AKSHAT JAIN

5 Star Hotel

Sanand, Ahmedabad, Gujarat, India

5 Star Hotel

Sanand, Ahmedabad, Gujarat, India

BACHELOR OF ARCHITECTURE

BY

AKSHAT JAIN

211110226

DEPARTMENT OF ARCHITECTURE AND PLANNING

MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY, BHOPAL

DEC 2025

ARC 511 – Thesis Project

5 Star Hotel

Sanand, Ahmedabad, Gujarat, India

Submitted by:

Akshat Jain
211110226
B. ARCH
9th Semester, 5th Year

UNDER THE GUIDANCE OF

Dr. Rajat Soni

DEPARTMENT OF ARCHITECTURE AND PLANNING

MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY

BHOPAL (MP)-462003

© MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY, BHOPAL – 2025
ALL RIGHTS RESERVED

DEPARTMENT OF ARCHITECTURE AND PLANNING

MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY, BHOPAL

CANDIDATE DECLARATION

The Thesis Project in the subject ARC 511, entitled "**5 Star Hotel, Sanand, Ahmedabad, Gujarat, India"**, is being submitted in partial fulfilment of the requirement for the award of degree of Bachelor of Architecture by the undersigned for evaluation.

The matter embodied in this project is a record of my own work. If, in future, it is found that the above statement is false, then I have no objection in withdrawing the Bachelor of Architecture Degree awarded to me by the Institute.

Date: 1st – 2nd Dec, 2025

Akshat Jain
211110226

RECOMMENDATION

Based on the above declaration of the student, the undersigned recommends that the work submitted by the candidate may be considered for the final end term examination of the subject ARC-511, Thesis Project.

Date: 1st – 2nd Dec, 2025

Dr. Rajat Soni
Thesis Guide

CERTIFICATION OF EXAMINATION

The Bachelor of Architecture Thesis Viva-Voce examination of Mr. Akshat Jain Scholar No. 211110226, was held on 1/12/2025 to 2/12/25.

Dr. Nakul Dhagat
Head of Department

Dr. Vicky Lalramsangi
Thesis Coordinator

ACKNOWLEDGEMENT

The completion of this thesis report has been one of the most significant parts of our thesis study. We would like to acknowledge everyone who has helped us throughout in the completion of this Thesis Report, directly or indirectly.

At this moment of accomplishment, first of all we would like to thank our Thesis Coordinator, **Prof. Vicky Lalramsangi.** This work would not have been possible without their guidance, support and encouragement. Their insightful leadership and knowledge benefited us to successfully overcome many difficulties through the process and taught us a lot. Their valuable suggestions helped us make our work better. Thank you so much for your continuous support and presence whenever needed.

We would like to express our deep appreciation and indebtedness to our teachers and supervisors for their endless support, kindness, and understanding during the project duration.

Furthermore, we would like to thank our fellow batch mates and seniors. Their help and support has helped us throughout our Thesis work. Last but not the least; we would like to thank all our relatives, family, and friends who supported us in one way or another and the Great Almighty for his blessings.

ABSTRACT

The history of hotels is intimately connected to that of civilizations. Or rather, it is a part of that history. Facilities offering guests hospitality have been in evidence since early biblical times. The Greeks developed thermal baths in villages designed for rest and recuperation. Later, the Romans built mansions to provide accommodation for travelers on government business. The Romans were the first to develop thermal baths in England, Switzerland and the Middle East. Later still, caravan serais appeared, providing a resting place for caravans along Middle Eastern routes. In the Middle Ages, monasteries and abbeys were the first establishments to offer refuge to travelers on a regular basis. Religious orders built inns, hospices and hospitals to cater for those on the move.

The industrial revolution, which started in the 1760s, facilitated the construction of hotels everywhere, in mainland Europe, in England and in America; and the Hotel industry has never looked back since.

The concerned design proposal here aims at creating an iconic luxury 5 Star Hotel for Agra. The hotel design here not only concentrates on robust and efficient space planning, but also on the aesthetic values which define modern day hospitality ethos. The design idea revolves the concept of ‘TIME’ from which cues have been taken for planning as well form development of the building.

CONTENTS

ABSTRACT…… 3

LIST OF FIGURES……..….. 5
LIST OF TABLES…… 6

PART 1 - DESIGN BRIEF…….. 7

8
INTRODUCTION…….. 8
AIM…… 8
OBJECTIVE…….. 9
SITE LOCATION …… 9
SITE AREA…… 10
SITE PLAN…… 11
PROPOSING AGENCY…… 11
SITE LOCATION ON MASTERPLAN…… 12
SITE CONTEXT…… 13
DESIGN BRIEF…… 15
DETAILED LIST OF SPACES…… 28

PART 2 - LITERATURE STUDY…….. 40
55
MINISTRY OF TOURISM GUIDELINES……... 61
GUIDELINES FOR SECURITY MEASURES IN HOTELS……... 112
TIME SAVER STANDARDS (BUILDING TYPES) - HOTEL…….. 128
TIME SAVER STANDARDS (BUILDING TYPES) - RESTAURANTS……... 139
TIME SAVER STANDARDS (BUILDING TYPES) - KITCHENS…… 168
TIME SAVER STANDARDS (INTERIOR DESIGN)…… 175
MODEL BUILDING BYLAWS……...
URDPFI…….. 182
INDIAN STANDARD CODE FOR HOTELS AND RESTAURANTS……
183
PART 3 - SITE INVENTORY…… 183
184
DEMOGRAPHICS OF AHMEDABAD …….. 184
TOPOGRAPHY……. 185
SEISMIC ACTIVITY…… 196
SOIL TYPE……
CLIMATIC DATA…… 196

PART 4 – CASE STUDY : HILTON GARDEN INN , PCMC , PUNE , (M.H.) …….. 198

PART 5 – CASE STUDY : TAJ BHOPAL , (M.P.)…… 198

PART 6 – DESK APPRAISAL : …… 198
.

LIST OF FIGURES

DESIGN BRIEF

FIGURE 1: SITE LOCATION

FIGURE 2: SITE PLAN WITH DIMENSIONS

FIGURE 3: SITE LOCATION ON MASTER PLAN

FIGURE 4: SITE CONNECTIVITY

SITE INVENTORY

FIGURE 1 TOPOGRAPHICAL CONTOURS OF SANAND

FIGURE 2: CLIMATIC EXPERIENCE IN SANAND AROUND THE YEAR

FIGURE 3 : TEMPERATURE IN SANAND ANUALLY

FIGURE 4: AVERAGE PRECIPTATION IN SANAND

FIGURE 5: AVERAGE RAINFALL IN SANAND

FIGURE 6: AVERAGE HUMIDITY IN SANAND

FIGURE 7: AVERAGE WIND SPEED IN SANAND

FIGURE 8: SUNPATH ANALYSIS

FIGURE 9: SUN HOUR ANALYSIS OF FEBRUARY MONTH

FIGURE 10: SUN HOUR ANALYSIS OF MAY MONTH

FIGURE 11: SUN HOUR ANALYSIS OF AUGUST MONTH

FIGURE 12: SUN HOUR ANALYSIS OF DECEMBER MONTH

FIGURE 13: DAY LIGHT POTENCIAL

FIGURE 14: WIND COMFORT ANALYSIS

FIGURE 15: WIND DIRECTION ANALYSIS

FIGURE 16: SUN LIGHT ANALYSIS

TAJ CASE STUDY

LIST OF FIGURES

FIGURE 1: SITE LOCATION
FIGURE 2: SITE PLAN
FIGURE 3: APPROACH ROADS
FIGURE 4: VERTICAL ZONING
FIGURE 5: BASEMENT 2 PLAN
FIGURE 6: BASEMENT 1 PLAN
FIGURE 7: GROUND FLOOR PLAN
FIGURE 8: FIRST FLOOR PLAN
FIGURE 9: SECOND FLOOR PLAN
FIGURE 10: TYPICAL FLOOR PLAN (3RD TO 7TH FLOOR)
FIGURE 11: EIGHTH FLOOR PLAN
FIGURE 12: NINTH FLOOR PLAN
FIGURE 13: TENTH FLOOR PLAN
FIGURE 14: PLAN OF EXECUTIVE SUITE ROOM
FIGURE 15: PLAN OF DELUXE TWIN BEDROOM
FIGURE 16: PLAN OF DELUXE ROOM KING BED
FIGURE 17: PLAN OF PRESEDENTIAL SUITE ROOM

PART 1:

DESIGN BRIEF

1. INTRODUCTION
2. AIM
3. OBJECTIVES
4. SITE LOCATION
5. SITE AREA
6. SITE PLAN
7. PROPOSING AGENCY
8. SITE LOCATION ON MASTERPLAN
9. SITE CONTEXT
10. DESIGN BRIEF

1. INTRODUCTION

A business hotel is an establishment primarily designed to cater to the needs of corporate travelers, offering lodging and services that support work-related activities. Traditionally focused on providing a functional room with essentials such as a comfortable bed, desk, and connectivity options, business hotels have evolved to incorporate modern amenities like high-speed internet, ergonomic workspaces, and soundproof environments that ensure productivity and comfort. Typical features found in business hotel rooms include a work desk with task lighting, multiple charging ports, a digital safe, coffee-making facilities, and a flat-screen television. Enhanced business-class offerings may include express check-in/check-out services, complimentary breakfast, meeting rooms, and executive lounges. Larger business hotels also offer amenities such as fitness centers, airport shuttle services, co-working spaces, and 24-hour business centers.

2. AIM

The main aim is to achieve a fully functional Hotel design without any compromise to aesthetics and services.

3. OBJECTIVES

- To design a hotel responding to the site conditions.
- To follow the immediate urban context and design accordingly.
- To reflect the economic dynamism and industrial identity of Sanand.
- To design the hotel as a high-functioning node within Sanand's growing industrial ecosystem
- To use the site views to the fullest and follow every bye-law that the site commands.
- To create efficient service networks keeping in mind the highest standards of hospitality industry.

4. SITE LOCATION

Name of the Project: Proposed 5 Star Hotel

Location: GIDC Sanand-II (Plot SM-39/5),
Sanand-II Industrial Estate,
District - Ahmedabad
State - Gujarat

Site Coordinates : 23°00'21.5"N, 72°14'59.6"E



FIGURE 1: SITE LOCATION

5. SITE AREA

Total Land Area: 20,168.54 Sq.m

Far: 1.8

Cover: 40%

Height: 70 m

6. SITE PLAN

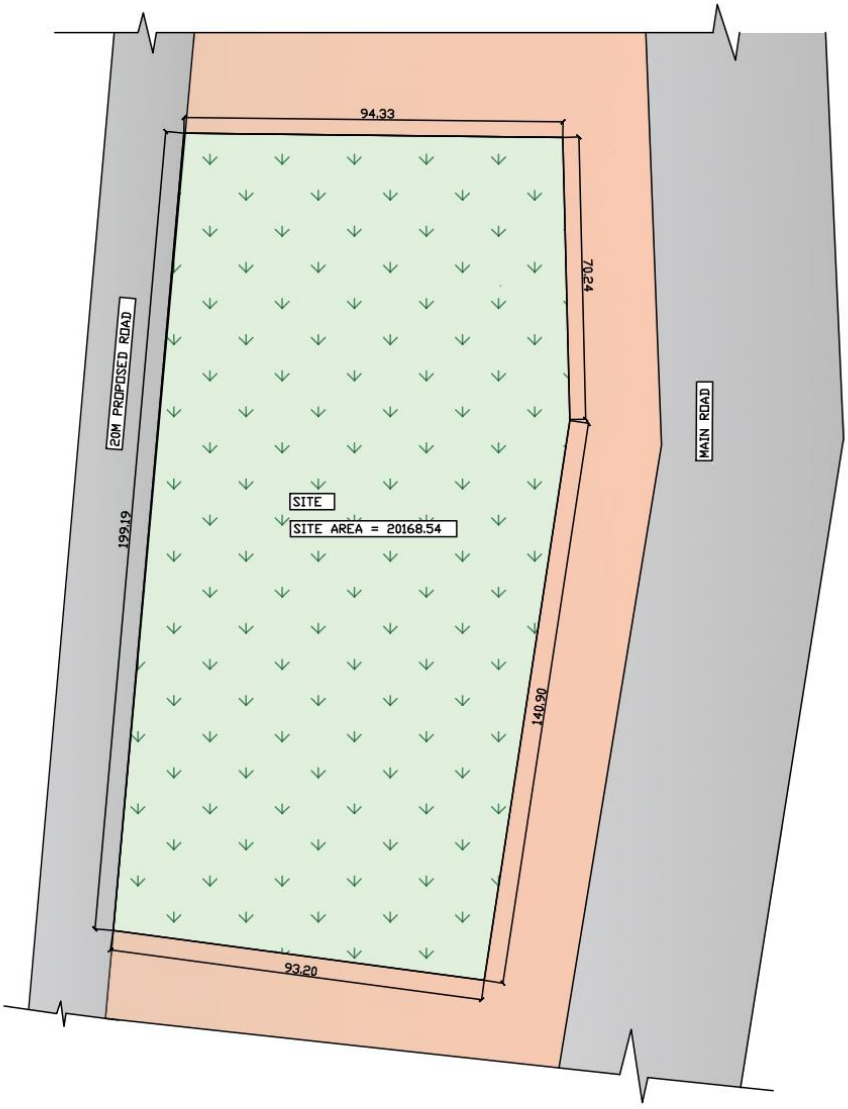


FIGURE 2: SITE PLAN WITH DIMENSIONS

7. PROPOSING AGENCY

Name of the Proponent: M/s. Bloom Inn Private Limite

8. SITE LOCATION ON MASTERPLAN

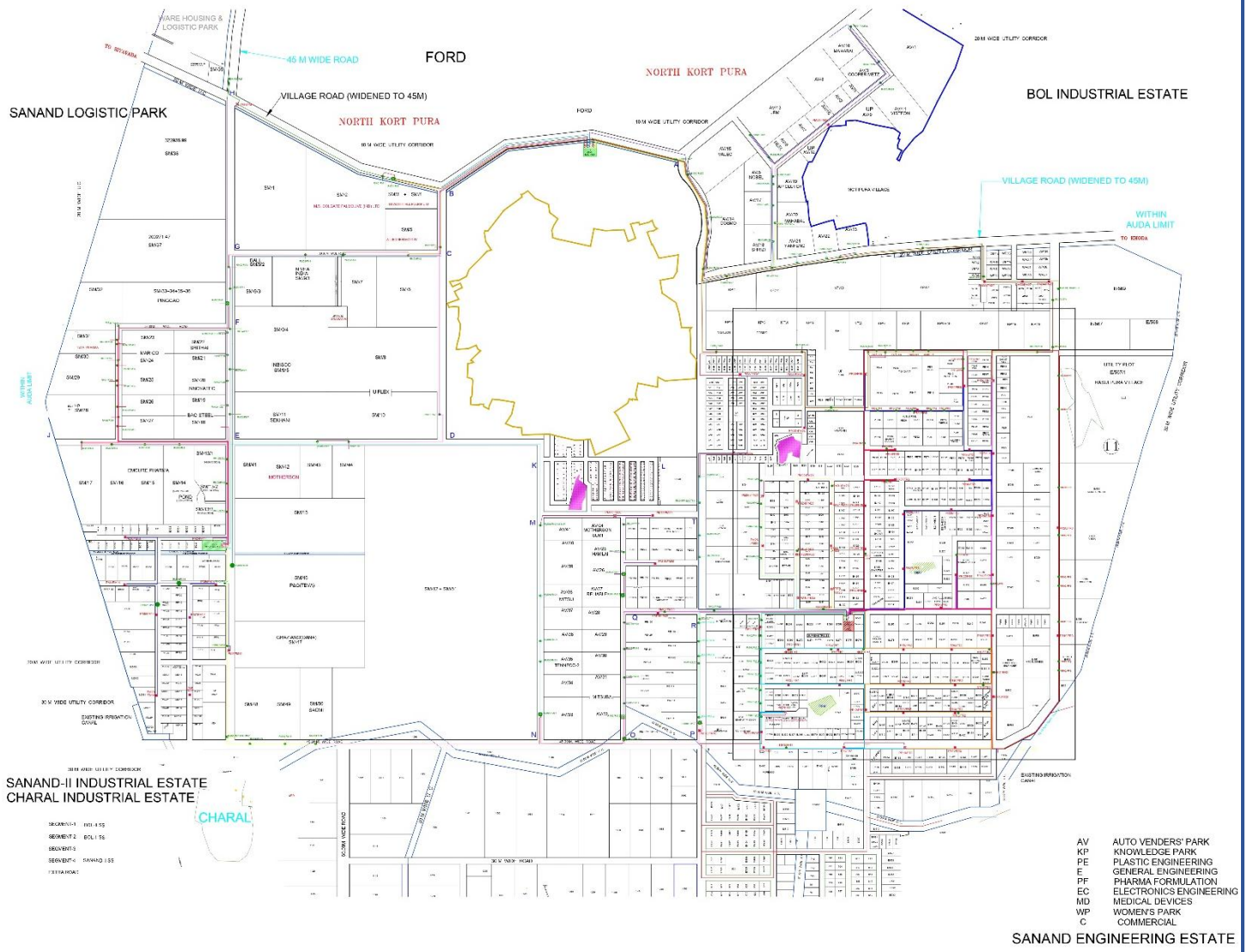


FIGURE 3: SITE LOCATION ON MASTER PLAN

9. SITE CONTEXT

The proposed site for the 5-star hotel is strategically located within the industrial zone of Sanand, Gujarat, offering both accessibility and potential for high footfall from business and industrial visitors. The location is well-connected by various modes of transport, albeit with a preference for private or industrial commuting methods due to the distance from major public transit hubs.

Connectivity & Transportation Access

- **Bus Access:**
  The nearest bus stop is **Sanand ST Stand**, located approximately **17 km** from the site. For intercity and long-distance travel, the **Ahmedabad Central Bus Station** at **Gita Mandir**, approximately **40 km** away, offers comprehensive connectivity.
- **Railway Access:**
  The **Chharodi Railway Station**, located **5 km** from the site, serves as the closest railway link and caters primarily to local trains. For broader national rail access, **Ahmedabad Junction**, a major railhead, is located **43 km** away.
- **Air Connectivity:**
  The nearest airport is the **Sardar Vallabhbhai Patel International Airport**, situated about **50 km** from the site. While not immediately adjacent, the airport provides direct flights to major cities across India and select international destinations. Additionally, **helipads located within nearby industrial areas** offer a high-speed commute alternative, particularly for corporate or VIP guests.

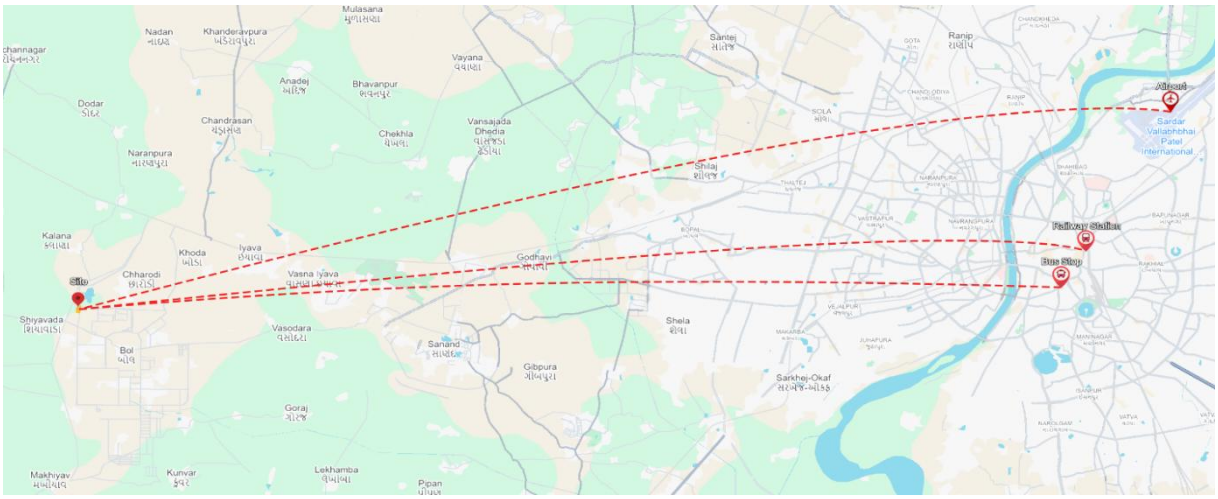


FIGURE 4: SITE CONNECTIVITY

Site Proximity & Surroundings

The site is enveloped by a thriving **industrial ecosystem**, contributing to a consistent demand for premium hospitality services from domestic and international business travellers, consultants, and

corporate delegates. The presence of large-scale manufacturing units and tech parks nearby underscores the need for high-end accommodations and business conferencing facilities.

Social Infrastructure

- **Educational Institutions Nearby:**
  - North kotpura Primary School
  - Charal Primary School
  - College of Safety and Fire Technology – an institute that brings in students, faculty, and visiting professionals regularly.
  -
- **Healthcare Facilities Nearby:**
  - Sub Centre Bol
  - Doctor House Bol
  - Occupational Health Centre – serving primarily industrial workers and local residents.

10. DESIGN BRIEF

- **Project Title: Development of a 5-star hotel in Sanand, Ahmedabad, Gujarat.**
- **Proposing Authority: Industrial zone under GIDC (Gujarat Industrial Development Corporation)**
- **Surrounding Features:** The proposed project site is located in the industrial-commercial zone of Sanand, Ahmedabad, a rapidly developing hub within Gujarat's manufacturing corridor. The site is surrounded by major industrial establishments and benefits from excellent regional connectivity. It is located approximately 35 km from Sardar Vallabhbhai Patel International Airport and around 25 km from Ahmedabad Junction Railway Station, ensuring convenient access for national and international business travellers. The site is also well connected via S.G. Highway and the Ahmedabad–Dholera Expressway, making it highly accessible for corporate visitors and industrial delegates frequenting the region.
- **Target Audience:** Corporate travelers, visiting consultants, technical experts, business delegations
- **Key Industries Nearby:** Tata Motors, Ford India, Nestlé, Hitachi, Colgate-Palmolive, and other major MNCs.

  Sanand has emerged as a crucial industrial corridor in Gujarat, experiencing rapid growth in infrastructure, employment, and industrial investments. However, there is a **distinct lack of premium hospitality infrastructure** within this industrial zone, creating a prime opportunity for the development of a dedicated business hotel.

- **Broad Scope of Work:**

The scope of work includes but is not limited to:

Development of the 5 Star Hotel at Sanand shall have:

a. Rooms

b. Conference Hall / Convention Hall

c. Restaurant and bar

d. Health club

e. Banquet Hall

f. 24/7 Café

g. Spa

h. Swimming Pool

i. Admin Block, Entrance Foyer and lobby

j. Commercial Space

k. Ballroom

l. Basement for parking and services

AREA STATEMENT

SPACE PROGRAM: FIVE-STAR HOTEL

SPACES REQUIRED	Area Per Person (in m^2)	No. of Users	No. of Units	Total Area (in m^2)	Remarks
PUBLIC FACILITIES				**3,410.1**	area excluding outdoor facilities
1. Entrance				**139.1**	Ground Floor
Port-cochere/Main Entrance	18	4	1	72.0	can accommodate 3-4 cars
Luggage Loading/Unloading	1.6	20	1	32.0	provide ramp
Valet Parking Service	0.65	4	1	2.6	provide supervisor podium
Vestibule	0.65	50	1	32.5	*optional, may be replaced by air-curtains
2. Reception Area				**372.0**	Ground Floor/2nd Floor
Grand Lobby	0.65	400	1	260.0	Ground Floor + 2nd Floor w/ Elaborate Ceiling
Front Desk/Information	2	4	1	8.0	directly accessible to incoming guests
Concierge	2	2	1	4.0	adjacent to front desk
Cashier	1.5	2	1	3.0	adjacent to front desk
Porter Service Area	1.5	4	1	6.0	close to front desk and luggage storage
Luggage Storage	1.5	10	1	15.0	racks for vertical storage may conserve floor area
Safety Deposit Boxes	1.5	10	1	15.0	enclosed room with direct access to front desk
Grand Staircase	52	1	1	52.0	2.5 m width, T-shaped
Guest Elevators	0.45	10	2	9.0	close to lounge/dining/function areas (must be cs
3. Lounging Area				**250.0**	Ground Floor
Lounge	1.5	30	1	45.0	10-20% of lobby
Atrium	150	1	1	150.0	open space for lighting & ventilation
Live Entertainment	4	2	1	8.0	for pianist, cielist or violinist
Smoking Room	0.65	20	1	13.0	minimal seats, mostly standing
Guest Elevators	0.45	10	2	9.0	must be central
Restrooms: Male	2.5	5	1	12.5	2 water closets, 2 urinals, 1 lavatories
Female	2.5	5	1	12.5	3 water closets, 2 lavatories
4. Dining				**514.3**	Ground Floor

SPACES REQUIRED	Area Per Person (in m^2)	No. of Users	No. of Units	Total Area (in m^2)	Remarks
Main Dining Hall	1.8	100	1	180.0	close to main kitchen, lounge and pool areas
Buffet Serving Area	0.65	15	1	9.8	close to main kitchen
Specialty Restaurant	2	40	1	80.0	formal dining, close to specialty kitchen
Roof Deck Café	1.8	25	1	45.0	Roof Deck
Bar & Café	1.8	20	1	36.0	close wine & beverage storage
Bar Counter	2.5	3	1	7.5	
Service Entrance	1.8	5	1	9.0	can accommodate bus/trays
Circulation	0.65	100	1	65.0	hallways connecting dining areas
Auxiliary Stairs	11	1	2	22.0	stair width = 1.4m
Restrooms: Male	2.5	12	1	30.0	4 water closets, 6 urinals, 3 lavatories
Female	2.5	12	1	30.0	6 water closets, 4 lavatories
5. Function Halls				**1,558.5**	Ground Floor and Mezzanine
Banquet Hall	2	200	1	400.0	seated guests
Pre-function	0.65	75	1	48.8	about 30-35% of guest capacity
Theater/Seminar Hall	1.8	100	1	180.0	seated guests
Pre-function	0.65	35	1	22.8	about 30-35% of guest capacity
Function Rooms	1.8	50	4	360.0	seated guests, may be combined for larger events
Pre-function	0.65	15	1	9.8	about 30-35% of guest capacity
Meeting Rooms	1.8	20	4	144.0	seated guests, may be combined for larger events
Private Dining	1.8	12	2	43.2	seated guests, may be combined for larger events
Storage					
Chairs & Tables	20	1	1	20.0	private, but accessible to function rooms
Audio-visual Equipment/Decors	10	1	1	10.0	private, but accessible to function rooms
Circulation (Hallways plus service corridor)	0.65	400	1	260.0	hallways connecting pre-function areas
Restrooms: Male	2.5	12	1	30.0	4 water closets, 6 urinals, 3 lavatories
Female	2.5	12	1	30.0	6 water closets, 4 lavatories

SPACES REQUIRED	Area Per Person (in m^2)	No. of Users	No. of Units	Total Area (in m^2)	Remarks
6. Business Center				**37.5**	Ground Floor
Staff Station/Reception	2.5	2	1	5.0	desk area, computers needed
Waiting Area	2	5	1	10.0	for 3-5 persons
Telefax/Mail Station/Internet Center	2.5	6	1	15.0	5 computers, 1 telefax+printing station
Currency Exchange/Cellphone Load	2.5	1	1	2.5	small booth
ATM Machines	2.5	1	2	5.0	small booth
7. Shops				**280.0**	Ground Floor
Travel Agency	40	1	1	40.0	
Beauty Salon & Nail Spa	60	1	1	60.0	may need plumbing
Barber Shop	40	1	1	40.0	
Souvenir/Gift Shop	60	1	1	60.0	needs storage room
Wine Shop	40	1	1	40.0	needs storage room
Hallway	40	1	1	40.0	
8. Recreation and Sports Facilities				**1,704.8**	Various Floors
Lounge/Veranda	1.2	20	1	24.0	Second Floor
Atrium	120	1	1	120.0	open space for lighting & ventilation, 2nd Floor
Guest Elevators	0.45	10	2	9.0	must be central
Billiards Room	22	3	1	66.0	Second Floor
Attendant's Counter	1.8	2	3	10.8	
Video-Gaming Arcade	3	10	1	30.0	high-tech video games, 2nd Floor
Poker Club/Mini-Casino	1.8	20	1	36.0	3 tables for poker, 2 for casino
Cashier/Attendant's Counter	2.5	4	1	10.0	
Fitness Center	4	5	1	20.0	basic gym equipment, Mezzanine
Aerobics Studio	2.5	10	1	25.0	for other dance/fitness exercises, Mezzanine
Lap Pool (Indoor)	176	1	1	176.0	4 lanes, Ground Floor
Swimming Pool	300	1	1	300.0	Ground Floor, Outdoor
Pool Perimeter	246	1	1	246.0	3 meters around the pool, for benches/umbrellas

SPACES REQUIRED		Area Per Person (in m^2)	No. of Users	No. of Units	Total Area (in m^2)	Remarks
Shower w/ Lockers:	Male	2.5	8	1	20.0	8 showers, includes lockers + changing area
	Female	2.5	8	1	20.0	8 showers, includes lockers + changing area
Restrooms:	Male	2	12	1	24.0	4 water closets, 6 urinals, 3 lavatories
	Female	2	12	1	24.0	8 water closets, 4 lavatories
Roof Deck Pool		200	1	1	200.0	Ground Floor, Outdoor
Shower w/ Lockers:	Male	2.5	4	1	10.0	4 showers, includes lockers + changing area
	Female	2.5	4	1	10.0	4 showers, includes lockers + changing area
Restrooms:	Male	2	6	1	12.0	2 water closets, 3 urinals, 2 lavatories
	Female	2	6	1	12.0	4 water closets, 2 lavatories
Meditation and Zen Garden		300	1	1	300.0	Roof Deck
Viewing Deck		100	1	1	100.0	Roof Deck, attached to zen garden
Putting Lawn (Mini-Golf Course)		450	1	1	450.0	Ground Level, outdoor
Lawn Tennis		450	1	1	450.0	Ground Level, outdoor
ROOM ACCOMMODATIONS					**11,435.0**	inclusive of circulation
9. Guest Rooms				**250**	**10,413.0**	3rd-6th Floors; total should be 250
Standard Rooms (single/double)		27	1	80	2,160.0	two single beds or one double-bed
De Luxe Rooms (single/double)		31	1	81	2,511.0	similar to standard rooms
Family De Luxe Rooms		40	1	80	3,200.0	two double beds or two single plus one double-b
Bridal Suite		40	1	1	2,080.0	matrimonial bed, guest area, large toilet & bath
Executive Suite		48	1	5	240.0	king size bed, office/study area, pantry/kitchenet
Residence Suite		68	1	2	136.0	two rooms, living/dining, pantry/kitchenette
Presidential Suite		86	1	1	86.0	executive suite plus additional room, occupies tw
10. Circulation					**1,022.0**	Various Floors
Service Elevators		0.45	10	4	18.0	number of elevator = 1 elevator x 4 floors
Guest Elevators		0.45	10	8	36.0	number of elevators = 2 elevators x 4 floors
Auxilliary Stairs		11	1	4	44.0	4 floors, stair width = 1.4 m

SPACES REQUIRED	Area Per Person (in m^2)	No. of Users	No. of Units	Total Area (in m^2)	Remarks
Corridors & Hallways	216	1	4	864.0	1.5m-1.8m, depending on length of corridor
Fire Exits	7.5	1	8	60.0	2 stairs x 4 floors, stair width = 1 m
OFFICES & PERSONNEL AREA				**631.2**	
11. Front Office				**40.0**	G/F, partially private, partially open
Front Office Manager	5	1	1	5.0	private
Customer Service Director	5	1	1	5.0	private
Housekeeping Manager	5	1	1	5.0	private
Front Office Supervisor	5	1	1	5.0	private, with window to front desk
Front Desk Agents	2.5	3	1	7.5	opens to reception
Telephone Operator	2.5	1	1	2.5	private
Reservations Supervisor	2.5	1	1	2.5	private, with window to front desk
Reservation Agents	2.5	3	1	7.5	private
12. Hotel Administration Office				**276.4**	
Waiting Area/Reception	2.5	4	1	10.0	
General Manager's Office	20	1	1	20.0	private office w/ own restroom
Assistant Manager	9.3	1	1	9.3	
Executive Secretary	7	1	1	7.0	
Human Resources Director	15	1	1	15.0	private office
Personnel Manager	9.3	1	1	9.3	
HR Clerks	5	3	1	15.0	
Sales & Marketing Manager	15	1	1	15.0	private office
Sales/Catering Director	7	1	1	7.0	
Catering Manager	7	1	1	7.0	
Sales & Marketing Assistants	5	3	1	15.0	
Finance Director	15	1	1	15.0	private office
Accounting Head	9.3	1	1	9.3	

SPACES REQUIRED	Area Per Person (in m^2)	No. of Users	No. of Units	Total Area (in m^2)	Remarks
Accounting Clerks	5	3	1	15.0	
Bookkeeper	5	2	1	10.0	
Auditor	7	1	1	7.0	
Purchasing Manager	7	1	1	7.0	
Purchasing Assistants	5	2	1	10.0	
General Office Clerks	2.5	5	1	12.5	
Conference Room	2.4	10	1	24.0	central to offices
Pantry/Kitchenette	0.65	20	1	13.0	
Restrooms: Male	2	6	1	12.0	2 water closets, 2 urinals, 2 lavatories
Female	2	6	1	12.0	3 water closets, 2 lavatories
13. Food & Beverage Office				**77.3**	
Food & Beverage Director	15	1	1	15.0	private office
Dietician	9.3	1	1	9.3	
Banquet Manager	7	3	1	21.0	
Banquet Captain	5	2	1	10.0	
Executive Chef	7	1	1	7.0	
Sous Chef/Kitchen Supevisor	5	1	1	5.0	
Restaurant Supervisor	5	1	1	5.0	
Bar Supervisor	5	1	1	5.0	
14. Staff Common Area				**237.5**	
Employees' Entrance	0.65	60	1	39.0	includes security check, bundy clock, etc.
Staff Lounge	1.2	15	1	18.0	
Staff Dining Area/Cafeteria	1.8	20	1	36.0	
Kitchen/Pantry	2.5	4	1	10.0	
Changing Room Male	2	10	1	20.0	
Female	2	10	1	20.0	
Lockers	0.45	10	1	4.5	for entry-level staff & maintenance personnel

SPACES REQUIRED	Area Per Person (in m^2)	No. of Users	No. of Units	Total Area (in m^2)	Remarks
Hallways & Corridors (Circulation)	50	1	1	50.0	1.2m-1.5m wide, depending on traffic load
Restrooms: Male	2	10	1	20.0	3 water closets, 3 urinals, 2 lavatories
Female	2	10	1	20.0	4 water closets, 2 lavatories
15. Senior Management Flat				**76.5**	2/F
General Manager's Room	20	1	1	20.0	w/ private toilet & bath
Senior Managers' Rooms	20	1	2	40.0	includes 1 shared toilet & bath
Pantry/Kitchenette	7.5	1	1	7.5	
Lounge	9	1	1	9.0	
SERVICE FACILITIES				**733.7**	
16. Food & Beverage				**406.8**	
Main Kitchen	100	1	1	100.0	about 30% of total dining area
Auxilliary Kitchen	90	1	1	90.0	about 10% of total function area
Specialty Kitchen	25	1	1	25.0	about 30% of specialty restaurant area
Quality Check/Service Station	2.5	3	1	7.5	area to check plating, etc.
Waiter Pick-up & Dish Return	0.75	10	1	7.5	counter area
Waiters' Assembly Area	0.65	15	1	9.8	for inspection/instructions
Dishwashing Station	2	1	5	10.0	
Kitchenware & Utensils Storage	10	1	1	10.0	
Pantry	30	1	1	30.0	
Supply Releasing Desk	2.5	2	1	5.0	
Wine & Beverage Storage	20	1	1	20.0	
Supplies Delivery	18	1	1	18.0	2 x 9 m
Docking Station	18	1	3	54.0	3 delivery van
Receiving Office	12	1	1	12.0	
Waste Disposal	2	1	4	8.0	one in each kitchen plus 1 in dishwashing station

SPACES REQUIRED	Area Per Person (in m^2)	No. of Users	No. of Units	Total Area (in m^2)	Remarks
17. Housekeeping				**102.0**	2/F
Housekeeping Office	5	1	1	5.0	common space
Housekeeping Manager	7	1	1	7.0	desk area
Housekeeping Supervisor	5	1	1	5.0	desk area
Lines & Toiletries Storage	30	1	1	30.0	
Releasing/Receiving Desk	2.5	2	1	5.0	counter
Linen Chute	1	1	6	6.0	one in each upper floor, plus collector at the grou
Soiled Linen Storage	20	1	1	20.0	
Cleaning Supplies/Equipment Locker	3	1	8	24.0	one in each floor
18. Laundry and Dry Cleaning Service				**32.1**	G/F
Laundry Service Supervisor	2.5	2	1	5.0	desk
Receiving/Releasing Area	2.5	2	1	5.0	counter
Clothing Storage	1.8	2	1	3.6	racks/cabinets
Laundry & Drying Room	2.5	3	1	7.5	
Dry Cleaning	2.5	2	1	5.0	
Ironing Station	2	3	1	6.0	
19. Hotel Security & Surveillance				**35.5**	2/F
Security Services Office	2.5	3	1	7.5	
Head Security Officer	5	1	1	5.0	desk area
Monitoring Room (CCTV)	5	2	1	10.0	
Security Personnel Assembly/Lounge	0.65	20	1	13.0	for inspection/instructions
20. Medical Services				**13.5**	
Help Desk	2.5	3	1	7.5	for 1 nurse, 1 paramedic & 1 clerk
First Aid Clinic	6	1	1	6.0	1 bed plus circulation space
21. Circulation & Maintenance				**143.8**	
Service Elevators	0.45	10	6	27.0	
Service Stairs	6.8	1	6	40.8	6 floors, stair width = 1.1 m

SPACES REQUIRED	Area Per Person (in m^2)	No. of Users	No. of Units	Total Area (in m^2)	Remarks
Hallways & Corridors	70	1	1	70.0	1.5 to 2.0m wide, depending on traffic load
Pipe Chase	1	1	6	6.0	6 floors, 1.25m x 0.8m
ENGINEERING & MAINTENANCE				**521.4**	
22. Engineering & Maintenance Office				**39.6**	G/F, possibly detached building
Building Administrator	7	1	1	7.0	
Electrical Engineer	7	1	1	7.0	
Mechanical Engineer	7	1	1	7.0	
Draftsmen/Clerks	3	3	1	9.0	includes filing, storage area
Conference Area	2.4	4	1	9.6	
23. Cable TV & Internet Connectivity				**18.0**	G/F, possibly detached building
Server Room	2	2	1	4.0	enclosed, climate-controlled
Supply Room/Storage	2	2	1	4.0	
Supervisor	5	1	1	5.0	
Technicians/Repair Station	2.5	2	1	5.0	
24. Electrical Facilities				**136.8**	G/F, possibly detached building
Main Electrical Room	70	1	1	70.0	
Emergency Power Generator	6.75	1	2	13.5	2 Gen Sets x 250kVA genset (4.5m x 1.5m each)
Alternative Energy Storage	5.4	1	2	10.8	Systems inclusive of solar inverter, batteries, etc
Electrical Rooms	10	1	2	20.0	1 for residential areas, 1 for all others
Supply Room/Equipment Storage	10	1	1	10.0	
Electrical Facilities Supervisor	5	1	1	5.0	desk space
Electricians/Repair Station	2.5	3	1	7.5	desk space/repair station
25. Mechanical Facilities				**209.0**	G/F, possibly detached building
Mechanical Room	40	1	1	40.0	
Pool Water Filtration	10	1	3	30.0	one for each pool
Pump House/Plumbing	5	1	2	10.0	two pumps serving 4 water tanks

SPACES REQUIRED	Area Per Person (in m^2)	No. of Users	No. of Units	Total Area (in m^2)	Remarks
Water Heaters	5	1	1	5.0	
Solar Water Heaters	6	1	10	60.0	to be installed in the rooftop
Air Handling Unit	6	1	3	18.0	
Central Airconditioning	6	1	3	18.0	
Water Tank	9	1	2	18.0	to be installed in the rooftop
Workshop/Repair Station	2.5	4	1	10.0	
26. Carpentry				**80.0**	G/F, possibly detached building
Workshop/Repair Station	10	4	1	40.0	
Delivery Area	20	1	1	20.0	
Storage	20	1	1	20.0	
27. Waste Disposal				**38.0**	G/F, possibly detached building
Garbage Chutes	1	1	6	6.0	1 in each floor, collector at the ground floor
Materials Recovery Facility	3	1	4	12.0	outdoor
Garbage Truck Parking & Loading Station	20	1	1	20.0	outdoor
DRIVEWAYS, PARKING & LANDSCAPING				**12,727.0**	
28. Hotel Motorpool				**149.0**	covered parking
Airport Transfer Vans	18	1	4	72.0	
Limousine Service	21	1	1	21.0	
Ambulance	18	1	1	18.0	
Vehicle Maintenance Garage	28	1	1	28.0	
Crew Locker/Shower/Restrooms	2	1	5	10.0	1 shower, 2 WC, 2 urinals, 1 lavatory, locker are
29. Driveways & Parking Areas				**9,328.0**	area excluding Driver's Lounge
Driveways	1820	1	3	5,460.0	gated, based on 10% of rooms
Hotel Guest's Secured Parking	15	1	50	750.0	gated
Ticketing Entrance	18	1	1	18.0	includes driveway
Public Parking	15	1	150	2,250.0	

SPACES REQUIRED	Area Per Person (in m^2)	No. of Users	No. of Units	Total Area (in m^2)	Remarks
Staff & Management Parking					
Management	15	1	15	225.0	gated
Staff	15	1	25	375.0	gated
Bus Bay & Parking	35	1	4	140.0	
Public Utility Vehicle Curb (Jeepney/Taxi)	15	1	5	75.0	
Motorcycle Parking	3.5	1	10	35.0	
Drivers' Lounge	0.65	10	1	6.5	attached to building
Restroom	2.5	1	1	2.5	1 wc, 1 lavatory
30. Landscaping				**3,250.0**	
Front Lawn/Fountain	500	1	1	500.0	
Terraces	600	1	1	600.0	
Atrium Garden	150	1	1	150.0	G/F
Pool Lawn	500	1	1	500.0	about 2.5-3.0m surrounding pool
Outdoor Gardens, Miscellaneous Landscapi	1500	1	1	1,500.0	distributed across property
TOTAL FLOOR AREA				**16,731.4**	inc. atrium, enclosed garden, exc. outdoor facilit
TOTAL BUILDING FOOTPRINT				**3,864.6**	
TOTAL OUTDOOR AREA				**14,164.0**	

WHAT MAKES THE BUILDING DIFFERENT

This Business Class Hotel in Sanand, Ahmedabad, is strategically designed to cater specifically to the unique demands of corporate travellers and industrial professionals, unlike standard leisure or tourist-oriented hotels. While most hotels focus on general hospitality, this property is tailor-made for productivity, convenience, and professional engagement, offering a seamless blend of work and comfort.

Key Differentiators:

1. Strategic Location Within an Industrial Hub
    - Located at the heart of Sanand's GIDC industrial area, the hotel eliminates the need for long travel from city hotels.
    - Direct proximity to major industrial players (Tata Motors, Ford, Hitachi, etc.) gives business guests faster access to their destinations.
2. Business-First Design Philosophy
    - Layouts, circulation, and services are designed around a corporate lifestyle—from express check-ins to flexible meeting schedules.
    - A dedicated Business Lounge supports informal meetings, interviews, and quick networking.
3. Smart Room Technology
    - Rooms are equipped with high-speed Wi-Fi, ergonomic workstations, soundproofing, and digital automation—ideal for working professionals.
    - Long-stay suites with kitchenettes cater to consultants or project-based guests staying for extended durations.
4. Purpose-Built Meeting & Conference Spaces
    - Unlike general banquet halls found in typical hotels, this property includes:
        - Modular boardrooms with video conferencing
        - Seminar rooms for training sessions
        - A business centre with private work pods and printing/scanning facilities
        - A 200+ pax conference hall designed for corporate product launches, industry meetups, or investor presentations
5. Efficient Service Networks

- Back-of-house (BOH) services are zoned for minimal disturbance, ensuring quiet, focused environments.
- 24/7 concierge and business support (IT, logistics, courier, etc.) tailored to business schedules.

6. Quick Access & Transit Connectivity
    - Located just 35 km from SVP International Airport and 25 km from Ahmedabad Railway Station, the hotel is highly accessible for national and international executives.
7. Work-Life Balance Amenities
    - Rooftop café for after-hours relaxation or informal networking
    - Fitness centre and wellness zone to maintain well-being during tight schedules
    - Sound-insulated rooms and smart lighting to improve rest quality for peak productivity

How It Enhances Meeting & Accommodation Experiences

Features	**Meeting Experience**	**Accommodation Experience**
Location	Near factories & industrial zones for on-time meetings	Less commuting means more time for rest/work
Technology Integration	High-end AV systems, video conferencing	Smart room control, VPN-ready high-speed Wi-Fi
Space Flexibility	Modular halls & convertible spaces	Room layouts designed for both work and relaxation
24/7 Business Support	On-demand admin, tech, and logistic support	Round-the-clock room service and concierge
Professional Ambience	Formal, modern décor suited for business discussions	Calming, minimalist interiors to reduce travel stress
Extended Stay Comfort	Meeting spaces connected to lounge zones	Suites with kitchenettes for long-stay professionals

PART - 2

LITERATURE REVIEW

11. REGULATIONS FRO HOTELS AND MIXED USE DEVELOPMENT (2016) OF GOVERNMENT OF GUJARAT
12. MINISTRY OF TOURISM GUIDELINES……...
13. GUIDELINES FOR SECURITY MEASURES IN HOTELS……...
14. TIME SAVER STANDARDS (BUILDING TYPES) - HOTEL……..
15. TIME SAVER STANDARDS (BUILDING TYPES) - RESTAURANTS……...
16. TIME SAVER STANDARDS (BUILDING TYPES) - KITCHENS……
17. TIME SAVER STANDARDS (INTERIOR DESIGN)…….
18. MODEL BUILDING BYLAWS……...
19. URDPFI……..
20. INDIAN STANDARD CODE FOR HOTELS AND RESTAURANTS……

REGULATIONS FOR HOTELS AND MIXED USE DEVELOPMENT (2016) OF GOVERNMENT OF GUJARAT

6. PLANNING PROVISIONS

6.1 The Mixed use building having minimum area of 3500 sqmtr. abutting on road width 30 mts or more: (Except in the case of heritage hotel)

6.2 For the purpose of these regulations, irrespective of the Floor Space Index (FSI) prescribed in any zone, it shall be regulated as under:

Total FSI permitted on any plot shall be the sum of the Global FSI and Premium FSI where....

- Global FSI (GFSI) shall be.....
  - 0.6 in any area or
  - permissible FSI in a particular zone;
- Premium Floor Space Index (PFSI) shall be permitted at rate of 40% of the jantry.

6.3 The built up area of following shall be excluded from the computation of the FSI:

- Basement and other floors used for the parking;
- Refuge area as required as per NBC;
- Entrance Porch /Guest Drop Off Canopy area;
- Atrium;
- Fire escape stairways;
- Service floor;
- Ramps leading to parking spaces;
- Swimming pool on any floor
- Control room for security and Fire Control
- Sewerage Treatment Plant/ Effluent Treatment Plant
- Equipment /Air Handling Rooms (AHU) for air conditioning and ventilation requirements.

6.3.1 Guest Drop Off Canopy, Porch and Lift for the access to parking, at the ground level shall be permitted.

6.3.2 For safety and emergency exit, provide escape routes and refuge areas, on locations as required in the design.

The refuge and the escape area shall be regulated as under:

- to hold occupants during a fire or terror attack or any other emergency until rescued;

- Refuge Area shall be shall be regulated as under:
  - one or more refuge spaces, not necessarily be contiguous but connected with escape routes;
  - minimum area of 15 sq.mts and a minimum width of 3.0 mts
  - at least one refuge space be provided for every 6 floors or part thereof;
  - the refuge and the escape area shall be designed for safety of the occupants;
  - design of refuge area should comply with the provisions of NBC

6.3.3 Margins and Built-up area:

6.3.4 Notwithstanding anything contained in GDCR, margins shall be regulated as under:

a. Minimum clear margin of 9.0 mts in all sides shall be provided.

b. Nothing except cabin and structures related to security may be permitted in the margins;

6.3.5 Height of building:

Height higher than that permitted under the GDCR shall be known as additional height. The Additional height (AH) shall be regulated as under:

a. Up to 70 mts height shall be permitted on road width 30 mtr or more

b. more than 70 mtr height shall be permitted on road width 40 mtr or more

Provided that, in case of heritage hotel road width shall not be considered.

6.3.6 Parking:

a. Parking shall be permitted on any floor/ basements at any levels;

b. Parking in shall be allowed in one or more levels of basement;

c. Space for services which may include electric cabin, substation, a.c. plant room, Generator room, boiler room, hotel laundry, housekeeping, stores, lockers and rest room for the reserve staff. However such services shall only be permitted on one level of basement. Such uses shall strictly be ancillary to the principal use.

d. Mechanical parking shall be allowed at any level.

e. Minimum parking equivalent to 50 % of the consumed FSI shall be provided;

f. The parking can be provided in one or more lots. However it shall have to be provided within the same building unit;

6.3.7 Access for private cars, cyclists, pedestrians, service vehicles, emergency vehicles, physically challenged people, and public utility vehicles shall be designed for safety

6.3.9 On each floor minimum of one service corridor of minimum 2.5 mts width, having access from each floor and is connected to the lift shall be provided;

6.3.10 Lifts – planning and design

The planning and design of lifts shall be in accordance with National Building Code of India.

GENERAL DEVELOPMENT CONTROLREGULATION OF GUJRAT INDUSTRIAL DEVELOPMENT CORPORATION

For Industrial and commercial Development :

Road length	Width of roads
Up to 150 mtrs.	9.0 mtrs.
Above 150 mtrs. & uptot 300 mtrs.	12.0 mtrs.
Above 300 mtrs. & upto 1000 mtrs.	14.0 mtrs.
Above 1000 mtrs.	20.0 mtrs.

9. Floor Space Index (FSI) :

9(1) For residetial and industrial development, the maximum permissible floor space index (FSI) of a building unit shall be 1.6 for law rise building. Maximum built up area on any floor for law rise building shall be 50% of the area of building unit for industrial and 40% for residential and commercial purpose. For commercial development, the maximum permissible floor space index for low rise buiding shall be 1.6.

9(2) Height of Building :- The maximum height shall not be more than 13. mtrs, for building with solid plinth and 15 mtrs. for building on stilts clear from the plot level to the top of the building. In case of building for mdustrial purpose, height of more than 13 meters may be permitted of required for industrial purpose and approved by Factory Inspector.

Industrial Development and Commercial Development :

Plot Size	Front margin (In Mtrs.)
50 sq. mtr. to 100 sq. mtr.	3.0
101 sq. mtr. to 200 sq. mtr.	4.5
201 sq. mtr. to 300 sq. mtr.	4.5
301 sq. mtr. to 500 sq. mtr.	4.5
501 sq. mtr. to 10,000 sq. mtr.	6.0
10,001 sq. mtr. to 50,000 sq. mtr.	7.5
50,001 sq. mtr. and Above	9.0

12. Marginal distance between two detached structures.

12(1) There shall be provided minimum marginal distance between two detached structures as under :

For residential development	4.5 mtr.
For industrial development	4.5 mtr.
For commercial development	6.0 mtr.

14(2) In case of industries and commercial development the minimum width of approach to building shall be 3.5 mtr.

15 Plinth

No building shall have plinth less than 45 Cm. measured from the crown of the road in front of the building provided that the ground floor of the building be permited on pillars subject to the conditions that at no pointits clear height over the ground level shall be less than 2 mtrs. and further that this space shall at all times be kept free from any enclosures except for genuine stair case and sanitary block.

17. Height of floors :

17(1) The minimum height of floors in a building measured from floor finish to bottom of the lowest structural member at any point shall be 2.8 mtrs. for residential development and 3 mtrs. for commercial development.

17(2) For dining space, verandah, bath room, corridor, puja room, coal room, passage, stair cabin and pump room the minimum height shall be 2 mtrs.

17(3) The maximum floor height shall not exceed 3.6 mtr.s for residential development, 4 mtrs. for industrial development and 3.60 mtrs. for commercial development. Also refer section 22. But this limit on height may be relaxed for industrial structures if required by industrial process subject to the fire fighting provision being made as per national building code in 17(4) the loft at a minimum height of 2 mtrs. not exceeding 1/ 4th of the area of room may be allowed in any room in residential development. In case of Industrial Development Commercial and in public buildings the left at minimum height of 2.5 mtrs. for sloping room and 2 mtrs for flat roof not exceeding 1/4 the area of the room may be allowed.

18. Stair, Lobbies & corridors.

In case residential commercial and in public building the width of lobbies or crorridors in a building unit shall be as under.

(i) Minimum clear width corridors shall be 1 mtr. up to 3 mtr. length and for every additional length of 3 mtrs or part thereof, the width of corridors shall be increased by 15 cms. and upto a maximum of 2.5 mtrs.

(ii) The clear width of common stair shall not be less than 1.2 mtrs. Stair case upto 0.9 mtr. minimum width may be permited in single occupational residential bunglow/ apartment.

(iii) Minimum Stair width for more than six units tenaments on each floor shall be 1.5 mtrs.

(iv) The stair case shall be so located that it shall he within accessible distance of not more than 15 mtr. from any entrance of unit.

(v) Cantilever staircase of width upto 0.9 meters may be permitted in minimum 3 meters width margins in residential building.

19. Sanitary Accommodation :

19(1) In case of residential development minimum sanitary facilities provided shall be one toilet per unit or house. In case of industrial building sanitary accommodation as per the requirements of Factory Act shall be provided.
In case of commercial development minimum one W.C. for each sex on each floor shall be provided.
In case of use of building of a public nature minimum one w.c. for each sex, one urinal for 25 males and one urinal for 25 femals shall be provided.

20. Ventilation :

20(1) Every room in residential building should be constructed such that the same shall have for the purpose of ventilation.
- A window or windows and/or ventilators clear of such frames, opening directly into an interior or exterior open air space or into an open verandah or gallery abutting on such open air spaces having an opening of not less than 1/10th of floor area of the room or an aggregate opening of door opening on outside open space. windows and ventilations of not less than 1/7th of the floor area of the room or kitchen.

- In case of factories, industries and building of werehouses, every room in such building shall be lighted and ventilated by sufficient number of windows. ventilators and sky lighting inclusive of doors opening on outside open having clear opening of not less than 1/7 of the floor area abutting on open air space of width not less than 1/3 of the height of the part of the building abutting such open space.
- Providied these requirement may be relaxed if artificial lighting and ventilations are installed to the satisfaction of the GIDC
- The ventilation so provided under the above regulation shall be subject to the satisfaction requirements of Factory Act if applicable.
- Every stair case provided under foregoing clauses shall be lighted and ventilated to the of GIDC from an open air space not less than 1 sq. mtr.
- There shall be provided window or windows on an aggregate area of atleast 1.2 sq. mtr. on each storey in such of the wall of the stair case which abuts on such 1 sq. mtr. open air space to light and ventilate such stair case.
- In case of commercial buildings & public buildings, the ventifilation in each room shall be 1/7the of the floor area including door opening on outside open space. windows & ventilators

MINISTRY OF TOURISM GUIDELINES:

FACILITIES & SERVICES	1*	2*	3*	4*	5*/ 5*D	Yes/ No	COMMENTS
Health – Fitness and Barber's Shop	D	D	D	D	N		Indian system of treatments should preferably be offered
Beauty Salon and Barber's Shop	D	D	D	D	D		

FACILITIES & SERVICES	1*	2*	3*	4*	5*/ 5*D	Yes/ No	COMMENTS
Health – Fitness	D	D	D	D	N		Indian system of treatments should preferably be offered
Beauty Salon and Barber's Shop	D	D	D	D	D		

ANNEXURE – III

CHECKLIST OF FACILITIES FOR CLASSIFICATION / RE-CLASSIFICATION OF OPERATIONAL HOTELS

FACILITIES & SERVICES	1*	2*	3*	4*	5*/ 5*D	Yes/ No	COMMENTS
GENERAL							
Full time operation 7 days a week in season	N	N	N	N	N		
Establishment to have all necessary trading licenses / Permissions	N	N	N	N	N		
Establishment to have public liability insurance	D	D	D	D	D		
24hr. lifts for buildings higher than ground plus two floors	N	N	N	N	N		Mandatory for all hotels. Local laws may require a relaxation of this condition. Easy access for the differently abled guests.
Bedrooms, Bathrooms, Public areas and kitchen fully services daily	N	N	N	N	N		
All floor surfaces clean and in good shape	N	N	N	N	N		Floor may be of any type.
GUEST ROOM							
Minimum 10 lettable rooms, all rooms with outside windows / ventilation.	N	N	N	N	N		
Minimum size of bedroom excluding bathroom in sq.ft.	120	120	130	140	200		Rooms should not be less than the specified size. The area may include the vestibule and other covered area within the room but exclude outdoor verandah/ balcony. Single occupancy rooms may be 20 sq.ft. less.
Air – conditioning - % of Rooms	25%	25%	50%	100%	100%		Air –conditioning / heating depends on climatic conditions and architecture. Room Temperature should be between 20 to 28 degree Celsius.
A clean change of bed and bath linen daily and between check –in	N	N	N	N	N		Definitely required between each check – in. On alternate days for 1 & 2 Star category hotels.
Guest linen							Good quality linen to be provided.
Minimum bed width for single 90 cm and double180 cm.	D	N	N	N	N		
Mattress thickness minimum 10 cm	D	D	N	N	N		Coir, foam or spring foam

Minimum bedding 2 sheets, pillow and case, blanket, mattress protector / bed cover	N	N	N	N	N		Blankets available in air conditioned room as per seasonal requirement in non A/C rooms. Mattress protector is 'desirable' in 1 Star and 2 Star category hotels and 'necessary' for the other categories.
Suite *(2 rooms or 2 room-bays having a bedroom and separate sitting area, having one bathroom and one powder room.)*	D	D	D	N	N		Minimum 1 suite. A suite must be sold as one room.
Hairdryers	D	D	N	N	N		Where not provided in bathroom, must be available on request. 3 Star, 4 Star, 5 Star and 5 Star Deluxe category hotels shall provide hair dryer facility in the room on complimentary basis. In 1 Star and 2 Star hotels, this facility will be made available on request on complimentary basis.
Safe keeping / in room safe	D	D	D	N	N		1,2, and 3 Star hotels to have facilities for safe keeping in the reception. All 4 Star, 5 Star and 5 Star Deluxe hotels shall provide a safe in the room.
Mini bar / Fridge All 3 Star hotels shall have facility of a mini fridge and all 4 Star, 5 Star, and 5 Star Deluxe hotels shall have a the facility of mini bar.	D	D	N	N	N		Contents must conform to local laws.
Drinking water with minimum one glass per guest.	N	N	N	N	N		All star category hotels to provide 2 sealed bottles of branded packaged drinking water of minimum 500 ml per person per day on complimentary basis. Ultra violet treated water will not be acceptable.
Guest Linen							Good quality linen to be provided.
Shelves / drawer space	N	N	N	N	N		Necessary for hotels of 1,2 and 3 Star category to have a wardrobe.
Wardrobe with minimum 4 clothes hangers per bedding	N	N	N	N	N		In one star or two star hotels, this may be without doors.
Sufficient lighting (1 lamp per bed)	N	N	N	N	N		

1 bath towel and 1 hand towel to be provided per guest	N	N	N	N	N		
Bath Mat	D	D	N	N	N		
Guest toiletries to be provided. Minimum 1 new soap per guest.	N	N	N	N	N		Quality products depending on Star category.
Bottled toiletry products to be provided.	D	D	D	N	N		
Clothes – hooks in each bath / shower room	N	N	N	N	N		All star category hotels shall provide two (2) clothes hooks in the bath / shower room
Sanitary bin	N	N	N	N	N		These must be covered
Each western WC toilet to have a seat with lid and toilet paper.	N	N	N	N	N		
All Star hotels shall provide water sprays or bidets or washlets or other modern water based post- toilet – paper hygiene facilities.	N	N	N	N	N		
Floors and walls to have non – porous surfaces	N	N	N	N	N		
Hot and Cold running water available 24 hours	N	N	N	N	N		
Shower cabin	N	N	N	N	N		A shower with shower curtain will suffice where shower cabin is not available.
Bath tubs				D	D		
Water saving taps and showers	N	N	N	N	N		
Energy saving lighting	N	N	N	N	N		
PUBLIC AREA							
Lounge or seating area in the lobby	N	N	N	N	N		Lobby shall have furniture and fixtures which shall include chairs / arm chairs, sofa, tables and fresh floral display. Door man on duty for 4 star categories and below 4 star categories, the presence of a door man on duty in the lounge or sitting area in the lobby shall not be mandatory. However, in such areas, the presence of staff on duty shall be obligatory around the clock 24/7

Reception facility	N	N	N	N	N		Manned minimum 16 hours. Call service 24 hours. Local directions to hotel including city street maps to be available.
Valet (parking) services to be available	D	D	N	N	N		
Availability of Room, F&B and other tariff	N	N	N	N	N		
Heating and cooling to be provided in public areas	-	-	-	N	N		Temperatures to be between 20 degrees Celsius to 28 degrees Celsius. Air – conditioning in common areas like lobby, restaurants, verandahs, bar where they are open to nature on one or more sides, shall not be mandatory for beach, lake, backwater, river, hill, mountain, forest or nature hotels & Resorts.
Public rest rooms for ladies and gents, a wash basin with running hot and cold water, a mirror, a sanitary bin with lid in unisex 7 ladies toilet.	N	N	N	N	N		
ROOM AND FACILITIES FOR THE DIFFERENTLY ABLED GUEST							
At least one room for the differently abled guest	N	N	N	N	N		The room shall have low height furniture, low peep hole, cupboard with low clothe hangers, audible and visible (blinking light) alarm system and doorbell. The almirah / cupboard doors in the differently abled room should be sliding to enable opening the same by the differently abled person. Blinking light in the room and bathroom should also be connected with the door bell for the hearing impaired. Cordless telephone in the room. Direct calling facility to the front desk or operator.
Bathroom	N	N	N	N	N		Door width for room of the differently abled persons and bathroom of such rooms should allow easy accessibility of wheel chair made available by the hotel).

							For new hotels coming up after 01.04.2017, the minimum door width of such rooms and their bathroom shall be minimum 90 cm. The door width of the room and bathroom for differently abled persons in existing hotels shall be 90 cm. with effect from 01.04.2023 Bathroom for the differently abled guest shall have suitable fixtures like low wash basin with wheel chair accessibility, low vanity unit, Wall mounted seat in shower area, hand shower, Grab bars net to the WC and shower area.
Ramps with anti-slip floors at the entrance. Minimum door width should be one meter to allow wheel chair access	N	N	N	N	N		Fixed and anti – slip ramp to be provided in all public areas. Free accessibility in all public areas, and to at least one restaurant in 5 star and 5 star deluxe hotel.
Public Restrooms	N	N	N	N	N		All star category hotels should have a public restroom for differently abled guests (unisex) with minimum door width which allows easy accessibility of wheel chair (made available by the hotel). Low height urinal with grab bars. For new hotels coming up after 01.04.2017, the minimum door width of such public rest room (unisex) shall be minimum 90 cm. For existing hotels, the minimum door width of public restroom (unisex) shall be mandatory after 01.04.2023

FOOD & BEVERAGE OUTLETS							
1 Star & 2 Star							1 & 2 Star categories should have minimum one dining room serving all meals.
3 Star Category							One Multi – cuisine Restaurant cum Coffee Shop open from 07.00 am. To 11.00 pm. And 24 hr. Room Service.
4 Star category (with alcohol service or with no alcohol service)							**Grade A cities:** One Multi – cuisine Restaurant cum Coffee Shop open from 07.00 am. To 11.00 pm., one specialty Restaurant and 24 hr. Room Service. The specialty Restaurant may either be indoors with air-conditioning, or outdoors. The Specialty Restaurant must serve specific form of cuisine. The Specialty Restaurant may be open for lunch / dinner. **Cities other than grade A cities:** One Multi – cuisine Restaurant cum Coffee Shop open from 07.00 am. To 11.00 pm. and 24 hr. Room Service.
5 Star category (with alcohol service or with no alcohol service) and 5 Star Deluxe							**Grade A cities:** One 24 hour Multi Cuisine Restaurant cum Coffee Shop, one Specialty Restaurant and 24 hr. Room Service. The Specialty Restaurant may either be indoors with air – conditioning, or outdoors. The Specialty restaurant must serve specific form of cuisine. The Specialty Restaurant may be open for lunch / dinner. **Cities other than Grade A cities:** One 24 hour Multi Cuisine Restaurant cum Coffee Shop and 24 hr. Room Service. One Specialty Restaurant would be desirable.

Grade A: Delhi, ** Mumbai, Kolkata, Chennai, Bangalore, Pune, Hyderabad, Secunderabad. Note: The Ministry of Tourism may review and revise the cities falling under the Grande 'A' from the time to time. ** Delhi would include the hotels falling Gurgaon, Faridabad, Ghaziabad, Noida, And Greater Noida"							
Crockery and glassware	N	N	N	N	N		Plastic ware acceptable in pool area.
Cutlery to be at least stainless steel	N	N	N	N	N		All category hotel should see good quality metal cutlery. Aluminum cutlery is prohibited.
Bar	D	D	D	N	N		Bar will not be mandatory wherever bar licence is prohibited as per local law. Wherever bar is allowed as per local law, the hotel will have to first obtain bar license before applying to the Ministry of Tourism for Classification of the hotel. Liquor shops/ liquor stores will not be considered while granting classification under 'with alcohol' category.
KITCHEN / FOOD PRODUCTION AREA							
Refrigerator with deep freezer	N	N	N	N	N		Capacity based on quantum of F&B Operations.
Segregated storage of meat, fish and vegetables	N	N	N	N	N		Meat, fish and vegetables to be kept in separate freezers
Tiled walls, non slip floors	N	N	N	N	N		
Colour coded synthetic chopping boards	N	N	N	N	N		Wooden chopping boards
Head covering for production staff	N	N	N	N	N		
Daily germicidal cleaning of floors	N	N	N	N	N		
Good quality cooking vessels / utensils	N	N	N	N	N		Use of aluminum vessels is prohibited except for bakery
All food grade equipment containers.	N	N	N	N	N		
Drinking water	N	N	N	N	N		Water treated with UV+ filtration
Ventilation system	N	N	N	N	N		
Garbage to be segregated – wet and dry	N	N	N	N	N		To encourage recycling
Wet garbage area to be air-conditioned.	D	D	N	N	N		
Receiving areas and stores distinct from garbage area.	N	N	N	N	N		Should have sink with table surface, weighing machine

Rain Water Harvesting	N	N	N	N	N		
Waste management	N	N	N	N	N		
Pollution control methods for air, water and light	N	N	N	N	N		
Introduction of non CFC equipment for refrigeration and air conditioning and other Eco-friendly measures / initiatives.	N	N	N	N	N		

Checklist of Services and Facilities (Annexure III)

D Desirable

N Necessary

There is no relaxation in the **'Necessary'** criteria of the Checklist of Services and Facilities (Annexure II), except as specified in the comments column of said checklist.

GUIDELINES FOR SECURITY MEASURES IN HOTELS:

EXTERNAL ACCESS OF CONTROL:

I. LIM ITING ACCESS POINTS

The number of access points needs to be reduced to a minimum of two or three and entry of persons regulated and monitored through CCTV cameras placed at such points.

II. PERIMETER SECURITY SYSTEM

A three-tier security system should be put in place-

(a) At the perimeter, on the outside of the hotel itself, cars must be stopped, boots checked and mirrors put under the car chassis to detect explosives.

(b) Vehicles driving up to the hotel door should be discouraged. Vehicles should not be allowed to go right up to the door. Guests must alight at some distance away and walk-up.

(c) There should be closed circuit TVs installed in all public areas of the hotel, especially at the alighting point and entrance door for scanning people coming into the hotel.

III. ROAD BARRIERS

Premium hotels could consider installing devices like hydraulically operated road barriers or retractable bollards that can stop vehicles coming at high speed. Short humps can be raised from ground level to slow down/stop vehicles.

IV. SHRUBS AND VINES

Heavy shrubs and vines should preferably be kept away from the hotel building and trimmed close to the ground to reduce their potential to conceal criminals or bombs.

V. PATROLLING

Increasing the number of Security Guards and stepping up patrolling can be an effective deterrent to criminals.

· MATERIAL ACCESS CONTROL:

GUEST BAGGAGE CHECK

(a) Baggage should be taken to a drop point, away from the lobby and passed through baggage scanners which can detect the shape and density of the objects with a high degree of clarity

(b) Handheld bags must be checked at the entry point.

· PEOPLE ACCESS CONTROL:

I. WALK-IN GUESTS

Hotels should not entertain Walk-in guests' (without reference or pre-bookings)

II. GUEST PROFILING

Hotels should put in place a computer linked guest profiling system to zero in on persons of suspicious antecedents whose names figure in the Ministry of Home Affairs' Watch List. The information would include details such as full name of the guest, date of birth; nationality, sex; passport number, country issuing the passport; country of residence; visa number, date and place of issue.

III. EMPLOYEE VERIFICATION

Internal security must be ensured through background checks and antecedent verification of employees and service providers. Temporary staff should be hired from reputed contractors who maintain up-to-date database.

IV. VISITOR MANAGEMENT SYSTEM

A visitor management system is essential. All visitors must be given a 'Visitor Pass'.

INTERNAL ACCESS CONTROL:

I. Within the hotel there should be restriction on access to different parts of the hotel.

II. Access of staff to various departments in the hotel can also be regulated through proximity cards with magnetic inter locks.

III. Entrances to areas such as Boiler Rooms, Mal Rooms, Computer Rooms, Switch Boards and Control Rooms should remain locked when not in use.

IV It is also necessary to establish a procedure for the accountability of their keys.

V LIFT USAGE

(a) The practice of people entering the lobby and taking the lift to any floor must be stopped.

(b) Lifts should be programmed so that Guests staying in hotels are able to go only to the guest floor they are on by swiping their room card in the lift and it should only let them get out on the guest floor they are on.

·OTHER SECURITY MEASURES:

I. ROOM KEY SCANNERS

The US Department of Energy, through its Oak Ridge National Labs, has developed Mass Spectrometry Scanners which can analyze up to 1000 guest room access cards per hour. These can detect even a billionth of a gram of explosives such as Nitroglycerine or TNT. Even if a tinge of explosive has been touched by the guest it would alert the staff immediately and information flashed to security agencies.

II. SNIFEX

Snifex is a small handheld device with an ariel. The ariel starts V pointing to the direction where explosive is kept from a distance of a few meters.

III. TRASH MANAGEMENT

An explosive device can easily be hidden in the trash. Trash cans need to be managed by trustworthy personnel

· CRISIS MANAGEMENT PLAN

I. Hotels must have a plan of action ready in case of an emergency Staff should be trained by mock drills in evacuations to help people in terror situations.

II. Hotels need to build strong in-house systems to prevent or deal with a crisis; train and motivate staff to respond to an emergency and evacuate guests if there is shooting or a bomb goes off. There should be a designated nodal executive in-charge of the crisis management team.

III. During crisis, calls start pouring from all over the world for news of the welfare and safety of guests and from the media persons who file reports on TV channels and in newspapers. There should be a nodal point and a designated person for information dissemination and to respond to al enquiries during a crisis.

TIME SAVER STANDARDS (BUILDING TYPES)- HOTEL:

- It must be borne in mind that, as far as planned circulation is concerned, there must never be a mingling of the front-of-the-house services with those of the back of the house.
- The two functions must be kept separate and yet so interrelated that both functions smoothly and efficiently.
- The physical environment becomes an important part of the guest's creature comfort. These factors include color and decor, lighting, proper air temperature, comfortable furnishings and, above all, a pleasant and relaxed atmosphere.
- This involves the economics of a new hotel, which will center upon the cost of construction and furnishing. These costs represent, together with the cost of the land, the amount of money that is to be invested.

1. BACK OF THE HOUSE:

- Though rarely seen by a guest, the back of the house is the most crucial part of the plan. It must be laid out with two paramount objectives: control and efficiency. Foodstuffs, housekeeping supplies, and a great many other items must be received out of sight of the hotel guests. Such receiving is usually done at a loading dock, which should be covered so that deliveries can be made regardless of the weather.
- This is usually the function of a receiving department that should be located directly on or adjacent to the loading dock. Tight control must be exercised in two directions. In one direction, it is not uncommon for material to be delivered and, within a short time of its having been left on the dock unchecked, for the management to find that this material has disappeared or that some parts of the shipment have gone astray. The second part of the control is to make sure that, once these shipments have arrived, they go directly to their destination without a chance- of becoming lost on the way.
- A good back-of the- house plan will be worked out in such a way that the flow of supplies is tightly controlled by the security that the architect works into his plan
- Tight, well-planned back of the house will have circulation patterns that will provide the utmost in control.
- In the larger hotels, garbage destructors or compressors may be used, in which case tight surveillance is necessary only in the garbage receiving area. Where garbage is shipped out, it is wise to have the garbage rooms so placed (and, incidentally, refrigerated) that the receiving office has this space in full view.
- A tight control at the point of entry and egress of all employees is highly desirable and can easily be accomplished if it is the same point as that at which food and other hotel supplies are brought in. Once again, the architect's careful planning will make it possible for employees to reach their various dressing and locker areas with a minimum of travel time lost. It must be borne in mind that there is class distinction in hotels and, as an example, that dishwashers and porters are not placed in the same locker rooms as head waiters and reception clerks.

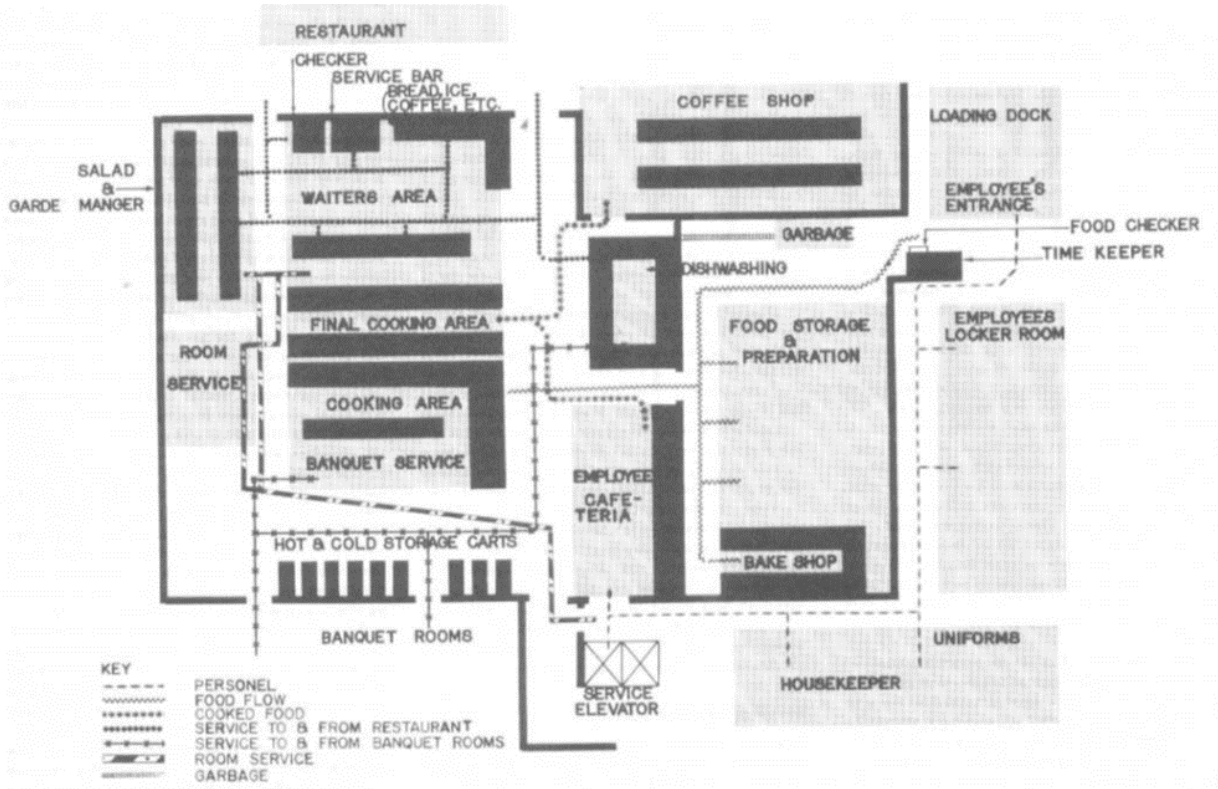


Fig. 1 Flow diagram of service areas.

- Locker rooms should be provided with ample toilet facilities and showers. Once the personnel have changed into their uniforms, the plan of the back of the house will make it possible for the people to get to their work stations with little time lost.
- Uniform issue is related to the housekeeper, the housekeeper to the laundry room, and the laundry room to the soiled linen room. The soiled linen room connects by vertical linen chute to the service room on every typical floor, and every typical floor is connected by a service elevator that opens to the lower-floor service area convenient to the scrutinizing gaze of the steward and the timekeeper. For convenience, a trash chute (Fig. 2), going from every typical floor service area, should be located next to the linen chute.

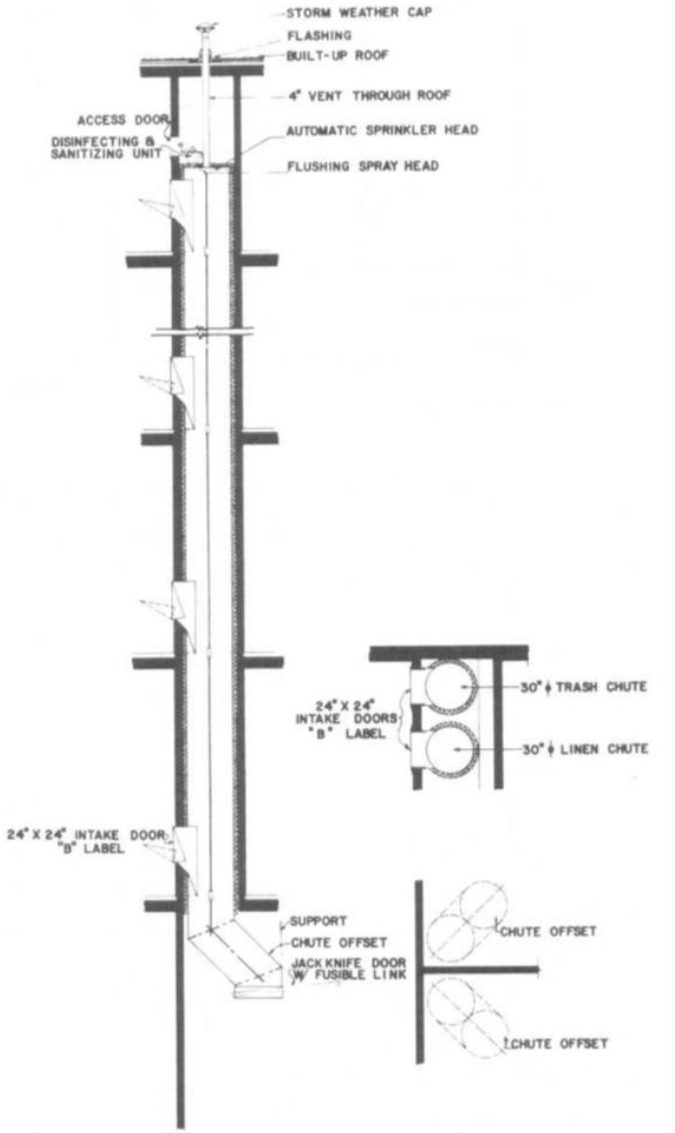


Fig. 2 Trash or linen chute.

2. LAUNDARY FACILITIES:

A laundry is a usual adjunct of most good-sized hotels.

A hotel laundry that does its own uniforms and flatwork (sheets, pillowcases, linens, etc.) requires a good-sized space for washers, dryers, drum ironers, and various pressing machines-each suitable for its own type of flatwork, uniforms and guests' laundry, and men's and women's wearing apparel.

Larger hotels will maintain their own cleaning department for dry cleaning and pressing of woolens and similar garments. Such a cleaning and valet service is usually a part of or close to the laundry area, and it is definitely under the supervision of the laundry manager.

3. HOUSEKEEPING DEPARTMENT:

- The housekeeping department, having several functions, is the province of the chief housekeeper, who will usually have assistant floor housekeepers. Under the housekeeper's strict control and supervision will be all the maids and porters
- The porters will deliver to the service areas on the guest-room floors all linen and soap as well as facial tissue, toilet paper, matches, room service menus, and ashtrays.
- The housekeeper's area is also a storage area, for here are kept all the supplies that become a part of housekeeping.
- It might be useful for the architect to know how many rooms a maid can make up during her daily tour
- It rarely goes beyond 15. One porter is usually assigned to each maid. In addition to the regular daytime maid, there will be, in most hotels, a night maid who will make up beds for guests ready to go to sleep.

4. FOOD AND BEVERAGE SERVICES:

- The flow of the raw food from the time it is delivered to the steward until it is finally cooked and ready to be picked up by the waiters or the waitresses.
- After the comestibles have been weighed in, checked, and signed for, they are sent to either dry storage or liquor storage (a room with a big lock on it) or to one of the various cold holding rooms or boxes. Canned food and other bottled or packaged food which does not need refrigeration will be sent to dry-storage rooms. In this storage space will also be kept the various condiments that the chef will need in the preparation of his food. Vegetables will be sent to an area where they will be stored ready for preparation. A refrigerator box of the proper temperature will be needed, as well as work space, sinks, and cutting boards where vegetables will be prepared for the chefs as needed. Vegetable preparation area is needed.
- Dairy products will go to their own cold-storage boxes. Fish, fowl, and meat will go to a separate area
- Freezer, refrigerator, and cold storage boxes require heavy insulation. Slab sinkage in these areas should be provided for.
- The bakery shop should be a separate entity, having its own refrigerator boxes as well as all the pertinent equipment that a baker will use in his art---and an art it is, indeed.
- Here again, one should be reminded that the bakery should be close to the actual food service area so that not too many of these goodies find their way into the locker rooms or out of the hotel entirely.

KITCHEN- The food from the prep area is brought to the various points where it is to be used. One of the first areas to which a good part of the prepared food will go is the rough cooking area. Here we find the big soup kettles, the vegetable steamers, the ovens, and the hot tops where most of the bulk foods will be prepared.

Pot washing area close to the rough or preliminary food cooking area. Rough cooking is usually backed up to the finished cooking area.

Between the chefs' ovens, broilers, and fry- errs, which are aligned in a straight line, there will be an aisle for the chefs. On the other side of this aisle will be the serving tables from which the waiters will pick up the finished food. At the bottom of these tables will be plate. warmers which the waiter picks up and sets on the table so the chef can place the order of the specific dish that is required.

This entire area is for self-service by the waiters, who will pick up the items they need on their way to the guest waiting for the delivery of his food.

DINING ROOM- The dishwasher is usually placed close to the Dining room area so that the dishes can be disposed of as soon as the waiter or busboy enters the kitchen. The dishwashing area is, of necessity, not only noisy but also a rather untidy operation, SO it must be kept fairly isolated from the actual cooking and serving area.

- Then, before entering tire. dining room, Ire will usually go by a checker's desk where he presents a check indicating the items that he is taking out of the kitchen to the diner.

One other space will usually occur in our ideal kitchen--a service bar with a bartender who will prepare tire drinks that the waiter has ordered.

There will be a chef's office, which is set where the chef can observe all the activities in tire kitchen. His office is usually enclosed with glass to give him aural privacy but complete visual control. Here the chef will prepare and plan menus.

Room-service area- Here there must be sufficient space for a fairly large number of room service rolling tables, which are set and ready to carry the dishes that have been ordered by the guest via telephone.

The room-service area is always close to tire cooking and garde manger area.

The room service area should, of necessity, be as close to the service elevators as possible.

COOKING AREA- The cooking area, consisting mainly of griddles, will be manned by short-order chefs who are ready to prepare various hot breakfast dishes, and the garde manger section will be manned by a crew who are expert in the preparation of breakfast menus.

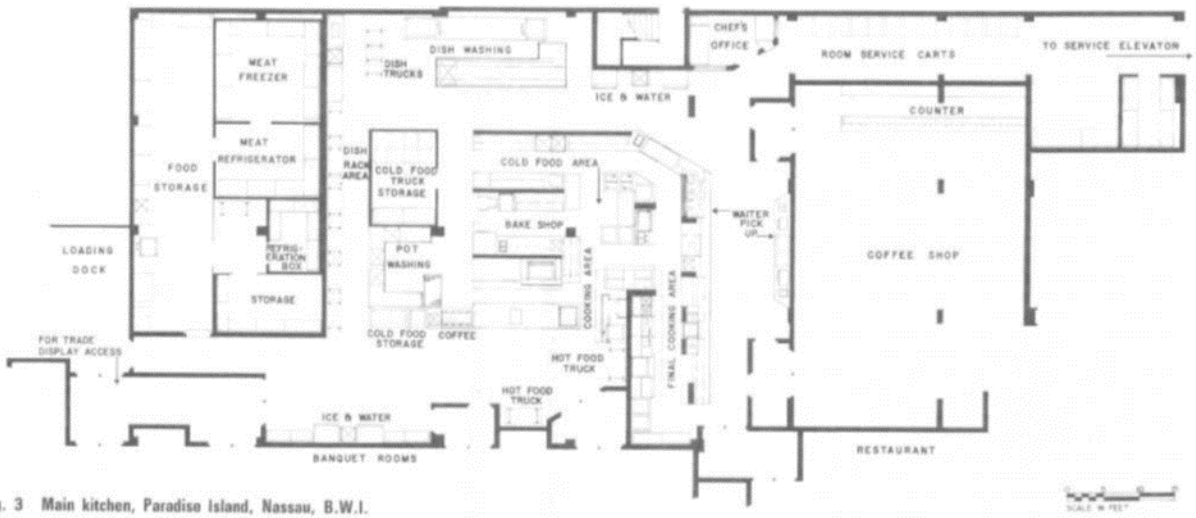


Fig. 3 Main kitchen, Paradise Island, Nassau, B.W.I.

BANQUET HALLS- In the banquet area there will be mobile cabinets that take trays. These are electrified cabinets arranged to keep dishes either hot or cold. Those banquet cabinets can be stocked before a banquet for certain types of manes.

A large banquet area in a hotel will require a separate banquet kitchen with its own cooking facilities as well as its own dishwashing area.

One last observation: it is an excellent idea to have toilets and washrooms for kitchen help, so that it isn't necessary for them to return to their locker rooms, which may be at some distance. It is always advisable to keep the kitchen help within the kitchen during their stint of duty. Doors to dining rooms, and there may be several dining rooms serviced by the one kitchen, should be strategically placed and baffled so that the diners do not have a view of what goes on in the kitchen, and, what is more important, do not hear what is going on.

The ideal plan would be to place the coffee shop backed up to the kitchen, so that certain finished dishes and prepared foods can be delivered to the coffee shop work area directly from the main kitchen under complete control and it passes from prep areas to kitchen to coffee shop.

At the counter we will usually find a pickup area where the waiters can pick up the food prepared for them without disturbing the diners who are sitting at counters. Dirty dishes will be sent back to the dishwashing area through a pass-through, or they will be carried to the dishwashing area in the main kitchen.

Employees' cafeteria- This space is usually planned to be close to the help's locker rooms and yet contiguous to the main kitchen.

Beverage service area- This may be a bar room or a cocktail lounge. In any case, there will be a bar with stools (if local codes permit) and an area for cocktail tables and chairs. A cocktail lounge must be serviced just as the kitchen is serviced. To the bar must be brought not only liquor and bottled goods but also the usual crunchies.

Ideally, the delivery should be made directly to the back bar through pass-throughs from the kitchen, so that we find once again another unit backed up to the ideal kitchen.

5. MECHANICAL SPACES:

Another area that should be considered in designing the back-of-the-house spaces will be the boiler or mechanical room. In this area will be found the various pieces of equipment for heating and cooling as well as all the tanks and pumps to keep all the mechanical systems in operation.

In this area will also be found all central switch gear that controls electric current for every purpose in the hotel complex. This domain belongs to the house engineer and, naturally, there should be provision for an engineer's office, with a mechanical repair shop close by.

These would include a carpentry shop, an upholstery shop, and definitely an area for a locksmith. Somewhere in the area, where they are easily accessible, will be storage rooms in which will be kept a multitude of spare parts to service the hotel. be occupied by personnel that very often come in contact with the guests, and the strategic location of these back-of-the-house facilities will be controlled entirely by what happens in the front of the house.

Included in these areas you will find accounting and bookkeeping offices (which back up the front cashiers); reservations offices (which back up to the front registration desk); and offices for management, which will include a reception area, a manager's office, and an assistant manager's office.

There is also a mail sorting room.

6. FRONT OF THE HOUSE:

The guest or the paying customer sees only the front of the house, and this must be all that he desires.

The front of the house comprises every area that the guest will see; lobbies, dining spaces, rest rooms, passenger elevators, corridors, hotel rooms, etc. These spaces must be handled and planned with one thought in mind: the convenience and continued approbation of the guests.

The registration desk and the elevators should and must be immediately apparent. The registration area consists of a front desk, behind which is a registration clerk, behind whom is the key and mail rack, and behind that the various administration spaces.

7. GUEST REGISTRATION:

A hotel registration desk must be located so that it is immediately visible as one enters the hotel lobby. The size of the desk will be determined by the size of the hotel.

2,000 rooms might have anywhere from four to six registration clerks, while a hotel of 100 to 200 rooms will have one or at roost two spaces at which guests may register.

The simplest arrangement will call for a suitable file containing advance reservation cards requesting space, so that the clerk can quickly check what room has been reserved for what particular guest.

Advance registration counter

8. MAIL AND KEYS:

There are two other services that the front or registration desk must perform. The first and obvious one is to serve as the place where the room keys are kept.

If the registration clerk handles the key, then obviously the key rack is directly behind the desk, easily accessible to the registration clerk. If the hotel is large enough to require separate area and separate personnel for handling of keys, this function will usually be alongside the actual registration desk.

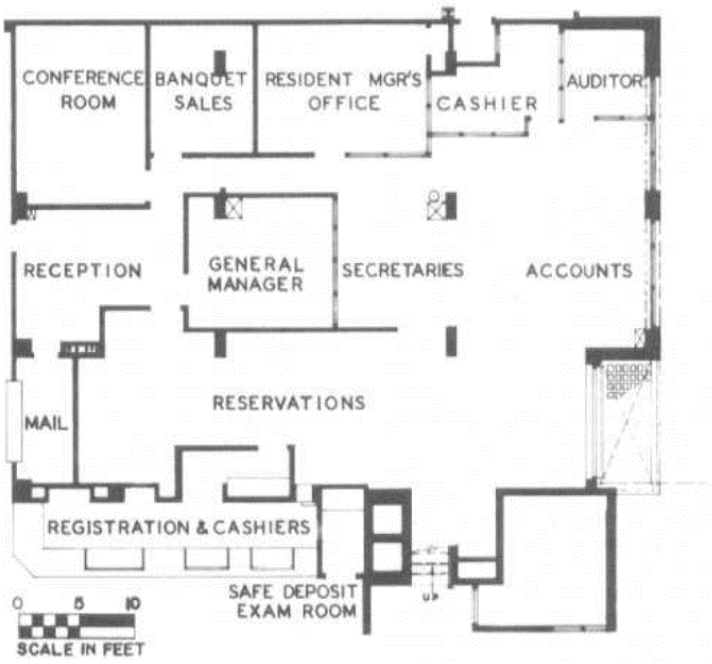


Fig. 4 The Churchill Hotel, London.

9. CASHIOR:

The average hotel usually has the cashier's counter located adjacent to the registration desk.

The larger hotels may place cashiers in the so-called "front desk" area but somewhat remote from the actual registration desk. There are times in large hotels, especially those catering to conventions, where one convention is checking out while another is checking in. This will make for traffic congestion and some confusion. Such a situation can be avoided by planning the registration and cashier facilities so that lines forming in front of the registration desk do not conflict with lines forming at the cashier's counter.

Larger hotels will have a complete bookkeeping department. This will require more than just the actual cashiers, who remain at their stations, while the bookkeeping department handles all entries and bookkeeping for the guests. It is obvious that this bookkeeping department should be close to if not backed up to tire front desk cashiers, so that any questions of charges can be quickly checked and adjusted by the cashier, who will contact the bookkeeping department for clarification or corrections in the guests' bills.

Therefore, a small closed room is normally provided. The guest enters this room and gives the valuables to the cashier through a pass-through window. This pass-through window should have a view of the vault or the safe so that the guest can watch his valuables being deposited properly.

In large hotels, where there are a number of restaurants and other facilities which entail cash payment, special arrangements should be made for the handling of this cash and, in some instances, safety deposit

boxes or vaults are provided so that the money can be stored when it is brought to the cashier space at off hours.

10. ADMINISTRATIVE AREA:

The administration of a hotel operation depends entirely upon its size.

A larger, medium-sized hotel will have a manager and an assistant manager and, as a rule, there will be e reception office where one or two typist receptionists will be acting as a buffer between the public and the manager.

A side from the manager and the assistant manager, there may be an office for a food and beverage manager and a banquet manager. A larger hotel, with sizable convention facilities, will also have an office for the convention manager and his assistants.

11. RESTAURANT FACILITIES:

Under normal situations there will be a cocktail lounge or beverage bar even in the smallest dining facility. The larger hotel will have a pleasant coffee shop for quick service and for simpler meals, whereas a restaurant, with its appropriate decor for more leisurely dining, will offer a more varied menu with probably higher cost per meal than in the coffee shop. The cocktail lounge will usually be found close to the dining room so that hotel guests can pause for a cocktail before lunch or dinner, or while waiting, before going to the dining room", to meet friends or other guests. Where convention facilities are offered within a hotel, it is wise to have a bar placed close to the convention facilities.

Large convention and banquet facilities usually provide a fixed or portable bar arrangement in the pre-assembly or foyer areas to take care of pauses between meetings and seminars and to fill those pauses with a facility that will provide a "pause that refresh." There is no special requirement for the design of hotel restaurants, bars, cocktail lounges, and coffee shops which are in any way different from the standard requirements for any such facility.

Wherever a rooftop restaurant is created, the architect must bear in mind that there will be increased traffic in the elevators taking diners from both in and outside the hotel to this specialized rooftop facility. And don't forget that, because of public assembly requirements, the stairs must be sized larger. Supper clubs or nightclubs will also be found in the larger hotels with this type of dining and entertainment area along with orchestra dressing rooms.

12. LOBBIES:

Every hotel, regardless of its size, must have a public lobby. The size of the lobby is largely determined by the number of guest rooms as well as by the type of hotel that is on the architect's drawing boards.

Furnishings, color, finishing materials, lighting, and decor must create the proper ambience regardless of whether the hotel is large or small, in a city or a resort, moderately priced or expensive.

13. ELEVATORS:

Except for one- and two-story motels, every hotel and motel will use elevators to take guests from the point at which they have checked in up to the floor where the guest's room is located. Elevators should be located so that they are immediately visible, either from the entrance of the hotel or from the check-in or registration area. Another consideration in the planning of elevators is that of their location on the guest-room floors. It is advisable to place them centrally so that the distance walked by a guest in any direction is reduced to a minimum.

The number, size, and speed of the required elevators is best determined by the elevator companies themselves.

Service elevators are separate and apart.

Each bank of elevators should be strategically located to best service the front of the house (guests) or the back of the house.

The bell captain's station should be located so there is a commanding view of the hotel entrance, the registration desk, the cashier, and the elevators.

Somewhere in the lobby there should be a rather large storage spare for luggage which may be left by guests after checking out but prior to departing.

14. GUEST FLOOR CORRIDORS:

It is wise to remember that no guest-room doors should be placed opposite the elevators. Guests coming or going late at night, coming out or getting into the elevators, may talk loudly or may be too noisy, in which case they would be disturbing guests whose doors open off this area. The foyer should be further demarked from the guest-room corridor by its decor and lighting.

One of these appurtenances would be a small bench or some type of seat for guests who may want to wait in the foyer for the elevator or who may be waiting to meet someone else on the floor. It is also a thoughtful gesture to have a full-length mirror in this area; men as well as women guests appreciate the chance to have a look at themselves before descending to the main lobby floor. There should obviously be a good-sized ash receiver for cigarettes, cigars, and other trash nuisances that the guest may want to get rid of before getting into the elevator.

Good practice indicates that a corridor should, if at all possible, not be over 100 ft in length.

There is very little choice in the width of a corridor. Normally, 6 ft is considered an adequate width, although some hotels have made do with only 5 ft.

Another expedient, which may be used either in a narrow corridor (under 6 ft) or a standard-width corridor, would be the device of recessing the bedroom or guest-room doors. Setting doors back from the corridor wall 1 ft or even as much as 2 ft gives an apparent width to the corridor and, what is more important, it gives each room entrance its own sense of privacy and individuality.

A flush panel door is the least expensive but also the least desirable type of door for a guest room. If only a flush door is used, strong color might be helpful,

The lower portion of the wall, therefore, might well be designed as a dado made of a bruise- and shock-resistant material or merely marked off with a contrasting color or wall covering.

15. GUEST ROOMS:

The length and width are determined by the amount of furniture that is to go into the room and by the degree of luxury that the hotel operator wishes to achieve.

The most common room in the hotel field today is the twin-bedded room. Then we have the possibility of a single occupancy room, and, lastly, studio rooms or suites.

The next consideration is the size of the beds themselves. There are single beds which are 3 ft 6 in. wide, a full-sized bed which is 4 ft 6 in., a queen-sized bed which is 5 ft wide, end a king-sized bed which is 6 ft wide. Presently, all beds are still being made in a 6-ft 6-in. length dimension.

If at all possible, there should be a3-ft aisle and, if no furniture is placed opposite the bed (a very unlikely arrangement), then the width of the room would be a minimum of 10 ft 6 in.

Where furniture will be placed on the wall opposite the bed, such furniture will most likely consist of a dresser or cupboard with drawers. Such a piece of furniture requires a minimum of 18 in. in width and most likely an optimum width of 24 in.

The most common arrangement found in most hotels consists of two comfortable armchairs with a cocktail table between them. A comfortable chair will require a depth of least 30 in. and another 30 in. of leg space in front of it, which means that we need at least 5 ft from the wall before we encounter the first piece of furniture, which will probably be a bed.

In talking of lighting, we must bear in mind that we want not only a lamp or a ceiling fixture over the sitting area but also adequate reading lights for the beds. The most often used arrangement is a twin-headed lamp sitting on the night table between the two beds.

Another piece of fixed furniture that is desirable is a luggage stand.

This could be a straight-backed chair or a stool placed in front of the writing-makeup table.

Between a pair of twin beds, the ubiquitous nightstand with its small storage space below is standard.

SUITES: Another popular arrangement in hotels is that of the so-called "studio room." Dual sleep pieces have been developed which are comfortable sofas during the day and perfectly comfortable beds at night.

The purpose of a studio arrangement is to enable the guest to use his room as a true sitting room.

Another reason for having these studio rooms is that they may double as sitting rooms for suites by having one room, which is a normal bedroom or guest room, adjoin another room which is furnished as a studio room. Thus, the hotel can provide a two-room suite (obviously, connecting doors must be provided between these two accommodations).

Every hotel should have arrangements for suites of a permanent nature as opposed to a combination of a studio room with a typical guest room. Suites will be furnished like fine sitting rooms. They are used not only by the affluent traveler because he can afford it but also by travelers who do a good deal of entertaining, especially business travelers who entertain clients and customers on their arrival in any given city.

These suites are also often used by two couples or by a large family, in which case the sitting room of the suite may be used for sleeping at night. In this case, dual sleep pieces will be required, but they will usually be the type that is referred to as a "davenport," or the type of sofa which opens out to become a comfortable double bed (never as comfortable as a true bed). These suites should have a good-sized dining table with a sufficient number of chairs, provision for an adequate desk (since some business may be carried on in that room), a sufficient number of comfortable lounge chairs, and an accessory table.

It is a good practice to arrange the sitting room of a suite so that it connects with at least two bedrooms and, if at all possible, three and sometimes even four bedrooms.

Suites will usually be found in the corner of a building, which makes it possible for the planner to join up several bedrooms.

+ There are times when suites are not used, and the hotel should be able to rent each of the rooms in the suite separately.

A foyer which connects the bedrooms and the sitting area makes this separate keying of rooms possible.

- A complete bathroom should be planned for each of the sitting rooms of a suite to make it possible to rent the rooms out singly.
- Since this room will be used for entertaining (either business or private), a bar with water connection becomes a pleasant adjunct.
- Obviously, these rooms will be placed on the lowest floors so they can be close to the public spaces for the convenience of those who are going to use them for meetings or seminars in connection with a larger convention or meeting taking place in the hotel.

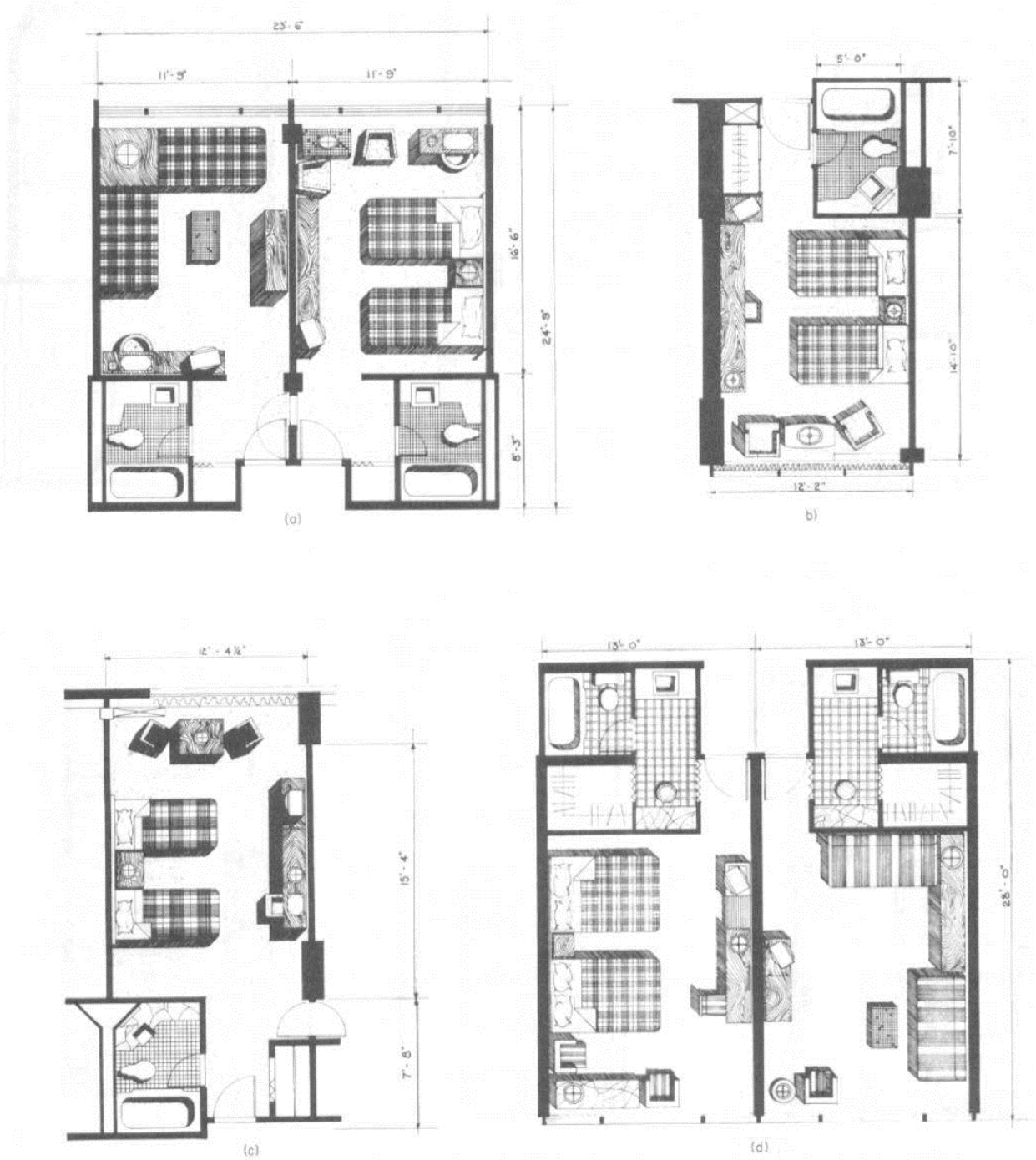


Fig. 5 (a) Uris Brothers Hotel, New York. (b) Americana Hotel, New York, typical tower room. (c) Loews N.Y. Motel, typical room. (d) Causeway Inn, Tampa, Florida.

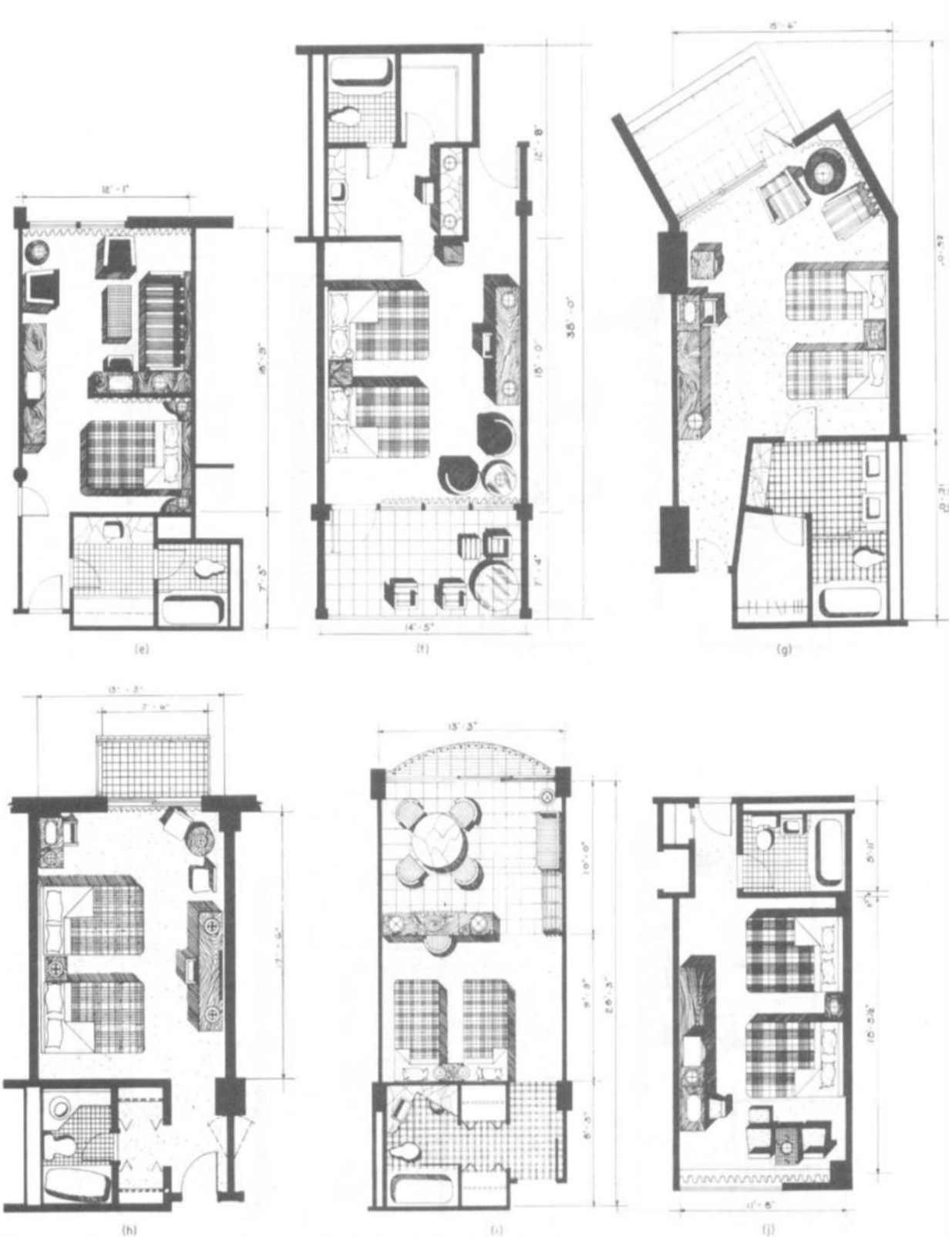


Fig. 5 (cont.) (e) Tampa International Inn, Tampa, Florida. (f) Indies House, Duck Key, Florida. (g) Americana Hotel, Bal Harbour, Florida. (h) Paradise Island Hotel, Paradise Island, Bahamas. (i) Americana of Puerto Rico, typical room layout. (j) Massena Motor Inn, Massena, N.Y.



Fig. 5 (cont.) (k) Chicopee Motor Inn, Chicopee, Massachusetts. (l) and (m) Thomas Circle Motor Hotel, Washington, D.C. (n) Riverview Motor Hotel, New York.

16. GUEST BATHROOMS:

The minimum bathroom will have a combination tub-shower, a lavatory, and a water closet.

An innovation devised by the writer's firm was the introduction of two lavatories in the bathroom facilities. These two lavatories may be right in the bathroom itself, they may be pulled out into a dressing area, or one lavatory may be placed in the bathroom and another outside the bathroom.

Bidet is being introduced. Obviously, this additional feature is found only in the most luxurious hotels.

A wall-hung unit makes cleaning of hotel bathrooms easier for the maid, but again, its economics will determine whether this fairly expensive type of installation is warranted. The tub in a guest room is normally a 5-ft tub.

The normal shower head becomes standard in all hotels, although there is a growing tendency to using the so-called "telephone shower head."

The normal wall shower head, and by using two movable shower-head supports, one at the normal hand level and one at the higher level where a fixed shower head normally would occur, the guest has the option of allowing the hand type shower head to remain in a standard position or to remove it and use it as he pleases.

It is preferable to have a ledge on which toiletries may be placed, where they are conveniently reached, and where, obviously, they will not be left when the guest checks out.

If a ledge is used, the toilet tissue holder can be placed within the recess of the ledge, es can be the tumbler holders and the toothbrush holders. Obviously, an electrical convenience outlet must be placed in this area for electric shavers, electric toothbrushes, and other electrical gadgets that today's traveler takes with him. A slot receptacle for used razor blades should not be forgotten. Towel bars must be strategically placed so that the guest can reach for a towel regardless of whether he is stepping out of the tub or whether he is washing or shaving et the lavatory.

Another nicety which might be provided is some form of clothesline. With today's wash-and-wear apparel, many guests, especially women, like to do their washing at night and hang their garments in the bathroom.

A number of hotels are installing a wall-hung mirror which is an enlarging mirror on one side and a normal mirror on the other, a very nice touch for both men and women guests.

17. GUEST CLOSETS:

- The size of a closet will be determined by the type of hotel.

- Having the open hanging arrangements obviates this possibility. The longer the guest-room stay that is anticipated, then the larger the closet.
- It should be possible to store the luggage out of sight in the closet without diminishing the available hanging space, the shoe-rack space, or shelf space for hats and other apparel and paraphernalia. Whether the closet is a flat reach-in type or a walk-in type, the door should be such that, when the closet is opened, there are no hidden recesses where clothing may be forgotten because it cannot be readily seen by the departing guest.
- A good closet will have a hang rod with sufficient space to comfortably hold men's and women's clothes, a shelf for packages, hats, etc., and a shoe ledge or rack for placing shoes.

18. GUEST FLOOR SERVICE SPACES:

- Every guest-room floor will have a service area.
- Primarily, it is a place where linen is stored and where the maids' carts are kept. We must bear in mind that each maid will handle anywhere from 12 to 15 rooms and that each maid will need a cart. The number of rooms on the floor will, therefore, determine the number of maids and, in turn, the number of carts.
- A closed storage area should be provided for the storage of linens. In addition to the maids', porters', and linen supplies, sufficient space should be left for the storage of room-service carts.
- They may have to remain on the floor for some time waiting for the service elevator or elevators. Obviously, the service elevators will open out to this service area, so that all this activity takes place out of the sight and hearing of the hotel guests.

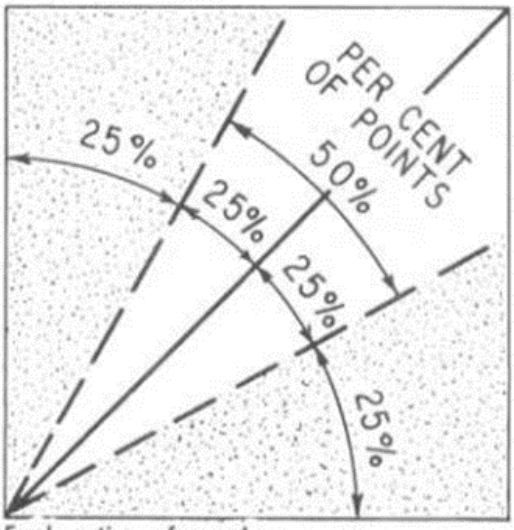
19. BANQUETING FACILITIES:

- Larger hotels will have a more diversified arrangement for meetings, luncheons, dinners, and banquets. The largest hotels are usually designed with a full banqueting and convention facility.
- The normal meeting room requirements are rather simple. The rooms will vary in size to accommodate anywhere from 10 to as many as 100 people. In most instances, wherever it is feasible, the meeting rooms will be arranged in a straight line, so that the walls separating one room from the other can be made movable.
- Thus, if two meeting rooms which normally might seat 25 people are thrown open to one, we would have a meeting room to take 50 people; and if another wall is opened, we would be able to seat 75 people, and so on.
- In larger rooms, which normally qualify for conventions or large banquets, it is also possible to subdivide the space by the use of movable walls to create smaller rooms when a large room is not required. A large space which might seat 1,000 people when all folding wells have been moved back can be cut up into anywhere from four to six spaces, allowing for meeting rooms that can accommodate 150 to 250 people.

- Of course, in the really large convention halls, it will not be unusual to seat 3,000 or more people in one large convention banquet hell. Realizing that food must be brought to all these rooms, their juxtaposition to serving kitchens is highly important in arranging the plan.
- For the most part, food should be brought directly from banquet kitchens to the banquet spaces. In subdividing these spaces, the subdivision must be so planned that each space is contiguous to the kitchen and has its own doors to enable waiters to come and go between the banquet spaces and the banquet kitchen.
- Sound isolation is of the greatest importance, and this applies not only to the decibel rating of the panels themselves but also the arrangement of the joints between the sections or panels of the movable wall.
- In fairly large meeting, banquet, and convention facilities, space must be provided which is normally called "preconvention assembly space.'

Since most of the people who are standing are those who will eventually be seated, the proportions of the preconvention foyer space will be determined by the number of people who will be eventually seated. As a rule of thumb, a person standing in fairly close quarters will take up approximately 5 sq ft. A person seated at a table will take up anywhere from 10 to 15 sq ft. A person seated for a seminar or a meeting will require 8 or 9 sq ft. It thus becomes apparent that the ideal preconvention, pre-banquet, or assembly space should be at least one-third of the area of tire actual dining and meeting spaces.

SPACE ALLOTMENTS



Explanation of graph

.

Hotel has six main space divisions, classified according to function :

(1) Public space

(2) Concession space

(3) Subrental space

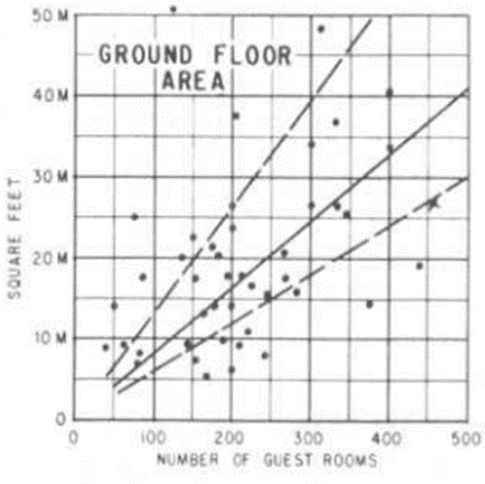
(4) Food and beverage service space

(5) Guest-room space

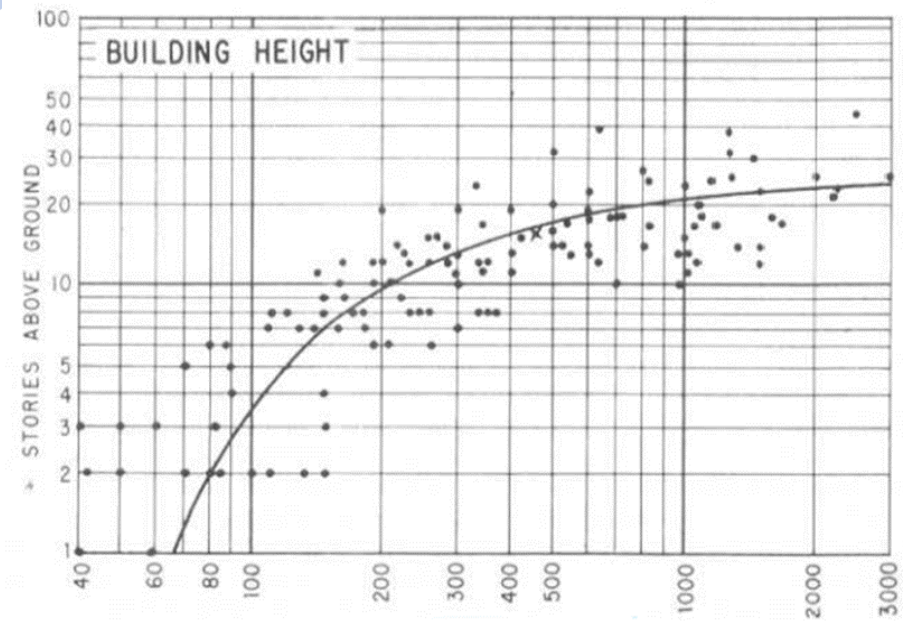
(6) General-service space

at least 50 per cent of the total area should be productive space

Ground floor

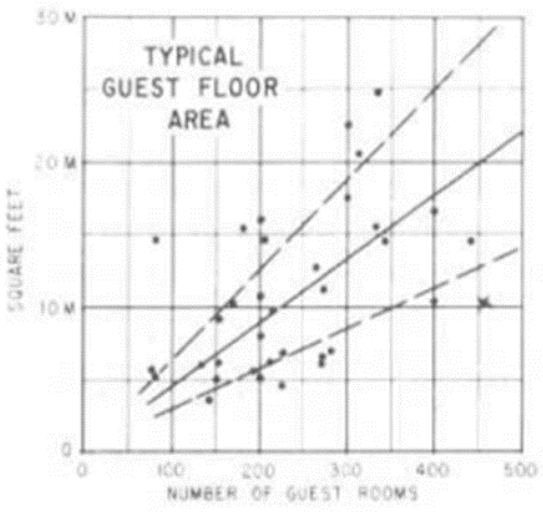


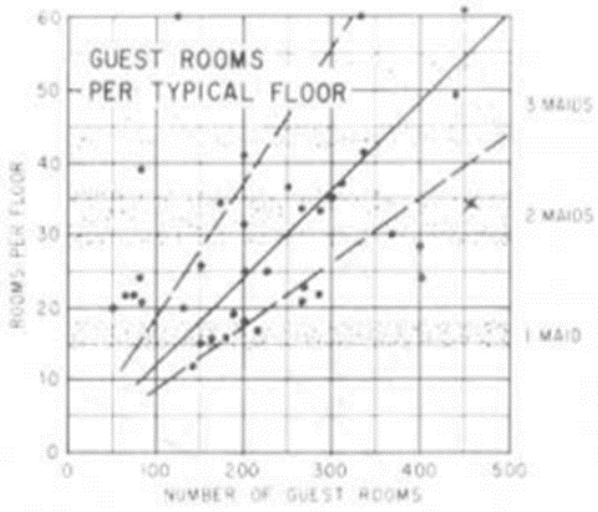
- Height-



· Guest-floor area –

Typical guest-floor area usually covers about 55 per cent of the ground-floor area. Usually, each maid is assigned to about 16 rooms. If feasible, the number of guest rooms on the typical floor should be a multiple of 16 or quite close to it. On the graph, the horizontal bands indicate that one maid would handle from 14 to 18 rooms.

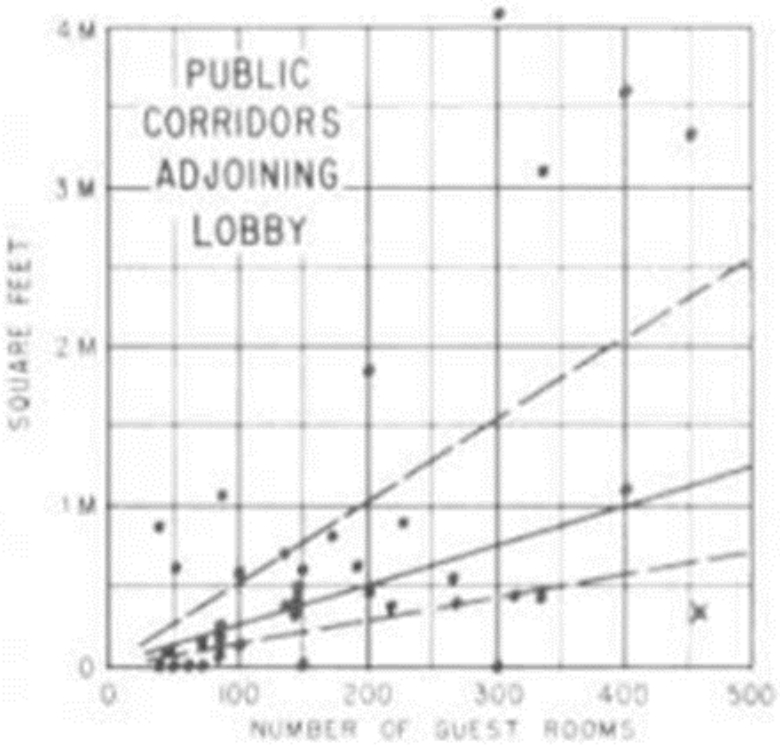




· Guest-floor stairways –

Guest-floor stairways tend to increase in number with the number of guest rooms on the typical floor. guest-room door to the nearest stairway entrance usually require a minimum of two stairways on the typical floor.

- Public corridors adjoining the lobby-



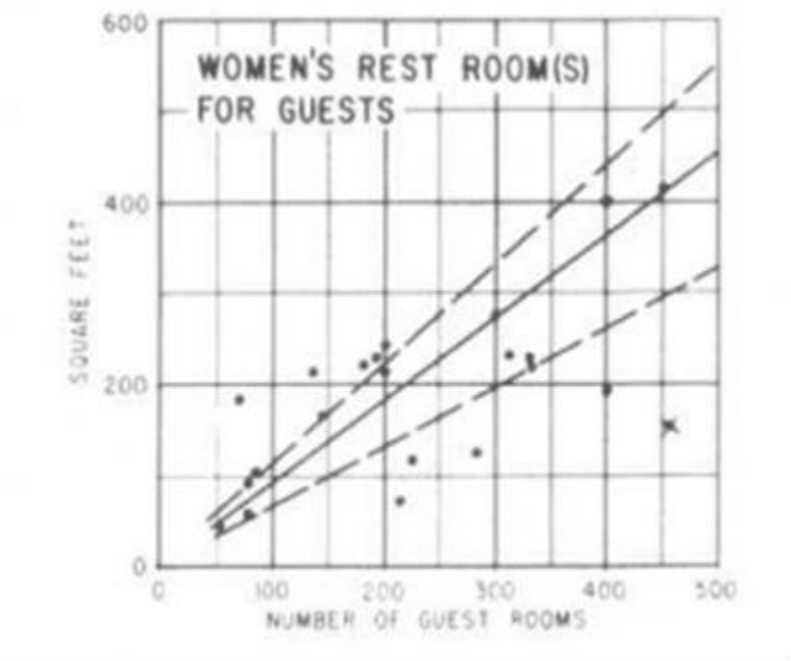
- The combined lobby, lounge, and adjoining corridors-

The combined lobby, lounge, and adjoining corridors are quite flexible in the allotment of space. average allotment of about 16 sq ft per guest room. Some hotels, however, have reduced this nonproductive area to 12 sq ft per guest room.



- women's toilet and restroom-

The combined allotment for the women's toilet and restroom is typically 1 sq ft per guest room.

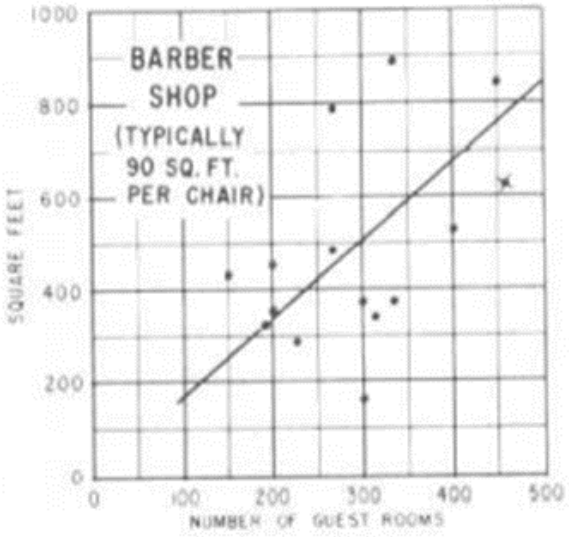


CONCESSION AND SUBRENTAL SPACE

include a barber shop, beauty parlor, cigar and news stand, and valet shop. Subrental space is for services that are not normally provided under hotel operation, such as stores, permanent exhibits, travel agencies, offices, and club quarters.

- barber shop-

the allotment area for barber is about 1 .5 sq ft per guest room. Typically, the barber shop requires 90 sq ft per chair and a minimum of 4 chairs. beauty parlor if provided, usually has about half as many chairs as the barber shop in some hotel. The required area, including space for manicure tables and lockers and toilet for employees, is about 200 sq ft per chair.



- telegraph office-

telegraph office, requiring 40 to 60 sq ft, may be desirable in the larger hotels.

- valet shop-

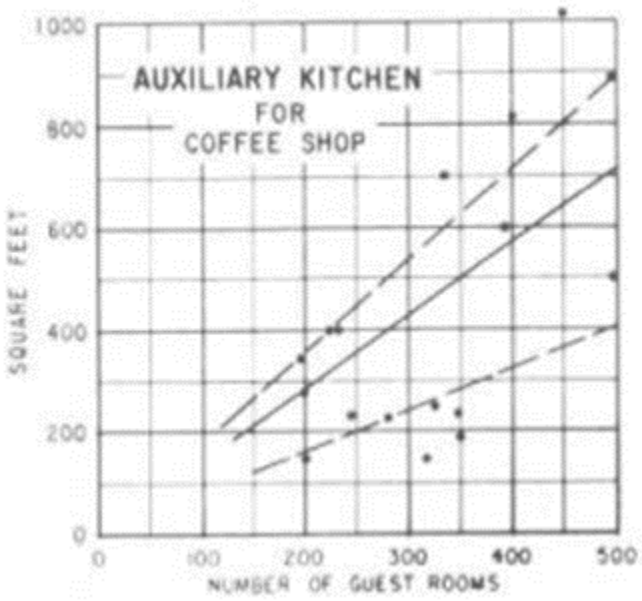
The valet shop is generally located adjacent to the laundry in the larger hotels and is allotted about 1 sq ft per guest room.

- number of rented stores-

one store for every 35 guest rooms

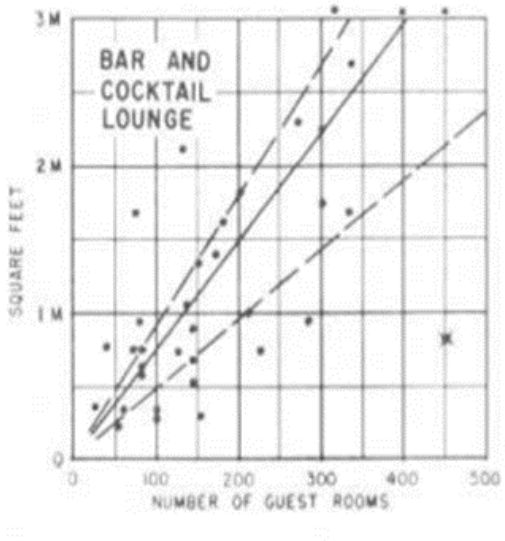
- auxiliary kitchen-

The auxiliary kitchen may be "backed-up" by the main kitchen, which prepares such heavy-duty items as roast meats. The auxiliary kitchen is generally from 20 to 25 per cent of the area of the coffee shop.



- bar and cocktail lounge-

The bar and cocktail lounge may be separated, adjoining, or combined. The area is provided, 7 .5 sq ft per guest room is the typical allotment.



GENERAL SERVICE SPACE

Non-productive space, includes those areas for general administration, operation, maintenance, and storage that are not otherwise classified. They include executive and administrative offices; areas devoted to the handling and storage of linen; help's quarters; maintenance shops; rooms for housing the mechanical equipment for heat, light, power, ventilation, and refrigeration; and also certain storerooms

- Manager's office-

manager's office requires a minimum area of about 100 sq ft. The activities in this office seldom justify more than 200 sq ft About 140 sq ft is the most common space allotment, regardless of the size of the hotel.



- accounting office-

The accounting office should have a minimum area of about 100 sq ft to accommodate one person at a desk with appropriate record-keeping and filing equipment. typical area of the accounting office for a 200-room hotel is shown on the graph as 200 sq ft, whereas for a 400-room hotel it is 300 sq ft.



SPACE ALLOTMENTS AND FLOOR ASSIGNMENTS FOR TYPICAL HOTEL OF 100 ROOMS

General data and approximations

Height of building above ground (ground floor plus 6 typical guest floors)	7 stories
Ground-floor area	10,000 sq ft
Typical guest-floor area	6,000 sq ft
Guest rooms per typical floor,	17 rooms
Stairways on the typical floor,	2 stairways
Elevators (1 guest and 1 service car)	2 elevators

The first four factors listed above are of course all interrelated and must be organized as a compatible group.

	Productive area, sq ft	*Nonproductive area, sq ft*
Public space		
Lobby and front office		1,100(G)
Lounge		600(G)
Corridors adjoining (total of above, 1,900 sq ft)		200(G)
Men's toilet for guests		150(G)
Women's toilet for guests		100(G)
Women's restroom for guests		100(G)
*Coat checkroom		120(G)
*Bellman's checkroom		40(G)
Concession space		
Barber shop	180(B)	
*Valet shop	100(B)	
Subrental space		
3 rented stores, (each 800 sq ft)	2,400(G)	
3 storage rooms (each 200 sq ft)	600(B)	
Food and beverage service space		
Main dining room (90 seats)	1,500(G)	
Main kitchen		1,100(G)
Bake shop		200(G)
?Coffee shop (50 seats)	800(G)	
Bar and cocktail lounge	750(G)	
Private dining rooms (250 + 500 sq ft)	750(G)	
?Banquet-ballroom	1,400(B)	
?Banquet-ballroom foyer		450(B)
?Banquet-ballroom storage		140(B)
?Banquet serving pantry		350(B)
Employees' dining room		220(B)
Steward's storeroom		400(G)
Beverage storerooms		180(B)
*China, glass, and silver storage		300(B)
Receiving room		180(G)
Garbage room		80(G)

	Productive area sq ft	*Nonproductive area sq ft*
Guest-room space		
102 rooms (each 250 sq ft; including bath, closet and vestibule)	25,500(T)	
Auxiliary space (add 40 per cent of above for corridors, stairs, elevators, maid's closets, walls, and partitions)		10,200(T)
General service space		
Manager's office		140(G)
*Secretary's office		100(G)
Accounting office		150(G)
?*Sales and reservations office		140(G)
*Mimeograph room		40(G)
Linen room		350(B)
?Laundry (700 sq ft; omitted)		
Men's toilet and locker room		360(B)
Women's toilet and locker room		360(B)
Maintenance shops		400(B)
Furniture storage		250(B)
*Records storeroom		250(B)
*General storeroom		200(B)
Boiler room		600(B)
*Water-heater tank space		150(B)
Fuel storage		200(B)
Transformer vault		100(B)
*Refrigeration compressor room		400(B)
*Fan rooms, ventilation equipment		400(B)
Total productive area	33,980 sq ft	
Listed nonproductive area		20,800 sq ft
Add for basement corridors, walls, stairways, and elevators		2,500 sq ft
Add for ground-floor stairways and elevators		500 sq ft
Total nonproductive area		23,800 sq ft
Grand total of areas	57,780 sq ft	

6 typical guest floors, each 6,000 sq ft	36,000 sq ft
Ground floor, figured at 10,590 sq ft	10,500 sq ft
Basement, figured at 10,440 sq ft	10,500 sq ft
Total approximate floor area	57,000 sq ft

INDIAN STANDARD CODE FOR HOTELS AND RESTAURANTS:

BUILDING

In addition to the recommendations in the code the building in which food service establishment is located shall also conform to the local building byelaws in force. The building should be of a permanent nature and maintained in a proper stateof repair and cleanliness.

FLOORS

The floors of all rooms in which food or drink is stored, prepared or served and of all washing placed shall be of such construction as to be impervious, easily cleansed, smooth and in good repair. All floors shall be kept clean and free from litter. Dustless method of floor cleaning shall be used, ail except emergency floor cleaning shall be done during the period when least amount of food and drink is exposed.

WALLS

The walls shall have a smooth, non-absorbent surface, free from cracks and crevices to facilitate their efficient cleaning.

The walls of all rooms in which food or drink is prepared or utensils are washed shall have a smooth washable surface up to a minimum height of 2-O m from the floor.

CEILING

Ceiling shall be clean, leak-proof and have a smooth non-absorbent surface free from cracks and crevices to facilitate their efficient cleaning. These should be such that they do not harbour vermin.

DOOR AND WINDOWS

In the absence of air-conditioning all openings to the outer air includingdoors, windows, sky lights shall be effectively screened with tight fitting screens free from holes with wire gauge conforming to IS: 1568-

1960*. The doors when not in use shall be kept in closed position. Selfclosingscreened doors to the outer air shall open outwards. Other methods approved by the authority shall be employed to ensure the absence of flies

LIGHTING

TABLE 1 RECOMMENDED VALUES OF ILLUMINATION

The lighting of some of these locations will be determined primarily by aesthetic considerations and the recommended illumination values as given in IS : 3646 (Part II)-1966* may be taken as a guide only.

Sl No.	Areas	Illumination, Lux
(1)	(2)	(3)
i)	Entrance halls	150
ii)	Reception and accounts	300
iii)	Dining rooms (tables)	100
iv)	Lounges	150
v)	Bedrooms:	
	a) General	100
	b) Dressing tables, bed heads, etc	200
vi)	Writing rooms (tables)	300
vii)	Corridors	70
viii)	Stairs	100
ix)	Laundries	200
x)	Kitchens	†200
xi)	Goods and passenger lifts	70
xii)	Clockrooms and toilets	†200
xiii)	Dining rooms:	
	a) Tables	100
	b) Cash desks	300
xiv)	Self service-counters	300

*Code of practice for interior illumination: Part II Schedule for values of illumination and glare index.

†Supplementary local lighting should be provided over kitchen equipment and mirrors.

VENTILATION

In case of ran-air-conditioned buildings the minimum standards of mechanica ventilation shall be maintained as given

TABLE 2 VENTILATION REQUIREMENTS FOR NON-AIRCONDITIONED BUILDINGS

Sl No.	Area	Air Changes per Hour
(1)	(2)	(3)
i)	Living rooms	3
ii)	Dining and lounge	2-3
iii)	Big kitchen	12
iv)	Small kitchen	6
v)	Toilets	6

WATER SUPPLY

There shall be adequate supply of safe and potable water. Running water shall be easily accessible to all rooms in which food is prepared or utensils are washed. Requirements for water supply for hotels and restaurants shall be as given

TABLE 3 WATER SUPPLY REQUIREMENTS FOR HOTELS AND RESTAURANTS

Sl No.	Description	Non-Airconditioned (Litres per Day)	Air Conditioned (Litres per Day)
(1)	(2)	(3)	(4)
i)	Hotels (per bed)	180	275
ii)	Restaurants (per seat)	70	97

Note — In hotels where laundry is provided arrangement for an extra quantity of 120 litres per bed should be made.

Storage of Water-

For the storage of water, proper receptacles made of galvanized iron or other suitable material shall be used. Such receptacles shall he kept covered with tight fitting lids and shall have screw caps at the bottom for draining out residual water. The receptacles shall be placed on a stand or a platform rasily accessible for the purpose of maintenance and cleaning, The receptacles shall be examined and cleaned regularly.

DRAINAGE

Adequate arrangements shall be made for satisfactory drainage of all sewage and waste water. Harmful waste water, such as water containing kitchen waste, &all be saticfactorily disposed of. The drainage shall be so designed as to cause no stagnation at the maximum discharge rate fur which the different units are designed. The requirements for firments for drainage and sanitation shall conform to the requirements given

TABLE 4 REQUIREMENTS OF DRAINAGE AND SANITATION FITMENTS IN HOTELS

(*Clause* 14.1.1)

Sl No.	Fitments	For Residential Public and Staff	For Public Rooms		For Non-Residential Staff	
			For Males	For Females	For Males	For Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	Water-closets	1 per 8 persons omitting occupants of the room with attached water-closets; minimum of 2 if both sexes are lodged	1 per 100 persons up to 400 persons; and for over 400, add at the rate of 1 per 250 persons or part thereof	2 per 100 persons up to 200 persons; and for over 200, add at the rate of 1 per 100 persons or part thereof	1 for 1-15 persons 2 for 16-35 persons 3 for 36-65 persons 4 for 66-100 persons	1 for 1-12 persons 2 for 13-25 persons 3 for 26-40 persons 4 for 41-57 persons 5 for 58-77 persons 6 for 78-100 persons
ii)	Ablution taps	1 in each water-closet	1 in each water-closet	1 in each water-closet	1 in each water-closet	1 in each water-closet
		1 water tap with draining arrangements shall be provided for every 50 persons or part thereof in the vicinity of water-closets and urinals				
iii)	Urinals	—	1 per 50 persons or part thereof	—	Nil up to 6 persons 1 for 7-20 persons 2 for 21-45 persons 3 for 46-70 persons 4 for 71-100 persons	—
iv)	Wash basins	1 per 10 persons omitting the wash basins installed in the room suite	1 per water-closet and urinal provided	1 per water-closet provided	1 for 1-15 persons 2 for 16-35 persons 3 for 36-65 persons 4 for 66-100 persons	1 for 1-12 persons 2 for 13-25 persons 3 for 26-40 persons 4 for 41-57 persons 5 for 58-77 persons 6 for 78-100 persons
v)	Baths	1 per 10 persons omitting occupants of the room with bath *en suite*	—	—	—	—
vi)	Slop sinks	1 per 30 bedrooms, minimum 1 per floor	—	—	—	—
vii)	Kitchen sinks and dish washers	← 1 in each kitchen →				

Note 1 — Some of the water closets may be of European style if desired.

Note 2 — It may be assumed that two-thirds of the number are males and one-third females.

Septic tanks conforming to I**S: 2470 (Part I)- 1963* or IS: 2470 (Part II)-**l964 shall be provided if required by the authority. The gradient of the drains should be such that no water stagnates any where within the premises. Where no sewerage is provided for the final outfall, soak pits or cess pools to the satisfaction of the Authority should be provided.

TABLE 5 REQUIREMENTS OF DRAINAGE AND SANITATION FITMENTS IN RESTAURANTS

(*Clause* 14.1.1)

Sl No.	Fitments	For Male Public	For Female Public	For Male Staff	For Female Staff
(1)	(2)	(3)	(4)	(5)	(6)
i)	Water-closets	1 for 50 seats up to 200 seats; and for over 200 seats, add at the rate of 1 per 100 seats or part thereof	1 for 50 seats up to 200 seats; and for over 200 seats, add at the rate of 1 per 100 seats or part thereof	1 for 1-15 persons 2 for 16-35 persons 3 for 36-65 persons 4 for 66-100 persons	1 for 1-12 persons 2 for 13-25 persons 3 for 26-40 persons 4 for 41-57 persons 5 for 58-77 persons 6 for 78-100 persons
ii)	Ablution taps	1 in each water-closet	1 in each water-closet	1 in each water-closet	1 in each water-closet
		1 water tap with draining arrangements shall be provided for every 50 persons or part thereof in the vicinity of water-closets and urinals.			
iii)	Urinals	1 per 50 seats	—	Nil up to 6 persons 1 for 7-20 persons 2 for 21-45 persons 3 for 46-70 persons 4 for 71-100 persons	—
iv)	Wash basins	← 1 for every water-closet provided →			
v)	Kitchen sinks and dish washers	← 1 in each kitchen →			
vi)	Slop or service sinks	← 1 in the restaurant →			

Note 1 — Some of the water closets may be of European style, if desired.

Note 2 — It may be assumed that two-thirds of the number are males and one-third females.

KITCHEN

Kitchen shalt be sufficiently spacious and should be of a size in proportionto the average number of diners catered for at one meal, The floor spice in the kitchen shall be calculated at the rate of0.5 me Min per diner. In case of snack bars, soda fountains, etc, the service-cumdispensing area shall be treated as part of the kitchen.

The minimum size of the kitchen should not be less thnn 10 rnp and none of the sides less than 2.4 meter. Exhaust fans should have provisions of grease filters for collecting grease.

STORAGE AND HANDLING EQUIPMENT

All containers and utensils shall be stored at a height of not less than. 430 mm above the floor in a clean, dry place protected from flies, splash, dust, overhead leakage, and other contamination.

STORAGE OF FOOD STUFF

All perishable food shall be stored at the temperatures as given in

TABLE 6 STORAGE TEMPERATURES FOR FOODSTUFF

Sl No.	Names of Articles	Storage Temperature °C
(1)	(2)	(3)
i)	Meat, meat products, poultry	0·00 to 1·50
ii)	Fresh fish and sea food	−2·00 ,, −0·50
iii)	Dairy products and eggs	0·50 ,, 2·50
iv)	Fresh fruit and vegetables	2·00 ,, 4·50
v)	Ice-creams	−14·50 ,, −12·00

Note 1 — Potatoes need no refrigeration, but should be stored away from light.

Note 2 — Fish and sea foods shall be stored in separate compartments so as not to affect other materials.

ACOUSTICS

Food service establishments (hotels, restaurants, etc) shall adopt suitable noise control measures to provide adequate sound insulation against various noise sources which would cause disturbance to human comfort and efficiency.

FIRE SAFETY REQUIREMENTS

All buildings and particularly buildings having more than one storey shall be provided with liberally desigl:cd safe-fire-resistant exists or escapes.

The exits shall be so placed that they are always immediately accessible and each is capable of taking all the persons on that floor as alternative escape routes may be rendered unsuitable and/or unsafe due to

fire.

Escape route shall be well-ventilated as persons using the escapes are likely to be overcome by smoke and/or fumes which may enter from floor.

Basements- It is essential that the fire resistance of the basement conforms to the highest order and all columns for separating the upper structure shall have grading not less than the standards laid down for Grade 3.

PART 3:
SITE INVENTORY

1. DEMOGRAPHICS OF SANAND

2 TOPOGRAPHY

3 SEISMIC ACTIVITY

4 SOIL TYPE

5 CLIMATIC DATA

6 CLIMATIC ANALYSIS IN BUILDING

1. DEMOGRAPHIC OF SANAND DIST. AHMEDABAD

With a 2025 estimated population of about **8.16 million** in the city and **9.31 million** in its metro region, Ahmedabad stands as Gujarat's most populous urban center. According to the 2011 Census, the city had **5.58 million** residents. The **sex ratio** in the municipal limits was **898 females per 1,000 males** (child sex ratio: 848 girls per 1,000 boys), while the broader district recorded a sex ratio of **904 per 1,000** (child ratio: 857). Literacy rates are strong: the city averaged **88.29%** literacy (male 92.30%, female 83.85%), with district-wide literacy at **85.31%** (male 90.74%, female 79.35%)

Religions in Ahmedabad

Religion	Percent
Hindu	81.56%
Muslim	13.51%
Not Stated	0.12%
Jain	3.62%
Sikh	0.24%
Christian	0.85%
Buddhist	0.08%
Other	0.04%

Religiously, Ahmedabad is predominantly **Hindu (≈ 81.6%)**, followed by **Muslims (≈ 13.5%)**, **Jains (≈ 3.6%)**, **Christians (≈ 0.85%)**, **Sikhs (≈ 0.24%)**, **Buddhists (≈ 0.08%)**, with small shares of "other religions" (≈ 0.04%) and "not stated" (≈ 0.12%).

2. TOPOGRAPHY

For the purposes of this report, the geographical coordinates of **SANAND** are:

- **Latitude**: ~ 23.0° N
- **Longitude**: ~ 72.38° E (Sanand taluka area)
- **Elevation at town center**: ~ 38 m (≈ 124 ft.) above sea level.

Sanand town is part of the vast **Gujarat Plains** region, with flat terrain forming part of the Sabarmati river basin

From elevation models (~10-30 m resolution elevation data):

- **Within ~2 miles (~3 km)**
  - **Min elevation**: ~10 m (~33 ft.)
  - **Max elevation**: ~65 m (~213 ft.)
  - Average **~31 m (≈ 102 ft.)**
- **Within ~10 miles (~16 km)**
  - Elevation range in surrounding taluka: **10 m – 65 m** (~33 ft. – 213 ft.), so variation up to ~**185 ft**.
- **Within ~50 miles (~80 km)**
  - Larger Ahmedabad-Gujarat plains remain largely flat; typical elevation ~30–40 m, max occasional rises near gentle uplands, so **variation under ~200 ft**.



Figure 1 TOPOGRAPHICAL CONTOURS OF SANAND

3. SEISMIC ACTIVITY:

Zone III: This zone corresponds to a **Moderate Damage Risk Zone**, liable to **MSK VII** levels.
The **IS code assigns a zone factor (Z)** of **0.16** for Zone III.
Major cities in this zone include Chennai, Mumbai, Kolkata, Bhubaneswar, Ahmedabad, Vadodara, Pune, Lucknow, and Sanand (in the Ahmedabad region).

CITY	STATE	ZONE
SANAND	GUJRAT	III

4. SOIL TYPE:

The soils around Sanand belong to the **deep, alluvial loam-clay** category characteristic of Central Gujarat plains (Quaternary deposits). They are **very deep**, **well to moderately drained**, and slightly saline and sodic in parts of the taluka. The terrain is nearly **level** (< 2 % slope), unlike the interfluvial hill slopes seen in Agra soils.
The local climate has a **mean annual temperature of ~27 °C (80.6 °F)** and **mean annual rainfall of ~757 mm (~30 inches)**, supporting moderate moisture retention soils under arable and industrial usage.

5. CLIMATE-

In Sanand, the **wet season (mid-June to mid-September)** is **hot, humid, and mostly cloudy**, while the **dry season** (October through May) is **sweltering and predominantly clear**, with hot temperatures year-round. Over the course of the year, daily high temperatures typically range from **82 °F (28 °C)** in January up to about **106 °F (41 °C)** in May, and rarely dip below **55 °F (13 °C)** or exceed **109 °F (43 °C)**

Based on the **beach/pool score** (which favours clear, rainless days with perceived temperatures between 75–90 °F), the **best times for hot-weather activities in Sanand** are from **mid-November to early March**, peaking in **early February**

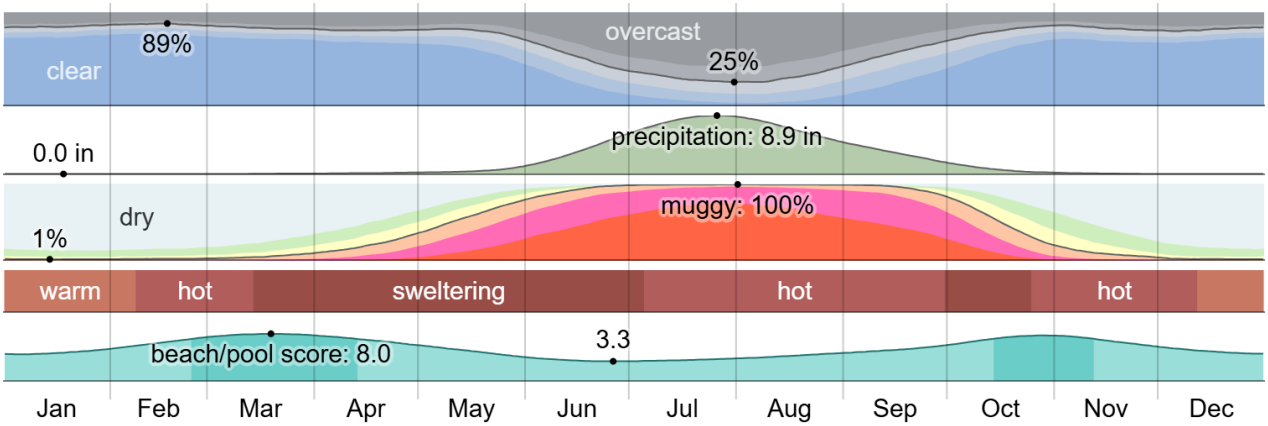


Figure 2: CLIMATIC EXPERIENCE IN SANAND AROUND THE YEAR

Average Temperature in Agra

The hot season in Sanand lasts for about 2.2 months, from April 9 to June 15, with **average daily highs remaining above 38 °C (100 °F)**. The **hottest month is May**, featuring typical temperatures of **41 °C (105.8 °F)** during the day and **28 °C (82 °F)** at night.
The cool season spans around 2.1 months, from December 7 to February 12, characterized by **average daily highs below 30 °C (86 °F)**. **January is the coldest month**, with daily temperatures ranging from approximately **13 °C (55 °F)** to **28 °C (82 °F)**.

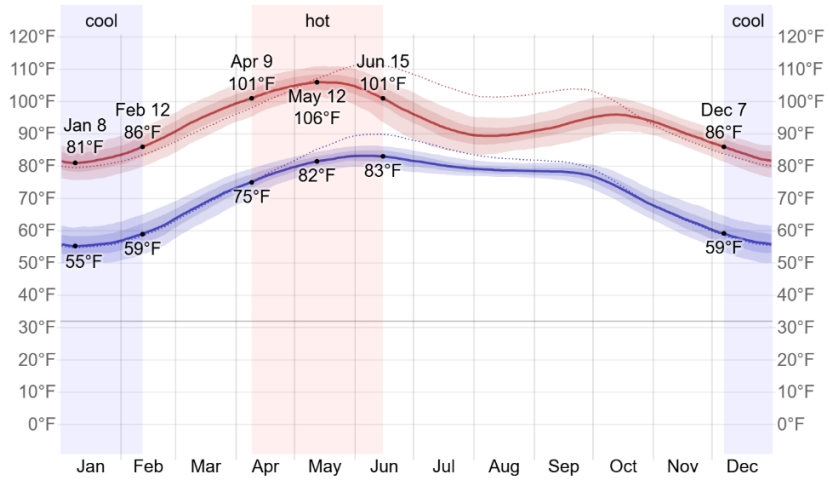


Figure 3 : TEMPERATURE IN SANAND ANUALLY

Precipitation

A wet day in Sanand is defined as one with at least **0.04 in (1 mm)** of precipitation. The **wetter season** extends for approximately **2.8 months**, from **June 20 to September 13**, during which a given day has a **greater than 23% chance** of rainfall. **July is the wettest month**, averaging about **12.5 rainy days**, while the **driest month is December**, with only **~0.2 wet days**. Notably, **rain alone** is the only form of precipitation, with its probability peaking at **46% around July 29**

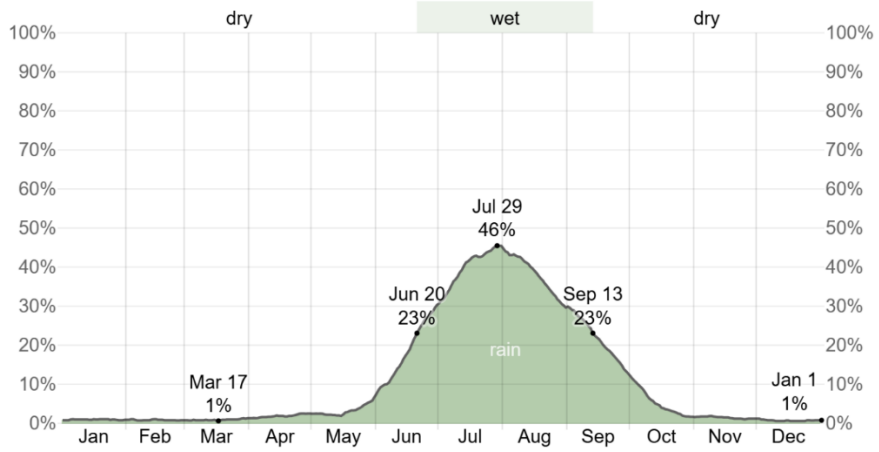


Figure 4: AVERAGE PRECIPTATION IN SANAND

Rainfall

To illustrate intra-month variation, Sanand's **rainy period** lasts approximately **5.1 months**, spanning **May 18 to October 20**, during which any **rolling 31-day total rainfall** stays **at or above 0.5 inches**. Rainfall peaks in **July**, registering up to **8.4 inches** in a sliding monthly average. From **October 20 to May 18**, forming the **rainless period** of about **6.9 months**, 31-day rainfall falls below 0.5 inches, with **January** recording the **least rainfall** (~0.0 inches).

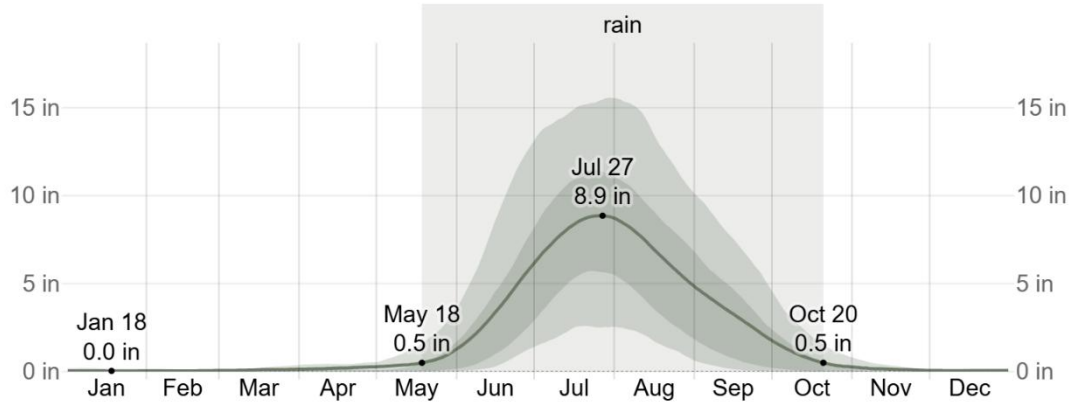


Figure 5: AVERAGE RAINFALL IN SANAND

Humidity

The muggier period in Sanand extends over approximately 6.1 months, from April 23 to October 27. During this time, the dew point rises enough to make conditions feel muggy, oppressive, or even miserable on at least 26% of the days. This means that for nearly half the year, outdoor conditions may feel uncomfortably humid, especially during the daytime. **The peak of this discomfort occurs in August**, which records the highest average number of muggy days—**around 30.9 days**, essentially the entire month. Such levels of humidity can significantly impact thermal comfort, especially when combined with high temperatures. In contrast, **the least humid part of the year is January**, with an average of only **0.3 days** experiencing similar muggy conditions, offering a brief respite of dry, more comfortable air. This stark seasonal variation makes it crucial to consider humidity control in architectural and planning decisions, especially for ventilation, cooling, and material selection.

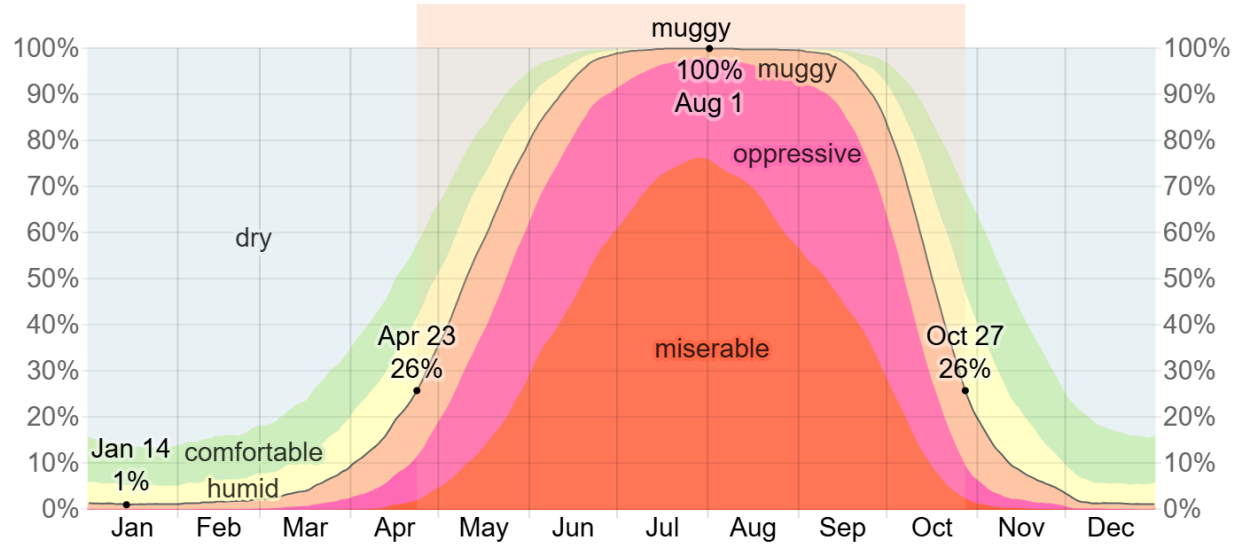


Figure 6: AVERAGE HUMIDITY IN SANAND

Wind

The **windiest span in Sanand lasts about four months**, stretching from **April 22 to August 22**, when the **hourly average wind speed consistently exceeds ~13.6 km/h (~8.5 mph)**. **June** is the **peak wind month**, with an average speed close to **18.9 km/h (~11.8 mph)**, while **October** offers the calmest air—mean speeds dipping to **8.4 km/h (~5.2 mph)**.

Wind direction shifts dramatically with the seasons: from **March 9 through October 10**, winds predominantly blow from the **west**, reaching a seasonal high of **86% on May 14**. Then, between **October 10 and December 4**, **easterly winds** take over—peaking at **53% on November 8**. From **December 4 to March 9**, **northerly winds** dominate, with **52% frequency recorded on January 1**.

These patterns suggest a pronounced seasonal wind regime—useful for everything from natural ventilation design to planning outdoor structures and shading in architectural projects.

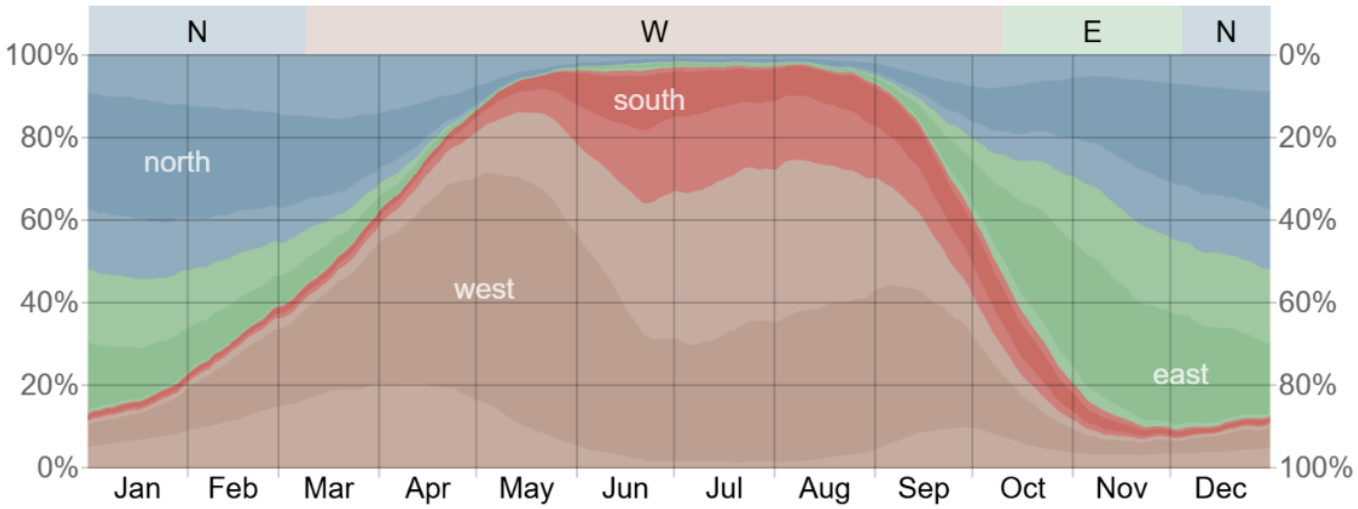


Figure 7: AVERAGE WIND SPEED IN SANAND

Sun path-

The sun path diagram for Sanand (Latitude 23.0019°N, Longitude 72.2491°E) reveals critical solar movement data essential for climate-responsive architectural design. The site experiences a sunrise at 06:44 and sunset at 18:53, resulting in approximately 12.08 hours of daylight. At the time of analysis, the solar azimuth and altitude are 119.09° and 49.46°, respectively—indicating the sun's southeast position in the morning with a moderately high altitude in the sky. The solar envelope indicates that maximum solar gain occurs from the southeast to southwest arc, especially during summer months when the sun travels a higher and longer path.

This data supports strategic orientation of built forms and fenestrations. North-facing façades remain shaded most of the day, making them ideal for minimal heat gain, while south and southwest exposures require adequate shading devices such as vertical fins or overhangs to mitigate harsh afternoon sun. Open

green zones and public areas are best located on the eastern and northern edges, benefiting from softer morning sunlight and avoiding peak afternoon heat. Overall, this sun path analysis informs passive design strategies to optimize thermal comfort and energy efficiency in the Sanand climate context.

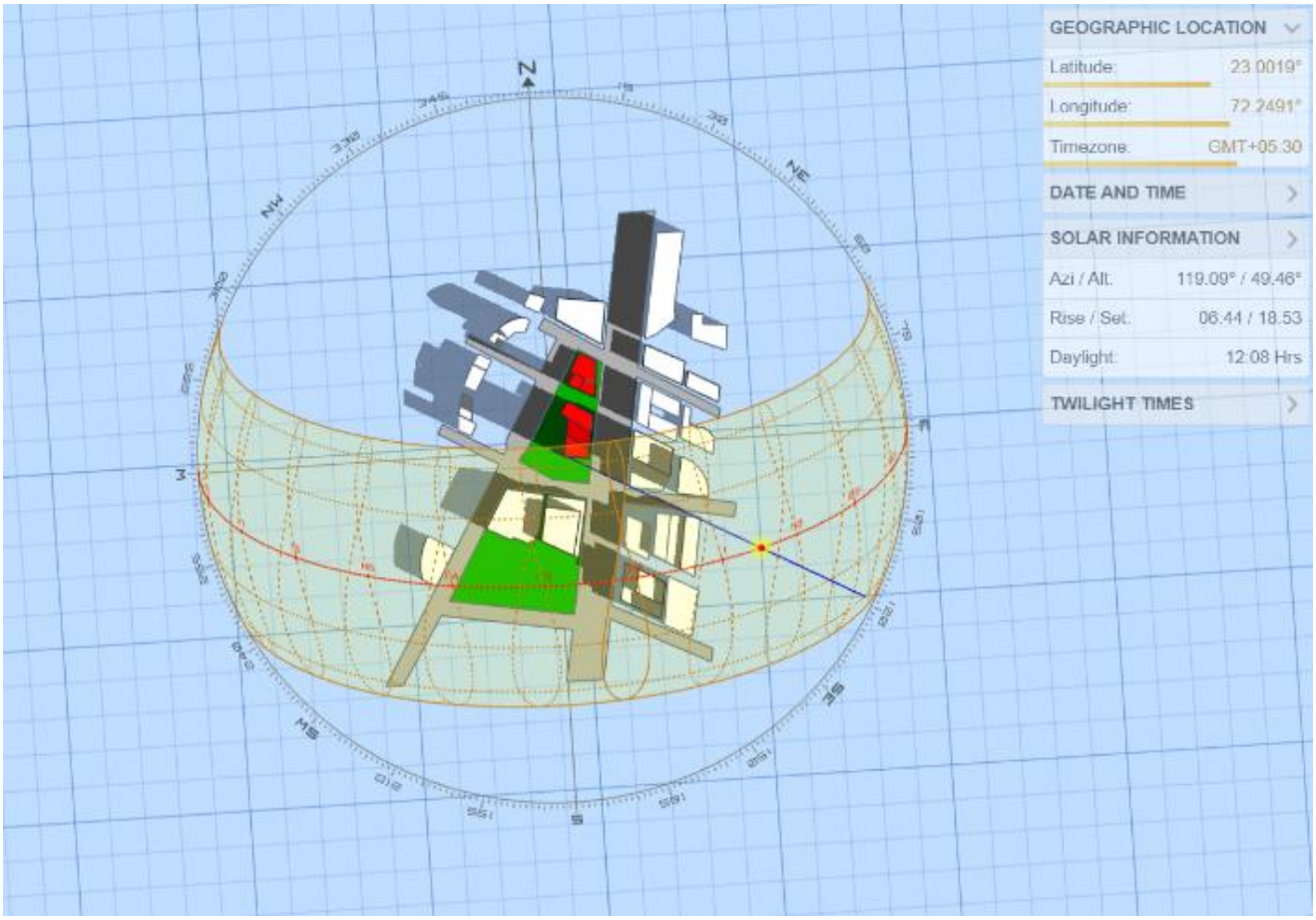


Figure 8: SUNPATH ANALYSIS

6. Climate Analysis in Building-

To ensure the proposed **5-star hotel** design is contextually responsive and environmentally efficient, a series of detailed climatic simulations were conducted using **Adobe Forma**. These simulations—covering solar path, wind direction, and temperature analysis—were run on a representative building mass placed at the actual site location in **Sanand.** The objective was to study how natural elements interact with the built form throughout the year. The sunlight analysis provided insight into optimal orientation and shading strategies, while wind simulations informed natural ventilation potential and facade articulation. Temperature mapping further helped identify thermal hotspots and areas requiring passive cooling solutions. These simulations form the backbone of the project's sustainable design intent, ensuring a comfortable and **energy-efficient** environment for future occupants.

SUN HOURS ANALYSIS

A detailed **sun hours** analysis was carried out for four representative months of the year—covering both summer and winter extremes—to understand the site's **solar exposure** and inform passive design strategies. The simulation, conducted using **Adobe Forma**, revealed the daily duration and intensity of sunlight received across various parts of the building mass. This helped identify zones with prolonged exposure, which are ideal for placing solar panels or sunlit public areas, as well as areas needing shading elements to prevent overheating. The data serves as a crucial tool in optimizing natural daylight while minimizing glare and solar gain, enhancing both energy efficiency and **occupant comfort** in the proposed hotel.

FEBRUARY-

To understand the solar exposure across different facades of the proposed hotel design, a sun hours analysis was conducted for the month of February using Adobe Forma. The simulation, performed on a massing model located on the exact project site, revealed significant variations in sunlight exposure due to orientation and surrounding topography. The southern and western facades received maximum solar gain, with sun exposure reaching up to **11 hours per day**, indicating ideal zones for passive solar strategies and solar energy integration. In contrast, the northern façade exhibited minimal sunlight, with areas showing as low as **0 hours of direct sun**, suggesting potential zones for service areas or thermal insulation focus. Intermediate zones showed moderate exposure, such as **5.2 to 5.9 hours**, indicating a balance of shading and daylighting potential. This analysis plays a critical role in optimizing façade design, spatial planning, and energy efficiency strategies for the hotel in alignment with climate-responsive architecture.

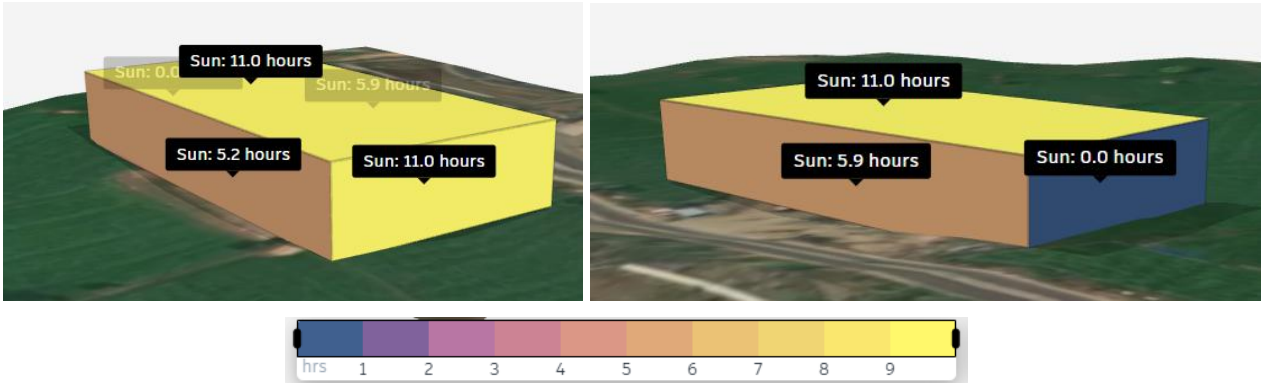


Figure 9: SUN HOUR ANALYSIS OF FEBRUARY MONTH

MAY-

A peak summer month, show that the building receives abundant sunlight with certain roof areas achieving up to **13 hours** of sun exposure, while other facades receive between **6 to 7 hours** depending on orientation and shadow impact. This variation provides vital insights for optimizing **rooftop amenities**, **solar panel** placements, shading devices, and thermal **comfort zones**. The analysis further aids in refining the building's massing and facade articulation to reduce heat gain in summer while ensuring adequate daylight throughout the year. This data-driven approach strengthens the sustainable intent of the design by aligning architectural decisions with the site's climatic potential.

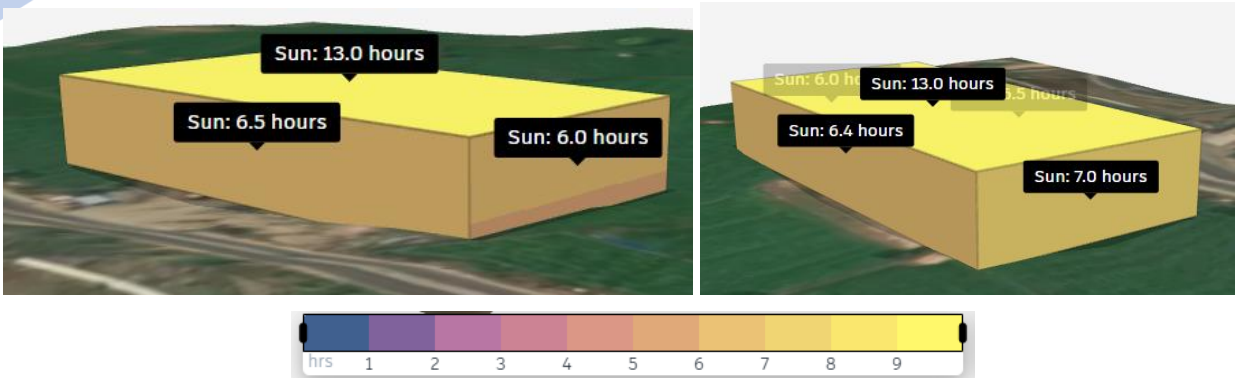


Figure 10: SUN HOUR ANALYSIS OF MAY MONTH

AUGUST-

The analysis revealed that the rooftop receives maximum solar exposure, with peak values reaching up to **13.1 hours** per day, making it a suitable zone for solar panel installations or recreational spaces that benefit from direct sunlight. Vertical surfaces showed moderate sun exposure, with some façades receiving as low as **5.7 hours** and others up to **7.3 hours** of sunlight daily. This variation in exposure will play a critical role in informing the building's façade design, passive cooling strategies, and placement of fenestrations to balance natural lighting and thermal gain. The results reinforce the importance of climate-responsive design in maximizing user comfort while optimizing energy performance.

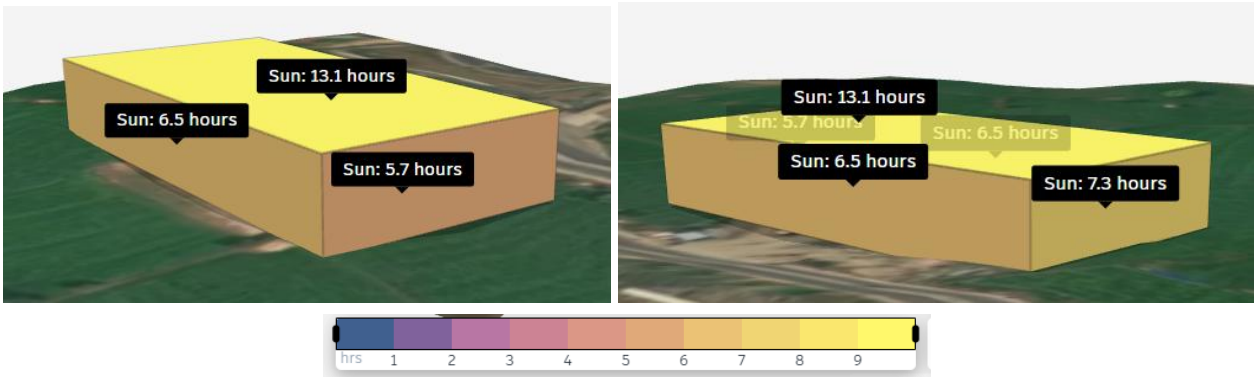


Figure 11: SUN HOUR ANALYSIS OF AUGUST MONTH

DECEMBER-

The **south and southeast-facing** facades receive the highest sunlight, with values peaking around **10.6** hours per day, while certain **north-facing zones remain in full shade with zero sun exposure**. This distribution highlights the need for strategic space planning—placing public or solar-dependent functions such as lobbies, lounges, or **energy-harvesting** systems in high-exposure zones, while reserving shaded areas for back-of-house or utility services. The insights from this simulation will guide passive design interventions like facade articulation, fenestration placement, and shading devices to optimize thermal comfort and energy efficiency during **winter months**.

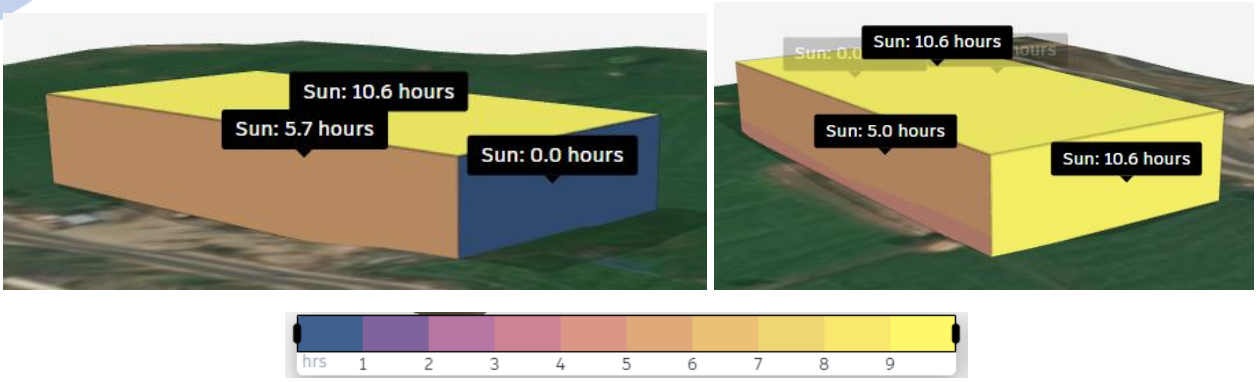


Figure 12: SUN HOUR ANALYSIS OF DECEMBER MONTH

DAY LIGHT POTENCIAL

The daylight potential analysis for the proposed building site in GIDC Sanand, Gujarat, reveals significant variations in light exposure across the structure. The analysis indicates that the top surface of the building achieves a **maximum score of 100%,** reflecting optimal daylight penetration, while the middle and lower sections **score 40% and 40%** respectively, suggesting moderate to **limited natural light** availability. This data underscores the need for **strategic design** considerations, such as incorporating additional glazing or light wells, to enhance **interior illumination**, particularly in **the lower levels**, ensuring a balance between **natural lighting** and **energy efficiency** in the final construction plan.

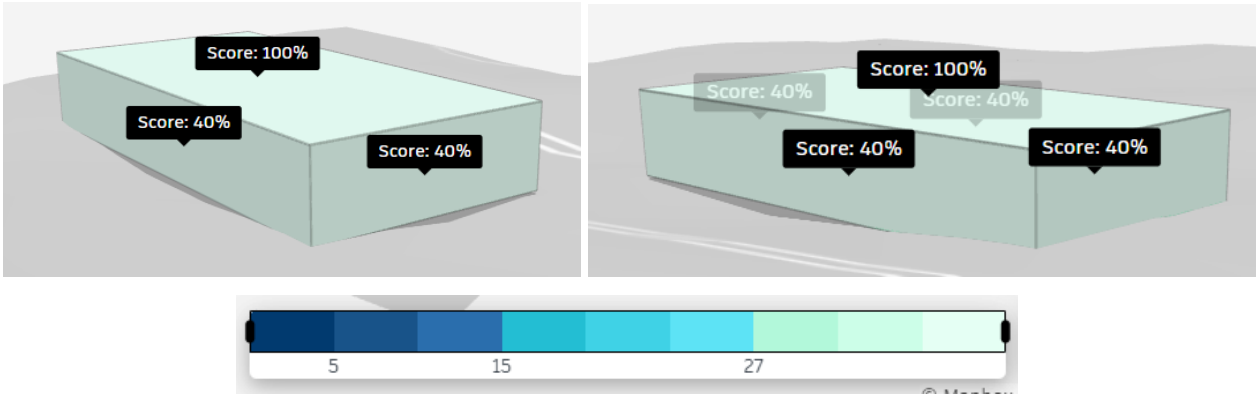


Figure 13: DAY LIGHT POTENCIAL

WIND ANALYSIS

The wind analysis simulation conducted on the proposed building in **GIDC Sanand**, Gujarat, at 11:14 AM IST on Sunday, July 27, 2025, using the advanced **Autodesk Forma** software, provides comprehensive insights into the **building's aerodynamic performance**. The simulation reveals significant variations in **wind pressures**, with the upper facade experiencing peak **velocities** due to prevailing winds, while the lower levels exhibit reduced exposure, indicating potential stagnation zones that could affect ventilation. These findings emphasize the necessity of incorporating **aerodynamic shaping**, such as **windbreaks** or **streamlined contours**, into the design to mitigate pressure imbalances, enhance structural stability, and optimize **natural ventilation** across all levels of the building, ensuring a resilient **and efficient architectural** solution.

WIND COMFORT ANALYSIS-

The **Global Wind Atlas 3.0** with a roughness of **0.27** and a measurement **height of 1.75m**, provides valuable insights into pedestrian comfort levels. The analysis indicates that **76%** of the surrounding area falls within the **comfortable "Standing" range**, while **21%** is suitable for **"Strolling"** and **3%** for **"Sitting,"** with no significant areas classified as **"Uncomfortable."** The color-coded wind rose overlay highlights that the majority of the site experiences moderate **wind speeds**, with localized zones of higher activity, suggesting that the building's design effectively mitigates excessive **wind exposure**. These findings support the integration of minor adjustments, such as **windbreaks or landscaping**, to further enhance **pedestrian comfort** across the site.

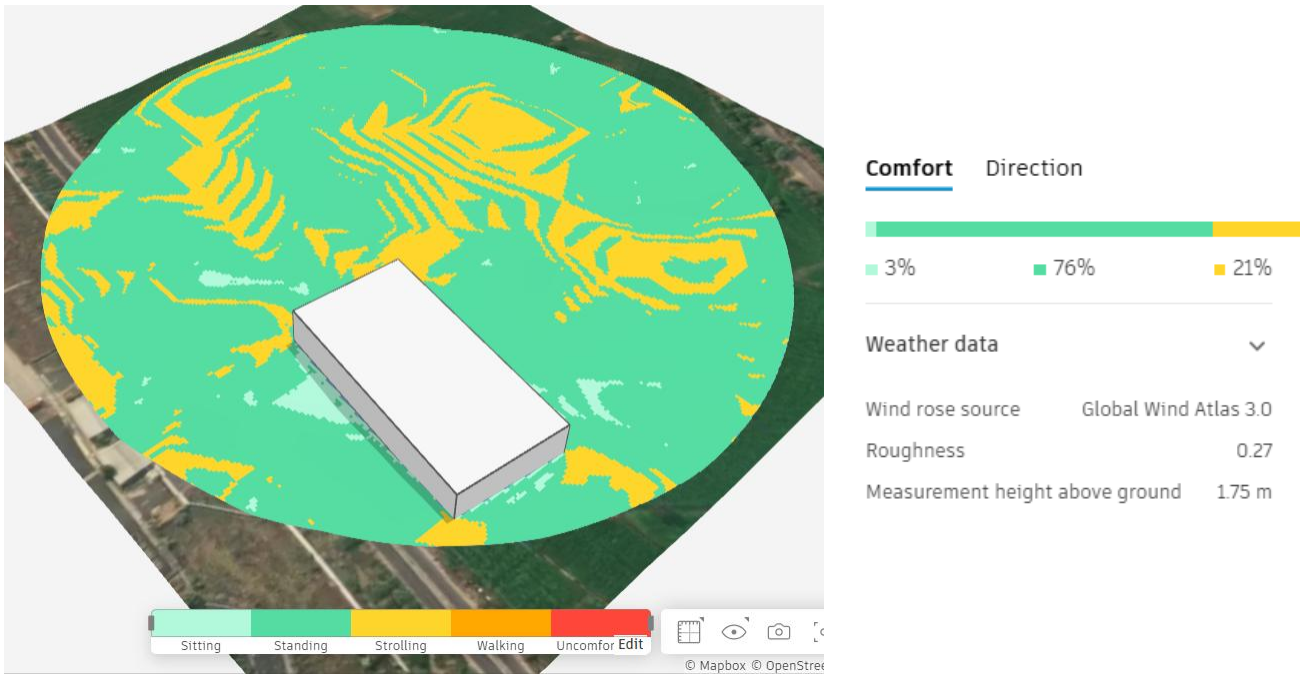


Figure 14: WIND COMFORT ANALYSIS

WIND DIRECTION ANALYSIS-

The Global Wind Atlas 3.0 with a **roughness of 0.27** and a measurement **height of 1.75m**, highlights the predominant wind patterns affecting the site. The wind rose diagram indicates that **86% of winds originate from the north (N 0°),** with **8% from the west and 2% from the east**, while the wind speed distribution peaks at **approximately 2 m/s**, with a **maximum of 3 m/s**. The spatial analysis overlay shows a consistent **north-to-south wind flow across the site**, with **velocities ranging from 1 to 3 m/s**, suggesting that the building's orientation should align with this **dominant northerly** wind to optimize **natural ventilation** and **minimize wind load** on the structure.

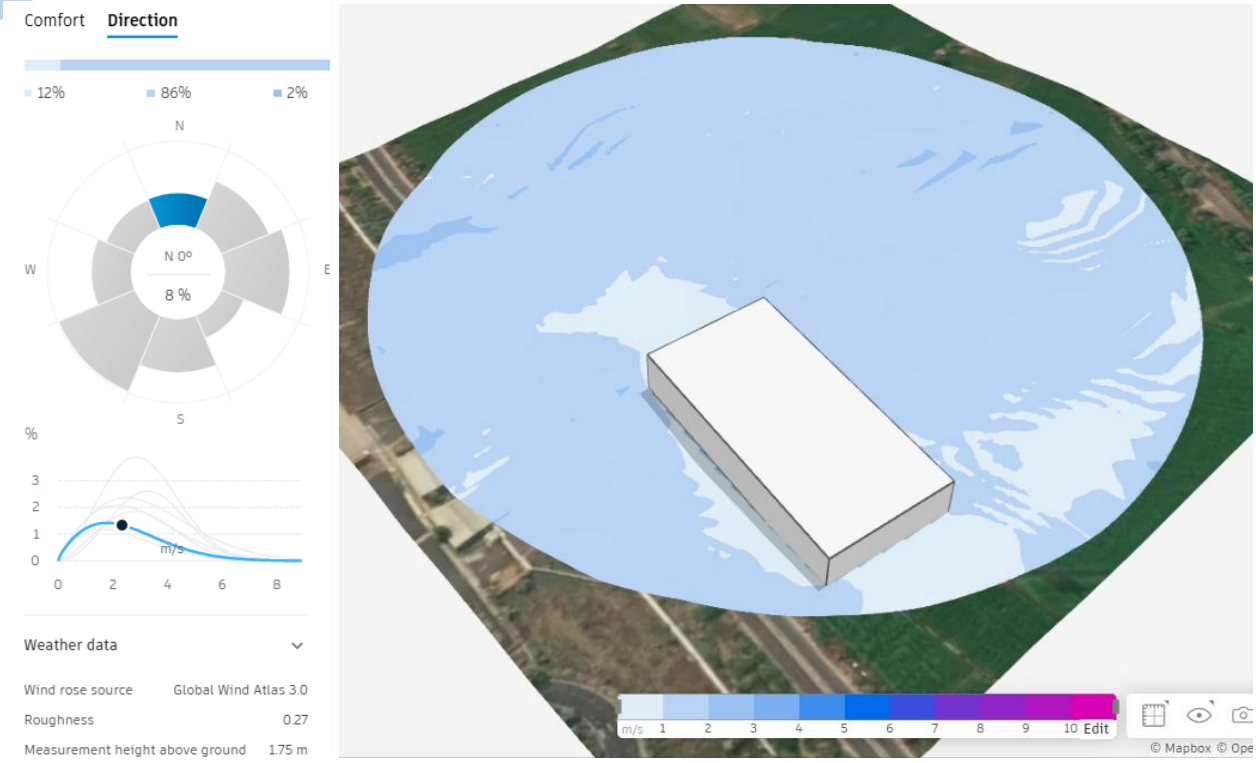


Figure 15: WIND DIRECTION ANALYSIS

SUN PATH ANALYSIS

Based on the **geographic location** at **latitude 23.005972° N** and **longitude 72.249801° E**, within the GMT+05:30 timezone. The sun path diagram illustrates that on this date, the sun rises at 06:11 AM and sets at 18:24 PM, offering a **daylight duration of 12 hours and 12 minutes**, with the **solar azimuth** and **altitude peaking at 131.08° and 59.26°** respectively around midday. The analysis reveals that the building's orientation and height result in **significant shadowing**, particularly from the **northeast to the southwest**, with the **sun's trajectory** indicating prolonged exposure on the **eastern facade in the morning and western facade in the afternoon**. The **day-length** graph further confirms that July, being near the summer solstice, provides the longest daylight hours, suggesting a need for strategic shading devices or glazing on the east and west elevations to mitigate overheating, while the **northern facade remains relatively shaded**, offering potential for **passive cooling design strategies**. These insights are crucial for optimizing the building's energy performance and ensuring **occupant comfort** throughout the year.

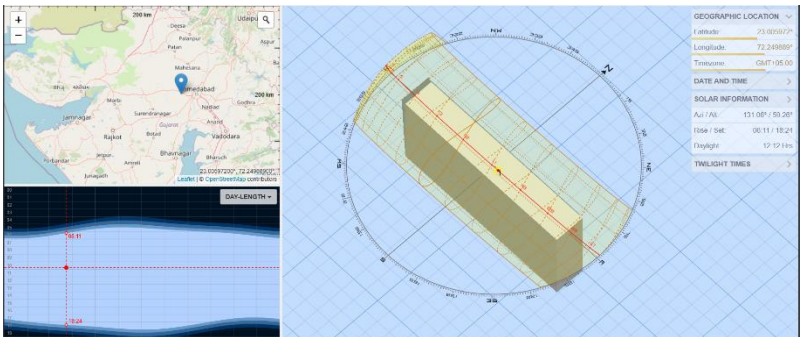


Figure 16: SUN LIGHT ANALYSIS

CHAPTER 4 :

CASE STUDIES-1

HILLTON GARDEN INN , PUNE

1. INTRODUCTION

2 PROXIMITIES

3 SEISMIC ACTIVITIES

4 SOIL TYPE

5 CLIMATIC DATA

6 CLIMATIC ANALYSIS IN BUILDING1)HILTON GARDEN INN , PCMC , PUNE (M.H.)

The Hilton Garden Inn, Pune Hinjawadi is a modern upscale business hotel that epitomises functional luxury and contemporary elegance. Strategically located in the heart of Pune's vibrant IT and corporate hub, the hotel caters to discerning business and leisure travellers seeking comfort, convenience, and global hospitality standards. Just 45 minutes from Pune International Airport, this dynamic property offers seamless connectivity to Rajiv Gandhi Infotech Park, MIDC, and the Mumbai–Pune Expressway.

PROJECT	HILLTON GARDEN INN
LOCATION	PUNE
CLIMATE	Humid Subtropical
TOPOGRAPHY	PLAIN LAND
ARCHITECT	JOI DESIGN
COMPLITION YEAR	2021
NO. OF ROOMS	144
SITE AREA	4.77 ACRE

FAR 2



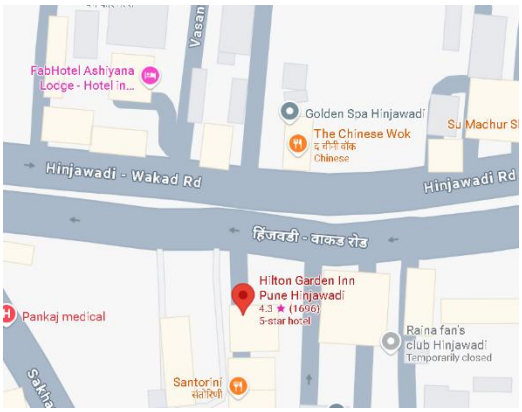
LOCATION

Address: Survey No. 40/3, Hinjawadi-Wakad Road, Hinjawadi Phase I, Pune – 411057, Maharashtra

Landmark: Located next to Shell petrol pump and close to XION Mall

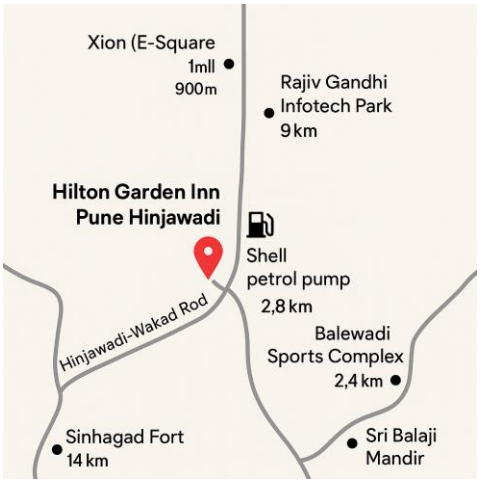
Strategic Position:

- **In the heart of Rajiv Gandhi Infotech Park**
- **Near International Biotech Park**
- **Proximity to major IT companies like Infosys, TCS, Accenture, Cognizant, etc.**



PROXIMITY

- **Road Network:**
  - **Excellent connectivity via Mumbai–Pune Expressway**
  - **Easy access to Pimpri-Chinchwad industrial zones**
- **Approach: Direct access from Hinjawadi–Wakad Road**



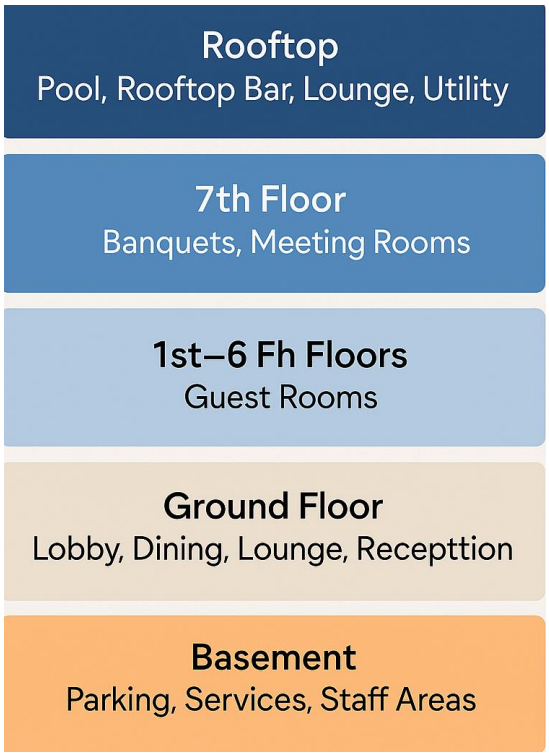
SITE LOCATION



FACILITIES

Connecting Rooms	Free parking	Free WiFi
Non-smoking rooms	Digital Key	EV charging
On-site restaurant	Outdoor pool	Fitness center
Room service	Meeting rooms	Pets not allowed

VERTICAL ZONING



AREA STATEMENT

Category: 5-Star Business Hotel
Total Guest Rooms: 144
Total Built-Up Area (BUA): ~9,069 m² (≈ 97,600 sq. ft)
Structure: G + 6 Upper Floors + Rooftop Deck + Basement

Guest Accommodation Zone

Sub-Zone	Qty / Notes	Area (m²)
King Rooms	70 units @ 28 m²	1,960
Twin Rooms	40 units @ 28 m²	1,120
Family Rooms / Suites	34 units @ avg. 32 m²	1,088

Sub-Zone	Qty / Notes	Area (m²)
Room Corridors	Carpeted, 1.8–2m wide (all floors)	~500
Service Rooms	Housekeeping, janitor closet per floor	~60
Total – Zone 1		~4,728 m²

2. F&B (Food & Beverage)

Outlet	Capacity / Design Details	Area (m²)
Garden Grille	All-day dining, open kitchen concept, buffet + à la carte	220
Garden Bar / Lounge	Lounge-style seating, bar counter, bar-back wall, TV units	80
Pavilion Pantry	24/7 grab & go retail, chillers, snacks	25
Total – Zone 2		~325 m²

3. Meeting & Event Spaces

Component	Capacity / Fit-Outs	Area (m²)
Ballroom	Max 400 pax theatre style; divisible partitions	414
Meeting Room	U-shape/boardroom layouts, projector, AV panels	80
Pre-function Area	Waiting zone, buffet service counters	70
Total – Zone 3		~564 m²

4. Recreation & Wellness

Facility	Fit-Out / Equipment	Area (m²)
Fitness Center	Cardio machines, weights, changing room	80
Rooftop Pool Deck	Lounge seating, wooden deck, safety barriers	180
Outdoor Lounge	Bar stools, partial pergola, planter beds	50
Total – Zone 4		~310 m²

5. Lobby & Public Interface

Sub-Zone	Details	Area (m²)
Main Lobby	Double-height, feature lighting, art wall	200
Reception + Concierge	Front desk, check-in kiosk, concierge desk	60

Sub-Zone	Details	Area (m²)
Business Center	3–4 work pods, Wi-Fi, printers, teleconferencing	60
Total – Zone 5		~320 m²

6. Back-of-House (BOH) & Services

Functional Areas	Description	Area (m²)
Main Kitchen + Pantry	Receiving, cooking line, cold storage	~400
Laundry & Linen Room	Washing, drying, sorting zones	~300
Staff Dining & Lockers	Seating for 40, change rooms, WC	~200
Engineering Room	UPS, HVAC, panel boards	~250
Admin Offices & HR	GM cabin, staff meeting room, HR, security	~200
Waste & Garbage Segregation	Organic + Inorganic zones, pest-proofing	~100
Stores (General + F&B)	Dry store, liquor store, chemical room	~200
Total – Zone 6		~1,800–2,200 m²

7. Circulation, Lifts, Vertical Cores

Component	Features	Area (m²)
Elevators (3 total)	2 guest + 1 service lift, SS finish	~90
Fire Staircases	2 shafts, fire-rated doors	~120
Guest Corridors	On all floors; 1.8–2m wide	~500–600
MEP Duct Shafts	Plumbing, HVAC risers, electrical shafts	~300
Total – Zone 7		~1,050 m²

GUEST ROOM TYPOLOGY

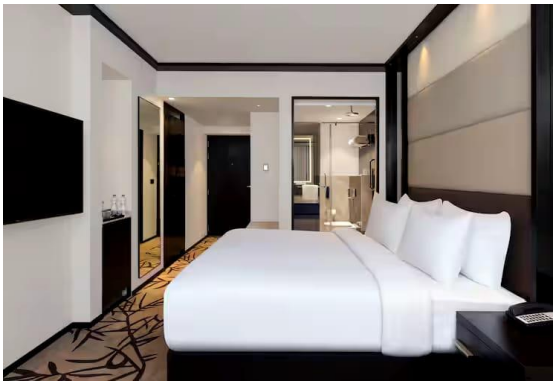
Total there are 152 rooms which are majorly classified into 4 categories:

- **King Room: Standard double bed configuration.**
- **King Guest Room with Hill View: Same as King but with scenic views.**
- **Family Room: Larger layout for families or groups.**

Twin Room: Two separate single beds

KING ROOM

The signature feature of the King Room at Hilton Garden Inn Pune Hinjawadi is its perfect blend of comfort, functionality, and scenic views, tailored for modern travelers. The room offers a spacious king-size bed with ergonomic design, a dedicated work area with an adjustable chair, and floor-to-ceiling windows in select rooms that provide panoramic views of the Pune skyline or Mhatoba Hills.





Area: Approx. 27–30 sq. m (290–325 sq. ft)

Occupancy: 2 Adults (1 Child with crib/rollaway bed on request)

Bed Type: 1 King-size bed

Amenities:

- **40” HD TV with satellite channels**
- **Free Wi-Fi**
- **Work desk with ergonomic chair**
- **Tea/coffee maker, minibar (on request)**
- **Digital Key access (via Hilton Honors app)**
- **Blackout curtains, iron & board, wardrobe**

Bathroom: Walk-in shower, premium toiletries, hairdryer

Signature Feature: Balanced business-leisure layout with ergonomic furniture and tech conveniences, ideal for solo or couple stays.

King Guest Room with Hill View

This premium variant of the King Room offers a more scenic and tranquil experience, thanks to its floor-to-ceiling windows that frame sweeping views of the Mhatoba Hills and Pune's western skyline. Sized at about 30 square meters (~325 sq ft), it features a luxurious king-size bed, a dedicated work area, blackout curtains, and soundproofing for maximum privacy. Along with standard amenities like Wi-Fi, smart HDTV, and mini-fridge, this room enhances the stay with enhanced lighting, elevated positioning, and premium linens for a serene retreat.





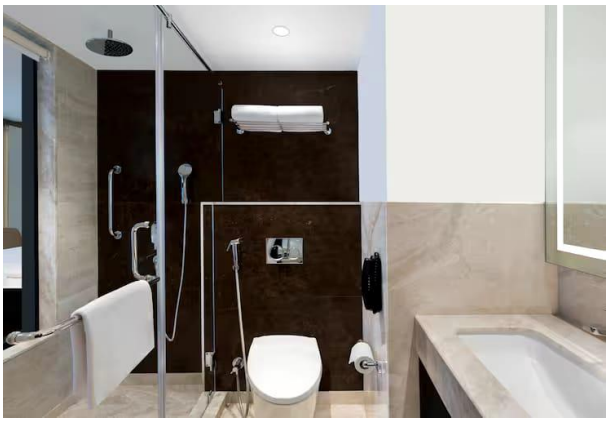


- **Area: Approx. 30 sq. m (325 sq. ft)**
- **Occupancy: 2 Adults**
- **Bed Type: 1 King-size bed**
- **Amenities:**
    - **Large window with hill or skyline views**
    - **All core room amenities: Wi-Fi, TV, tea/coffee, digital key**
    - **Desk with scenic view, plush chair**
    - **Soundproofing and blackout curtains**
- **Bathroom: Stylish bath with walk-in shower and premium toiletries**
- **Signature Feature: Panoramic views of Mhatoba Hills, offering a serene, elevated atmosphere perfect for relaxation.**

3. Twin Room

The Twin Room is ideal for friends, colleagues, or travelers seeking separate sleeping arrangements without compromising on comfort. Spanning approximately 27 to 30 square meters (~290 to 325 sq ft), the room features two single beds, ergonomically spaced with plush bedding. It comes with all the core Hilton amenities: a functional work desk, tea/coffee maker, mini-fridge, 40-inch flat-screen TV, and free Wi-Fi. The private bathroom includes a walk-in shower and signature Hilton toiletries. Guests can enjoy natural lighting from large windows and full blackout curtains for privacy and sleep quality.



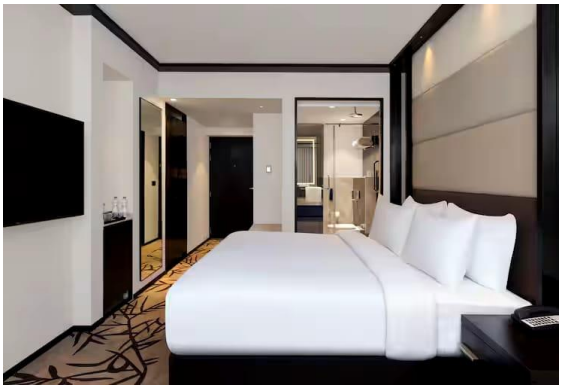


- **Area: Approx. 27–30 sq. m (290–325 sq. ft)**
- **Occupancy: 2 Adults (separate beds)**
- **Bed Type: 2 Single beds**
- **Amenities:**
    - **Same core offerings as King Room**
    - **Individual beds with plush linen**
    - **Workstation, blackout curtains**
    - **Tea/coffee maker, minibar (on request)**
    - **40” TV, free Wi-Fi**

- **Bathroom: Walk-in shower with toiletries**
- **Signature Feature: Ideal for colleagues or friends—offering privacy and shared comfort with separate bedding.**

Family Room

The Family Room at Hilton Garden Inn Pune is designed with extra space and comfort in mind, catering especially to families or small groups. Covering around 30–32 square meters (~325–345 sq ft), this room includes a king-size bed with plush bedding and can easily accommodate 2 adults and 1–2 children with the option of an extra bed or crib. It includes a comfortable seating area, a generous work desk, and large windows offering a bright, airy ambiance. Like other rooms, it features individual air-conditioning, a 40-inch HD TV, free high-speed Wi-Fi, and a tea/coffee station. The bathroom is equipped with a walk-in shower, premium toiletries, and fresh towels.





Area: Approx. 30–32 sq. m (325–345 sq. ft)

Occupancy: 2 Adults + 1–2 Children

Bed Type: 1 King-size bed + space for crib/rollaway

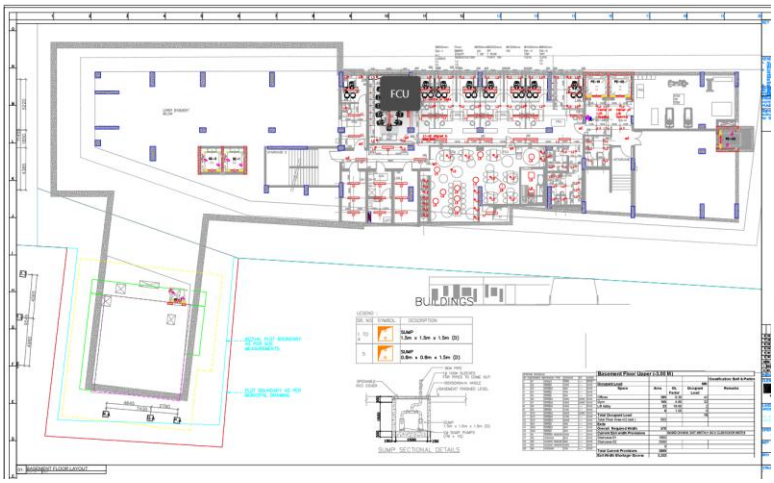
Amenities:

- **Larger floor space and seating area**
- **40” HD TV, free Wi-Fi**
- **Tea/coffee setup, mini-fridge**
- **Work desk, wardrobe, blackout curtains**
- **Iron & board, extra storage**

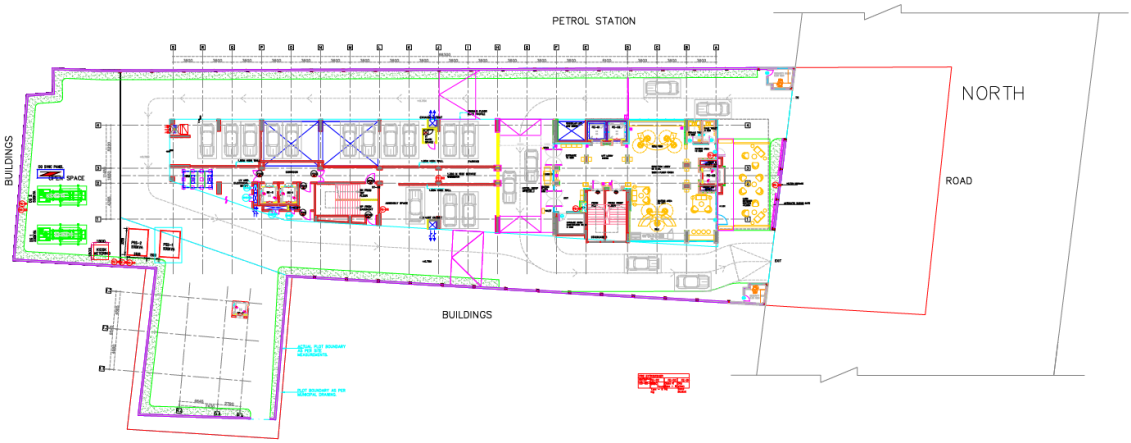
- **Bathroom: Spacious layout with walk-in shower, toiletries**
- **Signature Feature: Extra space for families or longer stays, with flexibility for additional sleeping arrangements.**

FLOOR PLANS

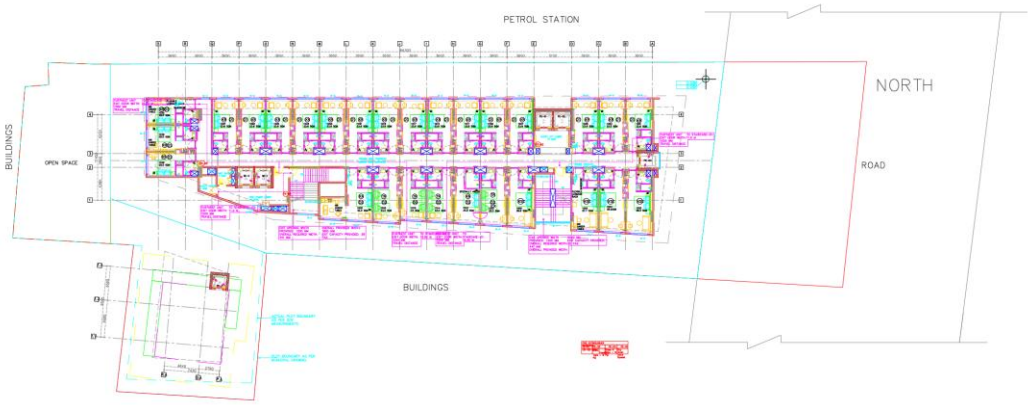
Basement Floor Plan



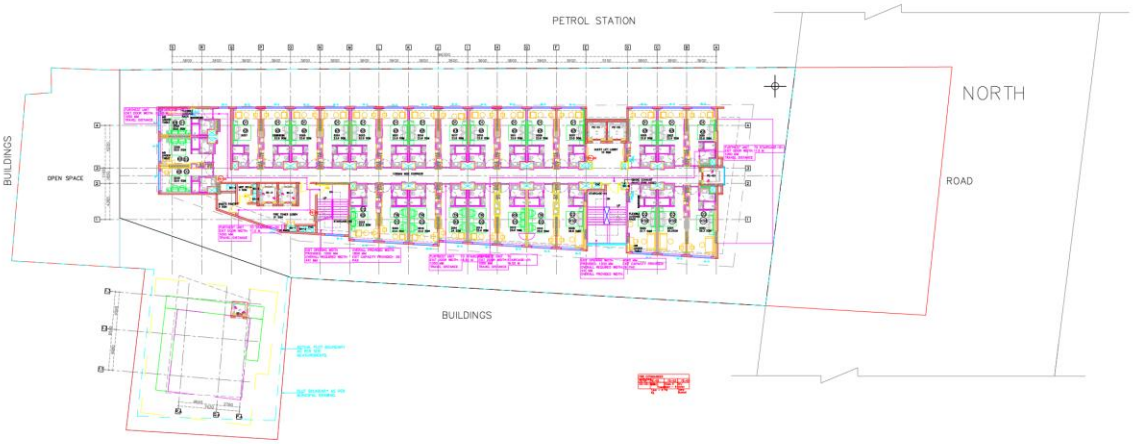
Ground Floor Plan



First Floor



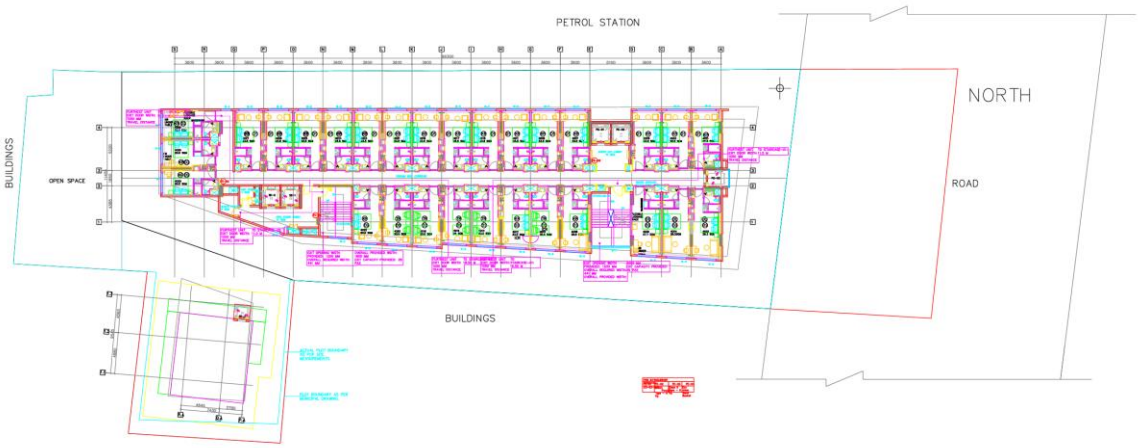
Second Floor



Third Floor



Fourth Floor



Fifth Floor



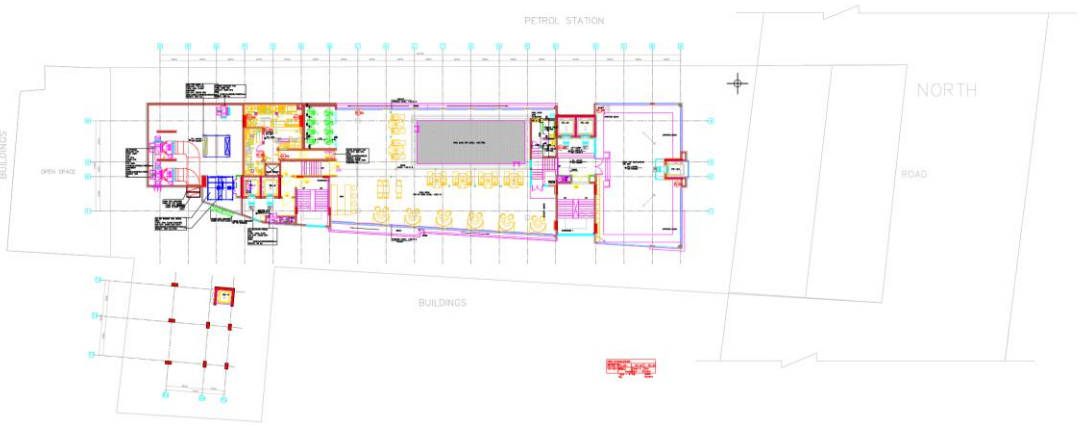
Sixth Floor



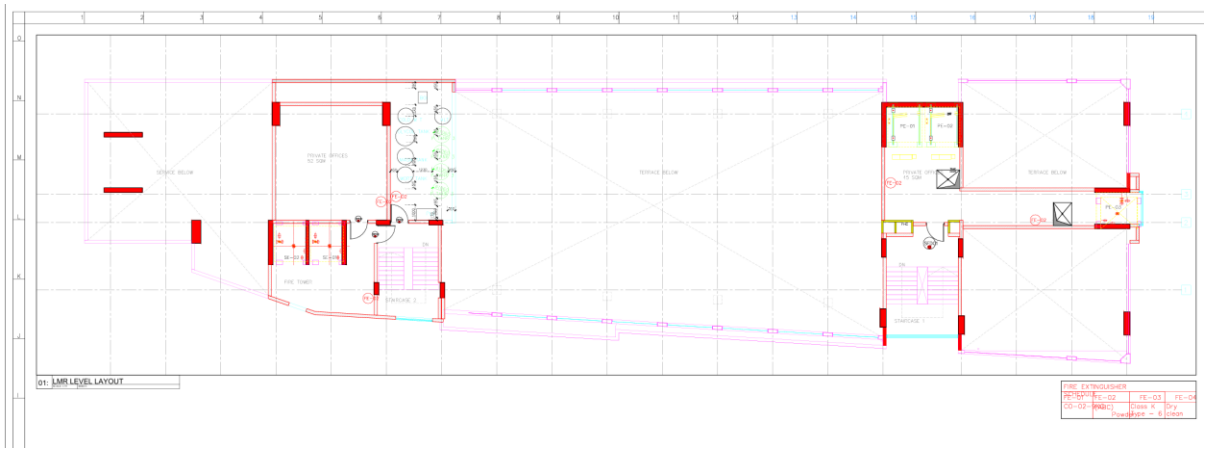
Seventh Floor



Terrace Floor Plan



LMR Layout

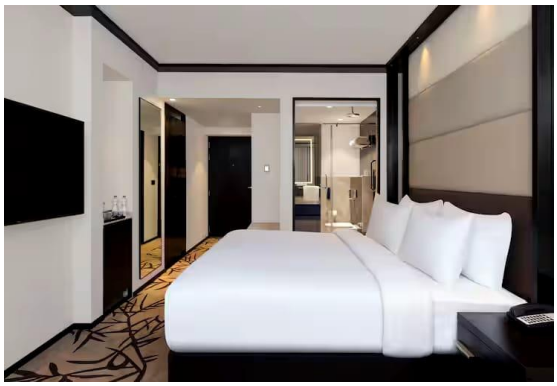


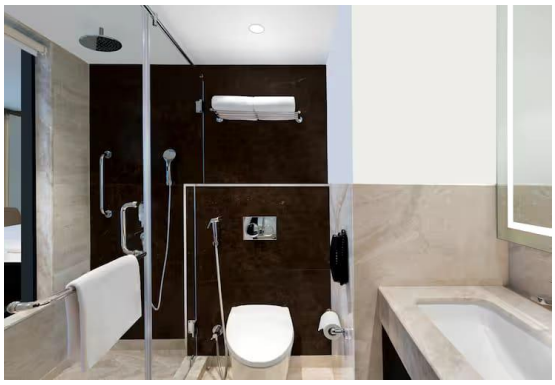
VIWES / INTERIOR SPACES

1. Guest Room Interiors

- **King Room / Twin Room / Family Room / Hill View Room**
  - **Modern, neutral colou.r palettes (beige, grey, soft wood tones)**
  - **Ergonomic furniture with built-in lighting**
  - **Soft carpets or wooden flooring**
  - **Minimalist wall decor with local art accents**
  - **Floor-to-ceiling windows (in select rooms)**

- **Compact bathrooms with walk-in glass showers and premium fittings**





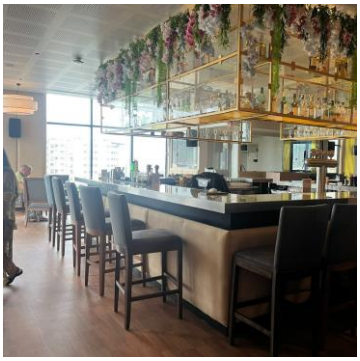
🍽️ **2. Food & Beverage Areas**

The Garden Grille (All-Day Dining Restaurant)

- **Seating capacity: ~80–100 guests**
- **Contemporary design with soft lighting and open kitchen**
- **Buffet and à la carte services**
- **Indoor + semi-outdoor seating areas**

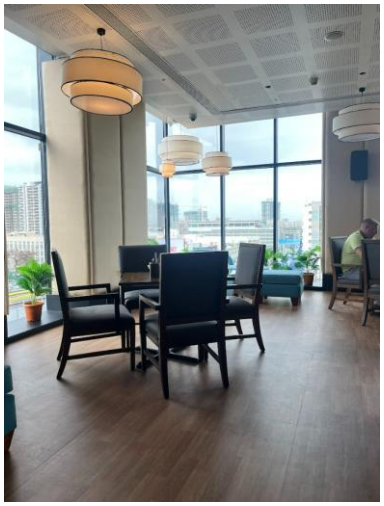
The Garden Bar

- **Lounge-style seating with a chic bar counter**
- **Cocktail menu and light snacks**
- **Ambient lighting with casual café-style furniture**

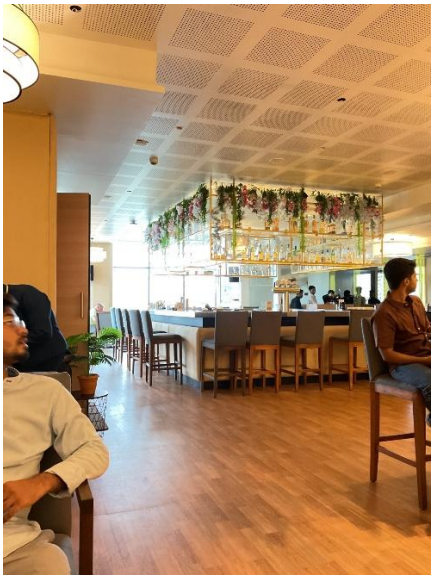


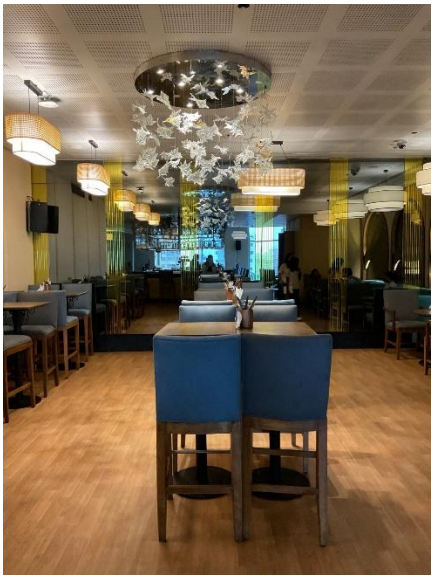


UNLIMITED
Craft
Beer


24/7 Pavilion Pantry

- **Grab-and-go setup near the lobby**
- **Compact retail-style layout with beverages, snacks and essentials.**





💼 3. Business & Meeting Spaces

Meeting Rooms / Boardrooms

- **Multiple meeting rooms (flexible partitioning)**
- **Capacity: 10 to 150 guests**
- **Sleek interiors with foldable seating, projection setup, and acoustic walls**
- **Neutral walls, wood-finish accents, and integrated A/V equipment**

Business Center

- **24/7 access for guests**
- **Workstations, printing/scanning stations**
- **Minimalist layout with enclosed cubicles**

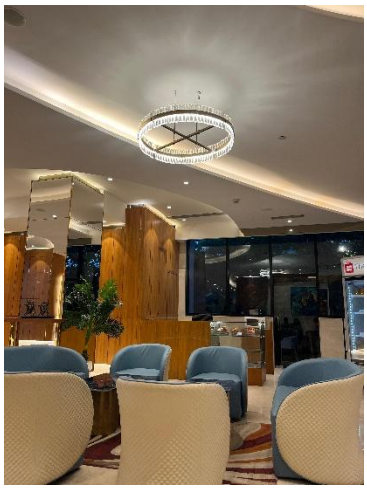
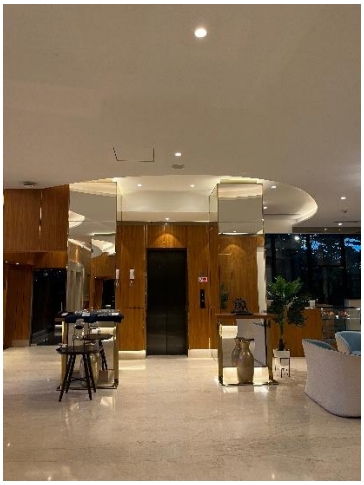
🛋️ 4. Lobby & Reception

- **Spacious double-height lobby with natural lighting**
- **Marble/tile flooring with modern chandeliers**

- **Soft-toned furniture with lounge seating**
- **Digital check-in kiosks and Hilton Honors Desk**
- **Art walls featuring local Pune-inspired design**





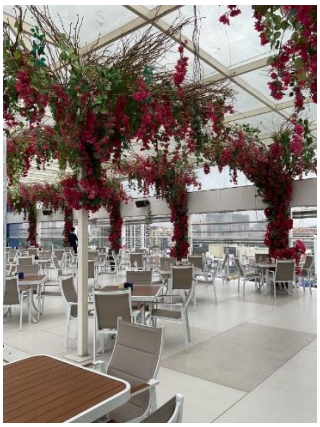
🧘 **5. Wellness & Fitness**

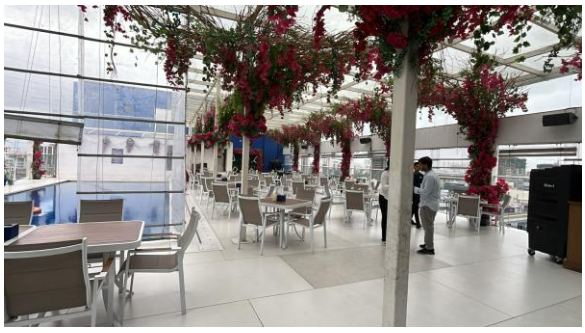
Fitness Center (Gym)

- **Open 24/7**
- **Modern cardio and strength-training equipment**
- **Mirrors, rubber flooring, and water station**
- **TV screens and music system**

🏊 **6. Rooftop Pool & Lounge**

- **Rooftop swimming pool with wooden deck and loungers**
- **Cityscape and hill views from the terrace**
- **Adjacent outdoor seating for sunbathing or cocktails**
- **Poolside bar service available in the evenings**



SERVICES

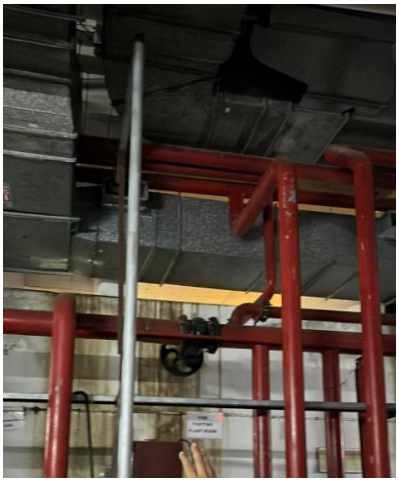
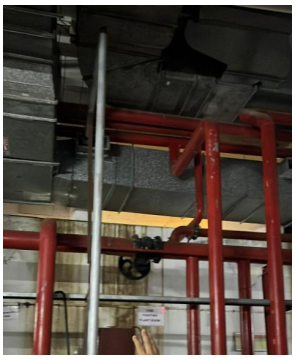
Electrical Services






FIRE FIGHTING







Water Supply



STP



RO Plant







HVAC


HVAC


HOT WATER
RETURN
PUMP-1


HOT WATER
RETURN
PUMP-1


CHILLER-02
(VFD)



LIVE CASE STUDY 2:
TAJ LAKEFRONT, BHOPAL

INTRODUCTION

LOCATION

SITE

FACILITIES

APPROACH ROAD

VERTICAL ZONING

AREA STATEMENT

FLOOR PLANS

GUEST ROOMS TYPOLOGY

VIEW/INTERIOR OF SPACES

SERVICES

INTRODUCTION

- The Taj Lakefront, Bhopal epitomises true luxury. Overlooking the upper lake and just 25 minutes from the international airport, this iconic landmark symbolises the soul of Bhopal and its vision for tomorrow. The magnificent structure by the lakefront redefines fine living with its modern interiors, ornate and luxurious finishes. The design is intuitive to the region and inspired by the bell metal craft of Tikamgarh, the lakes and Zari work of Bhopal, the paisley prints of Bagh, the Durries of Sironj, and the Terracotta art of the state's tribal areas.

- Ready to be the new landmark of the city, it opens its doors to the world with 152 guest rooms, multi-cuisine and award-winning restaurants, recreation facilities, Jiva spa, modern meeting spaces, well-equipped conference rooms, and the city's largest banqueting facilities.





Details:

PROJECT	TAJ LAKEFRONT
LOCATION	BHOPAL
CLIMATE	Humid Subtropical
TOPOGRAPHY	PLAIN LAND
ARCHITECT	JOI DESIGN
COMPLITION YEAR	2021
NO. OF ROOMS	152
SITE AREA	4.77 ACRE
FAR	2

11. LOCATION

It is close to the Van Vihar National Park, Sanchi Stupa, National Museum of Mankind, Taj-ul-Masajid, and many such wonders of the city. Located near Bhadbhada Road Chauraha, Link Rd Number 3, Bhopal, Madhya Pradesh Overlooking the upper lake.

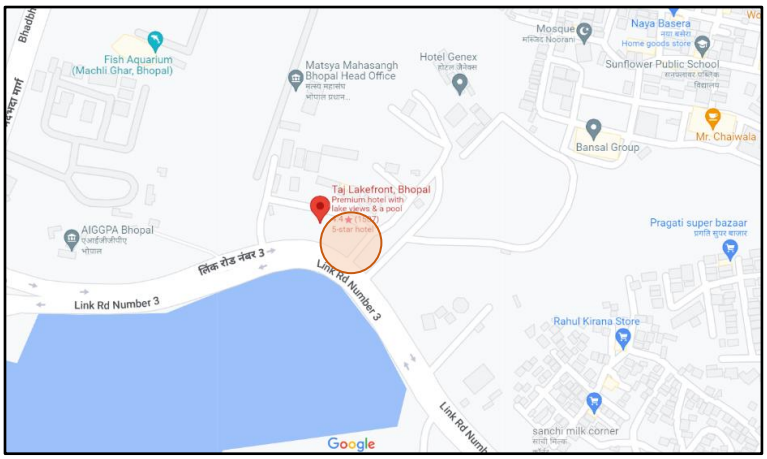


FIGURE 1: SITE LOCATION

12. SITE



FIGURE 2: SITE PLAN

Site Boundary
Circulation within the Site

Site Characteristics:

- The site has kind of trapezium shape having curved edge in front.
- As we look into the site planning of taj the front part is designed with pleasing landscape by which guests can connect with its lush greenery.
- Back part of the site is used for the services.
- The building shape is evolved by the curved front edge of the site.
- Circulation of the site is designed in that way so that no congestion will occur.

13. FACILITIES

These are the following facilities and amenities that Hotel Taj is providing to their guests.

Outdoors
- ✓ Outdoor furniture
- ✓ Sun terrace
- ✓ Terrace
- ✓ Garden

Activities
- ✓ Evening entertainment
- ✓ Games room

Food & Drink
- ✓ Bar
- ✓ Restaurant

Internet
WiFi is available in all areas and is free of charge.

Parking
Free private parking is possible on site (reservation is not needed).
- ✓ Electric vehicle charging station

Reception services
- ✓ Invoice provided
- ✓ Concierge service
- ✓ Currency exchange
- ✓ Express check-in/check-out
- ✓ 24-hour front desk

Cleaning services
- ✓ Daily housekeeping
- ✓ Trouser press Additional charge
- ✓ Ironing service Additional charge
- ✓ Dry cleaning Additional charge
- ✓ Laundry Additional charge

Business facilities
- ✓ Business centre
- ✓ Meeting/banquet facilities

Safety & security
- ✓ Fire extinguishers
- ✓ CCTV outside property
- ✓ CCTV in common areas
- ✓ Smoke alarms
- ✓ Security alarm
- ✓ Key card access
- ✓ 24-hour security

General
- ✓ Air conditioning
- ✓ Lift
- ✓ Family rooms
- ✓ Non-smoking rooms
- ✓ Room service

Outdoor swimming pool
Free! All pools are free of charge
- ✓ Open all year
- ✓ Opening times
- ✓ All ages welcome
- ✓ Pool/beach towels
- ✓ Pool bar
- ✓ Infinity pool
- ✓ Pool is on rooftop

Wellness
- ✓ Fitness
- ✓ Full body massage
- ✓ Hand massage
- ✓ Head massage
- ✓ Couples massage
- ✓ Foot massage
- ✓ Neck massage
- ✓ Back massage
- ✓ Spa/wellness packages
- ✓ Spa lounge/relaxation area
- ✓ Spa facilities
- ✓ Pool/beach towels
- ✓ Massage
- ✓ Spa and wellness centre Additional charge
- ✓ Fitness centre

14. APPROACH ROAD

- 18 m wide arterial road named Link RD number 3 is connecting the Taj hotel to the various locations of the city.
- 12 m wide service lane is given in the right side of the site.

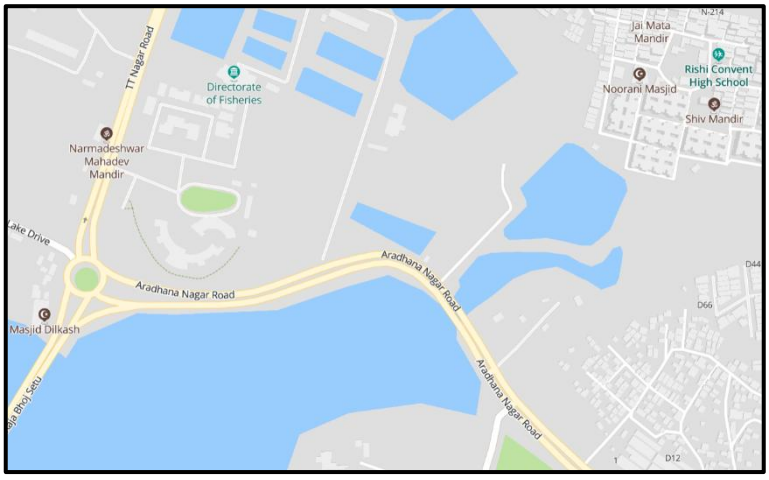


FIGURE 3: APPROACH ROADS

15. VERTICAL ZONING

Here is the conceptual section of the taj hotel to explain the vertical zoning.

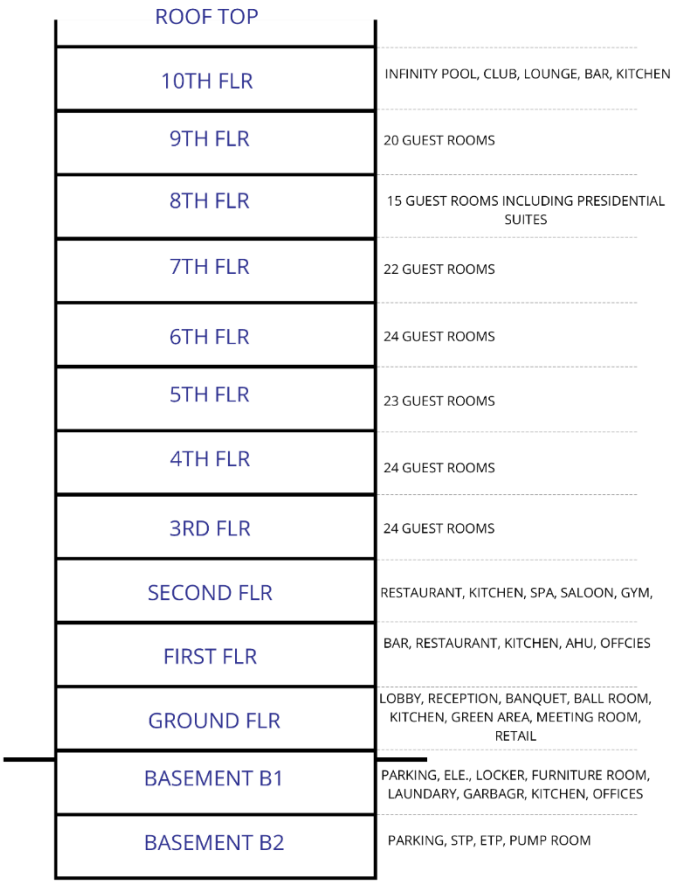


FIGURE 4: VERTICAL ZONING

16. AREA STATEMENT

Name		No. of Units	Area (sq.m.)	Total Area	%
	Total No. of Keys	152			
	No. of Floors	10			
A.	**Guest Room Mix**				
	Executive Suite	141	66	9306	80
	Twin Bedroom	5	33	165	10
	King bedroom	5	33	165	10
	Presidential Suite	1	152	152	
	Total Area (Sum)			**9788**	
B.	**Guest Floor Services**				
I	**Corridor Area**				
	Type Floor Corridor	1	180	**180**	30
II	**Housekeeping Static or Typical Floors**				
	Housekeeping Static or Typical Floors	1	185	**185**	32
III	**Lifts**				
	Guest Elevators	2	55	**110**	19
	Service Lift Lobby	2	55	**110**	19
IV	**Fire Protection**				
	Fire Escape Stairs	2	30	**60**	10
	Total Area (Sum)			**585**	
C.	**Public Areas**				
I	**Entrance Lobby**				
	Port Cochere	1	40	**40**	15
	Entrance Lobby Waiting Areas Front Desk	1	100	**100**	38
	Front Desk	1	40	**40**	14
	Luggage Store	1	15	**15**	6
	Bell Man	1	4	**4**	8
II	**Business Centre**				
	Store	1	36	**36**	13
			5	**5**	2
III	**Public Utilities**				
	Public Toilet	1	30	**30**	10

	Total Area (Sum)			**270**	
D.	**F&B Outlets**				
	Bar (Special) - 30 Covers	1	100	**100**	25
	Multi-Cuisine Restaurant - 120 Covers	1	300	**300**	75
	Total Area (Sum)			**400**	

E.	**Banquets**				
	Banquet Hall	2	225	**450**	62
	Pre-Function Area	2	80	**160**	22
	Conference Room	1	50	**50**	6
	Banquet Toilets	1	60	**60**	10
	Total Area (Sum)			**720**	

F.	**Recreation Facilities**				
	Swimming Pool	1	100	**100**	32
	Pool Change Room	1	50	**50**	16
	Gym	1	100	**100**	32
	Massage Room	1	6	**6**	10
	Saloon	1	50	**50**	10
	Total Area (Sum)			**306**	

G.	**Retail Archade**				
	Retail Shops	1	25	**25**	
	Total Area (Sum)			**25**	
BOH					

A.	**Material Management**				
	Truck Dock	2	20	**40**	34
	Holding Area	1	38	**38**	34
	Veg Wash	1	2.5	**2.5**	2
	Purchase & Reciving Off	1	20	**20**	15
	Purchase Office Manager	1	18	**18**	15
	Total Area (Sum)			**118.5**	

B.	**Main Store**				
	General Store	1	120	**120**	75
	Linen	1	10	**10**	6

	Unassign Store	1	10	**10**	6
	Liquor	1	10	**10**	6
	Crockery	1	6	**6**	3
	Mis	1	2	**2**	2
	Fuel	1	2	**2**	2
	Total Area (Sum)			**160**	

C.	**Garbage**				
	Loading	1	20	**20**	30
	Trash Garbage(Dry)	1	8	**8**	12
	Trash Garbage Refrigerator (wet)	1	15	**15**	24
	Garbage Truck	1	12	**12**	18
	Coal Room	1	5	**5**	8
	Circulation Space	1	5	**5**	8
	Total Area (Sum)			**65**	

D.	**Front Office : Admi/Acc/IT**				
	GM	1	151	**151**	44
	Sec to GM	1	9	**9**	2
	FO Mgr Couples as duty manager)	1	5	**5**	1
	Revenue Manager	1	8	**8**	2
	Reservation Office	1	8	**8**	2
	Work Station	1	25	**25**	8
	Discussion Room (Commom Meeting)	1	4	**4**	1
	Chief Accountant- Refer Staff Reqmnt	1	15	**15**	5
	Credit Manager	1	8	**8**	2
	Cashier	1	5	**5**	1
	Controller	1	8	**8**	2
	Payroll Manager	1	5	**5**	1
	Account Record Room	1	10	**10**	2
	Meeting room	1	10	**10**	2
	Computer Room	1	17	**17**	8
	UPS	1	35	**35**	12
	Recorde	1	10	**10**	2
	Storage and Copy8ing	1	9	**9**	2
	Total Area (Sum)			**347**	

E.	**Sales**				
	Rooms Mgr	1	8	**8**	18

	Banquet Mgr	1	8	**8**	18
	Workstation	2	5	**10**	22
	Discussion Room	1	10	**10**	22
	Storage and Copying	1	8	**8**	20
	Total Area (Sum)			**44**	

F.	**F&B**				
	Multi Cuisine Main Kitchen	1	85	**85**	**20**
	Room Services Main Kitchen	1	20	**20**	5
	Pastery	1	32	**32**	7
	Bakery	1	20	**20**	4
	Commissary prep Kitchen	1	40	**40**	9
	Common Dishwash	1	20	**20**	5
	Central Potwash	1	12	**12**	2
	Pot Store	1	8	**8**	3
	Banquet BOH & Store	1	130	**130**	30
	Cold Kitchen	1	18	**18**	4
	Café Kitchen	1	12	**12**	2
	Show Kitchen\Back Pantry Area for bar	1	8	**8**	2
	Bar Counter	1	15	**15**	3
	Chief Counter	1	5	**5**	2
	Chief Office	1	8	**8**	2
	Total Area (Sum)			**433**	

G.	**House Keeping**				
	Issue / Trailer / Dirties Collection	1	5	**5**	4
	House Keeper Executive	1	10	**10**	10
	House Keeping Assistant	1	8	**8**	8
	Hsk Office + House Keeper (as per Ap.)	1	16	**16**	15
	Dead Store	1	30	**30**	28
	F&B Circulatipon	1	5	**5**	5
	Guest Supply Store	1	10	**10**	10
	Bulk Lenin Store	1	5	**5**	5
	Tailor	1	10	**10**	10
	Upholestry Store	1	5	**5**	5
	Lost & Found	1	5	**5**	5
	Total Area (Sum)			**104**	

H.	**Human Resources**				

	HR Mgr	1	8	**8**	14
	Sec	1	4	**4**	7
	Traing Room	1	20	**20**	35
	Training Mgr	1	4	**4**	7
	Discussion	1	20	**20**	35
	Total Area (Sum)			**56**	

K	**Security & Time Office**				
	Staff Entry & Time Keeper/cctv	1	10	**10**	
	Security Mgr	1	8	**8**	
	Total Area (Sum)			**18**	

L	**Repair and Maintenance**				
	Head of Engg	1	8	**8**	
	Asst Engg	1	8	**8**	
	Secured Store	1	10	**10**	
	Paint Shope	1	10	**10**	
	Engg Store	1	10	**10**	
	Carpentry	1	10	**10**	
	Spare Parts	1	5	**5**	
	Total Area (Sum)			**61**	

J.	**Staff Facility**				
	Male Toilets & Lockers	1	100	**100**	
	Male Executive Toilets and Lockers	0	0	**0**	
	Female Toilets and Lockers	1	70	**70**	
	Kitchen	1	25	**25**	
	Staff Cafeteria	1	90	**90**	
	Staff Recreation Area	1	15	**15**	
	Total Area (Sum)			**300**	

I.	**Miscelienouis**				
	Divers Rest Room	1	15	**15**	
	Drivers Toilet	1	22	**22**	
	Microbiologist	1	8	**8**	
	Total Area (Sum)			**45**	

M.	**Other BOH (exer mech)**				
I	**Mechanical Areas**				
	LV Room	1	56	**56**	
	Indoor Transformers	2	22	**44**	
	LT Panel	1	74	**74**	
	DG Generator Room	1	97	**97**	
	Chiller Plant Room	1	125	**125**	
	Rainwater Tank	105 Cubic Meter			
	Municipal Tank	123 Cubic Meter			
	Raw Water Tank	123 Cubic Meter			
	Fire Tank	105 Cubic Meter			
	Treated Water Tank	123 Cubic Meter			
	Salt Storage	1	12	**12**	
	Pump Room (Fire)	1	20	**20**	
	Pump Room (Raw + Soft + WTP)	1	60	**60**	
	Boiler Room with Pump and Heat	1	58	**58**	
	STP with Pump and Equipment's	1	80	**80**	
	Work Shop	1	22	**22**	
	Engineering Office	1	8	**8**	
	Engineering Store	1	10	**10**	
	Control Room	1	15	**15**	
	Underground Oil Storage Tank	1	190	**190**	
	Swimming Pool Filtration Plant	1	12	**12**	
	Total Area (Sum)			**487**	
II	**Mechanical; Areas on Terrace**				
	Cooling Towers	1	135	**135**	
	Overhead Tank	1	12	**12**	
	Ventilation/Exhaust Fans	14	12	**168**	
	Flushing Tanks/ Cooling Tower Tanks	3	9	**27**	
	Staircase Pressurisation Fans	3	11	**33**	
	Lift Pressurisation Fans	2	2.2	**4.4**	
	Sorubber for Kitchen Exhaust	1	5	**5**	
	Total Area (Sum)		186.4	**384.4**	

N.	**Parking**				
	Basement 2			1700	
	Basement 1			1420	
	Total Wall Thiockness and Circulation			**3120**	

17. FLOOR PLANS

- **Basement 2 Plan:**

  - Basement 2 is comprised with services amenities like STP, ETP WTP, Fire Tank, Domestic Water Tank etc. and parking spaces.

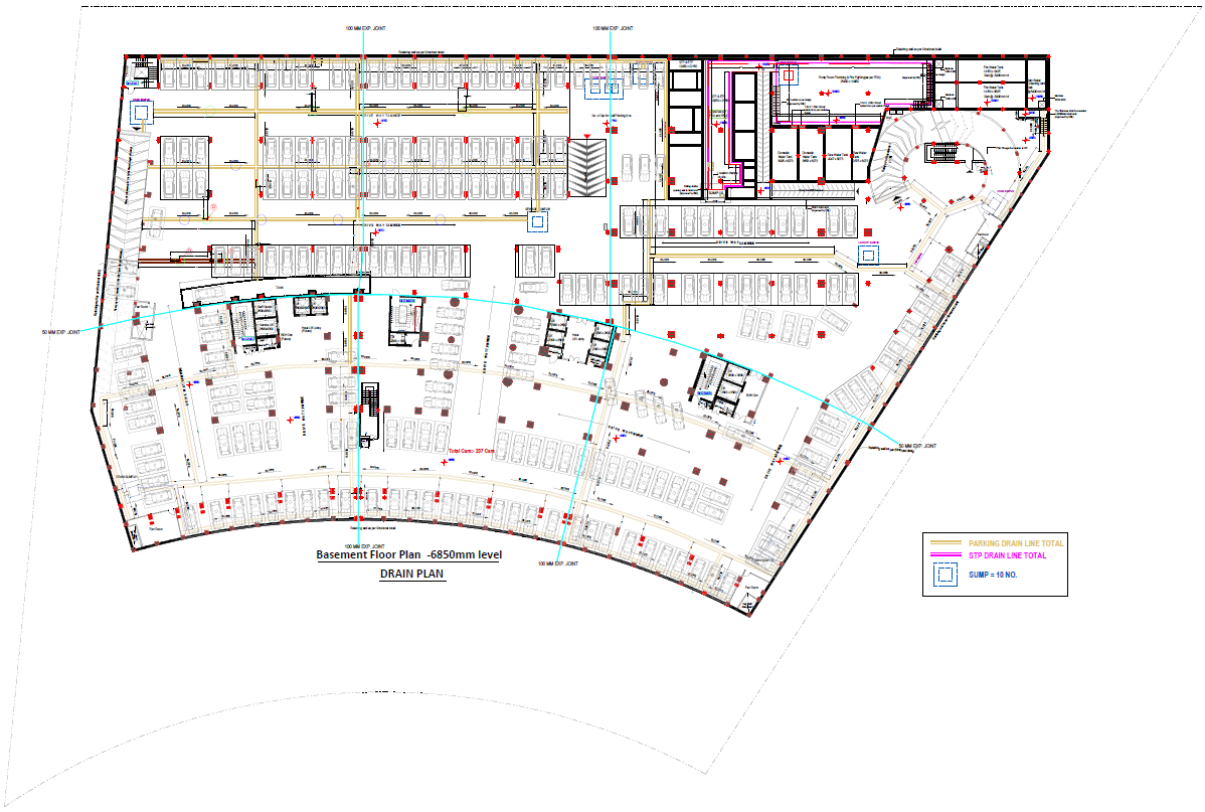


FIGURE 5: BASEMENT 2 PLAN

- **Basement 1 Plan:**

  - Basement 1 mainly consist of different types of Offices spaces like Housekeeping office , Finance Office, Sales office, Engg office and Canteen, Storage, Laundry spaces etc.
  - It also has parking spaces and services outlet.
  - All the staff of taj lakefront uses basement 1 as an entrance and parking space respectively.



FIGURE 6: BASEMENT 1 PLAN

- **Ground Floor Plan:**

  - The entrance lobby of the hotel has grand luxury feel as it has triple heighted spaces with very attractive false ceiling consist of cove lighting.
  - There is a separate entrance has been provided including Banquet Hall, Meeting room, conference rooms.
  - A Banquet Hall can be divided as 3 halls by automatic temporary panels.
  - Washroom for Banquet guests is accessible from Pre-Function Area which act as a buffer space for guest.

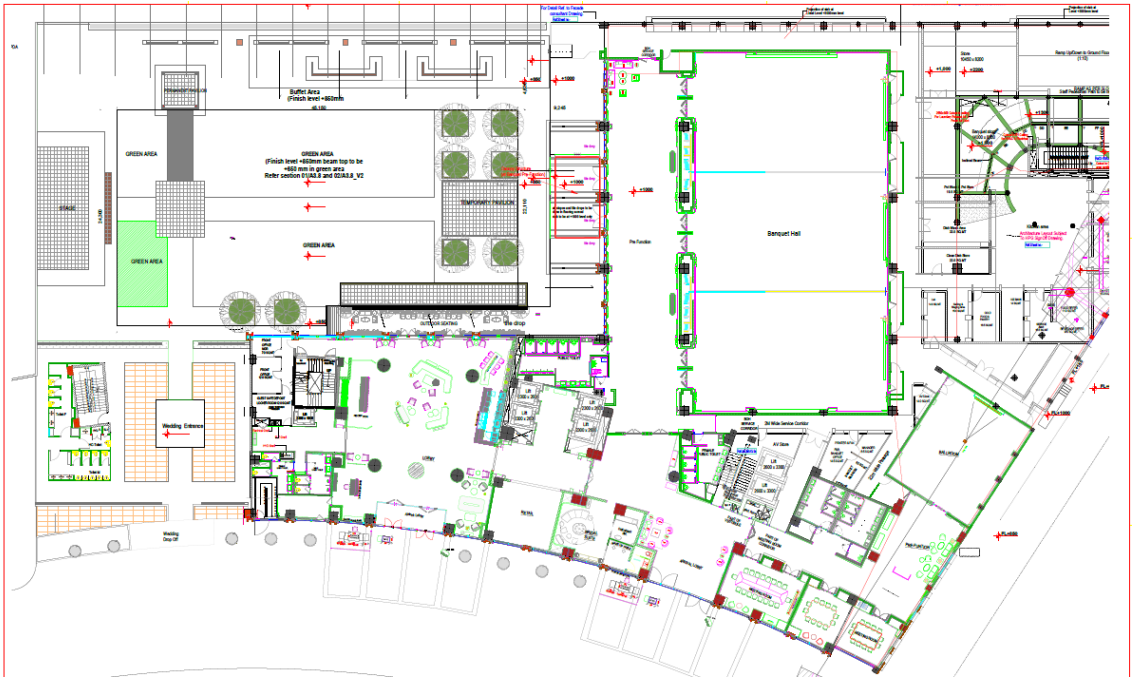


FIGURE 7: GROUND FLOOR PLAN

- **First Floor Plan:**

  - This floor has a Chinese Restaurant with a wonderful Chinese theme based interiors.
  - Private Dining Restaurants are also provided in this floor.

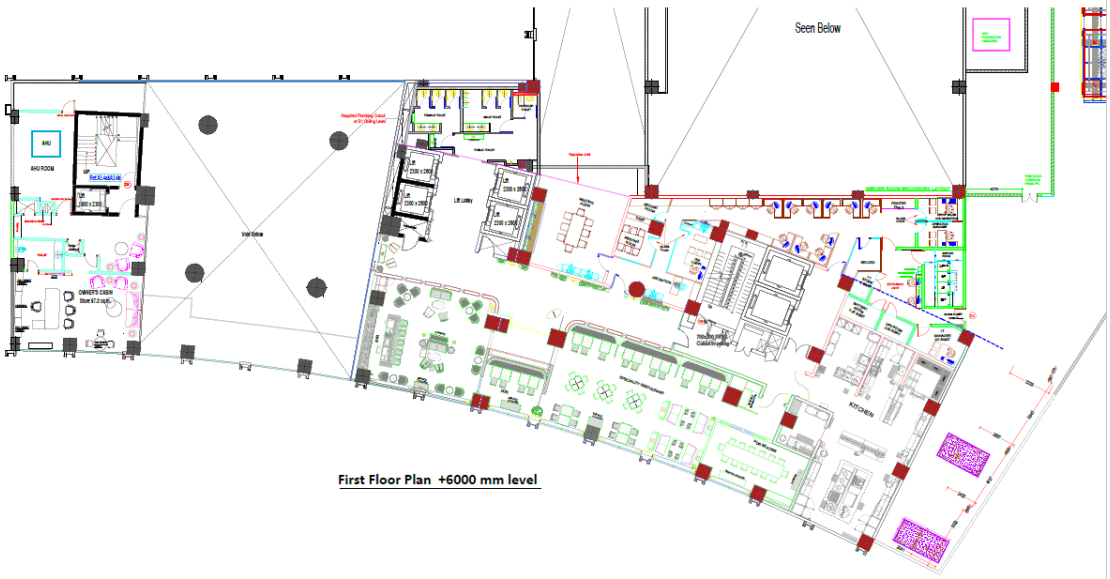


FIGURE 8: FIRST FLOOR PLAN

- **Second Floor Plan:**

  - Restaurant Seating's are provided in this floor.
  - Kitchen including cooking, store, washing space has been provided.
  - Live kitchen is also there.
  - Amenities like Gym, Spa & sauna, Saloon etc. are provided with top class facilities.



FIGURE 9: SECOND FLOOR PLAN

- **Typical Floor Plan (3rd to 7th) Floor :**

  - 24 guest rooms including Executive Suites, Twin Bedrooms are there in this floor.
  - Housekeeping Room are also there in this room for room services.
  - Specialty of these typical floor is that interior of lobby and corridors are fully different which gives different types of feeling at each different floor.



FIGURE 10: TYPICAL FLOOR PLAN (3RD TO 7TH FLOOR)

- **8th Floor Plan :**

  - 15 guest rooms including Executive Suites, King Bedrooms and 1 presidential suite are there in this floor.

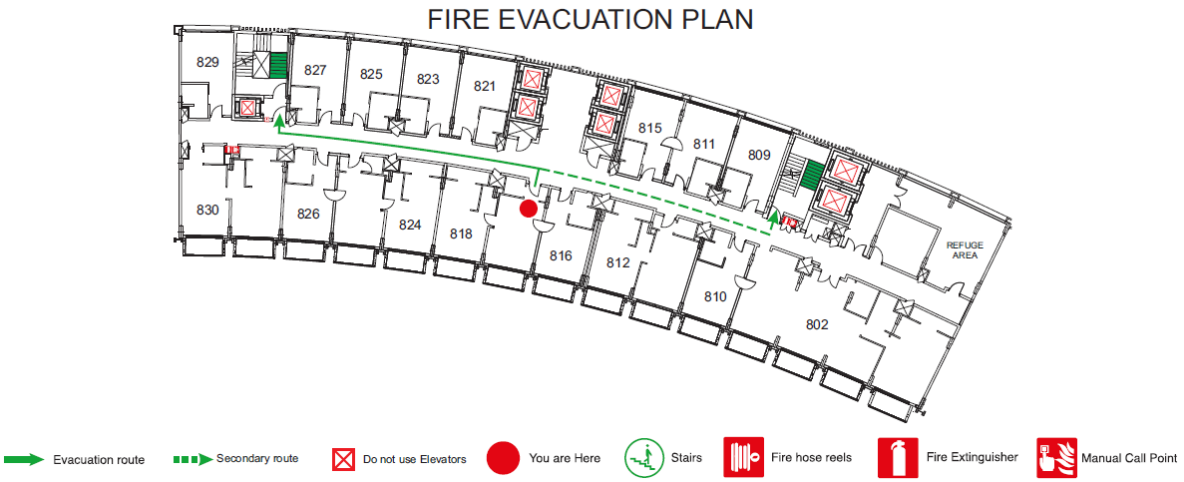


FIGURE 11: EIGTH FLOOR PLAN

- **9th Floor Plan :**

  - 20 guest rooms including Executive Suites, Twin Bedrooms are there in this floor.

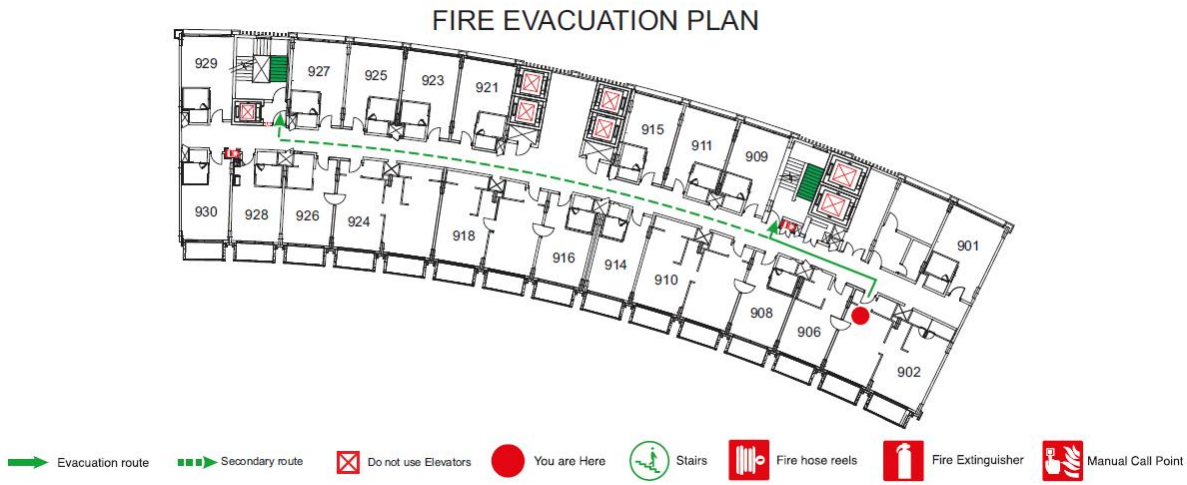


FIGURE 12: NINTH FLOOR PLAN

- **10th Floor Plan:**

  - Open terrace lounge, club area with the view of swimming pool is provided in the top floor of this Hotel.



FIGURE 13: TENTH FLOOR PLAN

18. GUEST ROOMS TYPOLOGY

Total there are 152 rooms which are majorly classified into 4 categories:

- Executive Suite
- Twin Room
- King Room
- Presidential Suite

- **Executive Suite**

Tranquility and luxury unite in the Executive Suites at the Taj Lakefront, Bhopal. Extravagant and spacious, these suites, with the option of interconnecting rooms, are ideal for vacationing with family and friends. The breakfast table, the plush seating, a dressing area and state-of-the-art bathrooms are the perfect setting that your memories deserve. Indulge in the breath-taking views of the lake and Taj's signature service for a truly luxurious retreat.





Size: 66 sq.m
Signature Feature: Spacious two-room suites overlooking the lake
Occupancy Details: Up to 3 guests. Max Adults: 3, Max Children: 2

OTHER CONVENIENCES

- Tea-coffee maker
- Forest Essentials bath amenities
- Air conditioning
- Separate living area
- Electronic safe.
- WiFi
- Iron & ironing board
- In-room bottled water
- Minibar
- Newspaper
- Full-length mirror, hair dryer, weighing scale
- 49-inch Smart LED TV



FIGURE 14: PLAN OF EXECUTIVE SUITE ROOM

- **Twin Room**

Framed by the picturesque backdrop of the hills, the Deluxe Rooms are the epitome of tranquillity and relaxation. The decor seamlessly merges the aesthetic philosophy of Madhya Pradesh with a European flair. Fully-equipped with quality amenities, including digital connectivity with smart TV and Taj's signature service, the Deluxe Rooms offer an unmatched experience of comfort. Includes complimentary access to the hotel gym and wet areas.





SIZE: 33 sq.m
SIGNATURE FEATURE: Spectacular vistas of the hills
Occupancy Details: Up to 3 guests. Max Adults: 3, Max Children: 2

OTHER CONVENIENCES

- Tea-coffee maker
- Forest Essentials bath amenities
- Choice of smoking & non-smoking accommodation
- Air conditioning
- WiFi
- Iron & ironing board
- In-room bottled water
- Minibar
- Newspaper
- Full-length mirror, hair dryer, weighing scale
- 49-inch Smart LED TV
- Shower Cubicle

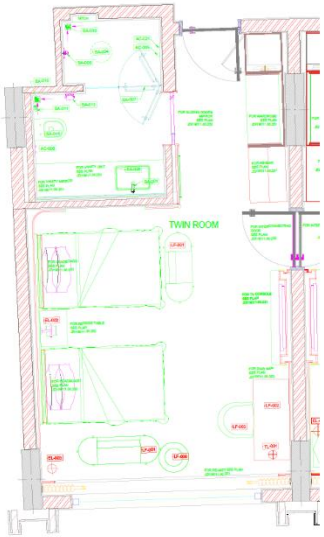


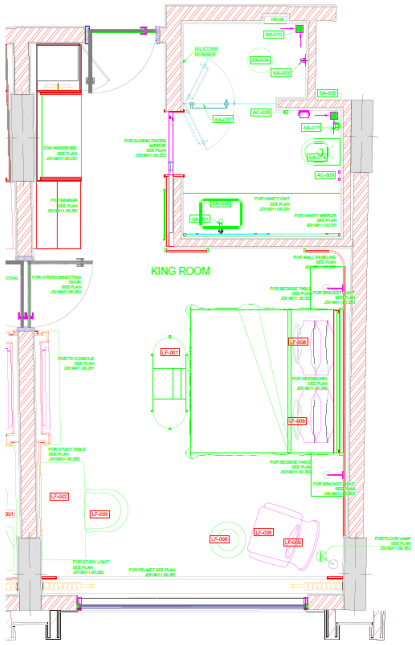
FIGURE 15: PLAN OF DELUXE TWIN BEDROOM

- **King Room**

Framed by the picturesque backdrop of the hills, the Deluxe Rooms are the epitome of tranquillity and relaxation. The decor seamlessly merges the aesthetic philosophy of Madhya Pradesh with a European flair. Fully equipped with quality amenities, including digital connectivity with smart TV and Taj's signature service, the Deluxe Rooms offer an unmatched experience of comfort. Includes complimentary access to the hotel gym and wet areas.



SIZE: 33 sq.m
SIGNATURE FEATURE: Spectacular vistas of the hills
Occupancy Details: Up to 3 guests. Max Adults: 3, Max Children: 2



OTHER CONVENIENCES

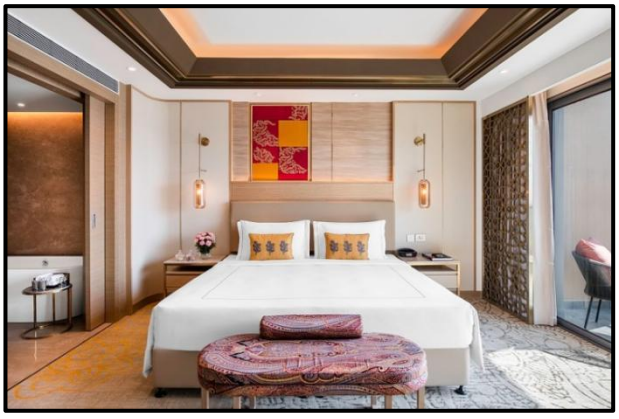
- Tea-coffee maker
- Forest Essentials bath amenities
- Choice of smoking & non-smoking accommodation
- Air conditioning
- WiFi
- Iron & ironing board
- In-room bottled water
- Minibar
- Newspaper
- Full-length mirror, hair dryer, weighing scale
- 49-inch Smart LED TV
- Shower Cubicle

FIGURE 16: PLAN OF DELUXE ROOM KING BED

- **Presidential Suite**

Bhopal is the land of the Nawabs and Begums, and epitomizing this rich culture is the Presidential Suite of the Taj Lakefront, Bhopal. With interiors that give an ethereal glimpse into the bygone era and a private balcony in every room overlooking the glorious city, the Presidential Suite is a perfect union of the multitude of generations. A lavish experience, embodied by an elegant living room, a plush dining area and a palatial master bedroom, await your presence in the opulence of the Presidential Suite at the Taj Lakefront, Bhopal.







SIZE: 152 sq.m
SIGNATURE FEATURE: A regal experience in the heart of the country
Occupancy Details: Up to 3 guests. Max Adults: 3, Max Children: 2

OTHER CONVENIENCES

- Forest Essentials bath amenities
- Air conditioning
- Bedroom with private balcony or verandah & bathroom
- Living room with dining area, bedroom & bathroom
- Electronic safe.
- Tea coffee maker
- WiFi
- Iron & ironing board
- In-room bottled water

- Minibar
- Newspaper
- Full-length mirror, hair dryer, weighing scale
- 49-inch Smart LED TV
- Lake View
- Private Pantry

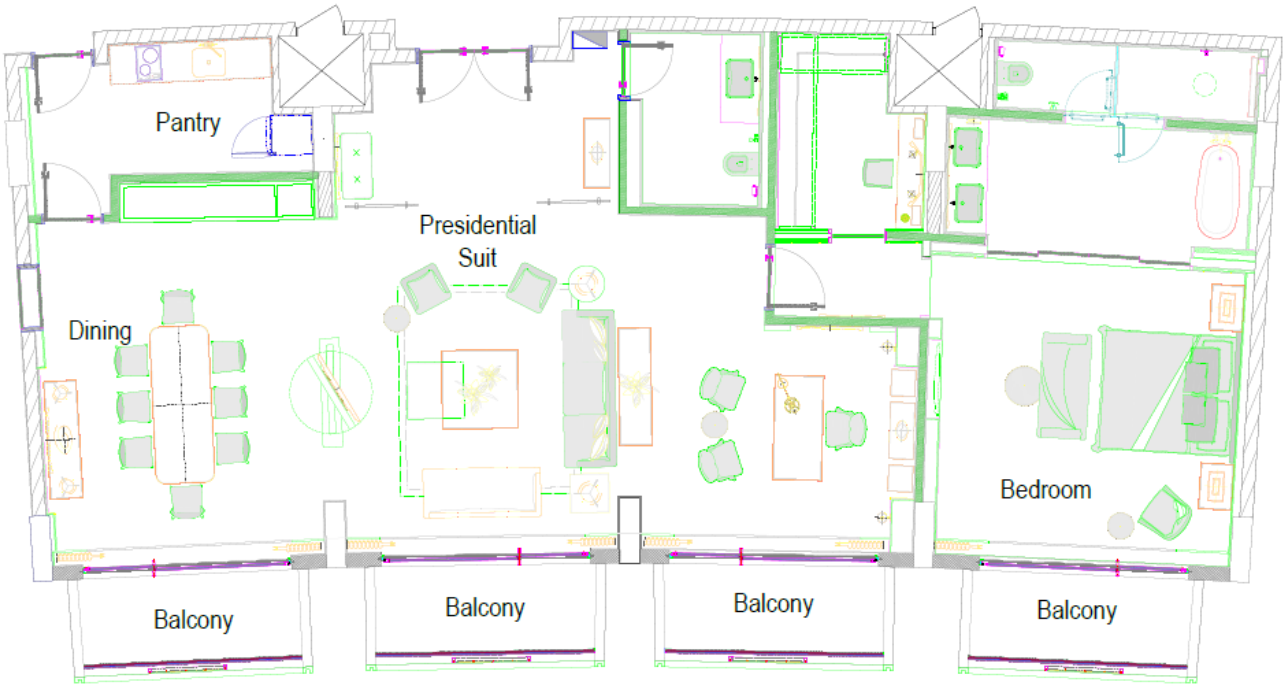


FIGURE 17: PLAN OF PRESEDENTIAL SUITE ROOM

19. VIEW/INTERIOR OF SPACES



Spa & Sauna



PDR



Banquet Hall



Swimming pool



Restaurant Seating



Lounge/Bar

20. SERVICES

- **ELECTRICAL SERVICES**



L.T. panel room-60 sqm
Access width -4m



H.T. panel room-20 sqm



L.T. and H.T. panel room



L.T. and H.T. panel room
Height-3.9 m



Fire Fighting



Fire Fighting



Electrical Tray

- **CHILLER PLANT**



AREA –150 sqm



Access width –1.8 m



Access for machinery
Width –6

- **FIRE PUMP**



Control Panel for Fire Room 70 sqm
Tank Volume –72 cum



Water Storage 20,00,000

- **WATER TREATMENT**





Water Storage Tank Raw 90 sqm
12 sqm)



Tank for swimming Pool (area-



Boiler room with pump and Heat exchange



Overhead tank

- **STP**



- **COOLING TOWERS**



- **KITCHEN**





GARBAGE DISPOSAL AREA





GENERATOR PLACED AT MOS

- **DISPOSAL AREA**



BIO-DEGREDABLE WASTE RECYCLING PLANT



OIL & ELECTRICAL WASTE



METAL, GLASS, PAPER DISPOSAL

- **LAUNDARY**



WASHING MACHINE



IRONING MACHINES



RECEIVING AND DISPATCHING AREA



STORE & CHECKING

4.3 DESK APPRAISAL: TAJ GATEWAY HOTEL, PUNE

4.3.1 INTRODUCTION

The gateway is a mid-market brand in the 5 star segment by the taj group of hotels and largely caters to the non-fussy, modern executives. The intent was to design a structure to compliment the image associated with the taj brand yet be true to the "gateway" focus of creating sanctuaries that refresh, refuel and renew the modern day traveller.The design remains true to the brand signature, crisp, courteous, warm and welcoming. The colour palette of red, grey and white standardised for this particular brand has been adhered to and used in the most innovative of ways thus creating bold, elegant, straightforward and an inviting visual appeal. The master planning is efficient and sensitive to the given site with proper zoning with climatically and contextually appropriate orientation of the building which would also flaunt the building elevation. The hotel planning adheres to the principle of zoning into 7 simple divisions stay, hangout, meet, work, workout, unwind and explore.

Located at the heart of the it action and only minutes away from the industrial hub, the gateway hotel pune is the most preferred choice of stay among business travellers as well as leisure seekers.

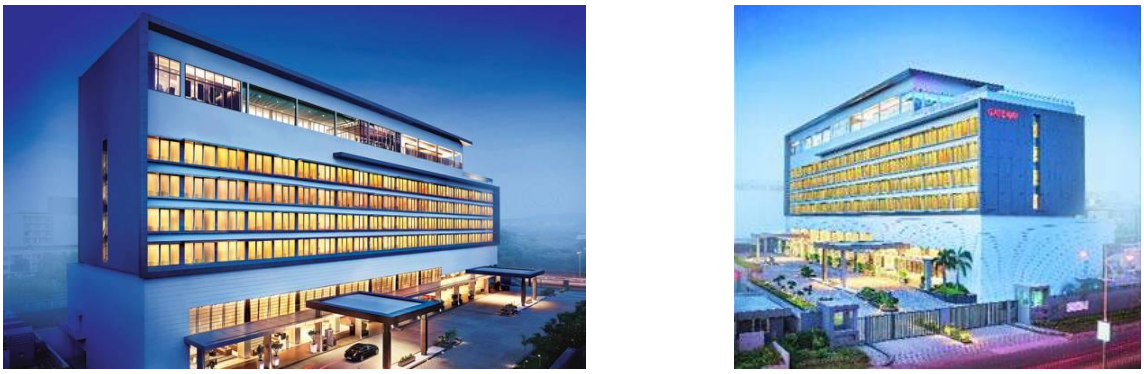


Figure 17 Taj Gateway

PROJECT	**TAJ GATEWAY HOTEL**
LOCATION	PUNE
CLIMATE	Hot Semi Arid Climate
TOPOGRAPHY	PLAIN LAND
ARCHITECT	Edifice Consultants , Mumbai
COMPLITION YEAR	2013
NO. OF ROOMS	141
SITE AREA & FAR	2.35 acre & 2

4.3.2 LOCATION

Gateway Hotel Hinjawadi is located in the heart of the IT Corridor of Pune and off the Pune - Mumbai Highway. IT is easily accesible from the industrial areas of PCMC Talegaon and 45 mins away from Chakan MIDC. The hotel is 30 mins away from the city centre and 1 hour from the airport.

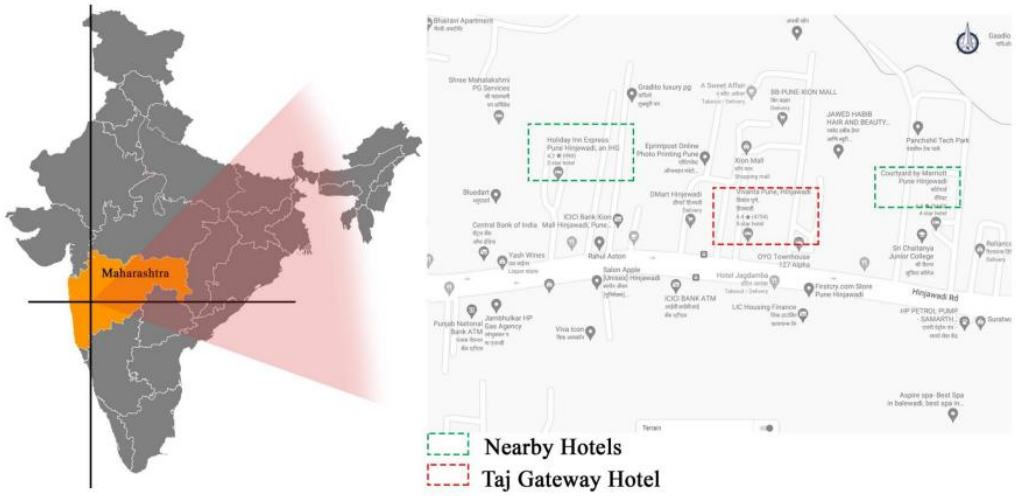


Figure 18a Location Map

4.3.3 ACCESSIBILITY

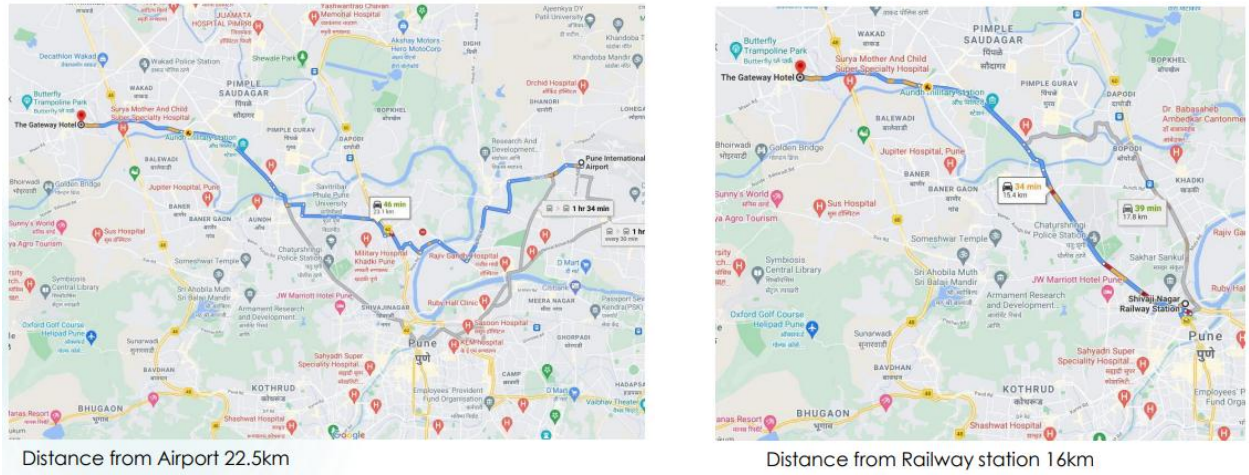


Figure 19 Location Map & Accessibility

4.3.4 AREA STATEMENT

Name	No. of units	Area sq.m.	Total Area	%
Total no.of keys	140			
No.of floors	10			
A. Guest Room Mix				
Double Bed Room	118	185.00	**21830**	80
Twin Bed Room	16	175.00	**2800**	10
Suite	6	400.00	**2400**	10
Toal Area(Sum)			**27030**	
B. Guest Floor Services				
i. Corridor Area				
Type floor corridor	1	180.00	**180**	30
iii. Housekeeping Static on typical floors				
Housekeeping Static on typical floo	1	185.00	**185**	32
iv. Lifts				
Guest Elevators	2.0	55.00	**110**	19
Service Lift Lobby	2.0	55.00	**110**	19
v. Fire Protection				
Fire Escape Stairs	2.0	30.00	**60**	10
Toal Area(Sum)			**585**	
C. Public Areas				
i. Entrance Lobby				
Porte Cochere	1.0	40.00	**40**	15
Entrance Lobby Waiting Area	1.0	100.00	**100**	38
Front Desk	1.0	40.00	**40**	14
Luggage Store	1.0	15	**15**	6
Bell man	1.0	4.00	**4**	2
ii. Business Centre	1.0	36.00	**36**	13
Store	1.0	5.00	**5**	2
iii. Public Utilities				
Public Toilets	1.0	30.00	**30**	10
Toal Area(Sum)			**270**	
D. F&B Outlets				
Bar (Special) - 30 covers	1.0	100.00	**100**	25
Multi-cuisine restaurant-120 covers	1.0	300.00	**300**	75
Toal Area(Sum)			**400**	

Figure 20 Taj Gateway Area Statement - 1

E.	**Banquets**				
	Banquet Hall	2.0	225.00	**450**	62
	Pre-Function Area	2.0	80.00	**160**	22
	Conference Room	1.0	50.00	**50**	6
	Banquet Toilets	1	60.00	**60**	10
	Toal Area(Sum)			**720**	
F.	**Recreation Facilities**				
	Swimming Pool	1	100	**100**	32
	Pool Change Room	1.0	50	**50**	16
	Gym	1.0	100.00	**100**	32
	Massage Rooms	1.0	6.00	**6**	10
	saloon	1.0	50.00	**50**	10
	Toal Area(Sum)			306.00	
G.	**Retail Arcade**				
	Retail Shops	1.0	25.00	**25**	
	Toal Area(Sum)		25.00		
	FOH				
A.	**Material Management**				
	Truck Dock	2.0	20.00	**40**	34
	Holding area/ Receiving Dock	1.0	38.00	**38**	34
	Veg wash	1.0	2.50	**2.5**	2
	Purchase & recieving off	1.0	20.00	**20**	15
	Purchase Office Manager	1.0	18.00	**18**	15
	Toal Area(Sum)			**118.5**	
B.	**Main Store**				
	General Store	1.0	120.00	**120**	75
	Linen	1.0	10.00	**10**	6
	Unassign Store	1.0	10.00	**10**	6
	Liquor	1.0	10.00	**10**	6
	Crockery Store	1.0	6	**6**	3
	Mis	1.0	2.00	**2**	2
	Fuel	1.0	2.00	**2**	2
	Toal Area(Sum)			160.00	

Figure 21 Taj Gateway Area Statement - 2

D. Front Office : Admi/ Acc/ IT		45		
GM	1.0	151.00	151	44
Sec to GM	1.0	9.00	9	2
FO Mgr (couples as duty manager	1.0	5.00	5	1
Revenue Mgr.	1.0	8.00	8	2
F & B Mgr	1.0	8.00	8	2
Reservation office	1.0	25.00	25	8
Work stations	1.0	4.00	4	1
Discussion room (common meeting	1.0	15.00	15	5
Chief Accountant-refer staff reqmnt	1.0	8.00	8	2
Credit Manager	1.0	5.00	5	1
Cashier	1.0	8.00	8	2
Controller	1.0	5.00	5	1
Payroll Manager	1.0	5.00	5	1
Accounts Record Room	1.0	10.00	10	2
Meeting Room	1.0	10.00	10	2
Computer room & Mgr	1.0	17.00	17	8
UPS	1.0	35.00	35	12
Records	1.0	10.00	10	2
Storage and Copying	1.0	9.00	9	2
Toal Area(Sum)			**347**	

E. Sales				
Rooms Mgr	1.0	8.00	8	18
Banquet Mgr	1.0	8.00	8	18
Workstation	2.0	5.00	10	22
Discussion room	1.0	10.00	10	22
Storage and Copying	1.0	8.00	8	20

F. F&B				
Multi Cuisine main kitchen	1.0	85.00	85	20
Room Service Kitchen (along with CS kitchen)	1.0	20.00	20	5
Pastery	1.0	32.00	32	7
Bakery	1.0	20.00	20	4
Commissary prep kitchen	1.0	40.00	40	9
Common Dishwash	1.0	20.00	20	5
Central Pot wash	1.0	12.00	12	2
Pot Store	1.0	8.00	8	3
Banquet BOH & Store	1.0	130.00	130	30
Cold kitchen	1.0	18.00	18	4
Cafe Kitchen	1.0	12.00	12	2
Show Kitchen (not required)	1.0	8.00	8	2
BackPantry area for Bar	1.0	15.00	15	3

Figure 22 Taj Gateway Area Statement - 3

G.	**House Keeping**				
	Issue / Tailor / Dirties collection	1.0	5	5	4
	House Keeper Executive	1.0	10	10	10
	House keeping Assistance	1.0	8	8	8
	Hs/k Office + House keeper (as per Ap)	1.0	16	16	15
	Dead store/unused textile/room, F&B in circulation / night cleaner	1.0	30	30	28
	Guest Supply Store	1.0	5	5	5
	Bulk Linen store	1.0	10	10	10
	Tailor	1.0	5	5	5
	Upholestry Store	1.0	10	10	10
	Lost & Found	1.0	5	5	5
	Toal Area(Sum)			104	
H.	**Human Resources**				
	HR Mgr(cabin based on AP manpo	1.0	8	8	14
	Sec (workstation based on AP man	1.0	4	4	7
				0	
	Training Room	1.0	20	20	35
	Training Mgr	1.0	4	4	7
	Discussion / interview room	1.0	20	20	35
I.	**Security & Time Office**				
	Staff entry & time keeper/cctv	1.0	10	10	
	Security Mgr	1.0	8	8	
	Toal Area(Sum)			18	
J.	**Repairs and Maintenance**				
	Head of Eng	1.0	8	8	
	Asst Eng	1.0	8	8	
	Secured store	1.0	10	10	
	Paint shop	1.0	10	10	
	Eng store	1.0	10	10	
	Carpentary	1.0	10	10	
	Spare Parts	1.0	5	5	
	Toal Area(Sum)			61	
K.	**Staff Facility**				
	Male toilets & Lockers	1.0	100		
	Male executive toilets and lockers	0.0			
	Female toilets & Lockers	1.0	70		
	Kitchen	1.0	25		
	Staff Cafeteria (3 shifts)	1.0	90		
	Staff Recreation area	1.0	15		
	Toal Area(Sum)		300		

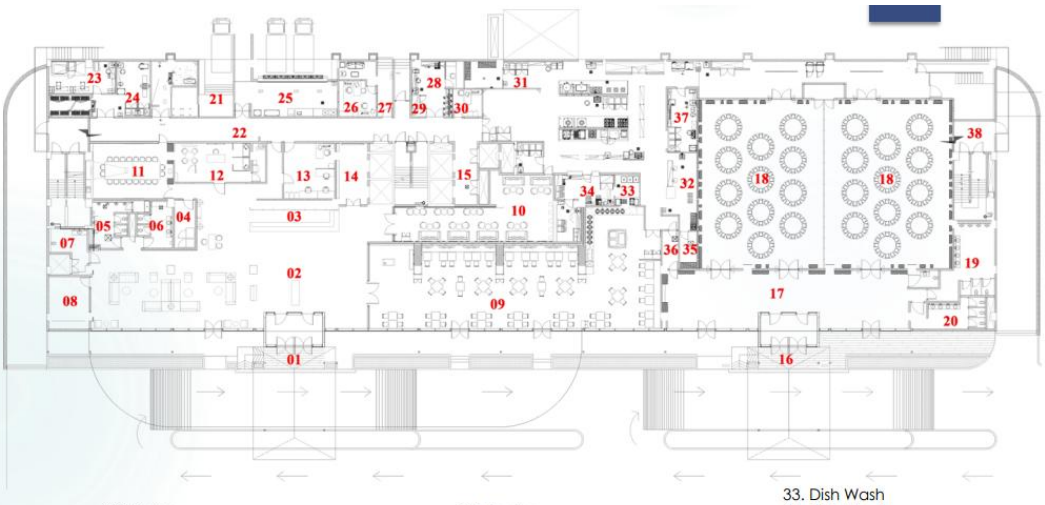
Figure 23 Taj Gateway Area Statement - 4

M.	**Other BOH areas (exc mech)**			
i.	**Mechanical Areas**			
	LV room	1.0	56.0	**56**
	Indoor Transformers	2.0	22.0	**44**
	LT Panel	1.0	74.0	**74**
	DG Generator Room	1.0	97.0	**97**
	Chiller Plant Room	1.0	125.0	**125**
	Rain water Tank(105cubic meter)	105	Cubic Meter	
	Municipal Tank	123	Cubic Meter	
	Raw Water Tank	123	Cubic Meter	
	Fire Tank	105	Cubic Meter	
	Treated Water Tank	123	Cubic Meter	
	Salt Storage	1.0	12.0	**12**
	Pump Room(Fire)	1.0	20.0	**20**
	Pump Room(Raw + Soft+WTP)	1.0	60.0	**60**
	Boiler Room with Pumps and heat	1.0	58.0	**58**
	STP with pumps and equipments	1.0	80.0	**80**
	Work Shop	1.0	22.0	**22**
	Engineering Office	1.0	8.0	**8**
	Engineering Store	1.0	10.0	**10**
	Control Room	1.0	15.0	**15**
	Underground Oil storage tanks	1.0	190.0	**190**
	Swimming pool filtration plant	1.0	12.0	**12**
	Toal Area(Sum)			**487**
ii.	**Mechanical Areas on terrace**			
	Cooling Towers	1.0	135.0	**135**
	Overhead Tanks	1.0	12.0	**12**
	Ventilation/Exhaust fans	14.0	12.0	**168**
	Flushing tank+Cooling tower tank	3.0	9.0	**27**
	Staircase pressurisation fans	3.0	11.0	**33**
	Lift Pressurisation fans	2.0	2.2	**4.4**
	Scrubber for kitchen exhaust	1.0	5.0	**5**
	Toal Area(Sum)		186.2	**384.4**
N.	**Parking**	181		
	Basement 2			1700
	Basement 1			1420
	Total Wall Thickness and circulation			**3120**

Figure 24Taj Gateway Area Statement - 5

4.3.5 FLOOR PLANS

Ground Floor Plan



1. Hotel Entrance
2. Waiting Lobby
3. Reception
4. Luggage Room
5. Male Toilet
6. Female Toilet
7. Disable Toilet
8. Deli All Day
9. Dining
10. Bar
11. Conference Room
12. Business Center
13. Front Office
14. Public Elevator Lobby
15. Service Elevator Lobby
16. Banquet Entrance
17. Banquet Pre-function
18. Banquet
19. Male Toilet
20. Female Toilet
21. Garbage Dock
22. BOH Corridor
23. Bakery
24. Pastry
25. Receiving Dock
26. Security Office
27. Time Punching Room
28. Service
29. Order Taker
30. Chef's Office
31. Main Kitchen
32. Dish Store
33. Dish Wash
34. Cold Pantry
35. Display Kitchen
36. Crockery Store
37. Storage and Salad
38. Banquet Store

Figure 25 Ground Floor plan

Lower Basement Plan:



Figure 26 Basement 1 Plan

Upper Basement Plan



Ground Floor Plan:

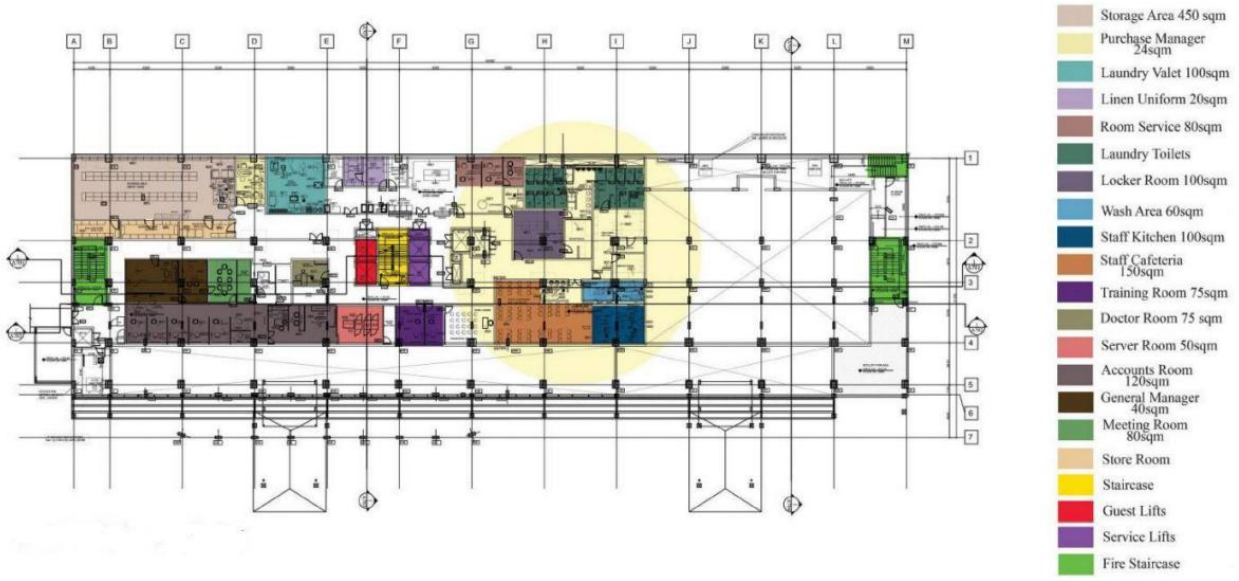


Figure 27 Upper Basement & Ground floor plan

First Floor Plan:



Service Floor And Typical Guest Floor Plan:

4.3.6 SECTIONS

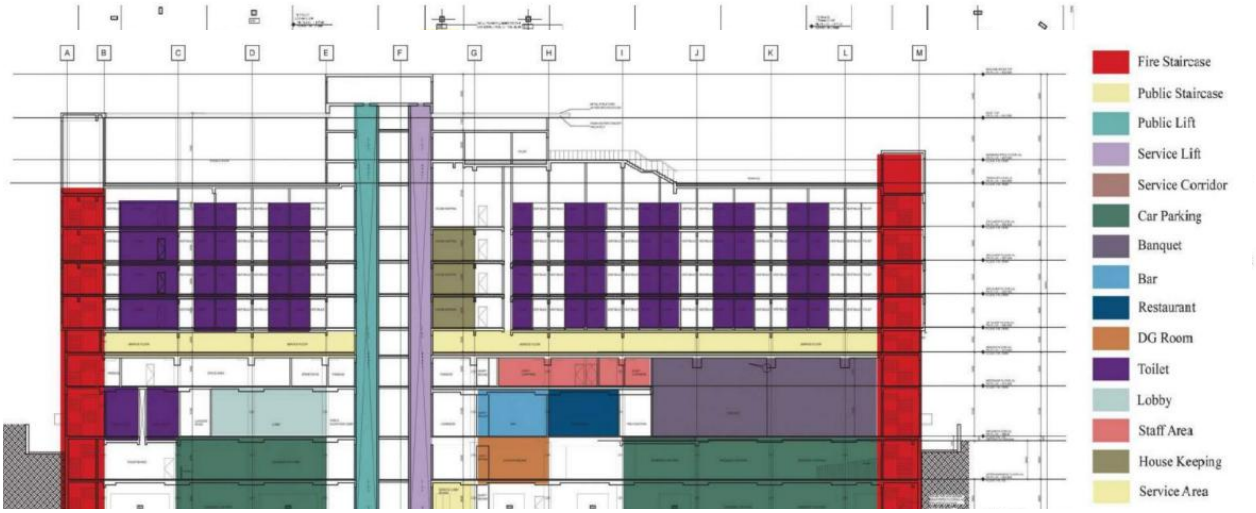
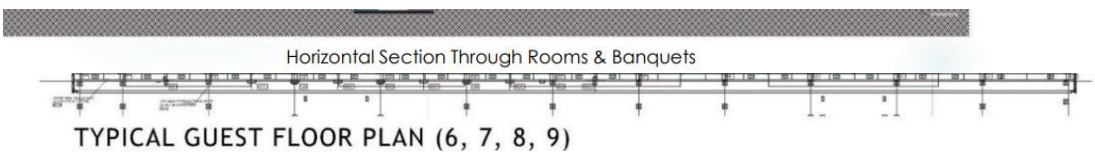


Figure 28 First floor plan, Service floor plan & typical guest floor plan



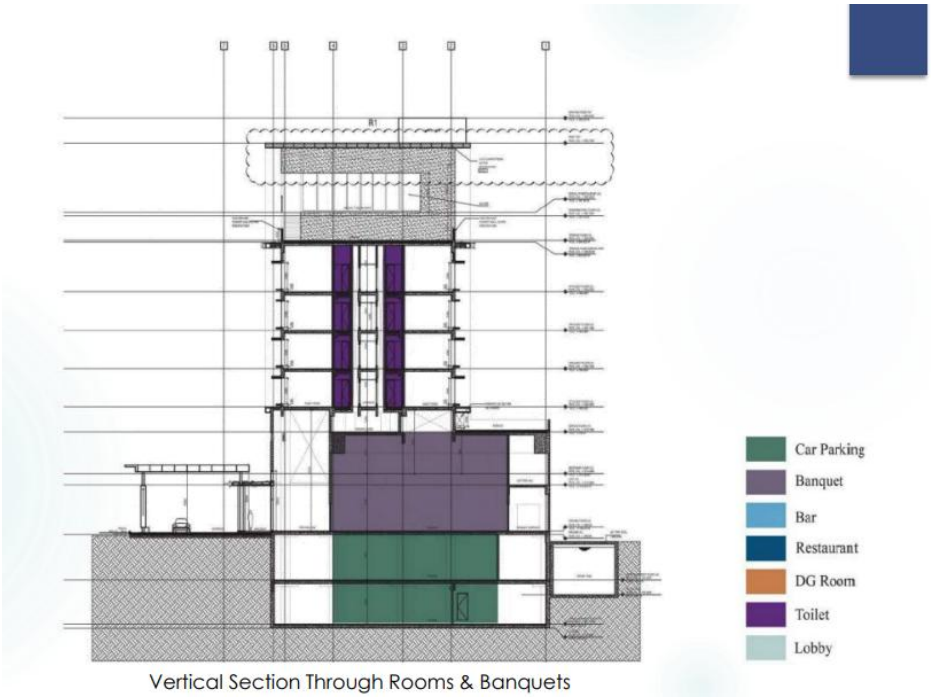


Figure 29 Sections

4.3.7 SCHEDULE OF INTERIOR FINISHES

Table 1 Schedule of interiors, TAJ Gateway, Pune

IHCL-K - SCHEDULE OF FINISH							
S.N	CODE	ELEMENT	AREA	MATERIAL	BRAND	CODE	IMAGE
	ACP						
1	AF-01	G WRAP	G WALL	ACP	TIMEXBOND	TMX-126 METALLIC GREY (DARK GREY)	
2	AF-02	WINDOW CHAJJA PROJECTION	GUEST FLOOR	ACP	TIMEXBOND	TMX-102 METAL SILVER (MEDIUM GREY)	
3	AF-03	CANOPY ROOF	ENTRY	ACP	TIMEXBOND	TMX-126 METALLIC GREY (DARK GREY)	
4	AF-04	CANOPY	PATHWAY COVER	METAL CANOPY /ACP	TIMEXBOND	TMX-102 METAL SILVER (MEDIUM GREY)	
	WALL FINISH						
5	AF-05	WALL CLADDING	EXTERIOR WALL	STONE CLADDING	GREY GRANITE	ROUGH FINISH	
7	AF-06A	WALL FINISH	GUEST FLOOR, WALL BETWEEN LEDGES.	EMULSION	ASIAN ACE EXTERIOR EMULSION	COLOR -L149 EGGSHELL (ASIAN COLOR PALETTE)	
8	AF-07	WALL FINISH	RAMP WALL	PLASTER FINISH	WHITE WASH	COLOR -L149 EGGSHELL (ASIAN COLOR PALETTE)	
	FLOORING						
9	AF-08	FLOORING	ENTRY FLOORING	STONE FLOORING-	INDIAN IVORY	BUSH HAMMERED FINISH	
10	AF-09	RAMP FLOORING	ENTRY FLOORING	STONE FLOORING-	INDIAN IVORY	BUSH HAMMERED FINISH	
11	AF-10	FLOORING	SERVICE ENTRY FLOORING	KOTA STONE		ROUGH FINISH	
	WINDOW						
12	AF-11	WINDOW FRAME	GUEST ROOM	METALLIC PAINT	ASIAN METAL PRIMER	METALLIC GREY 8292 (MEDIUM GREY)	
13	AF-12	WINDOW GLASS	GUEST ROOM	CLEAR GLASS	SAINTGOBIN	DGU,6 mm KT 140 + 12 mm clear glass + 6 mm clear glass	
14	AF-13	GLAZING FRAME	GROUND FLOOR	METALLIC PAINT	ASIAN METAL PRIMER	METALLIC GREY 8292 (MEDIUM GREY)	
15	AF-14	GLAZING GLASS	GROUND FLOOR	CLEAR GLASS	SAINTGOBIN	10 mm ST 136 (GRAPHITE-COOLLITE)	
	OTHERS						
16	AF-15	RAILING	SWIMMING POOL LEVEL	SS FINISH BRUSHED			
17	AF-16	RAILING GLASS	SWIMMING POOL LEVEL	GLASS	SAINTGOBIN	12MM THK TEMPERED WITH MIRROR EDGE POLISHING	
18	AF-17	RAMP RAILING	ENTRY	SS FINISH BRUSHED			
19	AF-18	CANOPY COLUMN	ENTRY	METALLIC PAINT	ASIAN METAL PRIMER	METALLIC GREY 8292 (MEDIUM GREY)	
20	AF-19	ROLLING SHUTTERS	SERVICE ENTRY	METALLIC PAINT	DUCO	R294-ASIAN (DARK GREY)	
21	AF-20	LOUVERS	SWIMMING POOL LEVEL	METALLIC PAINT	DUCO	R294-ASIAN (DARK GREY)	
22	AF-21	GLASS	SWIMMING POOL	CLEAR GLASS	SAINTGOBIN	12MM THK TEMPERED WITH MIRROR EDGE POLISHING	

4.3.8 SERVICES

Disposal Area



Laundary



Staff Area



Figure 30 Service areas Taj, Gateway, Pune

4.4. DESK APPRAISAL: GOLDFINCH, MUMBAI

4.4.1 INTRODUCTION

The design philosophy intended on making an identity through the design and maintaining Goldfinch's brand, look, and feel with rational architecture, strong iconic design, modular grid system and poetry in architecture.

Details:

PROJECT	Goldfinch Hotel
LOCATION	Mumbai
CLIMATE	TROPICAL CLIMATE
TOPOGRAPHY	PLAIN LAND
ARCHITECT	Edifice Consultants, Mumbai
NO. OF ROOMS	153
SITE AREA	0.93 Acre
BUILT UP AREA	19725 SQM
FAR	5.19
BUILDING HEIGHT	38 M
PARKING LOT	450 ECS
NO OF FLOOR	10



Figure 31 Goldfinch Mumbai

4.4.2 LOCATION AND CONNECTIVITY

5 KM from Vashi Station

22 KM from Santacruze Airport

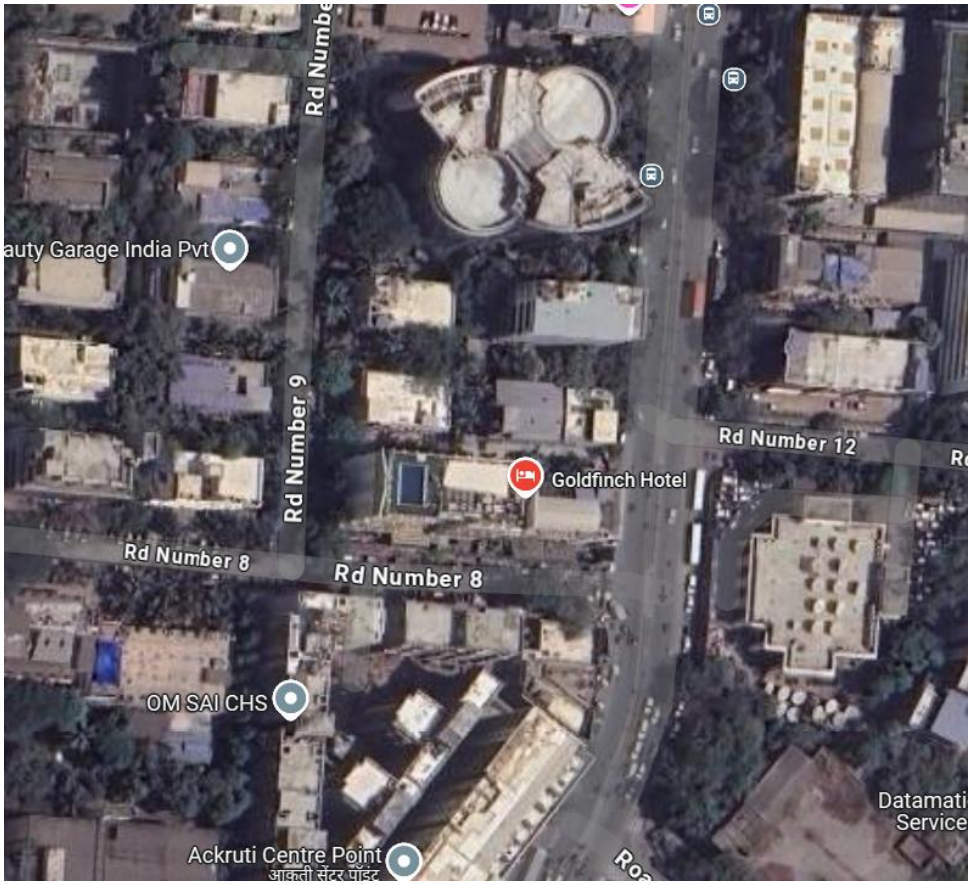


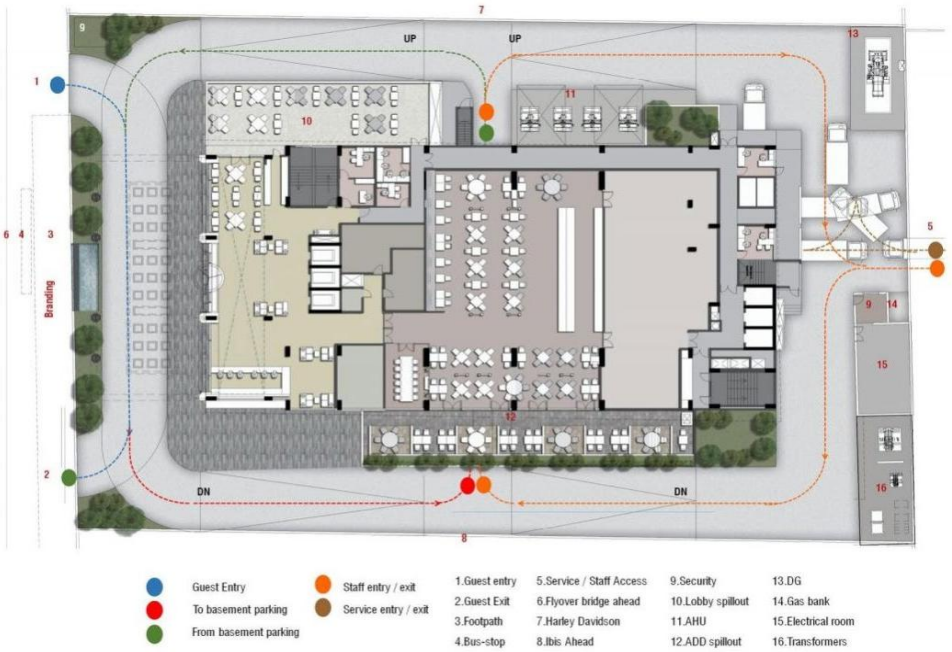
Figure 32 Locaiton on Google maps

DESIGN STRATEGIES

- Single Drop offs for Banquets and Hotel.
- 3 Passenger lifts – 10 pax minimum.
- 2 Service Lifts – for Hotel, 1 Service lift
- All Day Dining – min. 150 covers. In Ground Lvl.
- Reception Lobby – 2500 sq.ft.
- Deli in Reception Lobby.
- Atrium – Triple height for Lobby.
- Banquet – 6000 sq.ft. in 1st floor.
- Banquet – 4000 sq.ft. in 2nd Floor.
- Meeting rooms in 2nd floor.
- 280 sq.ft. Guest Room.
- 2 Stack DG in Grade Level.
- Transformer and Electrical Panel room in Grade Level.
- Chilled Water System for Air Conditioning
- Chillers in Basement 1 and Cooling Towers in Terrace above Kitchen.
- Heat Pump for Hot water in Terrace.
- Scrubbers, Toilet exhaust fans in 2nd Service Floor.
- Brine system for Energy Savings in Basement 2.
- Water tanks and STP in Basement 1 and 2.
- 1.5m x .75m typical room Shaft.
- Separate Staff entry Staircase from Ground to B1.
- Loading Unloading Dock in Ground Floor.
- Bulk Kitchen in Ground Floor.
- Atrium Guest Floors.
- 1 Kebab Studio for 90 covers min.
- Live Kitchen and Buffett for Kebab Studio.
- 2000 sq.ft. Gym and Spa.
- 70 covers Café Mojo.
- Separate Entries to Residential and Non Residential Guests
- Infinity Pool with Sundowner.
- Art Deco Design.
- Finishing Kitchen in Respective Banquet floors.
- Staff facilities in Basement 1.
- Main Stores in Basement 1.
- Accounts offices in Basmeent 2.

4.4.3 FLOOR PLANS

Basement 1



Ground Floor Plan



Figure 33 Basement 1 & Ground Floors plan

First Floor Plan



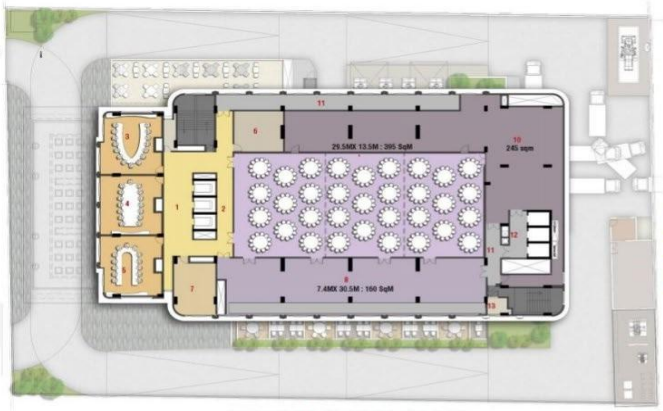
FIRST FLOOR PLAN



FIRST FLOOR		
	Area in sq.m.	Area in sq.f.t
2.01 Floor Plate	1551.5	16700.35
2.02 FSI	**1166.61**	**12557.39**
2.03 Restrooms	68	731.95
2.04 Banquet Manager	22	236.81
2.05 Prefunction	160	1722.24
2.06 Banquets	560	6027.84
2.07 Kitchen	125	1345.50

1.Guest lift lobby
2.Male restrooms
3.Female rest rooms
4.Sales & F/B Mang
5.Pre-function
6.Banquet : 490
7.Pantry
8.Service lift lobby
9.Service corridor
10.AHU equipment's above
11.TFA Room

Second Floor Plan



SECOND FLOOR PLAN

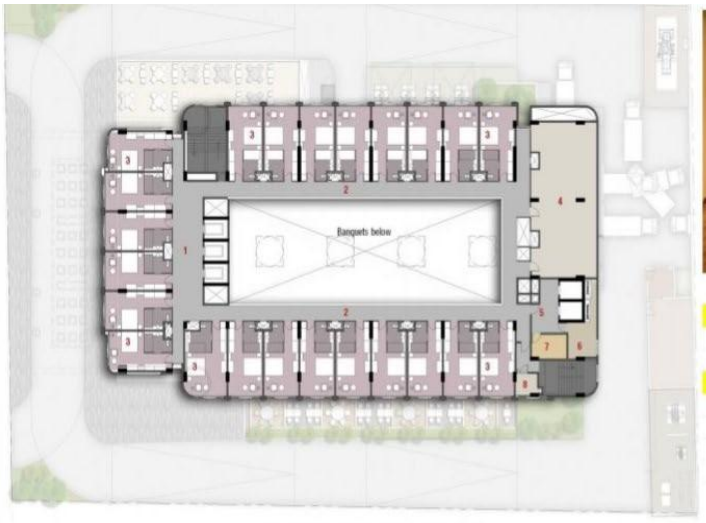


SECOND FLOOR		
	Area in sq.m.	Area in sq.f.t
3.01 Floor Plate	1595	17168.58
3.02 FSI	**199.56**	**2148.06**
3.03 Restrooms	68	731.95
3.04 Meeting room 1	50	538.20
3.05 Meeting room 2	55	592.02
3.06 Meeting room 3	50	538.20
3.07 Prefunction	160	1722.24
3.08 Banquet	395	4251.78
3.09 Kitchen	245	2637.18

1.Guest lift lobby
2.Guest Corridor
3.Meeting room-01: 50 sqm
4.Meeting room-02 : 55 sqm
5.Meeting room-03 : 50 sqm
6.Male restrooms : 22sqm
7.Female restrooms : 30 sqm
8.Pre-function : 225 sqm
9.Banquets : 396 pax
10.Pantry
11.Service corridor
12.Service lift lobby

Figure 34 First & Second floor plan with area statement

Sixth Floor Plan





6TH FLOOR - Guest Floor 4		
	Area in sq.m.	Area in sq.f.t
3.01 Floor Plate	1595	17168.58
3.02 FSI	806.6	8682.24
3.03 Total Keys	23	
3.04 Maids Room	9.25	99.57
3.05 Electrical Room	16.6	178.68
3.06 TFA Room	5	53.82

SIXTH FLOOR PLAN

1.Guest lift lobby
2.Guest corridor
3.Guest room
4.Refuge area
5.Service lift lobby
6.Electrical room
7.Mains room
8.TFA room'

- **Total key at 6th floor :**

23 keys

Terrace Plan







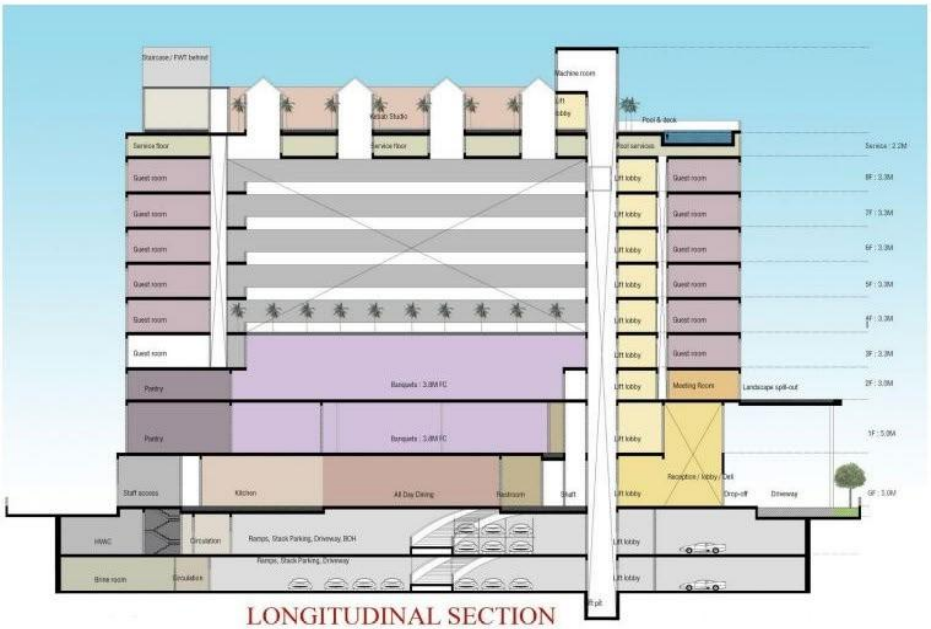
10TH FLOOR - Terrace Floor		
	Area in sq.m.	Area in sq.f.t
10.01 Floor Plate	1595	17168.58
10.02 FSI	462.89	4982.55
10.03 Kebab Studio Indoor	232	2497.25
10.04 Kebab Studio Outdoor	30	322.92
10.05 Kitchen	115	1237.86
10.06 Kebab Studio Buffet	88	947.23
10.07 Restrooms	23	247.57
10.08 Café Mojo	135	1453.14
10.09 Gym	245	2637.18
10.1 Changing rooms	32.8	353.06
10.11 Pool	104	1119.46
10.12 Pool Deck	125	1345.50

TERRACE FLOOR PLAN

1.Guest lift lobby
2.Pool change : 25SQM
3.Pool deck : 100SQM
4.Pool :14M X 5.7M
5.Café Mojo
6.Gym & SPA
7.Kebab Studio
8.Guest toilets : 20 SQM
9.Kitchen
10.Cut-off lobby
11.Service corridor : 50 SQM
12.Skylights
13.Service lift lobby
14.Pantry
15.Electrical room
16.TFA room

Figure 35 6th Floor plan & terrace plan with area statement

4.4.4 SECTION



LONGITUDINAL SECTION

1. 38 M FROM GROUND TO TERRACE SLAB
2. 40.3 M FROM GROUND TILL TERRACE TEMP. ROOF TOP
3. LMR TOP : 8 M FROM TERRACE SLAB TOP
4. BASEMENTS 4.5 M & 3.5 M DEEP
5. TRIPLE HEIGHTED LOBBY OF 10 M

Figure 36 Longitudinal Section

4.4.5 ROOM TYPOLOGY



TOTAL KEYS : 157 NUMBERS
TOOTAL GUEST FLOORS : 6 NUMBERS
FLOOR TO FLOOR HEIGHT : 3.3M
- THIRD FLOOR : 26 KEYS
- TOTAL KEYS AT 4TH, 5TH, 7TH & 8TH FLOOR : 27X4=108 KEYS
- SIXTH FLOOR : 23 KEYS
- CARPET AREA PER KEY: 26.735 SQM
- BUA PER KEY :29.26 SQM
- CORRIDOR :1.50M
- FLOOR TO FLOOR HEIGHT : 3.30M
- SILL HETGHT : 0.10M
- WINDOW WIDTH : 3.10M
- WINDOW HEIGHT : 2.30M
- SILL & LINTEL THICKNESS : 0.275M FINISHED.

Figure 37 Guest room layout

4.5 COMPARATIVE ANALYSIS

Table 2 Comparative analysis 1

Spaces	Case Study 1 Taj Lakefront, Bhopal		Case Study 2 Avasa, Hyderabad		Desk Appraisal 1 Taj Gateway, Pune		Desk Appraisal 2 Goldfinch, Mumbai		Inferences	
Lobby	SPACE REQUIRED	AREA (m²)	SPACE REQUIRED	AREA (m²)	SPACE REQUIRED	AREA (m²)	SPACE REQUIRED	AREA (m²)	SPACE REQUIRED	AREA (m²)
	Front desk	38	Front desk	...	Front desk	40	Front desk	38	Front desk	50
	Lounge area	160	Lounge area	...	Lounge area	100	Lounge area	160	Lounge area	160
	Toilets	48	Toilets	...	Toilets	30	Toilets	48	Toilets	48
	Luggage store	...	Luggage store	...	Luggage store	15	Luggage store	...	Luggage store	15
	Bell man	00	Bell man	...	Bell man	04	Bellman	00	Bell man	04
	Guest lifts	...	Guest lifts	...	Guest lifts	11	Guest lifts	...	Guest lifts	11
	Business centre	...	Business centre	...	Business centre	36	Business centre	...	Business centre	36
	Retail shops	14	Retail shops	...	Retail shops	25	Retail shops	14	Retail shops	25
Offices	General manager	14	General manager	...	General manager	15	General manager	15	General manager	15
	Secretary GM	...	Secretary GM	...	Secretary GM	09	Secretary GM	...	Secretary GM	09
	FO MGR	...	FO MGR	...	FO MGR	05	FO MGR	...	FO MGR	05
	Revenue MGR	...	Revenue MGR	...	Revenue MGR	08	Revenue MGR	...	Revenue MGR	08
	F & B MGR	...	F & B MGR	...	F & B MGR	08	F & B MGR	...	F & B MGR	08
	Reservation office	...	Reservation office	...	Reservation office	25	Reservation office	...	Reservation office	25
	Work- station	...	Work- stations	...	Work- station	16	Work- station	...	Work- station	16
	Discussion rooms	...	Discussion rooms	...	Discussion rooms	15	Discussion rooms	...	Discussion rooms	15
	Chief accountant	...	Chief accountant	...	Chief accountant	08	Chief accountant	...	Chief accountant	08
	Credit manager	...	Credit manager	...	Credit manager	05	Credit manager	...	Credit manager	05
	Cashier	...	Cashier	...	Cashier	08	Cashier	...	Cashier	08
	Controller	...	Controller	...	Controller	05	Controller	...	Controller	05
	Payroll manager	...	Payroll manager	...	Payroll manager	05	Payroll manager	...	Payroll manager	05
	Accounts records	...	Accounts records	...	Accounts records	10	Accounts records	...	Accounts records	10
	Meeting room	...	Meeting room	...	Meeting room	10	Meeting room	...	Meeting room	25
	Computer room MGR		Computer room MGR	...	Computer room MGR		Computer room MGR	...	Computer room MGR	17
		...		...		17		...	UPS	35
	UPS	...	UPS	...	UPS 35		UPS	...	Records	10
	Records	...	Records	...	Records	10	Records	...	Storage & copying	
	Storage & copying	...	Storage & copying	...	Storage & copying	09	Storage & copying	...		
	Sales MGR	...	Sales MGR	...	Sales MGR	18	Sales MGR	...	09 Sales MGR	
	Banquets MGR	22	Banquets MGR	...	Banquets MGR	18	Banquets MGR	22	18 Banquets MGR	22

Table 3 Comparative analysis 2

Spaces	Case Study 1 Taj Lakefront, Bhopal		Case Study 2 Avasa, Hyderabad		Desk Appraisal 1 Taj Gateway, Pune		Desk Appraisal 2 Goldfinch, Mumbai		Inferences	
Banquets	SPACE REQUIRED	AREA (m²)	SPACE REQUIRED	AREA (m²)	SPACE REQUIRED	AREA (m²)	SPACE REQUIRED	AREA (m²)	SPACE REQUIRED AREA (m²)	
	Banquet hall	560	Banquet hall	...	Banquet hall	450	Banquet hall	560	Banquet hall	500
	Pre-function area	160	Pre-function area	...	Pre-function area	160	Pre-function area	160	Pre-function area	160
	Conference room	55	Conference room	...	Conference room	50	Conference room	55	Conference room	55
	Toilets	68	Toilets	...	Toilets	60	Toilets	68	Toilets	68
Recreational Facilities	Swimming pool	140	Swimming pool	...	Swimming pool	100	Swimming pool	140	Swimming pool	140
	Pool change room	33	Pool change room	...	Pool change room	50	Pool change room	33	Pool change room	50
	Gym	25	Gym	...	Gym	100	Gym	25	Gym	25
	Massage rooms	...	Massage rooms	...	Massage rooms	06	Massage rooms	...	Massage rooms	40
	Saloon	...	Saloon	...	Saloon	50	Saloon	...	Saloon	50
Guest Rooms	Double bed rooms	33	Double bed rooms	35	Double bed rooms	27	Double bed rooms	30	Double bed rooms	30
	Twin bed rooms	33	Twin bed rooms	35	Twin bed rooms	30	Twin bed rooms	...	Twin bed rooms	32
	Suites	38	Jr. Suites	40	Suites	45	Suites	38	Suites	87
			Gallery Suite	70						
F & B outlets	Multi Cuisine Rest.	232	Multi Cuisine Rest.	...	Multi Cuisine Rest.	300	Multi Cuisine Rest.	232	Multi Cuisine Rest.	300
	Bar	...	Bar	...	Bar	100	Bar	...	Bar	100
	Coffee Shop	135	Coffee Shop	...	Coffee Shop	50	Coffee Shop	135	Coffee Shop	135
	Bakery	50	Bakery	...	Bakery	60	Bakery	50	Bakery	60
Human Resources	HR Manager	...	HR Manager	...	HR Manager	08	HR Manager	...	HR Manager	08
	Sec	...	Sec	...	Sec	04	Sec	...	Sec	04
	Training room	...	Training room	...	Training room	20	Training room	...	Training room	20
	Training MGR	...	Training MGR	...	Training MGR	04	Training MGR	...	Training MGR	04
	Interview Room	...	Interview Room	...	Interview Room	20	Interview Room	...	Interview Room	20

Table 4 Comparative Analysis 3

Spaces	Case Study 1 Taj Lakefront, Bhopal	Case Study 2 Avasa, Hyderabad	Desk Appraisal 1 Taj Gateway, Pune	Desk Appraisal 2 Goldfinch, Mumbai	Inferences
Kitchen	PACE REQUIRED (m²) AREA Main Kitchen 115 Room Service Kit 35 Pantry ... Bakery ... Commissary ... Dishwash ... Pot wash ... Cold kitchen ... Cafe kitchen ... Show kitchen ... Bar pantry ... Bar counter ... Chef's office ...	PACE REQUIRED (m²) AREA Main Kitchen ... Room Service Kit ... Pantry ... Bakery ... Commissary ... Dishwash ... Pot wash ... Cold kitchen ... Cafe kitchen ... Show kitchen ... Bar pantry ... Bar counter ... Chef's office ...	SPACE REQUIRED (m²) AREA Main Kitchen 85 Room Service Kit 20 Pantry 32 Bakery 20 Commissary 40 Dishwash 20 Pot wash 15 Cold kitchen 18 Cafe kitchen 12 Show kitchen 08 Bar pantry 15 Bar counter 05 Chef's office 08	PACE REQUIRED (m²) AREA Main Kitchen 11 5 Room Service Kit 35 Pantry ... Bakery ... Commissary ... Dishwash ... Pot wash ... Cold kitchen ... Cafe kitchen ... Show kitchen ... Bar pantry ... Bar counter ... Chef's office ...	PACE REQUIRED AREA (m²) Main Kitchen 115 Room Service Kit 35 Pantry 32 Bakery 20 Commissary 40 Dishwash 20 Pot wash 15 Cold kitchen 18 Cafe kitchen 20 Show kitchen 08 Bar pantry 15 Bar counter 05 Chef's office 08
Housekeeping	Issue/tailor/dirties 08 Housekeeper ex. ... House keeper asst. ... H/SK office ... Dead store ... Guest supply store ... Bulk linen store ... Tailor ... Upholstery store ... Lost & found ...	Issue/tailor/dirties ... Housekeeper ex. ... House keeper asst. ... H/SK office ... Dead store ... Guest supply store ... Bulk linen store ... Tailor ... Upholstery store ... Lost & found ...	Issue/tailor/dirties 05 Housekeeper ex. 10 House keeper asst. 08 H/SK office 16 Dead store 30 Guest supply store 05 Bulk linen store 10 Tailor 05 Upholstery store 10 Lost & found 05	Issue/tailor/dirties 08 Housekeeper ex. ... House keeper asst. ... H/SK office ... Dead store ... Guest supply store ... Bulk linen store ... Tailor ... Upholstery store ... Lost & found ...	Issue/tailor/dirties 08 Housekeeper ex. 10 House keeper asst. 08 H/SK office 16 Dead store 30 Guest supply store 05 Bulk linen store 10 Tailor 05 Upholstery store 10 Lost & found 05
Security	Staff Entry & Time Keeper ... Security MGR ...	Staff Entry & Time Keeper ... Security MGR ...	Staff Entry & Time Keeper 10 Security MGR 08	Staff Entry & Time Keeper ... Security MGR ...	Staff Entry & Time Keeper 10 Security MGR 08

Spaces	Case Study 1 Taj Lakefront, Bhopal	Case Study 2 Avasa, Hyderabad	Desk Appraisal 1 Taj Gateway, Pune	Desk Appraisal 2 Goldfinch, Mumbai	Inferences
Staff Facility	SPACE REQUIRED ARE A (m^2) Staff facilities 300	SPACE REQUIRED ARE A (m^2) Male toilets & Lockers ... Female toilets & Lockers ... Kitchen ... Staff cafeteria ... Staff recreation ...	SPACE REQUIRED ARE A (m^2) Male toilets & Lockers 100 Female toilets & 0 Lockers 7 Kitchen 25 Staff cafeteria 90 Staff recreation 15	SPACE REQUIRED ARE A (m^2) Staff Facilities 300	SPACE REQUIRED AREA (m^2) Male toilets & Lockers 100 Female toilets & 0 Lockers 7 Kitchen 25 Staff cafeteria 90 Staff recreation 15
Repair & Maintenance	Head Of Engg. ... Asst Engg. ... Secured Store ... Paint Shop ... Engg. Store ... Carpentry ... Spare Parts ...	Head Of Engg. ... Asst Engg. ... Secured Store ... Paint Shop ... Engg. Store ... Carpentry ... Spare Parts ...	Head Of Engg. 08 Asst Engg. 08 Secured Store 10 Paint Shop 10 Engg. Store 10 Carpentry 10 Spare Parts 05	Workshop 120 Accounts 100 Back of house space 180	Head Of Engg. 08 Asst Engg. 08 Secured Store 10 Paint Shop 10 Engg. Store 10 Carpentry 10 Spare Parts 05 Workshop 120 Accounts 100 Back of house space 180
Miscellaneous	Driver Rest Room ... Drivers Toilet ... Microbiologist ...	Driver Rest Room ... Drivers Toilet ... Microbiologist ...	Driver Rest Room 15 Drivers Toilet 22 Microbiologist 08	Driver Rest Room ... Drivers Toilet ... Microbiologist ...	Driver Rest Room 15 Drivers Toilet 22 Microbiologist 08

Table 6 Comparative Analysis 5

Spaces	Case Study 1 Taj Lakefront, Bhopal	Case Study 2 Avasa, Hyderabad	Desk Appraisal 1 Taj Gateway, Pune	Desk Appraisal 2 Goldfinch, Mumbai	Inferences
BOH Services	PACE REQUIRED AREA (m²) Service Area 300	SPACE REQUIRED AREA(m²) LV room ... Indoor transformers ... LT panel ... DG generator room ... Chiller plant ... Rain water tank ... Municipal tank ... Raw water tank 120cu.m Fire tank 120cu.m Treated tank 20cu.m Salt storage ... Pump room (fire) ... Pump room ... Boiler room ... STP ... Workshop ... Engineering office ... Engineering store ... Control room ... Oil storage tanks ... Swimming pool ... Filtration plant ...	SPACE REQUIRED AREA (m²) LV room 56 Indoor transformers 44 LT panel 74 DG generator room 97 Chiller plant 125 Rain water tank 105cu.m Municipal tank 123cu.m m Raw water tank 12 123cu.m Fire tank 20 105cu.m 60 Treated tank 123cu.m Salt storage 12 Pump room (fire) 20 Pump room 60 Boiler room 58 STP 80 Workshop 22 Engineering office 08 Engineering store 10 Control room 15 Oil storage tanks 190 Swimming pool 15 Filtration plant	PACE REQUIRED AREA (m²) LV room ... Indoor transformers ... LT panel ... DG generator room ... ... Chiller plant ... Rain water tank 50cu.m Municipal tank 50 cu.m Raw water tank 50cu .m Fire tank 50cu.m Treated tank 50cu.m Salt storage 172 Pump room (fire) ... Pump room 92 Boiler room 50 STP 160 Workshop 120 Engineering office ... Engineering store . Control room ... Oil storage tanks ... Swimming pool ... Filtration plant	SPACE REQUIRED AREA(m²) LV room 56 Indoor transformers 44 LT panel 74 DG generator room 97 Chiller plant 125 Rain water tank 105 Municipal tank 123 Raw water tank 200 cu.m Fire tank 105 cu.m Treated tank 123 cu.m Salt storage 172 Pump room (fire) 20 Pump room 92 Boiler room 58 STP 160 Workshop 120 Engineering office 10 Engineering store 10 Control room 15 Oil storage tanks 190 Swimming pool 15 Filtration plant Service Are 300

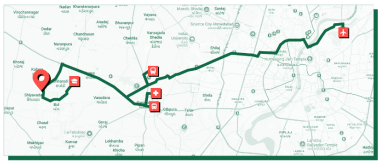
Site Data

INTRODUCTION

The proposed site for the 5-star hotel is strategically located within the industrial zone of Sanand, Gujarat, offering both accessibility and potential for high footfall from business and industrial visitors. The location is well-connected by various modes of transport, albeit with a preference for private or industrial commuting methods due to the distance from major public transit hubs.

Name of the Project: *Proposed 5-Star Hotel*
Location: *GIDC Sanand-II (Plot SM-39/5), Sanand-II Industrial Estate*
District: *Ahmedabad, Gujarat*
Site Coordinates: *23°00'21.5"N, 72°14'59.6"E*
Land Use: *Commercial Property*
Site Area: *20,168 Sq.m (4.98 Acres)*
Ground Coverage: *40%*
FAR: *1.8*
Setback: *40%*
Building Height: *ND*

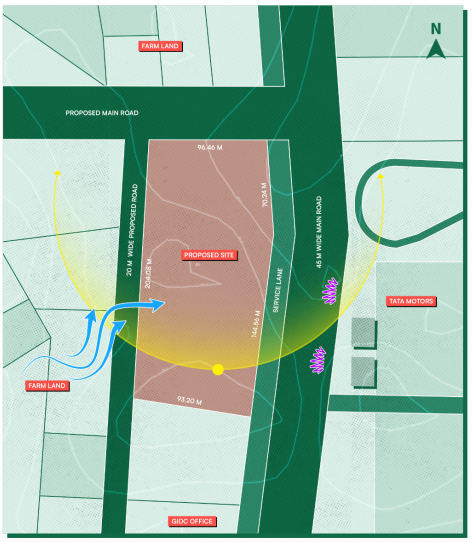




Site Proximity

- *Sardar Vallabhbhai Patel International Airport* - **47 km** - **1 hr 42 m**
- *Chharodi Railway Station* - **19 km** - **31 min**
- *Sanand ST Stand* - **17 km** - **29 min**
- *North kotpura Primary School* - **5.4 km** - **13 min**
- *Bajaj Institute of Health Science Hospital* - **19 km** - **30 min**

Site Analysis



SWOT

S — **Strength -** Strategic Location: Positioned in a major industrial zone, attracting business travelers. Proximity to Key Industries: Close to automotive and manufacturing hubs, ensuring a steady flow of corporate clientele.

W — **Weakness -** Limited Residential Appeal: The industrial area may not appeal to leisure travelers. Noise and Pollution: Proximity to factories could affect the ambiance and comfort of guests.

O — **Opportunity -** Growing Business Hub: Increasing investment in the area opens opportunities for corporate partnerships and events. Industrial Growth: The expansion of industries in Sanand ensures a consistent demand for business accommodations.

T — **Threat -** Economic Volatility: Fluctuations in the industrial sector may affect hotel occupancy. Competition from Other Hotels: New hotels in the region could create additional competition.

Climate

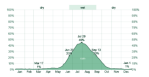
In Sānand, the wet season is oppressive and mostly cloudy, the dry season is mostly clear, and it is hot year round.



TEMPERATURE
Maximum: 38° C (May)
Minimum: 20° C (January)



RAINFALL
Maximum: 8.4 inch (July)
Minimum: 00 inch (January)



HUMIDITY
Maximum: 46% (July)
Minimum: 1% (January)



WIND
Maximum: 11.7 mph (June)
Minimum: 5.2 mph (October)
Prominent Wind direction: West (W) & South-West (SW)

Inference from site

CLIMATE-RESPONSIVE ORIENTATION & LAYOUT

The design should prioritize an east-west orientation for the long axis, with the main facades facing north and south. This minimizes harsh solar gain from the east and west. A compact courtyard plan is recommended to create shaded microclimates, while increasing openness during the monsoon to allow for effective cross-ventilation.

VENTILATION & AIRFLOW OPTIMIZATION

To ensure natural airflow, the design must promote cross-ventilation in all habitable rooms by aligning openings with prevailing wind directions. Service corridors and thick walls should buffer the east and west sides, enhancing breeze penetration during the monsoon months.

THERMAL MASS & MATERIALITY

Use materials with high thermal mass, such as brick, rammed earth, or insulated AAC blocks, to delay heat transfer. External finishes should be light-colored to reflect heat, while roofs should feature well-insulated, light-colored RCC slabs or green roofs for passive cooling.

SUSTAINABLE OUTDOOR SPACES & MONSOON ADAPTABILITY

Outdoor spaces such as verandahs, pergolas, and shaded balconies provide essential transitional areas. Plant deciduous trees for seasonal shading and design for proper rainwater drainage and covered walkways. Materials should be chosen to resist high humidity and prevent fungal growth, ensuring durability during the monsoon season.

Site Surrounding



TITLE	SITE ANALYIS
PROJECT TYPE	5-STAR HOTEL
THESIS GUIDE	DR. RAJAT SONI ASSOCIATE PROFESSOR
DESIGNED BY	AKSHAT JAIN 211110226
SITE DETAILS	1. Location - Sanand, Ahmedabad, GJ 2. Site Area - 20,168 sq M 3. Ground Coverage - 3,850 sq M 4. Built-up Area - 31,050 sq M 5. FAR - 1.8
NOTE	1. All dimensions are in MM. 2. Scale - 1:100
SCALE	
NORTH	
DRAWING NO.	AR01

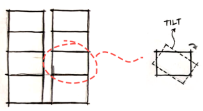
Concept

ECO - BRUTALISM

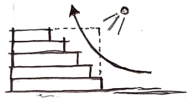
The aim of eco-brutalism is to create buildings that are both functional and aesthetically striking while also minimizing environmental impact. It blends the bold, rugged aesthetic of brutalism with modern concerns for ecological sustainability, often resulting in structures that are energy-efficient and integrated into their natural surroundings.

[Brutal + Planters]

DESIGN METHODOLOGY



This design introduces an angular rotation to the guest room facades, creating a dynamic, brutalist aesthetic. The tilt disrupts traditional linearity, forming green terraces on each balcony that integrate biophilic elements. This intervention enhances light, views, and privacy, while providing a sculptural, visually striking facade that blends raw architectural forms with sustainable design.

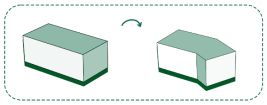


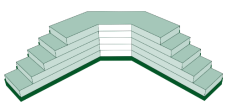
Introducing stepping on each level in a structure enhances aesthetic appeal, allows for better natural light penetration, and improves airflow, while also creating dynamic visual interest in architectural design.

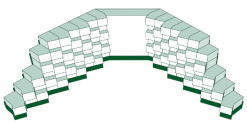
Material Palette



Form Development







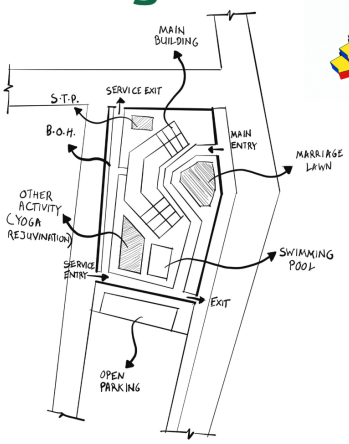
This design introduces a sharp angular shift in the guest room facades, presenting a striking, brutalist style. The tilt challenges conventional straight lines, creating lush green terraces on every balcony that fuse nature with the built environment. This modification amplifies natural light, provides expansive views, and maintains privacy, while offering a sculptural, eye-catching exterior that combines raw architecture with eco-friendly elements.

The stepping on each floor enhances visual appeal, facilitates better light flow and ventilation, and introduces an exciting, dynamic element to the architectural composition.

Bubble Diagram



Site Zoning

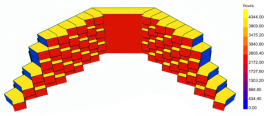


Vertical Zoning

- Guest Floors
- Service Floor
- Food & Beverage
- Banquet / Retail
- Hotel Lobby | Admin
- Basement Parking & Services

Simulation

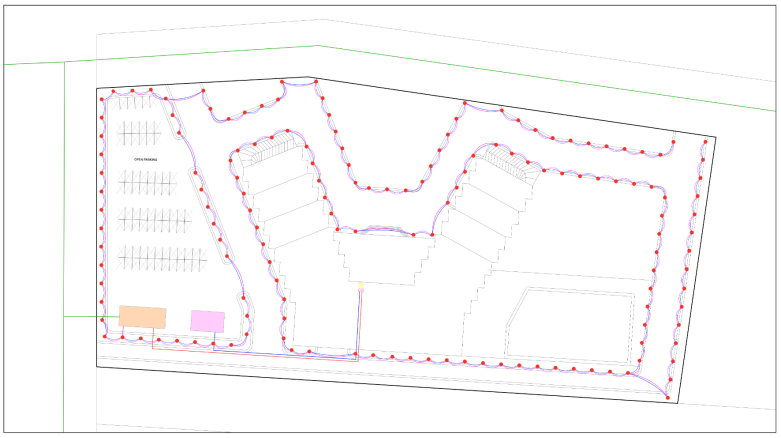
Vertical fins are used to block direct sunlight, while tilting the guest rooms reduces heat gain and enhances thermal comfort.



Area Statement

Space	Area
Lobby and Reception	100 - 120 SQ.M
Restaurants	120 - 150 SQ.M
Lounge	50 - 70 SQ.M
Bar	20 - 40 SQ.M
Cloak Room	Approx 15 SQ.M
Banquet (Upto 300 Pax)	250 - 300 SQ.M
Private Areas (Staff)	Approx 50 SQ.M
Administration Office	15 - 20 SQ.M
Accounts Office	15 - 20 SQ.M
Technical / Mechanical Rooms	Approx 120 SQ.M
Laundry and Storage	100 - 70 SQ.M
Kitchen and Storage	Approx 70 SQ.M
Waste Disposal	5 - 10 SQ.M
Private Areas (Guest)	Approx 12 - 15 SQ.M
Single Bedroom	14 - 18 SQ.M
Double Bedroom	18 - 22 SQ.M
Deluxe Bedroom	22 - 25 SQ.M
Suite	22 - 25 SQ.M
Staircase	1.5M Width
Corridor for Double Loaded	1.5M
For Single Loaded	1.0M
Laundry	Approx 70 SQ.M
Mens Toilet and Locker Room	35 - 45 SQ.M
Womens Toilet and Locker Room	35 - 45 SQ.M
Transformer Vault	15 - 15 SQ.M
Fan Room Ventilation	40 - 50 SQ.M
Water Heater Fans Space	Approx 15 SQ.M
Conference Room Person	35 - 45 SQ.M

TITLE	CONCEPT DESIGN
PROJECT TYPE	5-STAR HOTEL
THESIS GUIDE	DR. RAJAT SONI ASSOCIATE PROFESSOR
DESIGNED BY	AKSHAT JAIN 211110226
SITE DETAILS	1. Location - Sanand, Ahmedabad, GJ 2. Site Area - 20,168 sq M 3. Ground Coverage - 3,850 sq M 4. Built-up Area - 31,050 sq M 5. FAR - 1.8
NOTE	1. All dimensions are in MM. 2. Scale - 1:100
SCALE	
NORTH	
DRAWING NO.	AR02



SITE ELECTRICAL PLAN

Scale - 1:400

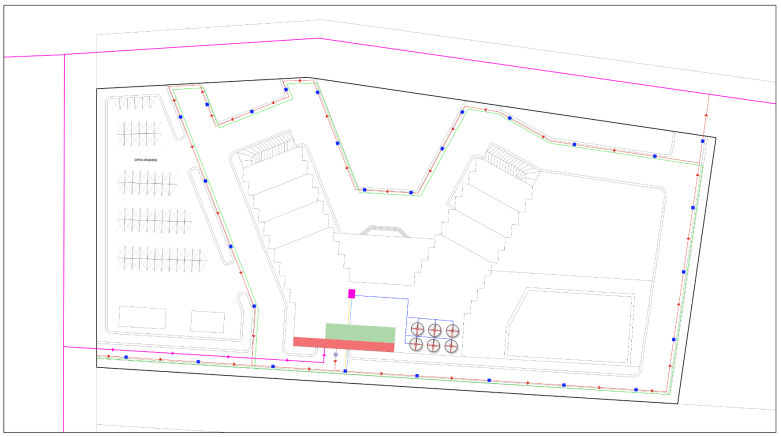


DAILY WATER REQUIREMENT

Section	Units / Area	Connected Load (kW)	Diversity Factor	Demand Load (kW)
Guest Rooms	198 rooms	990	0.7	693
Restaurants (combined)	4 restaurants	112	0.8	89.6
Banquet Hall	285 persons	78.5	0.8	62.8
Lobby & Common Areas	1000 sqm	45	0.8	36
Staff & Back-of-House	300 sqm	13	0.8	10.4
Mechanical / Pumps	–	20	1	20
Total	–	**1258.5 kW**	–	**911.8 kW**

Transformer Sizing:

1,000 kVA (consider 0.9 PF) – suitable for this hotel with some margin for future expansion.



SITE WATER SUPPLY & SEWAGE PLAN

Scale - 1:400



DAILY WATER REQUIREMENT

User Category	Units / Nos	Water Requirement	Total Water (Litres/day)
Hotel Rooms	198 rooms (2 ppl/room)	275 L	54,450
Total Restaurant Demand	572 seats	100 L/seat	57,200
Banquet Hall	285 persons	100 L/person	28,500
Staff	120 persons	45 L/person	5,400
Housekeeping Allowance	198 rooms	20 L/room	3,960
Landscape Irrigation	5,827 m²	4 L/m²/day	23,310
Pool Make-up Water	–	Fixed	5,000
Kitchen & Utility Allowance	–	Fixed	10,000
Total Water Demand			**187,818 L/day**
Total UGT Volume Provided	Provide 2 UGT of 95 m³ each		**190 m³**

STP CAPACITY CALCULATION

Item	Value
Total Water Demand	187,818 L/day
Sewage Generation %	90%
STP Required (exact)	0.9 × 187,818 = 169,036.2 L/day ≈ 169.04 KLD
Round-off for procurement/operation	**170 KLD STP**

ARURA

TITLE

SITE SERVICES

PROJECT TYPE

5-STAR HOTEL

THESIS GUIDE

DR. RAJAT SONI
ASSOCIATE PROFESSOR

DESIGNED BY

AKSHAT JAIN
211110226

SITE DETAILS

1. Location - Sanand, Ahmedabad, GJ
2. Site Area - 20,168 sq M
3. Ground Coverage - 3,850 sq M
4. Built-up Area - 31,050 sq M
5. FAR - 1.8

NOTE

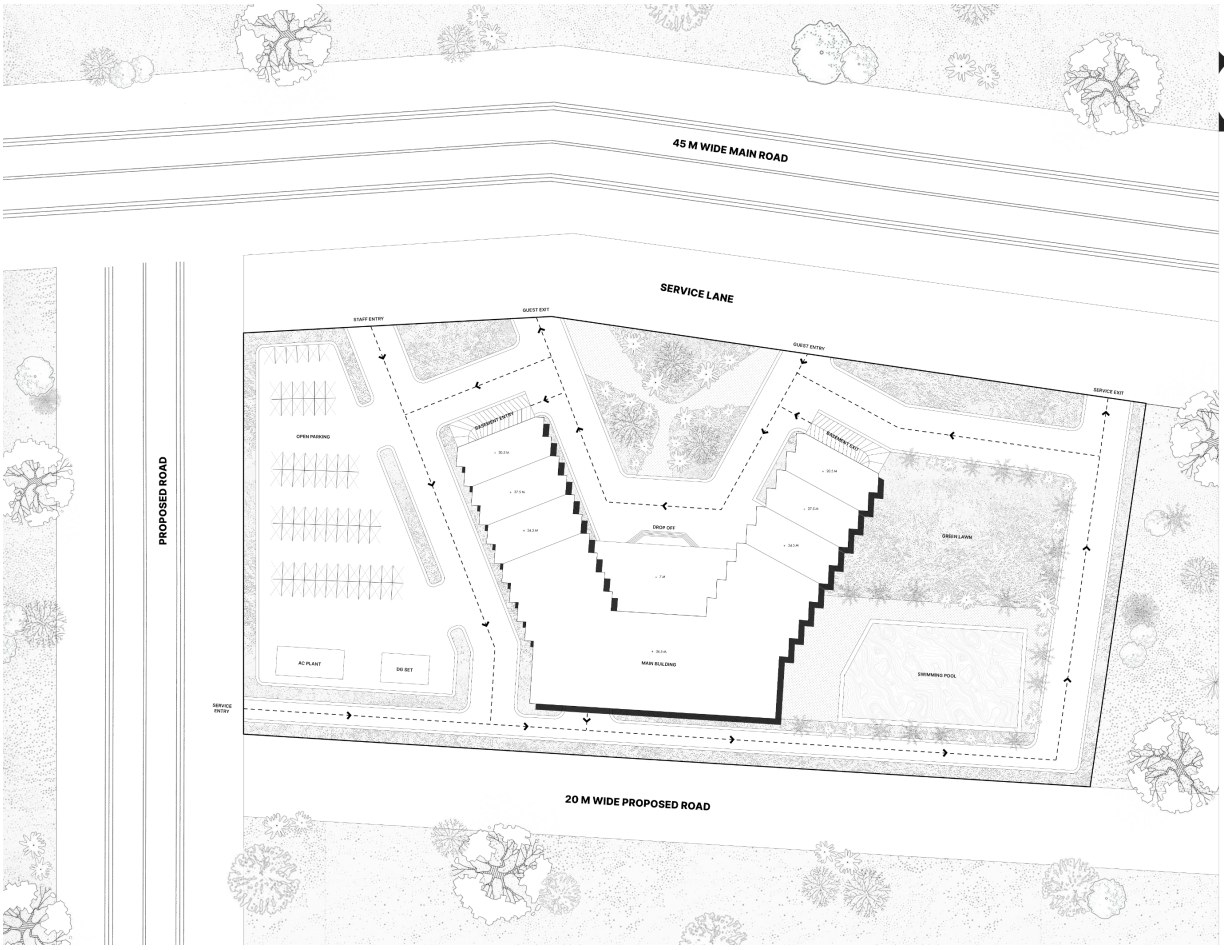
1. All dimensions are in MM.
2. Scale - 1:100

SCALE

NORTH

DRAWING NO.

AR03



ARURA

TITLE

SITE PLAN

PROJECT TYPE

5-STAR HOTEL

THESIS GUIDE

DR. RAJAT SONI
ASSOCIATE PROFESSOR

DESIGNED BY

AKSHAT JAIN
211110226

SITE DETAILS

1. Location - Sanand, Ahmedabad, GJ
2. Site Area - 20,168 sq M
3. Ground Coverage - 3,850 sq M
4. Built-up Area - 31,050 sq M
5. FAR - 1.8

NOTE

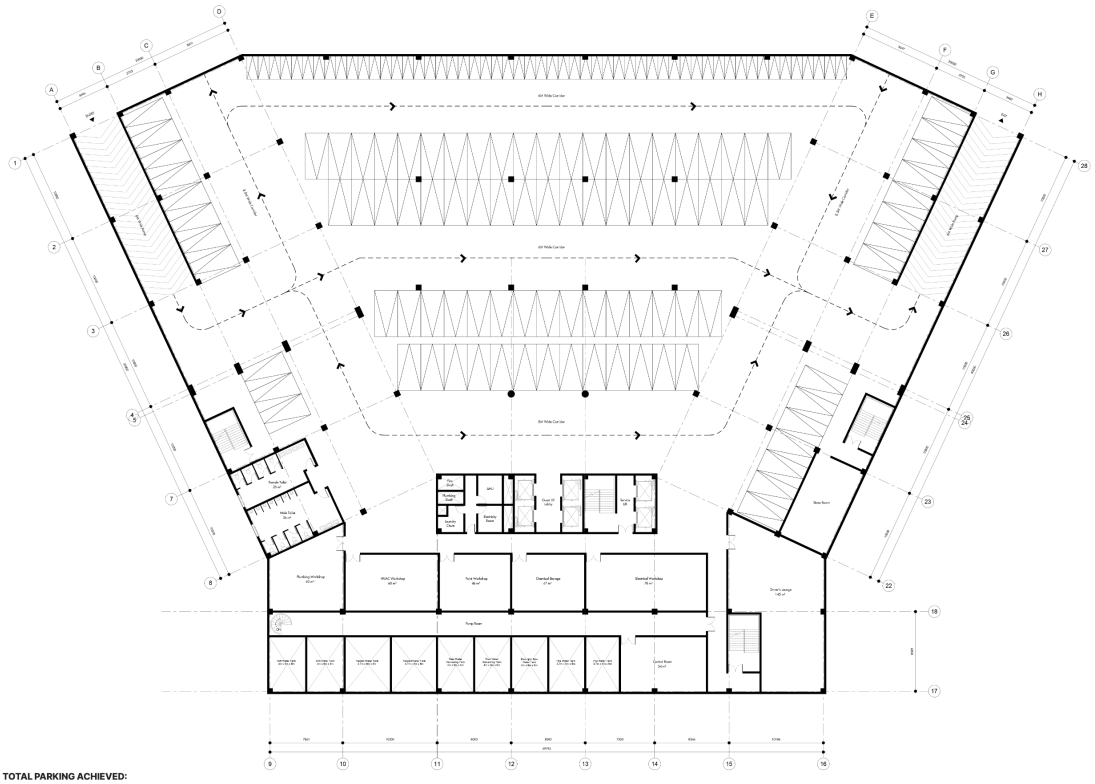
1. All dimensions are in MM.
2. Scale - 1:100

SCALE

NORTH

DRAWING NO.

AR03



TOTAL PARKING ACHIEVED:

Equivalent Car Space - 94 ECS
Equivalent 2W Space - 54 ETS

TITLE

BASEMENT 1

PROJECT TYPE

5-STAR HOTEL

THESIS GUIDE

DR. RAJAT SONI
ASSOCIATE PROFESSOR

DESIGNED BY

AKSHAT JAIN
211110226

SITE DETAILS

1. Location - Sanand, Ahmedabad, GJ
2. Site Area - 20,168 sq.M
3. Ground Coverage - 3,850 sq.M
4. Built-up Area - 31,050 sq.M
5. FAR - 1.8

NOTE

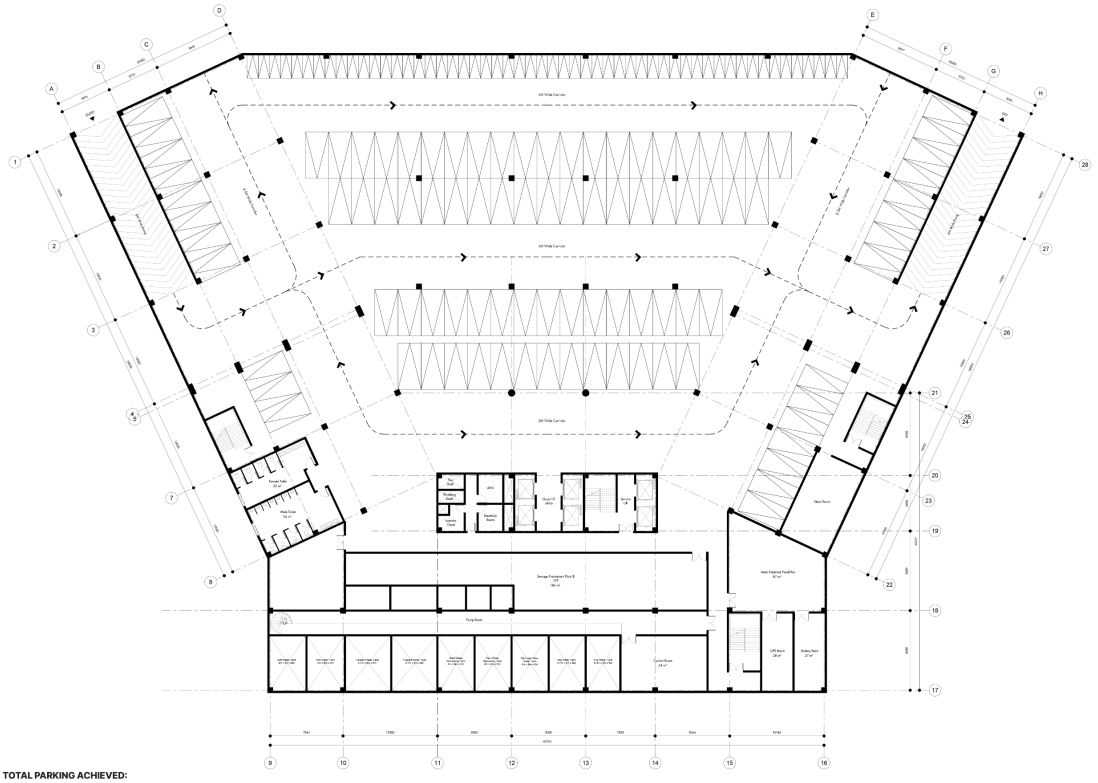
1. All dimensions are in MM.
2. Scale - 1:100

SCALE

NORTH

DRAWING NO.

AR04



TOTAL PARKING ACHIEVED:

Equivalent Car Space - 94 ECS
Equivalent 2W Space - 54 ETS

TITLE

BASEMENT 2

PROJECT TYPE

5-STAR HOTEL

THESIS GUIDE

DR. RAJAT SONI
ASSOCIATE PROFESSOR

DESIGNED BY

AKSHAT JAIN
211110226

SITE DETAILS

1. Location - Sanand, Ahmedabad, GJ
2. Site Area - 20,168 sq.M
3. Ground Coverage - 3,850 sq.M
4. Built-up Area - 31,050 sq.M
5. FAR - 1.8

NOTE

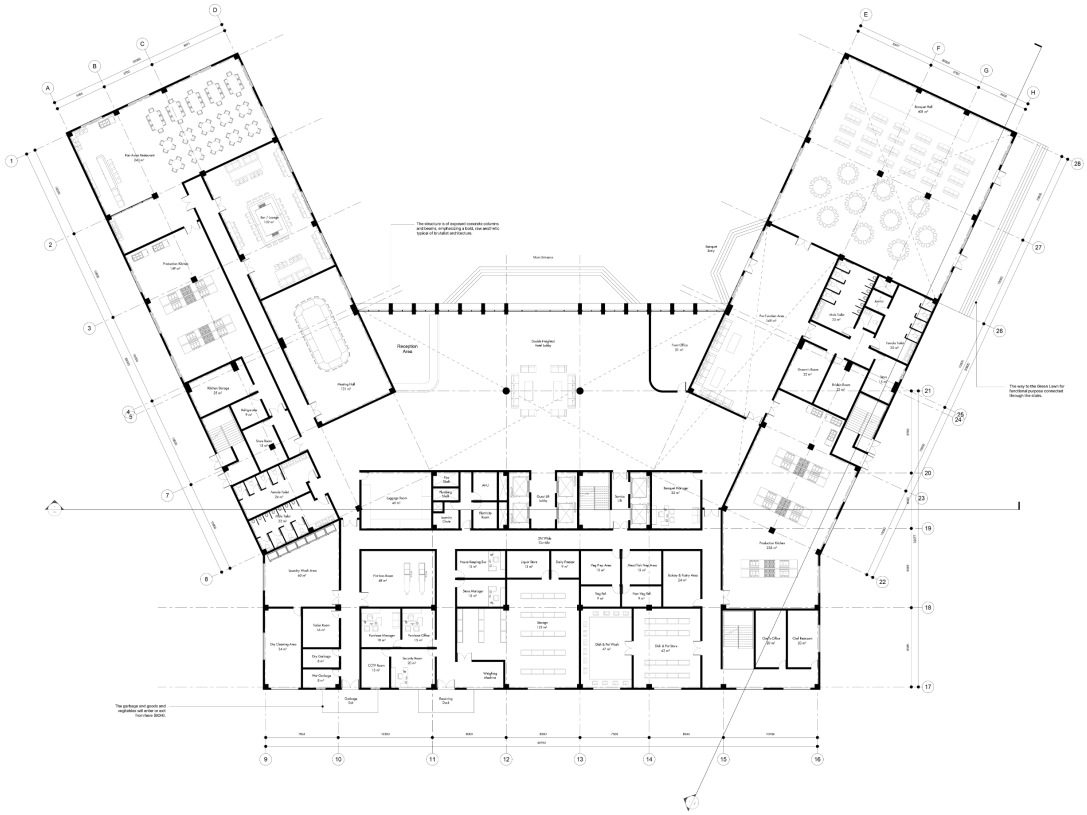
1. All dimensions are in MM.
2. Scale - 1:100

SCALE

NORTH

DRAWING NO.

AR05



TITLE

GROUND FLOOR

PROJECT TYPE

5-STAR HOTEL

THESIS GUIDE

DR. RAJAT SONI
ASSOCIATE PROFESSOR

DESIGNED BY

AKSHAT JAIN
211110226

SITE DETAILS

1. Location - Sanand, Ahmedabad, GJ
2. Site Area - 20,168 sq M
3. Ground Coverage - 3,850 sq M
4. Built-up Area - 31,050 sq M
5. FAR - 1.6

NOTE

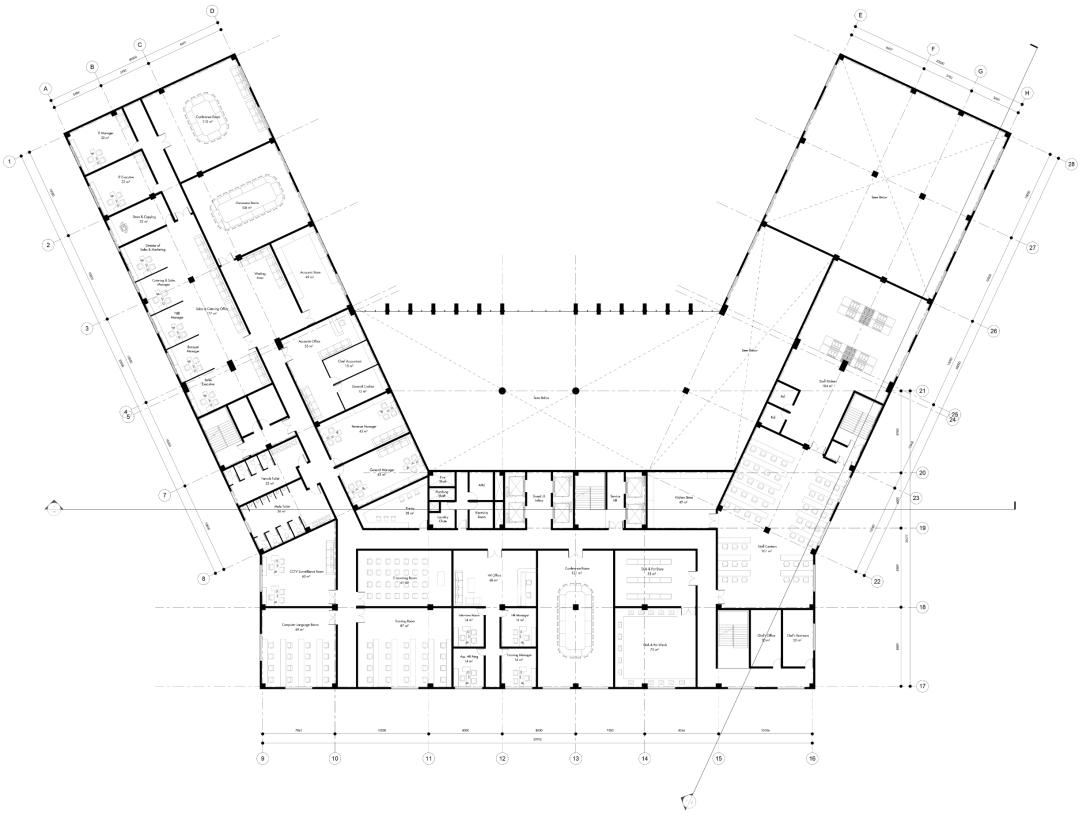
1. All dimensions are in MM.
2. Scale - 1:100

SCALE

NORTH

DRAWING NO.

AR06



TITLE

FIRST FLOOR

PROJECT TYPE

5-STAR HOTEL

THESIS GUIDE

DR. RAJAT SONI
ASSOCIATE PROFESSOR

DESIGNED BY

AKSHAT JAIN
211110226

SITE DETAILS

1. Location - Sanand, Ahmedabad, GJ
2. Site Area - 20,168 sq M
3. Ground Coverage - 3,850 sq M
4. Built-up Area - 31,050 sq M
5. FAR - 1.6

NOTE

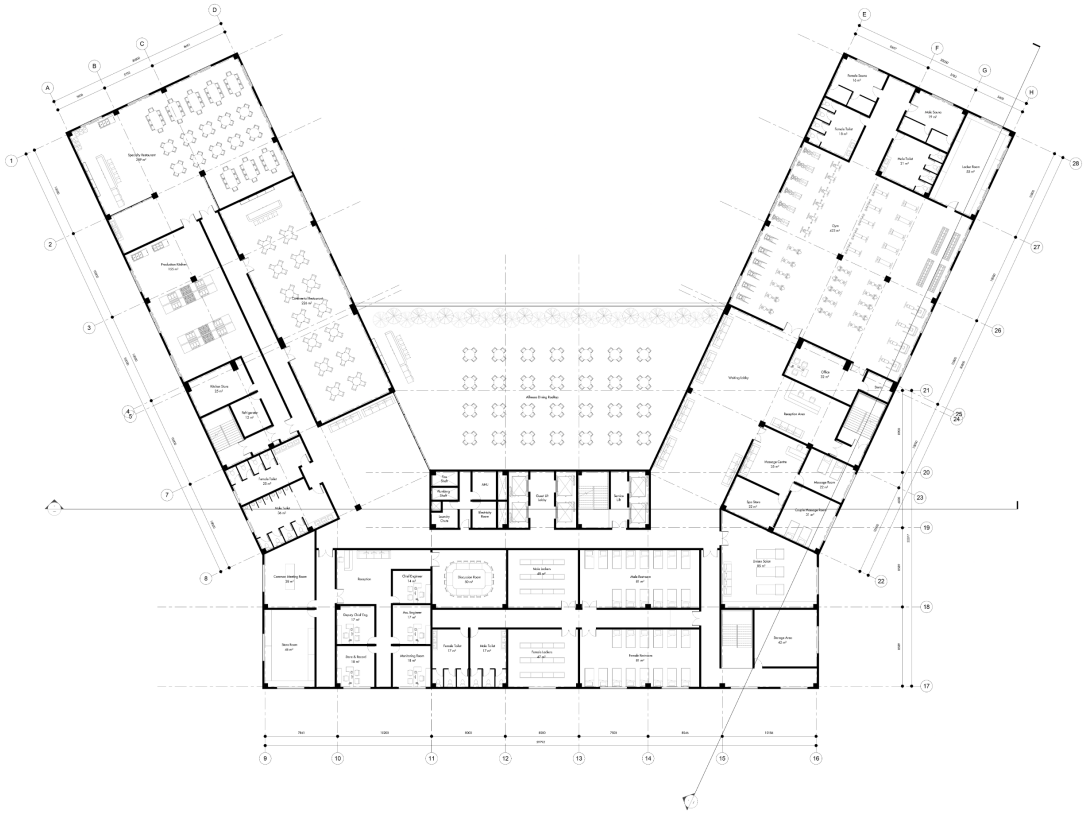
1. All dimensions are in MM.
2. Scale - 1:100

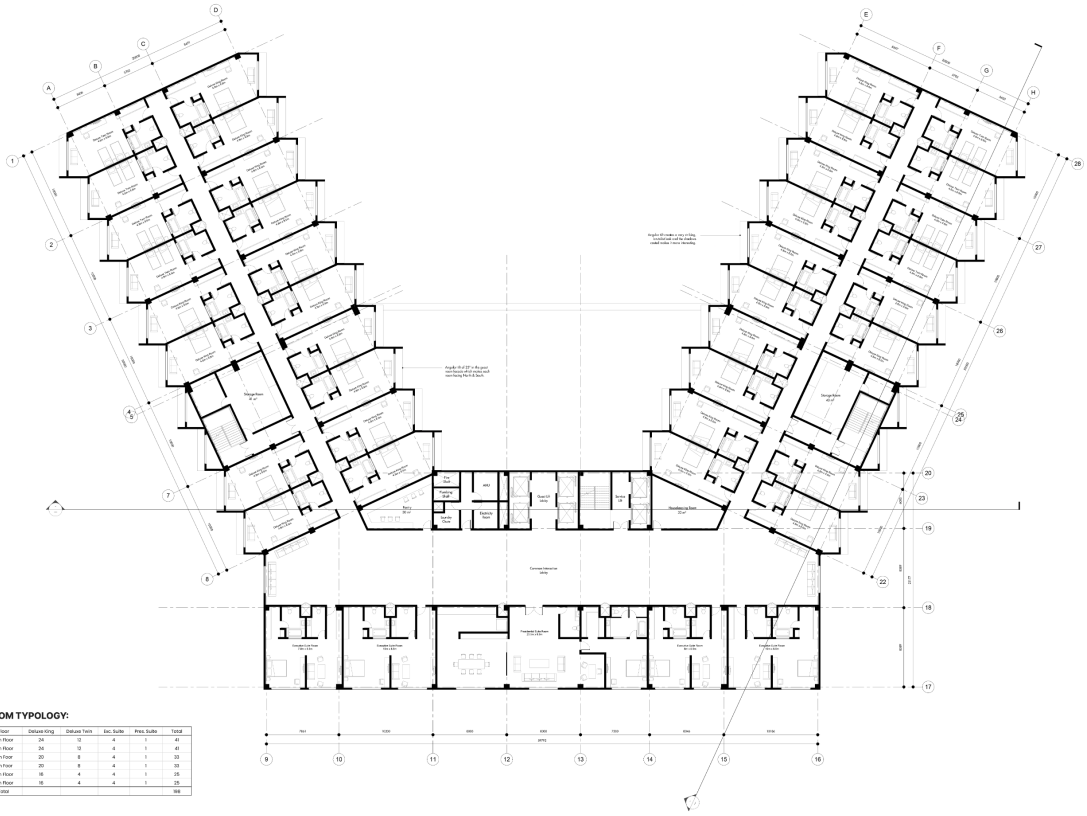
SCALE

NORTH

DRAWING NO.

AR07





ROOM TYPOLOGY:

Floor	Deluxe King	Deluxe Twin	Exc. Suite	Pres. Suite	Total
4th Floor	24	12	4	1	41
5th Floor	24	12	4	1	41
6th Foor	20	8	4	1	33
7th Foor	20	8	4	1	33
8th Floor	16	4	4	1	25
9th Floor	16	4	4	1	25
Total					198

TITLE

SECOND FLOOR

PROJECT TYPE

5-STAR HOTEL

THESIS GUIDE

DR. RAJAT SONI
ASSOCIATE PROFESSOR

DESIGNED BY

AKSHAT JAIN
211110226

SITE DETAILS

1. Location - Sanand, Ahmedabad, GJ
2. Site Area - 20,168 sq M
3. Ground Coverage - 3,850 sq M
4. Built-up Area - 31,050 sq M
5. FAR - 1.8

NOTE

1. All dimensions are in MM.
2. Scale - 1:100

SCALE

NORTH

DRAWING NO.

AR08

TITLE

FOURTH FLOOR

PROJECT TYPE

5-STAR HOTEL

THESIS GUIDE

DR. RAJAT SONI
ASSOCIATE PROFESSOR

DESIGNED BY

AKSHAT JAIN
211110226

SITE DETAILS

1. Location - Sanand, Ahmedabad, GJ
2. Site Area - 20,168 sq M
3. Ground Coverage - 3,850 sq M
4. Built-up Area - 31,050 sq M
5. FAR - 1.8

NOTE

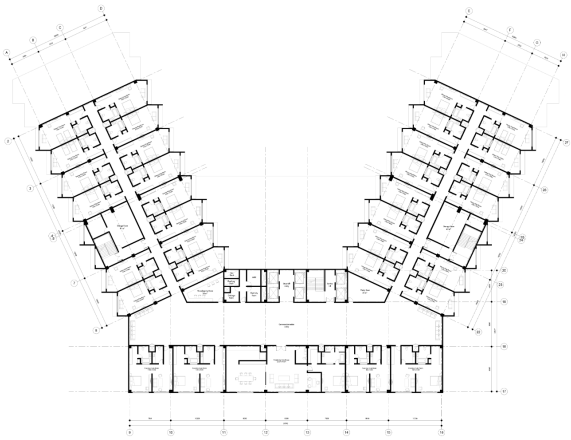
1. All dimensions are in MM.
2. Scale - 1:100

SCALE

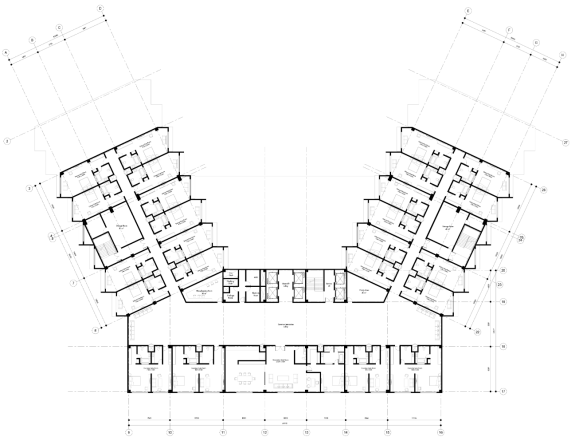
NORTH

DRAWING NO.

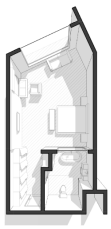
AR09



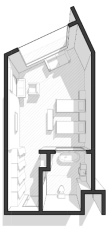
6TH FLOOR



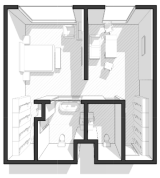
8TH FLOOR



DELUXE KING ROOM
4.8m x 8.6M



DELUXE TWIN ROOM
4.8m x 8.6M



EXECUTIVE SUITE ROOM
8.5m x 10M



PRESIDENTIAL SUITE ROOM
23.5m x 10M

TITLE

6TH & 8TH FLOOR

PROJECT TYPE

5-STAR HOTEL

THESIS GUIDE

DR. RAJAT SONI
ASSOCIATE PROFESSOR

DESIGNED BY

AKSHAT JAIN
211110226

SITE DETAILS

1. Location - Sanand, Ahmedabad, GJ
2. Site Area - 20,168 sq M
3. Ground Coverage - 3,850 sq M
4. Built-up Area - 31,050 sq M
5. FAR - 1.6

NOTE

1. All dimensions are in MM.
2. Scale - 1:100

SCALE

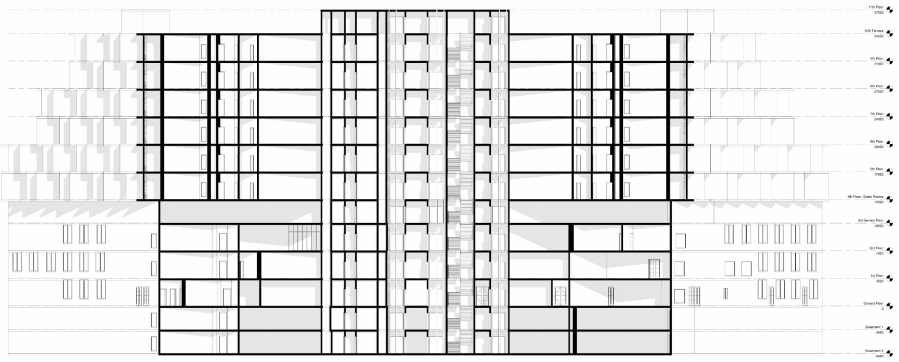
NORTH

DRAWING NO.

AR10



SECTION AA"



SECTION BB'

TITLE

SECTION

PROJECT TYPE

5-STAR HOTEL

THESIS GUIDE

DR. RAJAT SONI
ASSOCIATE PROFESSOR

DESIGNED BY

AKSHAT JAIN
211110226

SITE DETAILS

1. Location - Sanand, Ahmedabad, GJ
2. Site Area - 20,168 sq M
3. Ground Coverage - 3,850 sq M
4. Built-up Area - 31,050 sq M
5. FAR - 1.6

NOTE

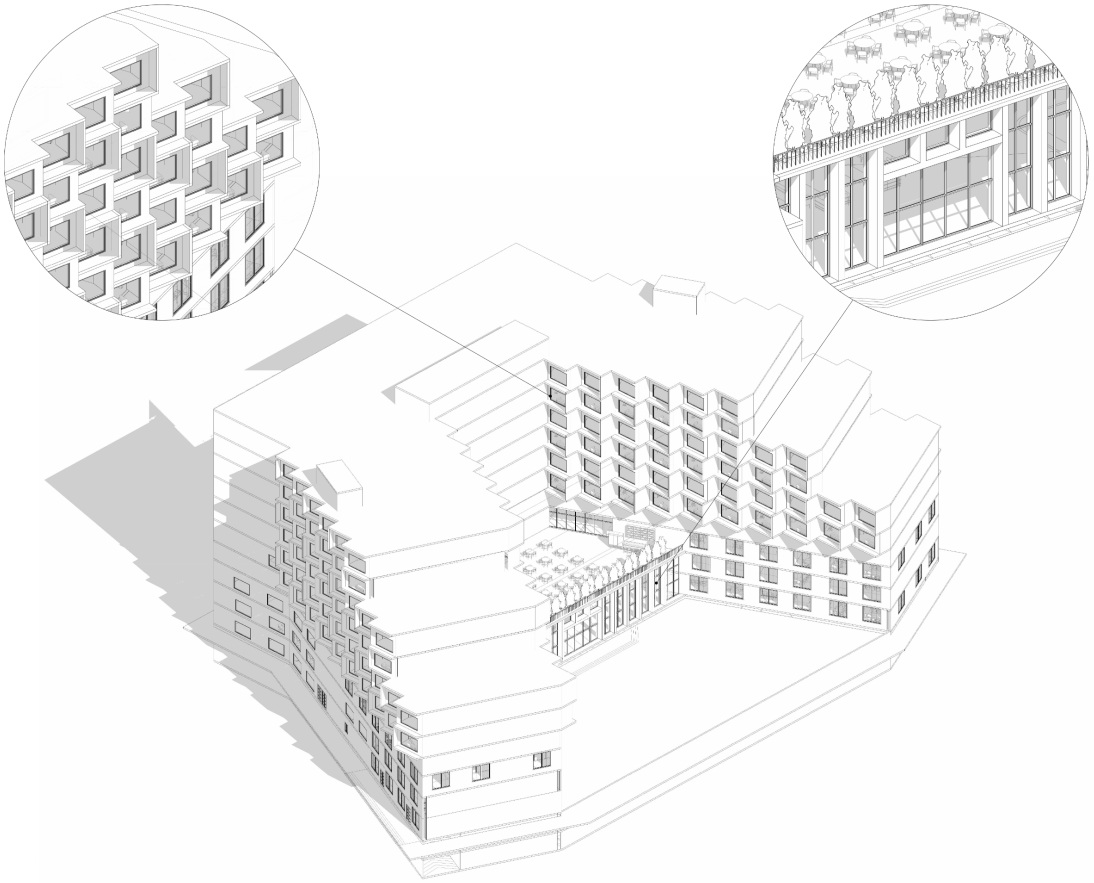
1. All dimensions are in MM.
2. Scale - 1:100

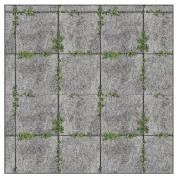
SCALE

NORTH

DRAWING NO.

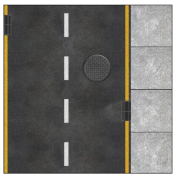
AR11





PARKING PAVEMENT

The stone paving blocks are strategically placed around the pedestrian pathways along the building's perimeter and near the pond area, enhancing both the aesthetic appeal and functionality of space while ensuring durability & ease of movement for pedestrians.



ASPHALT ROADS

Asphalt roads are used as they are safe, smooth, durable and sustainable. The advantages of asphalt simply add up to superior value. And a well function drainage system keeps roads clean.



BLUE JACARANDA

A mid-sized tree with elegant blue-purple blooms in spring, it offers refined colour accents and soft canopy texture — ideal for key visual zones like an entrance drive or pond-side plantation.



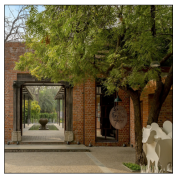
INDIAN ALMOND

A broad-canopy tree that gives a relaxed luxury resort feel — perfect for planting near water bodies (like your pond area) or along walkways where a lush overhead canopy is desired.



ALBIZIA LEBBECK (SIRIS TREE)

With elegant foliage and good form, the Siris tree builds a high-end feel while delivering functional benefits like shade and coolness in outdoor lounge/terrace zones. A large, graceful tree with good shade and an airy canopy.



AZADIRACHTA INDICA (NEEM)

A classic Indian tree with broad canopy and evergreen behaviour — it offers a grounding, reliable backdrop and complements more showy trees without competing for attention. Native to the region, highly tolerant of heat and drought, low maintenance and stable.



TITLE

ELEVATION

PROJECT TYPE

5-STAR HOTEL

THESIS GUIDE

DR. RAJAT SONI
ASSOCIATE PROFESSOR

DESIGNED BY

AKSHAT JAIN
211110226

SITE DETAILS

1. Location - Sanand, Ahmedabad, GJ
2. Site Area - 20,168 sq M
3. Ground Coverage - 3,850 sq M
4. Built-up Area - 31,050 sq M
5. FAR - 1.8

NOTE

1. All dimensions are in MM.
2. Scale - 1:100

SCALE

NORTH

DRAWING NO.

AR12

TITLE

LANDSCAPE

PROJECT TYPE

5-STAR HOTEL

THESIS GUIDE

DR. RAJAT SONI
ASSOCIATE PROFESSOR

DESIGNED BY

AKSHAT JAIN
211110226

SITE DETAILS

1. Location - Sanand, Ahmedabad, GJ
2. Site Area - 20,168 sq M
3. Ground Coverage - 3,850 sq M
4. Built-up Area - 31,050 sq M
5. FAR - 1.8

NOTE

1. All dimensions are in MM.
2. Scale - 1:100

SCALE

NORTH

DRAWING NO.

AR13

The Crystal Vault /BAR AND LOUNGE

The interior design of The Crystal Vault bar and lounge for a 5-star hotel showcases a sophisticated blend of **luxury and modernity**, utilizing a combination of open spatial planning and intricate design elements. The space, measuring **10m by 15m**, is defined by its spacious layout, creating an **inviting atmosphere** that is both functional and visually appealing.

At the core of the design, the **central bar** is a striking feature, set against a backdrop of stacked shelving, creating a captivating focal point. The design integrates elegant materials such as **glass and metal** to enhance the modern appeal, with the shelves housing a well-curated selection of spirits, reflecting the **'vault' concept.** The bar itself is encircled by **green and gold-accented stools**, contributing to the overall **luxurious aesthetic.**

The use of clean lines and geometric forms enhances the space's **sense of symmetry**, with the overhead lighting system providing both ambient and **task lighting** to accentuate key areas, particularly the bar. The suspended **light fixtures**, strategically placed across the ceiling, emphasize the height of the space and its expansive feel. Additionally, the combination of **polished stone flooring** and high-end finishes reflects the upscale ambiance expected in a **5-star hotel** setting.

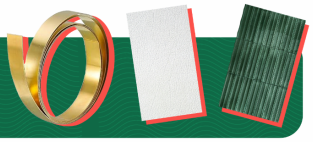
The seating arrangement is thoughtfully designed for both **comfort and interaction**, with lounge areas arranged around the perimeter. **Modular seating** allows for flexibility, enabling the space to accommodate various group sizes, from intimate gatherings to **larger social events**. The use of lush textures and soft furnishings, including **plush upholstery** and low-rise seating, ensures a warm, welcoming vibe without compromising the **design's luxury.**

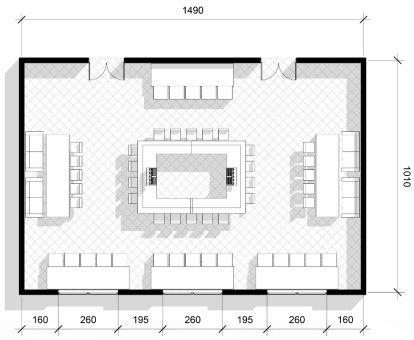




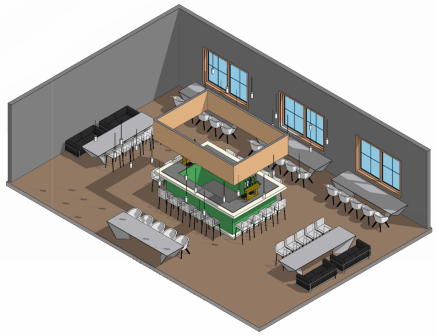


Material Palette

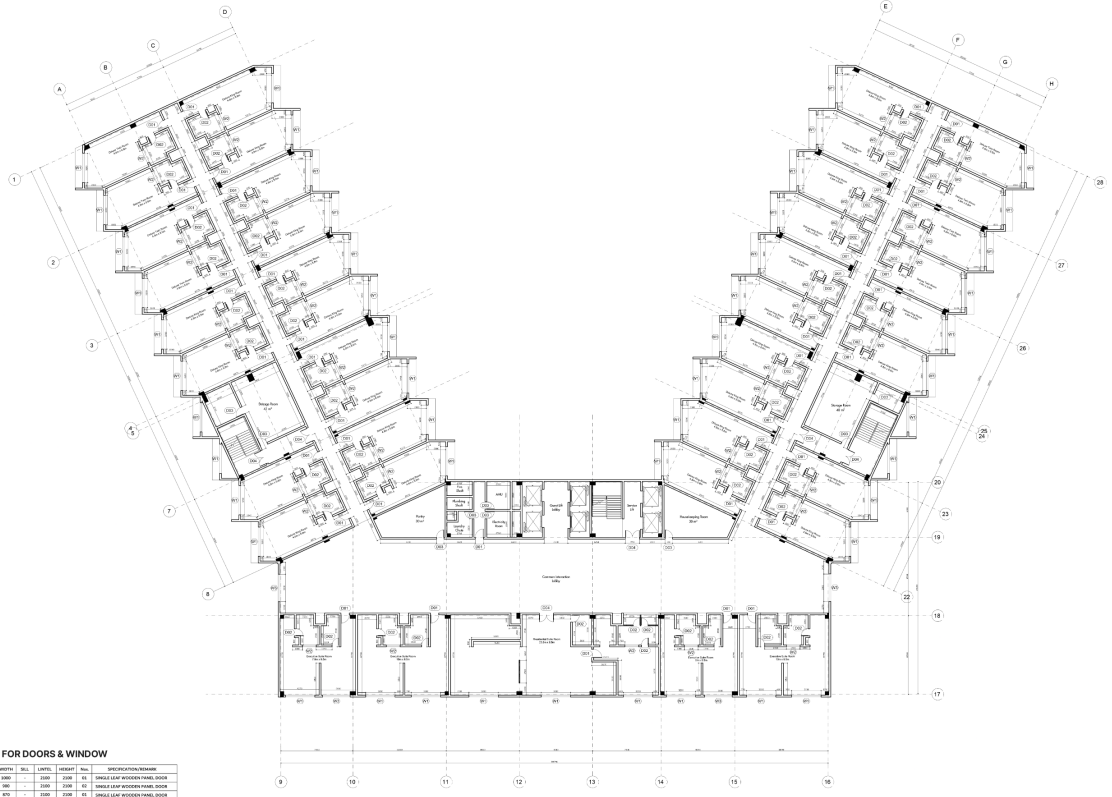




PLAN



ISOMETRIC VIEW



SCEDULE FOR DOORS & WINDOW

Sr. No.	NAME	WIDTH	SILL	LINTEL	HEIGHT	Nos.	SPECIFICATION/REMARK
01	D1	1000	-	2100	2100	01	SINGLE LEAF WOODEN PANEL DOOR
02	D2	900	-	2100	2100	02	SINGLE LEAF WOODEN PANEL DOOR
03	D3	870	-	2100	2100	05	SINGLE LEAF WOODEN PANEL DOOR
04	D4	880	-	2100	2100	03	SINGLE LEAF WOODEN FLUSH DOOR
05	W1	1900	900	2280	1380	01	L-SHAPED CORNER FIXED WINDOW
06	W2	2100	1100	2280	1380	01	WOODEN FRAME CASEMENT WINDOW
07	W3	5400	-	-	3180	01	WOODEN SLIDING GLASS DOOR
08	W4	3700	-	-	3180	01	WOODEN BIFOLD GLASS DOOR

AR13RA

TITLE

INTERIOR DESIGN

PROJECT TYPE

5-STAR HOTEL

THESIS GUIDE

DR. RAJAT SONI
ASSOCIATE PROFESSOR

DESIGNED BY

AKSHAT JAIN
211110226

SITE DETAILS

1. Location - Sanand, Ahmedabad, GJ
2. Site Area - 20,168 sq M
3. Ground Coverage - 3,850 sq M
4. Built-up Area - 31,050 sq M
5. FAR - 1.8

NOTE

1. All dimensions are in MM.
2. Scale - 1:100

SCALE

NORTH

DRAWING NO.

AR14

AR13RA

TITLE

WORKING DRAWING

PROJECT TYPE

5-STAR HOTEL

THESIS GUIDE

DR. RAJAT SONI
ASSOCIATE PROFESSOR

DESIGNED BY

AKSHAT JAIN
211110226

SITE DETAILS

1. Location - Sanand, Ahmedabad, GJ
2. Site Area - 20,168 sq M
3. Ground Coverage - 3,850 sq M
4. Built-up Area - 31,050 sq M
5. FAR - 1.8

NOTE

1. All dimensions are in MM.
2. Scale - 1:100

SCALE

NORTH

DRAWING NO.

AR15