YASHASVI UIKEY

5 Star Hotel

Bhopal, Madhya Pradesh, India

Dec, 2025

5 Star Hotel

Bhopal, Madhya Pradesh, India

BACHELOR OF ARCHITECTURE

BY

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DEPARTMENT OF ARCHITECTURE AND PLANNING

MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY, BHOPAL

DEC 2025

ARC 511 – Thesis Project

5 Star Hotel

Bhopal, Madhya Pradesh, India

Submitted by:

Yashasvi Uikey

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B. ARCH

9th Semester, 5th Year

UNDER THE GUIDANCE OF

Dr. Vinay Mohan Das

DEPARTMENT OF ARCHITECTURE AND PLANNING

MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY

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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, Bhopal, Madhya Pradesh, 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 withdrawal of Bachelor of Architecture Degree awarded to me by the Institute.

Date: 1st – 2nd Dec, 2025

Yashasvi Uikey
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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. Vinay Mohan Das
Thesis Guide

CERTIFICATION OF EXAMINATION

The Bachelor of Architecture Thesis Viva-Voce examination of Ms Yashasvi Uikey Scholar No.211110229, was held on 1/12/2025 to 2/12/25.

Dr. Nakul Dhagat
Head of Department

Dr. Vicky Lalramsangi
Thesis Coordinator

ABSTRACT

This thesis explores the architectural planning and design of a **5-Star Hotel in Bhopal**, aimed at creating a luxurious, efficient, and context-responsive hospitality environment. Bhopal, known for its natural lakes, cultural heritage, and growing tourism, provides a unique opportunity to design a high-end hotel that blends comfort, aesthetics, and functionality.

The project focuses on integrating **spatial planning**, **guest experience**, and **back-of-house efficiency** while responding to the climatic and cultural context of Bhopal. Key components such as guestrooms, suites, restaurants, banquets, recreation areas, service cores, and landscape zones are carefully designed to meet 5-star standards. The study also examines sustainability strategies, circulation patterns, vertical transportation, fire safety, and energy-efficient building systems.

The design aims to achieve a balance between luxury and practicality by ensuring seamless movement, high-quality spaces, and an enhanced user experience. Through detailed analysis, case studies, and design development, the thesis proposes a hotel that reflects modern hospitality requirements while respecting the character and environment of Bhopal.

ACKNOWLEDGMENT

I would like to express my sincere gratitude to all those who have contributed to the successful completion of my thesis titled ***"5-Star Hotel, Bhopal, Madhya Pradesh"***

I am deeply indebted to my thesis guide, ***Dr. Vinay Mohan Das****, for their invaluable guidance, insightful feedback, and continuous supervision throughout the course of this study. Their expertise and constructive suggestions greatly strengthened the academic and design quality of this work.*

I extend my sincere thanks to the ***Head of Department*** *and all faculty members of the* ***Department of Architecture, MANIT, Bhopal****, for providing the academic support, institutional resources, and professional inputs required for the development of this thesis.*

I also acknowledge the reference materials, case studies, and professional insights that informed the research, planning, and design components of this project. Their contribution has been instrumental in shaping a comprehensive understanding of five-star hotel design and hospitality standards.

I am grateful to the institution for offering a conducive academic environment, research facilities, and technical support that enabled the successful completion of this work.

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CHAPTER 1 - DESIGN BRIEF

1.1 INTRODUCTION

The proposed redevelopment of the Lakeview Residency Hotel in Bhopal represents a major step toward modernizing the hospitality infrastructure of Madhya Pradesh. The project is led by the Madhya Pradesh Hotel Corporation Limited (MPHCL), a 100% subsidiary of MPSTDC, under a Design, Build, Finance, Operate, Transfer (DBFOT) model. This model allows the government to partner with private developers who bring technical expertise, architectural innovation, financial investment, and operational capabilities to transform the site into a high-end, world-class hotel facility. The concession period of 60 years, extendable by 10 years, ensures long-term stability and viability for the investor.

The site itself is located in the prestigious Shyamala Hills area, one of the most scenic and culturally rich localities in Bhopal. The site overlooks the Upper Lake, a Ramsar-designated wetland, which adds ecological and aesthetic importance to the project. The lakefront environment offers unmatched views and becomes a natural attraction for tourists. The connectivity of the site further strengthens its feasibility: the 24-meter-wide VIP Road links it directly to Raja Bhoj Airport, major museums, Van Vihar National Park, shopping districts, and heritage institutions.

The existing property consists of 42 rooms, dining areas, a pool, spa, and open spaces. However, these facilities have aged and no longer meet the standards expected by modern guests or international travelers. The redevelopment will include demolishing the existing structures and rebuilding a state-of-the-art, 5-star hotel that aligns with Ministry of Tourism guidelines.

In summary, the introduction emphasizes the combination of a strategic location, strong tourism potential, PPP development structure, and existing site attributes. These factors together highlight the importance and timeliness of redeveloping the Lakeview Residency into a top-tier luxury hotel that enhances Bhopal’s hospitality profile and contributes to tourism-driven economic growth.

1.2 JUSTIFICATION

The justification for redevelopment rests on several strong social, economic, and strategic reasons. Firstly, tourism in Madhya Pradesh has seen significant growth due to its cultural diversity, natural reserves, and heritage sites. Bhopal, the state capital, receives a steady influx of domestic and international tourists throughout the year. However, despite this demand, there remains a shortage of premium hospitality options. This creates a clear market gap that this redevelopment project can address. By upgrading the existing hotel into a luxury 5-star facility, the region can attract high-value tourists, conferences, corporate events, and international delegations who seek premium accommodation.

Secondly, the site's strategic position along the Upper Lake adds immense value. Few hotels in India offer waterfront views in close proximity to cultural and natural attractions. The scenic potential of the site is currently underutilized due to outdated infrastructure. Redeveloping the hotel will maximize the lakefront experience, promote waterfront tourism, and create a landmark destination in Bhopal.

Thirdly, the project aligns with public–private partnership goals. Under the DBFOT model, the private developer invests in design, construction, and operation, significantly reducing the financial burden on the government while ensuring high standards of service and maintenance. Such partnerships stimulate economic growth, generate employment, and support sustainable tourism development. This approach is especially valuable for states like Madhya Pradesh, where tourism is a key contributor to economic development.

Finally, the redevelopment enhances Bhopal's competitiveness against other emerging cities. Competing cities like Indore and Nagpur have invested heavily in hospitality infrastructure. A modern 5-star hotel positions Bhopal strongly on the national tourism and business map. Thus, the justification serves to establish the economic, strategic, and developmental importance of this large-scale project.

1.3 PROBLEM IDENTIFICATION

The existing Lakeview Residency Hotel faces several critical issues that necessitate redevelopment. The most significant problem is the outdated infrastructure. Built many years ago, the current building and facilities lack modern technology, design efficiency, and luxury amenities expected in contemporary 5-star hotels. Problems such as limited room capacity, old mechanical systems, insufficient safety standards, and worn-out interiors make the property less appealing to premium tourists and business travelers.

Another major issue is the underutilization of its prime location. Despite being located along the Upper Lake, the hotel has not been optimized to take advantage of scenic views, tourism opportunities, and its potential as a waterfront destination. The layout, orientation, and architectural design do not maximize natural light, lakefront access, or landscape integration. A complete redesign can unlock the site's true economic and experiential potential.

The competitive environment of Bhopal also highlights the problem. Newer hotels such as Taj Lakefront and Jehan Numa Palace offer superior amenities and luxury experiences. The existing hotel cannot compete in this environment, leading to loss of occupancy and revenue. Without modernization, the hotel risks being overshadowed completely by other premium establishments.

Additionally, operational inefficiencies exist due to poorly designed service cores, inadequate back-of-house facilities, and limited capacity for hosting large conferences or events—an essential requirement for urban 5-star hotels. The hotel cannot serve the growing MICE (Meetings, Incentives, Conferences, Exhibitions) market, which is a major revenue generator for the hospitality sector.

1.4 AIM

The primary aim of this project is to redevelop the Lakeview Residency Hotel into a world-class 5-star hospitality destination that meets national and international standards. The project aims to transform the site into a premier luxury hotel that elevates Bhopal’s status as a tourism and business hub. This transformation will involve designing, constructing, and operating a modern facility equipped with state-of-the-art amenities, environmentally sustainable technologies, and aesthetically appealing architectural elements.

Another major aim is to enhance the tourism appeal of Bhopal by creating a landmark property that complements the city’s cultural, historical, and natural attributes. By offering high-quality accommodations and services, the hotel aims to attract elite tourists,

international visitors, corporate travelers, and event organizers. This will contribute significantly to the local economy through employment, business opportunities, and increased tourist spending.

Additionally, the aim includes ensuring long-term financial sustainability. The DBFOT model encourages private investments while establishing revenue-sharing mechanisms that benefit the state. Over the concession period, the hotel should generate consistent revenue while maintaining high service standards.

Environmental sustainability is also central to the aim. The redevelopment must incorporate eco-friendly technologies, energy-efficient building systems, climate-responsive architecture, and sustainable materials to preserve the delicate lakefront environment.

1.5 OBJECTIVES

The project objectives provide a clear roadmap for achieving the overarching aim of redeveloping the Lakeview Residency into a premium 5-star hotel. One of the core objectives is redevelopment, which involves demolishing outdated structures and constructing a new hotel as per Ministry of Tourism (MOT) 5-star classification standards. This includes creating spacious guest rooms, high-end suites, modern public areas, and cutting-edge service facilities.

Another objective is to achieve hospitality excellence by offering high-quality guest experiences through fine dining restaurants, spa and wellness centers, infinity pools, meeting rooms, and recreational spaces. These amenities are essential for meeting the expectations of national and international travelers.

A key objective is sustainability, focusing on eco-friendly building design, energy-efficient systems, waste management, rainwater harvesting, and compliance with environmental regulations, especially considering the proximity to a Ramsar site. Sustainability ensures long-term operational efficiency and minimal environmental impact.

The project also aims at tourism integration, meaning the hotel should promote Bhopal's heritage, natural beauty, and cultural identity. Through design, branding, and guest experiences, the hotel should act as a gateway to Madhya Pradesh tourism.

Economic viability is another major objective. The project must be financially feasible, generate high occupancy, ensure adequate returns on investment, and contribute revenue to MPHCL through concession fees.

Lastly, the project aims to generate employment, creating hundreds of direct and indirect jobs during construction and operation. This fulfills an important socio-economic role by improving livelihoods and contributing to regional development.

1.6 SCOPE

The scope of the project defines the extent of activities involved in developing and operating the new 5-star hotel. A major component of the scope is the **demolition of existing structures** on the site, making way for a fully redesigned hospitality complex. The developer is responsible for designing and constructing the new hotel in alignment with all applicable guidelines, including building bye-laws, MOT standards, environmental requirements, and local authority regulations.

The scope also includes the development of a comprehensive 5-star facility featuring **guest rooms, fine dining restaurants, banquet halls, meeting rooms, conference centers, wellness areas, swimming pools, landscaping, parking zones, and utility infrastructure**. These elements ensure the hotel caters to a wide range of guests, from tourists to business professionals.

Another important part of the scope is **landscaping**, especially because of the lakefront location. Green buffers, open spaces, and eco-sensitive design features must be incorporated to enhance aesthetics and support environmental sustainability.

The project scope also covers **operations and maintenance** for the entire concession period. This includes housekeeping, facility management, marketing, branding, and guest services. High standards must be maintained throughout the 60-year concession period to ensure safety, comfort, and consistent service quality.

Finally, the scope includes **compliance responsibilities**, such as acquiring approvals, maintaining environmental safeguards, and adhering to safety regulations. The developer must ensure that all project activities meet statutory guidelines to avoid penalties or delays.

1.7 LIMITATIONS

Despite its promising potential, the project also faces several limitations that need careful management. A major limitation is the **concession period obligation**, which binds the developer to a 60-year operational commitment. This long-term obligation requires financial stability, strong management strategies, and the ability to sustain quality over decades.

Another limitation is that **all project costs**, including demolition, construction, and maintenance, must be borne by the concessionaire. This creates financial pressure and demands efficient cost planning and budgeting. Any mismanagement can lead to economic losses or delays.

Compliance with **statutory and environmental regulations** forms another major limitation. Because the hotel is near a Ramsar-protected waterbody, environmental agencies may impose restrictions on construction activities, wastewater discharge, material usage, and landscape design. Non-compliance could result in penalties or even project termination.

The project must also adhere to **revenue-sharing mechanisms**, which means regular financial commitments to MPHCL. If the hotel performs poorly due to market fluctuations or tourism decline, meeting these financial obligations may become challenging.

Another limitation is the requirement to complete development within a **36-month construction period**. Any delays in approvals, supply chain disruptions, or labor shortages can impact timelines and result in penalties.

Finally, the sensitive ecological zone and the heritage surroundings may impose additional design restrictions. The hotel must balance luxury development with environmental protection, making planning and execution more complex.

1.8 PROJECT DETAILS

The project is located at Shyamala Hills, one of the most prestigious localities in Bhopal, offering scenic beauty and excellent connectivity. The site covers 7.16 acres and overlooks the Upper Lake (Bhojtal), a Ramsar-designated wetland of international importance. This ecological setting adds value while also requiring responsible development practices.

The surrounding neighborhood includes major tourist attractions such as the MP Tribal Museum, State Museum, Van Vihar National Park, Sair Sapata, and the lakefront promenade along VIP Road. These attractions ensure a steady flow of tourists and visitors, making the location ideal for a high-end hospitality development.

The project details include important building regulations: a Floor Area Ratio (FAR) of 2, a maximum permissible height of 30 meters, and setback requirements like a 12-meter front offset. The site allows construction of up to three podiums and three basements, providing ample space for parking and back-of-house facilities.

The location is highly accessible, with the Bhopal Junction Railway Station only 6 km away and the Raja Bhoj International Airport about 14 km away. This ensures convenience for domestic and international travelers. The site is also close to commercial hubs like New Market and MP Nagar, which attract business guests, government officials, and corporate travelers.

Existing developments around the site include several hospitality landmarks such as Jehan Numa Palace, Taj Lakefront, and MPT Wind n Waves Cottages. These landmarks indicate strong tourism potential while also creating healthy competition.

FAR	2
Max. Permissible Height	30 meters
Offsets	Front: 12 meters, other side: 7.5 meters
Basement	3
Podiums	3

Sl. No.	Parameters	Details
1.	**Project Title**	**Development, Operation & Maintenance and Management of Lakeview Residency Hotel, Bhopal on Design, Build, Finance, Operate, Transfer (DBFOT) Mode for 60 Years (extendable by a period of 10 years)**
2.	**Project Scope** **(Refer Section 7 for details)**	This RFP is floated for selection of a Concessionaire for **Development, Operation & Maintenance and Management of Lakeview Residency Hotel, Bhopal on Design, Build, Finance, Operate, Transfer (DBFOT) Mode.** The scope of work for the Project entails: ❖ The Concessionaire will be required to undertake demolition of the existing structures/establishment at the Project Site as per Applicable Laws which include all and any environmental laws and regulations, municipal laws, Building Bye Laws and/or Development Control Regulations, as well as any other law applicable or concerning the Project and Project Site. ❖ Development of a minimum 5 star hotel (minimum 150 Rooms), Banquet & Convention facility of 1000 pax and ancillary facilities (only facilities as allowed under the Madhya Pradesh

		Tourism Policy 2025) as per applicable development norms and regulations and in adherence to the standards of Hotel & Restaurant Approval Classification Committee (HRACC), Ministry of Tourism, applicable to a minimum 5 star category hotel facility or above. ❖ Financing for development, operation and maintenance of the Project ❖ Undertake Operation & Maintenance of the Project for the Concession Period and transfer the property on Transfer Date. Transfer Date shall mean the day immediately following the last day of the Concession Period, including any extensions thereto or earlier termination thereof, in accordance with the terms of the Concession Agreement. ❖ Obtaining all requisite approvals as may be required for the demolition, implementation, operation & maintenance of the said Project. ❖ Compliance with all applicable rules, regulations, stipulations and guidelines as applicable and amended from time to time.
3.	**Authority**	**Madhya Pradesh Hotel Corporation Limited (MPHCL)**
4.	**Implementation Format**	Public Private Partnership (PPP)
5.	**Concession Format**	Design-Build-Finance-Operate-Transfer (DBFOT)
6.	**Institutional Structure for Implementation**	The Selected Bidder, shall undertake to incorporate a Special Purpose Vehicle (SPV) (the **"Concessionaire"**), a private limited company as per the Companies Act, 2013, prior to execution of the Concession Agreement that shall be exclusively responsible for the demolition, designing, engineering, financing, procurement, construction, marketing, operation, management and maintenance of the Project under and in accordance with the provisions of the Concession Agreement
7.	**Term of the Agreement (Concession Period)**	The Concession Period shall be 60 (Sixty) Years from the Compliance Date which includes Three Years for demolition, construction/development operations on the Project Site. The Concession Period may be extended by a period of 10 years subject to terms and conditions as stipulated in the Concession Agreement and at the sole discretion of the Authority.

8.	**Minimum Development Obligations (MDOs)**	The Minimum Development Obligation shall include development of a Hotel with minimum 150 Rooms (adhering to the minimum standards of atleast a 5 star category hotel) with Banquet & Convention facility of 1000 pax and all ancillary and incidental amenities pertaining to Rooms, Restaurants, Banquet & Convention within 36 (Thirty Six) months from the Compliance Date as per the specifications provided in the Concession Agreement.
9.	**Consortium**	**Maximum 3 entities** (including the Lead Member) (an entity for this purpose shall mean and include, an individual, sole proprietorship, partnership firm, Limited Liability Partnership or a private or public company)
10.	**Compliance Date**	The date of issuance of Certificate of Compliance after fulfilment of Conditions Precedent by both the Parties, i.e. the Authority and the Concessionaire. Compliance Date shall be achieved within 180 (One Hundred and Eighty) days of date of signing of Agreement, subject to extension as per terms of Article 4 of the Draft Concession Agreement.
11.	**Selection Process (Refer Clause 3.2 for details)**	**A "Single-Stage"** Bidding Process is to be followed for determining the Selected Bidder for the Project: **Step 1 – Qualification** The Bidders are required to meet the Minimum Eligibility Criteria, as set out in Section 2.2 of this RFP document. **Step 2 – Technical Evaluation and Shortlisting** The Bidders will be shortlisted who succeed in Step 1 above to qualify for the Project ("Technically Qualified" Bidder). Only those Bidders which achieve 70 Marks out of 100 will shortlist for Financial Evaluation Step 3. **Step 3 – Financial Proposal Evaluation** Final Selection of the Bidders as Selected Bidder would be confirmed basis the Financial Proposal providing the highest Gross Revenue Share Percentage towards the Project. It is clarified that the Financial Bid of only those Bidders would be opened, who are confirmed to be a Technically Qualified Bidder in Step 2.
12.	**Selection Method**	A Technically Qualified Bidder whose Financial Bid has been opened and ascertained to provide the highest Gross Revenue Share would be selected.
13.	**Financial Covenants**	Non-Refundable Bid Document Fee (Payable online): INR 10,000/-+GST Bid / Proposal Security: INR 3 Crore (Three Crore Rupees

		only) **Performance Security:** ❖ The Successful Bidder will mandatorily furnish the Performance Securities before signing the contract in the manner as mentioned below: ❖ From the date of execution of the Contract till Transfer Date: INR 7.50 crores (Rupees Seven Crores Fifty Lakhs Only) with validity of 6 months beyond the Concession Period ❖ Note: Performance Security of Concession Period shall be renewed and escalated every 5 years based on WPI of every fifth year.
14.	**Estimated capital expenditure (Estimated Project Cost)**	Estimated capital expenditure: INR 150 Crore (Rupees One Hundred and Fifty Crores Only)
15.	**Consideration to Authority**	❖ Annual Concession Fee (the "**ACF**") of INR 3 Crores increasing at a compounding rate of 5% p.a. excluding GST and any other taxes applicable from time to time. Please note, all such taxes shall be paid in addition to (i.e. over and above) the ACF by the selected Bidder to the Authority. The first Annual Concession Fee (ACF) will be due and payable before the time of signing of the Concession Agreement. Subsequent ACF payments shall be made annually, on or before the same date each year, payable as a lump sum to the Authority. ❖ Revenue Share – Percentage of Gross Revenue as quoted by selected bidder excluding GST and any other taxes applicable from time to time (subject to a reserve price of 3% of Gross Revenue for each financial year). Please note, all such taxes shall be paid in addition to (i.e. over and above) the quoted Revenue Share by the selected Bidder to the Authority (subject to a reserve price of 3% of Gross Revenue for each financial year). Revenue Share payments shall be made annually, on or before 30th June of each year. It is clarified that the Revenue Share payments shall be ascertained basis the audited financials

<table>
<tr><td></td><td></td><td>certified by a chartered accountant as per the relevant 'Indian Accounting Standard' and be made annually, on or before 30th June of each year.</td></tr>
<tr><td>16.</td><td>Success Fee</td><td>❖ The selected Bidder shall pay the Success Fee as a percentage of the project cost to the consultant/transaction advisor appointed through "RFP for Appointment of State Level Project Monitoring Unit for Providing Transaction Advisory Services for various tourism infrastructure project being planned under PPP mode and other projects being proposed by Madhya Pradesh Tourism Board" NIT No:5409/2023/Planning/MPTB dated 14.08.2023. In line with the RFP, the Transaction Advisor will receive a success fee as stated below;

<table>
<tr><th>Project Cost</th><th>Percentage</th></tr>
<tr><td>For the project cost more than or equal to Rs. 100 Crore</td><td>0.5%
(of the total project cost)</td></tr>
</table>

The selected bidder shall be required to deposit the success fee to the Authority before signing of the Concession Agreement, i.e., within 60 days from date of issue of LOA. The said success fee shall form part of the pre-condition for the signing of the Concession Agreement.
The considered project cost for the purpose of calculation of success fee shall be INR 150 Crores.</td></tr>
</table>

1.8.1 SCOPE OF THE PROJECT

The Concessioning Authority has selected the Concessionaire for development of the Project as per the Scope of the Project as outlined below. The Concessionaire shall develop, operate, maintain and manage the Project, in accordance with the provisions of this Concession Agreement

The Scope of the Project (the "Scope of the Project") shall mean as specified in Schedule III and shall include during the Concession Period, Development, Operation, Maintenance and Management of the Project during the Concession Period of 60 (Sixty) years (extendable by a period of 10 years at the discretion by the Authority) by undertaking the following activities:

A. To design, finance, construct and develop the Project (inclusive of any demolition activity which may be required to be undertaken on the Project) on the Project Site as set forth in Schedule I, along with the Project Facilities outlined in Schedule II, in adherence with the Specifications and Standards as set forth in Schedule III.
B. Operate and maintain the Project Facilities, within the specified Concession Period and as per the provisions of this Agreement and timely remit the Project Consideration to the Authority.
C. Performance and fulfilment of all other obligations of the Concessionaire in accordance with the Concession Agreement and matters incidental thereto, or necessary for the performance of any or all of the obligations of the Concessionaire under this Concession Agreement.
D. Transfer the Project to the Authority in the 'as is where is and in good condition' basis including movable and immovable assets at the time of handover, upon Termination in accordance with the provisions of this Agreement; and
E. Construct a Hotel with a minimum 150 rooms and Banquet & Convention facility of 1000 pax with MICE facilities
F. The Concession Period shall start from the Compliance Date

Following development activities may also be incorporated in the Project by the Concessionaire:

1. Additional rooms to provide lodging facilities to the guests.
2. Theme Restaurants and Food Joints
3. Convention Centres
4. Facilities in the Hotel for Social and Corporate events including weddings/exhibitions.
5. Facilities in the Hotel to Promote and Market fairs, local cuisine, culture, folk music, dance, costumes, products, art, handicraft and heritage tourism.

6. Food & Beverages (Cafes, Retro Lounges Heritage/Luxury Dining etc)
7. Food Courts and/or Rooftop Restaurant
8. Any other projects as defined in Madhya Pradesh Tourism Policy 2025 as amended from time to time

1.9 METHODOLOGY

The project methodology outlines the structured steps to be followed from concept to completion. It begins with the Preliminary Stage, which involves reviewing tender documents, understanding the site, and conducting stakeholder consultations. This stage establishes clarity on requirements and expectations.

Next is Literature Study, where guidelines from the Ministry of Tourism, local building bye-laws, environmental regulations, and sustainability standards are examined. This helps ensure compliance and informs the design approach.

This is followed by Case Studies of national and international hotels to identify best practices and innovative design solutions. These insights help refine the concept and improve functional planning.

The Site Study stage focuses on analyzing site conditions such as topography, climate, accessibility, surrounding context, vegetation, and existing structures. This ensures the design is context-sensitive and environmentally responsive.

After gathering all data, the Conceptual Planning stage begins. This includes feasibility analysis, space programming, preliminary sketches, and development of conceptual layouts. The conceptual plan is then expanded into a Detailed Design, integrating engineering services such as structural systems, HVAC, electrical design, water management, fire safety systems, and sustainability features.

Once designs are approved, the project moves to the Construction Phase, involving demolition, excavation, foundation work, structural execution, interior finishes, landscape development, MEP installation, and safety inspections.

After construction, Testing and Commissioning ensures that all building systems function correctly, including elevators, HVAC, plumbing, electrical systems, and fire protection. The hotel then undergoes a Soft Launch, followed by a Full Operational Launch after fine-tuning operations.

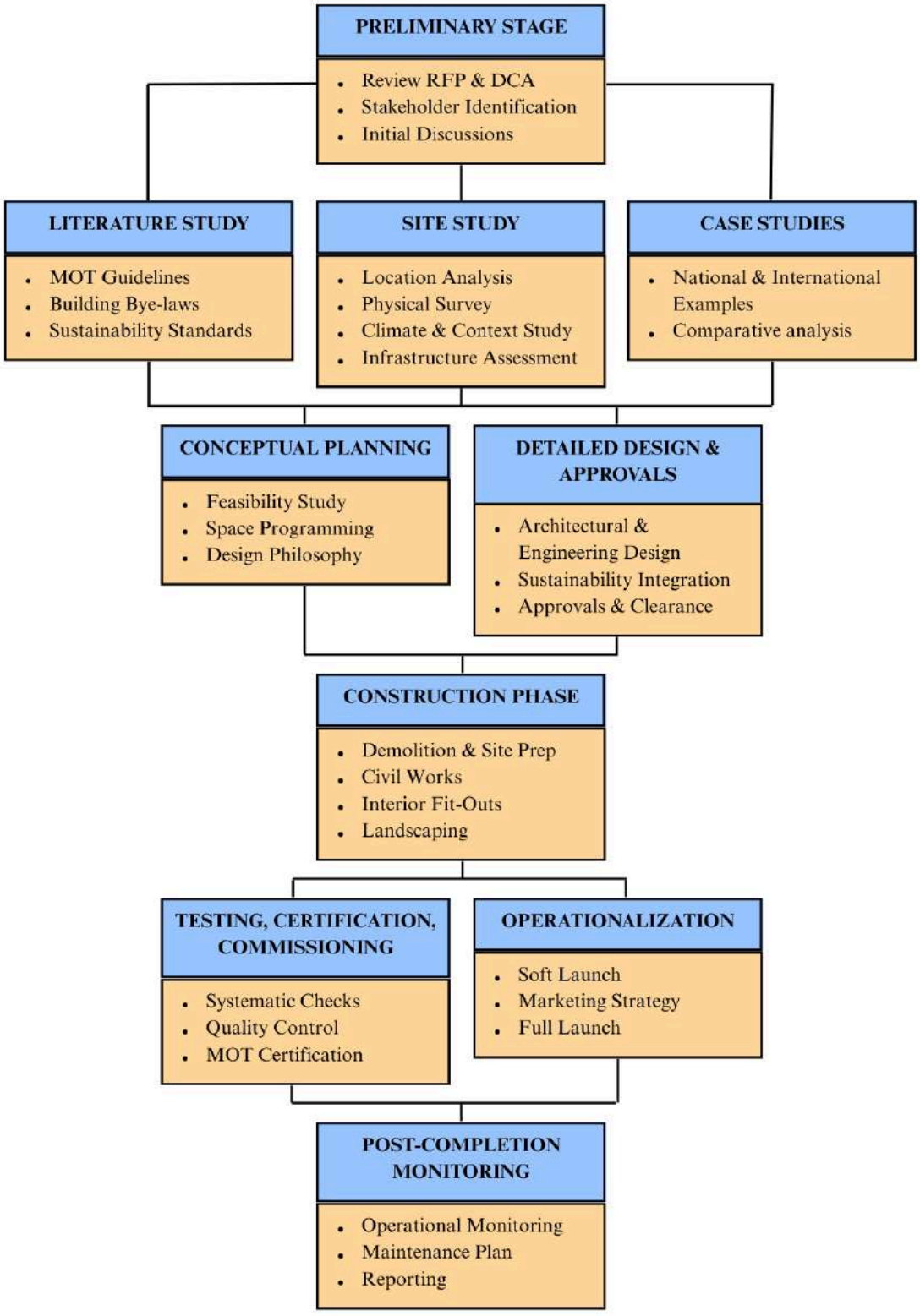

PRELIMINARY STAGE
Review RFP & DCA
Stakeholder Identification
Initial Discussions
LITERATURE STUDY
MOT Guidelines
Building Bye-laws
Sustainability Standards
SITE STUDY
Location Analysis
Physical Survey
Climate & Context Study
Infrastructure Assessment
CASE STUDIES
National & International Examples
Comparative analysis
CONCEPTUAL PLANNING
Feasibility Study
Space Programming
Design Philosophy
DETAILED DESIGN & APPROVALS
Architectural & Engineering Design
Sustainability Integration
Approvals & Clearance
CONSTRUCTION PHASE
Demolition & Site Prep
Civil Works
Interior Fit-Outs
Landscaping
TESTING, CERTIFICATION, COMMISSIONING
Systematic Checks
Quality Control
MOT Certification
OPERATIONALIZATION
Soft Launch
Marketing Strategy
Full Launch
POST-COMPLETION MONITORING
Operational Monitoring
Maintenance Plan
Reporting

Fig: 1

1.10 PROJECT LOCATION AND DETAILS

Name of the Project: Proposed 5-Star Hotel
Location: 69VQ+73Q, Shymala Hills, Bhopal, Madhya Pradesh, 462013
Site Coordinates: Latitude- 23.2430438 Longitude- 77.3876891
Site Area: 7.16 Acres (28,975.5 sqmt)
Project Proposed by: Madhya Pradesh State Tourism Development Corporation Ltd (MPSTDC)
Proximity:

Jehan Numa Palace Hotel: 0.5 km
Taj Lakefront Hotel: 1.5 km
Wind n Waves Lakefront Restaurant: 0.8 km
State Museum & Tribal Museum: 1.5 km
Bharat Bhavan (Arts & Cultural Centre): 2 km
Shaukat Mahal & Sadar Manzil (19th Century Heritage Structures): 4 km
Taj-ul-Masajid (One of the Largest Mosques in India): 6 km
Gohar Mahal (Historic Palace of Bhopal's First Female Ruler): 3.5 km
Moti Masjid
(Architectural Monument Similar to Delhi's Jama Masjid): 4 km
Birla Mandir (Lakshmi Narayan Temple on Hilltop): 3 km
Golghar Cultural Heritage District: 3 km
Van Vihar National Park: 1 km
VIP Road Lakefront Promenade: 1 km
Upper Lake (Bhojtal): Adjacent to the site
Sair Sapata Lakefront Tourism Complex: 2 km
Bhopal Junction Railway Station: 6 km
Raja Bhoj International Airport: 14 km
ISBT Bus Terminal: 8 km
New Market Commercial Area: 3 km

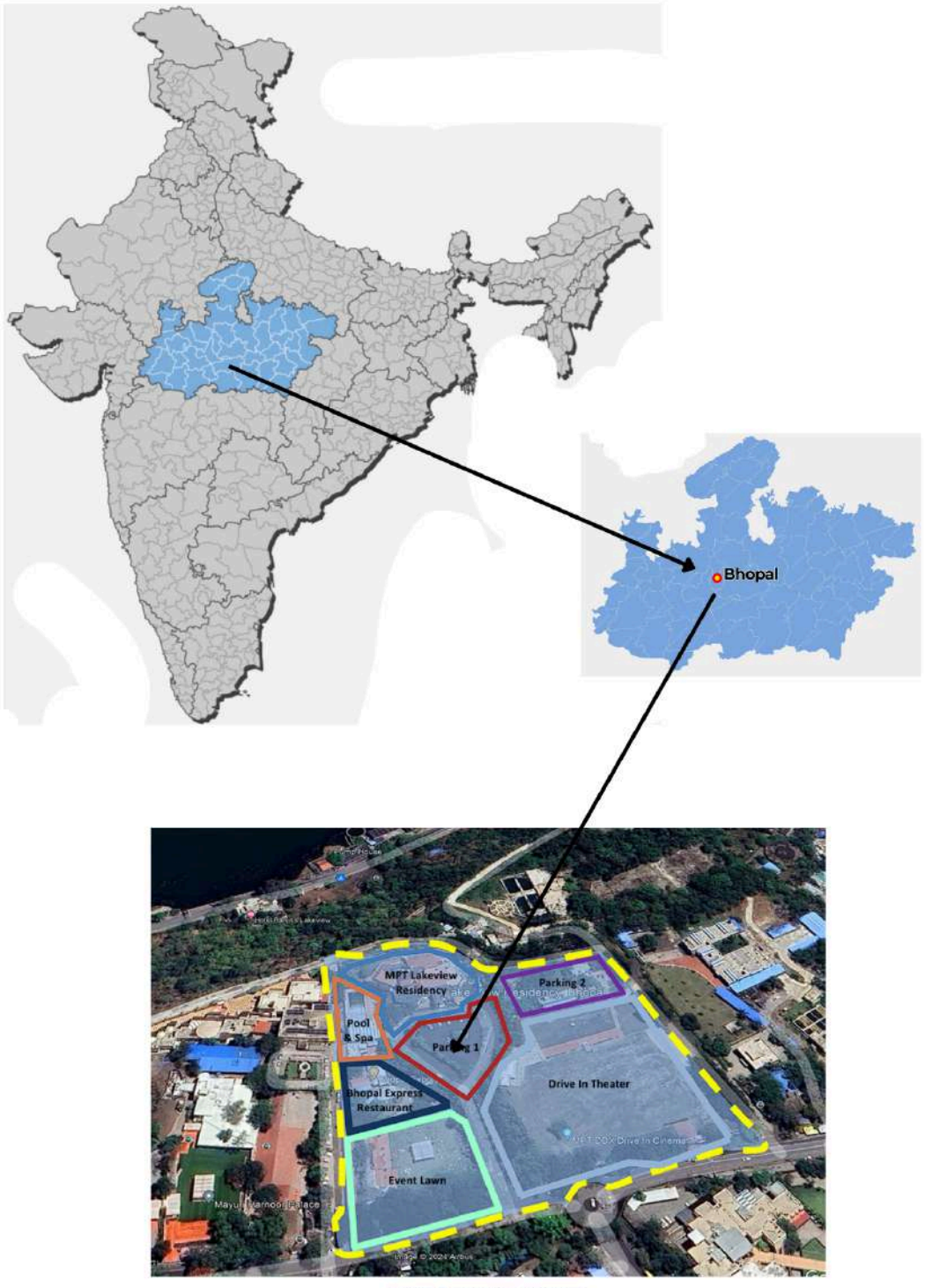

Bhopal
MPT Lakeview Residency
Parking 2
Pool & Spa
Parking 1
Drive In Theater
Bhopal Express Restaurant
Event Lawn
EXISTING SITE

Fig: 2

CHAPTER 2 - LITERATURE STUDY

2.1 MINISTRY OF TOURISM

2.1.1 GUIDELINES FOR APPROVAL OF HOTEL PROJECTS AND STAR CLASSIFICATION OF OPERATIONAL HOTELS

Hotels are an important component of the tourism product. They contribute to the overall tourism experience through the standards of facilities, amenities and services offered by them. With the aim to provide contemporary standards of facilities and services, the Ministry of Tourism has a voluntary scheme for approval of Hotel Projects in the following categories:

- 5- star
- 4- star
- 3- star
- 2- star
- 1- star
- Heritage (basic)

The Ministry of Tourism also has a voluntary scheme for Classification/Reclassification of Operational Hotels in the following categories:

- 5 – Star Deluxe
- 5 – Star with or without alcohol service
- 4 – Star with or without alcohol service
- 3 – Star
- 2 – Star
- 1 – Star

Hotel Projects are approved at the implementation stage. Hotels are classified under the aforementioned categories once they become operational, subject to the hotel applying for such classification and being found fit for classification.

2.1.2 GENERAL TERMS, CONDITIONS & APPLICATION FORMAT FOR APPROVAL OF HOTELS AT THE PROJECT LEVEL

The Ministry of Tourism will approve hotels at project stage based on documentation. Project approval is given for the following categories:

- 5 – Star
- 4 – Star

- 3 – Star
- 2 – Star
- 1 – Star
- Heritage (Basic)

Project approval will be granted for a period of 5 years. However, the Project Approval will cease to be valid 3 months prior to the date of expiry of such approval, or with effect from the date the hotel becomes operational, even if all its rooms are not ready, whichever is earlier. The project approval granted for a period of 5 years may be extended by another one year on genuine grounds or extenuating circumstances, at the discretion of Chairman HRACC. Request for such extension, if any, shall be considered if and only if such request is referred to Chairman HRACC 3 clear months prior to the expiry of the original project approval. A fee equal to the full fee prevalent for project approval for the relevant category will have to be paid by the applicant in case such extension is permitted by Competent Authority. Incomplete applications will not be accepted.

Application Form should have the following details:

1. Proposed name of the Hotel
2. Proposed name of the Hotel
3. Complete postal address of the promoter with Telephone, Fax and Email address.
4. Status of the owner/promoter:
    a) If Public/private limited company, the copies of Memorandum and Articles of Association.
    b) If Partnership, a copy of Partnership Deed and Certificate of Registration
    c) If proprietary concern, name and address of proprietor / Certificate of Registration.
5. Location of hotel site with postal address
6. Details of the site:
    a) Area (in sq. feet)
    b) Title - owned / leased with copies of sale / lease deed.
    c) Copy of Land Use Permit issued by Competent Authority to construct Hotel from local authorities
    d) Distance (in Km) from: (a) Railway station (b) Airport (c) Main Shopping center / water body.
7. Details of the project:
    a) Copy of Feasibility Report
    b) Star category planned

c) Number of rooms (with attached bathrooms) and size for each type of room (in sq. ft)
d) Size of bathrooms (in sq. ft.)
e) Details of public areas with size in sq. ft. - Lobby / Lounge; Restaurants; Bar; Shopping; Banquet / Conference halls; Business centre; Health club; Swimming pool; Parking facilities (no. of vehicles)
f) Facilities for the differently abled guests (room with attached bathroom earmarked for this purpose, designated parking, ramps for free accessibility in public areas and to at least one restaurant, designated toilet (unisex) at the lobby level etc.
g) Eco-friendly Practices
    - Sewage Treatment Plant
    - rain water harvesting
    - waste management
    - pollution control method for air, water and light
    - introduction of non CFC equipment for refrigeration and air conditioning.
h) Energy / water conservation (use of CFL lamps, solar energy, water saving devices/ taps).
i) Details of Fire Fighting Measures / Hydrants etc.
j) Date by which project is expected to be completed and become operational.
k) Any other additional facilities.
l) Security related features.
m) The architecture of the hotel building in hilly and ecologically fragile areas should incorporate creative architecture keeping in mind sustainability and energy efficiency and as far as possible in conformity with local art and architecture with use of local materials

Blue prints/ Building Plans signed by the owner, the architect and approved by the competent authority showing:

1. Site plan
2. Front and side elevation
3. Floor plans for all floors
4. Detail of guest rooms and bath rooms with dimensions in sq. ft.
5. Details of Fire Fighting Measures/ Hydrants etc.
6. Air-conditioning details for guest rooms, public areas

Local approvals by:

1. Municipal Authority
2. Concerned Police Authority

3. Any other local authority as may be applicable / required (viz. Pollution Control Board/ Ministry of Environment & Forests etc.)
4. Approval / NOC from Airports Authority of India for projects located near Airport

PROPOSED CAPITAL STRUCTURE

a) Total project cost
b) Equity component with details of paid up capital
c) Debt - with current and proposed sources of funding

2.1.3 GENERAL TERMS, CONDITIONS & APPLICATION FORMAT FOR CLASSIFICATION/ RE-CLASSIFICATION OF OPERATIONAL HOTELS

With the aim to provide contemporary standards of facilities and services, the Ministry of Tourism has a voluntary scheme for Classification / Reclassification of Operational Hotels in the following categories:

1. 5 – Star Deluxe
2. 5 – Star with alcohol service / without alcohol service
3. 4 – Star with alcohol service / without alcohol service
4. 3 – Star
5. 2 – Star
6. 1 – Star

Application Form should have the following details:

1. Name of the Hotel
2. Complete postal address of the hotel with telephone, fax and Email address
3. Status of the owner / promoter
   a) If Public/Private Limited Company Copy of Memorandum and Articles of Association
   b) If Partnership, a copy of Partnership Deed and Certificate of Registration
   c) If proprietary concern, name and address of proprietor/certificate of registration
4. Date on which the hotel became operational
5. Details of hotel site with postal address and distance (in kms) from
   a) Airport
   b) Railway Station
   c) City centre / downtown/shopping area

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		

A 5 amp earthed power socket	N	N	N	N	N		
A bedside table and drawer	N	N	N	N	N		1 per twin bed and two for a double bed.
TV Cable if available	D	D	N	N	N		TV must have a remote. Exception: for eco and nature resorts TV cable is not mandatory for 3 Star to 5 Star Deluxe category hotels. However, it is mandatory that they provide a television with cable in the lobby or other common area.
A writing surface with sufficient lighting	D	D	N	N	N		
Chairs	N	N	N	N	N		Preferably one per bed
Waste paper basket	N	N	N	N	N		
Opaque curtains or screening at all windows	N	N	N	N	N		All 4 Star, 5 Star, and 5 Star Deluxe hotels shall have blackout curtains
A mirror at least half length (3 ft.)	N	N	N	N	N		
A stationary folder containing stationary	D	D	N	N	N		
A 'do not disturb' notice	N	N	N	N	N		
Night spread / bed cover	N	N	N	N	N		
Energy saving lighting	N	N	N	N	N		
Linen Room	N	N	N	N	N		Should be well ventilated
BATHROOM							
Number of rooms with attached bathrooms	All	All	All	All	All		All bathrooms to have a sanitary bin with lid.
Minimum size of bathroom in square feet	30	30	36	36	45		25% of bathrooms in 1 &2 Star hotels to have western style WC. For hotels built before 1.1.2012, the Minimum bathroom size may be relaxed by 10% (to be rounded off to the next integer) provided the total size of the room and the bathroom taken together are as follows: 1 Star & 2 Star – 150 sq. ft., 3 Star-166 sq. ft., 4 Star – 176 sq. ft., 5 Star & 5 Star Deluxe – 245 sq. ft.

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

							quality control and pre wash area.
Six monthly medical check ups for production staff	N	N	N	N	N		Records to be submitted along with pathological records to HRACC during inspection of the hotel
First aid training for all kitchen staff	N	N	N	N	N		
Pest control	N	N	N	N	N		Record to be shown to the HRACC during inspection of the hotel
STAFF							
Staff uniforms for front of the house.	N	N	N	N	N		Uniforms to be clean and in good condition.
English speaking front office staff	D	D	N	N	N		This may be relaxed outside the metros / sub-metros for 1 Star and 2 Star category hotels.
Percentage of Supervisory staff	20%	20%	40%	40%	80%		Hotels of 4 Star category and above should have qualified Heads of Departments. The supervisory or the skilled staff may have training or skill certification as follows: Degree / Diploma from Central or Star IHMs/ FCIs or from NCHMCT affiliated IHMs or from other reputed Hospitality Schools.
Percentage of skilled staff	20%	20%	30%	30%	60%		The supervisory or the skilled staff may have t raining or skill certification as follows: Degree / Diploma from Central or Star IHMs/ FCIs or from NCHMCT affiliated IHMs or from other reputed Hospitality Schools. Skill training certificate issued under the guidelines and scheme of the Ministry of Tourism
STAFF WELFARE FACILITIES							
Staff Rest Rooms	D	D	N	N	N		Separate for male and female employees, with bunk beds. Rooms should be well lighted and ventilated
Staff locker Rooms	D	D	N	N	N		
Toilet facilities	N	N	N	N	N		Full length mirror, hand dryer with liquid soap dispenser
Separate Dining area & Facility	D	D	N	N	N		

CODE OF CONDUCT FOR SAFE & HONOURABLE TOURISM							
Display of pledge	N	N	N	N	N		Pledge to be displayed prominently in the staff/ back areas / office premises of all the Heads of Departments (HODs)
Training for 'Code of Conduct for safe & Honourable Tourism'	N	N	N	N	N		At time of Joining (orientation programme and subsequent in – house training)
Maintenance of Action Taken Report with regards to compliance of the provisions of the Code.	N	N	N	N	N		Signatories of the 'Code of Conduct' to maintain record of action taken in compliance of the provisions of the code.
Focal points / Nodal officers	N	N	N	N	N		Two nodal officers to be nominated (from HRD and Security side etc.) for hotel with more than 25 personnel and one focal point for hotel with less than 25 personnel.
GUEST SERVICES							
Provision for wheelchair for the differently abled guest	N	N	N	N	N		Wheel chair to be made available on complimentary basis in hotels of all categories.
Valet (parking) services to be available	D	D	N	N	N		
Dry cleaning / laundry	D	D	D	N	N		In house for 5 Star Deluxe hotels. For 5 Star category and below, may be outsourced.
Tea / coffee making facility in the room	D	D	D	N	N		Tea / coffee making facilities in the room to be made available on complimentary basis in all 4 Star, 5 Star and 5 Star Deluxe hotels.
Iron and Iron Board facility	N	N	N	N	N		Each hotel up to the level of 4 star to have a number of irons and ironing board equal to 20% of the number of lettable rooms, to be provided to a resident guest on request. 5 star and 5 star deluxe hotels to have iron and ironing board in every lettable room.
Paid transportation on call	D	D	N	N	N		Guest should be able to travel from hotel
Shoe cleaning shoe horn & slippers	D	D	D	N	N		Free facility to be provided for in house guest
Ice (from drinking water) on demand	D	D	N	N	N		Complimentary on request
Acceptance of common credit cards and facility/ infrastructure for accepting/ making payments by digital transactions	N	N	N	N	N		
Assistance with luggage on request	N	N	N	N	N		

A public telephone on premises. Unit charges made known	D	D	N	N	N		There should be at least one telephone no higher than 24" from floor level in 5 and 5 Star Deluxe (to also cater to differently abled guest)
Wake – up call service on request	N	N	N	N	N		
Messages for guests to be recorded and delivered	N	N	N	N	N		A prominently displayed message board will suffice for 1 & 2 Star Categories
Name address and telephone number of doctors with front desk	N	N	N	N	N		Doctor on call in 3,4,5 & 5 Star Deluxe
Stamps and mailing facilities	D	D	D	D	D		
Newspapers available	D	D	D	N	N		This may be placed in the lounge for 1,2,& 3 Star hotels
Access to travel desk facilities	N	N	N	N	N		This need not be on the premise for 1,2&3 Star categories
Left luggage facilities	D	D	N	N	N		This must be in a well secured room / 24 hours manned area. All 4 Star, 5 Star and 5 Star Deluxe hotels shall provide luggage racks, portable or fixed, for two large suitcases. This will be stated on the hotel's website under the head 'Facilities and Amenities provided on complimentary basis' and mentioned to guest while checking in.
Provision for emergency supplies toiletries / first aid kit	D	D	N	N	N		
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		
Florist	D	D	D	D	D		
Utility shop / kiosk	D	D	D	D	D		The presence of a utility kiosk / shop will not be a mandatory condition for classification under 1 to 5 Star Deluxe categories. NO separate book shop shall be necessary.
Money changing facilities	D	D	D	D	D		Money changing facility to be made available.
SAFETY & SECURITY							
Metal detectors (door frame or hand held)	D	D	N	N	N		
CCTV at strategic location	N	N	N	N	N		

X-Ray Machine	D	D	D	D	N		For 5 Star Deluxe category, it would be 'Necessary' to have an x-ray machine at the guest entrance for screening of baggage Manual check may be conducted for staff and suppliers at designated entry points.
Under belly scanners to screen vehicles.	D	D	D	N	N		
Verification	N	N	N	N	N		All hotels should conduct antecedent verification of their staff and suppliers by the Police / private security.
Staff trained in firefighting Drill	N	N	N	N	N		All hotels to conduct periodic fire drills and maintain 'Manuals' for disaster management, First Aid and Fire Safety
Security arrangements for all hotels entrances.	N	N	N	N	N		
Each bedroom door to be fitted with lock and key, viewport / peephole & internal securing device.	D	D	N	N	N		A safety chain / wishbone latch is acceptable in place of viewport / peephole.
Smoke Detectors	N	N	N	N	N		These can be battery operated.
Fire and Emergency alarms should have visual & audible signals.	N	N	N	N	N		
First aid kit with over the counter medicines at the front desk	N	N	N	N	N		
Fire Exit Signs on guest floors with emergency / backup power.	N	N	N	N	N		
COMMUNICATION FACILITIES							
Telephone facility within arm's reach of the toilet seat	D	D	D	N	N		
Provide at least two multi – purpose sockets	N	N	N	N	N		All Star hotels shall provide at least two multi-purpose sockets capable of handling US, European Community and Japanese plugs at or just above the table level. It should be possible for guest to charge a laptop and cell phone simultaneously. This condition shall be applicable to all new hotels that will start operating from 01.04.2016. For the hotels which have come into operation before 31.03.2016 this parameter will be applicable from 01.04.2022. However, till such time as this facility is

							provided on a permanent basis, it will be mandatory for all Star hotels to provide multi-socket adapter plugs on request.
A telephone for incoming & outgoing calls in the room	D	N	N	N	N		4 star and above should have direct dialing and STD / ISD facilities. 1,2 and 3 Star category hotels may go through a telephone exchange.
PC available for guest use with internet access	D	D	N	N	N		This can be a paid service. Upto 3 Star, PC can be in the executive offices, Internet subject to local access being available.
E-mail service	D	D	N	N	N		Subject to local internet access being available.
Fax, photocopy and printing Services.	N	N	N	N	N		
In room Internet / wi-fi connection	D	D	D	N	N		Subject to local internet access being available. Wi-Fi wherever possible.
Business Centre	D	D	D	N	N		This should be a dedicated area. (This provision may be relaxed for resort destinations, tourist and pilgrimage centers).
Swimming Pool	D	D	D	D	N		This can be relaxed for hill destinations. Mandatory to have trained Life Guard, Board containing Do's and Don'ts, No Diving sign, pool depth etc. should be displayed at a strategic location in the pool area. All 4 Star, 5 Star and 5 Star Deluxe hotels shall provide a luminous LED wall clock with numerals of three inches or more on display near their swimming pools
Parking Facilities	D	D	N	N	N		Should be adequate in relation to the number of rooms & banquet / convention hall capacity. Exclusively earmarked accessible parking nearest to the entrance for differently abled guest.
Conference Facilities.	D	D	D	D	N		
ECO FRIENDLY PRACTICES							
Sewage Treatment Plant	N	N	N	N	N		A Sewage Treatment Plant will not be a mandatory condition for hotels which have obtained completion certificate for construction before 01.04.2012.

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.

Note1.

All hotels should clearly indicate on their websites the facilities and amenities provided to guests "free of cost" like complimentary breakfast (indicating broad classification like Indian breakfast, Continental breakfast or American breakfast), iron and iron board facility, shoe cleaning facility, shoe horn and slippers, other "free" facilities like dental kit, shaving kit etc.

If any facility is provided only 'on request' but is included in the room rent, this should be mentioned on the hotel's website under the head **'Facilities and Amenities Provided on complimentary basis'** and also be mentioned to the guest when the hotel staff introduce the room to him / her on arrival. In case the 'complimentary breakfast' is not a buffet, the guest must be shown a list stating in English the name of all complimentary items.

(All hotels shall submit a compliance of Note 1 in the form of a screen shot of their website showing the "Facilities & Amentias provided on complimentary basis")

Note 2.

It will be mandatory for all the hotels classified under all category to display their classification status prominently on their websites under a separate icon on the opening page, which on the click will display the order of classification issued by the Ministry of Tourism, Government of India, and at the reception.

Note 3.

All the hotels shall be required to submit an affidavit with respect to clearances along with their applications for approval of Hotel at the Project Stage and for Classification / Re-classification of Operational Hotels, as given in **Annexure V and VI respectively**.

Note 4:

a. If any hotel is found to obtain classification on a false pretext or on the basis of misrepresentation of facts, or is found to display wrong classification status, or found to promote / market the hotel on the basis of wrongful claims pertaining to hotel classification, then the unit / hotel will stand declassified with immediate effect and it shall be debarred from applying for classification under any category for a minimum period of two years from the date of debarment by the competent authority i.e. the Chairman, HRACC.

b. If a hotel which has applied for classification under any category to the Ministry of Tourism is found to display false classification status, or found promote / market the hotel on the basis of wrongful claims pertaining to hotel classification, then the application for classification of the unit / hotel will stand summarily rejected and it shall be debarred from applying for classification under any category for a minimum period of two years from the date of debarment by the competent authority i.e. the Chairman, HRACC.

c. In case of debarment, a hotel, which is found to otherwise fulfil to the satisfaction of the inspection committee, all criteria pertaining to the classification parameters of the star / heritage category under which it was found to wrongfully promote itself, will have the one-time opportunity for revocation of the debarment by paying a penalty prescribed below. Such observation of the committee, if any, will

have to be recorded in the inspection marks sheet by the committee. However, if a hotel is found to evoke the grounds for debarment mentioned hereinabove, at any point of time subsequent to the one-time revocation, it shall be declassified (if classified earlier) and debarred from applying for classification under any category for a minimum period of two years from the date of debarment by the competent authority i.e. the Chairman, HRACC.

Amount of Penalty to be paid for one time revocation of debarment:

- 1 Star – Rs. 25,000.00
- 2 Star – Rs. 50,000.00
- 3 Star – Rs. 1.00 lakh
- 4 Star – Rs. 2.00 lakh
- 5 Star & 5 Star Deluxe – 3.00 lakh

Hotels that have been debarred from applying for classification prior to these guidelines coming into force, will also be extended a one-time opportunity for revocation of the debarment by paying a penalty as prescribed above. However, the conditions specified under this Note shall be applicable to such hotels.

d. However, this Note shall not be applicable to hotels that have successfully applied online for "RE-CLASSIFICATION", for the interim period between the date of expiry of the period of the previous classification and date of final decision on their application for re-classification.

2.2 HOTEL LAYOUT AND AREA REQUIREMENTS

- Different types of hotel offer varying standards of quality and facilities. Hotels may be part of a chain or independent. Where hotels do form part of a chain, special design requirements may be imposed. Hotel types include town hotels, holiday hotels, clubs, hotels with apartments and motels.
- Accommodation facilities, including rooms, toilets, bathrooms, shower rooms, etc., hallways and floor service, should occupy 50-60% of the floor area. Public guest rooms, a reception area, hall and lounges require 4-7%, and hospitality areas, restaurants, and bars for guests and visitors 4-8%. A banqueting area with meeting and conference rooms needs 4-12%, domestic areas, kitchens, personnel rooms and stores 9-14%, administration, management and secretarial 1-2%, maintenance and repair 4-7%, and leisure, sport, shops and a hairdressing salon 2-10%.
- Special areas for seminars, health centres and outdoor facilities, for which the space required can vary tremendously, may also be needed.
- National systems of classification, compulsory or voluntary, vary in range of categories and method of designation (letters, figures, stars, crowns etc.). Over 100 classification systems are in use, most based on the World Tourism Organisation (WTO) model but customised to suit local conditions

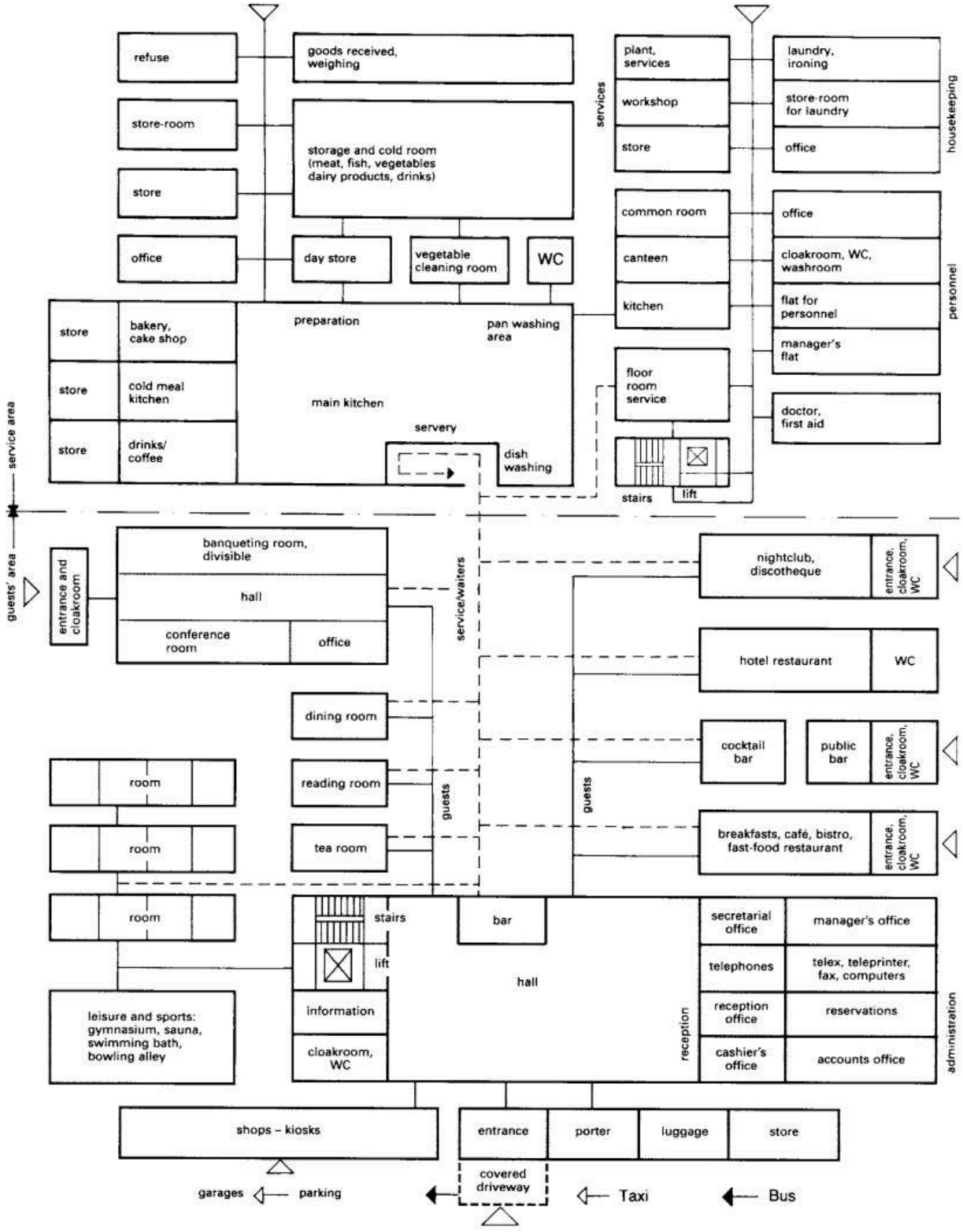


Fig: 3. Typical interrelationships between rooms on hotel ground floor

- Hotels offer different types of accommodation, including bedrooms, suites, self-catering units and apartments using the hotel services. The size and number of beds largely dictates dimensions and layout of rooms, e.g. twin 1 00/200 cm, double 150/200cm, queen-size 165/200cm, or king-size 200/200cm. Rooms may include a sitting area with chairs, a desk, TV, self-service drinks refrigerator and suitcase stand.
- Corridor space should be about 6m2 per room, and normally at least 1.5-1.80m wide. Separate routes should be provided for guests, staff and goods
- There is always movement in and near a hotel. Customers move from parking areas, through the entrance and reception, and then to lifts, staircases or corridors leading to bedrooms or public rooms. In most hotels, customers are not allowed to go from bedrooms directly to the car park without passing through reception. Suitable fire escape routes must be provided to meet legislation. Staff move from staff housing, via their own entrance and changing rooms, to kitchens, service areas, bars, workshops, etc. All deliveries must be taken to the correct department or storage area, perhaps using special lifts. Disposals should be from special roofed-over areas (to limit night-time noise), with a clearance height of 4.35m.
- Hotels usually have a restaurant and/or breakfast area and one or more bars. Hotels with conference facilities may include a multifunctional central hall, meeting rooms, exhibition areas and buffet facilities. Storage for extra furniture and additional parking space may be necessary. Specialist facilities may include audiovisual media rooms, projection equipment, simultaneous translation facilities, copying machines, fax machines and telephone
- Hotels should provide facilities for the handicapped and disabled in at least 1-2% of rooms, preferably on the ground floor, and with the following minimum criteria: ramps 1:20, corridors 915mm wide, doors 815mm clear opening, lobbies 460mm wider than the door on the latch side, closet doors either narrow or sliding, shelves 1.37 m high. Bathrooms: central turning space 1.52m, width 2.75m, vanity tops 860mm high, 685mm knee space, mirrors extending down to 1.0m, compromise toilet seat height usually 430mm. Grab bars are needed on the headwall and sides of the bath and toilet. Standard bedrooms, 3.65m wide, can be adapted to the following criteria: switches l.2m high, space between beds and furniture 910mm, beds 450-500mm high with toe space below. Eye level from a wheelchair is 1.07-1.37 m; dressing tables should allow for this and have 685mm knee space. Low window sills are also preferable

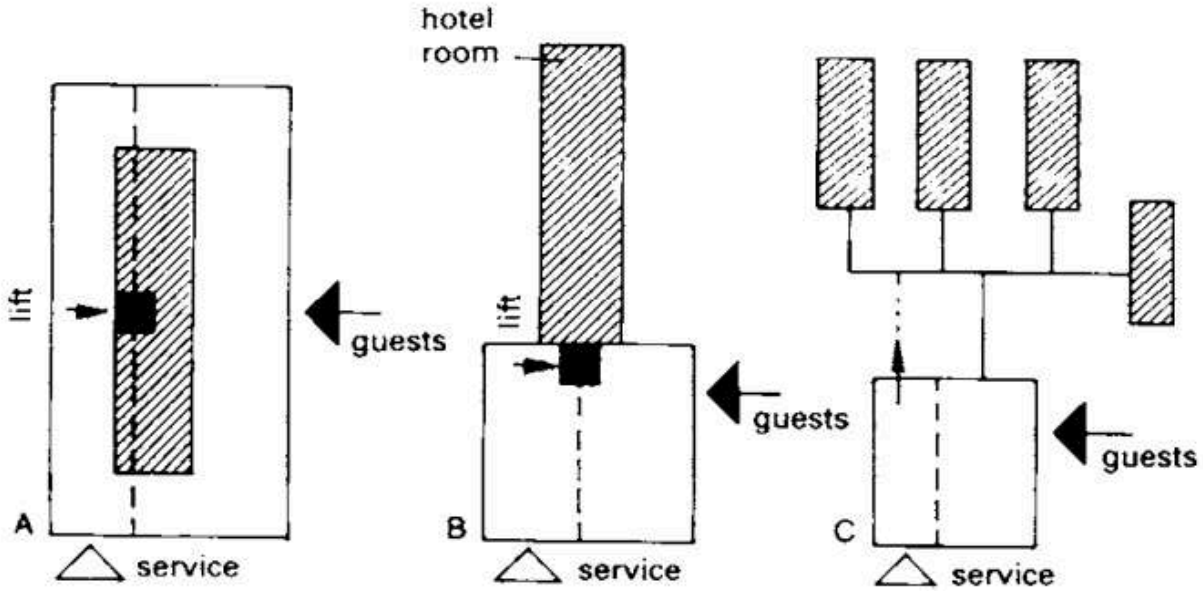


Fig: 4. Relationship between services and guest rooms

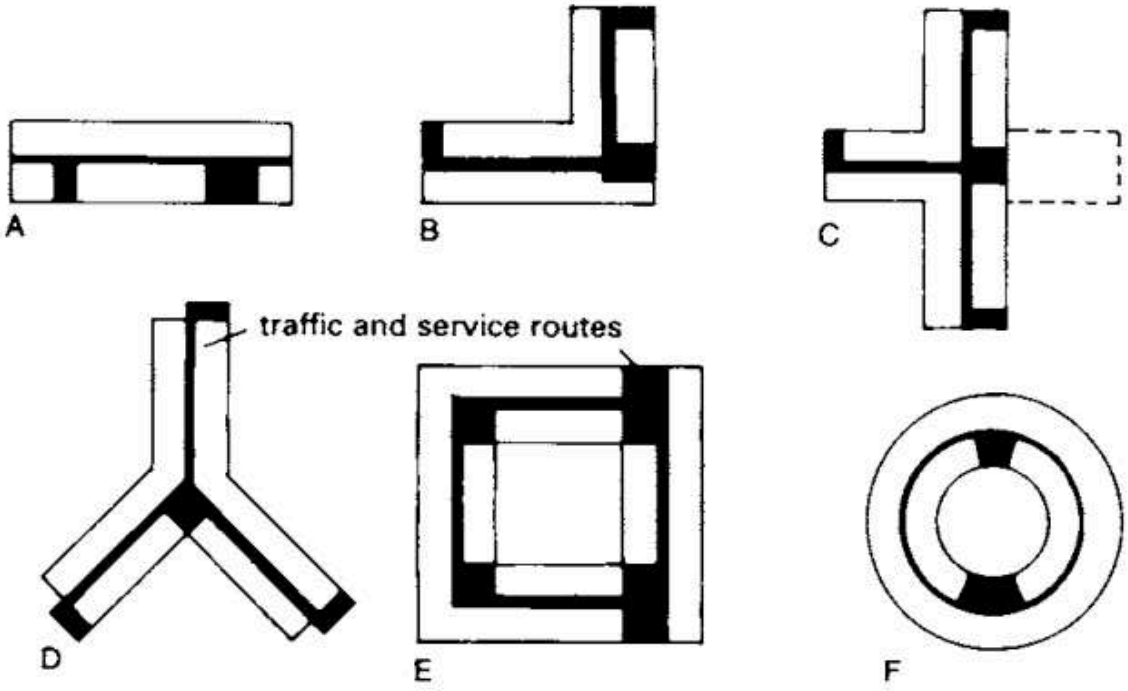


Fig: 5. Plan views of hotels

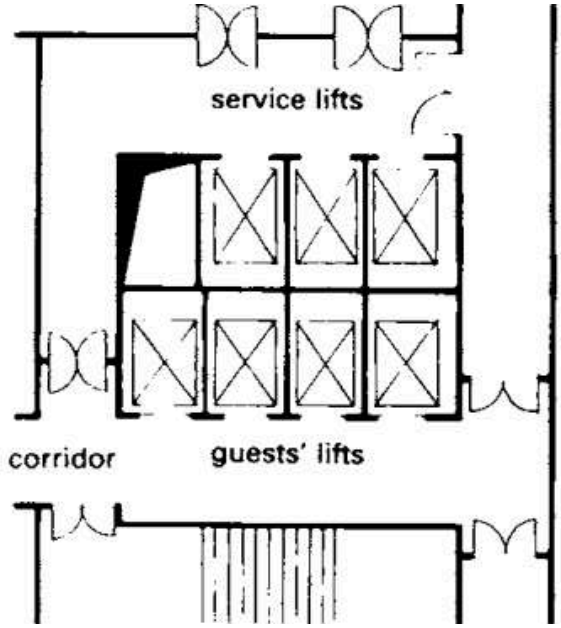


Fig:6. Vertical circulation in hotel

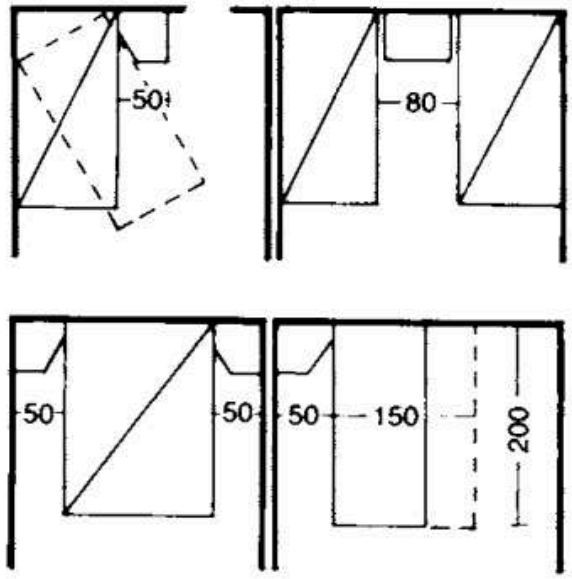


Fig: 7.Minimum spacing between hotel beds

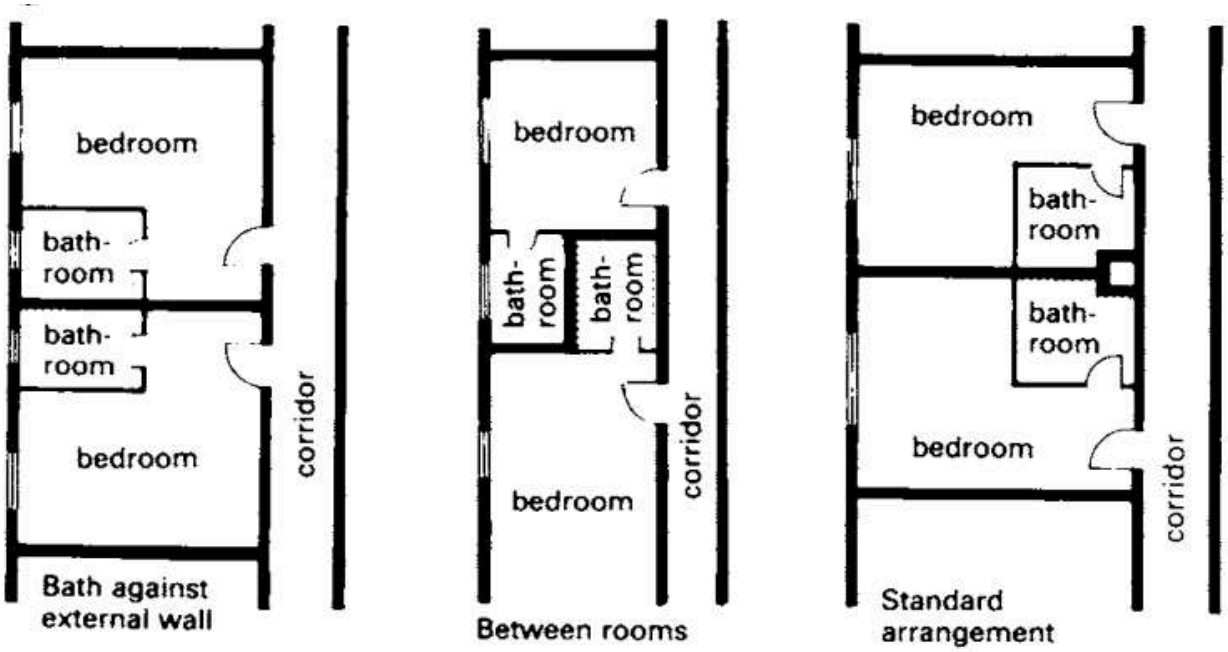


Fig:8. Bathroom arrangement

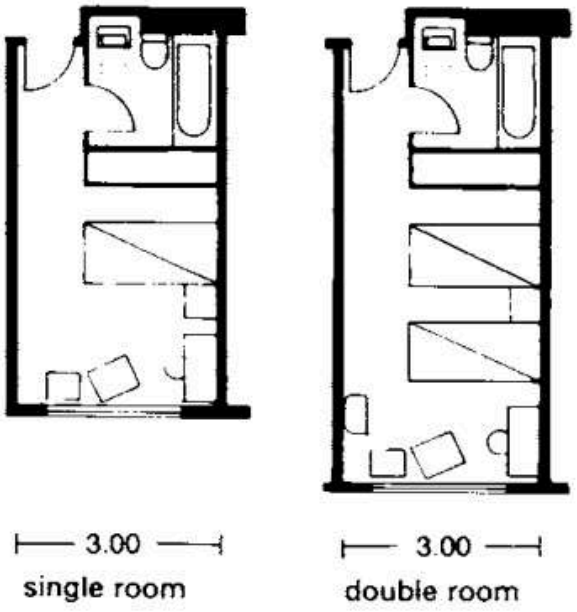


Fig:9. Narrow hotel room

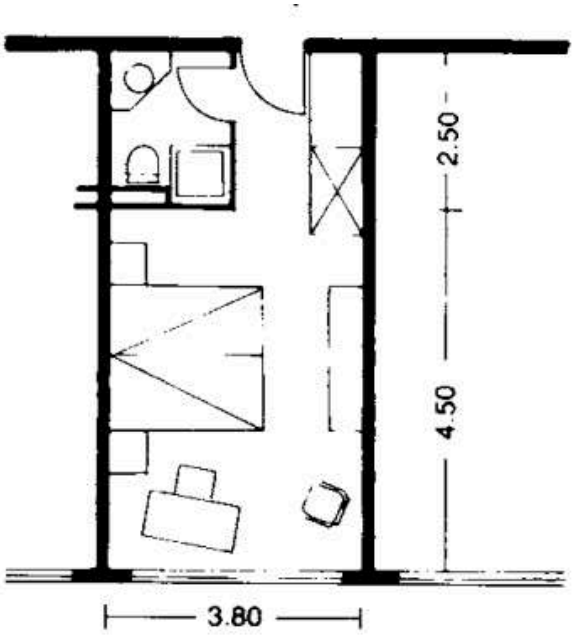


Fig:10. Double bed in economy hotel

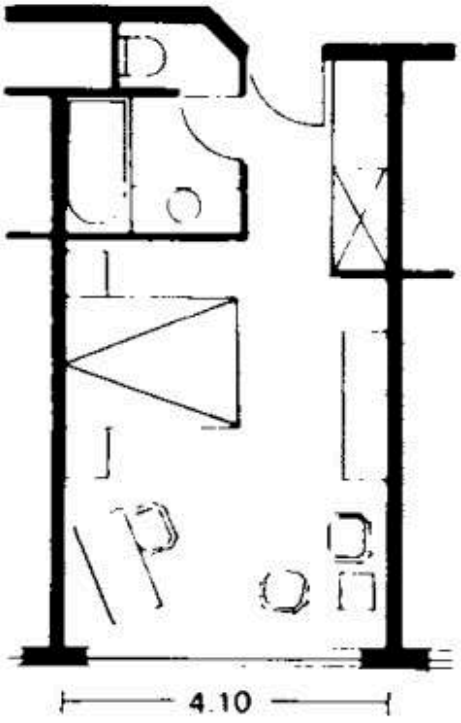


Fig:11. Standard room

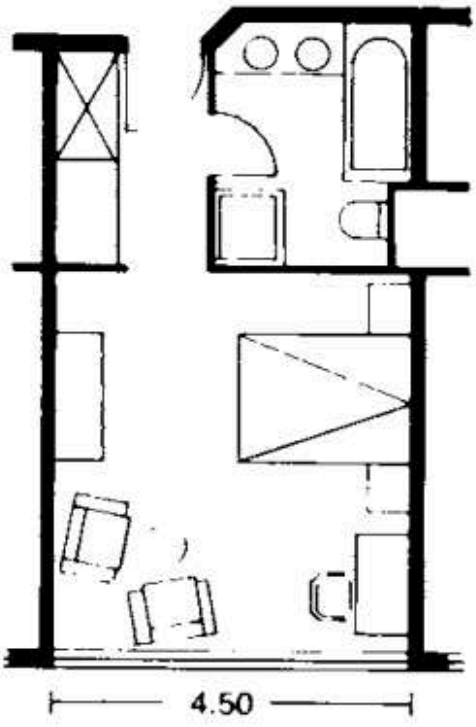


Fig:12. Executive room

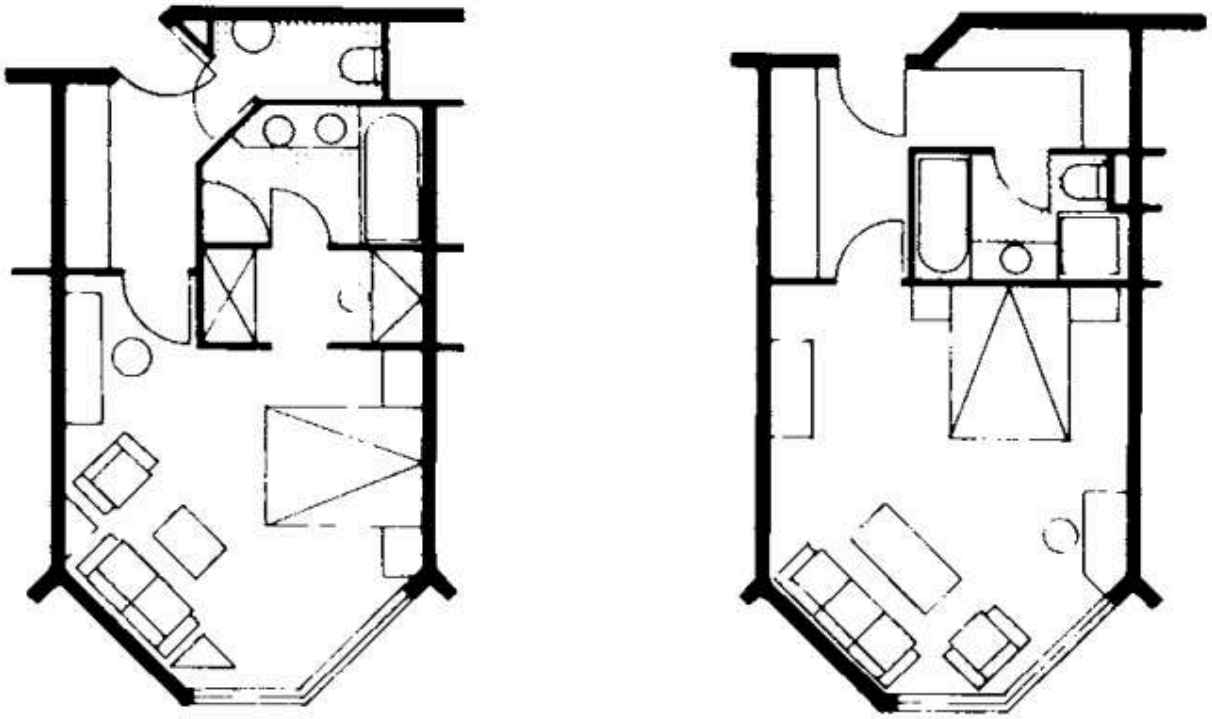


Fig:13. Luxury room

RESTAURANTS CATERING

Care should be exercised when sizing restaurants on the basis of people per square metre since circulation requirements and table layouts, etc., vary considerably. The following table gives some basic guidelines.

hotel size (rooms)	coffee shop, café[a], brasserie (seats)	main or speciality restaurant (seats)	ethnic or gourmet restaurant (seats)
50	50–75	–	–
150	80	60	–
250	100	60	50
space provision/ seat[b]	1.6 m²	2.0 m²	2.0 m²

[a] excluding poolside, café-bar and other club facilities; area also usable for breakfast meals with buffet or table service

[b] the area required per seat, dictated mainly by size and spacing of furniture, proportion of tables seating two persons and arrangements for food service (buffet, table service, etc.)

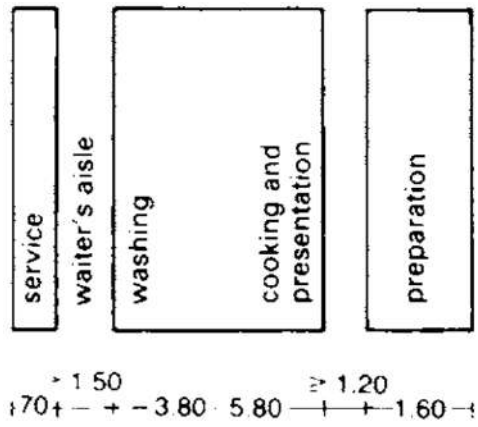


Fig:14. Layout for small business

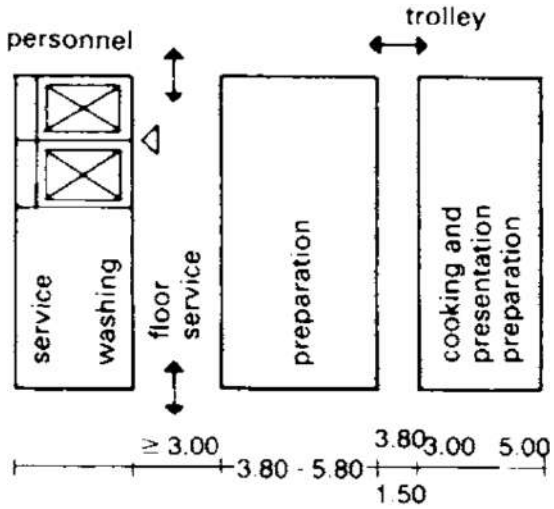


Fig:15. Layout for medium-size large businesses

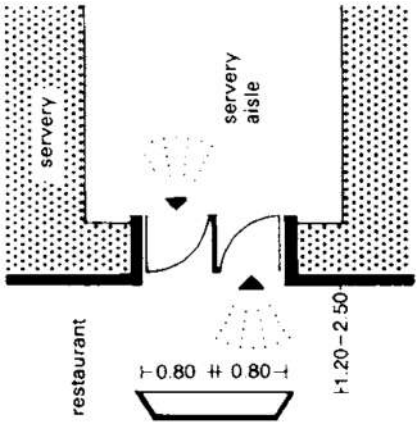


Fig:16. Waiters' door arrangement

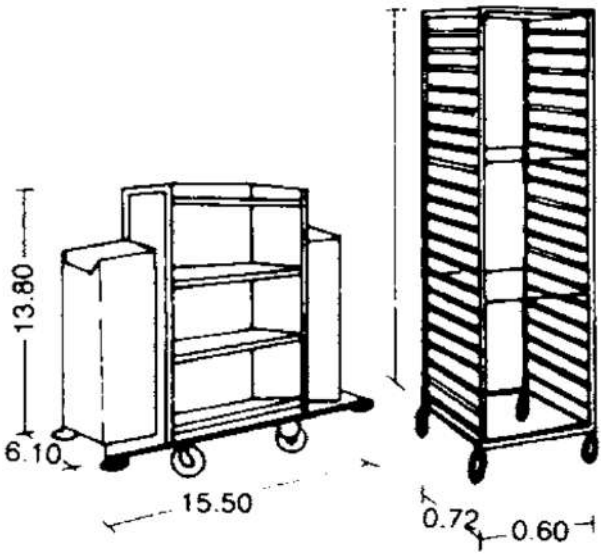


Fig:17. Service and tray trolleys

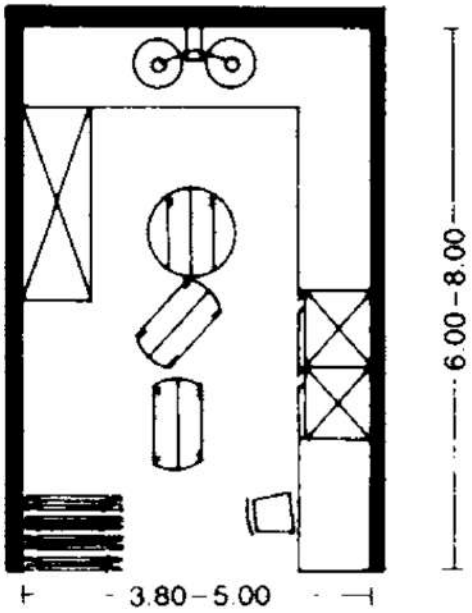


Fig:18. Floor servery

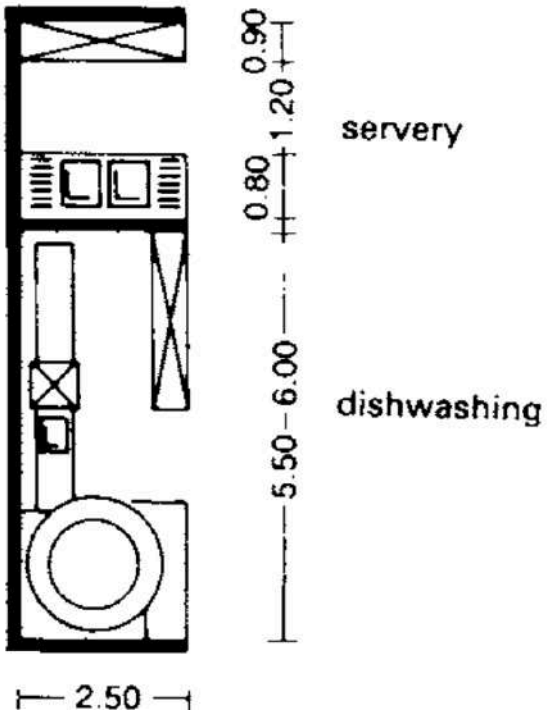


Fig:19. Servery/dishwashing area

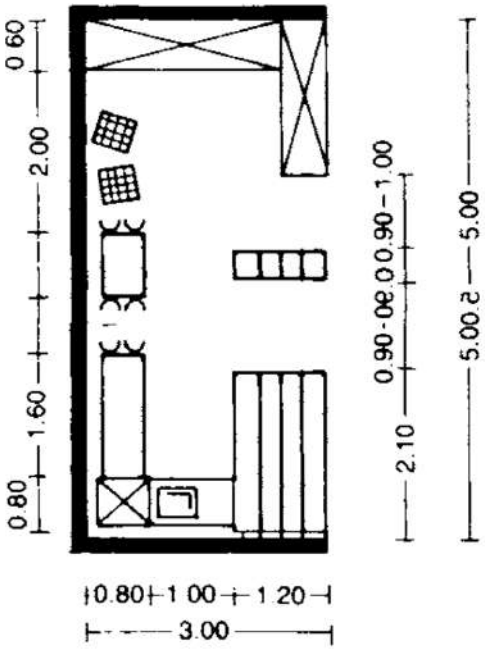


Fig:20. Dishwashing (1-2 people)

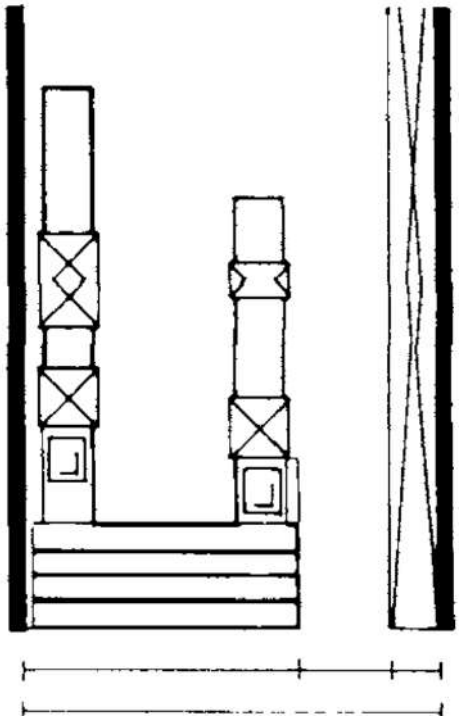


Fig:21. Crockery and glasses

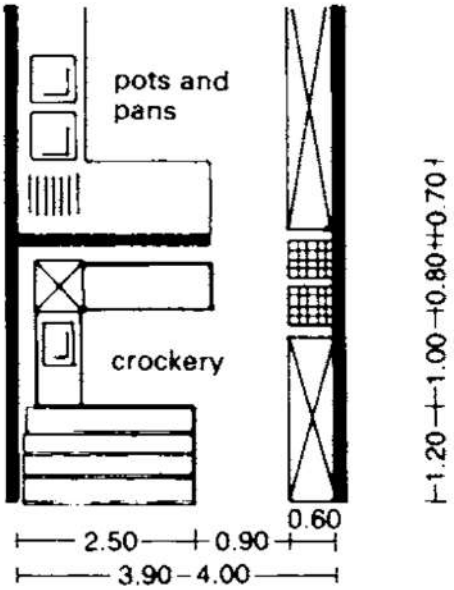


Fig:22. Crockery and pan washing

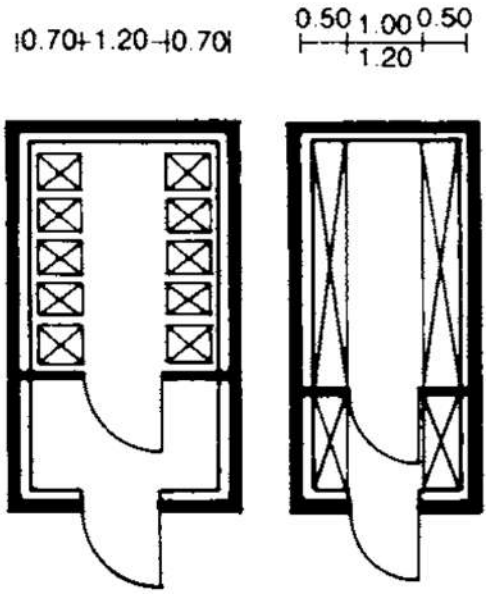


Fig:23. Cold store Shelving Metal

Hotel type	m^2 per room
Standard hotel with large conference room, night club, shops	55–65
City-centre hotel	45–55
Motel	35–45
Holiday hotel	40–55
Low–medium class hotel with separate bathrooms and small range of meals on offer	18–20

Gross areas per room for different types of hotel

Area/department	200 rooms, in suburban setting m2 per room	500 rooms in central location m2 per room
Hotel room	24	26.5
Corridors, lifts, stairs	3.2	9.3
Service	0.6	0.7
Total per room	27.8	36.5
Entrance area including lifts for personnel and service	1.6	1.8
Reception, WC, reservations, telephones, luggage, cloakroom	0.4	0.4
Administration	0.3	0.4
Restaurant	1.1	0.6
Coffee bar	0.6	0.5
Coffee bar	0.6	0.5
Bar 1, plus counter	0.9	0.4
Bar 2, plus counter	0.5	0.3
Lounge	0.5	0.3
Toilets	0.4	0.3
Conference/lecture rooms	1.1	1.3
Ancillary rooms		0.5
Furniture store	0.1	0.2
Private bedrooms and living rooms	0.4	0.9
Shops		0.2
Total entrance/guest area	7.8	8.2
Kitchen, provisions	3.8	2.5
General stores	0.9	0.9
Workshops, maintenance	0.8	0.4
Laundry, linen store	0.3	0.7
Staff dining room, WC, changing rooms	1.0	1.1
Personnel rooms, accounts, supervision, caretaker	0.3	0.5
Circulation areas, service lifts	0.8	0.9
Total rear hotel service area	7.9	7.7
Total area, without heating services or inside/outside parking facilities	43.5	51.7

Area requirement per hotel room

2.2.1 HOTEL KITCHENS

Kitchen size is determined by the number of workstations, the space required for equipment, the range of meals and the extent of food preparation. Therefore the number of covers or number of seats are not adequate guides. The following table provides an approximate basis for initial estimates of space requirements.

area per seat	High-grade hotels (m2)	Mid-grade hotels (m2)	Economy hotels (m2)
main kitchen and stores	1.2	1.0	0.7
satellite kitchen	0.3		
banquet kitchens	0.2		

Kitchen planning requires four stages of development:

- determine a process plan covering all major areas;
- check maximum and minimum personnel needs per area;
- determine the equipment needed for each area;
- space allocation .

List the activities and functions of each of the three main areas: kitchen, stores and service. The central interface between guests. stores and service areas are the waiters' servers. Around this point are grouped the facilities for serving food and drinks as well as for disposal of soiled utensils and waste. Floor service is orientated toward the routes leading to the guests' rooms. However, for maximum efficiency it is important that routes between the kitchen, servery and restaurant are as short as possible.

Hotel food preparation and beverage services fall broadly into three groups.

1. A choice of restaurants and bars, including banqueting areas and room service. This needs a main kitchen and stores area, with satellite kitchens near each restaurant and banqueting room, and service pantries on each guest-room floor.
2. One or two restaurants and function rooms on the same floor. Needs one main kitchen serving restaurants and function rooms directly.
3. Minimal food service in the hotel, but separate restaurant(s) available (for budget hotels and holiday villages). Central vending machines and/or individual cooking facilities may be provided.

Laundry services for a hotel may be provided by:

- linen rental or contracts with outside laundries
- centralised services operated by the hotel group
- hotel-operated laundry on the premises.

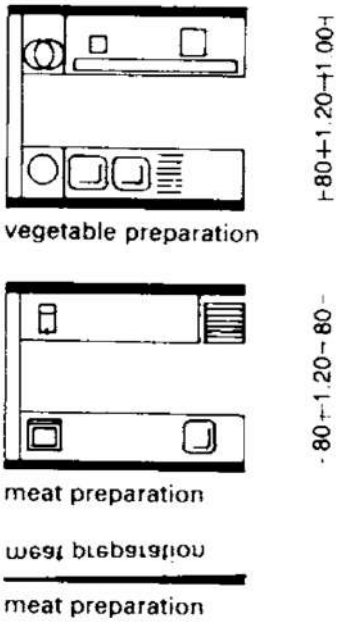


Fig:24. Vegetable/meat preparation

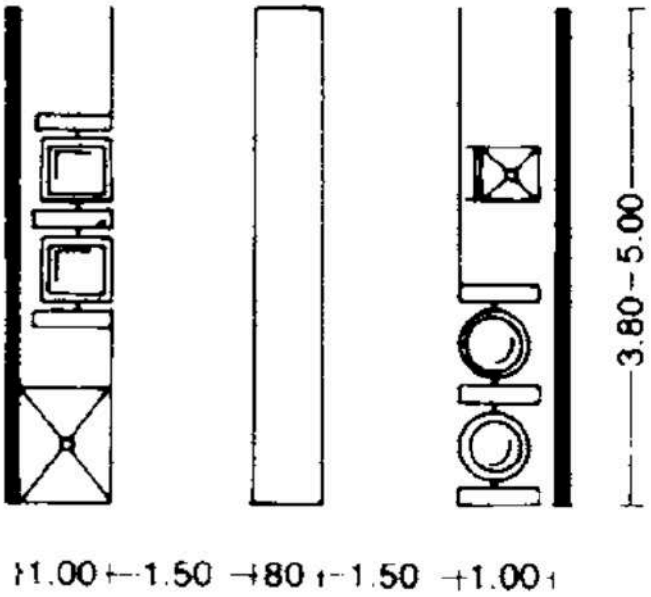


Fig:25. Kitchen for banquets

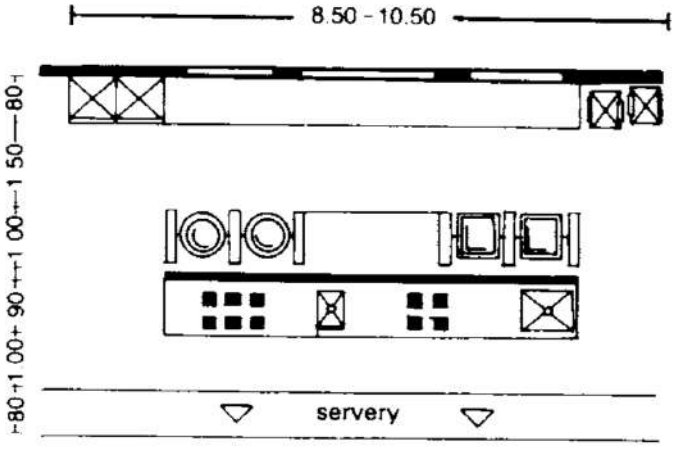


Fig:26. Hot meals kitchen (American line. 1-2 cooks)

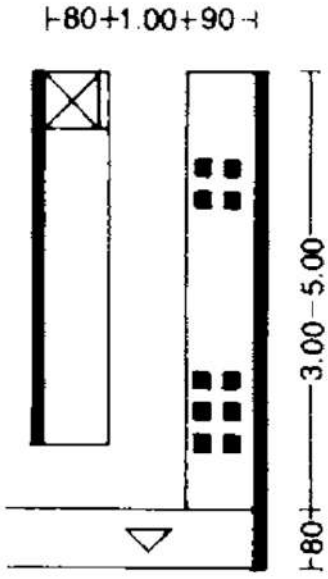
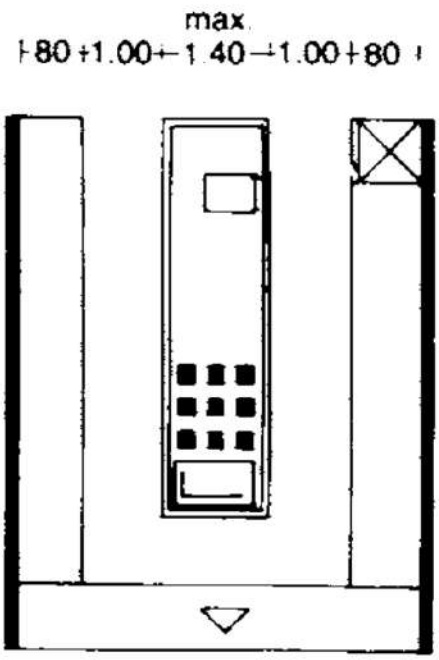


Fig:27. European line (1-2 cooks)



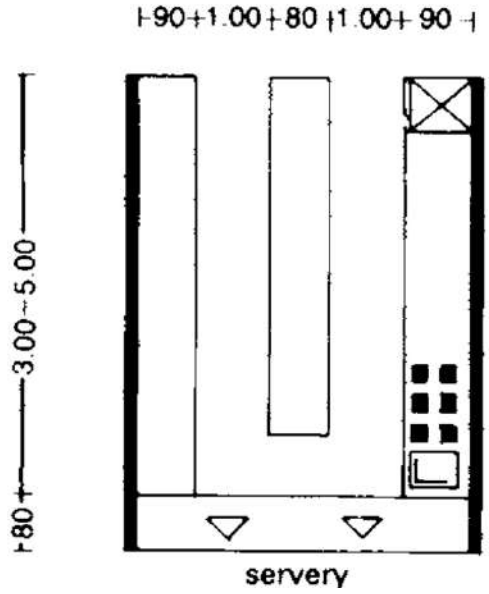
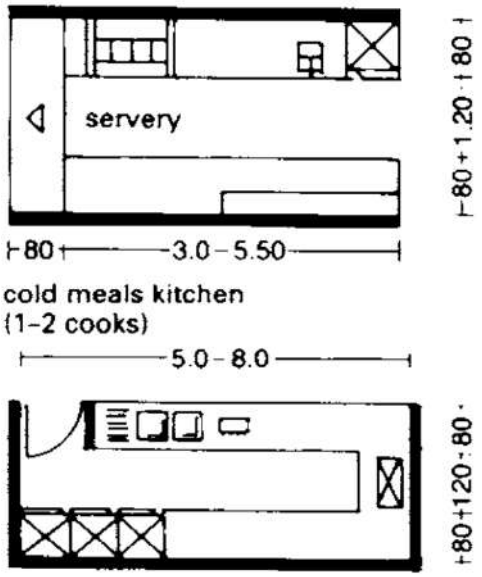


Fig:28. Hot meals kitchen (French arrangement)

Fig:29. Mixed meals kitchen (1-4 cooks)



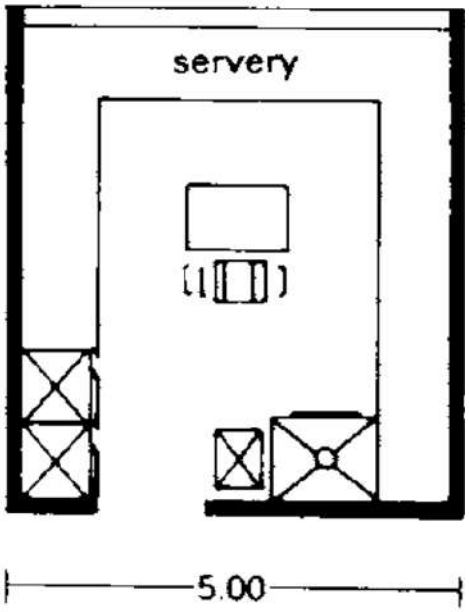


Fig:30. Patisserie (1-3 pastry cooks)

Fig:31. Drinks counter

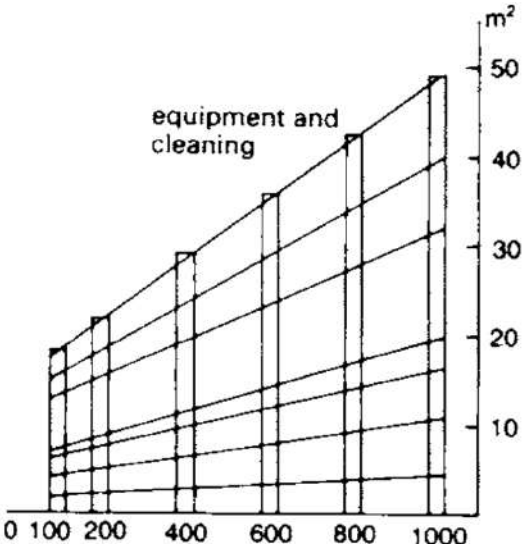


Fig:32. Meals/day: base kitchen size in m 2

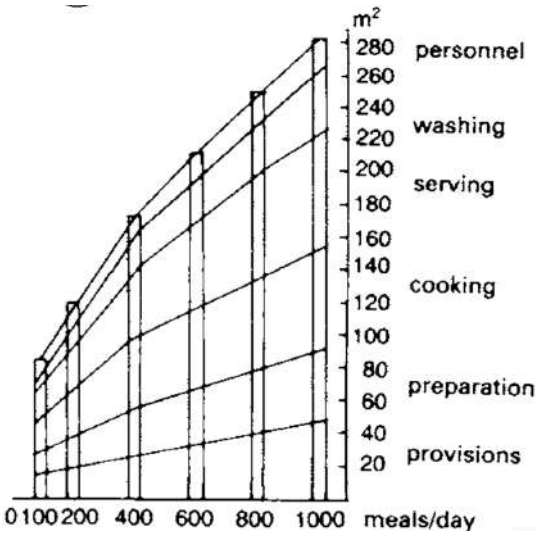


Fig:33. Meals/day: areas for different service types

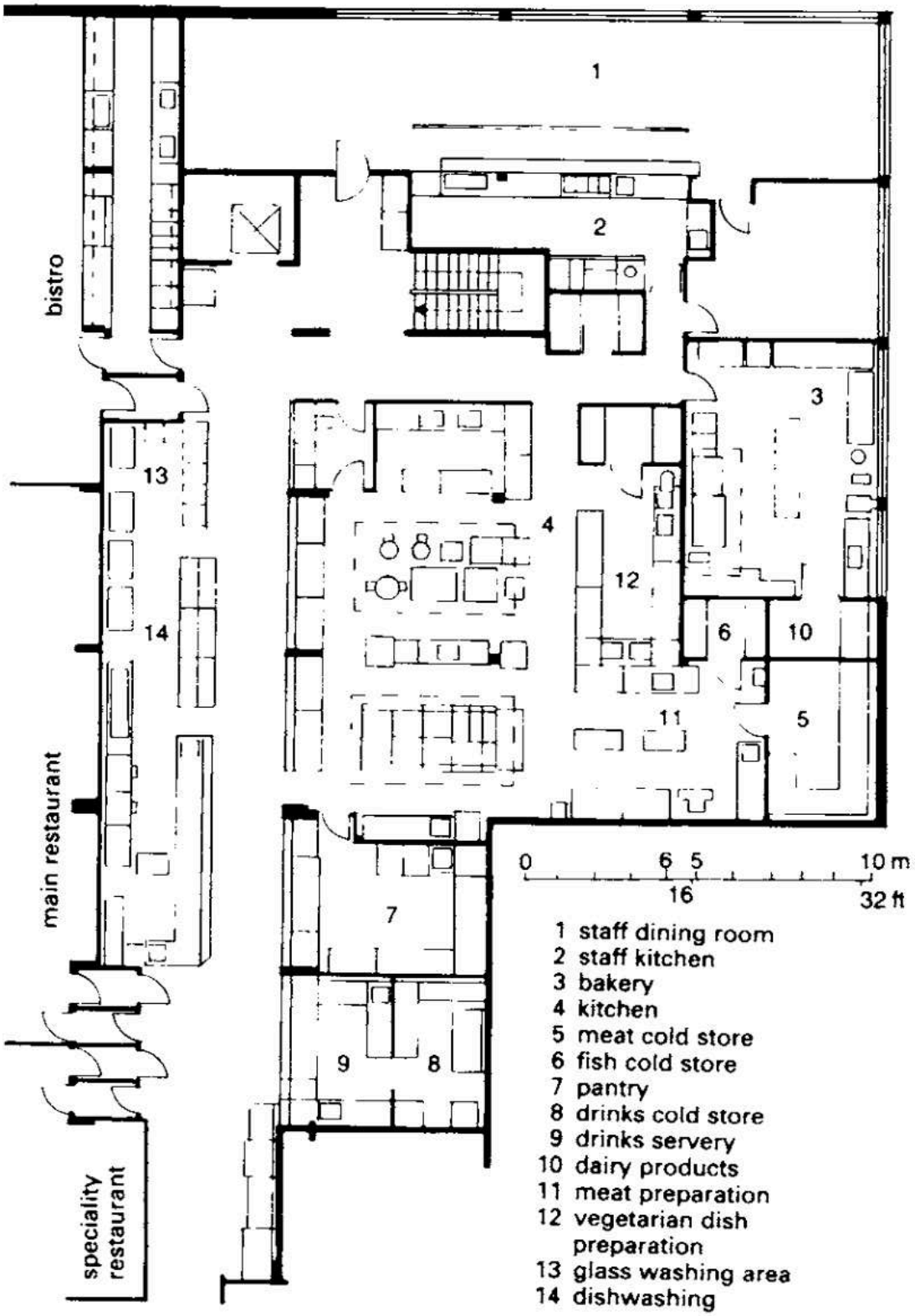


Fig :34. Kitchen for 100 standard meals. 100 speciality meals, 120 bistro covers and 80 staff meals

2.3 RESTAURANTS LAYOUT AND AREA REQUIREMENTS

To be able to eat comfortably, one person requires a table area of around 60cm wide by 40cm deep. This provides sufficient clearance between adjacent diners. Although an additional 20cm of space in the centre for dishes and tureens is sometimes desirable, an overall width of 80-85cm is suitable for a dining table. Round tables, or tables with six or eight sides, with a diameter of 90-120cm are ideal for four people and can also take one or two more diners .

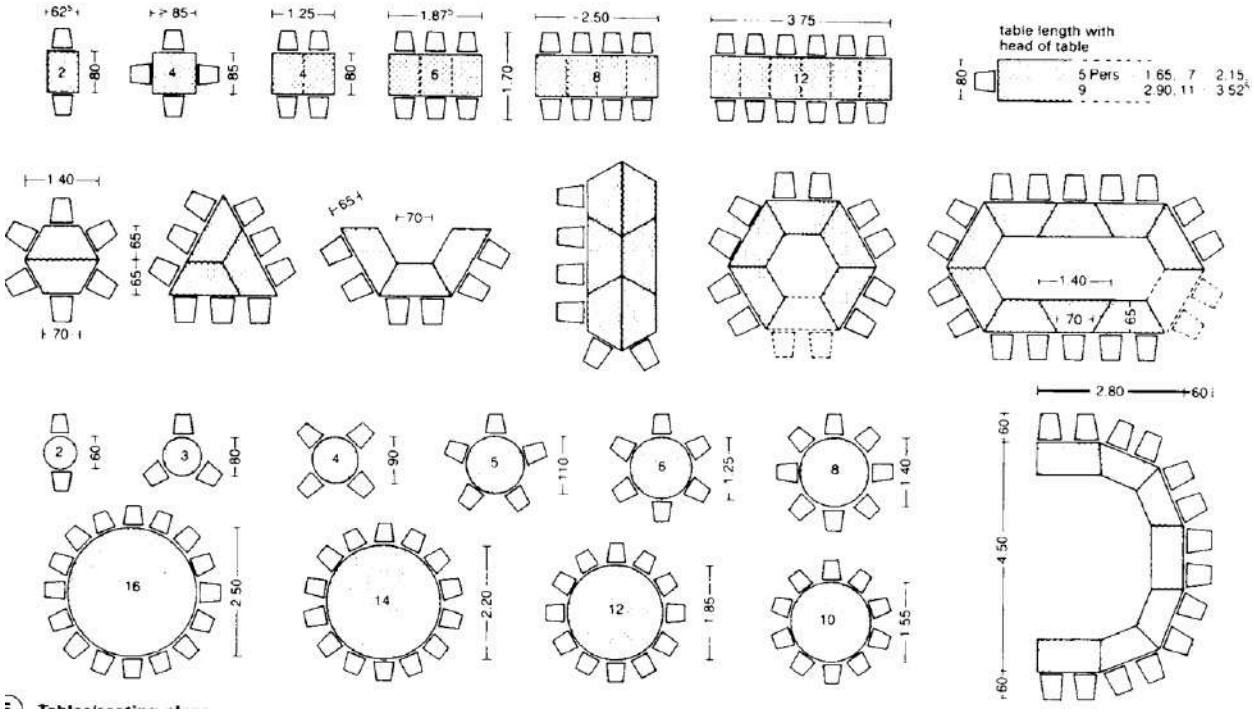
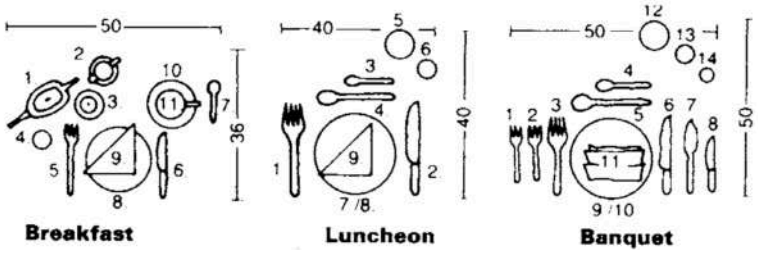


Fig:35. Tables/seating plans



Breakfast setting 1: tea or coffee pot; 2: milk jug; 3: jam or butter dish; 4: sugar basin; 5: fork; 6: knife; 7: teaspoon; 8: plate; 9: serviette; 10: saucer; 11: tea or coffee cup

Simple lunch setting 1: dinner fork; 2: dinner knife; 3: soup spoon; 4: dessert spoon; 5: tumbler; 6: wine glass; 7: soup dish; 8: dinner plate; 9: serviette

Banquet setting 1: entrée fork; 2: fish fork; 3: dinner fork; 4: soup spoon; 5: dessert spoon; 6: dinner knife; 7: fish knife; 8: entrée knife; 9: soup dish; 10: dinner plate; 11: serviette; 12: tumbler; 13: wine glass; 14: liqueurglass

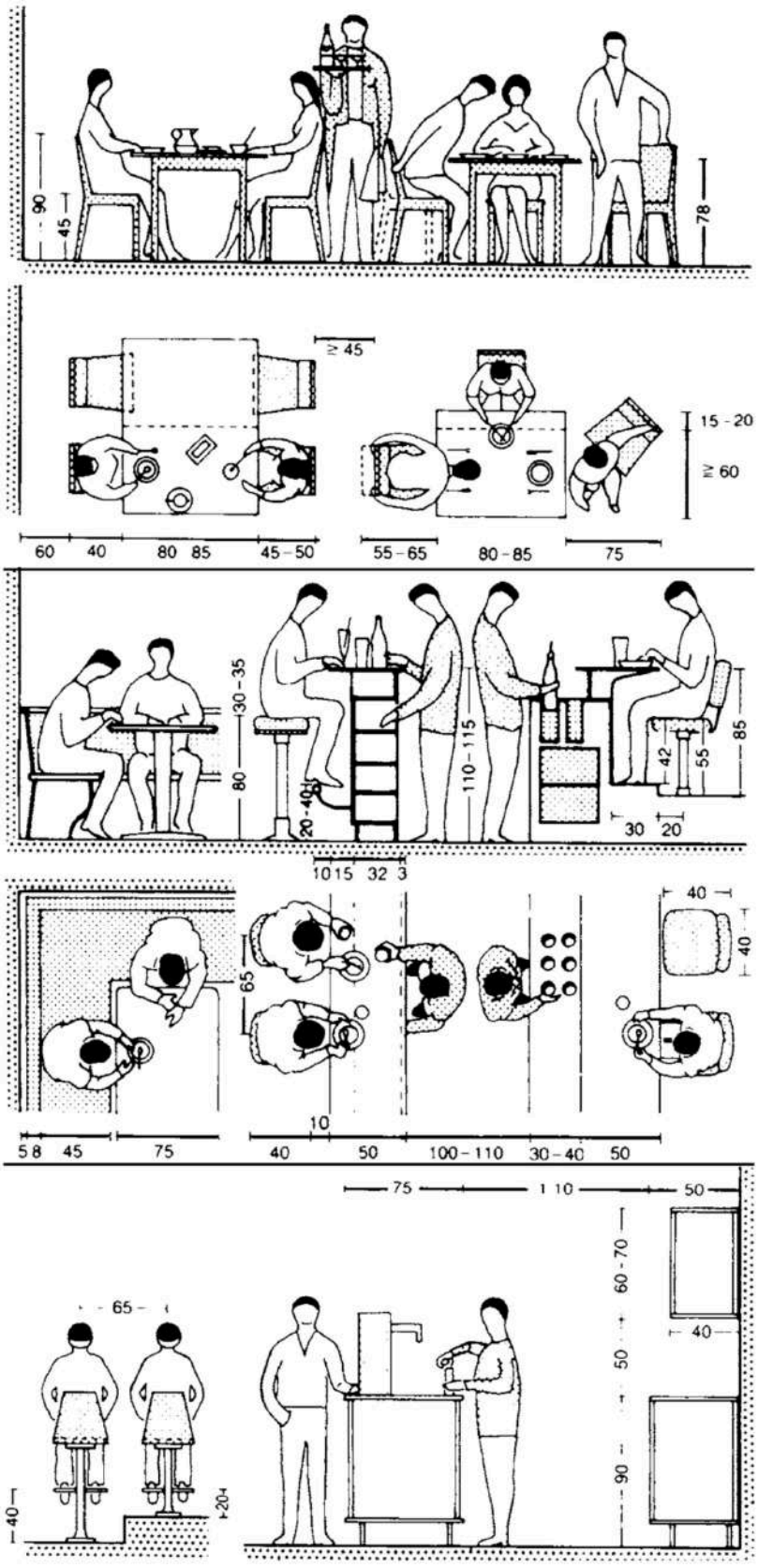


Fig:36. Space requirements for server and diner

2.3.1 RESTAURANT ARRANGEMENTS

Before any restaurant or inn is built, the organisational sequence should be carefully planned. It is essential to establish what meals will be offered, and at what quality and quantity. It is necessary to decide whether it will be a-la-carte with fixed or changing daily menus, plate or table service, self-service or a mixed system. Before deciding on the layout, it is important to know the anticipated numbers and type of clientele and the customer mix. Bring in planning specialists in kitchen and cold store design, as well as in electrical, heating and ventilation systems and washing/toilet facilities.

The position of the site will suggest what type of inn or restaurant is likely to be suitable.

A restaurant is likely to be suitable. The main room of a restaurant is the customers' dining room, and the facilities should correspond with the type of operation. A number of additional tables and chairs should be available for flexible table groupings. If appropriate, provide special tables for regular customers.

Any function or conference rooms should have movable furniture to allow flexibility of use. A food bar may be installed for customers who are in a hurry. Large dining rooms can be divided into zones. The kitchen, storerooms, delivery points, toilets and other service areas should be grouped around the dining room, although toilets can be on another floor

Structural columns in a dining room are best in the middle of a group of tables or at the corner of a table. The ceiling height of a dining room should relate to the floor area: <:50m2, 2.50m; >50m2, 2.75m; >100m2, 23.00m; above or below galleries, 22.50m.

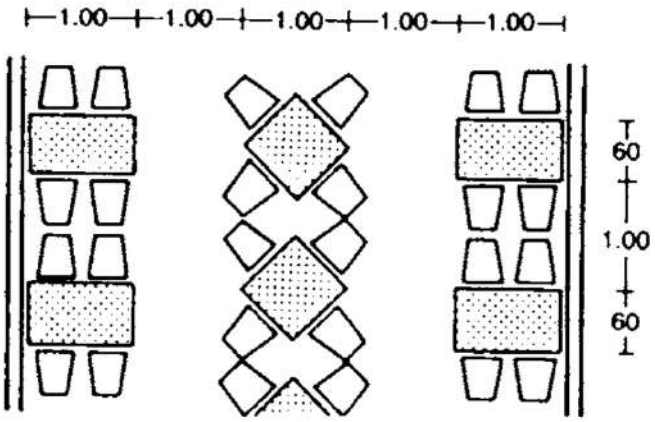


Fig:37. Minimal seating layout arrangement

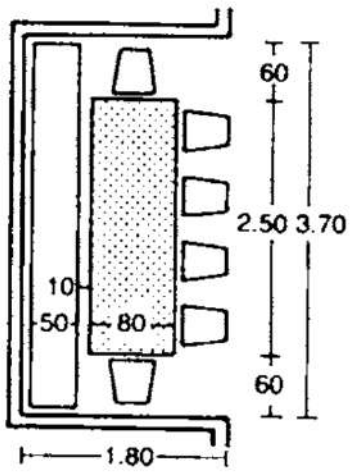


Fig:38. Alcoves

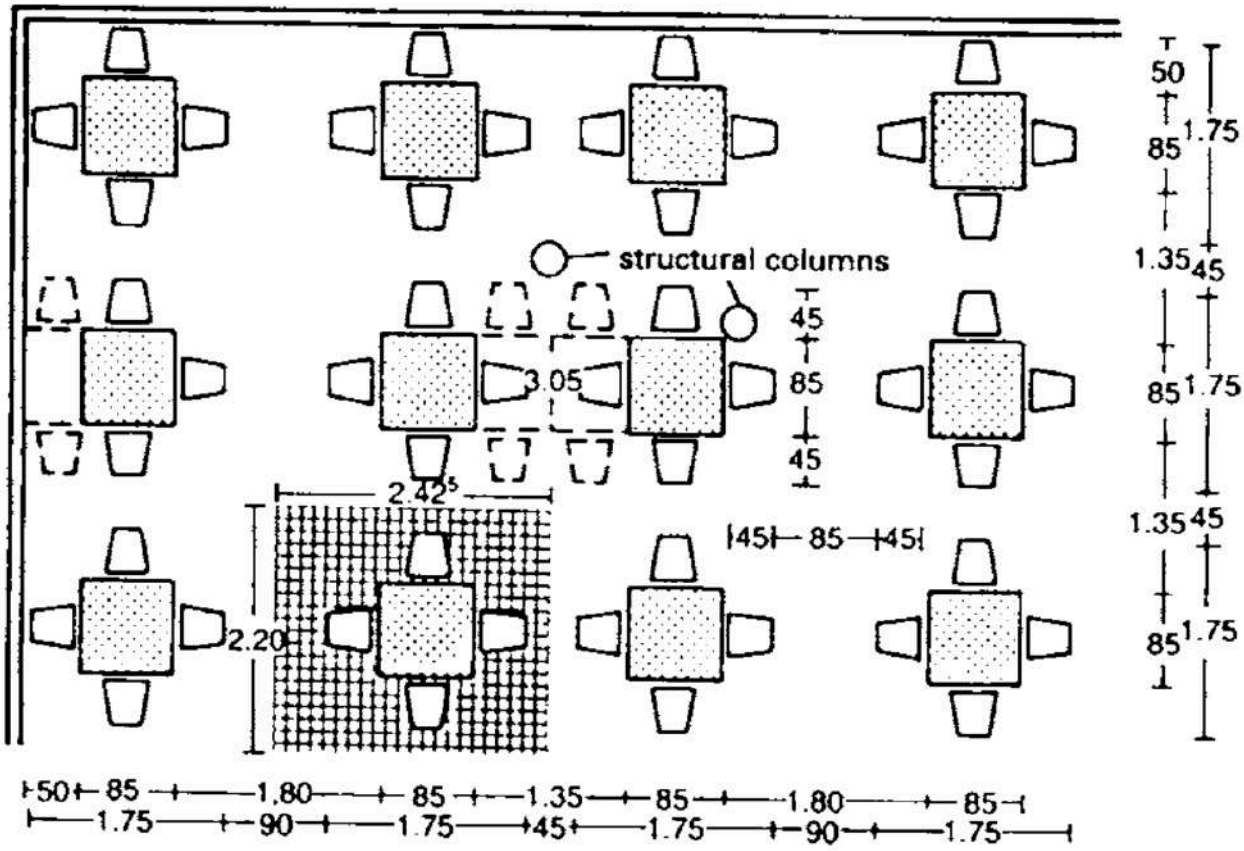


Fig:39. Parallel Table Arrangements

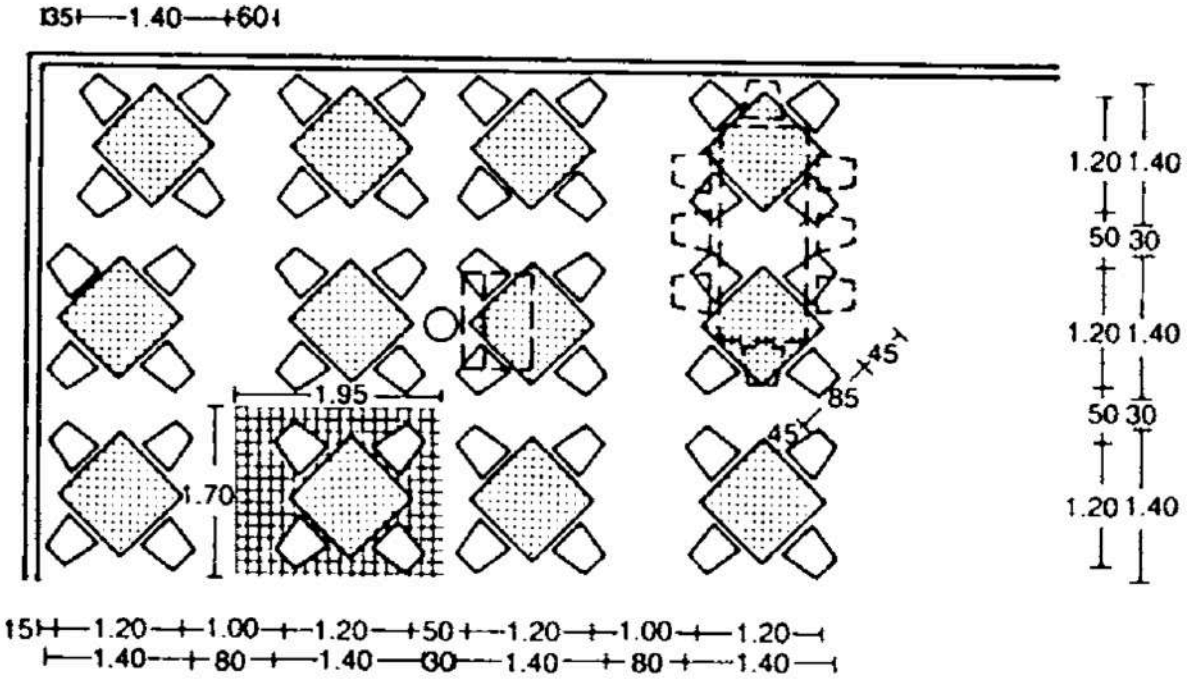


Fig:40. Diagonal table arrangement

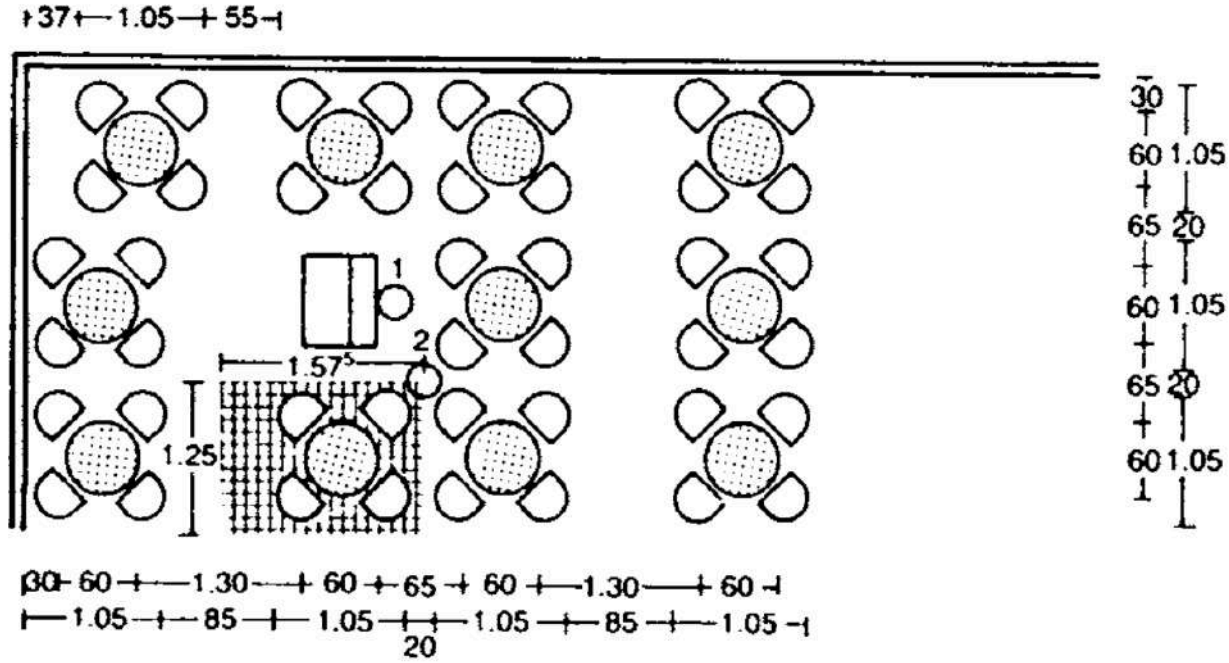


Fig:41. Minimal table spacing

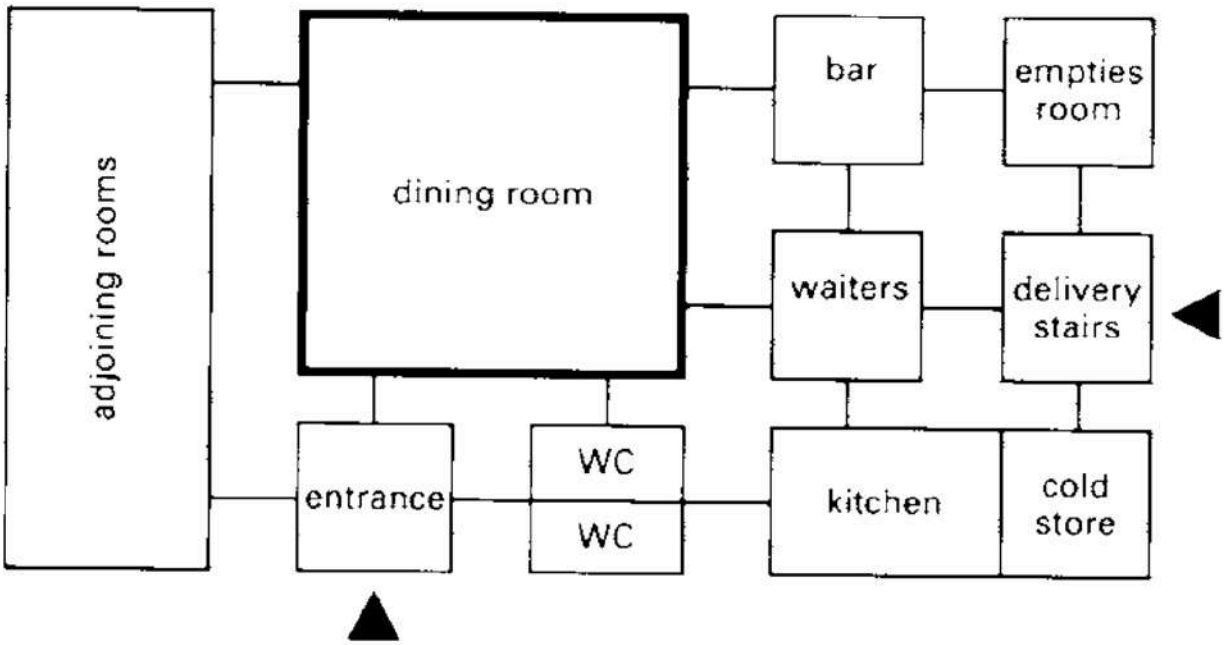
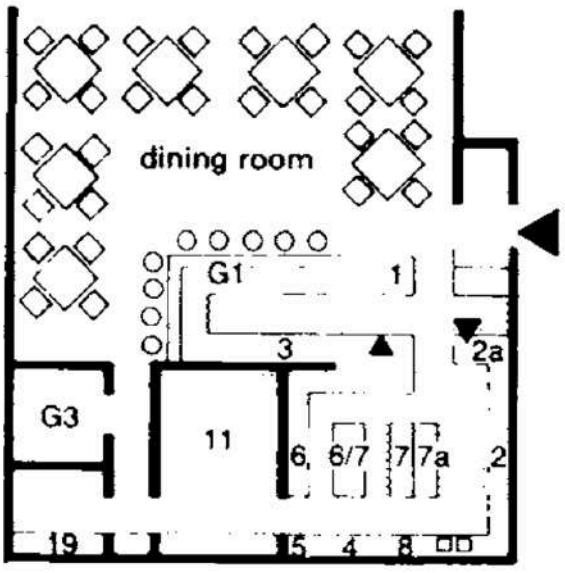


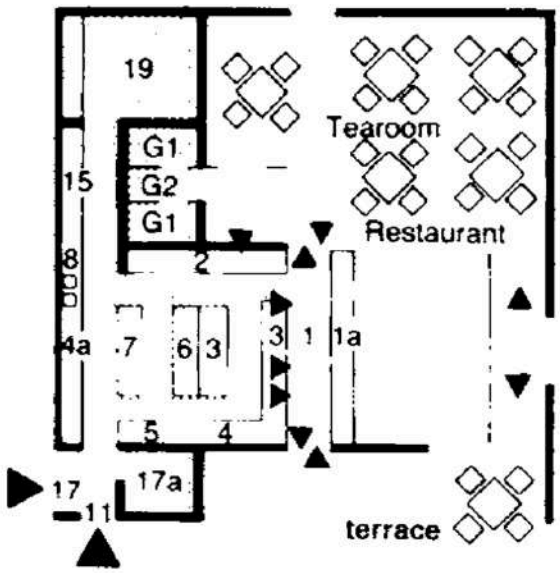
Fig:42. Functional layout for a small restaurant

2.3.2 RESTAURANT KITCHENS



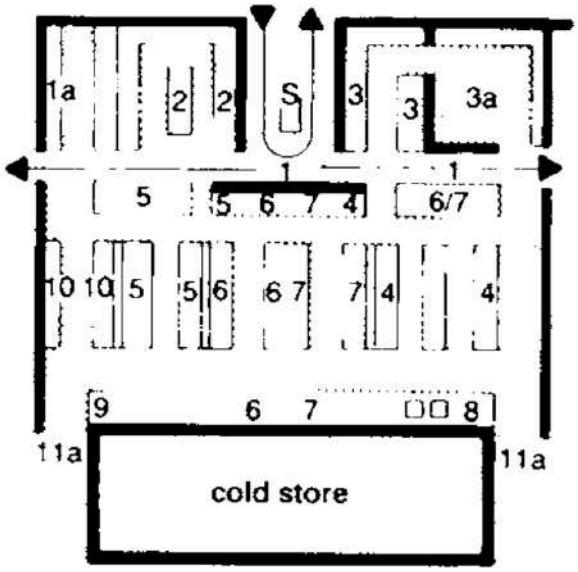
1	meals and drinks servery
2	dishwasher
2a	crockery returns
3	drinks bar with mixer, toaster, food containers etc.
4	oven for small pastry items
5	food storage
6	rotisserie
6/7	cooker rings
7a	water boiler and steam machine
8	pot and pan washer
11	stores/office; catering size refrigerators and freezers instead of cold store
19	staff toilets
G1	bar counter
G3	customer toilets

Fig:43. snack bar



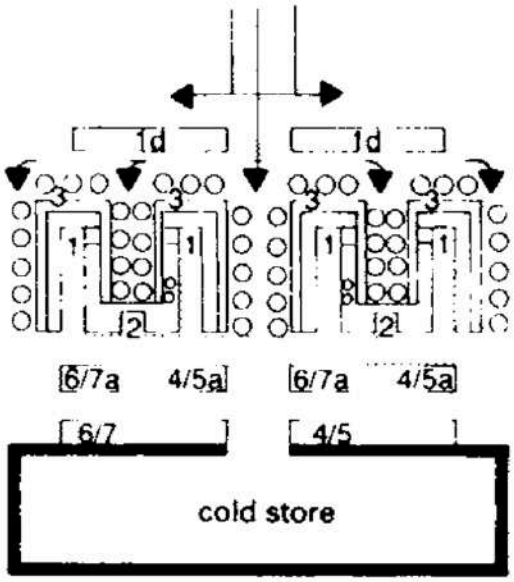
1 waiters' walkway
1a service counter and cash tills
2 dishwasher
3 drinks bar with mixer, toaster, ice cream freezer etc.
4 pastry preparation
4a pastry oven
5 sandwich preparation
6 reheating equipment (e.g. soup)
7 cooker rings
8 pot and pan washer
11 empties
15 linen store
17 deliveries and (a) store
19 staff toilets and cloakroom
G1 toilets
G2 telephone cubicle

Fig:44. cafe restaurant



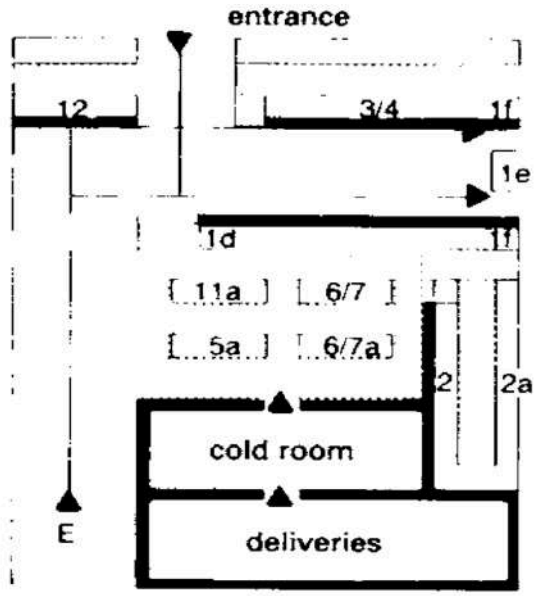
1 waiters' walkway
1a garden service counter
2 dish-washing area
3 drinks counter
3a drinks cellar
4 pastry counter
5 cold dishes
6 hot dishes and sauces
6/7 table with hot store
8 pot and pan washer
9 vegetable preparation
10 meat preparation
11a deliveries, and access to stores, offices, staff cloakrooms and toilets
S service accessories and tills

Fig:45. Restaurant kitchen in large hotel



1 serving aisles in U-shaped counters
1d vending machines
2 link between two counters with covered dishwashers, operated from both sides, each with two rinsing basins
4/5 cold meal preparation
4/5a cold servery (salads, ices, desserts
6/7 griddle, soup heater, water boiler etc.
6/7a hot servery (bain-marie, hotplates)

Fig:46. Restaurant with buffet and vending machines



1d self-service buffet with grill and chip fryer
1e sauces, condiments, cutlery
1f cash till
2 dishwasher
2a crockery returns
3/4 food and drinks servery (service to street possible)
5a cold meal preparation table
6/7 heating units, used from both sides
6/7a hot meal preparation table
11a refrigerators, used from both sides
12 sales kiosk (serving inside and to street)
E entrance

Fig:47. Self-service restaurant

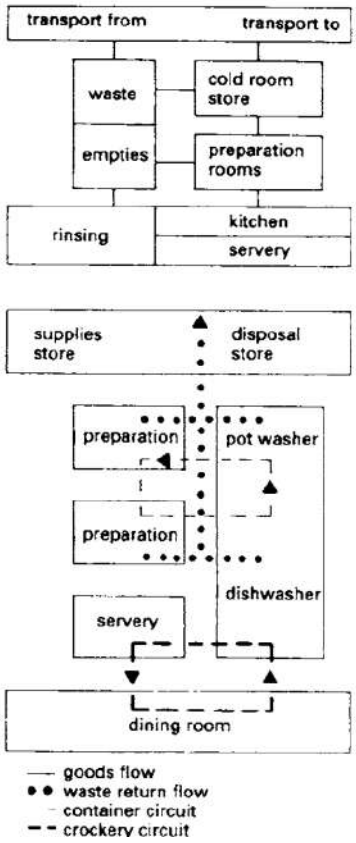


Fig:48. Restaurant kitchen - function organisation

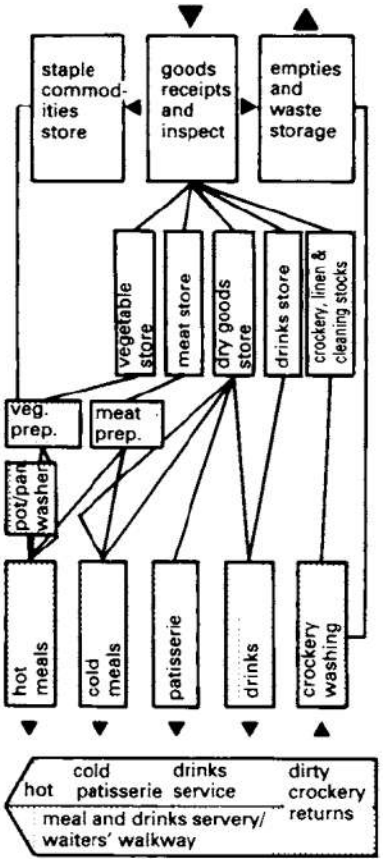


Fig:49. Restaurant kitchen -

2.3.3 LARGE KITCHENS

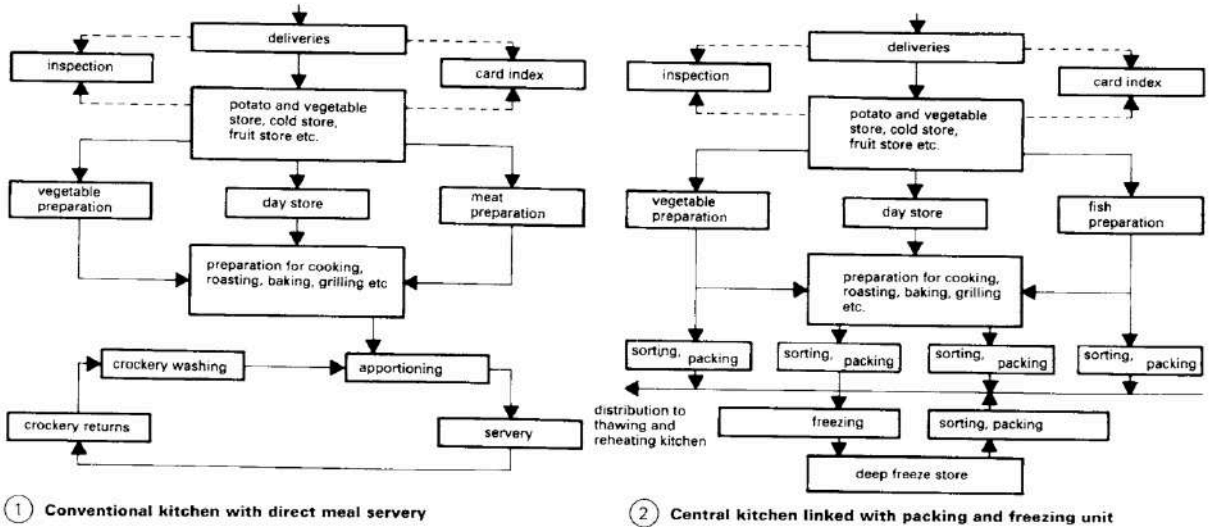
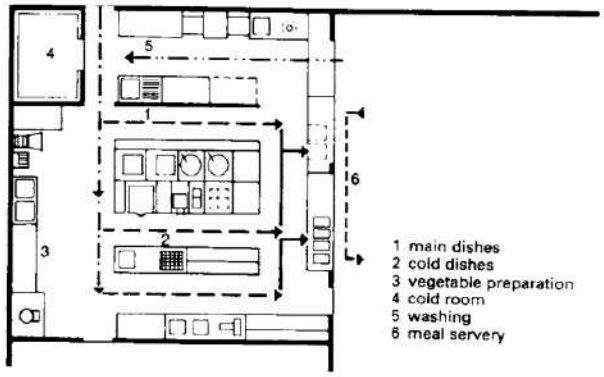
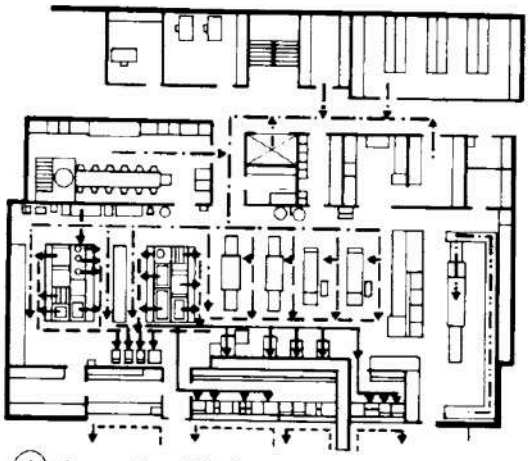


Fig:50



(3) Kitchen for approximately 250 diners



(4) Conventional kitchen system

Fig:51

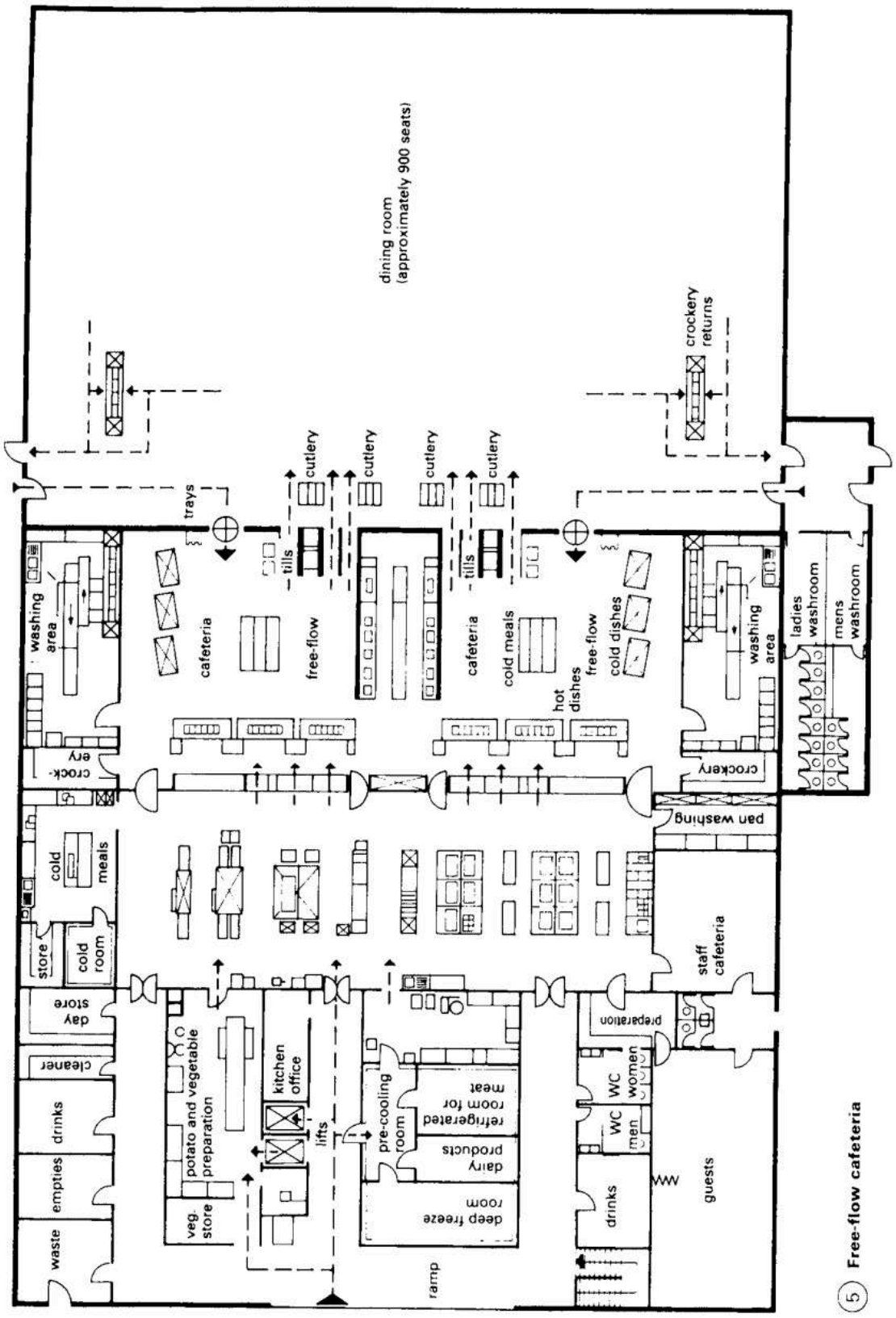

dining room
(approximately 900 seats)
crockery returns
trays
cutlery
cutlery
cutlery
cutlery
tills
tills
cafeteria
free-flow
cafeteria
cold meals
hot dishes
free-flow
cold dishes
washing area
washing area
ladies washroom
mens washroom
crock-ery
crockery
pan washing
cold meals
store
cold room
staff cafeteria
day store
cleaner
drinks
empties
waste
potato and vegetable preparation
kitchen office
lifts
pre-cooling room
refrigerated room for meat
dairy products
deep freeze room
preparation
WC women
WC men
drinks
guests
veg. store
ramp
5 Free-flow cafeteria

Fig: 52

2.4 URBAN AND REGIONAL DEVELOPMENT PLANS AND IMPLEMENT GUIDELINES

MEANS OF ACCESS

For plot development of uses other than residential, the following minimum width corresponding to the length of the means of access shall be followed:

Sr. No.	Width of Means of Access (m)	Length of Means of Access (m)	Other Controls
1.	12.0	200	➢ The width of the means of access shall not be less than the internal access ways in layouts and subdivision.
2.	15.0	400	
3.	18.0	600	
4.	24.0	above 600	

For high rise buildings and buildings other than residential, the following additional provisions shall be ensured:

1. The width of the abutting main street shall not be less than 12 m and one end of this street shall join another street not less than 12 m in width.
2. The approach to the building and open spaces on all sides up to 6 m width and the layout shall be done in consultation with the Chief Fire Officer of the city.
3. The main entrance to the plot shall be of minimum 6 m width to allow easy access to the fire engine.

Commercial Centres		
Convenience Shopping Centre/Local Shopping Centre / Local Level Commercial areas	2 ECS / 100 sqm of floor area	--
Service Market	2 ECS / 100 sqm of floor area	--
Community Centre / Non- hierarchical Commercial Centre	3 ECS / 100 sqm of floor area	--
District Centre/ Sub-Central Business District/Sub-City Level Commercial areas	3 ECS / 100 sqm of floor area	--
Commercial Plot: Retail & Commerce Metropolitan City Centre	3 ECS / 100 sqm of floor area	--
Hotel	3 ECS / 100 sqm of floor area	For Population between 2- 10 lakh – 1 car parking space for every 4 guest room. For Population between 10-50 lakh – 1 car parking space for every 3 guest room. For Population more than 50 lakh – 1 car parking space for every 2 guest room[143].

MINIMUM SETBACKS

- Setbacks based on Plot Sizes
- The following table may be referred for deciding the minimum setbacks for different size plots in various use zones. The size of plots should be decided after taking into account the provisions of National Housing Policy and Urban Land (Ceiling and regulation) Act. The setbacks, if necessary, may be changed depending upon the local situations and specified in the Development Plans and Building byelaws

Sr. No.	Plot Size (in sqm)	Front (m)	Rear (m)		Side (m)	Side (m)
			Plains	Hill Towns	Plains	Hill Towns
1.	Upto 60	0	0	2	0	1.5
2.	Above 60 and upto 150	3	0	2	0	1.5
3.	Above 150 & upto 300	3	3	3	0	1.5
4.	Above 300 & upto 500	3	3	3	3	3
5.	Above 500 & upto 1000	6	3	3	3	3
6.	Above 1000 & upto 2000	9	3	3	3	3
7.	Above 2000 & upto 4000	9	6	6	6	6
8.	Above 4000 & upto 10000	9	6	6	6	6
9.	Above 10000	15	9	9	9	9

SETBACKS WITH RESPECT TO ABUTTING ROAD WIDTH

A. Front Setback

Sr. No.	Front Setback (m)	Width of street fronting the plot (m)	Remarks
1.	1.5	Upto 7.5	For buildings upto a maximum height of 7 m
2.	3.0	7.5 to 18	
3.	4.5	18 to 30	
4.	6.0	Above 30	

B. Rear and Side setback for building heights above 10m

Sr. No.	Height of Buildings (m)	Side and rear setbacks (m)	Other Controls
1.	10	3	➢ For buildings above 24 m in height, the minimum front setback shall be 6 m. ➢ Where rooms do not derive light and ventilation from the exterior open space, the width of such space shall be reduced by 1 m subject to a minimum of 3 m and maximum of 8m. ➢ Alternative setbacks for tower like structures ○ Upto height of 24 m with one setback: Minimum 6m ○ Between 24 m and 37.5 m with one setback: Minimum 9 m ○ Above 37.5 m with two setbacks: Minimum 12 m
2.	15	5	
3.	18	6	
4.	21	7	
5.	24	8	
6.	27	9	
7.	30	10	
8.	35	11	
9.	40	12	
10.	45	13	
11.	50	14	
12.	55 and above	16	

2.4.1 WATER SUPPLY

The CPHEEO Manual recommends fire‑fighting water demand as a function of population, i.e. water demand for fire‑fighting purpose = 100√P, where P stands for forecasted population may be adopted for communities larger than 50,000. It is desirable that one‑third of fire‑fighting requirements come from part of the service storage. The balance requirement may be distributed in several static tanks at strategic points. These static tanks may be filled from nearby ponds, streams or canals by water tankers wherever feasible. The pressure required for fire‑ fighting would have to be boosted by fire engines.

S. No.	Institutions	Litres per head per day
1	Hospital (including laundry) a. no of beds exceeding 100 b. no. of beds not exceeding 100	a. 450 (per bed) b. 340 (per bed)
2	Hotels	180 (per bed)
3	Hostels	135
4	Nurses homes and medical quarters	135
5	Boarding schools/colleges	135
6	Restaurants	70 (per seat)
7	Airport and seaports	70
8	Junction stations and intermediate station where mail or express stoppage (both railway and bus stations) is provided	70
9	Terminal stations	45
10	Intermediate stations (excluding mail and express stops)	45 (could be reduced to 25 where bathing facilities are not provided)
11	Day Schools/colleges	45
12	Offices	45
13	Factories	45(could be reduced to 30 where no bathing rooms are required to be provided)
14	Cinema, concert halls and theatres	15

2.4.2 FIRE FIGHTING

The CPHEEO Manual recommends fire-fighting water demand as a function of population, ie. water demand for fire-fighting purpose = $100\sqrt{P}$, where P stands 87 for forecasted population may be adopted for communities larger than 50,000. It is desirable that one-third of fire-fighting requirements come from part of the service storage. The balance requirement may be distributed in several static tanks at strategic points. These static tanks may be filled from nearby ponds, streams or canals by water tankers wherever feasible. The pressure required for fire-fighting would have to be boosted by fire engines

2.4.3 SOLID WASTE MANAGEMENT

Municipal Solid Waste (MSW) is the trash or garbage that is discarded day to day ina human settlement. According to MSW Rules 2000 MSW includes commercial and residential wastes generated in a municipal or notified areas in either solid or semisolid form excluding industrial hazardous wastes but including treated bio-medical wastes. Waste generation encompasses activities in which materials are identified as no longer being of value (being in the present form) and are either

thrown away or gathered together for disposal. The following table indicates the waste generation per capita per day for estimation and forecast of waste generation for future for planning purposes:

S.No.	Land use type	Estimated waste generation
1	Residential refuse	0.3 to 0.6 kg/cap/day
2	Commercial refuse	0.1 to 0.2 kg/cap/day
3	Street sweepings	0.05 to 0.2 kg/cap/day
4	Institutional refuse	0.05 to 0.2 kg/cap/day

2.5 INDIAN STANDARD CODE FOR HOTELS AND RESTAURANTS:

BUILDING

In addition to the recommendations in the code the building in which the 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 state of repair and cleanliness.

FLOORS

The floors of all rooms in which food or drink is stored, prepared or served and of all washing places shall be of such construction as to be impervious, easily cleansed, smooth and in good repair. All floors shall be kept clean and free 88 from litter. Dustless method of floor cleaning shall be used, 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.

DOOR AND WINDOWS

In the absence of air-conditioning all openings to the outer air including doors, 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. Self closing screened doors to the outer air shall open outwards. Other methods approved by the authority shall be employed to ensure the absence of flies

VENTILATION

In case of ran-air-conditioned buildings the minimum standards of mechanical 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

Fig:53

WATERSUPPLY

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.

Fig: 54

Storage of Water:

For the storage of water, proper receptacles made of galvanized iron or other suitable material shall be used. Such receptacles shall be 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 easily 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, and all be satisfactorily 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 fitments 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.

Fig: 55

KITCHEN

The kitchen shall be sufficiently spacious and should be of a size in proportion to the average number of diners catered for at one meal, The floor spice in the kitchen shall be calculated at the rate of 0.5 me Min per diner. In case of snack bars, soda fountains, etc, the service-cum dispensing area shall be treated as part of the kitchen.

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

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.

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 demiglace safe-fire-resistant exits 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 allcolumns for separating the upper structure shall have grading not less than the standards laid down for Grade 3.

CHAPTER 3 - SITE ANALYSIS

Location: 69VQ+73Q, Shymala Hills, Bhopal, Madhya Pradesh, 462013
Site Coordinates: Latitude- 23.2430438 Longitude- 77.3876891
Site Area: 7.16 Acres (28,975.5 sqmt)

SITE BOUNDARIES

- **North-** Green zone adjacent to Bhopal upper lake
- **South-** 24m wide primary accessible road
- **East-** other property
- **West-** other property

SITE LOCATION AND DIMENSIONS

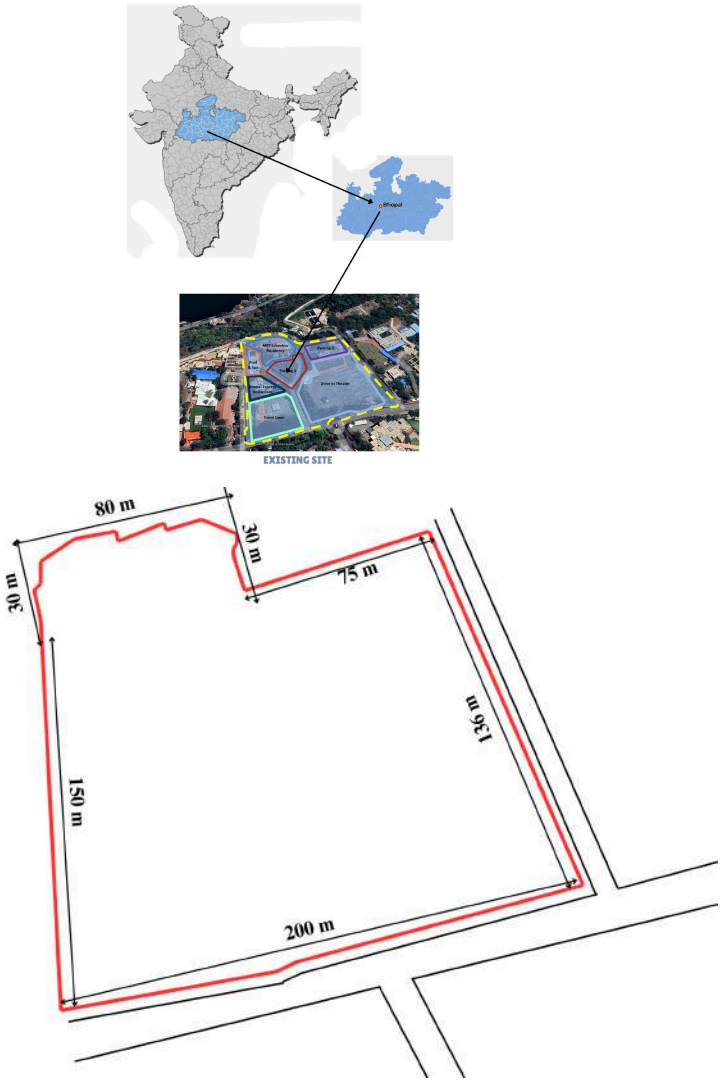


Fig: 56

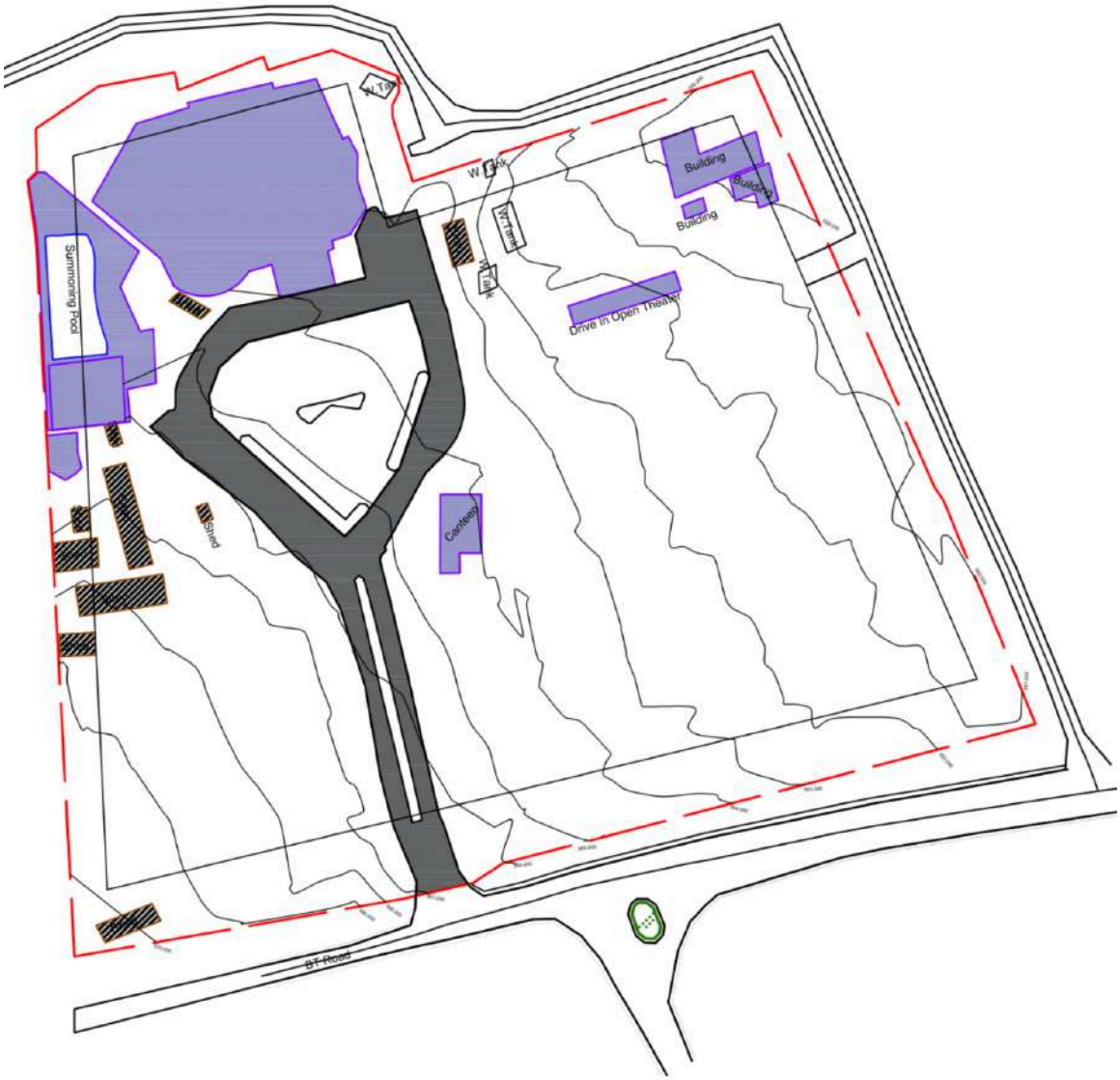


Fig:57. Site with Contours



Fig:58. Existing site

3.1 TOPOGRAPHY

3.1.1 NATURAL TERRAIN

The natural terrain of the site is shaped by the unique landscape of the Shyamla Hills region, one of the most prominent hill systems within the city of Bhopal. The terrain consists of **gently undulating slopes** that gradually descend toward the **Upper Lake (Bhojtal)**, which lies on the northern side of the site. This natural slope is a significant geographical advantage as it not only enhances the visual quality of the land but also supports sustainable drainage patterns.

The contours across the site vary in a smooth and consistent manner, avoiding abrupt level differences. This means that major cut-and-fill operations are not required, making the site highly suitable for architectural development. The gentle slopes allow the proposed 5-star hotel to be positioned strategically to maximize lake-facing views, ensuring that guest rooms, public spaces, terraces, and landscaped areas can be oriented toward the scenic waterfront.

The terrain also supports the placement of podiums, open spaces, and stepped landscaping. The presence of mild gradients further helps in designing pedestrian pathways, vehicular circulation routes, and service access roads that follow natural contours, reducing construction impact. Compared to other hill zones of Bhopal, which sometimes feature steep slopes and rocky outcrops, this specific area of Shyamla Hills presents a more buildable topography that naturally accommodates large-scale hospitality development.

Because of its natural drainage orientation toward the lake, surface runoff follows gravity flow without obstruction. This reduces the risk of stagnant pools, erosion channels, or flooding during monsoon. The terrain, therefore, contributes positively to site stability, visual aesthetics, and ecological sensitivity—key requirements for a premium lakefront hospitality project.

3.1.2 ELEVATION AND LEVELS

The elevation profile of the site ranges from 500 to 530 meters above mean sea level (MSL), representing moderate height variations typical of Bhopal's lake-hill ecosystem. The southern portion of the site, which is closer to the main access road, lies at the higher elevation, while the northern portion near the lakefront lies at the lower elevation. This natural downward slope plays an important functional role in site planning.

The elevation difference of approximately 30 meters across the site enhances possibilities for creating tiered platforms, stepped gardens, and multi-level structures that align with the contour lines. This supports architectural design opportunities such as elevated arrival plazas, double-height lobby areas overlooking the lake, and cascading landscape levels that offer uninterrupted views from multiple parts of the hotel.

The natural gradient also allows stormwater runoff to flow effortlessly toward the lake. This minimizes the risk of waterlogging and reduces the burden on the drainage infrastructure. Strategic use of elevation can further support sustainability features such as rainwater harvesting channels, bioswales, and gravity-based drainage systems.

The higher elevation along the southern edge helps the building achieve prominence from the road, giving the hotel a strong arrival experience. Meanwhile, the lower northern edge provides opportunities for recreational spaces such as infinity pools, lakeside decks, outdoor restaurants, and other public amenities that seamlessly connect with the natural waterfront landscape.

3.1.3 SOIL TYPE

The site lies within the geological profile of the Shyamla Hills, which predominantly features **black cotton soil** interspersed with **rocky strata**. Black cotton soil is known for its fine clay composition and high moisture absorption capacity, which causes it to expand significantly when wet and shrink when dry. This **shrink–swell behavior** makes foundation planning critical, especially for large-scale structures such as hotels.

In addition to black cotton soil, some areas contain patches of **laterite**, **weathered rock**, and **alluvial deposits**, especially near the lake-facing edges. The presence of rocky layers increases soil stability but may require specialized excavation techniques during foundation work. Geotechnical analysis usually confirms the bearing capacity, depth to hard strata, and seasonal moisture variations.

Because black cotton soil is not ideal for shallow foundations, the project may require **deep pile foundations** or **raft foundations** to prevent differential settlement. These systems distribute building loads evenly and minimize long-term structural risks. Soil stabilization techniques such as lime treatment, sand replacement, or geotextile reinforcement may also be used depending on the final soil investigation report.

Despite its engineering challenges, the soil type benefits the site in terms of **vegetation support**. The clay-rich content promotes plant growth, which contributes to green buffers, landscaped lawns, and slope stability. Understanding soil characteristics ensures that the project's foundation system is safe, durable, and aligned with the natural geological properties of the site.

3.1.4 VEGETATION AND GROUND COVER

The vegetation profile of the site is an integral part of its natural topography. Shyamla Hills is known for its **tree cover, grasslands, and native shrub species**, which contribute to ecological balance, slope stability, and overall environmental quality. The presence of vegetation helps reduce erosion on sloped areas, especially during the monsoon season, by holding the soil in place through root structures.

The southern and central portions of the site include a mix of **medium-height trees**, seasonal flowering plants, and naturally growing grasses. The northern edge closer to the lakefront contains patches of shrubs and reeds that thrive in moist soil conditions. These native plants enhance microclimate regulation by providing shade, improving air quality, and reducing heat absorption from built surfaces.

The landscaped areas around the event lawn and the drive-in cinema (as shown in your PDF) blend with the natural terrain, creating a seamless transition between built structures and open green spaces. The careful preservation of mature trees not only enhances the aesthetic appeal of the hotel but also contributes to sustainability goals by reducing carbon footprint and minimizing land disturbance.

Vegetation also influences guest experience by creating serene outdoor environments for leisure activities, lake viewing, and open-air dining. Strategically designed green cover supports biodiversity, improves thermal comfort, and enhances the overall hospitality environment. Therefore, retaining and integrating natural vegetation forms a crucial part of the site's ecological and design strategy.

3.2 LANDSCAPING

3.2.1 INTEGRATION WITH NATURAL SETTING

The site's landscape design is fundamentally rooted in its natural setting along the Upper Lake (Bhojtal), one of the most significant ecological and scenic assets of Bhopal. The landscape strategy focuses on preserving the inherent beauty of the **Shyamla Hills terrain**, which consists of gentle slopes, patches of natural vegetation, and an undisturbed ground profile. Instead of altering the existing topography through excessive cut-and-fill operations, the design enhances the terrain by introducing green elements that blend seamlessly with the environment.

The gentle slopes are utilized to create **stepped gardens, view terraces, and lake-facing promenades**, which follow the contours and minimize land disturbance. The goal is to ensure that the built structures—hotel blocks, pathways, event areas, and service roads—integrate naturally into the landscape rather than appearing imposed on it. Native tree species are retained wherever possible to preserve ecological integrity and provide continuity with the surrounding forested hills.

Open lawns, flowering gardens, water features, and shaded seating zones are strategically placed to complement the lakefront setting. The landscaping emphasizes **visual harmony**, with plant selection based on species that thrive near water bodies and hillside ecosystems. The design ensures that vistas towards the lake and hills are unobstructed, enhancing the guest experience through a natural, serene, and immersive outdoor environment.

This integration promotes not only visual and recreational benefits but also sustainability by retaining natural drainage patterns, supporting local biodiversity, and maintaining microclimatic balance. In essence, the landscaping acts as a bridge between architecture and nature, reinforcing the site's unique identity as a calm and picturesque lakeside retreat.

3.2.2 EVENT LAWN AND OPEN SPACES

A major highlight of the landscape design is the **large event lawn**, envisioned as a versatile open space capable of hosting a variety of activities such as weddings, cultural programs, exhibitions, and outdoor corporate gatherings. Unlike conventional banquet halls enclosed by walls, this open-air lawn offers a refreshing alternative that leverages natural ventilation, sunlight, and scenic views. This

approach not only enriches guest experience but also reduces dependence on air-conditioning and artificial lighting, contributing to energy efficiency.

The event lawn is positioned thoughtfully to serve as a **visual centerpiece** of the project, creating a green foreground for the hotel façade and enhancing the overall spatial hierarchy. Surrounding hardscape areas, peripheral seating zones, decorative lighting, and landscape mounds add functionality without disrupting the openness of the space. The gentle slope of the terrain creates natural amphitheater-like conditions, allowing audiences to enjoy clear views during performances or events.

Additional open spaces such as **garden courts, picnic areas, children's play zones, and lakeside viewing decks** complement the event lawn. These spaces encourage social interaction and outdoor recreation, promoting a lively and dynamic environment around the hotel. The seamless connectivity between open spaces and pathways ensures walkability and ease of access for guests of all age groups.

By prioritizing open-air functions and multifunctional green spaces, the landscape design fosters community engagement, enhances aesthetic appeal, and supports sustainable outdoor living within the hotel campus.

3.2.3 GREEN BUFFERS AND EDGE TREATMENT

Green buffers form an essential component of the landscape planning, serving both ecological and functional purposes. Along the main road and parking areas, dense layers of trees, hedges, and shrubs are planted to create an effective **buffer zone** that filters dust, reduces noise pollution, and enhances privacy for hotel guests. These buffers act as a natural screen, softening the visual impact of vehicular movement and external disturbances.

The **lake-facing edges** receive special landscape treatment to highlight the scenic views of Upper Lake while maintaining ecological sensitivity. Carefully selected native shrubs, flowering plants, and tall trees frame the panoramic views without obstructing sightlines. These elements provide shade, stabilize soil near the waterbody, and contribute to a cooler microclimate through evapotranspiration.

Green buffers are also integrated into internal circulation pathways, parking corridors, and service zones to break the monotony of large paved areas. This helps create a calming, immersive environment where movement through the site feels natural and visually pleasant. The vegetation also guides pathways subtly, ensuring intuitive movement patterns across the landscape.

Edge treatments include **soft edges**, using planting zones, and **hard-soft transitions**, such as low stone walls combined with hedges. Together, these features create a layered landscape that balances functional needs with natural aesthetics—ensuring both comfort and ecological protection.

3.2.4 HARDSCAPE AND PATHWAYS

Hardscaping plays an important role in defining circulation, access, and outdoor usability. The landscape includes a network of **paved pathways, pedestrian walkways, plazas, and sit-out areas** that connect various zones of the site such as the hotel entrance, event lawn, gardens, recreational spaces, and lakeside decks. These pathways ensure smooth pedestrian movement while celebrating the site's natural contours.

Materials used in hardscape elements are chosen for their **regional identity, durability, and visual appeal**. Locally available stone, textured tiles, natural slate, and exposed aggregate finishes are preferred to create a rustic yet refined aesthetic that complements the hilly landscape. These permeable or semi-permeable materials also support natural percolation of rainwater, reinforcing sustainability goals.

Shaded seating areas, pergolas, and built-in benches are strategically placed along pathways, allowing guests to pause, rest, or enjoy lake views. Plazas act as transitional spaces between indoor and outdoor zones, offering flexible use for informal gatherings, pop-up events, or leisure activities. Lighting integrated into pathways enhances safety during nighttime while adding to the ambience.

Hardscaping is designed to blend with soft landscaping elements, ensuring a seamless environment where natural and built components coexist harmoniously. The pathways follow contour lines to minimize earthwork and create a comfortable walking experience, reinforcing accessibility and user comfort throughout the site.

3.2.5 SUSTAINABLE LANDSCAPING FEATURES

Sustainability is a core principle integrated into the landscape design, ensuring long-term environmental balance and reduced carbon footprint. The presence of large **tree canopies** across the site provides natural shading, helping reduce heat gain on paved surfaces and lowering ambient temperature. This significantly enhances outdoor comfort while reducing energy consumption for cooling in adjacent built areas.

The lawns and green zones contribute to **groundwater recharge**, as water percolates naturally into the soil instead of draining into stormwater channels. This is particularly important for the lake ecosystem, as it supports natural replenishment cycles. Minimizing concrete surfaces in open areas further improves permeability and prevents surface runoff.

The proximity to the lake creates a naturally cooler microclimate due to **evaporative cooling**, which is supported by tree cover and plant transpiration. Landscaping supports this microclimate by ensuring continuous vegetation belts along the lake edge. Native plant species are prioritized because they require less water, support local biodiversity, and adapt well to the region's climate.

Sustainable elements may also include **rain gardens, bioswales, drip irrigation systems, organic soil improvement, and solar-powered landscape lighting**. These strategies reduce operational costs and environmental impact over time. Together, these features create a resilient, eco-friendly landscape that enhances the hotel's identity as a modern, sustainable, and environmentally responsible development.

3.3 TYPES OF TREES IN AND AROUND SITE

3.3.1 NATIVE DECIDUOUS TREES

The Shyamla Hills region surrounding the project site hosts a rich variety of **native deciduous trees**, which naturally shed their leaves during the dry season and regrow them with the onset of monsoon. These species play an essential role in maintaining the ecological balance, supporting wildlife, and moderating the microclimate. Their natural presence indicates a stable and healthy ecosystem, which becomes a backbone for sustainable landscape development.

- **Neem (Azadirachta indica)** is one of the most common deciduous trees found in this region. Known for its medicinal properties, neem provides dense shade and thrives even in dry, rocky soils. Its ability to purify air and repel insects makes it

highly valuable in hospitality landscapes where cleanliness and comfort are priorities.

- **Peepal (Ficus religiosa)** is another significant species seen around Shyamla Hills. It is culturally revered and known for its large, spreading canopy that provides excellent shade. Its natural resilience and long lifespan make it ideal for preservation within the site. The Peepal tree also supports biodiversity by sheltering birds and insects

- **Banyan (Ficus benghalensis)**, recognized by its aerial roots and massive canopy, often occupies open areas in the hills. It is one of the largest native species in India and provides natural gathering spaces in traditional landscapes. Preserving such trees enhances the site's character and offers natural social spaces.

- **Jamun (Syzygium cumini)** grows well in moist soils and is common near lakefront environments like Bhojtal. Besides bearing edible fruits, Jamun trees strengthen soil stability near water bodies and create cool shaded zones.

3.3.2 EVERGREEN AND ORNAMENTAL TREES

Evergreen and ornamental trees are used extensively in hospitality landscapes for aesthetics, greenery throughout the year, and creation of a visually appealing environment. Unlike deciduous trees, these species retain foliage year-round, ensuring the site always looks lush, fresh, and welcoming. Such trees help create a luxurious ambiance, especially around hotel entrances, poolside areas, and pathways.

- **Ashoka (Polyalthia longifolia)** is a slender, tall evergreen tree commonly planted along boundaries, driveways, and building edges. Its vertical form serves as a natural green wall that enhances privacy, reduces noise, and provides a formal aesthetic suited for 5-star hotels.

- **Gulmohar (Delonix regia)**, with its bright red-orange flowers, adds vibrancy and dramatic seasonal color to the landscape. It is often planted near seating

zones or lawns to create visually striking focal points. Although deciduous, its ornamental value categorizes it effectively within aesthetic planting.

- **Amaltas (Cassia fistula)**, known as the "golden shower tree," produces long cascades of bright yellow flowers during summer. It is highly ornamental and often used in hospitality landscapes to create a festive, vibrant atmosphere. Its distinct seasonal display brings contrast and richness to the overall planting palette.

- **Bottle Palm and Areca Palm** species provide a tropical character to the landscape, particularly around pools, spas, and recreational areas. Their sculptural form contributes to resort-like aesthetics, making them ideal for relaxation zones.

3.3.3 SHADE AND AVENUE TREES

Shade and avenue trees play a functional role in hospitality landscapes by offering comfort, reducing heat, and guiding movement. They define walkways, driveways, parking areas, and pedestrian-friendly zones. These species are selected for their wide canopies, durability, and ability to thrive in urban settings.

- **Neem (Azadirachta indica)** continues to be valuable as a dual-purpose tree—providing shade while also contributing medicinal and ecological benefits. When planted along pathways or parking zones, neem trees offer natural cooling, reducing the heat buildup in paved areas.

- **Rain Tree (Samanea saman)** is one of the best shade trees for large open areas because of its wide umbrella-shaped canopy. Its natural branching pattern creates expansive shaded spaces ideal for lawns, outdoor seating, or event areas. Rain Trees are commonly found in campuses, resorts, and large gardens, making them an excellent fit for the project site.

- **Banyan (Ficus benghalensis)** also functions as a shade tree in open grounds. Its historical and cultural presence in Indian landscapes creates a sense of grandeur and legacy. Used in selective spots, it can become a landmark feature within the hotel's outdoor environment.

- **Mango (Mangifera indica)** trees around the site contribute both shade and fruit. Mango trees thrive well in central India's climate and help moderate temperature in open areas. Their presence also evokes a sense of traditional Indian landscapes, adding authenticity and cultural relevance.

3.3.4 SHRUBS AND SMALLER TREES

Shrubs and smaller ornamental trees form the lower layer of the landscape composition, filling gaps, enhancing aesthetics, and defining borders. These species bring color, texture, fragrance, and seasonal interest to the outdoor spaces. They also help in guiding circulation, softening edges, and highlighting architectural elements.

- **Bougainvillea**, known for its vibrant magenta, orange, or white bracts, is widely used along fences, pergolas, and entrance features. It is low-maintenance, drought-tolerant, and ideal for the dry-warm climate of Bhopal. Its bright colors enhance the visual appeal of pathways and boundary walls.

- **Hibiscus**, a tropical flowering shrub, is often planted near lawns and water features. With large, colorful blooms, it adds visual charm and attracts butterflies, enhancing the biodiversity around the site.

- **Crotons** are valued for their multi-colored foliage, ranging from green and yellow to red and purple. They create rich visual textures and are commonly used in planter beds, building entrances, and garden edges to break the monotony of green.

- **Plumeria (Frangipani/Champa)** is a highly fragrant small tree often planted near poolside decks, courtyards, and spa areas. Its sculptural branching, thick leaves, and aromatic flowers give a resort-like ambience. Plumeria is culturally significant and widely used in tropical landscape designs due to its strong identity and minimal maintenance needs.

3.4 NEIGHBOURHOOD FEATURES

3.4.1 NATURAL FEATURES

The natural features surrounding the project site form one of its strongest and most defining characteristics. The site is located on the banks of **Upper Lake (Bhojtal)**, the oldest man-made lake in India and a major environmental asset of Bhopal. The presence of this expansive waterbody creates a visually stunning foreground and helps establish a calm and serene setting for the proposed development. The lake also plays a crucial role in shaping the micro-climate of the neighbourhood—reducing temperature extremes, enhancing humidity, and generating cooling breezes that significantly improve outdoor comfort.

To the west lies **Van Vihar National Park**, a protected biodiversity zone that functions as the green lungs of the city. This national park is home to numerous wildlife species and extensive vegetation, contributing to ecological balance, oxygen generation, and pollution control. The proximity to such a large natural reserve enriches the biodiversity around the site and ensures clean, fresh air throughout the year.

The broader region forms part of the **Shyamla Hills terrain**, known for its gently undulating topography, rocky formations, and continuous tree cover. This natural landscape creates an environment with high scenic value and ensures minimal visual clutter. The preserved green cover deepens the sense of tranquility in the area and acts as a buffer from urban noise.

3.4.2 CULTURAL AND HERITAGE LANDMARKS

The neighbourhood around the site is rich in cultural and heritage assets, reflecting Bhopal's long history and diverse artistic traditions. Within close proximity lies **Bharat Bhawan**, one of the most prestigious multi-arts complexes in India. It houses art galleries, a museum of indigenous arts, a repertory theatre, and spaces that host

cultural performances. The presence of Bharat Bhawan elevates the area's artistic and intellectual significance.

Another major cultural institution nearby is the **State Museum of Madhya Pradesh**, which features archaeological artifacts, tribal art, historical manuscripts, and cultural exhibits. This museum attracts scholars, tourists, and local visitors, making the neighbourhood a prominent cultural hub.

Historic landmarks representing the **Nawabi era architecture**—such as **Gauhar Mahal** and **Moti Masjid**—are located within a short distance. These buildings reflect the Indo-Islamic and Mughal influences that define Bhopal's architectural heritage. Their proximity enhances the cultural richness of the area.

Directly adjacent to the site is **Jehan Numa Palace Hotel**, a heritage-style luxury property that complements the traditional ambience and architectural character of the Shyamla Hills region. Together, these cultural and heritage landmarks create an environment that blends historical identity with contemporary development, making the neighbourhood an attractive destination for both tourists and residents.

3.4.3 TOURISM AND RECREATIONAL FACILITIES

The area surrounding the site is one of the most active tourism and recreation zones in Bhopal. The **Boat Club** and **Lakefront Promenade**, located less than a kilometer away, attract visitors throughout the day for boating, sightseeing, photography, and lake-edge leisure. These spaces enhance the vibrancy of the neighbourhood and make it a preferred destination for tourists.

Across the lake, approximately 3 km from the site, lies **Sair Sapata**, a popular entertainment and adventure complex featuring suspension bridges, parks, food plazas, and children's play areas. It functions as a major family recreational destination and receives high visitor footfall during weekends and festivals.

VIP Road, which runs parallel to the lake, is lined with **lake-view cafés, restaurants, and leisure spaces**, offering a vibrant dining and social environment. The scenic quality of the road and the presence of waterfront dining make it a key recreational spine.

3.4.4 INSTITUTIONAL AND CIVIC AMENITIES

The neighbourhood is well-developed in terms of institutional and civic infrastructure, contributing to its overall convenience and accessibility. One of the major institutions nearby is the **Indira Gandhi Rashtriya Manav Sangrahalaya (Manav Sangrahalaya)**, an open-air anthropological museum that displays the tribal

and rural cultural heritage of India. Its presence adds educational and cultural depth to the area.

Educational institutions such as the **Regional Science Centre**, various private schools, and training institutes are also located in the vicinity, making the area a hub for academic activities. These institutions attract students, researchers, and visitors regularly, adding to the neighbourhood's footfall.

The region is also home to important governmental establishments such as **Vallabh Bhawan**, multiple administrative offices, and official residences. This makes the Shyamla Hills neighbourhood a strategically significant civic zone. The presence of government offices boosts security, infrastructure development, and pedestrian access across the area.

3.4.5 TRANSPORT AND CONNECTIVITY

The neighbourhood enjoys excellent connectivity due to its strategic position along **VIP Road**, one of the main arterial roads of Bhopal. This road ensures smooth access between the site and important city destinations. The site is just **3 km from New Market**, the commercial and retail heart of Bhopal, offering easy access to shopping, dining, and business services.

In terms of regional connectivity, the site is approximately **7 km from Bhopal Junction Railway Station**, making it accessible to inter-city travelers. The **Raja Bhoj International Airport**, located around **18 km away**, provides national and international connectivity, which is essential for a hospitality project of this scale.

Public transportation infrastructure is well-developed in the area, with city buses, auto-rickshaws, taxis, and app-based cab services readily available. VIP Road also connects the site to residential areas, government zones, recreation hubs, and major tourist attractions.

3.4.6 NEIGHBOURHOOD CHARACTER

The overall character of the neighbourhood is defined by a harmonious blend of natural, cultural, and urban elements. It combines the serene beauty of the Upper Lake, the greenery of Van Vihar, and the heritage ambience of Shyamla Hills with the lively activity generated by tourism, institutional areas, and civic landmarks. This balanced environment creates a unique identity for the locality—peaceful yet vibrant, scenic yet well-connected.

The presence of heritage hotels, cultural centers, and recreational spaces gives the neighbourhood a premium and sophisticated aura. At the same time, the lush

vegetation, lake breezes, and quiet roadways preserve a sense of calm and exclusivity. The area is regarded as one of the most prestigious zones in Bhopal, frequented by tourists, artists, government officials, and nature enthusiasts.

The coexistence of natural landscapes and urban development results in a neighbourhood that is both environmentally sustainable and socially active. It serves as an ideal setting for high-quality hospitality projects, residential developments, and cultural activities.

3.5 ARCHITECTURAL INNOVATIONS USED

3.5.1 Contextual Design with Lakefront Orientation

One of the defining architectural innovations of the site is its **contextually responsive design**, especially the careful orientation of built forms toward the scenic **Upper Lake (Bhojtal)**. Instead of treating the lake as a peripheral element, the architecture places it at the center of the design strategy. Guest rooms, public areas, terraces, pools, and outdoor dining zones are positioned deliberately to **maximize lake views**, ensuring that visitors experience the beauty of the natural waterfront from multiple vantage points.

The site design also considers the climatic implications of orientation. In Bhopal's composite climate, western sunlight is harsh and increases indoor heat gain. To address this, the building blocks facing the lake are slightly angled to **capture soft northern light and morning eastern light**, while avoiding direct western exposure. This reduces cooling loads and enhances indoor thermal comfort, making the architecture both energy-efficient and user-friendly.

Large windows, projecting balconies, and shaded terraces are incorporated to create a **visual and physical connection** with the lakefront. Transparent facades, glass railings, and elevated decks extend uninterrupted views of the waterbody while allowing natural daylight to enter. These architectural elements ensure that the building harmonizes with the lakefront landscape instead of competing with it.

This contextual approach also enhances the experiential quality of the site. As guests walk through the lobby, gardens, or dining areas, they are consistently connected to the serene lake environment, making their stay more memorable. By aligning architecture with geography, the project achieves a balance between aesthetics, climatic comfort, and natural integration—an essential hallmark of innovative site planning.

3.5.2 Integration of Multiple Functions within One Campus

Another major innovation is the **multi-use campus planning approach**, where various facilities—hospitality, recreation, entertainment, dining, and event spaces—are seamlessly integrated within a single site. This planning strategy is efficient, user-friendly, and economically beneficial.

The campus houses the **MPT Lakeview Residency (hotel)**, restaurant, pool and spa, expansive event lawn, and the MPT DDX **Drive-In Cinema**. Each of these components fulfills different user needs, ensuring a continuous flow of activity throughout the day. For instance, mornings may see guests enjoying lakefront breakfasts, afternoons filled with spa and pool visits, evenings with drive-in cinema crowds, and nights with social gatherings on the event lawn.

Bringing multiple activities together creates a **holistic destination**, rather than a single-purpose facility. This strengthens the appeal for tourists, families, and business travelers alike. Moreover, shared infrastructure—roads, parking, security, services—reduces duplication of resources, making land usage more efficient and cost-effective.

Such integrated planning also increases the walkability and connectivity of the site. Pathways connect the hotel, restaurant, lawn, and cinema in a well-organized manner, encouraging people to move freely and enjoy different experiences within the same campus. This mixed-use development model is a modern urban design trend that combines convenience, vibrancy, and sustainability, making it a significant architectural innovation in Bhopal's hospitality sector.

3.5.3 Open-Air Drive-In Theater Concept

The introduction of the **MPT DDX Drive-In Cinema** represents a unique architectural and entertainment innovation in Bhopal. Unlike conventional indoor theatres, this concept offers a nostalgic yet modern open-air viewing experience where visitors can watch films from the comfort of their vehicles or outdoor seating.

Architecturally, this innovation lies in its **use of landscape instead of enclosed structures**. The cinema relies on the natural environment for ventilation, eliminating the need for air-conditioned halls. This results in considerable energy savings and reduces the carbon footprint. The sloping terrain enhances visibility, while the large digital screen and high-quality sound systems ensure a premium viewing experience.

The spatial planning ensures smooth vehicle movement, designated watch zones, pedestrian safety, and comfortable outdoor seating options. Carefully designed

lighting enhances safety without creating glare that could disrupt the film experience. The open-air nature of the theatre blends recreation with nature, offering an environment that is relaxed, socially engaging, and memorable.

This concept also revives the classic drive-in cinema culture while adapting it to modern lifestyles. In a post-pandemic world, where open-air social spaces are preferred, such a design becomes even more relevant. This architectural innovation contributes to the city's cultural landscape and establishes the site as a pioneering recreational landmark.

3.5.4 Landscape Integration and Event Spaces

The architectural design makes extensive use of **landscape as a functional and aesthetic element**, especially through the creation of a large **event lawn**, garden courts, and green buffers. Rather than constructing closed banquet halls, the design prioritizes **open-air event spaces**, reducing energy use and enhancing natural ambience.

The event lawn acts as a flexible, multi-purpose venue capable of hosting weddings, cultural functions, corporate events, exhibitions, and concerts. Its gentle slopes, shaded edges, and surrounding greenery create a picturesque setting that requires minimal artificial enhancement. The landscape design incorporates walkways, seating areas, decorative lighting, and plantings that frame the lawn without obstructing views.

The integration of landscape into architecture also improves the microclimate of the site. Trees provide shade, lawns promote cooling, and green buffers filter dust and noise. Landscaped zones between built structures soften the environment and create a smooth transition from architecture to nature.

3.5.5 Sustainable and Climatic Response

The site incorporates numerous architectural strategies that respond sensitively to Bhopal's **composite climate**, which includes hot summers, humid monsoons, and cool winters. Key innovations include building orientation, shading devices, and the integration of ventilation-focused design elements.

Structures are oriented to capture prevailing **cool breezes from the lake**, enhancing natural ventilation in indoor and semi-open spaces. Large overhangs, verandahs, and pergolas provide shade, reduce direct solar gain, and create comfortable outdoor spaces throughout the year. Courtyards and open terraces channel airflow and diffuse heat, lowering the reliance on artificial cooling systems.

Landscaping plays a vital role in sustainability by reducing heat islands, improving air quality, and facilitating groundwater recharge. Permeable paving and reduced concrete usage promote rainwater absorption, contributing to ecological balance.

These measures collectively form a **passive cooling strategy** that aligns with contemporary sustainable design principles. By reducing energy consumption and enhancing comfort naturally, the project demonstrates environmentally responsible architecture.

3.5.6 Heritage-Inspired Design Elements

The design thoughtfully incorporates architectural elements inspired by the historical and cultural context of Shyamla Hills and surrounding heritage structures like Jehan Numa Palace. These influences are reflected through features such as arches, colonnades, traditional courtyards, and ornamental detailing.

Materials and forms are selected to evoke the elegance of Indo-Islamic and colonial-era architecture while maintaining modern functionality. This includes the use of arched windows, symmetrical facades, carved motifs, and earthy color palettes that blend harmoniously with the natural surroundings.

By combining heritage aesthetics with contemporary hospitality features, the project creates a built environment that feels both timeless and luxurious. This architectural innovation reinforces cultural identity while delivering modern comfort, resulting in a design that respects history without compromising on present-day needs.

3.6 CLIMATE ANALYSIS

The climate of Bhopal, where the site is located, is categorized as **composite**, meaning it experiences a combination of hot-dry, warm-humid, and moderately cold conditions throughout the year. A detailed climate analysis is essential for developing an architecture that responds effectively to seasonal variations, enhances user comfort, and reduces energy consumption. The site's location near the Upper Lake (Bhojtal) further influences microclimate conditions, offering natural cooling and unique ecological benefits that shape the overall design approach.

Bhopal experiences **three major seasons**—summer, monsoon, and winter. Summers (March–June) are typically hot, with temperatures frequently rising above 40°C. During this period, solar radiation is intense, especially from the western direction. Due to the city's inland location and low humidity before monsoon, daytime heat can be harsh, making shading, ventilation, and reflective building materials critical design considerations. The presence of the Upper Lake helps moderate peak temperatures by providing cool breezes, particularly in the evenings, which the architectural layout of the site strategically harnesses.

The **monsoon season (July–September)** is characterized by moderate to heavy rainfall, high humidity, and cloudy skies. During these months, the lake and surrounding vegetation significantly influence local climate by increasing moisture content and promoting lush greenery. The natural slopes of Shyamla Hills support efficient stormwater drainage, while landscaped areas around the site help with percolation and groundwater recharge. Buildings must be designed with adequate protection against rainfall, including overhangs, covered walkways, proper guttering, and waterproof materials. Ventilation becomes important during monsoon months to reduce humidity in indoor spaces, making cross-ventilated layouts essential.

Winters (November–February) in Bhopal are mild and pleasant, with temperatures typically ranging between 10°C and 20°C. Clear skies and low humidity create comfortable conditions, making outdoor spaces highly usable. Architectural elements such as terraces, verandahs, lakeside seating areas, and open-air event lawns are particularly effective during this season. The site benefits from gentle winter sunlight, especially from the southern direction, which can be harnessed for passive heating in indoor areas when required.

Key climatic factors that influence design include **solar radiation, wind direction, humidity levels, and annual rainfall**. Solar radiation is strongest between the southwest and west directions. To reduce heat gain, the built forms are oriented carefully to avoid extensive west-facing facades. Horizontal projections, pergolas, canopies, and shading devices further protect interior spaces from direct sunlight. The northern and eastern sides are preferred for openings, as they receive softer light and cooler breezes.

Wind direction analysis reveals that **prevailing winds blow from the southwest during summer and monsoon**, moving across the Upper Lake before reaching the site. This creates a natural cooling effect that can be maximized through appropriate building orientation and fenestration design. Courtyards, open terraces, and semi-permeable facades help channel these winds into the built environment, reducing dependence on mechanical cooling systems.

Humidity levels fluctuate significantly throughout the year. During monsoon, humidity is high due to proximity to the lake, while in winter and summer it remains moderate. The design of ventilation systems, indoor air circulation, and thermal comfort strategies must therefore accommodate varying moisture levels. Landscaping plays a crucial role in humidity control; trees, shrubs, and lawns help maintain a comfortable microclimate through evapotranspiration.

Rainfall analysis indicates that Bhopal receives the majority of its annual precipitation during monsoon months. With natural slopes towards the north, stormwater naturally drains into the lake. The site's topography supports eco-friendly solutions such as rain gardens, bioswales, permeable pavements, and recharge pits. Proper drainage planning ensures that open spaces remain functional even during heavy rainfall.

SEASON	DAY	NIGHT
Winter (Dec–Feb):	mild days, cool nights; very dry, clear skies	good solar gain, strong diurnal swing
Pre-monsoon summer (Mar–May/early Jun)	peak heat stress; dust and hot westerlies/"loo" episodes	prioritize shading, thermal mass + night purge, evaporative cooling.
Southwest monsoon (Jun–Sep/early Oct)	Hot–humid and overcast, frequent heavy rain; natural ventilation feasible but latent loads are high; plan robust rainwater management.	
Post-monsoon (Oct–Nov)	Transition back to dry, pleasant.	

Typical annual temperatures range from ~12 °C on winter nights to ~40–42 °C in late spring, with many days between 25–38 °C from March to June. Relative humidity stays low in the dry months (often 30–40%), then climbs to 70–85% during the monsoon, elevating perceived heat and increasing moisture management needs in buildings.

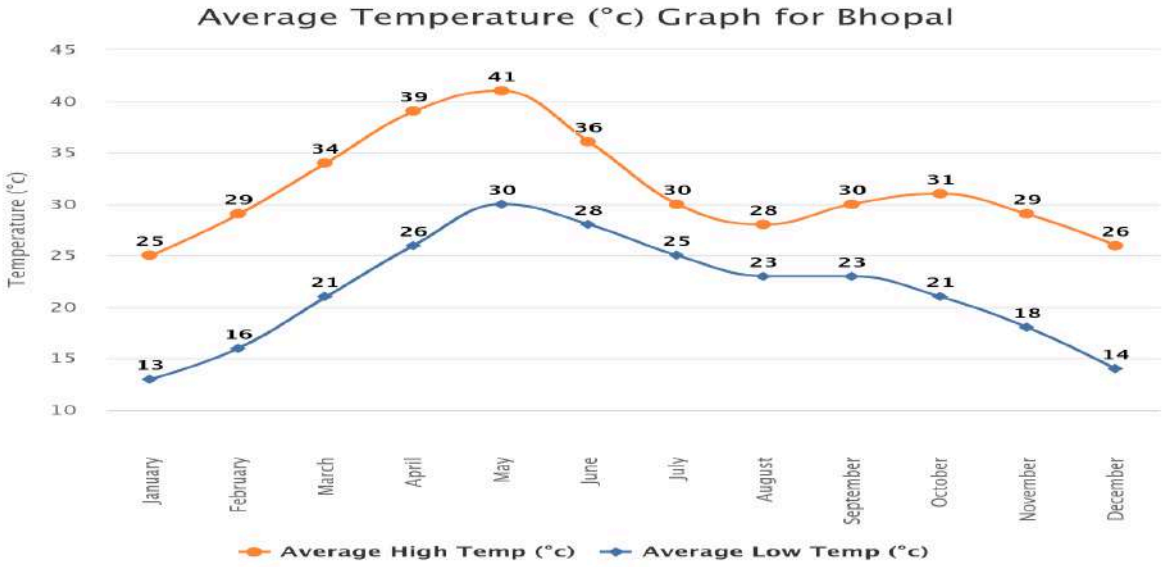


Fig: 59

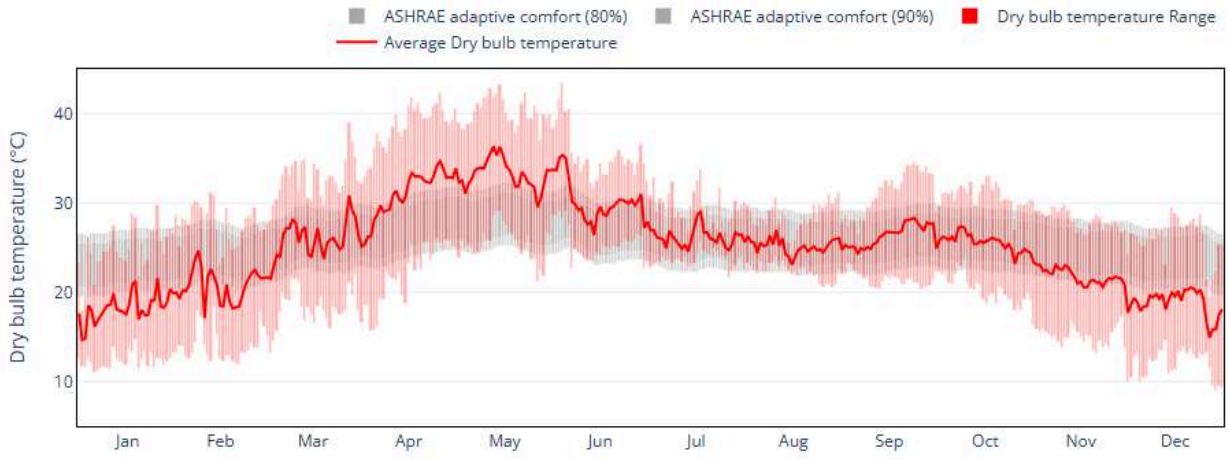


Fig: 60

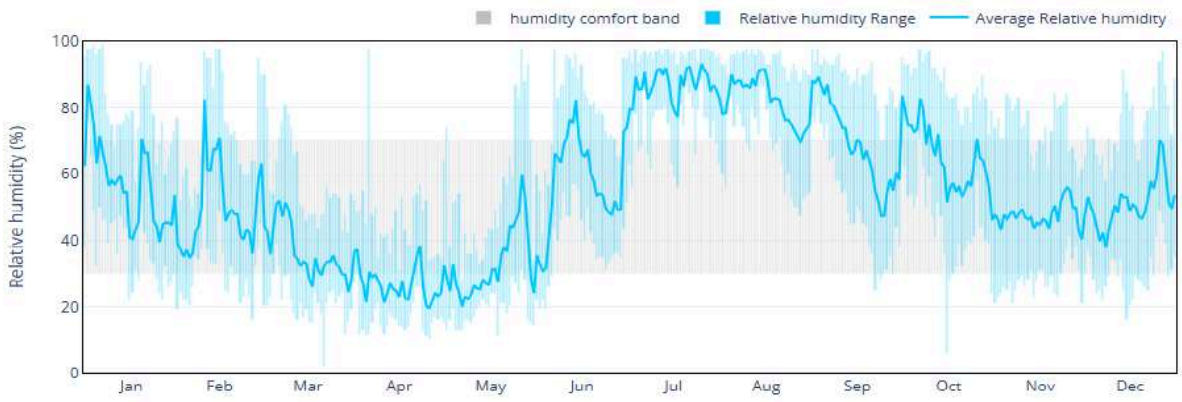


Fig: 61

Annual rainfall is on the order of 1,000–1,200 mm, with roughly 80–90% concentrated between June and September, peaking in July–August. Site planning must therefore prioritize robust rainwater conveyance, non-erosive outfalls, silt control, and on-site detention/harvesting. Deep overhangs, protected entries, and raised plinths help manage driving rain and splashback.

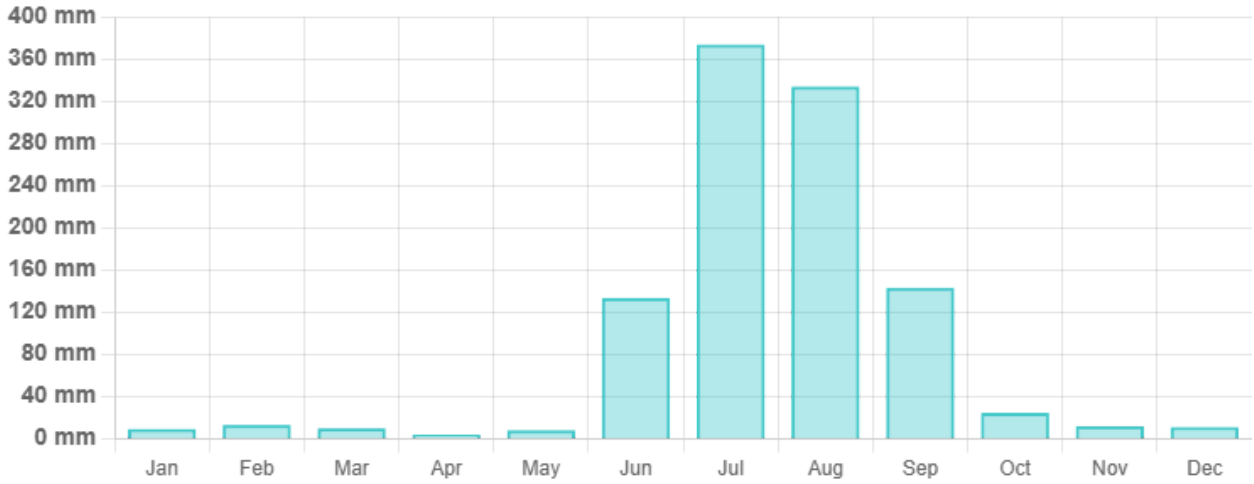


Fig:62. Monthly Precipitation level

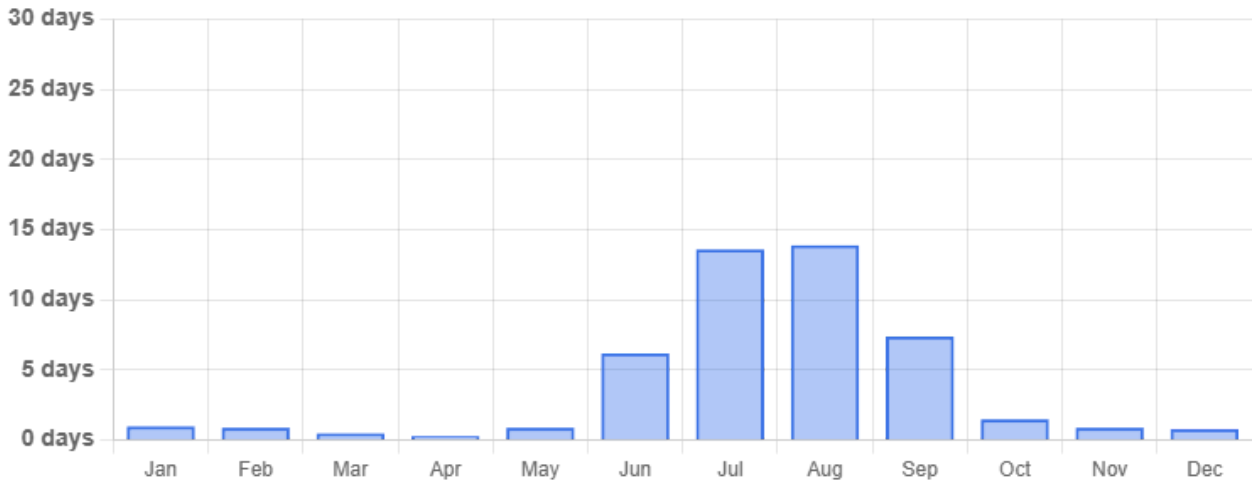


Fig:63. average number of days each month with precipitation (> 0.2 mm)

Prevailing winds are seasonally distinct: hot, dry W–NW flows in the pre-monsoon; SW–SE moist breezes during the monsoon; and lighter, more variable winds with NE–E components in winter. Orienting larger, shaded intake openings toward monsoon breezes while controlling west façades for the hot-dry phase supports seasonal comfort.

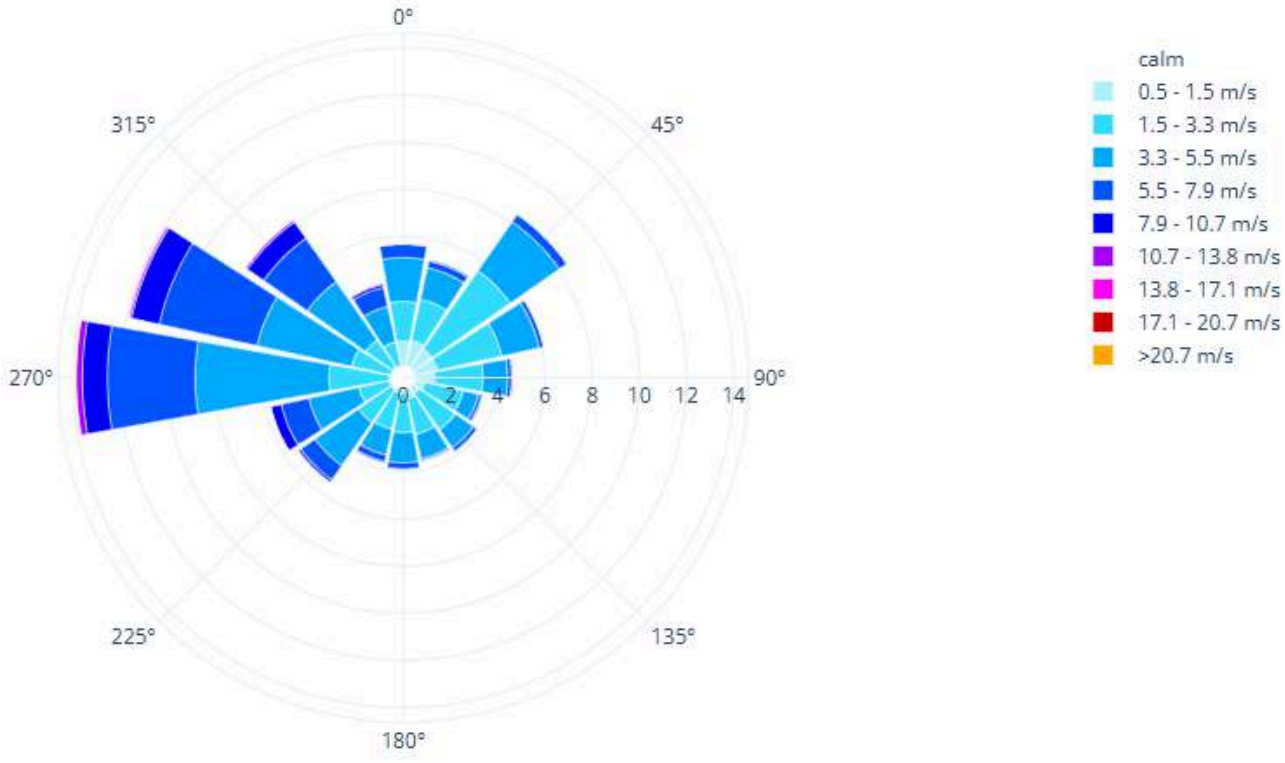
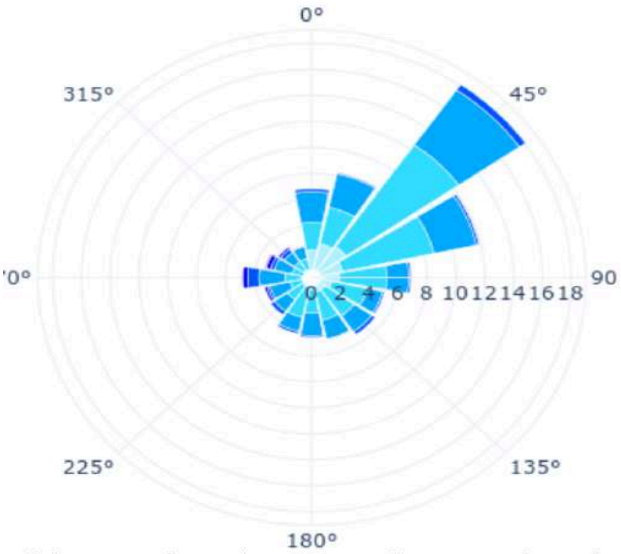
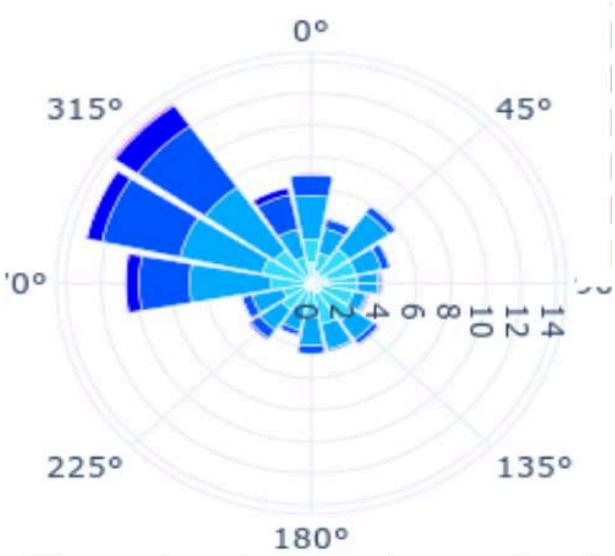


Fig:64. Annual Wind Rose

3.6.1 SEASONAL WIND ROSE

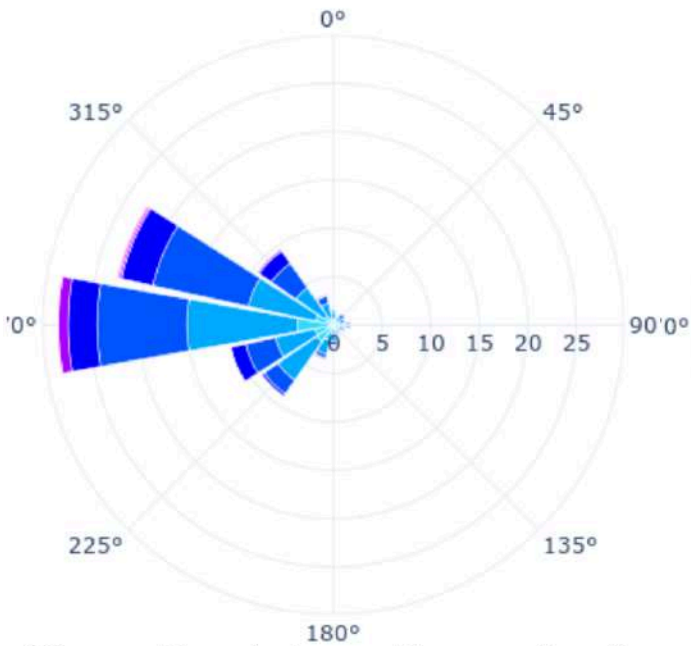


Observations between the months of Dec and Feb between 01:00 hours and 24:00 hours

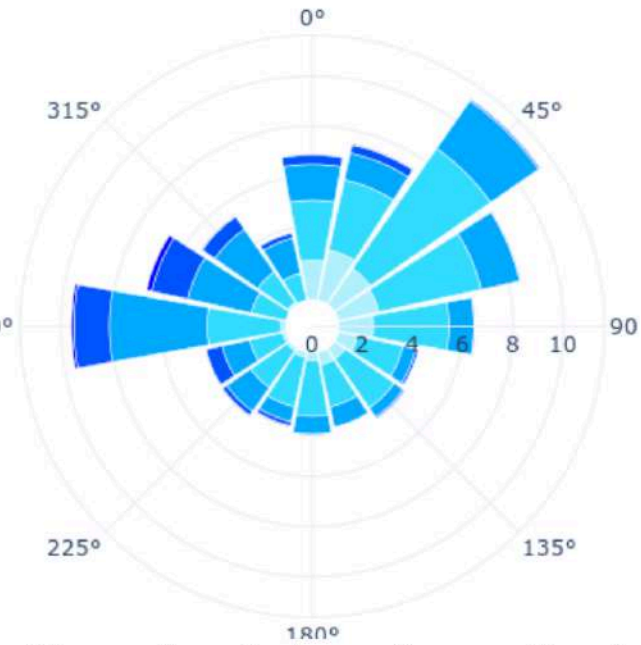


Observations between the months of Mar and May between 01:00 hours and 24:00 hours.

Fig:65



Observations between the months of Jun and Aug between 01:00 hours and 24:00 hours.



Observations between the months of Sep and Dec between 01:00 hours and 24:00 hours.

Fig:66

3.6.2 PRACTICAL DESIGN STRATEGIES

Site & Massing

- Elongate blocks along E–W, minimize W facade area; step/terrace toward water bodies with erosion control.
- Form wind-catching courtyards aligned to invite SW monsoon breezes; provide stack outlets for buoyancy ventilation.
- Hardscape with high albedo where appropriate; add shade trees and pervious surfaces to drop MRT and manage runoff.

Envelope & shading

- **West**: thick walls/insulation + vertical fins/brise-soleil; small, well-shaded apertures.
- **South/East**: sized overhangs (compute using 43°–67° winter/summer design altitudes).
- **Roofs**: highest heat gain—use insulation, cool roofs, ventilated attics, and monsoon-proof drainage.

Natural ventilation

- Pre-monsoon (hot-dry): night purge + thermal mass; daytime cross-ventilation only if >1–1.5 m/s breeze and indoor gains are low.
- Monsoon (hot-humid): ventilate for comfort but control infiltration to manage indoor RH; add ceiling fans and dehumidification in critical spaces.

Passive cooling & water

- Evaporative elements (courtyard water, wind-tower coolers) are highly effective before monsoon; switch to desiccant/ventilation control during monsoon.
- Rainwater harvesting sized for 1.0–1.2 m annual depth; first-flush diverters; consider constructed wetlands/bio-swales.

Material & durability

- Detail for driving rain (splays, drips, sealants), capillary breaks, termite barriers; pick finishes tolerant of high RH during monsoon.

Glazing & heat

- SHGC control (>monsoon glare/heat), low-e where AC is planned; external shading preferred over internal.

CHAPTER 4 - CASE STUDY

4.1 TAJ LAKEFRONT, BHOPAL

4.1.1 INTRODUCTION

Taj Lakefront, Bhopal, is one of the most prestigious luxury hotels in Central India, offering an exceptional blend of architectural elegance, natural beauty, and world-class hospitality. Located along the picturesque **Upper Lake (Bhojtal)**—Bhopal's most iconic water body—the hotel enjoys a panoramic waterfront setting that significantly enhances its visual and experiential appeal. Positioned on **Shyamla Hills** and fronting the prominent **VIP Road**, the hotel benefits from a unique geographical advantage: it is closely surrounded by lush green landscapes, major cultural institutions, heritage sites, administrative centers, and popular recreational destinations. This strategic location makes Taj Lakefront both a serene escape and an easily accessible urban landmark.

Operated by the **Indian Hotels Company Limited (IHCL)**, India's leading hospitality group, the hotel reflects the signature Taj brand philosophy—where luxury, comfort, and cultural relevance are seamlessly integrated. Taj Lakefront stands out due to its thoughtful architectural inspiration drawn from the **royal heritage of Bhopal**. The city's historic blend of Mughal and Rajput architectural languages is subtly translated into contemporary design elements throughout the hotel. Features such as **intricately patterned jali screens**, **sandstone cladding**, **arched façades**, and **symmetrical spatial arrangements** pay homage to the city's princely past while providing a distinctly modern aesthetic.

The architectural layout is oriented toward maximizing lake views. Public areas, guest rooms, terraces, restaurants, lounges, and recreational spaces are carefully positioned to overlook the shimmering waters of Upper Lake. This deliberate orientation creates a strong connection between indoor and outdoor spaces, reinforcing tranquility, openness, and visual continuity. The building design emphasizes **spatial harmony**, ensuring that interior volume, natural lighting, and ventilation work together to produce a calming atmosphere for guests.

Taj Lakefront offers state-of-the-art hospitality facilities that cater to diverse user groups—ranging from business travelers and tourists to wedding parties and conference attendees. Its amenities include **luxurious guest rooms and suites**, large **banquet halls**, versatile **meeting and conferencing spaces**, **fine dining restaurants**, **lake-facing cafés**, a **wellness and fitness center**, and the highlight—an exclusive

rooftop infinity pool with panoramic lake views. These features position the hotel as a preferred venue for premium events, destination weddings, corporate gatherings, and leisure stays.

A notable aspect of the hotel's identity is its **commitment to sustainability and contextual design**. The architecture incorporates passive design strategies such as shading devices, natural ventilation, and lake-oriented cooling effects. Locally sourced materials and artisanship enhance the cultural authenticity of the built environment. Landscape design integrates native plantation, water-sensitive planning, and ecological buffers, ensuring that the hotel remains environmentally responsible while retaining visual harmony with its surroundings.



Fig: 67

PROJECT	–	TAJ LAKEFRONT
LOCATION	–	BHOPAL
CLIMATE	–	HUMID SUBTROPICAL
TOPOGRAPHY	–	PLAIN LAND
COMPLETION YEAR	–	2021
NO. OF ROOMS	–	152
SITE AREA	–	~6 ACRE

PROXIMITY

Landmark / Travel Node	Distance
Raja Bhoj International Airport	~14 km
Bhopal Junction Railway Station	~7.5 km
Habibganj (Rani Kamlapati) Railway Station	~9 km
New Market (TT Nagar / City Center)	~3 km
ISBT Bus Terminal	~12 km
Bharat Bhavan	~3.5 km
MP Nagar Commercial Hub	~8.5 km
State Museum / Tribal Museum	~3 km

4.1.2 SITE CONTEXT AND LOCATION

Geographical Setting: Overlooking the Upper Lake (Bhojtal), the hotel site enjoys a prime lakefront setting that allows most guest rooms, restaurants, and public areas to capture wide, unobstructed views of the water and surrounding hills, enhancing both visual appeal and microclimate comfort. The lakefront orientation also supports a resort-like ambience within the city, making the property attractive for leisure tourism, events, and high-end hospitality

Connectivity: The site is strategically located along Shyamla Hills near VIP Road, with direct arterial connectivity to the core city and regional transport nodes. It lies approximately 5 km from the city center and about 14 km from Raja Bhoj International Airport, ensuring convenient access for business travelers, tourists, and event guests while remaining slightly detached from urban congestion.

Surroundings: The immediate surroundings consist of a lush green forested and landscaped zone along the lake edge, contributing to a cool, clean, and serene environment around the development. This green belt, together with nearby cultural and recreational destinations along VIP Road, creates a prestigious and tranquil context that complements the hotel's premium 5-star positioning.

4.1.3 SITE ZONING AND CIRCULATION

Entry Point: The site presents a formal arrival with a clearly defined entry gate leading to a drop-off porch directly in front of the main lobby. This covered porch allows cars and taxis to pause briefly for luggage handling and guest alighting without obstructing internal circulation or parking movements

Zoning:

Public: The public zone is clustered around the ground-floor lobby and includes the reception, all-day dining, lakefront deck, and main banquet halls. These spaces are placed close to the entry for easy access, with visual links to the lake so walk-in guests, event visitors, and day diners can use them without entering the private guestroom corridors

Semi-Public: Semi-public areas such as specialty restaurants, lounges, and the spas are positioned slightly deeper within the plan or on dedicated levels connected to the lobby. Access remains convenient from the public zone, but controlled transitions, reception points, and level changes create a more exclusive, quieter environment for longer stays and premium experiences.

Private: The private zone comprises guest rooms and suites located on upper floors, typically from level 2 to level 6, stacked above the public podium. Controlled access through lift lobbies, key-card systems, and dedicated guest corridors ensures privacy, acoustic separation, and security away from event and restaurant noise.

Vertical Circulation: Three passenger lifts and centrally located staircases provide vertical circulation linking the basement or ground services with public and private levels. Lift cores are positioned to minimize walking distance from rooms to lobby while also providing direct routes to banquet levels and restaurants, with stairs serving both safety egress and everyday internal movement.

Service Areas: Back-of-house (BOH) areas—such as kitchens, stores, laundry, staff circulation, and service yards—are arranged along the rear side of the building, screened from guest views. Separate service corridors, goods lifts, and discrete entries allow staff, supplies, and waste to move vertically and horizontally without crossing key guest paths, preserving a clean, high-end front-of-house image.

4.1.4 ARCHITECTURE DESIGN AND FORM

- **Form:** The architectural design uses a clean, rectilinear block aligned toward the lake, creating a strong horizontal silhouette that frames panoramic water views and visually anchors the building along the shoreline. This linear form also supports efficient planning of guest rooms and public spaces in continuous bands facing the lake.

- **Façade Treatment:** The façade is treated with warm sandstone cladding, giving The hotel has a timeless, regional character while improving thermal performance in Bhopal's climate. Intricate jali screens, derived from Mughal and Rajput precedents, are integrated into balconies and window panels to filter light, provide privacy, and cast patterned shadows on elevations.

- **Design Language:**
  - The overall design language blends contemporary proportions with vernacular detailing so that the building feels modern yet rooted in local culture. Clean lines and simple volumes are softened with traditional motifs in railings, screens, and entrance features to create an identifiable identity.

  - Large horizontal overhangs, canopies, and projected slabs protect glazing and outdoor decks from harsh sun and monsoon rain, improving comfort and reducing heat gain. These shading elements also reinforce the horizontal emphasis of the massing and create shaded transition zones at the drop-off, lobby frontage, and lakefront edges.

  - At the heart of the composition, a double-height glazed lobby opens directly toward the lake, framing it like a living landscape backdrop. The tall glass façade visually connects interior arrival spaces with the terrace and water beyond, giving guests an immediate sense of openness, luxury, and connection to the site.

4.1.5 LANDSCAPE DESIGN

- Lakefront Promenade:A timber-decked promenade runs parallel to the shoreline, forming a primary pedestrian spine for strolling and lake viewing. Integrated seating bays, low benches, and steps toward the water create pause points for relaxation, supported by bollard and pathway lighting for safe evening use and a strong night-time ambience.

- Green Buffer Zones: Between the building and the lake, layered green buffers use native trees, shrubs, and groundcovers adapted to the local climate and soil. These zones rely on drought-tolerant species and efficient irrigation, reducing water consumption while providing shade, habitat, and a soft visual transition from hard edges to the natural lakefront.

- Hardscape Elements: Key hardscape features include corten steel screens used as sculptural partitions and backdrops for planting, adding texture and a warm, weathered tone. Stone-paved courts and connecting paths organize circulation, while shallow water features and reflecting pools near the lobby and promenade enhance microclimate, provide sound masking, and reinforce the lake-inspired ambiance.

4.1.6 MATERIALS AND FINISHES

Area	**Materials Used**
Façade	Dholpur sandstone, metal jalis, glass
Lobby	Italian marble flooring, brass accents
Guest Rooms	Hardwood floors, local textile panels
Ceiling	Acoustic panels, recessed lighting
Landscape	Kota stone, sandstone, corten steel

4.1.7 LIGHTING AND SERVICES

- Natural Lighting: Large glazed openings along the lakefront bring in abundant daylight to lobbies, restaurants, and circulation areas, reducing daytime dependence on artificial lighting and visually connecting interiors to the water. Skylights in selected public zones, such as lobby foyers or internal corridors, introduce top light into deeper parts of the plan, creating bright, airy spaces and improving wayfinding.

- Artificial Lighting: Warm-toned recessed LED fixtures provide soft ambient illumination in guest areas, lobbies, and corridors, creating a welcoming and relaxed atmosphere while remaining energy efficient. In banquet halls and key public nodes, decorative chandeliers act as focal elements, adding grandeur and layered light that can be dimmed for different event moods and functions.

- HVAC: The hotel is served by a centralized air-conditioning system, typically using chilled water or VRV/VRF systems engineered for high efficiency and zoning control. Guest rooms, public areas, and back-of-house zones are organized into separate HVAC zones with intelligent controls, allowing temperature optimization, reduced energy use, and improved thermal comfort.

- Fire Safety: Fire and life-safety provisions include addressable smoke detectors, heat sensors where required, and an automatic sprinkler network integrated across guest rooms, corridors, and public spaces. Clearly marked emergency exits, illuminated exit signage, fire-rated staircases, alarm systems, and pressurized escape routes ensure safe evacuation in compliance with hospitality safety standards.

4.1.8 MEET & EVENT

RAJ MAHAL BALLROOM

The Raj Mahal Ballroom spans 880 sq.mt. with a soaring 7-meter ceiling height, creating a majestic, pillar-free space ideal for grand weddings, conferences, and cultural galas accommodating up to 500 guests. Its expansive scale and lofty volume allow flexible layouts for theatre-style seating, banquets, or dance floors while maintaining an airy, regal ambiance enhanced by chandelier lighting and acoustic treatments.

An adjacent pre-function space of 330 sq.mt. serves as a versatile reception foyer for guest milling, cocktail hours, or registration, seamlessly connecting to the main hall via wide openings. Equipped with built-in AV systems, dimmable lighting, and climate control, both areas support high-end events with smooth transitions and no bottlenecks

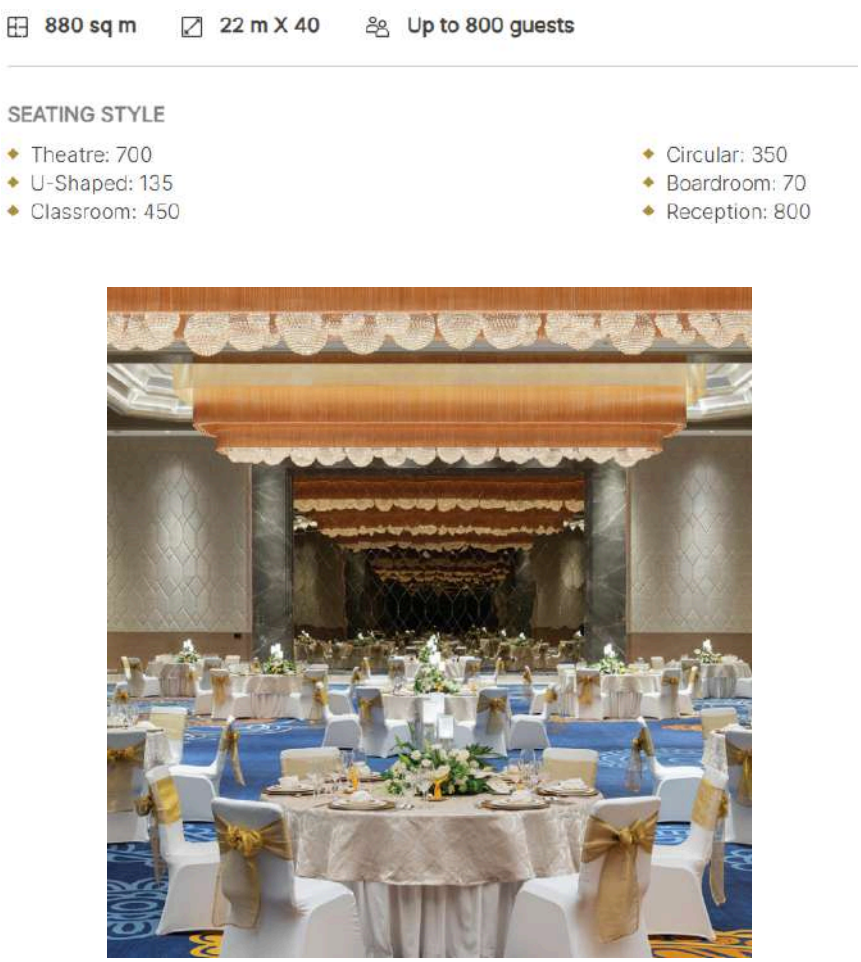


Fig: 68

VINDHYA LAWN

The expansive Vindhya Lawn covers 2000 sq.mt. of lush, manicured green space, offering an idyllic outdoor venue for royal weddings, festive galas, and large receptions accommodating up to 1000 guests in theatre or floating setups. Its open layout with gentle slopes and natural backdrop allows flexible configurations for mandaps, dance floors, and banquet seating under starry skies or festive lighting.

Ideal for destination wedding ceremonies like sangeet or baraat, the lawn features integrated landscaping, power backups, and AV infrastructure to host elaborate events seamlessly while blending with the lakefront setting.

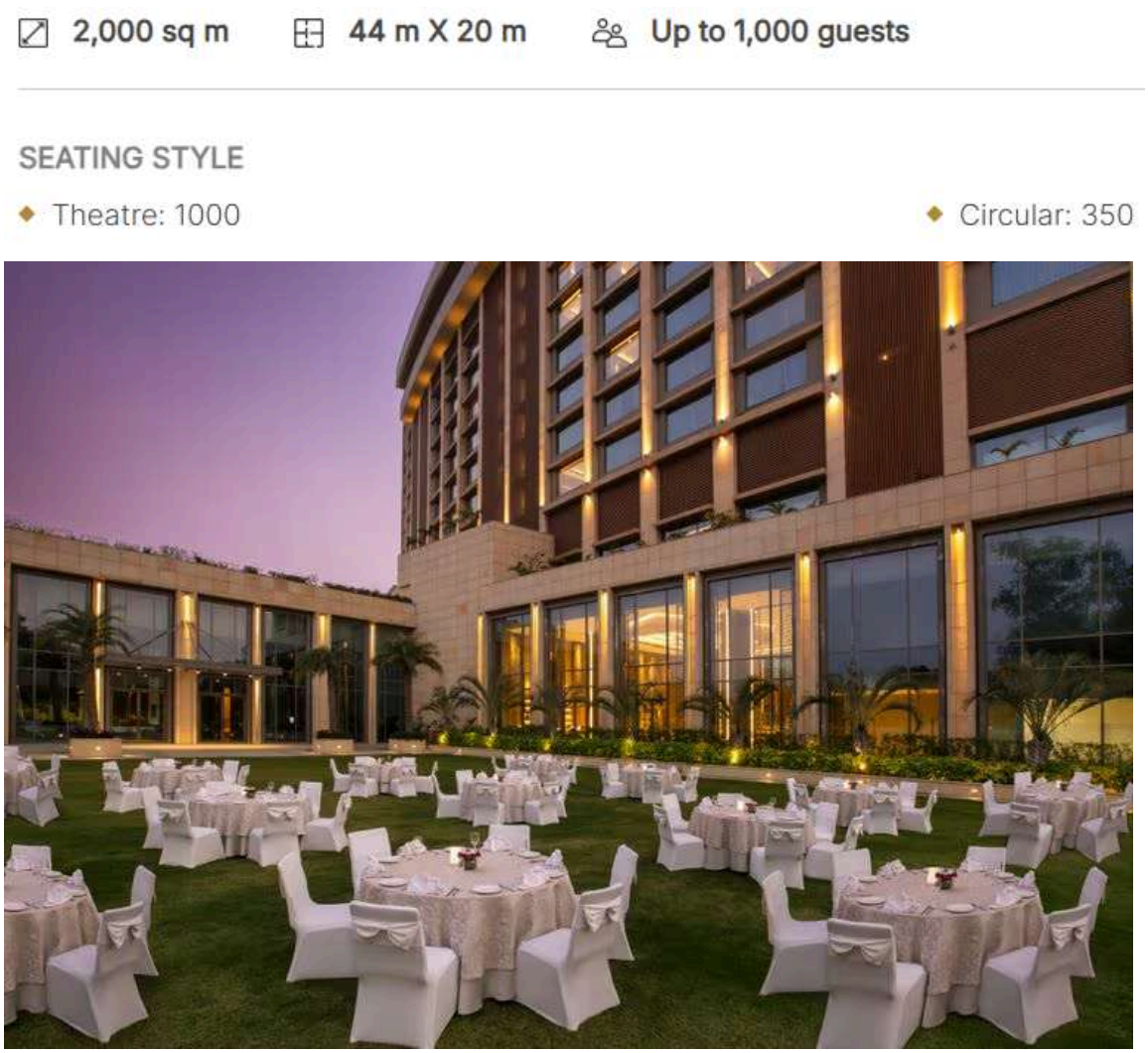


Fig: 69

SATPURA TERRACE

The Satpura Terrace spans 746 sq.mt., offering a spacious open-air platform elevated for unobstructed panoramic views of the surrounding hills, creating a naturally dramatic backdrop for events. Its generous dimensions support flexible layouts for up to 200 guests in cocktail receptions, intimate dinners, or daytime brunches, with integrated flooring, railings, and planters ensuring safety and elegance.

This versatile venue excels for daytime extravaganzas like high-tea gatherings or corporate luncheons, where natural light and breezes enhance the airy feel, complemented by modular shading and misting systems for comfort. At night, it transforms into a star-studded soiree space with festoon lighting, LED uplights, and acoustic panels, ideal for private parties, proposals, or sunset cocktails that leverage the hill vistas.

Built-in power outlets, AV connectivity, and weather-resistant features make it event-ready year-round, blending seamlessly with the hotel's lakefront context for memorable, scenic occasions.

746 sq m Up to 250 guests

SEATING STYLE

- Theatre: 250
- Reception: 250
- Circular: 180



Fig: 70

SHEESH MAHAL

Sheesh Mahal is 141 sq.mt. banquet space featuring ornate mirror work and intricate detailing that evokes royal palaces, creating a mesmerizing, jewel-box atmosphere for intimate gatherings. Its compact yet grand scale accommodates 80-120 guests in seated dinners or cocktails, perfect for private celebrations like birthdays, anniversaries, or corporate get-togethers with elegant layouts and no pillars obstructing views.

The wide, versatile hall supports flexible configurations with built-in stage, dimmable chandeliers, and acoustic panels for speeches or light music, blending opulence with functionality. Adjacent pre-function areas and AV integration make it an irresistible choice for seamless, upscale events that feel exclusive and culturally rich.

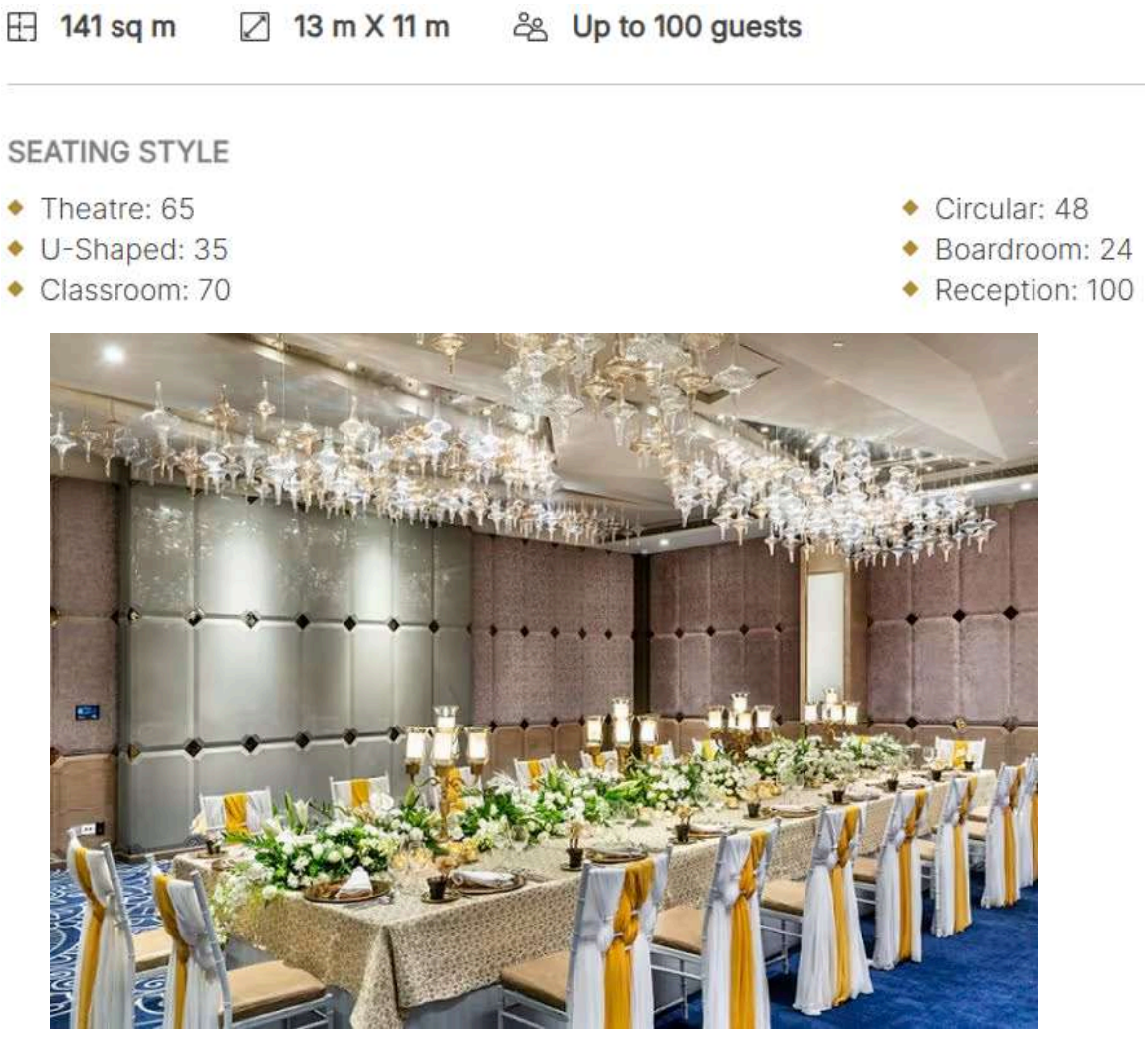


Fig: 71

4.1.9 MEETING ROOMS

State-of-the-art meeting rooms, each spanning 100 sq.mt., provide sophisticated escapes from routine business meetings, accommodating 40-60 participants in flexible boardroom, U-shape, or classroom configurations. Equipped with high-speed Wi-Fi, seamless video conferencing via HD cameras and microphones, interactive smart boards, and wireless presentation systems, these spaces enable hybrid collaboration with crystal-clear audio-visual performance.

Ergonomic seating, adjustable LED lighting, soundproofing, and climate control create focused, comfortable environments for brainstorming, client pitches, or training sessions. Integrated power outlets, digital scheduling, and catering access ensure smooth operations, transforming standard meetings into productive, innovative experiences

TAPTI

Tapti at Taj Lakefront, Bhopal, is a compact 44 sq.mt. (13m x 3.5m) luxury boardroom designed for professional settings, accommodating up to 14 guests in a sleek, beige-and-brown interior with a long conference table. Fully equipped with state-of-the-art AV technology—including projectors, high-speed Wi-Fi, microphones, and presentation systems—it supports seamless corporate presentations, board meetings, or strategy sessions.

Ergonomic seating, ambient lighting, and soundproofing create an executive ambiance that elevates discussions beyond standard offices, with easy access to catering and hybrid video capabilities. Ideal for small teams seeking privacy and efficiency amid the hotel's lakefront luxury.





Fig:72

NARMADA

Narmada at Taj Lakefront, Bhopal, is a compact 56 sq.mt. state-of-the-art meeting room designed for business seminars, workshops, and group trainings, accommodating up to 30 guests in theatre style or 24 in classroom setups. Its warm, calming tones and elegant interiors create a sophisticated, tranquil environment with ergonomic seating, ensuring focused productivity away from routine office settings.

Equipped with cutting-edge AV facilities—including projectors, high-speed Wi-Fi, microphones, and presentation systems—it supports seamless hybrid meetings and presentations. Soundproofing, adjustable lighting, and climate control enhance comfort, with easy catering access for extended sessions

56 sq m Up to 40 guests

SEATING STYLE

- Theatre: 30
- U-Shaped: 20
- Classroom: 30
- Circular: 24
- Boardroom: 15



Fig:73

4.1.10 ACCOMODATIONS

152 ROOMS & SUITES

Smart rooms equipped with world-class amenities and ample space; ideal for fun and entertainment. The rooms are designed to be timeless and elegant with neutral taupes and greys to invoke a sense of tradition and culture. With stunning views and a selection of balcony rooms, you will be spoilt for choices

DELUXE ROOM TWIN BED

The Deluxe Room Twin Bed at Taj Lakefront, Bhopal, measures 33 sq.mt. (355 sq.ft.), offering ample space for up to 3 guests with two comfortable twin beds in a timeless, elegant design featuring neutral taupes and greys inspired by local tradition and culture. Many rooms provide stunning lake or hill views, with select balcony options enhancing the serene ambiance for relaxation and entertainment.

Smart amenities include a 49-inch LED Smart TV, electronic safe, minibar, tea/coffee maker, iron/board, full-length mirror, hair dryer, and Forest Essentials bath products, complemented by 24-hour in-room dining, laundry, bottled water, and Wi-Fi (basic included, premium available). Air-conditioned comfort, premium bedding, and blackout curtains ensure restful stays amid the hotel's 152 sophisticated rooms and suites.

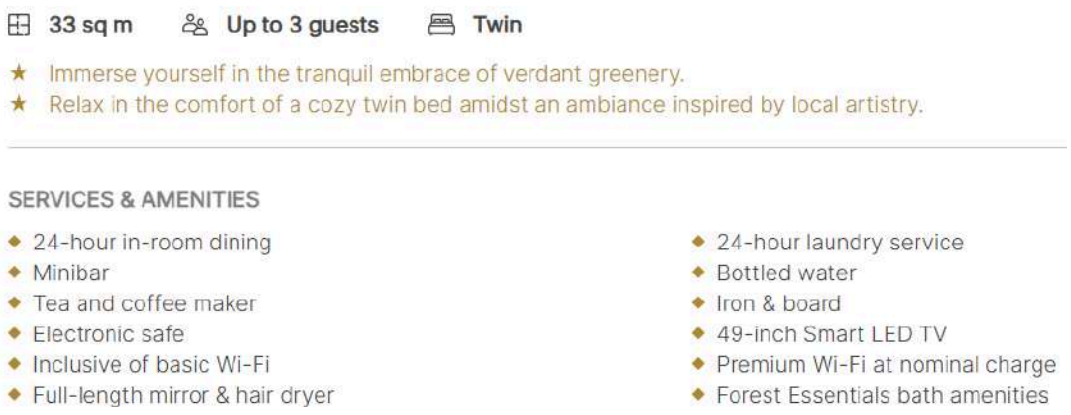




Fig: 74

DELUXE ROOM KING BED

The Deluxe Room King Bed at Taj Lakefront, Bhopal, spans 355 sq.ft. (33 sq.mt.), featuring a plush king-sized bed ideal for couples or solo travelers seeking unwind space with timeless elegance in neutral taupes and greys evoking local tradition. Many offer stunning lake or hill views, with select balcony variants providing fresh air and panoramic vistas for enhanced relaxation and entertainment amid the hotel's 152 smart rooms and suites.

World-class amenities include a 49-inch Smart LED TV, electronic safe, stocked minibar, tea/coffee facilities, ironing board, hair dryer, full-length mirror, and premium Forest Essentials bath essentials in a private rain shower bathroom with bathrobes and slippers. Guests enjoy 24-hour room service, daily housekeeping, complimentary basic Wi-Fi (premium upgrade available), blackout curtains, premium linens, turndown service, and air-conditioning for ultimate comfort.

33 sq m Up to 3 guests King

★ Be captivated by the picturesque allure of rolling hills and verdant landscapes.
★ Unwind in a spacious haven adorned with timeless elegance.

SERVICES & AMENITIES

- 24-hour in-room dining
- Minibar
- Tea and coffee maker
- Electronic safe
- Inclusive of basic Wi-Fi
- Full-length mirror & hair dryer
- Shower cubicle
- 24-hour laundry service
- Bottled water
- Iron & board
- 49-inch Smart LED TV
- Premium Wi-Fi at nominal charge
- Forest Essentials bath amenities





Fig: 75

LUXURY GRANDE LAKE VIEW KING BED

The Luxury Grande Lake View King Bed at Taj Lakefront, Bhopal, spans 38 sq.mt. (409 sq.ft.), offering elevated luxury for up to 3 guests with a king-sized bed, private balcony, and unobstructed panoramic views of the Upper Lake (Bhojtal). Its timeless design in neutral taupes and greys incorporates contemporary wood accents and regional motifs, creating a serene, culturally inspired retreat within the hotel's 152 smart accommodations.

Key highlights include floor-to-ceiling windows framing shimmering lake vistas, a separate sitting area for relaxation, and premium amenities like a 49-inch Smart LED TV, stocked minibar, tea/coffee maker, electronic safe, iron/board, full-length mirror, hair dryer, and Forest Essentials bath products in a spacious rain shower bathroom with bathrobes. Guests benefit from 24-hour in-room dining, laundry, bottled water, basic Wi-Fi (premium upgrade available), blackout curtains, premium linens, air-conditioning, and turndown service for ultimate comfort and entertainment.

38 sq m Up to 3 guests King

★ Enjoy the mesmerising view of the lake from your own private balcony.
★ Delight in the harmonious blend of contemporary luxury and traditional Bagh motifs amidst panoramic lake views.

SERVICES & AMENITIES

- 24-hour in-room dining
- Minibar
- Tea and coffee maker
- Walk-in wardrobe
- 49-inch Smart LED TV
- Premium Wi-Fi at nominal charge
- Full-length mirror & hair dryer
- 24-hour laundry service
- Bottled water
- Iron & board
- Electronic safe
- Inclusive of basic Wi-Fi
- Forest Essentials bath amenities
- Personal balcony



Fig:76

LUXURY GRANDE LAKE VIEW TWIN BED

The Luxury Grande Lake View Twin Bed at Taj Lakefront, Bhopal, covers 38 sq.mt. (409 sq.ft.), accommodating up to 3 guests with two spacious twin beds, a private balcony, and direct panoramic views of the shimmering Upper Lake (Bhojtal). This elevated category blends timeless elegance in neutral taupes and greys with contemporary wood accents and regional motifs, offering a serene, culturally inspired haven among the hotel's 152 smart accommodations.

Floor-to-ceiling windows maximize natural light and lake vistas, complemented by a separate sitting area for relaxation. Premium amenities feature a 49-inch Smart LED TV, electronic safe, stocked minibar, tea/coffee maker, iron/board, full-length mirror, hair dryer, and Forest Essentials bath products in a luxurious rain shower bathroom with bathrobes and slippers.

Additional services include 24-hour in-room dining, laundry, bottled water, basic Wi-Fi (premium upgrade available), blackout curtains, premium linens, air-conditioning, and turndown service, ensuring sophisticated comfort and entertainment with unobstructed waterfront serenity.

38 sq m Up to 3 guests Twin

★ Revel in the spaciousness of a twin-bedded room adorned with intricate Tikamgarh art
★ Surrender to the tranquillity of lakeside vistas that unfold before you.

SERVICES & AMENITIES

- 24-hour in-room dining
- Minibar
- Tea and coffee maker
- Walk-in wardrobe
- 49-inch Smart LED TV
- Premium Wi-Fi at nominal charge
- Full-length mirror & hair dryer
- 24-hour laundry service
- Bottled water
- Iron & board
- Electronic safe
- Inclusive of basic Wi-Fi
- Forest Essentials bath amenities
- Personal balcony




Fig:77

EXECUTIVE SUITE

The Executive Suite at Taj Lakefront, Bhopal, measures 710 sq.ft. (66 sq.mt.), providing expansive luxury on upper floors with lake views, a king bed in the bedroom, separate living room, and dining area for up to 4 guests seeking business or leisure indulgence. Its timeless design features neutral taupes and greys with wood accents, evoking cultural serenity amid the hotel's 152 premium accommodations.

Layout includes a private workspace, plush seating, and floor-to-ceiling windows for natural light. Amenities comprise a 49-inch Smart LED TV, electronic safe, stocked

minibar, tea/coffee maker, iron/board, full-length mirror, hair dryer, and Forest Essentials bath products in a spacious bathroom with rain shower, bathrobes, and slippers.

Services feature 24-hour room service, laundry, bottled water, basic Wi-Fi (premium upgrade), blackout curtains, premium linens, turndown service, air-conditioning, and cribs/rollaways on request, with connecting options for families.

66 sq m **Up to 3 guests** **King**

★ A Spacious two-room suites overlooking the lake.
★ Pamper yourself with a rejuvenating soak in the indulgent comfort of a bathtub.

SERVICES & AMENITIES

- 24-hour in-room dining
- Minibar
- Tea and coffee maker
- Walk-in wardrobe
- 49-inch Smart LED TV
- Premium Wi-Fi at nominal charge
- Full-length mirror & hair dryer
- Separate living room
- Non-smoking room
- 24-hour laundry service
- Bottled water
- Iron & board
- Electronic safe
- Inclusive of basic Wi-Fi
- Forest Essentials bath amenities
- Bathtub
- Spacious two-room suites







Fig:78

LUXURY SUITE

The Luxury Suite at Taj Lakefront, Bhopal, spans 66 sq.mt. (710 sq.ft.), delivering opulent space with a private balcony showcasing idyllic lake views, a king bed in the bedroom, separate living and dining areas for up to 4 guests. Neutral taupes and greys with wood accents create a timeless, culturally inspired elegance, elevated by floor-to-ceiling windows and serene morning-to-sunset panoramas.

Expansive layout includes plush seating, a workspace, and premium touches like a 49-inch Smart LED TV, electronic safe, stocked minibar, tea/coffee maker, iron/board, full-length mirror, hair dryer, and Forest Essentials bath amenities in a spacious rain shower bathroom with bathrobes and slippers.

Services encompass 24-hour in-room dining, laundry, bottled water, basic Wi-Fi (premium upgrade), blackout curtains, premium linens, turndown service, air-conditioning, and connecting room options, blending luxury with lakefront tranquility.

76 sq m Up to 3 guests King

★ Retreat to the lap of luxury with a suite featuring a private balcony overlooking the lake.
★ Unwind amidst opulent surroundings and panoramic lake views, complemented by the indulgence of a bathtub.

SERVICES & AMENITIES

- 24-hour in-room dining
- Minibar
- Tea and coffee maker
- Walk-in wardrobe
- Inclusive of basic Wi-Fi
- Forest Essentials bath amenities
- Bathtub
- 24-hour laundry service
- Bottled water
- Iron & board
- Electronic safe
- Premium Wi-Fi at nominal charge
- Full-length mirror & hair dryer



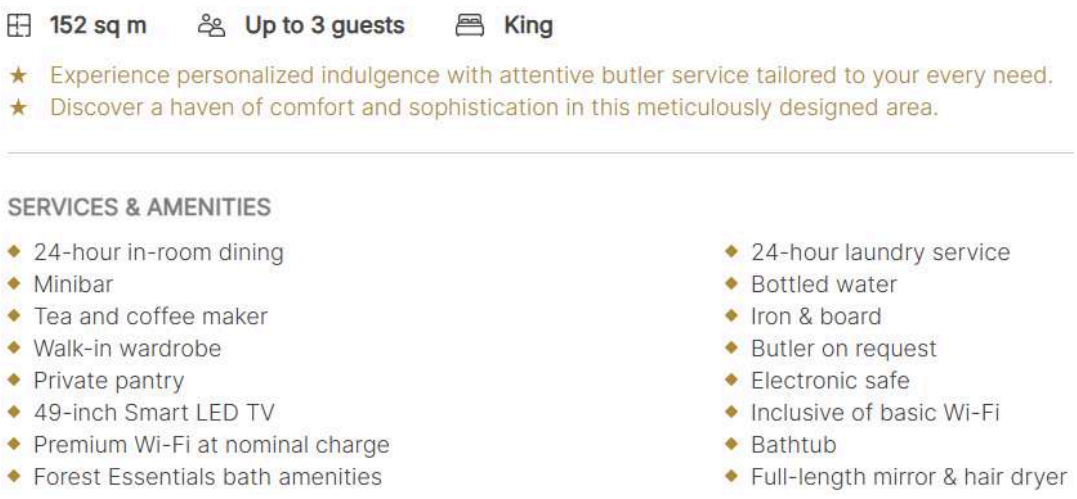
Fig: 79

PRESIDENTIAL SUITE

The Presidential Suite at Taj Lakefront, Bhopal, is the hotel's crowning 152 sq.mt. (1636 sq.ft.) pinnacle of luxury on the top floor, featuring a king bed, expansive bedroom, separate living room, dining area, and private balconies in every section with unobstructed Upper Lake views for up to 3 guests. Interiors evoke a bygone era with ethereal elegance in neutral taupes, greys, and wood accents, blending timeless sophistication with modern serenity amid the 152-room portfolio.

Layout maximizes space with plush seating, a dedicated workspace, and floor-to-ceiling windows framing shimmering lake panoramas from dawn to dusk. Premium amenities include a 49-inch Smart LED TV, electronic safe, stocked minibar, tea/coffee maker, iron/board, full-length mirror, hair dryer, and Forest Essentials bath products in a lavish bathroom with separate bathtub, rain shower, bathrobes, and slippers.

Dedicated services offer 24-hour in-room dining, laundry, bottled water, basic Wi-Fi (premium upgrade), blackout curtains, premium linens, turndown service, air-conditioning, rollaway/crib options, and personalized butler access for unparalleled lakefront indulgence



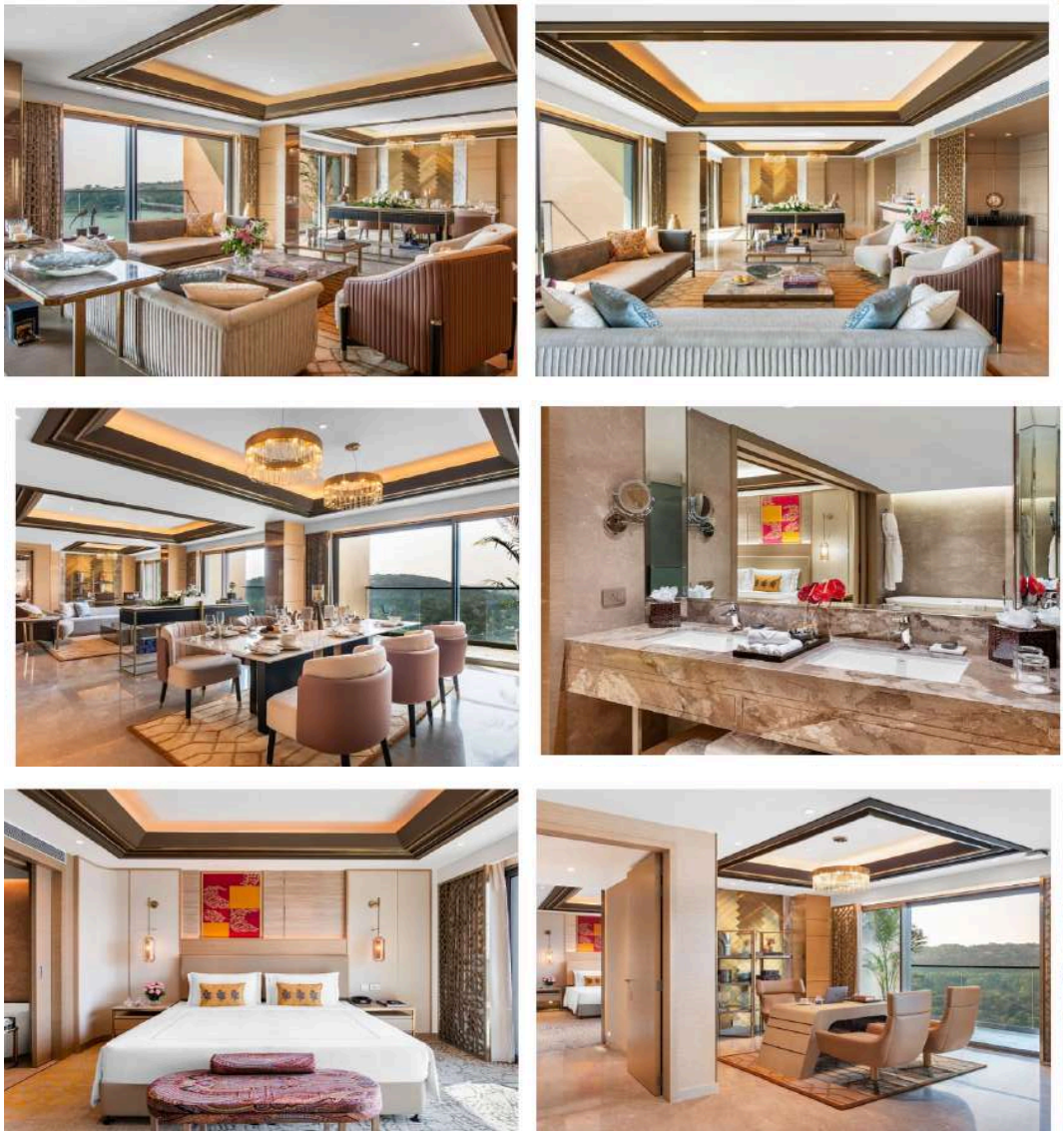


Fig:80

4.1.11 FACILITIES

HOTEL

- Accessibility for differently-abled
- Bicycles
- Car Rental
- Concierge
- Currency Exchange
- Doctor on Call
- Earth check certified
- EV charging stations
- Evening entertainment

- Games Room
- Heritage walk
- Indoor banquet spaces
- Khazana for shopping
- Laundry and Drycleaning
- Library
- Multi-lingual Staff
- Outdoor banquet spaces
- Shuttle service to/from city centre
- Standard & premium Wi-Fi
- Travel Desk
- Vehicle parking

DINING

- Machan For All Day Dining
- House Of Ming (Fine Dining Chinese Specialty Restaurant)
- Infinity Sky Lounge
- Emperor Lounge

J WELLNESS CIRCLE

- Infinity edge swimming pool
- J Wellness Circle Spa
- Kids pool
- niu&nau salon
- Outdoor swimming pool
- State-of-the-art fitness centre
- Yoga instructor

ROOMS

- Butler service
- Interconnecting rooms (subject to availability)
- Mini-Bar
- Smoking and non-smoking rooms (subject to availability)
- 24/7 in-room dining
- 91 Lake View / 61 Hill View
- 142 Rooms & 10 Suites

4.2 RADISSON HOTEL, BHOPAL

4.2.1 INTRODUCTION

Radisson Bhopal is a modern 5-star hotel offering 104 elegantly designed rooms and suites, strategically located in the Sevaniya region along Ring Road No. 1 in Bhopal, Madhya Pradesh. Its proximity to key institutions like AIIMS Bhopal and BHEL Township, along with good connectivity to Raja Bhoj Airport (~18 km) and the Bhopal Railway Station (~10 km), makes it an ideal destination for business and leisure travellers alike.

The hotel combines urban efficiency with luxurious hospitality, providing a range of services such as banquet halls, fine dining restaurants, a rooftop swimming pool, fitness center, and spa. Architecturally, Radisson Bhopal reflects a contemporary design language with clean lines, modern cladding, and an emphasis on functionality. The use of natural lighting, efficient zoning, and minimalist interiors creates a clutter-free, user-friendly environment.

Designed to accommodate high footfall without compromising on comfort, the hotel's layout supports smooth guest circulation and service delivery. The architectural approach embraces environmental responsibility through energy-efficient systems and sustainable material choices, establishing the hotel as a significant case study in modern urban hospitality design.

Rooted in Radisson's legacy—tracing back to the 1909 Minneapolis original and evolving through Carlson's expansions—this Bhopal outpost embodies the brand's commitment to upscale, guest-centric experiences with modern amenities like high-speed Wi-Fi and flexible layouts. As Bhopal grows as a hub for heritage tourism and industry



Fig: 81

PROJECT – RADISSON HOTEL
LOCATION – SEVANIYA, BHOPAL
CLIMATE – SUBTROPICAL CLIMATE
TOPOGRAPHY – PLAIN LAND
COMPLETION YEAR – 2021
NO. OF ROOMS – 104
SITE AREA – ~2.0 ACRE

PROXIMITY

Landmark / Travel Node	**Distance**
Raja Bhoj International Airport	~18 km
Bhopal Junction Railway Station	~10 km
Habibganj (Rani Kamlapati) Railway Station	~8.5 km
AIIMS Bhopal	~1.5 km
BHEL Township	~2.5 km
ISBT Bus Terminal	~11 km
MP Nagar Commercial District	~8 km
New Market / TT Nagar (City Center)	~10 km

Upper Lake (Bhojtal)	~11.5 km
Manav Sangrahalaya (Museum of Mankind)	~12 km

4.2.2 SITE LOCATION AND CONTEXT

- **Urban Setting:** Radisson Hotel Bhopal occupies a prime position in Sevaniya (also known as Bag Sewaniya), an emerging commercial and residential hub on Bhopal's eastern periphery that balances urban growth with green spaces. Proximity to AIIMS Bhopal in Saket Nagar (approximately 5-7 km away) and BHEL Township in Habibganj positions it ideally for medical professionals, corporate executives from nearby industries, and families seeking modern amenities in a developing area.
- **Connectivity:** The hotel connects seamlessly via Ring Road No. 1, Bhopal's key arterial corridor facilitating quick access to the city center, Hoshangabad Road, and major highways. Raja Bhoj International Airport lies about 18 km northwest (30-40 minute drive), while Habibganj Railway Station is roughly 10 km away, making it convenient for air, rail, and road travelers without urban congestion.
- **Surroundings:** Immediate context blends institutional landmarks like AIIMS with BHEL's established township, fostering a professional yet livable environment amid upcoming residential projects and plotted developments. Arterial roads and commercial nodes nearby support business activity, while peripheral green belts maintain a serene backdrop conducive to the hotel's event and leisure focus.

4.2.3 SITE ZONING AND CIRCULATION

- **Entry:** A secure gated entry controls access from the main road, leading directly to designated surface parking and a covered drop-off zone positioned for smooth guest arrivals without congestion. This layout separates vehicular and pedestrian flows, with valet parking and immediate lobby access enhancing first impressions for business and leisure arrivals.
- **Zoning:**
    - **Public**: Ground-floor public areas cluster reception, lobby lounge, all-day restaurant (Wok Thai), banquet halls, and the Just Baked café around the central atrium for maximum visibility and convenience. These spaces support walk-ins, events up to 1,500 guests, and dining, with

lake proximity creating inviting, light-filled environments accessible without navigating private zones.

- **Semi-Public:** Business center, modern gym, and pool deck occupy dedicated mid-level or peripheral locations, offering controlled access via reception for day-use clients, wellness guests, and hybrid workers. These facilities provide privacy from main public traffic while remaining steps from meeting rooms and upper-floor accommodations.
- **Private:** Guest rooms and suites (104 total) occupy upper floors above the public podium, ensuring acoustic separation, security via key-card access, and serene views of Shahpura Lake or cityscape. Spacious superior, premium, and suite categories prioritize rest amid the hotel's event-heavy operations.

- **Vertical Circulation:** Three high-speed passenger elevators plus one dedicated service lifts connect all levels efficiently, minimizing wait times during peak events while segregating guest/staff movements. Centrally positioned cores optimize room access and emergency egress per safety codes.
- **Parking:** Ample ground-level and multi-level basement parking accommodates 100+ vehicles, with EV charging and valet services supporting high-volume conferences and weddings without on-street overflow. Secure, well-lit design integrates with entry circulation for seamless operations.

4.2.4 ARCHITECTURAL DESIGN AND FORM

- **Form:** Radisson Hotel Bhopal adopts a compact, vertically-oriented rectangular block optimized for its urban plot, with stepped massing that reduces visual bulk at upper levels while maximizing lake views and rooftop amenities. This efficient vertical profile accommodates 104 rooms across multiple floors above extensive ground-level event spaces, balancing density with guest privacy and operational flow.

- **Façade Treatment:** The exterior combines modern curtain glazing for expansive daylight penetration, textured concrete panels for depth and durability, and selective stone cladding that grounds the design in regional materiality. These layered elements create a sophisticated play of light and shadow, with glazing concentrated on south-facing elevations to frame Shahpura Lake while concrete provides acoustic and thermal buffering

- **Design Language:**

  - Symmetry governs the composition through balanced window rhythms and centered entry, paired with clean horizontal lines and minimalist detailing for a contemporary corporate aesthetic. Interior spaces draw from Madhya Pradesh's vibrant Gond tribal art, integrating bold murals and motifs into walls and furnishings for cultural resonance without overwhelming modernism.

  - A double-height entrance lobby serves as the dramatic core, featuring a statement chandelier suspended above polished floors and contemporary artwork that celebrates local heritage, immediately immersing guests in refined elegance.

  - Select suites incorporate private balconies with sleek metal railings, offering intimate outdoor retreats with unobstructed vistas and safety-compliant minimalist design that complements the overall clean lines.

4.2.5 LANDSCAPE DESIGN

- **Entrance Landscape:** The entrance features a minimalist approach with precisely manicured shrubs framing the gated entry, subtle water features that create reflective pools for visual interest, and integrated signage lighting for nighttime legibility. Low-maintenance native plants and linear gravel beds reinforce clean lines, guiding guests toward the drop-off while softening the urban context without overwhelming the modern architecture.

- **Pool Deck:** A compact rooftop infinity pool serves as the wellness focal point, edged with landscaped surrounds of potted palms, linear planters, and teak decking that extend usable space while framing Shahpura Lake views. Sundecks with cushioned loungers, shaded cabanas, and mood lighting create a resort-like escape amid the vertical massing, with infinity edging enhancing the illusion of merging with the horizon.

- **Green Areas:** Vertical green walls clad select elevations and interior atrium spaces, using hydroponic systems with native creepers and ferns to improve air quality, acoustics, and biophilic connection in compact urban confines. Terrace edges incorporate planted troughs and green roofs over mechanical zones, softening hard lines, reducing heat island effects, and providing habitat amid the site's event-driven operations.

4.2.6 MATERIALS AND FINISHES

Area	Materials Used
Façade	Glass, stone, aluminum composite panels
Lobby	Imported marble flooring, wood panels, metal inlays
Guest Rooms	Laminated wood flooring, fabric headboards
Ceilings	POP with concealed strip lighting
Outdoor	Pavers, granite tiles, stainless steel balustrades

4.2.7 LIGHTING AND SERVICES

- **Natural Light:** Extensive glazing in the double-height lobby atrium and guest room windows maximizes daylight penetration, creating bright, airy public spaces and reducing artificial lighting needs during peak hours. Strategic orientation toward Shahpura Lake enhances views and passive solar gain, with light shelves and sheer curtains in rooms distributing even illumination while preserving privacy.

- **Artificial Lighting:** Ambient warm LED downlights and cove lighting in the lobby fosters welcoming atmospheres, complemented by statement chandeliers above reception for dramatic focal points. Guest rooms feature zoned task lighting at desks and bedsides, with dimmable bedside reading lamps and wardrobe illumination, all using energy-efficient LEDs per Radisson standards for 24/7 operations.

- **HVAC:** A central VRF (Variable Refrigerant Flow) system delivers precise

zoning across public, guest, and back-of-house areas, optimizing energy use through inverter technology and occupancy sensors. Individual room thermostats allow guest control (18-24°C range), while smart BMS integration monitors CO2 levels and adjusts ventilation for wellness and efficiency in event-heavy usage.

- **Safety:** Comprehensive fire safety includes automatic smoke detectors and heat sensors on all floors, linked to a central panel with audible-visual alarms and PA system announcements. Full sprinkler coverage, fire-rated corridors, pressurized staircases, and multiple emergency exits ensure NBC-compliant evacuation paths, with regular drills and extinguishers at strategic nodes.

4.2.8 MEET & EVENT

Radisson Bhopal offers over 3,900 sq.mt. of versatile conference space across 8 high-ceiling halls and terraces, supporting events from 10 to 800 seated (1,200 floating) with free high-speed Wi-Fi, AV equipment, catering, printing, and climate control.

Grand Ballroom-1 & Grand Ballroom-2

Each 930 sq.mt. pillarless venue accommodates 600-800 theatre-style or 400 banquet, ideal for large conferences, weddings, or galas with pre-function foyers and divisible partitions for flexibility.

Grand Terrace

The 1,115 sq.mt. The outdoor space hosts 1,000+ floating guests with 360° city/lake views, perfect for cocktails, launches, or evening receptions under festoon lighting and weather backups.

Smaller Breakout Rooms

- Renew Hall (100 sq.mt.): 80 theatre, for workshops
- Refresh Hall (100 sq.mt.): 80 theatre, team huddles
- Revive Hall (110 sq.mt.): 90 theatre, training sessions
- Nurture (200 sq.mt.): 150 theatre, mid-size seminars
- Nirvana (150 sq.mt.): 120 theatre, board meetings



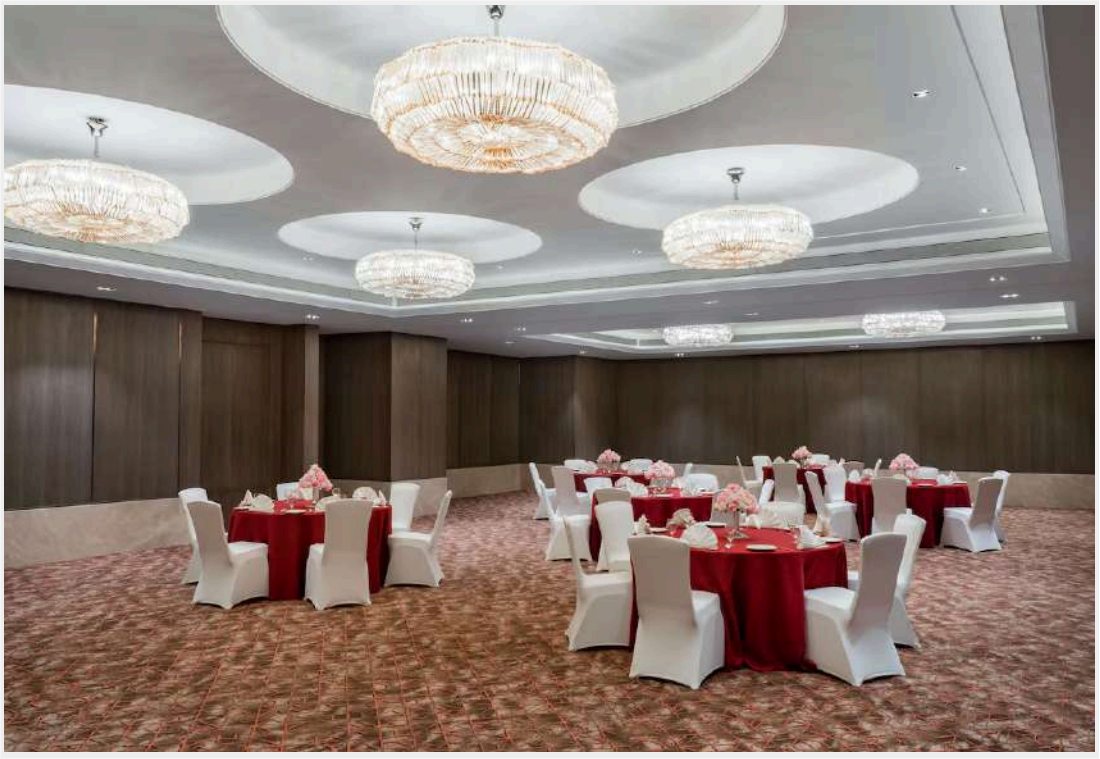


Fig:82

4.2.9 DINING

Radisson Bhopal's 3 on-site restaurants and bars.

1. Fusion Cafe
2. Pure
3. Just Baked

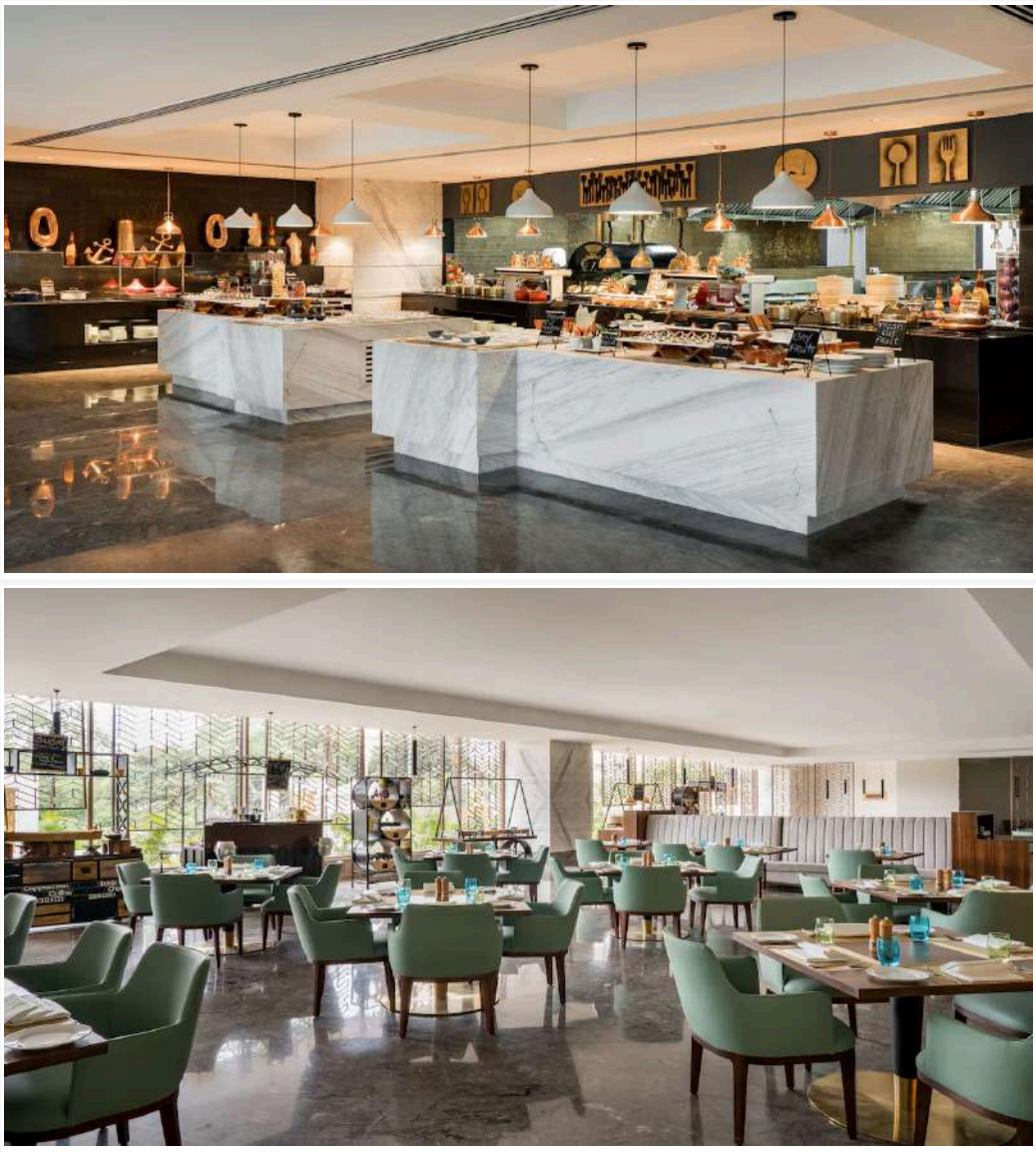


Fig:83

4.2.10 ACCOMODATION

SUPERIOR ROOM AND EXECUTIVE ROOM

Superior and Executive Rooms at Radisson Bhopal measure 32 sq.mt., accommodating up to 3 adults with options for 2 twin beds or 1 double/king bed in a modern business-class design featuring light color palettes, cream curtains, and plush furnishings. Essential amenities include air conditioning, free high-speed Wi-Fi, coffee/tea facilities, work desk, flat-screen cable TV, complimentary bottled water, minibar, phone, bathrobes, slippers, eco-friendly bathroom amenities, and hair dryer.

Soundproofed for privacy with separate sitting areas, these entry-level rooms offer daily housekeeping, 24-hour room service, and connecting options, ideal for short business stays or families exploring Bhopal.

32 m² / 344 ft², 3 adults, 2 twin or 1 double bed



Fig: 84

JUNIOR SUITE

Junior Suites at Radisson Bhopal span 40 sq.mt. (430 sq.ft.), offering enhanced luxury for up to 3 adults with a king bed, separate sitting area, and city views in a modern design featuring light palettes, cream curtains, and plush furnishings. Ideal for extended business stays or families, the open-plan layout includes a spacious workspace, soundproofing for privacy, and connecting room options.

Amenities mirror higher categories with air conditioning, free high-speed Wi-Fi, coffee/tea facilities, flat-screen cable TV, complimentary bottled water, minibar, electronic safe, phone, bathrobes, slippers, eco-friendly toiletries, hair dryer, iron/board, and daily housekeeping. The en-suite bathroom features a rain shower, premium linens, blackout curtains, and 24-hour room service for ultimate comfort amid the hotel's 104 contemporary accommodations.

40 m² / 431 ft², 3 adults, 1 king bed

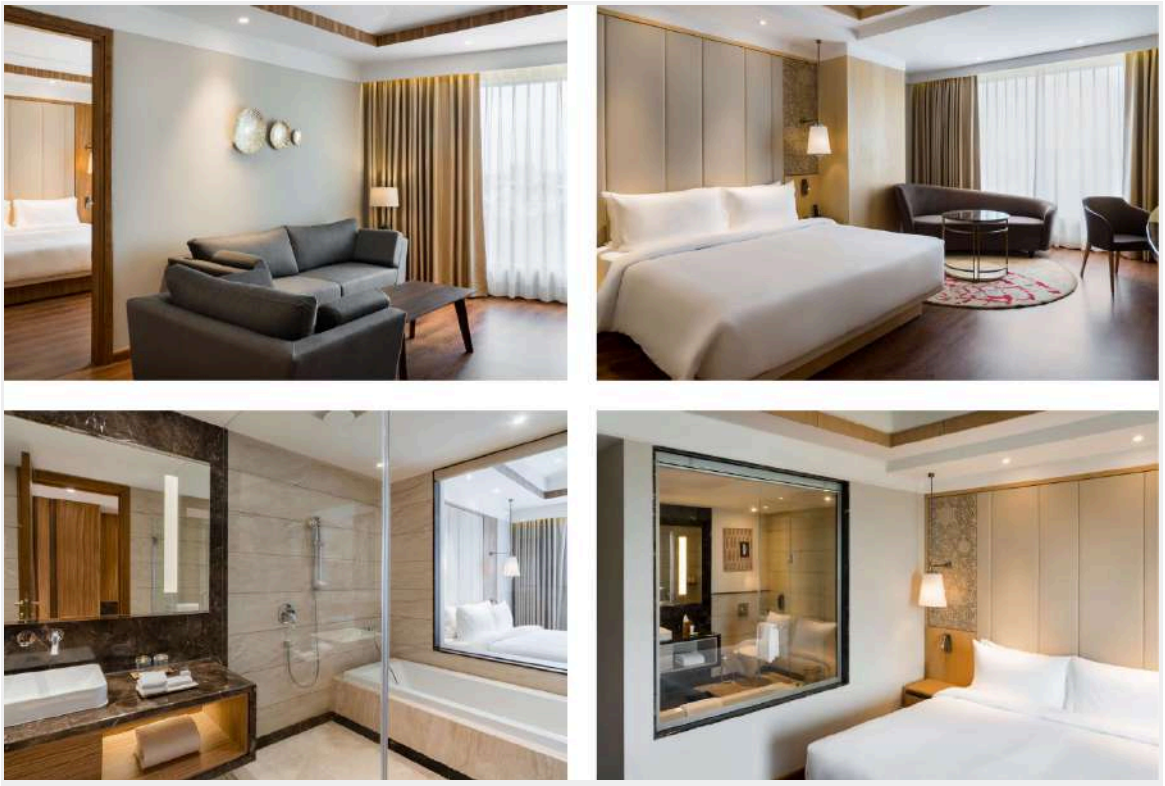


Fig: 85

SUITE

The Suites at Radisson Bhopal offer spacious, luxurious accommodations ideal for business executives or leisure travelers seeking elevated comfort. Each suite typically spans approximately 60 to 70 sq.mt., featuring a separate bedroom with a king bed and a distinct living area, providing ample space for relaxation or informal meetings.

Designed with modern aesthetics, suites include light neutral color palettes complemented by plush furnishings and large windows that often offer views of the city or Shahpura Lake. The separate sitting area enhances comfort and functionality, making the space suitable for both work and leisure.

Guests enjoy a range of deluxe amenities such as air conditioning, free high-speed Wi-Fi, a flat-screen television with cable channels, minibar, electronic safe, coffee and tea making facilities, as well as luxury bathroom amenities including bathrobes, slippers, and hair dryers. The suites are soundproofed to ensure privacy and tranquility, with blackout curtains and premium linens for a restful stay.

Additional services include 24-hour room service, daily housekeeping, and options for connecting rooms, catering to families, business meetings, or larger groups traveling together. The suites at Radisson Bhopal combine functionality with style, promising a comfortable, upscale experience in the heart of the city.

60 m² / 646 ft², 3 adults, 1 king bed



Fig: 86

EXECUTIVE SUITE

The Executive Suite at Radisson Bhopal spans 60 sq.mt. (646 sq.ft.), designed for discerning business travelers or families with a king bed in the separate bedroom, expansive living area, and dedicated dining space accommodating up to 3-4 guests. Elevated above standard rooms, it offers city or lake views through large windows, soundproofing for privacy, and executive lounge access with complimentary breakfast and refreshments.

Modern interiors feature neutral palettes, plush seating, a full workspace with an ergonomic desk, and premium touches like a flat-screen cable TV, minibar, electronic safe, coffee/tea facilities, iron/board, and hair dryer. The luxurious en-suite bathroom includes a rain shower, bathrobes, slippers, eco-friendly toiletries, and separate vanity area.

Additional perks encompass 24-hour room service, daily housekeeping, free high-speed Wi-Fi, blackout curtains, premium linens, air-conditioning, and connecting options, blending functionality with upscale comfort in the hotel's 104-room collection.

62 m² / 667 ft², 3 adults, 1 king bed

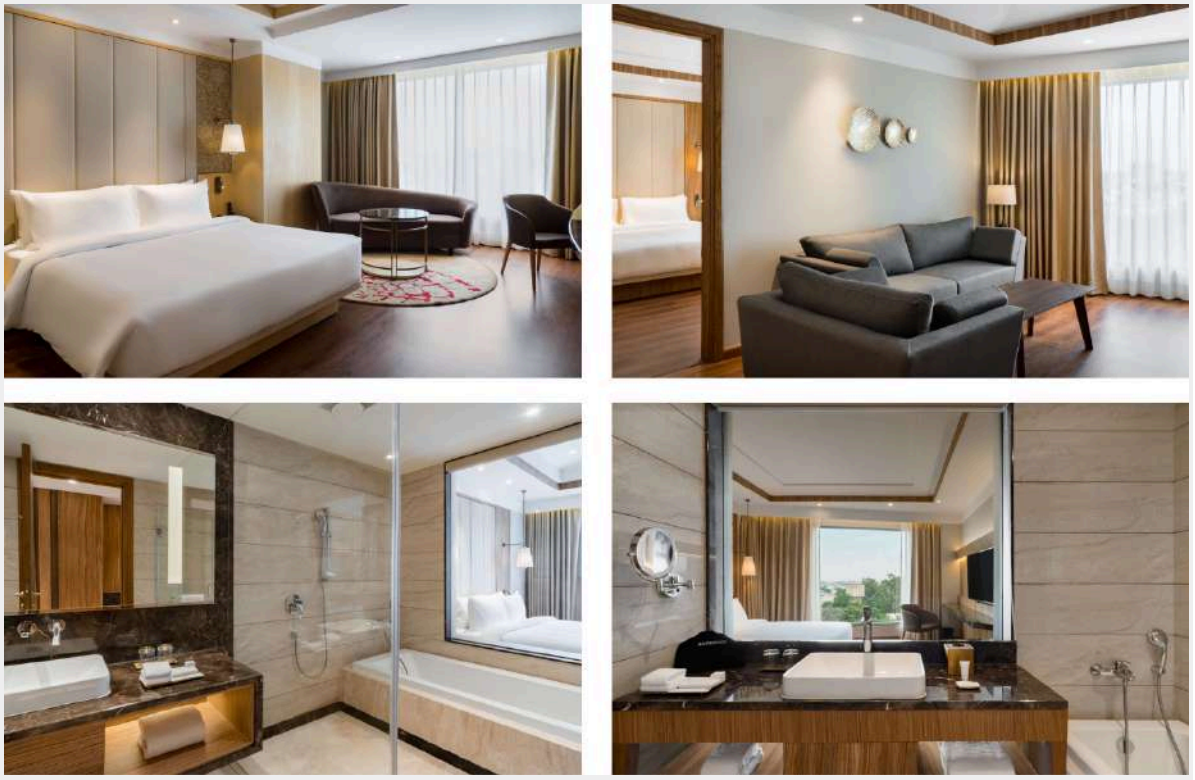


Fig: 87

4.3 AVASA, MADHAPUR, HYDERABAD

4.3.1 INTRODUCTION

Avasa Hotel, Hyderabad, stands as a contemporary 5-star luxury business hotel strategically positioned in Madhapur, the heart of HITEC City—India's premier IT and technology corridor. Opened in 2012 as a flagship property of the Green Park Group, Avasa represents a sophisticated fusion of globally-inspired design standards with Indian cultural sensibilities, creating a distinctive identity that resonates with discerning corporate travelers, international delegates, and leisure guests seeking elevated hospitality.

The hotel's architectural philosophy embraces modern minimalism paired with high functionality, eschewing ornamental excess in favor of clean lines, open spaces, and intuitive layouts that optimize operational efficiency and guest comfort. This design ethos extends to sustainable operations—employing energy-efficient systems, water conservation measures, and eco-conscious materials—reflecting a commitment to responsible luxury that appeals to environmentally-aware business communities.

Located within walking distance of major IT campuses, corporate offices, and multinational headquarters, Avasa capitalizes on Madhapur's emergence as Hyderabad's commercial epicenter, where technology giants like Microsoft, Amazon, Google, and Infosys maintain significant operations. The hotel's proximity to Rajiv Gandhi International Airport (approximately 30-40 minutes) and seamless connectivity via metro rail and arterial roads further reinforce its accessibility for time-conscious professionals and international visitors.

With 152 contemporarily appointed rooms and suites, three on-site restaurants, state-of-the-art conference facilities spanning 3,500+ sq.mt., and comprehensive business amenities, Avasa positions itself as the go-to venue for high-profile corporate conferences, MICE events, product launches, and executive retreats. Guest testimonials consistently praise the hotel's impeccable service, attention to detail, and capacity to accommodate complex meeting logistics without compromising elegance or comfort.

By marrying ultramodern design, sustainable practices, and world-class hospitality delivery, Avasa exemplifies a new generation of Indian luxury hotels that transcends traditional stereotypes, catering to globally-minded professionals who demand contemporary style, technological sophistication, and authentic Indian hospitality fused seamlessly together.

CONCEPT

Avasa Hotel's design prioritizes site responsiveness on its constrained urban plot in Madhapur, adopting a highly site-specific scheme that respects the irregular shape—wide at the front road, narrowing toward the rear. Forming an 'A' in plan, the two room wings extend along the arms while the connecting slabs create cascading terrace spaces that step back progressively from the third level to the top floor, optimizing vertical massing and light access.

Limited open space on-site and surroundings prompted innovative continuous green landscapes integrated as stepped terraces, visually linked across levels to foster biophilic connections and mitigate urban density. Rooms align along the 'A' arms for optimal orientation and privacy, with terraces serving dual roles as circulation connectors, outdoor lounges, and visual buffers that reduce building bulk while capturing north light for energy efficiency.

This sectional strategy—emphasized through building diagrams—employs three lift banks for efficient vertical circulation: west wing for basements/ground, east wing for ground-11th, and central lobby lifts spanning all levels. The split atrium (ground lobby + third-level central under terraces) controls acoustics and scale, while unique terrace characters per floor create experiential corridors blending indoor-outdoor transitions amid the IT hub's high-rise context.



Fig:88

PROJECT - AVASA HOTEL
LOCATION - HITEC CITY, HYDERABAD
CLIMATE - HOT SEMI-ARID(TROPICAL WET AND DRY INFLUENCE)
TOPOGRAPHY - FLAT URBAN LAND
COMPLETION YEAR - 2012
NO. OF ROOMS - 217
SITE AREA - 3 ACRE

PROXIMITY

Landmark / Travel Node	Distance
Rajiv Gandhi International Airport	~35 km
Hyderabad Deccan (Nampally) Railway Station	~14 km
HITEC City Metro Station	~1.5 km
Jubilee Hills	~ 5 Km
Gachibowli Financial District	~ 6 Km
Hussain Sagar Lake	~ 12 Km
Charminar	~ 18 Km

4.3.2 SITE LOCATION AND CONTEXT

- **Urban Setting**: Avasa Hotel occupies Plot Nos. 15, 24-26 in Survey No. 64, Sector 1, HUDA Techno Enclave, Madhapur—the pulsating commercial epicenter of Hyderabad's HITEC City IT corridor surrounded by multinational offices like Microsoft, Amazon, and Infosys campuses. Inorbit Mall (2.7 km), NIFT College (adjacent), and high-density corporate towers create a 24/7 business ecosystem ideal for executives and delegates.

- **Connectivity**: Prime access via Hitech City Road and Outer Ring Road (ORR)

links directly to major arterials, with L&T Metro Station (1-2 km) offering seamless public transit to the city center and airport expressway. Rajiv Gandhi International Airport lies 24-32 km away (35-40 minute drive), supported by dedicated shuttles and proximity to Cyber Gateway bus terminus for regional travel.

- **Surroundings**: Immediate context features tech landmarks—Cyber Towers (1km), Mindspace IT Park (2 km), and Raheja Mindspace—alongside convention hubs like Hyderabad International Convention Centre (HICC, 3 km). High-end residential enclaves in Jubilee Hills and Banjara Hills (5 km) blend with mid-scale apartments, while Shilparamam cultural village (2 km) adds leisure proximity amid the vertical IT skyline.

4.3.3 SITE ZONING AND CIRCULATION

- **Entry & Drop-off**: A grand porte-cochere porch fronts the Hitech City Road entry, framed by landscaped planters and water features that create a ceremonial arrival sequence sheltered from traffic while directing guests toward the central lobby atrium. Valet parking and separate coach drop-off ensure smooth flow for high-volume conferences and events.

Zoning:

- **Public**: Ground-level podium clusters reception, expansive lobby lounge, all-day dining restaurant, specialty Asian outlet, and five banquet halls (including 5730 sq.ft. Constellation Grand Ballroom) around the lower atrium for maximum accessibility and natural light. First-floor banqueting connects directly via grand staircase to the porte-cochere, supporting seamless MICE transitions.

- **Semi-public**: Second-floor service corridors overlay banqueting; third-floor houses a business center, spa, gym, and outdoor infinity pool deck opening from the central atrium under stepped terraces, offering controlled access for day guests and wellness facilities. Fifth-floor "The Bridge" business club bridges room wings for executive networking.

- **Private**: Guest rooms and suites (217 total) occupy nine upper floors (3rd-11th) along the 'A'-shaped arms, with corridors experiencing unique terrace characters per level for privacy and biophilic immersion above public activity.

- **Vertical Circulation**: Three dedicated lift banks optimize flow: west wing (basement-ground), east wing (ground-11th), and central lobby lifts (all levels), supplemented by service lift and Sky-Bar elevators on 10th-11th floors.

- **Parking**: Multi-level basements accommodate 200+ vehicles beneath the podium, with surface lots for coaches and events, ensuring zero street overflow in the dense IT hub context.

4.3.4 ARCHITECTURAL DESIGN AND FORM

- **Form:** Avasa Hotel rises as a vertical rectangular tower perched on a low-rise podium base, with the signature 'A'-shaped plan forming two room wings connected by stepped terraces that progressively set back from the third level upward. This 11-story massing responds to the irregular site—wide at Hitech City Road, narrowing rearward—optimizing footprint efficiency while creating cascading green landscapes amid dense urban fabric.

- **Façade Treatment:** Extensive glass curtain walls dominate north-facing elevations for north light and views, complemented by aluminum composite panels (Aluco-bond minimized for sustainability) and contemporary cladding systems that articulate the stepped profile with clean reveals and minimal joints. Material palette emphasizes lightness and transparency, with vierendeel frames supporting cantilevered terraces for structural expression.

- **Design Language:** Minimalist geometry prevails through precise symmetry, orthogonal volumes, and unadorned surfaces that reject regional ornamentation for global corporate modernism suited to HITEC City's tech aesthetic. Clean horizontal banding and vertical reveals guide the eye upward, while split atria control scale and acoustics across public volumes.

- **Special Features:**
  - Double-height lobby with futuristic lighting.
  - Grand chandeliers and large indoor art installations.
  - Open floor plates to enhance flexibility for MICE events.

4.3.5 LANDSCAPE DESIGN

- **Entrance Landscape:** The porte-cochere entry employs minimalist landscaping with linear water channels and structured native shrubs that frame the grand porch without visual clutter, creating reflective surfaces and subtle fragrance to enhance ceremonial arrivals. Paved setbacks with low box hedges and uplights integrate signage and bollards, softening the urban IT hub interface while directing pedestrian flow to the lobby atrium.

- **Pool Deck:** An infinity-edge pool occupies the elevated third-floor deck within the stepped terrace system, offering panoramic vistas of HITEC City's skyline and distant Hussain Sagar Lake through cantilevered glazing. Teak sunbeds, shaded pergolas with vertical planters, and linear LED edge lighting extend the lounge area, merging aquatic relaxation with cascading green backdrops unique to each terrace level.

- **Green Buffers:** Site edge plantations utilize tall screening trees (neem, gulmohar) and dense shrubs along Hitech City Road boundaries for noise attenuation from heavy traffic, complemented by the signature stepped terrace gardens that form continuous vertical greenery from third to 11th floors. Hydroponic pockets and drip-irrigated troughs sustain ferns and creepers, reducing urban heat while visually linking indoor corridors to outdoor biophilia amid constrained open space.



Fig: 88



Fig: 89

4.3.6 MATERIAL AND FINISHES

AREA	MATERIAL USED
Façade	High-performance glass, aluminum composite panels
Lobby	Italian marble flooring, designer chandeliers
Guest Rooms	Hardwood flooring, neutral tone furnishing
Banquets	Carpet flooring, acoustic panels
Pool Deck	Timber and stone paving

4.3.7 LIGHTING AND SERVICES

- **Natural Light:** Extensive north-facing glass curtain walls and glazing in guest rooms, corridors, and split atria maximize daylight penetration, with stepped terraces channeling soft north light into interior volumes while minimizing heat gain and glare through low-E coatings. Large operable windows in rooms and pool deck enhance cross-ventilation and views of HITEC City skyline.

- **Artificial Lighting:** 98% LED fixtures deliver futuristic illumination throughout, featuring dramatic color-changing RGB systems in the double-height lobby and grand chandeliers that create dynamic ambient effects synced to events. Zoned task lighting in rooms (dimmable bedside, desk) and Sensitile light-emitting terrazzo bar-tops in Sky Lounge provide precise control, reducing energy use by 70% compared to traditional systems.

- **HVAC:** Centralized VRV (Variable Refrigerant Flow) air-conditioning system zones public, semi-public, and private areas independently, with inverter compressors, CO2 sensors, and occupancy-based modulation for 20-25% energy savings in high-occupancy MICE scenarios. Individual room thermostats (18-24°C) integrate with BMS for guest overrides and predictive maintenance.

- **Fire Safety:** Automatic sprinklers blanket all floors, complemented by smoke/heat detectors linked to central annunciation panels and PA evacuation systems per NBC standards. Pressurized staircases, fire-rated partitions around lifts, and dedicated emergency exits at terrace levels ensure rapid egress, with vierendeel frames providing structural redundancy during crises.

4.3.8 ARCHITECTURE DRAWINGS

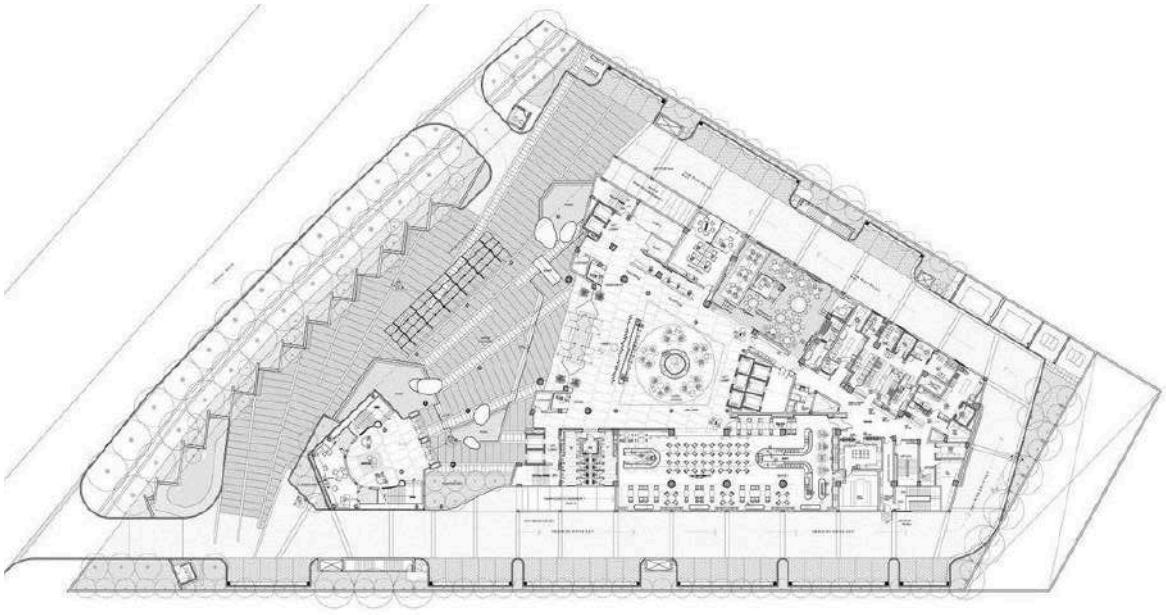


Fig:90 GROUND LEVEL

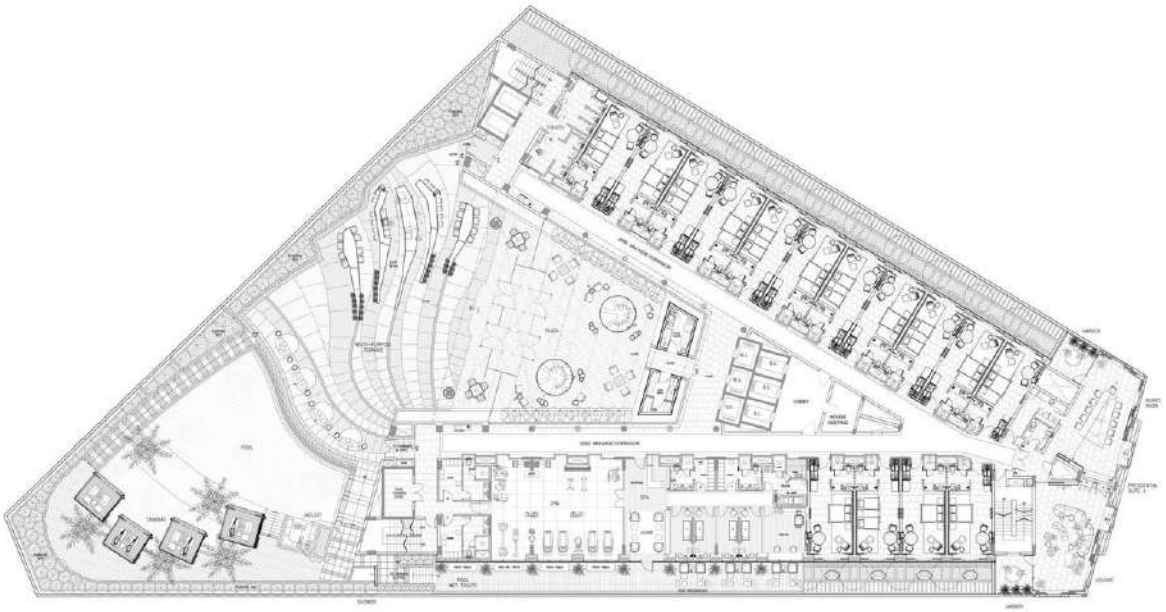


Fig: 91 THIRD LEVEL

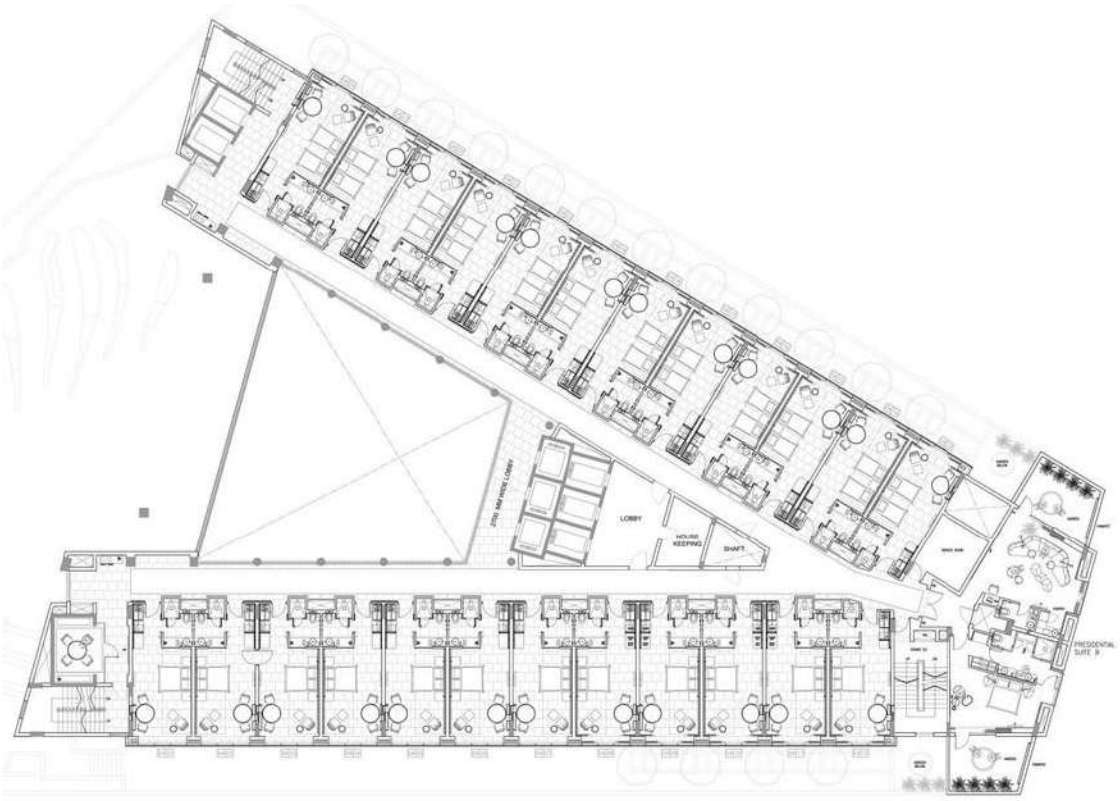


Fig: 92 FOURTH LEVEL

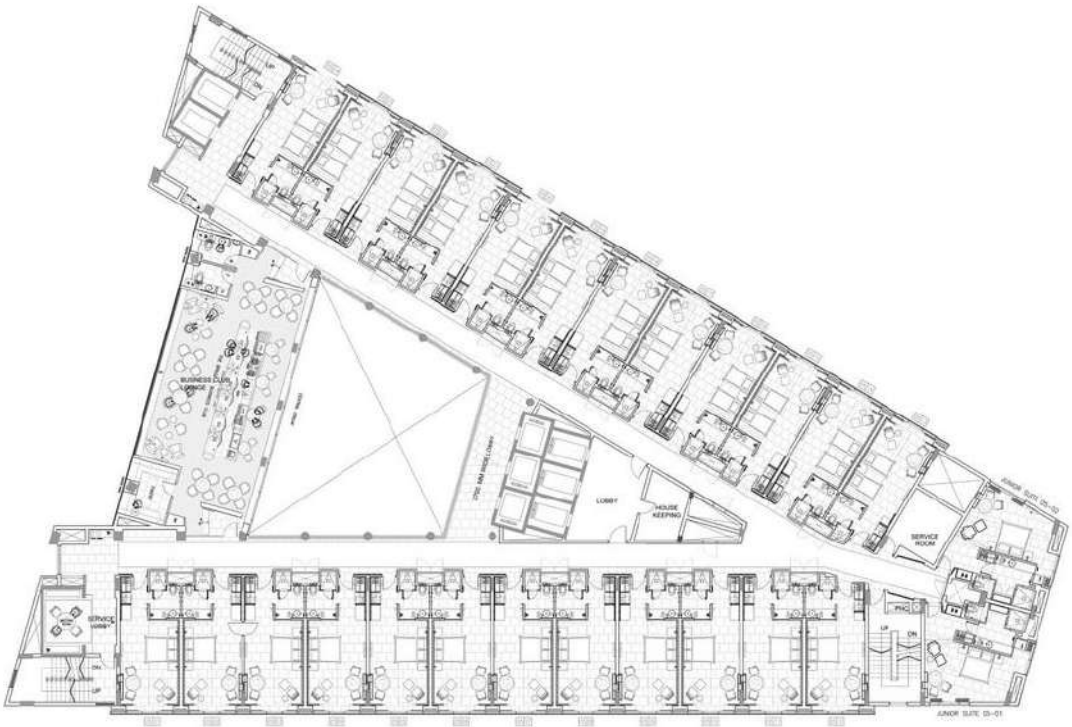


Fig:93 FIFTH LEVEL

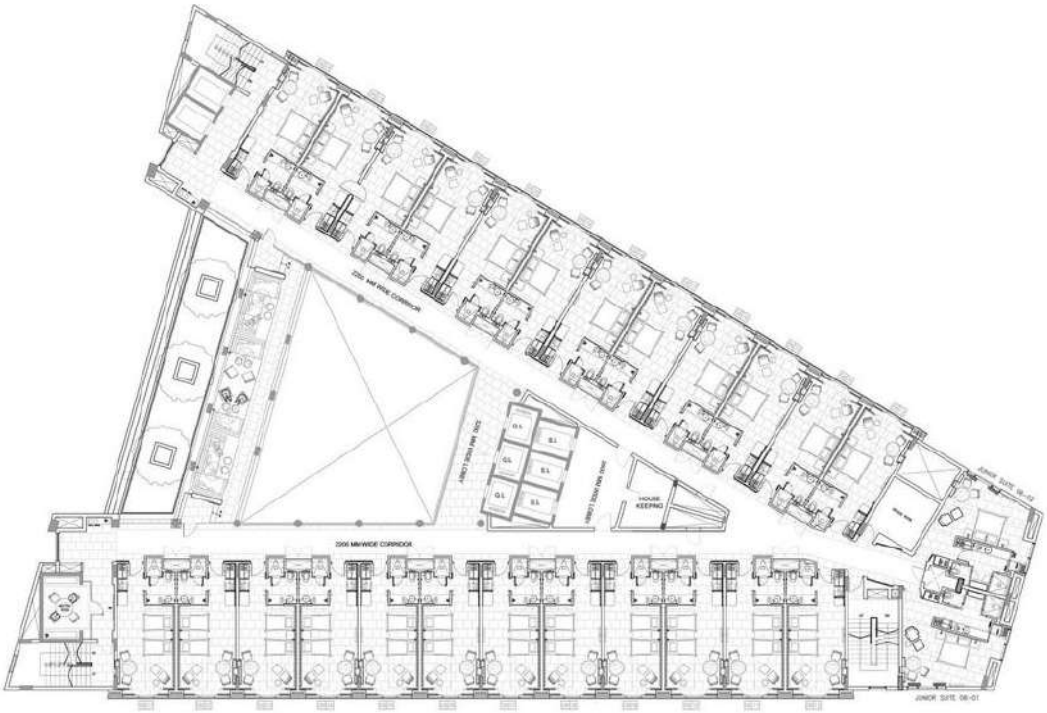


Fig: 94 SIXTH LEVEL



Fig: 95 SEVENTH LEVEL



Fig: 96 EIGHTH LEVEL



Fig: 97 NINTH LEVEL

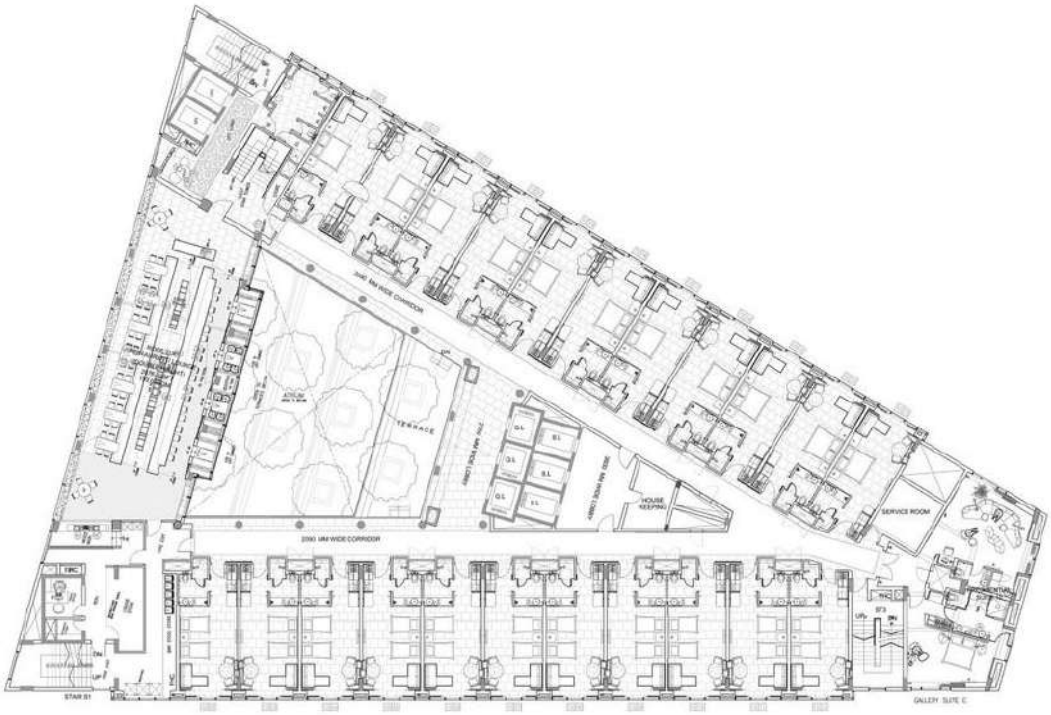


Fig:98 TENTH LEVEL

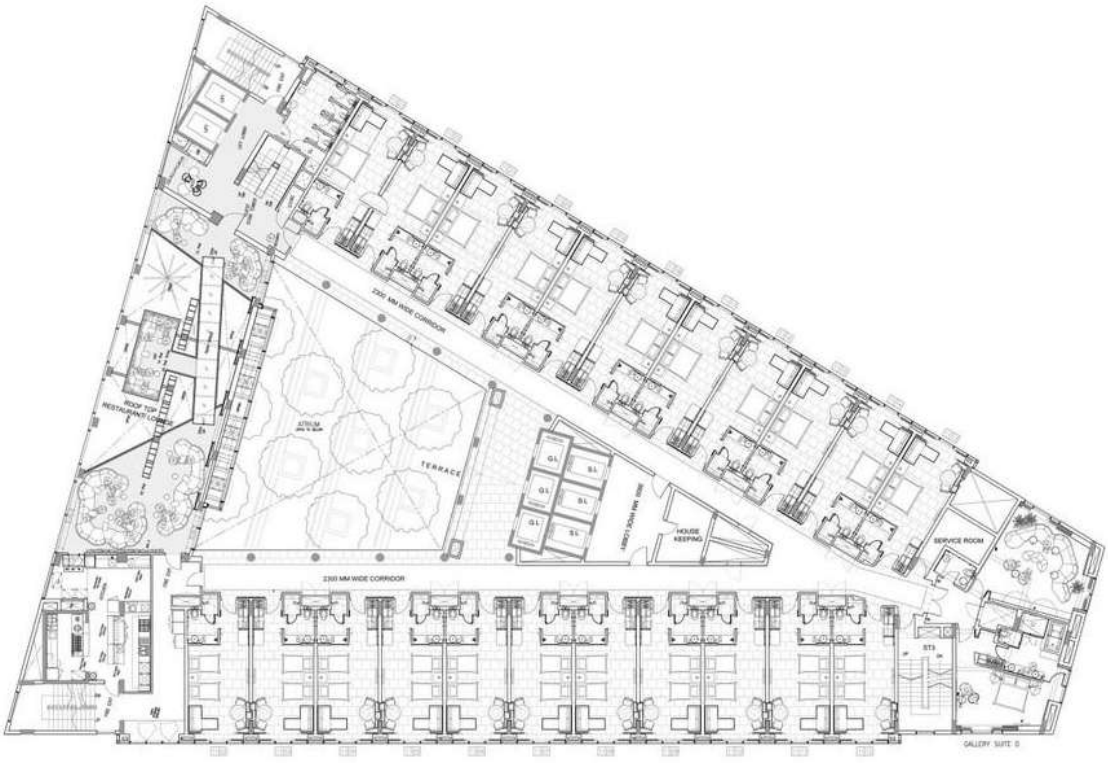


Fig:99 ELEVENTH LEVEL

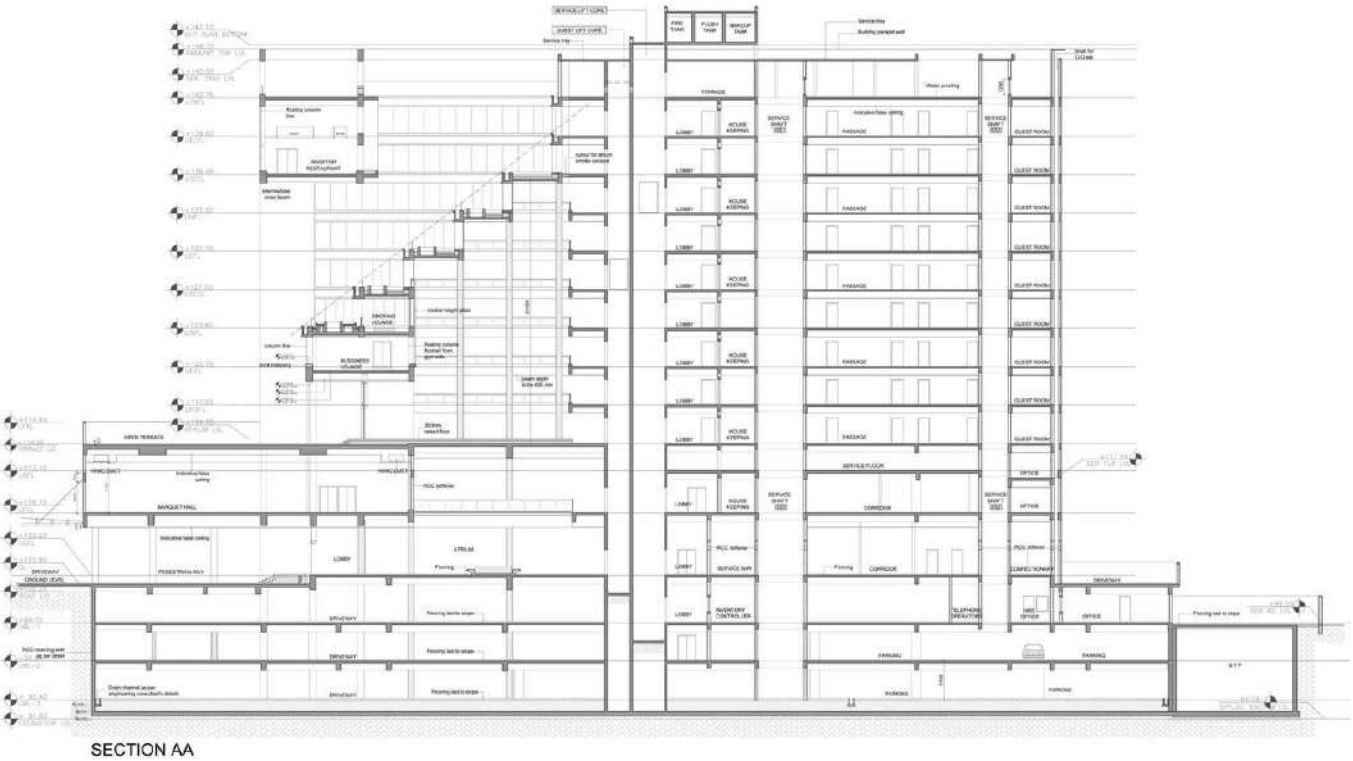


Fig:100 SECTION

4.3.8 ACCOMODATION

AVASA SILVER

Room- 35sqm, Toilet- 7sqm



Fig: 101

AVASA PLATINUM CLUB

Room- 35sqm, Toilet- 7sqm



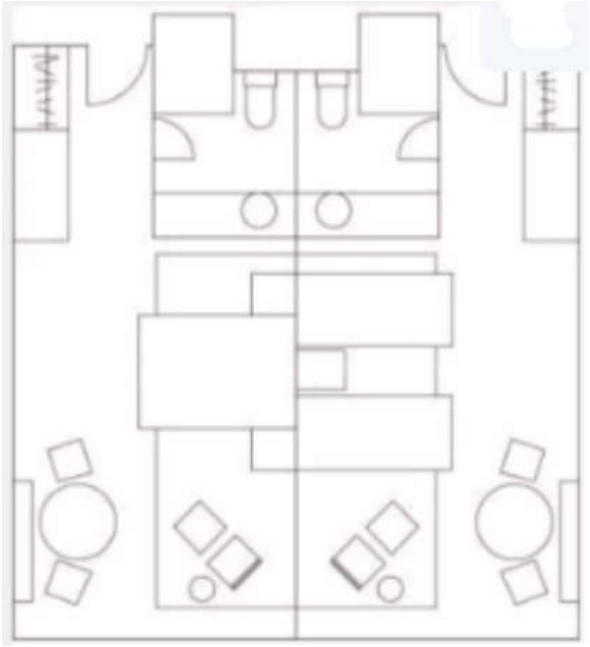


Fig: 102

AVASA STUDIO SUITE

Room- 40sqm, Toilet- 12sqm



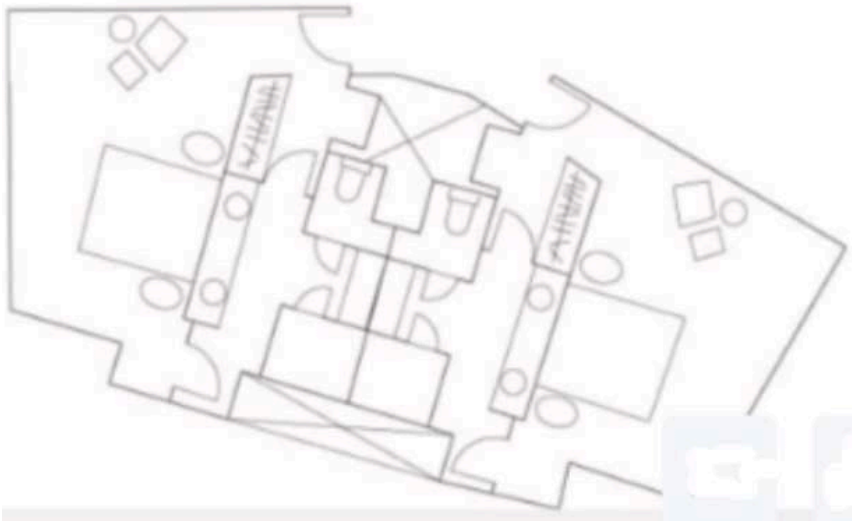


Fig: 103

AVASA GALLERY SUITE

Room- 70sqm, Toilet- 12sqm



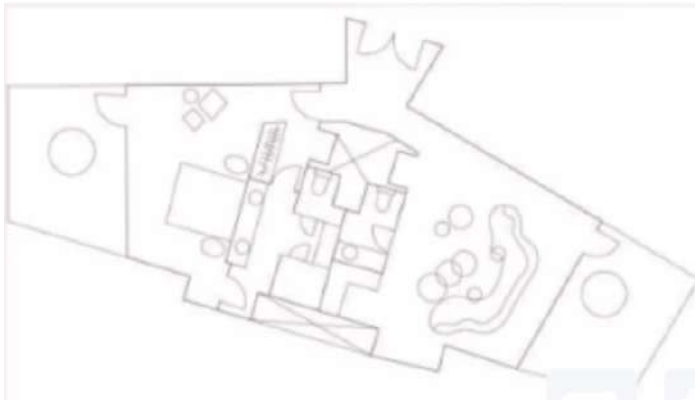


Fig: 104

4.3.9 MEET AND EVENT

CONSTELLATION 532.3sqm

It has a separate entrance and a pre-function area. It can accommodate 250 seating and it had common area for buffet this hall can be divided if required, by a sound proof partition giving two halls

VEGA	**NOVA**
186.27sqm., 100 people capacity	145.8sqm., 100 people capacity

4.4 VIVANTA, GURGAON

4.4.1 INTRODUCTION

Vivanta Gurgaon, NCR (by Taj Hotels) is a contemporary 5-star luxury hotel located in the commercial hub of Gurgaon (Gurugram), Haryana. Strategically positioned near corporate offices, convention centers, and shopping malls, it caters primarily to business travelers while also offering leisure amenities for short and long stays.

The hotel blends modern architecture with Indian aesthetics, creating a sleek yet warm environment. With state-of-the-art meeting facilities, fine dining options, wellness spaces, and luxurious accommodations, Vivanta Gurgaon is a model for business hospitality design in India.



Fig:105

PROJECT - VIVANTA GURGAON, NCR
LOCATION - SECTOR 21, GURGAON (NEAR IGI AIRPORT, NEW DELHI)
CLIMATE - COMPOSITE
TOPOGRAPHY - FLAT PLAIN LAND
COMPLETION YEAR - 2013
NO. OF ROOMS - 208
SITE AREA - 2.5 ACRE

PROXIMITY

Landmark/ Travel Node	**Distance**
Indira Gandhi International Airport (T3)	~7 km
New Delhi Railway Station	~30 km
Gurgaon Cyber City	~6 km
Ambience Mall	~4 km
Manesar Industrial Hub	~20 km
Connaught Place (Delhi)	~28 km
India Gate	~30 km

FACADE STRATEGY

While the spatial organization is meant to insulate the guests from the chaos of the outside world, the façade design is very much about relating to and negotiating with the messy context. The main mass of the two blocks is clad in granite which renders the building as a piece of rock emerging from the yellow dirt of Gurgaon. The layers of glass and metal that penetrate through the stone mass reaches out to the emerging world of glass skyscrapers in Gurgaon.

The overall experience of the facade is that of something clean, minimal and refined, but the collage of the stone, glass and metal somehow feels one with the assemblage of the yellow dirt, concrete, brick and spots of the green that adorn the modern Indian landscape

SPATIAL LAYERING

A hotel, by very definition, needs to provide a space of safety, comfort, and relaxation for the weary traveller. The Vivanta achieves this through a series of interconnected courtyards and layered public spaces that draw on the traditional palace architecture of India. A series of landscaped courtyards are surrounded by the main public interior spaces. These spaces are separate, yet visually connected through layers of glass walls.The unpeeling of the layers of screens, starting from the façade, gradually unveils the internal spaces. Skinning the building reveals the swimming pool, restaurant blocks and other public spaces behind.

The spatial experience is simultaneously private but connected, interior but also continuous with the exterior landscape. The grandeur of the main lobby is multiplied by the layers of outdoor courtyards and transparent connections to other public spaces like the main dining room and banquet facilities..

4.4.2 SITE LOCATION AND CONTEXT

- **Urban Setting:** Located in Sector 21, Gurgaon, near the Delhi–Gurgaon Expressway and Dwarka Expressway.
- **Connectivity:** Excellent access to IGI Airport (10–15 min drive) and central Delhi.
- **Surroundings:** Surrounded by corporate hubs, luxury residences, malls, and international hotel chains.

4.4.3 SITE ZONING AND CIRCULATION

- **Entry & Drop-off:** Wide vehicular entry with a landscaped roundabout and portico.
- **Zoning:**
  - **Public:** Lobby, restaurants, banquet halls.
  - **Semi-public:** Business center, lounges, fitness/spa.
  - **Private:** Guest rooms and suites on upper floors.
- **Vertical Circulation:** 4 passenger lifts + 1 service lift + emergency staircases.
- **Parking:** Basement + surface parking (~200 cars).

4.4.4 ARCHITECTURAL DESIGN AND FORM

- **Form:** Linear tower block with podium.
- **Façade Treatment:** Curtain glazing, metal fins, and sandstone panels for a modern yet contextual look.

- **Design Language:** Contemporary minimalism with warm interior tones.
- **Key Features:**
  - Double-height entrance lobby.
  - Atrium with natural light.
  - Efficient floor layouts for business travelers.

4.4.5 LANDSCAPE DESIGN

- **Entrance Landscape:** Fountains, structured planters, and accent lighting.
- **Pool Deck:** Rooftop infinity pool with views of the NCR skyline.
- **Green Buffers:** Peripheral plantation for privacy and noise reduction.

4.4.6 MATERIAL AND FINISHES

Area	Material used
Façade	High performance glass,sandstone, aluminum panels
Lobby	Imported marble, accent lighting, metal screens
Guest Rooms	Wooden flooring, fabric paneling
Banquets	Acoustic wall panels, rich carpets
Pool Deck	Timber deck, granite paving

4.4.8 ACCOMODATION

- Superior Charm Rooms (~350 sq.ft.)
- Deluxe Delight Rooms (~450 sq.ft.)
- Premium Indulgence (~500 sq.ft.)
- Executive Suites (~650 sq.ft.)
- Presidential Suite (~1,200 sq.ft.)

4.4.7 MEET AND EVENT

BALLROOM

A pillar-less ballroom spread over 4.555 sqft with a clear ceiling height of 21 ft



Fig: 106

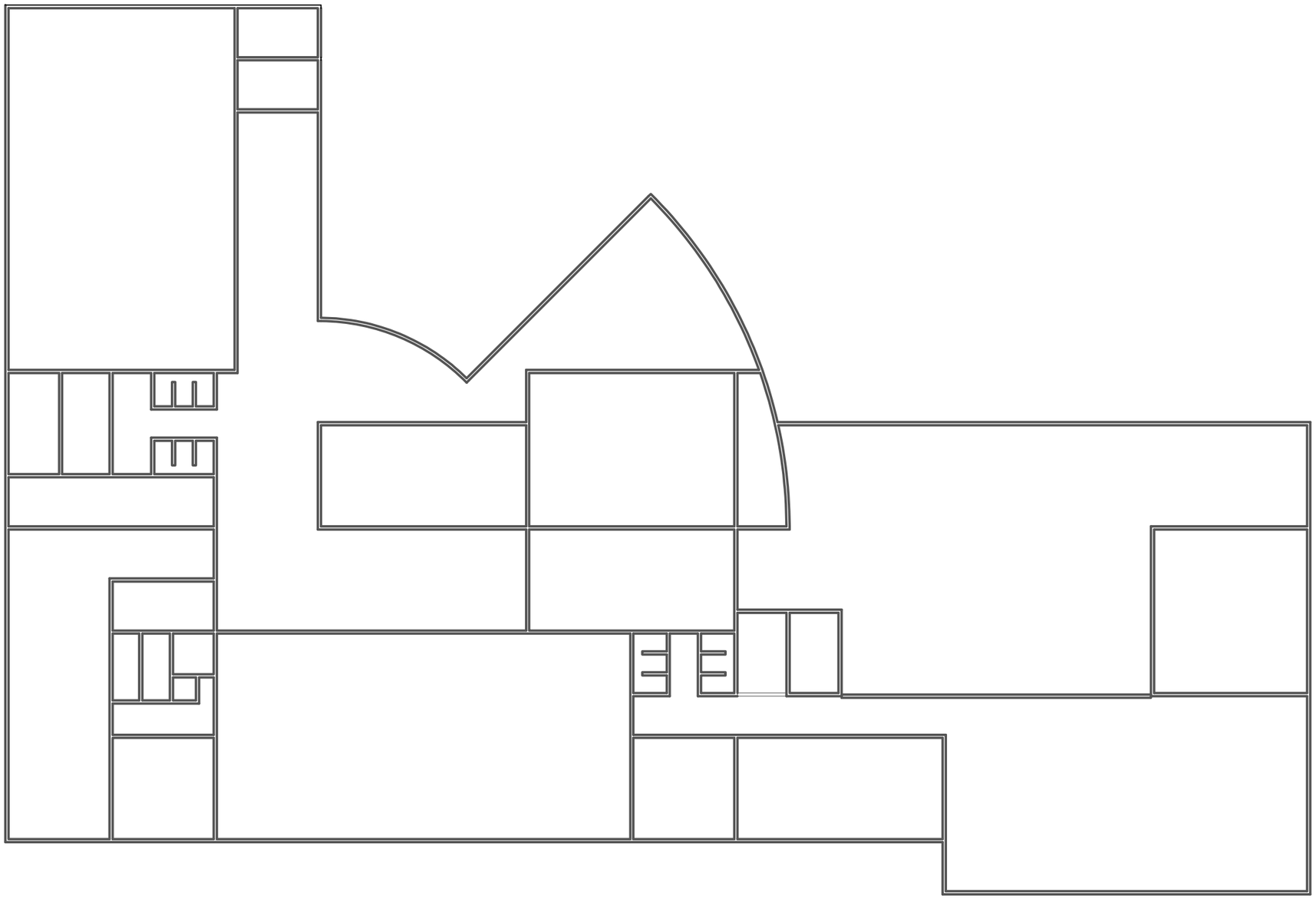
GLASSHOUSE

For intimate meetings and gatherings energized with natural light

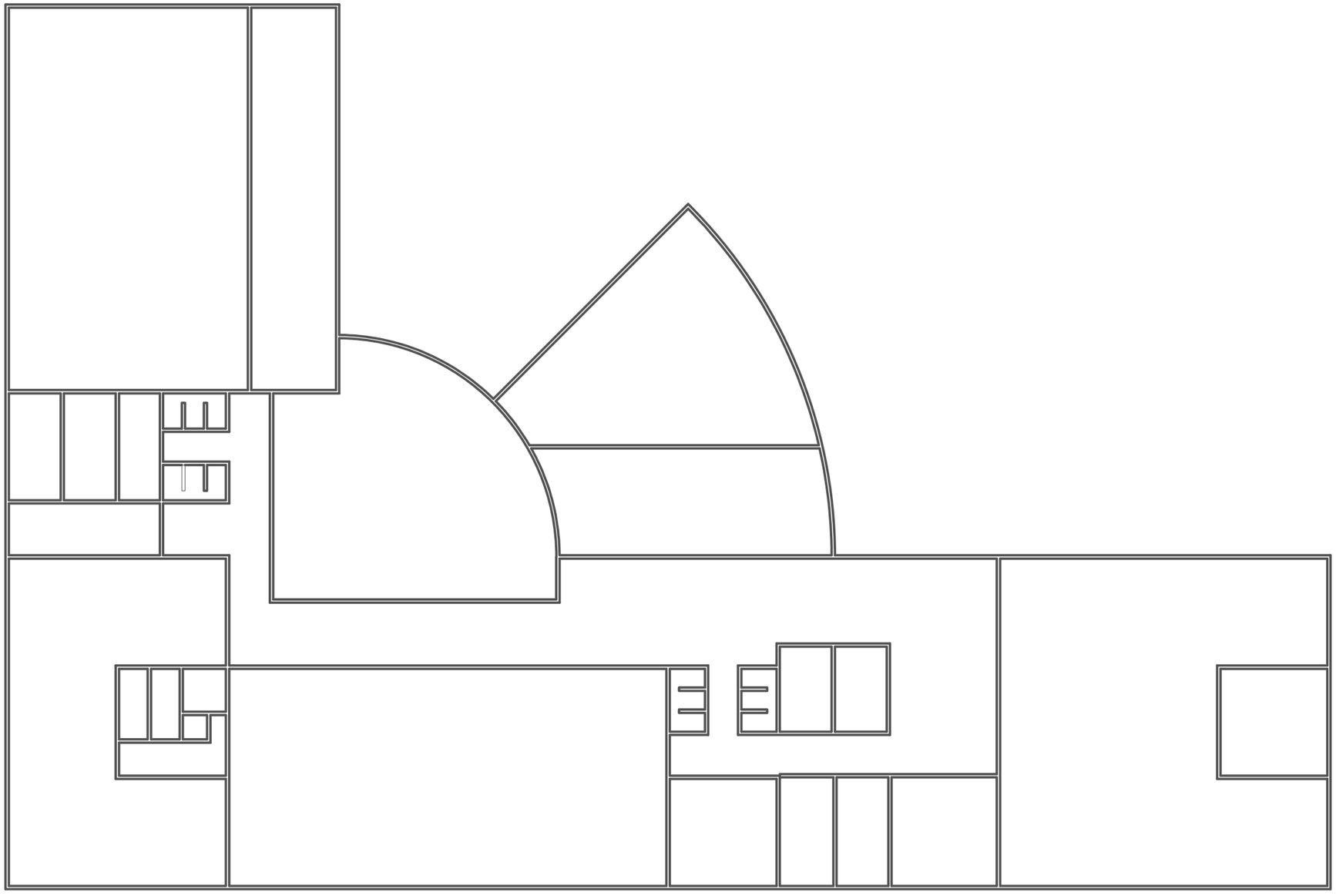


Fig: 107

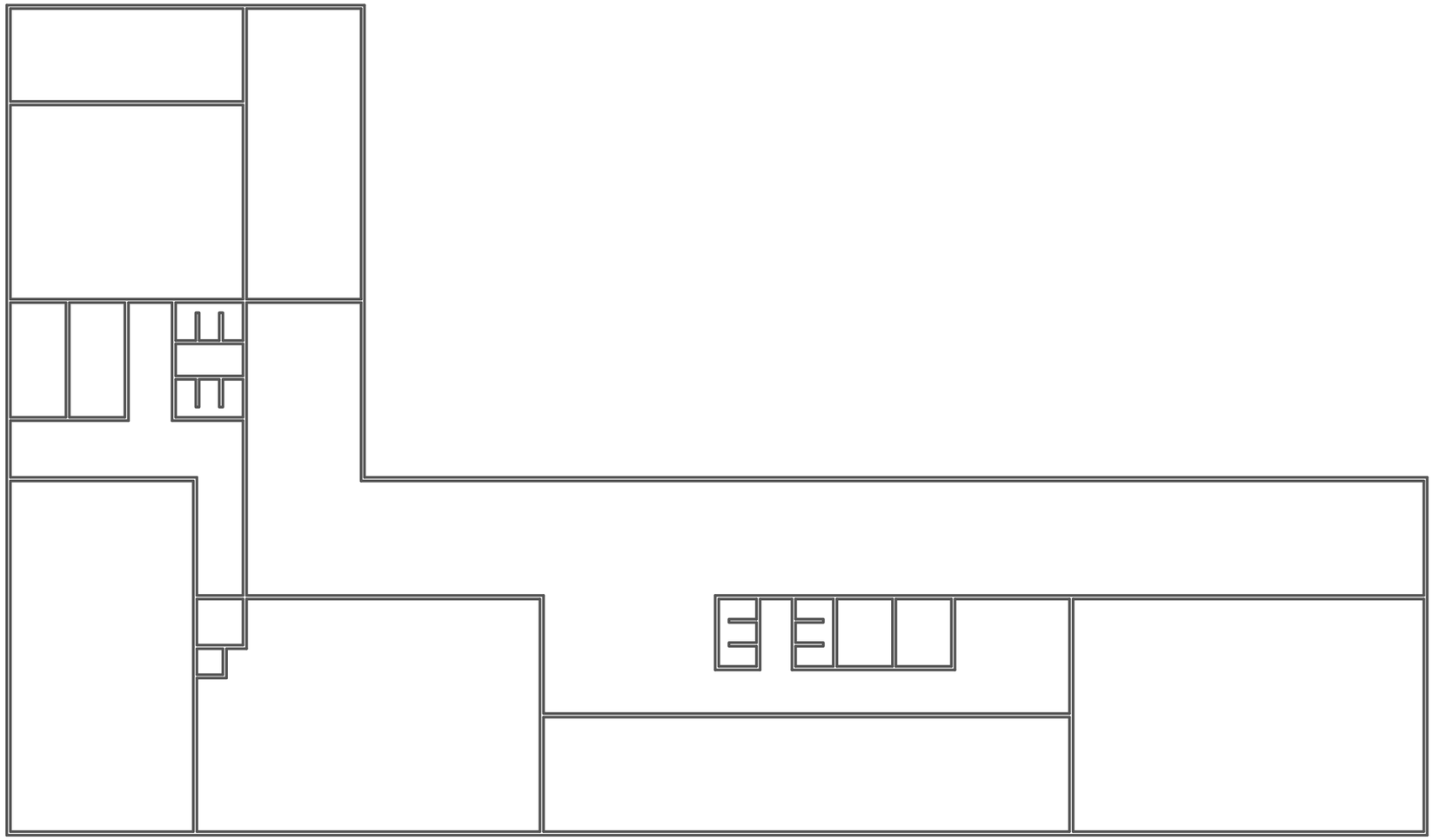

< < < To Shymala Hills
SERVICE ENTRY/ EXIT
6M WIDE ROAD
BASEMENT EXIT
LANDSCAPING
EXIT
ENTRY
10M WIDE ROAD
12M WIDE ROAD
12M WIDE ROAD
BASEMENT ENTRY
EXIT FROM THE SITE
ENTRY TO THE SITE
BT Road



GROUND FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN