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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:**

Mansi Uikey

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B. ARCH

9th Semester, 5th Year


**UNDER THE GUIDANCE OF**

Dr. Anuj Jaiswal


**DEPARTMENT OF ARCHITECTURE AND PLANNING**

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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**

**Mansi 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**

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**Thesis Guide**

## CERTIFICATION OF EXAMINATION

The Bachelor of Architecture Thesis Viva-Voce examination of Ms Mansi Uikey Scholar No.211110030, was held on 1/12/2025 to 2/12/25.

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# ABSTRACT

This thesis explores the design of a Five-Star Hotel at Shyamala Hills, Bhopal, envisioned as a luxury destination overlooking the Upper Lake. The project focuses on creating a hotel that is not only functional but also emotionally connected to its surroundings. By blending modern hospitality standards with Bhopal's cultural and architectural character, the design aims to offer guests a memorable and meaningful experience.

The study includes an analysis of hotel guidelines, site conditions, climate, and case studies, which together shaped a design that is efficient, sustainable, and user-friendly. Inspired by Mughal and regional elements such as arches, jaali work, and courtyards, the concept reinterprets local heritage in a contemporary way.

The proposal includes guest rooms, banquet spaces, restaurants, wellness facilities, and landscaped areas, carefully zoned for smooth movement and comfort. The project ultimately aims to enhance Bhopal's tourism landscape with a hotel that reflects the city's culture while offering world-class luxury.

# ACKNOWLEDGMENT

With great pleasure and pride, I am submitting this dissertation on the 5-STAR HOTEL. I wish to express my profound sense of gratitude to PROF. Anuj Jaiswal Sir for his valuable guidance through the course of the project without whose encouragement the project wouldn't have been a success. During this project, I received a lot of help, advice and cooperation from our esteemed faculty and other distinguished persons. I am grateful to my parents and friends for their support and to all those who have directly or indirectly helped me during the dissertation report.

December 2025

MANSI UIKEY
B. ARCH

IX SEM

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# 1. 5-STAR HOTEL

## 1.1 Introduction

Designing a five-star hotel is more than creating a luxurious space—it's about crafting an experience. In today's fast-paced world, hotels have become places of pause, comfort, connection, and inspiration for travelers from all walks of life.

The goal is to design a hotel that offers world-class services while being sensitive to its surroundings—whether through sustainable features, cultural references, or thoughtful spatial planning. Every guest interaction, from arrival to departure, becomes an opportunity to tell a story through architecture.

Through this project, I aim to balance beauty with practicality, luxury with warmth, and global standards with local character. It's not just about building a hotel—it's about designing a place people remember, return to, and recommend.

## 1.2 Justification

The choice of a five-star hotel in Bhopal is justified for several reasons:

- **Growing Tourism Potential:** Bhopal is emerging as a cultural and eco-tourism hub, attracting both domestic and international tourists due to its historical landmarks, lakes, and tribal heritage.
- **Cultural and Heritage Significance:** The city's rich history, including sites like Sanchi Stupa, Bhimbetka Caves, and Taj-ul-Masajid, offers an ideal backdrop for a hotel that can integrate heritage-inspired design elements.
- **Strategic Location:** Bhopal's central position in India, along with improving connectivity (air, rail, and road), makes it a strategic stop for tourists and business delegates.
- **Support for Business and Government Tourism**: As a state capital, Bhopal frequently hosts political events, summits, and corporate meetings which demand premium accommodation and conference facilities.
- **Sustainable Design Opportunity:** The project offers an opportunity to introduce eco-sensitive and sustainable design practices in hospitality architecture, reflecting Bhopal's close relationship with nature and lakes.
- **Architectural Exploration:** The project allows for creative freedom in integrating luxury, cultural aesthetics, landscape design, and advanced technology within a single architectural expression.

## 1.3 Problem Identification and Analysis

Designing a five-star hotel in Bhopal comes with specific challenges:

- **A scenic location without a signature destination:** Shyamala Hills offers breathtaking views of the Upper Lake and is surrounded by natural beauty, yet it lacks a landmark hotel that truly reflects the charm of the place.

- **Not enough luxury stay options for premium travelers:** Tourists, officials, and corporate guests visiting Bhopal often struggle to find five-star level comfort and services near major attractions and administrative zones.

- **A missed opportunity for hospitality near cultural hotspots:** Despite being close to places like the State Museum, Van Vihar, and Bharat Bhavan, there's no hotel that connects visitors to these experiences while offering modern luxury.

- **No premium venue for elite events and conferences:** Shyamala Hills could serve as an ideal location for hosting weddings, official gatherings, and high-profile events—but currently lacks a facility with five-star amenities.

- **Lack of thoughtfully designed eco-sensitive luxury spaces:** The area deserves a hotel that blends into its lush landscape, respects the local ecology, and sets a benchmark in sustainable luxury architecture.

## 1.4 AIM

The aim of this project is to design a five-star hotel that goes beyond just offering luxury—it should create a memorable experience rooted in comfort, culture, and connection to nature. Set in the serene and scenic backdrop of Shyamala Hills, Bhopal, the hotel will be thoughtfully planned to serve as a premium destination for travelers, dignitaries, and locals alike.

## 1.5 Objectives

The objective of this project is to design a five-star hotel that offers a luxurious yet grounded experience, thoughtfully integrated into the natural and cultural landscape of Shyamala Hills, Bhopal. The focus is on creating a space that not only meets the functional needs of guests, staff, and events but also reflects the city's architectural heritage and scenic beauty. The design aims to promote sustainability through eco-friendly practices, efficient circulation, and smart technologies, while providing premium amenities such as wellness zones, fine dining, and event spaces. By blending comfort, innovation, and local identity, the hotel aspires to become a landmark destination that enhances Bhopal's hospitality landscape.

## 1.6 Scope & Limitations

**Scope:** This study will focus on the architectural design of a five-star hotel in India, emphasizing space planning, cultural elements, and sustainability. The research will include case studies of existing luxury hotels in India and analyze their design strategies.

**Limitations:** •

- The dissertation will focus on the architectural aspects, without delving into interior design or business operations. •
- Due to time constraints, only a few case studies will be covered in detail. •
- The research will focus primarily on the design phase and not on post-construction or operational performance.

## 1.7 Methodology

Following is the methodology which was adopted while designing the five-star hotel.

- •Make a list of the aims and objectives that have to be achieved in the entire design process. Also make small short term goals for convenience
- •Literature Survey that is basically gathering all information regarding five-star hotels and the codes that have to be followed during its entire execution
- •Site Analysis - Choose a site and gather information on the chosen site regarding climate, soil quality, lifestyle, trending architecture and economy of the place
- •Case Studies and Desk Appraisals -Study about existing functioning buildings resembling the thesis project: in this case a five-star hotel. Also one of the case studies can be taken of an ongoing project to learn about the construction techniques adopted at site
- •Compile entire space requirements into different categories according to the degree of their importance
- •Prepare an entire list of requirements which is needed for the project
- •Identify the scope and limitations of the work that can be done in the project and accordingly revise the list of requirements
- •Start with the conceptual design on the site. Conceptual design is basically preparing sketches and probable designs and trying them out
- •After finalization a certain design concept starts with the zoning which is dividing different departments according to their functionality
- •Massing which is basically making a rough sketch of the 3D model of the building and placing it on the site just to get a hint of how it looks on the site
- •Schematic Design which is the most important part that is the internals planning of each wall including walls, doors, windows, etc.
- •Check for service shafts and accordingly make revisions in the plan
- •Prepare the interior designing details and the sections -elevations
- •Prepare drawing for the advanced objective section.

# Site Details

## Introduction

The hospitality sector's reliance on experience and the re-definition of luxury is a significant part of the modern experience economy. In this context, the architectural design of a 5-star hotel is important for developing a distinct space where hospitality can be presented with the combination of style, efficiency, and guest experiences. This thesis investigates the multifaceted design process of a 5-star hotel and explores the relationships between architecture, interior design, and the user-experience.

A hotel is a place providing paid temporary accommodation, and a 5-star hotel is the ideal idea of luxury, comfort, and service. A 5-star hotel aims to maintain the highest levels, together with the best possible lodging, fine dining, and service to fulfil the needs of each guest. The design of a 5-star hotel should facilitate an exquisite yet welcoming atmosphere while providing efficient working space for business guests as well as leisure guests.

Ultimately, this thesis will also examine how new technologies, sustainable design approaches and cultural context can help enhance the architectural identity of the 5-star hotel, and allow the hotel to become an integral part of the physical environment and provide a positive contribution to the local community.

### PROJECT DETAILS

- **Name of the Project:** Development, Operation & Maintenance and Management of Lakeview Residency Hotel, Bhopal on Design, Build, Finance, Operate, Transfer (DBFOT) Mode.
- **Proposing / Nodal Agency:** Madhya Pradesh Tourism (MPT) / MPHCL (Madhya Pradesh State Tourism Development Corporation).
- **Location:** Shyamala Hills, Bhopal, Madhya Pradesh, overlooking Bada Talab (Upper Lake).
- **Latitude & Longitude:** 23.243043872752793, 77.38768911349595
- **Land Area (Site Area):** ~7.16 Acres (28,975 sq. m.)
- **Existing Built-up Area:** ~87,521 sq. ft. (existing structures to be demolished)
- **Proposed Development:** 5-Star Hotel (minimum 150 rooms), Banquet & Convention facility (1000 pax), restaurants, cultural and tourism facilities.
- **Project Description / Scope:** Demolition of existing 42-room hotel and facilities; development of new 5-star hotel, banquet, theme restaurants, rooftop dining, spa & pool, cultural promotion zones; landscaping and parking development.
- **Estimated Project Cost:** INR 150 Crores (Total Project Cost ceiling mentioned)
- **Land Ownership**: Madhya Pradesh Tourism (via MPHCL)
- **Immediate Surroundings:**
  - North: Bada Talab (Ramsar site)
  - South: Jehan Numa Palace Road
  - East: Tribal Museum / Government buildings
  - West: Hotel Jehan Numa Palace and green buffers
- **Environment**: The site falls within the ecologically sensitive zone of Upper Lake and is subject to Wetlands Rules, 2017.

Built-Up Area (Existing)

- Approx. 87,521 sq. ft. total existing structures (to be demolished)
    - Main Hotel Building: 65,664 sq. ft.
    - MOA Spa: 5,607 sq. ft.
    - Railway Platform & Coach Restaurants: 9,814 sq. ft.
    - Swimming Pool & Services: ~4,767 sq. ft.
    - Other spaces: Hot & Cold restaurant, lawn, service areas

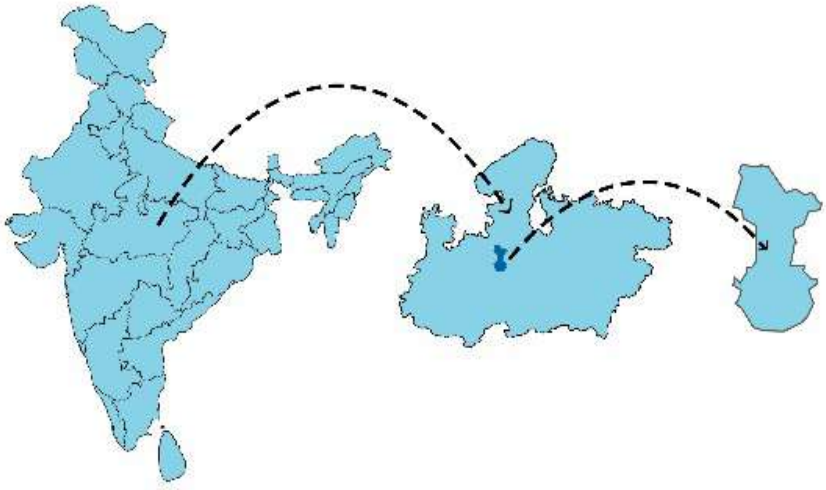


Figure 1 Area of site map



Figure 2 Site project

# SITE PLAN WITH DIMENSION

**Land Area (Site Area):** ~7.16 Acres (28,975 sq. m.)

**Existing Built-up Area:** ~87,521 sq. ft. (existing structures to be demolished)

**Building Height:** 30 m

**Front Setback:** Minimum 6 m

**Rear and Side Setback:** Minimum 3 m

**Proposing Agency:** Madhya Pradesh Hotel Corporation Ltd. (MPHCL)

**Legal Status:** Incorporated under the Companies Act, 1956 as a government-owned corporation.

**Ownership & Control:** It is a Government of Madhya Pradesh undertaking, operating under the Department of Tourism (DoT).

**Role in the Project:** Identified as the "Authority" in the agreement.

Holds the leasehold rights for the MPT Lakeview Residency Hotel land and property. Responsible for granting the concession to the chosen private developer or concessionaire. Ensures compliance with project obligations, development standards, and operational measures during the entire 60-year concession period, which can be extended by 10 years. Facilitates coordination with other government agencies, such as for land use change, AAI height clearance, and environmental approvals.

# CONNECTIVITY OF SITE

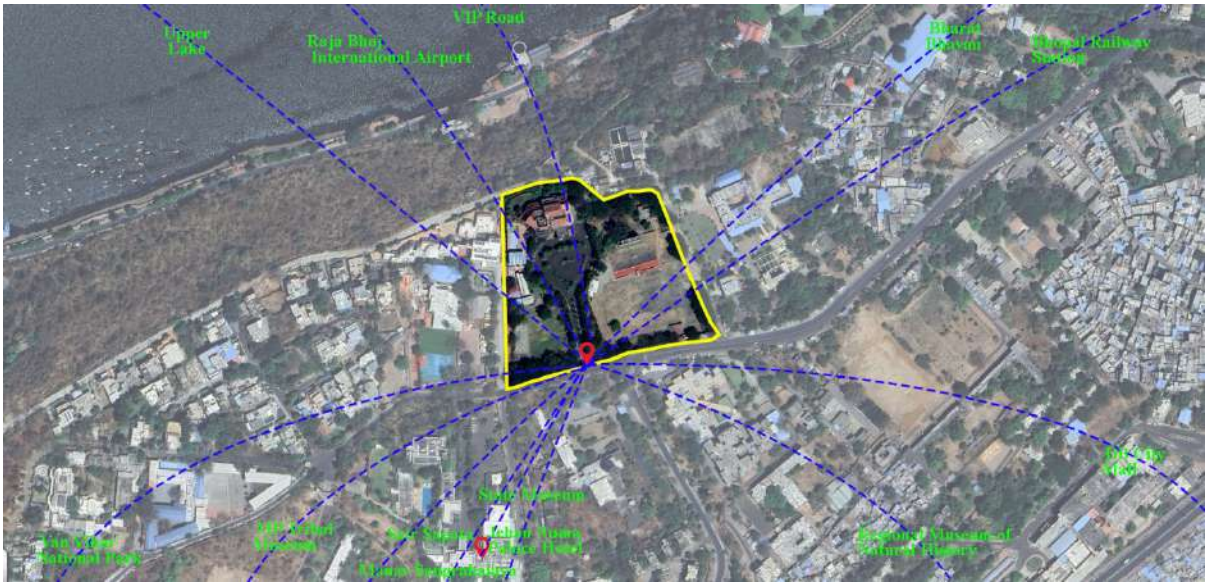



Figure 3 Site connectivity

1. Jehan Numa Palace Hotel – 150 meters
2. Van Vihar National Park (Main Gate) – 500 meters
3. Upper Lake Boat Club / Lake Promenade – 300 meters
4. MP Tribal Museum – 800 meters
5. Regional Museum of Natural History – 1.5 kilometres
6. Sair Sapata (lakefront recreation area) – 2.5 kilometres
7. VIP Road (Main Arterial) – 600 meters
8. State Museum / Ravindra Bhavan – 2.8 kilometres
9. Bharat Bhavan (Cultural Complex) – 3.2 kilometres
10. Bhopal Railway Station – 7.5 kilometres
11. Raja Bhoj International Airport – 14.5 kilometres
12. DB City Mall (Commercial/Entertainment Hub) – 6.2 kilometres
13. Manav Sangrahalaya (Indira Gandhi Rastriya Manav Sangrahalaya) – 1.2 kilometres

# DETAILED LIST OF SPACES

Hotel & Guest Areas

- Minimum 150 guest rooms (standard, premium, suites)
- Reception and lobby lounge
- Guest lounges and waiting areas
- Business centre and meeting rooms
- VIP/Presidential suites
- Guest service rooms and storage

Food & Beverage Facilities

- All-day dining restaurant
- Rooftop restaurant / bar with lake view
- Specialty / theme restaurants (e.g. railway coach-style dining)
- Café and bakery
- Open-air / terrace dining
- Banquet kitchen and F&B prep zones

Convention & Banquet Facilities

- Large banquet hall with capacity of 1,000 pax (column-free preferred)
- Pre-function area
- Conference and meeting rooms

- Convention foyer / break-out space
- Washroom and green rooms for events
- Stage/backstage and A/V control rooms

## Retail, Recreation & Cultural Facilities

- Souvenir and handicrafts shops / kiosks
- Cultural promotion spaces for folk performances
- Amphitheatre or open event lawn
- Drive-in or theme event space
- Art display walls / mini gallery

## Wellness & Leisure

- Full-service spa and massage rooms
- Gym and fitness centre
- Yoga/meditation room
- Outdoor swimming pool with deck
- Indoor recreation lounge (games/library)

## Parking & Service Infrastructure

- Multi-zone parking (surface and underground)
- Separate parking zones for guests, staff, and events
- Entry and exit gates with security booths
- Service yard and staff entry
- Utility block (transformers, DG sets, STP, WTP)

## Landscape & Outdoor Spaces

- Landscaped lawns for outdoor dining/events
- Pathways, sitting plazas, fountains
- Open lawns for cultural or tourism activities
- Green buffer near lake (as per Wetlands Rule)

## Back-of-House / Staff Areas

- Staff locker and restroom facilities
- Kitchen and F&B prep zones (including cold storage)
- Laundry and housekeeping
- Engineering and maintenance rooms
- Admin offices and security control room
- Garbage collection, segregation & compost area

# 2. Literature Study

## 2.1 Introduction

A hotel is a commercial establishment that provides accommodation, meals, and other services to travelers, tourists, and guests. It serves as a temporary residence and caters to the diverse needs of individuals, ranging from leisure and relaxation to business purposes. Hotels are classified based on their size, target market, level of service, facilities offered, and star rating (ranging from 1-star to 5-star or luxury).

Hotels are not just places of lodging but are designed to offer hospitality, comfort, and convenience, often reflecting the culture and essence of the location they are in. Modern hotels may include various amenities such as restaurants, bars, spas, swimming pools, fitness centers, conference rooms, and entertainment facilities, making them multifaceted establishments catering to a wide spectrum of guests.

## 2.2 Types

Hotel operations vary in size, function, and cost. Most hotels and major hospitality companies that operate hotels have set widely accepted industry standards to classify hotel types. General categories include the following (Various, 2013); •

- Conference and resort hotels often contain full-sized luxury facilities with full service accommodations and amenities.
  Examples may include: Conrad Hotels, InterContinental Hotels, Ritz-Carlton, Four Seasons Hotels and Resorts, Dorchester Collection, JW Marriott Hotels, Starwood -Westin Hotels, Hilton, Marriott, and Hyatt •
- Historic Inns and boutique hotels often contain luxury facilities of varying size in unique or intimate settings with full service accommodations. •
- Select Service Examples may include: Holiday Inn, Courtyard by Marriott and Hilton Garden Inn
- Limited Service
  Examples may include: Hampton Inn, aloft, Holiday Inn Express, Fairfield Inn, Four Points by Sheraton, and Days Inn •
- Extended Stay
  Examples may include: Staybridge Suites, Homewood Suites by Hilton, Residence Inn by Marriott, element, and Extended Stay Hotels •
- Timeshare
  Examples may include: Hilton Grand Vacations, Marriott Vacation Club International, Westgate Resorts, Starwood Vacation Ownership, and Disney Vacation Club
- •Destination Club
- •Boatels -floating hotels

## 2.3 Ministry of Tourism Guidelines

With the aim of providing contemporary standards of facilities and services available in the hotels, the Ministry of Tourism has formulated a voluntary scheme for classification of operational hotels which will be applicable to the following categories:

**I. Star Category Hotel**s:- 5 Star Deluxe, 5 Star, 4 Star, 3 Star, 2 Star & 1 Star

**II. Heritage Category Hotels**:- Heritage Grand, Heritage Classic & Heritage Basic

For approval , application Form should have the following details:

1. Proposed name of the Hotel.
2. Name of the promoters with a note on the business antecedents in not more than 60 words.
3. Complete postal address of the promoter with Telephone, Fax and Email address.
4. Location of hotel site with postal address.
5. Details of the site .
    a) Area (in sq. meters).
    b) Title– owned / leased with copies of sale / lease deed.
    c) Copy of Land Use Permit to construct Hotel from local authorities.
    d) Distance (in Kms) from (a) Railway station (b) airport (c) main shopping center.

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 center; 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
        (a) Sewage Treatment Plant
        (b) rain water harvesting
        (c) waste management
        (d) pollution control method for air, water and light
        (e) 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 material

## 2.4 Classification of Hotel according to Ministry of Tourism

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Minimum size of bathroom in square feet | 30 | 30 | 36 | 36 | 45 | | 25% of bathroom in 1 & 2 Star hotels to have western style WC. No higher ceiling/cap on the maximum size. |
| 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 the star category. |
| A clothes – hook in each bath/shower room | N | N | N | N | N | | |
| A 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 | | |
| 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 | | It will be mandatory w.e.f. 01.09. 2010 for all 1 and 2 Star category hotels to provide hot & cold running water. |
| Shower cabin | N | N | N | N | N | | Where shower cabin is not available, a shower with shower curtain will suffice. |
| Bath tubs | | | | D | D | | In 4 Star and above hotels, some rooms should offer this option to guests. |
| Water saving taps / shower | N | N | N | N | N | | |
| Energy saving lighting | N | N | N | N | N | | |
| Hairdryers | D | D | D | N | N | | Where not provided in bathroom, must be available on request. |
| Safe keeping / in room safe | | | | N | N | | 1, 2 & 3 Star hotels to have facilities for safe keeping in the reception. |
| Minibar / Fridge | | | | N | N | | Contents must conform to local laws. |
| Drinking water | N | N | N | N | N | | All category hotels to provide one sealed bottle of branded bottled water of minimum 500 ml. per person per day. Ultra violet treated water will not be acceptable. |
| Guest Linen | | | | | | | Good quality linen to be provided. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Linen room | N | N | N | N | N | | Well ventilated |
| Paid transportation on call | D | D | N | N | N | | Guest should be able to travel from hotel. |
| Shoe cleaning service | D | D | D | N | N | | Free facility to be provided for in house guests. |
| Ice (from drinking water ) on demand | D | D | N | N | N | | Complimentary on request. |
| Acceptance of common credit cards | D | D | 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 guests). |
| 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 numbers 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 | N | N | N | | |
| 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 hour manned area. |
| Provision for emergency supplies toiletries / first aid kit | D | D | N | N | N | | May be chargeable. |
| Health / Fitness facilities | D | D | D | D | N | | Indian system of treatments should preferably be offered. |
| Beauty saloon and barber's shop | | | D | D | D | | |
| Florist | | | | D | D | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 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 | | This condition shall be applicable to all new hotels that will start operating from 1.4.2016. For the hotels which have come into operation or will come into operation before 31.3.2016, these facilities will be mandatory from 1.4.2022. |
| 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 | | It will be mandatory w.e.f. 01.09.2010 for all 1 & 2 Star category hotels to provide hot & cold running water |
| Shower cabin | N | N | N | N | N | | Where shower cabin is not available, a shower with shower curtain will suffice |
| Bath tubs | | | | D | D | | In 4 Star and above hotels, some rooms should offer this option to guests. |
| Water saving taps - 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, tablesand fresh floral display.<br><br>Door man on duty for 4 Star 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 | | |

| ROOM AND FACILITIES FOR THE DIFFERENTLY ABLED GUEST | | | | | | | |
|---|---|---|---|---|---|---|---|
| At least one room for the differently abled guest | N | N | N | N | N | | Minimum door width should be one meter to allow wheel chair access with suitable low height furniture, low peep hole, cupboard to have sliding doors with low clothes hangers etc. Room to have audible and visible (blinking light) alarm system |
| Bathroom | N | N | N | N | N | | Minimum door width should be one meter. Bathroom to be wheel chair accessible with sliding door suitable fixtures like low wash basin low height WC, grab bars etc. No bath tub required. |
| 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 | | 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 |
| Public Restrooms | N | N | N | N | N | | Unisex. Minimumdoor width should be one meter. To be wheel chair accessible with low height urinal (24" maximum) with grab bars |
| FOOD & BEVERAGE | | | | | | | |
| 1 Star & 2 Star category | | | | | | | 1 & 2 Star categories should have minimum one dining room serving all meals. Room service not necessary |
| 3 Star category | | | | | | | One Multi-cuisine Restaurant cum coffee shop open from 7 a.m. to 11 p.m. and 24 hr. room service |
| 4 Star category | | | | | | | <u>GradeA cities:</u><br>One Multi-cuisine Restaurant cum coffee shop open from 7 a.m. to 11 p.m., one Specialty Restaurant and 24 hr. room service<br><br><u>GradeB cities:</u><br>One Multi-cuisine Restaurant open from 7 a.m. to 11 p.m. and 24 hr. room service |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 5 Star category | | | | | | | <u>GradeA cities:</u><br>One Multi cuisine Restaurant cum 24 hr. coffee shop / all day dinning, one Specialty Restaurant and 24 hr. room service<br><br><u>GradeB cities:</u><br>One Multi cuisine Restaurant cum coffee shop open from 7 a.m. to 11 p.m., one Specialty restaurant and 24 hr. room service |
| 5 Star Deluxe category | | | | | | | <u>GradeA cities:</u><br>One Multi cuisine Restaurant cum 24 hr. coffee shop / all day dinning, one Specialty restaurant and 24 hr. room service<br><br><u>GradeA cities:</u><br>One Multi cuisine Restaurant cum coffee shop open from 7 a.m. to 11 p.m., one Specialty restaurant and 24 hr. room service |
| Grade A: Delhi,** Mumbai, Kolkata, Chennai, Bangalore, Pune, Hyderabad, Secunderabad.<br><br>Grade B Cities in the rest of the country excluding Grade 'A' cities | | | Note - | The Ministry of Tourism may review and revise the cities falling under the Grade 'A' - Grade 'B' from time to time.<br><br>**Delhi would include the hotels falling in Gurgaon, Faridabad, Ghaziabad, NOIDA, and Greater NOIDA" | | | |
| Crockery & Glassware | N | N | N | N | N | | Plastic ware accepted in pool area |
| Cutlery to be at least stainless steel | N | N | N | N | N | | All categories should use good quality metal cutlery. Aluminum cutlery prohibited |
| Bar | D | D | D | N | N | | **Wherever bar license is prohibited for a hotel as per local law, the bar will not be mandatory and wherever bar is allowed as per local laws then the hotel will have to obtain bar license first and then apply for classification to the Ministry of Tourism.** |

| KITCHEN / FOOD PRODUCTION AREA | | | | | | | |
|---|---|---|---|---|---|---|---|
| Refrigerator with deep freezer | N | N | N | N | N | | Capacity based on size of F & B service |
| Segregated storage of Meat, fish and vegetables | N | N | N | N | N | | Meat, fish and vegetables in separate freezers |
| Colour coded synthetic chopping boards | N | N | N | N | N | | Wooden chopping boards prohibited |
| Tiled walls non slip floors | N | N | N | N | N | | |
| 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 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 to be clean and distinct from garbage area | N | N | N | N | N | | |
| Six monthly medical checks for production staff | N | N | N | N | N | | |
| First - aid training for all kitchen staff | N | N | N | N | N | | |
| Pest control | N | N | N | N | N | | |
| **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 and 2 Star category hotels |
| Percentage of Supervisory staff | 20% | 20% | 40% | 40% | 80% | | Hotels of 4 Star category and above should have formally qualified Heads of Departments.<br><br>The supervisory or the skilled staff may have training or skill certification as follows:<br><br>Degree / diploma from Central or State IHMs / FCIs or from NCHMCT affiliated IHM's or from other reputed Hospitality schools |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Percentage of Skilled staff | 20% | 20% | 30% | 30% | 60% | | The supervisory or the skilled staff may have training or skill certification as follows;<br><br>Degree / diploma from Central or State IHM / FCIs or from NCHMCT affiliated IHMs or from other reputed Hospitality schools<br><br>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, well lighted and ventilated |
| Staff Locker Room | 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 (i.e., from HRD, Security side etc.) for hotel with more than 25 personnel and one focal point for Hotel with less than 25 personnel |
| **GUEST SERVICES** | | | | | | | |
| Provision of wheelchair for the differently abled guest | N | N | N | N | N | | Wheel chair to be available on a complimentary basis in hotels of all categories |
| Valet (parking) services to be available | D | D | N | N | N | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Verification. | N | N | N | N | N | | All hotels should conduct a antecedent verification of their staff and suppliers by the Police / private security agencies. |
| Staff trained in fire fighting Drill. | N | N | N | N | N | | All hotels to conduct periodic fire drills and maintain 'Manuals' for Disaster Management, First Aid and Fire Safety. Quarterly drills as per Law. |
| Security arrangements for all hotel entrances. | N | N | N | N | N | | |
| Each bedroom door 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 Procedure notices displayed in room behind door. | N | N | N | N | N | | |
| Fire and emergency alarms should have visual & audible signals. | N | N | N | N | N | | |
| First aid kit with over the counter medicines with 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 | | All hotels in the categories 4 Star, 5 Star & 5 Star Deluxe shall provide a telephone within an arm's reach of the toilet seat. This condition shall be applicable to all new hotels that will start operating from 1.4.2016. For hotels which have come into operation or will come into operation or will come into operation before 31.3.2016, this guideline will be applicable from 1.4.2022. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Dry- cleaning /laundry | D | D | D | D | 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 & 5 Star Deluxe categories.* |
| *Iron and Iron Board facility* | *D* | *D* | *D* | *N* | *N* | | *Iron and iron board to be made available on request in 1 to 3 Star category hotels on complimentary basis. For 4, 5, 5 Star Deluxe categories to be available in the room on complimentary basis.* |
| *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 guests.* |
| Ice (from drinking water) on demand | D | D | N | N | N | | Complimentary on request |
| Acceptance of common credit cards | D | D | 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 guests |
| 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 numbers 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 | N | N | N | | |
| 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 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Provide atleast 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 guests to charge a laptop and cell phone simultaneously. This condition shall be applicable to all new hotels that will start operating from 1.4.2016. For the hotels which have come into operation or will come into operation till 31.3.2016, this guideline will be applicable from 1.4.2022. 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 Connection / Data Port. | D | D | D | N | N | | Subject to local internet access being available. Wi - Fi wherever possible. |
| Business Center. | D | D | D | N | N | | This should be a dedicated area.<br>(This provision maybe 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 & Don'ts, No Divingsign, pool depth etc. should be displayed at a strategic location in the pool area |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Parking Facilities. | D | D | N | N | N | | Should be adequate in relation to the number of rooms & banquet / convention hall capacities. Exclusively earmarked accessible parking nearest to the entrance for differently abled guests |
| Conference Facilities. | D | D | D | D | N | | |
| No. of people to be trained under 'Hunar Se Rozgar'. | N | N | N | N | N | | As per norms laid out in para 23 of guidelines |
| **Eco Friendly Practices:** **(a) 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 1.4.2012. |
| **(b) Rain water harvesting.** | N | N | N | N | N | | |
| **c) Waste management.** | N | N | N | N | N | | |
| **d) Pollution control methods for air, water and light.** | N | N | N | N | N | | |
| **(e) Introduction of non CFC equipment for refrigeration and air conditioning and other Eco-Friendly measures and initiatives.** | N | N | N | N | N | | |
| Display of classification status by the hotel:- | | | | | | | |

**Note 1.**

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 mentioned to the guest when the hotel staff introduces 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.

**Note 2.**

It will be mandatory for all the hotels classified under the categories 1 to 4 Star to display their classification status prominently outside the hotel and at the reception from 1.4.2014 as per a scheme to be evolved in consultation with FHRAI and HAI.

**Note 3:**

Time-sharing accommodation will also be considered for classification as per the guidelines for Classification/Re-classification of hotels.

**Note 4 :**

**D** Desirable

**N** Necessary

There is no relaxation in the 'Necessary' criteria except as specified in the comment column

## 2.5 Criteria That Make a Hotel a 5-Star Hotel

There are several criteria that a hotel must meet to be classified as a 5-star property. These standards are typically set by national tourism boards, hotel associations, or global rating organizations such as Forbes Travel Guide and AAA Diamond Rating. Below are some of the key criteria:

**1. Room Size and Amenities •**

- Minimum room size of 35 m² for standard rooms. •
- Luxurious en-suite bathrooms with premium toiletries, bathrobes, and slippers. •
- High-end furniture, bedding (luxury linens, pillow menus), and decor. •
- Climate control, blackout curtains, and soundproofing for privacy and comfort. •
- Daily housekeeping, including turn-down service. •
- In-room safe, minibar, and high-quality entertainment systems.

**2. Service Quality •**

- 24-hour room service with extensive dining and beverage options. •
- Dedicated concierge and valet services. •
- Personalized services such as butlers and private chefs (in suites). •
- Multilingual staff trained to meet guests' high expectations. •
- Prompt handling of special requests, from private transport to exclusive event arrangements.

**3. Dining and Culinary Standards •**

- At least 3 restaurants, including one fine dining outlet. •
- High-quality food and beverage services, often featuring local and international cuisines. •
- Specialty dining experiences, including private dining and chef's table.

**4. Recreational Facilities •**

- Must have a swimming pool, gym, and spa. •
- High-quality wellness facilities, such as steam rooms, saunas, massage therapy, and yoga studios. •
- Additional recreational facilities may include tennis courts, golf courses, and private beaches (depending on the location).

**5. Safety and Security •**

- Round-the-clock security systems, including surveillance cameras and secure access. •
- Compliance with all fire safety standards, including multiple fire exits, extinguishers, and sprinkler systems. •
- Secure parking and luggage handling.

**6. Technology** •

- High-speed Wi-Fi throughout the property. •
- Smart room features, such as automated lighting, climate control, and entertainment systems.
- Business center with state-of-the-art facilities for corporate travellers.

**7. Public Spaces** •

- Lavishly designed lobbies and lounges with comfortable seating areas. •
- Impeccable cleanliness and maintenance in all public areas. •
- Art installations, water features, or other design elements that create a luxurious ambiance.

**8. Accessibility** •

- Compliance with international accessibility standards for people with disabilities. •
- Accessible rooms, elevators, ramps, and parking spaces.

## 2.6 Area Requirement and Statements for a 5-Star Hotel

**1. Guest Rooms and Suites** •

- Standard Room (Single/Double): 35–45 m² per room •
- Includes bed area, seating area, bathroom, and wardrobe. •
- Junior Suite: 60–80 m² per suite •
- Bedroom, living area, and larger bathroom, sometimes with a private balcony. •
- Executive Suite: 80–120 m² per suite •
- Bedroom, large living area, luxury bathroom, dining area, and balcony. •
- Presidential or Royal Suite: 150–250 m² per suite •
- Large bedroom(s), separate living and dining areas, study, private balcony/terrace, multiple bathrooms.

**2. Lobby and Reception Area** •

- Main Lobby: 200–500 m² •
- Includes reception, concierge, seating area, and waiting space. •
- Norm: Should be grand and spacious to reflect luxury, typically 4-6 m in height with premium finishes. •
- Reception Desk: 20–30 m² (depending on the number of check-in counters) •
- Waiting/Seating Area: 100–150 m² •
- Comfortable seating, artwork, and decorative elements to enhance guest experience.

**3. Food and Beverage Outlets** •

- All-Day Dining Restaurant: 100–150 m² for 100–150 covers (seats) •
- Includes indoor seating, buffet area, and outdoor seating (optional). •

- Specialty Restaurant: 100–200 m² for 50–100 covers •
- Cuisine-specific with fine dining setup, often includes private dining rooms. •
- Bar/Lounge: 80–120 m² • Includes seating area, bar counter, and service stations. •
- Coffee Shop/Café: 50–100 m² for 30–50 covers • Banquet Hall: 500–1000 m² •
- Includes pre-function area, service rooms, and can accommodate 200–500 guests. •
- Banquet Lawn/Outdoor Event Space: 500–1500 m² • For large gatherings and outdoor events, weddings, etc.

**4. Conference and Meeting Facilities**

- Conference Rooms: 50–200 m² (each) •
- Various sizes depending on capacity, typically 10–50 people per room.•
- Meeting Rooms: 20–50 m² •
- For private meetings with capacity for 8–20 people. •
- Business Center: 100–150 m² •
- Workstations, meeting spaces, and support services like printing, faxing, etc.

**5. Recreational Facilities •**

- Spa and Wellness Center: 200–400 m² •
- Includes treatment rooms, steam/sauna, Jacuzzi, relaxation areas. •
- Gym/Fitness Center: 100–150 m² •
- Includes cardio and weight-training equipment, changing rooms. •
- Swimming Pool: 150–300 m² •
- Outdoor or indoor, with adjacent pool deck, sunbeds, and landscaping. •
- Kids Play Area: 50–100 m00B2 •
- Indoor/outdoor playground for children, depending on family-friendly focus.

**6. Back-of-House (BOH) and Service Areas •**

- Main Kitchen: 200–400 m² •
- Includes cold storage, dry storage, preparation areas, and cooking stations. •
- Banquet Kitchen: 100–200 m² • Separate kitchen for banqueting and event needs. •
- Laundry: 100–150 m² • Includes washing, drying, ironing, and storage areas. •
- Housekeeping: 50–100 m² •
- Includes storage for linen, cleaning supplies, and housekeeping carts. •
- Staff Facilities: 100–200 m² •
- Locker rooms, staff cafeteria, rest areas.

**7. Circulation and Common Areas •**

- Corridors: Minimum 2.1–2.5 m wide for guest room floors. •
- Staircases: Width of 1.5–2.0 m, per fire and safety norms. •

- Elevators: 2–6 elevators depending on the number of floors and rooms. •
- Separate service elevators for staff and guest elevators.

**8. Parking and Valet •**

- Parking Area: 30–40 m² per car •
- 1 parking space for every 2 guest rooms, plus extra for restaurant and banquet visitors. •
- Valet Service Space: 50–100 m² •
- Includes drop-off area, valet booth, and waiting area.

**9. Landscaping and Outdoor Areas •**

- Landscaped Gardens: 1000–2000 m² •
- Outdoor seating, walkways, fountains, and decorative elements for luxury hotels. •
- Outdoor Event Space: 500–1500 m² •
- Used for weddings, parties, and other large gatherings.

## 2.7 Typical Arrangements of Hotel Areas

Hotels provide a service to their customers whose requirements are:

- Clean, quiet and comfortable rooms
- Good food
- Good service, and
- Value for money

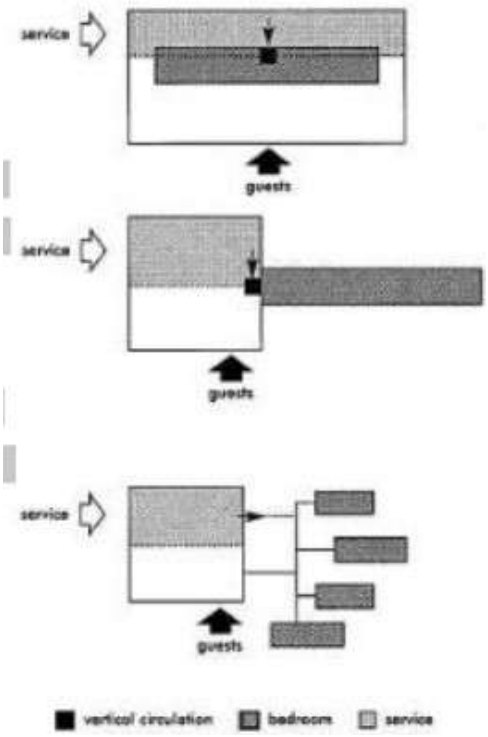



Figure 4 Arrangement of hotel areas

The financial viability of the project depends on keeping capital requirements and operating costs to a minimum. This depends largely on the standards of planning, construction and equipment of the building. For the architect the two most important technical decisions are:

- Location of the main kitchen, and
- Provision of an efficient duct system

Four distinct types of areas are involved: guest rooms, public areas, administration offices and 'back-of-house' facilities. Relationships between these areas must be planned to provide separation of customer and back-of-house areas but also allow efficient service without cross-circulation or distraction (Pickard, 2002)

## 2.8 Circulation Spaces

Circulation spaces are the most important public spaces in a hotel. Not only do they encompass public inside, but also do the work of binding all the separate elements of the hotel into a single entity. Corridors, lobbies, etc. are the backbone of the Hotel circulation. Not only do the guests depend on them for transportation, but the service personnel also depend on them for efficient service delivery.

Hospitality design nowadays has come a long way from medieval inns and rest houses. The level of sophistication demands a very efficient and robust mechanism so that the guests in a hotel do not meet the internal service network or staff.

Hotel design basically works upon the segregation and efficient functioning of guest and service movement. Although generally the form of a hotel is dominated by the guest room tower, the overall design is greatly affected by the circulation areas and the public spaces thus created.

A very crucial part of circulation space design is its integration with the service lines, i.e. various shafts for electrical and mechanical services, and fire escape staircases, etc.

Although the overall built form of the hotel is dictated by the room tower design, this seminar will try to find out the extent of circulation & service network design on the developed form.

As mentioned earlier, circulation spaces are vital in overall service network planning of a hotel, thus this chapter would be analyzing the different types and the impact of these on the design of the built form. Guest rooms are sited to take advantage of the best views and orientation while minimizing noise and disturbance. This also applies to those public areas in which daylight is essential: from restaurants, small meeting rooms and foyers or lounge areas to larger convention halls.

The figure below gives a schematic layout of various spaces in a hotel and how they are connected by service networks.

## 2.9 CRUCIAL DECISION

Many crucial decisions are to be taken which eventually would come to dictate the arrangement of circulation networks which in turn would affect the overall built space design. Some decisions are mentioned below:

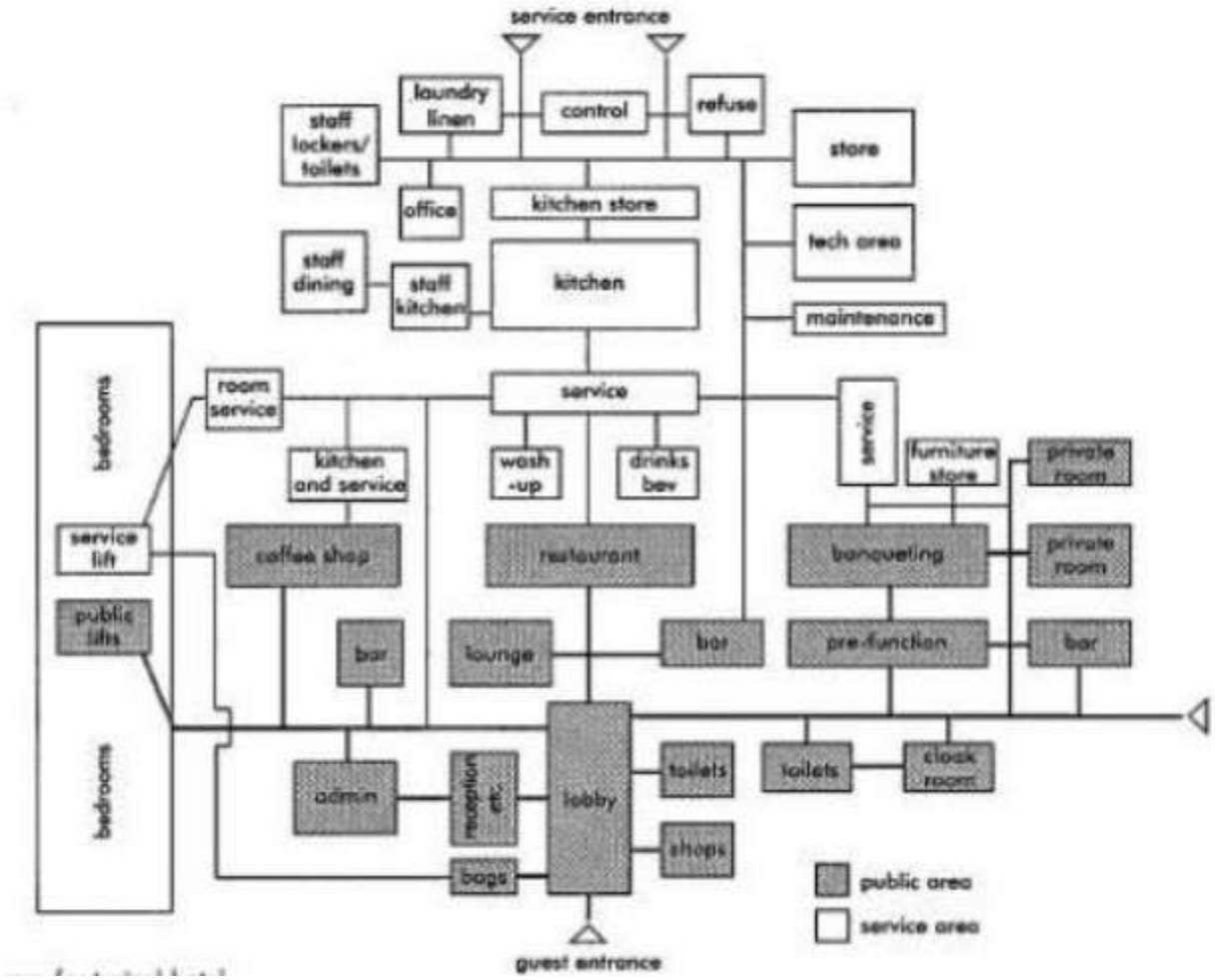



Figure 5 Circulation network

### 2.9.1. PARKING: VALET OR SELF-PARK

In valet parking, the user does not have to go to the on-site parking or basement level car park to park his car; a valet does that for him, whereas, if the user has to park a car himself then there has to be a separate lift for the guests to travel to the guest lobby. This poses more security issues as the safety of the basement would be

compromised. Also, the guests must be guided every time to their respective vehicles, whereas the valets could locate the cars more easily and thus the circulation in the basement car park could be more efficient and swifter.

## 2.9.2 LUGGAGE HANDLING: BY GUEST OR BELLMAN

In case of luggage handling, the decision is generally dependent on the scale of the hotel. If it is budget hotel or up to a 3-star hotel, the general practice is to let the guests escort themselves to the guest rooms with their own luggage, whereas, in 4 Star and above hotels, bellboys are necessary to carry the luggage of the guests. Another decision to be taken here is if the luggage is to be carried in the public elevators or there would be specific luggage lifts near the guest lift lobby. This would need an alteration to both the guest circulation from the guest lobby and for the service personnel.

## 2.9.3 FRONT DESK PROCEDURES: COMPUTERS, ROOM STATUS

These are a few questions which don't necessarily affect the spatial design of the lobby but surely affect the furniture design and the related buffer space to be allotted for guests and staff movement.
Depending on the kind of services provided the space arrangement of the lobby is decided.

## 2.9.4 GUESTROOM FOOD SERVICE: CART OR TRAY

Guestroom food services are one of the most important factors to be considered while designing the service core of a hotel. As a thumb rule, 2.5 minutes is considered the optimum time for food to reach from the central kitchen to the guest room.

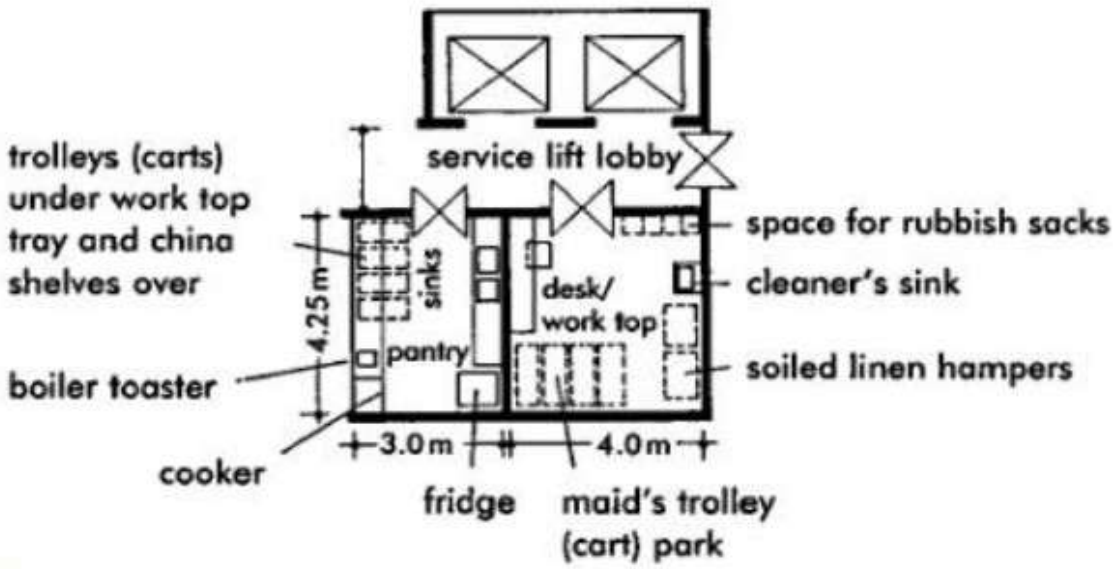
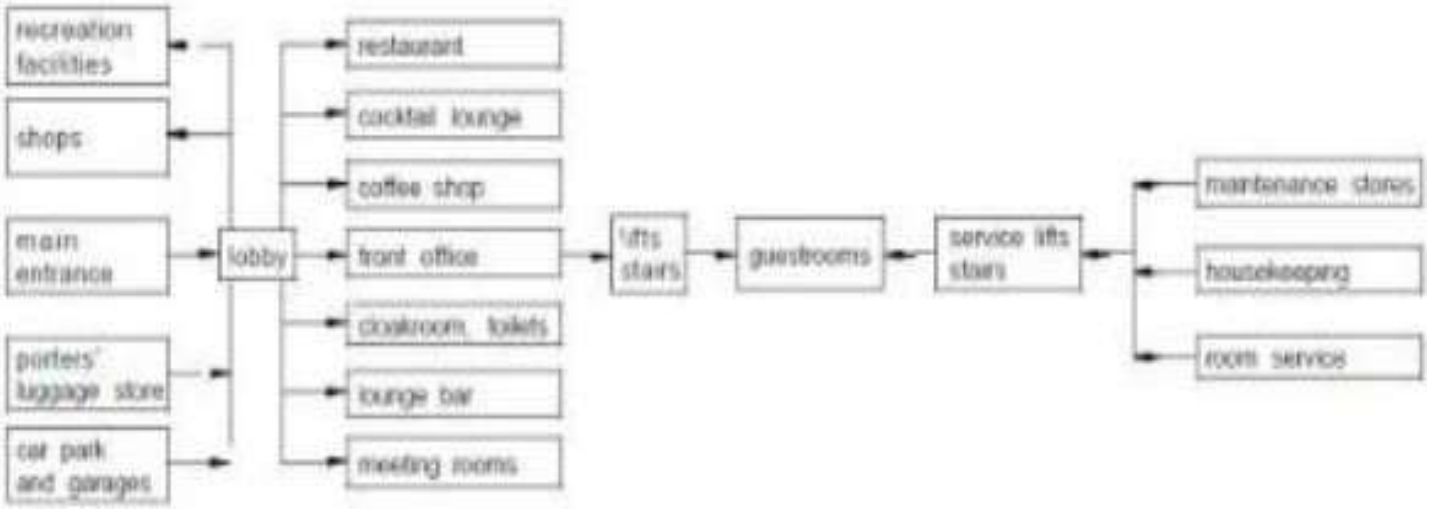



Figure 6 crucial network

Nowadays, though, cloches with burners in the trollies are being used. However, it is good practice to limit the distance, from service cores to guest rooms, to not more than 40 meters.




## 2.9.5 RESTAURANT SERVICE: HOURS, TYPE OF SERVICE, OUTDOOR

Restaurants are a major part of the hotel's income from non-residential guests. Their designs and positioning depend on the above questions.

The HRACC guidelines demand that every 5-Star hotel has a 24- Hour Coffee shop and an All-Day Dining facility for the guests (HRACC, 2011).

| typical areas | ($m^2$/cover) |
|---|---|
| high-class restaurant | 2.0–2.4 |
| coffee shop | 1.6–1.8 |
| banquet | 1.1–1.3 |
| smaller function | 1.6–1.8 |
| foyer | 0.3–0.5 |
| **service areas** | **($m^2$/cover)** |
| main kitchen | 0.9–1.0 |
| banquet kitchen | 0.2–0.3 |
| satellite service kitchen | 0.3–0.4 |
| furniture stores (ballroom) | 0.2 |

Thus, it is quite evident from the requirements are for the guests who would not be living in the hotel but visiting for any or other purpose. So, the coffee shop is to be placed or just adjacent to the guest lift lobby so that the guests could be provided with an informal meeting space. The all - day dining should also be provided in maximum proximity to the main lobby, as it would be dedicated to the non- residential customers coming in every hour of the day. In general practice the all - day dining serves a buffet meal, thus altering the interior furniture placements and sometimes the overall design of the restaurant.

### 2.9.6 RECREATION: HOURS, CHILDREN, SAFETY

Recreation facilities are some of the major selling points of any hotel. Recreation facilities include Discotheques, children's playing areas, casinos, etc.
The placement and design of these areas are very crucial as they are totally public in nature and require much more physical monitoring and security facilities. The ancillary services to these spaces have to be designed very carefully, so as to make the movement of guests and service personnel efficient and secure.

### 2.9.7 OTHER SECURITY MEASURES

**1. Room Key Scanners-** The US Department of Energy, through its Oak Ridge National Labs, has developed Mass Spectrometry Scanners which can analyze up to 1000 guest room access cards per hour. These can detect even a billionth of a gram of explosives such as Nitroglycerine or TNT. Even if a tinge of explosive has been touched by the guest it would alert the staff immediately and information flashed to security agencies.
**2. Snifex-** Snifex is a small handheld device with an ariel. The ariel starts V pointing to the direction where explosive is kept from a distance of a few meters.
**3. Trash Management-** An explosive device can easily be hidden in the trash. Trash cans need to be managed by trustworthy personnel.

### 2.9.8 CRISIS MANAGEMENTPLAN:

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

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

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

## 2.10 CULTURAL INTEGRATION IN HOSPITALITY DESIGN

Cultural integration in hospitality design plays a pivotal role in creating spaces that are not only functional but also resonate deeply with the local heritage and traditions. By incorporating vernacular architectural principles, hospitality projects can establish a strong connection between the built environment and the cultural context of their location. This approach ensures a unique and immersive guest experience that celebrates the essence of a region's identity.

### 2.10.1 SUSTAINABLE VERNACULAR PRACTICES

As highlighted in "Indian Vernacular Architecture" by Kulbhushan Jain and Minakshi Jain, vernacular architecture in India is deeply rooted in sustainability, employing locally sourced materials and context-specific construction techniques. In Madhya Pradesh, elements like courtyards, jaali work, and jharokhas serve both aesthetic and functional purposes.

These elements not only provide climate responsive solutions but also reflect the traditional craftsmanship of the region. Incorporating such features into the design of a 5-star hotel allows for the preservation of cultural heritage while achieving modern luxury standards.

**Techniques and Practices: Building with Tradition**

**1.Courtyards for Passive Cooling and Aesthetics**

- Traditional Use: Courtyards have been central to Indian vernacular design, serving as a multi-functional space for ventilation, social gatherings, and light penetration.
- Application in Mahotsav Vilas: Incorporating courtyards into the hotel design will provide natural cooling, reduce energy consumption, and create an inviting ambiance for guests. These can act as transition spaces between the indoor and outdoor areas, hosting events or showcasing Madhya Pradesh's performing arts.

**2. Jharokhas and Balconies for Ornamentation and Utility**

- Traditional Use: Jharokhas (overhanging enclosed balconies) are prominent in Madhya Pradesh's heritage buildings, adding visual richness and providing shade.
- Application in Mahotsav Vilas: Modern reinterpretations of jharokhas can be used to frame scenic views, offer privacy for hotel suites, or create shaded outdoor seating areas.

**3. Jaali Work for Ventilation and Decorative Appeal**

- Traditional Use: Jaali screens, intricately carved from stone or wood, were historically used to allow airflow while blocking harsh sunlight.
- Application in Mahotsav Vilas: Jaali work can be integrated into façades, corridors, or partitions to create patterns of light and shadow, enhancing both aesthetics and thermal comfort.

**4. Arcades and Verandahs for Shaded Pathways**

- Traditional Use: Covered walkways or verandahs, seen in palaces like those in Mandu, offer shaded circulation areas and protection from the elements.
- Application in Mahotsav Vilas: Incorporating verandahs along the periphery of public spaces like restaurants, lounges, or courtyards will create transitional zones that are both functional and visually engaging.

## 2.10.2 ADAPTATION OFREGIONAL MATERIALS AND TECHNIQUES

Neelkanth Chhaya's "Vernacular Traditions: Contemporary Architecture" emphasizes the relevance of adapting vernacular practices for modern architectural needs. Madhya Pradesh's traditional architecture, characterized by its use of sandstone, lime mortar, wooden frameworks, and ornate carvings, can be seamlessly integrated into hospitality design. Features such as arcaded verandahs, central courtyards, and embellished columns can enhance the visual and experiential appeal of the spaces while maintaining a connection to the region's heritage.

**Materials: Rooted in Local Context**

**1.Locally Sourced Sandstone**

- **Traditional Use:** Sandstone has been widely used in Madhya Pradesh's monuments for its durability and aesthetic versatility.
- **Application in Mahotsav Vilas**: Sandstone can be used for cladding, flooring, and decorative elements like columns and arches to evoke a sense of authenticity while ensuring longevity.

**2.Lime Mortar for Plastering and Structural Strength**

- **Traditional Use**: Lime mortar was historically used for its flexibility and ability to regulate indoor temperatures.

- **Application in Mahotsav Vilas:** Using lime plaster for interior walls can create smooth, elegant finishes while maintaining a connection to traditional building methods.

**3.Timber for Warmth and Detailing**

- **Traditional Use**: Wood has been used in traditional Madhya Pradesh architecture for ceilings, doors, and carved panels.
- **Application in Mahotsav Vilas**: Timber can be employed in the interiors for ceiling treatments, decorative beams, furniture, and hand-carved detailing, adding warmth and texture.

**4. Terracotta for Roofs and Decor**

- **Traditional Use:** Terracotta tiles and artifacts have been a hallmark of Indian vernacular architecture, often used for roofs and ornamental purposes.
- **Application in Mahotsav Vilas**: Terracotta roof tiles for villas, decorative screens, and pottery-based installations in public areas can bring a rustic charm while being eco-friendly

## 2.10.3 HISTORICAL INFLUENCE AND REGIONAL IDENTITY

In "Architecture of the Indian Subcontinent" by Takeo Kamiya, the role of historical architecture in shaping regional identity is explored in detail. Madhya Pradesh, known for its rich architectural legacy evident in places like Orchha, Mandu, and Khajuraho, provides a wealth of inspiration. These heritage sites showcase ornamental facades, grand entrances, and harmonious proportions, which can be reinterpreted in a contemporary hospitality setting. By drawing upon these historical elements, a design can create a narrative that celebrates the grandeur and cultural richness of the state.
Blending Tradition with Luxury

Integrating traditional design elements into modern hospitality projects, such as Mahotsav Vilas, fosters a sense of cultural pride while offering luxurious comfort. By employing vernacular principles such as shaded courtyards for natural cooling, intricately designed jaali screens for filtered light, and the use of local art and motifs, the project can provide a unique experience that celebrates Madhya Pradesh's culture. This approach aligns with the growing demand for authentic, culturally enriched hospitality experiences.

By referencing these key principles, the design philosophy of Mahotsav Vilas seeks to create a "Grand Celebration of Madhya Pradesh’s Culture and Heritage", seamlessly blending tradition with contemporary luxury

# 3. Case Study

## 3.1 Taj Hotel, Bhopal

### 3.1.1 Introduction

The Taj Lakefront, Bhopal epitomises true luxury. This iconic establishment embodies the essence of Bhopal and its aspirations for the future. Situated with a view of the upper lake and merely 25 minutes from the international airport, the magnificent structure by the lakefront redefines fine living with its modern interiors, ornate and luxurious finishes. The design is intuitive to the region and inspired by the bell metal craft of Tikamgarh, the lakes and Zari work of Bhopal, the paisley prints of Bagh, the Durries of Sironj, and the Terracotta art of the state's tribal areas.

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

- **PROJECT** -TAJ LAKEFRONT
- **LOCATION** -BHOPAL
- **CLIMATE** -HUMID SUBTROPICAL
- **TOPOGRAPHY** -PLAIN LAND
- **ARCHITECT** -JOI DESIGN
- **COMPLITION YEAR** -2021
- **NO. OF ROOMS** -152
- **SITE AREA** -4.77 ACRE



Figure 7 Taj hotel, bhopal

### 3.1.2 Details

- The project is named Taj Lakefront, located in Bhopal, Madhya Pradesh.
- The hotel is situated in a humid subtropical climate, which influences its design and material choices.
- The site is characterized by a plain land topography, providing a stable foundation for construction.
- The  design of the hotel was carried out by JOI Design, known for their expertise in luxury projects.
- Thehotel was completed in the year 2021, making it a modern addition to Bhopal's landscape.
- The property features a total of 152 rooms, catering to both business and leisure travelers.
- The site spans an area of 4.77 acres, offering ample space for the hotel's various facilities.
- The Floor Area Ratio (FAR) for the projectis 2, aligning with local zoning regulations.

### 3.1.3 Location

The Taj Lakefront is located in Bhopal . It is close to the Van Vihar National Park, Sanchi Stupa, National Museum of Mankind, Taj-ul-Masajid, and many such wonders of the city. Located near Bhadbhada Road Chauraha, Link Rd Number 3, Bhopal, Madhya Pradesh, overlooking the serene Upper Lake and just 25 minutes from the international airport. Surrounded by lush greenery and well-connected by major roads, it offers stunning views and convenient access to key landmarks, making it a prime destination for luxury and hospitality in the city.

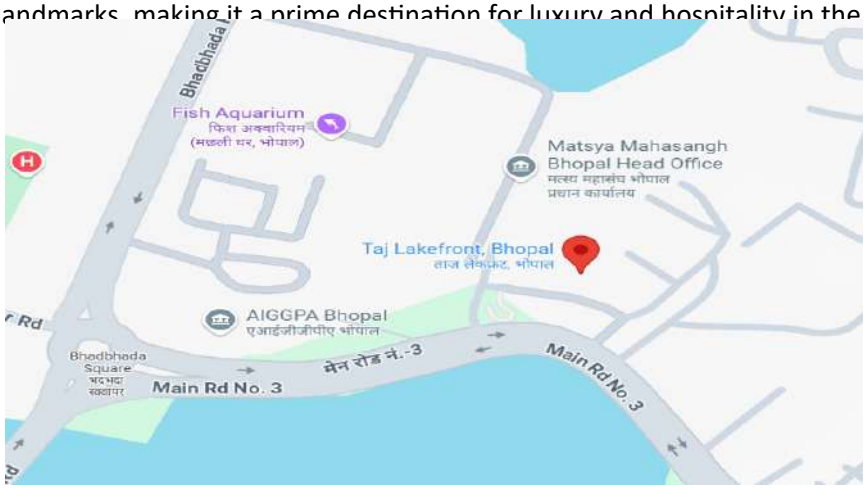



Figure 8 Location on map of Taj Hotel, Bhopal

### 3.1.4 Site Details

The site has a trapezoidal boundary with separate access points for guests and services, ensuring smooth circulation, efficient layout, and maximizing views of the surrounding waterbody and greenery.

### 3.1.5 Site Characteristics




Figure 9 Site Details of Taj Hotel Bhopal

- **Site Boundary and Shape**
  The site has a unique trapezoidal shape, with a prominent curved edge on the front side, creating a distinctive and fluid design. The boundary is well-defined, encompassing a mix of landscaped areas, the main hotel building, and service zones.

- **Frontage and Accessibility**
  The site is located along a major road, providing excellent connectivity and visibility. The curved frontage is landscaped, enhancing the aesthetics and creating a grand sense of arrival. Separate entry and exit points ensure smooth traffic flow and minimize congestion. A dedicated service entry/exit at the rear ensures uninterrupted operations without disturbing guest activities.

- **Context and Surroundings**
  The hotel is situated in proximity to Bhopal's cultural and historical landmarks, adding to its prestige. Surrounded by greenery and water bodies, the site embraces its natural and urban context, offering a tranquil yet central location.

- **Design Evolution**
  The building's form follows the natural curve of the site, evolving to maximize views and align with the topography. The design incorporates elements inspired by the region's art and culture, blending modern functionality with traditional aesthetics. Landscaping and architectural features are designed to create a luxurious and welcoming ambiance while reflecting the site's natural beauty.

- **Zoning and Functionality**
  The site is divided into functional zones- The front zone is dedicated to guest areas, including drop-off points and main entrances. The rear zone is designated for back-of-house services like kitchens, storage, and staff access. Public and private zones are clearly segregated for operational efficiency

- **Natural Features**
  The site offers stunning views of the Upper Lake, a key feature that enhances its appeal and integrates with the natural environment. Landscaping throughout the site maintains harmony with the surroundings, incorporating native vegetation.

- **Circulation and Connectivity**
  The design ensures seamless movement within the site: The curved frontage allows for an elegant driveway and drop-off area for guests. Separate vehicular paths for guests and service vehicles avoid operational conflicts. Pedestrian connectivity is enhanced by landscaped walkways

### 3.1.6 Vertical Zoning




Figure 10 Vertical Zoning of Taj Hotel, Bhopal

## 3.1.7 Facilities

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




**Figure 11 Facilities in Taj Hotel Bhopal**

## 3.1.8 Floor Plans

**Figure 12 Basement 2 plan**

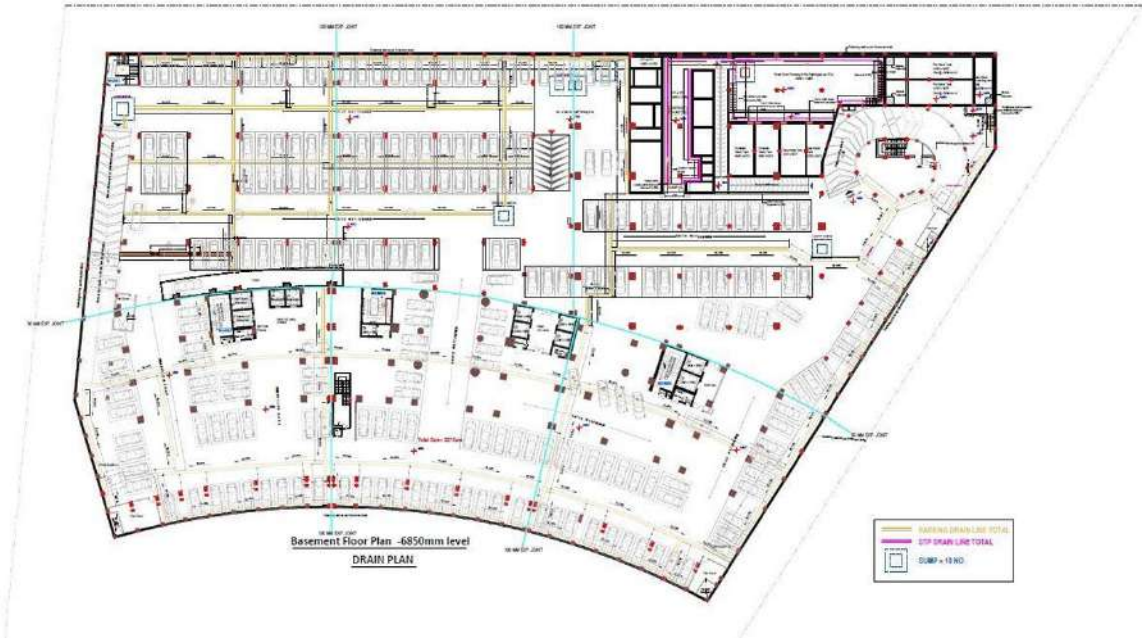



**Figure 13 Basement 1 Plan**

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



**Figure 14 Ground Floor Plan**

Theentrance lobbyof thehotel hasgrand luxuryfeel as it has tripleheightedspaceswithveryattractive falseceilingconsist of cove lighting.There is a separateentrancehasbeenprovided includingBanquet Hall,Meetingroom, conferencerooms.ABanquetHallcanbedividedas3hallsbyautomatictemporary panels.

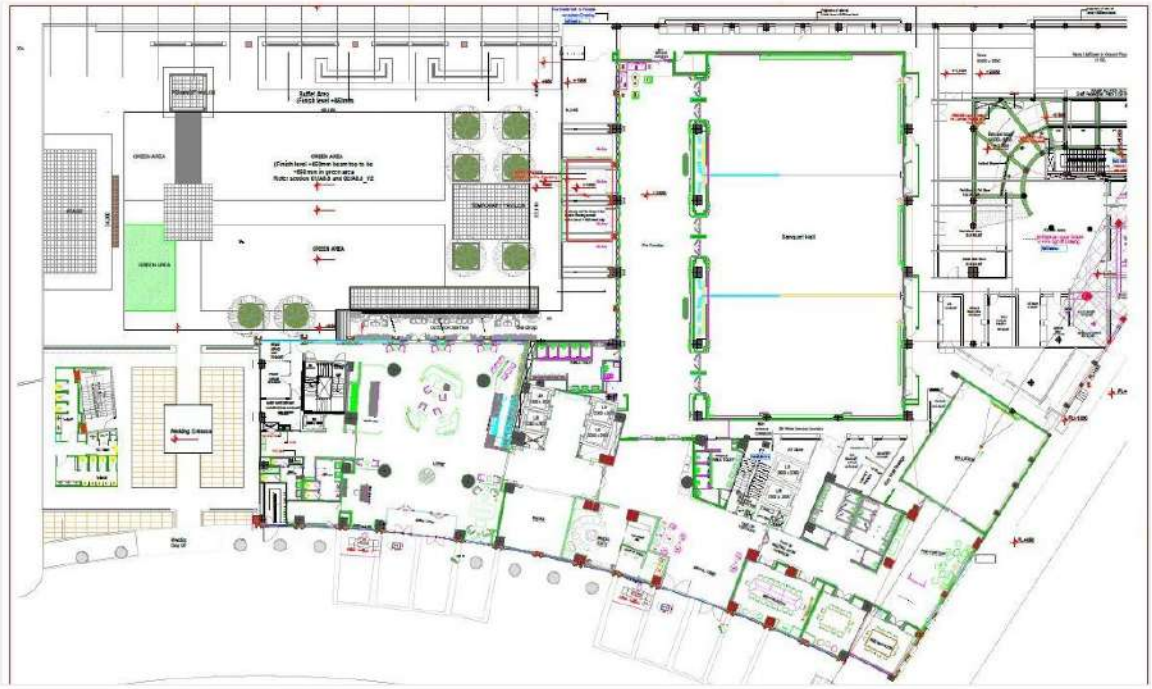


**Figure 15 First Floor Plan**

This floor has aChineseRestaurant with awonderful Chinese theme based interiors. PrivateDining Restaurantsarealsoprovidedinthisfloor

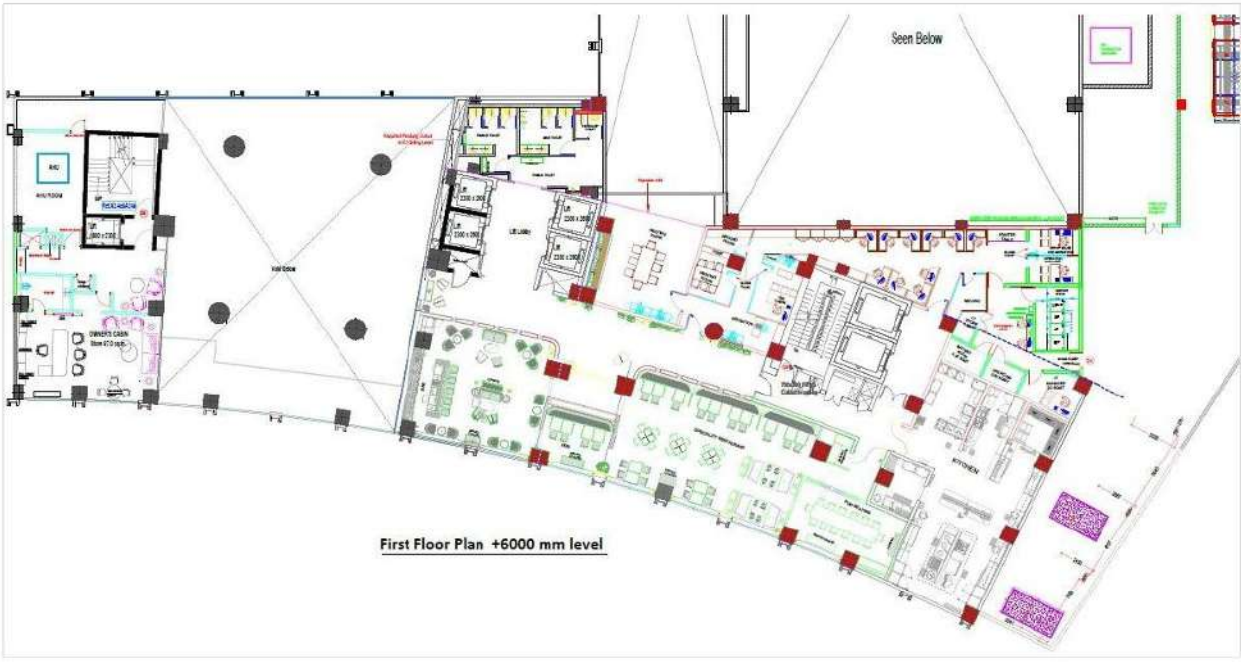


**Figure 16 Second Floor Plan**

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



**Figure 17 Typical Floor Plan (3rd to 7th Floor)**

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



**Figure 18 8th Floor Plan**

15guest rooms includingExecutiveSuites,KingBedroomsand1presidentialsuitearethereinthisfloor.




**Figure 19 9th Floor Plan**

20 guestrooms including Executive Suites, Twin Bedrooms are there in thisfloor.



**Figure 20 10th Floor Plan**

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




- ## Total Inventory of Hotel

Total Inventory is 152 with the mix of 142 rooms and 10 suites

**Kings Room-** 122
**Twins Room-** 30

Even numbered- Lake view
Odd numbered- Hill view

- **Deluxe Room-** 33 sq.meters (115 Rooms)
- **Luxury Room-** 38 sq.meters (27 Rooms)
- **Executive Suite-** 66 sq.meters (02 Rooms)
- **Deluxe Suite-** 76 sq.meters (07 Rooms)
- **Presidential Suite-** 152 sq.meters (01 Rooms)

- ## Banquet Space in Hotel

- **Raj Mahal-** 880 sq.meters
- **Sheesh Mahal-** 143 sq.meters
- **Satpura-** 418 sq.meters

- **Vindhya-** 2000 sq.meters

**Meeting rooms**
-Tapti Board Room for 16 People
- Narmada (Divisible in two segments) 100 sq.meters

**Car Parking**
-400 Vehciles indoor can be extended to 700 more with outdoor parking

**Food Outlets of the Hotel**
-**Machan**: All day dining
-**House of Ming:** Speciality Restaurant (Chinese and Cantones Cuisine)
-**Infinity Bar & Lounge:** Mediterranean Cuisine (Rooftop Bar by the Poolside)
-**Empress Lounge:** Serving tea and coffee

## 3.1.9 Area Statement

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

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

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

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

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

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

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

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

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

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

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

v

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

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

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

| | | | | | |
|---|---|---|---|---|---|
| **H.** | **Human Resources** | | | | |

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

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

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

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

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

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

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

## 3.1.10 Guest Room Typology

### 3.1.10.1 Executive room

The Executive Suites at Taj Lakefront, Bhopal, blend comfort with elegance, offering a peaceful stay with stunning lake views. Designed for both individuals and families, these spacious suites include interconnecting room options, cozy seating, a breakfast nook, a dressing area, and modern bathroom features. With a focus on both style and functionality, the suites create a warm, luxurious experience that makes every stay truly memorable.



Figure 21 Executive room of Taj

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

Figure 22 Plan of executive room



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

### 3.1.10.2 Deluxe Room

The Deluxe Rooms at Taj Lakefront, Bhopal, offer a peaceful escape with beautiful hill views. Blending Madhya Pradesh's cultural charm with European elegance, the rooms feature smart TVs, digital connectivity, and thoughtful touches for a cozy stay. Guests also enjoy complimentary access to the gym and wellness areas, making it a perfect mix of comfort, style, and relaxation.



Figure 23 Deluxe room of Taj

Figure 24 Plan of deluxe room

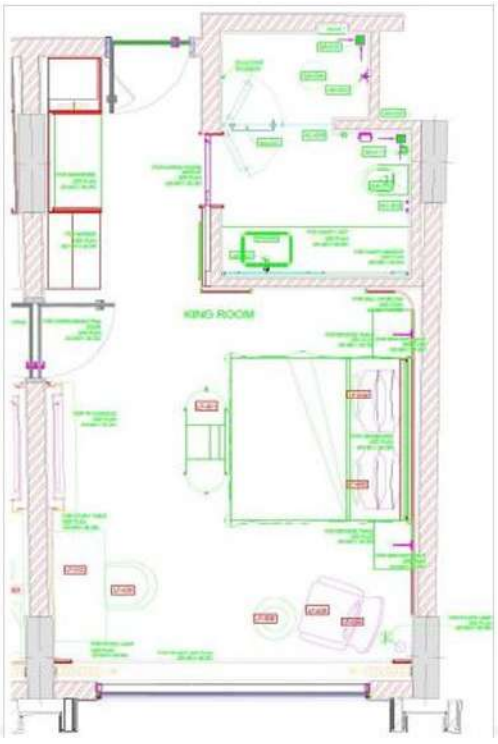
**Size:** 33 sq.m

**Signature Feature**: Spectacular vistas of the hills

**Occupancy Details**: Up to 3 guests. Max Adults: 3, Max Children:

OTHERCONVENIENCES

- Tea-coffee maker
- Forest Essentials bath amenities
- Choice of smoking & non-smoking accommodation
- Airconditioning
- WiFi
- Iron &ironing board



### 3.1.10.3 Twin Bed Room

The Twin Rooms at Taj Lakefront, Bhopal, offer a calm and cozy stay with scenic hill views. Designed with a blend of local Madhya Pradesh charm and European style, the rooms include modern comforts like a smart TV, digital connectivity, and Taj's signature service. Guests also enjoy free access to the gym and wellness areas, making it a perfect spot to unwind in style.



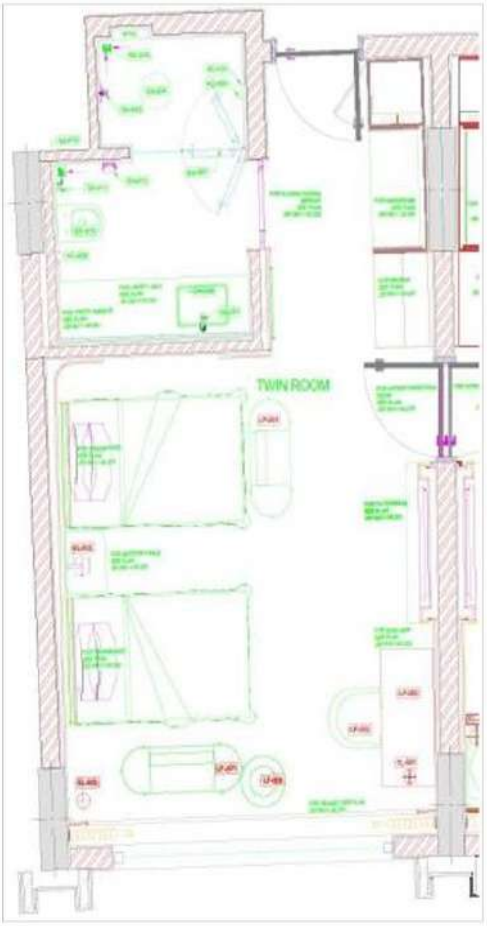
oc



**Size**: 38 sq.m

**Signature Feature**: Spectacular vistas of the hills
**Occupancy Details**: Up to 3 guests. Max Adults: 3, Max Children: 2

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




### 3.1.10.4 Presidential Suite

The Presidential Suite at Taj Lakefront, Bhopal, reflects the royal c ith ele-
gant interiors inspired by a bygone era and private balconies offe lends

tradition and luxury. Featuring a grand living room, a plush dining area, and a palatial master bedroom, this suite promises an unforgettable, regal experience.



**Figure 27 Presidential suite of Taj**

**Size**:33sq.m

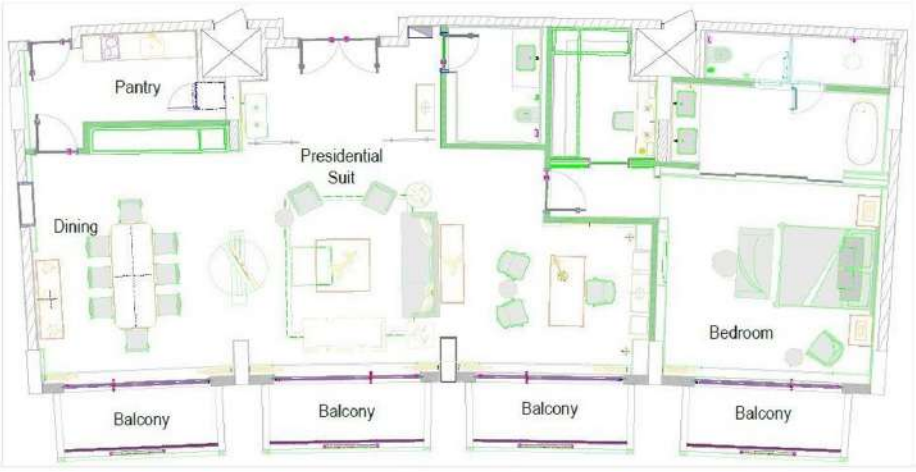
**Signature Feature**:Spectacular vistas of the hills

**Occupancy Details**: Upto 3 guests. Max Adults: 3, Max Children: 2

OTHER CONVENIENCES

- Tea-coffeemaker
- Forest Essentials bath amenities
- Choice of smoking & non-smoking accommodation
- Air conditioning
- WiFi
- Iron & ironing board

Figure 28 Plan of Presidential Suite



## 3.2 Radisson Blu, Paschim Vihar, New Delhi

### 3.2.1 Introduction

Radisson Blu, Paschim Vihar, New Delhi, is a modern luxury hotel set in the heart of West Delhi. Known for its sleek design and refined hospitality, it caters to both business and leisure travelers. The hotel offers well-planned spaces like elegant rooms, banquet halls, restaurants, and wellness areas—designed for comfort, style, and functionality.

The hotel has been developed in a contemporary theme: the majestic decor reincarnates the ancient splendor giving it a matchless nerve.

The theme is a revival of the dominant style of the medieval architecture that incarnates richness to the interiors.

Radisson Blu, Paschim Vihar is just 30 minutes from New Delhi's center, offering a calm stay away from city traffic. With nearby metro stations like Peera Garhi and Janakpuri West, and easy road access via the Outer Ring Road, reaching key spots like Janakpuri, Rajouri Garden, and the airport is hassle-free. Whether you're shopping, exploring markets like Chandni Chowk, or visiting historic sites like Qutub Minar, our travel desk is here to help plan your perfect Delhi experience.



**Figure 29 Radisson Blu, Delhi**

**Nearby Transport**

- Peera Garhi Metro station - 2 km
- Janakpuri West metro station - 5 km
- Indira Gandhi International Airport (DEL) - 16 km
- New Delhi Railway Station - 18 km

**Geo coordinates**

28"40' 1" N

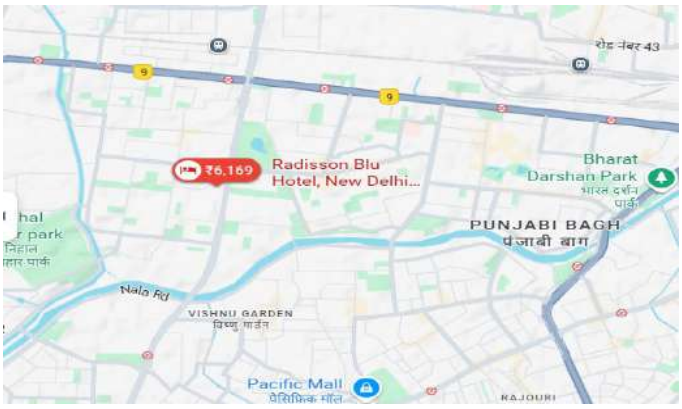
77"5' 28" E

- **Predominant Use** - Commercial Residential
- **Period of Completion** - 2010
- **Architects** - Anil Sharma Architects, New Delhi

## 3.2.2 Location & Connetivity

Radisson Blu is located 15 kilometers from T3, IGI airport and well connected to the rest of the city.

Figure 30 Location and connectivity







## 3.2.3 Land Use & Urban Character

As can be seen from the surrounding land use, the location of the hotel is not quite right and it also is in contrast with the surrounding urban character which is predominantly mid-rise and surrounded by vacant land. Figure above shows the immediate urban land use and thus the context of the building; and it can be seen clearly that it is contrast to its surroundings in one way or another.

### 3.2.4 Local Bye-Laws

AR Allowed - 4.0

Site Area - 3.78 Acres

Allowed Built-up Area - 61,188 m 2

Total Built-up Area - 81, 800 m2(20,000 m2 more than allowed limit)

Height Restriction - 60 Meters

Overall Building Height - 37.5 Meters

Allowed Ground Coverage - 30 %

Ground Coverage - 6480 m2(2,000 m2 more than allowed limit)

### 3.2.5 Circulation

The diagram below shows the site circulation of the hotel




**Figure 31 Ground Floor Plan of Radisson Blu, Delhi**

### 3.2.6 Category of Rooms

Blending neo-Gothic charm with modern comfort, our 178 spacious rooms and 21 stylish suites offer a relaxing stay with a touch of elegance. Among the largest in the city, the rooms feature free Wi-Fi—great for planning your day or booking event tickets at Jawaharlal Nehru Stadium. Start your morning with a hot cup of tea and enjoy a delicious complimentary breakfast buffet. For business travelers, our Business Class Rooms offer exclusive access to the 12th-floor lounge, perfect for working or unwinding in a more private setting.

| **Room & Suites** | **No. of Units** | **Living Space (sq,m)** |
|---|---|---|
| **Presidential Suite** | 1 | 142 |
| **Deluxe Suites** | 2 | 70 |
| **Junior Suites** | 3 | 53 |
| **Executive Suites** | 15 | 65 |
| **Business Class Rooms** | 35 | 36 |
| **Superior Rooms** | 122 | 36 |

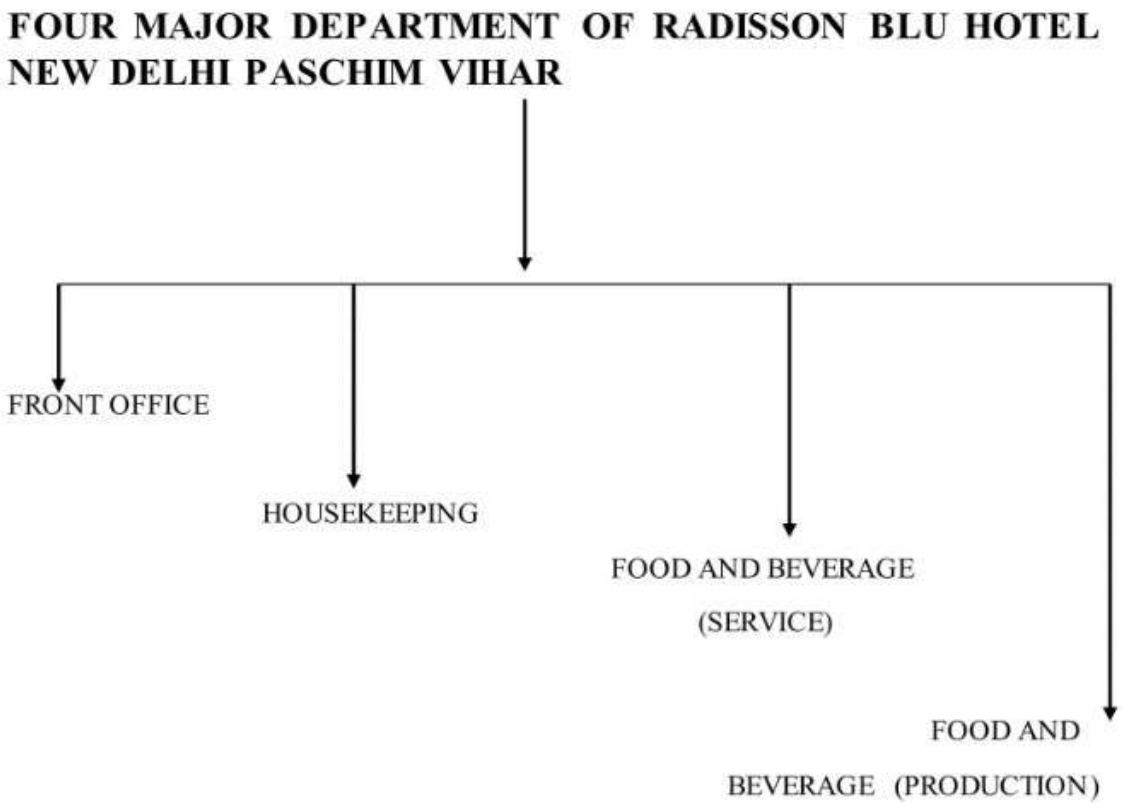
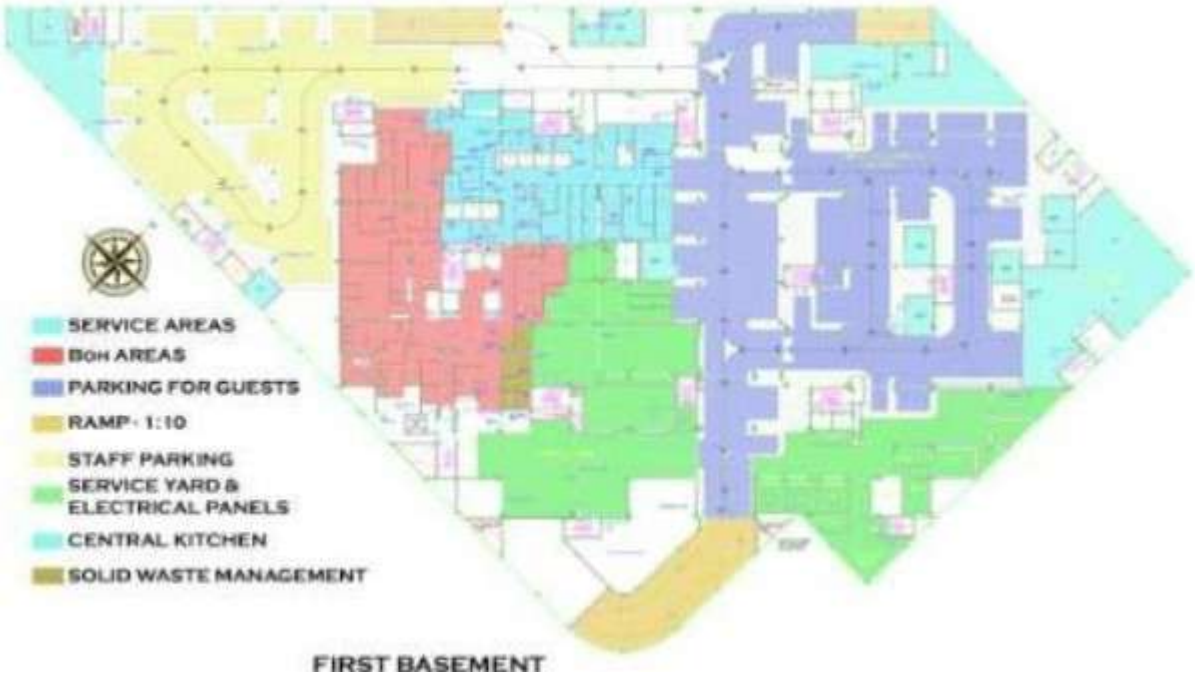



Figure 32 Major departments of Radisson Blu, Delhi




F

F · product of ho-
t

ıning, mainte-
ɛeeping depart-

F

F department have
r

F

F&B production department is responsible for

providing hygienic and nutritional food for guest and staff. F&B production have different section like Indian section, Cafeteria section, Chinese section etc.

## 3.2.7 Project Details

- The Radisson Blu Hotel has twelve floors.
- In Radisson Blu Hotel there is 178 rooms well furnished.
- On the ground floor there is Lobby area, Zurie the designer studio, cupcakes and tea lounge, back office.
- On second floor there is Bar, Vyoma Spa and health club, The Theatre club and lounge ,Restaurants are Level 2 and indiyaki
- On third floor there is Business Centre and 8 banquets and sales office
- On Sixth floor there is most number of rooms approx. 80
- On seventh floor there is big banquet for upto 2000 and above people gathering
- We offer a number of facilities and amenities to make your events successful. Organise events such as private weddings, birthday parties, small business outings and more at the Radisson Blu Hotel
- The banquet hall can host with air conditioning, internet and audio-visual assistance.

## 3.2.8 Floor Plans

### 3.2.8.1 First basement floor plan




**Figure 33 Basement 1**

### 3.2.8.2 Second Basement Floor Plan

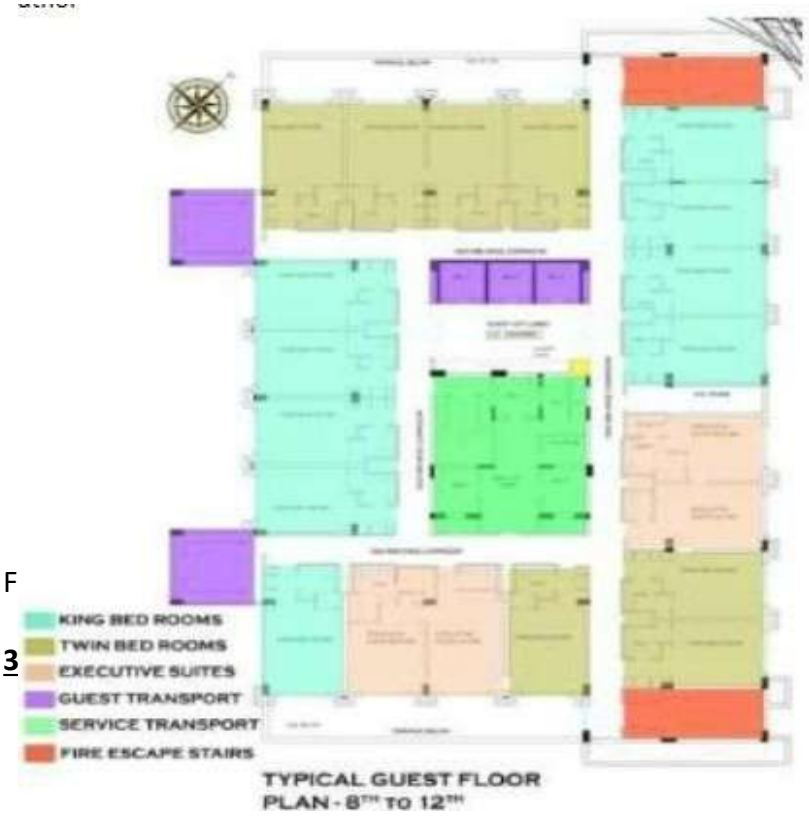



**3.2.**

**Figure 34 Second Basement**

### 3.2.8.4 Sixth Floor Plan

F




**3**

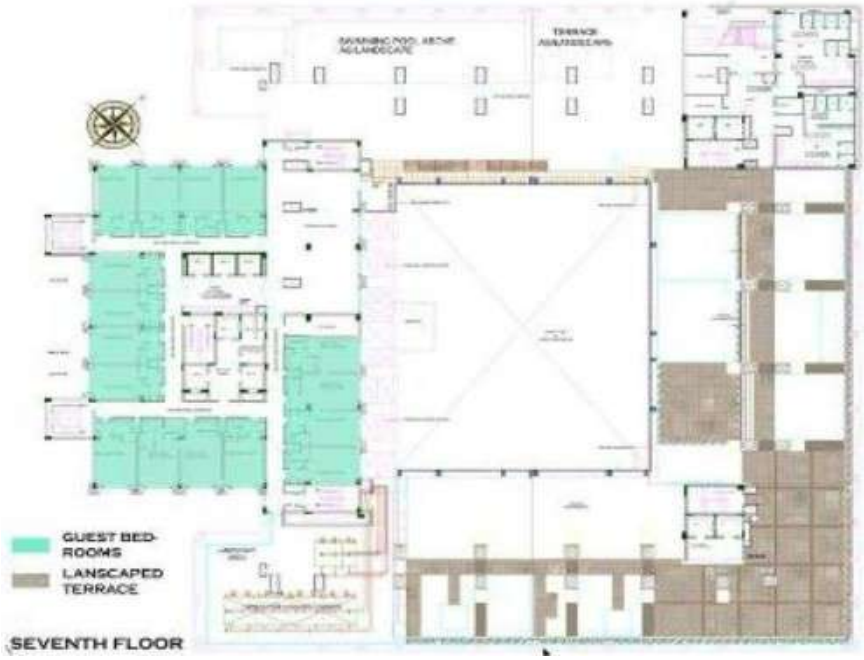



Figure 36 Seventh Floor

**3.2.8.6 Typical Guest Floor Plan**

**Figure 37 Typical guestfloor plans**

### 3.2.9 Interiors

On entering the building the first thing to show up is the Grand Lobby. Based on Neo- Gpthic style of architecture, the materials and texture used give a very grand atmosphere.

As can be seen from the above Figure, the whole lobby is kept without furniture except for the reception desk and the concierge table.

This is done in order to create a sense of vastness. Materials used in the lobby are white patterned tiles to create a Gothic Motif. The walls are clad with wall tiles of black color.

As evident from the picture, the lobby has to rely on artificial lighting solutions for proper visual comfort, as there is an evident lack of day lighting. Mirrors are also used in abundance, so as to create a sense of vastness and also to reflect the minimal amount of sunlight available.

Figure 38The lobby here is connected to the 'Tea Lounge' and the guest lift lobbies. There is no separate luggage elevator present.

Guest lift lobbies are very illustriously decorated with black patterned wall tiles and contrasting white patterned tiles. For lighting there are chandeliers.

As the swimming pool is on the terrace of 6th floor. From the pool, the guest room stacking from 6th till 12th floor could be seen.

It can be safely concluded that, design of Radisson Blu is governed by commercial values, thus the shape of building respond to the site constraints.

## 3.2.10 Rooms Types

### 3.2.10.1 Superior Rooms



**Approximate room size: 36 m2 | Maximum number of guests: 2 adults**

Our hotel's spacious Superior Rooms blend beautiful design with thoughtful amenities to create memorable stays. Large, wall-length windows allow an abundance of natural light, and every room offers free Wi-Fi to help you catch up on world events before bed each evening.

Additional amenities include an LCD TV with satellite channels, an electronic safe, a work desk, a comfortable club chair, a phone with direct dialing, an iron and ironing board, a stylish bathroom with a hair dryer, and your choice of one king or two twin beds.

**Facilities**

- Coffee/tea facilities
- Complimentary bottled water
- Complimentary breakfast buffet
- LCD TV with satellite channels
- Minibar

### 3.2.10.2 Business Class Rooms

**Approximate room size: 36 m2 | Maximum number of guests: 2 adults**

Book an exclusive Business Class Room for access to the Business Floor, where rooms feature a king bed and a bathroom with a soaking bathtub. Guests traveling for work also appreciate the large work space and free Wi-Fi. Designed to remove the stress from business travel, these rooms also include daily turndown service, board-room use for two hours per stay and two-piece laundry service per day.



Additional features include an LCD TV with satel-lite chan-nels, an electronic safe, a work desk, a comfortable club chair, a phone with direct dialing, an iron and ironing board, and bathroom amenities that include a hair dryer.

**Facilities**

- Coffee/tea facilities
- Complimentary bottled water
- Complimentary breakfast buffet
- Complimentary evening cocktails, 19:00-20:00 Minibar

### 3.2.10.3 Suites

Guests who desire premium amenities and more space should book one of our hotel's 21 suites, with options like the impressive, 142-square-meter Presidential Suite. We keep suite guests comfortable by providing amenities such as a separate living room with a two-seat sofa, two cozy chairs and a coffee table, a separate dining area and a spacious bathroom with a modern bathtub. Suite guests also have access to a complimentary breakfast each morning and complimentary cocktails every evening between 19:00 and 20:00.

Designed to add comfort to your stay, our suites include complimentary one-way airport transfer (for Executive and Deluxe Suites), daily turndown service and two-piece laundry service per day. Additional amenities include an LCD TV with satellite channels, an electronic safe, a work desk with a data port, a phone with direct dialing, an iron and ironing board, and a hair dryer.

**Facilities**

- Complimentary breakfast
- Complimentary one-way airport transfers for Executive and Deluxe Suites
- Minibar
- Separate living room and dining area
- Two complimentary pieces of laundry per day
- Turndown service

**SUITE TYPES INCLUDE**

- Junior Suites -53 $m^2$
- Executive Suites - 65 $m^2$
- Deluxe Suites - 70 $m^2$
- Presidential Suites - 142 $m^2$

**ACCESSIBILITY FEATURES**

We understand that accessibility is important to our guests. This hotel has accessible rooms and amenities. Please contact the hotel to confirm if an accessible room will meet your needs or if you have other questions.

**FACILITIES**

- Amenities within accessible range to reach
- Controls operable without grasping or twisting Grab bars alongside toilet
- Grab bars by tub
- Wider guest room and bathroom doorways
- Wheelchair-accessible lobby
- Wheelchair-accessible public entrance
- Wheelchair-accessible public restrooms
- Wheelchair available on request

## 3.2.11 Overall Analysis

- The building seems to be in contrast with the surrounding built character. •
- As can be observed from the site photographs of surrounding areas taken from pool area; neither the buildings heights nor form developed are in harmony. •
- Being a 5-star property the hotel has to have a certain standard of design but, in this case, the hotel's design is so misplacedthat it does not respond to either of the climatic or site conditions. The building is a standalone facility which could have been successful even if it were to be placed someplace else. •
- Overall Radisson Blu is a well-designed hotel, adhering to the brand standards of Radisson group. It fulfills all the pre-requisites to be a 5 star facility, the service design is impeccable, but the only place where there is an issue would be the overall design of the built structure, which is much monotonous.



# 3.3 DOUBLE TREE HILTON, Ahemdabad

## 3.3.1 Introduction

Ahmedabad Hotel is glaring example of the rapidly growing design standards in the Indian construction industry. Designed by Indian architects and built by the Indian firms, this hotel is going to be a benchmark for upcoming projects in India.

**LOCATION** : Ambli Rd, Vikram Nagar, Ahmedabad,Gujarat 380058.

**SITE AREA DOUBLE TREE HILTON:** 2.8 acre

**ARCHITECTS** : Studio symbiosis

**NO OF STOREY** : G+14

**HOSPITALITY RATING ROOMS** : 173 rooms

**Figure 39 Double tree Hilton**

### 3.3.2 Site Information

Site is situated at the main road which makes the access easy for the guest.Site is surrounded by the residential buildings with high skyline which creates the necessity of unique design to make it stand out from the other tall structure.Proximity of the nearby airport is 20km and the railway station is 5kmWithin 5km radius there are 5malls ,zoo,national parks ,gardens.

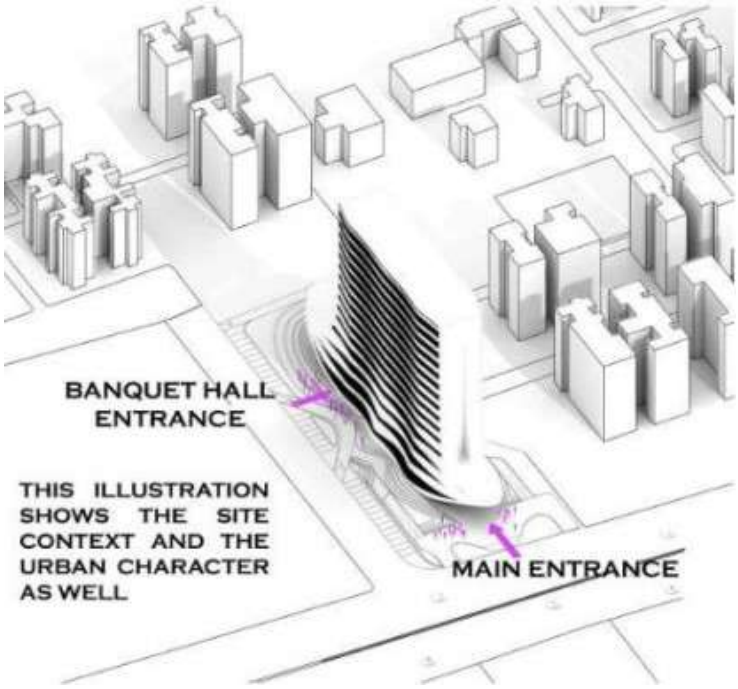



**Figure 40 Site Information**

### 3.3.3 Development of Form

On the lower three floors the proposal consists of reception lobby, shopping area, banquet hall, meeting rooms, restaurants, lounge space and service areas. All these elements are tied with a coherent design language of natural canyon like formations. The spaces are carved out using the same design principles with which a wave carves out a canyon.

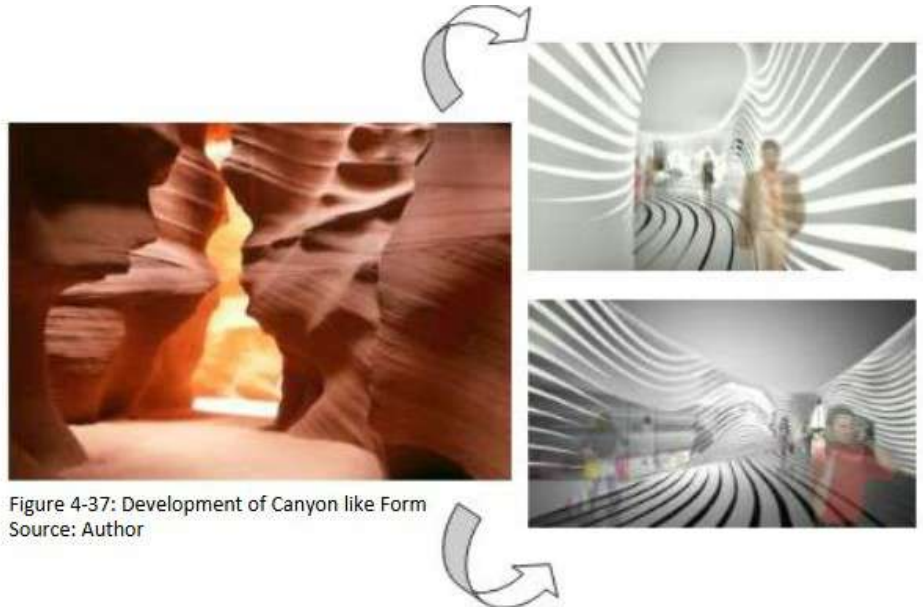


Figure 4-37: Development of Canyon like Form
Source: Author

**Figure 42**

## Form Development

### 3.3.4 Concept

Using fold lines as movement trajectories and perception along with programmatic requirements, the project's form demonstrates a sense of elegance with soft, subtle touches. Seamless waves flowing on the landscape and flowing on the façade are the focal point for this full service five star property The building comprises of three waves which are very carefully translated into dramatic key spaces on the lower floors and on the upper floors they translate into room grids with focus on standardized room sizes.The guests are welcomed by the architecture of the canopy that follows the seamless nature of the design proposal, emerging from the ground and morphing back into it.

### 3.3.5 Spatial Planning

The building comprises of three waves which are very carefully translated into dramatic key spaces on the lower floors and on the upper floors they translate into room grids with focus on standardized room sizes. These waves emerge effortlessly from the landscape creating a sense of harmonic relationship with the ground. The entry to the building has been marked with a column less cantilever that creates a dramatic entrance space.

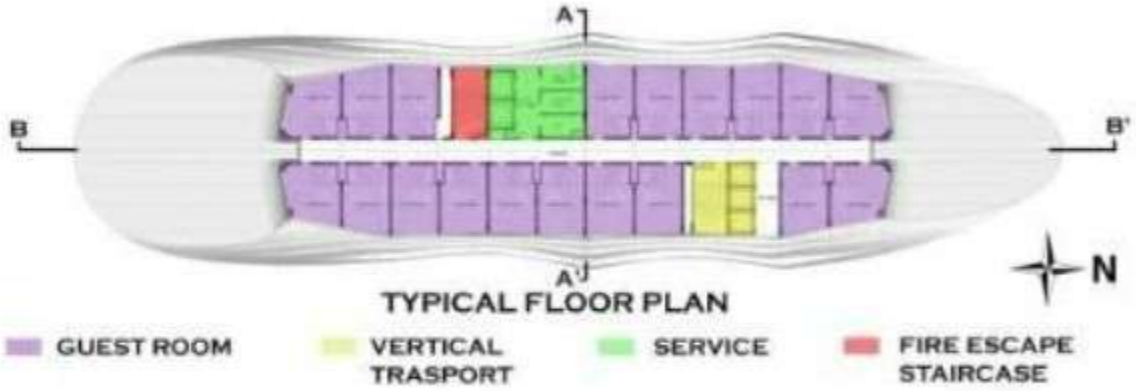



Figure 43 Typical Floor Plan

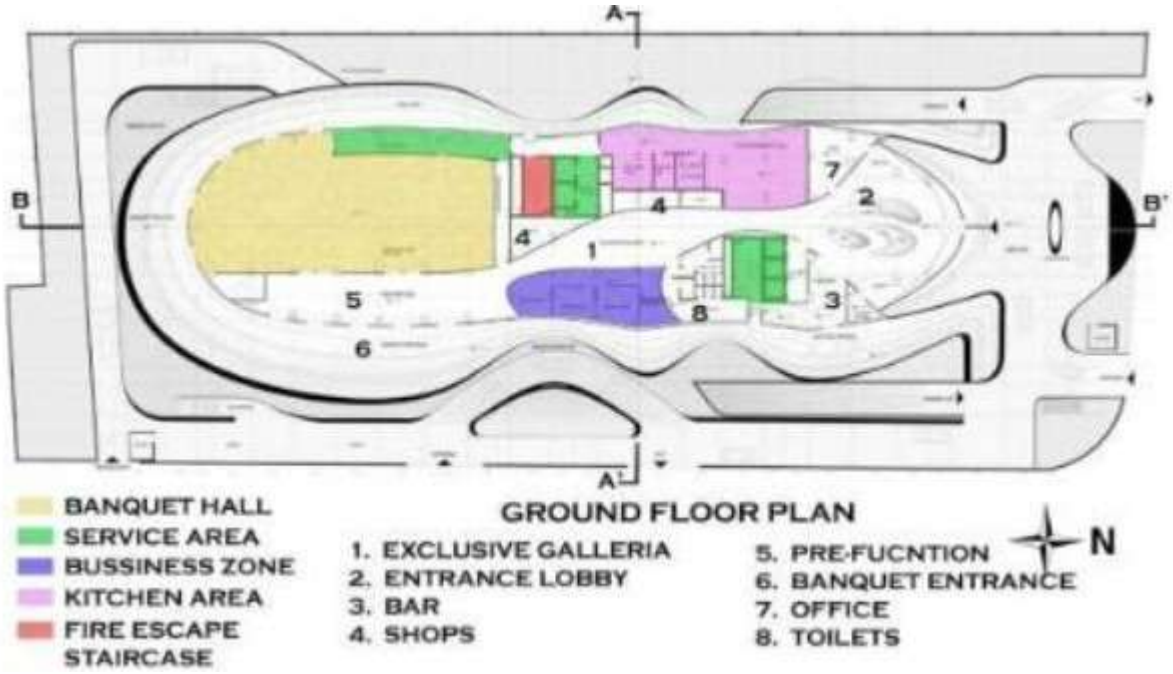



Figure 44 Ground floor plan

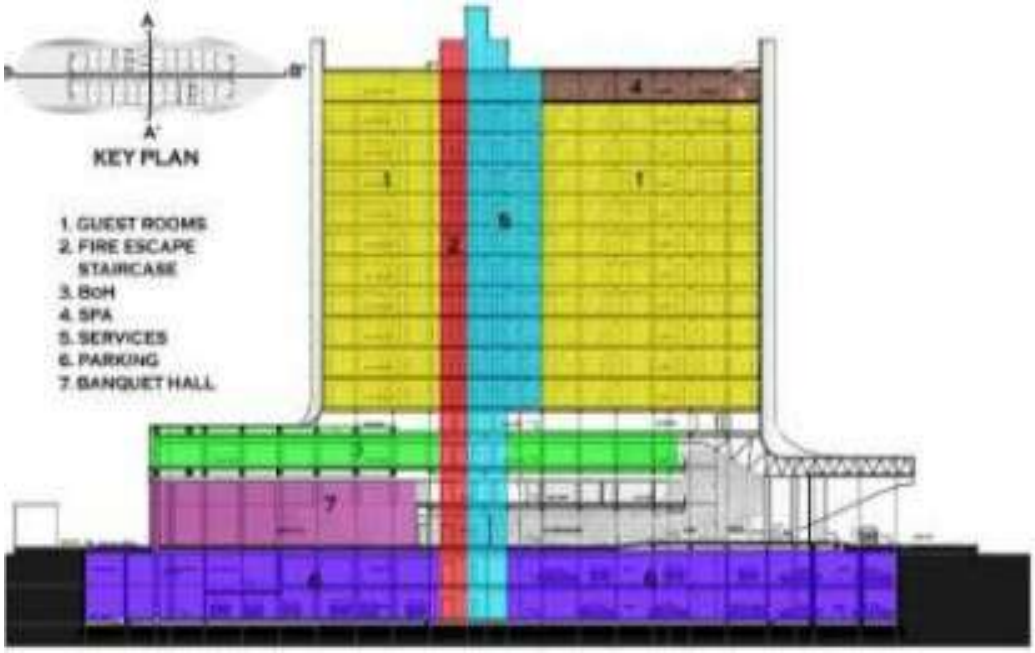



Figure 45 Section

different functions in the building with different programmatic requirements are blending together thus resulting in this iconic building.

The profile of the building has been designed with keen emphasis given both to the smooth transition from the horizontal landscape to the vertical structure and to the standardization and repetition of the façade components.

The profile of the building has been designed with keen emphasis given both to the smooth transition from the horizontal landscape to the vertical building and to the standardization and repetition of the façade components. The façade is designed as an intricate part of the building. The interdependent relationship between the skin and structure of the building makes the system a very coherent one

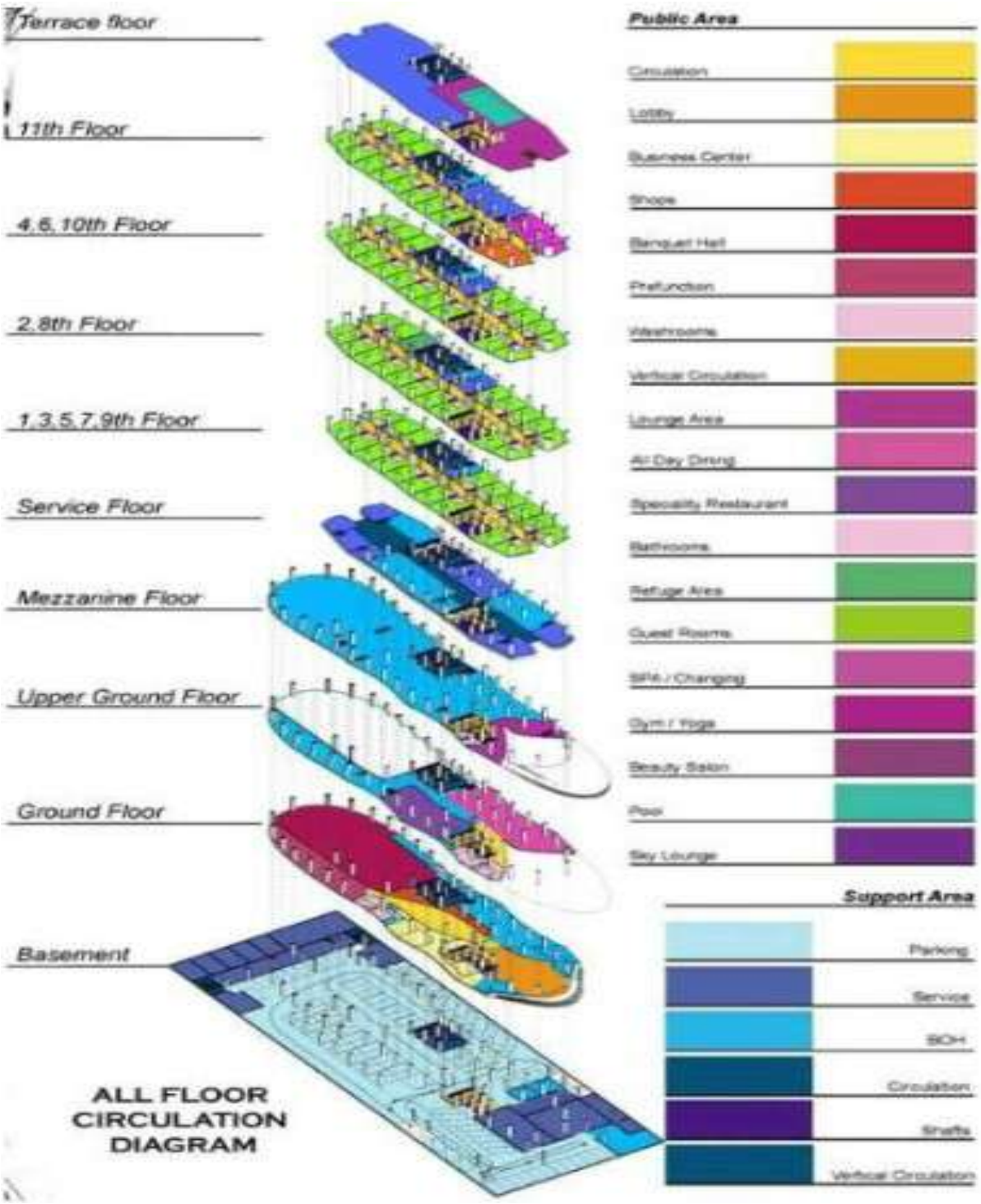



**Figure 46 All floor plans**

### 3.3.6 Materials

The front entrance is done with the cantilevered structural member covered with aluminium panelsthe waves are also covered with aluminium panels both the sides are properly designed with the seamless lighting and the windows are made up of glass which helps the light to reflect .

## 3.4 Radisson Hotel, Bhopal

### 3.4.1 Introduction

Radisson Hotel Bhopal is a contemporary upscale hotel that brings global hospitality standards to the heart of Madhya Pradesh's capital. Strategically located in one of the city's emerging urban areas, the hotel blends modern architecture with functional elegance, offering a premium experience for both business and leisure travelers. With thoughtfully designed interiors, high-end amenities, and efficient spatial planning, Radisson Bhopal stands as a symbol of comfort, style, and convenience.

This report explores the architectural and spatial design aspects of Radisson Hotel Bhopal, highlighting how it meets the demands of a growing city while reflecting the evolving standards of modern hotel design in India.

### 3.4.2 Location

The Radisson Hotel in Bhopal is located at E 8 Extension, Gulmohar Main Road, Gulmohar Colony, Bhopal - 462039, India. It is situated opposite the Savoy Complex, near Bawadia Kalan.



**Location & Connectivity**

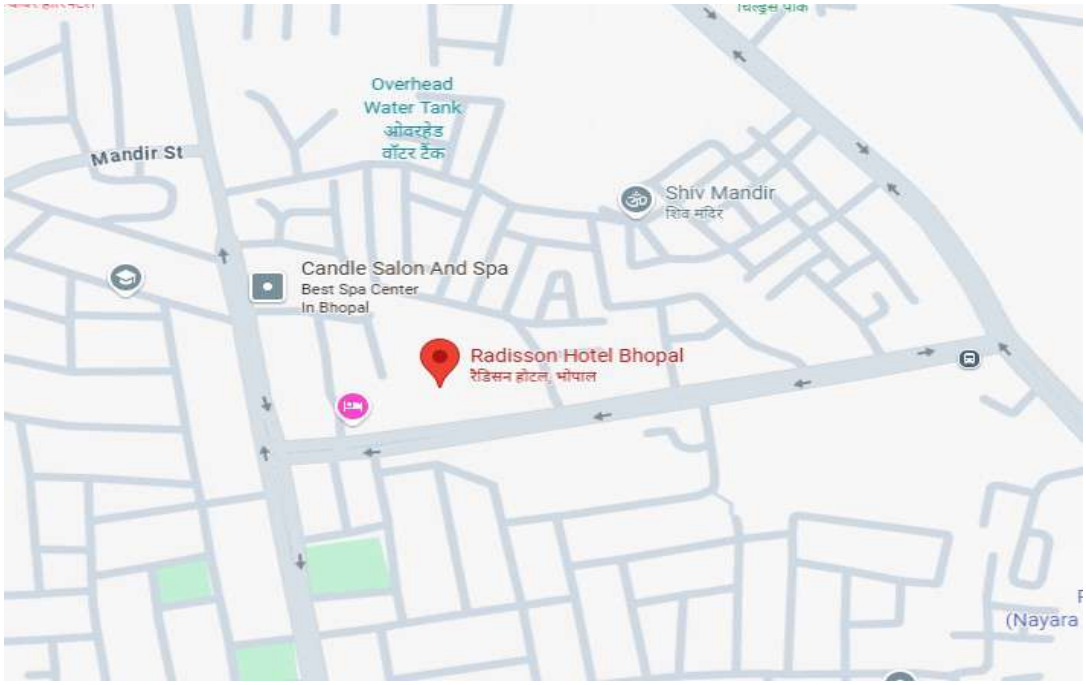



Figure 47 location of Radisson bhopal

- Radisson Hotel Bhopal is situated in the bustling Gulmohar Colony, opposite the Savoy Complex on Gulmohar Main Road, making it centrally located within the city of Bhopal.
- The hotel is approximately a 15-minute drive (around 8 km) from Rani Kamlapati (Habibganj) Railway Station and around 40 minutes (11 km) from Raja Bhoj International Airport.

## 3.4.3 Site Context & Urban Surroundings

- Located in an upmarket neighborhood of Bhopal, the hotel lies within a mixed-use setting—a blend of residential, commercial, and institutional developments.
- Within a 10-minute drive, guests can reach key landmarks such as Shahpura Lake viewpoint, TT Nagar Stadium, and the popular DB City Mall.

**Local Attractions**

- A perfect base for sightseeing, the hotel offers easy access to cultural and natural attractions including Van Vihar National Park, Bhopal's Tribal Museum, Bhimbetka Caves, and the Birla Mandir temple.
- DB City Mall, located just a few kilometers away, is one of Central India's largest shopping complexes and adds to the hotel's appeal for leisure visitors.

**Property Overview**

- The hotel spans several floors with 104 contemporary rooms and suites designed for business and leisure guests.

- Built across approximately 4,500 sq m, the property offers a rooftop (outdoor) swimming pool, fitness center, sun terrace, shared lounge, and an all-day bakery. Amenities include free Wi-Fi, parking, airport shuttle, and service-oriented hospitality.

### 3.4.4 Proximity

| Location | Approx. Distance | Travel Time (by car) |
|---|---|---|
| **Raja Bhoj International Airport** | ~17 km | ~35–40 minutes |
| **Rani Kamlapati Railway Station** *(Habibganj)* | ~7.5 km | ~15–20 minutes |
| **Bhopal Junction Railway Station** | ~11 km | ~25–30 minutes |
| **ISBT Bus Station (Misrod)** | ~5.5 km | ~12–15 minutes |
| **DB City Mall** | ~6.5 km | ~15 minutes |

### 3.4.5 Concept and Form

Radisson Hotel Bhopal follows a modern, functional design concept that blends global standards with local relevance. The aim is to create a welcoming space for both business and leisure travelers, with open layouts, natural light, and smooth circulation between public and private areas.

The building form is clean and geometric, featuring a vertical structure with glazed façades and subtle textures that add elegance. Large windows offer natural lighting and city views, while rooftop and terrace areas provide leisure spaces. The design balances comfort, efficiency, and a touch of luxury within a compact urban setting.

### 3.4.5 Vertical Zoning

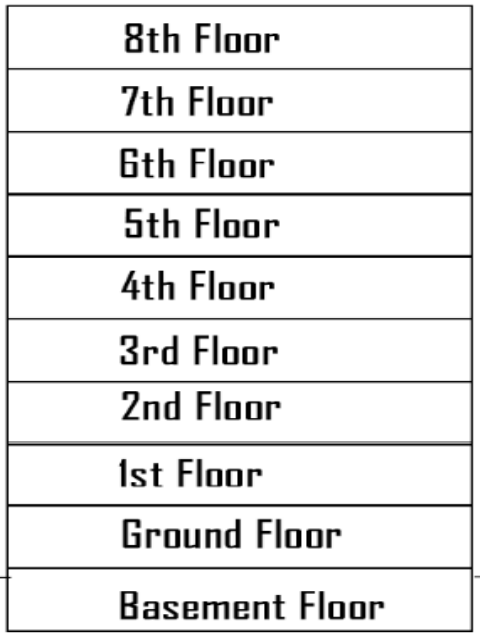



**Figure 48 Veertical Zoning**

### 3.4.6 Floor Divisions

**ON TERRACE:** Gymnasium and Swimmir

**Eighth Floor:** This floor is dedicted for non Smoking rooms and suites. THe total number of rooms on this floor is 34.

**Seventh Floor**: This floor is dedicted for non Smoking rooms and suites. THe total number of rooms on this floor is 34.

**Sixth Floor:** This floor is dedicated for smoking rooms and executives rooms. The total numbers rooms on this floor is 36

**5th to 3rd Floor:** These Floors dedicated to  services, laundry, amenity, cafeteria and lockers>

**Second floor:** GVR Banquet for 680 people, Nurture Banquet hall for 150 people, Niram Meeting hall for 30 peoples, Neo revive for 30 peoples, revive board room for 10 peoples.

**First Floor:** GVR Banquet for 680 peoples, Terrace, Urja bar for 45 peoples, Pure veg restaurant with live kitchen for 150 peoples.

**Ground floor:** This floor for Reception, lobby and multicuisine restaurant for 180 peoples.

**Basement Floor:** Servicess and car parking for 150 cars and 70 car parking on site.

## 3.4.8 Category of Rooms

- **Superior Room (approx. 32 m²)**
  Well-appointed for comfort and convenience, these rooms offer options for a king bed or twin beds. Amenities include a work desk, complimentary Wi-Fi, tea/coffee setup, and the option for interconnecting rooms—ideal for business or family stays.

- **Executive Room (approx. 32 m²)**



  Similar in size to Superior Rooms, Executive Rooms offer enhanced views (city or mountain), upgraded furnish-ings, and lounge access for a more premium experience. Perfect for frequent travelers or business guests.



- **Junior Suite (approx. 40 m²)**
  Spacious and elegant, Junior Suites include a king bed, separate seating area, and a bathtub. These suites strike a



  balance between comfort and luxury, ideal for longer stays or relaxed getaways.

- **Suite – 1 Bedroom (approx. 62–63 m²)**
  Offering generous living space, these suites come with a king bed, living/dining area, bathtub, and city views. Designed to cater to guests seeking extra room and sophistication.



- **Executive Suite (approx. 60–62 m²)**
  These premium suites feature a king bed or twin beds, luxurious amenities, lounge access, and upscale in-room comforts in a spacious layout. Great for VIP guests or extended stays.



**Banquet Hall (GVR)**

- **Spacious Assembly Areas**
  The hotel provides more than **3,900 m² (approximately 41,980 ft²)** of conference and event space, including several indoor halls plus an outdoor terrace of around **1,115 ft²** with aerial city views .
- **Flexible Venue Configurations**
  With up to **9 event rooms**, the hotel includes two grand ballrooms (~10,010 ft² each), along with smaller halls like Renew, Refresh, and Revive for more intimate functions .
- **Capacity & Use**
  Indoor halls can host up to around **300 seated guests**, or up to **500 in floating mode**, making them suitable for weddings, conferences, and large social events .
- **Facilities & Services Included**
  The banquet experience includes pre-function lounges, breakout spaces, in-house catering, high-quality audiovisual support, printing services, climate control, and ample complimentary parking .



# Comparative Analysis

| Criteria | Taj Lakefront, Bhopal | DoubleTree by Hilton, Ahmedabad | Radisson Blu Plaza, Delhi | Radisson Hotel, Bhopal |
|---|---|---|---|---|
| Location | Ground Floor, Main Road, Chouraha, Prempura, Bhopal, Madhya Pradesh 462003 | Ambli Rd, Vikram Nagar, Ahmedabad, Gujarat 380058 | Outer Ring Rd, Sunder Vihar, Paschim Vihar, New Delhi, Delhi, 110087 | Gulmohar Main Rd, opposite Savoy Complex, E-8, Bawadiya Kalan, Gulmohar Colony, Bhopal, Madhya Pradesh 462039 |
| Architect | JOI DESIGN | Studio Symbiosis | Arne Jacobsen. | Architect Arjun Malik |
| Year of Completion | 2021 | 2017 | 2011 | 2021 |
| Site Area | 4.77 Acre | Approx. 3.5 Acre | Not available | ~15,000 sqm (estimated) |
| Built-up Area | Not available | Approx. 260,000 sq. ft. | Not available | 24,000 sqm |
| Number of Floors | G+10 | G+12 | G+12 | G+8 |
| Total Rooms | 152 | 173 | 178 | 104 |
| Suite Rooms | Deluxe, Presidential Suite | Yes | Standard, Business, Suite | yes |
| No. of Restaurants | 3 | 3 | 3 | 3 |
| Bar/Lounge | Infinity Sky Lounge | Culturally themed bar with traditional decor | Oro The Bar | Urzza Lounge Bar |
| Banquet Facilities | Yes (Ballroom, outdoor lawn) | Yes (Grand ballroom) | Yes (multiple halls) | Yes (ballroom & banquet) |
| Pool | Infinity Pool | Outdoor pool with cultural motifs | Outdoor Pool | Rooftop Pool |
| Spa & Wellness | Jiva Spa | Traditional spa with local Ayurvedic treatments | Spa | Yes |
| Gym/Fitness | Yes | Fitness center with a blend of modern and traditional equipment | Yes | Yes |
| Business Center | Yes | Business center with traditional elements | Yes | Yes |
| Parking Capacity | Basement + Outdoor | 200+ Basement & outdoor | Multilevel | Surface + Basement |
| Lift/Elevators | 4 | 5 | 3+ | 2+ |
| Green Coverage % | Medium | Combination of glass, stone, and traditional elements | Limited | Moderate |
| Façade Treatment | Glass + stone | Modern glass façade | Contemporary | Modern + vertical elements |

| | | | | |
|---|---|---|---|---|
| Entrance Lobby | Grand with lake view | Large & welcoming | Contemporary | Neo-Gothic entrance |
| Room Interiors | Luxury, traditional touch | Minimalist modern | Modern & functional | Plush & vibrant |
| Theme/Concept | Lakefront + luxury | Contemporary + business | mix of neo-Gothic style and comfortable furnishings | Neo-Gothic |
| Structure Type | RCC | RCC frame structure | RCC | RCC |
| HVAC System | Centralized | Centralized | Centralized | Centralized |
| Floor-to-Ceiling Height | ~3.2 m | ~3.0 m | ~3.1 m | ~3.2 m |
| Sustainable Features | Solar panels | LED lighting, eco-certified | Rainwater harvesting | Solar usage |
| LEED/Green Rating | Not available | Gold certified (est.) | Silver/Gold (est.) | Not mentioned |
| Fire Safety | Yes | Yes | Yes | Yes |
| Staff-to-Room Ratio | 1.5:1 (est.) | 1.2:1 | 1.3:1 | 1.5:1 |
| Accessibility Features | Yes | Yes | Yes | Yes |
| Landscape Design | Lakefront integration | Courtyard based | Urban site | Entry lawn & vertical elements |
| Orientation | Lake-facing | East-oriented | Road-facing | East & north-facing rooms |
| Room View | Lake &Hill | Cityscape | Runway, city | City & pool |
| Signature Dining | Machan | Wave Restaurant | NYC Restaurant | Fusion & Indian cuisine |
| Lobby Lounge | Yes | Yes | Yes | Yes |
| Event Space | Lawn + Banquet | Conference + Lawn | Halls + Outdoor | Ballroom + Garden |
| Energy Saving | LED, daylight | BMS | Rainwater system | Solar + daylight |
| Security | Modern | Biometric/Keycard | CCTV + card | Card-access + 24x7 CCTV |
| Cultural Elements | Local art | None | Few | Few |
| Roof Design | Flat | Flat + services | Curved glass | Parapet + terrace |

| | | | | |
|---|---|---|---|---|
| Services Location | Backside + basement | Basement | Basement | Basement |
| Staff Entry | Rear access | Separate zone | Service lift | Basement access |
| Guest Circulation | Clear Zoning | Segregated paths | Efficient | Clear and direct |
| Acoustic Design | Moderate | Acoustic treatments blending traditional and modern techniques | Good insulation | Adequate |
| Maintenance | Moderate | High (Hilton standard) | Moderate | Moderate |
| Lifecycle | 50+ years | 50+ years | 40–50 years | 50 years |
| Water Conservation | STP | STP + dual flush | Rainwater + STP | STP system |
| Awards | Recently opened | Hilton excellence | Design award | Not yet listed |
| Event Hosting | Weddings + corporate | Corporate events | Business + social | Weddings + parties |
| Nearby Attractions | Lake, Van Vihar, MP Assembly | City center, Riverfront | Airport, Ambience Mall | Aura Mall, Bawadiya Kalan |
| Public Rating (est.) | 4.7/5 | 4.5/5 | 4.3/5 | 4.4/5 |

# 4. Relevant Standard & Codes

Normally commercial hotels are most commonly present except at regions with scenic beauty where resorts take the charge. A hotel is a very complex building in itself. It comprises of a number of departments, which are very different in character, and functioning. A very sincere coordination is required for the meticulous and smooth functioning of the hotel. That is because perfect hospitality is the key to win the heart of guest staying in, and that is the path of growth. Because of that a carefully designed building which is not only functional but should also act as powerful medium to attract people and leave a strong impression in their mind and heart.

The chapter concerned here will deal with the relevant codes to be followed and the bye-laws to adhere to while designing a hotel. The regulations would consist of generic norms for hotel buildings as found in books like Architects' Data, Time Saver Standards, etc. Regulatory documents like National Building Code, 2005 and IS Codes for Fire Protection in buildings will also be studied. Then the local bye-laws of Madhya Pradesh and Bhopal are taken into consideration.

The list of documents referred in order to prepare this chapter is as follows:'

- TIME SAVER STANDARDS
- Madhya Pradesh Bhoomi Vikas Adhiniyam (2012)
- NEUFERT'S ARCHITECTS' DATA
- IS 6074 : 1971 (code for functional requirements of hotels, restaurants and other food service establishments)
- IS 13716 : 1993 (Fire Safety in Hotels -Code of Practice)
- NATIONAL BUILDING CODE, 2005
- Brand Standard - HYATT INTERNATIONAL
- Brand Standard - COURTYARD MARRIOT

## 4.1 GOVERNING BYE-LAWS

- Parking standard: For four wheeler as per NBC, 2005

Equivalent car space per 100 m2 of floor area

1.Open car parking - 18 m2 per E.C.S

2.Ground floor parking (covered) -23 m2 per E.C.S

3.For basement -28 m 2 •1

- Car Space for every four guest rooms as per Madhya Pradesh Bhoomi Vikas Adhiniyam (2012)
- •Size of plot should not be less than 500 m2 , as per BDA Regulations •

- The set-back should be a min. of 6 m all around and it should be of hard surface and capable of bearing a load of 18 tons of fire engine.
- •Entrance should be at least 5 m high and should fold back against the compound wall •
- F.A.R - 1.5 •
- Maximum coverage - 30 % •
- Basement size should be equal to ground coverage allowed.
- •Basement (or) ground floor, when used for parking or other service will not be used in F.A.R (Max. Height -2.8 m) •
- Min. plinth height - 0.45 m from ground level •
- Habitable room height - 2.6 m (From floor level to ceiling) •
- For air -conditioned room - 2.4 (From floor level to false ceiling) •
- Height of toilets - 2.2 m (minimum) •
- Height of parapet from finished floor level - 1.05 meters
- •1 lift for every 100 bedrooms (minimum)
- •Service lifts at 2 for every 3 passenger lifts •
- Min. width of staircase: 1.5, T =300 mm, R= 150 mm •
- Length between 2 staircases is limited to 48 m (160')
- •Distance between any room door and a staircase should not exceed (180') •
- Corridors - Bedroom floors -2.2 m (min.)

# 4.2 NORMS

### 4.2.1BASIC NORMS as per NBC

- There should be a lobby and ladies and gentlemen's cloakroom equipped with fittings and furniture of the highest standard
- •The hotel should have at least 10 let able bedrooms, all with attached bathrooms with long bath or the most modern shower chambers. •
- All public rooms and private rooms should be fully air conditioned and should be well equipped with superior quality carpets, curtains, furniture, fittings etc. in good taste.
- •There should be an adequate number of efficient lifts in the building of more than two story' including the ground floor) with 24 hours service.
- •There should be a well-designed and properly equipped swimming pool.

### 4.2.2 GENERAL FACILITIES

- There should be a reception, cash and information counter attended by highly qualified, trained and experienced personnel and conference facilities in the form of one each or more of the conference halls, banquet halls and private dining rooms. •

- There should be a book stall, beauty parlor, barber shop, recognized travel agency, money changing and safe deposit facilities, left luggage room, florist and a shop for toilet requisites and medicines on the premises.
- There should be a telephone in each room and telephone for the use of guests and visitors and provision for a radio or relayed music in each room/restaurant on the premises and wherever permissible by law, there should be an elegant, well equipped bar.
- •The pantry and cold storage should be professionally designed to ensure efficiency or operation and should be well equipped.

### 4.2.3 ESSENTIAL SERVICES

- The hotel should offer both international and Indian cuisine and the food and beverage service should be of the highest standard. •
- There should be professionally qualified highly trained, experienced, efficient and courteous staff in smart, clean uniforms, and the staff coming in contact with guests should understand English.
- •The supervisory and senior staff should possess a good knowledge of English and staff knowing at least one continental language should be rotated on duty at all times. •
- There should be 24 hours service for reception, information and telephones. •
- There should be provision for reliable laundry and dry cleaning services. Housekeeping at the hotel should be of the highest possible standard and there should be plentiful supply of linen, blankets, towel etc. which should be of the highest quality available. •
- There should be a special restaurant/dining room where facilities for bar, entertainment area nearby are provided.

### 4.2.4 AIR CONDITIONING as per NBC

- Most high-class hotels provide full air conditioning. Where air conditioning is used the pressures within various parts of the building are carefully balanced to ensure positive regulated distribution. •
- The main fresh air intake is preferably at roof level where air conditioning, refrigeration and cooling plant may also be conveniently grouped together. •
- To reduce excessive heat loss only sufficient fresh air is used to satisfy ventilation requirements, and this is mixed with re circulated within building.

### 4.2.5WATER SUPPLY

- Large quantities of water are required in a hotel for personal use, food preparation, cleaning and general domestic purpose and possibly also for cooling and softening plant, boilers and air-conditioning.
- •Sufficient water must be stored to ensure continuity of supply. Separate provisions are made for drinking water supply either by direct service from main or from a cistern used only for this purpose. •
- Distribution of water: In the bed room block hot and cold water supplies are usually incorporated in vertical ducts between or adjoining the bedrooms. •

- Short branch pipes extend to the various appliances at each floor level. Secondary circulation is necessary in the main domestic hot water pipes to keep water constantly hot. •
- Where hot water and cold water pipes occupy the same duct both must be insulated. Provision must also be made for working access to all enclosed pipes work and for the isolation and drainage of any section.

### 4.2.6 FIRE FIGHTING

Physical components:

- •Factors affecting design of fire extinguishing system in building:
- •Type of building occupancy
- •Location of egress
- •Type of furnishing and materials •Location of building firefighting facilities

Fire alarm system:

A typical fire alarm system consists of the following components:

- A central fire control station - Displays zones in which any risk has occurred. Two-way communication between the control stations and loud speakers on each floor •
- A second panel -Visually display any alarm condition in the building •
- Manual fire alarm stations - Used for fire notification by the building occupants
- •Smoke detectors •
- Ducted return air connections to the return airshaft in each floor, in discharge of the supply fans located in elevator lobby provides a signal to elevator controllers to automatically return the cabs to their lowest terminal floors and should be used to control fans to minimize the propagation of smoke through the structure •
- Automatic suppression system, such as sprinklers - should include complete monitoring system of water flow tied into the central control station,
- •Loudspeakers located on floors - for issuing instructions •
- Amplifier cabinets- to contain redundant amplifiers and alarm signal generators •
- Circuitry - required transmitting alarm signal to loud speakers, etc.

### 4.2.7 LANDSCAPING FEATURES

- **L**andscaping is an important element for hotel building. The environment should be such that the visitors feel close to nature and comfortable.
- •Landscaping spaces play an important role in human life. Besides functioning as breathing spaces, they also provide an opportunity for man to come in contact with nature. It is conscious preventive functional design for the open space. •

- However good the design of the surrounding building may be, if the ground spaces around them is not thoughtfully planned and properly treated, the overall character of the pace is affected and the site is made to use of its maximum. •
- Landscape design is a complex procedure with many alternatives. It is a solution of serious of problems defined by a designer to create a more usable physical environment.
- •A successful design will depend upon the understanding of the social behavior and human need, the understanding of the function of the landscape element, the selection and setting of the material, their technology, maintenance and the awareness and the care of those responsible using them.
- •Thus the responsibility with the designer and be treated as left over spaces in the site but should be given as much importance as the building itself so that the whole site looks like an integrated space and not an unbalanced composition. And since the value of land is so high, neglecting it can have no justification.

### 4.2.8 SITE PLANNING as per NBC

- In short the main points of good site planning can be summarized as:
- •Extracting the site potential •
- Elimination of negative aspects of site and accentuation of positive qualities
- •Integration of designs forms to achieve a pleasant composition in three dimensions. •
- Movement of vehicles, humans, services, goods, waste in an efficient manner.
- •This helps in increasing the productivity of the building while also avoiding the conflict zones to the maximum •
- Ultimately creating a healthy relationship between the site and its surroundings

## 4.3 Timesavers Standards (Building Type) Hotel

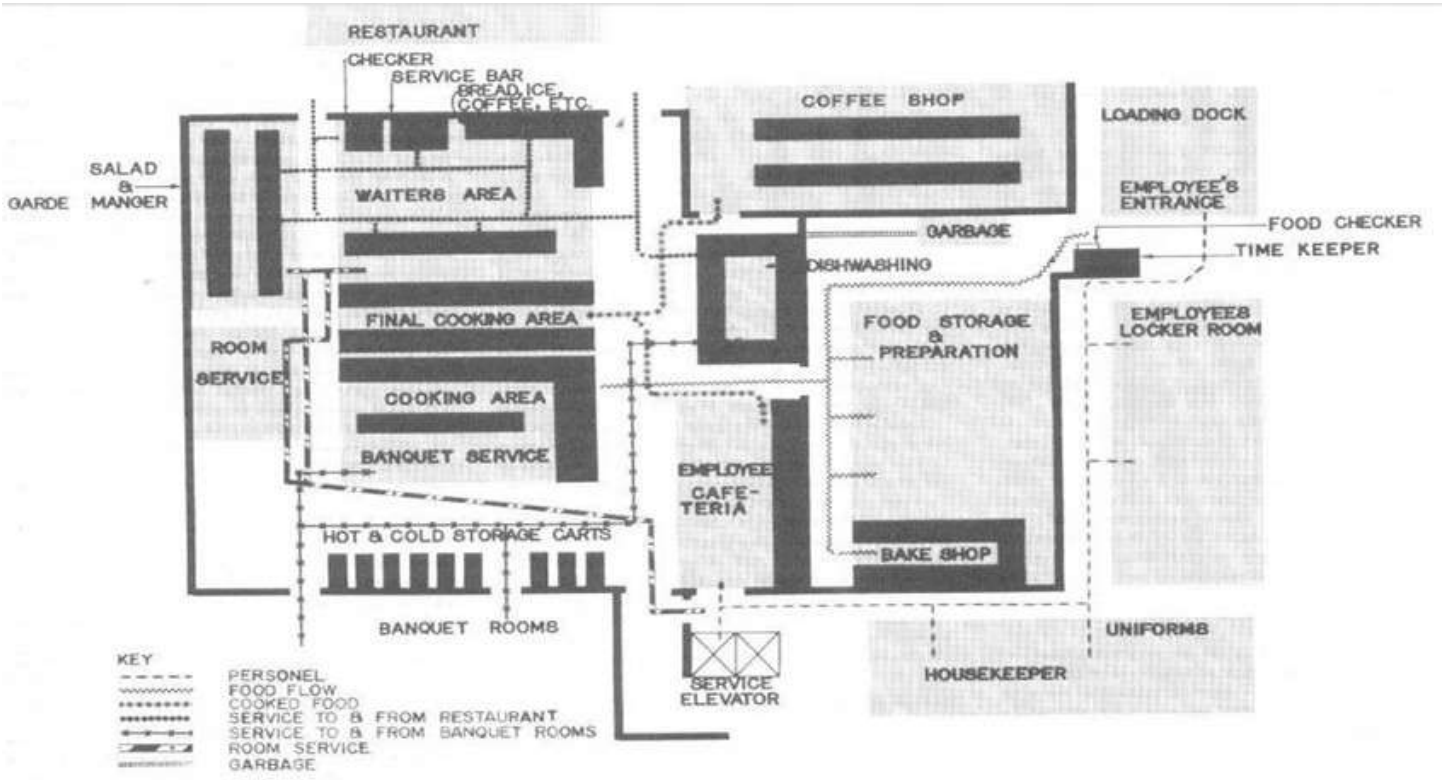
- It must be borne in mind that, as far as planned circulation is concerned, there must never be aminglingofthe-front-of-the-houseserviceswiththoseofthebackofthehouse.
- The two functions must be kept separate and yet so interrelated that both functions smoothly and efficiently.
- The physical environment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

### 4.3.1 BACK OFTHEHOUSE

- Though rarely seen by a guest, the back of the house is the most crucial part of the plan. It must be laid out with two paramount objectives: control and efficiency. Foodstuffs, housekeeping supplies, and a great many other items must be received out of sight of the hotel guests. Such receiving is usually done at a loading dock, which should be covered so that deliveries can be made regardless of the weather.
- This is usually the function of a receiving department that should be located directly on or adjacent to the loading dock. Tight control must be exercised in two directions. In one direction, it is not uncommon for material to

be delivered and, within a short time of its having been left on the dock unchecked, for the management to find that this material has disappeared or that some parts of the shipment have gone astray. The second part of the control is to make sure that, once these shipments have arrived, they go directly to their destination without a chance- of becoming lost on the way.

- A good back-of the- house plan will be worked out in such a way that the flow of supplies is tightly controlled by the security that the architect works into his plan
- Tight, well-planned back of the house will have circulation patterns that will provide the utmost in control.
- In the larger hotels, garbage destructors or compressors may be used, in which case tight surveillance is necessary only in the garbage receiving area. Where garbage is shipped out, it is wise to have the garbage rooms so placed (and, incidentally, refrigerated) that the receiving office has this space in full view.
- A tight control at the point of entry and egress of all employees is highly desirable and can easily be accomplished if it is the same point as that at which food and other hotel supplies are brought in. Once again, the architect's careful planning will make it possible for employees to reach their various dressing and locker areas with a minimum of travel time lost. It must be borne in mind that there is class distinction in hotels and, as an example, that dishwashers and porters are not placed in the same locker rooms as head waiters and reception clerks.
- Locker rooms should be provided with ample toilet facilities and showers. Once the personnel have changed into their uniforms, the plan of the back of the house will make it possible for the people to get to their work stations with little time lost.



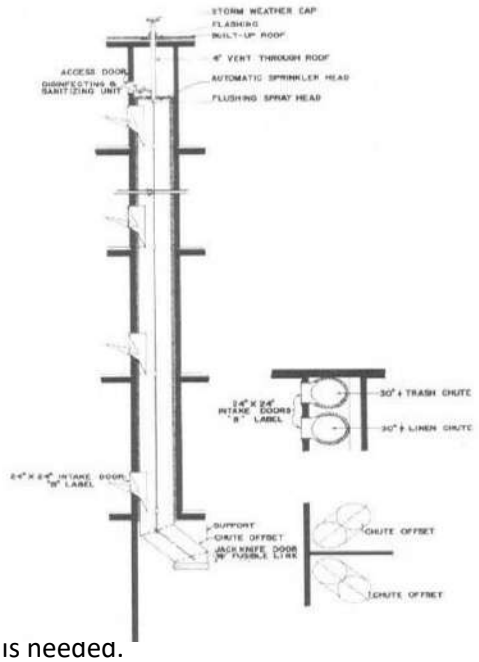
Uniform issue is related to the housekeeper, the housekeeper to the laundry room, and the laundry room to the soiled linen room. The soiled linen room connects by vertical linen chute to the service room on every typical floor, and every typical floor is connected by a service elevator that opens to the lower- floor service area convenient to the scrutinizing gaze of the steward and the timekeeper. For convenience, a trash chute, going from every typical floor service area, should be located next to the linen chute

## 4.3.2 LAUNDARY FACILITIES

- A laundry is a usual adjunct of most good-sized hotels.
- A hotel laundry that does its own uniforms and flatwork (sheets, pillowcases, linens, etc.) requires a good-sized space for washers, dryers, drum ironers, and various pressing machines- each suitable for its own type of flat-work, uniforms and guests' laundry, and men's and women's wearing apparel.
- Larger hotels will maintain their own cleaning department for dry cleaning and pressing of woolens and similar garments. Such a cleaning and valet service is usually a part of or close to the laundry area, and it is definitely under the supervision of the laundry manager.

## 4.3.3 HOUSEKEEPING DEPARTMENT

- The housekeeping department, having several functions, is the province of the chief housekeeper, who will usually have assistant floor housekeepers. Under the housekeeper's strict control and supervision will be all the maids and porters
- The porters will deliver to the service areas on the guest-room floors all linen and soap as well as facial tissue, toilet paper, matches, room service menus, and ash-
- The housekeeper's area is also a storage area, for here t become a part of housekeeping.
- It might be useful for the architect to know how many dur- ing her daily tour of duty.
- It rarely goes beyond 15. One porter is usually assigned the regular daytime maid, there will be, in most hotels, a p beds for guests ready to go to sleep




## 4.3.4 FOOD AND BEVERAGE SERVICES:

- The flow of the raw food from the time it is delivered to the ste picked up by the waiters or the waitresses.
- After the comestibles have been weighed in, checked, and signe liquor storage (a room with a big lock on it) or to one of the vari d and other bottled or packaged food which does not need refrige
- In this storage space will also be kept the various condiments th s food. Vegetables will be sent to an area where they will be store f the proper temperature will be needed, as well as work space, s ill be prepared for the chefs as needed. Vegetable preparation area is needed.
- Dairy products will go to their own cold-storage boxes. Fish, fowl, and meat will go to a separate area where boxes must be arranged with proper temperatures for their storage.
- Freezer, refrigerator, and cold storage boxes require heavy insulation. Slab sinkage in these areas should be provided for.

- The bakery shop should be a separate entity, having its own refrigerator boxes as well as all the pertinent equipment that a baker will use in his art---and an art it is, indeed.
- Here again, one should be reminded that the bakery should be close to the actual food service area so that not too many of these goodies find their way into the locker rooms or out of the hotel entirely.

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

- Pot washing area close to the rough or preliminary food cooking area. Rough cooking is usually backed up to the finished cooking area.
- Between the chefs' ovens, broilers, and fry- errs, which are aligned in a straight line, there will be an aisle for the chefs. On the other side of this aisle will be the serving tables from which the waiters will pick up the finished food. At the bottom of these tables will be plate. warmers which the waiter picks up and sets on the table so the chef can place the order of the specific dish that is required.
- This entire area is for self-service by the waiters, who will pick up the items they need on their way to the guest waiting for the delivery of his food.
- DINING ROOM- The dishwasher is usually placed close to the Dining room area so that the dishes can be disposed of as soon as the waiter or busboy enters the kitchen. The dishwashing area is, of necessity, not only noisy but also a rather untidy operation, SO it must be kept fairly isolated from the actual cooking and serving area.
- Then, before entering tire. dining room, Ire will usually go by a checker's desk where he presents a check indicating the items that he is taking out of the kitchen to the diner.
- One other space will usually occur in our ideal kitchen--a service bar with a bartender who will prepare tire drinks that the waiter has ordered.
- There will be a chef's office, which is set where the chef can observe all the activities in tire kitchen. His office is usually enclosed with glass to give him aural privacy but complete visual control. Here the chef will prepare and plan menus.
- Room-service area- Here there must be sufficient space for a fairly large number of room service rolling tables, which are set and ready to carry the dishes that have been ordered by the guest via telephone.
- The room-service area is always close to tire cooking and garde manger area.
- The room service area should, of necessity, be as close to the service elevators as possible.

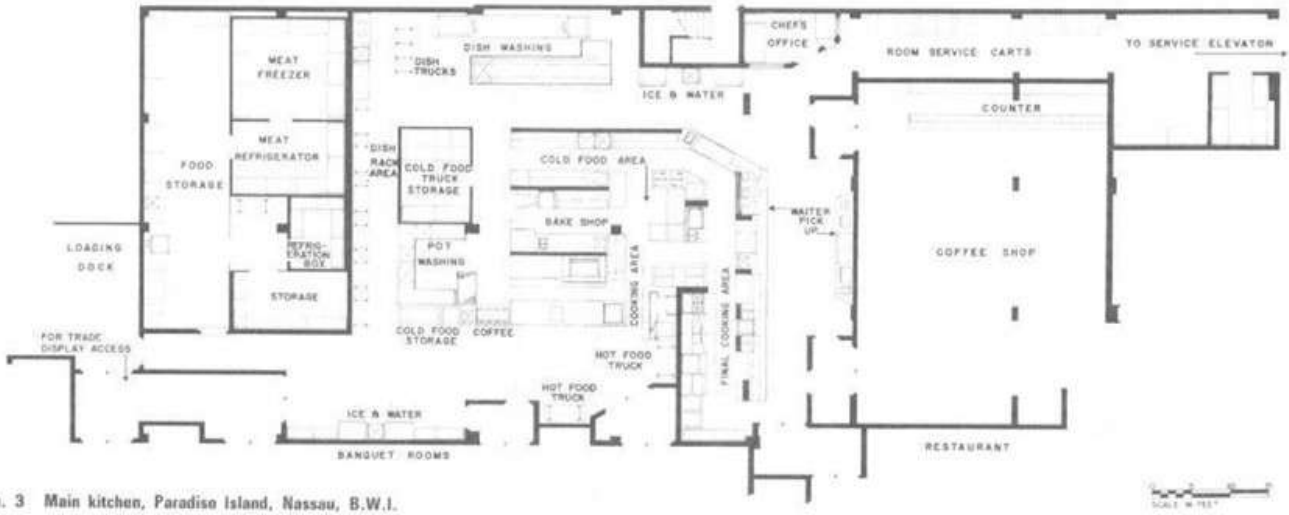


Fig. 3 Main kitchen, Paradise Island, Nassau, B.W.I.

- **COOKING AREA**- The cooking area, consisting mainly of griddles, will be manned by short- order chefs who are ready to prepare various hot breakfast dishes, and the garde manger section will be manned by a crewwho are expert in the preparation of breakfast menus.
- **BANQUET HALLS**- In the banquet area there will be mobile cabinets that take trays. These are electrified cabinets arranged to keep dishes either hot or cold. Those banquet cabinets can be stocked before a banquet for certain types of manes.
- A large banquet area in a hotel will require a separate banquet kitchen with its own cooking facilities as well as its own dishwashing area.
- One last observation: it is an excellent idea to have toilets and washrooms for kitchen help, so that it isn't necessary for them to return to their locker rooms, which may be at some distance. It is always advisable to keep the kitchen help within the kitchen during their stint of duty. Doors to dining rooms, and there may be several dining rooms serviced by the one kitchen, should be strategically placed and baffled so that the diners do not have a view of what goes on in the kitchen, and, what is more important, do not hear what is going on.
- The ideal plan would be to place the coffee shop backed up to the kitchen, so that certain finished dishes and prepared foods can be delivered to the coffee shop work area directly from the main kitchen under complete control and it passes from prep areas to kitchento coffee shop.
- At the counter we will usually find a pickup area where the waiters can pick up the food prepared for them without disturbing the diners who are sitting at counters. Dirty dishes will be sent back to the dishwashing area through a pass-through, or they will be carried to the dishwashing area in the main kitchen.
- Employees' cafeteria- This space is usually planned to be close to the help's locker rooms and yet contiguous to the main kitchen
- Beverage service area- This may be a bar room or a cocktail lounge. In any case, there will be a bar with stools (if local codes permit) and an area for cocktail tables and chairs. A cocktail lounge must be serviced just as the kitchen is serviced. To the bar must be brought not only liquor and bottled goods but also the usual crunchies.
- Ideally, the delivery should be made directly to the back bar through pass-throughs from the kitchen, so that we find once again another unit backed up to the ideal kitchen

## 4.3.5. MECHANICAL SERVICES•

- Another area that should be considered in designing the back-of-the-house spaces will be the boiler or mechanical room. In this area will be found the various pieces of equipment for hea ng and cooling as well as all the tanks and pumps to keep all the mechanical systems in operation. •
- In this area will also be found all central switch gear that controls electric current for every purpose in the hotel complex. This domain belongs to the house engineer and, naturally, there should be provision for an engineer's office, with a mechanical repair shop close by. •
- These would include a carpentry shop, an upholstery shop, and definitely an area for a locksmith. Somewhere in the area, where they are easily accessible, will be storage rooms in which will be kept a multitude of spare parts to service the hotel. be occupied by personnel that very often come in contact with the guests, and the strategic location of these back-of-the-house facilities will be controlled entirely by what happens in the front of the house. •
- Included in these areas you will find accoun ng and bookkeeping offices (which back up the front cashiers); reserva ons offices (which back up to the front registra on desk); and offices for management, which will include a recep on area, a manager's office, and an assistant manager's office. •
- There is also a mail sorting room.

## 4.3.6. FRONT OF THE HOUSE•

- The guest or the paying customer sees only the front of the house, and this must be all that he desires. •
- The front of the house comprises every area that the guest will see; lobbies, dining spaces, rest rooms, passenger elevators, corridors, hotel rooms, etc. These spaces must be handled and planned with one thought in mind: the convenience and con nued approba on of the guests. •
- The registration desk and the elevators should and must be immediately apparent. The registration area consists of a front desk, behind which is a registra on clerk, behind whom is the key and mail rack, and behind that the various administra on spaces.

## 4.3.7. GUEST REGISTRATION•

- A hotel registra on desk must be located so that it is immediately visible as one enters the hotel lobby. The size of the desk will be determined by the size of the hotel. •
- 2,000 rooms might have anywhere from four to six registra on clerks, while a hotel of 100 to 200 rooms will have one or at roost two spaces at which guests may register. •
- The simplest arrangement will call for a suitable file containing advance reserva on cards reques ng space, so that the clerk can quickly check what room has been reserved for what par cular guest. •
- Advance registration counter.•
- There are two other services that the front or registra on desk must perform. The first and obvious one is to serve as the place where the room keys are kept. •
- If the registra on clerk handles the key, then obviously the key rack is directly behind the desk, easily accessible to the registra on clerk. If the hotel is large enough to require separate area and separate personnel for handling of keys, this func on will usually be alongside the actual registra on desk

## 4.3.8. CASHIOR •

- The average hotel usually has the cashier's counter located adjacent to the registra on desk. •
- The larger hotels may place cashiers in the so-called "front desk" area but somewhat remote from the actual registra on desk. There are mes in large hotels, especially those catering to conven ons, where one conven on is checking out while another is checking in. This will make for traffic conges on and some confusion. Such a situa on can be avoided by planning the registra on and cashier facili es so that lines forming in front of the registra on desk do not conflict with lines forming at the cashier's counter. •

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

- Therefore, a small closed room is normally provided. The guest enters this room and gives the valuables to the cashier through a pass-through window. This pass-through window should have a view of the vault or the safe so that the guest can watch his valuables being deposited properly. •
- In large hotels, where there are a number of restaurants and other facili es which entail cash payment, special arrangements should be made for the handling of this cash and, in some instances, safety deposit boxes or vaults are provided so that the money can be stored when it is brought to the cashier space at off hours.

## 4.3.9 ADMINISTRATIVE AREA

- •The administra on of a hotel opera on depends en rely upon its size. •
- A larger, medium-sized hotel will have a manager and an assistant manager and, as a rule, there will be e recep on office where one or two typist recep onists will be ac ng as a buffer between the public and the manager. •
- Aside from the manager and the assistant manager, there may be an office for a food and beverage manager and a banquet manager. A larger hotel, with sizable conven on facili es, will also have an office for the conven on manager and his assistants.

## 4.3.10 MAIL AND KEYS

- There are two other services that the front or registration desk must perform. The first and obvious one is to serve as the place where the room keys are kept.
- If the registration clerk handles the key, then obviously the key rack is directly behind the desk, easily accessible to the registration clerk. If the hotel is large enough to require separate area and separate personnel for han-dling of keys, this function will usually be alongside the actual registration des

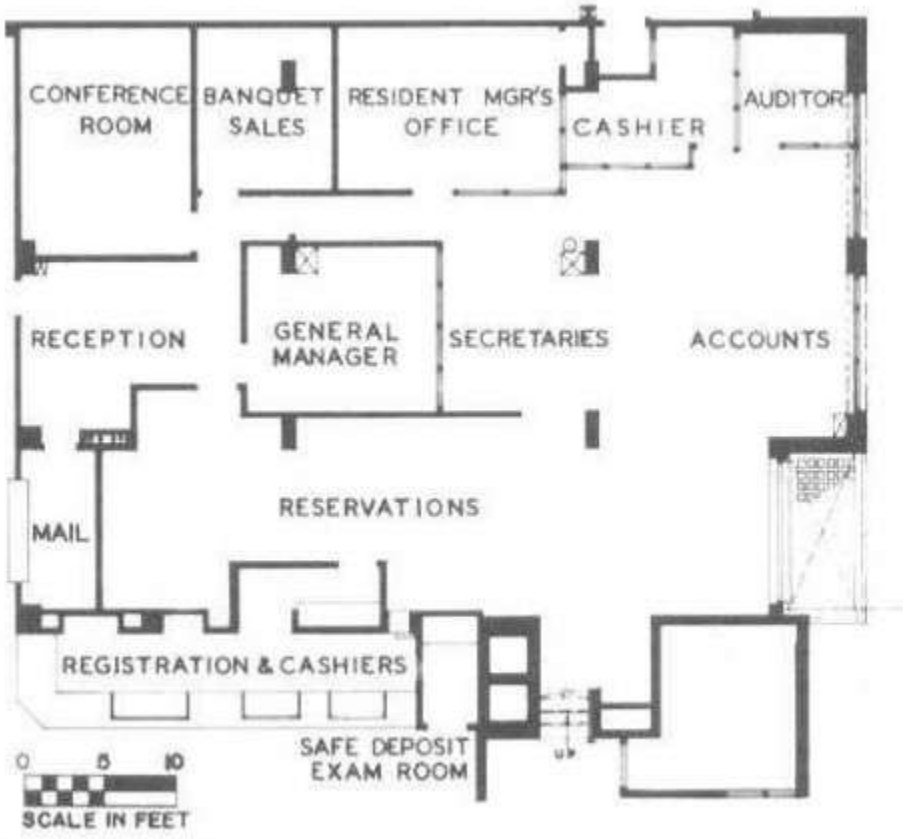



Fig. 4 The Churchill Hotel, London.

## 4.3.11. RESTAURANT FACILITIES

- Under normal situations there will be a cocktail lounge or beverage bar even in the smallest dining facility. The larger hotel will have a pleasant coffee shop for quick service and for simpler meals, whereas a restaurant, with its appropriate decor for more leisurely dining, will offer a more varied menu with probably higher cost per meal than in the coffee shop. The cocktail lounge will usually be found close to the dining room so that hotel guests can pause for a cocktail before lunch or dinner, or while waiting, before going to the dining room", to meet friends or other guests. Where convention facilities are offered within a hotel, it is wise to have a bar placed close to the convention facilities.
- Large convention and banquet facilities usually provide a fixed or portable bar arrangement in the pre-assembly or foyer areas to take care of pauses between meetings and seminars and to fill those pauses with a facility that will provide a "pause that refresh." There is no special requirement for the design of hotel restaurants, bars, cocktail lounges, and coffee shops which are in any way different from the standard requirements for any such facility.
- Wherever a rooftop restaurant is created, the architect must bear in mind that there will be increased traffic in the elevators taking diners from both in and outside the hotel to this specialized rooftop facility. And don't forget that, because of public assembly requirements, the stairs must be sized larger. Supper clubs or nightclubs will also be found in the larger hotels with this type of dining and entertainment area along with orchestra dressing rooms.

## 4.3.12. LOBBIES

- Every hotel, regardless of its size, must have a public lobby. The size of the lobby is largely determined by the number of guest rooms as well as by the type of hotel that is on the architect's drawing boards.
- Furnishings, color, finishing materials, lighting, and decor must create the proper ambience regardless of whether the hotel is large or small, in a city or a resort, moderately priced or expensive.

## 4.3.13. ELEVATORS

- Except for one- and two-story motels, every hotel and motel will use elevators to take guests from the point at which they have checked in up to the floor where the guest's room is located. Elevators should be located so that they are immediately visible, either from the entrance of the hotel or from the check-in or registration area. Another consideration in the planning of elevators is that of their location on the guest-room floors. It is advisable to place them centrally so that the distance walked by a guest in any direction is reduced to a minimum
- The number, size, and speed of the required elevators is best determined by the elevator companies themselves.
- Serviceelevators are separate and apart.
- Each bank of elevators should be strategically located to best service the front of the house (guests) or the back of the house.
- Thebellcaptain's stationshould belocatedsothereis a commanding view of the hotelentrance, the registration desk, the cashier, and the elevators.
- Somewhere inthe lobby there should be a rather large storage spare for luggage which may be left by guests after checking out but prior to departing.

## 4.3.14. GUEST FLOOR CORRIDORS

- It is wise to remember that no guest-room doors should be placed opposite the elevators. Guests coming or going late at night, coming out or getting into the elevators, may talk loudly or may be too noisy, in which case they would be disturbing guests whose doors open off this area. The foyer should be further demarked from the guest-room corridor by its decor and lighting.
- One of these appurtenances would be a small bench or some type of seat for guests who may want to wait in the foyer for the elevator or who may be waiting to meet someone else on the floor. It is also a thoughtful gesture to have a full-length mirror in this area; men as well as women guests appreciate the chance to have a look at themselves before descending to the main lobby floor.
- There should obviously be a good-sized ash receiver for cigarettes, cigars, and other trash nuisances that the guest may want to get rid of before getting into the elevator.
- Good practice indicates that a corridor should, if at all possible, not be over 100 ft in length.
- There is very little choice in the width of a corridor. Normally, 6 ft is considered an adequate width, although some hotels have made do with only 5 ft.
- Another expedient, which may be used either in a narrow corridor (under 6 ft) or a standard width corridor, would be the device of recessing the bedroom or guest-room doors. Setting doors back from the corridor wall 1 ft or even as much as 2 ft gives an apparent width to the corridor and, what is more important, it gives each room entrance its own sense of privacy and individuality.
- Aflush panel door is the least expensive but also the least desirable type of door for a guest room. If only a flush door is used, strong color might be helpful,
- The lower portion of the wall, therefore, might well be designed as a dado made of a bruise and shock-resistant material or merely marked off with a contrasting color or wall covering.

## 2.3.15. GUESTROOMS

- The length and width are determined by the amount of furniture that is to go into the room and by the degree of luxury that the hotel operator wishes to achieve.
- The most common room in the hotel field today is the twin-bedded room. Then we have the possibility of a single occupancy room, and lastly studio rooms or suits.
- The next consideration is the size of the beds themselves. There are single beds which are 3 ft 6 in. wide, a full-sized bed which is 4 ft 6 in., a queen-sized bed which is 5 ft wide, end a king- sized bed which is 6 ft wide. Presently, all beds are still being made in a 6-ft 6-in. length dimension.
- If at all possible, there should be a3-ft aisle and, if no furniture is placed opposite the bed (a very unlikely arrangement), then the width of the room would be a minimum of 10 ft 6 in.
- Where furniture will be placed on the wall opposite the bed, such furniture will most likely consist of a dresser or cupboard with drawers. Such a piece of furniture requires a minimum of 18 in. in width and most likely an optimum width of 24 in.
- The most common arrangement found in most hotels consists of two comfortable armchairs with a cocktail table between them. A comfortable chair will require a depth of least 30 in. and another 30 in. of leg space in front of it, which means that we need at least 5 ft from the wall before we encounter the first piece of furniture, which will probably be a bed.
- In talking of lighting, we must bear in mind that we want not only a lamp or a ceiling fixture over the sitting area but also adequate reading lights for the beds. The most often used arrangement is a twin-headed lamp sitting on the night table between the two beds.
- Another piece of fixed furniture that is desirable is a luggage stand.
- This could be a straight-backed chair or a stool placed in front of the writing-makeup table.

- Between a pair of twin beds, the ubiquitous nightstand with its small storage space below is standard.
- **SUITES**: Another popular arrangement in hotels is that of the so-called "studio room." Dual sleep pieces have been developed which are comfortable sofas during the day and perfectly comfortable beds at night.
- furnished as a studio room. Thus, the hotel can provide a two-room suite (obviously, connecting doors must be provided between these two accommodations).
- Every hotel should have arrangements for suites of a permanent nature as opposed to a combination of a studio room with a typical guest room. Suites will be furnished like fine sitting rooms. They are used not only by the affluent traveler because he can afford it but also by travelers who do a good deal of entertaining, especially business travelers who entertain clients and customers on their arrival in any given city.

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

- It is a good practice to arrange the sitting room of a suite so that it connects with at least two bedrooms and, if at all possible, three and sometimes even four bedrooms.
- Suites will usually be found in the corner of a building, which makes it possible for the planner to join up several bedrooms.
- There are times when suites are not used, and the hotel should be able to rent each of the rooms in the suite separately.
- A foyer which connects the bedrooms and the sitting area makes this separate keying of rooms possible.
- A complete bathroom should be planned for each of the sitting rooms of a suite to make it possible to rent the rooms out singly.
- Since this room will be used for entertaining (either business or private), a bar with water connection becomes a pleasant adjunct
- Obviously, these rooms will be placed on the lowest floors so they can be close to the public spaces for the convenience of those who are going to use them for meetings or seminars in connection with a larger convention or meeting taking place in the hotel.

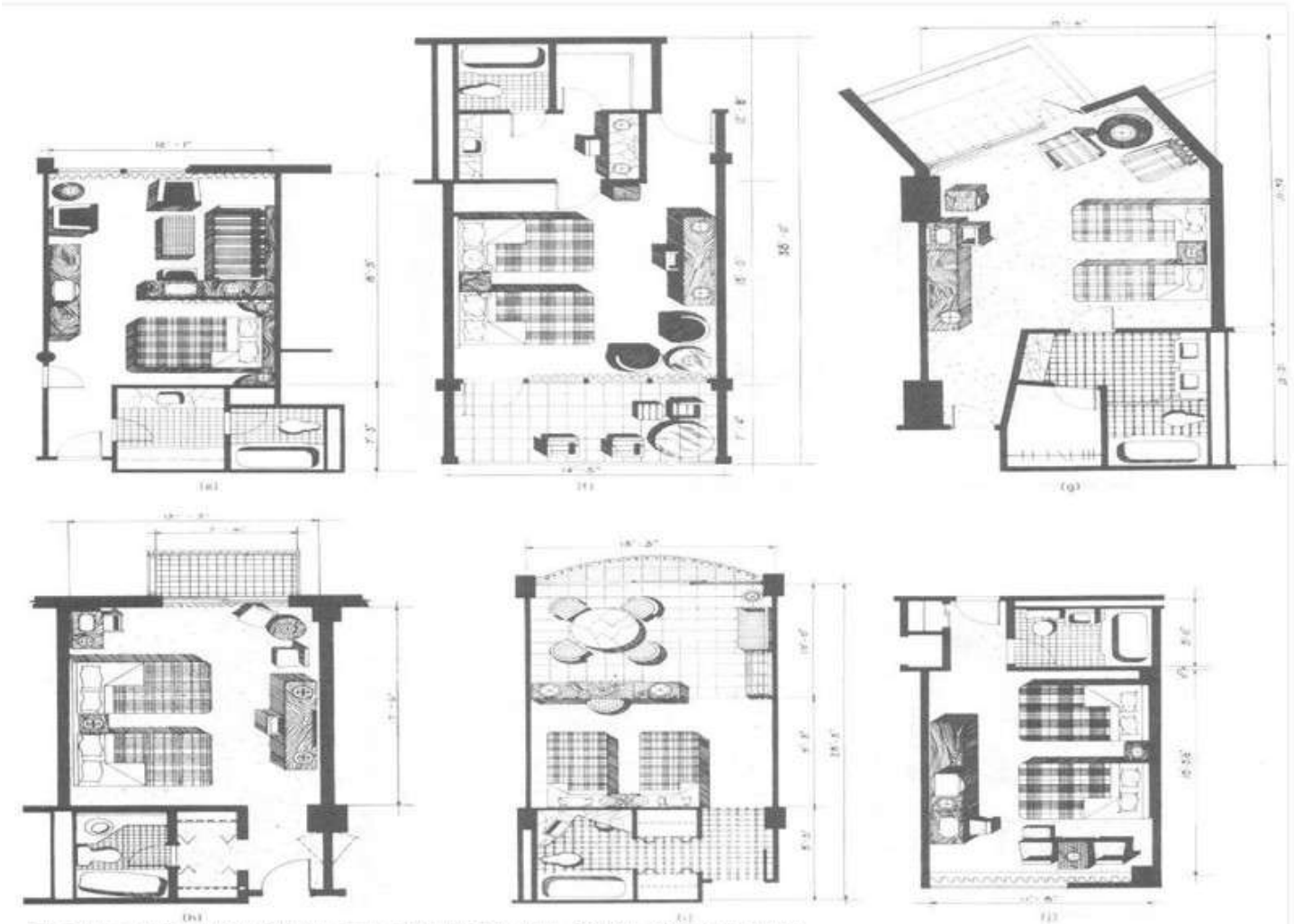


Fig. 5 (cont.) (e) Tampa International Inn, Tampa, Florida. (f) Indies House, Duck Key, Florida. (g) Americana Hotel, Bal Harbour, Florida. (h) Paradise Island Hotel, Paradise Island, Bahamas. (i) Americana of Puerto Rico, typical room layout. (j) Massena Motor Inn, Massena, N.Y.

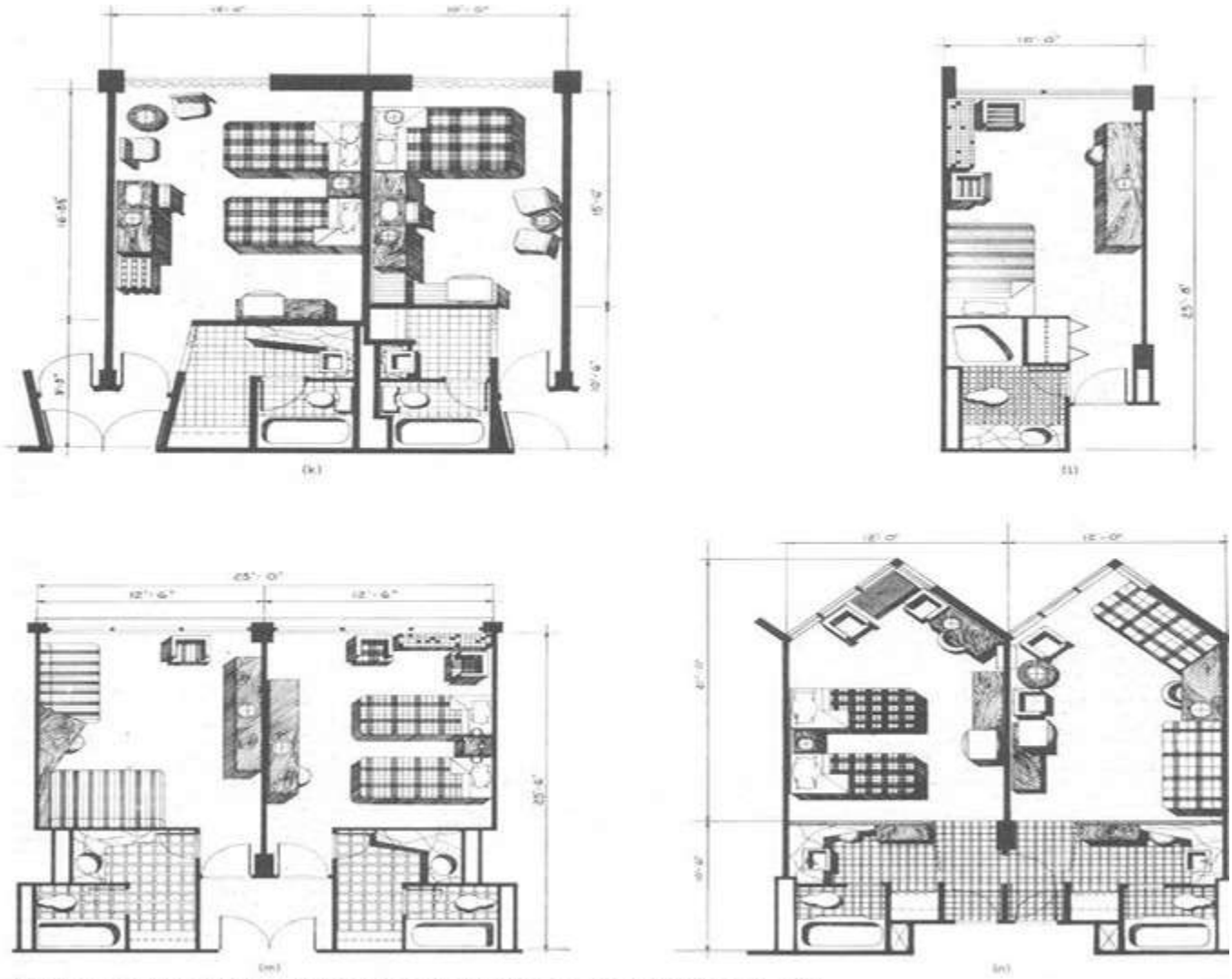


Fig. 5 (cont.) (k) Chicopee Motor Inn, Chicopee, Massachusetts. (l) and (m) Thomas Circle Motor Hotel, Washington, D.C. (n) Riverview Motor Hotel, New York.

# 4.3.16. GUEST BATH ROOMS

- The minimum bathroomwill have a combination tub-shower, a lavatory, and a water closet.
- An innovation devised by the writer's firm was the introduction of two lavatories in the bathroom facilities. These two lavatories may be right in the bathroom itself, they may be pulled out into a dressing area, or one lavatory may be placed in the bathroom and another outside the bathroom.
- Bidet is being introduced. Obviously, this additional feature is found only in the most luxurious hotels.
- A wall-hung unit makes cleaning of hotel bathrooms easier for the maid, but again, its economics will determine whether this fairly expensive type of installation is warranted. The tub in a guest room is normally a 5-ft tub.
- The normal shower head becomes standard in all hotels, although there is a growing tendency to using the so-called "telephone shower head."

- The normal wall shower head, and by using two movable shower-head supports, one at the normal hand level and one at the higher level where a fixed shower head normally would occur, the guest has the option of allowing the hand type shower head to remain in a standard position or to remove it and use it as he pleases. • It is preferable to have a ledge on which toiletries may be placed, where they are conveniently reached, and where, obviously, they will not be left when the guest checks out.
- If a ledge is used, the toilet tissue holder can be placed within the recess of the ledge, es can be the tumbler holders and the toothbrush holders. Obviously, an electrical convenience outlet must be placed in this area for electric shavers, electric toothbrushes, and other electrical gadgets that today's traveler takes with him. A slot receptacle for used razor blades should not be forgotten. Towel bars must be strategically placed so that the guest can reach for a towel regardless of whether he is stepping out of the tub or whether he is washing or shaving et the lavatory.
- Another nicety which might be provided is some form of clothesline. With today's wash-and wear apparel, many guests, especially women, like to do their washing at night and hang their garments in the bathroom.
- A number of hotels are installing a wall-hung mirror which is an enlarging mirror on one side and a normal mirror on the other, a very nice touch for both men and women guests.

## 4.3.17. GUEST CLOSETS

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

4.3.18. GUEST FLOOR SERVICE SPACES

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

## 4.3.19. BANQUETING FACILITIES

- Larger hotels will have a more diversified arrangement for meetings, luncheons, dinners, and banquets. The-largest hotels are usually designed with a full banqueting and convention facility.

- The normal meeting room requirements are rather simple. The rooms will vary in size to accommodate anywhere from 10 to as many as 100 people. In most instances, wherever it is feasible, the meeting rooms will be arranged in a straight line, so that the walls separating one room from the other can be made movable.
- Thus, if two meeting rooms which normally might seat 25 people are thrown open to one, we would have a meeting room to take 50 people; and if another wall is opened, we would be able to seat 75 people, and so on.
- In larger rooms, which normally qualify for conventions or large banquets, it is also possible to subdivide the space by the use of movable walls to create smaller rooms when a large room is not required. A large space which might seat 1,000 people when all folding wells have been moved back can be cut up into anywhere from four to six spaces, allowing for meeting rooms that can accommodate 150 to 250 people.
- Of course, in the really large convention halls, it will not be unusual to seat 3,000 or more people in one large convention banquet hell. Realizing that food must be brought to all these rooms, their juxtaposition to serving kitchens is highly important in arranging the plan.
- For the most part, food should be brought directly from banquet kitchens to the banquet spaces. In subdividing these spaces, the subdivision must be so planned that each space is contiguous to the kitchen and has its own doors to enable waiters to come and go between the banquet spaces and the banquet kitchen.
- Sound isolation is of the greatest importance, and this applies not only to the decibel rating of the panels themselves but also the arrangement of the joints between the sections or panels of the movable wall.
- In fairly large meeting, banquet, and convention facilities, space must be provided which is normally called "preconvention assembly space.'
- Since most of the people who are standing are those who will eventually be seated, the proportions of the preconvention foyer space will be determined by the number of people who will be eventually seated. As a rule of thumb, a person standing in fairly close quarters will take up approximately 5 sq ft. A person seated at a table will take up anywhere from 10 to 15 sq ft. A person seated for a seminar or a meeting will require 8 or 9 sq ft. It thus becomes apparent that the ideal preconvention, pre-banquet, or assembly space should be at least one-third of the area of tire actual dining and meeting spaces.
- thus becomes apparent that the ideal preconvention, pre-banquet, or assembly space should be at least one-third of the area of tire actual dining and meeting spaces

# 4.4 TIME SAVER STANDARDS (BUILDING TYPES)

## 4.4.1 RESTAURANTS SPACE REQUIREMENTS

- Adequacy of space will influence building and operating costs and efficiency. When space is too small, labor time end effort is likely to increase end the volume and quality of output decrease. When itis too large, building and maintenance costs are excessive.
- Calculate area requirements in terms of: (1) volume and type of service, (2) amount and size of equipment to be used, (3) number of workers required, (4) space for needed supplies, and (5) suitable traffic area. The dining area location and space allowance.

## 4.4.2 DINING ROOMS

- Space for dining areas is usually based on the number of square feet per person seated times. Space requirements:
- The patron's size and the type and quality of service should be considered.

**TABLE 1 Square Feet per Seat Used for Various Types of Food Operations**

| Type of operation | Square feet per seat |
|---|---|
| Cafeteria, commercial | 16-18 |
| Cafeteria, college and industrial | 12-15 |
| Cafeteria, school lunchroom | 9-12 |
| College residence, table service | 12-15 |
| Counter service | 18-20 |
| Table service, hotel, club restaurant | 15-18 |
| Table service, minimum eating | 11-14 |
| Banquet, minimum | 10-11 |

- A banquet seating allowance might be as littleas 10sqft per seatand that for a deluxe restaurant as much as 20sqft.

- Table 1 square feet pwe seat used for various types of food operations
- All of the areas in a dining room used for purposes other than seating are a part of square footage allowed for seating.
- Service stations may be estimated in the proportion of one small one for every 20 seats or a large central one for every 50 to 60 places. The advisability of having a central serving station will be influenced by the distance of the dining area from the serving area.
- Small substations for silver, dishes, napery, beverages ice, butter, and condiments may measure20 to 24 in. square and 36 to 38 in. high. The size of central stations varies from that for a small enclosed room to that of a screened section measuring approximately 8 to 10 ft long by 27 to 30 in. wide by 6 to 7 ft. high. Table size will influence patron comfort and efficient utilization of spaces. Smell tables, such as24 or 30in. square, are economical for seating but are uncomfortable for large people.
- The width of booths including seats and table is commonly 5h ft. A lunch counter will have a minimum width of 16 in. and a maximum width of 24 to 30 in. The linear feet are calculated
- on the basis of 20 to 24 in. per seat. The maximum area best served by one waitress is generally 16 U-shaped counters make maximum use of space and reduce travel. Space in depth of 8'/r to 11 ft will be required for every linear foot of counter. This will provide 3 to 4 ft of public aisle, 2j&ft for aisle space for employees. A width of 41h ft is desirable where employees must pass.

- A minimum passage area is 18 in. between chairs and, including chair area, tables should be spaced 4 to 5 ft apart. Aisles on which bus carts or other mobile equipment is to be moved should be sized according to the width of such equipment.
- Diagonal arrangement of square tables utilizes space better then square arrangement and yields a more trouble-free traffic lane.

**Number of Persons Allowance**

- The number of persons to be seated at one time is the second point of information needed for calculation of the dining room size. The total number of seats required at one time, multiplied by the space required for each seat, will give the total number of square feet needed in the dining area.
- The number of times a seat is occupied during a given period is commonly referred to as "turnover."
- The turnover per hour, times the number of seats available, gives the total number of patrons who can be served in an hour. If peak loads, or number to be served at one time, are known, the number of seats required can be estimated.
- The table sizes used in the dining room will affect occupancy. It is often desirable to provide for groups varying from two to eight, with a predominance in most dining rooms of those for two people.
- Chairs with a "tablet arm" that will fold at ray have been used for fast turnover in crowded areas.
- One cafeteria line can serve four to eight patrons per minute depending on (1) the speed of the servers, (2) the elaborateness of food selection, (3) convenience of the layout, and (4) the type of patrons.
- Banquet seating requires planning because maximum seating potential means maximum profits. Folding tables 30 in. wide are popular. These are obtained in varying lengths, but 72 and 96 in. are commonly used. The spac-ing for the legs should be such as to allow for comfortable seating when the tables are joined end to end and place settings are laid on 24- in.centers
- Separate rooms, folding doors, screens, or other attractive devices can be used to reduce size of an area during slack periods. Sections left open should be those easiest to serve. Balconies, backrooms, or other less desirable space can often be used for overflow numbers that occasionally require service

**Production areas:**

- A frequently used rule for allotting a space for the kitchen is that it should be one-third to one half the area of the dining room.
- An analysis of specific needs is required. Many factors in fluence space requirements, such as:
    1. Type of preparation and service
    2. Amount ofthe total production done in the unit
    3. Volume in terms of the number of meals serve
    4. Variety of foods offered in the menu
    5. Elaborateness of preparation and service
    6. Amount of individual service given, as in a hospital tray service
    7. Seating and service plan, whether on one floor or many

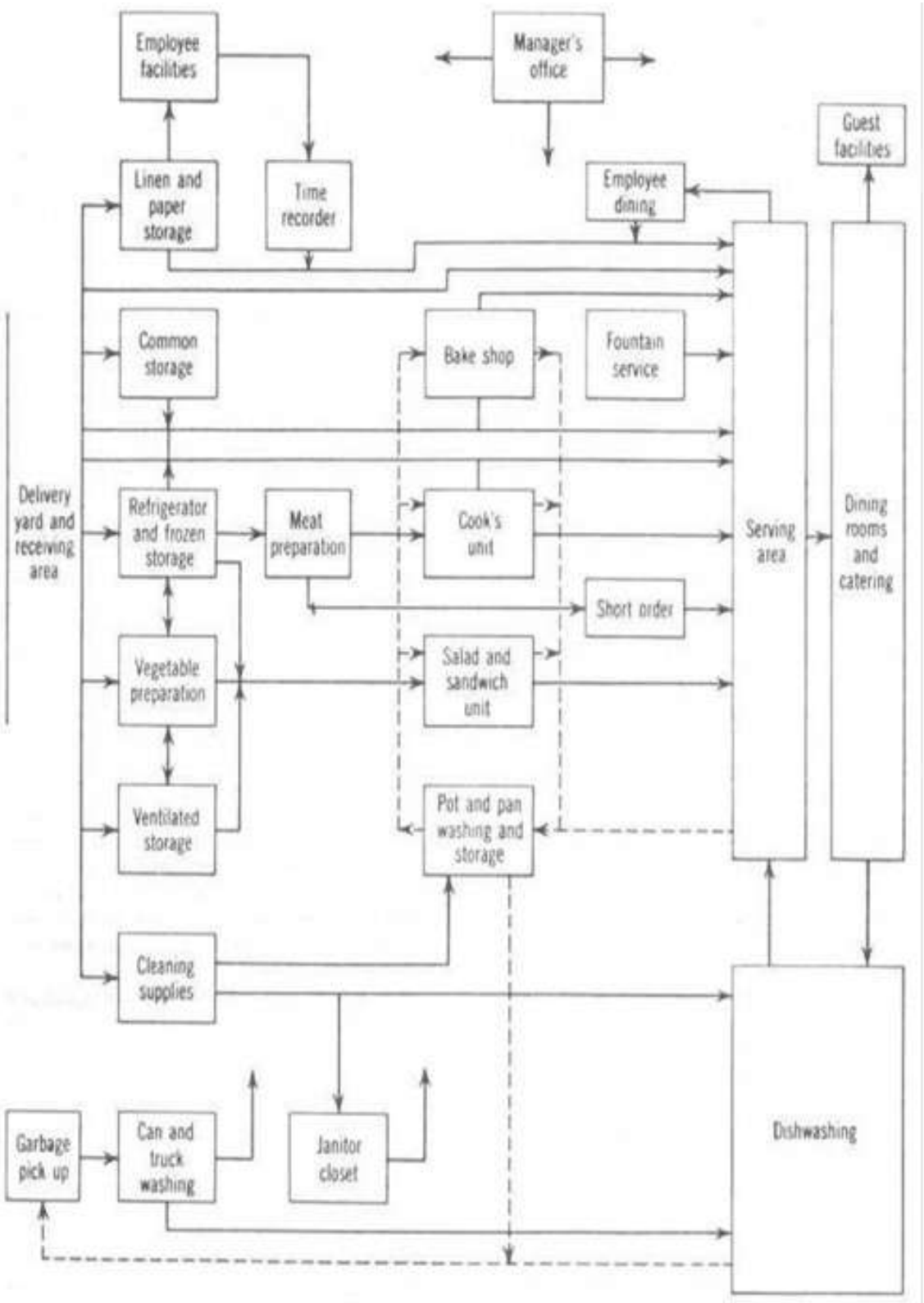



Fig. 1 Flow diagram showing functional relationships.

- The equipment provided will affect the space needs. Garbage and refuse, for example, may require a sizable area for storage awaiting pickup. Disposal units for food garbage, incinerator for burnable refuse, and a crusher for tin cans will greatly reduce the amount to be held. Frequency of garbage collection will minimize the space needs.
- The shape of the kitchen, location of ventilation and elevator shafts, support columns and partitions should be considered in relation to an efficient layout for work. The location of entrances and exits for a good flow of traffic, window placement, suitable space, and relationship of sections need consideration. Eliminate partitions whenever possible; this will reduce space needs and also permit easier supervision of production areas.
- The square footage given is to be multiplied by the maximum number of meals estimated per hour of service.
- The width of the table may be 24 to 30 in. unless dishes or food containers are to rest at the back of the table. Tables 36 in. wide are preferable when the back of the area is used for such storage. Where two workers work opposite each other, a table 42in. wide may be used. A work area of 4 to 6 in ft will be within convenient reach of the average person. Tables 8 to 10 ft. long are used if two people are working side by side. A height of 34 in., commonly used as a working height, be evaluated in terms of specific work done and equipment used.
- The minimum width for a lane between equipment where one person works alone is 36 and 42 in. where more than one is employed and where workers must pass each other in the progress of work. Where mobile equipment is used, 48 to 54 in. are recommended. At least 60 in. are needed for main traffic lanes where workers regularly pass each other with mobile equipment.
- Workcenters at right angles to traffic lanes are efficient.
- A satisfactory layout may claim less than 30 percent of total space for equipment while work areas, traffic lanes, and space around equipment for easy operating.

**TABLE 3 Square Feet of Kitchen Space per Meal for Food Facilities of Different Type and Size**

| Type of facility | Estimated maximum meals per hour | | | | |
|---|---|---|---|---|---|
| | 200 or less | 200–400 | 400–800 | 800–1,300 | 1,300–7,500 |
| Cafeterias | 7.5–5.0 | 5.0–4.0 | 4.0–3.5 | 3.5–3.0 | 3.0–1.6 |
| Hospitals | 18.0–4.5 | 12.0–4.5 | 11.0–4.5 | 10.0–4.0 | 8.0–4.0 |
| Hotels | 18.0–4.0 | 7.5–3.0 | 6.0–3.0 | 4.0–3.0 | 4.0–3.0 |
| Industrial lunchrooms | 7.5–5.0 | 4.0–3.2 | 3.5–2.0 | 3.0–2.0 | 2.5–1.7 |
| Lunch counters | 7.5–2.0 | 2.0–1.5 | | | |
| Railroad dining car | 1.6 | | | | |
| Restaurants (service) | 7.0–4.0 | 5.0–3.6 | 5.0–3.6 | 5.0–3.0 | 5.0–3.0 |
| School lunchrooms | 4.0–3.3 | 3.3–2.2 | 3.0–2.0 | 2.5–1.6 | 2.0–1.6 |

- In cafeterias the counter length should be regulated by the variety and volume.
- An estimate that may be used for allotting width is 14 ft. This allows for 4 ft as patron lane space,1ft treyelide,2ft counter width, 4'/r ft for workers, and 2'/r ft for back bar.

- Some commercial cafeteria counters may be 70 to 80 ft long, but counters over 50 ft long are frequently considered inefficient. Twenty feet is usually thought of as a minimum but, under special conditions and where a limited menuis served,6 to8 ft may be sufficient.
- Some planners use, as a rough guide, one counter or line for every 250 to 300 patrons served, but arrival rate, speed of service, and turnover are more reliable factors to consider in establishing the number of lines required

**Receiving and storage areas**

- Although the average operation may find a dock 8 ft deep and 12 ft long sufficient for receiving items, this would not be sufficient for a large one. The space requirement in square feet for food storage for 30 days has been calculated by some as approximately one half the total served or, if 1,000 are served,500 sq ft may be used as atentative figure for total food storage needs.
- COMMON STORAGE- The volume of canned food needed to serve 100 persona three meals daily for one month is estimated at approximately 45 cases of 6/10's or equivalent. The maximumstack height will be 8 or 9 cases or approximately72 in.
- Store room aisles may be as narrow as 36 in., but 42 or 48 approximal. are preferred. Wider aisles maybe required if trucks are used.
- Allow 1'/ to 2 in. as free space for ease of positioning. Add thickness of shelving to inter space when stating measurements between centers

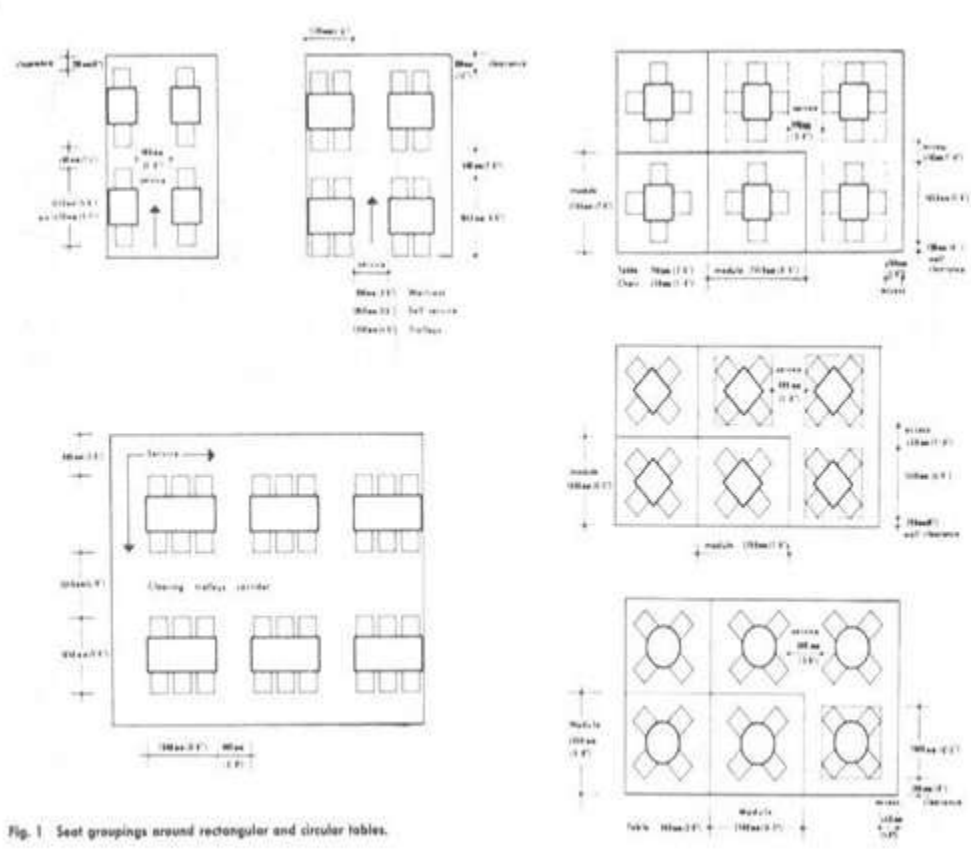
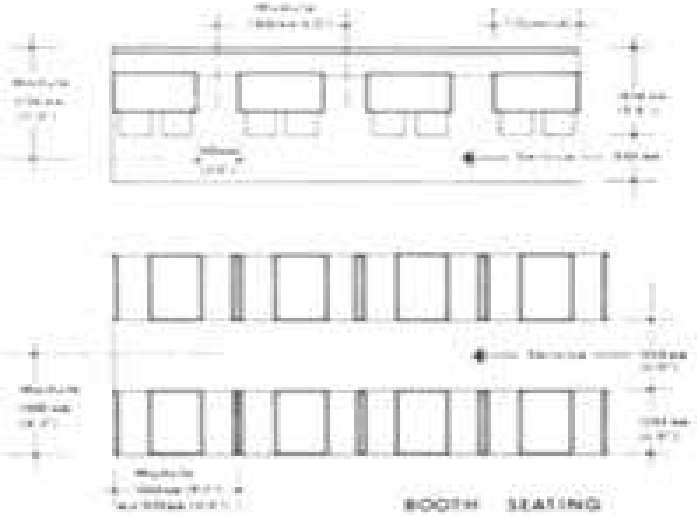
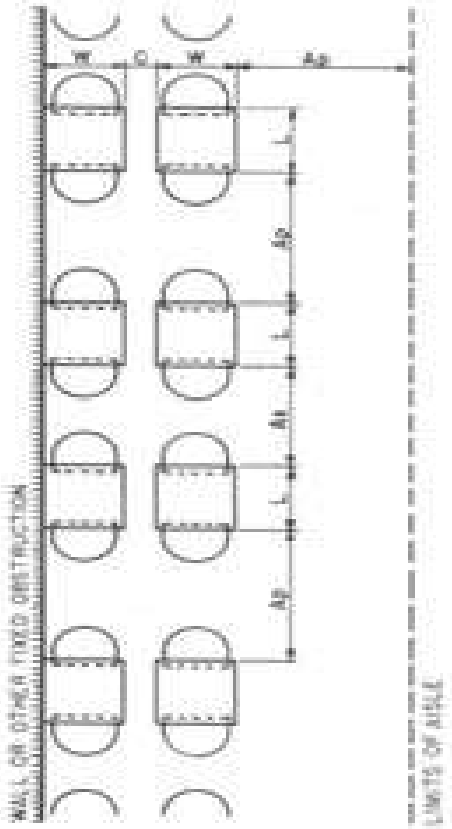
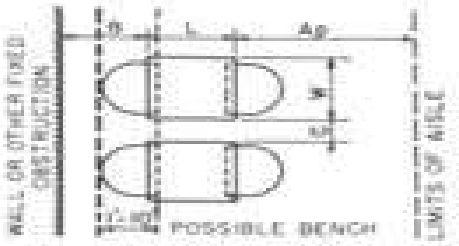
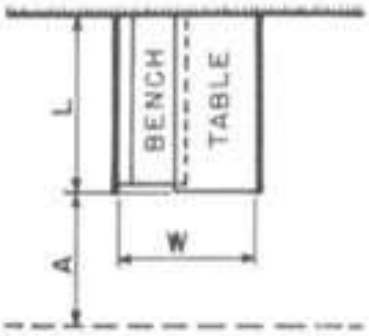


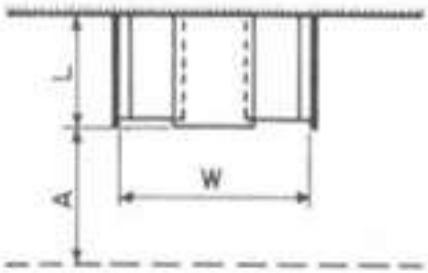
Fig. 1 Seat groupings around rectangular and circular tables.


BOOTH SEATING


WALL OR OTHER FIXED OBSTRUCTION
LIMITS OF AISLE


WALL OR OTHER FIXED OBSTRUCTION
POSSIBLE BENCH
LIMITS OF AISLE




## 2 PERSONS SIDE BY SIDE

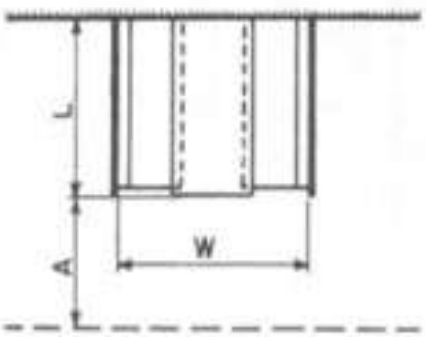
| | Abs. Min. | Des. Min. | Comfortable |
|---|---|---|---|
| Service A and pub. sits'e | 2-6 | 3-0 | 3-6 |
| Length | 3-6 | 3-9 | 4-0 |
| Width | 2-0 | 2-6 | 2-6 |

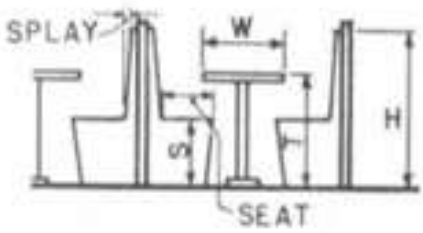
Note: This type not ordinarily recommended.

## 2 PERSONS FACE TO FACE

| | Abs. Min. | Des. Min. | Comfortable |
|---|---|---|---|
| Service A and pub. sits'e | 2-6 to 3-0 | 3-0 to 4-0 | 3-6 to 5-0 |
| Length | 2-0 | 2-2 to 2-6 | 2-6 |
| Width | 4-10 to 5-6 | 5-2 to 5-6 | 5-8 to 5-10 |

dimensions in feet and inches



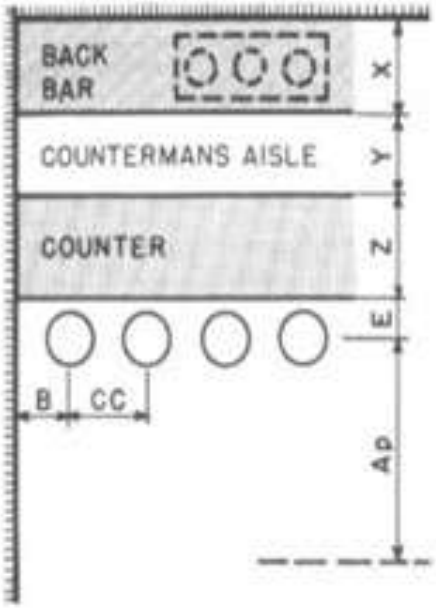

## 4 PERSONS

| | Abs. Min. | Des. Min. | Comfortable |
|---|---|---|---|
| Service A and pub. sits'e | 2-6 to 3-0 | 3-0 to 4-0 | 3-6 to 5-0 |
| Length | 3-6 | 3-9 to 4-0 | 4-0 to 4-2 |
| Width | 4-10 to 5-6 | 5-2 to 5-6 | 5-8 to 5-10 |

## BOOTH FURNITURE HEIGHTS

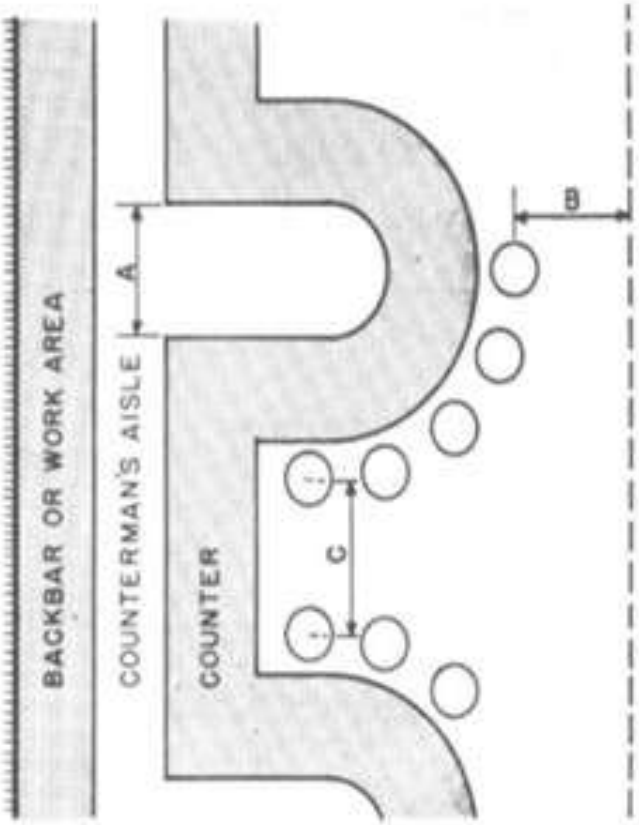
| | Abs. Min. | Des. Min. | Comfortable |
|---|---|---|---|
| H | 3-0 to 3-6 | 3-6 | 4-0 |
| S | 1-5 to 1-6 | 1-5 to 1-6 | 1-6 |
| T | 2-5 | 2-5 to 2-6 | 2-6 |
| W | 1-8 to 2-0 | 2-0 to 2-2 | 2-4 to 2-6 |
| Seat | 1-4 to 1-5 | 1-5 to 1-6 | 1-6 to 1-8 |
| Splay | 0 to 0-1 | 0-2 to 0-3 | 0-3½ to 0-4 |

Fig. 5 Booths.




**STANDARD (straight) TYPE**

| | Abs. Min. | Desirable Min. |
|---|---|---|
| X No cooking equipment | 1'-6 | 2'-0 |
| X With cooking equipt. | 2'-6 | 3'-6 |
| Y 1 person | 2'-6 | 3'-0 |
| Y 2 or more persons | 3'-6 | 4'-0 |
| Z | 1'-10 | 2'-0 |
| E | 9" | 1'-2 |
| Ap | 3'-6 | 4'-6 |
| B | 1'-8 | 1'-2 |
| CC | 1'-10 | 2'-0 |

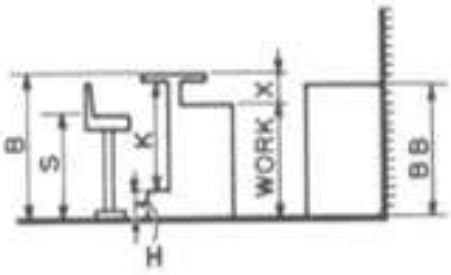



**Variations in Shape**

| | Usual Minimum |
|---|---|
| A | 2'-6 to 3'-6 |
| B | 3'-6 to 4'-6 |
| C | 3'-9 to 5'-6 |

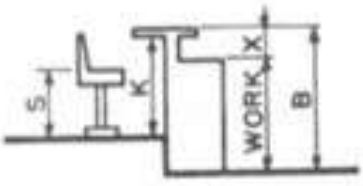
dimensions in feet and inches

**HEIGHTS**




LEVEL FLOOR

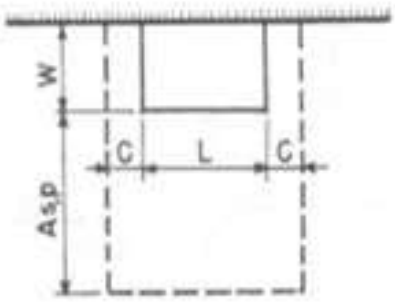
| | Range of Dimensions | | Range of Dimensions |
|---|---|---|---|
| S | 2'-6 to 3'-6 | X | 1'-2 to 1'-3 |
| BB | 3'-0 to 3'-6 | Work | 2'-6 to 2'-7 |
| H | 7" to 10" | S | 1'-6 to 2'-6 |
| X | 2'-6 to 2'-9 | | |




DROPPED FLOOR

| | Range of Dimensions |
|---|---|
| B | 3'-0 to 3'-6 |
| K | 2'-6 to 2'-10 |
| S | 1'-6 to 2'-1 |
| X | 1'-2 to 1'-3 |
| Work | 2'-6 to 2'-9 |

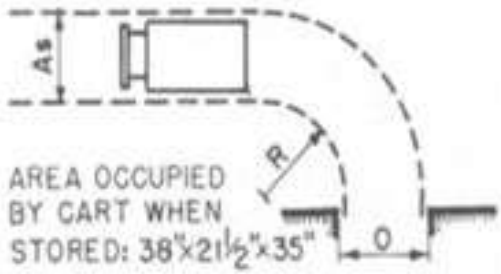
Fig. 6 Food bars.




## SERVING TABLE (& sideboard)

| | Abs. Min. | Des. Min. | Comfortable |
|---|---|---|---|
| As Service only | 2·6 | 3·0 | 3·6 |
| Ap Public circ'n | 2·0 | 2·6 | 3·0 |
| C Clearance to adjacent units | 2·0 | 2·1 | 2·6 |
| Length / Width | 30" x 20" x 42" is average | | |

Display tables (hors d'oeuvres, etc.) usually 5' 0" x 2' 0"; (wines), 2' 0" round.




## SERVING CART

| | Abs. Min. | Des. Min. |
|---|---|---|
| As Service only | 2·0 | 2·6 |
| R Turn radius | 3·0 | 3·6 |
| O Door, opening width | 2·0 | 2·6 |

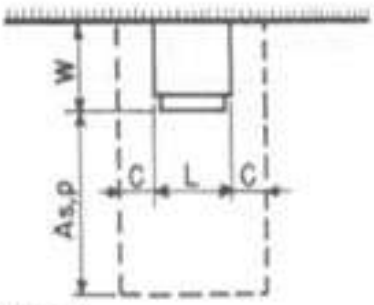
Approx. area when stored: 38" x 21½" x 35"




## TRAY STAND

| | Abs. Min. | Des. Min. | Comfortable |
|---|---|---|---|
| As Service only | 2·6 | 3·0 | 3·6 |
| Ap Public circ'n | 2·0 | 2·6 | 3·0 |
| C Clearance to adjacent units | 2·0 | 2·1 | 2·6 |
| Length (tray) / Width (tray) | Depends on type of restaurant | | |

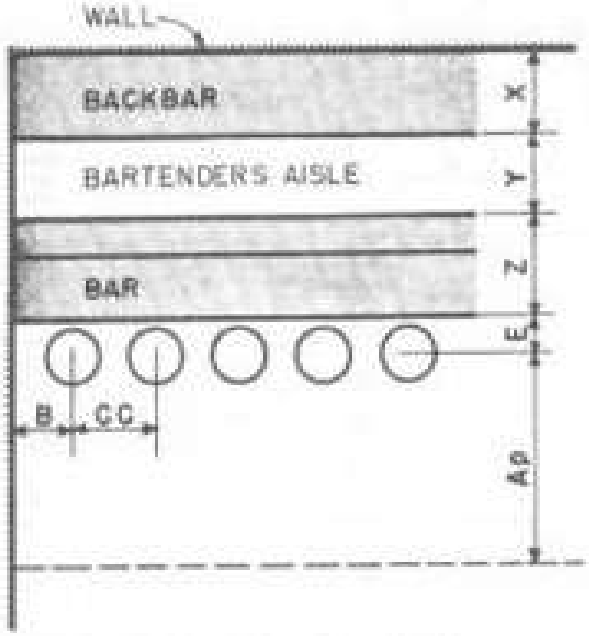
Approx. area of stand: stored: 5" x 20" x 34"




## WATER COOLER

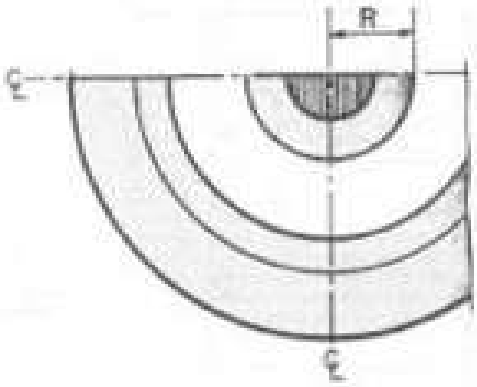
| | Abs. Min. | Des. Min. | Comfortable |
|---|---|---|---|
| As Service only | 2·6 | 3·0 | 3·6 |
| Ap Public circ'n | 2·0 | 2·6 | 3·0 |
| C Clearance to adjacent units | Can arrange on top or front | | |
| Length / Width | Depends on capacity and if glass storage included | | |

Fig. 7 Serving units.




**STRAIGHT TYPE—with or without stools**

| | | Abs. Min. | Des. Min. | Comfort-able |
|---|---|---|---|---|
| Ap | Public aisle | 3.6 to 4.6 | 4.0 to 5.0 | 4.6 to 5.0 |
| B | Stool to wall | 1.0 to 1.6 | 1.2 to 1.6 | 1.4 to 1.6 |
| CC | Stool, cent. to cent. | 1.5 to 2.0 | 2.0 | 2.2 to 2.6 |
| E | Stool to bar | .9 to 1.0 | 1.0 | 1.1 to 1.2 |
| X | Back bar | 1.6 to 1.8 | 1.8 to 2.0 | 2.0 to 2.2 |
| Y | Bartender's aisle | 2.0 to 2.2 | 2.6 | 3.0 |
| Z | Bar | 2.3 to 2.6 | 2.8 to 2.9 | 2.8 to 2.9 |

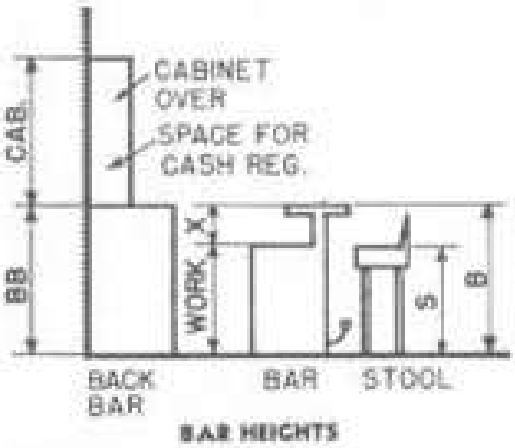



**CURVED TYPES:** Radius R should be at least 2 ft.; other dimensions as for straight types.

**Bar length:** Allow from 1 ft. 8 in. to 1 ft. 10 in. per person for standup bars; 2 ft. for each stool.

**Bar depth:** No increase in depth is needed for more than 1 bartender, as each then should be provided with his own "set-up" space in the work counter and backbar.

**Service bars:** These are usually from 6 to 8 ft. long, for 3-man service; from 10 to 12 ft. long if 2 bartenders are needed for peak service periods. No fixtures, counter overhang, or stools are required. Location is often adjacent to pitcher and concealed from patrons. However, advertising values sometimes cause it to be set in public view. In the latter case, a rope rail or similar device to discourage patrons from standing at the bar is often advisable.




**BAR HEIGHTS**



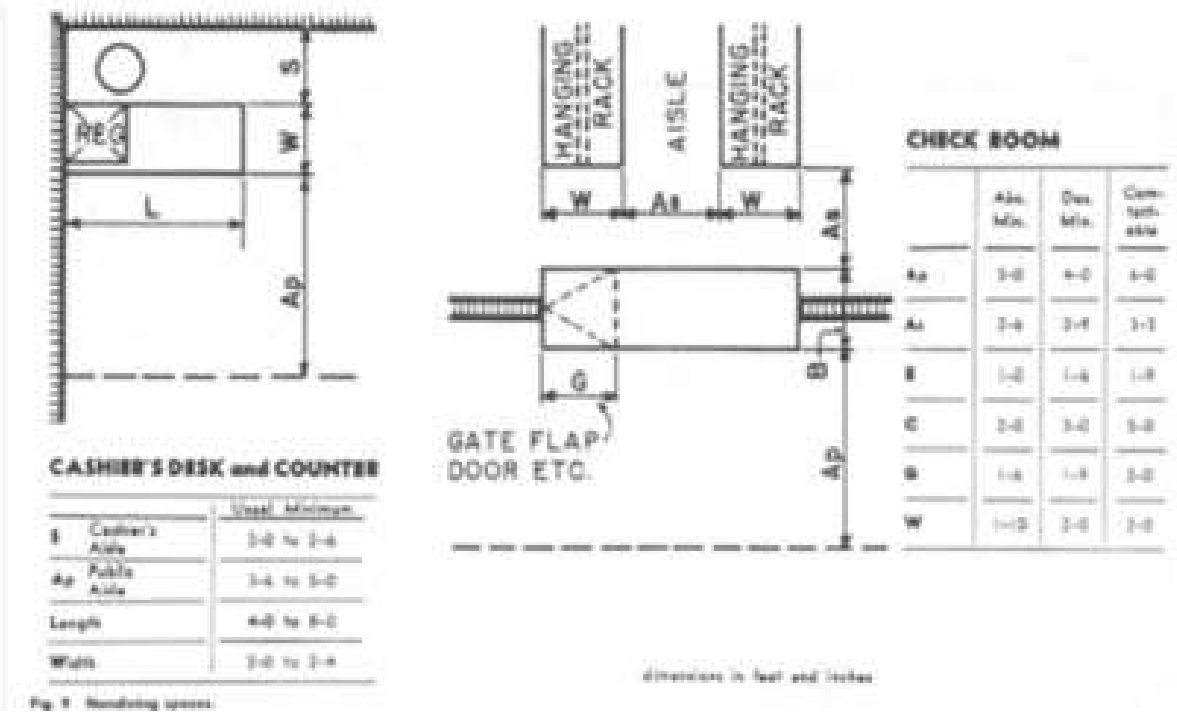

**RAIL OR STEP**

P = 7 to 10
H = 7 to 10

dimensions in feet and inches

| | Usual Min. | Usual Max. |
|---|---|---|
| B | 3.6 | 3.9 |
| BB | 3.6 | 3.8 |
| Cab | 3.0 to 3.10 | 3.0 to 3.7 |
| S | 2.4 to 2.6 | 2.7 |
| Work | 2.4 | 2.6 |
| X | 1.0 to 1.2 | 1.2 to 1.8 |

Fig. 8 Liquor bars.




**Refrigerated and low temperature storage**

- Allocation in preliminary planning may be as follows: 20 to 35 percent for meat (portion ready meats require '/ to '/, less space than carcass or wholesale cuts); 30 to 35 percent for fruits and vegetables; 20 to 25 per-cent for dairy products, including those in serving areas; 10 to 25 percent for frozen foods; and 5 to 10 per-cent for carry-over foods, salads, sandwich material, and bakery products. A requirement of 15 to 20 cu ft of refrigeration per 100 complete meals has also been used by some planners.
- Approximately 0.25 to 0.50 cu ft of refrigerated walk-in space was provided per meal served, and frozen walk-in space.
- A walk-in becomes feasible for an operation serving 300 to 400 meals per day, and refrigerated pass-throughs can be added when from 400 to500 meals are served per day
- Aisles of 30 in. are usually too narrow; 42 in. are desirable. If mobile equipment is moved in and out, aisles may have to be wider. Walk-ins that are 8 to 9 ft wide and about 10 ft long are minimum size. This allows for two storage are as30 in wide with a 3 to4 ft aisle.
- Doors should be a minimum of 42 in. wide to admit large crates and containers or be sized to suit mobile equipment. Sanitation areas
- **Dishwashing areas**: The dimensions may be only 30 to 36 in. for a single tank machine, 60 to 72in.for sinks, or7 toover30 ft for a conveyor-type machine.
- Pot and pan section: When allowing space for the pot and pan section, 40 sqft is generally regarded as a minimum for the smallest unit. The free work aisle between the sinks and other equipment should be 4ftwide.The space allowance above the minimum will vary widely depending upon the type equipment used and the volume of pots and pans handled. Employee facilities:

- Facilities for employees may include locker and lounge area, toilets, showers, time-recording equipment, hand basins near work areas, and dining rooms. An employee entrance should be so located that the employees may go directly to the dressing rooms without passing through the dining room or production area.
- **Locker and lounge area:** Whether individual lockers or common cupboard, sufficient space should be allowed for personal clothing to hang without crowding or wrinkling.
- The depthfrom front to back should be a minimum of 20in.
- Suitable size for an employee lounge depends largely on scheduling of workers and the policies of individual establishments.
- Acotorday bed, 36in. by 6ft, should be provided in the women's room.
- Toilets and showers: They should be separated from food areas by a hallway or double entrance. Supply one wash bowl for every 8 to 10 workers, one toilet stool for every 12 to 15 women, and one urinal and one toilet stool for every 15 men.Toilet compartments measure approximately 3 by 41/ ,to 5 ft.
- **Time recording management:** Provide space for a recorder near and within view of the office. Wall hung card racks of sufficient capacity are recommended for the number of workers, both full and part time, who are likely to be employed during an accounting period. Estimated space for a clock recorder is approximately 18in.wideby12y.in.deepand18in.high, and a rack of 50 cards approximately1 1/2, by 2 1/2 by 34 ½ in

**Guest facilities:**

- The size of the area should be based on probable need for waiting, type of service, and number of persons likely to congregate at one time. If there is a lounge or hallway adjacent to the dining room, this may provide some waiting space.

**Cashier:**

- Preferred location for the cashier's desk or counter, is on the right-hand side of the door when leaving, in order to avoid cross-traffic and resulting congestion.

**Coat-checking:**

- Use of coat trees in dining areas is formed "necessary but never desirable. "These occupy approximately 20 by 20 in., are 72 in. high, and can accommodate 8 garments per costumer. Overshoe racks are considered undesirable; umbrella racks, desirable in check rooms

# 4.5 TIME SAVER STANDARDS (BUILDINGTYPES)-KITCHENS

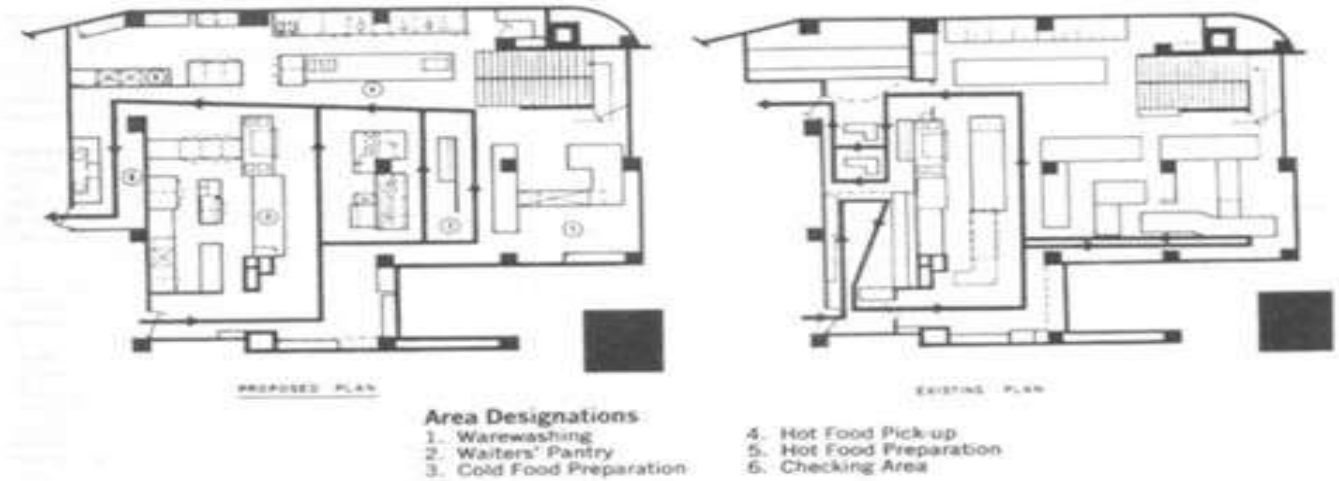



Fig. 2 Movement through traffic aisle at the cafe/bar kitchen facilities, Hotel Commodore.

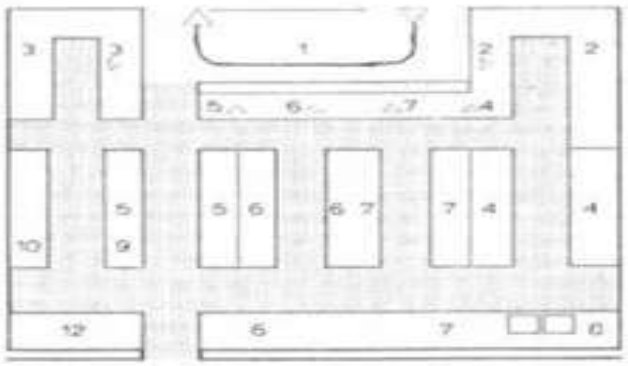


Fig. 1 Hotel or restaurant kitchen or French restaurant of high standard. Capacity for main meals: Hotel—100–200 persons / menu, 100 persons / à la carte. Restaurant—200–300 persons / mealtime from 11:30 to 1:30. Waiters' passageway: tangential. Kitchen: Linear arrangement with large installations in the rear. See Legend for explanation of numbers.

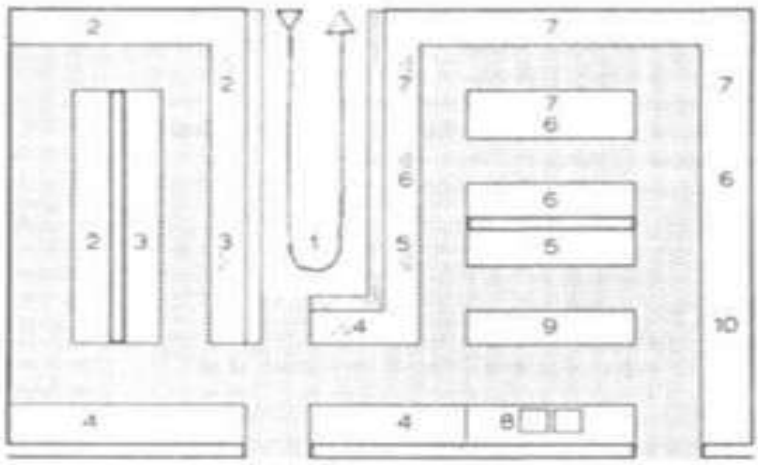


Fig. 2 Hotel or restaurant kitchen. Capacity: With this layout, a 200-seat restaurant will be able to handle three full sittings. This layout can also take care of a hotel with 100 guests and can also accommodate a restaurant open to the general public, an outdoor restaurant, and a private dining area for parties and conferences (altogether, 400 guests). Waiters' passageway: in the center. Kitchen: Linear arrangement with large installations in the rear. See Legend for explanation of numbers.

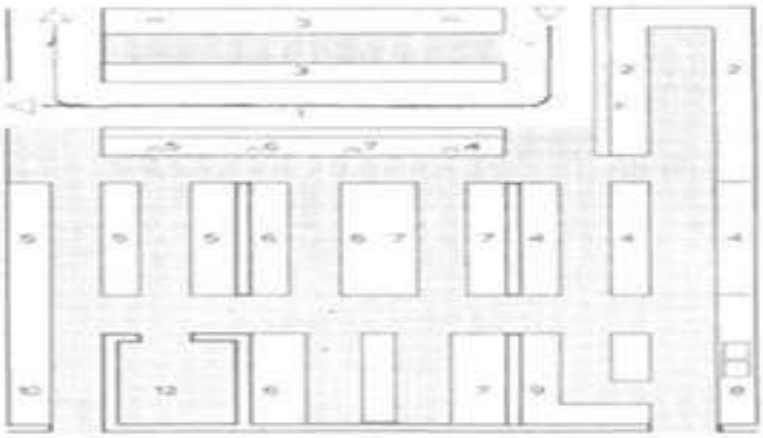


Fig. 3 Large restaurant kitchen for restaurants with many private party and conference facilities or with commissary and catering capacity for other businesses. Suitable also for large hotel with large restaurant for the general public. Capacity: 800–1,000 persons (e.g., 200 seats and fourfold reoccupancy). Waiters' passageway: tangential, with food buffet situated in front. The waiter has access to beverages and other items from the waiters' passageway in the kitchen and from the dining room side as well. The buffet looks over the dining rooms. Kitchen: Linear arrangement with fitted berths for large apparatus. See Legend for explanation of numbers.

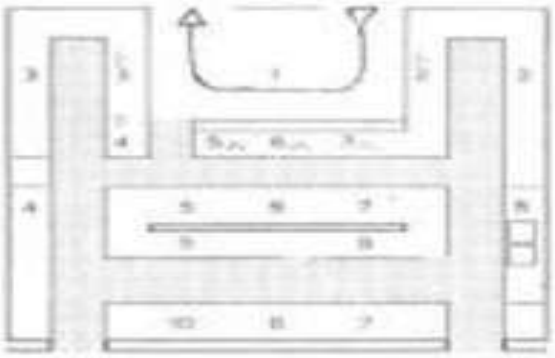


Fig. 4 Restaurant kitchen especially suited for city or excursion restaurants. Capacity: as in Fig. 1. Waiters' passageway: tangential. Kitchen: The cooking, roasting, grill, and frying apparatus are planned as wall structures. See Legend for explanation of numbers.

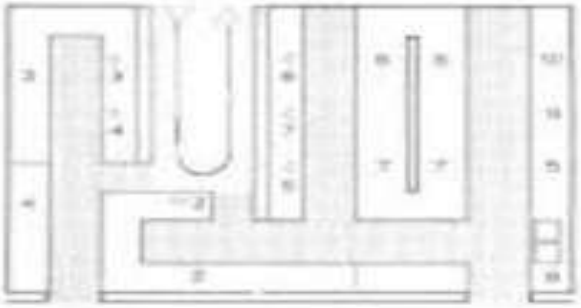


Fig. 5 Restaurant kitchen. Capacity: This arrangement is conceived for a very busy city restaurant of good quality (approximately 500 persons—e.g., 150 seats with fourfold reoccupancy). Waiters' passageway: in the center. Kitchen: The cooking, roasting, grill, and frying apparatus are planned as wall structures. See Legend for explanation of numbers.

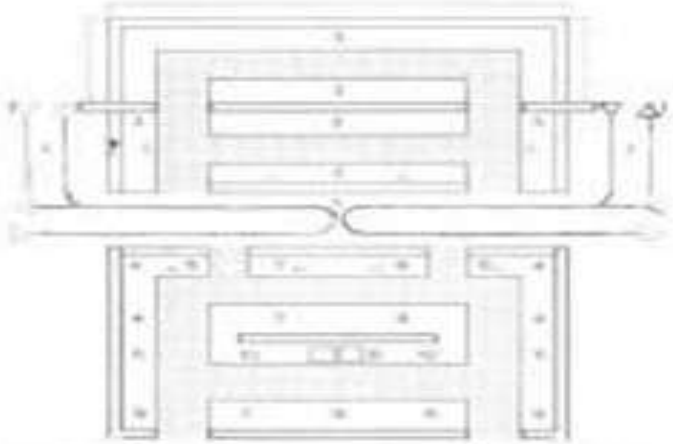


Fig. 6 Large restaurant kitchen for restaurants with many auxiliary rooms, bowling alleys, garden, and a snack bar projecting into the main dining room. Suitable for a highly frequented city restaurant or for an excursion spot with various conference rooms, etc. Capacity: 1,000–1,200 persons. Waiters' passageway: tangential. Buffet and washing-up zone (dish return) placed in front. The waiter can pick up drinks and other items at two places in the kitchen, the drinks coming partly from the bar. Kitchen: Warm kitchen as wall structure with central serving area; cold kitchen and pastry area divided with two serving areas each, symmetrically arranged. See Legend for explanation of numbers.

Legend for Restaurant and Hotel Kitchen Layouts (Figs. 1 to 6)

(Layouts Scale 1:300)

1. Waiters' passageway—meat and beverage cycles—dish return
2. Dishwashing area (dishes, glasses, silver)
3. Beverages—preparation and serving
4. Pastry (cookies, cakes, ice cream, dessert)—preparation and serving
5. Cold kitchen (cold appetizers, salad, fish)—preparation and serving
6. Warm kitchen—[illegible] area (sauces, meats, grill, fish)—preparation including large apparatus area and serving
7. Warm kitchen—[illegible] area (soups, vegetables, extras)—preparation including large apparatus area and serving
8. Pot and pan washing—[illegible] area
9. Vegetable preparation
10. Meat preparation
11. Vegetable cold storage
12. Meat cold storage
13. Basement (dry storage)
14. Beverage cold storage
15. Linen, dish, cleaning supplies storage
16. Staple goods storage
17. Dissolve receptacles and control
18. Empty goods and garbage collecting rooms

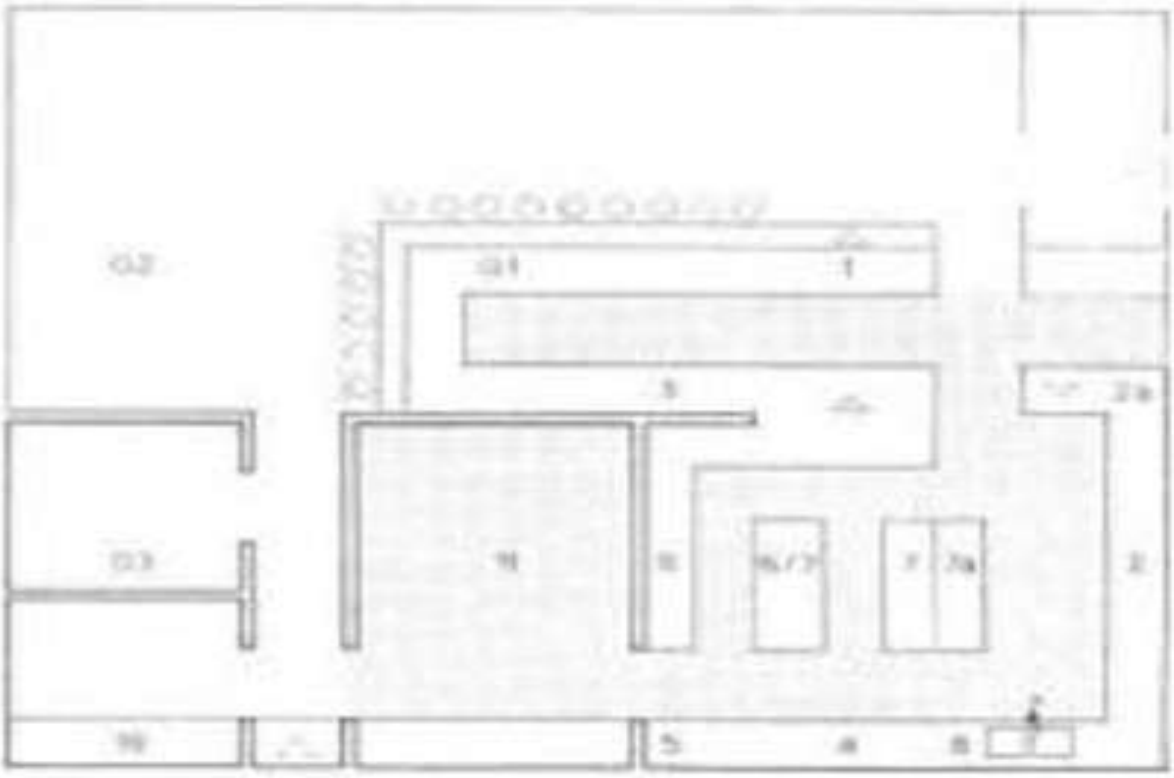


Fig. 7 Snack bar (Pub, tavern, bistro, café, or restaurant). Capacity: 55–60 seats (five- or six-fold reoccupancy over lunchtime, twofold in the evening; at other times, a well-run café, cake, and snack business). The kitchen deals primarily with ready-to-serve articles. In a city business with daily delivery, the storage space does not have to be especially large.

Legend:

1. Meal and beverage serving counter
2. Dishwasher
2a. Dish return
3. Beverage buffet with mixer, toaster, ice-cream container, etc.
4. Oven and small pastry station
5. Garde-manger
6. Saucier / rôtisseur
6/7. Range
7. Entremétier
7a. Cooking vat and high-performance steam cooker
6/7b. Warming cupboard and warm serving counter with warming lamps
8. Pot and pan washing
11. Storage, empty goods, office; instead of cold storage rooms—cold storage and freezer cupboards
19. Employees' toilets
G1. Bar counter—also for meals
G2. Dining room with table seating
G3. Guests' toilets / make-up room / telephone booths

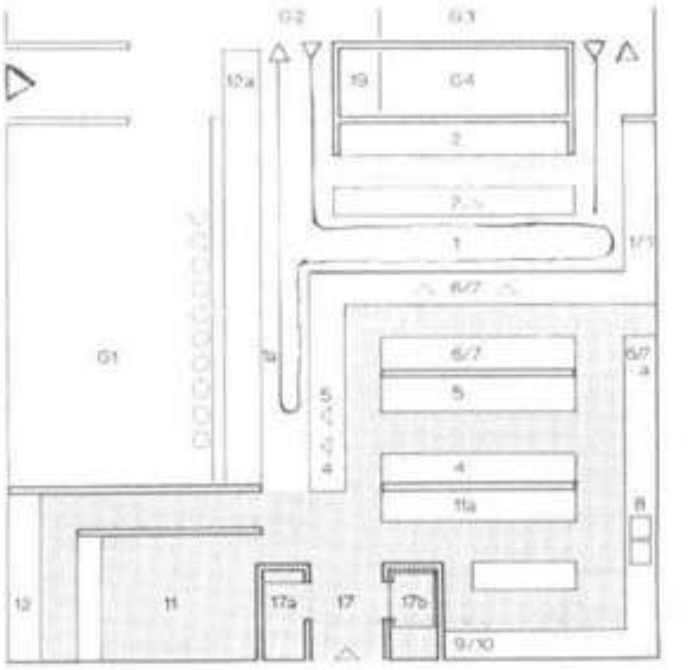


Fig. 10 Restaurant for travelers (Highway restaurant, or café-restaurant at a busy intersection in the city). Capacity:

- Snack—45–50 seats (200 persons every hour)
- Restaurant—80 seats—(two- or threefold reoccupancy during meals; at other times, coffee, ice cream, pastry, and sandwich service)
- Grill—40 seats (one- or twofold reoccupancy, high standard service) Kitchen: Linear-wall arrangement, approximately equal balance between freshly prepared meals and ready-to-serve meals. Storage, empty goods, and personnel cloakrooms in the cellar.

Legend:

1. Waiters' passageway
1a. Service corridor for snacks, and cold meal and pastry-serving counter for restaurant
1/3. Waiters—Beverage self-service
2. Dishwasher
4. Pastry
5. Cold kitchen
6/7. Warm kitchen (roast, grill, fry), bain-marie in the serving counter
6/7a. Cooking and frying apparatus (2 vats, 1 pan)
8. Pot and pan washing
9/10. Meat and vegetable preparation
11. Storage for the day
11a. Cupboard group, cooled and not cooled
12. Kiosk facing the street
12a. Cigarette machine
17. Goods delivery
17a. Office
17b. Elevator to cellar
19. Employee toilets
G1. Snack area with about 40 seats and seats at the bar
G2. Restaurant
G3. Grill restaurant, possibly with small bar for espresso coffee, aperitifs, whisky, and other spirits
G4. Guests' toilets

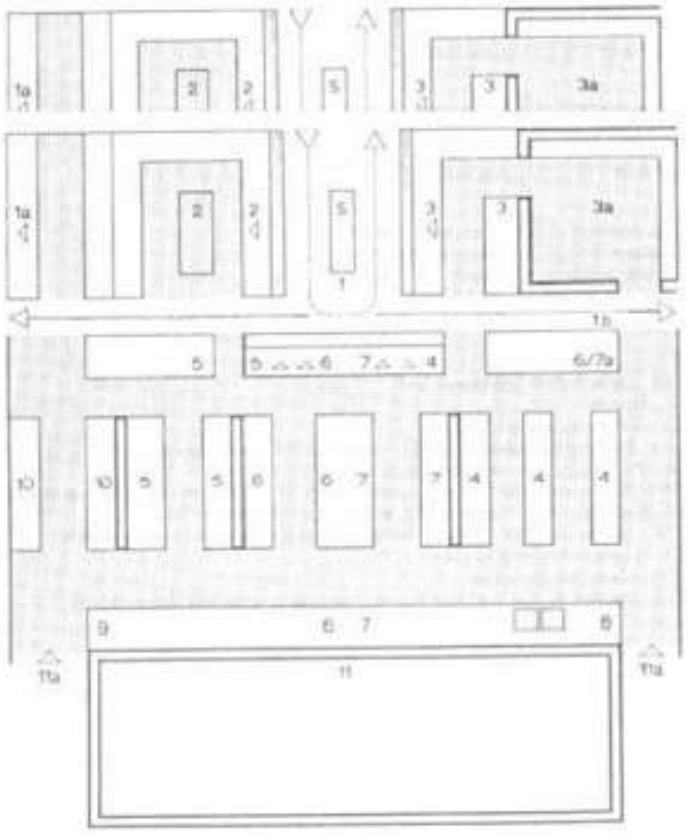


Fig. 11 Large hotel-restaurant kitchen also for large restaurants wit some auxiliary rooms and with outside deliveries or production f other organizations (variant of Figs. 3 and 6). Capacity: 800–100 persons. Waiters' passageway: in the center, with a special servin link to the garden (or, for instance, to a bowling alley) and direct connecting to the auxiliary rooms. Kitchen: Linear arrangement wi rear side of large apparatus.

Legend:

1. Waiters' passageway
1a. Meal and beverage serving to garden
1b. Access to auxiliary rooms
2. Dishwashing area
3. Beverage serving area
3a. Beverage cold storage (day cellar)
4. Pastry
5. Cold kitchen
6. Warm kitchen—saucier / rôtisseur area
7. Warm kitchen—entremétier area
8. Pot and pan washing
9. Vegetable preparation
10. Meat preparation
11. Cold storage and storage rooms
11a. Accesses to delivery, empty goods room, and intermediary sto age, office, personnel cloakrooms and toilets
S Service accessories (cash register)

*Figure 12 KITCHEN DETAILS*

# 4.6 URBAN AND REGIONAL DEVELOPMENT PLANS FORMULATION AND IMPLEMENTATION GUIDELINES (URDPFI):

## 4.6.1 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 | |

Source: NBC, 2005.

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

i. 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.

ii. 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 Chief Fire Officer of the city.

iii. The main entrance to the plot shall be of minimum 6 m width to allow easy access to fire engine.

## 4.6.2 PARKING:

| | | | |
|---|---|---|---|
| 2 | 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.<br>For Population between 10-50 lakh – 1 car parking space for every 3 guest room.<br>For Population more than 50 lakh – 1 car parking space for every 2 guest room[148]. |

## 4.6.3. 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 |

Source: UDPFI Guidelines 1996.

## 4.6.4 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 | |

Note: For streets less than 7.5 m in width, the distance of the building (building line) shall be at least 5m from the centre line of the street.

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.<br>➢ 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.<br>➢ Alternative setbacks for tower like structures<br>o Upto height of 24 m with one setback: Minimum 6m<br>o Between 24 m and 37.5 m with one setback: Minimum 9 m<br>o 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 | |

The open areas provided in the buildings can be used for the following permissible activities:

- Garden, rockery, water well and well structures, plant nursery, water pool, swimming pool (if un covered), platform around a tree, landscaping, tank, fountain, bench, chabutra with open to pandean closed on sides by walls and the like.
- Drainage culvert, conduit, catch pit, gully pit, chamber, gutter, and the like.
- Compound wall, gate, un-storied porch and portico, canopy, slide, swing, uncovered staircase, ramps are as covered by chajja and the like.
- Watchmen's booth, suction tank and pump-house, garbage shaft, sanitary block, parking lockup garages, electric cabin or substations and such other utility structures meant for the services of the building under consider ratio.

## 4.6.5 GROUND COVERAGE & FAR

| Sr. No. | Hierarchy of Commercial Centre | Maximum Ground Coverage (%) | | Maximum FAR | | Maximum Height (m) | | Other Controls |
|---|---|---|---|---|---|---|---|---|
| | | Plains | Hills | Plains | Hills | Plains | Hills | |
| 1. | Cluster Centre Convenience Shopping | 40 | 40 | 60 | 60 | 15 | 6 | |
| 2. | Neighbourhood Centre | 30 | 35 | 100 | 100 | 15 | 9 | |
| 3. | Community Centre | 25 | 30 | 100 | 100 | 26 | 15 | |
| 4. | District Centre | 25 | 25 | 125 | 125 | 37 | 15 | Some of the buildings in Plains could be permitted upto 50 m height with the approval of the Government for achieving an urban form. |
| 5. | Sub city centre | -- | -- | -- | -- | -- | -- | Controls to be as per requirement |
| 6. | City Centre | 25 (MPD, pg 59) | -- | 150 (MPD, pg 59) | -- | -- | -- | Other controls to be as per requirement |
| 7. | Hotel | 40 (MPD, pg 59) | -- | 225 | -- | -- | -- | Other controls to be as per requirement |
| 8. | Service Apartment | 30 | -- | 150 | -- | -- | -- | Other controls to be as per requirement |
| 9. | Any other commercial centre | 25% | -- | 100 | -- | -- | -- | Other controls to be as per requirement |

Source: UDPFI Guidelines 1996, MPD.

## 4.6.6 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 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)<br>a. no of beds exceeding 100<br>b. no. of beds not exceeding 100 | a. 450 (per bed)<br>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 |

Source: CPHEEO Manual, 1999.

## 4.6.7 FIRE FIGHTING

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 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.

## 4.6.8 SOLID WASTE MANAGEMENT

Municipal Solid Waste (MSW) is the trash or garbage that is discarded day to day in a human settlement. According to MSW Rules 2000 MSW includes commercial and residential wastes generated in a municipal or notified areas in either

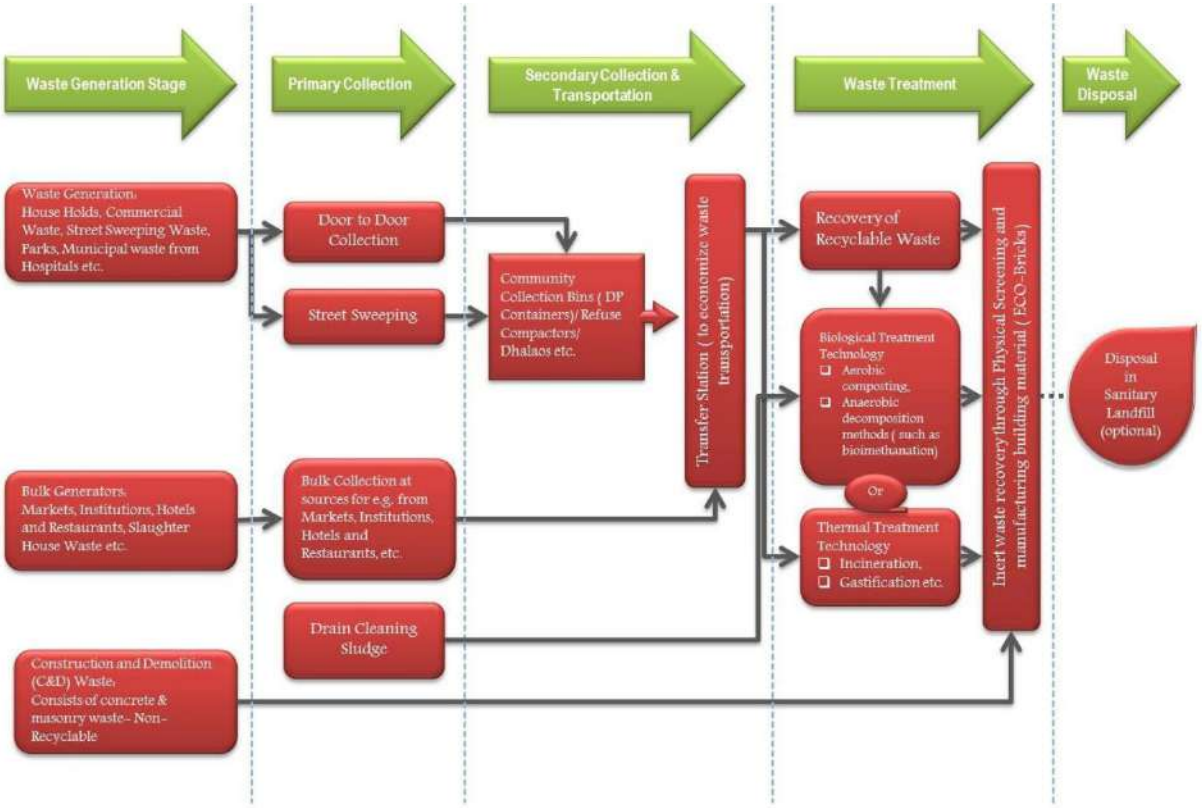
solid or semisolid form excluding industrial hazardous wastes but including treated bio-medical wastes. Waste generation encompasses activities in which materials are identified as no longer being of value (being in the present form) and are either thrown away or gathered together for disposal. The following 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 |

Source: Manual on Solid Waste Management, CPHEEO – 2000

# 4.7 INDIAN STANDARD CODE FOR HOTELS AND RESTAURANTS

## 4.7.1 BUILDING




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

## 4.7.2 FLOORS

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

## 4.7.3 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.

## 4.7.4 CEILING

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

## 4.7.5 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.

## 4.7.6 LIGHTING

**TABLE 1 RECOMMENDED VALUES OF ILLUMINATION**

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

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

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

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

## 4.7.7 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 |

## 4.7.8 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.

**Storage of Water-**

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

## 4.7.9 DRAINAGE

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

## TABLE 5 REQUIREMENTS OF DRAINAGE AND SANITATION FITMENTS IN RESTAURANTS

(*Clause* 14.1.1)

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

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

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

## 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<br>2 for 16-35 persons<br>3 for 36-65 persons<br>4 for 66-100 persons | 1 for 1-12 persons<br>2 for 13-25 persons<br>3 for 26-40 persons<br>4 for 41-57 persons<br>5 for 58-77 persons<br>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<br>1 for 7-20 persons<br>2 for 21-45 persons<br>3 for 46-70 persons<br>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<br>2 for 16-35 persons<br>3 for 36-65 persons<br>4 for 66-100 persons | 1 for 1-12 persons<br>2 for 13-25 persons<br>3 for 26-40 persons<br>4 for 41-57 persons<br>5 for 58-77 persons<br>6 for 78-100 persons |
| v) | Baths | 1 per 10 persons omitting occupants of the room with bath *en suite* | — | — | — | — |
| vi) | Slop sinks | 1 per 30 bedrooms, minimum 1 per floor | — | — | — | — |
| vii) | Kitchen sinks and dish washers | ← 1 in each kitchen → | | | | |

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

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

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

## 4.7.10 KITCHEN

Kitchen shalt 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 of0.5 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 meter. Exhaust fans should have provisions of grease filters for collecting grease.

## 4.7.11 STORAGE AND HANDLING EQUIPMENT

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

## 4.7.12 STORAGE OF FOOD STUFF

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

## 4.7.13 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

## 4.7.14 FIRE SAFETY REQUIREMENTS

- All buildings and particularly buildings having more than one storey shall be provided with liberally demiglace safe-fire-resistant exists or escapes.
- 
- The exits shall be so placed that they are always immediately accessible and each is capable of taking all the persons on that floor as alternative escape routes may be rendered unsuitable and/or unsafe due to fire.
- 
- Escape route shall be well-ventilated as persons using the escapes are likely to be overcome by smoke and/or fumes which may enter from floor.
- 
- Basements- It is essential that the fire resistance of the basement conforms to the highest order and all columns for separating the upper structure shall have grading not less than the standards laid down for Grade 3.
- 

**TABLE 6 STORAGE TEMPERATURES FOR FOODSTUFF**

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

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

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

# 5. Site Inventory

## 5.1 OVERVIEW

The site inventory focuses on analysing the physical, environmental, and contextual characteristics of the proposed site for the 5-star hotel in Bhopal, Madhya Pradesh. The site inventory examines critical aspects such as location, accessibility, topography, climate, and surrounding infrastructure. It includes an evaluation of connectivity to major transportation hubs like airports, railway stations, and highways, as well as proximity to significant landmarks, business centres, and tourist attractions.

## 5.2 INTRODUCTION

Bhopal is in the centre of India and is the capital of Madhya Pradesh. The city is approximately 463 square kilometres big. Bhopal is on the Malwa Plateau and is surrounded by hills. It has two big lakes, the Upper Lake and the Lower Lake, which is why it is called the City of Lakes. Because it is in the middle of India, it is a strategic centre for business, transportation, and government.

### Site Dimensions

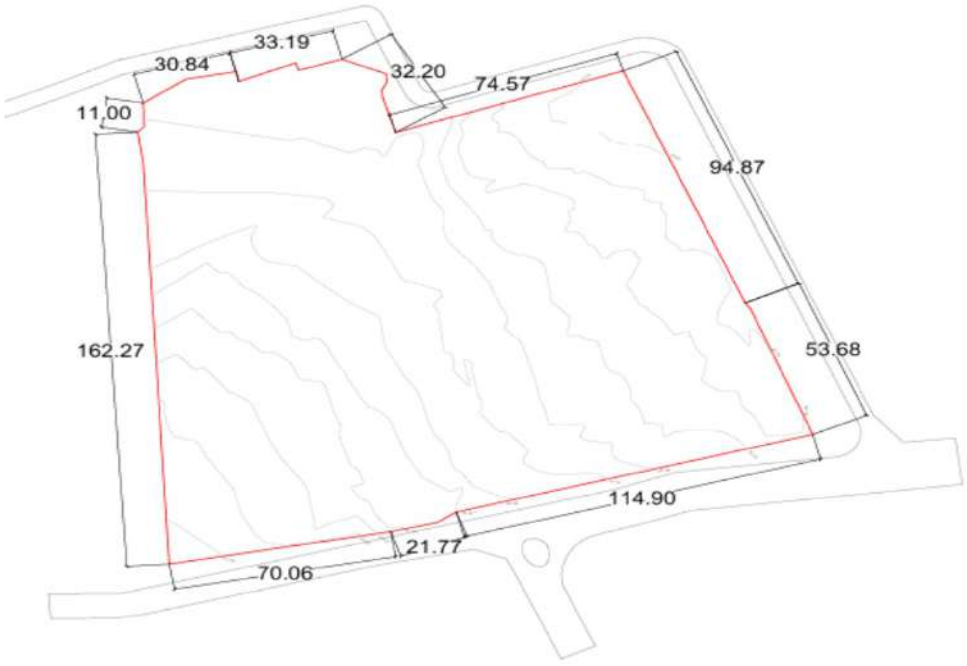



Figure 49 Site contours

# 5.3 CLIMATE ANALYSIS




**Figure 50 temperature chart**

**Peak Summer (Hottest Month)**

-Month: May

-Temperature:

- Max: 42–43°C
- Min: 26–28°C

- Humidity: Low (20–30%)

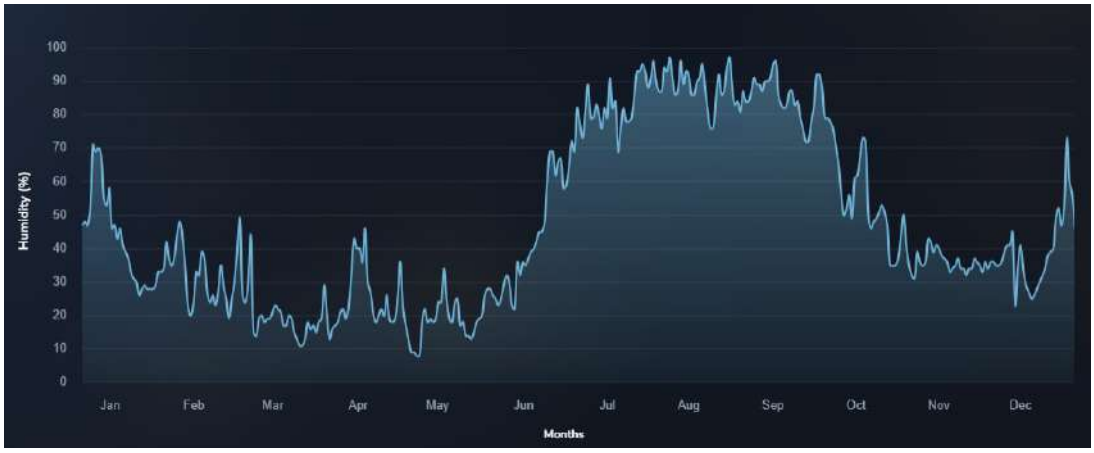
**Peak Winter (Coldest Month)**

-Month: January

-Temperature:

- Min: 6–8°C
- Max: 22–24°C

- Humidity: Low to moderate (~45–55%)  Figure 51 Humidity chart



**Maximum Humidity**

-Month: August (Monsoon Peak)

-Humidity: 85–90% (morning), ~75% (evening)

**Minimum Humidity**

-Month: May (Pre-Monsoon Summer)

-Humidity: 20–30%




Figure 52 Rainfall chart

**Maximum Rainfall**

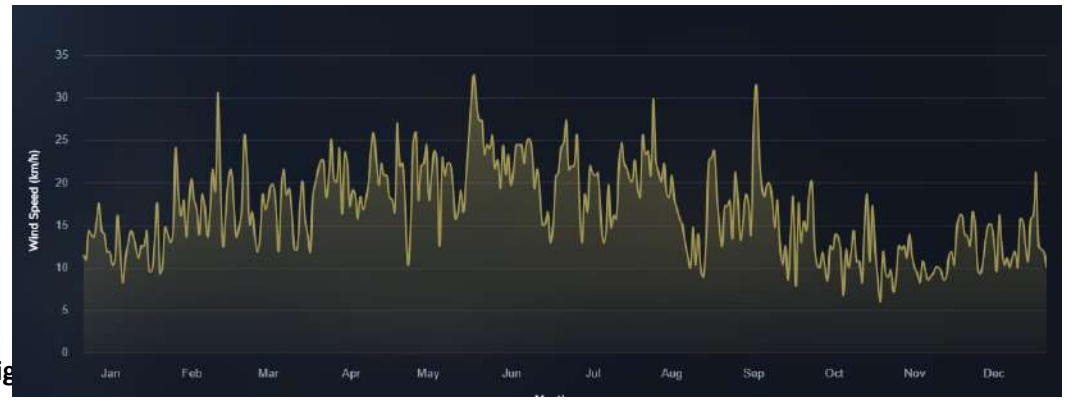
-Month: August
-Rainfall: 350–400 mm (highest monthly average)
-Conditions: Overcast skies, continuous rainfall, saturated ground, high humidity (~85–90%)

**Minimum Rainfall**

-Month: December

-Rainfall: 3–5 mm (lowest rainfall)

-Conditions: Clear skies, dry air, pleasant days




**Fig**

**Maximum Wind Speed**
**-Month**: June (peak pre-monsoon & early monsoon)
**-Average Wind Speed**: 15–20 km/h
**-Wind Direction**: Predominantly South-West (SW)
**Minimum Wind Speed**
**-Month**: November–December
**-Average** Wind Speed: 3–5 km/h
-**Wind Direction**: North-East (NE) or calm conditions

# 5.4 Shyamla Hills Specific Topography

- Located on the south-western edge of Upper Lake (Bhojtal), on elevated ground.
- Terrain: Gently sloping to moderately steep hilly terrain with natural contours.
- Elevation: ~520–540 meters AMSL.
- View: Offers panoramic views of Upper Lake and the city skyline.
- Vegetation: Sparsely wooded with landscaped urban forest patches nearby.
- Geological composition: Hard rock base (Vindhyan sandstone) with lateritic soil overlay in some parts.
- Drainage: Natural slopes aid surface runoff into Upper Lake, requiring careful stormwater management.

# 5.5 Design Implications Based on Topography

- The mild slope enables the use of split-level architecture and basement parking without excessive excavation.
- The north-facing slope allows optimal placement of guest rooms and public areas for unobstructed lake views.
- Terraced landscaping and rainwater harvesting features can be integrated with natural contours.
- Minimal disruption to the site's slope is advisable due to its proximity to the Ramsar-listed Upper Lake (ecological buffer zone of 50 meters).
- Drainage design must prevent erosion or direct runoff into the lake, maintaining a vegetated buffer and bioswale systems.

## 5.5.1 SOIL

Soil Type: Lateritic black soil mixed with clayey and silty loam – typical of the Malwa plateau.
Nature:
- Moderately compact and well-draining at surface
- Strong bearing capacity in deeper layers – favourable for multistorey foundations
- May include weathered basalt and rocky strata at 2–3 m depth

Construction Implications:
- Soil suitable for raft foundations and RCC footings
- Retaining structures may be required along lake-facing slopes
- Soil stabilization needed near existing tree lines and contours

## 5.5.2 DRAINAGE

Natural Drainage Pattern
General Slope: South to North, gently sloping toward Upper Lake
Natural Drainage Flow:• Site allows gravity-based runoff into northern edge
• Low-lying zones near the lake edge may experience minor waterlogging during peak

monsoon

### 5.5.3 Design Implications:

- Stormwater must be captured through swales, drains, and rainwater harvesting pits
- No direct discharge allowed into the lake due to Wetlands Rules 2017
- Buffer landscaping to filter surface runoff naturally Water Supply

Existing Source: Municipal water supply (Bhopal Municipal Corporation) with storage and pumping systems

### 5.5.4 Project Requirements:

- Domestic water demand for 150+ rooms, banquet, F&B, staff and landscape use
- Water treatment, reuse, and storage (as per MP Tourism & NBC norms)

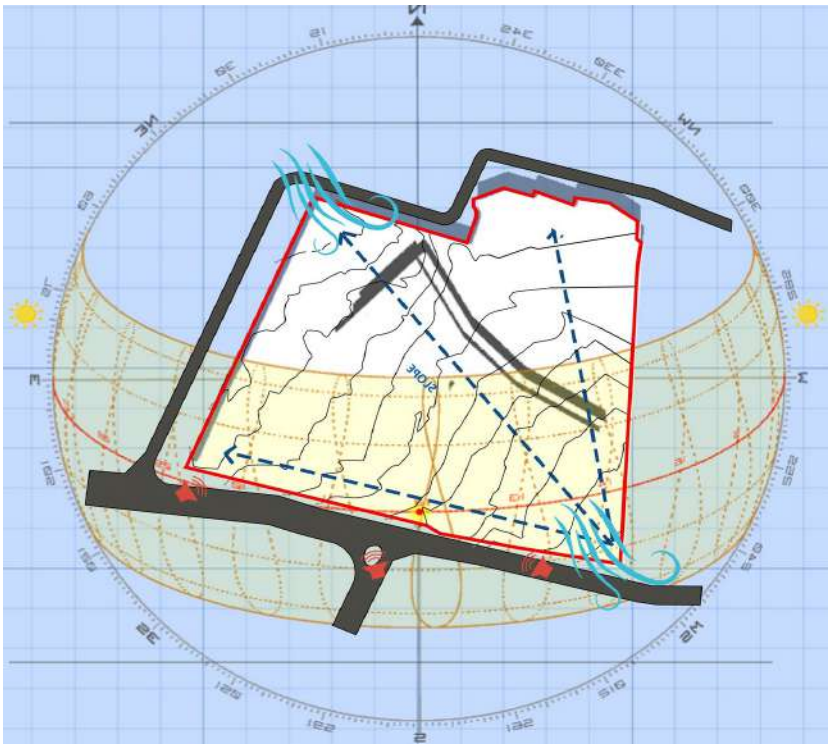
### 5.5.6 Design Provision:

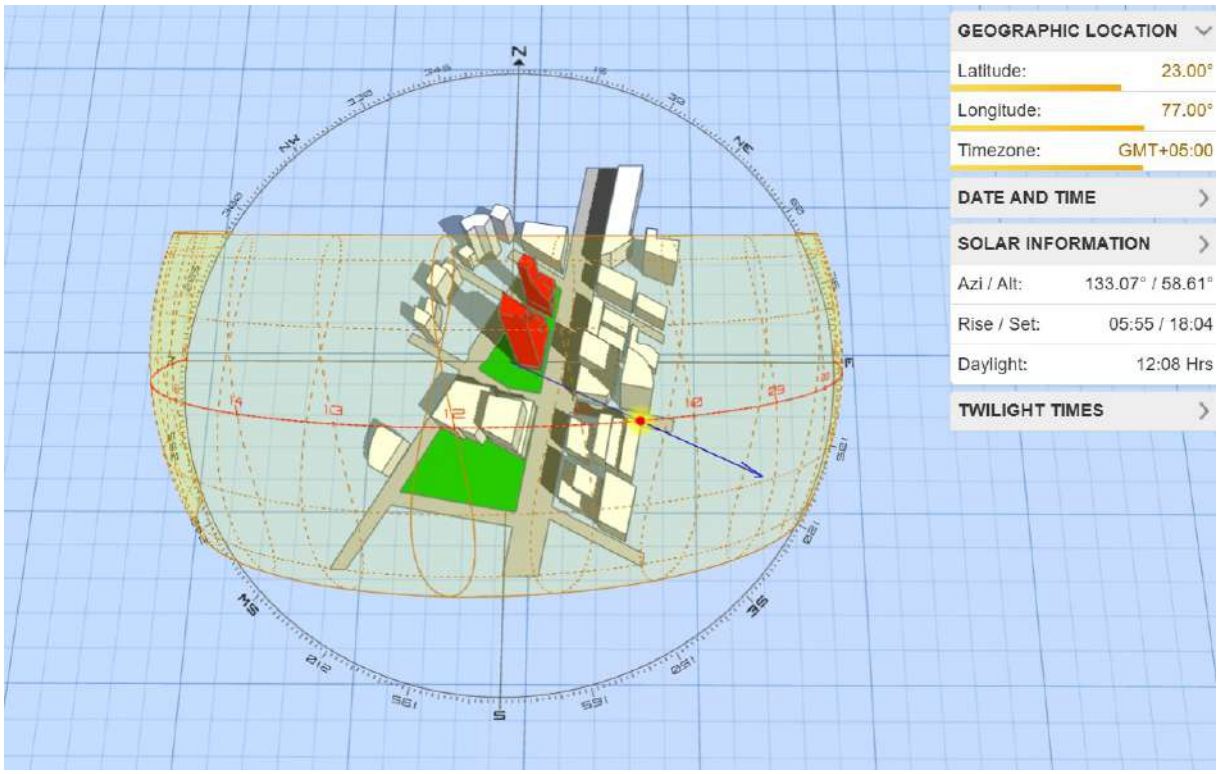
- Dual plumbing system (recycled + fresh water) recommended
- Rainwater harvesting system mandatory
- Fire water storage to be integrated separately as per NBC

### 5.5.7 Surface Water and Environmental Sensitivity

Adjacent Water Body: Upper Lake (Bada Talab) — classified as a Ramsar Site (wetland of international importance) Distance from Lake: The site shares its northern edge with the lake buffer zone
Wetlands Rule 2017 Mandate:

- No construction or permanent structure within 50 meters of the lake edge
- Buffer zone to remain pervious, vegetated, and free of utilities
- Any landscape or softscape in this zone must allow for stormwater percolation Visual and Ecological Significance.
- Lake presence enhances microclimate, reduces temperature, and adds aesthetic value• Any surface runoff must be treated through bioswales or rain gardens before entering buffer




GEOGRAPHIC LOCATION
Latitude: 23.00°
Longitude: 77.00°
Timezone: GMT+05:00
DATE AND TIME
SOLAR INFORMATION
Azi / Alt: 133.07° / 58.61°
Rise / Set: 05:55 / 18:04
Daylight: 12:08 Hrs
TWILIGHT TIMES

## 5.5.8 Vegetation

- Trees (Shade & Aesthetic Value)
- Neem (Azadirachta indica), hardy and drought-resistant
- Gulmohar (Delonix regia), beautiful flowering tree
- Ashoka (Polyalthia longifolia), tall and columnar; great for borders
- Palash (Butea monosperma), has flame-like flowers; local









2. Flowering & Ornamental Plants

Bougainvillea, hardy climber with vibrant color
Hibiscus, tolerates varied conditions and is attractive
Marigold, offers seasonal color and is low maintenance





3. Shrubs & Hedges

- *Duranta, a fast-growing hedge plant*
- *Tecoma, produces bright yellow flowers and grows well*
- *Acalypha, features decorative leaves*





4. Ground Covers

- *Wedelia, a creeping plant with yellow flowers that controls erosion*
- *Carpet grass, low maintenance with a soft cover*
- *Mondo Grass, ideal for areas around walkways*




# Site Visit Photos











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5 STAR HOTEL

# Kila Kothi



Thesis Guide: **Dr. Anuj Jaiswal**

MANSI UIKEY | 211110030 | THESIS 2025

# SITE ANALYSIS

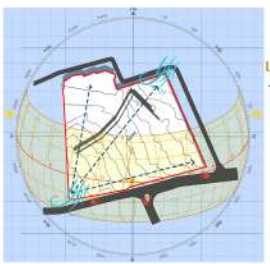
## BHOPAL




DEMOLITION SITE

### INTRODUCTION

The proposed site for the 5-star hotel is located at Shyamala Hills, Bhopal, one of the most prestigious and scenic parts of the city. Overlooking the Upper Lake (Bada Talab), the site enjoys a serene natural lakeview while being closely connected to the urban part of the city.



### LEGENDS

- Slope (SW to NE)
- Wind Direction (SW to NE)
- Noise

### PROJECT DETAILS

- **Location:** Shyamala Hills, Bhopal, Madhya Pradesh, overlooking Bada Talab
- **Latitude & Longitude:** 23.243043872752793, 77.38768911349595
- **Land Area (Site Area):** ~7.16 Acres (28,975 sq. m.)
- **FAR:** 2
- **Ground Coverage:** 30% ( 8692.5 sq. m.)
- **Permissible Height:** 30 meters
- **Built-up Area:** 57,950 sq. m.
- **Existing Built-up Area:** ~87,521 sq. ft. (existing structures to be demolished)
- **Proposed Development:** 5-Star Hotel (minimum 150 rooms), Banquet & Convention facility (1000 pax), restaurants, cultural and tourism facilities.
- **Estimated Project Cost:** INR 150 Crores (Total Project Cost ceiling mentioned)
- **Project Description / Scope:** Demolition of existing 42-room hotel and facilities; development of new 5-star hotel, banquet, theme restaurants, rooftop dining, spa & pool, cultural promotion zones; landscaping and parking development.
- **Land Ownership:** Madhya Pradesh Tourism (via MPHCL)
- Immediate Surroundings:
- North: Bada Talab (Ramsar site)
- South: Jehan Numa Palace Road
- East: Tribal Museum / Government buildings
- West: Hotel Jehan Numa Palace and green buffers
- Environment: The site falls within the ecologically sensitive zone of Upper Lake and is subject to Wetlands Rules, 2017

### VEGETATION



ASHOKA | PALASH | BOUGAINVILLEA | HIBISCUS | DURANTA



NEEM | GULMOHAR | MARIGOLD | TECOMA

### SITE SUMMARY

| SITE SUMMARY – MPT LAKEVIEW RESIDENCY | |
|---|---|
| Site Location | MPT Lakeview Residency |
| Address | Kh(15-17), Shymala Hills, Bhopal, Madhya Pradesh 462013 |
| Land Area (in acres) | Total: Approx. 7.16 Acres |
| FAR* | NA |
| Master Plan Land Use* | Residential |
| Maximum Permissible Height* | 30 Meters |
| Ground Coverage (%)* | 30% |

### SITE PHOTOS



### CURRENT SITE CONDITION



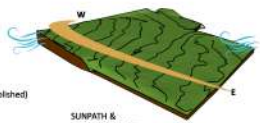


| Sl. No. | Building Description | Built-Up Area (Sq. Ft.) |
|---|---|---|
| 1. | Ashoka Hotel Main Building | 52,784 |
| 2. | Mini Spa | 1,076 |
| 3. | Swimming Pool | 1,290 |
| 4. | Railway Platform Restaurant | 1,420 |
| 5. | Railway Coach Restaurant | 1,248 |
| 6. | Herb & Cafe Restaurant | 760 |
| 7. | Open Area | 250 |
| 8. | Shower | 1,520 |
| | Total | 60,348 Sq.ft. |

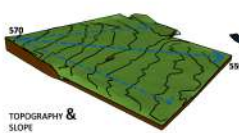
Note: The above data is collected from site and also from approved plans and is considered as the actual as per site visit.

Built-Up Area (Existing)
Approx. 87,521 sq. ft. total existing structures (to be demolished)

### 3D SITE ANALYSIS




SUNPATH & WIND DIRECTION




TOPOGRAPHY & SLOPE

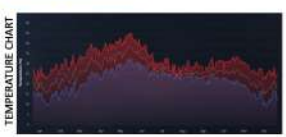



ACCESS ROAD

### PROXIMITY




### CLIMATIC ANALYSIS




Peak Summer (Hottest Month)
Month: May
- Max: 42–43°C
- Min: 26–28°C
- Humidity: Low (20–30%)

Peak Winter (Coldest Month)
Month: January
- Min: 2–3°C
- Max: 22–24°C
- Humidity: Low to moderate (~45–55%)




- Maximum Wind Speed
- Month: June
- Average Wind Speed: 15–20 km/h
- Wind Direction: Predominantly South-West (SW)
- Minimum Wind Speed
- Month: November–December
- Average Wind Speed: 3–5 km/h
- Wind Direction: North-East (NE) or calm conditions

### TOPOGRAPHY

- Soil Type: Lateritic black soil
- Soil suitable for raft foundations and RCC footings
- Natural Drainage Pattern

General Slope: South to North

### SWOT

**S**
- Prime lakefront location with scenic views.
- Good connectivity to airport, railway, and city center.
- Close to heritage landmarks and modern hubs.

**W**
- Traffic congestion near lakefront.
- Eco-sensitive zone restrictions.
- Limited site area, seasonal tourism flow.

**O**
- Demand for luxury hotels, weddings & conventions.
- Scope for eco-tourism, wellness, and cultural themes.
- Smart City initiatives boosting infrastructure.

**T**
- Strict environmental regulations.
- Competition from established 5-star hotels.
- Urbanization affecting lakefront character.

# CASE STUDIES

## 01 TAJ HOTEL, BHOPAL

The Taj Lakefront, Bhopal epitomises true luxury. This iconic establishment embodies the essence of Bhopal and its aspirations for the future. Situated with a view of the upper lake and merely 25 minutes from the international airport, the magnificent structure by the lakefront redefines fine living with its modern interiors, ornate and luxurious finishes.

### THEME & CONCEPT

The design is intuitive to the region and inspired by the bell metal craft of Tikamgarh, the lakes and Zari work of Bhopal, the paisley prints of Bagh, the Durries of Sironj, and the Terracotta art of the state's tribal areas.



VERTICAL ZONING



LOCATION



ROOM TYPES



DELUXE ROOM | EXECUTIVE ROOM | TWIN BEDROOM | PRESIDENTIAL SUITE

FLOOR PLANS



BASEMENT & SERVICES | GROUND FLOOR PLAN | TYPICAL GUESTROOMS PLAN | TERRACE PLAN

## 02 RADISSON BLU. DELHI

Radisson Blu, Paschim Vihar, New Delhi, is a modern luxury hotel set in the heart of West Delhi. Known for its sleek design and refined hospitality, it caters to both business and leisure travelers. The hotel offers well-planned spaces like elegant rooms, banquet halls, restaurants, and wellness areas—designed for comfort, style, and functionality.

### THEME

The hotel has been developed in a contemporary theme: the majestic decor reincarnates the ancient splendor giving it a matchless nerve.
The theme is a revival of the dominant style of the medieval architecture that incarnates richness to the interiors.



LOCATION



CONNECTIVITY



ROOM TYPES



BUSINESS CLASS ROOM | TWIN BEDROOM | PRESIDENTIAL SUITE

FLOOR PLANS



BASEMENT & SERVICES | GROUND FLOOR PLAN | BANQUET HALLS | TYPICAL GUESTROOMS PLAN

## 03 DOUBLE TREE HILTON, AHEMDABAD

Ahmedabad Hotel is glaring example of the rapidly growing design standards in the Indian construction industry. Designed by Indian architects and built by the Indian firms, this hotel is going to be a benchmark for upcoming projects in India.

### FORM EVOLUTION & CONCEPT

Using fold lines as movement trajectories and perception along with programmatic requirements, the project's form demonstrates a sense of elegance with soft, subtle touches. Seamless waves flowing on the landscape and flowing on the façade are the focal point for this full service five star property
The spaces are carved out using the same design principles with which a wave carves out a canyon.



VERTICAL ZONING



FORM



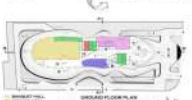
LOCATION



SITE INFO

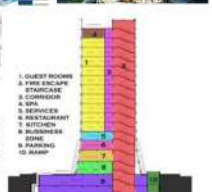


SPATIAL PLANNING





SECTION



## 04 RADISSON HOTEL, BHOPAL

Radisson Hotel Bhopal is a contemporary upscale hotel that brings global hospitality standards to the heart of Madhya Pradesh's capital. Strategically located in one of the city's emerging urban areas, the hotel blends modern architecture with functional elegance, offering a premium experience for both business and leisure travelers.

### THEME & CONCEPT

The building form is clean and geometric, featuring a vertical structure with glazed façades and subtle textures that add elegance. Large windows offer natural lighting and city views, while rooftop and terrace areas provide leisure spaces.



LOCATION



Radisson Hotel Bhopal is situated in the bustling Gulmohar Colony, opposite the Savoy Complex on Gulmohar Main Road, making it centrally located within the city of Bhopal.

ROOM TYPES



SUPERIOR ROOM | EXECUTIVE ROOM





SUITE 1 | SUITE 2

VERTICAL ZONING




INFERENCES

### TAJ HOTEL, BHOPAL

- Strong site response by orienting rooms and public spaces towards the lake views.
- Blend of heritage elements (arches, domes, jaalis) with modern interiors.
- Diverse room typologies from king rooms to presidential suites.
- Large banquet and convention facilities for weddings and events.
- Integration of nature through terraces, courtyards, and open lake-facing decks.

### DOUBLE TREE HILTON, AHEMDABAD

- Contemporary modern style with a focus on hospitality and guest comfort.
- Food and beverage outlets (multiple restaurants, cafés).
- Banquet/convention halls for large corporate and social gatherings.
- Use of warm materials and interior lighting to create a welcoming ambiance.

### RADISSON BLU, DELHI

- Located along a main road with easy metro and airport connectivity.
- Neo-Gothic inspired form with large, spacious rooms and suites.
- Business-oriented facilities: 12th-floor Business Class lounge, conference halls.
- Complimentary amenities like breakfast, fitness, and wellness services.

### RADISSON HOTEL, BHOPAL

- Located in the city center with good proximity to airport, railway, and malls.
- Offers multiple room categories (superior, executive, deluxe, suites).
- Large banquet halls, meeting rooms, and lawns for weddings/conferences.
- Modern façade and interiors with functional planning.

# CONCEPT & INFERENCES

## CONCEPT: WINGS OF HERITAGE

The design of the hotel draws inspiration from Bhopal's rich Nawabi heritage while embracing a modern butterfly form that symbolizes transformation, harmony, and duality. Just as Bhopal itself is a city of contrasts — with its old walled quarters of Mughal palaces and mosques on one side and the planned modern capital on the other — the butterfly's two wings represent this union of history and modernity

## THEME: A BRIDGE PAST AND PRESENT

The theme of the hotel is to celebrate Bhopal's heritage while embracing modern hospitality. Inspired by the city's Nawabi past and its transformation into a vibrant capital, the design blends traditional elements like arches, jaalis, and domes with contemporary forms and luxury comforts. Every space is envisioned as a meeting point of culture and modernity — where guests can experience the warmth of Bhopal's traditions alongside the elegance of global standards.

## HISTORIC ARCHITECTURAL ELEMENT INFERENCES

### TAJ-UL-MASJID




- Strong Mughal architecture influence
- Indo-Islamic style with grandeur in scale.
- Grand triple-arched entrance (pishtaq)
- Series of cusped arches
- Rich floral motifs, arabesque patterns, and calligraphy on walls and arches.
- Use of red sandstone with marble inlay

### MOTI MASJID




- Influenced by Mughal architecture
- Simple proportions, reflecting Nawabi style.
- Constructed with pure white marble
- Red sandstone used in arched gateways & minarets,
- Intricate stone jaalis for ventilation & light

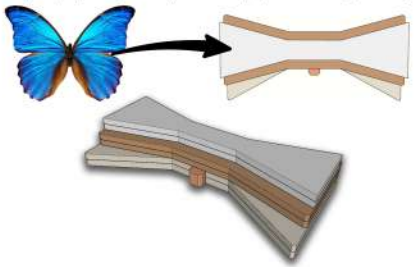
### SHAUKAT MAHAL




- Rare fusion of Indo-Islamic, Gothic, and European Renaissance styles.
- Decorated with floral motifs, stucco work, and delicate carvings.
- Large windows and openings for ventilation
- High ceilings and spacious halls.

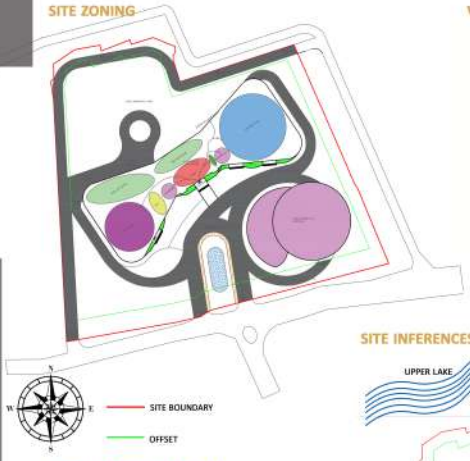
## FORM EVOLUTION

The two wings of the butterfly form can symbolize Old Bhopal (rich in Nawabi heritage, Mughal architecture, bustling bazaars) and New Bhopal (modern planning, wide roads, contemporary culture).The central spine of the butterfly represents the lakes (Upper & Lower) that unite the two halves of the city

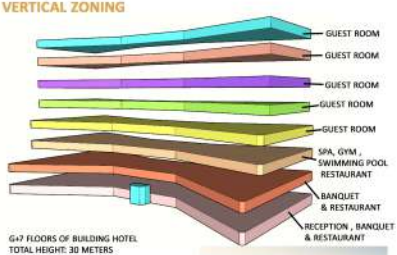


The form is simple, elegant, and symmetric, yet enriched with heritage-inspired details such as arches, jaali screens subtly integrated into the façade.

## SITE ZONING




## VERTICAL ZONING



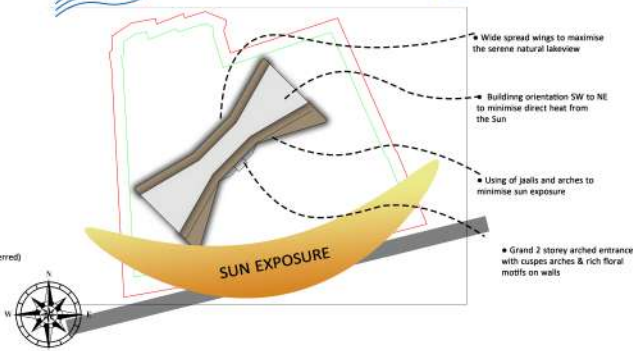

G+7 FLOORS OF BUILDING HOTEL
TOTAL HEIGHT: 30 METERS
3 BASEMENT FOR PARKING



3D VIEW

## SITE INFERENCES




- Wide spread wings to maximise the serene natural lakeview
- Building orientation SW to NE to minimise direct heat from the Sun
- Using of jaalis and arches to minimise sun exposure
- Grand 2 storey arched entrance with cusped arches & rich floral motifs on walls

## DETAILED LIST OF SPACES

**Hotel & Guest Areas**
- Minimum 150 guest rooms (standard, premium, suites)
- Reception and lobby lounge
- Guest lounges and waiting areas
- Business centre and meeting rooms
- VIP/Presidential suites
- Guest service rooms and storage

**Food & Beverage Facilities**
- All-day dining restaurant
- Rooftop restaurant / bar with lake view
- Specialty / theme restaurants (e.g. railway coach-style dining)
- Café and bakery
- Banquet kitchen and F&B prep zones

**Convention & Banquet Facilities**
- Large banquet hall with capacity of 1,000 pax (column-free preferred)
- Pre-function area
- Conference and meeting rooms
- Convention foyer / break-out space
- Washroom and green rooms for events
- Stage/backstage and A/V control rooms

**Retail, Recreation & Cultural Facilities**
- Souvenir and handicrafts shops / kiosks
- Cultural promotion spaces for folk performances
- Amphitheatre or open event lawn
- Drive-in or theme event space
- Art display walls / mini gallery

**Wellness & Leisure**
- Full-service spa and massage rooms
- Gym and fitness centre
- Outdoor swimming pool with deck

**Parking & Service Infrastructure**
- Multi-zone parking (surface and underground)
- Separate parking zones for guests, staff, and events
- Entry and exit gates with security booths
- Service yard and staff entry
- Utility block (transformers, DG sets, STP, WTP)

**Landscape & Outdoor Spaces**
- Landscaped lawns for outdoor dining/events
- Pathways, sitting plazas, fountains

**Back-of-House / Staff Areas**
- Staff locker and restroom facilities
- Kitchen and F&B prep zones (including cold storage)
- Laundry and housekeeping
- Engineering and maintenance rooms

## MATERIALS


Red Sandstone


White Marble


Brick


Glazed Tiles


Wood

## ELEMENTS


Arches


Carvings


Floral Motifs


Pietra Dura Columns


Jaalis




SITE LOCATION: SHYAMALA HILLS , BHOPAL
SITE AREA: 28975 SQ.M (7.16 ACRES)
FAR: 2
PERMISSIBLE HEIGHT: 30 METERS

| CATEGORIES | GROUND COVERAGE | BUILT-UP AREA | PERMISSIBLE | USED |
|---|---|---|---|---|
| HOTE | 5350 | 25866 | 8692 (30%) | 7948 (27.6%) |
| CONVENTION CENTRE | 2598 | 4450 | 57952 | 30316 (52%) |
| ROAD | 6673.8 | | | |
| HARDSCAPE | 2772.4 | | | |
| SOFTSCAPE | 9832.5 | | | |

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| PRINTS ISSUED TO | NO. OF PRINTS | DATE |
|---|---|---|
| | | |

REVISION:

| NO. | DETAILS: | DATE: | CHECKED: |
|---|---|---|---|
| | | | |

PROJECT
5 STAR HOTEL CONSTRUCTION

CLIENT

DRAWING:
5 STAR HOTEL SITE PLAN

NORTH:

N

SCALE
1:500

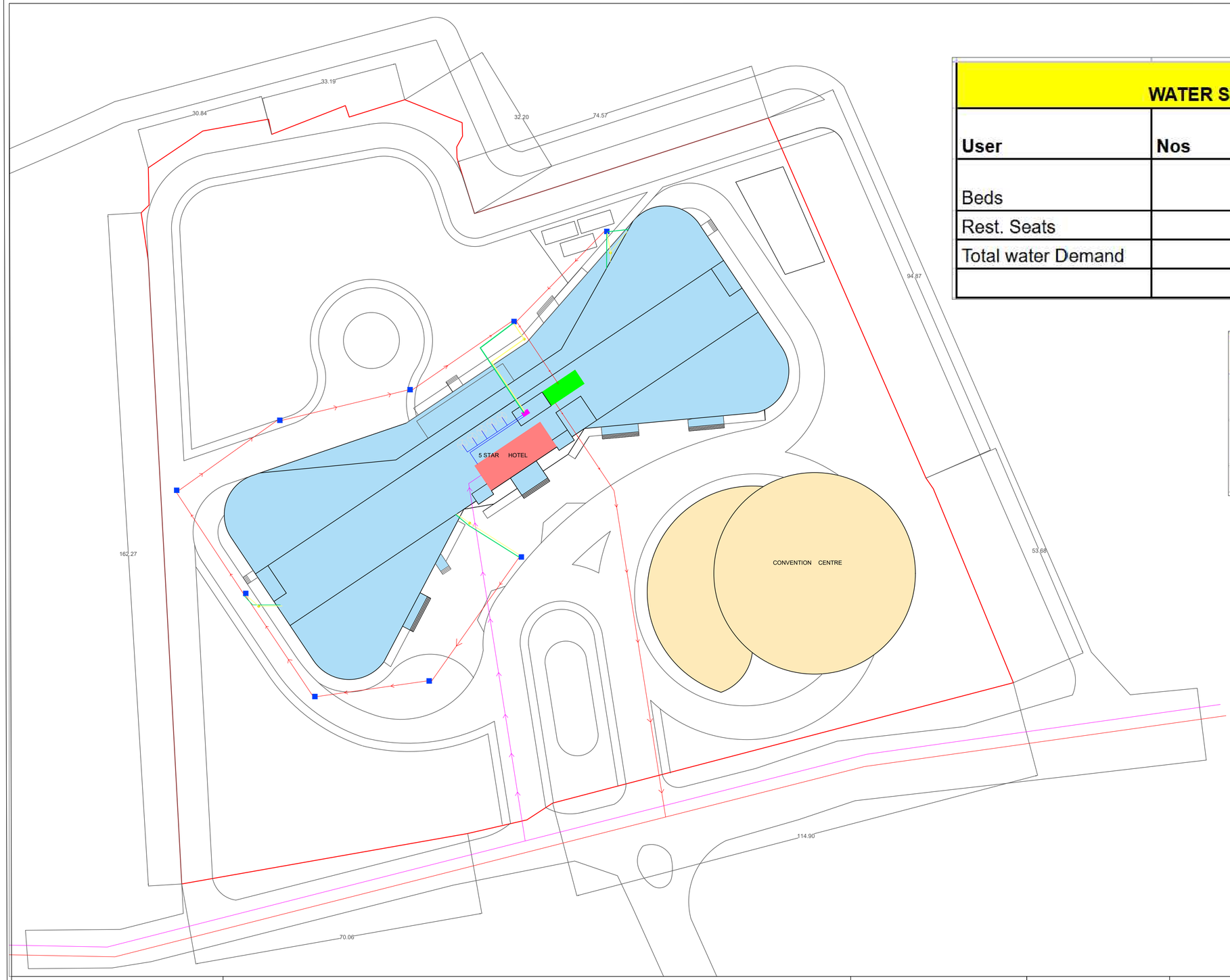
PURPOSE
FOR CONSTRUCTION

DEALT BY:
MANSI UKEY
211110020

CHECKED BY:
ASST. PROF. ANUJ JAISWAL

REVISIONS:

DRAWING NO




| WATER SUPPLY AND SANITATION | | | |
|---|---|---|---|
| **User** | **Nos** | **Water requirement (L per day)** | **Total Requirement (in Litres)** |
| Beds | 150 | 275 | 41250 |
| Rest. Seats | 1500 | 97 | 145500 |
| Total water Demand | | | 186750 |
| | | | 186.7 Cum |

| STP | | |
|---|---|---|
| Total water demand | 186750 | |
| 90% of 186750 | 16807.5 | |
| KLD | 168.07 | |

LEGENDS

- OVERHEAD TANK
- PLUMBING SHAFT
- WASTE PIPE (150 DIA)
- SOIL PIPE (150 DIA)
- MUNICIPAL WATER CONNECTION (600 DIA)
- PUMP ROOM & UG TANK
- SEWAGE PIPE LAYOUT
- SEPTIC TANK
- GULLY TRAP
- WATER SUPPLY PIPE
- MANHOLES 30M C/C

KEY PLAN:- SCALE-1:1000

SHCEDULES

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| GUIDED BY | PROF. ANUJ JAISWAL |
| PROJ. CODE. | |
| DRG.NO. | AR-01 |
| SCALE | 1:500 |

PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : SITE SERVICES- PLUMBING & DRAINAGE

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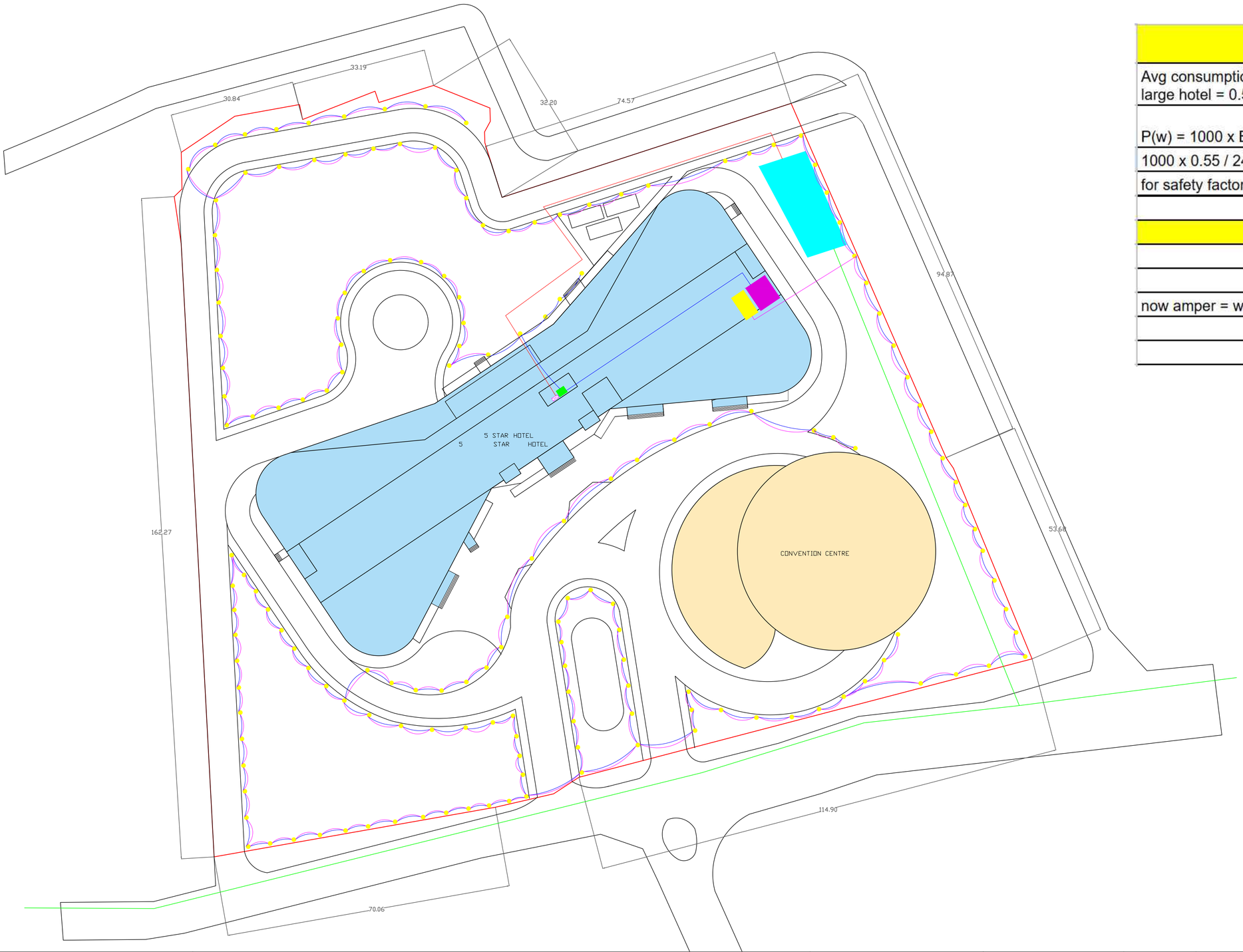


| ELECTRIC LOAD CALCULATION | |
|---|---|
| Avg consumption of electricity of a large hotel = 0.55 kWh/m^2 per day | Main line, Step down 11kv to 433v |
| P(w) = 1000 x E(kWh) / t(hr) | Considering time to be 24 hours every day |
| 1000 x 0.55 / 24 = 22.92 w/m2 | |
| for safety factor we take 25w/m2 | |
| | |
| **Total Consumption inn watts** | |
| 43700 | 1092500 |
| 25 | |
| now amper = watt / volts | 1092500/433 |
| | 2523 |
| **Provide 1 x 2000 kva transformer** | |

| CALCULATION FOR EMERGENCY | |
|---|---|
| Total consumption | 1092500 |
| Provide 80% of the building for consumption, 80% of 1092500 | 874000 |
| | |
| Now 1000w = 1 kva | |
| 874000 w = | 874 kva |
| | |
| Provide 900 kva Diesel Generator | |

LEGENDS

- TRANSFORMER
- DG ROOM
- MAIN 11 KV SUPPLY LINE
- CONNECTION LINE FROM LT PANELS
- EMERGENCY CONNECTION LINE
- ELECTRIC SHAFT
- STEP DOWN LINE 420KV
- LT PANEL ROOM
- STREET LIGHT

KEY PLAN:- SCALE-1:1500

SHCEDULES

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PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : SITE SERVICES- ELECTRIC

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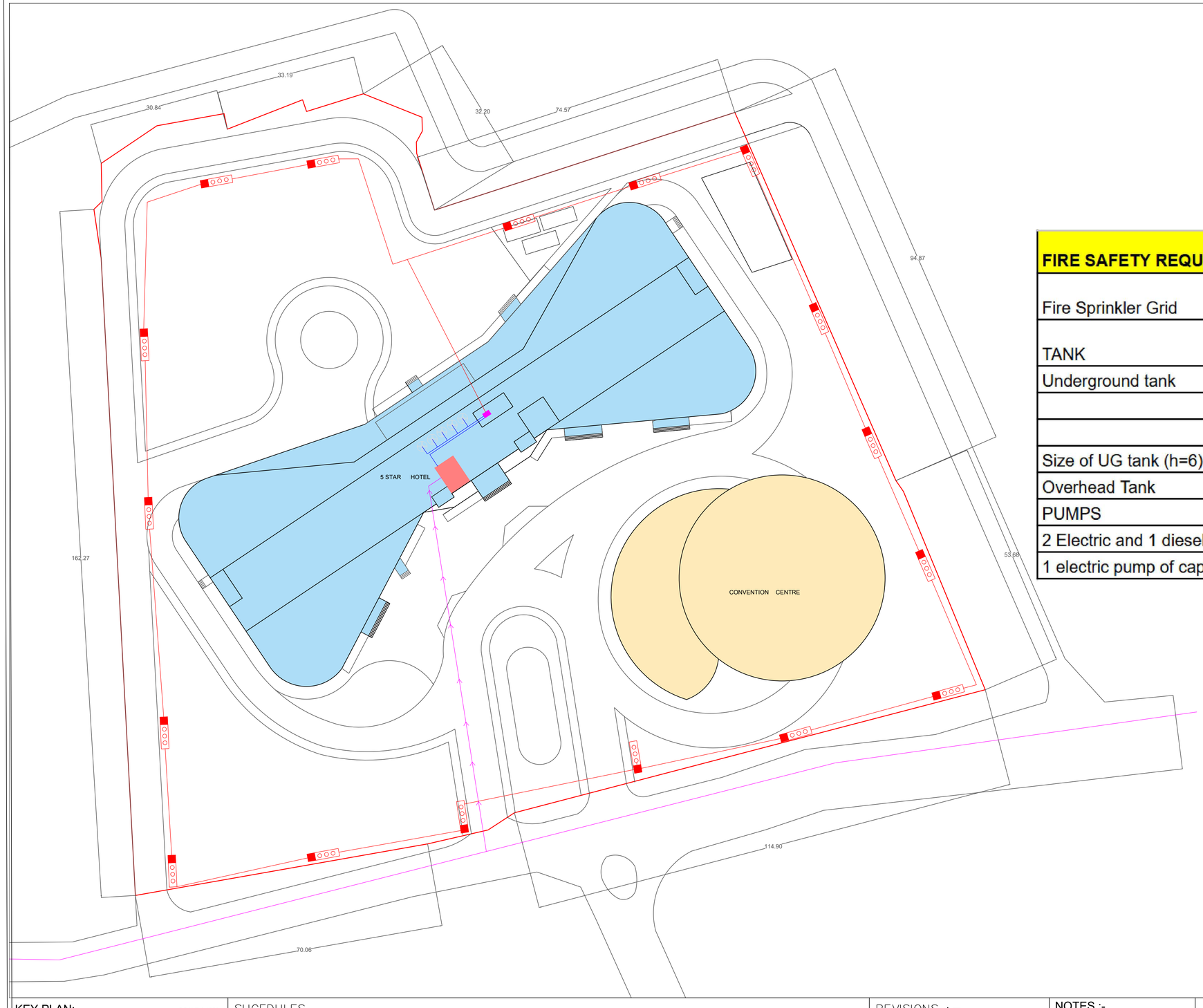


| FIRE SAFETY REQUIREMNETS FOR HOTEL (From table 23 of NBC Vol 2 Part 4) | |
|---|---|
| Fire Sprinkler Grid | 3 x 3 to 4 x 4 m |
| TANK | Capacity |
| Underground tank | 96000 L |
| | 96 Cu.m |
| | |
| Size of UG tank (h=6) | 5.2 x 3.1 x 6 |
| Overhead Tank | 20000 L |
| PUMPS | |
| 2 Electric and 1 diesel pump of capacity 850L/min | |
| 1 electric pump of capacity 180 L/min | |

LEGENDS

- WATER SUPPLY PIPE (DIA 300)
- FIRE HYDRANT 30M C/C
- SAND BUCKET
- FIRE SHAFT & PUMP
- SUPPLY TO THE BUILDING
- MUNICIPAL WATER CONNECTION (600 DIA)
- OVERHEAD TANK

KEY PLAN:- SCALE-1:1000

SHCEDULES

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PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : SITE SERVICES- FIRE FIGHTING

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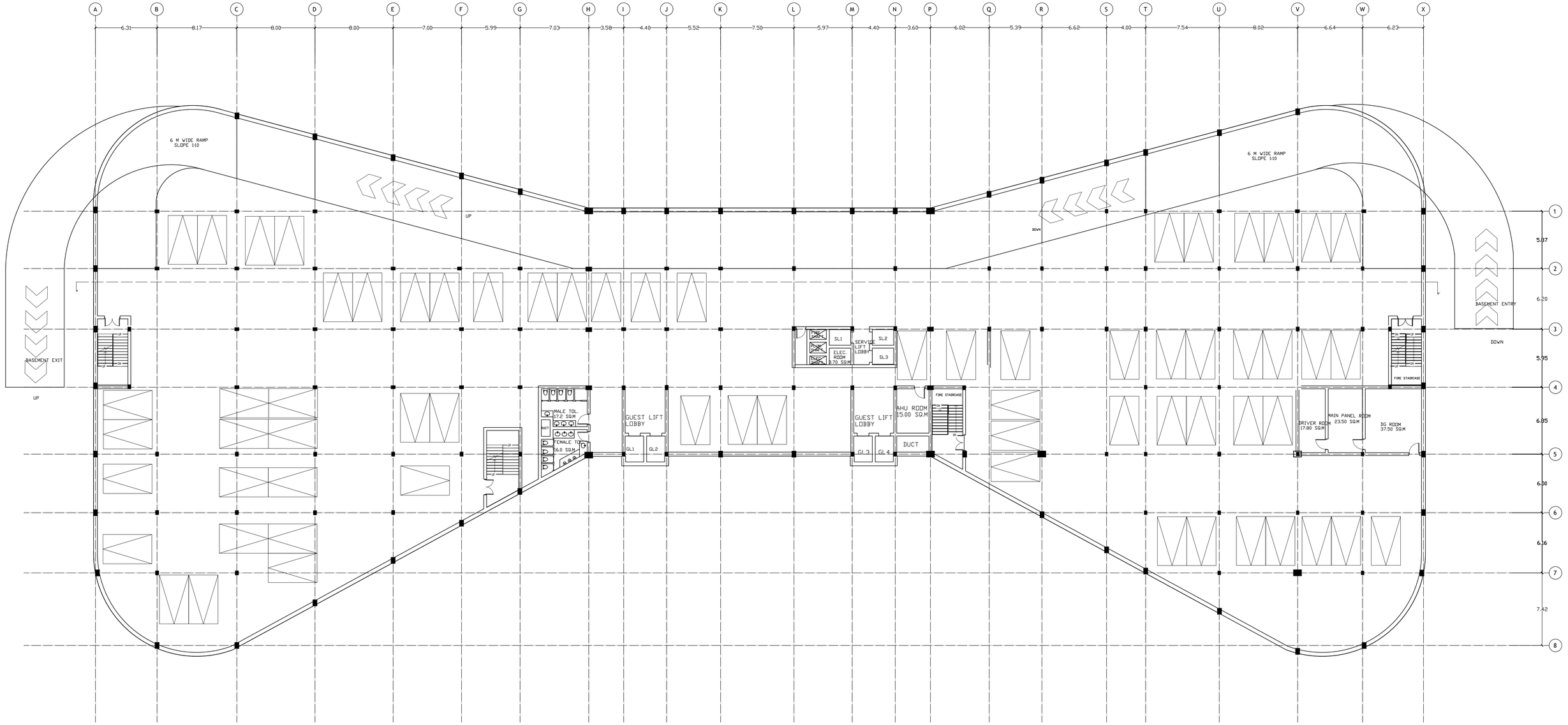


BASEMENT 1

KEY PLAN:- SCALE-1:1500

SHCEDULES

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| DRG.NO. | AR-01 |
| SCALE | 1:200 |

PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : FLOOR PLANS- BASEMENT

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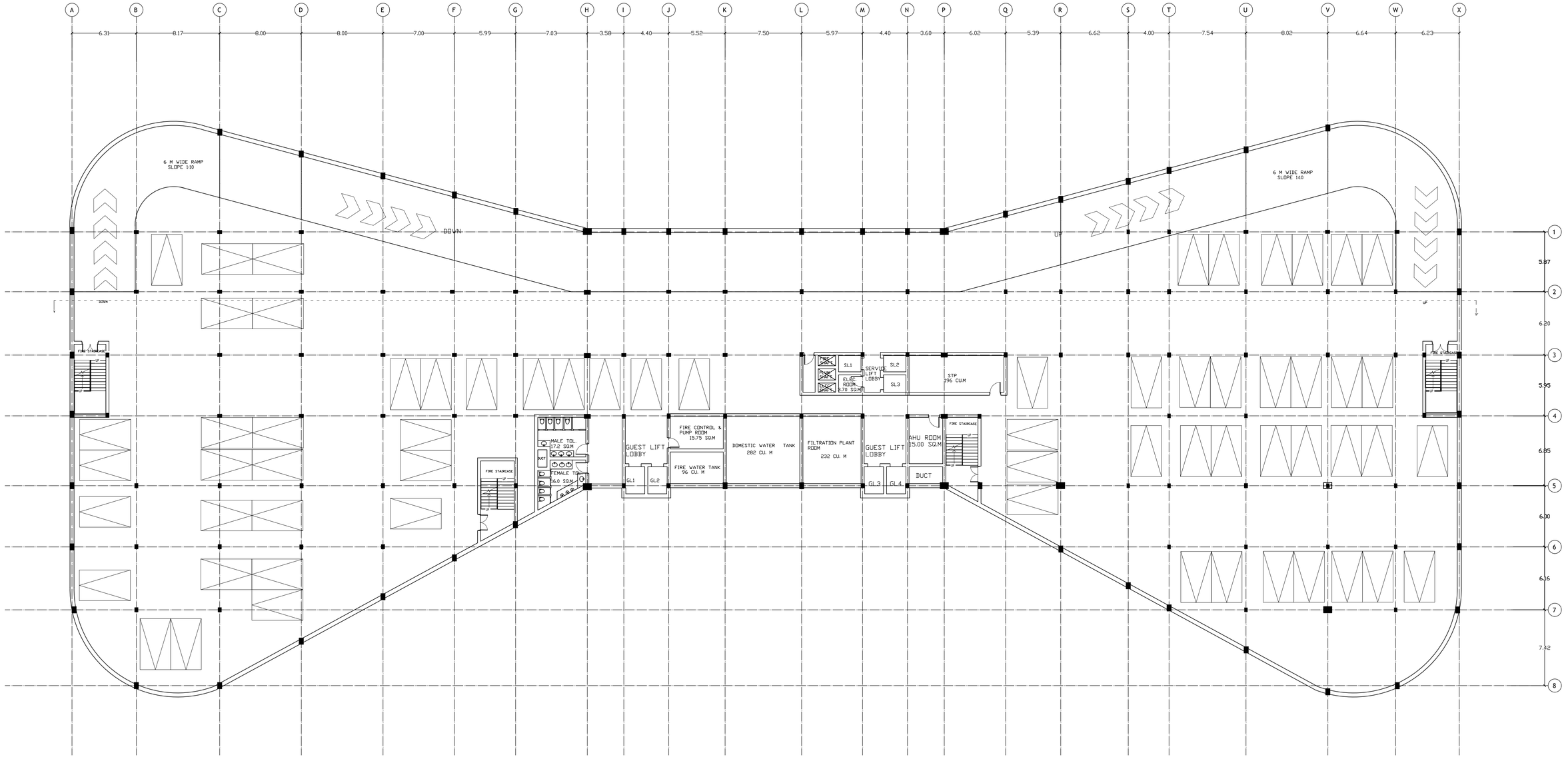


BASEMENT 2 & 3

KEY PLAN:- SCALE-1:1500

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PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : FLOOR PLANS- BASEMENT

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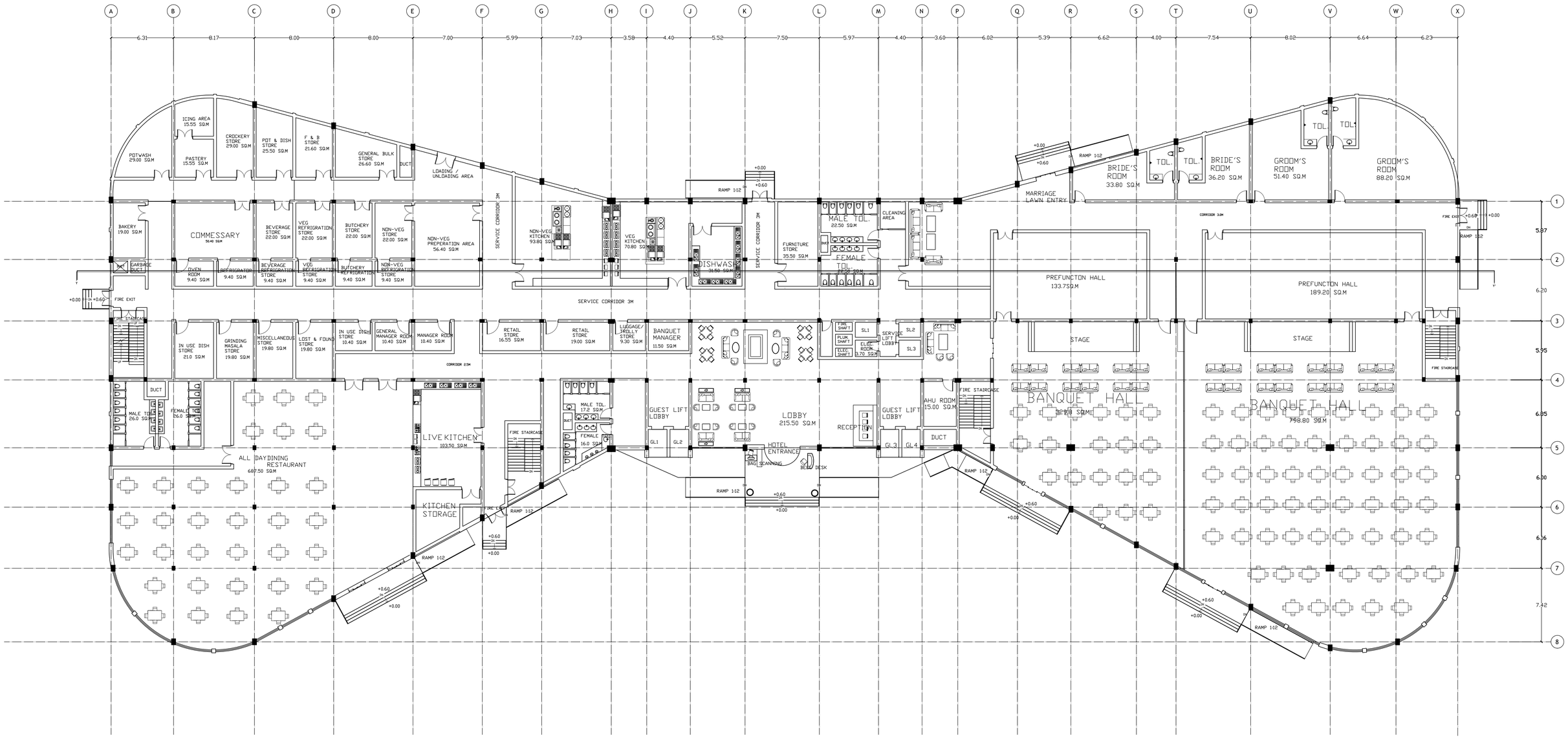


GROUND FLOOR PLAN

KEY PLAN:- SCALE-1:1500

SHCEDULES

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PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : FLOOR PLANS

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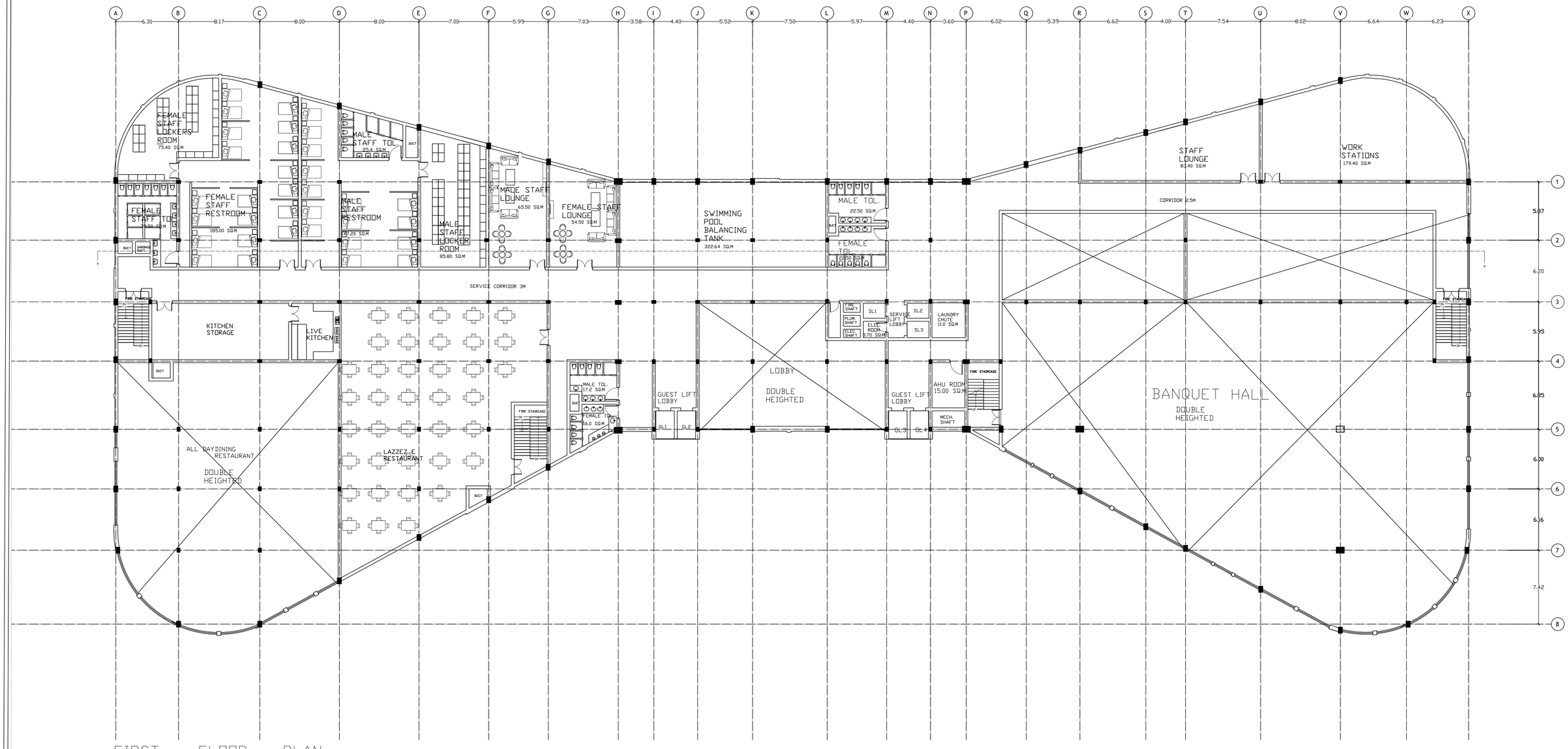


FIRST FLOOR PLAN

KEY PLAN:- SCALE-1:1500

SHCEDULES

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PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : FLOOR PLANS

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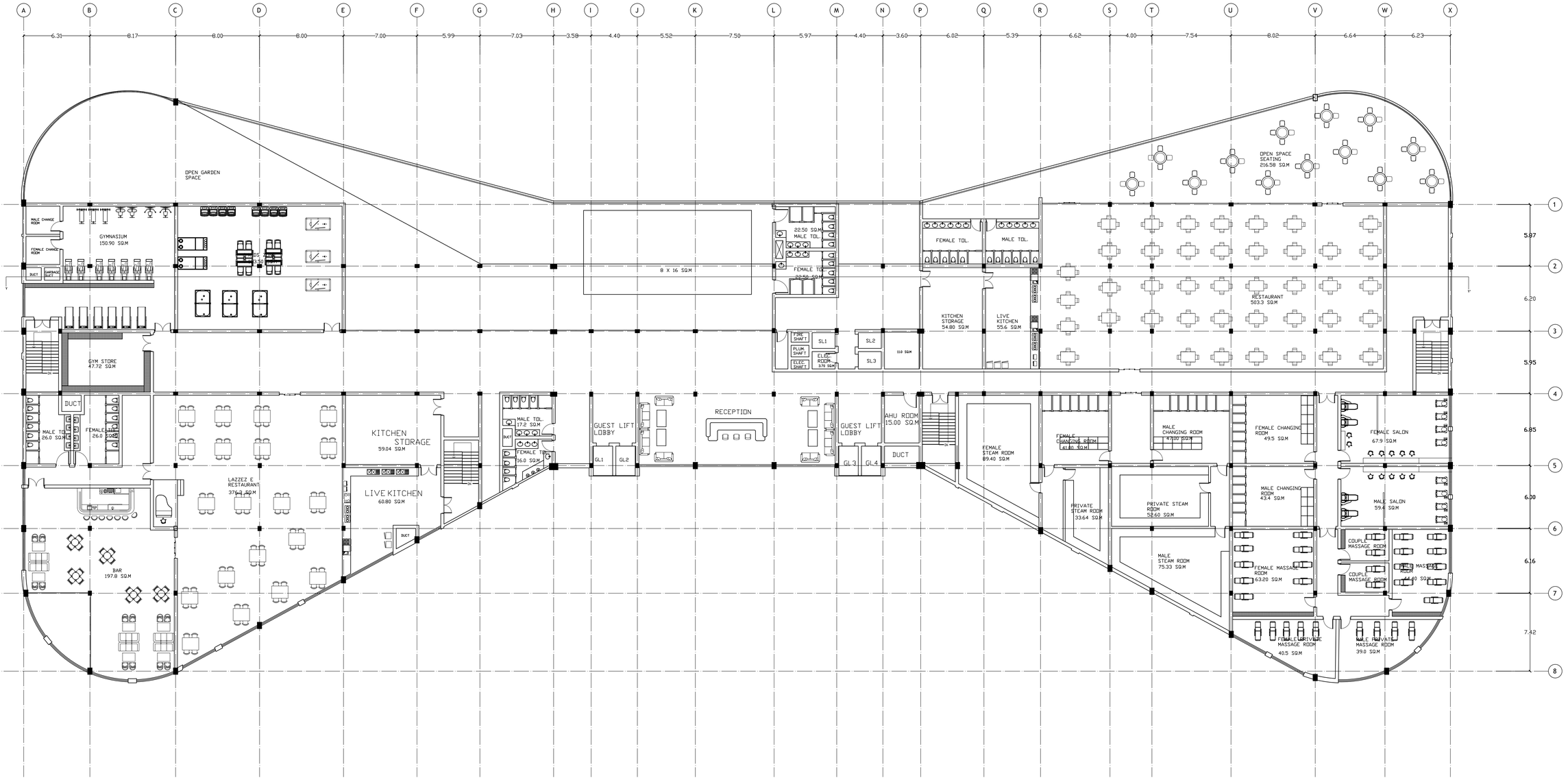


SECOND FLOOR PLAN

KEY PLAN:- SCALE-1:1500

SHCEDULES

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| GUIDED BY | PROF. ANUJ JAISWAL |
| PROJ. CODE. | |
| DRG.NO. | AR-01 |
| SCALE | 1:200 |

PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : FLOOR PLANS

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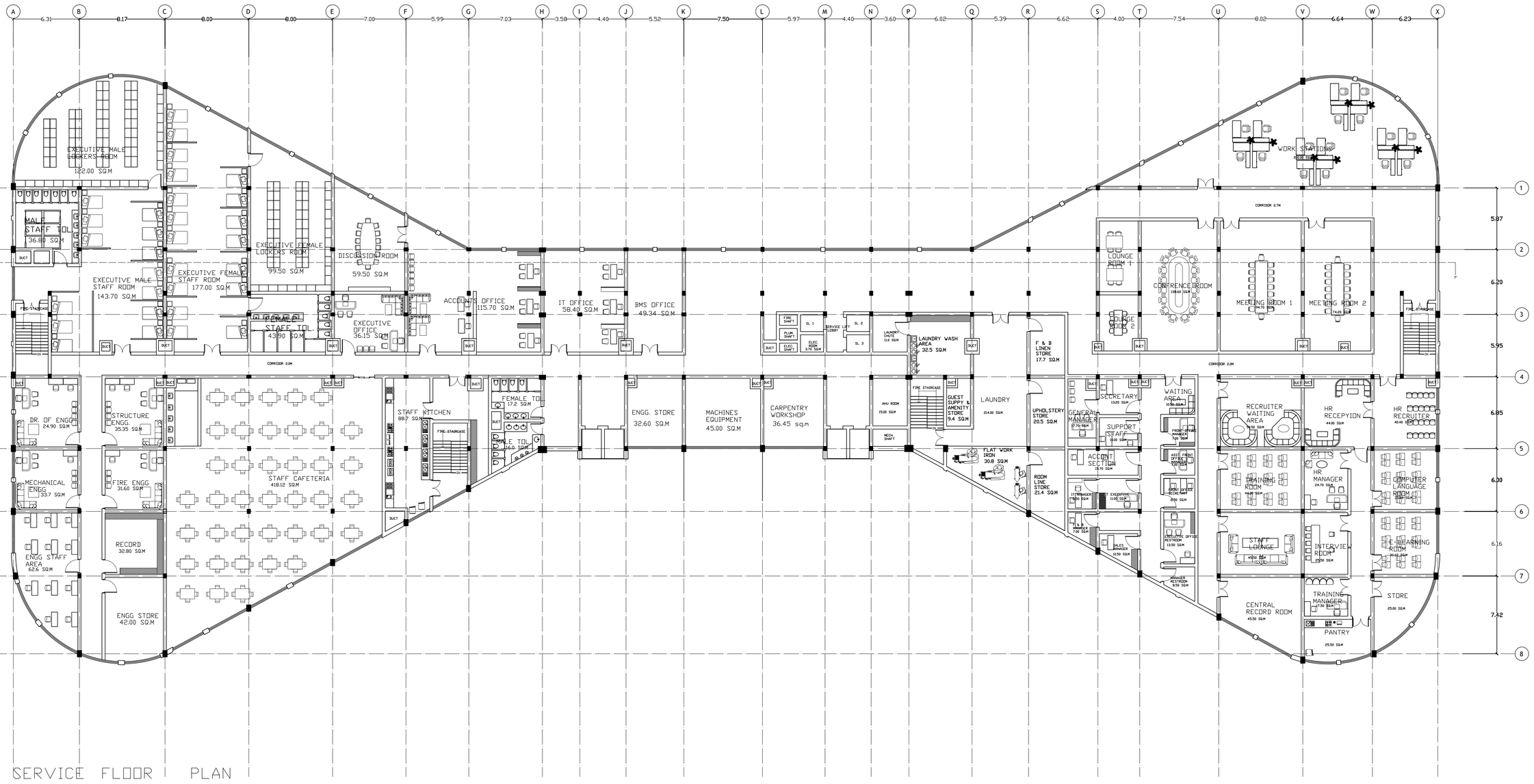


SERVICE FLOOR PLAN

KEY PLAN:- SCALE-1:1500

SHCEDULES

REVISIONS :–

| Rev. | Date | Description | Appr'd |
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PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : FLOOR PLANS

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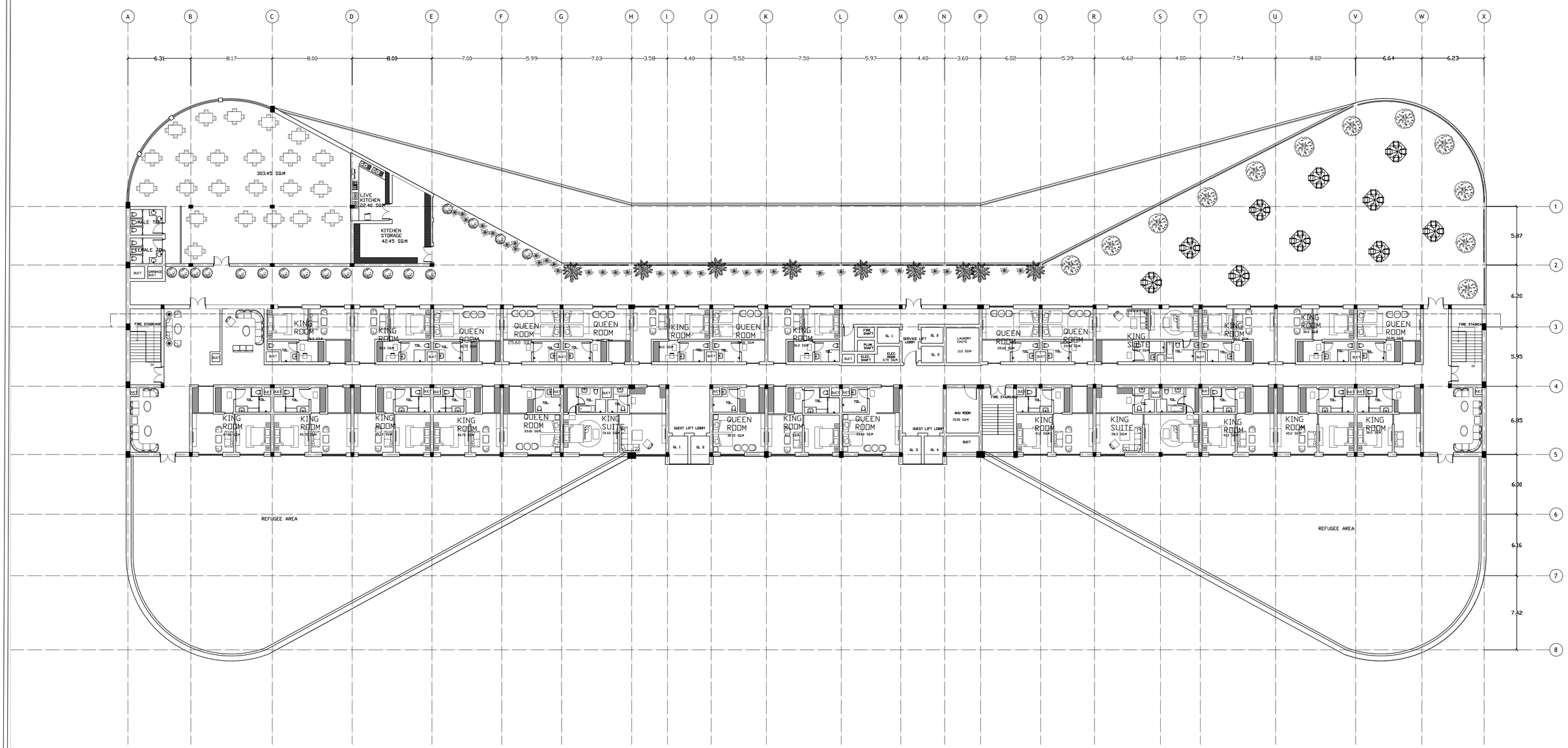


THIRD FLOOR PLAN

KEY PLAN:- SCALE-1:1500

SHCEDULES

REVISIONS :–

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PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : FLOOR PLANS

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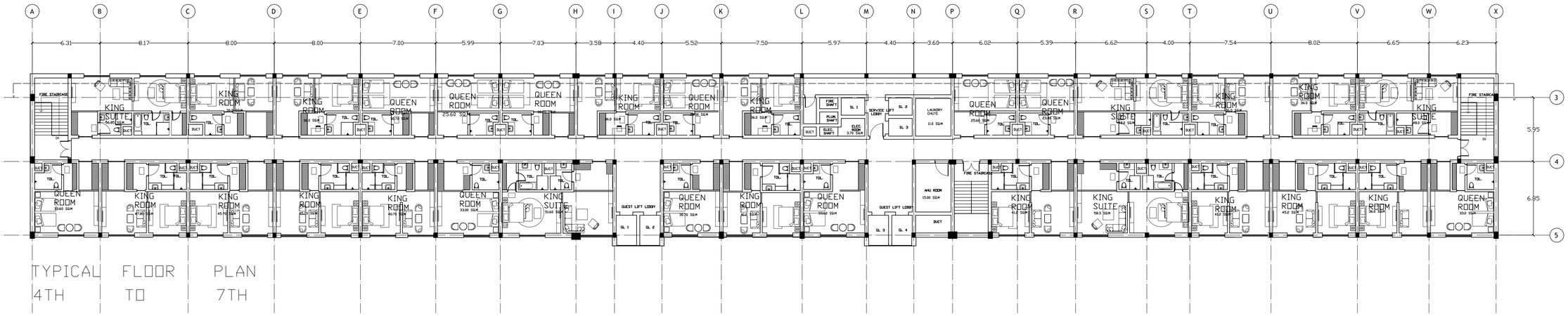
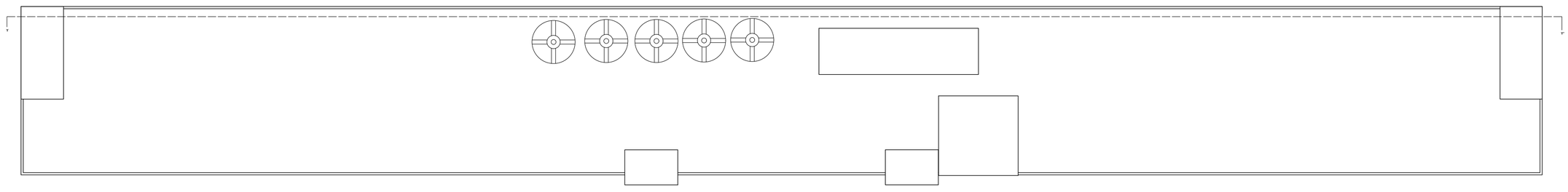



TYPICAL FLOOR PLAN
4TH TO 7TH



TERRACE FLOOR PLAN

KEY PLAN:- SCALE-1:1500

SHCEDULES

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PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : FLOOR PLANS

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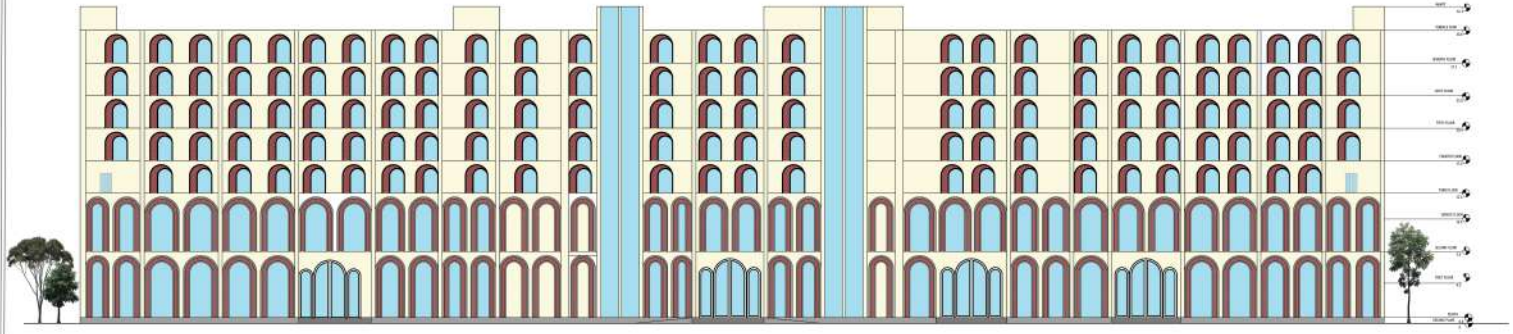
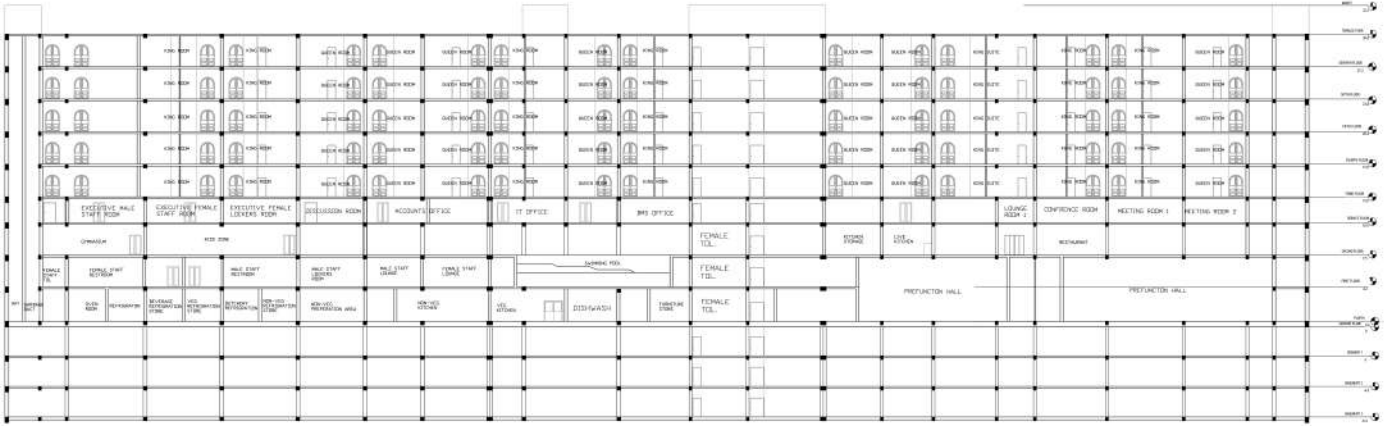
FRONT ELEVATION






SECTION YY'

KEY PLAN:- SCALE-1:1500



SHCEDULES

REVISIONS :-

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| SCALE | 1:200 |

PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : SECTION & ELEVATION

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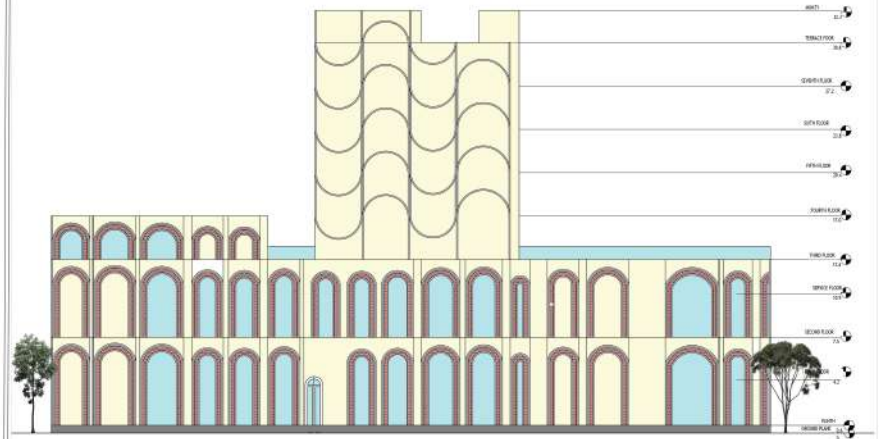

SOUTH ELEVATION




SECTION XX'

KEY PLAN:-

SCALE-1:1500

SHCEDULES

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| PROJ. CODE | |
| DRG.NO. | AR-01 |
| SCALE | 1:150 |

PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : SECTION & ELEVATION

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KING SUITE

## PRESENTATION PLAN
SCALE - 1:50



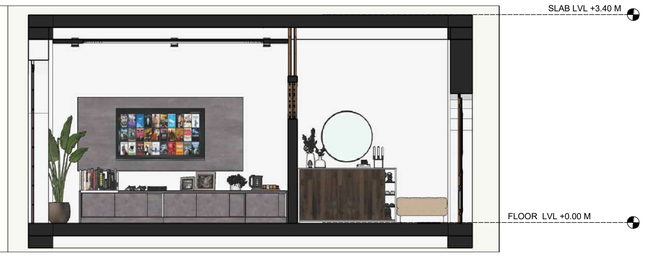

## SOUTH ELEVATION
SCALE - 1:50




## NORTH ELEVATION
SCALE - 1:50

MOODBOARD



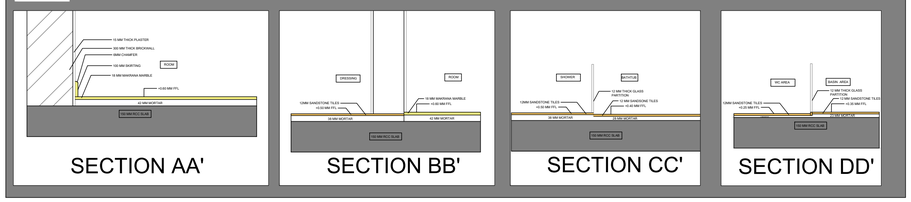



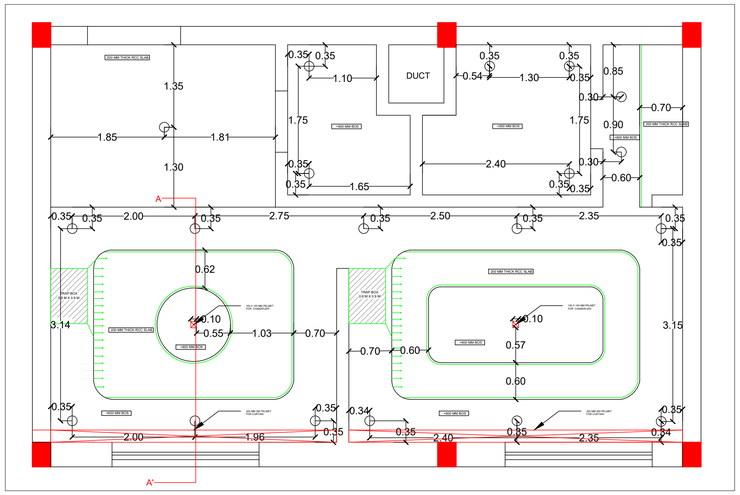

## WEST ELEVATION
SCALE - 1:50



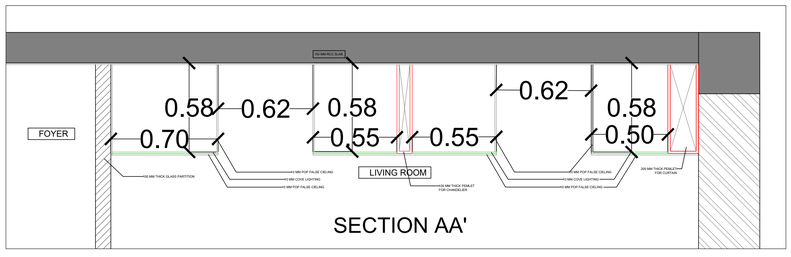

## EAST ELEVATION
SCALE - 1:50

## FLOORING SCTIONS
SCALE - 1:20




## FALSE CIELING PLAN
SCALE - 1:50




## FALSE CIELING SECTION
SCALE - 1:20

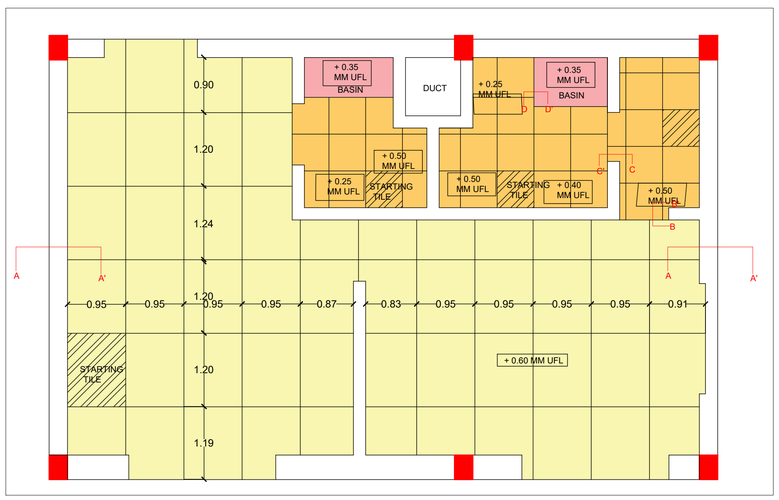
**LEGENDS**

- COVE LIGHTING
- 200 X 200 MM WD PELMET FOR CURTAIN
- 100 X 100 MM PELMET FOR CHANDELIER
- CIELING LIGHT
- AIR MOVEMENT DIRECTION FROM AHU
- TRAP DOOR 600 X 900 MM

RENDERS








## FLOORING PLAN
SCALE - 1:50

**LEGENDS**

- 1200 X 950 MM MAKRANA MARBLES
- 600 X 600 MM ANTI SKID TILES
- 300 X 400 MM COLUMN
- STARTING TILE
- BASIN AREA

KEY PLAN:- SCALE-1:1000

SHCEDULES -

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PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : ELECTIVE: INTERIOR

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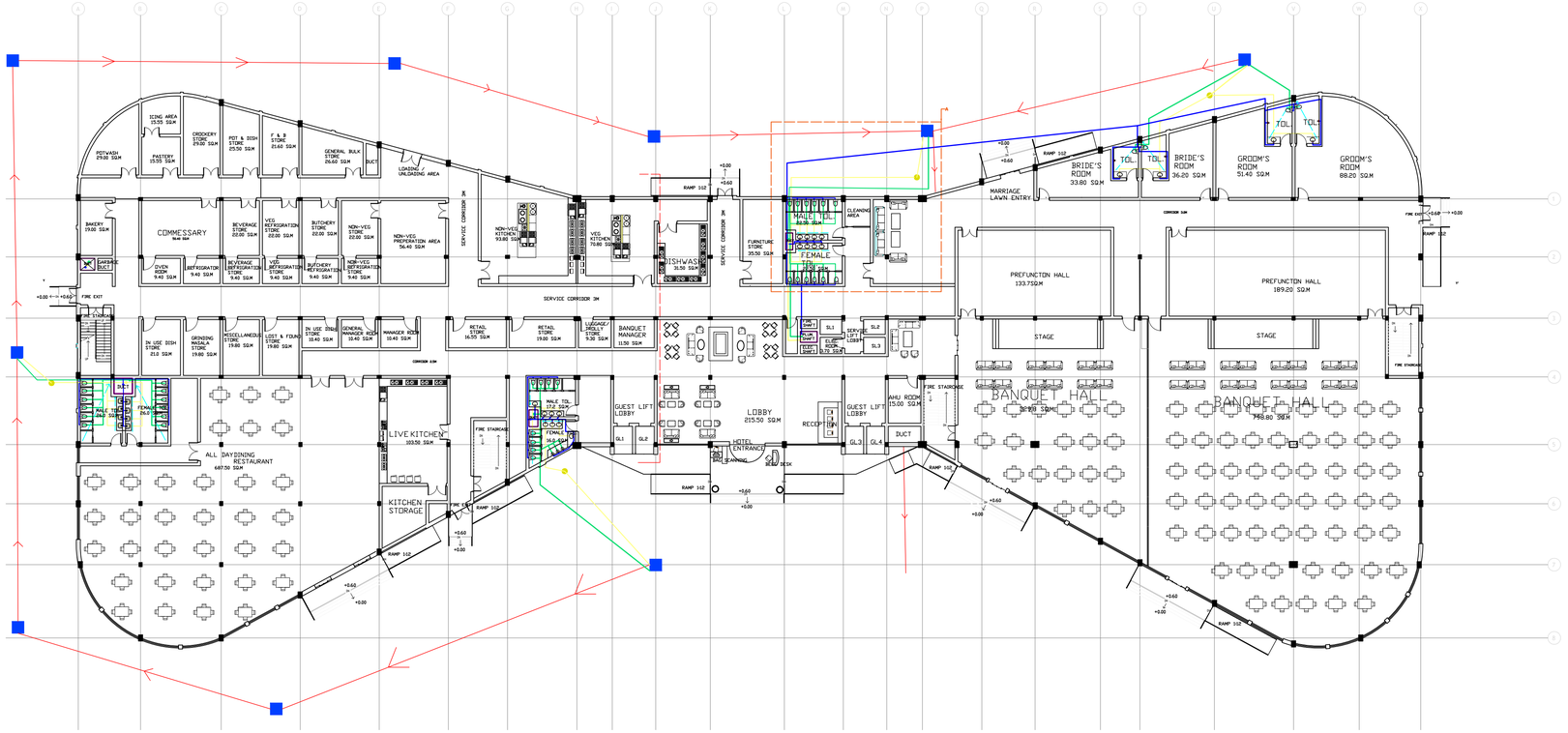
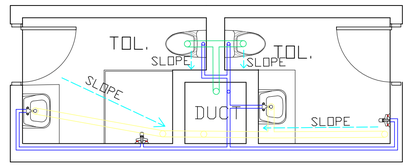
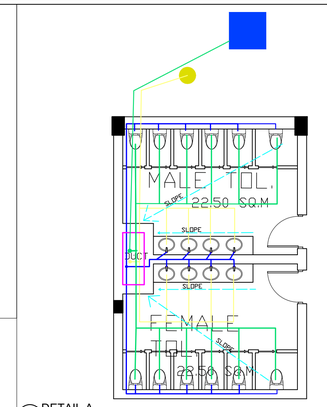


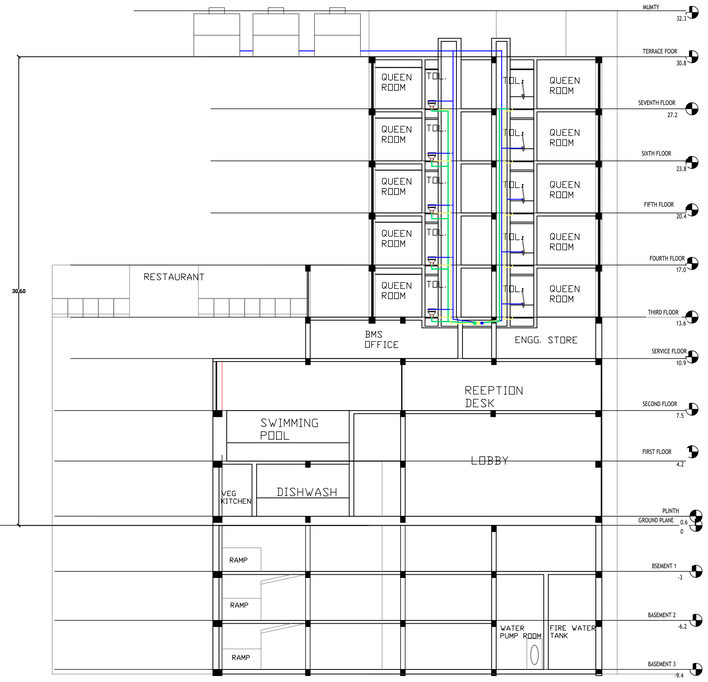

GROUND FLOOR PLAN
SCALE- 1:300




HOTEL GUEST ROOM TOILET LAYOUT
SCALE- 1:50

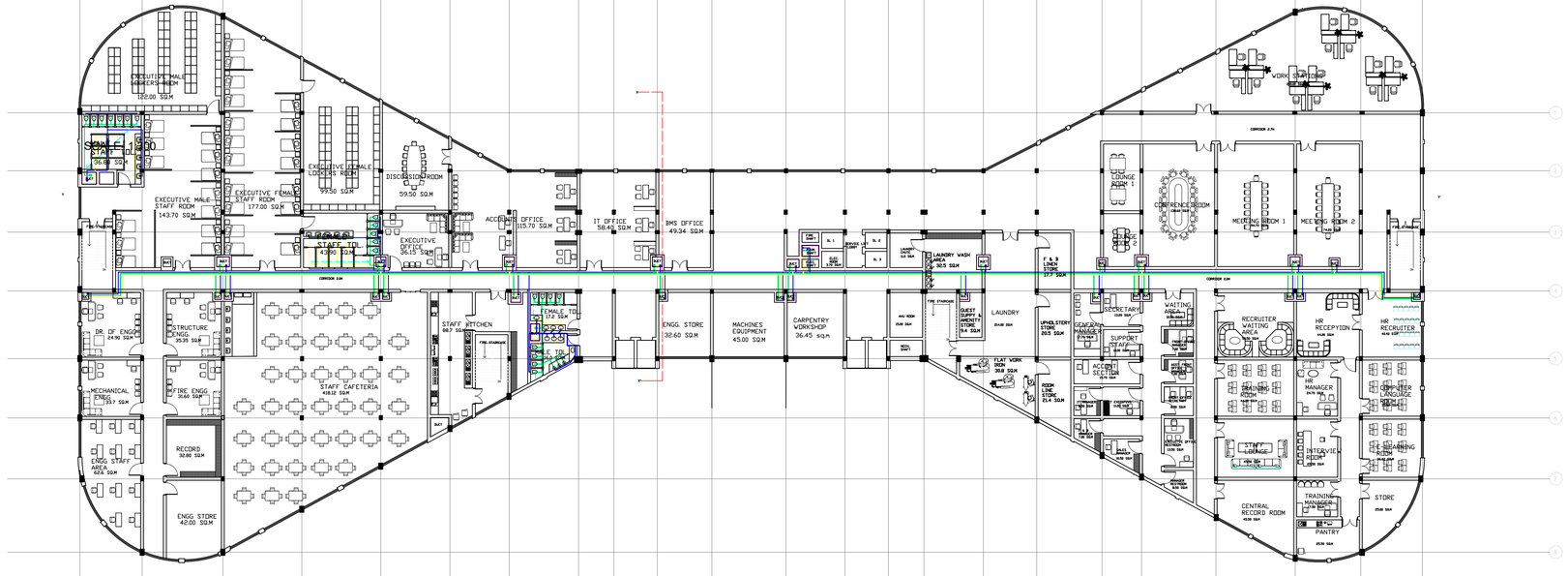



A DETAIL A
SCALE- 1:100




SECTION XX'

XX SECTION XX'
SCALE- 1:200




SERVICE FLOOR PLAN
SCALE- 1:300

LEGENDS

- OVERHEAD TANK
- PLUMBING SHAFT
- WASTE PIPE (100mm DIA)
- SOIL PIPE (100mm DIA)
- SLOPE 1:100
- SEWAGE PIPE LAYOUT
- GULLY TRAP
- WATER SUPPLY PIPE (50mm DIA)
- MANHOLES 30M C/C

KEY PLAN:- SCALE-1:1500

SHCEDULES

REVISIONS :-

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PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : ELECTIVE PLUMBING

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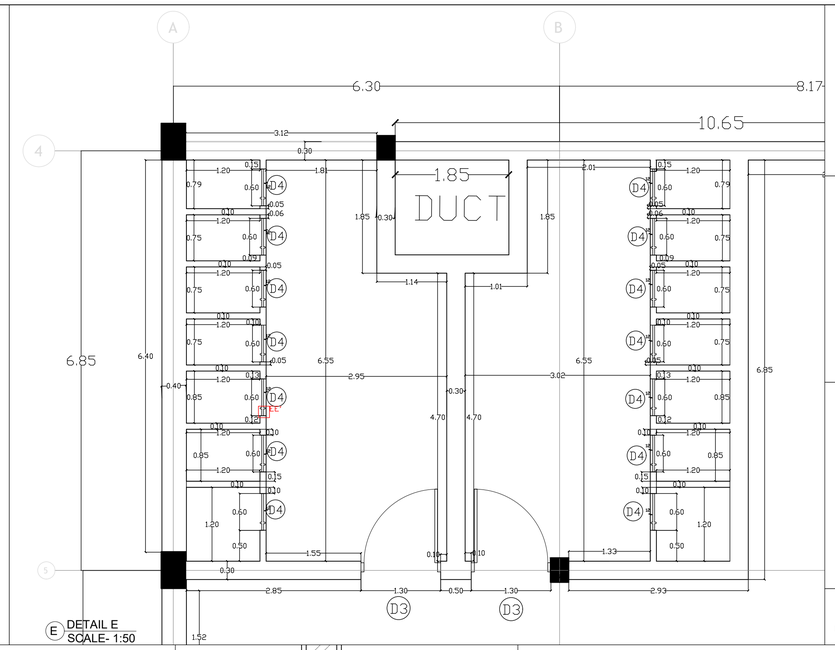
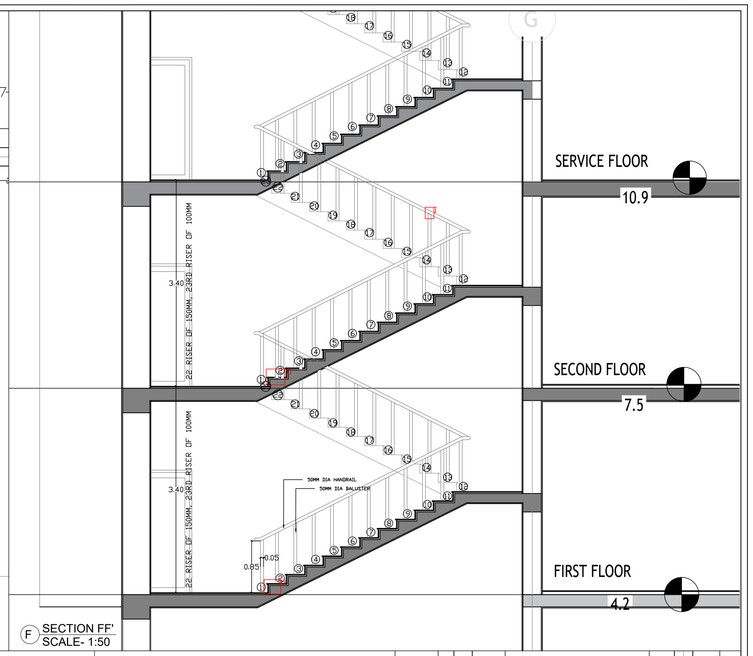
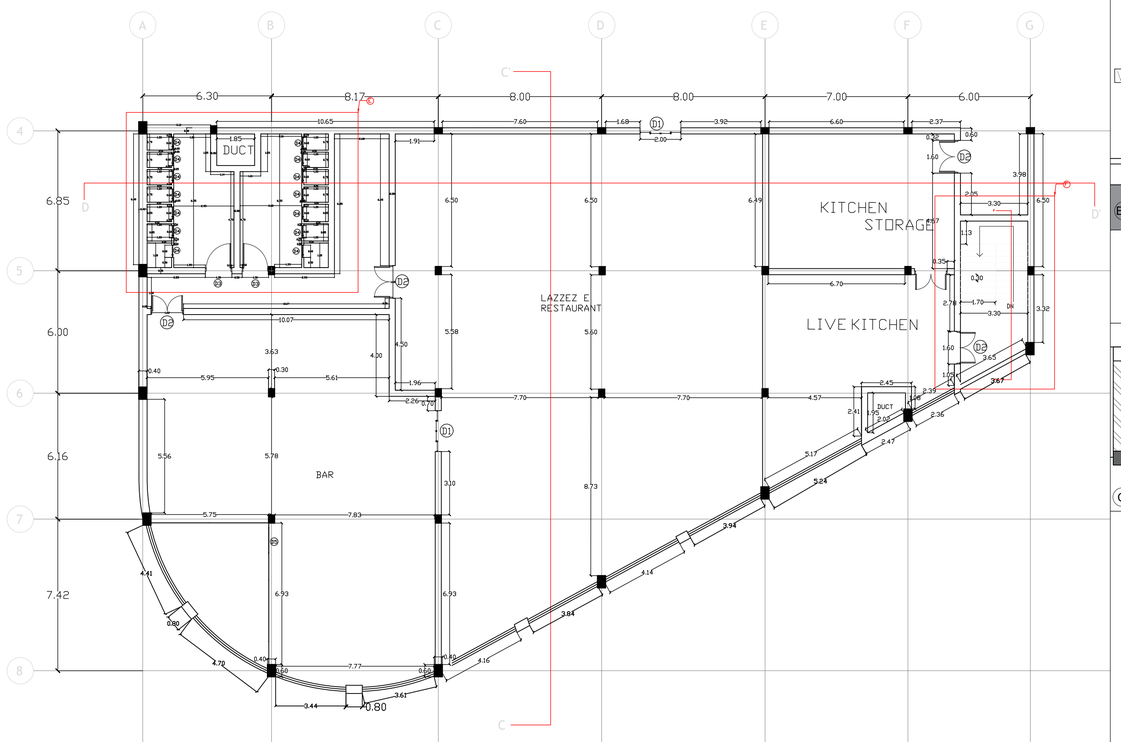
PRESENTATION PLAN
SCALE- 1:150



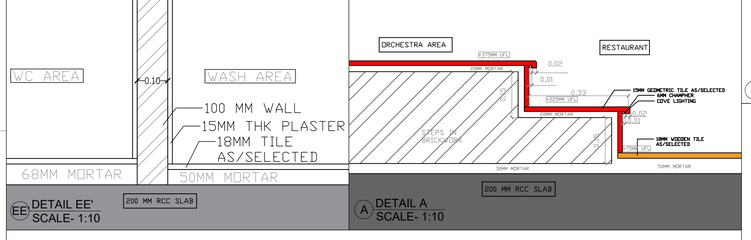

E DETAIL E
SCALE- 1:50




F SECTION FF'
SCALE- 1:50



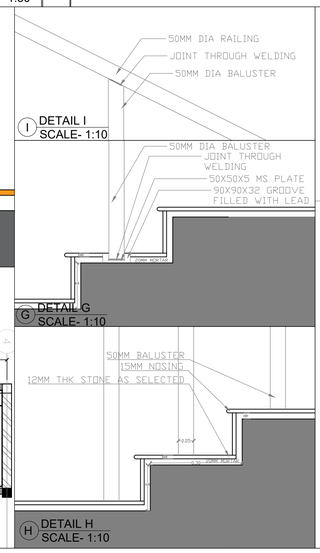

BRICK WORK PLAN
SCALE- 1:150




EE DETAIL EE'
SCALE- 1:10



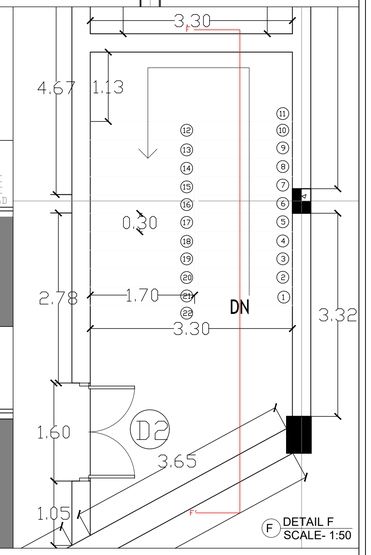

A DETAIL A
SCALE- 1:10



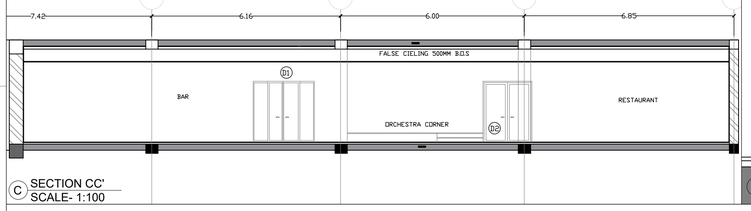

I DETAIL I
SCALE- 1:10

G DETAIL G
SCALE- 1:10

H DETAIL H
SCALE- 1:10




F DETAIL F
SCALE- 1:50

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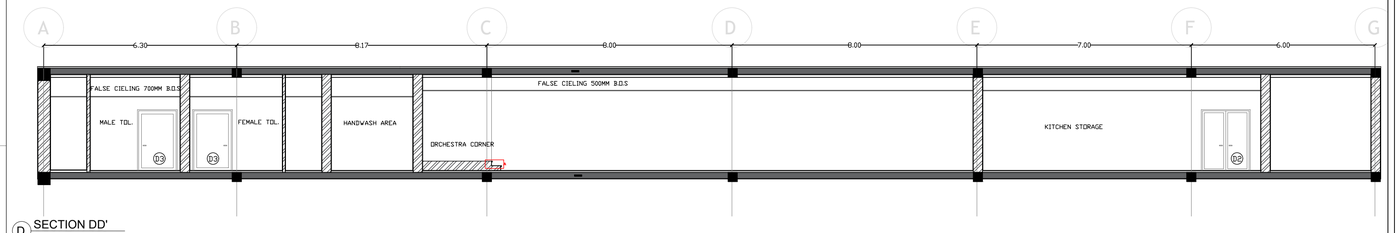
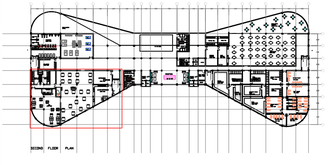



D SECTION DD'
SCALE- 1:100

KEY PLAN:- SCALE-1:1500



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PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : WORKING DRAWING- RESTAURANT

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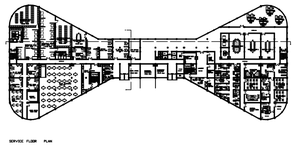
KEY PLAN:- SCALE-1:1500



SERVICE FLOOR PLAN

SHCEDULES

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SHEET TITLE : RENDERS & 3D VIEWS

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