



ARCHITECTURAL PORTFOLIO

TANYA BHATIA

BACHELOR'S IN ARCHITECTURE
(2020-2025)

HAH!



NOW THAT I GOT YOUR ATTENTION.
HI,I AM TANYA BHATIA AM PURSUING B.ARCH FROM IGDTUW. SINCE MY FIRST YEAR, I HAVE BEEN INTERESTED IN PARAMETRIC AND GRAPHICS DESIGN, AND IT IS SOMETHING THAT TRULY FASCINATES ME. TO PURSUE MY INTERESTS, I UPSKILLED MYSELF THROUGHOUT MY UNDERGRADUATE JOURNEY IN THE RELEVANT SOFTWARE, SUCH AS CANVA, ADOBE PHOTOSHOP, ILLUSTRATOR, AUTOCAD, SKETCHUP , REVIT ETC

BEING IN THE LEADING ROLE AT VARIOUS STAGES OF MY LIFE HAS SHAPED ME AS A RESPONSIBLE,PUNCTUAL,PROBLEM SOLVER AND EMPATH. AN EASY GOING NATURE AND STRONG COMMUNICATION SKILLS ADDS A CHARM TO MY OVERALL PERSONALITY



TANYA BHATIA

HIII AM TANYA BHATIA,A 3RD YEAR STUDENT IN INDIRA GANDHI DELHI TECHNICAL UNIVERSITY FOR WOMEN,DELHI MAJORING IN ARCHITECTURE.THE PORTFOLIO COMPRISSES SERIES OF SELECTED WORKS WHICH GIVES AN INSIGHT OF MY ARCHITECTURAL JOURNEY UNTIL NOW.

THE PROJECT HERE DEPICTED FEATURES SKILLS LIKE DESIGN IDEATION DEVELOPMENT,WORKING DRAWINGS,SELECTED PLANS,ELEVATIONS AND SECTIONS ETC

IN FUTURE I AIM TO FURTHER BROADEN MY ARCHITECTURAL HORIZONS AND REFLECT IT IN MY WORK.TO ME ARCHITECTURE HAS BEEN AMALGAMATION OF ART AND IDEATION,WHICH MIRRORS IN THE SOCIETY.

CONTACT

- +91 9560891452
- tanya004barch20@igdtuw.ac.in
- Delhi,India

EDUCATION

- Bachelor of architecture

Really Great University
2020-2025

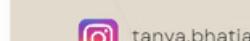
INDIRA GANDHI DELHI TECHNICAL UNIVERSITY FOR WOMEN

- School

LITTLE FLOWERS PUBLIC SR.SEC.SCHOOL

SOCIAL MEDIA

www.linkedin.com/in/tanya-bhatia-3b27a3265



tanya.bhatiaa_

SKILLS

- Organized ● ● ●
- Communication ● ● ○
- Teamwork ● ● ○
- Meeting deadlines ● ● ○
- Critical thinking ● ● ●

OBJECTIVE

3RD YEAR ARCHITECTURE STUDENT LOOKING FOR AN OPPORTUNITY IN AN ARCHITECTURAL FIRM AS AN INTERN TO BUILD PROFESSIONAL KNOWLEDGE OF THE FIELD.

SOFTWARE PROFICIENCY

DRAFTING : AUTODESK AUTOCAD
BIM: AUTODESK REVIT
GRAPHICS: ADOBE PHOTOSHOP
RENDERING: ENSCAPE V-RAY.

COMPETITIONS

- ANNUAL NASA DESIGN COMPETITION: GRIHA TROPHY (HOSPITAL DESIGN)
- SOLAR DECATHLON: OFFICE BUILDING DESIGN(TEAM-HELIOTROPHIC FUSION)

LANGUAGE

French

English

Hindi

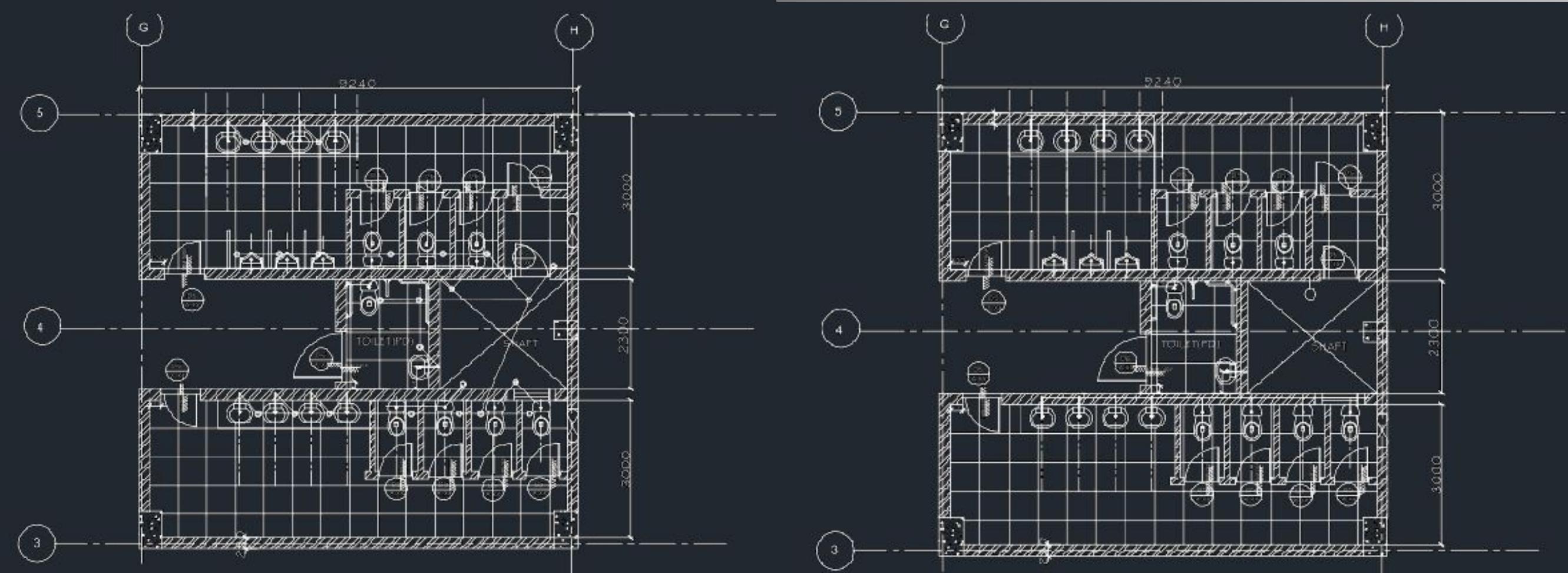
ACCOMPLISHMENT

SOLAR DECATHLON 2022:OFFICE BUILDING DESIGN-CLEARED THIRD STAGE AND BECAME ALUMNI OF SDI

1ST POSITION IN NASA- WRITING COMPETITION

WORKING DRAWINGS

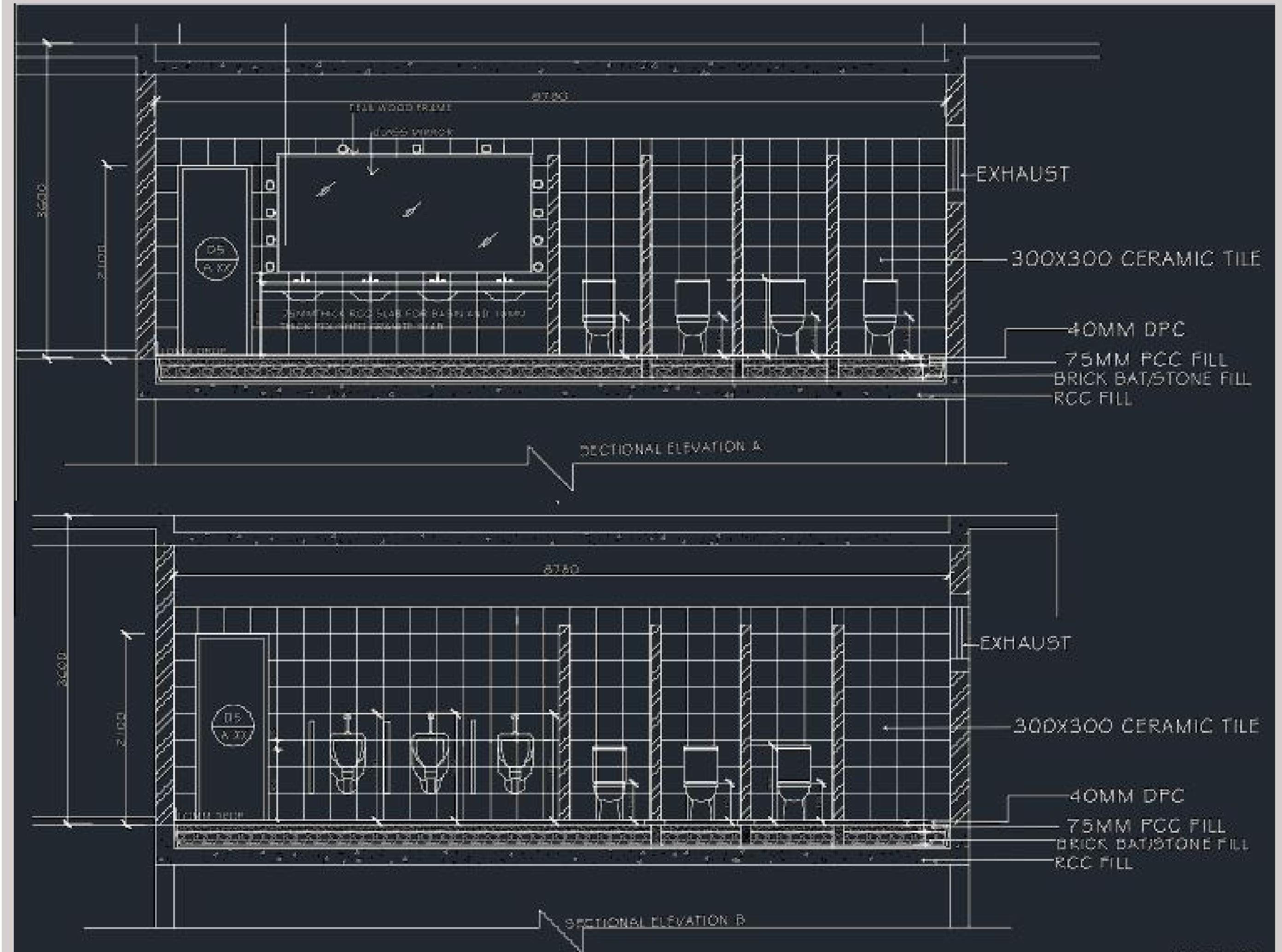
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DRAINAGE LAYOUT

WORKING DRAWINGS

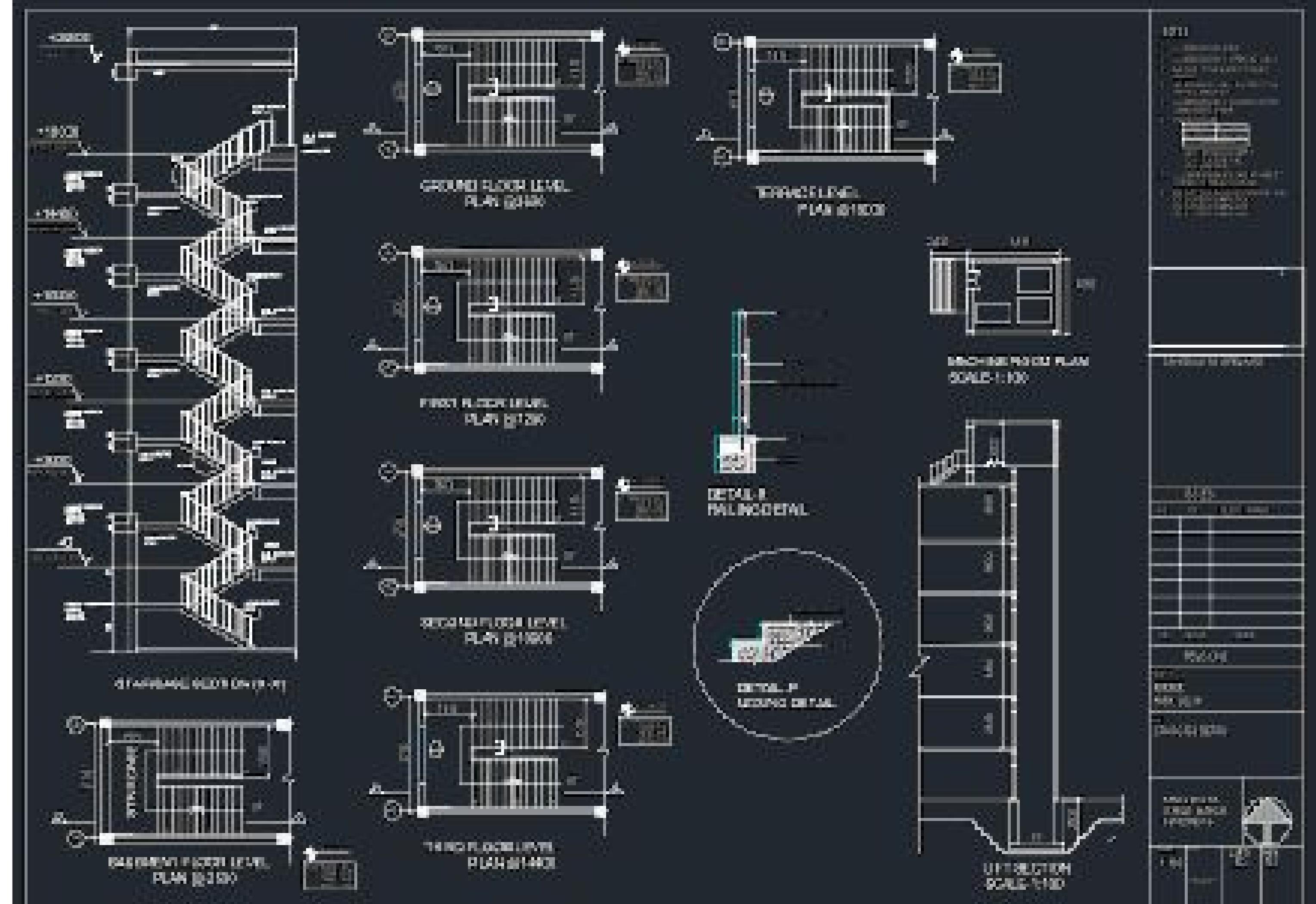
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WORKING DRAWINGS

01

STAIRCASES AND LIFT





CONTEXT AND MARKET ANALYSIS

Why Jalandhar for an office building?

For the past few decades, Jalandhar has developed to create an identity as the industrial and commercial hub of the holy land of the five rivers, Punjab. Lying alongside the commercial and cultural artery of India Grand Trunk Road it's a well-connected rail and road junction. Jalandhar exports goods like furniture and glass to neighboring cities and is a global hub for the manufacture of sporting equipment. There lies an opportunity for these business sectors to go global by establishing commercial offices for their expansion.

Why Jalandhar for a solar decathlon?

The Ministry of Housing and Urban Affairs ranked Jalandhar city at 32nd position among 62 cities in the country with a population of less than one million in the 'Ease of Living Index 2020'. Being the only city from Punjab to figure in this category, the city scored 100 and 96 points in the safety and security categories. But scored a dismal 5 points in recreation and nil in the green building category. Hence, a new approach is required in the development of the architecture here which is climate responsive, creates a positive impact on the humans that interact with them and is self-sufficient, and remains within the resource limits of the site.

Having been selected in the second phase of the smart city project the city is all set for the boost in city infrastructure and is an apt selection for this competition.

Socio economic context and the end users of site

Since Jalandhar is a residential town and not a commercial hub like that of Gurgaon or Bangalore so creating an office building apart from the general glass convention form and using sustainable strategies to design a better net zero building that has a commercial use is an opportunity for others around to imitate such sustainable practices.

It also gives us an opportunity to make the first green building in Jalandhar. Not only that, due to our site being in a residential location our structure will have distinct features from its surroundings. Hence will add to the context of the site.

The end user of the building is going to be the people who work there, janitorial/maintenance staff, security staff and visitors.



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Location and specifications of the site

The site is located in central Jalandhar, Punjab. And is connected through roads on 3 sides.

TOTAL SITE AREA- 2202.82 SQ M
TOTAL BUILT UP AREA- 2426 SQ M
FAR - 1.5

SWOT Analysis of the site

- Strengths:**
 - Use of fenestration and building orientation.
 - Centrally located in a state with a great regional linkage.
 - Provision for education and regional level health infrastructure.
 - Strong NRI base.
 - Industrial as well as commercial hub.
- Weaknesses:**
 - Noise pollution due to being in an over crowded area of Jalandhar.
 - Lock of air flow facilities.
 - Concentration of commercial blocks in congested areas.
 - Choked road intersections.
 - Height restriction due to proximity to Air Force Station and Defence Institutions.
 - Employment Potential in the vicinity.
 - Regional commercial level potential.
 - Large catchment area.
 - Vast fertile agricultural lands.
- Opportunities:**
 - Competing with development in the vicinity.
 - Inadequate water supplies.
 - Inadequate Sewage / Storm Drainage.
 - Exploitant Land Prices.
- Threats:**
 - Unplanned urban planning.
 - Choked road intersections.
 - Height restriction due to proximity to Air Force Station and Defence Institutions.
 - Exploitant Land Prices.

All the findings from the SWOT analysis have been considered while designing

EXECUTIVE SUMMARY

The project aims to design an office building for Delhi Infratech, which will serve as a corporate office located in Jalandhar. The building's primary objective is to achieve net-zero energy consumption while maintaining maximum energy efficiency.

The building will be designed with various sustainable features, including high-performance insulation, energy-efficient lighting, and HVAC systems. The design also includes passive solar design strategies to reduce heating and cooling loads.

Renewable energy sources will be incorporated into the design, including rooftop and facade solar panels, wind and biomass energy sources. Energy-efficient appliances and equipment will be installed to minimize energy consumption.

Water conservation strategies, such as dual flush system, rainwater harvesting, insulated pipes are also implemented. The building's landscaping will be designed with plants that improve the air quality around, poor air quality is a significant problem in urban areas currently.

The design will prioritize the use of recycled and locally sourced materials to reduce the building's environmental impact during construction. The building will also be designed to maximize natural daylight and ventilation to reduce the need for artificial lighting and HVAC systems. Marked features of our office building are the specially designed air purifying windows and doors as a part of our innovation, use of AAC blocks, XPS insulation, cavity walls, electrochromic glass and tiles made from upcycling carbon emissions.

Overall, the building's net-zero energy design will not only reduce operating costs for Delhi Infratech but also provide a sustainable and environmentally conscious corporate office for their employees.

PROJECT SUMMARY

Project name- VIABLE.0

Project partner – The Design Factor,Y. Jalandhar

An Architectural & structural design consultancy firm established in Jalandhar providing professional services to major construction organizations.

In the past 30 years, the firm has undertaken many projects ranging from commercial to residential and institutional projects across India. The firm aims to introduce a new approach in the development of architecture that is climate responsive creates a positive impact on the humans that interact with them and is self-sufficient and remains within the resource limits of the site via design.

KEY INDIVIDUALS
AR. Gagandeep Singh - CEO
AR. Kunwardeep Singh- Partner

Competition Division – Office Building

PROJECT DESCRIPTION

The Office Building is located in central Jalandhar, Punjab, and falls under a composite climate. The location of the office has a great regional linkage. The site is accessible from the southeast, southwest, and west direction.

The project is at the conceptual stage. The corporate office building will be operational for 8 hours a day with an estimated 350 users using the space from 9 am to 5 pm.

The number of visitors expected is between 5-20 per day.

SITE DETAILS

TOTAL SITE AREA -2202.82 SQ M

TOTAL BUILT UP AREA- 2426 SQ M

FAR - 1.5

Ground Coverage-30%

Target Energy Performance Index (EPI) in kWh/m² per year- 82.57

The preliminary estimate of on-site Renewable Energy Generation Potential- 90 kWh/m² per year from Solar photovoltaics.

Renewable energy from wind and biomass can also be explored further.

SPECIAL REQUIREMENTS OF THE CLIENT

- 2 Entry points to access the space
- Reusing construction site waste
- Sufficient light and ventilation

Total construction cost will be around 92 lakhs. The numbers are elaborated in the affordability section



AREA DISTRIBUTION CHART FOR OFFICE BUILDING



PERMISSIBLE FAR-1.5

FAR-1.5

TOTAL SITE AREA-2202.82 SQ M

PERMISSIBLE BUILT UP- SITE AREA X FAR= 3304.285SQ M

TOTAL BUILT UP OF SITE= 1950 SQM-350 USERS

NO. OF FLOORS- 3

PERMISSIBLE GROUND COVERAGE- 30 PERCENT - 660 SQMT

GROUND COVERAGE-650 SQM

OPEN SPACE- 1541.97 SQM

MEET THE TEAM - HELIOTROPIC FUSION

SAKSHI SINGH 3RD YEAR, 1 ST SEMESTER Graphics Executive	SHATAKSHI KASHYAP 3RD YEAR, 1 ST SEMESTER Editor in Chief	NIYA SHARMA 3RD YEAR, 1 ST SEMESTER Building Envelope & Passive Design	NISHTHA DHAMJIA 3RD YEAR, 1 ST SEMESTER Interior Planning & Layout & Design
Team Member	Team Member	Team Leader	Team Member
SHIVANG MADAAN 4TH YEAR, 1 ST SEMESTER Energy Analyst	RAJIVR SINGH 4TH YEAR, 1 ST SEMESTER Context and Marketing Analysis & Potential And Design	SAFALTA PRASAD 3RD YEAR, 1 ST SEMESTER Graphics Executive	SHREYA SINGH 2ND YEAR, 1 ST SEMESTER Passive Strategies
Team Member	Team Member	Team Member	Team Member
PRATEEK RAJ 2ND YEAR, 1 ST SEMESTER CIVIL ENGINEERING	URVASHI KUSHWAHA 2ND YEAR, 1 ST SEMESTER Passive Strategies	PROF. VENUS KASHYAP Faculty Lead Asst professor, IGDTUW B.Arch, March	ANURAG JAISWAL 2ND YEAR, 1 ST SEMESTER CIVIL ENGINEERING Estimation and Structural Analysis
Team Member	Team Member	Faculty Lead	Team Member

She has an experience with a demonstrated history of working in the higher education industry skilled in Research Design, Lecturing, Energy Efficiency, Design Thinking, and Sustainable Design.

Has a strong education professional with a Master of Architecture - MArch focused in Architecture from Indian Institute of Technology, Roorkee.

INSTITUTION(S) NAME
1. INDIRA GANDHI DELHI TECHNICAL UNIVERSITY FOR WOMEN, DELHI
2. GNDU, PUNJAB
3. DELHI TECHNICAL UNIVERSITY, DELHI

DIVISION
OFFICE BUILDING

AREA PROGRAM OF THE BUILDING

SNO	FUNCTION	NO. OF USERS	AREAS(M ²) (PER HEAD)	TOTAL AREA IN M ²	CONDITIONING
SOCIAL SPACES					
1	ENTRANCE LOBBY	-	0.35	10	UNCONDITIONED
2	RECEPTION AREA	-	0.5	15	UNCONDITIONED
3	WAITING LOBBY	10	1.5	15	UNCONDITIONED
4	REST ROOM FOR MEN	20	2.25	45	UNCONDITIONED
5	REST ROOM FOR WOMEN	20	2.25	45	UNCONDITIONED
OFFICE SPACES					
6	ENCLOSED EXECUTIVE OFFICES	2	12	24	CONDITIONED
7	ENCLOSED SMALL OFFICES	12	10	120	CONDITIONED
8	OPEN LARGE OFFICES	25	15	375	CONDITIONED
9	OPEN SMALL OFFICE	18	10	180	CONDITIONED
10	OPEN WORKSTATION	8	7.5	60	CONDITIONED
11	IN-BETWEEN IDEA SPACES	10	1.5	15	UNCONDITIONED
12	SECURITY CABIN	3	7	21	UNCONDITIONED
13	DIRECTOR'S OFFICE	5	10	50	CONDITIONED
14	SMALL CONFERENCE SPACE	7	1.5	10.5	CONDITIONED
15	LARGE CONFERENCE SPACE	15	1.5	22.5	CONDITIONED
16	WORK ROOM	5	10	40	UNCONDITIONED
17	INDUCTION UNIT	2	-	10	UNCONDITIONED
18	PRINTER CENTER	4	2.5	10	UNCONDITIONED
19	BREAKROOM SERVICE UNIT	10	8	100	UNCONDITIONED
20	INFORMATION REFERENCE CENT	8	10	80	UNCONDITIONED
21	SUPPLY ROOM	-	3.7	15	UNCONDITIONED
22	FILE AREA	-	10	20	UNCONDITIONED
23	DOCUMENTS ROOM	-	20	20	UNCONDITIONED
24	SERVER ROOM	-	15	20	UNCONDITIONED
25	STORAGE ROOM	-	-	25	UNCONDITIONED
COMMON SPACES					
26	AMP/THEATRE	50	1.25	62.5	UNCONDITIONED
27	SEMINAR HALLS	40	1.25	50	UNCONDITIONED
28	CAFETERIA	60	0.75	45	UNCONDITIONED
29	LOCKER ROOM	100	0.5	50	UNCONDITIONED
30	WASHROOMS	60	1.5	90	UNCONDITIONED
31	MEDICAL ROOM	-	-	20	UNCONDITIONED
SERVICES					
32	STORAGE	-	-	30	UNCONDITIONED
33	ELECTRICAL SERVICE ROOM	-	-	15	UNCONDITIONED
TOTAL					
	10% CIRCULATION			1095.5	
	GRAND TOTAL			1949.85	(350 USERS)
	OPEN			1541.97</	

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SOLAR DECATHLON INDIA-OFFICE BUILDING DESIGN

GOALS

THERMAL COMFORT

The aim is to achieve thermal comfort while reducing the building's energy loads and keeping the building's esp less than or equal to 70 kWh/m² annually. To achieve this goal autoclaved aerated concrete blocks (AAC blocks) will be used to construct the wall because of their thermal insulation properties.

XPS insulation for roofing because of high R-value

Electrochromic glass as smart glass responds to changes in the environment, limiting the heat or cold entering the space, and can reduce loads on HVAC systems.

Analysing the building's form and voids. For instance, the window panels cause an increase in the temperature of the indoor environment. If the intensity of these waves is reduced, the energy used by air conditioners to keep the room temperature cool also decreases. On the other hand, in winter it is possible to maximize the use of solar radiation to heat the environment.

INCREASED PRODUCTIVITY AND SOCIAL COMFORT

The aim is to make a place for collaboration that combines physical spaces with technologically supported ways to work effectively while creating interaction in the interior workspace. To accomplish this, the form of the building will be defined by its form and voids from the basic square module. The solid void relationship created will be such that it creates functional as well as visual coherence.

ENGINEERING AND OPERATIONS

In our building design we have proposed construction materials like AAC blocks (for exterior because thermal insulation properties), XPS, and other properties such as noise reduction will be a plus point as it will help reduce the traffic noise upto 12 decibels also AAC blocks are ecofriendly choice, also construction material like universal column, HVAC system, solar panels for facade are being introduced in our building design.

INDEPENDENT AND SELF-RELIENT BUILDING

The whole project is based around the design solution to be net zero/net positive. To achieve this, autoclaved aerated concrete blocks (AAC blocks) will be used to construct the wall because AAC blocks reduce the foundation load due to its light self-weight and saves steel consumption.

Cavity walls would be used as they are more sustainable in comparison to the regular walls in terms of moisture prevention, heat insulation, and sound insulation and is an economical option. Solar panels for facade will act as a second skin to meet the energy requirements as the roof area is less for solar panels to generate at least 50% of the energy used. XPS insulation for roofing because of high R-value, high structural strength and is an eco-friendly choice.

WATER PERFORMANCE

Water performance can be increased by installation of water efficient fixtures which will reduce consumption.

the aim is to achieve maximum water efficiency and sufficient structure in water consumption/usage.

CARBON NEGATIVE BUILDING PROTOTYPE

To create an office building that can be replicated in place of moderate hazard like areas with high amount of noise and air pollution.

strategy to use material which have low embodied energy and are carbon negative in nature.

INNOVATION

Jalandhar faces the issue of poor air quality like many other cities in India. So to combat this issue we implemented the use of air filtering windows and doors in our office working.

also it refresh the stale air and protects the general well-being of the occupants of a space.

RESILIENCE

The aim is to design a structure that is resilient enough to withstand the impact during any natural phenomenon. To achieve this power and water backup in order to have self-sufficient electricity, water, and mechanical system availability in case of failure of PV panel system, solar absorbers - absorption cooler.

Addition of cross bearing on the sides of the staircase, so in case of failure of the building during the earthquake, the people can easily migrate outside the building. Jalandhar falls in seismic zone IV. The reinforcing bars are to be installed at corners in major parts of the building.

Place office furniture and equipment with air circulation, temperature control, and pollutant removal functions of the heating, ventilation and air conditioning (HVAC) system to be used in the building. At different levels in the building, a roof garden can be installed. It helps to restrict pollutants in the surrounding space.

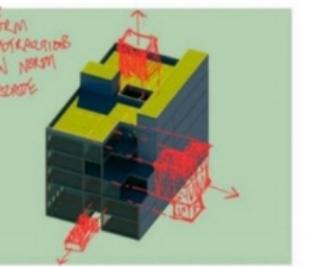
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DESIGN PROCESS

FORM DEVELOPMENT

The design is an exploration with sensitive decisions being taken keeping in mind the climatic implications.

Located in Jalandhar, the courtyard typology was the most appropriate base form.



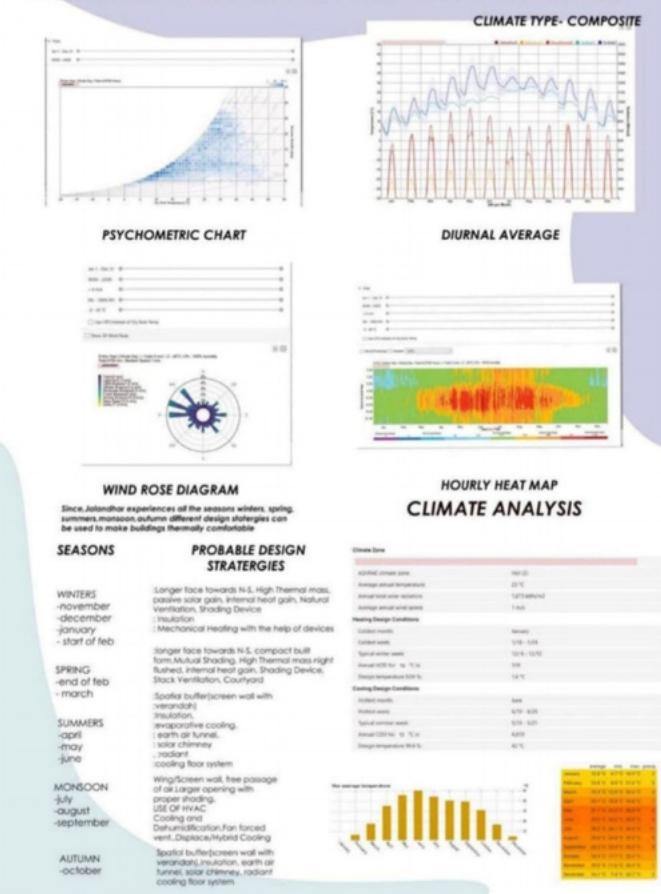
The design was conceived first in the 3D then in section and then finally in plan. The building is based on subtractive form type with major subtractions done on north and south side to either let the direct light in or to carve out shaded breakout spaces.



The southwest, which receives the most heat, has been taken care of by placing the toilets in that direction and similarly in the west direction, the vertical core is placed, this is a simple yet important climate-responsive design decision.

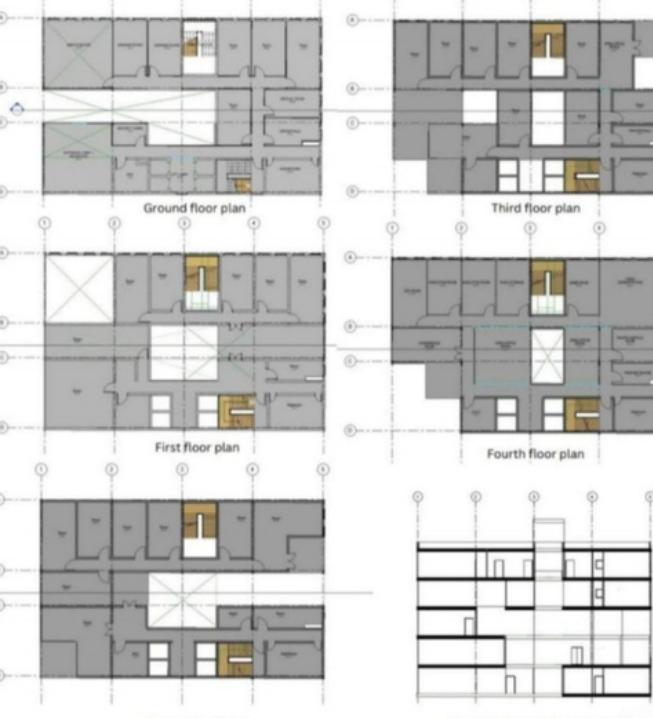
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FINDINGS FROM PRE DESIGN ANALYSIS



DESIGN DOCUMENTATION

PROJECT DRAWINGS



The southwest, which receives the most heat, has been taken care of by placing the toilets in that direction and similarly in the west direction, the vertical core is placed, this is a simple yet important climate-responsive design decision.

DESIGN AND PLANNING APPROACH

Jalandhar has a composite climate and therefore experiences every season i.e. Winters, Spring, Summer and Autumn. An office building will be operational throughout the year. The building design should be such that it provides comfort to the users all year round. In our design approach we have tried not to impose a conventional rectangular shape rather than create forms and void taking rectangle as a basic shape.

DESIGN AIM AND IDEATION

A rectangular form is taken as a basic module and voids and forms have been created from it. The direction of forms and voids have been in accordance to the orientation of the sun. The solid void relationship aims at creating functional as well as visual coherence. Each solid and void relationship provides different passive strategies to make the building more thermally comfortable.

BUILDING MATERIALS AND TECHNOLOGY

Autoclaved Aerated Concrete Blocks (AAC Blocks) will be used to construct the wall because of the following properties –

- Thermal insulation
- Fire resistance
- Structural strength
- AAC blocks reduces the load on foundation due to its light self-weight and saves consumption of steel. Speedy construction of wall due to the bigger block size, light in weight and lesser number of joint.
- Tiles made by upcycling carbon emissions involves the use of construction byproduct as one of the requirements of our project partner is reusing the construction waste (byproduct). Tiles will act as decorative elements on the wall/floor. These tiles are made by mixing carbon black with cement and are economically feasible as well.

CLIMATE ANALYSIS

Solar Panels for Facade will act as a second skin in order to meet the energy requirements as the roof area is less for solar panels in order to generate atleast 50% of the energy used.

Other property such as noise reduction will also be a plus point as it will help reduce the traffic noise upto 12 decibels.

Structural Steel Framework will be used XPS insulation for roofing because of the following properties-

- high R-value
- good moisture resistance
- high structural strength
- low weight
- provides good thermal insulation
- is an eco friendly choice

ELECTROCHROMIC GLASS

Electrochromic Glass for fenestration as Windows made of electrochromic glass, allow an increase in visual comfort. Smart glass responds to changes in the environment, limiting the heat or cold entering the space, and can reduce loads on HVAC systems. Since light transmission can be reduced in periods. When there is excessive light from the external environment.

Another advantage is energy savings. For instance, in summer the high infrared waves through the window panes cause an increase in the temperature of the indoor environment. If the intensity of these waves is reduced, the energy used by air conditioners to keep the room temperature cool also decreases. On the other hand, in winter it is possible to maximize the use of solar radiation to heat the environment. Another very interesting application of these materials is in vehicle mirrors. They allow the driver to be protected from the incidence of high light. Similarly, it improves road safety.

SOLAR PANELS

Solar Panels for facade will act as a second skin in order to meet the energy requirements in order to generate atleast 50% of the energy used.

- XPS Insulation for roofing because of high R-value and provides good thermal insulation.
- Cavity Walls would be used as they are more sustainable in terms of moisture prevention, heat insulation, sound insulation and is economical.
- Autoclaves Aerated Concrete Blocks(AAC Blocks) will be used to construct the wall because of their thermal insulation properties fenestration.

SMART GLASS

Electrochromic Glass for fenestration as Windows made of electrochromic glass, allow an increase in visual comfort. Smart glass responds to changes in the environment, limiting the heat or cold entering the space, and can reduce loads on HVAC systems. Since light transmission can be reduced in periods. When there is excessive light from the external environment.

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ENERGY PERFORMANCE

[I] Target Energy Performance Index

EPI Benchmark for Office Buildings: 86-179 kWh/m²/yr
Achieved EPI : 82.97 kWh/m²/yr



[II] APPROACH

In our design approach we have tried not to impose a conventional rectangular shape rather than create forms and void taking rectangle as a basic shape.

[III] BUILDING FORM

A rectangular form is taken as a basic module and voids and forms have been created from it. The solid void relationship aims at creating functional as well as visual coherence.

[IV] BUILDING ENVELOPE

Solar Panels for facade will act as a second skin in order to meet the energy requirements in order to generate atleast 50% of the energy used.

- XPS insulation for roofing because of high R-value and provides good thermal insulation.
- Cavity Walls would be used as they are more sustainable in terms of moisture prevention, heat insulation, sound insulation and is economical.

Air purifying doors and windows: Install doors and windows with built-in air purifiers that remove pollutants and allergens from the air. This system improves indoor air quality and reduces the need for air filtration systems.

Tiles made from upcycling carbon waste: Use tiles made from upcycling carbon waste, which are made from waste materials such as coal ash or fly ash. This system reduces the amount of waste sent to landfills and improves the building's sustainability.

INNOVATION

PROBLEM: Poor Air Quality in Jalandhar

Jalandhar, like many other cities in India, has been experiencing a problem of poor air quality. There are several factors that contribute to this issue, including industrial pollution, vehicular emissions, and agricultural practices.

One of the major contributors to air pollution in Jalandhar is the presence of a large number of industries in and around the city. These industries emit pollutants such as sulfur dioxide, nitrogen oxides, and particulate matter, which can cause respiratory problems, cardiovascular disease, and other health issues.

Vehicular emissions are another major contributor to air pollution in Jalandhar. The increasing number of vehicles on the roads of the city has led to a significant increase in the levels of air pollution. The use of older, poorly maintained vehicles that do not meet emission standards also contributes to this problem.

Agricultural practices such as stubble burning are another source of air pollution in Jalandhar. The burning of agricultural waste leads to the release of particulate matter and other pollutants into the air, which can cause respiratory problems and other health issues.

PROPOSED SOLUTION: Introduction of air purifying windows and doors

To combat this issue, we designed air quality windows and doors. The idea of designing air-purifying doors and windows from 'breath bricks' was an interesting one. 'Breath bricks' are a type of brick containing microscopic pores, which allow air to flow through them while also trapping pollutants and toxins. These bricks are designed to purify the air and can be used in buildings to help improve air quality. The bricks uses coupler to purify air based on the cyclone principle used in vacuum cleaners. The coupler uses less energy to operate but the significant disadvantage of breath brick passive filtration system is that the exterior wall takes as much as double the original space, which leads to contraction of the interior space. This further leads to the problem of congestion affecting the interior circulation. Congestion in urban spaces is already significant problem.

So, to avoid the obstruction of circulation in the interiors we applied the use of coupler in the windows and doors with the use of the principle of magnetism designing air filtering windows and door.

WORKING OF THE COUPLER

The coupler is designed differently which is used in breath bricks though it uses the same principle of cyclone filtration. This cyclone filter enables the air from outside to swirl like a cyclone, separating the pollutants and dust particles, and inducing filtered air into the internal structure. The difference is in the production of energy generation required for the coupler to function. The magnets (strong magnetic strength) with their north poles facing the top are arranged in a circular manner and another magnet with similar strength is placed at a height with its south pole towards the direction of the magnets placed in circular arrangement.

DESIGN STRATEGIES FOR OPTIMIZATION AND RIGHT SIZING

HVAC SYSTEM

Thermally activated building systems: Incorporate thermally activated building systems (TABS) that use concrete slabs or pipes in the floors, walls, or ceilings to heat or cool the building. This system reduces the size of HVAC equipment needed and improves energy efficiency.

WATER PERFORMANCE

Rainwater harvesting: Collect and store rainwater for use in irrigation, cooling towers, and toilet flushing. This system reduces the demand on municipal water supplies and the costs associated with wastewater disposal.

Dual flush systems: Install dual flush systems in toilets, which allow users to choose between a lower flush for liquid waste and a higher flush for solid waste. This system reduces the amount of water used for flushing.

Greywater recycling: Collect and treat greywater, which is wastewater from sinks, showers, and washing machines, for reuse in irrigation and toilet flushing. This system reduces the demand on municipal water supplies and the costs associated with wastewater disposal.

STRUCTURAL SYSTEM

Structural systems using steel-framed structures: Use steel-framed structures in the building's construction, which are lightweight, durable, and recyclable. This system reduces the amount of material needed for construction and improves the building's sustainability thus making it affordable.

MATERIALS

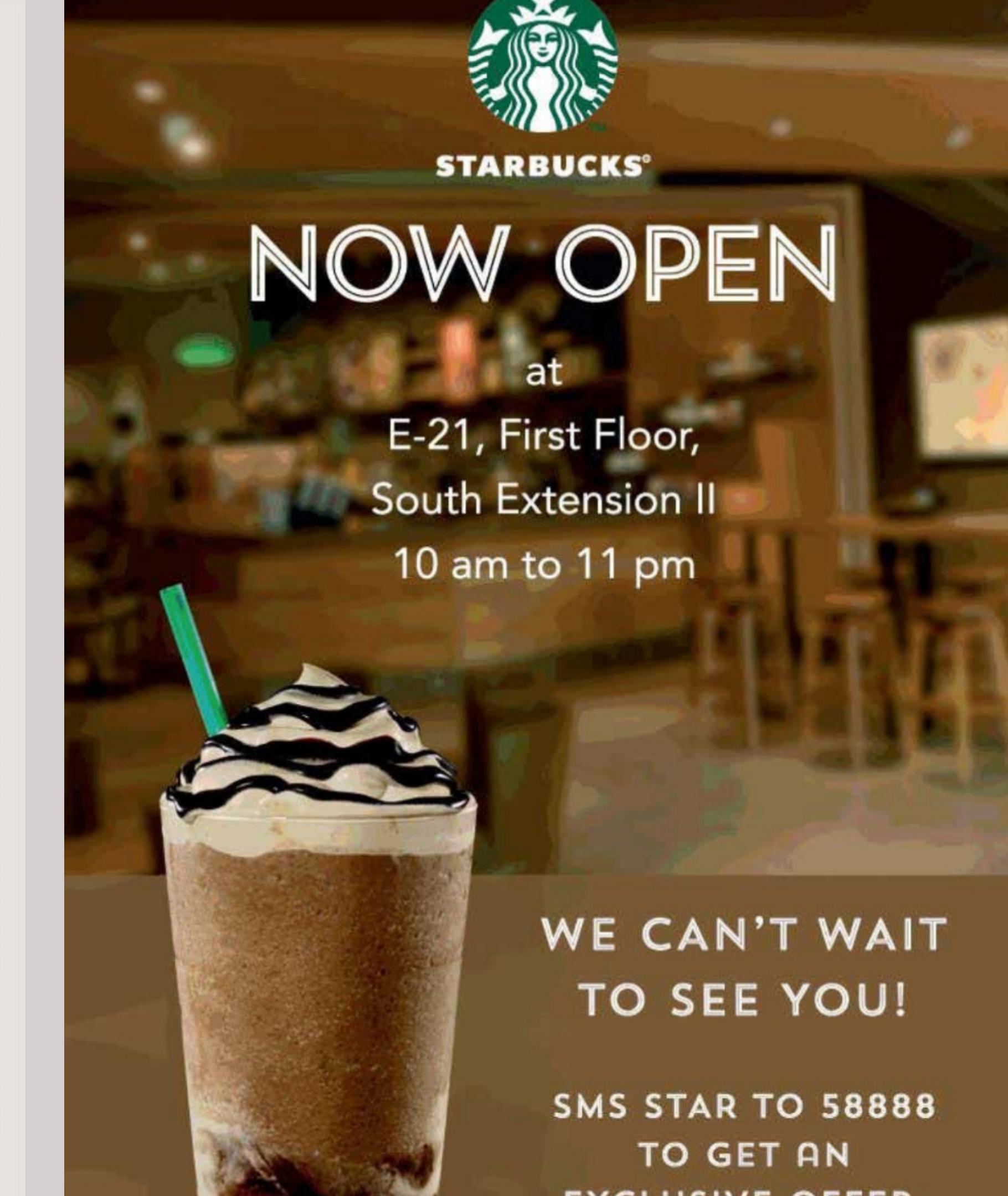


FRESCO

WAVE

Embraces Architecture journalism
BY TANYA BHATIA

DECEMBER
2022



The image shows a Starbucks 'Now Open' sign. The sign features the Starbucks logo at the top left, followed by the word 'STARBUCKS' in a bold, sans-serif font. Below that, the words 'NOW OPEN' are prominently displayed in large, white, outlined letters. Underneath 'NOW OPEN', the text 'at' appears, followed by the address 'E-21, First Floor, South Extension II'. The time '10 am to 11 pm' is also listed. At the bottom right of the sign, the text 'WE CAN'T WAIT TO SEE YOU!' is written in white. In the foreground, a Starbucks coffee drink with whipped cream and chocolate drizzle is visible. The background is a blurred indoor setting of a Starbucks store.

STARBUCKS®

NOW OPEN

at

E-21, First Floor,
South Extension II

10 am to 11 pm

WE CAN'T WAIT
TO SEE YOU!

SMS STAR TO 58888
TO GET AN
EXCLUSIVE OFFER

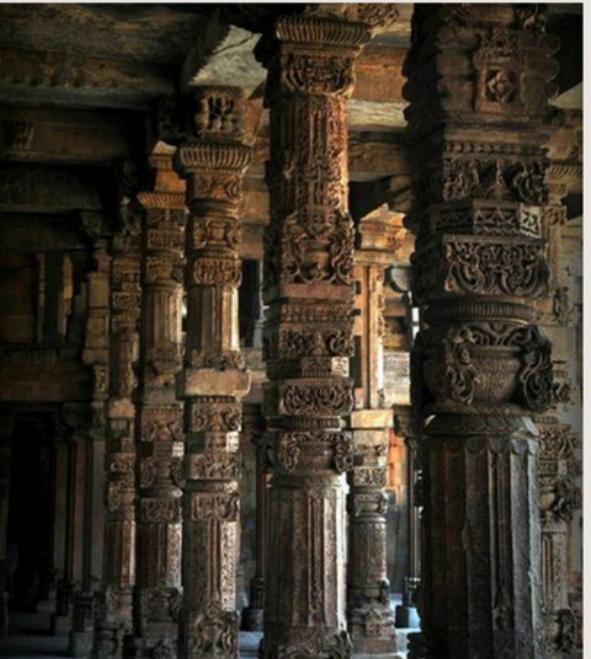
03

ARCHITECTURE JOURNALISM

DECEMBER
2022

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WAVE



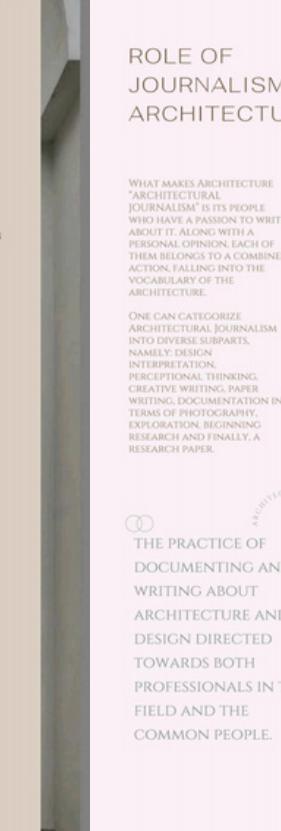
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ROLE OF JOURNALISM IN ARCHITECTURE

WHAT MAKES ARCHITECTURE "ARCHITECTURAL JOURNALISM" IS IT'S PEOPLE WHO HAVE A PREFERENCE TO WRITE ABOUT IT; ALONG WITH A PERSONAL OPINION, EACH OF THEM BELONGS TO A COMBINED ACTIVITY WHICH IS PART OF THE VOCABULARY OF THE ARCHITECTURE.

ONE CAN CATEGORIZE ARCHITECTURAL JOURNALISM INTO DIVERSE SUBPARTS, NAMELY: DESIGN INTERVIEW, CRITICAL ANALYSIS, PERIODICAL THINKING, CREATIVE WRITING, PAPER WRITING, DOCUMENTATION IN TERMS OF PHOTOGRAPHY, EXPLORATION, BEGINNING RESEARCH AND FINALLY, A RESEARCH PAPER.

THE PRACTICE OF DOCUMENTING AND WRITING ABOUT ARCHITECTURE AND DESIGN DIRECTED TOWARDS BOTH PROFESSIONALS IN THE FIELD AND THE COMMON PEOPLE.

JOURNALISM IN ARCHITECTURE IS LIKE REPORTING THE NEW ADVANCES IN THE ARCHITECTURAL WORLD.

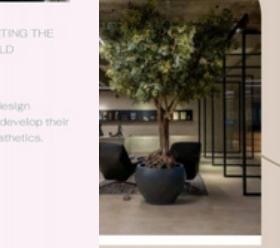
Architectural Journalism helps in understanding design concepts well enough so that one can be able to develop their design concepts easily with having a sense of aesthetics.



ARCHISTIC MAGAZINE

EDITOR'S TALK

BIOPHILIC OFFICE - NATURE IN THE WORKPLACE



04



05

BIOPHILIC OFFICE DESIGN: NATURE IN THE WORKPLACE

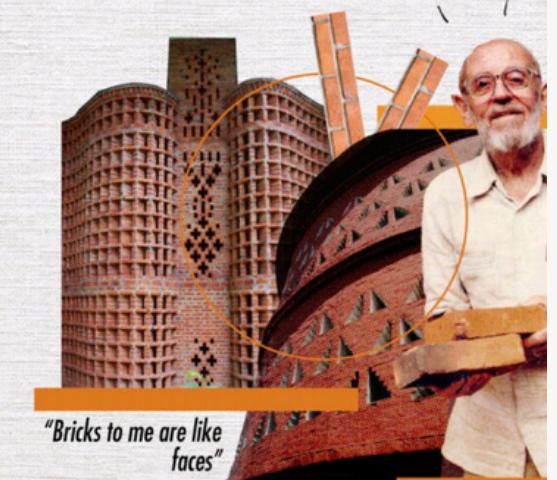


NOUR MAGAZINE



ABOUT US

LAURIE BAKER



LAWRENCE WILFRED "LAURIE" BAKER (2 MARCH 1917 – 1 APRIL 2007) WAS A BRITISH-BORN INDIAN ARCHITECT, RENOWNED FOR HIS INITIATIVES IN COST-EFFECTIVE ENERGY-EFFICIENT ARCHITECTURE AND DESIGNS THAT MAXIMIZED SPACE, VENTILATION AND LIGHT AND MAINTAINED AN UNCLUTTERED YET STRIKING AESTHETIC SENSIBILITY. INFLUENCED BY MAHATMA GANDHI AND HIS OWN EXPERIENCES IN THE REMOTE HIMALAYAS, HE PROMOTED THE REVIVAL OF REGIONAL BUILDING PRACTICES AND USE OF LOCAL MATERIALS. AND COMBINED THIS WITH A DESIGN PHILOSOPHY THAT EMPHASIZED A RESPONSIBLE AND PRUDENTIAL USE OF RESOURCES, WATER CONSERVATION, STAINLESS STEEL STRUCTURE AS WELL AS ORGANIC ARCHITECTURE INCORPORATING HIS DESIGNS EVEN IN LATE PROJECS. CONCEPTS SUCH AS RAIN-WATER HARVESTING, MINIMIZING USAGE OF ENERGY-INEFFICIENT BUILDING MATERIALS, MINIMIZING DAMAGE TO THE BUILDING SITE AND SEAMLESSLY MERGING WITH THE SURROUNDINGS. DUE TO HIS SOCIAL AND HUMANITARIAN EFFORTS TO BRING ARCHITECTURE AND DESIGN TO THE COMMON MAN, HIS HONEST USE OF MATERIALS, HIS BELIEF IN SIMPLICITY IN DESIGN AND IN LIFE, AND HIS STaunch QUAKER BELIEF IN NON-VIOLENCE, HE HAS BEEN CALLED THE "GANDHI OF ARCHITECTURE".

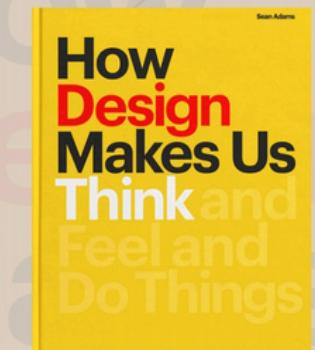


"ARCHITECTURAL
STYLE"



"LAURIE BAKER'S
WORK"

BOOK REVIEW- HOW DESIGN MAKES US THINK

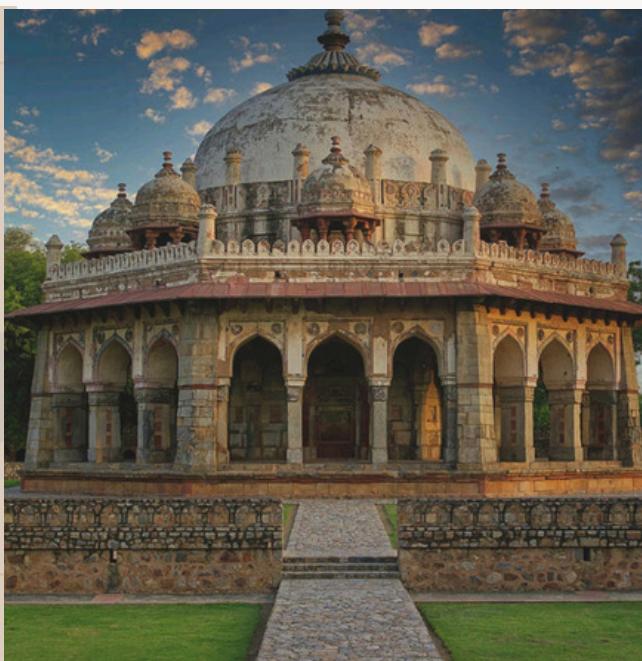


DESIGN IS URGENT: URGINOUS TO BUY, SUGGESTING HOW WE SHOULD BEHAVE, AND SAYING HOW WE SHOULD THINK AND FEEL. HOWEVER, ASIDE FROM DESIGNERS, MARKETERS, AND PSYCHOLOGISTS, FEW ARE AWARE OF THIS CONSTRUCTED MESSAGING IN HUMAN-BUILT ENVIRONMENTS. SEAN ADAMS STRIPS OFF THE BLINDERS TO DECONSTRUCT THE DESIGN PROCESS WITH CLEAR, CLEAN VISUALS AND SNAPPY PROSE.

WITH CHAPTERS FOCUSED ON EMOTIONS AND INTENDED DESIGN MESSAGES, PREFACED BY SUCCINCT DESCRIPTIONS OF THE SCIENCE UNDERLYING HUMAN RESPONSES TO VARIOUS IMAGERY AND STIMULI, THE BOOK'S LIVELY, OPINIONATED WRITING AND BOUNTIFUL ILLUSTRATIONS DEMONSTRATE HOW SUCCESSFUL DESIGNERS COMMUNICATE IDEAS WITH EXAMPLES TRAVERSING NUMEROUS DESIGN DISCIPLINES, CULTURES, STYLES, AND ERAS.

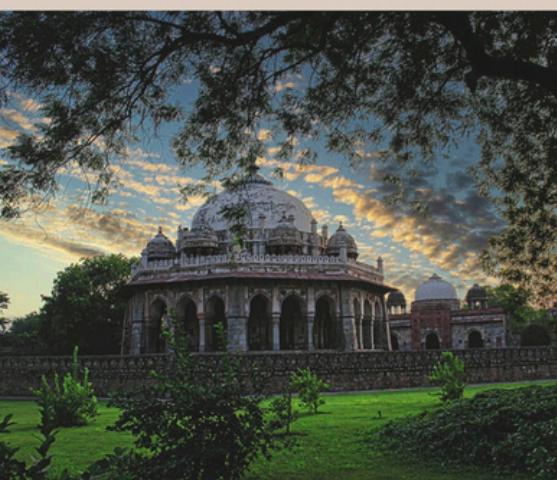
BRIILLIANT ANALYSIS OF HOW HUMOR IS USED TO DISARM AND ENGAGE TARGET MARKETS SHOWS THAT HUMANS ENJOY SOLVING VISUAL PUZZLES AND THRILL AT "GETTING THE JOKE," SO THAT DESIGNERS CAN INJECT HUMOR INTO SOMETIMES DIFFICULT DESIGN CHALLENGES, LIKE VEGETABLE-THEMED CONDOM PACKAGING, AND WHIMSICAL WINE LABELS WITH ANTHROPOMORPHIC CORKS.

A PLAYFUL, EDIFYING ADDITION TO ANY DESIGN BOOKSHELF, HOW DESIGN MAKES US THINK IS AN INSPIRATIONAL RESOURCE FOR BEGINNING DESIGNERS OR GRAPHIC DESIGN FIRMS. READING IT IS LIKE DONNING A PAIR OF MAGIC SPECTACLES THAT EMPOWER NON-DESIGNERS TO DECODE AND CRITIQUE THE HIDDEN MESSA THAT SURROUND



BLOG-LODHI GARDEN

BLOG-LODHI GARDEN, DELHI: WHERE NATURE MEETS HISTORY



LODHI GARDENS IS A SPRAWLING GREEN PARK LOCATED IN THE HEART OF DELHI. IT HOUSES THE MAUSOLEUMS OF TWO DELHI SULTANATE RULERS, NAMELY MOHAMMED SHAH AND SIKANDER LODHI, ALONG WITH OTHER STRUCTURES. BOASTING OF IMPRESSIVE ARCHITECTURE AND IMPECCABLE NATURAL BEAUTY, THE GARDEN AND THE STRUCTURES WITHIN IT ECHO THE NATIONAL CAPITAL'S ILLUSTRIOS TRYST WITH HISTORY. THE ARCHITECTURAL HERITAGE OF AROUND 500 YEARS AND THE SERENE GREEN SETTING MAKE LODHI GARDENS A PRIME ATTRACTION IN DELHI.



LODHI GARDENS COVER AN AREA OF OVER 90 ACRES AND HOUSES MANY 15TH-CENTURY STRUCTURES THAT DISPLAY SPECTACULAR ARCHITECTURAL BEAUTY. THE MAUSOLEUM OF MOHAMMED SHAH FEATURES ISLAMIC AND HINDU ARCHITECTURAL STYLES. DESIGNED WITH EIGHT SMALL DOMED STRUCTURES OR CHATTRIS, EACH ADORNED WITH A LOTUS FINIAL, ORNATE PINNACLES AT THE CORNERS, A HUGE CENTRAL DOME, AND AN OCTAGONAL CHAMBER, THE TOMB IS A SIGHT TO BEHOLD.

THE MAUSOLEUM OF SIKANDER LODI DRAWS INSPIRATION FROM MOHAMMED SHAH'S TOMB, BUILT IN THE INDO-ISLAMIC STYLE. IT ALSO FEATURES AN OCTAGONAL DESIGN WITH A CENTRAL DOME, BUT WITHOUT ANY CHATTRIS. THE MAUSOLEUM STANDS AS AN ENCLOSED EDIFICE WITH A DOMED ENTRYWAY AND HAS MUCHL ARCHITECTURAL DESIGNS ON ITS WALLS. IT IS CONSIDERED TO BE THE FIRST ENCLOSED GARDEN TOMB IN INDIA.

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THINGS TO SEE IN LODHI GARDEN



- IN ADDITION TO THE MAUSOLEUMS OF THE TWO SULTANS, THERE ARE SEVERAL OTHER EDIFICES THAT ARE WORTH A VISIT, SUCH AS:
- BARA GUMBAD OR BIG DOME, A HUGE RUBBLE DOME WHICH IS BELIEVED TO HAVE BEEN BUILT IN 1490 BY SIKANDER LODI
- THE THREE-DOMED MOSQUE LOCATED IN THE BARA GUMBAD COMPLEX
- SHISH GUMBAD OR GLAZED DOME, A TOMB THAT IS BELIEVED TO BE BUILT BY IBRAHIM LODI AND DECICKED WITH ENAMELED BLUE TILES
- ATHPURIA OR EIGHT PIER BRIDGE, A BEAUTIFUL 16TH-CENTURY STONE BRIDGE, CONSTRUCTED DURING EMPEROR AKBAR'S REIGN, CONSISTING OF SEVEN ARCHES AND SUPPORTED BY EIGHT COLUMNS
- A LAKE
- A CLASSHOUSE
- NATIONAL BONSAI PARK

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