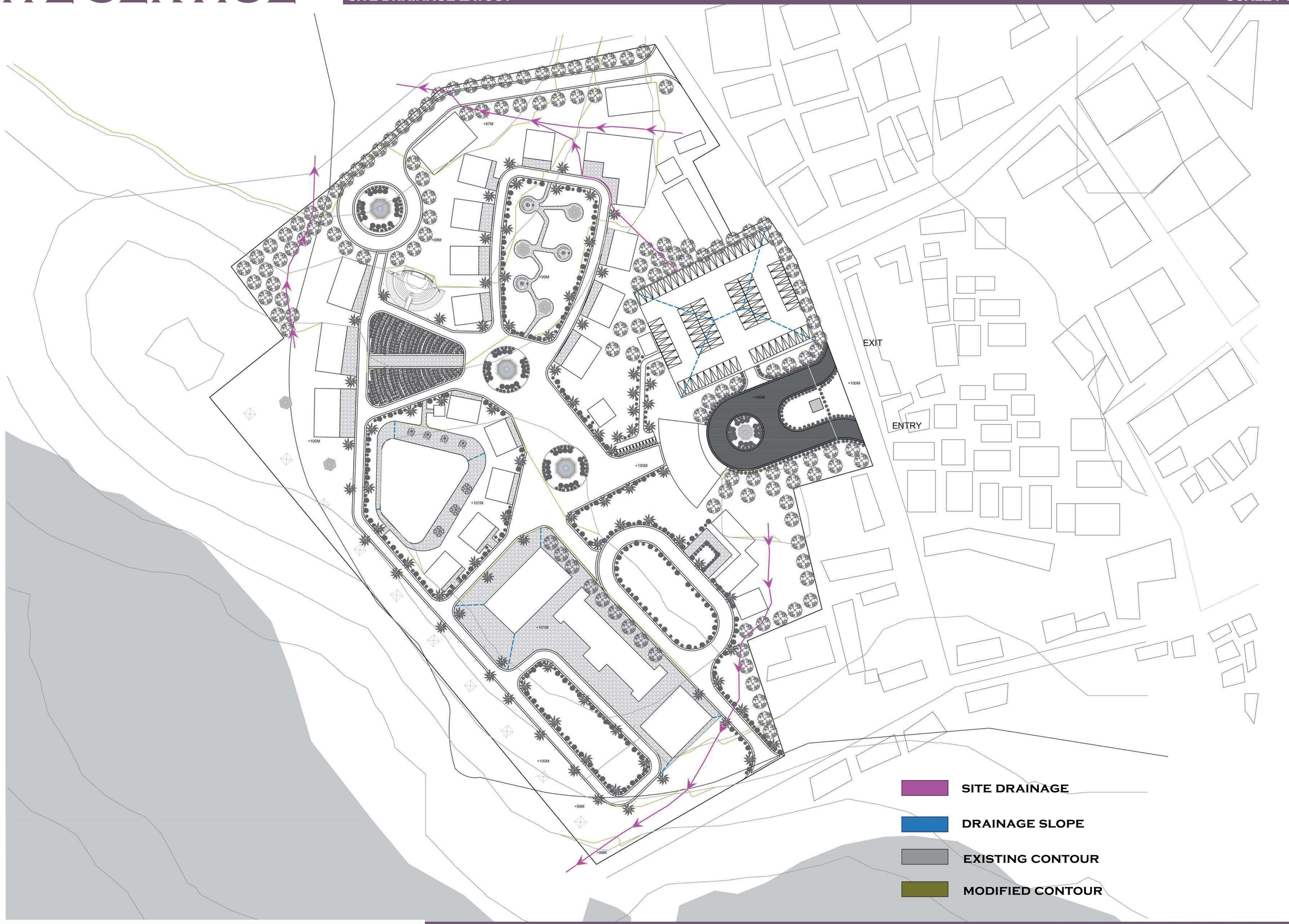
SITE SERVICE

SITE DRAINAGE LAYOUT

SCALE : 1:600



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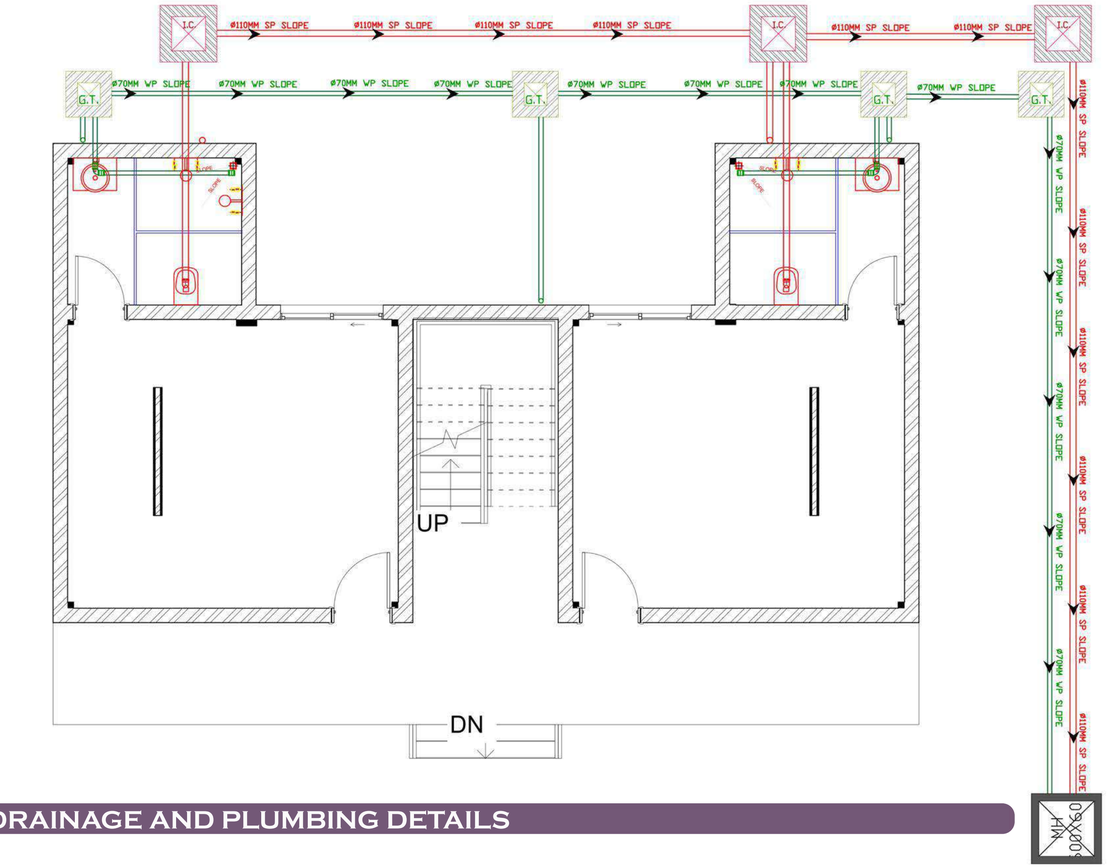
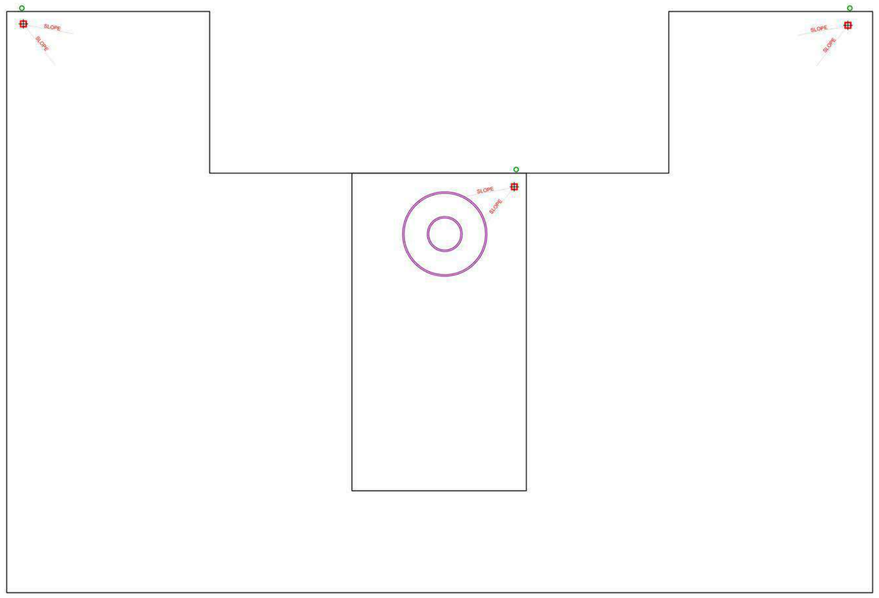
WORKING DRAWING

DRAINAGE AND PLUMBING DRAWING (STANDARD COTTAGE)

GROUND FLOOR DRAINAGE DETAILS



TERRACE DRAINAGE DETAILS



MANHOLE

INSPECTION CHAMBER

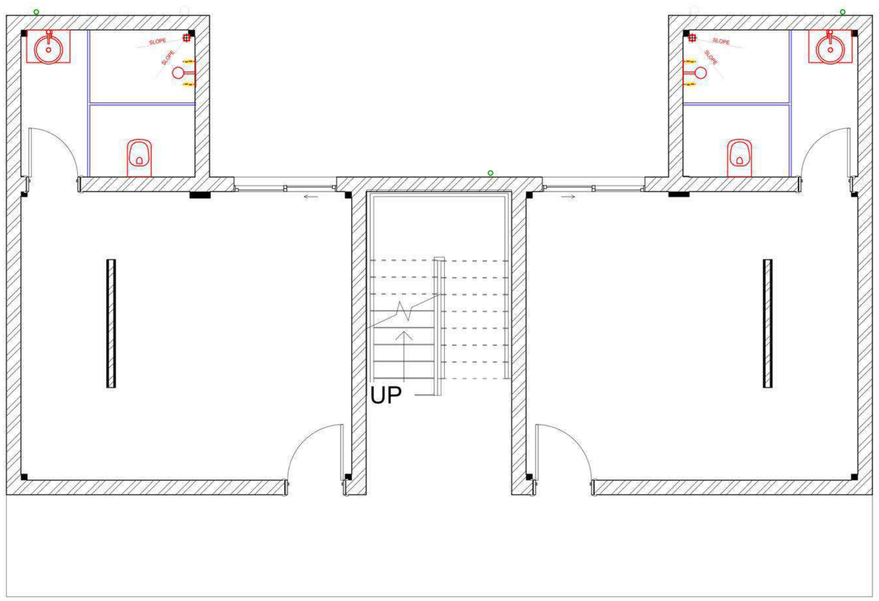
GULLY TRAP

110 mm dia. SP

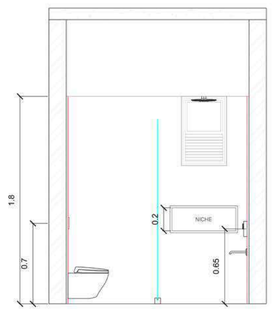
70 mm dia. WP

NAHANI TRAP

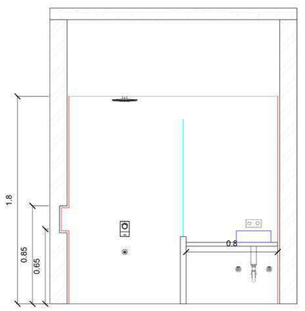
DRAINAGE AND PLUMBING DETAILS



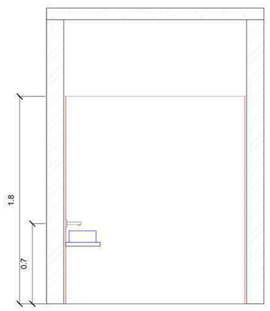
PLUMBING DETAILS



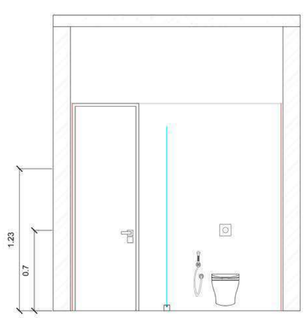
ELEVATION-A



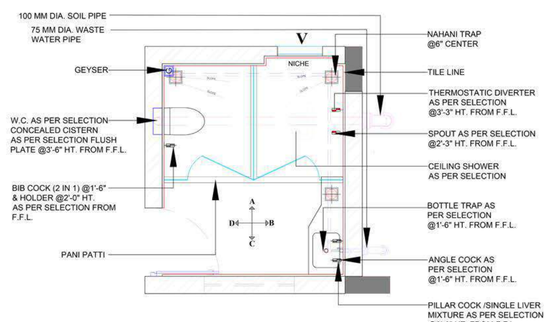
ELEVATION-B



ELEVATION-C



ELEVATION-D



TOILET PLAN

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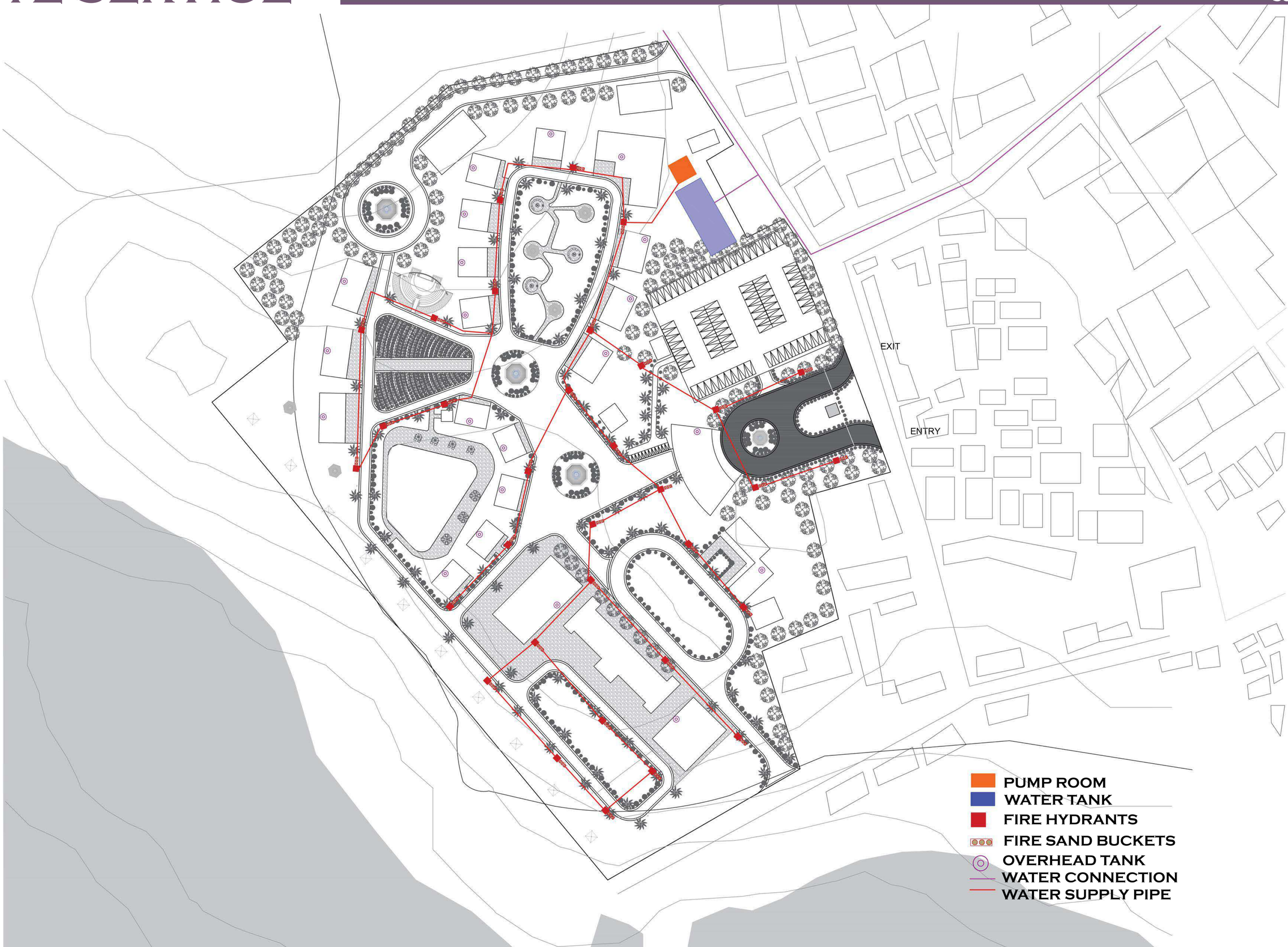
SITE SERVICE

SITE FIRE FIGHTING LAYOUT

SCALE : 1:600



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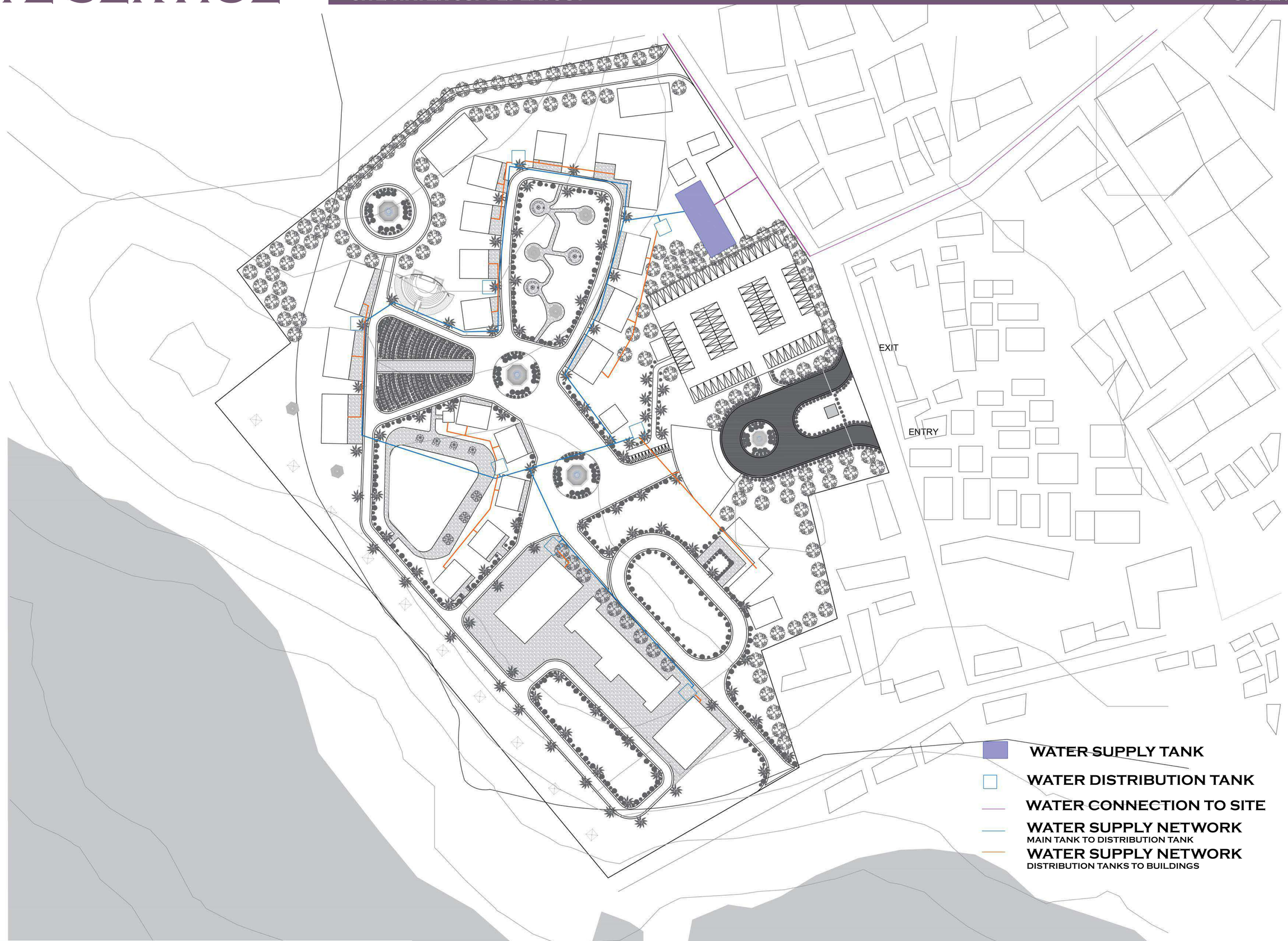
SITE SERVICE

SITE WATER SUPPLY LAYOUT

SCALE : 1:600



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LANDSCAPE (ELECTIVE 1)

SCALE- 1:600





















LANDSCAPE AND MATERIAL DETAILS

Local Name	Botanical Name	Typical Height	Spread	Notes	Images
Coconut Palm	Cocos nucifera	12–25 m	5–7 m	Iconic coastal tree, salt-tolerant, provides shade & tropical character.	
Casuarina / Jhau Tree	Casuarina equisetifolia	8–20 m	5–10 m	Windbreak tree, protects site from sea breeze and erosion.	
Beach Naupaka	Scaevola taccada	~1-3 m (3-10 ft)	1.8-4.5 m (6-15 ft)	Great for salt spray, low hedge or screen nearer coastline.	
Vitex / Naval Tree Shrub	Vitex negundo	2-4 m	2-4 m	Native shrub, aromatic, can form mixed shrub belt.	
Calotropis	Calotropis gigantea	2-3 m	2-3 m	Hardy shrub in coastal zones.	
Sesuvium / Beach Purslane	Sesuvium portulacastrum	0.1-0.3 m	Spreading groundcover	Ideal for sandy patches, dune-like areas.	
Boerhavia	Boerhavia diffusa	0.3-0.6 m	0.3-0.6 m	Native herb; low-maintenance ground layer.	
Aloe Vera	Aloe vera	0.4-0.6 m	0.4-0.8 m	Good for xeric areas, medicinal / wellness zone.	

Location	Pavement Type	Material Name	Material Description	Images
Main guest walkway (Permanent)	Pavers on sand + mortar bed	Interlocking concrete pavers / natural stone (granite slate)	Durable, low maintenance, aesthetic refinement, from entry to pool terraces.	
Road & service drive (Permanent)	Rigid pavement	Reinforced concrete with broom finish / asphalt with good drainage	Handles vehicular loads, service vehicles, ensures long life.	
Pool deck & outdoor seating (Permanent)	Natural stone slabs	Sandstone / limestone / textured granite	Slip-resistant finish, comfortable barefoot, upscale look for resort ambience.	
Temporary event area (e.g., lawn event)	Modular deck tiles / removable paving	Interlocking wood-plastic composite tiles or grass-reinforced pavers	Allows flexibility for banquets, can be removed or changed seasonally.	
Transitional walk/boardwalk near coastline (Permanent)	Timber or composite boardwalk + sand stabilisation	Hardwood treated or recycled composite timber slats with steel subframe	Aesthetic edge along dune/sea zone, blends with nature, durable in coastal environment.	
Service yard or back-of-house temporary routing	Gravel or stabilized soil blocks (Temporary)	Permeable gravel with geotextile membrane or grass block pavers	Low cost, can be relocated/reconfigured, high permeability for drainage.	

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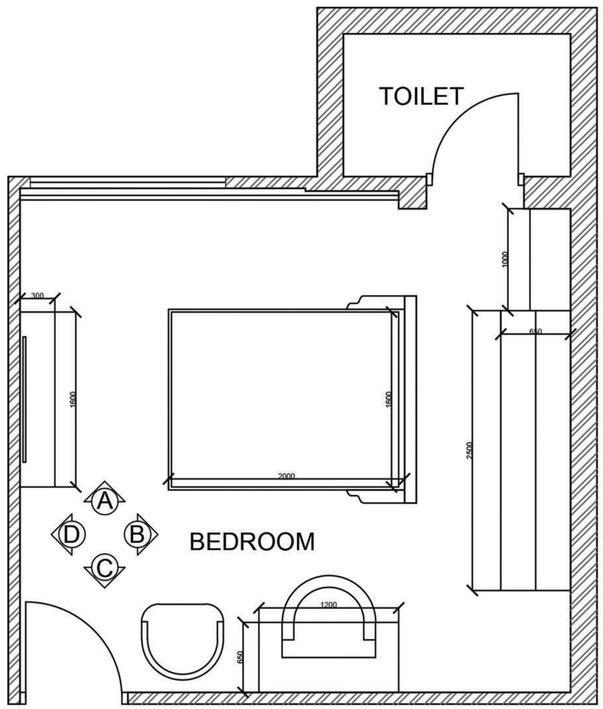
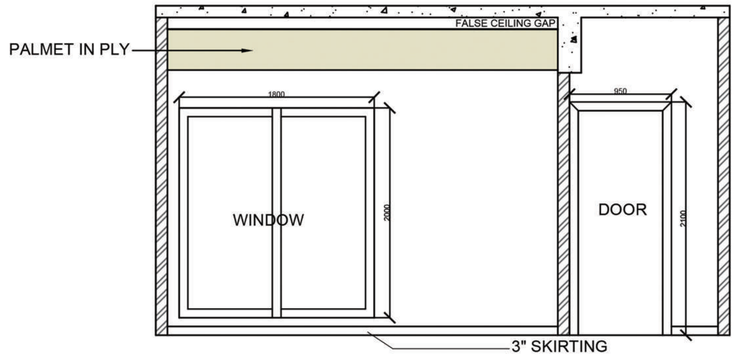
INTERIOR (ELECTIVE 2)

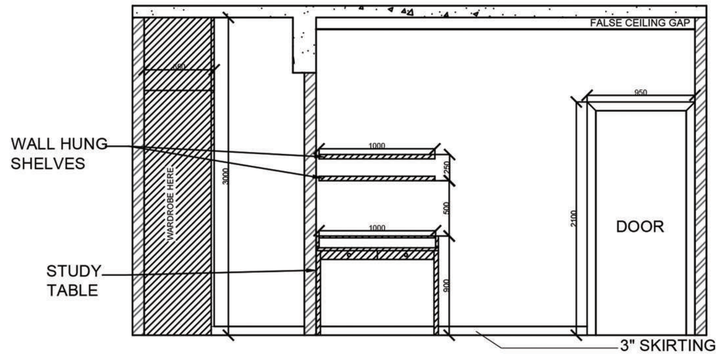


PLAN

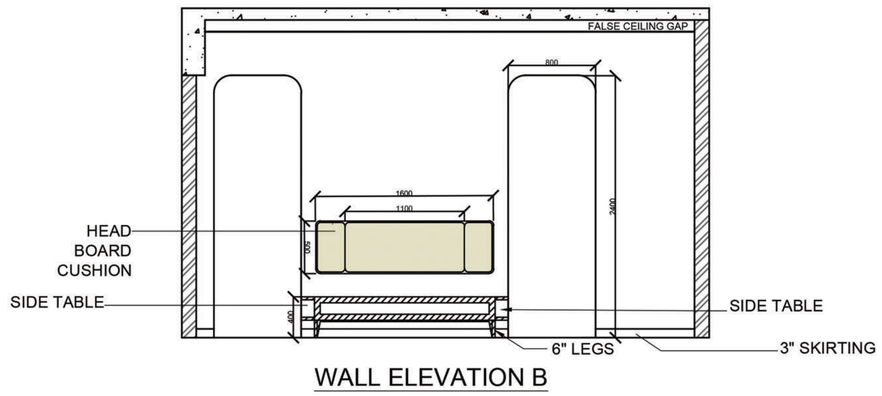
0M 0.5M 1M 2M 4M



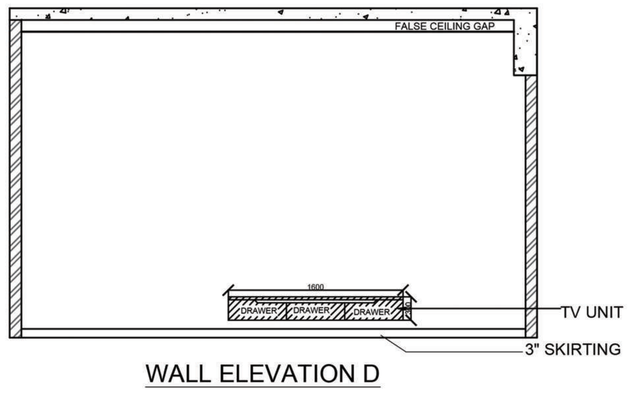
WALL ELEVATION A



WALL ELEVATION C



WALL ELEVATION B



WALL ELEVATION D





MATERIAL:



Wooden Panels:

Adds warmth, texture, and richness to interiors.

Enhances aesthetics and provides acoustic comfort.



Wooden Flooring:

Creates a cozy, elegant, and natural ambience.

Adds durability and complements the overall design theme.

COLOUR PALETTE:



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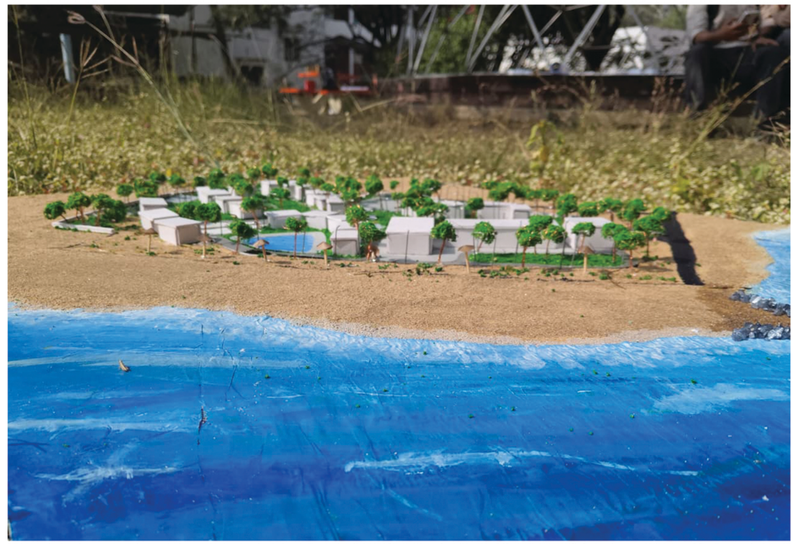
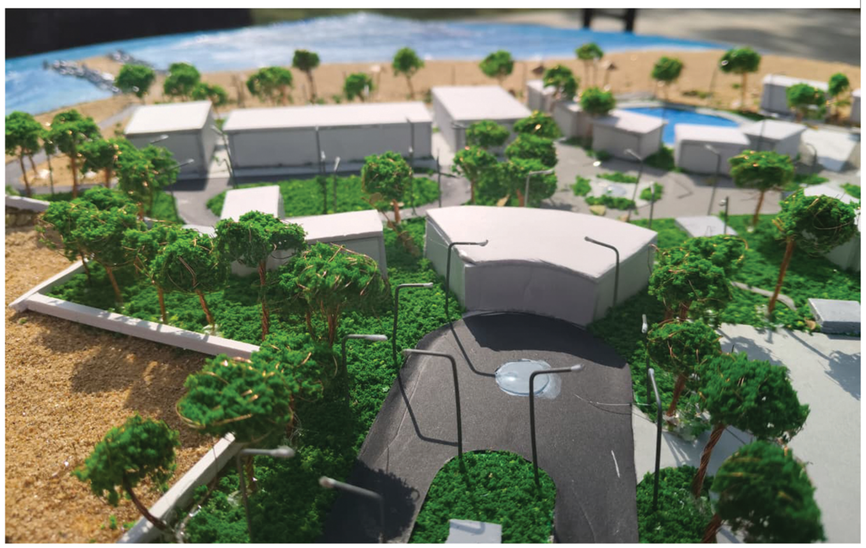
PHYSICAL MODEL





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