

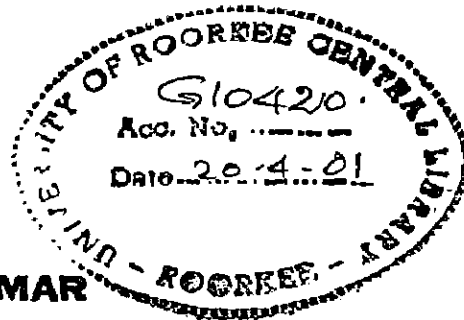
STRATEGY FOR ARCHITECTURAL CONSERVATION OF SIKH ARCHITECTURE, CASE STUDY : AMRITSAR

A DISSERTATION

*Submitted in partial fulfilment of the
requirements for the award of the degree
of*
MASTER OF ARCHITECTURE

By

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FEBRUARY, 2001

CANDIDATE'S DECLARATION

I hereby certify that the work which is being presented in the dissertation entitled "STRATEGY FOR ARCHITECTURAL CONSERVATION OF SIKH ARCHITECTURE, CASE STUDY: AMRITSAR" in partial fulfilment of the requirement for the award of the Degree of MASTER OF ARCHITECTURE submitted in the Department of Architecture and Planning of the University is an authentic record of my own work carried out during the period from July 2000 to February 2001 under the supervision of Prof. (Mrs.) Rita Ahuja.

The matter embodied in this dissertation has not been submitted by me for the award of any other degree.

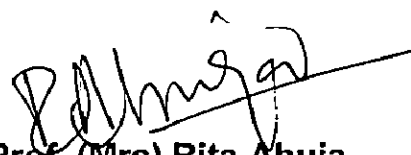
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This is certified that the above statement made by the candidate is correct to the best of my knowledge.



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(VIJAY KUMAR)

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INTRODUCTION

1.1 INTRODUCTION

Due to heavy industrialization and economic development, our cities are facing severe transformation. We are neglecting our rich heritage, traditions, & culture. This neglect has also effected our architectural heritage and traditional built forms.

So, to protect our vanishing rich architectural heritage concept and practice of conservation has been evolved. As per A.G Krishna Menon "The need to preserve our cultural property arises not only to provide evidences of our historic path but in order to make a concrete linkage between the past and the present in the public memory.

Regarding concept and practice of conservation some basic principles guiding the preservation and restoration of ancient buildings were defined for the first time in 1931 by Athens Charter and then by Venice Charter. The scope of conservation of built environment, which consists of mainly historic buildings ranges from town planing to the preservation of crumbling artefacts.

The problem of neglecting our rich architectural heritage is quite evident in Amritsar City of Panjab. , which needs immediate measures.

1.2 IDENTIFICATION OF PROBLEM

Amritsar is a historical city of India and is famous for the most respected shrine of Sikhs in the world, the Golden Temple. It has a history of 500 years.

There are number of historical monuments, areas, precincts, which are worth conserving for our coming generation , but most of these areas and monuments are neglected and facing severe damages. Many old monuments are destroyed or demolished to make new ones. So there is immediate need to conserve them. Amritsar should be declared as an heritage city and all areas/monument should be identified and protected using techniques of conservation. Beside this large area around the golden temple complex was demolished and acquired by government and this drive took lots of old bazaars, residential areas with it. Due to this the left over facades of demolished buildings give very desterted look and deteriorated the overall environment. So it is important to improve the façade of buildings facing corridor around the golden temple complex and also there is need of revitalising the old traditional activities. At the same time the linkage between three main shrines of religious core of Amritsar needs strengthening to facilitate pilgrims.

1.3 AIM

To study concept of conservation, and to apply its techniques in city of Amritsar, more specifically on sikh monuments, further to improve the religious core of Amritsar by using techniques of conservation and elements of sikh architecture

1.4 OBJECTIVE

1. To study need of conservation, its concept, values, ethics, theories, and way of implementation.
2. Amritsar has been taken up as study area and so to apply the theories/concept of conservation on Amritsar and firstly to identify all buildings/monuments, precincts which are worth conserving in the format of

INTACH. Further to list out and select monument related to sikh architecture

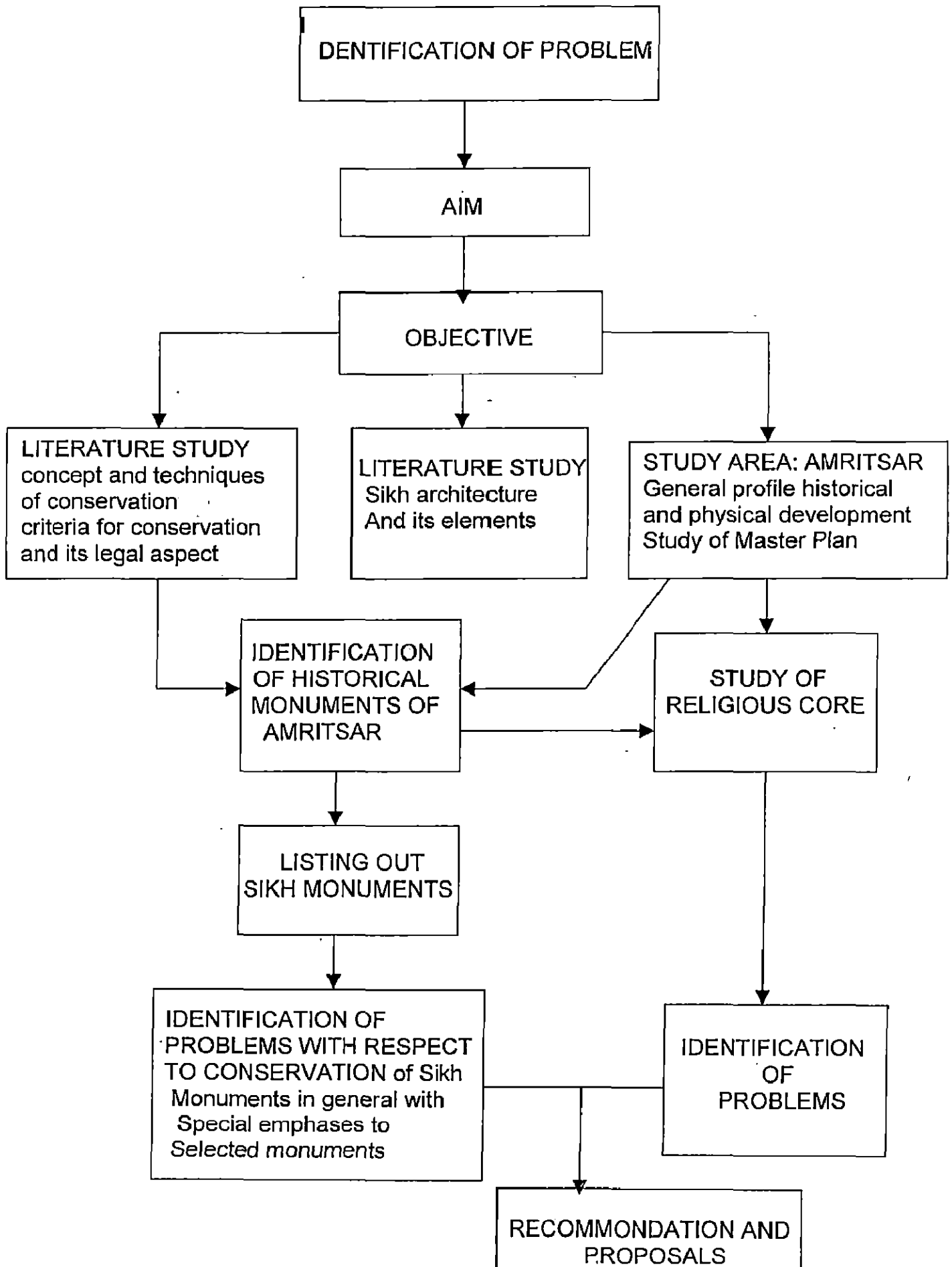
3. Study of broad concept of Sikhism, sikh architecture, and interpretation of sikh philosophy in its Architectural style and bringing out list of architectural elements of sikh building/monuments.
4. Framing broad policies for conservation of sikh monuments in Amritsar with special emphases on conservation of some selected sikh monuments/complex.
5. Using concept of conservation and with the help of enlisted sikh architectural elements, a conceptual scheme has to be formulated for improvement of religious core of Amritsar.

1.5 SCOPE AND LIMITATIONS

Because of financial and time constraints the scope of this study has been limited to :

1. Identification of buildings/monuments/precints worth conserving of Amritsar city in INTACH format. And listing out monuments of sikh architecture
2. Enlisting the elements of sikh architecture.
3. As an application, Ram Bagh complex, Khalsa College and Golden temple with its surroundings have been taken up. With the help of concept of conservation and usage of elements of sikh architectural style a broad scheme is to be formulated to.
 - Conserve Rambagh complex and Khalsa college
 - Conserve the rich architectural heritage of Golden temple complex.
 - Improve the corridor around golden temple complex.

1.6 METHODOLOGY



LITERATURE STUDY

2.1 CONSERVATION

It is basically an action to prevent decay of our cultural and natural heritage, but the action should be minimum and as far as possible reversible. The basis of historic building conservation is established by legislation through listing and scheduling buildings and ruins by regular actions, inspections, documentation and through town planning and conservation action.

In conservation, town planners, landscape architect, valuers surveyor/urban designer, conservation architect, building contractor, craftsmen, Chemist, Physicist, Geologist, Art historian, archeologist should work together and they all should understand the basic concept and value of conservation.

Conservation should enhance the message and values of cultural property. Depending on values, the conservationists decide as to up to what level and how conservation has to be done.

2.1.1 AIM OF CONSERVATION

Aim is to retain or recover the cultural significance of a place and must include provision for its security its maintenance and its future.

It is basically to respect existing fabric and with least possible physical intervention.

2.1.2 IMPORTANCE AND NEED OF CONSERVATION

Conservation requires the maintenance of an appropriate visual setting e.g. form, scale, colour, texture and materials. No new construction demolition or modification, which would adversely affect the setting should be allowed. Environmental intrusion which adversely affects appreciation or enjoyment of the place should be excluded. The prime objective is to preserve the old city as a historical unit and in principle to ensure its land use is based on historical model.

2.2 VALUE RELATED TO A MONUMENT

2.2.1 EMOTIONAL VALUE

Sense of wonder, identification, continuity, spiritual and symbolic.

2.2.2 CULTURAL VALUES

Documentary, historic, archeological, antique, aesthetic and symbolic, architectural townscape, landscape and ecological, scientific and technological.

2.2.3 USE VALUES

Functional, economical, social, political

2.3 RULES TO BE FOLLOWED WHILE PERFORMING ANY CONSERVATION WORK

1. The building should be properly documented before any intervention by drawings, photographs etc.
2. Historic evidences should not be destroyed, falsified or removed.
3. Intervention should be minimum
4. Intervention should be done while respecting aesthetic, historical, physical integrity of cultural property

Intervention should be minimum, reversible, technically maximum amount to be retained, harmonious in colour, tone, texture, form and scale, less noticeable than original material but identifiable. Building is complex structure it has to face adverse whether conditions where as we can provide conducive environment to artifacts This is a basic difference between conservation of an **architectural piece** and **artefact**.

2.4 PREPARATORY PROCEDURE FOR CONSERVATION

2.4.1 INVENTORIES

First of all, proper listing, documentation of various cultural properties have to be done, recording them thoroughly both geographically and descriptively using computers, microfilm aids.

2.4.2 REGULAR INSPECTION

At least after every five years interval, recording of maintenance

2.4.3 CONTINUING DOCUMENTATION

This Means every record has to be maintained related to condition before any intervention and after intervention, kind, nature, details of interventions, photograph, which can help future research workers. All stages of the work of cleaning, consolidation, reassemble, integration should be recorded.

2.5 INTERVENTIONS

Minimum intervention is always best. Various kinds of interventions:

2.5.1 PREVENTION OF DETERIORATION

Control of internal humidity, temperature and light, measures to prevent fire, arson, theft, cleaning, house keeping, reduce atmospheric pollution, traffic vibrations, control of ground subsidence.

2.5.2 PRESERVATION

It is basically to control decay of building repairs when necessary to control further deterioration use of chemicals to control damage from pests, water, microorganism.

2.5.3 CONSOLIDATION

It is physical addition or application of adhesive or supportive materials, into the fabric of cultural property in order to ensure its continued durability and structural integrity, for example injection of adhesive to secure a detached mural painting to the wall and likewise grouting of the structure

When structural elements of any historic building is considerably reduced and is no longer sufficient to meet the fire hazards, consolidation of existing material may have to be carried out.

Integrity of structural system should be respected and form preserved without destroying and historical evidence. Building should be considered as a spatial environment system, use of traditional skill, traditional material, if required reversible modern techniques should be used, various short lived materials including reeds, mud, rammed earth, wood, unbaked brick, should be used.

Preservation of the design is just as important a function of conservation as preservation of original materials

2.5.4 RESTORATION

Restoration is basically to revive the original concept or legibility of the object. Restoration and reintegration of details and features occurs frequently and is based upon respect of original material, archeological evidence, original design and authentic documents.

Replacement of missing or decayed parts must integrate **harmoniously** but **distinguishable** on close inspection so that restoration does not falsify archeological and historical evidence.

Replacement of missing decorative elements is an example of restoration. *When a building includes superimposed works of different period, in some cases even revealing of the underlying state is done.* Contributions from all periods must be respected.

2.5.5 REHABILITATION

It is the way of preserving **buildings** by keeping them **in to use**. But important is to select **correct and adaptive use**

2.5.6 REPRODUCTION

Reproduction means copying in order to replace some missing or decayed parts to maintain aesthetic harmony. If valuable cultural property is being damaged irretrievably or is threatened by its environment, it may have to be moved to a more suitable environment and a reproduction substituted in order to maintain the unit of a site / building.

2.5.7 RECONSTRUCTION

Reconstruction of historic buildings and historic centres using new materials may be necessary because of disaster such as fire, earthquake. Recommendations must be based upon accurate documentation and evidence.

2.6 CONSERVATION PROFESSIONALS

2.6.1 THE CONSERVATION ARCHITECT

He should have a knowledge and understanding of early building technology and must be able to identify the original fabric and later addition.

He should have capability in coordinating various experts and he should have knowledge of all periods of architects combined with thorough knowledge of modern building material/technology

2.6.2 WORKMAN

Expert workmen are required to work on conservation projects, they should be given proper training, they should be skilled craftsmen conservation needs quality work, so no overloading of craftsman should be allowed.

2.7 ATHENS CHARTER OF 1931 IN VENICE

The basic principles of conservation were evolved in Athens Charter of 1931 in Venice. Some of its recommendations are

- Conservation not only means the conservation of the monument or architectural piece of work, but it means the conservation of urban or rural setting too in which the monument is located. Here this as a whole should be considered as historical evidence and as a piece of art.

Monuments should be conserved on permanent basis. These monuments can also be used for some socially useful purpose but these use should not disturb the layout, decoration, sculptures, paintings.

monuments should be conserved with its traditional setting, no new construction, demolition or modification, should be allowed, which would alter the relations of mass and colour.

Shifting of some part/monument/painting/sculpture should be allowed only if it becomes sole necessary to shift to safeguard it.

It is aim to preserve and reveal the aesthetic and historic value of the monument and is based on respect for original material and authentic document.

The restoration in any case must be proceeded and followed by an archeological and historical study of monument.

Addition cannot be allowed except in so far as they do not detract from the interesting part of the building, its traditional setting.

Ruins must be maintained and the necessary measures taken for the permanent conservation and protection of architectural features and of objects discussed. The reassembling of existing but dismantled parts can be permitted. *Material used for integration should always be recognizable and its use should be the least.*

That will ensure the conservation of a monument and the reinstatement of its form.

In all works of preservation, restoration, excavation, there should always be precise documentation in the form of analytical and critical reports illustrated with drawings and photographs

2.8 BURMA CHARTER

Some significant features of Burma Charter

With regard to the international charter for the conservation and restoration of monuments and sites (Venice 1966) and the resolution of 5th general assembly of ICOMOS (Moscow 1978), the Burma Charter has been adopted by Australia ICOMOS.

2.8.1 INTERPRETATION OF VARIOUS TERMS OF CONSERVATION AS PER BURMA CHARTER

Preservation means maintaining the fabric of a place in its existing state and retarding deterioration.

Restoration means returning the existing fabric of a place to know earlier state by removing accretion or by reassembling existing component without the introduction of new material.

Reconstruction mean returning a place as nearly as possible to a know earlier state and is distinguished by the introduction of materials (new or old) into the fabric.

2.8.2 ADAPTATION

Adaptation means modifying a place to suit proposed compatible use.

2.8.3 COMPATIBLE USE

Compatible use means a use which involves no change to the culturally significant fabric, changes which are substantially reversible or change which require minimal impact.

Preservation protects fabric without obscuring the evidence of its construction and use, it protects fabric without obscuring the evidence of its construction and use.

Preservation is limited to the protection, maintenance and where necessary, the stabilization of the existing fabric but without the distortion of its cultural significance.

Restoration is appropriate only if there is sufficient evidence of an earlier state of the fabric and only if returning the fabric to that state recovers the cultural significance of that place.

2.8.4 RECONSTRUCTION

Reconstruction is limited to the reproduction of fabric the form of which is known from physical and / or documentary evidence.

It should be identifiable on close inspection as being new work.

Any conservation work on a place must be preceded by professionally proposed studies of the physical documentary and other evidence and the existing fabric recorded before any disturbance of the place.

A total record of the situation before and after the conservation work must be recorded.

2.9 MAINTENANCE

Maintenance is an essential part of conservation scheme and monuments must be conserved on permanent basis. Regular maintenance as practiced in our vernacular architecture is very necessary. It involves minimum intervention at one time and it allows craft skills to be preserved by use and craft training to be developed. Frequency of maintenance depends upon climate, structure, traffic etc.

Regular inspection is our important part of maintenance, if supported by regular documentation and our places and spaces may be hidden or inaccessible should be checked.

STANDARD CATEGORIES FOR MAINTENANCE WORK

2.9.1 IMMEDIATE

Any work needed to prevent collapse or danger in building

2.9.2 URGENT

Work which must be done within 3 months to prevent rapid decay such as fungal attack, rain water penetration.

2.9.3 NECESSARY

Work which should be completed in 2-5 years i.e. before the next inspection, the bulk of the maintenance work lies in this category. Two years gives sufficient time for funds to be made available.

2.9.4 DESIRABLE

This is a variable quantity and depends on the standard of maintenance required. It generally includes internal redecoration and may include rehabilitation schemes. Unfortunately, this item often gets postponed due to shortage of funds. If work affects the life of the historic building it should be classified as necessary.

2.9.5 MONITORING

This category includes any item which should be specifically reported upon in the next inspection. Typical examples are the movement of cracks or the deterioration in roof covering.

Three types of budget allocation

- Large items (re-roofing)
- Rolling programme for repair
- House keeping

2.10 CAUSES OF DECAY OF A BUILDING

2.10.1 GRAVITY

It causes building to collapse

2.10.2 CLIMATIC CAUSES

Climatic causes severely effect the architectural fabric of monument.

2.10.3 THE SUN

If the daily heating is gradual, the heat can penetrate and there is less stress if on the other hand, a roof or wall suddenly get the full force of the sun the stress is greater.

- Seasonal warming / cooling development of cracks are there.

2.10.4 RAIN

Rains effects earth buildings, brick, mud, rains increase relative humidity which expands wood. Ponds on roof, blocked gutters, change in humidity level causes damage to furnishing/art.

2.10.5 FROST, SNOW AND ICE

These block gutters on roof which may lead to collapse to roof, destroys weak mortars, affects exposed members, e.g. parapet, pinnacles, etc.

2.10.6 GROUND WATER

Dampness / moisture in soil with capillary action the water comes up and brings salts, sulphates, nitrates, chlorides, etc. which crystallize and ground water when evaporates

2.10.7 DUST

Dust particles cause erosion in the surface of monument.

2.10.8 WIND

Wind may cause destruction to minarets, chattries, towers, pagodas etc.

2.10.9. BIOLOGICAL AND BOTANICAL CAUSES

Monkeys, bats are harmful for monuments, animals cause abrasion to the building fabric. Birds specially pigeons like to nest in historical buildings. Rubbish made by them is sometime a fire hazards.

- Insects like termite, bees are harmful to wood
- Plants and trees which grow on historical building are very dangerous

2.10.10 FUNGI ATTACK

Wood work, moulds and lichens spoils wall surfaces. In the same way algae and moss specially in humid climate create damage to buildings.

2.10.11 NATURAL DISASTERS

Natural disaster include earthquake, tidal wave, floods, forest fire, fire

2.10.12 MANMADE CAUSES OF DECAY

Wars destroys number of historical monuments, alterations done without taking care of these historical value disturbs the scheme.

2.10.13 CHANGE IN GROUND WATER LEVEL

Lowering of level of ground water and even rising of level of ground water from the standard level is harmful for old monuments.

2.10.14 ATMOSPHERIC POLLUTION

Burning fossil fuels, heating in plants, power stations, air conditioners, smoke from motor vehicle, effects the surface of monuments. Population results in change of colours, and texture of surface because of chemical reaction.

2.10.15 VIBRATION

Traffic vibrations reduce life of buildings, traffic may be by motor vehicles, rail traffic, air traffic.

Damage can be reduced by derouting heavy vehicles.

2.10.16 FIRE

Fire causes heavy damage to the monuments

2.10.17 THEFT VANDALISM, ARSON

This are a severe problem, in India theft of doors, windows, sculpture is very common.

2.10.18 TOURISM

Tourists if not managed properly spoils, the monument, by overcrowding, writing on walls, littering

2.10.19 NEGLECT

Neglect of our cultural heritage is also one of the problem, which create problem.

2.11 BRIEF RECOMMENDATIONS REGARDING SPECIFICAITONS TO BE USED IN CONSERVATION

If existing arches have to be completed or taken down and rebuilt centering should be fixed and the arch should be photographed before any work.

For bats and birds proper netting of openings should be done

Timber beams need regular inspection by tapping with a hammer. Small bore holes can be made to inject the chemicals.

Bitumen cement is useful for repairing leaks in arches, pitched roofs.

No machine made brick should be used, as far as possible brick of same size and colour, texture and fabric should be used.

Any carved stones or brick, or any piece of tile work that are found lying in the debris on old site should be restored to take to their original position.

An image that has fallen should not be replaced on a pedestal or in a niche niche should remain empty

Cement should be used after proper care as it is not reversible

- It is not compatible with old weak material

Special treatment is required for following items in historical monuments as per recommendations given by conservation manuals

- Clamps and dowels,
- Cracks and features
- Doors and windows
- Cutting out and cleaning masonry joints
- Drainage
- Fencing and compound walls
- Floor and pavements
- Foundation
- garden
- Grouting
- Inlay work
- Iron bars
- Lime
- Paintings
- Pointing
- Stonework
- Termites'
- Wood work

URBAN MANAGEMENT OF HISTORIC CITIES**3.1 INTRODUCTION**

It is the characteristic of an historic town that normally it is on human scale or on pedestrian scale usually we have narrow street, having sense of surprise, giving visual drama, yet some buildings in the historic centres will be quite simple. Their visual value is in their contribution to townscape and the value of continuity and identity for the inhabitants. The harmony given by the use of traditional materials and method of construction should be respected. Traditional colours, often based on natural pigments or lime based paints should be continued in use. The texture and scale of the city must be respected. It is desirable that a surrounding buffer zone be established to prevent harmful visual intrusions or commercial and industrial development from detracting from visual and landscape value of historic centre.

3.2 PROBLEMS ARISING IN HISTORIC CITIES

Due to demographic growth, migration of population from rural to urban centre, increasing use of private motor transport for the areas which were basically meant for pedestrians, high rise buildings, atmosphere pollution. Movement from craft production to mass scale production and requiring large buildings which the historic monuments can not accommodate. Modern infrastructure, and lack of awareness of concept of conservation the character of historic cities are destroyed.

It is required to make declining residential zone of historic areas into attractive livable foci for all social categories. A proper social mix should be reflected in the mixture of activities, residential, commercial, industrial and leisure. Urban

management should be one of harmonization, avoidance of undesirable uses and maintenance of existing scale of buildings as well as their functional and cultural value.

In any rehabilitation of monument compatible use is permitted which require minimum alteration in basic structure, and character of monument, craftsman site, architectural features, should not be destroyed at all.

Contemporary design for alteration and addition in any existing property may be permitted but if they do not destroy any historical, architectural, cultural material and such design in compatible with size, scale, colour, material character.

CONSERVATION: LEGAL ASPECTS

4.1 HISTORICAL DEVELOPMENT OF LEGISLATION REGARDING CONSERVATION IN INDIA

4.1.1 CONTRIBUTIONS OF BRITISHERS

Sir William Jones in 1784 to study history, antiquates, arts, sciences and literature of Asia made Royal Asiatic Society, this is considered as the first step in direction of conservation.

James Fergusson's contribution for Indian architecture about ancient scripts are worth appreciating.

But major contribution was constituting the Archeological Survey of India in 1861.

4.1.2 ANCIENT MONUMENT ACT 1904

Lord Curzon's regime as Viceroy was also an important era in Indian conservation history because during this period archeological department came into existence and a new act was made in 1904.

- Further in 1919 and 1935 certain alterations in the regulation strengthened the status of conservation
- Director General of Archeological Survey of India, John Marshall and Sir, Mortimer Wheeler contributed greatly by forming strong and clear conservation policies regarding conservation.

4.1.3 ANCIENT MONUMENT AND ARCHEOLOGICAL SITES AND REMAINS ACT 1958

- Further amendment of Ancient Movement Act 1904 into Ancient Monuments and Archeological Sites and Remains act 1958. The new amendments strengthened the system and process of conservation.
- There are 5000 monuments cared by Archeological Survey of India and out of these 24 are in Panjab, 32000 monuments are unprotected in India, 10,000 monuments in country are looked after by States.

4.2 CONSERVATION LEGISLATION AT NATIONAL LEVEL

It is the responsibility of states to protect every monument or place or object of artistic or historic importance declared by or under law made by parliament to be of national importance from spoliation, disfigurement, destruction, removal, disposal, or export, there are two types of monuments.

- (1) *Ancient and historical monuments and recorded and archeological sites and remains declared to be of national importance (Union list).*
- (2) *Ancient and historical monuments and records and archeological sites and remains other than those declared to be of national importance (State list).*

4.3 CONSERVATION LEGISLATION AT STATE LEVEL

In the state of Punjab, there is the Punjab archeological sites and remains act 1964 according to this act the criteria for listing a monument is

- (1) It should have an age not less than one hundred years
- (2) It should be of historical archeological or artistic interest

- (3) It includes any structure, erection or monument or any place of interest or rock sculpture, or monolithic which is historical archeological or artistic interest and which has been in existence for not less than one hundred years and includes remain, sites etc.
- (4) In this act all such monuments may be covered, which are not declared in the Union list.
- (5) Under this act the Director archeology is appointed who on behalf of government can declare any ancient and historical monument or archeological site and remains which has not been declared in Union list, as protected monument He is empowered to purchase, take a lease of, accept, gift, any protect monument. In case there is no owner, he can take guardianship of monument.
- (6) Under this act government may enter into an agreement with owner / occupier of any historical property to maintain the monument, govt. can take custody of monument, govt. can restrict to use the monument for any purpose, to charge any fee entry into or inspection of the monument, to destroy remove, alter or deface the monument, to build on or near the site of monument.

Under this act govt. is empowered to keep any protected antiquities in its position or to move it to some other suitable place.

Archeological excavation under the provision of section 24 of ancient monuments and archeological sites and remains act 1958. There is a provision for

compensation to the owner of a protected monument and at the same time, there is a provision of penalties in case of damage/steal of any monument.

4.4 CONSERVATION AND STATE OF PUNJAB

- In 1962, a conservation cell was made in department of archeology and museum.
- In 1964, Punjab Ancient and Historical Monuments and Archeological sites and remain act was made.
- A new department was made which was called Department of Cultural Affairs, Archeology and Museum.
- Till yet 47 buildings and monuments have been declared protected in Punjab but a lot of buildings are lying unprotected.

The main problem in conservation

- Lack of awareness of public
- Lack of motivation by administration specially beaurocrates
- Lack of awareness of conservation in the institution controlling the construction / development of religious buildings. Most of these institutions do not care about the old and historical monuments, these are demolished to make new. The idea of conservation is required to be propagated and message should go that although construction of new monuments is a great attempt but as far as possible old historical religious buildings are themselves a love message of our ancestors and they are required to be respected and conserved.

4.5 EXISTING FRAME WORK OF VARIOUS AGENCIES FOR CONSERVATION

Amritsar Municipal corporation, Amritsar improvement trust, PWD, Public health department, tourism, S.G.P.C intach and community organizations are the main organisations and departments which are engaged in the development and maintenance of urban infrastructure, roads and buildings. But unfortunately none of these agencies have conservation experts and so no care has been given for conservation of various monuments.

CRITERIA FOR CONSERVATION

It is very important to discuss as to what should be the parameters on which it has to be decided that which building/area is to be conserved. Following are certain suggestions given by various institutions and eminent conservationists of the world.

5.1 SIR BENARD FIELDEN

Sir benard fielden In his book "Manual of Conservation" says "A historical building is the one that gives us a sense of wonder and makes us want to know more about people and culture that produced it. It has architectural, aesthetic, historic, documentary, archeological, economical, social, and even political and spiritual or symbolic values but the first impact is always emotional.

1. For it is a symbol of our cultural identity and continuity – a part of our heritage if it has survived the hazards of 100 years of usefulness it has a good claim to be called historic.

5.2 AS PER NATIONAL COMMISSION ON URBANIZATION

- Conservation area should have a number of listed buildings, useful housing stock, townscape worthy preservation
- An area can be called historical if it has been defined as an area which has been planned on ancient town planning principle
- The typical streetscape, square artifacts, and the traditional gardens all make an area a historical one as it reminds the medieval life style and the political structure of the society.

- As per report on **national commission on urbanization** following should be considered while fixing any site/area for conservation.
- Age of building or artifact
- Its relevance to social or economic history
- Its association with well known persons/events
- Its representation of a distinct architectural style, historical period or way of life having sociological interest
- The uniqueness of the building or artifact/structure that would be lost if not protected
- It is representing a stage of technological development
- Any other factor relevant to urban conservation

5.3 AS PER ARCHEOLOGICAL ACT

A historical monument must be historical and of artistic interest and must have been in existence for not less than 100 years.

Central Govt. /State Govt. archeological departments are empowered to declare any building/site as protected building/site.

5.4 AS PER PROF. G.B. KRISHNA RAO

Following criteria can be considered for the purpose of conservation

- monument on site should be unique.
- it should represent nation's regional history
- it should be connected with the life of a great national leader/personality
- monument of outstanding architectural or artistic archeological value

5.5 AS PER EXPERT GROUP OF SHRI RAM NIVAS MIRDHA

In 1984 an expert group under the chairmanship of **Shri Ram Nivas Mirdha** Minister of Education and Culture stressed on fixing some criteria for declaring the level of importance of monument, it stressed on lowering the age limit of 100 years to **50 years** for scheduling protected buildings.

5.6 AS PER INTACH

Intach also stressed on conservation of buildings built up to 1939 for the purpose of conservation, if they are of some significance in Indian history.

5.7 CONSIDERATIONS FOR CONSERVATION

1. Archeological importance
2. Architectural and visual appreciation
3. Scenic value
4. socio cultural
5. functional
6. Age
7. Association with person and event
8. Visual expression of the life of community
9. Criteria for grading the buildings

5.7.1 ARCHEOLOGICAL IMPORTANCE

This criteria covers the building monuments/site/area having association with persons/events important with history. The monuments, buildings and other artifacts with age and changing parameters for social, political and economic condition and also with technological development lot of changes and explain culture and life

styles. It can be studied under (a) antiquity (b) visual expression of community (c) events.

5.7.2 ARCHITECTURAL AND VISUAL APPRECIATION

Monuments having Magnificent architectural value and historic back ground. It can be studied under (a) design (b) scale (c) colour.

5.7.3 SCENIC VALUE

It includes monument in its urban or rural setting with natural landscape. It means the scene in totality and the monuments within setting has historical information or value. It can be studied under (a) sky line (b) panorama (c) group value (d) harmony with surroundings.

5.7.4 SOCIO-CUTURAL

Monument which speaks about the social and cultural style of a particular era.

5.7.5 FUNCTIONAL VALUE

Monuments important from the functions they performed like palaces, forts, meant for kings, thick walls for fortification etc. depicts history. Uses as per the present requirements. Also the changes in the original fabric of buildings and areas are important. This aspect may be categorized as

- (i) Residential
- (ii) Commercial
- (iii) Ponds/play grounds
- (iv) Circulation

Circulation means the streets, squares, pattern, with residential, commercial, linkage of various functions, circulation pattern.

5.7.6 AGE

Old buildings and artifact explain the culture, life style, and social pattern of that age or line.

5.7.7 ASSOCIATION WITH PERSON AND EVENT

There are buildings which are connected with eminent personalities, events and theme monuments depict the culture/life style, social pattern of that personality.

5.7.8 VISUAL EXPRESSION OF THE LIFE OF COMMUNITY.

The residential and commercial areas, road layouts, infrastructure, material, structure of old sites, monuments speak about the life of that period.

5.7.9 CRITERIA FOR GRADING THE BUILDINGS

Criteria as evolved by archaeological survey of India shall be followed.

5.8 DOCUMENTATION PERFORMA FOR LISTING

As per the system of Intach a proforma is made for documentation. which includes

NAME

DATE

LOCATION

OWNERSHIP

USAGE

CHARACTERISTIC FEATURES

BUILDING MATERIAL

GRADING

ARCHITECTURAL VALUE

HISTORICAL VALUE

ARCHEOLOGICAL VALUE

SIKHISM: A SOCIO CULTURAL STUDY

6.1 WHAT IS SIKHISM

Sikhism has been defined as the youngest and the most modern of the world religions, being an original and practical religion. Having the whole humanity in view for its welfare and amelioration, Sikhism has made valuable contribution towards the uplift of man and society in almost all spheres-thought, conduct, outlook, organization and cultural patterns.

It arose, in the 15th century, as a new mode of humanitarian thought, heralding a new conception of the Ultimate Reality.

Sikhism began with the preaching of Guru Nanak, the founder of the religion. He based his right to teach on his personal experience of a *hukum*.

Guru Nanak is viewed as the founder and preacher of a new gospel. The religion founded by Nanak was nurtured by next GURUS.

6.2 SOME ESSENTIAL FEATURES OF SIKHISM

6.2.1 MONOTHEISM

Guru Nanak believed in only one God as the ultimate Reality. *The Sole Supreme, Creator.*

6.2.2 REALITY OF THE WORLD

Guru Nanak rejected the earlier view of the world being *Mithya* or unreal or a place of suffering and human life of punishment. "This world is the abode of the Lord who resides in it.

GOAL OF LIFE

In Sikhism the goal is not Moksha, Nirvana or personal salvation after death. It is the status of the Gurmukh or Sachiarā or a Godman to be attained in this life. A Gurmukh is attuned to the Will of God, and engages himself in carrying out the Divine Will.

6.3 PHILOSOPHY OF SIKHISM

Guru Nanak did not accept the dichotomy between empirical and spiritual lives preached by earlier systems. Asceticism which was considered essential for spiritual attainments, was described by the Guru as escapism and parasitism. He advocated a householder's life, with emphasis on hard work, honest means for a livelihood and sharing of earnings with others in need. God loves his creation, and takes pleasure in looking after it. Ritualism is condemned. Instead the emphasis is on Naam, i.e., remembering God or keeping Him in mind or being conscious of Him always.

6.3.1 EQUALITY AND HUMAN DIGNITY

Sikhism recognizes no distinction between man and man or the basis of birth or otherwise. His concept of equality for women can never be surpassed. He also preached a life of honour and dignity.

6.3.2 REMOVAL OF INHIBITIONS

Ahimsa, celibacy, vegetarianism, and asceticism were considered essential in the practice of religion. He rejected all these and recommended a householder's life with emphasis on noble deeds, dignity of labour, service of humanity and full social responsibility.

THE SCRIPTURE

The Adi Granth, compiled by Guru Arjan Dev, with later addition of bani of Guru Tegh Bahadur is the sacred scripture of the Sikhs. The scripture was given the status of Guru by the Tenth Master. This appointment of the Scripture or the Word as Guru is unique to Sikhism. Sikhism is a life affirming faith with a positive attitude towards the world. It is a religion of activism, noble actions and altruistic deeds. It is a religion of hope and optimism with rich traditions of charhdi kala or ever-rising high spirits.

An individual has to include purity of body, mind and soul, both in personal conduct and in relation to society. Emphasis is on Naam japo (meditate and pray) kirat karo (earn by honest labour) and vand chhako (share your earnings with needy). The individual has to live in and as part of this world while resisting temptation.

Stress is laid on udham (positive action or effort) in any situation.

6.4 ARDAS

Ardas is derived from the Persian word Arz meaning supplication and dast meaning hands. In other words, a supplication to a higher power not supported by a written petition.

In Sikh practice, it is a solemn part of daily life and also an essential part of all ceremonies, of any type.

6.5 GURU GRANTH SAHIB

Guru Granth Sahib is the holy book of the Sikhs and it contains collection of the writings of the Gurus and other saints of India. The book contains the compositions of the first five Gurus, the ninth Guru and panegyrics of bards who attended on the Gurus or admired their characters, and hymns of mediaeval saints.

The cardinal principle of the Gurus and Bhagats whose writings find a place in the sacred book is the unity of God.

The holy book was initially compiled by the fifth Guru in 1603-04 and recensed by the tenth Guru in 1706.

6.6 FESTIVALS OF SIKHS

For Sikhs, observing anniversaries of historical events is collaborative in nature.

Baisakhi is the only festival fixed by the solar calendar. It falls on 13th April every year.

Diwali – the festival of lights is celebrated on Amavasya (the last day of the waning moon) in the month of October November. In the early 17th century, around 1620 the return of Amritsar of Guru Har Gobind after his release from the fort of Gwalior, coincided with this day.

HOLA MOHALLA

It was celebrated on the day after Holi and held at Holgarh. The word hola is adapted from halla, meaning attack, while mohalla means the place of attack.

The purpose was to instruct and drill his followers in the art of warfare. Competitions were held in wrestling, archery, manual combat with sword and shield, combat on horseback and dagger play.

Gurpurab is the observance of an event related to the lives of the gurus. The principal Gurpurab is the birth anniversary of Guru Nanak.

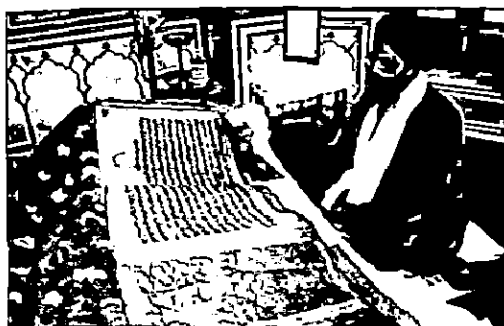


A SIKH

FEATURES

- GOD: THE SOLE, SUPREME
- EQUALITY
- HUMAN DIGNITY
- NOBLE DEEDS
- EQUALITY FOR WOMAN.

• PAHLEY PANGAT PHIR SANGAT



FIRST TAKE MEAL TOGETHER AND THEN MEDITATE.

THE HOLY SCRIPTURE :
GURU GRINTH SAHIB.

PHILOSOPHY :

- NAAM JAPO (MEDITATE)
- KIRAT KARO (HONEST LABOUR)
- VAND CHHAKO (SHARE EARNIN
95)



MANJI SAHIB : SEAT OF GURU

SIKH ARCHTECTURE**7.1 INTRODUCTION**

THE SIKHS just over ten million in number, constitute a small minority of the Indian population, 1.89 percent. Living mostly in the northern state of Punjab, they have spread to all parts of the country where they have earned a place of for themselves in trades and professions by dint of their industry and spirit of adventure. They have also gone in sizable numbers to various parts of the world and have done quite well.

Sikhism, Comparatively speaking is a young faith, its founder Guru Nanak having been born only five centuries ago in 1469. He was a great teacher who raised his voice against the malpractice's and abuses that had crept into the religious and social customs then prevalent in India, and laid special emphasis on the fundamentals of abiding faith in God and His creations, harmonious, happy society. He expressed himself clear and forthright on God and His creations, man and his place in the universe and how one can seek enlightenment and salvation. It is his precepts, reiterated by the successor Gurus, that form the basis of Sikh thought. It was a century later, in 1604, that the fifth Guru, Arjan Dev, compiled the hymns composed by Guru Nanak, the next three Gurus and himself, and provided the Sikhs, literally meaning the disciples, the learners, with a scripture of their own. In this volume, the Adi Granth, he included the compositions of sixteen other Indian saints, Hindu, Muslim and Harijan, such as Jaldev, Surdas, Farid, Namdov, Kabir and Ravidas.

The next stage, a revolutionary one, came another century later when Guru Gobind Singh, the tenth Guru, organized the community into a distinct well-knit group the khalsa-the pure. Infusing a new spirit into his followers, he wanted them to be soldiers and saints at the same time. He asked them to wear long hair (kesh, denoting saintly appearance); underwear (kachha, meant for self-control); iron bangle (kra, for abstaining from the use of the hand for immoral acts); comb (kangha, denoting cleanliness of mind and body); and sword (kirpan, for self-defence, for use in an emergency and for a right and just cause).

SIKH ARCHITECTURE

There are number of buildings the architectural types of which could come under the discussion on Sikh architecture. As for example, some of the forts like the Gobindgarh Fort at Amritsar, Bahadurgarh, Fort in Patiala district and Qilla Mubarakat Patiala, which were used by the Sikhs and seem to have been also constructed under their patronage could very well come under the discussion on Sikh architecture. Similarly some early palaces like the Summer Palace of Maharaja Ranjit Singh at Amritsar and those of the Kings of Patiala, Faridkot, Nabha and Kapurthala, etc. who were Sikh rulers could also be brought under the purview of the discussion. One can even advocate for the inclusion of the architecture of the building of the Khalsa College at Amritsar, because it is the earliest building serving the community for its educational programme.

THE SIKH GURUS

Guru Nanak (1469-1539)

ਗੁਰੂ

ਗੁਰੂ Nanak first Lord of Sikh faith son of Mehta Kalu Chand, a Khatri of Bedi subcaste and mata Tripta was born in 1469 A.d. at village Talwandi in Shekhupura district (Pakistan) known as Nankayana Sahib. In 1488 A.d. at the age of sixteen, he was married to Bibi Sulakhni daughter of Lala Mool Chand. He had two sons Siri

Chand and Lakhmi Chand, Kalu chand tried to introduced nanak to business but in vain. He worked as a manager. He worked as a manager of Mobi Khana under Daulat Khana Lodhi at Sulanpur for about 17 years. Lord travelled extensively over the whole of India, and visited ceylon, Afganistan, Persia, Turkistahn, Maca, Medina, and Bagdad etc. His preaching was intensely Monotheistic and largely directed against the atrocities of priests. He believed in universal toleration through which he sought to bring Hindu and Muslim together. He believed in transmigration of soul and its final dwelling in bliss. He earnestly felt that religion was for the service. Down at Kartarpur on bank of river Ravi he died their at the age of 70 leaving behind an army of zealous and admiring disciples.

Guru Angad Dev (1504-1552)

Guru Angad earlier known as Lehna, was son of Lala Phero Mal and Mata Sobhar Devi in Ferozpur District. Once while going to Devi at Kangra he went to pay visit to Guru Nanak. He as deeply impressed by the Guru and became his devotee. He served the Guru with utmost devotion. Guru Nanak appointed the simple and sincere Lahana as his spiritual successor in preference to his own sons and named him Angad. He introduced GURMUKHI, Guru Angad was married to Bibi Chimi of Khadur village in Amritsar District, where he finally settled. He had two sons Dasu Ji and Dattu Ji and one daughter. Guru Anagad died at the age of 48 years. He appointed Amar Dass an assiduous follower as his spiritual successor in preference to his own sons.

1479

Guru Amar Dass (1509-1574 AD)

Guru Amar Das son of Tej Bhan a Khatri of 'Bhalla' Gotar was born in 1479 in Amritsar district. He served Guru Anaged so devotedly that the Guru appointed him his successor. Guru Amar Dass spent much of his life in village Goindwal close to Khadur Sahib and died at age of sixty five after serving the faith for twenty two years.

1479

Guru Amar Dass had two sons and one daughter. It is said that for his great love for his daughter and for the services of her husband, Guru Ram Dass Appointed his son in Law as his successor in preference to his own sons.

Guru Ram Dass (1534-1581(AD))

Guru Ram Dass was born in (1534 A.d) at Chuna Mandi Lahore(PAK). He married Bibi Bhani daughter Guru Amar Dass and settled at Goindwal sahib with his father in law. On the death of Guru Amar Dass he succeeded him as a fourth Guru. It is said Akbar 'Badsha' bestowed a piece of land upon the Guru where he started construction of sacred tank and a temple known to day as Golpen temple. He died in 1581 A.D after serving the Sikh faith for seven years and was succeeded by his son Arjun Dev Ji.

Guru Arjun Dev.1563-1606 (AD)

Guru Arjun Dev the youngest son of Guru Ram Dass was born in 1563 A.D and succeeded his father Guru Arjun Dev started reforms in Sikh religion, and selected Amritsar as the centre of the Sikh community. He completed the construction of sacred tank and temple started by his father. Guru Arjun Dev Jee compiled and arranged the writing of his predecessors under the title of Adi Granth. It is said when Prince Khusru revolted against his father Emperor Jahangeer, the Guru helped the Prince not only with his blessings but also with money, Khusru was later defeated and captured. The Guru had to undergo great rigorous and hardships at the hands of Diwan Chandu Lal and at last died in June 1606 A.d. According to the most popularly accepted account of his death by the Sikhs the Guru obtained permission to take bath in the river RAVI and disappeared miraculously, when he dived in the stream.

Guru Hargobind (1595-1645AD)

Hargobind, the only son of Guru Arjun Dev, was hardly eleven years of age when his father died (1606 A.d) Guru Hargobind had not only to put with the Mugal Emperor but to face his uncle Prithi Chand who was constantly plotting against him. Above all, the bitterness caused by the incident of confinement and death of Guru Arjun was already there. confronted with this situation the 6th Guru thought that the only honorably course left for him was to restore to arm with a view to infuse martial spirit in his followers. The Guru introduced the practice of hunting and laid much emphasis in military training. He attired himself in martial dress, and carried two swords as emblem of leader-ship, both spiritual and temporal. He also gathered all the paraphernalia of royalty around him i.e. stable of eight hundred horse, three hundred mounted followers and a body guard of sixty men equipped with arms. In the beginning he had cordial relation with Jahangir, and once arrested and confined in the Gwalior Fort. Guru Hargobind had very cordial relations with some of Muslim saints. He has Muslim officers in his army. He died at kartar pur in 1645 A.D leaving behind five sons. Guru appointed his grandson Har Rai as his successors.

Guru Har Rai (1631-1661)

Born in 1631, Guru Har Rai son of Bhai Gurditia, son of 6th lord Guru Hargobind succeeded his grand father in only fourteen years of age. He was peace loving man and is said to have good relations with Dara Shikho the eldest son of Emperor Shahjahan. During the war of succession, when Dara was fleeing towards the Punjab, Guru Har Rai is said to have checked the troops of Aurangzeb in order to give Dara time to flee. After the execution of Dara in 1659 A.d., Aurangzeb summoned the Guru to Delhi for an explanation. Guru Har Rai however, did not go in person and instead sent his eldest son Ram Rai to explain the matters. Guru Har Rai died at kartar pur in 1661 A.D. leaving two son. Before his death he nominated

his younger son Har Krishan a child of six years as his successor in preference to his elder son Ram Rai.

Guru Harkrishan (1656-1664 AD)

Guru Harkrishan, younger son of Guru Har Rai became Guru in 1661. A.D. when he was about six year old. But Ram Rai, his elder brother, who was at Delhi did not favour this successor. A dispute arose among the rival claimants for the Guruship and the issue became so serious that it was finally referred to the Emperor Aurangzeb, who summoned Guru Harkrishan to his court with the intention that the two brothers should decide the issue. Aurangzeb was so much struck with Guru Harkrishan's intellect and power of observation that he decided the Guruship in his favour. But the young Guru before leaving Delhi was attack by small pox and died in 1664 A.D.

Guru Tegh Bahadur (1621.-1675 AD)

Guru Harkrishan at the time of his death, is said to have alluded that his successor would be found in a village called Bakala, now called Baba-Bakala on Amritsar Jullundur road . He was the youngest son of Guru Hargobind Jee. Guru Tegh Bahadur Jee was married to Matta Gujri daughter of Lal Chand of Karatar pur in Jullundur district. On becoming Guru he left baba bakala and settled at village makhawal (anandpur Sahib). After some time accompanied by his wife, Guru Tegh Bahadur went on pilgrimage to Patna, where tenth Lord Guru Gobind Singh Jee was born. Guru Tegh bahadur was beheaded in 1675 A.D. in Chandni Chowk at Delhi by the orders of Aurangzeb. It is said Guru was summoned before the Emperor who asked him to perform a miracle in proof of his divine which he exercised as the head of the Sikh. The guru is said to have answered that his performance of miracle occurs God's wrath and that the duty of man was only to pray to his Lord. There upon he was beheaded.

Guru Gobind Singh (1665-1708 AD)

Guru Gobind Singh born at Patna in 1665 A.D. He was only ten years old when he succeeded his father. Gobind Singh spent his early life in retirement in lower hills of the Punjab occupying himself in history, Sanskrit and Persian Literature and Military science. After the martyrdom of Guru Tegh Bahadur Lord felt the necessity of raising a strong force. He renamed the Sikhs as Khalsa. The puro. The Khalsa Akalpurkh (God) only, pay respect to the Guru Granth alone; be free from caste prejudices. For unity and single ness of purpose among his followers he introduced and made compulsory the use of KESH, KIRPAN, KACHHA, KARA KANGA known as five KAKAS. The specific surname of SINGH (Lion) was given to Sikhs. He resided at Anandpur Sahib where large number of Sikhs gathered around him.

Before his death he called for his disciples and gave his last-injunction forth the Khalsa were enjoined to look upon Siri Guru Granth Sahib as the living Guru as no new Guru come after him.

7.2 THE SIKH SHRINES

The Sikh shrine is known as the Gurudwara or the door (dwar) or seat (dwar) of the Guru, as the literal meaning of the term implies. The term is suggestive of building or a structure having a door for the entrance or a seat or plinth for its placement. The term Gurudwara therefore, contains an architectural connotation. Most of the Gurudwara or Sikh shrines are found to be associated in some way or the other with some of the Gurus. In other words, these are mostly commemorative buildings although instances are there where the building, sometimes as a very humble structure, existed before the Guru sanctified it either with his visit or by his residing there for some time. In many cases, the buildings were erected long time

after the spot was sanctified by the Guru's presence. Thus many of these buildings are not contemporaneous with the Guru's, they commemorate. It seems, however, from the available historical gleanings that a few buildings were erected almost simultaneously to the Guru's presence, and rarely sometimes the buildings preexisted and they were elevated to the status of a Gurudwara because of the sanctity that it received due to the Guru's visit there.

The early buildings of the Gurudwaras, therefore seem to have been simple buildings mostly of the residential type. There is evidence of a residential building being treated as a Gurudwara because of its sanctity by the visit of the Guru. In these initial periods, no fixed model for the architecture of the Gurudwara seems to have been evolved. In many cases, these simple residential buildings, converted into Gurudwaras, fell to natural decay without getting the substitution due to various local conditions and circumstances. Thus a number of important early Gurudwaras were lost for ever and their memory only lingered with the generations of people. Sometimes however, a substitute building, mostly with a better one, was constructed. The architectural memory of the original building thereby was also lost. In some cases, however, we are fortunate in having preserved the memory of the original building of the Gurudwara through photographic documentation or illustrations in drawing. But such cases are very few and far between.

7.3 ARCHITECTURE OF SIKH SHRINES

VARIOUS TYPES OF SIKH SHRINES

TYPE -1

Single storeyed square structures

Representative monuments:

- | | |
|-----------------------------|------------------------------|
| 1. Gurudwara Guru-ka-Lahore | Anandpur Sahib (Roar) |
| 2. Gurudwara Hol Garh Sahib | Anadpur Sahib (Ropar) |
| 3. Hari Mandir Sahib, | Kiratpur (Ropar) |
| 4. Gurudwara Mata Jito Ji | Anandpur Sahib (Ropar) |
| 5. Gurudwara Bhora Sahib | Anandpur Sahib (Ropar) |
| 6. Gurudwara Tahli Sahib | Tahla, Maur Mandi (Bhatinda) |
| 7. Gurudwara Tahli Sahib | Jaitu Mandi (Faridkot) |
| 8. Gurudwara Vivah Asthan | Kartarpur (Jullundur) |
| 9. Gurudwara Manji Sahib | Dam Dama Sahib, (Bhatinda) |
| 10. Gurudwara Tap Asthan | Anandpur Sahib (Ropar) |
| 11. GurudwaraTahli Sahib | Khadoor Sahib (Amritsar) |
| 12. Gurudwara Sahib | Dehra Bab Nanak (Gurdaspur) |
| 13. GurudwaraTahli Sahib | Chandu Nangal (Gurdaspur) |
| 14. Gurudwara Manji Sahib | Akoi (Sagrur) |
| 15. Gurudwara Angitha Sahib | Khadoor Sahib (Amritsar) |
| 16. Gurudwara Guru Sar | Hadiaya (Sangrur) |
| 17. Gurudwara Dera Sahib | Batala (Gurdaspur) |

TYPE –II

Single Storeyed Buildings, with

Rectangular Plan:

- | | |
|--------------------------|--------------------|
| 1. Gurudwara Shish Mahal | Kiratpur (Ropar) |
| 2. Gurudwara Shahid Gang | Muktsar (Faridkot) |

TYPE –III

Single Storyed Shrines with

Octagonal Plans:

And Domical Top:

- | | |
|-------------------------|-----------------------|
| 1. Gurudwara Tham Sahib | Kartarpur (Jullundur) |
| 2. Sri Akal Takhat | Amritsar (Amritsar) |

TYPE – IV

Shrines Having Square Plan with

Double Storeyed Elevation and a Dome:

- | | |
|-------------------------------|------------------------|
| 1. Gurudwara Ram Sar | Amritsar (Amritsar) |
| 2. Gurudwara Tamboo Sahib | Muktsar (Faridkot) |
| 3. Gurudwara Gobind Garh | Bhatinda (Bhatinda) |
| 4. Gurudwara Loh Garh | Dina (Faridkot) |
| 5. Gurudwara Sis Ganj | Ananpur Sahib (Ropar) |
| 6. Gurudwara Fateh Garh Sahib | Sirhand (Patiala) |
| 7. Gurudwara Tilak Asthan | Chamkaur Sahib (Ropar) |
| 8. Gurudwara Bahadur Garh | Bahadur Garh (Patiala) |
| 9. Gurudwara Patal Puri | Kiratpur (Ropar) |

TYPE – V

Building with Square Plan Three Storeyed

Elevation and a Domical Top:

- | | | |
|----|------------------------|------------------------|
| 1. | Gurudwara Katal Garh | Chamkaur Sahib (Ropar) |
| 2. | Gurudwara Chbara Sahib | Goindwal (Amritsar) |
| 3. | Darbar Sahib | Tarn Taran (Amritsar) |
| 4. | Golden Temple | Amritsar (Amritsar) |
| 5. | Gurudwara Moti Bagh | Patiala (Patiala) |
| 6. | Darbar Sahib | Muktsar (Faridkot) |

TYPE – VI

Shrines Having Octagonal Plan and

Three Storeys with Domical Top:

- | | | |
|----|--------------------------|------------------------------|
| 1. | Gurudwara Shahidan | Amritsar (Amritsar) |
| 2. | Gurudwara Dam Dama Sahib | Sri Hargobindpur (Gurudwara) |

TYPE – VII

Shrine with Square Plan Five Storeyes

and Domical Top:

- | | | |
|----|----------------------|-----------------------|
| 1. | Gurudwara Tham Sahib | Kartarpur (Jullundur) |
| 2. | Sri Akal Takhat | Amritsar (Amritsar) |

TYPE-VIII

Shrines Built on Octagonal Plan and

Having Nine Storeyed Structure with a Domical Top:

- | | | |
|----|---------------------|---------------------|
| 1. | Gurudwara Baba Atal | Amritsar (Amritsar) |
|----|---------------------|---------------------|

TYPE – IX

Single storeyed Shrines with cruciform plan

1. Gurudwara Dehra Baba Gurdita Kiratpur (Ropar)

TYPE –X

Miscellaneous:Stepped well Covered

With a Domical Top:

1. Gurudwara Baba Sahib Goindwal (Amritsar)

7.3 ARCHITECTURE OF SIKH SHRINES, VARIOUS PLAN FORMS OF SIKH SHRINES

SIGNIFICANT FEATURES

1. PLAN FORM

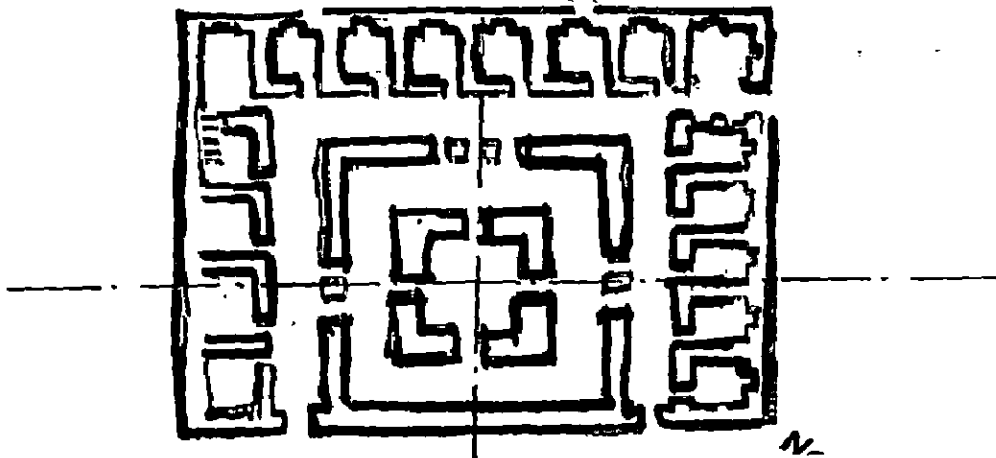
Broadly plan of Gurudwaras can be classified into following categories :

- (1) Square
- (2) Rectangular
- (3) Octagonal
- (4) Cruciform

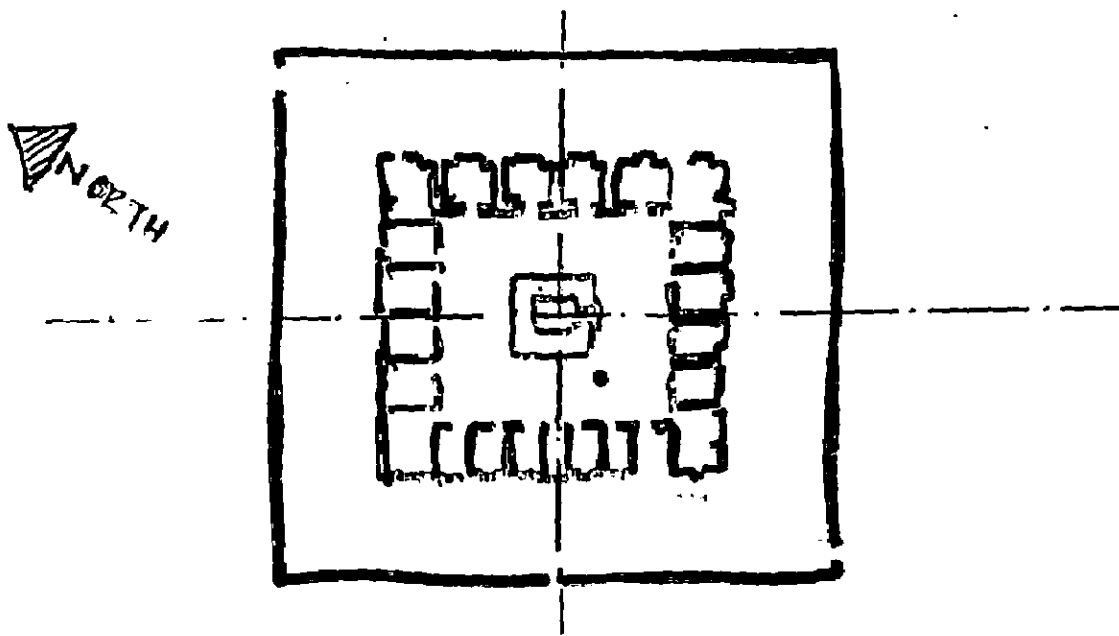
FURTHER TYPES

- (1) Sanctum chambers square from both interior and exterior
For ex. Gurudwara Guru Ka Lahore, Ropar Gurudwara, Tibbi Sahib, Jaitu
Faridkot
- (2) Shrines having the cella chamber which is externally square but octagonal
shape internally

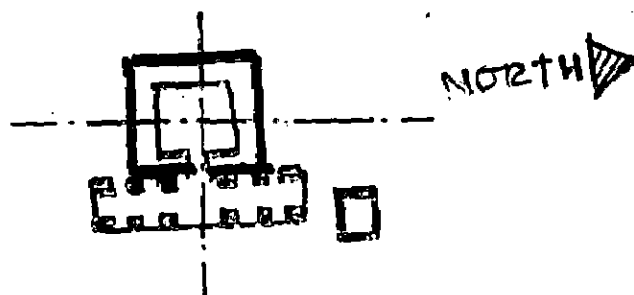
PLAN TYPE (I)
GURUDWARA DERA SAHIB, BATALA, GURDASPUR



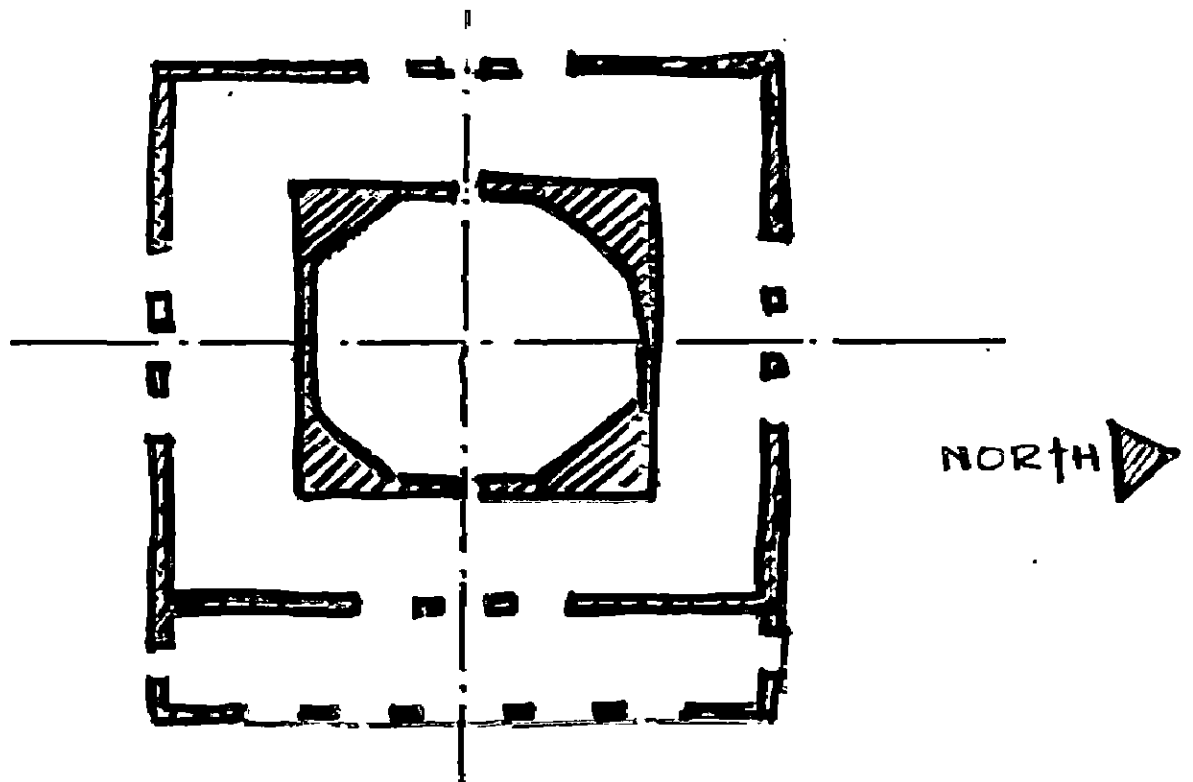
PLAN TYPE (I)
GURUDWARA GURUSAR, DISTT. SANGRUR



PLAN TYPE (I)
GURUDWARA TIBBI SAHIB, JAITU MANDI, FARIDKOT

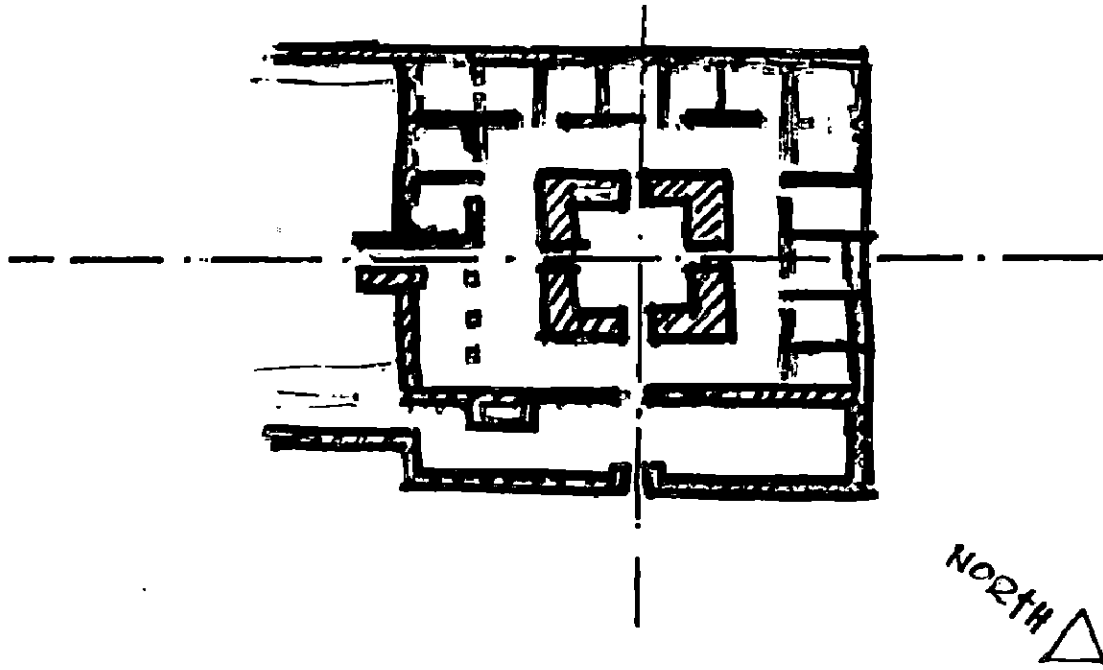


**PLAN TYPE (II)
GURUDWARA SHAHID GANJ, MUKTSAR, FARIDKOT**



**SHRINES HAVING RECTANGULAR PLAN AND SINGLE
STOREY**

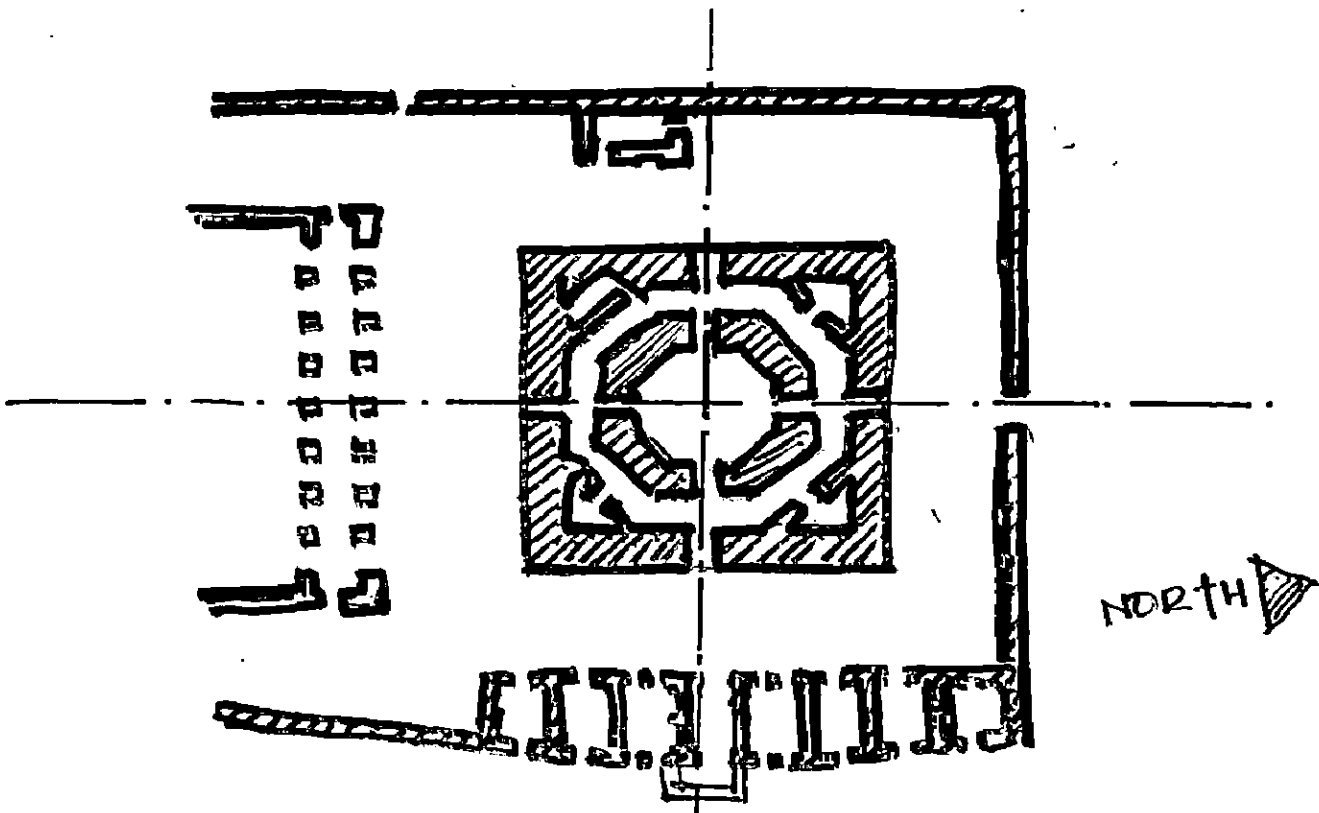
PLAN TYPE (IV)
GURUDWARA RAMSAR, AMRITSAR



SQUARE PLAN, DOUBLE STROEYED STRUCTURE WITH
DOME AT TOP

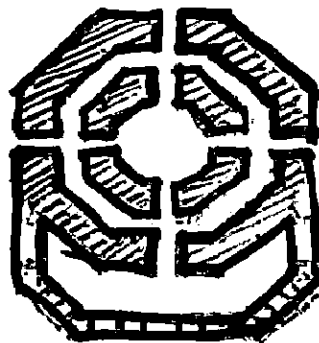


PLAN TYPE (V)
GURUDWARA DARBAR SAHIB, MUKTSAR, FARIDKOT



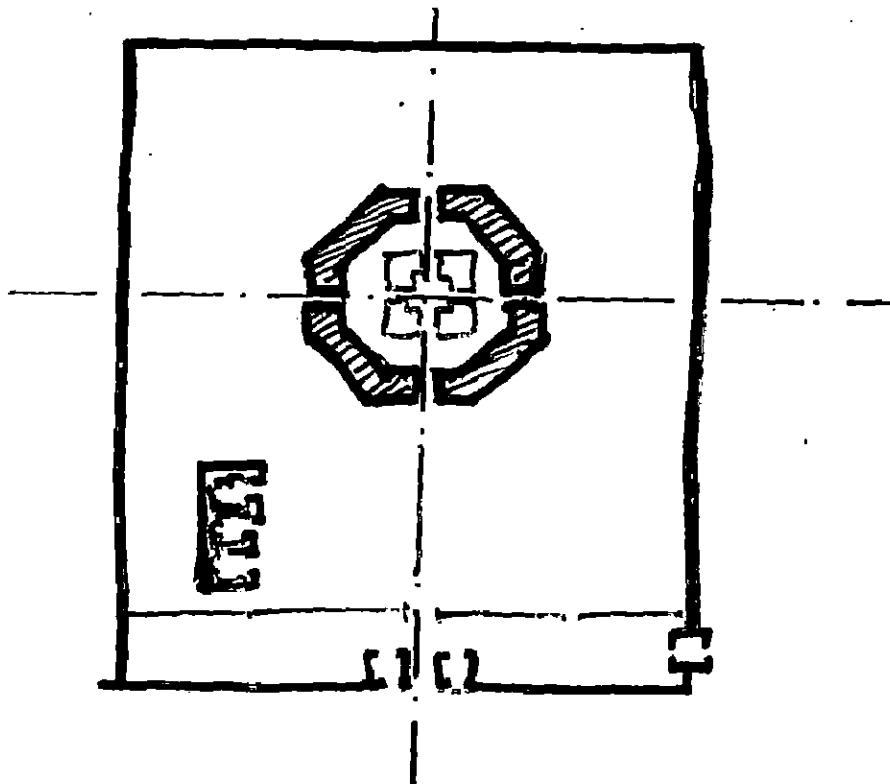
SHRINE WITH SQUARE PLAN, DOUBLE STOREYED
STRUCTURE AND DOMICAL TOP

PLAN TYPE (VI)
GURUDWARA SHAHIDAN, AMRITSAR



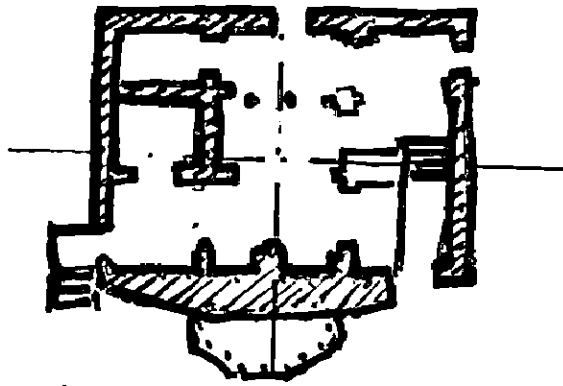
SHRINE WITH OCTAGONAL PLAN, THREE STOREYED
STRUCTURE AND DOME ON TOP

**PLAN TYPE (VI)
GURUDWARA SRI HARGOBINDPUR, GURDASPUR
GURUDWARA DAMDAMA SAHIB**



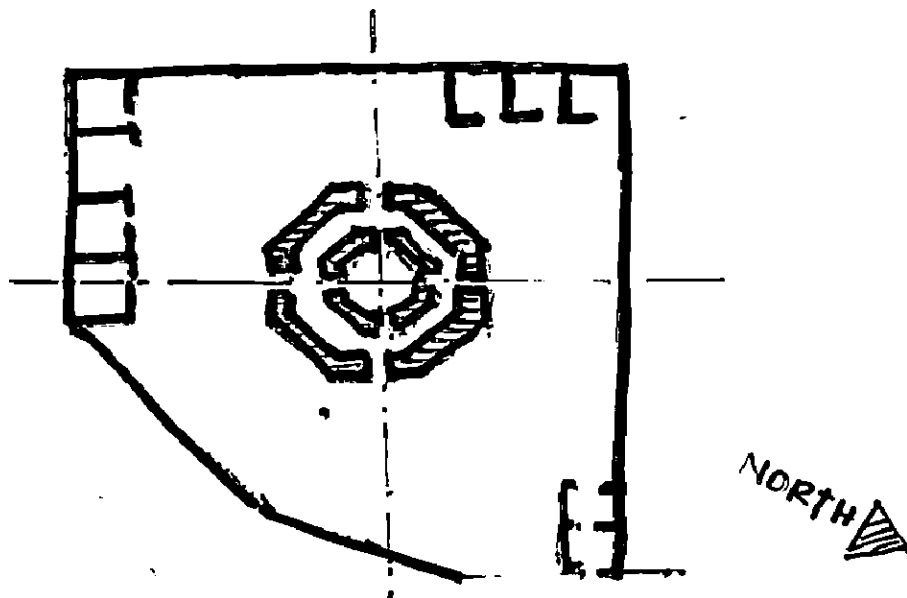
**SHRINE WITH OCTAGONAL PLAN, THREE STOREYED
STRUCUTRE AND DOMICAL ROOF**

**PLAN TYPE (VII)
GURUDWARA AKALTAKHAT, AMRITSAR**



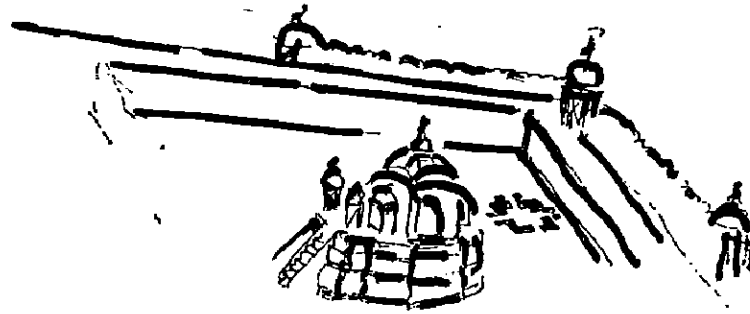
SHRINE WITH SQUARE PLAN, FIVE STROEYED STRUCTURES AND DOME ON TOP

**PLAN TYPE (VIII)
GURUDWARA BABA ATAL, AMRITSAR**



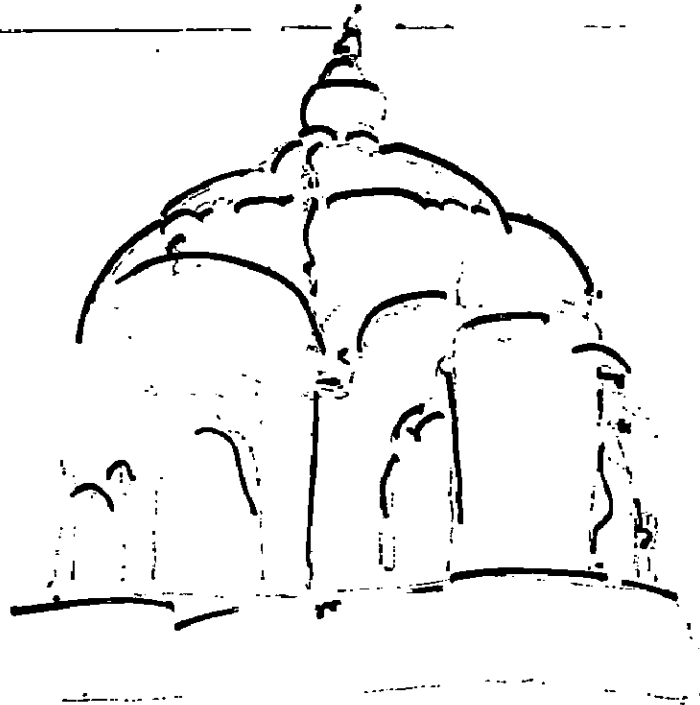
OCTAGONAL PLAN, NINE STOREYED STRUCTURE WITH DOME ON TOP

**PLAN TYPE (IX)
GURDWARA DEHRA BABA GURDITA KIRATPUR, ROPAR
(CRUCIFORM PLAN)**



SHRINE WITH MANY SIDED PLAN

**PLANT TYPE X
GURUDWARA BAOLI SAHIB, GOINDWAL, AMRITSAR**



STEPPED WELL WITH A DOMICAL TOP

Double chambered formula

Double chambered formula within a larger chamber square externally but octagonal chamber leaving a passage for circumambulation in between

For ex. Darbar Sahib Muktsar, Faridkot

(1) Rectangular Plan

Very rare gurudwaras

Rectangular form of the ground plan is in view of the fact that it combines, addition of porch in front of the square senctum cella

For ex. Gurudwara shishmahal, Kiratpur, Ropar Gurudwara Sahid Ganj at Muktsar, Faridkot

(1) Octagonal from both externally and internally

For ex. Gurudwara Lohgarh (Anandpur Sahib)

Gurudwara Baba Atal (Amritsar)

Gurudwara Shahidan (Amritsar)

(2) Octagonal Externally but square in the interior

For ex. Gurudwara Damdama Sahib, Sri Hargobindpur in Gurdasppur district

(3) Square externally but octagonal interiors

Ex. Darbar Sahib, Muktsar Faridkot

The Built Form

- (1) Single Storey
- (2) Double Storey
- (3) Triple Storey
- (4) Five Storey
- (5) Nine Storied

TYPE-I

NAME: GURUDWARA TIBBI SAHIB

SITUATION: JAITU MANDI (DISTRICT FARIDKOT)

The Tibbi Sahib Gurudwaras is constructed on high sand dune to Jaitu Mandi, in Faridkot district. This place was visited by Guru Gobind Singh in 1704 A.D. and the building was presumably constructed to commemorate that important event. The data of construction of the building is not known, but it is believed that the Gurudwara was constructed by Maharaja Hira Singh of Nabha. This is also conferred by the tradition coming down to the present priest of the Gurudwara.

A small shrine based on a square plan it has only one entrance in the east and is topped by domicile roof of the thatched type. On the top of the roof, at the center, there is an inverted lotus-like member pierced through by a metallic rod which is originally probably withheld either the Kalasa or the vase may be the insignia of the faith. In the building, some modern additions, like portico, have been made recently.

In front of the Gurudwara there flutters a high Sikh standard on a raised basement. It supported by a high Attari structure.

TYPE – I

NAME: GURUDWARA GURUSAR

SITUTATION: HADIAYA (DISTRICT SANGRUR)

On the outskirts of village Hadiaya, four miles from Barnala in Sangrur in Sangrur district Maharaja Karam Singh of Patiala raised the Gurudwara Gurusar to commemorate the visit of Guru Teg Bahadur.

A small square edifice with domicile top, is placed within a double enclosure, the outer enclosure is formed by a high thick wall with two massive gates, one in

the south-eastern and the other in north-western corners. These gates are so high that they look like the gates of a fort from a distance. The south-eastern gate has a pointed arched opening with seats on both the sides. The gate is flanked by projected ends which are decorated with recessed niches and round pilasters. The other gate is just a simple pointed arched opening.

The inner enclosure is square in plan, and is formed by rows of small rooms of four side. Its plinth is higher than the outer ground level. The southern wing to this enclosure is intercepted by a double storied archway which is the only approach to the main shrine. This archway is called 'Deorhi' Being on a higher level, it is approached through a flight of steps.

The main shrine is a small square building, constructed on a raised plinth in the centre of the inner enclosure. On the eastern wall a cusped arch support on two tapering round pilasters constitutes the only entrance to the sanctuary where the Granth Sahib is placed. It is flanked by recessed rectangular areas on both the sides and the top.

A high Sikh Standard (Nishan Sahib) with octagonal base flutters in the south-eastern corner of the shrine.

TYPE-I

NAME: GRURDWARADERA SAHIB

SITUTATION: BATALA (DISTRICT GURUDASPUR)

The Gururdwara Dera Sahib is situated in the heart of Batala city in Gurdaspur district. Maharaja Sher Singh erected this monument, to commemorate the brief stay of Guru Nanak here, along with the party, on the occasion of a latters, marriage.

This shrine is constructed on a square plan and is crowned by a domical top. It is situated within an enclosure formed by rows of rooms, intercepted by a double storeyed archway in the northern wing.

The main shrine is a double chambered building erected on a raised plinth. The western wall of the outer chamber is pierced through three openings with foliate arches, supported on round tapering pilasters. The northern and southern sides also have two openings each of the same type. The fourth wall, i.e, the eastern, is a blind wall because it is attached a residential house. The corners of the western side have octagonal pilasters. The outer chamber serves as a covered circumambulatory path. Three sides of the roof are decorated with projected eaves.

The inner chamber, where the Granth Sahib is kept, is a small square room having very thick walls. Each of its sides have rectangular entrances.

The second storey of this structure serves as the residence for the temple priests. It has three rectangular windows placed within cusped arches, supported on round tapering pilasters.

This archway and the double storeyed enclosure were constructed by the Mahant (priest) Kesara Singh about one hundred years from now.

A high Sikh standard flutters on an octagonal basement in the north-western corner of the main shrine within the enclosure.

TYPE -II

NAME : GURUDWARA SHAHID GANJ

SITUATION : MUKTSAR (DISTRICT FARIDKOT)

In the west of Darbar Sahib, Muktsar is situated Gurudwara Shahid. Ganj. It was constructed by Maharaja Bikram Singh of the erstwhile Faridkot State. In 1807 V.S. (1750 A.D.) incurring a cost of Rs. 1500- and later, Sardar Baghl Singh, a Sikh Chief, added the fluted dome to it. At this place the dead bodies of the Sikhs, who



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were killed in a battle fought between Guru Gobind Singh and the Mugal forces in 1762 V.S. (1705A.D.) were cremated.

A square room is enclosed within another square chamber, which serves as a covered circumambulatory path. There is a verandah on its eastern face. Hence the plan of the whole building becomes rectangular. The inner chamber is surmounted by a dome.

The outer square chamber has a scheme of three openings in each side which are flanked by blind openings. The inner chamber, where the Holy Granth is kept, is very interesting in plan. A flute dome having decorative lotus petals at the base springs from a circular drum. It is surmounted by an invert lotus design that holds a heavy Kalasa made of lime and bricks. Open stairs have been provided in the Western Wall of the outer chamber.

TYPE - III

NAME : GURUDWARA LOH GARH

SITUATION : ANANDPUR SAHIB (DISTRICT ROPAR)

In the south of Anandpur Sahib, at about one mile, is situated Gurudwara Loh Garh in Ropar district. It was one of the fortresses constructed by Guru Gobind Singh for the protection of Anandpur city. But the fort is demolished by the Mughals after the Guru left Anandpur later, Sikh Sardars, during Misaldari period, constructed an octagonal Gurudwara in its place, which is recently being replaced by a new building on an octagonal plan under the supervision of Sant Sewa Singh of Anadgarh. The present study is based on photographs available in a booklet. "The city of joy, Sri Anandpur Sahib" written by Sh. Harbans Singh and published by the Shiromani Gurudwara Parbandhak Committee, Amritsar.

The building consisted of an octagonal chamber enclosed with another octagonal structure, thus a circumambulatory path was formed between the two outer chamber

had four gates, one in each side and the other sides of the building had windows in each direction. The roof was provided with the hanging cornice. The inner chamber had only four gates, one in each side. Its roof was slightly higher than the outer structure. The dome and kiosks were conspicuous by their absence.

TYPE – IV

NAME : GURUDWARA RAM SAR

SITUATION : AMRITSAR

At about two hundred yards from the Golden Temple, Amritsar, near Chatiwind gate; is situated Gurudwara Ram Sar. At this place, Guru Arjan Dev got compiled the Adi-Granth by Bhai Gurdar. The Guru started the excavation of the sacred tank of Ram Sar in 1543 A.D. and a Gurudwara building was constructed in 1602-03 A.D. The date of the construction of the present building of the Gurudwara cannot be ascertained. It seems to have been constructed quite late perhaps not before the 18th century.

In the north of the sacred tank stands the Gurudwara building, within an enclosure formed by rows of rooms on three sides and an archway in the east. Thus the enclosure forms an open circumambulatory path.

The shrine proper is a two storied, square structure with a fluted dome at the top. At the ground floor, it has one gateway on each of its four sides. Each gateway has the area over the lintel disposed into an arched motif with several foliations. This is repeated also in the inside. On either side of the gateway, there are some arched niches which in the interior are shown deeper recession. The upper part of these walls are decorated with relief motif of cusped arches resting on fluted pilasters. All the four walls of ground floor are encased with marble slabs and gilded plates form both inside and outside. The external corners are provided with octagonal pilasters.

A projected eave runs around the top on all sides of the ground floor and separates the ground floor from the first.

The entrance to the temple is gained through an archway in the eastern side. The gateway, a single unit, consists of a rectangular structure with an arched opening, the upper part of which is cusped.

TYPE – IV

NAME : GRUDWARA GOBINDGARH

SITUATION : BHATINDA (DISTRICT BHTINDA)

After the victory against the imperial forces at Muktsar, Guru Gobind Singh, the tenth master, reached the Bhatinda fort. In order to commemorate to the visit of the guru here Maharaja Karam Singh of Patiala constructed the Gurdwara Gobind Garh.

TYPE- V

NAME : GURUDWARA CHOBARA SAHIB

SITUATION : GOINDWAL (DISTRICT AMRITSAR)

The Gurudwara Chobara Sahinb is situated in the village Goindwal in the district of Amritsar, about fifteen miles, away from Tara Taran, on the northern bank of the river beas. It was the ancestral home of Guru Arjan Dev, the fifth Guru of the Sikhs, which was later on converted into a Gurudwara with minor renovations and repairs.

Within a courtyard enclosed by a wall on the eastern side and rooms on the other three sides, the shrine is situated in the south-western corner of the enclosure.

Within a courtyard enclosed by a wall on the eastern side and rooms on the other three sides the shrine is situated in the south-western corner of the enclosure.

The entrance to the shrine was through the south-eastern corner of the enclosure but in has been closed now and number of rooms have been erected in

this corner. A new double storeyed archway has been constructed by the Maharaja of Kapurthala in the north-eastern side. This gateway has an archway with double recesses. The side have been divided by pairs of round pilasters with usual round bases. The compartments created possess recessed cusped arches having rectangular windows with iron bars, topped by projected Chhajjas. Some of which are surmounted by rectangular perforated ventilators. A projected cornice divides the first and the second storeys. The side rooms of the archway are decorated with a frieze of Guldastas.

TYPE - V

NAME : DARBAR SAHIB

SITUATION : MUKTSAR (DISTRICT FARIDKOT)

Muktsar occupies a very important position among the Sikh centres of pilgrimage. Guru Gobind Singh, the last Guru of the faith, inflicted a befitting defeat to the Mughal army in the last battle of his career against them at this place. To commemorate the incident, Sardar Udai Singh of Kaithal (Haryana) laid the foundation of Shri Darbar Sahib here in 1839 A.D. (Sambat 1896 V.S.). Latter, Baba Gurmukh Singh and Sadhu Singh constructed the white dome and laid the marble flooring at the initial expenditure of Rs.16,000.

The earliest photograph of this shrine shows that it was a three storeyed building with a dome at the top. There were cupolas in each corner and a chhatri like member in the middle of each side at the second stage. The shrine was placed in a quadrangular courtyard formed by rows of rooms on all the four sides. It has two archways with double layers and with cusps at the top in the northern side. One of them had two projected balconies supported on brackets. There was another archway in the east on the western bank of the sacred tank. The enclosure was of

different storeys on the sides. These rooms were meant for the residences of the priests and the pilgrims.

The present building is a renovated structure over the previous one. The main entrance is a double storeyed structure having double storeyed rooms on both the sides. The earlier archways on northern side are no more there; instead there is a larger iron gate.

The main shrine is a three storeyed building with a very interesting plan and design. From a cursory look it seems to be a square building but, in fact, a square chamber contains another octagonal chamber upto the first floor.

The ground floor has been decorated with design of arches having cusps at the top on all sides. These arches are supported by pair of tapered pilasters. The central one contains a rectangular gate in each of its sides.

The first floor has a beautiful orientation of architectural motif on all sides. Quite at the top of the gates there is a small projected balcony having domical top. It is flanked by three windows on each side. A projected eave surmounted by perforated battlement decorates the roof. Fluted pilasters decorated the corner of both the lower stage. Each corner consists of a square cupola with projected cornice at the roof. These earlier cupolas were smaller in size and different in design.

The third stage is octagonal in shape and is an extension of the lower inner chamber. This is not a functional storey in its true sense.

TYPE – VI

NAME : GURUDWARA SHAHIDAN

SITUATION : AMRITSAR (AMRITSAR)

The Gurudwara Shahidan is a memorial to Baba Dip Singh, a Sikh General, who, in 1760 A.D. on hearing that the golden Temple, Amritsar was being defiled by Ahmed Shah Abdali, came with his Sikh soldiers fighting his way through enemies.

The ground floor had four rectangular gateways in each alternate side. Blind arched gates with cusped formation decorate the other sides. In the exterior walls, there ran a horizontal moulding to demarcate between the ground floor and the first floor.

The first floor was also disposed in the form of an octagon. Out of the eight sides in the stage, six show three openings for each of them. These openings had cusped arches supported on tapered pilasters. On two other sides there were only two small windows.

The second floor was erected exactly on the walls of the inner structure, thus making it also an octagonal chamber. On each of its sides, there was an arched opening over which there was also a small ventilator. This chamber has a curved projected eave over which stood the graceful dome holding the inverted lotus and the Kalasa at the centre.

TYPE – VI

NAME : GURUDWARA DAM DAMA SAHIB

SITUATION : SRI HARGOBIND PUR (DISTRICT GURUDASPUR)

The Gurudwara Dam Dama Sahib is situated on the right bank of the river Beas, on the Amritsar-Sri Hargobindpur road about two miles from the village in the district Gurdaspur commemorates the visit of the sixth Guru, Har Gobind, to this place.

The lower part of the exterior has a rectangular doorway on four of its alternate sides, the remaining sides showing curved niches with ornate arched formation. The upper part of the exterior has on each of its sides a projected balcony with an arched opening. The balconies atop the doorway.

TYPE – VII

NAME : SRI AKAL TAKHAT

SITUATION : AMRITSAR (AMRITSAR)

Opposite the Golden Temple, Amritsar, on the western corner of the marble paved courtyard, stands Sri Akal Takhat (Akal Bunga)., the highest. Temporal seat of the Sikh. According to legends, it was raised as a platform by the sixth Guru. Har Gobind, in 1609 A.D., Later, in 1774 A.D. the first storey of the building was constructed and, Maharaja Ranjit Singh added the remaining part of the present monument, excepting the gilded dome at the top which was constructed by S. Har Singh Nalwa at a still later time.

The ground floor is a larger platform, having one hall underneath, with only one opening in the northern side. This hall is flanked by stairways on its northern and southern sides leading to the first floor. The façade has an attached pillared marble portico, with cusped arched opening on a raised plinth in its central part. A continuous projected eave surmounted by a perforated marble parapet demarcates this basement with the floor of the first stage.

The first floor has been divided into three parts of its general scheme. It consists of a central hall and rooms on both the northern and southern sides.

The second floor almost repeats the same scheme of the first floor. The central hall has no roof. it has some rooms in the south and a gallery in the form of a rectangular room on the northern side.

The third floor is a larger hall formed by cusped arches and square pillars, and galleries on all side. In the facades, unlike lower storeys, there are cusped arched opening nine in number.

TYPE – VIII

NAME : GURUDWARA BABA ATAL

SITUATION : AMRITSAR

The Gurudwara Baba Atal is basically a scads (cenotaph) to the memory of Baba Atal, the revered son of the sixth Guru. It is located to the southwest of the Golden Temple, Amritsar.

It is constructed on an octagonal plan covering an area of 125 feet. A larger octagonal structure encloses another structure of the same plan upto the sixth storey, thus leaving covered circumambulatory path in between. The inner sanctuary, where the Holy Grant his enshrined rises upto ninth storey surmounted by the fluted gilded dome.

The outer structure has four rectangular gates. One in each alternate side, the remaining sides have ventilators. The exterior walls are relieved by various rectangular patterns. There are two stairways which spirals through the breath of the northern and the southern walls with a provision on entrance at each floor leading upto the sixth storey. Each is separated with string courses.

TYPE – IX

NAME : GURUDWARA DEHRA BABA GURDITA

SITUATION : KIRATPUR (DISTRICT ROPAR)

The Gurudwara Dehra Baba Gurdita is situated at Kiratpur in Ropar District. At this spot Baba Gurdita, the son of Guru Hargobind, breathed his last. Sardar Bhup Singh of Ropar erected a memorial in the form of a Gurudwara here to commemorate the memory of Baba Gurdita. The Gurudwara is situated at the top of a hillock, which can be approached through two archways one at the bottom and the other on its top.

The main shrine is situated within a square ground enclosed by a wall and again, there is another outer wall to surround the former leaving a passage in between. This outer wall has on its northern side entrance to the premises of the Gurudwara.

The building of the Gurudwara is a square structure placed on a high pedestal or plinth which has, unusually, a ten-sided form.

The inner enclosure has openings in each of its four walls. But the main entrance is gained through the eastern side. It is a pillared portico having pyramidal top, with an inverted lotus motif at the top. All the three openings of the portico are formed by tapered pillars and tre-foil arches. The fourth opening which is in the wall, is rectangular in shape. The wall (inner enclosure) has been decorated, both from inside and outside, with the motifs of tree-foil and stunted semicircular arches. A series of small turrets surmounted by coping stone decorates this enclosure from all sides.

TYPE – X

NAME : GURUDWARA BAOLI SAHIB

SITUATION : GOINDWAL (DISTRICT AMRITSAR)

Goindwal is situated on the bank of river Beas, at a distance of about 30 miles from Amritsar.

There are different stories about the establishment of this Sikh religious centre. In the earliest times, the route from Delhi to Lahore passed through Goindwal and it was thought that the travelers would derive a great benefit if they were provided with clear and cool water to drink.

With eighty four steps to reach to the water level, it is covered with slanting roof supported by pointed arches. The approach to the stairs is provided through a big pointed arched opening and is surmounted by a big fluted dome. On both the

sides of the opening, there are two small rooms, one for the male and the other for the female for their changing of dress, if required. These two have pointed arched openings. The top of the façade and other sides have projected eaves and is crowned by pillared kiosks and a row of small turrets in the western side (main approach).

The fluted dome with two successive rows of lotus petals rise on the circular drum. There is an inverted lotus that holds the Kalasa at the top of the dome the façade is tastefully decorated with fresco paintings.

7.4 ELEMENTS OF SIKH ARCHITECTURE

7.4.1 THE PILLARS AND PILASTERS

- Pillars are mostly structural element where as pilasters are ornamental
- Pillar and pilasters can be divided into three parts
 - (1) Shaft
 - (2) Capital
 - (3) Base

On the basis of shaft there are four types :

- (1) Circular, rounded body (1 to 8)
- (2) Square form (9, 10)
- (3) Octagonal form (11, 15, 20, 22)
- (4) Shaft having multiple angular recess and projection
(16, 19, 21, 22, 27)

All can be further divided into two

- Large from bottom taper towards up (5,6,7,8,9,10,11,12)
- Base and capital of same size (1,2,3,4,23,4,27)
- Normally shafts are plain or with vertical lining

- Gurudwara Nakyana Sangrur Shaft is circular but serpentine coil in design is found to be incorporated

CAPITAL

- With pot form and floral or foliage design shown at the top and below
- Lotus form occupies a prominent position
- Some time double row of details (19)
- Some time funnel like capitals (13)

BASE

- Square
- Octagonal
- Elongated pedestal with various subsidiary angular or circular indents
- Very rare case when we find base absent
- (Gurudwara Dehra Sahib Batala (Gurdaspur)
- Pots show foliages and lotus petals emerging out of them (8, 9, 15, 16, 18, 20, 21, 23, 25)
- Some time pots more than one (23).

7.4.2 THE KIOSKS (CHATRIES)

- (1) Square miniature room crowned by a domical member
- (2) The room normally has the walls disposed into a number of entrances, often with arch or foliated upper portion. The maximum number of such entrances is however three on each of the sides

Octagonal kiosk having trifoliated arch on all sides

Rectangular kiosk having three arches on longer sides and one each on shorter side

- (3) Gurudwara Nankyana Sangrur have juxtaposition of three square Miniature kiosks juxtaposed in to one another forming three arches on longer side and one arch on shorter side.
- (4) Gurudwara BabaGurdita Kiratpur, Ropar Distt.
Rectangular kiosk with two minarets on sides and only one door in centre
- (5) Domical structures over kiosk
Domical form, pure and simple
With lotus design
Thatched design
- (6) These kiosks also been used on top of minarets of Akal Takhat.

7.4.3 THE ARCHES OF SIKH SHRINES

Following are types of arches

- (1) Semicircular arch e.g. Gurudwara Gobindgarh, Bhatinda and Golden temple Amritsar
- (2) Semi circular arches (Broader), entrance arched doorway Gurudwara Dehra Baba Gurdita, Kiratpur Ropar Dist.
- (3) Arch with pointed ogee top
Gurudwara Baoli Sahib Godindwal
Darbar Sahib, Muktsar
- (4) Trefoil arched type Gurudwara Bahadurgarh, in Patiala district
- (5) Trefoil Arches, the pointed top is neutralized into a smaller semicircle thus making the arch in the form of three cusps, one in the top flanked by two small on sides
Ex. Gurudwara, Dehra Baba Gurdita Kiratpur, Moti Bagh, Patiala
- (6) Semi circular arch is found to be accommodated within a trefoil type

Gurudwara Lohgarh, Dina Faridkot

- (1) Most common kind of arch is foliated variety of arches in which the arched part of the door way shows a number of foliations or cusps
- (2) In Sikh architecture where such multiple foliations or cusps are noticed in the arches, their number invariably is found to be nine.
- (3) Inspiration may be from Shahjehan, who has used nine cusps for any arch built during his time.

7.4.4 THE BALCONIED WINDOW

- It is distinctive architectural element
- First type of horizontal window form projected from the wall and vertically disposed
- Normally three of its sides are exposed to the front fourth opening being towards the wall
- Openings are in the form of arch, and window is crowned with a dome with a floral decoration
- Windows even of the other types are found to be supported either on a series of bracket or on a domical floral body repeating the type serving as crown.

Ex. Golden Temple Amritsar

- Window with five openings disposed in crescent form, five frontal arched openings and two more on the sides
- Crowning member is thatched type roof

Ex. Gurudwara Dam Dama Sahib, Sri Hargobindpur Gurdaspur

- Gurudwara Nankyana Sangrur have sword like motif from either side of superstructure of the window
- Gurudwara Baba Atal Also show interesting type of balconied window.

7.4.5 DOMES

There are variety of domes

- (1) Dome with plane body

For ex. Vivah Asthan, Kartarpur

Hemispherical shape like Budhist Stupa

- (2) Dome with flattened body

For e.g. Gurudwara Manji Sahib, Akoi Sangrur

- (3) Dome with constricted orientation of lower part

For e.g. Patalpuri, Kartarpur

- (4) Dome with Lotus base

For e.g. Gurudwara Shahidan, Nankyana Sangrur.

- (5) Dome with type 2 but having ribs like vertical lines and Lotus petal on base

For e.g. Gurudwara Gurusar, Hadiaya Sangrur

- (1) Dome having double petals on base

For e.g. Gurudwara Ramsar, Amritsar

- (2) Dome with multiple rows of lotus petal motif, final fully formed lotus design with multiple petals, row of miniature kalasa, motifs, all around adjacent to the lowest row of miniature

- (3) Kalasa Motif All around it immediately adjacent to the lowest row of lotus petal motif

Gurudwara Dehra Baba Nanak, Gurdaspur

- (4) Dome with simplest form of thatched roof

Gurudwara Tibbi Sahib, Jaitu, Faridkot

- (5) Dome with thatched roof but with further additions

Gurudwara Lohgarh Dina

Gurudwara, Gobind Garh, Bhatinda

(6) Dome of Golden Temple

Dome of the superstructure of the golden temple, Amritsar represents the synthesis of all important characteristics of the shape and details of ornamentation noticed in the dome of other shrines.

Vivah Asthan Kartarpur

Darbar Sahib, Dehra Baba Nanak

Domes with thatched roof like Gurudwara Gobindgarh, Bhatinda

Domes in Sikh Shrines are

Onion shaped

With lotus petal on base

With inverted lotus petal on top

Some time single row petal and some time double or multiple row petal

Construction of Dome over a square base

Square converted into octagonal and then into sixteen sided base and then constructing dome over it.

7.5 THE DECORATION AND ORNAMENTATION OF SIKH SHRINES

The Decoration and Ornamentation in Sikh Monuments

Technique.

In the process of decorations and ornamentations the artists have adopted various methods and techniques to execute their work. The most popular among these are, Fresco painting, Gach, Jarathkari and Inlays work.

The technique of 'Fresco painting' in all the Sikh shrines was almost of the same process. This technique is called Mohra Kashi. It was also called Jodhpuri hunar, probably because the technique followed descended from Jodhpur.

The walls, on which these frescoes were executed, were of bricks baked to a fresh looking red and were laid in sand lime mortar. Lime was the basic material in the preparation of the surface. It was applied on the wet walls. Plaster made of slaked lime and sand was driven well into the joints and then beaten all over with a long strip of wood called 'Garmala' edgeways' until it became plain and slightly dry and ready to receive the coat of intonaco, finely grained plaster layer covering the rougher arricio. The intonaco plaster was prepared from the compound of slaked lime and finely pulverised marble meal. In the form of cream it was applied to the wet wall plaster and rubbed over the ground to make it set. After this plaster grew little dry and sticky it was polished with an agate polishing stone until the surface became sufficiently smooth and glazed. On the semi-dry surface the drawing was made. According to the late Bhai Gian Singh Naqqash.

"The sequence to be painted is originally drawn in pencil or charcoal on sheet of reasonably thick paper. The entire drawing is then perforated care being taken to see that perforation is even and perfect. The perforated drawing is called, "Khaka".

To start off, one square foot of the brickwork on to even wall is made, and kept wet to requirement by continuous sprinkling of water. Thereafter the area is plastered with lime (this plaster is called "Pora"). On this plaster is cast a layer of "Doga", the curdlike residue of white plaster prepared from burnt and drenched marble duly cloth-filtered. Before casting "Dogra", the "Pora" is plastered with the rough remains, called "Kutta", of white marble plaster, from the cloth filtered materials. This makes the lime plaster stronger as well as whiter than its original condition. When the Doga is yet wet, the drawing is cast on the area by means of charcoal dust sprinkled from cloth-knos (called "Potli"), on and through the perforated drawing contacting the plaster. Immediately thereafter (the ground being still wet) colours are distributed in the different planes of the drawing transferred on the

plaster. The colours are then set into the plaster by middle. This shovel is kept constantly thumping gently on the wet plaster manually. This process requires unabated attention, and artists are known to have generally gone without meals to ensure the setting in of colours before the plaster dried up.

Once these original colours are thus established, further colour-coatings are gone into for bringing out details and for giving tones to the required planes and for imparting the final touches to the painting. This entire operation requires that the area is definitely wet throughout as a pre-requisite.

In these fresco paintings only six colours, namely, red, yellow, blue, green, black, and white were used. These were pigments mostly extracted from stones, earth, leaves, flowers, charcoal, soot and similar ingredients.

- Red : This colour was prepared from an indigenous clay called 'Hurmachi'. It is suitable with grocers who brought it from hilly areas. It was pulverised by constant rubbing with water on stone slabs.
- Green : It was extracted from green stone chips of Terra verta called 'Sange-Sabaz'.
- Yellow : This colour was obtained from yellow clay called 'Puri'.
- Blue : It was a mixture of ultramarine with processed glue. It was also made from lapis-lazuli.
- Black : It was prepared from burnt coconut crust or from the smoke of mustard oil burnt in earthen lamps.
- White : Burnt marble chips were drenched in water. The mixture was then filtered. The curd like substance thus settled. This is also called 'Doga'.

These colours were always kept wet during the period of their use in a fresco painting. Dried up colours were of no use.

The artists prepared their brushes themselves. The squirrel tail or goat and camel hair were employed in these brushes.

Gach Work

Gach was a sort of stone or gypsum. This was propounded fried in a pan. When it formed a paste being mixed with water, it was put to use on the walls like lime. It was further prepared by mixing in water, only in such a limited quantity as the painter could at a time use it.

Tukri Work

Tukri work is another kind of Gach work. It involves the setting of the pieces (Tukries) of glass of various size in the curt clay work. In this technique Gach work is fashioned out in various desings and patterns and is then inlaid with coloured glass, mirror, glass pieces and gold leaves etc.

The other technique of Gach work is known as 'Pachhikari'. Original thin glass-pots painted with mercury from inside are cut into various sized with the help of the sharp edge of a special stone, called 'Krund' to suit the floral patterns cut from Gach work or cut clay.

Jarat Kari

Jarat Kari work (Munavat) involves the inlaying of coloured stone in marble. The drawings for this inlay work are prepared by the artists and are transferred to marble slabs. According to the designs of this drawing and colour scheme, the marble slab by the stone dresser, (Pathar-Ghara).

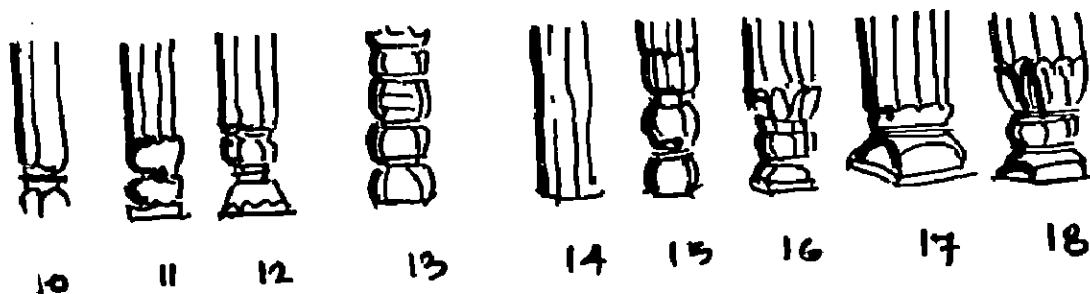
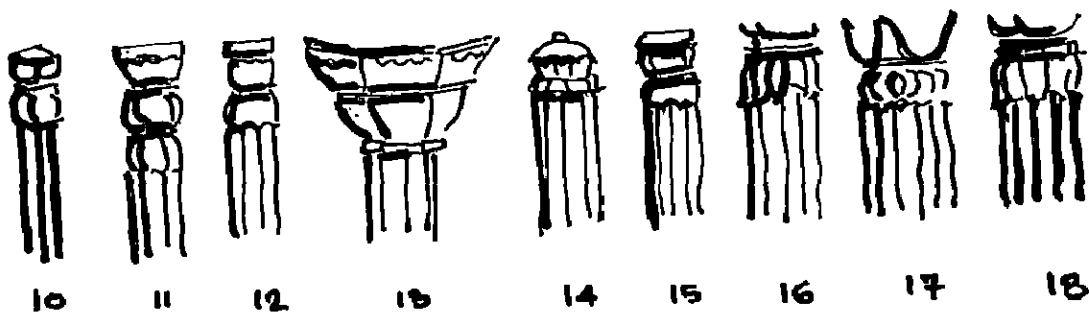
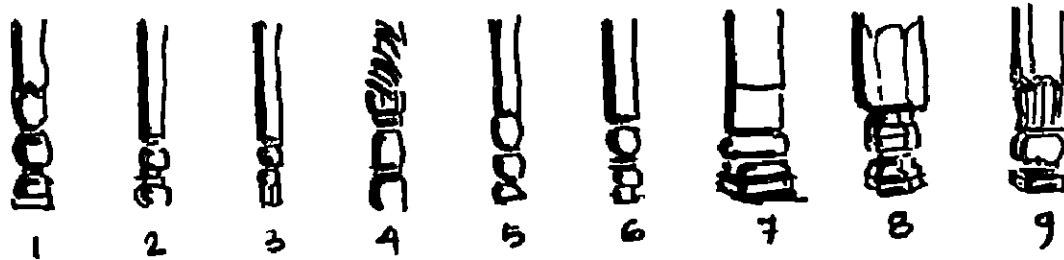
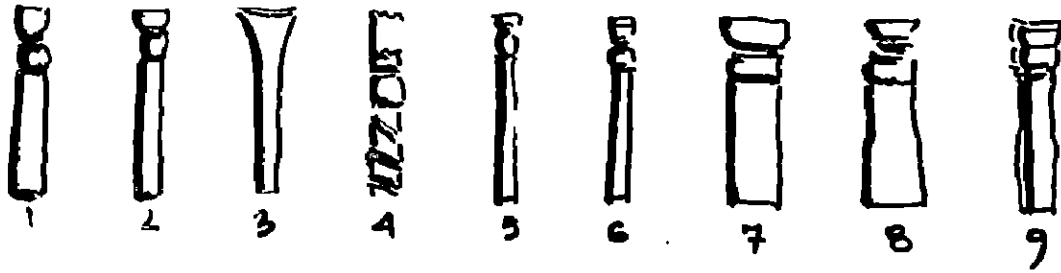
The following types of stones are generally employed in Jaratkari

- i. Haquque-Red and pink shade.
- ii. Zehir Mohra-Green.

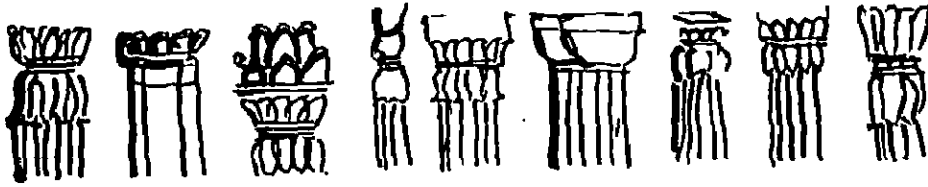
- iii. Khattu Pathar-Yellow.
- iv. Sabaz pathar (Ghear)-Dark Green.
- v. Sabaz Pathar (Nargis)-Green.
- vi. Sang Yashap-Green, Light Green, white and Blue.
- vii. Sang Pasham Light Green.
- viii. Lajward-Ultramarine.
- ix. Black Marble.
- x. Arabic Surak-Light Black, and other various kinds of stone.

It will be found from the above survey that the Gurudwaras were highly ornamented and decorated with various forms of art known to the people. The beautiful decoration and ornamentation of the shrines counted much towards their name. The golden temple given to the celebrated Hari Mandir or the Darbar Sahib implies its grandeur and physical embellishments. It is priceless like gold, but at the same time, it is 'golden' in its decorative import. All moments of Sikhism are replete with this inherent meaningfulness.

PILLARS AND PILASTERS



PILLARS AND PILASTERS



19

20

21

22

23

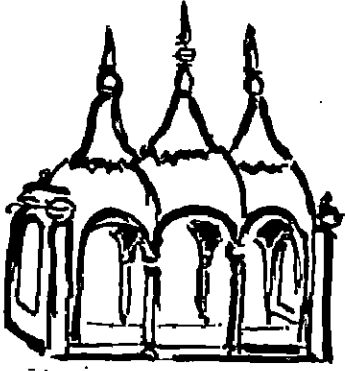
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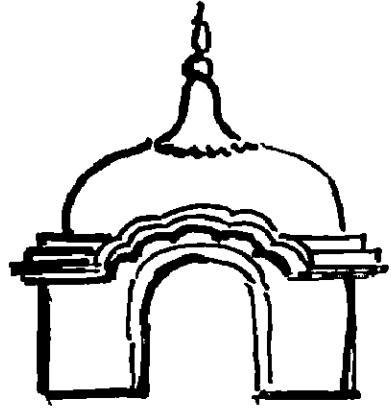
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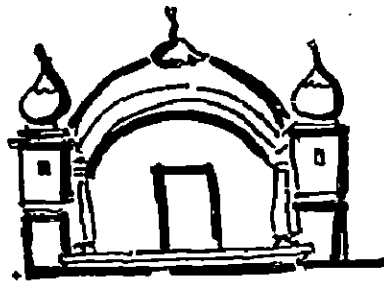
KIOSK



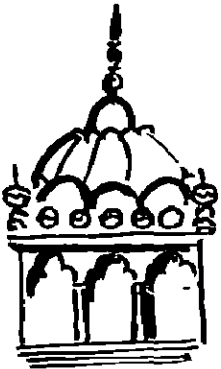
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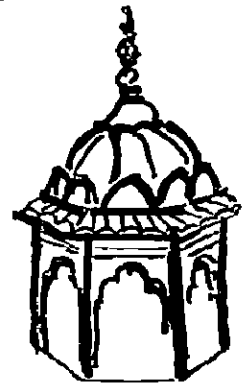
HARMANDIR KIRATPUR



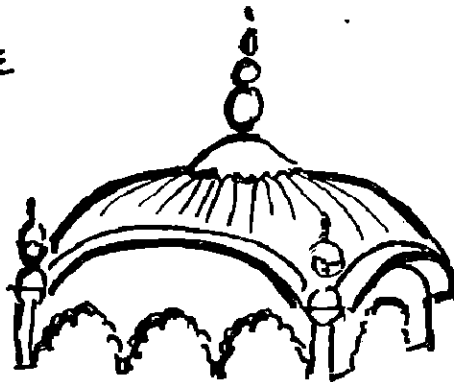
BABA GURDITA KIRATPUR



GOLDEN TEMPLE

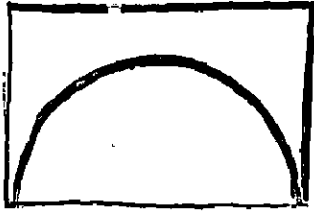


GOLDEN TEMPLE



GOLDEN TEMPLE

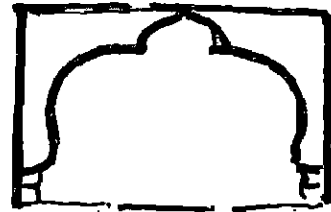
ARCHES



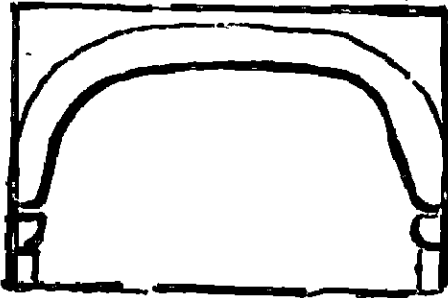
GURUDWARA GOBIND
GARH, BHATINDA



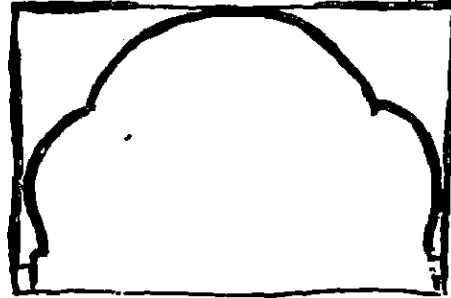
MANJI SAHIB
AKOI SANGRUR 2



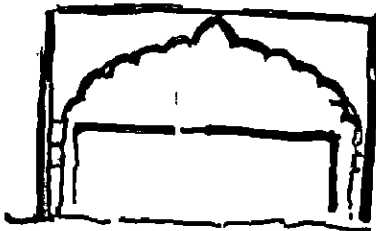
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PATIALA



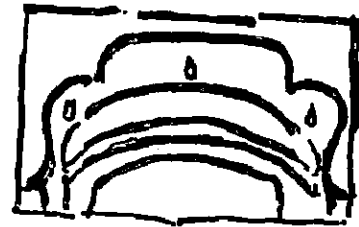
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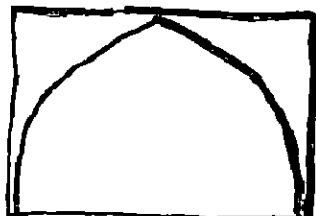
MOTI BAGH
PATIALA



ANGITHA SAHIB
KHADOOR

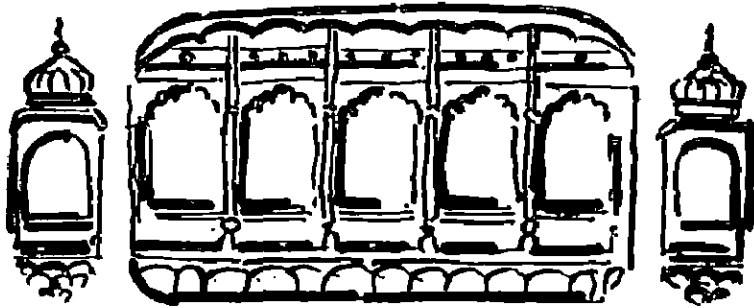


LOHGARH, DINA

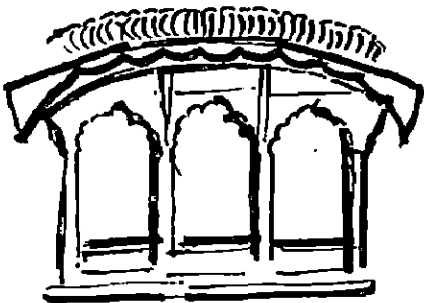


BAOLI SAHIB
GOINDWAL

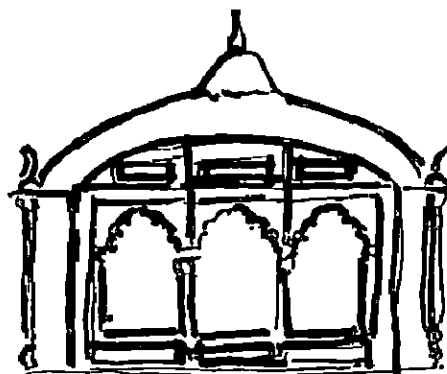
BALCONIES & WINDOWS



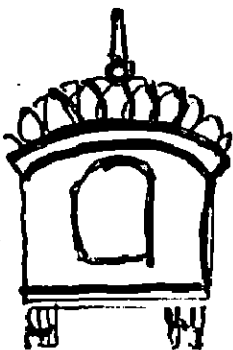
DARBAR SAHIB TARAN TAARAN (TARAN)
(TAARAN)



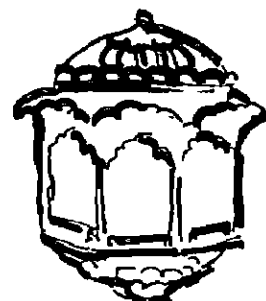
BABA ATAL



NANKYANA, SANGRUR

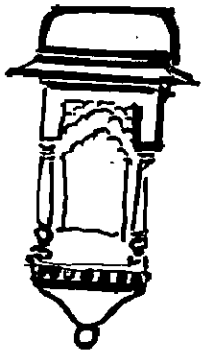


BAHADURGARH

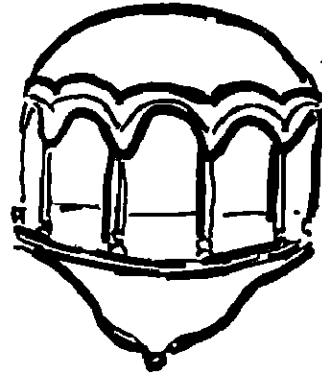


GOLDEN TEMPLE

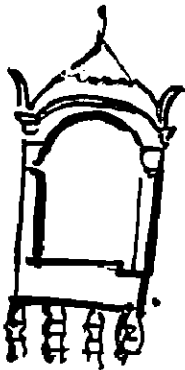
BALCONIES AND WINDOWS



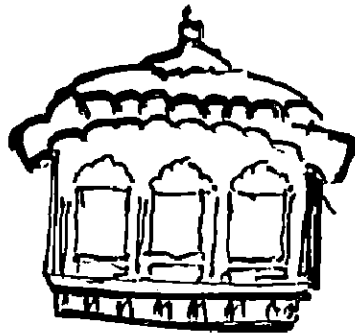
GOLDEN TEMPLE



DAMDA HARGOVIND PUR

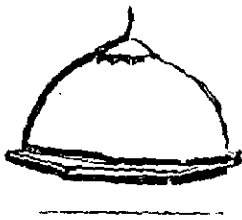


NANKYANA SANGRUR

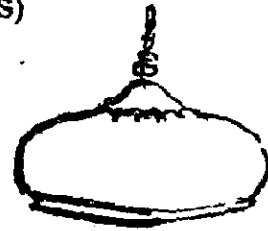


BABA ATAL

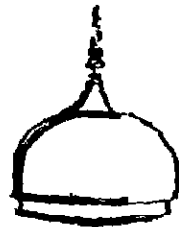
DOMES (TYPES)



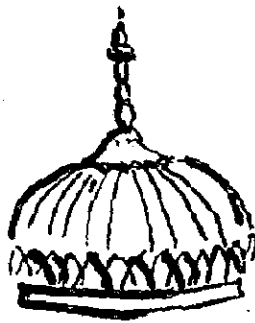
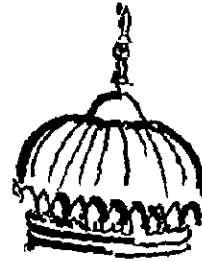
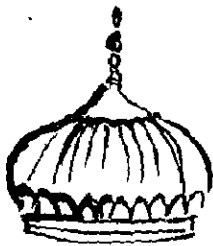
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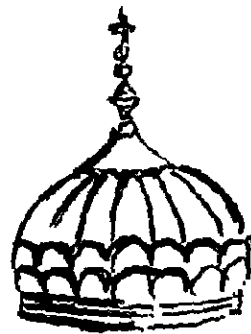
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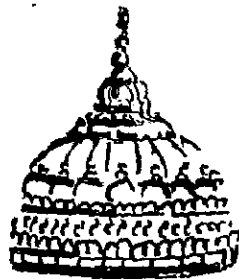
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GURUDWARA
DARBAR SAHIB
MUKTSAR



GURUDWARA RAMSAR
AMRITSAR



DARBAR SAHIB
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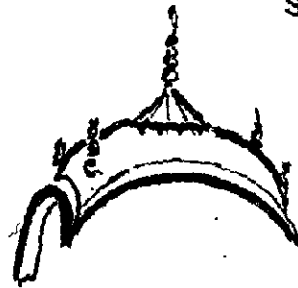
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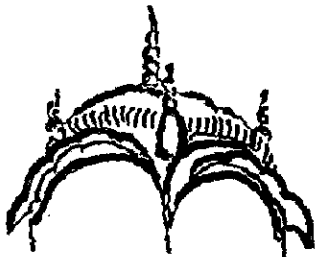
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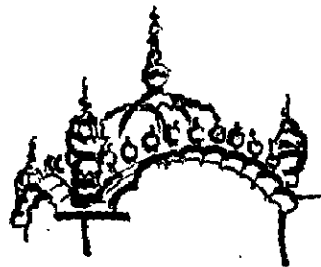
GURUDWARA NANKYANA
SANGRUR



GURUDWARA LOHGARH,
DINA



GURUDWARA GOBINDGARH,
BHATINDA



GOLDEN TEMPLE AMRITSAR

AMRITSAR: CASE STUDY**8.1 INTRODUCTION TO CITY**

Literally "Amritsar" means "pool of Nector". It is the city of "Golden temple", one of the most sacred shrines of the world. It is a live heritage of spirit of Panjab and the fight of Punjabis against the atrocities of foreign invaders. In the history of our freedom struggle, there is a special place of the sacrifices of this city. Jalliawala bagh is one of the example of it, where thousands of innocent people were put to death by General Dyre. Apart from this it is religious capital of sikhs.

The name Amritsar has been derived from the sacred water tank in the midst of which is situated the sacred shrine The golden temple. This city having present population of 10 lakhs grew from a small settlement founded by fourth sikh Guru, Guru Ram Das in 1572. Before independence and partition it was in central position in the north India and soon it became central place for the trade and commerce of the country.

After partition of the country in August 1947 the entire scenario was changed and the city which commanded the central position now became a border town only few kilometers away from International boundry. This change in its situation resulted in bringing down of trade/commerce and other allied activities. After independence This city beared a great loss because of riots large portion of city was burnt down about 150 m of city wall was burnt down. In order to rebuild these damaged areas a new act was framed known as Panjab development of damaged area act 1951. Another important trust was instituted in 1949 and lot of improvement schemes were

taken up for widening of roads. During this phase lot of development took place outside the walled city like Ranikabagh colony Joshi colony, Ranjeet Avenue etc.

Though the city has now again grown up into a strong business and religious headquarter but being the border town it had to face burnts of 1971 and 1965 war which again effected the growth of the city and now it is in third position in punjab after ludhiana and Jullundhar.

8.2 LOCATION

Amritsar is situated 31°-37' north latitude and 74°-55' E east longitude and lies between "Ravi" and Beas rivers. It is oblong in shape with the longest line running from north west to south east. Grand trunk road passes from the centre of the city and side of old walled city which is an international highway coming from Peshawar to Calcutta. The city is 17 km from Indopak border and 33 miles from Lahore. Amritsar is well connected by other parts of country by rail, road and air. It is 277 miles from Delhi (400 kms) approximately.

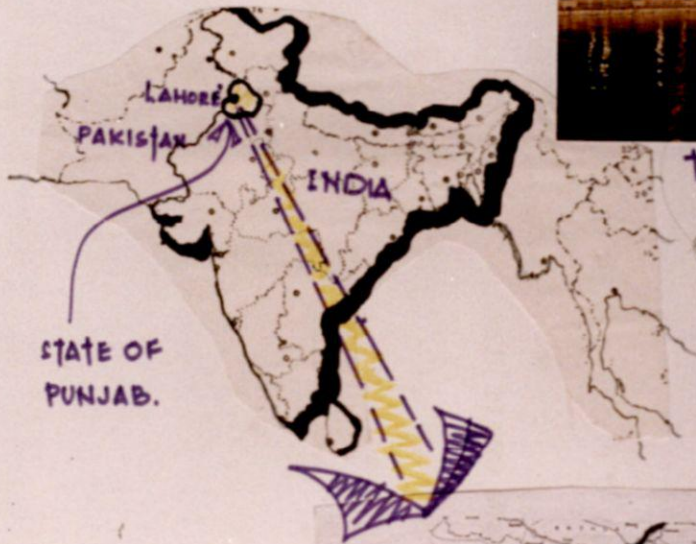
8.3 TOPOGRAPHY

The city's average height above mean sea level is 755' and is sufficiently close to the Jammu and Kashmir and Himachal, mountainious states and so influenced by their heavy rainfall. It lies in a saucer shaped basin formed between two of the low undulation which traverse the district in a south westerly direction.

The floor of this depression has a slope of about 2 ft to a mile. On account of small gradient and a number of natural and artificial obstruction the rainfall can not flow rapidly, which resulted in flooding of large parts of urbanisable area towards north. The present walled city had a number of local depression such as Dhab Khatikan, Dabh Bastiram, site of Golden temple etc. The level of the Parikarma



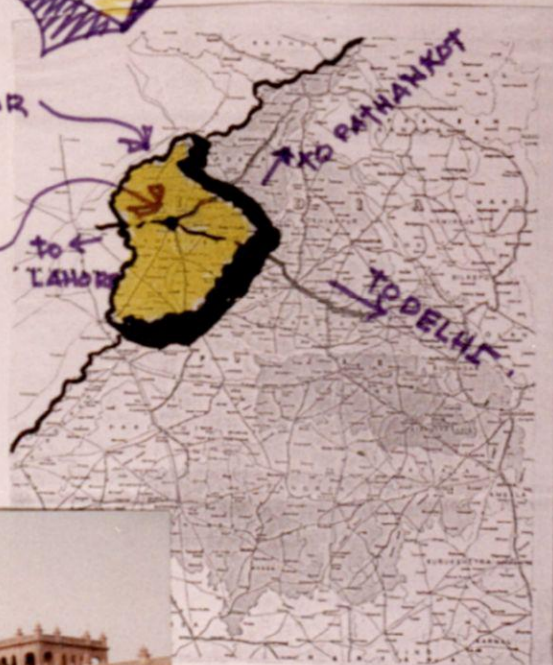
THE GOLDEN TEMPLE,
AMRITSAR.



STATE OF
PUNJAB.

DISTT AMRITSAR

AMRITSAR:
RELIGIOUS
CAPITAL OF
PUNJAB.



KHALSA COLLEGE .AMRITSAR.

(congregational passage around the sacred tank) bears testimony to this fact. The flooding not only caused by the local water, but also by the water brought in by a number of drains – Gumtala drain, Tung drain, Verka drain etc.

This tract is almost a uniform alluvial plain unbroken by hill or valley with practically no forest, though well provided with trees. The soil is a light reddish yellow loom locally known as "mairu" which stiffens into clay on drying after becoming wet. At some places the clay degenerates into strips of sandy and uneven solid locally known as tibba.

8.4 CLIMATE

The climate of Amritsar region is hot and arid type with very hot and long summers and very cold winter. From the middle of March, temperature begins to rise touching or even crossing 116°F on some days of May and June with hot winds. The rainy season sets in early July and continues till the end of September. During this period temperature comes down considerably when it rains but shoots up again shortly thereafter it becomes sultry and humid. Towards the middle of September on early October the weather turns to fine and by the end of October, mild cold season set in. November is pleasant and generally free from rain, some rains are received from mid December to mid February, which is a period of severe cold some times accompanied by dust. Mild weather is of short duration during the change from winter to summer or vice versa, whereas the hottest day. Of May and June have recorded a temperature of 116° F (47° C) January has recorded the lowest temperature of 29° F (-2° C). Not only is there much variation in temperature between the season, but there may be gap of some 40 degree F within a span of 24 hours.

8.5 RAINFALL

Maximum Rainfall occurs during July September from the monsoons. The average rainfall in Amritsar is 61.1cm (24").

8.6 WIND DIRECTION

The most prevailing wind direction is north-west.

8.7 DEMOGRAPHY

The population of the city is 7.1 lakhs (19.91 census) and average density is 525 persons / hectare in walled city. Presently the population is 10 lakhs approximately.

8.8 SOCIAL STRUCTURE

Sikh and Hindu communities are basic two communities staying here with ratio of 58:42.

8.9 ECONOMIC BASE

Major occupations of this city are agriculture, cloth business, and service.

8.10 STUDY OF MASTER PLAN AMRITSAR

8.10.1 PLANNING PROPOSAL FOR FUTURE DEVELOPMENT

The city growth is a dynamic and continuous process. Due to rapid growth of industrialization and consequent urbanisation, the towns today face multifarious physio - socio - economic and infrastructure problems. These, in turn, lead to haphazard growth overcrowding, congestion, insanitation, housing shortage, acute

traffic problems, thereby further deteriorating the healthy living environments. The comprehensive Master Plan is an appropriate and scientific tool for systematic and planned growth of a city/town so as to have a healthy relationship between living, work place and recreation.

Amritsar, the city of Golden Temple, symbolises the spiritual heritage of the people of Punjab., the epic stories of the Golden Temple and Jallianwala Bagh have given a unique place to this dynamic and striking city in the history of the nation. The town holds an important place in the field of trade and commerce and industry in the whole country. It is also an important religious seat of Sikhs. It is located at a distance of 28 K. Ms. From the Indo-Pakistan Boarder. The town is a District and sub Divisional Administrative Headquarter. The town also commands a vital position in the field of education and health for the entire region an has a well knit rail-road network.

The city has a Municipal Corporation since 1977. The population of the city, which had more than doubled itself between 1921 and 1941 increasing from 1,00,000 to 3,91,000 sharply declined in 1947 and could not recover fully till 1961, when it was recorded to be 3,76,000. The city has however, population of 5,09,566 in 1971 and 6,05,884 in 1981, thus registering a decadal growth rate of 18.90%. This indicates that the city is now fully adjusted to the new geopolitical situation.

Table – Existing Land use Analysis of Amritsar (1987)

Sl. No.	Land Use	Area in Hectares	% age to Developed Area within Planning Area	% age to Planning Area	
1	2	3	4	5	
1.	<u>Residential</u> a. High density b. Low density	322.79 1487.81	1810.60	46.66	12.55
2.	<u>Commercial</u> a. General business & Retail shops b. City centre & district shopping centre c. Wholesale & bulky material marketing	89.93 17.00 90.74	197.67	5.09	1.37
3.	<u>Industrial</u>		444.54	11.45	3.08
4.	<u>Traffic and Transportation</u> a. Major roads b. Bus stand and depot c. Railway line, yard & stations	302.02 9.31 121.05	436.42	11.25	3.02
5.	<u>Public and semi public facilities</u> a. Education & research institutions, university and colleges b. Hospital c. Public utilities (water works, disposal works,	302.66 90.28 22.26. 22.96	452.45	11.66	3.14

	electric sub station etc.) d. Historical & religious monuments. e. Cremation places.	7.29			
6.	Recreational Major public parks, play grounds and open spaces.		61.50	1.58	0.43
7.	Governmental a. Municipal/State/Centre Govt. offices and other uses. b. Government land (use undetermined)	62.73 415.00	477.73	12.31	3.31
	Total		3880.91	100.00	26.90
8.	Rural a. Cultivated land. b. Orchard and nurseries. c. Tanks and ponds. d. Canal and distributries.		10077.41 407.30 14.18 50.20	69.83 2.82 0.10 0.35	73.10
	Grand Total		14430.00		100.00%

The basic planning problem for which Amritsar master plan 1981-2001 has been addressed

- (i) Without sufficient provision of houses for the ever increasing population, has given rise to overcrowding in the existing houses and acute shortage of housing. It can be seen from 1981 census, that there are only 1,06,374 occupied residential houses for 1,07,999 households.
- (ii) What ever housing and building activity is taking place, that is also coming up in a unplanned manner and without adequate provision of urban infrastructure. This, in turn, has lead to creation of slums in the town.
- (iii) In adequate and uneven distribution of public facilities and amenities.
- (iv) Due to lack of planned commercial areas, most of the commercial activities are coming up in ribbon pattern along the major toads like G. T. Road, Amritsar-Majtha road, Lawernce Road, Amritsar-Road. These lack the provision of adequate parking facilities thereby leading to encroachments on these roads and hence aggravating the traffic problems.
- (v) There are incompatible mixed land uses in different areas of the city which are causing environmental problems.
- (vi) Except the Ram Bagh and Goal Bagh, the city has hardly any organised open spaces.
- (vii) The Govt. offices are housed in sub-standard buildings and also scattered in different parts of the city, thereby resulting in lack of proper co-ordination of various activities and causing undue hardship to the public.
- (viii) Being a major trade centre of the region and an important religious place, the city is also facing various traffic problems like narrow roads, railway crossings, parking problems poor road geometrics.

MASTER PLAN PLANNING OBJECTIVES

- (i) To achieve the balanced and integrated development the city as a whole for the coming 13 years Viz. upto 2001 by having required urban land uses such as residential, commercial, industrial, educational and recreational etc.
- (ii) To achieve a well planned residential development of the city by developing it on the concept of neighborhood planning.
- (iii) Since, Amritsar is situated very close to the border, it is very important from to defense point of view that sufficient areas for defence purposes should be proposed for proper and easy accessibility, and quick circulation within and around the city.
- (iv) To achieve functionally balanced relationship between living places, work places and recreational places.
- (v) To redensify the urbanisable area in such a manner that minimum agricultural land is used for urban uses.
- (vi) To control and regulate the physical growth of the city through preparation of various schemes viz. town planning schemes, development schemes, Slum clearance and Improvement Schemes, Urban estates and by imposing zoning regulations, Architectural frame controls and Building by-laws.
- (vii) To provide adequate and balance distribution of community facilities and services.
- (viii) To provide planned commercial centres.
- (ix) To achieve and provide for well planned and functionally efficient circulation system to ensure free movement of intra and inter-city traffic by providing a well defined system of road hierarchy to solve the existing traffic problems and to meet the future traffic needs.

- (x) To strengthen the economic base of the city by providing adequate and planned work areas like Industrial and commercial centres for retail and wholesale business.
- (xi) Various incompatible and non conforming land uses are to be shifted to their desired use zones.
- (xii) The plan of decongestion of the old walled city by shifting, in a phased manner, the people and activities to suitable environs. The trade of primary produce and bulky and materials proposed to be shifted out from the congested core of the walled city. 'Conservative surgery' i. e. only the decayed building and areas are to be cleared and further improved and provided with adequate community facilities.

1. PLANNING AREAS

The planning area has been defined as projected growth area of the town as it would be by 2001. The planning area has been identified on the basis of the existing and project growth trends of the town.

The city has now been designed by assuming a gross town density of 103 persons per hectare to accommodate the projected population of 8,22,000 persons by 2001. In other words, an urbanisable area of 7963 hectares has been proposed to be used for different land uses to meet the requirements of the projected population by 2001.

Table – Proposed Landuse Plan Amritsar (2001)

Sl. No.	Land Use	Area in Hectares	% age to total urbanisation Area	Remarks	
1	2	3	4	5	
1.	<u>Residential</u> a. Low density b. Medium density c. High density	1807.22 1607.00 344.00	3758.22	47.20	
2.	<u>Commercial</u> a. City centre, general business & commercial. b. Wholesale, grain and bulky materials marketing, ware housing and storage depots. c. District centres	19.83 302.43 45.35	367.61	4.61	
3.	<u>Industrial</u> a. Special industries. b. Light industries. c. Medium and extensive industries. d. Obnoxious/extractive industries.	7.29 197.96 910.50 1.00	1116.75	14.02	
4.	<u>Traffic and Transportation</u> a. Railway and railway yards. b. Bus terminus & depots and truck terminus. c. National/State highways/bye pass (V-existing/proposed major roads). V ₁ , V ₂ and V ₃ existing Proposed.	123.25 37.66 455.42	606.33	7.61	

5.	Public and semi public facilities				
	a. University, major educational, institutions.	284.62	479.76	6.03	
	b. Hospitals.	123.88			
	c. Public utilities (W-Water works, S.T. Sewerage Treatment/Disposal works, E-Electric powerhouses.	1.62			
	d. Historical monuments & religious buildings.	6.88			
	e. Cremation places, grave yards, cemeteries.				
6.	Recreational Major public parks, play grounds and open spaces.		783.35	9.84	
7.	Governmental				
	a. Municipal/State/Centre Govt. offices and other uses.	55.88	850.98	10.69	
	b. Government land (use undetermined)	757.85			
	c. Jail.	37.25			
	Total		7963.00	100.00%	
8.	Rural				
	a. Vacant/agricultural.	6338.34	6467.00		
	b. Orchard.	73.45			
	c. Kilna.	4.05			
	d. Dairies.	51.16			
	Grand Total		14430.00		

RESIDENTIAL

The projected population of 8,22,000 persons is proposed to be accommodated in 3758.00 hectares which constitutes 47.19% of the proposed urbainsable area. For distributing this population, three residential densities i.e. low, medium and high, have been proposed for developing the residential areas. Low density of 120 person per hectare, medium density of 250 persons per hectare and high density of 600persons per hectare has been proposed for the newly proposed areas, each new residential sector is proposed to be developed on the basis of neighborhood concept.

COMMERCIAL

An area of 367-61 hectares has been proposed for commercial purposes which constitutes 4.61 percent of the urbanisable area. The area proposed for commercial purposes mainly includes city centre. District centre and wholesale grain and bulky material marketing including godowns warehousing etc.

The walled city is to continue to be central business area of Amritsar. The circulation in the walled city is to be improved by widening of street alignments, rationalisation of land use and provisions of parking.

Sector wise detail of different land uses is given in the annexure -II. However, the brief description of the different proposed land uses is given as follows :

INDUSTRIAL

In order to have a planned industrial development, an area of 1116.75 hectare has been proposed which constitutes 14.02 percent of the total urbanisable area, while proposing these industrial areas, the prevailing wind direction has also been kept view. Proposed industrial area is that of four types of industries i.e. special, light, medium and extensive. Obnoxious and extractive industries are proposed

separately. These industrial areas are also to be segregated from residential areas by green buffers or major roads so as to have a healthy living environment.

An area of 7.29 hectares has been proposed for special industries. Special industries mean that which do not use solid fuels and do not emit smoke, noise, dust fumes or affluent of any kind. An area of 197.96 hectares has been proposed for light industries. An area of 910.50 hectares has been proposed for Medium and Extensive Industries. An area of 1.00 hectare comes under the existing unit which is considered as Obnoxious industry as this produce strong, unpleasent Odour.

TRAFFIC AND TRANSPORTATION

For the smooth and uninterrupted flow of traffic, an hierarchical system of road net work has been proposed. The comprehensive circulation plan as per hierarchy of roads.

ARTERIAL ROAD (V-1)

G.T. road is proposed to be developed as arterial road No.1, another two arterial roads are proposed in the master plan :

i) **Arterial Road No.2**

This road would connect various residential and industrial areas with each other and also would serve as an inner ring road.

ii) **Arterial Road No.3**

This also would serve as Outer Ring Road and would connect the major land uses.

SUB-ARTERIAL ROAD (V-2)

i) **Circular Road around the Walled City.**

ii) **The Mall Road.**

iii) **Court Road.**

iv) **Ram Tirath Road upto its junction with the Mall Road.**

- v) Macleod Road-Cantt. Road, Ajnala Road.
- vi) Albert Roa-Maqbool Road-Fatehgarh Churian Road.
- vii) Majitha Road-Hukam Singh Road.
- viii) Sultanwind Road.
- ix) Taran Taran Road.
- x) Ibbon Road from Bhagtanwala Gate to its junction with Khem Karan Road and Southern Bye Pass.
- xi) Bharariwal Road from Hakimian Gate to its junction with Kehm Karan Road and Southern Bye Pass.
- xii) Islamabad Road from Lahorigate to its junction with fort road.
- xiii) Fort Road from Lohgarh to Islamabad.
- xiv) Ferozpur Road (Dhapai Road).

MAJOR CIRCULATION IN THE WALLED CITY

Long term proposals have been made for improving circulation within the Walled city whose narrow lanes remain choked with traffic. The alignment of new roads has been proposed as far as possible through blighted or dilapidated areas which are to be redeveloped in a planned phase avoiding structurally good buildings, retaining the places of worship and buildings of historical importance and at the same time dividing the old town into viable units in terms of population in order to support minimum community facilities. The width of these roads varying from 50 to 60 feet will be according to traffic and other considerations, to be determined at the time of detailed planning and redeveloping of area.

RECREATIONAL

All the existing open spaces such as Ram Bagh, Goal Bagh and Jalianwala Bagh, have already been developed and an area of 783.35 hectares has been proposed for major open spaces which constitutes 9.84 percent of the total

urbanisable area. In addition, a number of city parks, open spaces, green belts and play grounds are proposed.

PUBLIC AND SEMI PUBLIC FACILITIES

EDUCATIONAL

As far as educational facilities are concerned. There are number of educational institution like (i) University (500 acres) (ii) Medical College Complex and residences (150 acres) (iii) Dental College (13.60 acres) (iv) College viz Khalsa College, DAV College, Govt. College for women, Hindu College, DAV College for women, Shehzda Nand College for Women. But for future grown in population 6 extra colleges are required which have been proposed in various section.

It was felt that city has sufficient number of high schools to feed the projected population. Also there are ample technical institutions like Govt. Polytechnic, PITT, School of Art etc.

MEDICAL FACILITIES

Presently, the city has famous hospitals such as V.J. Hospital, Dental Hospital, T.B. Hospital, Mental Hospital, E.N.T. Hospital, Guru Ram Dass Hospital and recently developed Guru Nanak Hospital which attract patients from all over the State. Besides these, new dispensaries and healthcenters are proposed as a part of residential sectors.

PUBLIC UTILITIES

Sites are provided for water works proposed as part of the development/redevelopment plan of various residential sectors. Keeping in view the scope of the area open surface drains are proposed along the major roads.

RELIGIOUS AND HISTORICAL MONUMENTS

All the religious buildings and of historical importance have been proposed to be accommodated in master plan.

GOVERNMENTAL

The Government use includes the area under various Govt. and Semi-Govt. offices and Govt. land (undetermined use). At present the Govt. offices are scattered all over the town. Most of these are located in rental buildings and lack satisfactory/accommodation and parking areas. In view of the above, the present district court complex is proposed to be developed as district offices complex. This covers land area of 30 acres. Besides this, the other existing Govt. Offices Complex are proposed to be kept as such.

AMRITSAR MASTER PLAN SALIENT FEATURES

• Population of Amritsar urbanisable area as per 1971 census.	509566 persons
• Population of Amritsar urbanisable area as per 1981 census.	605884 persons
• Projected population of Amritsar planning area in 1987.	681159 persons
• Projected population of Amritsar planning area in 1991.	725218 persons
• Projected population of Amritsar planning area in 1997.	791307 persons
• Projected population of Amritsar planning area in 2001.	835367 persons
• Projected population of Amritsar urbanisable area in 1987.	670719 persons
• Projected population of Amritsar urbanisable area in 1991.	713942 persons
• Projected population of Amritsar urbanisable area in 1997.	778777 persons
• Projected population of Amritsar urbanisable area in 2001.	822000 persons
• Total Planning Area	14430 Hect
• Total Urbanisable Area	7963 Hect
• Total Projected Population of Urbanisable area	822000 Person
• Gross Town Density	103 Person/Hect
• Residential Area	3758 Hect
• Gross Residential Density	217 Person/Hect.

Distribution of Population in Residential

Sl. No.	Density Zone	Person per hectare	Residential area in Hectares	Population
1.	High	600	344.00	2,00,000
2.	Medium	250	1607.00	4,01,700
3.	Low	120	1807.00	2,10,800

8.10.2 PROPOSALS FOR HISTORICAL MONUMENTS AND HERITAGE ZONES

If the proposals of Amritsar master plan are being analysed from conservation point of view, there are almost a negligible attempt to address the conservation issues. Although some specific monuments are kept under land use of Historical and Religious buildings, but it seems to be a minor efforts on the part of conserving such an important city.

There are number of buildings, area, zones which are of immense importance from conservation points. Monuments, areas, zones, identified in this project should be declared and considered under specific land use and depending on merits of each monument, complex, area zone specific zoning regulations, controls, guidelines, conservation policies need to be framed. Any development around or in vicinity to these specific monuments or areas should be controlled so as to respect the rich heritage.

Old and historical residential areas have been given no significance or preservation plans. Old and traditional commercial areas are fast turning in modern and contemporary markets. As far as traffic and transportation plan is concerned while proposing road widening schemes and new road no consideration have been studied about their implications on monuments. Same is case while proposing land for public and semipublic utilities.

HISTORICAL EVOLUTION OF AMRITSAR**9.1 AMRITSAR BEFORE 1500 AD**

- Upto the invasion of Mahmood Ghazanavi this territory was under the rule of Rajput kings.
- The site of present city was visited by Rishis, Munis and Yogis frequently in old days, This area was entirely secluded from and the world and devotees of God. Offered worship in peace here.
- Lord Budha also described this place as very appropriate for meditation and good for Bhikshus for obtaining their Nirwana.
- Sikh history is some how connected and started from Tung, Gumtala, Sultanwind, Gilwali villages.
- Guru Nanak, the founder of the Sikh faith visited this place more than once while going to Sultanpur in 1502. He predicted the holiness and importance in this place.

9.2 STATUS OF DEVELOPMENT OF AMRITSAR BETWEEN 1500 AD & 1604 AD

1. Fourth sikh guru, Guru Ram Das ji founded city in 1577 A.D. He came here from Goindwal, where third Sikh Guru, Guru Amar Das Ji settled.
2. There existed a water pool in Amritsar, Guru Ram Das started work of enlarging this pool into a large tank, water of which was considered to be sacred and holy, it had capability of healing illness. Guru Ram Das made his

residence here and also other number of huts known as "Guru ka chak." Few traders also stayed here and did commercial activities.

3. Guru Ram Das died in 1581 and after him Guru Arjun Dev Ji became the fifth guru and he extended the settlement and completed the construction of tank. The construction of Hari mandir also started in 1589 A.D. under the guidance of Guru arjun Dev Ji. Hari Mandir was completed in 1604 A.D.

- This settlement was around the sacred tank, Ram Das Sarovar and was called Ramdas pura
- Guru Arjun Dev Ji persuaded Commercial activities in the city and brought families of various castes to settle here and occupy various trades. 52 families were settled there. The names of localities are "Gali Duglan", "Gali Uplan" etc. Commercial area within it is known as Guru Bazar.

9.3 STATUS OF DEVELOPMENT OF AMRITSAR BETWEEN 1604 AD & 1750 AD

- After emperor Akbar died in 1605 the spread of this religion began to be viewed negatively and Arjun Dev sacrificed his life for the religion, because of this Guru Har Gobind ji the sixth guru made a small army to fight against mughals and also acted as religious head.
- In 1607 Guru Hargobind Ji started the construction of Akaal Takhat near the Sacred tank and just in the front of Hari Mandir, which became, political and administrative seat of sikhs. A small fortress was built by making a wall around the raised platform.
- A high tower was built where the son of Guru Hargobind Ji was cremated, presently known as Baba Atal

- because of mughals regular attacks sikh Gurus moved towards safe place in 1628 A.D.
- Now after 1628 till 1708 there are no major strengthening of settlement.
- After the death of Guru Gobind ji in 1708 and execution of Baba Banda Singh Bahadur in 1716 there were lot of problems from mughals. Sikhs became victim of heavy atrocities from Mughal government and Afghans. They hide themselves in hilly areas and jungles. But sikhs used to meet at Harimandir on Diwali and Baisakhi and formed Khalsa Jathas and Dal Khalsa. Army of Khalsa was divided into twelve equal cadres known as Misls.

During this period by Mughals and Afghans Harimandir was destroyed three times and the tank filled with debris and murdered cow. A small fortres called Rauni near Harimandir was destroyed regularly.

9.4 STATUS OF DEVELOPMENT OF AMRITSAR BETWEEN 1764 AD & 1802 AD

Era of Sik Misls

1764-1802

Due to repeated fights between Mughals and Afghans and decline of Mughals ,administration of Punjab was almost finished and so came the sikh misles who became gradually stronger.

Harimandir rebuilt

In 1765 Harimandir was rebuilt and the tank cleaned by various sikh misls.

Land around Ram Daspur was occupied by five different misls who built a fort in its territory or estate. Each estate was enclosed by walls and connected to Ram Das pura via low gates. It is in these misl estates that later development in the form of Katras founded by successive rulers came.

Katra

Each Misl estate was a Katra all katra were surrounded by walls and connected with other parts of city. There were Haveli in each Katra and they had forts.

Various Misl estates :

(1) Misl Bhangian

It was a large territory on western side of city including Lohgarh fort. Jhanda Singh built Killa Bhangiani in 1766 A.D. which was completed by his brother Ganda Singh. Katra Desa Singh, Katra Dulo, Katra Bhag Singh were later developed by successive rulers.

(2) Misl Kanhya

Leader was Jai Singh who found Katra Kanhya. Katra Jaimal Singh; Katra Baggia were named by his successors.

(3) Misl Ahluwalia

It was made in 1764 by Sardar Jassa Singh Ahluwalia and Katra known as Katra Ahluwalia

Misl Faizal Pura

The leader of this misl was Sardar of Bhangi misl. Nawab Kapoor Singh Faizal pura who was the chief of Dal Khalsa built a small katra which is known as Bazar Kaseria.

Misl Ramgarhia

Jassa Singh Ramgarhia was the chief of the misl who converted the old fort Ramgarh and built a large street called bazar Ramgarhia.

For almost a century physical growth remained stagnant in physical but with polynodal type of development and having a linear fashion along bazar Guru Bazar.

From defense point of view there were small katras covered by walls and low height gate.

Misls were fighting with each other and in the north sukerchakia misl became important and Maharaja Ranjeet Singh took over as one complete territory and in 1799 Lahore became capital.

Maharaja Ranjeet Singh fought with Misl Bhagian in 1802 who was having domination over Amritsar at that time and captured this holy town, after Lahore Amritsar was second largest city.

9.5 STATUS OF DEVELOPMENT OF AMRITSAR BETWEEN 1802 AD & 1849 AD

In 1809 by renovating and extending the fort of Bhangi Sardar Gujjar Singh with new wall around the fort and a moat. It is a huge structure having number of bastions iron gates. It served as residence and treasury.

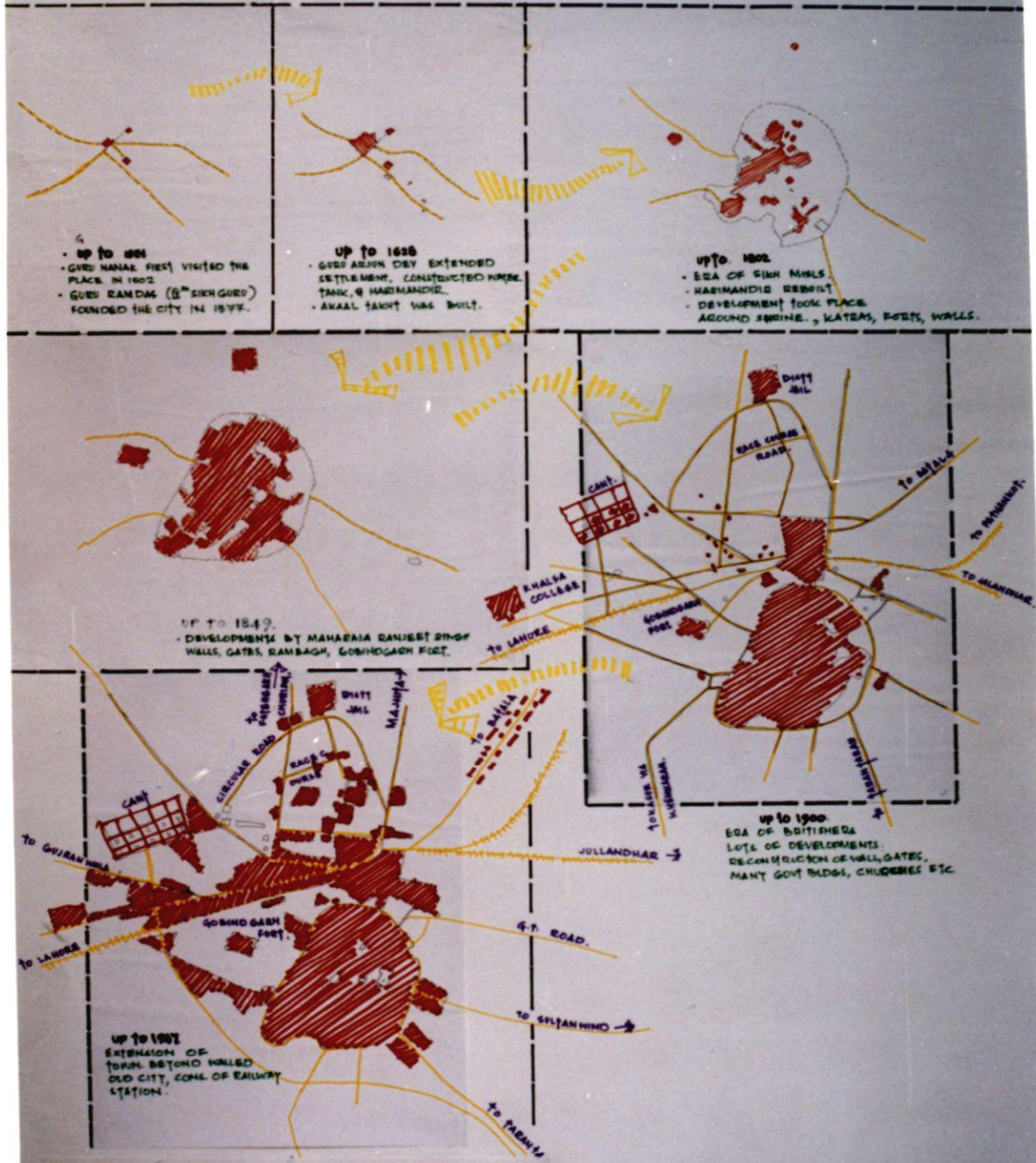
Around 1821 for the defence, he built double wall around the city. One wall (internal) was 25 yard wide and 7 yard height using unbaked bricks. Moat surrounded the wall and around which there was another outer wall. He also constructed twelve gates.

Lahori, Khajana, Hakima, Gilwali, Ramgarh Naglian, Ramgarhia, Ahluwalia, Deoburji Deodhi Kalan, Rambagh, Shahzada, Lohgarh. One of these main was Lahori gate, from which Maharaja Ranjeet Singh used to go to Lahore.

Rambagh Garden

On the route of Gobindgarh fort to Batala Maharaja Ranjeet Singh built a garden which is famous as Rambagh. It is basically square in shape enclosed by two walls with a moat, having five buildings around it.

HISTORICAL EVOLUTION OF AMRITSAR



STRATEGY FOR ARCHITECTURAL CONSERVATION OF SIKH ARCHITECTURE: CASE STUDY AMRITSAR

Vijay Kumar
M.Arch. Thesis 2000

ENGINEERING DATA BASE FOR HISTORICAL MONUMENTS AND AREAS OF AMRITSAR

10.1 DISTRICT COURTS



Name : District Court
Date : 1872
Location : Near junction of Mall road & Court road

Characteristic Features

- The building is having typical British Architecture style
- Pointed arches in windows, wooden typical sun screens in the arcades
- The façade of the building is in brick
- Courtyard in the centre

Material/Structure

- Building is built in red brick in lime and surkhi
- Walls are 30 cm thick with 15' high roof
- Roof form is flat and made of brick tiles and timber plank

Grading : B

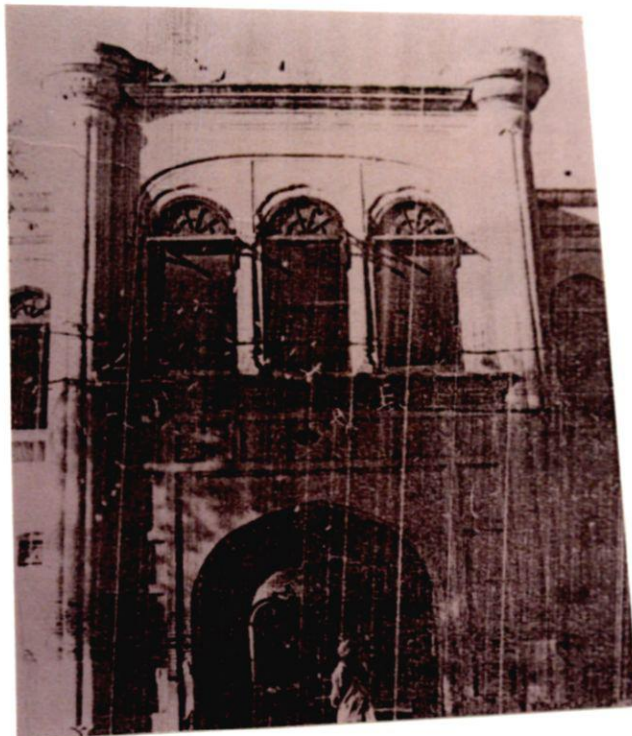
Architectural Value : High

- Style speaks about an era of imposing style of British administration

Historical value : Fair

Archeological value : Fair

10.2 TEHSIL OFFICE



Name : Tehsil office
Date : 1856
Location : near Central Bus Stand, Amritsar

Characteristic Features

- It gives appearance of a fort with main entry is provided with a big door way.
- The building has a courtyard surrounded by small room on all sides

Material

- Structure in brick with lime surkhi as lime mortar

Grading : B

Architectural Value : Good, due to its fort like architectural design
imposing façade door way.

Historical value : Fair

Archeological value : Fair

10.3 GENERAL POST OFFICE



Name	:	General Post Office
Location	:	On court road near Rialto cinema
Date	:	1925
Owner	:	Govt. of Punjab
Usage	:	Past : Head Post Office Present : Head Post Office

Characteristic feature

Typical example of British architecture with semicircular arches, huge pillars of the building gives massive look like the other buildings of the period.

Material

The building is built of red bricks with lime and surkhi as binding material.

Grading : B

Architectural value : Good

Building is extremely beautiful and is a landmark monument.

Historical value : Fair

Archeological value: Fair

10.4 GOVERNMENT SENIOR SECONDARY SCHOOL



Name	:	Government Senior Secondary School
Date	:	1863
Location	:	Near Town Hall, Amritsar
Ownership	:	Govt. of Punjab

USES

Characteristic Features

- (v) It is a typical victorian style building with semicircular arches, clear height of building is 15 high and the finish is brick facade.
- (vi) Building is having arcaded corridors

Building Material

- (vii) The building is made of brick with lime surkhi mortar

Grading : B

Architectural Value : Good,

Architecturally building is appealing with typical victorian style. Typical design of glazing cornices and parapets

Historical value : Fair

Archeological value Fair

10.5 RAILWAY STATION



Name	:	Railway station
Date	:	1931
Location	:	Near walled city and in front of Hall gate Amritsar On GT road
Ownership	:	Govt. of Punjab
Usage	:	Past: Railway station Present :Railway station

Characteristic Features

- (viii) It was the first railway station in whole of the punjab. The railway line was first laid in 1859 between Amritsar and Lahore, then it was extended towards in 1864. The building is partially double storeyed, 405 metre long and 12.20 m wide platform.
- (ix) The main entrance to platform is through a beautiful verandah decorated with arches and jali work
- (x) Building is made of brick arches and is plastered

Building Material

- (xi) The building is built of red bricks in lime and surkhi
- (xii) The doors and windows still retain the glory of beautiful style. Structure has huge pillars.

10.6 GURU TEG BAHADUR HOSPITAL



Name	:	Guru Teg Bahadur Hospital
Date	:	1904
Location	:	Opposite Rambagh Amritsar
Ownership	:	Govt. of Punjab
Usage	:	Past: Hospital Present: Hospital

Characteristic Features

This building is constructed in typical British style but with some elements of Sikh architecture.

This building resemble with some of the buildings constructed by British with pointed arches, roof with timber planks and brick tiles and of same height.

The doors and windows are having beautiful glass work. Arcaded corridors are missing in this building.

Grading	:	B
Architectural Value	:	Good,

An example of fine amalgamation of British and Sikh Architecture

Historical value	:	High
Archeological value:		Fair

10.7 MOSQUE OF KHAIR-UJ-DIN



Name	:	Mosque of Khair-uj-Din
Date	:	1877
Location	:	Hall Bazar, Amritsar
Ownership	:	Maintained by Muslim Community (Trust)
Usage	:	Past: : It served as Jama Masjid Present: : It is in frequent use by inhabitants of the Near by Areas (Muslims Worship place)

Characteristic Features

- It was one of main worship place for muslim community of Amritsar
- It is a perfectly symmetrical building having three domes, the central one the main dome being the highest dome.
- Dome have opening flower shape decoration on the bottom of dome and an inverted flower on a top with a pinnacle on top.
- Structure has typical arches of Islamic architectural style
- The building is surrounded by many high rise structures, shops, residential areas

Building Material

- Building is made by bricks, marble has been used in floorings and lime plaster

- The building is structurally sound and have an excellent state of preservation

Grading : B

Architectural Value : Good, Reason being these depict the typical islamic style once prevalent in this area masjids are few remainant which speaks about the muslim regime and muslim population once resided in this city before partition.

Historical value : High

Archeological value : Fair

10.8 CHURCH BAIT-AL MASSIH



Name	:	Bait-al Massih
Date	:	1866
Location	:	Near Rambagh Gate
Owner	:	Chritian Community Trust
Usage	:	Past: : Religious Present: : Religious place
Building Material	:	Brick in lime surkhi mortar and lime based plaster painted pale yellow.
Characteristic Features	:	Church constructed by britishers. It is an elegant building with sloping roof.
Grading	:	"A"
Architectural Value	:	Good
Archeological Value	:	High
Historical Value	:	Fair

10.9 TOWN HALL



Name	:	Town hall
Date	:	1863
Location	:	South of Hall Bazar
Owner	:	Govt. of Punjab
Usage	:	Past: : Administrative Head Quarter Present: : Municipal Corporation Office
Building Material	:	Red Brick with Lime and Surkhi
Characteristic Features	:	It is an architectural landmark and a example of typical colonial architecture of the period. It has massive columns richly treated silhouette, Arch entrance etc.
Grading	:	"A"
Architectural Value	:	High
Archeological Value	:	Good
Historical Value	:	Fair

10.10 MOSQUE OF MOHAMMED JA



Name	:	Mosque of Mohammed Ja
Date	:	1872 (approximately)
Location	:	Walled city of Amritsar
Ownership	:	Trust (Muslim community)
Usage	:	Past : for prayer Present : Community gathering place/Worship place for muslims

Characteristic Features

- It is a beautiful mosque made in brick with lime plaster, built in typical islamic style.

Grading	:	B
Architectural Value	:	Good
Historical value	:	Good

Historically these mosques are very important as these are only proof which reminds that Muslims ruled this city for a long period and lot of muslims population once stayed here.

Archeological value	:	Fair
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10.11 ST. PAUL'S CHURCH



Name	:	St. Paul's Church
Date	:	1850 (approximately)
Location	:	In between the junction of Fathegarh road, Sialkot road and GT road
Ownership	:	The church was constructed by initiative of Mr.C.B. Saunder Deputy Commissioner of Amritsar.
Usage	:	Past: Prayer
Special feature	:	Present: Prayer

Characteristic Features

- It has a capacity of 200 persons to sit in.
- British in a typical architectural style of churches with sloping roof of tiles
- Building has long structure with conical top on both sides with octagonal plan.

Grading : B

Architectural Value : High

Typical pointed arch, sloping roof with typical eaves detail

Historical value : Fair

It reminds and depicts the Britishers regime of this town and the church was basically meant for the British officers

10.12 HISTORICAL RESIDENTIAL AREAS OF AMRITSAR



- (i) Katra Dulo
- (ii) Katra Khazana
- (iii) Katra Hakima
- (iv) Katra Khaiwala
- (v) Katra Garbha Singh
- (vi) Katra Namak Mandi
- (vii) Dhab Basti Ram
- (viii) Katra Ramgarhian
- (ix) Katra Ahluwalia
- (x) Choursti Atari
- (xi) Chowk Passian

Residential Areas

1. Old Residential areas of Amritsar are located in walled city of Amritsar and generally around golden temple complex.
2. These residential areas have narrow streets and zigzag streets with dead end with typical medieval character

3. Houses are three storeyed and so narrow that they can exchange goods with each other even on upper floors with ground floor used as commercial
4. In the residential areas there were generally a group of 15 to 30 houses having one iron gate (single entry point) and dead end on another side Each such unit is mohalla and every mohalla had a well.
5. Two or three mohallas combined to have a central open community square

10.13 HISTORICAL COMMERCIAL AREAS OF AMRITSAR



BAZAR GHANTAGHAR

Name	:	bazar ghantaghar
Location	:	Near Golden temple, Amritsar
Date	:	1820

General Characteristic

It is established by Maharajah Ranjeet Singh. Width of street vary from 15ft to 20 ft. It deals with shawl and cloths

Structures are generally three storied and presently having approximately 100 shops.

Grading	:	A
Archeological value	:	High
Historical Value	:	High (being associated with Maharaja Ranjeet Singh)
Architectural value	:	Good

some of other important commercial areas

Bazar Bikanerian

- It was established in British rule in 1930. It is a yarn market with width of street varying from 20 to 25' and three to four storied structure.

Bazar Katra Ahluwalia

In this bazar the size of shop is very small width varying from 15' to 20' and deals with cloth

Moti Bazar

This bazar has approximately 100 shops dealing mostly with cloth. The streets being zigzag and 10' to 20' wide

Karmon Deori

The width of street vary from 15' to 20' and there are roughly 50 shops

Bazar Tagku Sahib

This bazar deals with cloth and are 50 shops, the width of street vary from 8 to 10 ft.

Chamra Bazar

Width of street vary from 25' to 30' and deals with shoes and leather

Shashtri market

Deals In cloths and wool ,width of road vary from 15 to 20 ft

Bazar Papran

This is near golden temple a narrow bazar famous for papar and warian

Bazar Misri

Near bazar papran and deals with "murabba", "achaar" and sugar width of road varies from 15' to 20'.

Bazar Akalian

Width of street of this bazar is 20' to 25' and deals with iron and steel.

Majith Mandi

It is famous for "Karyana" and dry fruits

Dal and Kanak Mandi

This bazar deals with pulses, grains

Bazar Subunian

This bazar is near Karmon Deori and deals with "bam^boo", georgette and artificial site, generally width of bazar is 15'.

Guru Bazar

This bazar is near Guru Ke Mahar and Golden temple and deals with gold and silver ornaments.

Bazar Kashian

This bazar deals with hard ware and general merchandise and it was previously dealt with trade of horses.

Hall Bazar

It is made by Britishers and have wide metalled road, structures are double and triple storey. Britishers planted trees and fountains, which were shifted to Rambagh in 1841. In his area originally there was a jail which was ultimately shifted out side the walled city.

10.14 OLD WALLS AND GATES OF AMRITSAR



1. Initially the boundary wall of old city was constructed by Maharaja Ranjeet Singh in 1821. It was a double wall, inner wall was 25 yards wide and 7 yards high built by kachcha bricks. This wall was surrounded by a moat around and outer wall constructed on external side of moat.
2. Twelve gates were constructed to enter city from twelve different directions, Lahori, Khajana, Hakima, Gilwai, Ramgarh Naglian, Ramgarhian, Ahluwalia, Deoburji, Deodhi Kalan, Rambagh, Shahzada, Lohgate

HALL GATE

It was built in 1876 and named after Colonel Hall the then D.C. of Amritsar. Gate have pointed arch, octagonal shape, gate is 30' high and 25' wide. Gate has doors on each side. The material used is surkhi.

HISTORICAL GATES AND WALL OF AMRITSAR



CHATTRI WIND GATE : ONLY PART OF GATE IS LEFT : NO IMPORTANCE & CARE.



LAHORI GATE : REMAINS ARE ENOUGH FOR PRESERVATION, PROTECTION & CARE.



KHAZANA GATE : STANDING FEATURES NEED TO BE CONSERVED.



REMANANTS OF WALL : PRACTICALLY NO PART IS LEFT BECAUSE OF UNWARRANTED.



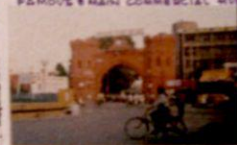
LONGAER GATE : NEEDS PROTECTION UNDER LAW AND SHOULD BE PROTECTED.



TYPICAL GATE OF BRITISH PERIOD



HALL GATE : ENTRY POINT TO AN OLD BRITISH MARKET AND NOW A FAMOUS & MAIN COMMERCIAL HUB.



HALL GATE : SIDES NEED TO BE CLEARED OFF FROM HOARDINGS.



NO REMAINS LEFT : GATE HAS BEEN DEMOLISHED.



GATE TOTALLY DEMOLISHED.



NO GATE OR ITS PART LEFT.



NO PORTION OF GATE LEFT.



RAM BAGH GATE : ONLY REMANANT OF GATE CONSTRUCTED BY MAHARAJA RAJESHWAR SINGH.



PORTION OF WALL LEFT.

GATES AND WALLS OF AMRITSAR

- Initially the boundary wall of old city was constructed by Maharaja Ranjot Singh in 1821. It was a double wall, inner wall was 25 yards wide and 7 yards high built by kachcha bricks. This wall was surrounded by a moat around and outer wall constructed on external side of moat.
- Twelve gates were constructed to enter city from various different directions. Lahori, Khazana, Hathi, Gola, Ram Bagh, Mangal, Ramgharhi, Akhwalia, Deobur, Deothi, Kaler, Rambagh, Dhanwadi, Luthgala.

HALL GATE

It was built in 1876 and named after Colonel Hall the then D.C. of Amritsar. Gate have pointed arch, octagonal shape, gate is 30' high and 20' wide. Gate has doors on each side. The material used is surhi.

10.15 HISTORICAL GARDENS OF AMRITSAR



1. **Rambagh garden**

It is developed by Maharaja Ranjit Singh in 1831 in front of Rambagh gate

2. **Gole bagh**

It is outside Lohgarh gate and it is famous for its greenery and presently used for political and social gatherings.

3. **Bagh Akalian**

It is historical park and was a famous garden

4. **Jallianwala bagh**

It was an open ground surrounded by all sides with two and three storeyed structures and only one entry point. After 1919 massacre it has been converted into garden with a historical well, a memorial and museum.

ENGINEERING DATA BASE FOR HISTORICAL MONUMENTS RELATED TO SIKH ARCHITECTURE

11.1 RAM BAGH

11.1.1 SUMMER PALACE



Name	:	Summer palace
Date	:	1831 AD
Location	:	Rambagh garden, Amritsar
Ownership	:	Govt. of Punjab
Usage	:	Past :Palace for Maharaja Ranjeet Singh Present : Museum

Characteristic Features

This building bears influence of Mughal and Renaissance Architecture. It has got beautiful arches, Jharokhas.

Building Material	:	Brick with lime motar
Grading	:	A
Architectural Value	:	High
Historical value	:	High
Archeological value	:	High

11.1.2 RAM BAGH DARSHANI DEORI



Name	:	Darshani Deori
Date	:	1831 AD
Location	:	Rambagh Amritsar
Ownership	:	Govt. of Punjab
Usage	:	:Past : It was a passage for Maharaja Ranjeet Singh To go to Golden Temple Present : Protected Monument

Characteristic Features

It is a beautiful example of Sikh Architecture. On ground floor there is a passage which divides the building into two parts.

Building Material	:	Brick with lime surkhi
Grading	:	A
Architectural Value	:	High
Historical value	:	High
Archeological value	:	High

This building is having four Kiosk on four corners, the front one of octagonal plan having eight openings and back one having four openings.

Entry gate is pointed Arch with balconied window on both sides.

11.1.3 RAM BAGH GATE



Name	:	Ram Bagh Gate
Date	:	1831
Location	:	Near Ram Bagh side of walled city of Amritsar
Ownership	:	Govt. of Punjab
Usage	:	Past : Gate towards Rambagh Present : CIA office

Characteristic Features

This massive gate is the only relic of Maharaja Ranjeet Singh's regime. Some fixtures of this gate were removed and taken to Lahore in 1892 to be preserved at Lahore museum. The gate is in the form of semicircular from entrance side. On the sides it is well connected with walls. The entry to the city through the gate was of straight one but one has to turn to left and then on right side to enter. At the entrance the beautiful Rajputana Arches and massive bastions give a look of an entry to a palace.

Building Material

Gate is made in masonry is Nanakshahi bricks in lime and surkhi.

Grading	:	B
Architectural Value	:	High
Historical value	:	High
Archeological value	:	High

11.2 KHALSA COLLEGE



Name	:	Khalsa College
Date	:	Planning 1892
Location	:	On main GT road, 4 kms from Railway Station
Ownership	:	Khalsa Management
Usage	:	Past – College Present - College

Characteristic Features

This building is a beautiful blend of Mughal and Rajputana Architecture and considered as example of Sikh Architecture. Its proportions are marvellous.

It has Mughal styled Jarokhas, Jaliwork, Chatris, Rajputana styled Arches, long pillars and double height

Building Material

The building is made of brick with lime surkhi mortar

Grading	:	A
Architectural Value	:	High
Historical value	:	High
Archeological value	:	High

11.3 GOLDEN TEMPLE



NAME	:	Golden Temple
DATED	:	1784-1830
LOCATION	:	Walled city of Amritsar
OWNER	:	SGPC
USAGE	:	Past : Worship Place Present: Worship Place
BUILDING MATERIAL	:	Nanak Sahi Brick with Lime and Surkhi

CHARACTERISTIC FEATURE : It is a three storeyed square building with an additional two storeyed building of half-hexagon shape appended to the back thus the ground plan of the temple being resolved into what is referred to as a hexa-square. This main building is surmounted by a central domical structure and kiosks at the cardinal sides. The building is placed on a square platform in the centre of a square tank, 36 crossed over, in the western side, by a causeway terminating into double storeyed entrance pavilion with an imposing archway. The sides of the square platform of the temple serve as the Parakrama and a similar function is served by the paved banks of the tank.

GRADING	:	"A"
ARCHITECTURAL VALUE	:	High
ARCHEOLOGICAL "ANTIQUE" VALUE	:	High
HISTORICAL VALUE	:	High

GURUDWARA BABA ATAL



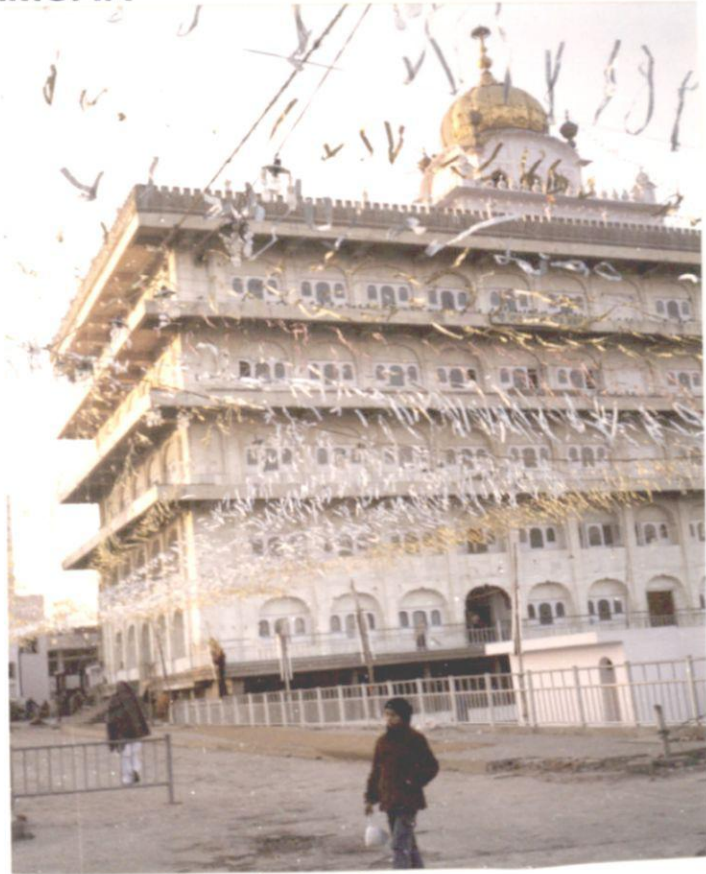
NAME	: Gurudwara Baba Atal
DATED	: 1772-1835
LOCATION	: South East of Golden Temple
OWNER	: SGPC
USAGE	: Past : Worship Present : Worship
BUILDING MATERIAL	: Brick in lime surkhi mortar and lime based plaster painted pale yellow
CHARACTERISTIC FEATURE	: It is unique building related to sikh architecture which is octagonal in plan an nine storeyed structure. Building is 45 mtr high and has a guilded dome.
GRADING	: "A"
ARCHITECTURAL VALUE	: High
ARICHEOLOGICAL VALUE	: Fair
HISTORICAL VALUE	: High

11.4 GURDWARA DARSHANI DEORHI



It is near the junction of Guru Bazar and Mai Sewan. This was the place from where, in olden times, a visitor approaching from the north west got a glimpse of Harimandir.

11.5 GURUDWARA RAMSAR



NAME	:	Gurudwara Ramsar
DATED	:	1855
LOCATION	:	South-East of Walled city
OWNER	:	SGPC
USAGE	:	Past : Religious place Present : Religious place
BUILDING MATERIAL	:	Brick in lime surkhi mortar and lime based plaster painted pale yellow.
CHARACTERISTIC FEATURE	:	This is site where Guru Arjun Dev compiled the Grath Sahib, with Bhai Gudas as his scribe during 1603-04. It is a small domed building constructed in 1885

11.6 GURUDWARA VIVEKSAR



Gurudwara Viveksar Sahib

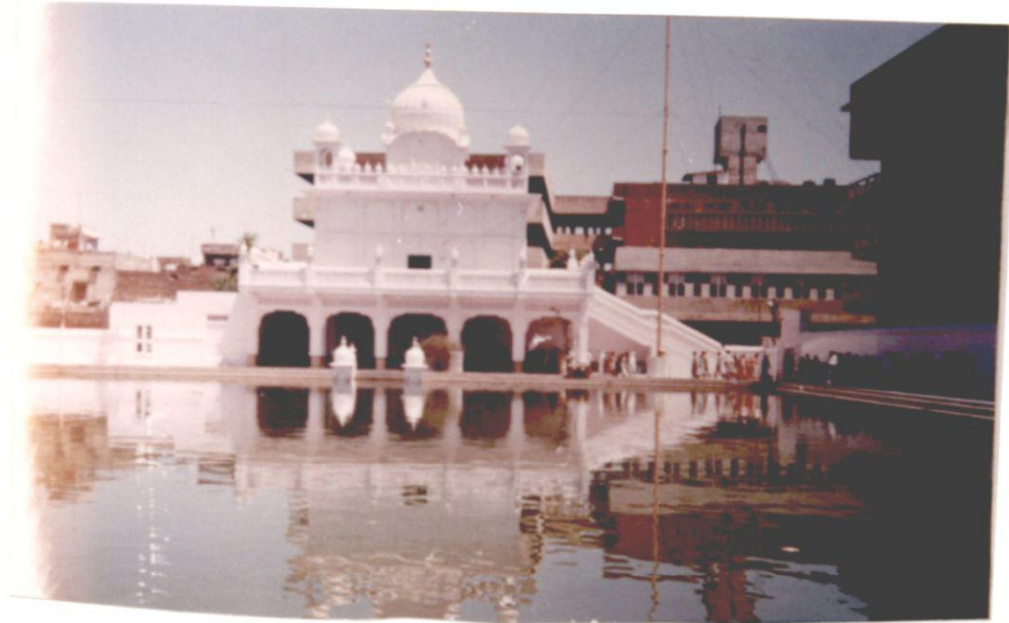
This temple is north-east of Gurudwara Ramsar between Chattiwind and Sultanwind gates. Guru Hargobind had got a Sarowar dug up in 1628 here. Its building was constructed by Maharaja Ranjit Singh.

11.7 GURDWARA SHAHID GANJ BABA DIP SINGH



Near Chattiwind gate, this temple commemorates the martyrdom of Baba Dip Singh, who fell fighting the Afghan invaders in 1757. A memorial to the martyr in the form of a platform was constructed here by Sardar Jassa Singh Ramgarhia. It was replaced by a Gurudwara by Akali Phoola Singh in 1823. It was enlarged and developed into the present complex by SGPC.

11.8 GURUDWARA TAHLI SAHIB:



It is near a Sarovar, Santokhsar close to Town Hall. It is named after a Tahli or Shisham tree under which Guru Ram Das and later Guru Arjan Dev used to sit watching the digging of Santokhsar tank. The digging of this Sarovar was at first taken up by Guru Amar Das in 1568. But this was left midway when digging operations were shifted to Amritsar in 1577. Guru Arjan Dev completed it during his own pontificate.

11.9 GURDWARA CHAURASTI ATTARI



It is situated on the side of a road cross at the end of Guru Bazar. Chaurasti means a road-cross or square and attari means a tall building. The Gurudwara represents the site where Guru Hargobind used to retire for rest.

11.10 GURDWARA LOHGARH SAHIB



It marks the site of a fort, Lohgarh (for of steel) constructed by Guru Hargobind to secure the western approach to the town. The for was destroyed by Ahmad Shah Abdali. And the Gurudwara was constructed on the ruined mound during the Sikh rule. The temple was again brought down in 1997 and a concrete structure in its place has been constructed.

11.11 GURDWARA PIPLI SAHIB



Situated in Putlighar area outside the old city, its marks the site where Guru Arjan Dev received a large sangat from Kabul and North west Punjab who has come to take part in the digging of the pool of Nectar.

11.12 GURUDWARA MATA KAULAN



NAME	:	Gurudwara Mata Kaulan
DATED	:	Early 19 Cetur
LOCATION	:	Campus of Golden Temple
OWNER	:	SGPC
USAGE	:	Past : Religious place Present : Religious place
BUILDING MATERIAL	:	Brick in lime surkhi mortar and lime based plaster painted pale yellow.
CHARACTERISTIC FEATURE	:	The Gurudwara and its adjoining sarovar Kaulsar are commemorated to Kaulan, daughter of Quazi Rustam Khan of Lahore, who had become a devotee of Guru Hargobind. She was persecuted by his father for this act and had to leave her home. She found refuge under the Guru who got the tank dug and a house built on its bank to accommodate her.
GRADING	:	"B"
ARCHITECTURAL VALUE	:	Fair
ARCHEOLOGICAL VALUE	:	Fair
HISTORICAL VALUE	:	Fair

11.13 BURJ BABA PHULA SINGH



Name	:	Burj Baba Phula Singh
Date	:	1923
Location	:	Infront of Bus Stand near Bus Stand
Ownership	:	SGPC/Baba Phulla Singh Followers Trust
Usage	:	Past : Memorial Present : Sikh Temple

Characteristic Features

It is circular in shape with four stories and a dome on a chattri, on the four sides are smaller chattries.

Building Material

The building was constructed of red bricks in lime and surkhi with RBC and concrete flooring. It was basically a red colour building in brick texture and its dome was plastered and painted white, but it has .

Grading	:	A
Architectural Value	:	High
Historical value	:	Fair
Archeological value	:	Fair

11.13 GOBINDGARH FORT



Name	:	Gobindgarh Fort
Date	:	1809
Location	:	On Northwest direction of walled city
Ownership	:	Govt. of Punjab
Usage	:	Past : Fort Present : Military establishment

Characteristic Features

It is located on Western side of Lohgarh gate. It had a treple line of defence and a deep moat around the outer wall which was nearly 100 m in perimeter. There were two main gates called Darwaza I Ali on the eastern and western side with five heavy guns. The wall of the fourt has numerous bastions with guns fixed for gunners. To fire if required. The toshakhana treasury of Maharaja Ranjeet Singy was kept in Gobindgarh fort.

It was connected to Rambagh and the walled city by two separate roads.

Building Material

It was built with red brick in lime and surkhi and was also plastered like other buildings built by Maharaja Ranjeet Singh. It is 25' high wall.

Grading	: A
Architectural Value	: High
Historical value	: High
Archeological value	: High

**PROBLEMS REGARDING CONSERVATION OF
MONUMENTS RELATED TO SIKH ARCHITECTURE IN
BROAD PERSPECTIVE WITH EMPHASIS ON RAM BAGH
COMPLEX, KHALSA COLLEGE, GOLDEN TEMPLE
COMPLEX AND AREA AROUND GOLDEN TEMPLE
COMPLEX.**

PROBLEMS REGARDING CONSERVATION OF MONUMENTS RELATED TO SIKH ARCHITECTURE

1. Lack of Awareness

The basic problem regarding conservation of monument related to sikh architecture is lack of awareness.

- among people
- among members of trust, committees, bodies like SGPC
- government authorities and bodies like municipal corporation
- professional architects, and engineers practising in city
- govt. engineer of PWD, Public health, improvement trust, engaged in development works of city.

2. Lack of Motivation from Govt. Departments

Although Archaeological survey of India has been entrusted with the work of conservation, but hardly any strong step being taken up by the department to take up conservation projects.

3. Lack of Finances

Lack of finances for restoration, maintenance and preservation of old monuments.

Religious building like gurudwara are funded by S.G.P.C. so there is no much of problem but other structures like Rambagh gate, Rambagh complex are facing acute problem.

4. Frequent Demolition of Gurudwaras

Old Gurudwaras are very frequently demolished to make new ones.

By demolition old architectural style, heritage elements were all destroyed.

5. Lack of Interest from Architects/Archaeological Experts

No architect has bothered to really document the buildings, elements, and recognise style

6. Materials

4. In order to make structure shining old marbles, carved marbles, old wood work and marbles, are replaced by glazed tiles, granite, plastic paints frequently.

7. Lack of Research regarding Sikh Architecture

Lack of research and study by historians/artists/architect to study the development and evolution of sikh architecture.

8. Lack of Motivation to establish Sikh Architecture as a style

Motivation by the professional to establish significance of this style.

9. Lack of Govt. interest regarding monuments of Sikh Architecture

Lack of motivation by State Govt. and Central Govt. to recognise and administratively assist to conserve sikh architectural monuments.

10. Lack of specialised technicians

Lack of professional craftsman, masons, which are expert in conservation work.

THE ISSUE :

HOW TO PRESERVE RCH ARCHITECTURAL HERITAGE OF SIKH ARCHITECTURE



MONUMENTS OF RAMBAGH.
 • NEGLECTED
 • USED AS CLIMB
 • ADDITIONS, ALTERATIONS, REPAIRS NOT HARMONISING WITH ORIGINAL FABRIC.



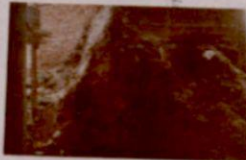
• DETERIORATED STRUCTURE



• RAIN WATER / SEWER PIPES & ELECTRIC CABLES SPOILING THE CHARACTER



• THE OLD GATE WAY TO GOLDEN TEMPLE COMPLEX IS PROPOSED TO BE DEMOLISHED.



LONGARH GURUDWARA BUILT IN 18TH CENTRY NOW HAS BEEN TURNED IN TO HEAPS OF DEBRIS.



UNATTENDED FACADES : PALACE



MOISTURE SPOILING THE BASE. : DOERDI, RAMBAGH.



NO MAINTAINACE



OLD MONUMENTS ARE DEMOLISHED TO MAKE NEW ONES.

NEW BLDG IS COMING UP AT THE SAME PLACE

IN FRONT OF BURJ BABA PHULA SINGH.



BURJ SPOILED BY SURROUNDING VEGETATION.



COLUMN GURUDWARA SHAHEEDA.



E L E M E N T S



SOLUTION IS TO DOCUMENT THE ELEMENTS & RECONSTRUCT, REPRODUCE APART FROM PROTECTION WHERE EVER POSSIBLE.



RAMBAGH COMPLEX

13.1 INTRODUCTION

- From 1802 to 1841 the city Amritsar was ruled by Maharaja Ranjeet Singh and in his regime he built several structures, complexes and gardens.
- The main buildings constructed in his period were Gobindgarh fort, Rambagh, fortwall and twelve gates. And among these Rambagh is one of famous contributions.

13.2 RAMBAGH

It is a Landmark created by Maharaja Ranjeet Singh - Rambagh was the most impressive and original contribution of Maharaja Ranjeet Singh laid out and constructed during the later period of regime and completed in 1831 A.D. It is an important landmark of civic design depicting the gradual growth of stability and sophistication of his kingdom

◀

13.3 LOCATION

The garden is located on the western side of Madan Mohan Malviya road and enclosed by Mall road on northern side and Batala road on eastern side. A road on southern side joins Queens road with Batala road.

13.4 THE ORIGINAL DESIGN

The design of the garden is largely influenced by mughal Concept of garden design. It was contained in a rectangular enclosure of 14 ft. solid masonry walls studded with burjis at its four corners. This enclosure was further protected by the old mud fort enclosure with a moat around it. The entrance to the Rambagh was through a double gateway one as entrance through the mud fort and second as entrance through 14 ft high masonry wall enclosure. Within the garden the garden were laid on a Chaupor pattern. IN the centre was summer palace with buildings on its four sides connected by promenades lined with trees and fountains laid out in formal style of Mughal gardens. The main building was provided with Tahkhanas underground chambers. Near this was Jaladhari a swimming pool for use of lobbies of the royal house holds. Other buildings were basically for the lieutenants of Maharaja Ranjeet Singh and several ancillary uses.

There existed a road which connected the Rambagh garden through Rambagh Deori to Rambagh gate. This road was having avenue of trees on both sides. This road lead to golden temple through Katra Ghanahya and Karma Deroi

13.5 RAMBAGH GARDEN UNDER BRITISH RULE

Britishers through their military engineers, surveyors and bureaucracy changed the entire character of Rambagh and the name was changed into Company Garden.

The moat around the bagh was filled and the mud wall 14 ft high was destroyed and the garden was extended on North eastern side.

Further some waterbodies and choupar form promenades were filled

The extended area was landscaped in informal garden style with circular and curved paths

The summer palace was turned into office of Deputy Commissioner General Dyer who used it as control room before and after Jallianwalabagh massacre

The building was later leased out to be used as masonic lodge which earlier the Britishers used it in their own way.

13.6 PRESENT STATE

At present the entire garden is a mix of formal and informal styles of garden.

13.7 SUMMER PALACE

The building resembles an European country house having Mughal influence. It has beautiful arches, jharokhas.

It is presently used as museum of Maharaja Ranjeet Singh and have arms, manuscripts, coins of Sikh period i t has beautiful arches

13.8 DARSHANI DEORI

Parallel to the summer palace of Maharaja Ranjit, three other buildings on its four sides one of them is Darshani Deori which is a protected monument under A.S.I. It was this through which Maharaja passed in his way to Golden temple through Rambagh gate. A passage is there on the second floor which divides the building into two parts, on the first floor two sides are joined by wooden pathways. On the side the building is used now as services club. On the Eastern side building is under Municipal Corporation where it has been used as aquorican. The building on the western side is used for Punjab Homeguards. All these buildings are clearly important as a central summer palace which was joined by fountains and pathways

along them to all the four buildings. But due to changed use their historic fabric has been changed to much extent. Some buildings have been altered and additions have been made according to their requirements.

In addition to these four buildings there exists other buildings like one where Amritsar club is operated now-a-days. It is in between the pathways running from South to northern side and eastern side. . There was a swimming pool for the ladies of royal family of Maharaja on the N-W of museum. One platform is on the south-west side of the museum marked a game known as Barah Tehni on its concrete where Maharaja used to play this game with his sardars.

13.9 VARIOUS ARCHITECTURAL FEATURES / MONUMENTS OF RAMBAGH

Kiosks or Burjis are also existing on the four corners which demonstrates the original boundary corners of the Ram Bagh. They are in isolation to other activity areas and buildings with in the garden and needs care.

So, it can be concluded that the garden carries a rich heritage and architectural values in it with number of buildings and other monuments. But the various authorities had taken it for granted and misusing it.

Rambagh Gate

↳

Rambagh gate is situated on western side of Rambagh (DARSHANI) Deori. It was constructed by Maharaja Ranjeet Singh in his regime .This gate was entrance for Maharaja Ranjeet Singh from Rambagh to Golden Temple. It is the only gate left out of twelve gates constructed by Maharaja Ranjeet Singh and is a typical example of Sikh architectural style. Presently it is in very miserable state and used by police as C.I.A. office, it needs immediate restoration. There is a serious threat to its structure and fabric.

13.10 PROBLEMS OF RAMBAGH COMPLEX

PROBLEM REGARDING LAYOUT OF RAMBAGH COMPLEX

13.10.1 ORIGINAL DESIGN

1. The original design of garden which was based upon Chauper pattern was destroyed by Britishers and informality was introduced destroying certain built structures
2. Water fountains were filled up by the Britishers
3. Walls were destroyed and moat was filled up
4. Four structures and the summer palace were retained
5. Original paving was destroyed and metalled road was introduced within the garden
6. One structure i.e. Darshani Deori is now outside the park and is having road on both sides of it.
7. Burji or kiosks which are very important features of the garden are retained

PROBLEM REGARDING THE STRUCTURE AND ARCHITECTURAL FEATURES OF MONUMENTS OF RAMBAGH COMPLEX

(1) Darshani Deori

1. The main problem with this structure is that the moisture is rising in the base of the building
2. The plaster from base of Darshani Deori has been washed away by rain water.
3. The bricks are clearly visible and the structure is getting weakened day by day
4. Fine cracks are visible at certain points
5. Plaster is coming out of wall at various points.
6. Architectural elements like chattries at corners are missing
7. This structure has to face severe threat from the smoke of vehicles moving around

8. This structure is also facing acute vibration as fast or heavy traffic move around it.
9. Original colour of structure is fading which is very clearly visible.
10. This is no more acting as entry to the garden complex.

(2) PROBLEMS REGARDING SUMMER PALACE

1. This is the only building which is maintained specially the interiors
2. But the exteriors of building are lying unattended
3. Building is again facing problem of missing elements, broken balconied windows, parapet, railing
4. Building is having problem of wood termite at many places and ground termite
5. In this building also the plaster is coming out of surface leaving thin fine cracks etc.
6. Water body in front and side is lying unattended
7. Railing around water body is missing, edges of water body are broken

Problems regarding three structures around Summer Palace

- ◆ These structures once used by Sardars of Maharaja Ranjeet Singh are now lying unmaintained and used for incompatible purposes. Building on western side is used by Panjab Homeguard office and so interior have been totally disturbed
- ◆ Building on northern side is used as club which is again a use not compatible to its original use
- ◆ Building on eastern side is under municipal corporation and they have opened a office and it destroys the character
- ◆ These buildings are in miserable condition
- ◆ There are lot of changes in their original fabric, original facade, architectural elements.

- ◆ At number of places elements are missing as railing, parapets, kiosks, chattries
- ◆ Walls have fine crack even some cracks are visible at corners

Problems regarding Kiosks/Burjis

- (a) There are four kiosks / burjis on four corners of garden, which are very interesting/historical remnants but presently are in poor state
- (b) Extreme dampness/cracks in the bottom
- (c) Canopy are all broken at many places
- (d) Many small elements like cornices are broken or missing
- (e) These burjis have not been given any importance and lying unattended
- (f) Plaster at various places are missing
- (g) Dampness in the base of wall is very common
- (h) These structures have trees very closely planted near them and the foliage touches the wall, where the moisture is absorbed by the wall and cause dampness to the structure

13.10.2 PROBLEM REGARDING NEW STRUCTURES AND MAINTENANCE

- (a) One new structure has been erected known as Amritsar club which is purely a modern building and break the harmony of entire garden
- (b) Maintenance of windows, doors do not harmonize with original style
- (c) At many places additions have altogether has broken the harmony

Problems of finance and management

There is a acute shortage of finance for conservation of these monuments. Only bodies related to finance are municipal corporation, archeological survey of India, which are already in severe crunch of finance. So a system in such a way has to be evolved so that this complex becomes self-sustaining and it can earn through tourist potential if it is properly maintained and can be made attraction to the visitors.

There is no body who can properly coordinate the finance, work, maintenance and use.

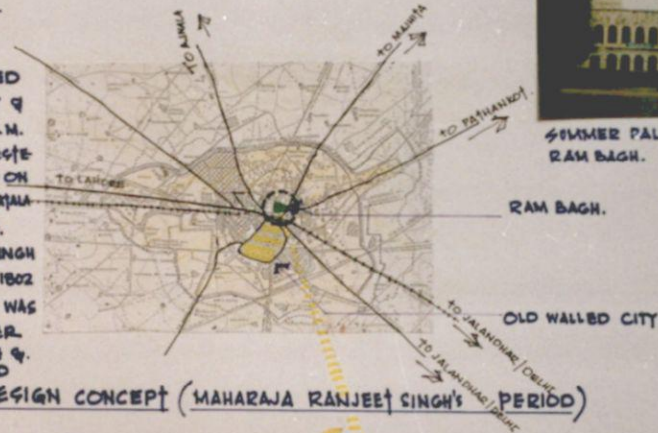
Problems regarding Adaptive Use

Out of five building and remaining burgis only one building is properly used i.e. the summer palace. Other buildings are used by different purposes like Homegaurd office club etc. which is absolutely wrong these uses should immediately be shifted because incompatible was make mass scale charges in interiors and thus the character. It at the same time it is necessary that all these structure should be frequently used and in a use which is finance generating and compatible

RAMBAGH

LOCATION

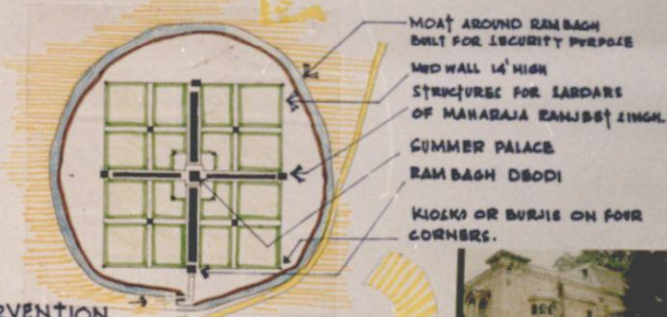
- RAMBAGH IS LOCATED NEAR OLD WALLED CITY & ENCLOSED BY MADAN M. MALVIYA ROAD ON WESTERN SIDE, MALL ROAD ON NORTHERN SIDE AND BATAA ROAD ON EASTERN SIDE.
- MAHARAJA RANJEET SINGH RULED THE CITY FROM 1802 TO 1839, AND RAMBAGH WAS CONSTRUCTED IN LATER PERIOD OF HIS REGIME & COMPLETED IN 1831 AD.



SUMMER PALACE OF RAM BAGH.

ORIGINAL DESIGN CONCEPT (MAHARAJA RANJEET SINGH'S PERIOD)

- RAMBAGH IS LAID IN TYPICAL FORMAL STYLE RESEMBLING MUGHAL GARDENS. THE BUILDINGS WERE LAID ON A CHAUPUR PATERN WITH SUMMER PALACE IN CENTRE AND FOUR BUILDINGS ON FOUR SIDES CONNECTED FOUR WATER BODIES HAVING SERIES OF FOUNTAINS



STRUCTURE IN RAMBAGH.

BRITISHERS INTERVENTION (AFTER 1849)

- FORMAL CHARACTER OF BAGH WAS CHANGED IN TO INFORMAL INTRODUCING CURVED PATHS AND IRREGULAR AND FLOWING GREENS
- MOAT WAS FILLED UP
- MUD WALL WAS DESTROYED
- WATER BODIES WERE FILLED UP
- MANY STRUCTURES, LANDSCAPE ELEMENTS DESTROYED.
- BUILDINGS WERE USED AS DISTRICT COURTS.
- RAMBAGH CONVERTED INTO COMPANY GARDEN WAS EXTENDED IN N.E. DIRECTION.



SOME STRUCTURES WERE RETAINED LIKE SUMMER PALACE, KIOSKS, RAMBAGH DEODI.
SOME WATER BODIES WERE RETAINED.



KIOSKS OR BURJIS RETAINED



SOME RETAINED LANDSCAPE STRUCTURES.
4 SEMI COVERED SITTING SPACES.

STRATEGY FOR ARCHITECTURAL CONSERVATION OF SIKH ARCHITECTURE: CASE STUDY AMRITSAR

Vijay Kumar
March, Thesis 2006

RAMBAGH



WATER BODY ON SIDE OF SUMMER PALACE
 • NO MAINTENANCE



• STRUCTURAL PROBLEMS ARE VERY FREQUENT
 • REPAIR WORKS SPOILS THE ARCHITECTURAL FABRIC



NEW CONSTRUCTED CLUB BUILDING BREAKING THE HARMONY.



GUEST HOUSES FOR SAROJARS OF MAHARAJA DALJEET SINGH NOW USED BY POLICE HOME GUARD MISUSE



BUILDINGS NEED URGENT RESTORATION & CONSOLIDATION.
 • PIGEONS ARE SERIOUS THREAT.
 • ACCUMULATION OF MOISTURE IS A SERIOUS PROBLEM FOR STRUCTURE.



RAMBAGH DEODI ALTHOUGH DECLARED A PROTECTED MONUMENT BUT STILL LACKS MAINTENANCE
 • IT FACES EXTREME VIBRATIONS, & SMOKE FROM TRAFFIC AROUND.



SUMMER PALACE USED AS MUSEUM.



FRONT SIDE OF RAMBAGH DEODI



NEW BUILDING CONSTRUCTED IN BAGH PREMISES SPOILS THE CHARACTER.



WOODEN STRUCTURES IN GARDEN NEED IMMEDIATE MEASURES FOR PRESERVATION.



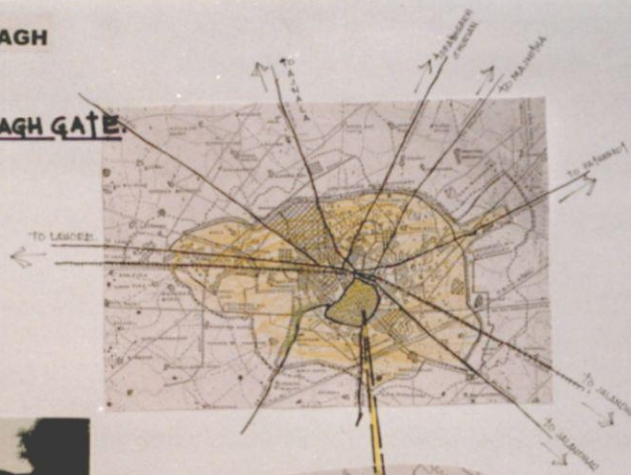
NEW ADDITIONS NOT GOING IN HARMONY WITH THE STYLE.



STRATEGY FOR ARCHITECTURAL CONSERVATION OF SIKH ARCHITECTURE: CASE STUDY AMRITSAR

RAMBAGH

RAMBAGH GATE



SOUTHERN SIDE OF RAMBAGH GATE.



SOUTHERN SIDE OF RAMBAGH GATE WITH WALL STRUCTURAL DETERIORATION.



NO ATTEMPT HAS BEEN MADE TO PRESERVE THE STR.



GOLDEN TEMPLE

INFORMAL FRUIT MARKET

SHOPS

SKETCH OF RAMBAGH GATE & WALL



WESTERN SIDE OF GATE. ARCHITECTURAL FABRIC TOTALLY DESTROYED.



INFORMAL FRUIT MARKET ON SIDE OF GATE.



FRONT SIDE OF GATE. (RAJPUTANA ARCH) WITH MASSIVE BUSTIONS



ARCHES IN INTERIOR



OPENING OF FENESTRATIONS ALL FEATURES IN MIERABLE CONDITION. NEED IMMEDIATE MEASURES.



- RAMBAGH GATE IS ONE OF THE TWELVE GATES CONSTRUCTED BY MAHARAJA RAMIT SINGH, WHICH JOINS RAMBAGH WITH GOLDEN TEMPLE. IT IS THE ONLY GATE WHICH IS RETAINED, ALL REST WERE DESTROYED BY BRITISHERS.
- ATTACHED TO THE GATE WAS DOUBLE WALL. THE INNER WALL, 29YARD WIDE AND 17YARD HIGH BUILT UP IN KACHHA BRICK. THIS WALL WAS SURROUNDED BY A MOAT AROUND WHICH ANOTHER WALL WAS BUILT
- MATERIAL USED IS NANAKSHAHI BRICK IN LIME & SORKHI
- PRESENTLY THE PRESENT GATE IS UNDER POLICE DEPTT AS CIA OFFICE.

STRATEGY FOR ARCHITECTURAL CONSERVATION OF SIKH ARCHITECTURE: CASE STUDY AMRITSAR

Vijay Kumar
M.Arch. Thesis 2000

KHALSA COLLEGE

14.1 AIM OF THE INSTITUTION

- ◆ It was felt that there is strong influence of Europeans style of living and thinking on Panjabi youth and so this college was instituted. At present college is providing education in field of agriculture, management, commerce, food technology, computer science.
- ◆ It was established to inculcate rich cultural heritage in our youth.

14.2 LOCATION

Khalsa College is located approximately 4 kms from Railway station on G.T. road leading to Atari border.

14.3 STAGES OF CONSTRUCTION

- ◆ The foundation stone of the campus was laid in 1904.
- ◆ In the first stage main college building, staff quarters, on the western side, Nabha hostel, Gurudwara, B.Ed. College and girls school were constructed. These buildings resemble each other in style.
- ◆ In between 1910 to 1947 in the second stage three hostels namely Faridkot Hostel, Jind Hostel and Hargobind Hostel, dispensary, Chemistry block and staff quarters on the eastern side were built so as to meet the requirement from time to time. These buildings also had the same style as the previous one.

14.4 DESIGN OF KHALSA COLLEGE CAMPUS

The very idea of planning was derived from Harvard University of U.S.A. The plan of main building and other building built in the first stage have strong influence of Mughal and Rajputana style of buildings.

14.5 THE MATERIAL

All the buildings were built with bricks using lime and surkhi as binding material. All buildings built in first stage had brick facade.

Architectural Features and structures

The building has Mughal styled arches, huge pillars, and its double height gives an impressive look.

The buildings which were built in the period from 1910 to 1947 were of original style, but the height of some buildings have been reduced, but the building built after 1947 had different kind of fabric, and new buildings have absolutely different look because their design had modern influence.

14.6 PROBLEMS RELATED TO MATERIAL , ARCHITECTURAL FEATURES, STRUCTURES AND MAINTENANCE

The problems related to campus

- ◆ The main problem in the campus is related to new coming up buildings within the campus.
- ◆ These buildings do not have harmony with existing style of Khalsa college in terms of :
 - material
 - Architectural design
 - Architectural façade elements

- Structural system
- Form

So, the rich architectural character of campus have been spoiled by the new coming up buildings

- ◆ Original style was found in the buildings constructed in between 1910 and 1947
- ◆ Building constructed after 1947 have all together different style (Physics department, library, college canteen)
- ◆ Buildings which are constructed now are totally different from original style and new coming up buildings detract from the original style and so from its traditional setting the balance of its composition and the relation with its surroundings
- ◆ A new block and building do not conform to the urban quality of this historic area
- ◆ College of Agriculture, residence coming up within the campus have modern style or no style and so give deserted look when seen with this marvelous piece of architecture

STRUCTURAL PROBLEMS

- ◆ At number of points many elements like parapets, railings, jallies, have been missing.
- ◆ At number of places doors and windows have been closed with bricks and they break the entire look.
- ◆ Growth of plants have been extremely dangerous specially which grow on the structure or near the structure.
- ◆ Pigeons have also been a serious threat to the structure.

Problem related to the Structure and Material

1. There is a serious threat to the structure at various points in the main building of campus
 - Cracks are developing in the walls, and specially at upper edges of arches. These cracks are of various types horizontal vertical and diagonal.
 - At number of specific points there is extreme dampness in the wall and moisture is rising upwards
 - Bricks have come out of the wall
 - In roof also there are cracks at number of points and are creating leaking problem which further deteriorated the structure

Problem related to the architectural elements

At many places architectural elements are missing like parapets, jallies shades etc. and frequently replaced by elements of different design which break the overall harmony and character

Problem Related to Maintenance

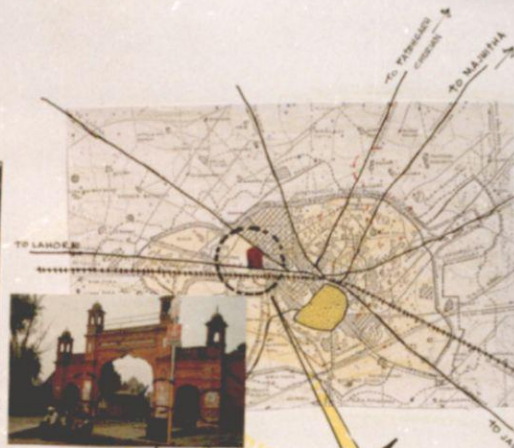
During the maintenance work of these elements

- no consideration have been given to the original design, material, colour and its texture
 - At number of places opening where these used to be jallies are now fitted by simple bricks
 - At number of places opening have been just closed by simple brick work which are creating distortion in overall façade character.
2. At number of places there is growth of plants in structure which are effecting the structure
 3. At many places posters have been pasted on old walls which further spoils original colour and look

At many points the base of building is eroding

- The outer as well as inner surface at many points have moulds, fungi, algae, lichens which eat into plaster and stone
- In some fenestration the doors and windows structures have been spoiled by termites and insects
- There is a problem of pigeons within the building which cause a serious maintenance problem, blocking rainwater disposal system and encouraging the breeding of beetles in their drains.
- At some places the signage boards also give a divorced look from the original style There is acute problem of termite specially ground and dry wood termite

KHALSA COLLEGE



• KHALSA COLLEGE WAS CONSTRUCTED WITH TYPICAL SIKH ARCHITECTURAL STYLE

• IT IS LOCATED ON G.T. ROAD 4KMS FROM RAILWAY STATION.

• IDEA BEHIND THE INSTITUTION WAS TO CONTROL EUROPEAN'S INFLUENCE ON PUNJABI YOUTH.

FOUNDATION LAID ON YEAR 1904, IN WHICH FIRST STAGE WAS CONSTRUCTED

SECOND STAGE WAS CONSTRUCTED IN BETWEEN 1910 TO 1947.

BUILDINGS OF FIRST STAGE.

MAIN COLLEGE BUILDING, STAFF QUARTERS, NABHA HOSTEL, GURDWARA, BEO COLLEGE

BUILDINGS OF SECOND STAGE FARIDKOT HOSTEL, JIND HOSTEL, HARDOBINDO HOSTEL, DISPENSARY, CHEMISTRY BLOCK, STAFF QTRS.



ENTRANCE FROM G.T. ROAD.



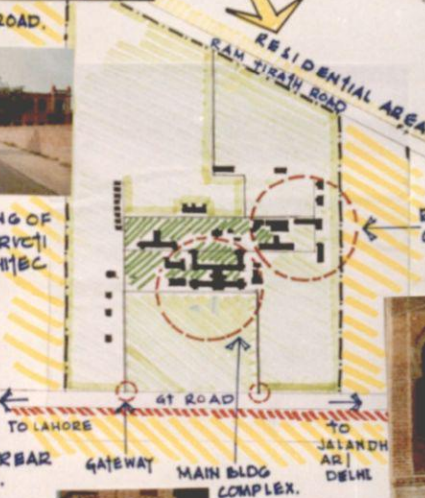
GATEWAY ON G.T. ROAD. NEEDS CARE.



BEO COLLEGE (BUILDING OF FIRST STAGE OF CONSTRUCTION) TYPICAL SIKH ARCHITECTURAL STYLE.



MAIN BUILDING FROM REAR SIDE.



RESIDENTIAL COMPLEX.



TYPICAL ARCHED WINDOW WITH 10 CUSPS



MONUMENTAL SCALE TYPICAL ARCHES, JHARKHAS.



TYPICAL MINARETS, KIOSKS, CULMINATING IN TO FOLIATED DOME ON TOP.

• JALLIES REPLACED BY WIRE MESH
• SEWER/RAIN WATER PIPES SPOILING THE FACADE.



LACK OF MAINTENANCE.



NEW STRUCTURES COMING IN CAMPUS ARE NOT IN HARMONY



BROKEN JALLIES NEGLECT HERITAGE.



ARCHITECTURAL MARVEL.



DEPARTMENT OF AGRICULTURE NEWLY CONSTRUCTED BLDG DIVORCED FROM ORIGINAL STYLE



MISSING/BROKEN CHAJJAS



NEW CONSTRUCTION SPOILING THE CHARACTER

STRATEGY FOR ARCHITECTURAL CONSERVATION OF SIKH ARCHITECTURE: CASE STUDY AMRITSAR

located in the centre of the walled city. One can go through hall gate, passing through the hall bazaar, crossing the town hall and then through the Ghantaghar (Clock tower) one reaches the main entrance of the Golden Temple complex. The living monument of spiritual and historical traditions of the Sikhs the harimandir popularly called the Golden Temple has been a source of inspiration for Sikh community ever since it was founded.

The origin of the place where Sri Harimandir Sahib stands is shrouded in mystery. Some traditions trace its origin back to prehistoric times and declare it to be a place of religious importance having in its womb an amrit kund (Reservoir of Nectar). However, it does not need much ingenuity to show this site before its association with Sikh gurus. ^{It} was a low lying area with a small pond at a place where Dukh Bhanjani Beri (The tree which is healer of pain) stands at present. The pertinent local traditions highlight the magical powers of the water of the pond, however there is a story of Rajni, the daughter of Rai Duni Chand, a revenue collector of Patti. It is narrated that her leprous husband got cured of his disease after having taken a dip into the pond. By hearing this episode the fourth Sikh guru Ram Das later on moved to this place and decided to turn it into a place of pilgrimage. He decided to dig a tank at the place and named the settlement as chak guru. Later on, it began to be called as 'gur ka chak', chake Guru Ram Das or Ram Das Pura. Opinions regarding the founding of the settlement vary from 1664 to 1572. Guru Arjan Dev, the fifth Guru made the tank pucca with stairs on all the four sides.

While the tank was under construction Guru Arjan Dev conceived the idea of building a tank in the midst of the Holy tank. The execution of the plan started in 1588. Adi Granth as installed there in 1604. After the death of Guru Arjan Dev the 6th guru, Shri Har^obind took charge of the guruship, he introduced natural traits in his doings and make up. He erected a meeting-place for the Sikhs across the

RELIGIOUS CORE OF AMRITSAR

15.1 INTRODUCTION

The religious core of Amritsar is basically the Golden Temple Complex and area around Golden temple complex which once had number of traditional markets, old houses, traditional activities, beside the golden temple complex there are two more shrines Gurdwara Viveksar and Gurudwara Ramsar.

15.2 LOCATION

The religious core is located in the centre of walled city of Amritsar and is approached by different streets which originate from twelve different gates located around the walled city. This core is surrounded by dense packing of built mass and the development is around 300 years old. .

15.3 THE GOLDEN TEMPLE

15.3.1 DETAILS OF COMPLEX

The Harimandir (Abode of God), popularly known as the Golden Temple, is a living symbol of spiritual and historical traditions of the Sikhs. The temple has been a source of inspiration to the community ever since its establishment and soon after its foundation the temple became an unparalleled establishment as a place of pilgrimage.

The highest seat of Sikh religion, the holy Golden Temple is the nucleus of the Amritsar city around which city has developed through centuries. It was the first ever place in the history of Amritsar where from the settlement originated. It is

Harimandir on a platform much higher than the temple. He named it as Akal Takhat. This place soon came to be recognised as the highest seat of spiritual and temporal authority amongst the sikhs.

It developed so under Sikh gurus and Jathedars like Bhai Mani Singh. It became a worship place as well as Sikh headquarters soon. This thing lead the demolition of the temple and filling of tank three times by the Afghan invaders. Each time sikh warriors made their all efforts to save the place and also built it. Two festivals Diwali and Baisakhi became the regular annual features of Sikh panth.

After the emergence of Ranjit Singh as a sovereign ruler of the Punjab, Golden Temple was beautified with its walls inlaid with gold and marble . A very beautiful naqqushi work has been done by the skilled artists.

In 1925 the management of Golden Temple came into the hands of Shiromani Gurdwara Parbandak committee, it constructed Parkarma and other buildings like, langer hall, guru Ram das Sarai, Guru Nanak Niwas.

A building called Baba Atal, 150 feet high was built by Sikh sardars in 1770 in the memory of baba Atal Rai son of Guru Hargobind.

At present there are following building and artifacts in the complex and their location

1. Main entrance and clock tower
2. Central Sikh museum
3. Sarowar (Pool)
4. Dukh Bhanjani Beri
5. Sath Tirath
6. Watch towers(Bungas)
7. Langar
8. Guru Ram Das Sarai

9. Teja Singh Samundari Hall
10. Guru Nanak Sarai
11. Baba Atal Tower
12. Manji Sahib Diwan (Assembly Hall)
13. Baba Deep Singh Shrine
14. Lachi ber (Gur Arjan Dev's Tree)
15. Akal Takht
16. Flag staffs
17. Thara Sabih (Shrine of Teg bahadur)
18. Darshani Deori
19. Cause way
20. Harimandir
21. Ber Baba Buddha
22. Parkarma

What strikes a visitor is the serenity and beauty of the temple in the midst of the city, and one is overwhelmed by the feeling that one is treading on holy ground which has been a source of inspiration to many. To leave behind the noise and bustle of the city streets and sit for a while in the solitude and quietness of the temple is to find that place highly stress relieving.

By the time of the fourth Guru, Guru Ram Das, in the later part of the 16th century, followers of Sikhism had grown, and with it arose the need for a tangible centre for the faith which would consolidate its identity and where the followers could gather and spread the message of the Gurus. Land amidst the villages of Sultanwind, Tung. Gumtala and Gilwali has attracted the attention of Gurus. All the literature associated with the Golden Temple shows that the site was chosen because of its religious antiquity. But before its association with the Sikh Gurus, the

site of the Harimandir was a low lying area with a small pond (at the present site of Dukh Bhanjani Beri) surrounded by a large number of shady trees in a jungle.

There are differing versions of who acquired the land and how. One story goes that Emperor Akbar had offered the land to Guru Amar Das but the Guru had politely refused saying that it must be paid for by the Sikhs themselves. Another version goes that it was Guru Ram Das who bought the land from the zamindars of Tung, yet another, that the people of Sultanwind presented it to the Guru.

There are no documentary evidence to support or contradict these views. But the version regarding the purchase of the land by Guru Ram Das is in keeping with the tradition of the Sikh Gurus who never took any land grants from the rulers.

Legends and miracles are connected with the origin of the Amrit Sarowar (Tank of nectar). It is said that Guru Amar Das found at the edge of the pool the desired herb to cure the skin ailment of Guru Angad Dev. However, the persistent local tradition best highlighting the medicinal properties of the water of the pond is the story of Rajni, the daughter of Rai Duni Chand, a revenue collector of village Patti. Duni Chand was a very arrogant man and he was antagonised by her daughter, Rajni for her complete faith in God and not in him. To teach her a lesson, she was married to a leper but when one day Rajni and her husband visited the site, her husband got cured by taking bath in it on a lower level than its surrounding ground so that the visitors would have to go down the steps in order to pay homage to the shrine. This the Guru felt would teach the Sikhs to be full of humanity at all times. The other distinguishing feature of the structure of the Harimandir was that it was made open on all the four sides symbolizing that it was open for one and all.

The construction of the temple witnessed unique volunteer services offered by the Sikhs. The selfless, honest and hard services of the disciples were duly acknowledged by the Guru.

The next remarkable development of the Harimandir was the completion of the scripture of the Sikhs. The holy book was compiled under the title of Pothis Sahib. The holy volume was completed in July 1604 and it was formally installed in the Harimandir in August 1604. Baba Budha was appointed the first head priest of the temple. From that very day started the regular worship, kirtan and other services at the shrine.

The Harimandir was destroyed by the Afghan invaders thrice in 1757, 1762 and 1764. It was finally built in its present structure during the period of Sikh confederacies in 1765.

After the conquest of Sirhind on Jan. 14, 1764, the Sikhs Commonwealth collected offerings for the reconstruction of the temple, and work began in full swing. But the work could not be completed as per schedule on account of the Afghan invasion in Dec. 1764. After the departure of Ahmad Shah Durani, Sikhs collected at Amritsar and undertook the reconstruction of the Harimandir. With the joint efforts of the Khalsa, the construction of the Amrit Sarowar, the Harimandir, the bridge and the Darshani Deori was completed by 1776. The parikarma (Circumambulatory Pathway) and the religious places around the tank were completed by 1784.

The Harimandir got the name of Swaran Mandir (Golden Temple) when its upper part sheathed in richly embossed and highly gilded sheets and was covered with gold all around. It was during the period of Maharaja Ranjit Singh in the 19th century. The Maharaja granted Rs. 5 lakhs in 1803 for placing Golden plates on the Harimandir. It is evident from the inscription on the gold plate engraved over the entrance gate on the north-eastern side of the shrine that the gold service of the temple was got done by Maharaja Ranjit Singh through the supervision of Bhai Sant Singh Giani in 1830. The temple was managed in his days by a council of Sikhs of

which the Maharaja was the head. The council functioned till the end of the Punjab as a sovereign state.

The golden Temple passed under the control of one man, the 'Sarbrah' (Manager), during the British period. The manager, a nominee of the Deputy Commissioner of Amritsar mismanaged the affairs of the temple. Practices, repugnant to the rules of Sikhism were openly indulged in the temple and the objectionable practices started

Resentment grew till it took shape in the Sikh Gurdwara Reform movement of the early twenties of the present century. The struggle was directed against the control of Sikh shrines by Mahants and against foreign imperialism. Akali Dal became the spearhead of the struggle for the reform of the places of worship. The curtain was finally rung down when Sikh Gurdwaras Act. 1925, vested the control and management of Golden Temple in the SGPC.

Since then SGPC manages all the important Gurdwaras in Punjab, Haryana, and Chandigarh.

Architecture of Golden Temple

The temple assumed its present appearance during the reign of the Sikh sovereign Ranjit Singh. While its basic design barring minor alterations and architectural embellishments remained the same as before, decorative art work on the walls and ceiling was carried out during this period. The source of its architecture cannot be related to any particular prototype, its elements lying in different contemporary or preceding architectural practices prevalent in the country. Broadly speaking, it may be called a mixture of the Mughal and Rajput models. What is most striking to the eye of a casual visitor as well as that of a connoisseur is the beauty of the Harimandir's superb setting and the richness of detail.

The Temple is 40-1/2 feet square, and rests upon a platform, 67 feet square. It is a two storied marble structure, which island-like rises from the centre of the tank. 510 feet square, the only approach being by a causeway over 200 feet long. From within six feet of their base, the walls outside are covered with gold plated copper which cover the domes and minars.

The lower half is decorated with white marble inlaid with precious and semi-precious stones cornelian, serpentine and lapis lazuli. The central structure is adorned with structural embellishments like the balconied windows throws out on carved brackets, low-falinted domes and ogee arches and elliptical caves.

Over the main building rises a low flinted, splendid dome in gold metal reflecting the rays of the sun, while kiosks with flinted metal-cupolas are attached at each corner. One large hall of marble forms the interior which is richly inlaid with floral designs either 'painted in tempera or embossed in metal'. Fresco-painting known as mohra qashi also forms part of the decoration, of the decoration of the interior of the temple and there are about three hundred different patterns on the walls. Guru Granth Sahib strewn with flowers and watched over by attendant priests, lies under a gorgeous canopy studded with jewels. The four door-openings at the ground floor have multifoil arches, their shutters covered with gold-leaf copper sheets bearing beautiful embossed designs of flowers, birds and scenic motifs.

On the upper floor there is a small hall of mirrors known as Shish Mahal, originally a pavilion, where the Guru's sat, is contemplation, which is decorated with fine filigree and enamel work set in mirrors and stones. The beauty of the interior is bewitching. Its richly ornamented floral designs, either painted in tempera, embossed in metal or inset in marble are a warm expression of the intense religious emotion of the Sikh faith captured in visual designs. Arabesques with floral designs in fine filigree and enamel work decorate the walls and the ceiling of the Central hall.

Its arches are ornamented with verses from the Granth Sahib reproduced in letters of gold. There are also decorative inlaid figures and floral designs studded at places with semi-precious stones and pieces of reflecting glass in stucco. Hundreds of frescoes depicting floral patterns with animal motifs also decorate the walls along the stairs abound in some rare murals.

A 13 feet wide Pradakshina (Procession path) encircles the temple and steps on the east lead to the waters of the sacred tank known as Har-Ki-Pauri (steps of God). The marble causeway 240ft. x 21ft. which leads to the sanctum .Sanctorum is entered through an archway, called Darshani Darwaza or Gate of Prayer. It is bordered by perforated marble, balustrades and standard lamps with elegant filet lanterns at close intervals. The door frame of the arch is about 10 feet in height and 8 feet 6 inches in breadth.

A 38 feet wide promenade called the parikarama (path of circumambulation) runs round the tank. The walls of the ground floor of the Golden Temple are faced with marble slabs inlaid with arabesques of conventional flower sprays, in semi precious stones of various colours. The walls of the upper story, the cornices, the roof columns, cupolas, in a word, almost every inch available space with the exception of the floor, are a glittering mass of gilded copper. The eastern loggia of the temple is covered with copper plates gilded by Rani Sada Kaur, mother-in-law of Maharaja Ranjit Singh. The remaining three sides were similarly beautified by the Maharaja himself. The decoration work in gold goes to the credit of the Maharaja, his son Kharak Singh and Grandson Nau-Nihal Singh.

15.3.2 PROBLEMS OF CONSERVATION OF THE GOLDEN TEMPLE COMPLEX

The main problem in the golden temple complex is lack of awareness among the trust members, committee regarding conservation

15.4.4 STATUS OF CORE BEFORE AND AFTER 1989 DEMOLITION

As discussed earlier there was a thick built masses adjacent to the complex with varied land uses and of different conditions, but in demolition 30 m of area was acquired around golden temple and demolished ruthlessly in which large number of old bazars and residential areas were taken away. Now the remnants of demolished buildings are giving very deserted look.

15.4.5 THE GALIARA SCHEME AND ITS AFTER EFFECTS

Under galiara scheme Govt. acquired 30 m of area around the complex and approximately 2/3rd of the acquired width was beautifully landscaped just around complex and after this landscaped court a road was constructed all around. On other side of road there are number of old monuments, activities, traditional facades which are visible but some buildings, of which some part was demolished give very ugly look towards golden temple complex, which required to be redesigned and preservation of old monuments would be an appropriate approach.

15.5 PROBLEMS RELATED TO CONSERVATION OF RELIGIOUS CORE

1. The area around golden temple complex was of mixed land use, there existed large number of old markets, old residential areas, old commercial areas, bazars
2. In 1989 after blue star operation 30 meters of area around golden temple complex was demolished. This was done just for the sake of security from extremists
3. This demolition took away lots of traditional markets, bazars, havelies, houses, old architectural fabric, activities
4. There were lots of traditional activities and bazars, like bazars chunniya, paper waria bazar, guru bazar, etc. where traditional activities were performed

5. This demolition took away most of these activities and were destroyed and removed
6. Buildings were demolished ruthlessly and the remains of buildings give very ugly look
7. Out of 30 m of strip, which was demolished approximately 20 m was landscaped with the design of one of the eminent landscape architect Ravinder Bhan.
8. The building heights around the space vary from G to G+3 largely the surrounding buildings are G+1 and G+2 storey high. Some additions in height are going on in some of the structures
9. The present landuse plan indicate that there is no change in the land use pattern of the area after demolition. The institution and S.G.P.C. property on S.W. side was demolished so now N-NW side of the area has commercial and mixed land use whereas SW-S side is residential predominantly
10. On north and northwest side there is mixed land use (commercial at ground floor and residential at upper floors).

They were basically very old bazars like Bazar Mai Sewam, Bazar Kathian, Bazar Tharnasahib, Bazar Maniarian Bazar Katra Dal Sign, Bazar Kaulsar

Out of these bazar thara sahib, bazar maniarian, kaulsar were totally demolished whereas some part of bazar Mai sewan, edge of Bazar kathan, katra dal singh still exists and now these edges directly face the open space in front. On the S.W. side, was predominantly S.G.P.C. property and one institution and south side was residential

There is a strong integration of institution with the city fabric

11. The built mass that was demolished in 1989 shows how temple and city structures were well integrated with each other

It also shows the dense packing of the built mass with narrow streets around the golden temple. The grain become little sparse on south-west side where S.G.P.C. properties and other institution were there. The demolition destroyed overall character of the area.

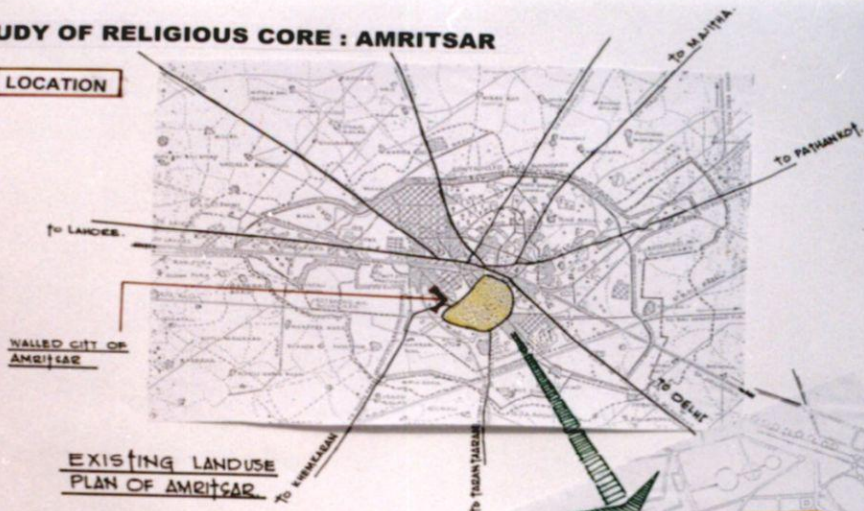
Street Pattern

The roads leading from gates to the golden temple are primary streets. The secondary streets are those which connect the open space and having mixed land use i.e. commercial at ground floor. others are tertiary streets with predominantly residential land use. The old street pattern was also destroyed by demolition.

12. Earlier there were strong connection between golden temple structure, gurudwara Ramsar, Viveksar, Shahidan, pilgrim used to first visit golden temple complex than go to all the three other structures and come back to golden temple via same path
13. But now this link is weakened pilgrims generally avoid going other important shrines and just complete their visit by going to golden temple only.

STUDY OF RELIGIOUS CORE : AMRITSAR

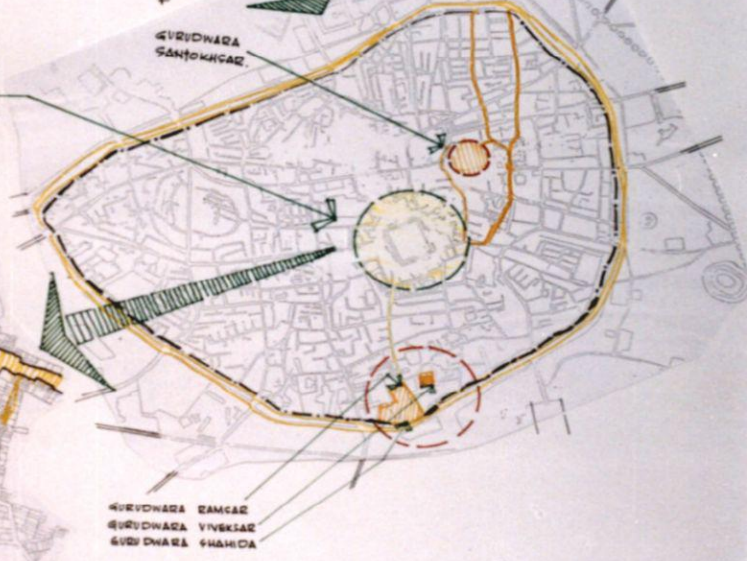
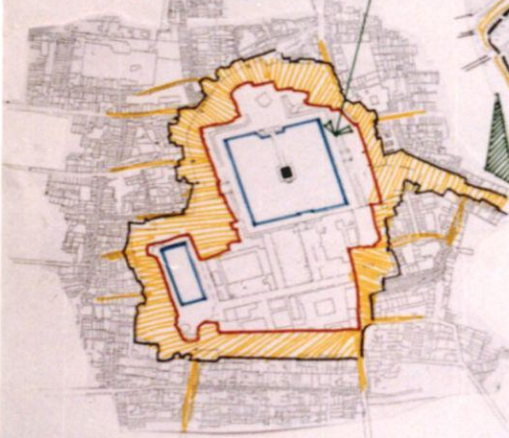
LOCATION



EXISTING LANDUSE PLAN OF AMRITSAR



RELIGIOUS CORE OF AMRITSAR : THE GOLDEN TEMPLE COMPLEX



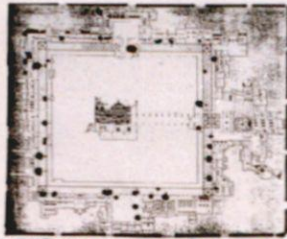
INTRODUCTION

RELIGIOUS CORE OF AMRITSAR IS CENTERED ON GOLDENTEMPLE COMPLEX. THIS COMPLEX IS WELL INTERLINKED WITH SOME IMPORTANT SIKH SHRINES. GURUDWARA RAMGAR, GURUDWARA VIVEKSAR & GURUDWARA SHAHEED BABA DEEP SINGHJI ON SOUTH WESTERN SIDE. ON NORTH SIDE THIS CORE IS CONNECTED TO GURUDWARA SANTOKHSAR WHERE AS THE PIET HUTMENT OR GURUDWARA GURU KE MAH AL IS ON EASTERN SIDE OF CORE.

STRATEGY FOR ARCHITECTURAL CONSERVATION OF SIKH ARCHITECTURE: CASE STUDY AMRITSAR

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THE GOLDEN TEMPLE



DRAWING OF MIAN MIR TOMB, LAHORE, INSPIRATION FOR PRESENT GOLDEN TEMPLE.



GOLDEN TEMPLE BY EUROPEAN ARTIST

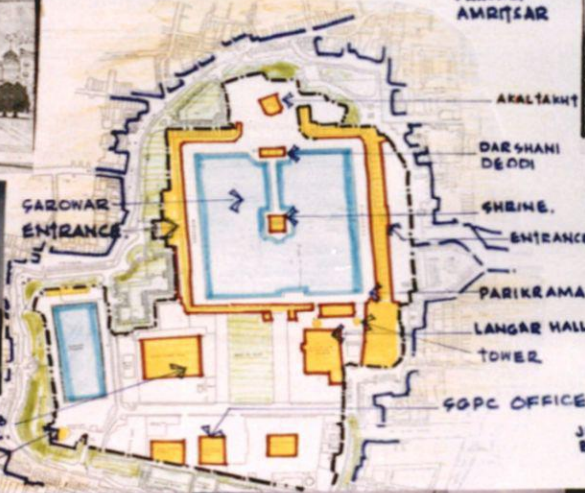


GOLDEN TEMPLE IN EARLY 20th CENTURY

OLD DRAWINGS & PAINTING OF COMPLEX FROM RAMTOLA'S BOOK GULGASTHAH PANJAB, AMRITSAR



AKAL TAKHT



ENTRANCE GATE.



THE COMPLEX AT A GLANCE



NEW REPLACEMENT OF MATA KALAUN GURUDWARA



SOME REMAINS OF PAST NEEDS TO BE PRESERVED BUT PROPOSED TO BE DEMOLISHED.

WORKS ON MARBLE & GOLD PLATES NEED TO BE PRESERVED

- THE GOLDEN TEMPLE, KNOWN AS DARBAR SAHIB IS THE MOST CELEBRATED SIKH SHRINES SITUATED IN AMRITSAR.
- CONSTRUCTION WAS DONE IN BETWEEN 1588 & 1604AD
- COMPLEX AND ITS PARTS WERE DESTROYED & REBUILT SEVERAL TIMES
- COMPLEX WAS REBUILT IN 1801-1839 BY MAHARAJA RAJESHWAR SINGH.
- ENTIRE CAMPUS IS DOMINATED BY WATER TANK 610'x490', 17' DEPTH
- BUILDINGS ARE PLACED ON AXIS, AND ON JUNCTION OF TWO AXIS NS & EW MAIN SHRINE HAVE BEEN PLACED.



FABRIC ELEMENTS NEED PRESERVATION

STRATEGY FOR ARCHITECTURAL CONSERVATION OF SIKH ARCHITECTURE: CASE STUDY AMRITSAR

STUDY OF RELIGIOUS CORE : AMRITSAR

1. IN 1989, FOR THE CAUSE OF SECURITY AND SAFETY OF THE GOLDEN TEMPLE COMPLEX, STRIP OF BOM WAS ACQUIRED BY THE GOVT. AROUND THE COMPLEX.



2. ALL STRUCTURES INCLUDING OLD MONUMENTS, TRADITIONAL BAZAARS WERE DEMOLISHED IN BOM STRIP.



LANDSCAPE AND ACTIVITIES AROUND SHRINE NEED ATTENTION & CONTROL.



FACADES WERE TOTALLY DESTROYED AFTER THE DEMOLITION.

THICKLY POPULATED & DENSE BUILT MASS AROUND THE SHRINE COMPLEX.

GREEN BELT (LANDSCAPE) DEVELOPED AROUND COMPLEX.



FACADES LEFT DECEITED AFTER DEMOLITION. DESIGN OF UTILITIES, STRUCTURE CONVEYED UNDER GALLARY ROOFING. DO NOT GO IN HARMONY WITH THE BUILT FORM PATTERN.

NOW THE LEFT OVER PORTIONS OF BUILDINGS WHICH WERE DEMOLISHED ARE :

- GIVING DECEITED LOOK.
- TRADITIONAL FABRIC IS DESTROYED.
- OVER ALL CHARACTER HAS BEEN DEGRADED.

SO NEEDS IMMEDIATE ATTENTION TO

- REPRODUCE THE TRADITIONAL FACADES LEFT.
- CONSERVE THE TRADITIONAL FACADES LEFT.
- OVER ALL IMPROVEMENT OF CORRIDOR.

TRAFFIC PROBLEM IN CORRIDOR.

3. OUT OF BOM STRIP, APPROXIMATELY 2/3 PORTION WAS DEV AS LANDSCAPED GREEN BELT & 1/3 PORTION WAS CONVERTED INTO METALLED ROAD.

NEW CONSTRUCTION NOT IN HARMONY WITH TRADITIONAL FABRIC MONUMENTS OF SHRINE COMPLEX.



LANDSCAPED GREEN BELT

FACADES AROUND CORRIDOR NEEDS IMPROVEMENT.



BOARDING, BANNERS, DISPLAY BOARDS IN FRONT OF SHRINE NEEDS CONTROL.

THE GOLDEN TEMPLE COMPLEX



ENTRY ROAD TO THE SHRINE NEEDS IMPROVEMENT.



TRADITIONAL FABRIC OF FACADES NEEDS IMMEDIATE CARE.

OLD TRADITIONAL ACTIVITIES NEED TO BE VITALISED.



BAZAAR CHUNNIA



REMAINS OF DEMOLITION NEEDS PRESERVATION.

PAPAD WARIAN BAZAAR

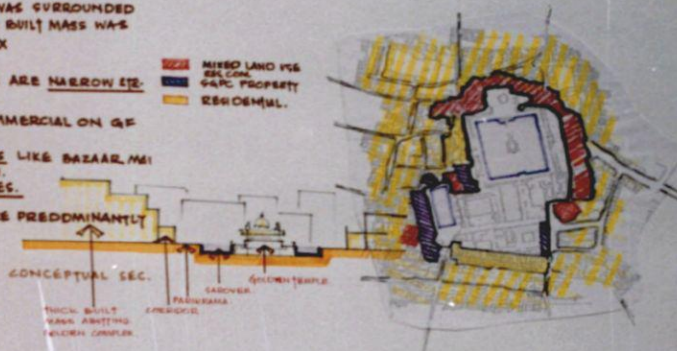
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STUDY OF RELIGIOUS CORE : AMRITSAR

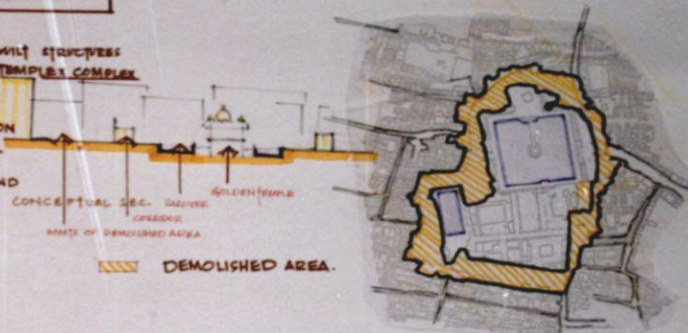
STATUS OF RELIGIOUS CORE AMRITSAR BEFORE 1989

- BEFORE 1989 GOLDEN TEMPLE COMPLEX WAS SURROUNDED BY THICK PACKING OF BUILT MASS AND THIS BUILT MASS WAS PROPERLY INTEGRATED WITH THE COMPLEX
- WITH IN THIS THICKLY BUILT MASS THERE ARE NARROW STREETS
- ON NORTHERN SIDE BUILT MASS HAD COMMERCIAL ON GF AND RESIDENTIAL ON UPPER FLOOR
- BEFORE 1989 THERE WERE OLD BAZAARS LIKE BAZAAR, MAI SEWAN, KATHIAN, KAVIGAR, KATRA DAL SINGH.
- THERE WERE LOTS OF GSPC PROPERTIES.
- MOSTLY AREAS ON SOUTHERN SIDE WERE PREDOMINANTLY RESIDENTIAL.



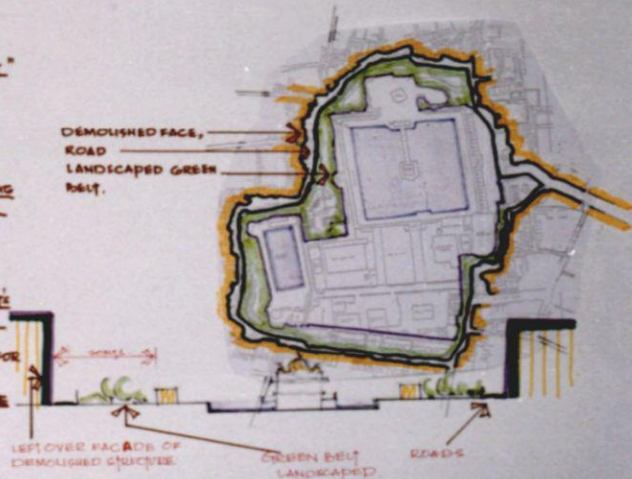
STATUS OF RELIGIOUS CORE AMRITSAR AFTER 1989

- IN 1989 GOVERNMENT DEMOLISHED ALL BUILT STRUCTURES WITH IN A RANGE OF 30MTS FROM GOLDEN TEMPLE COMPLEX BOUNDARY FOR THE SAKE OF MAINTAINING LAW AND ORDER.
- NOW IN THE SYSTEM AND WAY OF DEMOLITION LOTS OF OLD BAZAARS, MONUMENTS, ACTIVITIES WERE CRUELLY DESTROYED OR ABOLISHED FACADES LEFT WERE VISUALLY TERRIFYING AND UGLY
- DEMOLITION ACTIVITY TOOK PLACE IN 1989.



STATUS OF RELIGIOUS CORE AMRITSAR IN 2000

- AFTER DEMOLITION OF 1989 IN PROJECT CALLED 'GALAXY' SCHEME OUT OF 30MTS EXCEPT 5MTS WHICH WAS KEPT FOR PERIPHERAL ROAD REST WAS LANDSCAPED JUST ABUTTING COMPLEX BOUNDARY. SO NOW GOLDEN TEMPLE COMPLEX IS SURROUNDED BY GREEN BELT.
- BUT OTHER FACE OF 30MTS DEMOLISHED AREA THAT IS THE DEMOLISHED STRUCTURES AND FACADES, PART OF BUILDING LEFT WERE CREATING A UGLY FACE. EVEN NOW AFTER 11 YEARS OF DEMOLITION ONE CAN FEEL THE BURNS.
- NOW THERE IS A STRONG REQUIREMENT OF GOV'T. AUTHORITIES IMPLEMENTATION IN IMPROVING THIS LEFT OVER FACADES OF DEMOLISHED BUILDINGS TO
- RESPECT THE SHRINE OF HIGHEST WORSHIP PLACE FOR SIKHS.
- IMPROVE THE OVER ALL ENVIRONMENT OF THE CORE



STRATEGY FOR ARCHITECTURAL CONSERVATION OF SIKH ARCHITECTURE: CASE STUDY AMRITSAR

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STUDY OF RELIGIOUS CORE : AMRITSAR

HEIGHT OF VARIOUS STRUCTURES IN RELIGIOUS CORE AMRITSAR

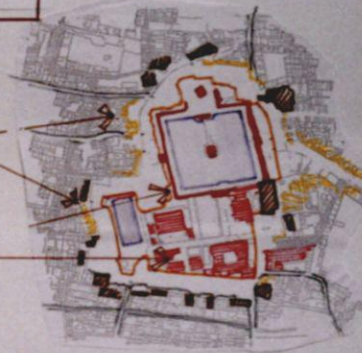
- THE BUILDINGS OF GOLDEN TEMPLE COMPLEX AND BLDGS AROUND COMPLEX ARE OF DIFFERENT HEIGHTS. THE DOMINANTLY BUILDINGS ARE 2H & 3H STORIES IN COMPLEX.
- BUILDINGS ADJUTTING THE PERIPHERAL ROAD ARE PREDOMINANTLY 2H, 3H.
- Few religious buildings are single storied but of double height.



- 2+2
- 2+1
- 2
- 3+3
- PERIPH. 2H, 3H

CONDITIONS OF VARIOUS STRUCTURES IN RELIGIOUS CORE AMRITSAR

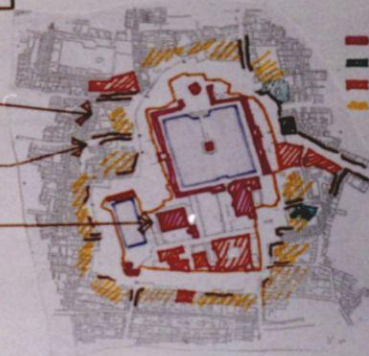
- BUILDINGS AROUND PERIPHERAL CORRIDOR ARE OF MIXED NATURE, SOME BUILDINGS ARE QUITE OLD AND ARE REQUIRED TO BE CONSERVED.
- MOSTLY BUILDINGS BECAUSE OF DEMOLITION ARE PRESENTING BAD PICTURE.
- COMPLEX PRESENTS A MIX OF OLD & NEW BUILDINGS, BUT ARE WELL MAINTAINED.



- GOOD
- NEW & GOOD
- OLD
- MIXED

EXISTING USE OF VARIOUS STRUCTURES IN RELIGIOUS CORE AMRITSAR

- BUILDINGS AROUND PERIPHERAL CORRIDOR ARE PREDOMINANTLY RESIDENTIAL.
- COMMERCIAL AREAS ARE IN STRIP FORM ALONG MAIN SPINES AND ROAD GOING IN TO THE OTHER AREAS.
- BEHIND RESIDENTIAL & COMMERCIAL AREAS CORE HAS RELIGIOUS BLDGS & FACILITIES FOR RELIGIOUS BLDGS, ACTIVITIES.



- RELIGIOUS
- COMMERCIAL
- FAC. FOR RELIG.
- RESIDENTIAL

STRATEGY FOR ARCHITECTURAL CONSERVATION OF SIKH ARCHITECTURE: CASE STUDY AMRITSAR

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RECOMMENDATIONS AND PROPOSALS

16.1 RECOMMENDATION AND BROAD POLICIES OF CONSERVATION STRATEGIES FOR SIKH MONUMENTS IN AMRITSAR

Establishment of Amritsar Urban Conservation Board

1. An Amritsar urban conservation board (of which heritage cell, and pilgrimage cell may be a part) should be set up and this body should formulate draft rules for:
 - (a) Listing of monuments of historical, architectural and social importance which need protection based on specific criteria for selection of various buildings including Sikh Monuments after proper survey by an expert committee.
 - (b) Notification of historical monuments and areas, in local newspapers for inviting objections, suggestions and examination of suggestions and objections
 - (c) Owners of listed buildings / areas shall not be permitted at all to make any modification, alteration without the consent of board and if owner does not seek permission shall have to face punishment under law.
 - (d) If the listed building is not maintained properly, notice would be issued to repair it and if it is not complied by, owner may be punished.
 - (e) Building if becomes necessary can be acquired by Govt. in order to maintain it and compensation shall be paid to owner.
 - (f) Exemptions in land use, floor area ratio and other regulations, would be permitted to listed buildings in order to facilitate their conservation and suitable reuse.

- (g) Urban conservation board would be able to receive grants, contributions, and loans for conservation work from local government, state government and central government..

2. Compulsory acquisition

Govt. should be empowered for compulsory acquisition for all these buildings of which repair/restoration is not done by the owner but this should be minimum.

3. Maintenance by public participation and private owners

In order to maintain any historical monument financial help should be raised by public participation and the private owner having ownership of historical buildings should be financially helped via loans and grants.

4. Government Intervention

- (a) Help from Govt. agencies in setting up urban conservation board may be as a part of municipal corporation or Punjab urban development authority
- (b) The owner of the listed property would definitely not be allowed to demolish it for building a new one
- (c) Rent control act should be modified for the listed buildings.

5. Establishment of old material store

A store should be maintained by Govt. which should have old materials, bricks, lime, old wood works etc. and these materials can be sold to the concerned organization/owner of enlisted building in case of repairs, addition/alteration is required.

6. Enlisting Technical Workers

A list of local craftsman, masons, carpenter, painter should be made which can help in maintaining and doing works in old buildings.

7. Exemption of Taxes for listed monuments

All historical listed buildings should be exempted from taxes, property tax, service charges.

8. Grant of loan from Central and State Govt.

Central/State Govt. should provide loans to protected and listed structures.

9. Preparation of detail conservation projects

Detail conservation projects should be made with detail of estimates for sanctioning of loans etc.

10. Planning of conservation work

Conservation work should be evolved at three levels

(a) Masterplan level

In order to declare heritage zones, protected areas, areas of historical and cultural significance in its land use plan. Special emphasis has to be made in order to locate industrial use/road network as traffic vibration and smoke effect the building.

(b) Zonal development plan

To actually identify monuments and its surroundings and control the development of that particular area by making detail guidelines

(c) Detail building / complex plans

Conservation plans for protected monuments and their surroundings.

11. Increasing Public Awareness

- education regarding conservation in schools
- imparting training to local masons, carpenters, craftsman regarding usage of old techniques/materials

- Increasing public awareness in newspaper articles, video films, documentaries, slide shows, T.V. Radio, advertising panels.
- floating demonstration projects by government can be of immense help in order to increase public awareness.
- Floating exhibitions, experimental projects
- Conducting seminars, workshops, training programmes for architects, engineers etc.

12. Establishment of local building preservation trust

Concept of local building preservation trusts which can purchase the enlisted buildings and can maintain it and use it with conservation concept.

13. A strong and clear cut act should be made in order to authorise govt.to:

- (a) Declare the areas comprising of, or adjacent to the sites of such monuments as controlled areas.
- (b) Restrict enjoyment of property rights in protected and controlled areas.
- (c) Protect places of worship from misuse and from pollution.
- (d) Identify and list buildings of special architectural and historical interest.
- (e) List and declare buildings of historic and architectural importance as ancient monuments.
- (f) Levy fine or charge penalties on those who destroy, injure or deface a protected monument.
- (g) Acquire rights in protected monuments for entry, maintenance and assume their guardianship.
- (h) Enter into agreement with owners of monuments with a view to protect it.
- (i) Grant loans and subsidies for the protection of listed monuments.
- (j) Maintain the buildings for the protection of listed monuments.

STRATEGY FOR CONSERVATION OF HISTORICAL SIKH MONUMENTS OF AMRITSAR

THE STRATEGY

- (1) ESTABLISHMENT OF AMRITSAR URBAN CONSERVATION BOARD
THIS BOARD SHALL HAVE HERITAGE CELL, PILGRIMAGE CELL AND IT SHALL FORMULATE DRAFT RULES FOR HISTORICAL, ARCHITECTURAL, SOCIALLY IMPORTANT MONUMENTS (FOR CONSERVATION)
- (2) IT SHALL LIST THE MONUMENTS, NOTIFY HISTORICAL MONUMENT WITH SPECIAL REFERENCE TO SIKH ARCHITECTURE
- (3) INCREASING AWARENESS REGARDING SIKH ARCHITECTURE AMONG PEOPLE, MEMBERS OF SGPC, TRUST, PROFESSIONAL ENGINEERS, ARCHITECTS, BODIES LIKE MUNICIPAL CORPORATION
- (4) DEMOLITION OF GURUDWARAS (OLD ONES) SHOULD NOT BE ALLOWED
- (5) INCREASING RESEARCH IN SIKH ARCHITECTURE
- (6) MOTIVATION TO ESTABLISH SIKH ARCHITECTURE AS A STYLE
- (7) MOTIVATION BY STATE GOVT & CENTRAL GOVT TO RECOGNISE & ADMINISTRATIVELY ASSIST TO CONSERVE SIKH ARCHITECTURAL MONUMENTS
- (8) COMPULSORY ACQUISITION OF SOME SELECTED MONUMENTS
- (9) ESTABLISHMENT OF OLD MATERIAL STORE
- (10) INCREASING ASSISTANCE FROM PUBLIC PARTICIPATION & PRIVATE OWNERS
- (11) ENLISTING TECHNICAL WORKERS VIZ. LOCAL CRAFTSMAN, MASON, CARPENTERS, PAINTER. EXPERT IN CONSERVATION WORKS RELATED TO SIKH ARCHITECTURE
- (12) DOCUMENTATION OF MONUMENTS RELATED TO SIKH ARCHITECTURE, THEIR ELEMENTS, DETAILS, SPECIFICATION
- (13) PROVISIONS IN MASTERPLAN, ZONAL PLAN, FOR CONSERVATIONS OF SIKH MONUMENTS
- (14) A STRONG STATE ACT IS REQUIRED TO CONSERVE SIKH MONUMENTS
- (15) REGULATION FOR LOCATION, SIZE, DESIGN & OTHER DETAILS REGARDING OVERHEAD WIRES, OVERHEAD TANK, WATER MAINS AND ERECTION OF HOARDINGS WHICH OBSTRUCT THE VIEW, SILHOUETTE AND PANORAMA OF THE SIKH MONUMENTS
- (16) ASSISTANCE FROM INTACH & OTHER COMMUNITY OR ORGANISATIONS FOR CONSERVATION OF SIKH ARCHITECTURE.
- (17) INSTITUTIONS OF SGPC, KHALSA TRUSTS, CHIEF KHALA DIWAN ETC INVOLVED IN CONSTRUCTION, ADDITIONS, ALTERATIONS IN SIKH MONUMENTS SHOULD HAVE CONSERVATION EXPERTS IN THEIR BODIES.
- (18) GOVT SHOULD PROVIDE FINANCIAL, TECHNICAL, ADMINISTRATIVE SUPPORT FOR CONSERVATION OF SIKH MONUMENTS.



OLD & HISTORICAL MONUMENTS NEED PRESERVATION.



NEW GURUDWARAS SHOULD NOT REPLACE OLD ONES.



OLD ARCHITECTURAL ELEMENTS NEED SPECIAL CARE.



RELIGIOUS CORE NEEDS ATTENTION FROM CONSERVATION &



URBAN DESIGN EXPERT

IMMEDIATE REPAIR SHOULD BE FIRST STEP.



STRATEGY FOR ARCHITECTURAL CONSERVATION OF SIKH ARCHITECTURE: CASE STUDY AMRITSAR

- (k) Regulate location and construction of buildings near or inside the listed monuments or buildings.

Regulate location, size, design and other details regarding overhead wires overhead tanks, water mains and erection of hoardings which obstruct the view, silhouette and panorama of the monuments or otherwise of buildings which may be of visual hindrance.

16.2 RECOMMENDATIONS REGARDING CONSERVATION STRATEGIES FOR RAMBAGH

16.2.1 PRESERVATION OF OVER ALL DESIGN AND LANDSCAPE

- ◆ The garden can easily be developed on original garden design as constructed by Maharaja Ranjeet Singh
- ◆ Two water bodies (linear) having fountain should be introduced and constructed in the same design
- ◆ Paving in chauper pattern can also be introduced as in the original design

16.2.2 PRESERVATION CONSOLIDATION AND RESTORATION OF STRUCTURES

Reconstruction of missing structure can also be done resembling with original style

- (a) Entry shall be given from Darshani Deori and Darshani deori should be connected to garden.
- (b) Vehicles should be totally banned inside the garden
- (c) Replastering at various points
- (d) Cutting of foliage touching the structure
- (e) Treatment of base to remove dampness
- (f) Preservation of woodwork, restoration and consolidation of missing elements

- (g) Consolidation is required at various architectural elements
- (h) Applying preventive care to walls like cleaning, white washing, iron grills, woodwork is required

16.2.3 RECOMMENDATIONS REGARDING MAINTENANCE

Since it is a large complex so there has to be a maintenance cell which can regularly inspect the entire area and the structure. It can arrange immediately the repairs white washing cleaning maintenance of garden and keep the complex alive and strong.

Recommendations regarding Adaptive Use

This complex has got immense potential for becoming a tourist attraction since large number of tourist visit this city so they can easily be attracted towards this complex if this space could provide proper attraction, all the four building around the summer place can be converted in to museum related to sikh religion, culture history and can have the literature also but here some private participation is necessary. Some groups which are connected with business related to sikh religious books and other kripan, dhal, pictures of golden temple can be involved in it.

Recommendations regarding Finance and Management of Rambagh Complex

Since it is a large complex and has got tourist potential also so in order to generate finance, some tourists should be diverted here and they should be charged with some fixed per head entry fee as soon as they enter in to the complex. Secondly some private commercial participation is necessary so in a controlled way some advertising panels may be allowed which can regularly pay to the complex. Secondly some private parties which are already engaged in a business of sikh religious books, paintings, other articles like kada, kripan etc. they can open few stalls by not disturbing the structure. They can pay rent to the complex so this types

RECOMMENDATIONS

RAMBAGH

THE STRATEGY

- (1) REDEVELOPMENT OF GARDEN:
 - ALL THE FIVE STRUCTURES & BURJIS SHOULD BE PRESERVED
 - GARDEN SHOULD BE DEVELOPED IN ORIGINAL CHOUPAR PATTERN (AS CONST. BY MAHARAJA RANJITS)
 - RECONSTRUCTION OF DEMOLISHED STRUCTURES SO AS TO REVIVE THE ORIGINAL DESIGN
 - DESIGN OF NEW STRUCTURES SHOULD EXACTLY RESEMBLE ORIGINAL DESIGN. EVEN DESIGN, MATERIAL OF PAVING, RAILING, WATER BODY, FOUNTAIN SHOULD BE REPRODUCTION OF ORIGINAL DESIGN.
- (2) PRESERVATION, CONSOLIDATION & RESTORATION OF STRUCTURES VIZ SUMMER PALACE, BURJIS, OTHER FOUR STRUCTURES INCLUDING DEODI AS PER SPECIFICATIONS
- (3) ALL FIVE BUILDINGS SHOULD BE PROTECTED UNDER ACT
- (4) AS FAR AS POSSIBLE ORIGINAL VEGETATION SCHEME SHOULD BE FOLLOWED
- (5) THESE STRUCTURES SHALL BE USED AS MUSEUM FOR SIKH HISTORY, RELIGION, LITERATURE, DETAILS REGARDING EVOLUTION OF AMRITSAR, NO OTHER USE SHOULD BE ALLOWED.
- (6) PRIVATE PARTICIPATION IS NECESSARY IN ORDER TO GENERATE FINANCE & MAINTAIN THE COMPLEX
- (7) ENTIRE COMPLEX SHOULD BE DEVELOPED AS TOURIST'S ATTRACTION AND FINANCES TO BE GENERATED FOR ITS PRESERVATION & MAINTAINANCE
- (8) ENTRY OF VEHICLES SHOULD BE BANNED INSIDE GARDEN, PROPER PARKING SPACE SHALL BE PROVIDED OUTSIDE THE GARDEN, DEODI SHOULD BE TAKEN INSIDE THE GARDEN
- (9) RAMBAGH MANAGEMENT CELL SHOULD BE SET UP WHICH CAN COORDINATE & MANAGE A.S.I, MUNICIPAL CORP, TOURISM DEPT AND CAN MAINTAIN THE COMPLEX. CELL SHOULD HAVE CONSERVATION EXPERT.
- (10) NO HEAVY VEHICLE SHOULD BE ALLOWED TO PASS NEAR THE STRUCTURES
- (11) DEVELOPMENT WITH IN ISOMIS FROM RAMBAGH SHOULD BE CONTROLLED BY SPECIAL ZONING REGULATION
- (12) PROPER AWARENESS PROGRAM SHOULD BE LAUNCHED FOR PUBLIC, SCHOOL CHILDREN, PRACTISING ENGINEERS, ARCHITECTS, PLANNERS VIA TV, AUDIO, NEWS PAPER, SEMINARS, WORKSHOP



MONUMENTS NEED IMMEDIATE REPAIR & MAINTAINANCE
SUMMER PALACE

BURJIS NEED IMMEDIATE CARE.



NO STRUCTURE / USE OTHER THEN SPECIFIED SHOULD BE PERMITTED

STRATEGY FOR ARCHITECTURAL
CONSERVATION OF SIKH ARCHITECTURE:
CASE STUDY AMRITSAR

of strategies have to be worked out and money generated in this way can be used for maintenance of structure and garden.

A proper maintenance cum Rambagh management cell is required. It can be small unit in municipal corporation which can exclusively look after the complex its maintenance, use finances etc. This cell should have conservation experts also and this shall coordinate with ASI, intach and local people.

16.3 RECOMMENDATIONS REGARDING CONSERVATION STRATEGIES FOR KHALSA COLLEGE

16.3.1 PRESERVATION OF OVER ALL DESIGN AND LANDSCAPE

1. Documentation

Detail documentation is required of whole of the campus

- *actual/existing detailed plans and elevations of buildings*
- Design of minarates, parapets, railings, domes, pinnacles, kiosks
- A proper documentation has to be made regarding specification used in buildings
- Documentation of structural system, the form of structure Typology of buildings and structures have to be thoroughly studied
- Identification of problems of current situation

Detailed inspection has to be made regarding

- Problem in structure
- Problem with elements, architectural façade
- Material

Preparation of design control and guidelines

- A clear cut policy for design control and guidelines have to be prepared for all new upcoming buildings so that at least they should match with existing character and fabric of campus in
- Colour
- Texture
- even with the use of new material and techniques the architectural elements like design of windows, doors, door shutter, openings, arches, design of column, convices, silhouets can be made as close as possible to the original style
- This area should be declared as heritage zone

Recommendations for development control around the complex

Since the Khalsa college has university on one side and residential/commercial area on front, back and on ^{other} side so in the master plan this complex and area immediate around it should be delineated as heritage zone

And 500 metre around this complex regulations and landuse laws should control the size and shape of structures to be erected and altered, so under following guidelines the development should be controlled

- Maximum building height
- Maximum site coverage
- Minimum open space
- Sunlight performance standards
- Minimum parking space per unit
- Only single storeyed building (maximum height of 3.8 m) to be permitted within a distance ranging between 50-150 meters from the buildings of original style

- Within a distance ranging from 150-250 metres not more than double storeyed structure are to be permitted (maximum permissible height 7.6 metres)
- Specific architectural control is required for Khalsa college heritage zone resembling the original style of Khalsa college

16.3.2 PRESERVATION CONSOLIDATION AND RESTORATION OF STRUCTURE

Generally the problem is related to cracks in structure, dampness in base, cracking plaster, missing elements like parapet, jallies, railing etc. broken chajja, specific suggestion for these problems have been dealt separately.

16.3.3 RECOMMENDATIONS REGARDING MAINTENANCE

After documentation a clear cut programme has to be evolved for regular inspection, immediate, repairs, preservation in supervision of conservation expert.

Recommendations for Adaptive Use

Since it is a college campus and nature of use has generally been related to education or residential accommodation for teacher and students so as far as use is concerned there is no such problem but important is number and density of buildings should be controlled.

Recommendations Related to Finance and Management

Since khalsa college is being funded by SGPC and khalsa college trust and there is no apparent shortage of funds but problems is of awareness in the trust members. As for as management is concerned the management which controls the maintenance and renovation process is same but problem is of awareness among member of trust and also there is lack of government intervention in order to keep the rich architectural heritage alive. Work of maintenance are done by qualified architect but they generally ignore the concept of conservation while

designing or supervising the work. So first of all, all attempts should be made to educate connected members and professionals about conservation.

Since Khalsa college is funded by S.G.P.C. (Shiromani Gurudwara Prabhandak Committee) so funds are not of so of problem the main problem in this campus is

- Increasing awareness of conservation of rich architectural monuments in the members of trust and committee
- At city level there has to be a heritage cell in which there should be complete team comprising of
 - Town planner
 - Architect
 - Conservation Architect
 - Landscape Architect
 - Engineer having experience in construction works
 - Expert from field of history/archeology
- Any addition/alteration in the campus or in building should get prior sanction from this body which will see that any renovation, addition, or new development should go in harmony with original fabric.
- This body can also act as suggestive body, consultant for the construction work to the architect who have been assigned the work of Kalsa college.

Recommendations regarding Maintenance

After documentation a clear cut programme has to be evolved for regular inspection, immediate, repairs, preservation in supervision of conservation expert.

RECOMMENDATIONS

KHALSA COLLEGE

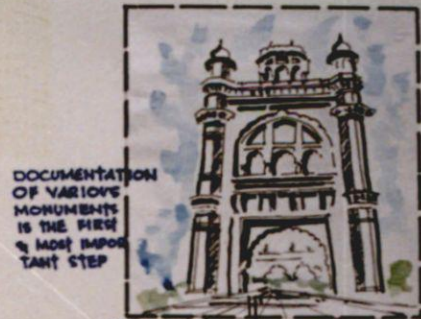
THE STRATEGY

- PRESERVATION OF ALL OLD MONUMENTS
 - DOCUMENTATION OF ENTIRE COMPLEX, BUILDING, ARCHITECTURAL ELEMENTS [PLANS, ELEVATIONS, DETAILS OF RAILING, PARAPET, CORNICES, TOWER, WINDOW, ARCHES, COLUMNS, GATEWAYS, SPECIFICATION]
- PREPARATION OF DESIGN CONTROL AND GUIDELINES FOR NEW BUILDINGS WITH IN CAMPUS SO THAT NEW BUILDING HARMONIZE IN COLOUR, MATERIAL, TEXTURE, FABRIC DESIGN, ELEMENTS.
- PREPARATION OF GUIDELINES FOR CONTROLLING DEVELOPMENT AROUND KHALSA COLLEGE COMPLEX.
 - SINGLE STOREYED BLDGS SHOULD BE ALLOWED (HT. 3-6M) UP TO 50-150M²
 - MAX HT. 7-6M SHOULD BE ALLOWED FROM 150-250M AROUND COMPLEX.
- ADAPTIVE USE

USE SHOULD BE RELATED TO EDUCATION & RELATED ACTIVITIES BUT DENSITY OF ACTIVITY MAX TO BE CONTROLLED
- ANY ADDITION, ALTERATION, REPAIR, MAINTENANCE SHALL BE AFTER PRIOR PERMISSION OF AMRITSAR URBAN CONSERVATION BOARD (OF WHICH HERITAGE CELL IS A PART) AND UNDER SUPERVISION OF CONSERVATION EXPERT.
- DECLARATION OF KHALSA COLLEGE AS PROTECTED MONUMENT UNDER ACT
- GRANT, LOAN & TECHNICAL & ADMINISTRATIVE HELP & ASSISTANCE FROM GOVT.
- REGULAR INSPECTION, MAINTENANCE, CONSOLIDATION, RESTORATION OF STRUCTURE

SPECIAL ATTENTION ON CRACKS, DAMPENESS IN BASE, BROKEN CANOPIES, CHAJAS, LINTELS, FENESTRATIONS, JALLIES, BROKEN DOORS, WINDOWS AS PER SPECIFICATIONS SUGGESTED.
- IN OFF HOURS OF COLLEGE TOURISTS SHOULD BE ALLOWED TO VISIT.
- SPECIAL LECTURES OF CONSERVATION FOR STUDENTS, FACULTY & TRUST MEMBERS OF KHALSA COLLEGE.

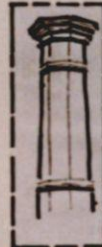
STRATEGY FOR ARCHITECTURAL
CONSERVATION OF SIKH ARCHITECTURE:
CASE STUDY AMRITSAR



ENTRANCE TO MAIN BUILDING.



ENTRANCE TO CAMPUS (GATEWAY)



TOWERS.



ARCH IN VERANDAH
VENTILATORS



WINDOW DETAIL



WINDOW DETAIL.



PARAPET, CHAJJA,
CORNICE, WALL
EDGE.



TOWERS AT
CORNERS

1. Regarding structure

- As per the discussion with local engineers working in the area the cracks in the structure were generally because of thermal expansion and contraction
- So, here it is necessary to study the monument of cracks

Some observations

- (1) Diagonal cracks because of shear as a result of foundation movement
- (2) Vertical cracks – poor material strength
- (3) Cracks widest at the middle and tapering quickly indicate earthquake

Suggestions

- (1) Narrow cracks in wall may be filled with hydraulic lime grout
- (2) Wider cracks may be filled with hydraulic lime concrete
- (3) The filling material will be coloured and finished to match the adjoining surfaces
- (4) For filling cracks in roof, lime grout or lime concrete should be used. The cracks should be cleaned out and done tailed by undercutting before being filled and beaten to consolidate the material and ensure close contact with the original material. In some cases waterproofing compounds may be used.

Drainage

- Provision is to be made for drainage especially for taking off flood after heavy rain
- Water must not be allowed to stand about in pools or ditches near the ancient monuments
- Before the rains set in, special attention should be paid to the roof drainage as well as to that of open halls and colonnades of building without adequate roof covering

- The walls of many monuments are not too secure and the scouring of earth away from their foundation may cause much damage, when stone or brick drains are made they should be strongly built in concrete foundation

16.4 RECOMMENDATIONS REGARDING IMPROVEMENT OF RELIGIOUS CORE

16.4.1 Conservation of golden temple complex

The entire strategy of conservation of golden temple complex can be formulated in different levels and ways.

(a) Master Plan Levels

In the master plan the area consisting of complex and 100 metres around should be declared controlled area.

(b) Zonal plan level

A detail zonal plan should be prepared of complex and surrounding area, which shall guide any new construction, addition, alteration, renovation within and outside the complex.

(c) Complex level plan

A detail documentation of the entire complex is required. This shall include all buildings, structures, features, gates, corridor in terms of layout plan, period of construction of various buildings.

(d) Building level plans

All buildings should be properly documented in terms of plan, elevations, sections, specifications, material, structural system used. This should also depict various additions during different periods.

RECOMMENDATIONS

THE GOLDEN TEMPLE

THE STRATEGY

1. INCREASING AWARENESS REGARDING CONSERVATION AMONG SGPC OFFICE BEARERS, MEMBERS, GURDWARA INSPECTORS, SIKH PRIESTS, GENERAL PUBLIC, CONSULTANT ARCHITECTS, ENGINEERS, VIA SEMINAR, WORKSHOP, TV, AUDIOVISUALS, TENTS, NEWS PAPERS ETC.
2. SPECIALISED TRAINING TO MASON, CRAFTSMAN, CARPENTERS, ARCHITECTS, ENGINEERS FOR CONSERVATION.
3. FINANCIAL SUPPORT FROM GOVT IN TERMS OF LOAN, GRANTS, SUBSIDIES, & LEGAL SUPPORT IN FORM OF PROVISIONS IN ACT.
4. DOCUMENTATION OF ENTIRE COMPLEX, BUILDINGS, ARCHITECTURAL ELEMENTS, DETAILINGS, SPECIFICATION.
5. ESTABLISHMENT OF ARBITRARY URBAN CONSERVATION BOARD. ANY RENOVATION, ADDITION, ALTERATION, REPAIRS, MAINTENANCE AND ANY TYPE OF INTERVENTION IN THE COMPLEX SHALL BE DONE AFTER PRIOR PERMISSION OF BOARD IN SUPERVISION OF CONSERVATION EXPERT.
6. OLD & SELECTED MONUMENTS SHOULD BE GIVEN STATUS OF PROTECTED MONUMENT AND NOT AT ALL BE DISTURBED / DEMOLISHED.
7. NO CHANGE IN EXISTING MATERIAL SHOULD BE ALLOWED.



REAR ENTRANCE SHOULD BE PROTECTED.



ANY ADDITION, ALTERATION, REPAIR SHOULD BE DONE UNDER SUPERVISION OF CONSERVATION EXPERT.

- AREA OF GOLDEN TEMPLE COMPLEX AND 100MTRS AROUND SHOULD BE DECLARED CONTROLLED / PROTECTED
- DETAIL: ZONAL PLAN, COMPLEX LVL PLAN SHOULD BE PREPARED
- ESTABLISHMENT OF PILGRIM MANAGEMENT CELL, HERITAGE CELL
- DUE RESPECT HAS TO BE PROVIDED TO THE RELIGIOUS FEELING AND IN NO WAY IT SHOULD BE HURT
- TRAFFIC AROUND COMPLEX SHOULD BE CONTROLLED & AS FAR AS POSSIBLE AVOIDED

STRATEGY FOR ARCHITECTURAL CONSERVATION OF SIKH ARCHITECTURE: CASE STUDY AMRITSAR



NO CHANGE IN ORIGINAL SETTING SHOULD BE ALLOWED.



ENTRANCE GATE WAY SHOULD BE DECLARED PROTECTED MONUMENT.



RICH INTERIORS SHOULD BE PRESERVED WITH MINIMUM INTERVENTION.



MAIN SHRINE SHOULD BE DECLARED A PROTECTED MONUMENT.



ARCHES IN THEIR ORIGINAL STYLE SHOULD BE RETAINED.

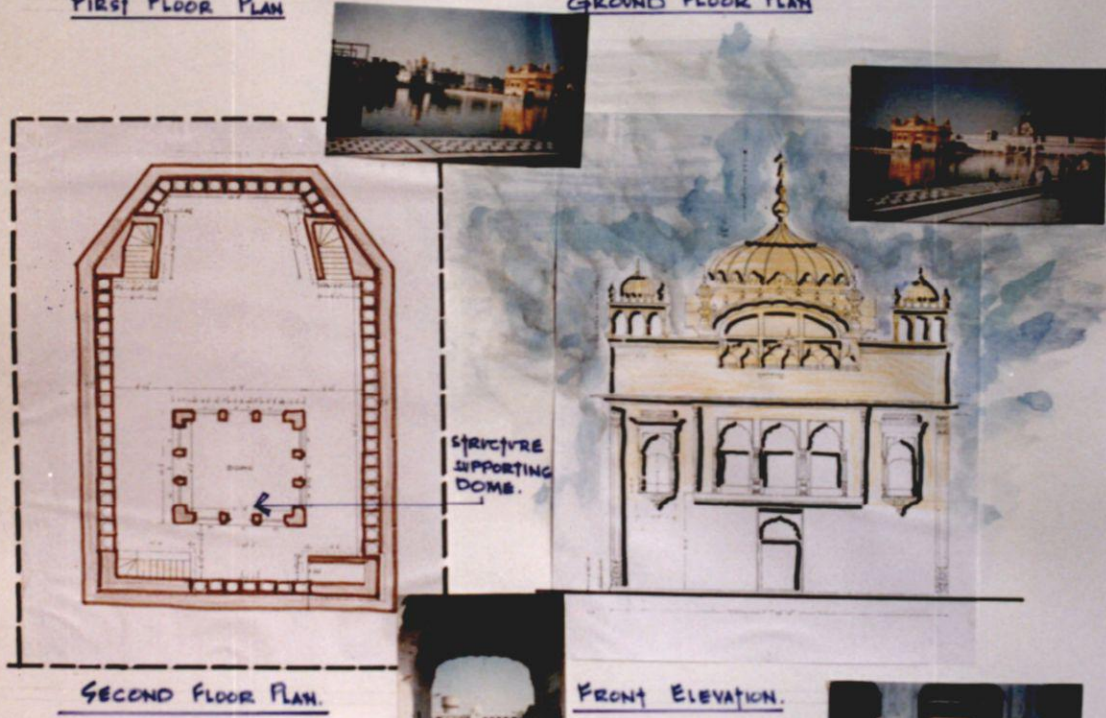
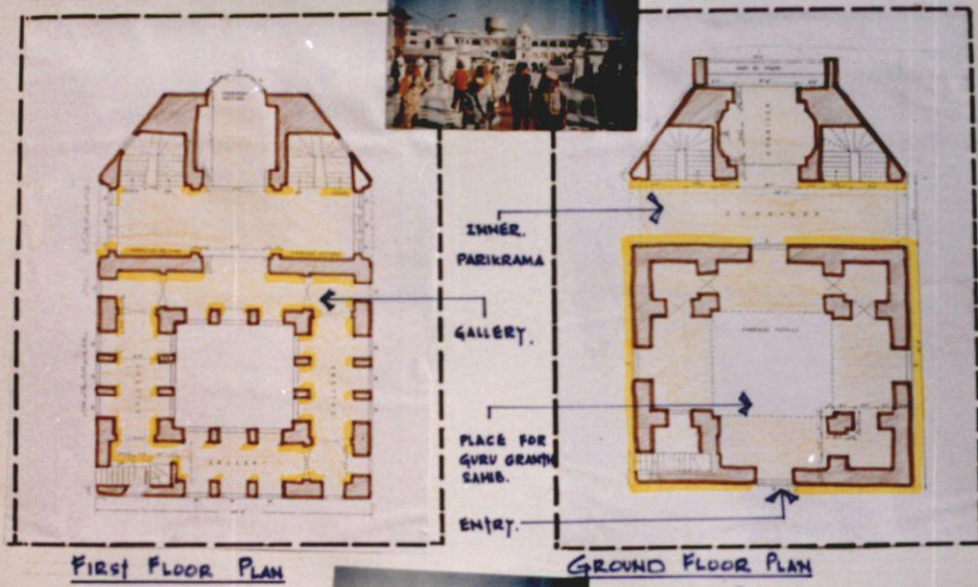


COLUMN DETAILING.



NO CHANGE IN FLOORING PATTERN SHOULD BE ALLOWED.

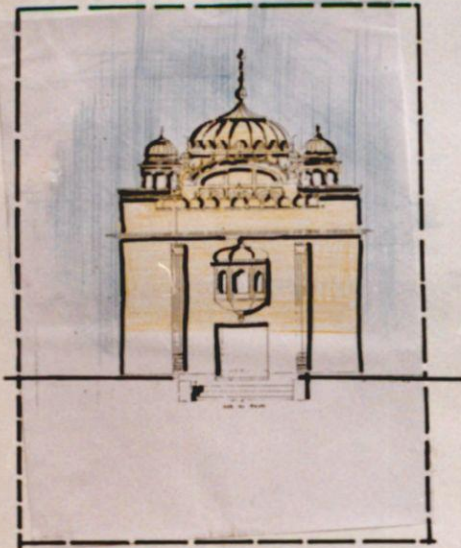
**DOCUMENTATION
THE GOLDEN TEMPLE**



**STRATEGY FOR ARCHITECTURAL
CONSERVATION OF SIKH ARCHITECTURE:
CASE STUDY AMRITSAR**

Vijay Kumar
M.Arch. Thesis 2000

DOCUMENTATION
THE GOLDEN TEMPLE



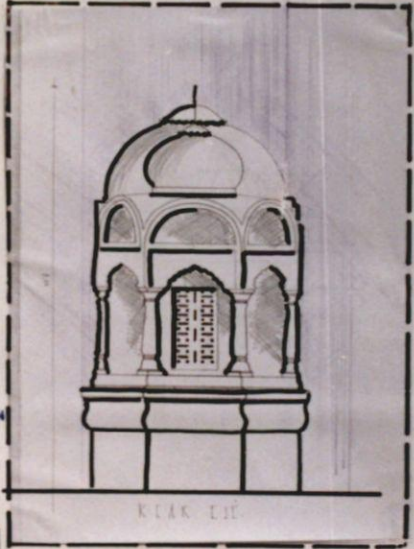
REAR ELEVATION



TOWER AT CORNER OF COMPLEX.



KIOSKS AT ENTRANCE.



KIOSK III

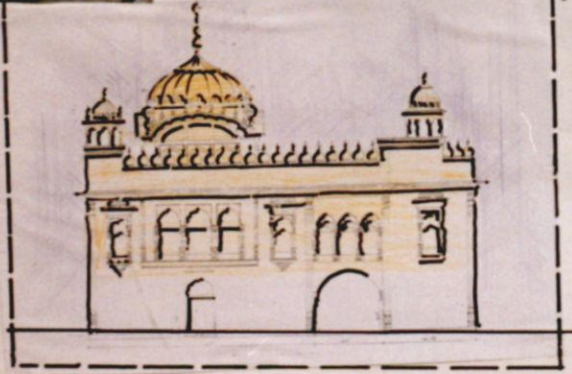
KIOSKS.



POPS AT GATES.



MARBLE FLOOR PATTERN CONTINUOUSLY CHANGING.



SIDE ELEVATION.

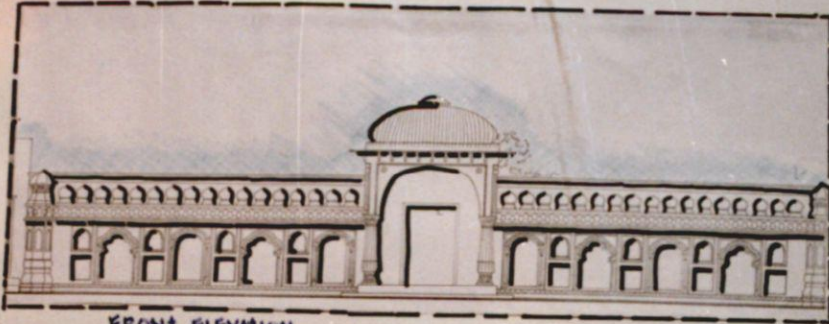


FRONT ELEVATION

STRATEGY FOR ARCHITECTURAL CONSERVATION OF SIKH ARCHITECTURE: CASE STUDY AMRITSAR

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DOCUMENTATION



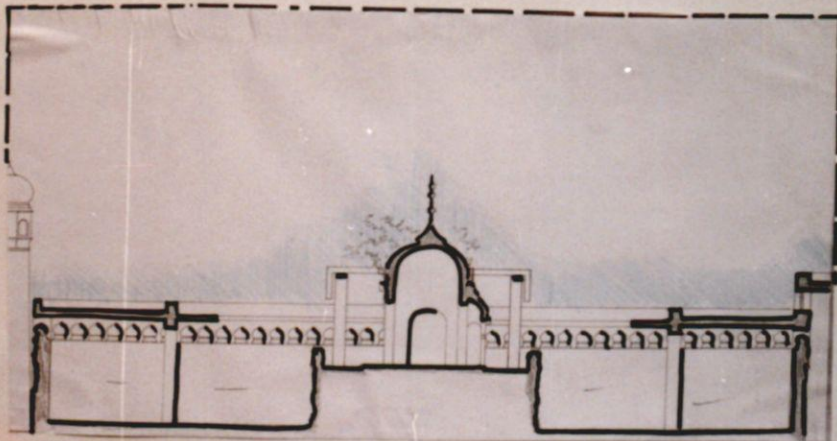
FRONT ELEVATION.



SECTION (ENTRANCE GATEWAY)



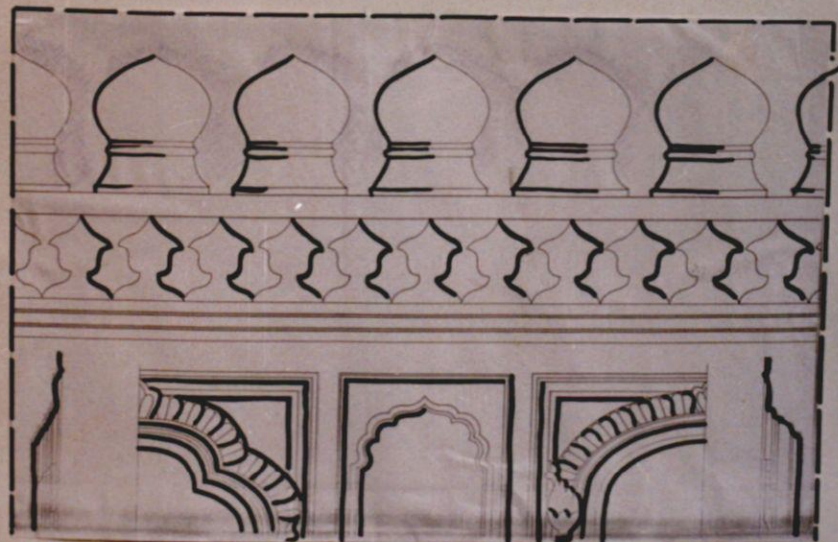
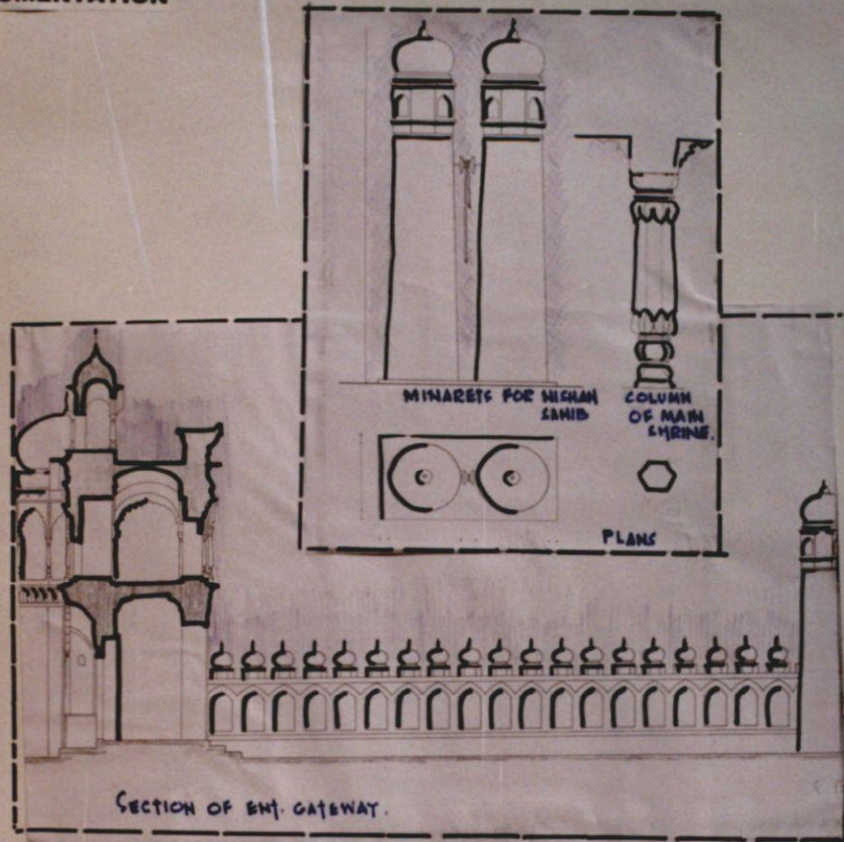
ELEVATION OF KIOSK.



SECTION OF VERANDAH LOOKING TOWARDS BOUNDARY WALL.

**STRATEGY FOR ARCHITECTURAL
CONSERVATION OF SIKH ARCHITECTURE:**

DOCUMENTATION

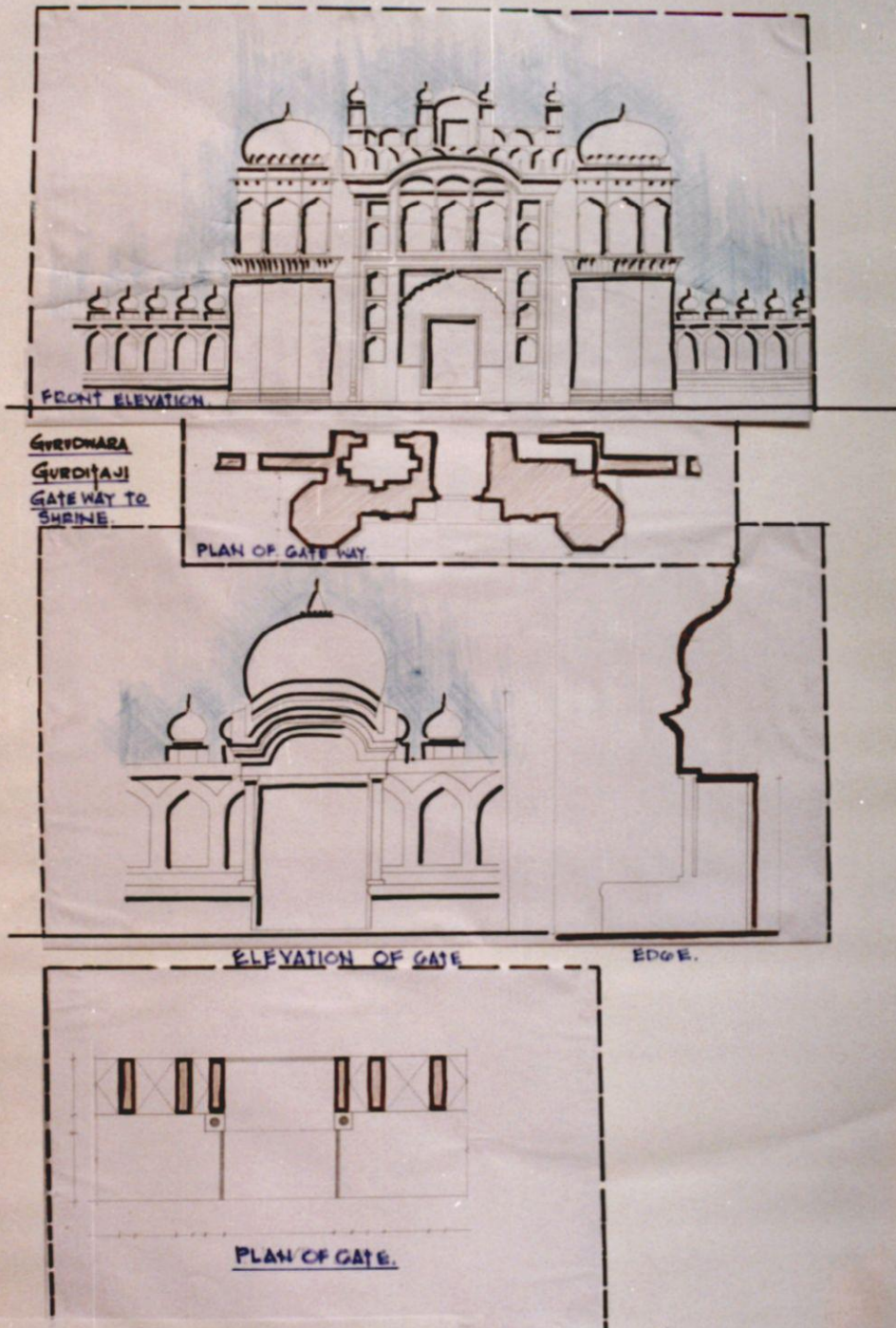


DETAILING OF CORNERS OF DOORS, ARCHES.

**STRATEGY FOR ARCHITECTURAL
CONSERVATION OF SIKH ARCHITECTURE:
CASE STUDY AMRITSAR**

Vijay Kumar
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DOCUMENTATION



STRATEGY FOR ARCHITECTURAL
CONSERVATION OF SIKH ARCHITECTURE:
CASE STUDY AMRITSAR

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(e) Detailing

It include the elements, outer material used like carved marble, engraved gold plates, doors, windows, arches, parapets, minars, minarets, etc.,

Structure

All structure should be regularly inspected and any intervention should be approved from the conservation board of city.

Materials

As far as possible old materials like lime based plaster, mortar, Nanakshahi bricks and old materials should be used in repair works following the specified system/works. Old marble, gold plates, architectural elements should as far as possible not changed.

New addition of buildings

Before any new addition approval has to be sought from the conservation board which will see that new addition is in harmony with the original character.

Demolition / Repair Maintenance

No demolition of any structure, architectural element, portion, flooring pattern, railing should not be allowed and if it becomes necessary proper consultation with conservation board should be consulted. Any repair, maintenance should also be under strict supervision of conservation expert. Even for small details like railing design, cornices, buttresses expert should be consulted.

Increasing awareness

Attempts have to be made to explain, the value, importance, system, need, of conservation to the S.G.P.C member, priests and all influential persons responsible for construction work in the complex.

16.4.2 IMPROVEMENT OF CORRIDOR AROUND GOLDEN TEMPLE COMPLEX AND ITS LINKAGES WITH OTHER IMPORTANT SIKH SHRINES OF CORE

The corridor around golden temple needs to be revitalized by

- (a) All old monuments, buildings have traditional elements, fabric, should be selected and these buildings should be protected
- (b) The corridor should be declared special area and special byelaws have to be framed for this corridor
- (c) An architectural control has to be framed for this corridor
- (d) Architectural control has to be framed in a manner that the protected structures should be retained
- (e) While corridor has to be developed traditional activities, old bazars need to be redeveloped
- (f) On ground floor there can be kiosks and on upper floor residential can be permitted
- (g) Corridor is required to be pedestrianised at peak hours when more number of pilgrims visit and also on some specific days and on gurupurab when number of pilgrim are more
- (h) The facade over looking golden temple complex shall have architectural control and the construction of outer facade has to be exactly as per the design of architectural control and architectural control shall be made keeping in mind
 - Conventional material/techniques have to be used
 - they should not be very costly and should be in financial capabilities of the residents
 - control facade should have elements of sikh architecture
 - All main junctions from the corridor shall have gateways which lead to different bazar

RECOMMENDATIONS

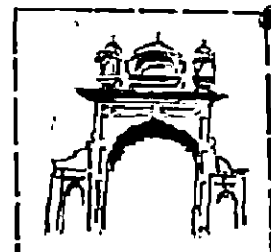
THE RELIGIOUS CORE



DESIGN OF WINDOW



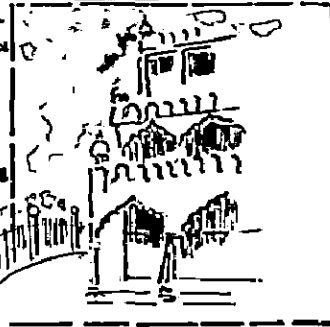
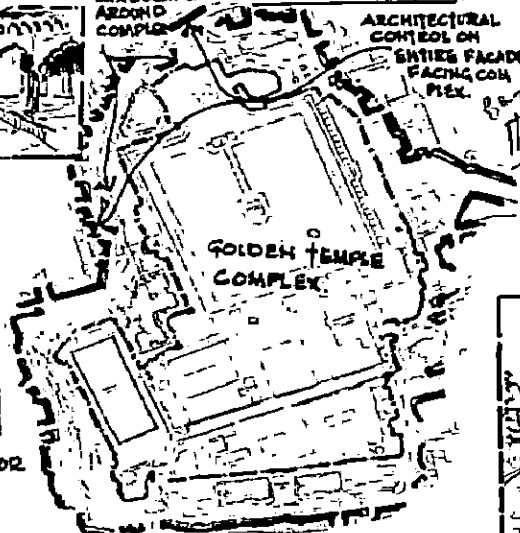
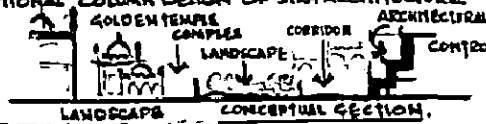
DESIGN OF ARCADE FACING ROAD ON GP OF TRADITIONAL GOLDEN BEAM OF SIKH ARCHITECTURE.



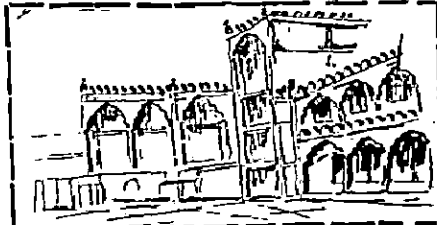
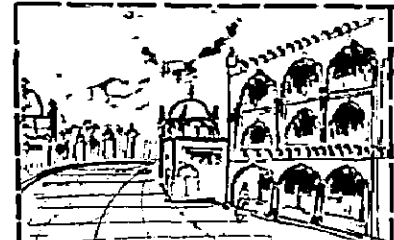
GATEWAY TO VARIOUS BAZAARS



PROPOSED SCHEME FOR STREET FURNITURE IN CORRIDOR.



ARCHITECTURAL CONTROL ON FACADE FACING GOLDEN TEMPLE COMPLEX



THE STRATEGY

1. ALL MONUMENTS AROUND GOLDEN COMPLEX HAVING TRADITIONAL & OLD ARCHITECTURAL DESIGN & FACADE SHALL BE LISTED, PROTECTED, EXEMPTED FROM BYE LAWS LIKE G.R. CONV., FAR ETC TO

RESPECT THEIR ORIGINAL CHARACTER

2. ENTIRE CORRIDOR SHALL HAVE A STRICT ARCHITECTURAL CONTROL

3. ALL ENTRY POINTS TO VARIOUS BAZAARS SHALL HAVE GATE.



4. ENTIRE CORRIDOR SHALL BE PADE STRAIGHTENED PARTIALLY ALLOWING VEHICLES IN CERTAIN HOURS.

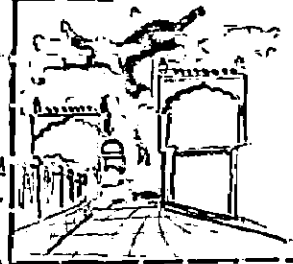


VIEW OF GOLDEN TEMPLE FROM CORRIDOR

4. TWO OPTIONS CAN BE ENFORCED

- (1) ACQUISITION OF 10M OF STRETCH ADJACENT ROAD PAYING COMPENSATION TO OWNERS AND THIS 10M STRETCH SHALL HAVE CORRIDOR OF 5M OR 10M OR 15M IN DEPTH GOVT CAN GO FOR AGREEMENT WITH OWNERS TO DEV BLOT 10M OF STRETCH AS PER ARCHITECTURAL CONTROL

ARCHITECTURAL CONTROL SHALL HAVE SIKH ARCHITECTURAL STYLE.



ARCHITECTURAL CONTROL SHALL BE FRAMED ACCORDING TO SIKH ARCHITECTURAL STYLE.

KIOSKS ON G.R.E.L SHALL BE USED FOR TRADITIONAL ACTIVITIES, RETAIL SHOP OF SELECTED TRADITIONAL ITEMS LIKE CHUNNIYA, KANG BANGLES ETC.

STRATEGY FOR ARCHITECTURAL CONSERVATION OF SIKH ARCHITECTURE:

Vijay Kumar
2019

- Use of kiosks and shops facing the corridor shall exhibit / sale perform on enlisted product and activities and these product shall be like traditional chunnuiya, pappar waria, eatables traditional pickles, murabba, bangles and products which are useful and can attract pilgrims may be children toys, religious books, gifts, etc.
- outer fabric should be of give typical sikh style of architecture
- This corridor shall have public utilities some of them have already been developed by govt.
- there can be the alternatives, one is to acquire 10 m of stretch and second can be that ownership of plot shall be continued only architectural control is exercised on them.
- Corridor shall have predetermined colour scheme, texture, colour
- Thus corridor shall be developed as traditional bazar and activity giving strong and original backdrop to golden temple complex.

16.5 PROPOSAL AND CONSERVATION MANAGEMENT FRAMEWORK

16.5.1 Heritage Cell

The heritage cell will be a multidisciplinary team & consists specialised person form different fields,

- ◆ Conservation architect.
- ◆ Landscape architect
- ◆ Town planner & Representatives from,
- ◆ Local youth club
- ◆ Office of Archeological Survey of India
- ◆ Tourism department

- ◆ S.G.P.C, Khalsa college trust, Gurudwara inspectors

The function of the committee shall be,

- ◆ Identification of heritage zone .
- ◆ To prepare the list of buildings, precincts, areas of historical, archeological, architectural, cultural & ecological significance & prepare special development & design guidelines for the listed buildings.
- ◆ Identification & preparation of projects to work for clearing all the chaotic situation & revive the religious character of this pilgrimage town e.g. Reviving religious core
- ◆ Connecting the golden temple, gurudwara Viveksar, Ramsar
- ◆ To advise on the development proposed within & outside the historic core.
- ◆ Preparation of preservation, maintenance & management plans for historical monuments.
- ◆ Reconsideration & preparation of entire system of building byelaws & regulations.
- ◆ Preparing schemes offering incentives/subsidies for local people to improve the physical condition of houses, dharmashala to facilitate pilgrims.
- ◆ Apart from the above this cell will work for delineation of area of research, allocation of action work, organization of public participation, training workshops for special tasks & co-ordination with pressure groups & other departments such as tourism & education.

16.5.2 Pilgrim Management Cell

The cell shall comprise of expertise from various fields ,

- ◆ Environment Planner
 - ◆ Management expert
- & Representatives of following departments
- ◆ Shiromani gurudwara Prabandhak Committe

- ◆ Public health Department Prabhāṅdare committee
- ◆ Police Department
- ◆ State Transport Department
- ◆ PUDA
- ◆ Municipal corporation

The tasks of the committee shall be

- ◆ regulating the number of pilgrims who wish to visit
- ◆ Working out a system to enroll the pilgrim who wish to visit historical places, religious core
- ◆ Working out the various pilgrim requirements by detailed pilgrim survey.

This is a non-governmental organization, which is mainly concerned with the maintenance of the infrastructure & mobilization of economy for the effective functioning of the respective institutions & the related activities.

By effective change in their approach & with the help of the heritage cell, a management plan is proposed for the effective management & maintenance of the respective structures within their administrative & financial framework.

Other than the local organizations, there are professional groups such as INTACH & institutions such as state cultural Department, Department of Architecture, G.N.D. University are important pressure groups which can take serious measures in organizational, managerial, educational & financial framework for the conservation.

16.5.4 Intach and Community Organization

Intach is involved in preservation of heritage. This institution can be of help in maintenance & management of their cultural heritage by various educational & training programmes & by providing suitable financial backup. As within the

existing planning framework there is no place for community participation, methods should be adopted so as to get feed-back & make them part of the decision making process.

16.5.3 S.G. PC

Shiromani gurudwara Prabandhak Committee which is activity involved in financing and management of construction and renovation, of Sikh shrines should have some conservation experts, historians among its member who can give suggestion regarding conservation.

**RECOMMENDATIONS REGARDING SPECIFICATIONS
FOR REPAIR, PRESEVATION AND MAINTENANCE OF
HISTORCIAL MONUMENTS**

Arches

Arches depend on their abutments for their stability and on the depth of their voussoirs and thickness of the masonry above for their strength. The condition of the mortar in the joints should be inspected regularly

Bats and birds

If buildings are infested with bats, expanded metal or wire netting screens should, wherever possible, be fixed in windows or other openings and automatically closing doors should be provided.

Beams

Beams of timber are vital members of the structure carrying floors and roofs. Often they are covered with lavish decoration which may conceal their condition. The end of the beams must be inspected. Tapping with a hammer helps if the sound is bright and true. Small bore can be made in beam and subsequently used to insert chemicals. In masonry, ideally the beam should rest on a copper damp-proof course and have ventilation around its ends.

Bitumite cement

Bitumite cement is useful for repairing leaks in arched, pitched or terraced roofs, in masonry tanks or reservoirs or in galvanized iron roofs.

Brickwork

No modern machine-made bricks whatsoever are to be used on any old building without the permission of the Supervisor. In repairing brickwork, bricks of the

same size and fabric as the original must be used. Under instruction from the Supervisor spalled bricks may, if their fabric is sound, be mended by using either of the following glue cements.

Fabric is sound, be mended by using either of the following glue cements.

a) 1 Part of glue

1 Part of black resin mixed with the least possible
red ochre quantity of water

b) 4 Part of glue

1 Part of boiled linseed oil by weight
1 Part of oxide of iron

Benches and seats

Benches and seats of the usual modern type with cast iron legs are an anachronism in historic buildings.

Carvings, images, etc.

An image that has fallen should not be replaced on a pedestal or in a niche, unless it is certain that it was originally set there.

Cement

A small proportion of Portland cement, preferably white, although this costs more, should be added to the lime, but not more than 10 percent of the volume of the lime should be added without expert advice. The traditional methods of burning and slaking lime are best, but have been lost in many places. Traditionally, lime mortars in the mix of 1 part lime to 3 parts of coarse sand were used.

Cement mortar

Unless otherwise specified, cement mortar should be formed of 3 parts sand to 1 of Portland cement, mixed in small quantities as required. When used for

tamping the mortar is to be mixed with only sufficient water to make it cling together when tamped.

Concrete

Cement concrete ordinarily is composed of the following ingredients, but the quantities should be varied according to local necessities.

For foundations

1 part of Portland cement 3 parts of sand, and 8 parts of clean stone, brick or gravel broken to pass a 1-1/2 inch ring, mixed thoroughly first in dry state, and again after the water has been added.

Clamps and dowels

Unless the costs is prohibitive, clamps and dowels should be stainless steel, copper, gun-metal or slate.

Cracks and fractures

All cracks should be noted and recorded when making an inspection of an historic building. Diagonal cracks indicate shear as a result of foundation movement: vertical often indicate poor material strength. Cracks widest at the middle and tapering quickly indicate an earthquake.

Narrow cracks in walls may be filled hydraulic lime grout. Wider fissures may be filled with lime concrete. Or, if a grouting machine is available, they may be filled with clean ballast, broken stone or granite (passing 1-1/2 ring), and the grout afterwards forced in to bind the whole together. For filling cracks in roofs lime grout or lime concrete should be used. The crack should be cleaned out and dove tailed by undercutting before being filled and beaten to consolidate the material and ensure close contact with the original material.

Doors and windows

Unless otherwise stated, doors, windows and frames should be of the best teak or shisham wood, free from knots, etc. Frames will be securely fixed in openings by means of rag bolts run in lead and let into the joints between the brickwork or stonework, as the case may be. At least two bolts.

Floors and pavements

In the repair of old lime concrete flooring, care must be taken that any old material which it may be necessary to pick up is discarded and that entirely new material is used by the contractor. In places where there is much wear and tear to concrete flooring, e.g. through doorways and passages, it is sometimes advisable to substitute composition of blocks or stone slabs in place of the concrete, and so save frequent repairs and the cost incidental to them.

Foundations

It is always wise to check the depth and size of the foundations of an historic building, and, if possible, find out the types and depths of soil underneath it. Records of bore holes for previous constructions in the locality can be helpful. The depth of water at local wells should be measured regularly to be sure that no changes are occurring which might adversely affect the historic building.

Foundations often have to be strengthened in seismic zones and this is the work only for engineers with special knowledge of historic buildings. Prime historic buildings in the seismic zones deserve special treatment.

Fungi

Fungi can cause rapid decay of timber. Trees and plants which are indigenous in the district where the garden is situated are preferable to exotic ones, evergreen trees and plants are as a rule preferable to deciduous ones. (*khimi*), neem shallow shrubs, flowers or grass. *Ficus* family, *pipal*, *banyan*, other trees which easily

take root in the parts of buildings should not be planted in the gardens of ancient monuments. The immediate vicinity of an ancient monument, they should, if practicable, and if there is no objection on religious or other grounds, be cut down and are dictated. *Morning Glory, Tecoma*

Flowers, whether annual or perennial, are more costly to maintain than trees or shrubs, and, unless laid out in bold broad schemes and maintained at a high pitch of excellence, are apt to detract from the dignity and impressiveness of the garden and of the monument to which it belongs. If pathways of gravel, *bajri* or the like have to be laid down, their foundations must be such (however narrow the pathways may be), that weeds cannot force their way up to from beneath. Unless this initial precaution is taken, weeds are apt to become a never-ending source of trouble. In laying out or restoring ancient Indian gardens it is shall – important to preserve the essential character of the originals, whether that character, expresses itself in the symmetrical handling of the design as a whole, in the careful balance maintained between its component parts, in the schematic arrangement of parterres, causeways, watercourses and the like, or in the formal treatment of other features. Supervisors should therefore endeavour to observe the happy mean between antiquarian accuracy on the one hand and aesthetic beauty on the other, and preserve the spirit of the place.

Grouting:

Proposals to pump cement grout in to the interior but of walls in order to consolidate or strengthen them should be made with caution. It is rarely that a void which cannot be thoroughly cleaned out with water can be satisfactorily filled under pressure, since there are bound to be dusty surfaces with which the grout will not make a solid joint.

Where a grouting machine is used, the whole body of the wall to be treated should be thoroughly washed out with water (forced in under a pressure of about 15-20 lbs. per square inch.) Commencing at the top of the wall and working downwards. Great care should be taken that no air or water lock occurs in the work, or that any bulk of water is left in the thickness of the wall. The walls must, however, be thoroughly saturated before grouting is commenced. The mixture in the machine is to consist of not more than three parts of fine sand to one of lime and 10 per cent Portland cement, or as near this ratio as the nature of the sand will allow to flow in the machine.

Inlay work:

In the repair of inlay work (*pietra dura*) the greatest care is necessary in order to ensure that the new stones fit exactly, the shape of inlay, same is marked on-mica and the stone is cut in same shape-the piece of inlay is tested for size and corrected by filing until it is an exact fit. The edges are then roughened as to grip the cement, and the piece is embedded in the recess with a special cement, the ingredients of which are given below, and driven home by means of a light wooden mallet. The surplus cement having been removed, the inlay is allowed to set for at least a week, after which the surface is cleaned and rubbed with a *thapi* made of emery powder and lac and washed with water.

White lime of marble	$\frac{1}{2}$ seer	(500gms)
Powdered marble	6 chittaks	(360 gms.)
Burnt zinc powder	5 chittaks	(300 gms.)
Gum	1 chittak	(60 gms.)
Gur	1 chittak	(60 gms.)
Dal urad	2 chittak	(120 gms.)
Patacha	1 chittak	(60 gms.)

The mortars described above are suitable for fine joint masonry or ½" thick plaster work, but are unsuitable for wide joint brickwork, rubble stone masonry, and thick plaster work. For the latter class of works, which frequently have to be carried out in the conservation of historic buildings, the best course is to grind the kankar lime wet after its removal from the kiln without any previous dry grinding. The amount of grinding required will vary according to the nature of the work, i.e. the grinding required will be longer for fine class work and shorter for coarse work.

Lime mortar, of which the tensile strength is less than 100 lbs. Per square inch, is not to be used in conservation works. A practical and quick way of testing lime mortar on the work itself is to take a handful of mortar from the trough and, after a minute or two, to wash it off the hand; if the skin is left rough after washing, the mortar may be considered fit for use.

Fine limewash

Add 4.4kg. (10lbs.) to 4.8 litres (1gal) of water and while the mixture is hot add 350gm. (3/4lb) of tallow and mix well. Sieve if a smooth finish is required. Instead of tallow, boiled linseed oil may be used. Apply with a coarse brush to plaster.

Limewater

Add lime to water and stir. Allow the lime to settle so forming a saturated solution. Apply with a soft brush to limestone masonry. When dry the texture and jointing of the stonework will show but stains and disfigurements can be suppressed

Lintels

Broken lintels or beams should be supported by stirruping them from above, or, if that is impracticable, by inserting R.S joists beneath; but it should always be borne in mind that such metal supports necessarily detract from the appearance of a

building and that they ought, if possible to be avoided. On the other hand, if a broken lintel is carved or otherwise decorated, it is far better to preserve it in situ by means of R.S joists or other foreign supports than to remove it to a museum and substitute plain new lintel in its place.

Marking of stones, bricks

When dismantling masonry previous to rebuilding, it may be necessary to mark or number the old stones bricks, so as the more readily to replace them in their original position. In doing this care should be taken not to incise the numbers or to apply to the exposed surfaces of the stones, any oil paint or other pigment or stain which will be difficult to remove again. The simplest plan is to number the stones on their faces with chalk and photograph them before dismantling. After dismantling, the stones should be renumbered on the back (or on some other surface), which will not show afterwards in paint or other durable medium.

Cleaning of masonry

For washing stone sculpture, a non-ionic detergent such as Teepol, should be used. Soap and household cleaners can cause damage.

First, dust and vegetation should be removed. If a chemical is used, it may be necessary to wait two or three weeks before moulds, plants and moss are dead and dry enough to be brushed off.

If brickwork is badly soiled, it will be necessary to use a weak solution of hydrofluoric acid; it is, however, essential that the masonry is well wetted before application of the acid solution and well washed down afterwards. Lime mortar will be eaten away by the acid so it may be necessary to repoint after cleaning. Generally, limestone and marble should be cleaned with a fine, intermittent mist spray of clean drinking water. Deposits of dirt can be removed with stiff nylon brushes.

Sand stones can be cleaned with hydrofluoric acid but first should be analyzed to make sure that the acid will not change the colour.

1. Removal of moss and lichen.
2. Removal of salts from brickwork by paper pulp poultice treatment.
3. Fungicidal treatment to arrest recurrence of growth of vegetation. A one per cent aqueous solution of zinc-silico-fluoride is used as fungicide. A one per cent aqueous solution of ammonia is used for cleaning and algae removal. A one per cent solution of methyl meta-acrylate in tuolene is applied as a short term preservative.

Great care is needed in formulating proposals for cleaning and expert advice is essential. A sample panel should always be prepared.

After cleaning, it is important to make sure no drains are blocked.

Before use of any chemical, its waste disposal should be studied in case of side effects.

Notice boards

Notice boards warning the public against damaging protected monuments, or for other purposes, should be conspicuous enough to attract attention but should not effect the overall character.

Paints

Paint is used to preserve surfaces such as plaster, wood or metal, to conceal blemishes, and to enhance the design of a building by emphasising features or in decorative wall painting schemes.

Most traditional wall paints were based on lime and earth pigments, coarsely ground. There are many refinements in the recipes for lime paints which range from lime-water, which whitens stone but does not clog the detail, to additives such as

tallow, linseed oil, milk, blood, extracts from trees, sugar cane; each of these additives improves the adhesion and durability of the lime paint.

For wood and metal, lime-based paints were used, being ground with available pigments, some of which, such as lapis lazuli for blue, were very costly. The range of historic colours was therefore limited. When the repainting of walls joinery and metalwork is called for, traditional lime and oil (not resin-based) paints are best. Dyes as pigments should not be used as the colours are too hard and these paints are far less permeable and damp-resistant than traditional paints. Traditional paints age gracefully by powdering.

Plaster stucco

Broken, damaged or loose plaster may be preserved with the help of lime grout or, in some cases, of plaster of Paris injected into the hollow cavities behind the loose plaster and by applying a neat fillet of lime mortar round the broken edges, care being taken that the cavities and edges are first washed clean with water. The mortar for the filets is to be made as specified under the heading Pointing with the addition of one part of cement to 9 parts of lime. The mortar is to be worked well into cavities, trowelled to an angle of 40° and finished as specified for pointing care being taken in all cases that the coarse grit shows clean and sharp on the surface. On terraces roofs and domes, old plaster must be maintained in repair in order to keep it watertight. In such positions the new plaster, if visible, can be coloured to match the old work. A mixture that has been found successful for this purpose, and which can be varied to match most discoloration, is as follows.

Kankar lime	25 seers	(25 kg.)
Cement	2 - ½ seers	(25 kg.)
Black slag from brick kilins, roughly Ground	7-1/2 seers	(7.5 kg)

Black colouring matter extracted from cooked fruit of the wild pomegranate (Nareli)	4 chittacks	(240 gms.)
Black sugar (Gur)	1 seer	(60 gms.)
Hemp (San)	1 seer	(60 gms.)

It must be clearly understood that plaster such as that described above is only to be used on terraces, roofs, etc., where the original plaster of a more or less like kind has been preserved and is in need of repair. Ordinarily, terraces, roofs, etc., are to be repaired with lime concrete over which no finishing coat is to be laid.

Pointing

Lime mortar only, unless otherwise specified, is to be used for pointing, and it is essential that in repainting old buildings the instructions should be sought from experts.

Roofs and domes

All accumulations of soil or debris on terraced roofs flat surfaces are to be removed, since they favour the growth of vegetation. Any crack or opening in roofs through which rainwater can are to be stopped or covered in, and proper drainage provided. Cracks and fractures in ancient plaster covering terraces of sloping roofs or domes or to be treated as specified in by experts. In all cases in which the new works is visible, it is to be coloured to match the surfaces adjoining, the colouring materials being mixed with the plaster and not applied after the repairs are done. If the old plaster is so disintegrated that a complete recovering of the roof is unavoidable, concrete should be used for the purpose which may be lime concrete to which cement in the proportion of 1:9 of limes has been added. In either case, the nature and size of the aggregate and the thickness has to be checked if a roof or dome requiring repair is covered with brick or stone, the other course of bricks or

stones should be removed and reset in mortar, waterproofed if necessary, as specified under cement mortar.

Termites

Termites are dangerous and voracious, and will attack wood, fibres or keratin materials and destroy almost anything, including synthetic material, that is not too hard, repellent or toxic. They have been reported as attacking electrical insulation and plastic water pipes buried underground.

Control of ground termites

Effective control of ground termites is secured by proper design and construction of buildings with barriers provided not less than 200 mm (8") above ground level in all walls. It is desirable to poison the whole area of the excavation and hard-core beneath the building and, using a stronger dosage, fill trenches around the footing with poisoned soil. Dieldrin, aldrin and chlordane have been found suitable, but it is advisable to seek the advice of forest entomologists before deciding upon a poisoning technique. In existing buildings a precaution against ground termites is for foundations to be exposed and the earth poisoned as it is replaced. In the bottom of this trench and elsewhere, holes can be drilled at 300 mm (12") centres and poisoned. Any soil at the foot of the cross-walls should also be poisoned so as to prevent termites climbing up the walls. Soil poisoning is only the first line of defense against ground termite.

Control of drywood termites

Drywood termites can be more troublesome than ground termites because of the difficulties of control of these air-borne pests. Denying drywood termites entry into such timber, and where this is practical the course should be adopted, e.g. for joinery.

Underpinning

Underpinning to enlarge foundations should only be undertaken after careful structural analysis by an engineer experienced in historic buildings. Alternatives to underpinning which permit pre-stressing of the soil using hydraulic jacks should be used in preference. All excavations for underpinning must be carefully and adequately planked and strutted, and all the masonry work, etc. Immediately above the proposed and stretch of underpinning must be adequately held by raking shores on a good solid foundation.

Vegetation

The growth of vegetation in the joints of ancient brick or stone buildings is one of the principle factors in causing their ruin, and the only sure way of dealing with this evil is to constantly eradicate the plants before they become fully rooted. In removing weeds, trees or shrubs, etc. from walls, it is essential that the roots should be completely destroyed, and during the process of raking out, any tendrils found in the joints should be followed up and removed. The stumps can be injected with arsenic. Weedicides can be used if no garden plants are adjacent. Pentachlorophenol and panacide are used for control of lichen. Joints which have to be raked out in order to destroy the vegetation should, after the earth etc. has been removed, be immediately repointed. The cutting out of large trees from ancient masonry is an operation that demands special care. As a rule, large trees should be removed in sections in order to prevent injury being done to the masonry. When jungle has to be cleared from around an ancient monument, it should be cut for at least 30 yards on all sides.

Wall ends

Where wall ends are composed of small stones not large enough on bed to permit the joints to be raked, the stones may, on instructions from the supervisor, be removed and rebedded in lime mortar.

Wall tops

Unless otherwise specified, pointing to wall tops is to be done in lime-cement mortar made with coarsegrained sand, to which *Medusa* or pudlo or other waterproofing materials may be added if considered necessary. The surface finishing is to be of the same character as in lime mortar. Where the wall tops have a broken sky – line, this must be left, and on no account be straightened, unless there are special reasons for restoration. Such restoration must only be carried out under written instructions from the supervisor.

Walls out of plumb

If walls are out of plumb it is seldom necessary to dismantle and rebuild them. In many cases it will be found that the fault was caused soon after the erection of the building by the subsidence of the foundations which, having permanently settled.

Waterproofing compounds

In damp situations below ground, it is sometimes necessary to waterproof cement and cement mortar. For this purpose proprietary and waterproofing compounds may be used.

Weather stains and lichens

Weather stains and lichens on the outside of a building should not ordinarily be removed, but any growths which are obscuring carvings or inscriptions, or are open to objection on other grounds, may be removed by brushing with soap and water or by means of blunt wooden instruments. But care must be taken not to scratch the surface or to leave other unsightly marks of the cleaning, thus making the remedy worse than the defect. Weather stains on white marble or stucco may be removed by the use of soda ash (caustic soda).

WIRE NETTING

Galvanized wire netting, may used wherever special strength is not required and where there are no objections to it on other grounds, e.g. in window-openings high up in a building. For doors in conspicuous positions an excellent kind of wire netting of various patterns and gauges can be obtained from Ahmedabad in Gujarat.

Woodwork

Being an organic material, wood is vulnerable to rot and insect attack. Some woods, i.e., teak, have an initial resistance but as the protective oils evaporate slowly they become vulnerable. Water penetration is generally the initial cause of trouble so maintenance of roofs and rainwater disposal is vital. Surface treatment of the woodwork with boiled linseed oil or creosote (if in the open where the smell is not objectionable) helps resist the weather and decay by ultra-violet light. Anyone found smoking while working on a wooden building should be dismissed instantly. No pains or expense should be spared in the preservation of any woodwork belonging earlier ages, as specimens of this class of work are exceedingly rare and valuable, and one and all of them, whether they be complete structures like the temples of the Chamba Valley, or doors, pillars like built into some stone or treatment of such woodwork if it is to be successful, may be a difficult and technical. For the preservation of teak wood, periodic applications of boiled linseed oil are efficacious. For other kinds of wood Solignum is generally preferable. If woodwork is found to infected with injurious insects, the pest may be destroyed by means of carbon disulphide or hydrocyanic acid, the wood being afterwards protected against further damage by the application of a suitable preservative.

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