International Journal of Social Sciences Bulletin
Volume 2, Issue 4, 2024 ISSN: (E) 3007-1917 (P) 3007-1909

ADAPTIVE REUSE: A TECHNIQUE THAT PROMOTES SUSTAINABILITY BY REPURPOSING EXISTING STRUCTURES, CONSERVING MATERIALS ENERGY, AND PRESERVING HISTORICAL AND ARCHITECTURAL INTEGRITY

Ar. Tajallah Sahar[*1], Ar. Adnan Ahmad Khan[2], Ar. Naeem Ullah[3]

*[*1](Graduated Student), Department of Architecture CECOS University Peshawar)*
[2](Associate Professor Department of Architecture CECOS University Peshawar)
[3](Assistant Professor Department of Architecture CECOS University Peshawar)

[*1]tajallahsahar039@gmail.com, [2]adnankhan@cecos.edu.pk, [3]ar.naeemullah786@gmail.com

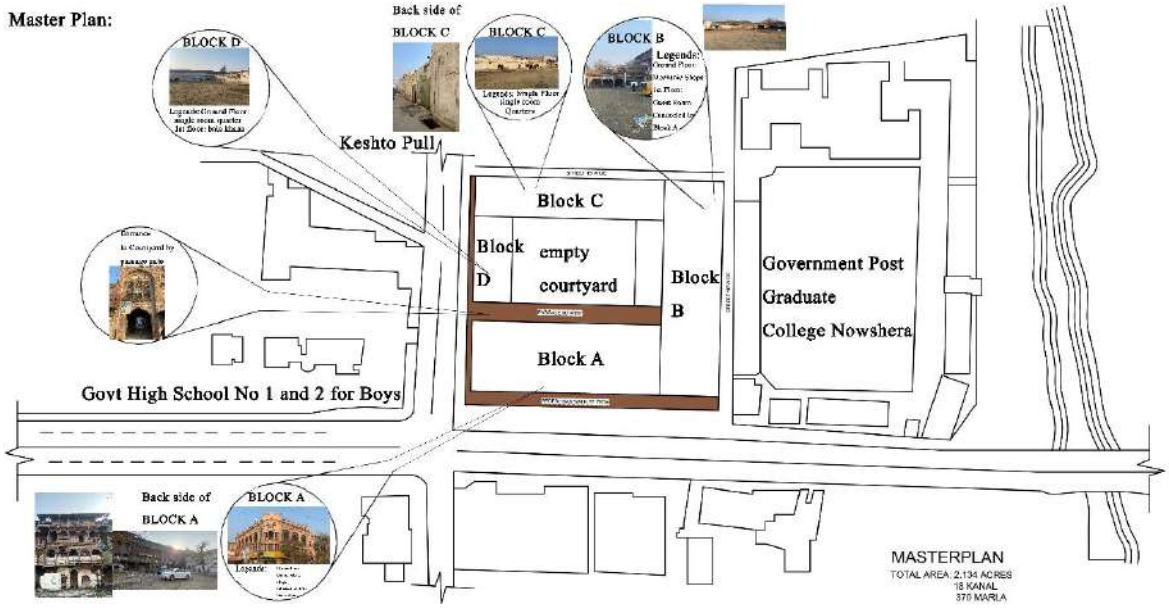
Received	Revised	Accepted	Published
29 October, 2024	29 November, 2024	14 December, 2024	21 December, 2024

ABSTRACT
*The Taj Building, located in District Nowshera, Peshawar, Pakistan, is a significant historical and cultural landmark, exemplifying the architectural features of the Indo-Saracenic style of the twentieth century. Despite its importance, the building has suffered decades of neglect and underutilization, lacking both essential facilities and a comprehensive development plan to realize its full potential. Currently, its functional use is limited, serving only basic commercial purposes. This paper explores the adaptive reuse potential of the Taj Building to propose design guidelines aimed at preserving its unique architectural and cultural heritage while enhancing its functionality for the local community. The guidelines are grounded in a thorough heritage assessment, focusing on both the tangible and intangible aspects of the building. The **research methodology** integrates two main components: a comprehensive literature review and on-site fieldwork. The **literature review** examines the history, architectural features, and social context of the Taj Building, as well as the principles of adaptive reuse. The **theoretical framework** informed about field visits, enabling a detailed evaluation of the building's current condition. The **findings** from both sections are synthesized to propose design guidelines for the future adaptive reuse of the Taj Building. In **conclusion**, this paper offers a sustainable development proposal for the Taj Building, balancing the preservation of its architectural and historical value with the provision of modern facilities to serve both visitors and the local community.*
Keywords: *Indo-Saracenic style, Architectural Features, Adaptive reuse, culture heritage, Heritage Preservation, Heritage assessment, Social context.*

INTRODUCTION: In the field of architectural conservation and sustainable urban development, adaptive reuse of historical structures has gained significant attention. This approach not only helps preserve cultural heritage but also meets contemporary needs. The Taj Building serves as an example of such adaptive reuse, with this thesis exploring the process of repurposing it for modern functions, addressing the challenges, opportunities, and implications involved.

The Taj Building, built in the 1920s during British rule, holds architectural grandeur and historical significance in Nowshera's urban landscape. Over time, it has witnessed the city's evolution and various historical events. However, like many heritage structures, it faces issues such as neglect,

deterioration, and shifting urban dynamics. Adaptive reuse is proposed as a viable strategy to maintain its cultural identity and ensure its relevance in modern times.



Adaptive reuse involves repurposing existing structures for functions other than those for which they were originally intended, striking a balance between preserving the historical integrity of the building and meeting contemporary needs. This thesis aims to explore the potential of adaptive reuse as a sustainable solution for the Taj Building in Nowshera, envisioning a future where this heritage site becomes a dynamic and integral part of the city's social, cultural, and economic fabric.

The Taj Building is renowned for its architectural beauty and has survived for many decades; yet, it now requires our attention for its protection and preservation. This three-story building consists of a lower ground floor, an upper ground floor, and a first floor. The façade is adorned with intricate floral and vine patterns in stucco, showcasing a blend of Gothic, Roman, and Oriental architectural styles. The entrance is accessible from nearly every corner of the building, with the west side featuring an arch and a Jharoka-style window above it. Additionally, the wooden balconies at the back of the building add to its aesthetic appeal.

Nowshera is a district in the Khyber-Pakhtunkhwa Province of Pakistan. Previously Known as 'Nowshera Province', it was annexed into British India via the Durand Line Agreement. The district was part of the Peshawar Division until government reforms in Pakistan. During British rule, Nowshera was a town, cantonment, and Tehsil of the Peshawar District. The town was located along the North-Western Railway and Grand Trunk Road. According to the 1901 census of India, its population was 9,518. The Imperial Gazetteer of India describes the cantonment as stretching along the right bank of the Kabul River on a sandy plain, three miles in diameter, surrounded by low hills except to the north, which is open towards the river. The garrison included one British infantry regiment, two Native cavalry, four infantry regiments, a mountain battery, and a bearer corps, all belonging to the Peshawar division of the Northern Command.

District Nowshera (locally called Now- Khar) comprises three Tehsils and 47 Union Councils, covering an area of 1,748 square kilometers (675 square miles) between latitudes 33° 42' to 34° 09' and longitudes 71° 41' to 72° 15'. Nowshera was s sun-Tehsil of District Peshawar until 1988 when it was designated as a district. Strategically, District Nowshera is located between District Peshawar to the west, Charsadda and Mardan to the northwest, Swabi to the east, and the Attock district of Punjab Province to the southeast.

(Lahore: Global Publishers, 1969)

In conclusion, the adaptive reuse of the Taj Building presents an opportunity to revitalize this historical structure, ensuring its preservation while integrating it into the contemporary urban fabric of Nowshera. This initiative not only honors the building's rich heritage but also contributes to the cultural and economic vitality of the community.

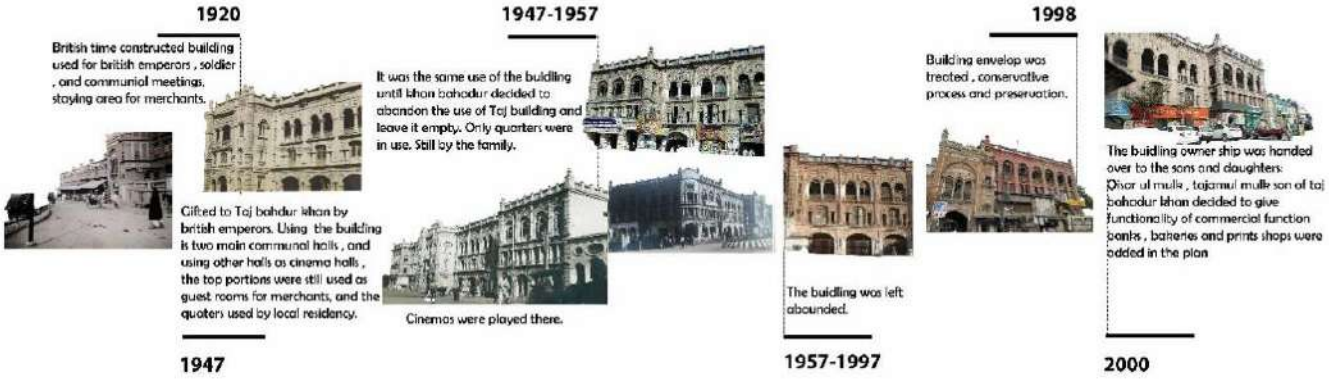
History of Owner:

Khan Bahadur Taj Mohammad Khan, a prominent colonial-era contractor and landlord from Badrashi village in Nowshera, built several notable mansions, including the current Defense College building in New Delhi and the Rose Palace in Lahore. His estate includes a large garden palace in Badrashi, now under the care of his son, Taj ul Mulk, a businessman who recently returned to Nowshera after settling a lengthy legal dispute with shopkeepers.

Taj ul Mulk maintains the ancestral mansion in its original state, treating it as a living museum filled with artifacts such as Persian carpets, antique furniture, and historic photos, including one of Field Marshal Alexander of Tunis, who commanded the Nowshera Garrison in 1925. He values the mansion as a symbol of his family's heritage and legacy, intending to preserve it.

However, he faces a dilemma: while he understands the importance of protecting the Taj Building as national heritage, he is concerned that if it is officially designated a 'protected heritage monument,' government restrictions might limit his ability to make desired modifications. Additionally, he doubts the government's capacity to fund adequate conservation efforts, estimating the need for five million rupees, which he could cover personally. Taj ul Mulk aims to preserve the building's facade while using it commercially for his livelihood.

EXPLANING THE TIMELINE HISTORY OF TAJ BUILDING:



- The Taj Building in Nowshera, built in the 1920s, stands as a historical and architectural gem with a unique blend of Roman, Gothic, and Oriental styles.
- The building, owned by Taj ul Mulk, holds personal and historical significance, being associated with Khan Bahadur Taj Muhammad Khan and his contributions to the colonial era.
- The structure's deteriorating state, with unattractive advertisements, dilapidated wooden windows, and crumbling stucco work, underscores the urgent need for conservation efforts.
- The broader setting involves a region (NWFP) with a rich cultural and archaeological heritage facing challenges due to weak heritage legislation, bureaucratic complexities, and insufficient conservation efforts.

What This report all about:

The adaptive reuse of the Taj building in Nowshera presents a sustainable and culturally sensitive approach to heritage conservation, aiming to transform the historic structure into a functional, modern space that not only preserves its architectural significance but also revitalizes the surrounding community by fostering economic, social, and environmental benefits.

The Main Objectives:

- Documentation of the Historical Taj building (both the structural, pictorial, historical, and proper measurement)
- Adaptive Reuse of the Building (bringing life back to the building by functionally reusing the building)

Methodology:
The study uses a qualitative research methodology to explore best practices for adaptive reuse of heritage buildings. Primary data includes stakeholder interviews and site visits, while secondary data includes literature review and historical records analysis. Methods are developed considering social, economic, architectural, historical, and environmental aspects, and an implementation framework.

The Model for an Adaptive Reuse process of a Heritage Building:
- Initiative
- Analysis of the Building
- Value Assessments of the Building
- Mapping level of Significance
- Adaptive Reuse Potential (Function)
- Defining the Decision Making
- Execution
- Maintenance

Review of Literature:
Building Adaptation:
Building adaptation in literature and practices possess extensive terminologies, such as refurbishment, retrofitting, rehabilitation, renovation, restoration, modernization, conversion, adaptive reuse, and material reuse (Shahi et al., 2020). Utilization of adaptive reuse (Arfa et al., 2022; Lanz & Pendlebury, 2022; Li et al., 2021) combines conservation principles with efficiency of natural resources, less construction cost, and shorten construction time (Almeida et al., 2018). Its application preserves and strengthen historical and cultural quality through building conversion that enable the historic building's new potential. Building regeneration promotes sustainability that integrates contemporary aspects in a historic building, thus increasing its architecture value (Ros-García, 2022). Theoretical reference in this study is based on building adaptation theory (Wilkinson,2011), which elaborates 8 factors in building adaptation:
(1) regulatory and legal
(2) government incentives
(3) environmental
(4) risks
(5) social
(6) economic and costs
(7) location and site
(8) physical condition of building.
These factors have multiple relationship with one another that relates to internal and external aspects of a revitalizing historic building.

When was it considered as Heritage Building: The Taj Building was notified on Sep 26, 2007 by the NWFP Directorate Archaeology under the so-called Antiquities Act 1997. It was done so as per the directive of former governor Lt Gen (R) Ali Mohammad Jan Orakzai.

INVENTORY FORM FOR HERITAGE PROPERTY

NED Ref. NO: **Taj Building No 1101 & 1126**

H.F Register Ref. No: **4305/D-5(b)61 dt 12-10-61 (812/BSB)**

Name of Building: **TAJ Building Nowshera**

Complete Address: **2X4P+8XQ, Grand Trunk Rd, Saddar Nowshera, Khyber Pakhtunkhwa**

Date of Construction: 1920

Enlistment No: 19-09-2020 31-05-2059

Ownership: Government of Pakistan

Building Type: Guest Room & Cinema

Present Status: Not Maintained

Occupancy: Owned

Alterations: Done on Ground Floor for Banks and Shops, Cinams are used as Snooker

Building Height: G+1+2

Threat Level: Bad State of Condition

Architectural Features: The facade of the three-storey building is highly decorated with floral and vine patterns in intricate stucco. The sweeping round arches and numerous embellished columns represent a charming architectural blend of Roman, Gothic and Oriental. An arched gateway on the side of the building with beautiful jharoka-styled (elevated window balcony) features leads into the main compound

Parameters for Merit:

* (10pts) external architectural features, incsdecoration, etc.
* (10pts) representative of typical or unique plan typology.
* (10pts) evidence of unique craftsmanship.
* (10pts) record of variation in construction materials.
* (10pts) representative of social,cultural & economic value.
* (10pts) contributes to the group value of an area or cluster.
* (20pts) Landmark value.
* (10pts) Public Eminennce/ Significance.
* (20pts) corner plot with three facades on street/ main roaad.

Degree of Value
1 Degree (110pts)

Usage	
Lower Ground Floor:	Snooker Game
Ground Floor:	Banks, Shops, Bakery
1st floor:	Guest Room
2nd Floor:	Quarter Rooms

Existing Condition:

PHOTO OF DETAILS

Literature Review / Case study:

The Shah Din Manzil and Bawa Dinga Singh Building on Mall Road are notable examples of colonial heritage architecture in Pakistan, serving commercial and residential purposes, respectively. This study compares the adaptive reuse impacts on these structures, focusing on decision-making involving stakeholders like owners, tenants, and governmental bodies, alongside legislative frameworks for heritage protection. Adaptive reuse is assessed across heritage, architectural, environmental, social, and economic dimensions, identifying factors influencing its success or failure. The research emphasizes the need for effective policies and thorough investigations to ensure sustainable conservation and highlights adaptive reuse as a vital strategy for preserving colonial-era heritage (Rehman, N., Jalil, A., & Siddiq, M. 2022)

Case Studies:

1: Grand city House to Apartments: Bab worth House, Darling Point.

The Project:

A grand 93-room Sydney mansion called Babworth House was adapted to five apartments, and ten new houses were constructed within its grounds. The house and its garden setting are listed on the State Heritage Register.

The Site:

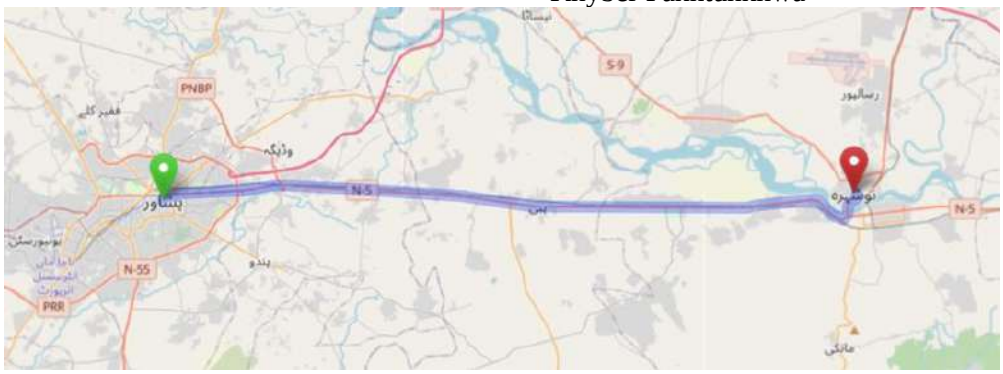
Babworth House was designed by Marrow and de Putron in 1912 on the site of Mount Adelaide House, a Mortimer Lewis design. The house was commissioned by Sir Samuel Horden. Following his death in 1956 it was used by St Vincent's Hospital (1961 – 1998).

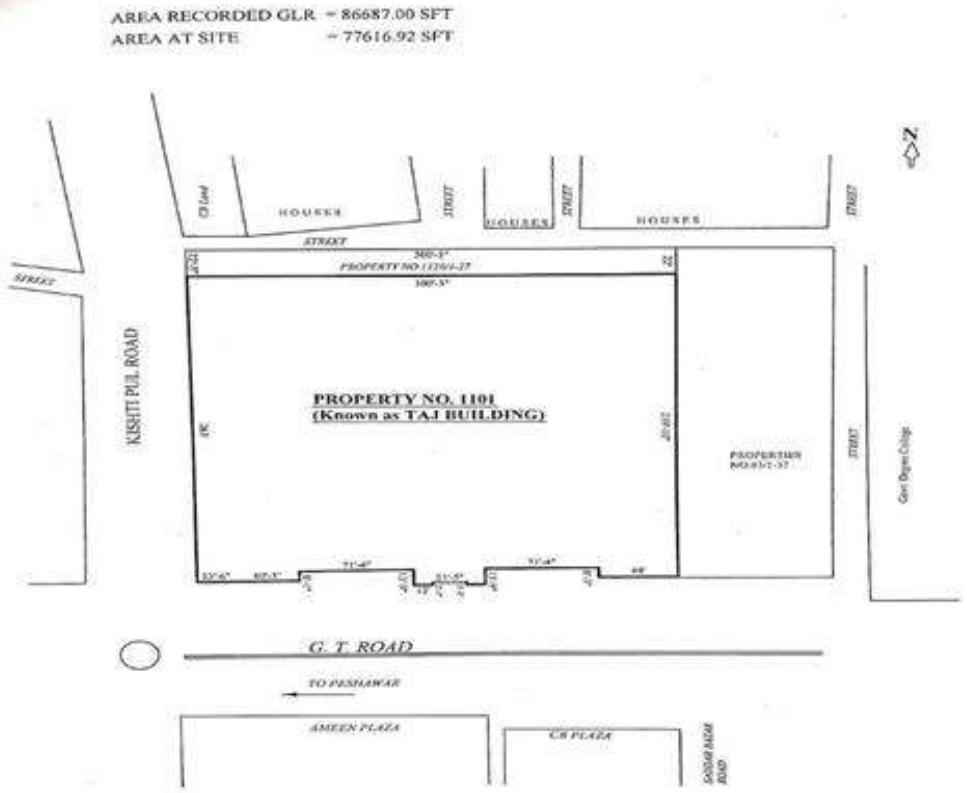
Above: The ground floor plan prior to adaptation
Right: The ground floor of Babworth House showing the layout of apartments 1-3

ADAPTATION PRINCIPLES		ASSESSMENTS
Understand significance		• The conservation plan clearly identified significance, and this was translated into policy in the DCP
New use to be appropriate to heritage significance	Retain use when significant	• Residential use was retained, although at a higher level of density, and the garden setting was conserved
	New uses to be compatible	• The new houses in the grounds retained the original residential use, as did the apartments
Level of change to be appropriate to significance	Minimise impact on significant fabric	• New buildings were placed sensitively in relation to garden features and views from the house to the harbour were retained
	Conserve significant interiors	• The apartment layouts maintained the original relationships between significant rooms and new services were located in areas of lower importance
Provide for reversibility and future conservation		• The new occupancy configuration does not prevent the future reconversion to a house with a single occupancy
Conserve relationship between significant setting and views		• The views from the house and garden areas to the harbour have been retained • The views from the house to garden features have been conserved
Provide for long-term management and viability		• Community title rather than strata title was used, which provided joint and shared ownership and responsibility for the house and garden, including the new buildings
Reveal and interpret heritage significance		• Significant fabric was conserved and restored. The garden was re-established following the construction and adaptation

Site Analysis of Taj Building Nowshera:

Location: Grand Trunk Rd, Saddar Nowshera, Khyber Pakhtunkhwa Historical place in Nowshera, Khyber Pakhtunkhwa





Description of Zoning

North side	Residence with 2, rooms quarters
South side	Building with shops at back, and banks at front, also having snooker lounge at the lower ground
East side	With courtyard it has 3 mechanic shops, at back it has 2 room quarters
West side	With courtyard it has 1 room quarters and with road it has different mechanic shops
Courtyard	Courtyard is dumping area with no vegetation
Floor number	**3:** lower ground (cinema) ground floor (now banks) 1st floor as guest rooms
vegetation	**Only 1 tree but not green**

Vision blocked from all side as building is like an envelope surrounded by other building, only you can see view from 1st floor. But that is also blocked by some high rise building at south side.

North side	North side vision is blocked by Residence, wooden Terrace but openings are blocked at north side now
East side	East Side vision is blocked by residence No windows at east side
South Side	South side have big windows with vision not completely block but some high rise building at opposite road is there
West side	West side have windows too with 2 schools opposite the road but no vision is blocked
Circulation of Air	Circulation of air possible all over in the building as from each side it has opening other than east
Light	Natural light is been entered properly to each side of building

Legality

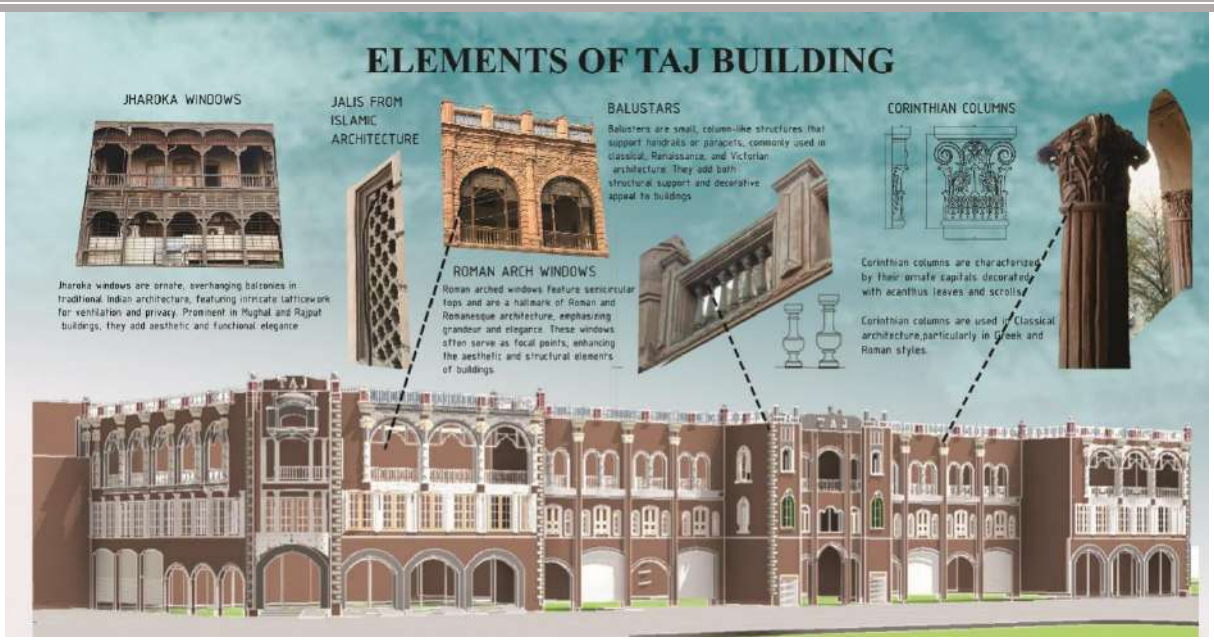
S.No		Existing Entries	Proposed Entries
1)	Detail And Date Of Mutation	Taj Building comprising of Flats Nos 1101/1-7 Balakhana Nos 1101/8-12, shops Nos 1101/13-23 house Nos 1101/24-36 Garages No 1101/37-59 shops Nos 1101/60-62 Cinema No 1101/63-64 , 65-67,69,70 & post office 1101/68 & Houses Nos 1126/1-27 gifted to Tajul Mulk khan vide regtd deed No 207 bk 1 Vol 114 and its copy pasted as no 38 in additional book No 1 vol 36 on pages 73-78 on 16-6-61 in the office of the joint sub registrar Lahore. Transfer sanctioned vide Govt of Pakistan Ministry of Defense letter NO 4305/D-5(b)/61 dt 12-10-61 (812/BSB)	
2)	Subsidiary Svy No.		
3)	Volume And Page Of Register.		
4)	Area In Sft/Acres	2.134 Acres	
5)	Description	Taj Building No 1101 & 1126	
6)	Class	B-3	
7)	By Whom Managed	Cantt Board	
8)	Landlord	Govt of Pakistan	
9)	Holder Of Occupancy Rights	Tajul Mulk Khan s/o K.B Taj Mohammad Khan	
10)	Nature Of Holder's Rights	Code lease Form "D" Lease in Sch: IX-A of the CLA Rules 1937	
11)	Rent Payable Central Govt. Cantt Board	Rs. 201-37	
12	Date Of Expiry Of Lease	19-09-2020 31-05-2059	

Design of Taj Building Nowshera:
The building was made using Oriental, Roman, Gothic and Islamic architectural designs.

Now Observing Taj Building Nowshera

- Consisting of Windows of Islamic and Roman Architecture
- Columns from roman style
- Small domes type minarets as oriented structure at the top of buildings.
- Oriented sharp structure like leaves and façade orientation as gothic period style.
- Courtyard as Islamic architecture.
- Main windows at the start of courtyard entrance like roman period.

International Journal of Social Sciences Bulletin
Volume 2, Issue 4, 2024 ISSN: (E) 3007-1917 (P) 3007-1909



The Study Area:

Documentation

Phase 01 :(Cataloging Documentation) or Complete Inventory Documentation:

Complete inventory documentation is crucial for understanding and managing the existing conditions and materials of the historical building. Here's how it can be used:

1.Detailed Asset Register: Document all existing architectural elements, structural components, fixtures, and finishes. This includes original materials, historical features, and any previous modifications.

2.Condition Assessments: Conduct thorough assessments of the current condition of all elements and document any deterioration, damage, or areas requiring repair or restoration.

3.Historical Records: Gather and document historical records, previous renovations, and changes made to the building over time.

4.Material Inventory: Catalog all materials currently present in the building, noting their historical significance, current state, and any conservation issues.

5.Equipment and Tools Inventory: Document any existing equipment and tools that may be relevant to the building's maintenance or future adaptive reuse needs.

Catalog Documentation

Catalog documentation is essential for planning and executing the adaptive reuse project. It provides detailed information on new materials, products, and components that will be integrated into the historical building. Here's how it can be used:

1.Product Descriptions and Specifications: For all new materials and components that will be introduced to the building, ensure detailed descriptions and specifications are documented. This helps maintain consistency and quality in the adaptive reuse process.

2.Performance Data: Include data on the performance of new materials, ensuring they are compatible with the historical building's needs and do not adversely affect its integrity.

3.Installation Instructions: Provide detailed installation guides for new materials and systems to ensure they are correctly implemented without damaging historical elements.

4.Maintenance Information: Document maintenance requirements for new materials and systems to ensure their longevity and proper integration with the historical building.

5.Sustainability Data: Include information on the sustainability of new materials and practices, particularly important in adaptive reuse projects aiming for environmentally friendly outcomes.

Integration and Use in Adaptive Reuse

For adaptive reuse of historical buildings, it's critical to use both types of documentation in an integrated manner. Here's a suggested approach:

1.Initial Survey and Inventory: Start with a comprehensive survey of the building to create a complete inventory documentation. This includes all historical elements, materials, and the current condition of the building.

2.Historical Analysis and Research: Use historical documentation to understand the building's original design and any changes it has undergone. This informs decisions on which elements to preserve, restore, or adapt.

3.Design and Planning: Develop adaptive reuse plans using catalog documentation to specify new materials, products, and systems. Ensure these new elements are documented in detail, with consideration for their impact on the historical integrity of the building.

4.Implementation: During construction, use the detailed catalog documentation to guide the installation of new materials and systems, ensuring adherence to specifications and preserving historical elements.

5.Ongoing Maintenance and Monitoring: Post-construction, maintain a detailed inventory of both historical and new elements. Use this combined documentation to guide maintenance activities and monitor the building's condition over time.

Doing documentation means lots of

- visits to site,
- observation,
- sketches,
- mobile captured features,
- drone captured views of the building, site, and location,
- elements observation,
- history gathering from different organizations, books and people.
- Drawing Rough sketches, of plan elements and
- observing the accessibility through drone,
- using different tools for measurement such as
- measurement tape 100meter long, 200 meters
- laser measurement tool
- mobile app identification for elements and structural phases,
- observing material through history and TMA help.

Methodology:

I. Collection of secondary data (Research journals, books, articles, Reports, Software manuals).
II. Collection of Primary data (Questionnaires, Interviews).
III. Development of Design Brief in consultation with stake holders (Faculty, Staff, Project Directorate, Senior Management).
IV. Site analysis of available options in consultation of stake holders.
V. Developing schematics for proposed design solution.

- Case studies (National and International)
- Visits
- Report related to the topic.
- Interviews with experts.
- Discussion with teachers.

Structural Problems and Recommendations:

There are a lot of problems and issues which cause the deterioration and destruction of the structures of Taj building. Followings are some of the issues with proposed recommendations.

1. **Polluted Air:** Due to the heavy traffic around the building, a lot of pollution is surrounding and damaging the Taj Building. Carbon dioxide, Nitrogen dioxide, hydrogen sulphide and other pollutants affect the materials and color of Taj building.

2. **Wild Growth and Plantation:** There are no plans for the cleaning of the building. As a result, one of the serious problems is the wild growth covering the open areas as well as the structures. There is an urgent need for cleaning of the building.

3. **Microorganisms Fungus:** lichen and mosses are common at Taj building. Stains and blackish spots are clear on stone. These stains are a result of fungus and lichens. The growth of microbes depends on environment and food present for survival. These lichen and fungus react chemically with stone and start deterioration.

4. **Solid Waste:** Solid waste is another major problem.

5. **Stone Decay and Deterioration:** The main cause of stone deterioration is time factor. Salt formations at some places on site are also present. Soluble salts are very dangerous for fragile stone as

they form salt crystals and cause stone degradation. Efflorescence also causes a big loss to the cultural. Mostly salt effect is active in rainy days, when stones and mortar absorbed water and then evaporate it. This process may cause Efflorescence and stone and mortar is start deteriorating.

6.**Security:** There is negligible security system in place and the entire the Taj building is open to all kinds of vandalism. The building can be approached from all sides and the limited staff of the department of archaeology and museums is unable to exercise proper control in the area.

7.**Vandalism:** At present, there is no specific protection on monitoring and maintenance of Taj building and they are subject to damage by natural elements and people walking and climbing on them. Fabric and built element are being dislodged and eroded. Continual damage of this kind may result in the loss of important archaeological evidence.

8.**Graffiti by Visitors:** Inside the building due to attraction of most people to walls of building there is probability of Graffiti. Because of poor security, no proper watch and ward, lack of management plan and no proper guidance, graffiti is common on site.

9.**Storm Water Drainage:** The natural slopes and ridges dictate the drainage pattern. The topographic map of the Taj building shows the bed levels of drainages running along the ridges. The building is under serious threat from flash flood caused due to heavy monsoon rains particularly to those walls/elements standing on the edge of these ridges.

Management Issues and Problems:

1. Unavailability of experienced and trained staff the need of implementation the building master plan.
2. There is no system to guide conservation and management.
3. The need for training at regular basis.
4. No local and international support.

No Separate system of maintenance and monitoring.

Conservation Work Issues:

1. The need for an updated, professional, overall approach to planning and implementing conservation is keeping with international standards and guidelines for building.
2. The need for prioritizing conservation works and dealing with emergency situation.
3. Lack of a comprehensive and standardized documentation system.
4. A state-of-the-art conservation laboratory needs to be established.
5. Shorting of trained and skilled artisans and traditional craft to carry out conservation works.
6. The need for a centralized system for shortage of antiquities, sculptures, artifacts and material samples, with computerized inventory. 7. The need for a systematic and scientific archaeological research.
8. The importance of in-house execution of conservation works rather than reliance on outside contractors.

Data Analysis:

After all the documentation phase we have to analyze all the plan to further implement the adaptive reuse on all the building plan.

Planning of Building:

Then we did all the planning of building in auto cad, Revit software's.

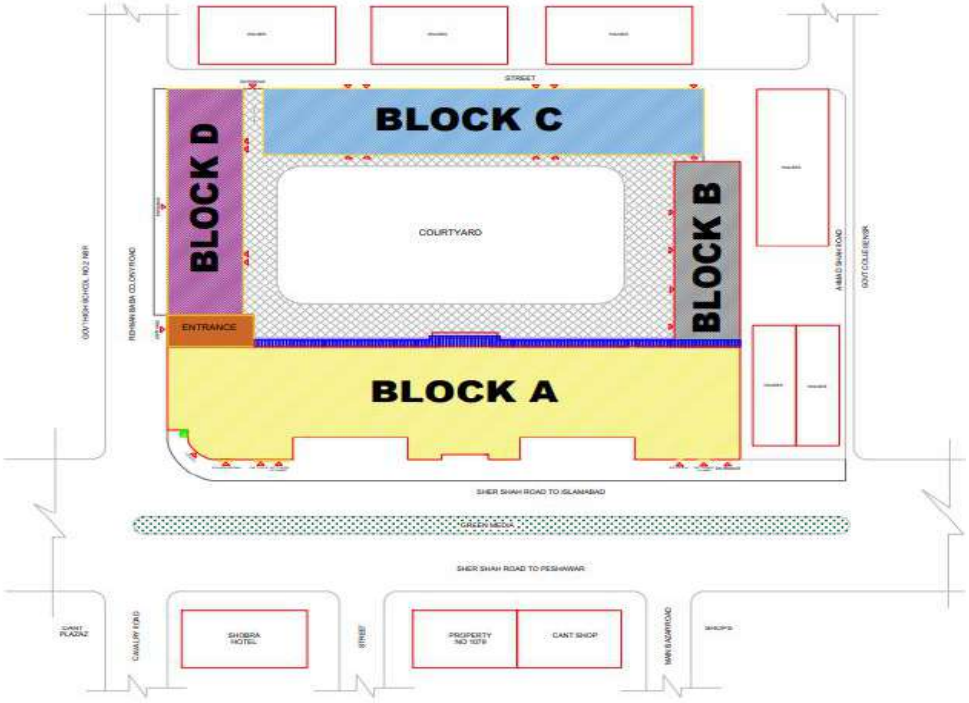
In planning we have:

- Master plan
- Block A
- First floor plan
- Second floor plan
- Third floor plan
- Rooftop plan
- Block B
- Block C
- Block D
- Elevations (Front (South facing), Back (North Facing), Side (West facing)

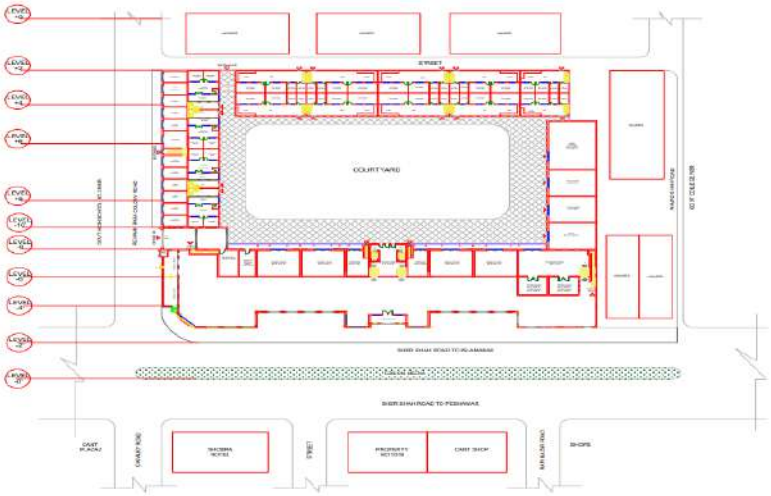
EXISTING STRUCTURE Master Planning:

After measurements taken on site, we should first start planning on AutoCAD the masterplan for good way to observe and know the functionality of site.

TAJ BUILDING NOWSHERA
AREA: 2.134 ACRE ,17 KANAL ,92565 SQUARE FEET



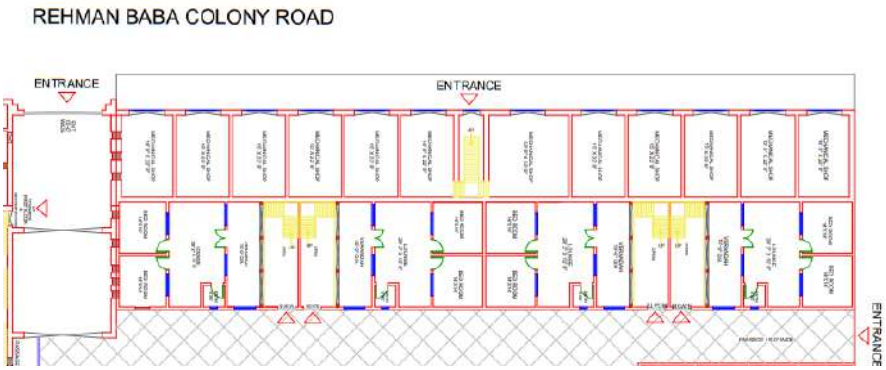
Existing Planning of Taj Building Nowshera:
Lower Ground Floor:



Spaces in Lower Ground Floor of Block A:
Spaces in Ground Floor of Mechanical Shops:

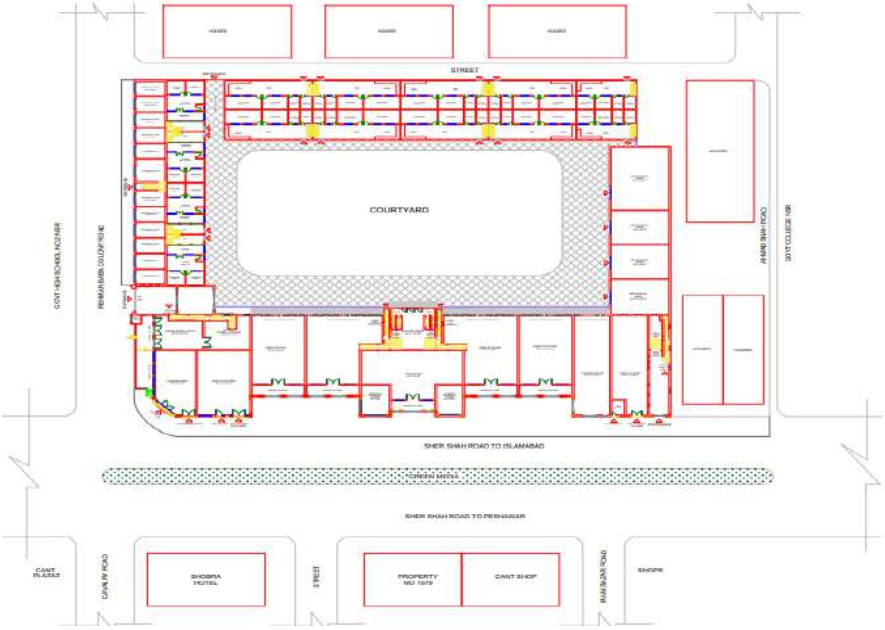
- Ware House Mechanical Shops
- Snooker Room
- Storage or Godam
- Pharmacy
- Mobile Repair Shop

Spaces in Ground Floor of Block C: With 2 Bed Room, 1 Toilet, 1 Bath and open Kitchen
10 Quarters



Spaces in Ground Floor of Block D: 12 mechanical shops
4 Quarters, having 2 bed rooms,1 toilet, 1 lounge and open kitchen

Ground Floor Plan:



Spaces in Ground Floor of Block A:

- Banks

Roof Top of Block B:

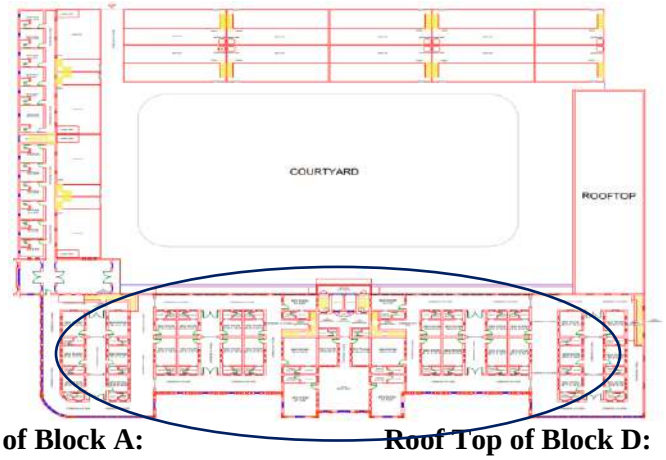
- Bakery
- General Store

Roof Top of Block B

12 Bala Khana (Rooms) with 1 attached toilet with each room.

Spaces in First Floor of Block D:

Roof Top on the Quarters

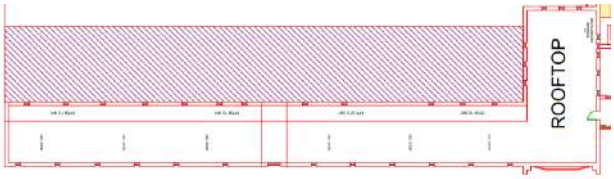


Spaces in First Floor Plan of Block A:

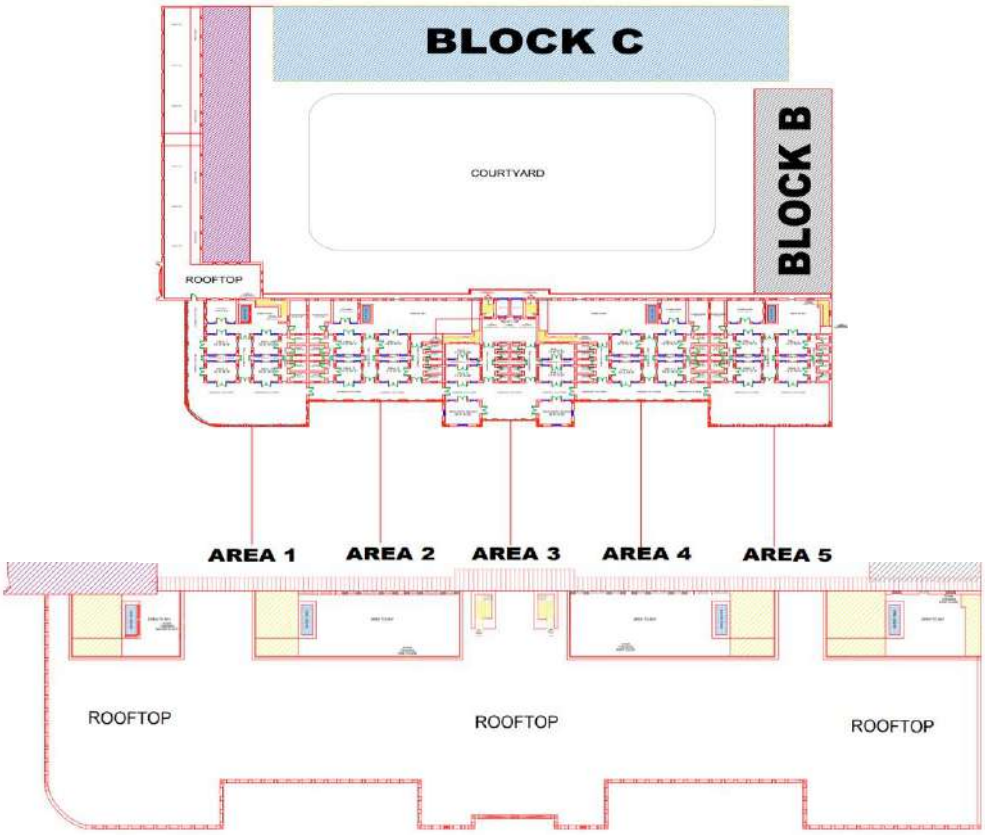
- Bed Rooms with Attached Washroom
- Total No of Rooms: 36 but all left abandon

Roof Top of Block D:

Second Floor Plan:



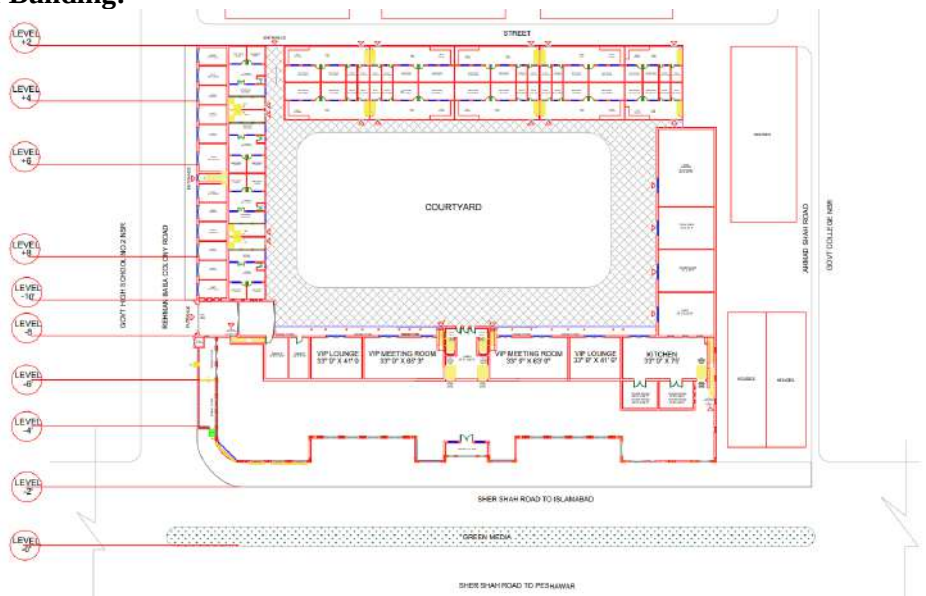
Spaces in Second Floor Plan of Block A: left abandon complete floor



Roof Top of Block A

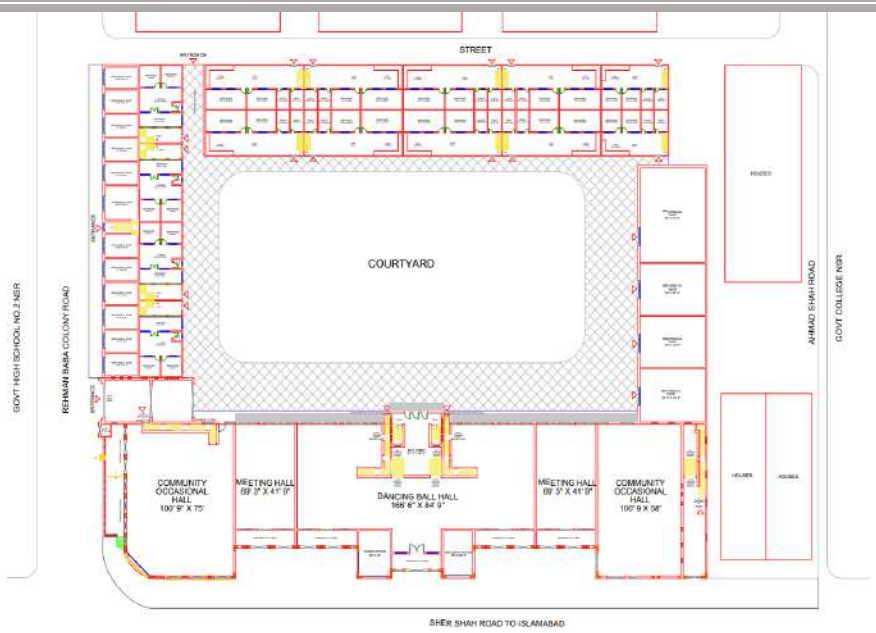
Comparing with 1920 PLANING And 1947 Onward Use of Building:

Planning Of Taj Building from 1920 till 1947 (British Time):



Use: Block A Lower Ground Floor:

- Kitchen
- VIP Lounges
- VIP meeting Room

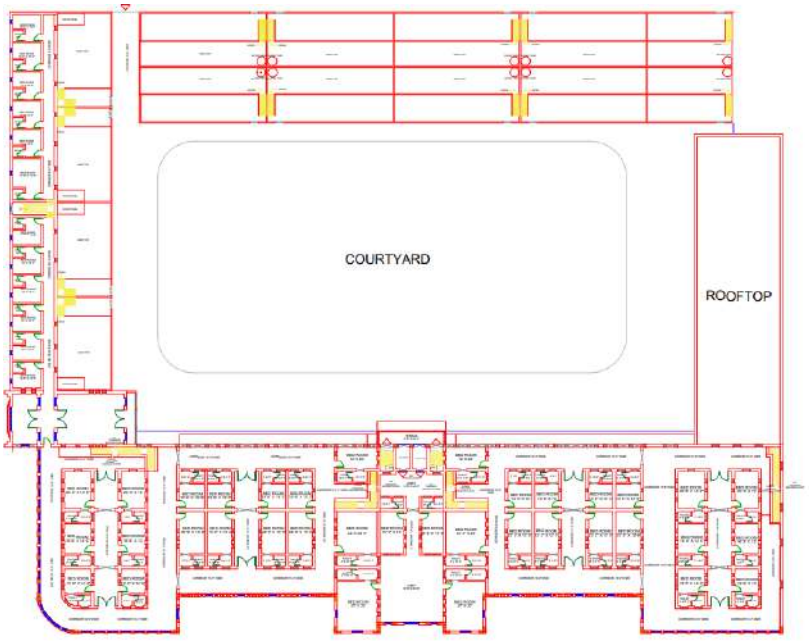


Use: Block B Ground Floor:
- WEST and EAST side was Functional Hall
- In between it was Great Ball Room
- 2 Meeting rooms

Use: Block B Ground Floor:
- Car porch and hitching rail for horses

Use: Block C Ground Floor:
- 10 Quarters where each quarter had 2 Bed rooms, 1 lounge and 2 baths for the British soldiers.

Use: Block D Ground Floor:
- 4 Quarters beside Courtyard each quarter consist of 2 rooms 1 lounge 1 bath and open kitchen
- Road side it has 12 shops

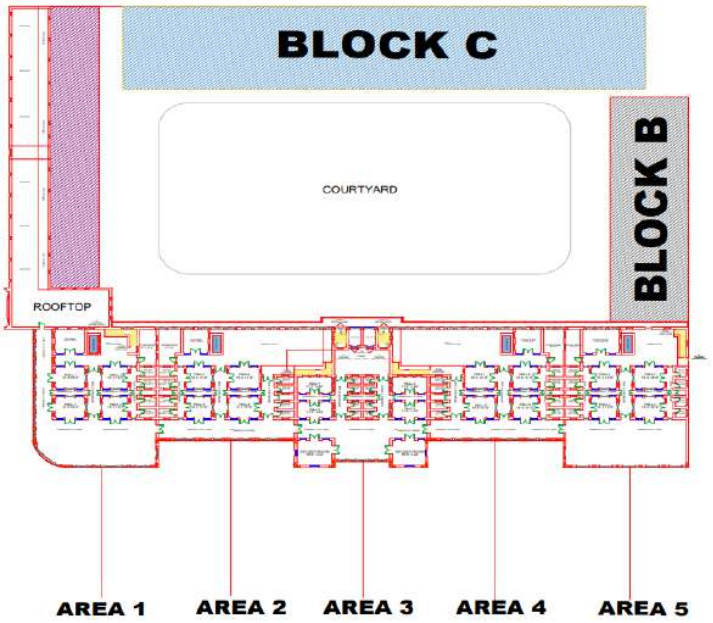


Use: Block A First Floor:
- Bed Rooms Attached with attached washroom
- Total 36 rooms

Use: Block B (Rooftop)

Use: Block C (Rooftop)

Use: Block D First Floor:
- On the quarters it is Rooftop
- And on the shop IT HAS 12 Bala Khana (Rooms)



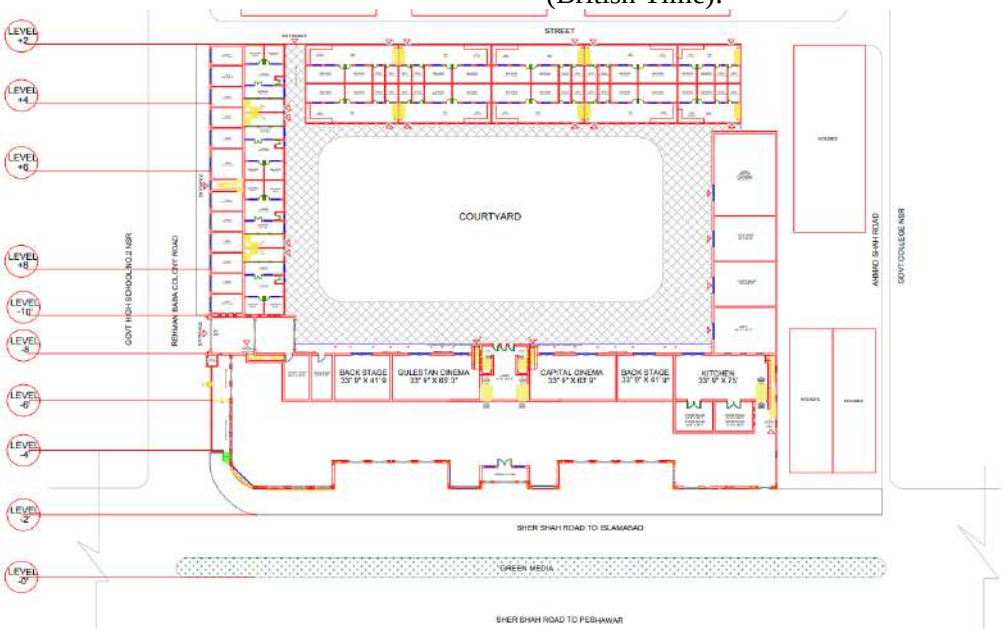
Use: Block A Second Floor:

- Have 5 Different Divisions with Different Access
- Each area has 4 halls with connected Maze Corridor
- Terrace
- Kitchen
- 4 toilets and store room

Roof Top of Block A:

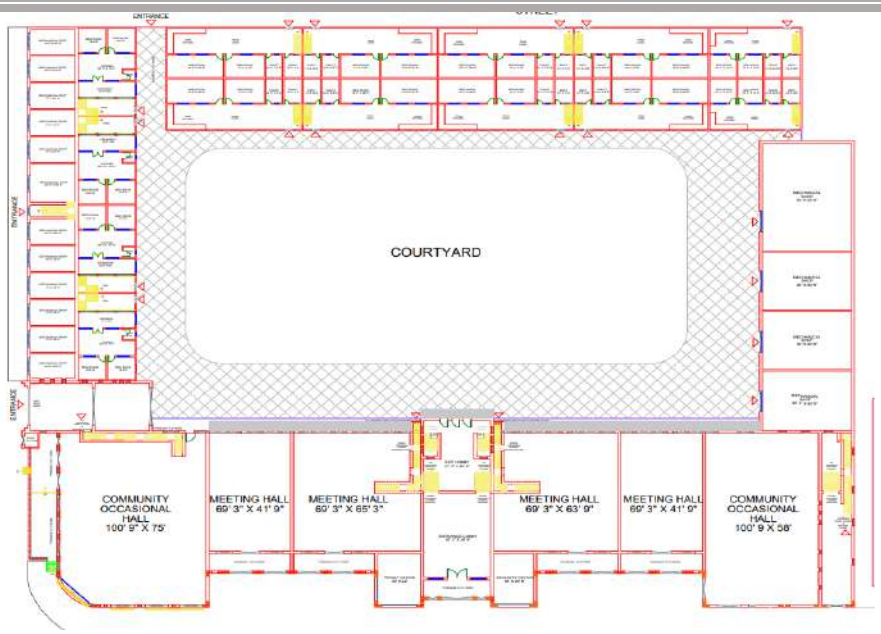
Comparing with 1947 PLANING Onward Use of Building till 2010:

Planning Of Taj Building from 1947 till 2010 (British Time):



Use: Block A Lower Ground Floor:

- 2 Cinemas (Gulestan and Capital)
- Backstage
- Kitchen
- Ticket office
- Tuck Shop



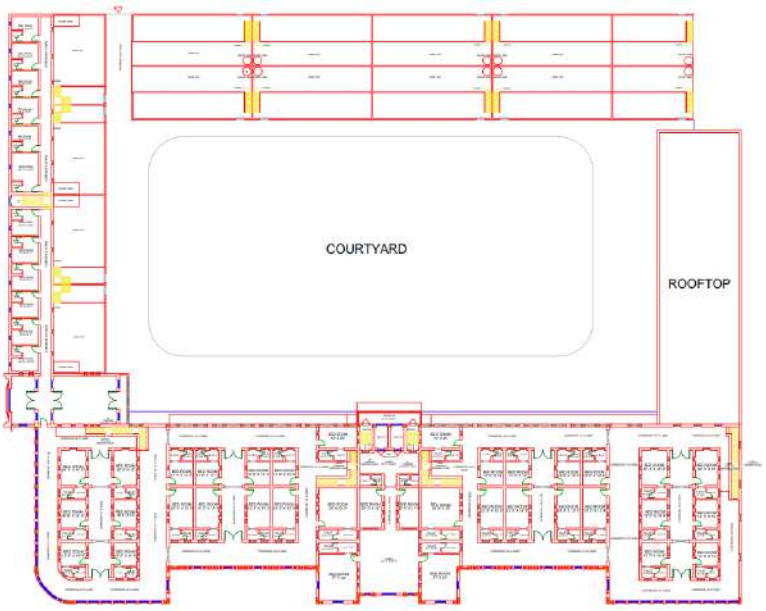
Use: Block A Ground Floor:
- West side Hall (community hall)
- East side Hall (community Hall)
- And in between meeting Halls

Use: Block B Ground Floor Plan:
- Mechanical Shop

Use: Block C Ground Floor Plan:
10 Quarters
- 2 Bed Room
- Open Kitchen
- 2 Toilets

Use: Block D Ground Floor Plan:
4 quarters
- Courtyard side have 2 bed rooms
- 1 lounge
- 1 toilet

12 Mechanical shops at road side



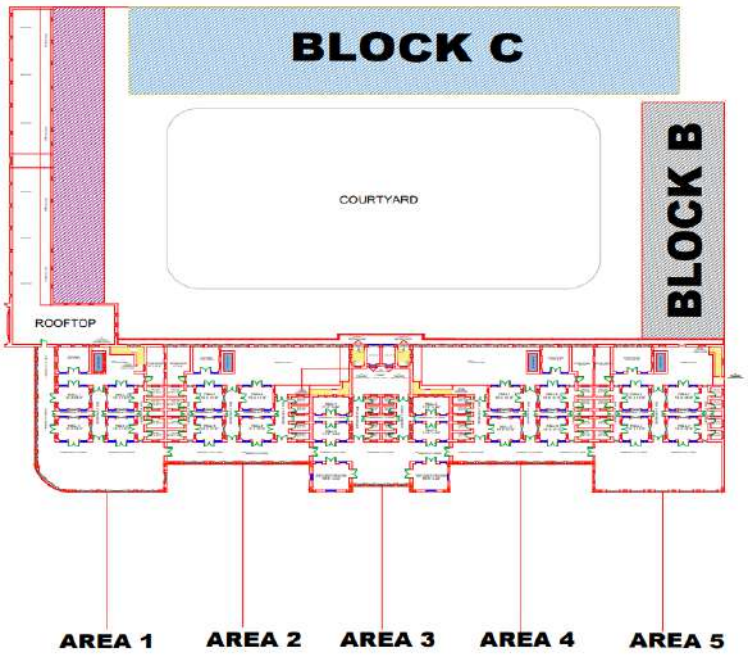
Use: Block A First Floor:
• 36 rooms in total bed rooms with attached washrooms

Use: Block B Rooftop:

Use: Block C Rooftop:

Use: Block D Ground Floor Plan:
4 quarters Rooftop

12 Bala khan on the above the mechanical shops



Use: Block A Second Floor:

- Have 5 Different Divisions with Different Access
- Each area has 4 halls with connected Maze Corridor
- Terrace
- Kitchen
- 4 toilets and store room

Roof Top of Block A:

Discussion:

User Analysis:

In user analysis we had many clients to get brief from,Some of them we considered as stakeholders Such as,

1: Owner of the Building
2: Trader Union Council
3: Tehsil Council
4: Union Council
5: Civil Society Organizations
6: Community
7: Archeology Department

- **Client Briefing from the owner of Building:**

He asked to Design the building for commercial use only. So, it can benefit him.

He stated that he required to fix first and second floor for commercial offices.

And he asked to leave the ground floor in use for bank.

- **Client briefing from the Trader Union Council:**

The trader council briefed us with a requirement that can be both economical and statically perfect for the building. He suggested to build a restaurant in the upper floor as it has a view plus entrance from one side. The terrace is a better place for seating and view. He suggested that tourist visit this place but if something is there that they can stay and observe the beauty of building is to provide a design that let the tourist stay sit or watch for a while.

- **Client briefing from the Tehsil Council:**

The tehsil council was all considerate about to not change the envelope structure of the building or any functionality of it, they suggested to bring back the history and function of the building would be a better option.

- **Client briefing from the Union Council:**

Union council wanted the same as tehsil council they wanted to keep the heritage structure and function of the building as the time line of the building.

They also said if the courtyard is used for activity-based function.

- **Client briefing from the Civil Society Organizations:**

Civil society organization wanted the building to be as spatial as functional for the tourist and community. They said the first one to live with any building

development is the society and people living there. So, the requirement given was that the building should be as functional and accessible for the tourist society and community.

- **Client briefing from the Community:**

The community people did suggest that it has many memories connected with this building as it was once a very entertainment filled building plus it a jewel of Nowshera so they want keep it safe.

- **Client briefing from the Archeology Department:**

The archeology department main concerned was to follow the rules of ICOMOS, HERITAGE, AND Iniquity Act and in surrounding all these concerns anything can be designed unless and until there is no harm to the building structure. As there for most concern is to give the heritage building longer life than they have lived.

Conclusion:

After all the conclusion is that I am going to Design a Nowshera Activity based Club, As the site is already in secure phase of Cantt, and accessible from Each side, A Nowshera Club where we can find community halls for different function and gatherings by the community people, and society friendly and cultural friendly, designing meeting hall or jarga halls as it is in accessible from 4 sides from cantt, mardan, Peshawar, and all the villages in between. The club is a place which can be used by locals, tourists, community, society.

Museum as community, society, cultural and tourist's context.

White restaurant that has 4 to five different continental food. Is high economical catch of tourists, locals and community.

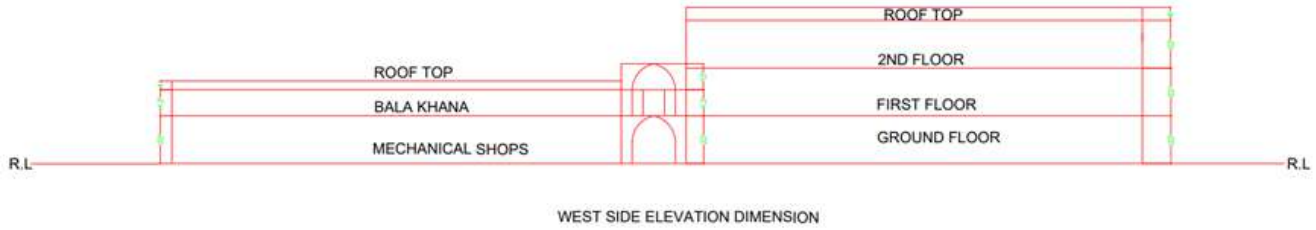
Kids playing area define Activity based area

Meeting hall or Jarga Halls are good for pathan contextual facts and covering cultural aspects.

Community hall for different type of community functions can provide a proper economical and community-based function.

Results:

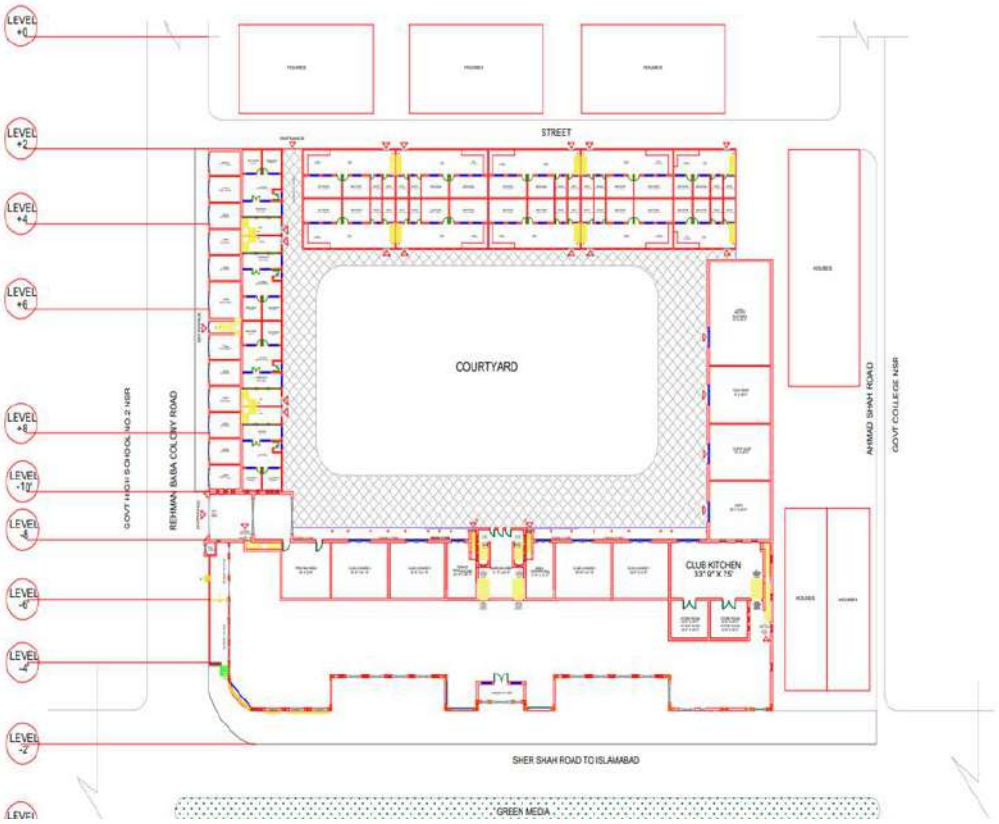
Adaptive Reuse of Taj Building Nowshera:



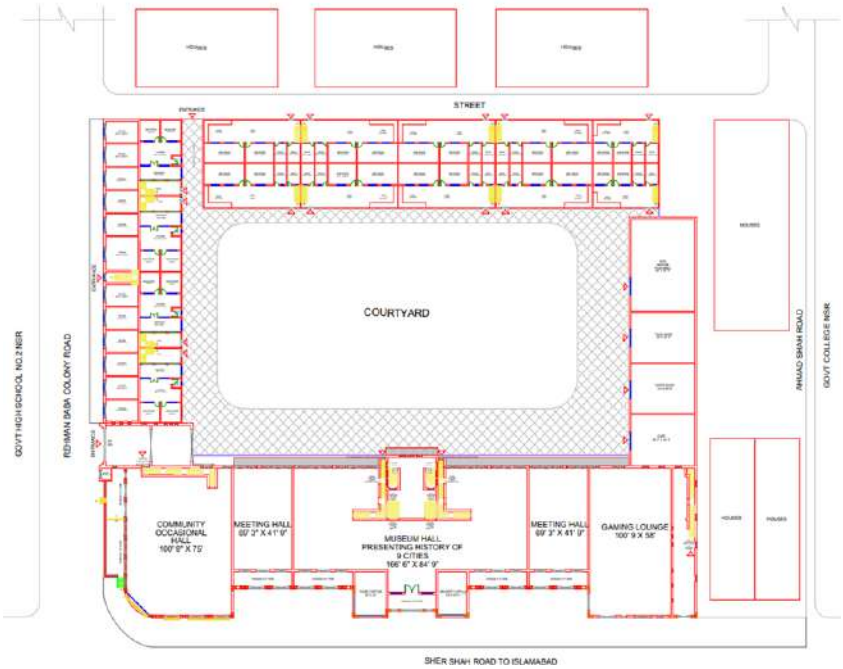
WEST SIDE ELEVATION DIMENSION

NORTH FACING BACK SIDE
ELEVATION DIMENSION

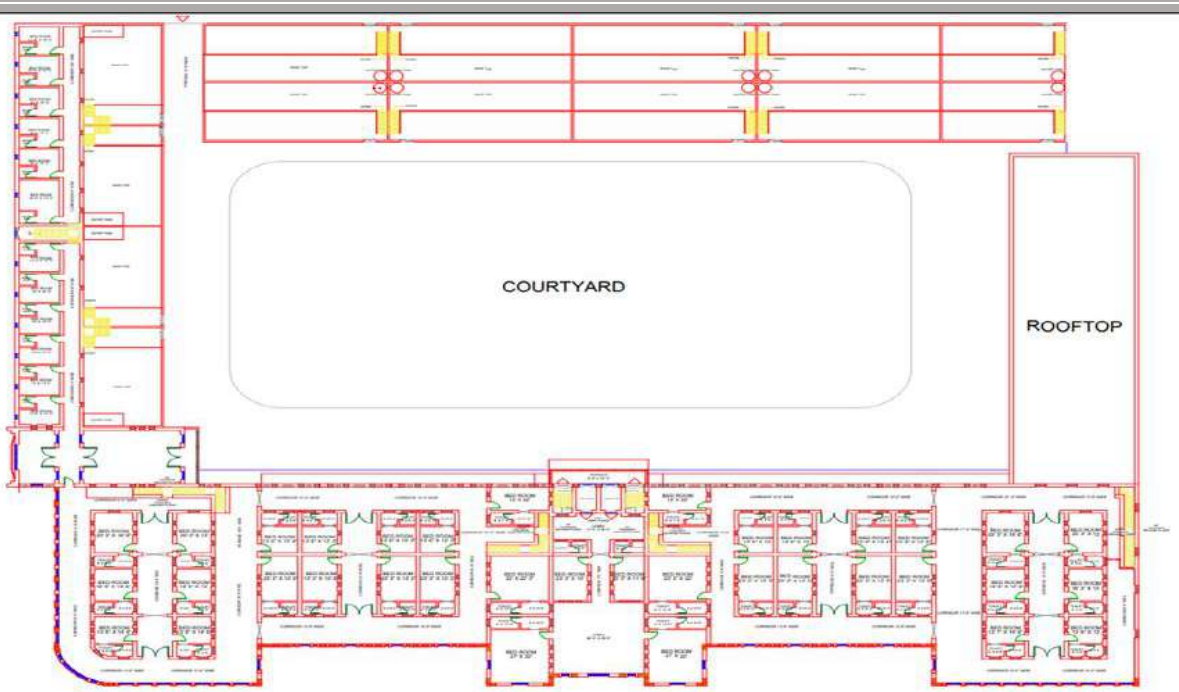
Adaptive Reuse Planning:



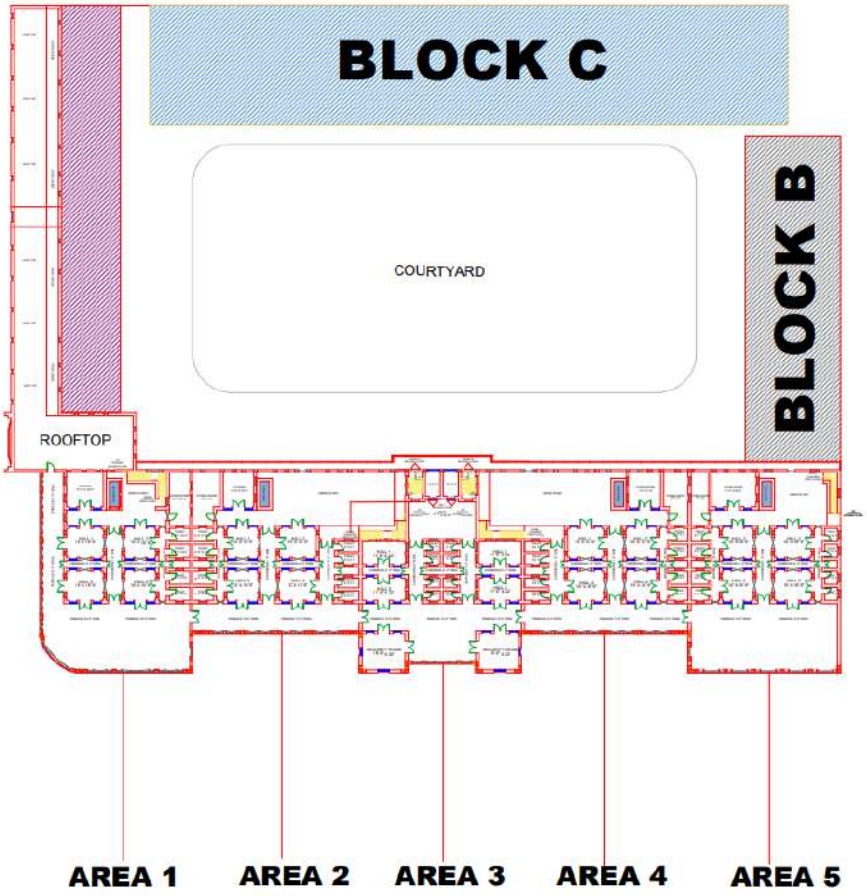
Lower Ground Floor Plan:



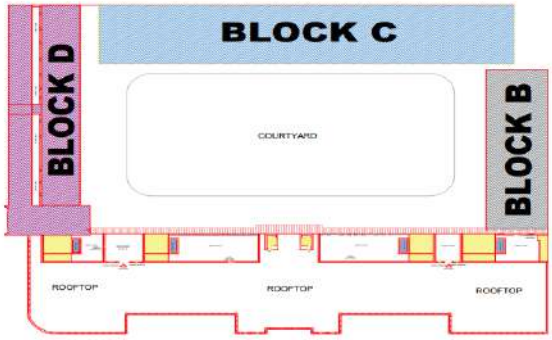
Ground Floor Plan:



First Floor Plan:



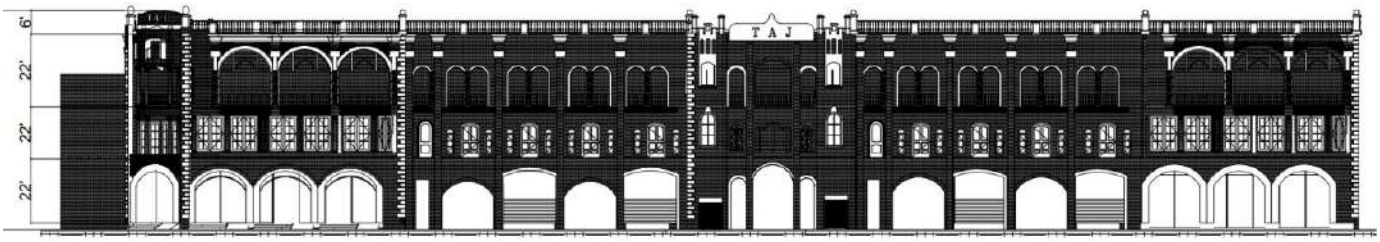
Second Floor Plan:



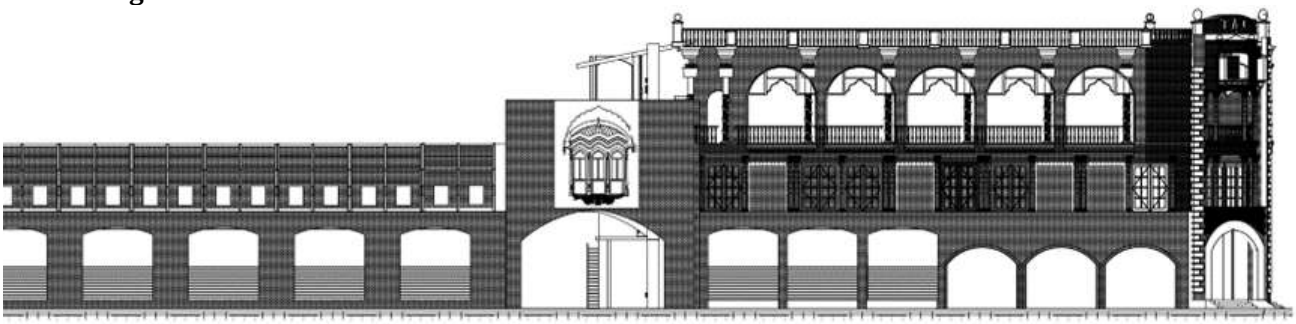
> ROOFT TOP OF BLOCK A AS LIVE KITCHEN RESTAURANT WITH SEATING SYSTEM

Elevations:

South Facing Elevation BLOCK A:

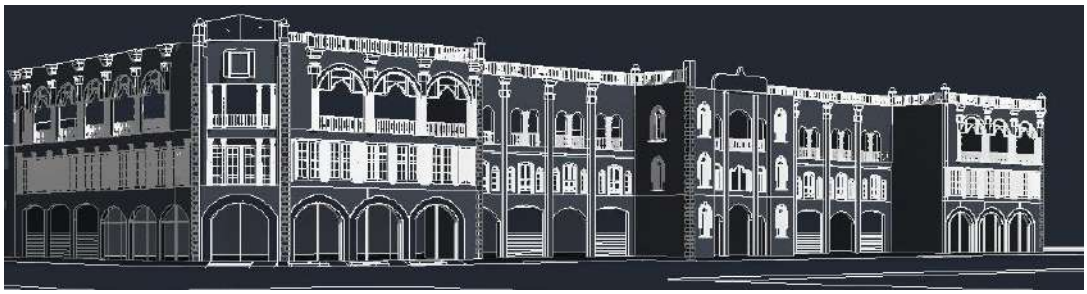


West Facing Elevation BLOCK A and D:



North Facing Elevation BLOCK A:

ISOMETRIC:



Renders:

North Facing Elevation:

West Facing Elevation:

South facing Elevation.

Conclusion:

The paper proposes a sustainable development plan for the Taj Building, balancing its architectural and historical significance with modern facilities. It emphasizes adaptive reuse and environmentally sustainable practices, aiming to maintain the building's historical role and serve as a dynamic heritage conservation model. This approach ensures the building's integrity and relevance for future generations.

Recommendations:

The Taj Building should be repurposed to modern uses while maintaining its historical charm. Adaptive reuse practices should be implemented, with community involvement and environmental sustainability measures. Green technologies should be integrated, and a systematic maintenance program should be established. The building can also serve as a hub for cultural events and promote sustainable conservation practices.

References

1. Mustafa, F. A. (2023). Adaptive Reuse of Historical Buildings Using ARP Model: The Case of Qishla Castle in Koya City. *SAGE Open*, *13*(3), 21582440231193717.

2. Taileb, A., Dekkiche, H., & Sherzad, M. F. (2023). HBIM: A Tool for Enhancing the Diagnosis of Historical Buildings: The Case of St. George's Memorial Anglican Church, Oshawa. *Heritage*, *6*(8), 5848-5866.

3. Akbar, S. H., Iqbal, N., & Van Cleempoel, K. (2020, July). Re-reading the heritage legislations of Pakistan. In *Proceedings of the 7th International Conference on Heritage and Sustainable Development. Green Lines Bookseries on Heritage Studies, Coimbra, Portugal* (pp. 8-10).

4. Khalil, A., Stravoravdis, S., & Backes, D. (2021). *Categorisation of building data in the digital documentation of heritage buildings. Appl Geomat 13: 29–54 (2021)*.

5. Alauddin, K., Nusa, F. N. M., Baharuddin, M. N., Rashid, M. S. A., & Ramli, R. R. (2022). THE APPLICATION OF GREEN ADAPTIVE REUSE OF HISTORICAL BUILDINGS IN UNESCO CITIES. *PLANNING MALAYSIA*, *20*.

6. Zhang, Y., & Zhang, Q. (2023). A model approach for post evaluation of adaptive reuse of architectural heritage: a case study of Beijing central axis historical buildings. *Heritage Science*, *11*(1), 57.

7. Kıran Çakır, H., Aydın, D., & Arabulan, S. (2020). Adaptive reuse of open spaces in historical buildings. *International Journal of Building Pathology and Adaptation*, *38*(5), 703-719.

8. Conejos, S., Langston, C. A., & Smith, J. (2011). Improving the implementation of adaptive reuse strategies for historic buildings. In *International Forum of Studies Titled SAVE Heritage: Safeguard of Architectural, Visual, Environmental Heritage* (pp. 1-10). Institute of Sustainable Development and Architecture.

9. Mısırlısoy, D., & Günçe, K. (2016). Adaptive reuse strategies for heritage buildings: A holistic approach. *Sustainable cities and society*, *26*, 91-98.

10. Mahmood, J. A., Gulzar, S., Ali, I., Rehman, N., & Shah, M. W. (2022). ADAPTIVE REUSE OF NOOR MAHAL PALACE AT BAHAWALPUR: A CASE STUDY OF BALTIT FORT, GILGIT BALTISTAN, PAKISTAN. *Pakistan Journal of Society, Education & Language*, *9*(1).

11. Shah, A. A., Soomro, T. A., Akbar, N., Iqbal, A., & Abubakar, I. R. (2023). Adaptive Reuse of Historic Buildings: An Ecological Indicator. In *Urban Metabolism and Climate Change: Perspective for Sustainable Cities* (pp. 111-134). Cham: Springer International Publishing.

12. Mehmood, S., & Jan, Z. (2022). Adaptive reuse of heritage buildings for conservation, restoration and tourism promotion: A case study of the sethi haveli complexes in Peshawar. *Pakistan Journal of Social Research*, *4*(3), 804-814.

13. Iqbal, N., & Van Cleempoel, K. (2020). Adaptive reuse; potentials and compromises between demolition & conservation with some reflections from Pakistan.

14. Rehman, N., Jalil, A., & Siddiq, M. (2022). Assessment of Adaptive Reuse Practices of Built Heritage Situated at Mall Road, Lahore, Pakistan. *Journal of Art, Architecture and Built Environment*, *5*(2), 97-127.

15. Akbar, S. H., Iqbal, N., & Van Cleempoel, K. (2020, July). Re-reading the heritage legislations of Pakistan. In *Proceedings of the 7th International Conference on Heritage and Sustainable Development. Green Lines Bookseries on Heritage Studies, Coimbra, Portugal* (pp. 8-10).

16. Takva, Y., Takva, Ç., & İlerisoy, Z. (2023). Sustainable Adaptive Reuse Strategy Evaluation for Cultural Heritage Buildings. *International Journal of Built Environment and Sustainability*, *10*(2).

17. Khan, N. A., Nuti, C., Monti, G., & Micheli, M. (2022). Critical review of Pakistani current legislation on sustainable protection of cultural heritage. *Sustainability*, *14*(6), 3633.

18. Shah, A. A., Chanderasekara, D. P., & Naeem, A. (2023). Preserving the past and shaping the future: an articulation of authenticity of heritage within urban development. *J. Int. Soc. Study Vernac. Settl*, *10*.

19. Naeem, A. (2011). Eroding Historic Townscapes: A Case of Shikarpoor, Sindh. In *Sixth Seminar on Urban and Regional Planning 'Historic Urban Landscapes: Retrospection–Transformation–Revival* (pp. 56-75).

20. Wong, L. (2024). *Adaptive reuse: extending the lives of buildings*. Birkhäuser.