Final Year Project Showcase Batch 2020
Year 2025

Department: Architecture and Planning Programme: Architecture and Planning	
1	**Project Title** Retrofitting for Relevance: Transforming an Underused Concrete Building in Saddar
2	**Project Idea** • The project explores the adaptive reuse of a neglected contemporary commercial structure (Noman Shopping Square) in the heart of Saddar, Karachi. • The core idea is to reduce environmental impact by repurposing an already-built concrete structure rather than constructing afresh — a response to the growing issue of carbon emissions and land misuse. • The design focuses on converting an underutilized building into a vibrant mixed-use hub, addressing urban decay, public space scarcity, and poor architectural identity through sustainable retrofitting strategies. • The thesis emphasizes environmental, social, and economic revitalization using minimal demolition, efficient vertical access, and improved natural light and ventilation through voids, stepped floors, and a redesigned breathable façade.
3	**Process** **Research Phase I** – Literature Review, Karachi-wide mapping of abandoned/decaying buildings, surveys, stakeholder interviews (8 months) **Design Phase II** – Building selection, site analysis, functional program development, structural review, façade intervention, visualizations, and design detailing (4 months)
4	**Outcome** • Adaptive reuse proposal of Noman Shopping Square converting the underutilized G+3 building into a multi-functional public space that serves shoppers, co-workers, café users, and informal vendors. • Structural retrofit approach using the existing 17x17 ft grid system to integrate flexible design modules without major demolition. • Vertical core and stair repositioning, reactivation of upper floors, and integration of a wire-mesh double-skin façade to enhance identity, shading, and legibility in a chaotic commercial environment. • Final deliverables include detailed floor plans, façade redesign, exploded axons, conceptual renders, and before-after visuals that depict the transformation.
5	**Evidence (Theoretical Basis)** The project is grounded in key sustainability and adaptive reuse theories, with a core belief in Carl Elefante's principle: **"The greenest building is the one that is already built."**

	This concept shaped the decision to retain and revitalize the existing commercial structure, aligning with sustainable urban development goals by conserving embodied energy, minimizing demolition waste, and reactivating underutilized spaces in Karachi's urban core.
	
	Supporting references include:
	
	• **Global and regional case studies**:
	  ○ *Tate Modern*, London – adaptive reuse of a power station into a cultural hub
	  ○ *JFHQ Building*, Tehran – adaptive reuse of a brutalist frame into a light-filled, multifunctional public building, aligning with climate-responsive and cost-effective retrofitting
	  ○ *Regent Plaza Conversion*, Karachi – conversion of an abandoned structure into residential units
	• **Key literature and theoretical frameworks**:
	  ○ *Bullen & Love (2011)* – Evaluating the sustainability and feasibility of building reuse
	  ○ *Orbasli (2009)* – Understanding the challenges of preserving and adapting existing buildings
	  ○ *Jatin Shah & Rahul Arangannal (2024)* – Guidelines for energy-efficient retrofitting practices in South Asia
	• **Contextual grounding in Karachi's urban crisis**, with specific focus on land misuse, decaying non-heritage structures, and the lack of public, inclusive commercial architecture

6	**Impact on Sustainability of Urban Regions or SDG-11 "Sustainable Cities and Communities"** This project directly contributes to **SDG-11** by addressing environmental, social, and spatial challenges within Karachi's urban core. It supports sustainable urbanism through: • **Mitigating urban sprawl** by utilizing an existing structure instead of expanding into undeveloped land • **Reducing carbon emissions and construction waste** through adaptive reuse, minimizing the need for new materials and demolition • **Creating inclusive and accessible public-oriented spaces** in a previously underutilized commercial building • **Promoting compact, walkable, and socially vibrant environments** that strengthen community ties and improve the urban experience
7	**Competitive Advantage or Unique Selling Proposition**
a	**Attainment of any SDG** **SDG-11: Sustainable Cities and Communities** • Promotes adaptive reuse over demolition, contributing to compact, resource-efficient, and inclusive urban regeneration. • Improves access to safe, functional, and vibrant public spaces in dense commercial zones. **SDG-13: Climate Action**

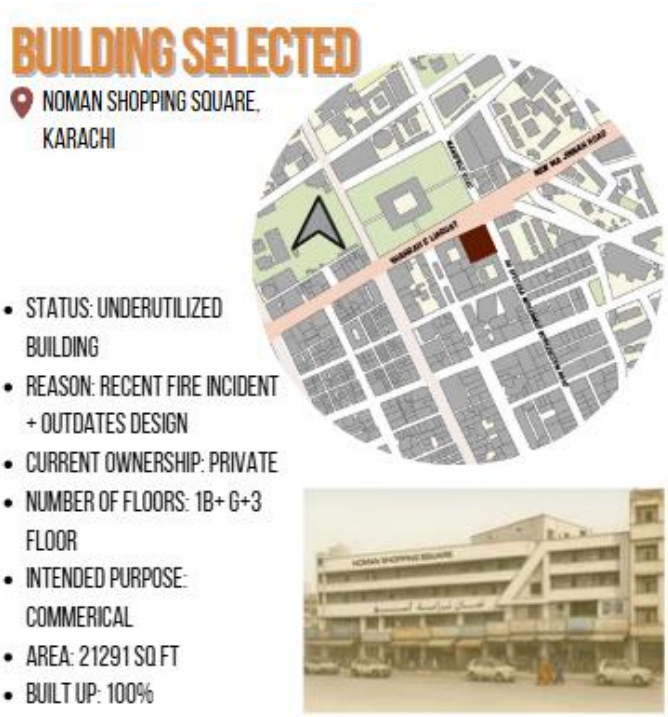
	• Reduces embodied carbon by conserving existing structural systems. • Incorporates passive strategies and a breathable façade to reduce energy consumption and heat gain. • Minimizes waste generation through low-intervention retrofitting. **SDG-12: Responsible Consumption and Production** • Encourages the reuse of existing material and spatial infrastructure. • Proposes sustainable resource use (e.g. natural lighting, ventilation, minimal mechanical systems). • Suggests circular design thinking by integrating long-term adaptability of spaces. **SDG-8: Decent Work and Economic Growth** • Revives a commercial structure in a key urban node, supporting informal vendors, small-scale businesses, and co-working activities. • Enables job creation through phased redevelopment, management, and building maintenance. **SDG-3: Good Health and Well-Being** • Enhances user well-being by designing with air, light, and thermal comfort in mind. • Reduces claustrophobic, unhealthy conditions in dense commercial buildings by opening voids, creating terraces, and introducing natural elements.
b	**Environmental Aspect** **Carbon Reduction:** • The proposed **double-skin wire mesh façade** reduces solar heat gain, thereby decreasing the building's dependence on mechanical cooling systems. It also filters out visual clutter, improving the commercial streetscape while cutting down on thermal loads. **Energy Efficiency:** • Retrofitting strategies involve enhancing **daylight penetration through voids, stepped floors, and arched openings**, minimizing artificial lighting requirements. • **Natural ventilation** is achieved through repositioned stairwells and vertical shafts, reducing reliance on fans or HVAC systems. **Material Conservation:** • By reusing the **existing structural frame** and limiting demolition, the project avoids excessive construction waste and promotes circular economy principles. • Minimal intervention with maximum spatial and performance gain ensures **lower embodied carbon** and material use compared to new construction.
c	**Cost Reduction of Existing Product**

	• While the **initial retrofitting cost** may seem comparable to new construction, this project ensures **long-term cost efficiency** by preserving the core structure and avoiding demolition and rebuilding expenses. • **Reusing the existing concrete frame**, vertical core, and circulation systems significantly cuts down on structural and material costs. • The **modular approach** to space planning reduces the need for custom interventions and allows future tenants to adapt spaces with minimal changes, saving maintenance and renovation costs over time. • Passive design strategies, such as **natural ventilation, daylight optimization**, and façade shading, help **reduce operational costs** related to lighting, cooling, and mechanical systems. • Commercial revitalization of the building also presents the opportunity for **generating rental income** through reactivated office floors, vendor spaces, and cafés, offsetting investment and creating long-term value.
d	**Process Improvement which Leads to Superior Product or Cost Reduction, Efficiency Improvement of the Whole Process** (e.g. What is the issue is current process and what improvement you suggests) **Issue in Current Process:** • The current urban development model in Karachi is heavily skewed towards **demolishing and reconstructing** buildings, even when the structural framework remains viable. • This leads to **unnecessary construction waste, higher carbon emissions**, longer timelines, and disruption of the surrounding urban context. • Developers often overlook the **economic and spatial potential** of existing underutilized buildings due to a lack of awareness or design intervention models. **Suggested Improvement:** • This project proposes a **design-led approach** that retains the existing concrete grid and reconfigures spatial layouts through **minimal structural changes**. • It serves as a **model for adaptive reuse**, allowing buildings to evolve based on changing community needs rather than being replaced. • By reactivating the structure with **targeted retrofitting**, such as improved vertical circulation, daylighting strategies, and flexible zoning, the process becomes **faster, more cost-effective, and environmentally responsible**. • This encourages a shift in mindset—from demolition to **revitalization as the default strategy**—and sets a precedent for policymaker and developer buy-in.
e	**Expanding of Market share** (e.g. how it expand and what is the problem with the current market) **Problem with the Current Market:** • Karachi's real estate market is highly focused on **new construction**, with minimal attention given to **revitalizing existing non-heritage buildings**, especially in dense commercial areas like Saddar.

	• Many underutilized buildings are seen as liabilities rather than **potential assets**, leading to market stagnation and urban decay in high-footfall zones. **How the Market Share Expands:** • This project introduces a **replicable retrofit model** for commercial buildings that are structurally sound but functionally outdated, opening a **new segment in the real estate and architectural market**. • By proving that retrofitting can transform unused spaces into high-yield commercial hubs, the project invites **new investment** into **sustainable redevelopment** rather than costly demolish-and-rebuild models. • It positions architects, developers, and urban planners to tap into a **growing demand for mixed-use, flexible, and sustainable urban environments**, thus expanding the influence of architecture within commercial redevelopment strategies.
f	**Capture New Market** (e.g. Niche market or unaddressed segment) • The project targets a **largely unaddressed segment** in Karachi's built environment: **non-heritage, underutilized commercial buildings** that fall outside the scope of both preservation and redevelopment. • While most adaptive reuse efforts focus on **heritage or industrial buildings**, this project opens a **new niche**, revitalizing **ordinary concrete-frame structures** that are abundant across the city but overlooked in development strategies. • It captures the interest of a market segment seeking **cost-effective, quick-turnaround spaces** for small businesses, start-ups, co-working ventures, and vendors who cannot afford prime real estate but thrive on location and accessibility. • This approach encourages **public-private collaboration**, especially in high-footfall zones like Saddar, by offering a **sustainable and scalable model** for low-intervention, high-impact retrofits.
g	**Any Other Aspect (Please tag it like above options)** • This project not only revitalizes a building but also contributes to the **revival of Saddar's urban character** by improving its visual language and street interface. • Through façade redesign, removal of visual clutter, and activation of public-facing areas, the building acts as a **pilot for improving the public realm** in chaotic commercial districts. • The proposal enhances **walkability, visibility, and accessibility**, especially important for informal vendors and pedestrians often neglected in current developments. • It introduces a **design-led urban repair model** that supports both micro-economic activity and macro-urban improvement—positioning architecture as a tool for spatial justice.
8	**Target Market** (Industries, Groups, Individuals, Families, Students, etc) Please provide some detail about the end-user of the product, process, or service • **Urban Developers & Real Estate Investors:** Seeking cost-effective and sustainable alternatives to new construction in prime locations. • **Government Planning Authorities & Policy Makers:** Interested in replicable models for urban regeneration and revitalization without large-scale displacement or demolition.

	• **Small Business Owners & Informal Vendors:** Who benefit from affordable, accessible, and strategically located commercial spaces in dense urban areas like Saddar. • **Freelancers & Startups:** Potential users of co-working and shared retail spaces that offer flexibility and community engagement. • **Local Community & Visitors:** End-users of new public spaces like rooftop cafés, seating zones, or activity areas integrated into the building. • **Architecture & Urban Design Students/Researchers:** As a case study model for sustainable retrofitting in rapidly urbanizing South Asian cities.	
9	**Team Members** (Names along with email address	**Fatima Ruba (AR-20008)** fatimaruba13@gmail.com ruba4300923@cloud.neduet.edu.pk
10	**Supervisor Name** (along with email address)	Internal Advisors: • **Dr. Masooma Mohib Shakir** masoomashakir@gmail.com • **Mam Sadia Bano** saadia.bano.7@cloud.neduet.edu.pk Co-Supervisors: • **Sir Salman Mazoor Hasan** salmanmh@neduet.edu.pk • **Ar. Fariha Zuberi** ar.farikhurm@gmail.com

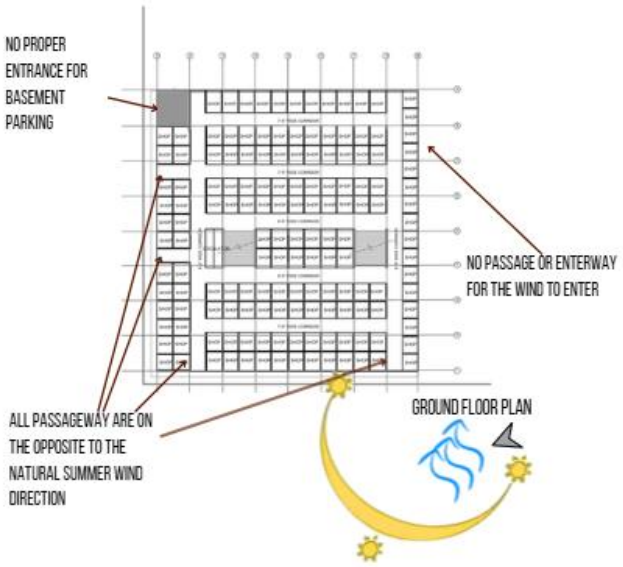
Pictures (If any)

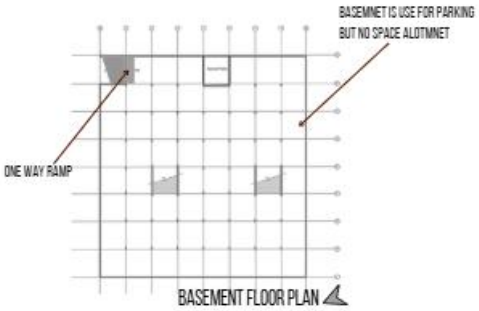


FACADE

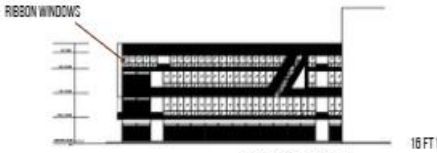
WHY THIS BUILDING?

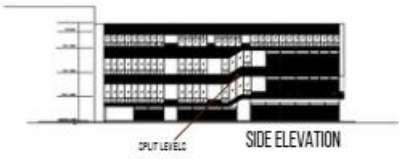
- DENSE URBAN SETTING – SADDAR COMMERCIAL CORE
- STRUCTURAL REUSE POTENTIAL – CONCRETE FRAME WITH OPEN SLABS
- UNDERUTILIZED – 480 SHOPS, MOST INACTIVE
- URBAN NEED – LACKS TOILETS, GATHERING SPACE, WOMEN'S ZONES

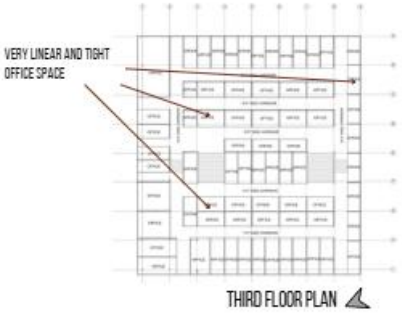




EXISTING PLANS







GROUND FLOOR

FIRST + SECOND FLOOR

THIRD FLOOR

FINSIHES

GLIMPSES OF THE BUIDING

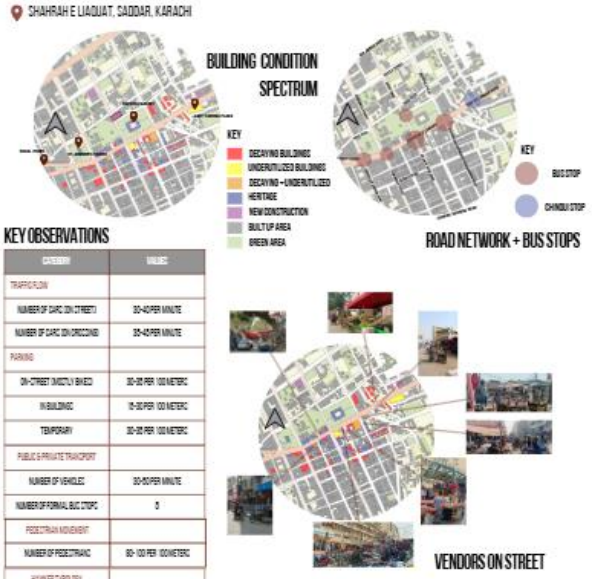
ESCALATOR FROM GROUND TO FIRST FLOOR

STAIRCASE

SKYLIGHT OPENING FOR STAIRCASE ON UPPER LEVEL

BUILDING UNION OFFICE

ROOF TOP



CATEGORY	VALUES
TRAFFIC FLOW	
NUMBER OF CARS (ON 2 STREET)	30-40 PER MINUTE
NUMBER OF CARS (ON OPPOSITE)	35-45 PER MINUTE
PARKING	
ON-STREET (MOSTLY BIKES)	30-35 PER 100 METERS
IN BUILDINGS	15-20 PER 100 METERS
TEMPORARY	30-35 PER 100 METERS
PUBLIC & PRIVATE TRANSPORT	
NUMBER OF VEHICLES	50-60 PER MINUTE
NUMBER OF FORMAL BUS STOPS	0
PEDESTRIAN MOVEMENT	
NUMBER OF PEDESTRIANS	90- 100 PER 100 METERS
FOOTPATH CONDITION	
FOOTPATH	30
ON CARTS	06
MOBILE	21

SWOT ANALYSIS

STRENGTH

- CORNER PLOT
- IN FRONT OF THE EMPRESS MARKET
- BUS STOP IS RIGHT ON THE CORNER OF THE BUILDING
- NO SIGN OF STRUCTURAL DETERIORATION
- HAS BASEMENT PARKING
- HAS 18 FT WIDE 2 STAIRCASES
- HAS A UNION FOR MANAGMENT
- STATUS OF OWNERSHIP OF SHOP IS RENTAL

WEAKNESS

- DARK INTERIORS
- POOR VENTILATION
- OVERLY CLUSTERED SPACES
- ABSENCE OF ELEVATORS/ESCALATORS
- OUTDATED BUILDING
- NARROW ENTRANCES
- LACKS COMPULSORY OPEN SPACES

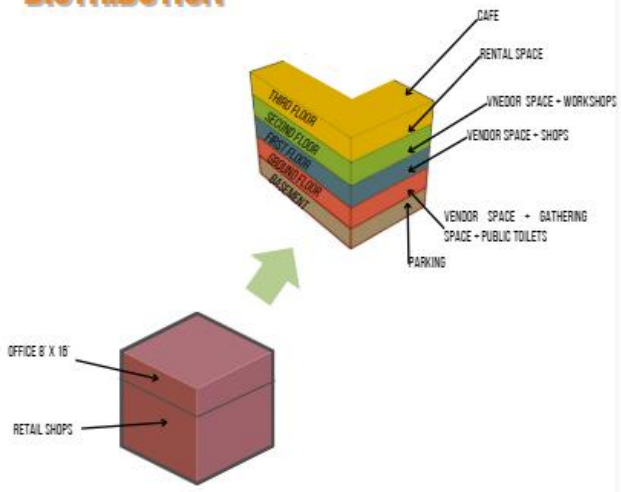
OPPORTUNITIES

- HAS SPLIT LEVELS
- HAS GRID PLANNING
- HAS 17'-6" X 18'-6" COLUMN SPAN
- UNDERUTILIZED (ALMOST VACANT)
- HIGH PRICE VALUE
- HAS 14'-6" FLOOR TO CEILING HEIGHT
- FOCUSED INTERVENTION WITH HIGH IMPACT

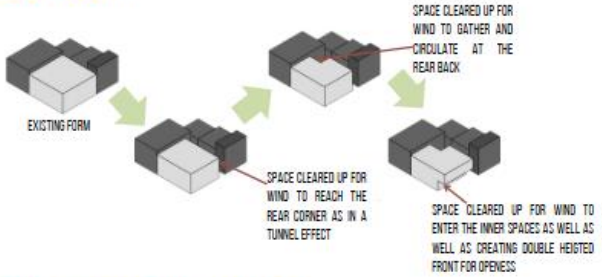
THREAT

- NOISE LEVEL IS HIGH
- NO FIRE SAFETY

PROGRAMMATIC DISTRIBUTION



CONCEPT



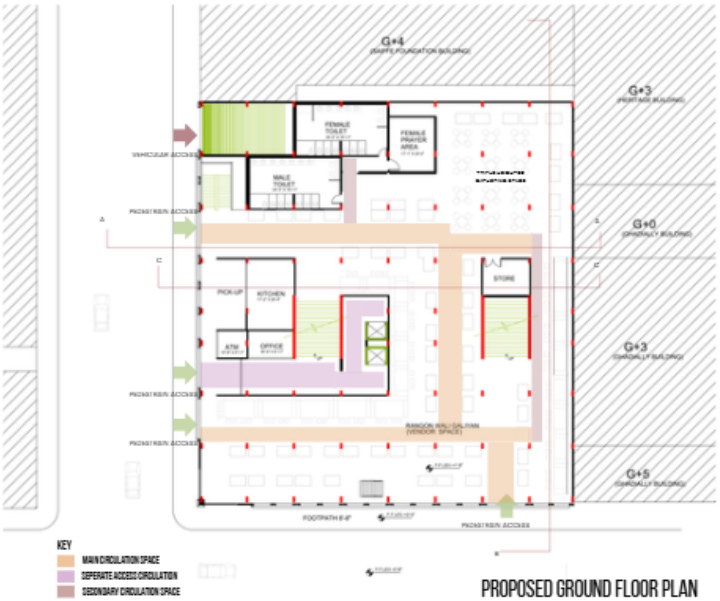
CONCEPT SKETCHES

PROPOSED DESIGN

GROUND FLOOR – PUBLIC REALM & VENDOR CORRIDOR

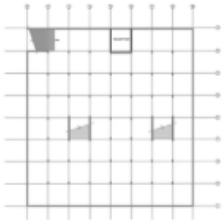
- EXISTING: CONGESTED RETAIL SLAB, NO AMENITIES, CHAOTIC VENDING
- PROPOSED:
  1. RANGOON WALI GALIYAAN: SHADED, RAISED STALLS FOR VENDORS
  2. QUADRUPLE-HEIGHT GATHERING SPACE: STACK-VENTILATED COMMUNITY HUB
  3. AMENITIES: CAFÉ COUNTER, TOILETS, WOMEN'S PRAYER/NURSING AREA, ATM
  4. CIRCULATION: CONTROLLED ACCESS VIA CORE & EMERGENCY STAIRCASE
- FOCUS: INCLUSIVITY, STREET ACTIVATION, ORGANIZED VENDING

EXISTING GROUND FLOOR PLAN



PROPOSED GROUND FLOOR PLAN

PROPOSED BASEMENT FLOOR PLAN



EXISTING BASEMENT FLOOR PLAN

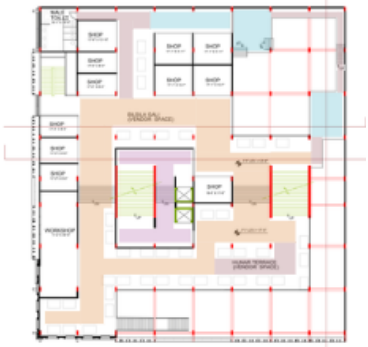
BASEMENT – PARKING OPTIMIZATION

- EXISTING: DISORGANIZED, POORLY VENTILATED PARKING
- PROPOSED: CLEAR CIRCULATION LANES, MARKED PARKING SPOTS
- STRUCTURAL CHANGES: NONE — LOW-IMPACT REUSE FOR FUNCTIONALITY

FIRST FLOOR – ARTISAN SUPPORT & DISPLAY

- EXISTING: INACTIVE WHOLESALE SHOPS, POOR CONNECTIVITY
- PROPOSED:
  1. TAILOR SHOPS AND TEXTILE SERVICES (PICO, TIE-DYE, OVERLOCK)
  2. HUNAR TERRACE: ARTISAN–PUBLIC INTERFACE FOR HANDMADE SALES
  3. REAR TERRACE: OUTDOOR WORKSHOPS & EVENTS
  4. TOILETS, BREAKOUT SPACES, WALKWAYS OVERLOOKING ATRIUM
- FOCUS: ECONOMIC UPLIFT + INTERACTION WITH GROUND-LEVEL ACTIVITY

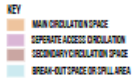
EXISTING FIRST FLOOR PLAN



PROPOSED FIRST FLOOR PLAN

PROPOSED SECOND FLOOR PLAN

EXISTING SECOND FLOOR PLAN



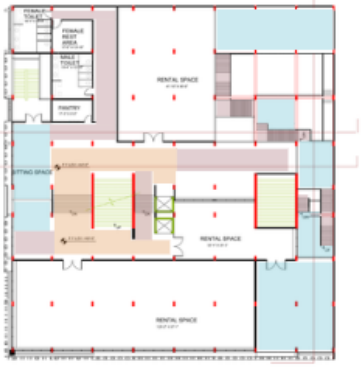
SECOND FLOOR – TEXTILE PRODUCTION HUB

- EXISTING: FRAGMENTED RETAIL UNITS, LOW FOOTFALL
- PROPOSED:
  1. TEXTILE WORKSHOPS: CUTTING, STITCHING, EMBROIDERY
  2. VENDORS FOR TOOLS/MATERIALS (SUI, DHAAGA, ETC.)
  3. MINAKARI TERRACE: LIGHT-FILLED EMBROIDERY SPACE
  4. VENTILATED VIA TUNNEL VOIDS & TERRACE CUTS
- FOCUS: INTEGRATED TEXTILE ECOSYSTEM WITH CLIMATE-RESPONSIVE DESIGN

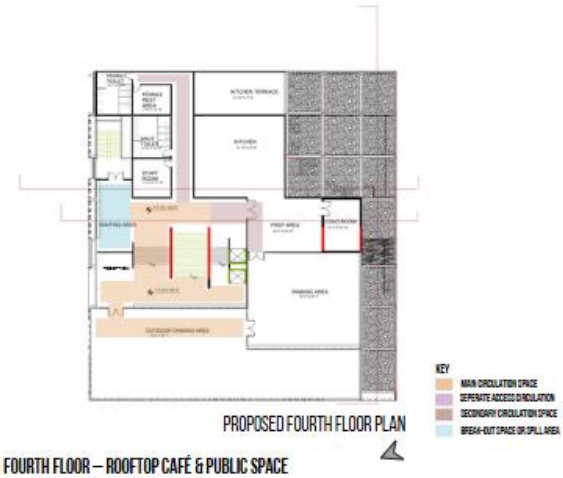
THIRD FLOOR – VOCATIONAL & COMMUNITY SPACES

- EXISTING: VACANT OFFICE UNITS
- PROPOSED:
  1. 3 FLEXIBLE RENTAL UNITS FOR TRAINING, OFFICES, OR COMMUNITY WORK
  2. AMENITIES: MALE/FEMALE TOILETS, PRAYER ROOM, PANTRY, SITTING ZONE
  3. CONTROLLED ACCESS VIA PRIVATE LIFT/STAIR CORE
- FOCUS: QUIET, INCLUSI

EXISTING THIRD FLOOR PLAN



PROPOSED THIRD FLOOR PLAN



PROPOSED FOURTH FLOOR PLAN

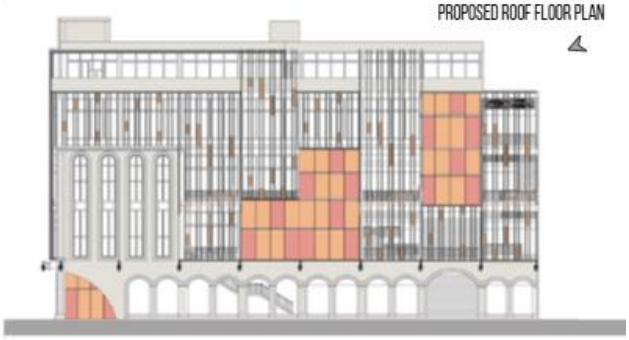
FOURTH FLOOR – ROOFTOP CAFÉ & PUBLIC SPACE

- EXISTING: UNUSED ROOFTOP
- PROPOSED:
- INDOOR/OUTDOOR CAFÉ SEATING WITH SKYLINE VIEWS
- KITCHEN, COLD ROOM, FOOD PREP AREA
- TOILETS, WOMEN'S REST/PRAYER ROOM, STAFF FACILITIES
- FOCUS: LEISURE DESTINATION + SKYLINE ACTIVATION

ROOF LEVEL – SERVICE & ACCESS

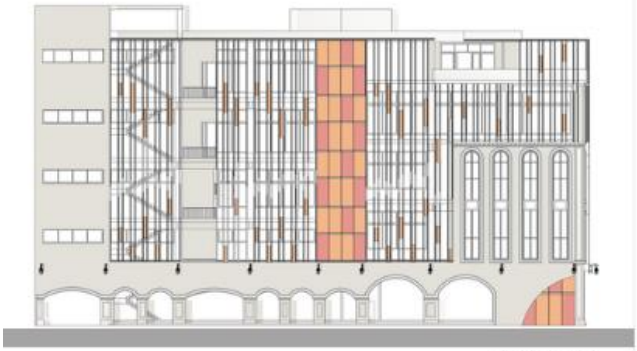
- ADDITIONAL MECHANICAL/UTILITARIAN ZONE
- MECHANICAL ROOM FOR LIFT
- SUPPORTS ROOFTOP OPERATIONS

PROPOSED ROOF FLOOR PLAN

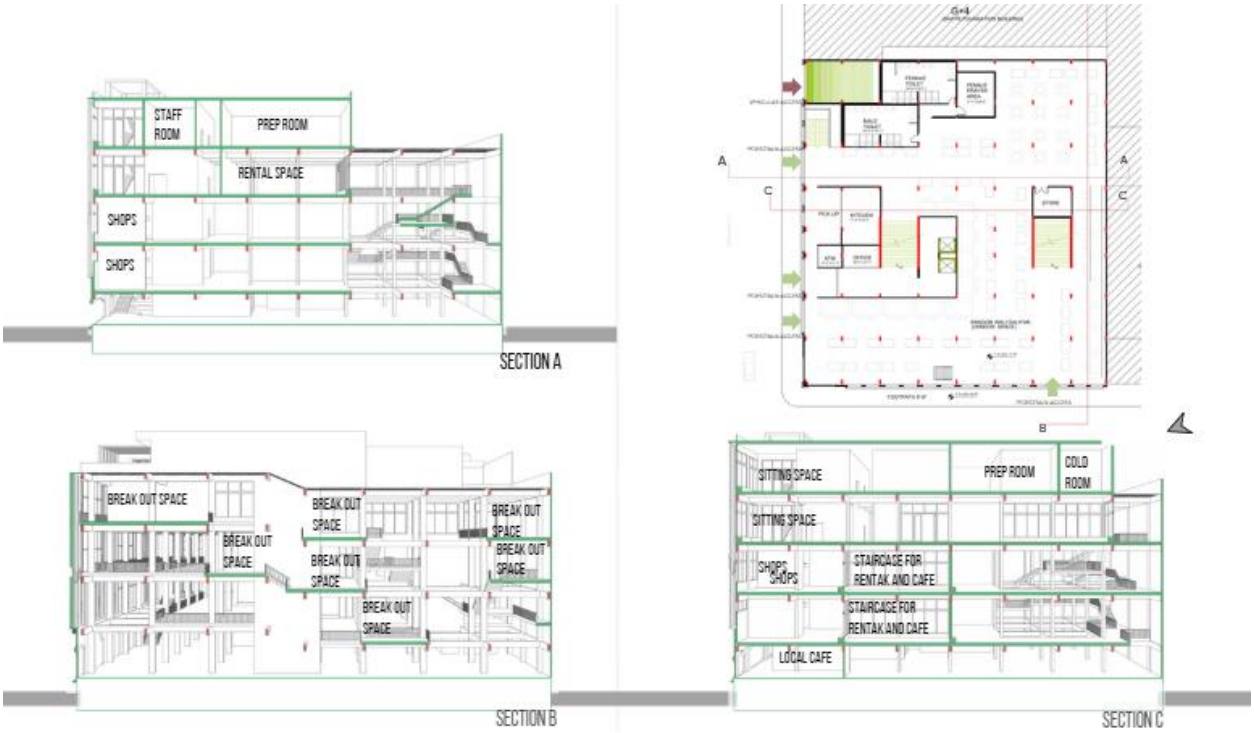


FRONT ELEVATION

- EXISTING FAÇADE WAS FLAT, WHITE-PAINTED WITH RIBBON WINDOWS AND LACKED IDENTITY.
- PROPOSED A DOUBLE-SKIN MESH FAÇADE (PINK & ORANGE) TO REDUCE VISUAL CLUTTER AND ADD VIBRANCY.
- INTRODUCED ARCHED OPENINGS FOR RHYTHM, SOFTNESS, AND SCALE.
- A VERTICAL POWDER-COATED STEEL FRAME SUPPORTS THE MESH AND ALIGNS WITH NEIGHBORING BRISE SOLEILS.
- FAÇADE IMPROVES VENTILATION, DAYLIGHT, AND ALLOWS FOR CONTROLLED SIGNAGE.
- AT NIGHT, LIGHTING BEHIND THE MESH ACTIVATES THE FAÇADE AS AN URBAN FEATURE.
- THE DESIGN GIVES THE BUILDING A BOLD, ADAPTIVE CHARACTER—REVITALIZED WITHOUT DEMOLITION.



SIDE ELEVATION



EXTERIOR

BEFORE

AFTER

OPENINGS

BEFORE

AFTER

BEFORE

AFTER

OFFICE

VIEW OF THE QUADRUPLE SPACE FROM GROUND FLOOR

VIEW OF THE QUADRUPLE SPACE FROM RENTAL SPACE THIRD FLOOR

REAR RENTAL SPACE THIRD FLOOR

FRONT RENTAL SPACE THIRD FLOOR

VIEW FROM REAR RENTAL BREAK OUT SPACE THIRD FLOOR

VIEW OFROM THE GROUND FLOOR RANGOON WALI GALI

VIEW FROM KASHIDA KARI TERRACE

BREAK OUT SPACE FOR THE WORKSHOPS AND SHOPS ON FIRST AND SECOND FLOOR

HUNAR TERRACE

KASHIDA KARI TERRACE

SOME GLIMPSES FROM THE PROPOSED BUILDING MODEL