Initial Environment Examination

Project Number: 40648-034
April 2017

IND: Infrastructure Development Investment Program for Tourism - Tranche 3

Subproject: Conservation and Adaptive Reuse of Colonial Heritage in Kapurthala-Gol Kothi, Gulabi Kothi and Buggy Khana, (Package no: PB/IDIPT/T3/13/15)

Submitted by

Project Management Unit, Punjab Heritage and Tourism Board, Chandigarh

Asian Development Bank

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Punjab Heritage and Tourism Promotion Board
Infrastructure Development Investment Programme for Tourism (IDIPT)
(ADB Assisted Project)
Plot No. 03, Sector 38 A, Chandigarh, Ph. 0172-2625952, 5014495
Email:idipt.pb.office@gmail.com

To

The Country Director,
India Resident Mission
Asian Development Bank,
4, San Martin Marg, Chanakyapuri,
New Delhi – 110021

No. PHTPB/IDIPT/2017/197-205

Dated: 11/4/2017

Project: Loan 3223-IND: Infrastructure Development Investment Programme for Tourism (IDIPT) - IEE Report for Package no: PB/IDIPT/T3/13/15: Conservation and Adaptive Reuse of Colonial Heritage in Kapurthala- Gol Kothi, Gulabi Kothi and Buggy Khana

Subject: Submission of revised Initial Environmental Examination (IEE) Report

The revised Initial Environmental Examination (IEE) Report for the contract Package PB/IDIPT/T3/13/15 seeking ADB's concurrence is hereby enclosed with this letter for your approval.

11.4.17
Addl. Project Director

CC:

1. PA to PD, IDIPT-PB
2. PA to APD, IDIPT-PB
3. CGM, PHTPB
4. FCS, IDIPT-PB
5. TL, PMC
6. TL, DSC
7. ESS, IDIPT-PB

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Compliance Matrix to ADB query

Package no. PB/IDIPT/T3/13/15: Conservation and Adaptive Reuse of Colonial Heritage in Kapurthala – Gol Kothi, Gulabi Kothi and Buggy Khana

Sl.no	ADB Query	Response from PMU
1.	The stakeholder consultations (annexure 5) indicated that after conservation of historical structures, the Buggy Khanna may be used as "shopping complex with inner food court" and the Gol Kothi for "boutique hotel with a swimming pool". The environmental assessment after conservation of historical structures along with required permissions from competent authority needs to be incorporated in the IEE report Please incorporate the observations and include the environmental assessment along with associated mitigation measures during operational stage of the proposed works at these historical structures, and submit the revised IEE report to ADB for review and approval.	Noted, the recorded information given in the stakeholder consultation (annexure 5) is as per the personnel opinion of HH Maharaja Sri Sukhjit Singh Sahib Bahadur. As per the proposed interventions (as mentioned in the Detailed Project Report (DPR)), Buggy Khanna shall be reused as "Urban Hatt" having space for public shopping, whereas the Gol Kothi and Gulabi Kothi are proposed to be reused as a "Heritage Hotel" after the proposed conservation and restoration works. The operation of the Heritage Hotels are planned to be developed under the PPP mode and hence obtaining all necessary clearances/ permissions from competent authority are the prime responsibility of the Concessionaire. The environmental mitigation/ management measures that are to be adopted during the operational stage shall be in compliance to the general terms and condition of the Guideline for approval of standalone restaurants – Ministry of Tourism, India and it is the sole responsibility of the Concessionaire and hence updating the IEE report may not be required. With these clarification we request the ADB to approve the IEE report which was shared with you earlier as an email dt 12/09/2016.

Compliance matrix to the Queries from ADB

Package no. PB/IDIPT/T3/13/15: Conservation and Adaptive Reuse of Colonial Heritage in Kapurthala – Gol Kothi, Gulabi Kothi and Buggy Khana

Sl.no	Comments from ADB	Compliance from PMU
1.	We have reviewed the IEE report of captioned sub-project and note that the public consultations have been carried out at Gol Kothi, Gulabi Kothi and Buggy Khana (para 96, page 28) for the proposed works. We further note that the details of these consultations at Gulabi Kothi and Buggy Khana have been provided in annexure 10 of the report. Please provide the public consultation details carried out at Gol Kothi and the attendance sheets of these consultations for all three sub-projects in the report.	Noted, as requested the attendance sheet for the same has been enclosed along with the Annexure 10.

Initial Environmental Examination

Project Number: 40648-034
ADB loan Number: 3223-IND
April 2017

Infrastructure Development Investment Program for Tourism (IDIPT) - Punjab

Subproject –Conservation and Adaptive Reuse of Colonial Heritage in Kapurthala- Gol Kothi, Gulabi Kothi and Buggy Khana

(Package no: PB/IDIPT/T3/13/15)

Prepared by the Government of Punjab

ABBREVIATIONS

ADB	–	Asian Development Bank
CTE	–	Consent to Establish
CTO	–	Consent to Operate
DSC	–	Design and Supervision Consultants
DPR	–	Detailed Project Report
EA	–	Executing Agency
EARF	–	Environmental Assessment Review Framework
EIA	–	Environmental Impact Assessment
EMP	–	Environmental Management Plan
GoI	–	Government of India
GoP	–	Government of Punjab
IDIPT	–	Infrastructure Development Investment Program for Tourism
IEE	–	Initial Environmental Examination
LGC	–	Local Grievance Committee
MC	–	Municipal Council
MoEF&CC	–	Ministry of Environment, Forest and Climate Change
NGO	–	Non-Governmental Organization
O&M	–	Operations and Management
PIU	–	Project Implementation Unit
PHTPB	–	Punjab Heritage and Tourism Promotion Board
PPCB	–	Punjab Pollution Control Board
PMC	–	Project Management Consultants
PMU	–	Project Management Unit
PUC	–	Pollution Under Control
REA	–	Rapid Environmental Assessment
SPM	–	Suspended Particulate Matter
SPS	–	Safeguards Policy Statement
TMP	–	Traffic Management Plan
TDS	–	Total Dissolved Solids
TSS	–	Total Suspended Solids
UNWTO	–	United Nations World Tourism Organization

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EXECUTIVE SUMMARY

1. **Background.** The Infrastructure Development Investment Program for Tourism (IDIPT) Financing Facility (the Facility) will develop and improve basic urban infrastructure and services in the four participating states of Himachal Pradesh, Punjab, Uttarakhand and Tamil Nadu to support the tourism sector as a key driver for economic growth. It will focus on:

(i). Strengthening connectivity to and among key tourist destinations; and
(ii). Improving basic urban infrastructure and services, such as water supply, road and public transport, solid waste management and environmental improvement, at existing and emerging tourist destinations to ensure urban amenities and safety for the visitors, and protect nature and culture-based attractions.

2. Physical infrastructure investments will be accompanied by capacity building programs for concerned sector agencies and local communities for better management of the tourist destinations and for more active participation in the tourism-related economic activities, respectively.

3. There are three subproject locations in this package.

- **Gol Kothi**: It was built by Raja Fateh Singh in the year 1833 A.D. It is a State Protected monument under "Punjab Ancient and Historical Monuments and Archaeological Sites and Remains Act of 1964" was originally known as Kamra Kothi. The Kothi was used as a residential space by kings Fateh Singh, Nihal Singh, Randhir Singh and Kharak Singh.Gol kothi is located at a strategic location on the Mall Road opposite the PWD guest house. The site is easily accessible from all parts of the town through the arterial roads.
- **Gulabi Kothi**: It is a century old building which was used to be the army headquarters before partition. This elegant model of French architecture is situated at the Kanjli Road. The Gulabi Kothi (Bhoot Bangla) is situated at Shanti Nagar.
- **Buggy Khana**: It is an exceptional stable and coach-house complex of the former Maharajas of Kapurthala. It is remarkable especially, for its concentric, circular plan. The Buggy Khana is situated on the Kapurthala-Sultanpur road connecting to the Mall Road, and is located opposite to the entrance of the Darbar Hall

4. **Executing and implementing agencies.** The Executing Agency (EA) is the Department of Tourism (DoT), Punjab. The implementing agency is Punjab Heritage and Tourism Promotion Board (PHTPB), Punjab. Project Management Unit (PMU) is set up at Chandigarh to coordinate the overall project execution and is supported by the Project Management Consultant (PMC). Project Implementation Units (PIU) is set up at Amritsar and is supported by Design Supervision Consultant (DSC). The asset owners of all three subprojects are the Directorate of Cultural Affairs, Archaeology & Archives, Museum, Government of Punjab.

5. **Categorization.** The proposed subproject is classified as Environmental Category "B" as per the Safeguard Policy Statement (SPS), 2009 as there are no significant impacts that are envisioned and accordingly this Initial Environmental Examination (IEE) has been prepared. The IEE shall assess the environmental impacts and provides mitigation and monitoring measures to ensure that there are no significant impacts as a result of the proposed subproject implementation.

6. **Subproject Scope.** The scope of work assigned for this subproject includes-

- Conservation and restoration of the historic building which includes removal of vegetation, repair works, reconstruction of fallen roofs and re-plastering the building.
- Provision of basic services such as electrical, plumbing, fire fighting, HVAC etc.
- Landscaping and Site Development:
    - Provision of adequate lighting at the monument.

    - Provision of public conveniences.
    - Provision of parking facility.
    - Development of landscape area with provision of garden furniture.
- Capacity building for tourism development and management: This will comprise following components:
    - Human resource development: This includes training to the local staff, guides, local community and emphasizing women participation. The subproject will provide employment opportunities in lodging establishments, tourist guides, supply of art and craft material and indirectly through production of vegetables, fruits, local produce etc.
    - Tourism awareness: increasing local participation towards tourism (Social, economic and environment impacts).
    - Management of sector and product development
    - Tourism marketing: This will be done through printed marketing materials to guide or inform visitors about the State's tourist attractions, facilities and services. Information system including website and physical visitor centres to support tourist visits to and within the State.

7. **Description of the Environment.** The subproject components are located in Kapurthala District of Punjab. All the subproject sites are situated in urban areas of Kapurthala town and are surrounded by settlements. The secondary information on the air and noise quality reveals that the subproject area is having less pollution levels.Beas River accounts for surface water in Kapurthala District.There are no protected areas, forests, eco sensitive sites/ areas within or adjacent to the subproject sites.

8. **Environmental Management.** An Environmental Management Plan (EMP) is prepared as part of this IEE, which includes (i) mitigation measures for environmental impacts identified during the implementation stage; (ii) an environmental monitoring program and the responsible entities for mitigating, monitoring and reporting; (iii) public consultation and information disclosure procedure; and (iv) grievance redress mechanism. The EMP will be included in the civil work bidding and contract documents.

9. The subproject locations are selected based on the screening exercises (to identify the level of environmental and social impacts) conducted in the inception stage of the subproject; therefore the anticipated impacts during the implementation of the subproject will be minimum. Nevertheless, the concepts considered in design of the subproject are

- Design and material will be compatible to the local architectural, physical, cultural and landscaping elements;
- Preference will be given to the use of local material and labour as far as possible;
- For the conservation work, local construction materials available in the nearby region shall be utilised as far as possible;
- The paints having low volatile organic compounds (VOC's) shall be used for all painting work(interior and exterior);
- Earth backfill (if any) will be done from the site excavated material; and
- Ensuring all planning and design interventions and decisions are made in consultation with local communities and reflecting inputs from public consultation.

10. During the construction phase, the major impacts may arise due toincrease in air and noise pollution, generation of solid waste. The health and safety of workers anddisturbances causedby the construction activities to the tourists/visitors and nearby habitantsare also considered as major impacts. These are common construction impacts and can be mitigated through adoption of appropriate mitigation measures such as reduction of air and noise pollution through use of appropriate modern equipment's and methodologies, use of proper personal protective equipment'sand minimizing the inconvenience caused by adopting appropriate work plan. In the operational phase, all theinfrastructure facilities will be operated efficientlyby routine maintenance, which should not affect the environment.

11. Mitigation measures have been developed to reduce all negative impacts. Mitigation will be assured by environmental monitoring program to be conducted during the subproject construction. The environmental monitoring program will ensure that all measures are implemented and will determine whether the environment is protected as intended. It will include on- and off-site observations, document checks and consultations with workers and beneficiaries. Any requirements for corrective action will be reported to the ADB.

12. The tourists/ visitors and the local communities of Kapurthala town will be the major beneficiaries of the project. The most noticeable net environmental benefits to the tourists and population of the town will be positive and large as the proposed subproject will improve the conditions ofcultural heritage, tourism facilities and propagate the local traditions and Cultural Heritage of the state. This subproject will provide a common platform for local traditions and values; provide and improve business opportunities for local communities, linked to the cultural and natural heritage tourism.

13. **Consultation, Disclosure and Grievance Redress.** The stakeholder consultations were involved in developing the IEE through discussions, after which views expressed were incorporated into the IEE and in the planning and development of the subproject. The IEE will be made available at public locations in the town and will be disclosed to a wider audience via the ADB and PHTPB websites. The consultation process will be continued and expanded during project implementation to ensure that stakeholders are fully engaged in the project and have the opportunity to participate in its development and implementation. A grievance redress mechanism is described within the IEE to ensure any public grievances are addressed quickly.

14. **Monitoring and Reporting.** The PIU and DSC will be responsible for performing environmental monitoring and they will be supervised by the PMU and PMC. The PIU with support from the DSC will submit quarterly and semi-annual monitoring reports to the PMU. The PMU will consolidate the semi-annual reports in assistance of PMC and will send it to ADB. ADB after approval will post the environmental monitoring reports on its website.

15. **Conclusions and Recommendations.** The proposed subproject is unlikely to cause major environmental impacts. The potential impacts that are associated with design, construction and operation can be mitigated through proper engineering design and the incorporation or application of recommended mitigation measures and procedures. Based on the findings of the IEE, it shall be concluded that there are no significant environmental impacts in implementing this subproject and accordingly the subproject is classified as Category “B” project (as per SPS, 2009) thus further study or detailed Environmental Impact Assessment (EIA) is not required.

I. INTRODUCTION

16. **Background.** The Infrastructure Development Investment Program for Tourism Financing Facility (the Facility) will develop and improve basic urban infrastructure and services in the four participating states of Himachal Pradesh, Punjab, Uttarakhand and Tamil Nadu to support the tourism sector as a key driver for economic growth. It will focus on:

(i) Strengthening connectivity to and among key tourist destinations; and

(ii) Improving basic urban infrastructure and services, such as water supply, road and public transport, solid waste management and environmental improvement, at existing and emerging tourist destinations to ensure urban amenities and safety for the visitors, and protect nature and culture-based attractions.

17. Physical infrastructure investments will be accompanied by capacity building programs for concerned sector agencies and local communities for better management of the tourist destinations and for more active participation in the tourism-related economic activities, respectively.

18. The subproject interventions proposed at Kapurthala comes under the Western circuit[1].The scope of the project isto enhance protection and management of cultural tourism assets at Kapurthala. The districtis part of the Sikh Heritage Trail (Source: Punjab Tourism Development Master Plan, 2008-2023; United Nations World Tourism Organization (UNWTO)).

19. **Executing and Implementing Agencies.** The Executing Agency (EA) is Department of Tourism (DoT), Punjab. The implementing agency is the Punjab Heritage and Tourism Promotion Board (PHTPB) Punjab. Project Management Unit (PMU) is set up at Chandigarh to coordinate the overall project execution. Project Management Consultant (PMC) at Chandigarh provides assistance to PMU in the project execution. Project Implementation Unit (PIU) is set up at Amritsar and it is supported by Design Supervision Consultant (DSC).For this subproject, the asset owners of all three sub projects (Gol Kothi, Gulabi Kothi and Buggy Khana) are Directorate of Cultural Affairs, Archaeology & Archives, Museum, Punjab.

20. **Proposed sub-project**. The objective of this subproject is (i)to improve, conserve and manage physical and environmental image of the historical sites/route with planned interventions consistent to its historic status, revitalization of historic city along with sustainable model for citizens and tourists, (ii) to educate visitors about the historical structures, culture and the values of city and (iii) provide tourist infrastructure facilities along with protecting the heritage value of the property and to enhance tourist attractions with all facilities.

21. The major scope of works assigned for this subproject includes-

- Conservation and restoration of the historic building which includes removal of vegetation, repair works, reconstruction of fallen roofs and re-plastering the building.
- Provision of basic services such as electrical, plumbing, firefighting, HVAC etc.

[1] The Western Circuit is located in the north-western segment of the state and includes the districts of Amritsar, Gurdaspur and Kapurthala. The area borders Pakistan in the west and the River Beas flows through the eastern portion. (Source: As per Punjab Tourism Development Master Plan, 2008-2023; United Nations World Tourism Organization (UNWTO)

- Landscaping and Site Development:
    - Provision of adequate lighting at the monument.
    - Provision of public conveniences.
    - Provision of parking facility.
    - Development of landscape area with provision of garden furniture.
- Capacity building for tourism development and management: This will comprise following components:
    - Human resource development: This includes training to the local staff, guides, local community and emphasizing women participation. The subproject will provide employment opportunities in lodging establishments, tourist guides, supply of art and craft material and indirectly through production of vegetables, fruits, local produce etc.
    - Tourism awareness: increasing local participation towards tourism (Social, economic and environment impacts).
    - Management of sector and product development
    - Tourism marketing: This will be done through printed marketing materials to guide or inform visitors about the State's tourist attractions, facilities and services. Information system including website and physical visitor centres to support tourist visits to and within the State.

22. **Categorization.** As per the Asian Development Bank's (ADB) Safeguard Policy Statement 2009 and in line with the Environment Assessment & Review Framework (EARF), the proposed sub-project is categorized as 'B' and accordingly an Initial Environmental Examination (IEE) has been prepared. The IEE was based on the review of sub-project site plans, reports, field visits, secondary data (to characterize the environment and identify potential impacts) interviews and discussions with the stakeholders.

23. **Purpose of the IEE.** This report gives an account of the initial environmental examination (IEE) of the subproject as per Detailed Design. The environmental impacts for this contract package are primarily related to construction activities. The proposed construction activities are selected considering the historical and cultural value of the city. There will be construction impacts associated with proposed civil and conservation works but these will be of limited intensity and of short duration. Therefore, as per the Asian Development Bank's (ADB) Environmental Assessment Guidelines (SPS 2009), the subproject components are categorized as 'B' and accordingly an IEE has been carried out. This IEE provides mitigation measures for impacts related to location, design, construction, operation, and maintenance. The REA checklist is attached as **Annexure-1** with this report.

II. DESCRIPTION OF THE SUB PROJECT

A. Existing Condition and Need for the Subproject

Locations

24. Kapurthala district is situated 163 km to the west of Chandigarh city. It was the capital of Kapurthala state, a princely state in British India known for "Palaces and Gardens". The city of Kapurthala has several buildings and places of interest linked to its local history such as Sainik school (formerly Jagatjit Palace, Shalimar Bagh, District court buildings, Moorish Mosque, Panj Mandir, State Gurudwara, Guru Nanak sports Stadium, Jagatjit club and the NJSA Government college. The sites proposed in subproject are located in proximity to the Mall road of the city and are connected with arterial roads.

25. Besides the heritage buildings that are concentrated in the city centre, some of the other existing and potential tourism sites in Kapurthala include the Science City, the Rail Coach factory, and the Kanjli Wildlife Wetlands. About 25 km southwest of Kapurthala and linked by the Kali Bein is Sultanpur Lodhi, an important pilgrimage site of the Sikh religion.

The accessibility of the two towns presents opportunities for establishing tour packages that include sites in both towns. The subproject has three locations within Kapurthala Town (**Figure-1).**

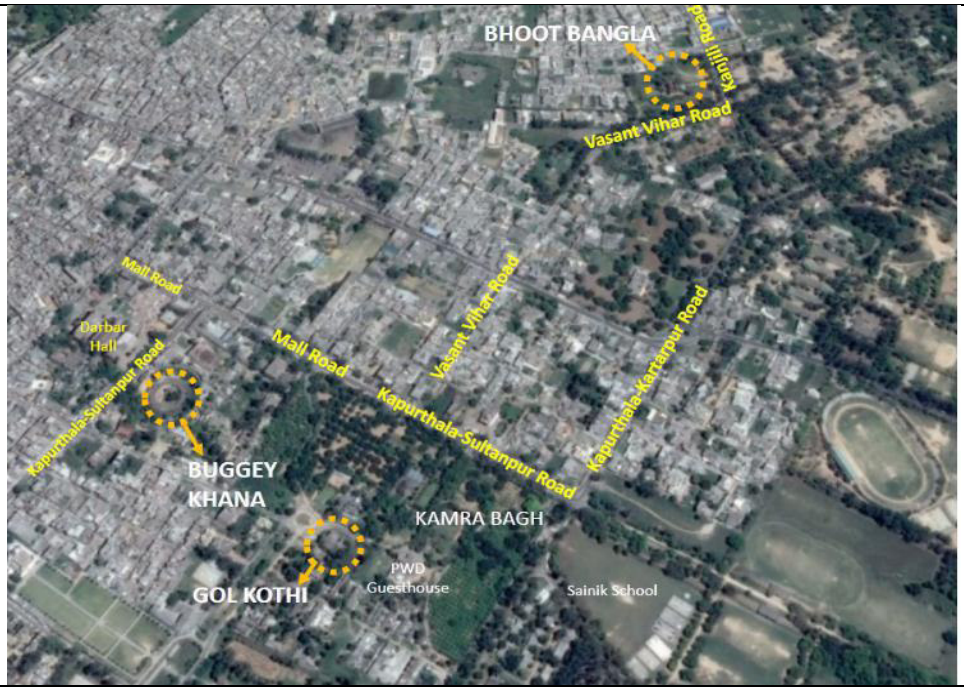

Figure 1: Location map of GolKothi, GulabiKothi and Buggy Khana

Brief History

26. **Gol Kothi:** The Gol Kothi was originally known as "Kamra Kothi". It was built by Raja Fateh Singh in the year 1833 A.D and was used as a residential space by the kings of Kapurthala. A marble tablet fixed on the entrance wall has engraved on it 'Their Highnesses Raja-i-Rajgan Fateh Singh, Nihal Singh, Randhir Singh, and Kharak Singh stayed in this house for many years and His Highness Maharaja Jagatjit Singh from the age of seven in 1879 A.D. to the age of eighteen. When Maharaja Jagatjit Singh shifted his residence from here, it became the 'Indian Guest House'. It was later used as the residence of Civil Surgeon till the 1960's. It was abandoned after it was perceived to be unsafe.

Figure 2: Historical View of Gol Kothi

Image Source: HH Maharaja Sri Sukhjit Singh Sahib Bahadur

27. **Gulabi Kothi (Bhoot Bangla):** The Gulabi Kothi (Bhoot Bangla) was initially, used as a residence of the royals, and later was used as the army headquarters until the partition. The Neo-gothic structure with French influence had many large rooms which at one time were also used as the state guest house. It is now partially used as the Home Guards office. No foundation stone is found here about the year of construction of the building. However, the materials used for the building, especially the size of the brick, shows that it may not be before Maharaja Fateh Singh Ahluwalia's time. The brick joint and plaster with kankar and lime seen here, was used till the earlier years of Maharaja Jagatjit Singh's rein, after which cement became more common. The fine wood used for the ceilings and the roof also shows that it was built during the nineteenth century.

28. **Buggy Khana:** The Buggy Khana was the stable and coach-house complex of the former Maharaja's of Kapurthala. The building was initiated and executed by the state chief engineer, Dallimore. It was one of the large number of buildings raised during the development phase between 1874-1890, during the administration of the state by the British Residency during the mental derangement' of Raja Kharak Singh and the minority of Maharaja Jagatjit Singh. A memorial was also constructed outside the Buggy Khana for the horses that were used by Maharaja Jagatjit Singh during his lifetime.

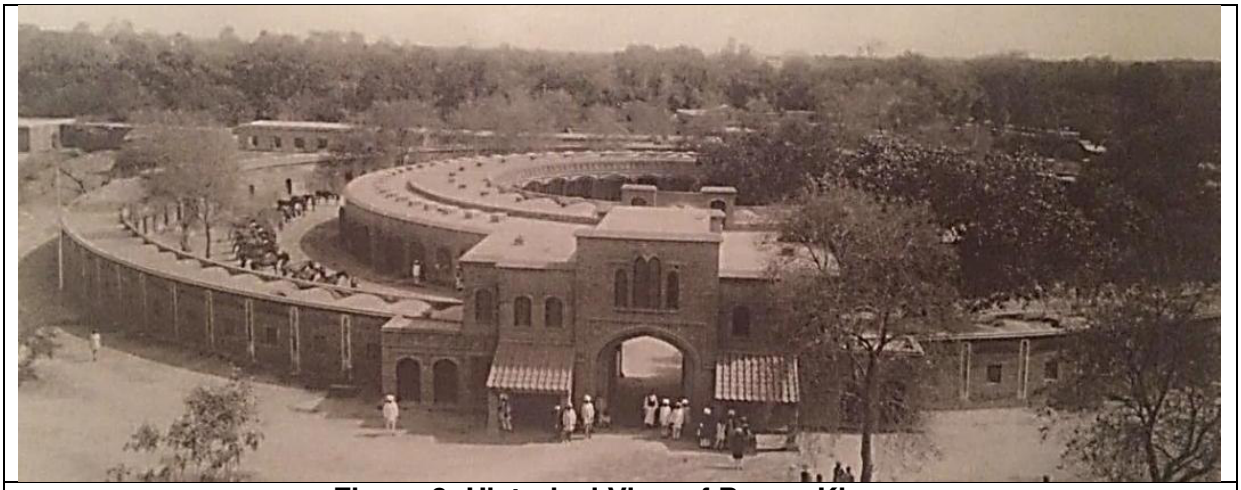

Figure 3: Historical View of Buggy Khana

Image Source- Archives of HH Maharaja Sri Sukhjit Singh Sahib Bahadur

Existing Conditions

29. **Gol Kothi:** The building is in a state of extreme distress. The building has been spatially reconfigured (historically), is structurally unstable and lays derelict requiring immediate attention. Some areas of the structure are inaccessible as they are in various stages of disrepair brought about by non-use and neglect. The roof has caved in at many places and has completely deteriorated, resulting in water percolation and vegetation growth. Many of the architectural elements have vanished due to the vagaries of weather on the exterior. Disintegration of plaster and delamination of brickwork of the walls, resulting in seepage of water and cracks in the walls is observed. Carved wooden doors and windows, fixed with glasses in multi-foiled arched frames are in poor shape. The arches and the masonry have cracks. Deterioration of timber girders and purlins is seen in many rooms. The access to the basement is blocked by rubble, restricting entry to the floor. The service corridor on the rear side near the elliptical room has crumbled down. Concrete slab substituting the original roof cuts across internal decorations and details.

30. **Gulabi Kothi:** The Gulabi Kothi is in a structurally precarious condition with collapsed roofs and extensive vegetation growth on the upper levels. The decay is accentuated as most of the rooms are not in use. Although most of the architectural details are in-situ, they are in a poor condition, the balconies have deteriorated, cast iron grills have

been lost, timber roofs have decayed, etc. The ground floor of the Gulabi kothi is currently in use by the Home Guard Police Department with the first floor being unused & declared unsafe. The rooms that are in use are also in poor condition, as most of the rooms display severe disintegration of plaster with signs of dampness. The original flooring has been replaced at some places. Of the two halls, the roof of one has collapsed and is locked and not accessible. The other hall has wooden coffered ceilings which are in good condition but cracks and dampness is visible at the joints of the celling and wall. The dampness is probably on account of water seepage from the open courtyard above it.

31. All the rooms in the top floor are nearly in a similar condition. The plaster of the wall has disintegrated severely, exposing the brickwork to the elements. There is also loss of binding material between the brickwork and in some places there is delamination of the brick surface. The fireplaces are blocked and many decorative elements have worn off. The purlins of the timber roof have decayed and have started giving away. The roof of the verandah along the courtyard has caved in at some places. The doors and windows are partially damaged with decaying timber elements and broken glass panes. The timber balconies have decayed completely and are not accessible. The roof is mostly inaccessible due to collapse of roof and existing vegetation. The basement level is completely inaccessible.

32. **Buggy Khana:** The inner circle is used as offices and store rooms by the Punjab Police Department, while the others are used by the District Court as the "maal khaana" or store for the disputed properties, most of which are locked and inaccessible. The outer structure is mostly derelict and overgrown with vegetation. Some of the cells are in a poor condition as the roofs have caved in. Historically, the building could have been an exposed brick structure; however, some areas retain an ochre colour lime wash. The cells of the inner circle has pointed arched openings with diagonal timber panels; while some of these doors are surviving with their ironmongery intact, others have been replaced with metal doors.

33. There have been incremental repairs that have been undertaken in the structure with standard brickwork as well as in cement mortar. A toilet complex has been built at the centre of the inner courtyard which is incongruous to the entire ensemble. Furthermore there have been incremental interior changes such as the application of vitrified tiled floorings, erection of false ceilings and air-conditioning as well as aluminium doors and windows which have been added within the historic fabric. Within the open space many impounded vehicles have been parked and have deteriorated with the vegetation growing in and around it. Some cells of the inner circle have had the partition walls broken to form a parking space. In some of the cells of the outer periphery some amount of encroachment is visible, two or three stories have been added atop the single storied cells and is a major threat to the structure and needs to be addressed on priority. The outer ring seems to have double vaulted roof, with brick jali ventilating the vault. The cells, as well as its roof are inaccessible due to extensive vegetation growth and access blocked by impounded vehicles.

34. Above descriptions shows that all the three structures are in worse conditions of deterioration and need immediate attention for their restoration. Therefore proposed project has been designed to address all the issues of their restoration. **Annexure 2** shows the site photo of the subproject area.

B. Proposed Subproject Components

35. The proposed works under this sub project are as follows

Table 1: Proposed Subproject Interventions

Sl.no	Subproject location	Proposed Interventions
1	Gol Kothi	• Conservation and restoration of the historic building which includes removal of vegetation, repair works, reconstruction of

Sl.no	Subproject location	Proposed Interventions
		fallen roofs and re-plastering the building. • Provision of basic services such as electrical, plumbing, firefighting, HVAC etc. • Landscaping and Site Development: o Provision of adequate lighting at the monument. o Provision of public conveniences. o Provision of parking facility. o Development of landscape area with provision of garden furniture. • Capacity building for tourism development and management, this will comprise following components: o **Human resource development**: This includes training to the local staff, guides, local community and emphasizing women participation. The subproject will provide employment opportunities in lodging establishments, tourist guides, supply of art and craft material and indirectly through production of vegetables, fruits, local produce etc. o **Tourism awareness**: Increasing local participation towards tourism (Social, economic and environment impacts). o Management of sector and product development o **Tourism marketing**: This will be done through printed marketing materials to guide or inform visitors about the State's tourist attractions, facilities and services. Information system including website and physical visitor centres to support tourist visits to and within the State.
2	Gulabi Kothi	• Conservation and restoration of the historic building which includes removal of vegetation, repair works, reconstruction of fallen roofs and re-plastering the building. • Adaptive reuse of the building as Heritage Hotel which will be given on PPP mode. • Landscaping and Site Development: o Provision of Signage's and information boards of uniform design. • Capacity building for tourism development and management. This will comprise following components: o **Human resource development**: This includes training to the local staff, guides, local community and emphasizing women participation. The subproject will provide employment opportunities in lodging establishments, tourist guides, supply of art and craft material and indirectly through production of vegetables, fruits, local produce etc. o **Tourism awareness**: Increasing local participation towards tourism (Social, economic and environment impacts). o Management of sector and product development • **Tourism marketing**: This will be done through printed marketing materials to guide or inform visitors about the State's tourist attractions, facilities and services. Information

Sl.no	Subproject location	Proposed Interventions
		system including website and physical visitor centres to support tourist visits to and within the State.
3	Buggy Khana	• Conservation and restoration of the historic building which includes removal of vegetation, repair works, reconstruction of fallen roofs and re-plastering the building. • Provision of Services such as electrical, plumbing, firefighting, HVAC etc. • Adaptive reuse of the building as "Urban Hatt" which will be the destination as a public space for shopping, cultural activity, traditional food and a place to congregate with the old heritage of Kapurthala. • Landscaping and Site Development: o Provision of adequate lighting at the monument. o Provision of public conveniences. o Provision of parking facility. o Development of landscape area with provision of garden furniture. • Capacity building for tourism development and management. This will comprise following components: o **Human resource development**: This includes training to the local staff, guides, local community and emphasizing women participation. The subproject will provide employment opportunities in lodging establishments, tourist guides, supply of art and craft material and indirectly through production of vegetables, fruits, local produce etc. o **Tourism awareness**: increasing local participation towards tourism (Social, economic and environment impacts). o Management of sector and product development o **Tourism marketing**: This will be done through printed marketing materials to guide or inform visitors about the State's tourist attractions, facilities and services. Information system including website and physical visitor centres to support tourist visits to and within the State.

C. Implementation Schedule

36. The Implementation Schedule for this subproject is worked out to be 18 months from the date of award of the contract.

III. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

A. ADB Policy

37. ADB requires the consideration of environmental issues in all aspects of ADB's operations, and the requirements for environmental assessment are described in ADB SPS, 2009. This states that ADB requires environmental assessment of all project loans, program loans, sector loans, sector development program loans, and loans involving financial intermediaries, and private sector loans.

38. **Screening and Categorization.** The nature of the environmental assessment required for a project depends on the significance of its environmental impacts, which are related to the type and location of the project, the sensitivity, scale, nature and magnitude of its potential impacts, and the availability of cost-effective mitigation measures. Projects are screened for their expected environmental impact and are assigned to one of the following four categories:

- **Category A.** Projects could have significant adverse environmental impacts. An EIA is required to address significant impacts.
- **Category B.** Projects could have some adverse environmental impacts, but of lesser degree or significance than those in category A. An IEE is required to determine whether significant environmental impacts warranting an EIA are likely. If an EIA is not needed, the IEE is regarded as the final environmental assessment report.
- **Category C.** Projects are unlikely to have adverse environmental impacts. No EIA or IEE is required, although environmental implications are reviewed.
- **Category FI.** Projects involve a credit line through a financial intermediary or an equity investment in a financial intermediary. The financial intermediary must apply an environmental management system, unless all Projects will result in insignificant impacts**.**

39. **Environmental Management Plan.** An EMP which addresses the potential impacts and risks identified by the environmental assessment has been prepared. The level of detail and complexity of the EMP and the priority of the identified measures and actions will be commensurate with the Project's impact and risks.

40. **Public Disclosure.** The IEE will be put in an accessible place (e.g., local government offices, libraries, community centres, etc.), and a summary translated into Hindi/Punjabi for the project affected people and other stakeholders shall also be disclosed. The following safeguard documents will be put up on ADB's website so that the affected people, other stakeholders, and the general public can provide meaningful inputs into the project design and implementation:

- For environmental category A projects, a draft EIA report at least 120 days before Board consideration;
- Final or updated EIA and/or IEE upon receipt; and
- Environmental monitoring reports submitted by the Project Management Unit (PMU) during project implementation upon receipt.

B. National and State Laws

41. Implementation of the subproject will be governed by the national and State of Punjab environmental acts, rules, regulations, and standards. These regulations impose restrictions on activities to minimize/mitigate likely impacts on the environment. It is the responsibility of the project executing and implementing agencies to ensure subprojects are consistent with the legal framework, whether national, state or municipal/local. Compliance is required in all stages of the subproject including design, construction, and operation &maintenance.

42. The realm of environmental regulations and mandatory requirements for the proposed sub-project is shown in **Table 2**. The Environmental Impact Assessment (EIA) notification, 2006 by the Ministry of Environment and Forest& Climate Change (MoEF&CC, GoI) specifies the mandatory environmental clearance requirements. Accordingly, projects

and activities are broadly categorized in two categories[2] - Category A and Category B, based on the spatial extent of potential impacts and potential impacts on human health and; natural and man-made resources.

Table 2: Environmental Regulatory Compliance

Sub-Project	Applicability of Acts/Guidelines	Compliance Criteria
Conservation and adaptive reuse of colonial heritage in Kapurthala- GoI Kothi, Gulabi Kothi and Buggy Khana	The Environment Protection Act, 1986 - under EIA notification, 2006 (and its subsequent amendments in 2009) provides for categorization of projects into category A and B, based on extent of impacts.	The sub-project is not covered in the ambit of the EIA notification as they are not covered either under Category A or Category B of the notification. As a result, the categorization, and the subsequent environmental assessment and clearance requirements, either from the State government or the GoI is not triggered.
	ADB's Safeguard Policy Statement 2009	Categorization of subproject components into A, B or C and developing required level of environmental assessment for each component. The subproject has been Categorized as B and accordingly an IEE has been prepared
	The Wildlife Protection Act, 1972, amended in 2003 and 2006, provides for protection and management of Protected Areas.	Not applicable. As there are no wildlife protected areas within or in the vicinity of the subproject site
	The Forest Conservation Act, 1980 and its subsequent amendments necessitate obtaining clearance from the MoEF&CC for diversion of forest land for non-forest purposes.	Not applicable, the subproject site is not located within or in the vicinity of the forest area. Felling of trees are not envisaged in this subproject implementation and hence tree felling/ cutting permissions are not required
	Water (Prevention and control of pollution) Act, 1974 and; Air (prevention and control of pollution) Act, 1981	Consent to Establishment (CTE) and Consent to Operation (CTO) has to be obtained by the Contractor from the PPCB for setting up of diesel generators and batching plant (if any), prior to the commencement of construction works. Apart from this the CTE and CTO are also required for stone crushers (if any) and quarry sites if they are being set up exclusively for this project, otherwise it has to be ensured that the construction materials are procured from approved/ licensed quarry sites and stone crushers.
	The Ancient Monuments and Archaeological Sites and Remains	Not applicable as these sites and monuments are not under the ambit of this

[2]All projects or activities included as Category 'A' in the Schedule, including expansion and modernization of existing projects or activities and change in product mix, will require prior environmental clearance from the Central Government in the Ministry of Environment and Forest& Climate Change (MoEF&CC) on the recommendations of an Expert Appraisal Committee (EAC) to be constituted by the Central Government for the purposes of this notification; All projects or activities included as Category 'B' in the Schedule, including expansion and modernization of existing projects or activities as specified in sub paragraph (ii) of paragraph 2, or change in product mix as specified in sub paragraph (iii) of paragraph 2, but excluding those which fulfil the General Conditions (GC) stipulated in the Schedule, *will* require prior environmental clearance from the State/Union territory Environment Impact Assessment Authority (SEIAA). The SEIAA shall base its decision on the recommendations of a State or Union territory level Expert Appraisal Committee (SEAC) as to be constituted for in this notification. In addition, General Condition (GC) of the notification specifies that any project or activity specified in Category 'B' will be treated as Category A, if located in whole or in part within 10 km from the boundary of: (i) Protected Areas notified under the Wild Life Protection) Act, 1972, (ii) Critically Polluted areas as notified by the Central Pollution Control Board from time to time, (iii) Notified Eco-sensitive areas, (iv) inter-State boundaries and international boundaries.

Sub-Project	Applicability of Acts/Guidelines	Compliance Criteria
	Act, 1958, and the rules, 1959 provide guidance for carrying out activities, including conservation, construction and reuse in and around the protected monuments.	Act.
	Punjab Ancient and Historical Monuments and Archaeological Sites and Remains Act of 1964- An Act to provide for the preservation of ancient and historical monuments and archaeological sites and remains other than those of national importance, for the regulation of Archaeological excavations and for the protection of sculptures, carvings and other like objects.	Gol Kothi is a state protected monument. Therefore NOC has to be obtained from Directorate of Cultural Affairs, Archaeology & Archives, Museum, Government of Punjab.
	Wetland rules, 2010	The proposed interventions are planned to be developed within the existing Gol Kothi, Gulabi Kothi and Buggy Khana and the interventions are restricted only to renovation work and hence it shall be concluded that the provision given under the Wetland Rules 2010 are not applicable for this subproject.

43. The above **Table 2** indicates that the proposed subproject does not need to go through a full-scale environmental assessment process; as the scale of impacts and categorization of the sub-project components will not require consent/ clearances from Competent Authorities. Therefore, any further approvals or clearances from the GoI or GoP are not envisaged. The ADB guidelines, stipulate addressing environmental concerns, if any, of a proposed activity in the initial stages of Project preparation. For this, the ADB Guidelines categorizes the proposed components into categories (A, B or C) to determine the level of environmental assessment required to address the potential impacts. This subproject has been categorized as B. Accordingly this IEE has been prepared to address the potential impacts, in line with the recommended IEE content and structure for Category B projects.

IV. DESCRIPTION OF ENVIRONMENT

A. Physical Environment

Climate

44. The climate of the Kapurthala District may be divided into four seasons. The cold season starts from mid-November to early March, which is followed by the hot season which lasts till the end of June. The temperature varies between 41°C (mean daily maximum) and 27°C (mean daily minimum).With the onset of the south-west monsoon in the district by about the beginning of July, there is an appreciable drop in the day temperature. After the monsoon by about the mid-September, there is a rapid drop in the temperature, especially during night. January is usually the coldest month with the mean daily maximum temperature at about 19°C and the mean daily minimum temperature at about 6°C.

Rainfall

45. The average annual rainfall in the district is 695.6 mm. On an annual average, there are about 33 rainy days. The rainfall generally increases from the south-west towards the north-east. About 70 percent of the annual rainfall is received during the southwest

monsoon, i.e. July to September (July being the wettest month). The district also receives some rainfall during the period from December to March in association with passing western disturbances and these amounts to about 12 percent of the annual rainfall.

Geology & Soil

46. The Kapurthala district is occupied by Indo-Gangetic alluvim. The major portion of this region lies in the river tract falling between the Beas and Black Bein (Kali Bein) and is called 'BET'. To the south of the Black Bein lies the tract known as 'Dona'. The word 'Dona' means that the soil is formed of two constituents, sand and clay with sand predominating. The Phagwara region consists of the Sirwal, Dhak and Manjki tracts lying roughly in the North East, middle and South-East of the tehsils. Sirwal possesses the characteristics of the 'BET'. The numerous hill streams coming down from Hoshiarpur District keep the soil moist all the year round. Some of these streams are silt laden and at first deposit fertile soil though their later deposits are more and more sandy. Due to the existence of these drainage channels patches and strata of hard clay are also to be found.

47. The major soil types found in the district are the arid brown soils and Tropical Arid brown soils. The arid brown soils are found mostly in southern parts of the district and Tropical Arid brown soils are found in the Northern part and Phagwara block of the district. The arid brown soils are calcareous in nature and Tropical arid brown soil is deficient in nitrogen, potassium and phosphorus.

Surface water

48. Beas River accounts for surface water in Kapurthala District. All through the course of Beas River, a strip of shallow alluvial soil fringes its bank which is subject to inundation during the rainy season. The main channel of the river is broad, dotted with islands and wide pools. The depth of water varies from about 1.5m during the dry season to about 4.5m during the rainy season. The rivulet Kali Bein is the chief tributary of the Beas in Kapurthala district. The water quality information obtained from the Central Pollution Control Board (CPCB), New Delhi has been taken to describe the pollution status/ surface water quality of the Beas River. The furnished information in theTable 3 is based on a study under MINARS (Monitoring of Indian Aquatic Resources Series) conducted across India to monitor the pollution levels of all the perennial river systems.The subproject site is located around 7.0km (aerial distance) from the River Beas (Kanjli Wetlands)

Table 3: Surface Water Quality - River Beas

Sl.no	Parameters	Units	Beas water Quality	CPCB Norms for Surface water
1.	Temperature	°C	18	40
2.	DO	mg/l	6.9	>4
3.	pH	mg/l	7.7	6.5 to 8.5
4.	Conductivity	µmhos/cm	354	-
5.	COD	mg/l	5.2	-
6.	BOD	mg/l	.8	<3
7.	Nitrate	mg/l	2.2	-
8.	Nitrite	mg/l	1	-
9.	Ammonia	mg/l	1	-
10.	Fecal Coliforms	MPN/100ml	20	<2500
11.	Total Coliforms	MPN/100ml	280	<5000

Source: MINARS, CPCB Delhi

49. The outcome of the analysis shows, the water quality of the River Beas is within the stipulated limits prescribed by the Central Pollution Control Board (CPCB) for surface water quality.

Ground Water

50. Water quality data obtained from the CGWB shows that the groundwater samples representing shallow aquifers reveals that groundwater is alkaline in nature. The Electrical Conductivity (EC) of water samples is either fresh or very saline. Concentration of chemical constituents, in most of the water samples are within the permissible limit of drinking water standards. However in few water samples, the EC is more than 3000 µs /cm, Fluoride is more than 1.5mg/l, NO_3 is above 45mg/l and Iron (Fe) is more than 1.0mg/l. Excess Iron concentration (more than1.0mg/l) was observed at Kapurthala (1.82mg/l). The bicarbonate and chloride are the dominant anions. The quality of groundwater is of permissible class for domestic purpose and can be used for drinking purposes.

Ambient Air and Noise Quality

51. The ambient air quality for the subproject area has been established by using the air quality monitoring information, which was conducted under IDIPT under running project of Darbar Hall close to Buggy Khana in Kapurthala. The monitored results are shown in the**Table 4**.

Table 4: Ambient Air and Noise Quality of Kapurthala (Under IDIPT, Punjab)

A: Ambient Air Quality of Kapurthala				
Parameters	**Darbar Hall, Kapurthala**	**Standards (as per CPCB notification 18.11.2009)**		
		Industrial, Residential, rural and other areas (24 hours basis)		
$PM_{2.5}$ (µg/m^3)	40	60		
PM_{10} (µg/m^3)	61	100		
COmg/m^3	Not Detectable	2.0 (8 hours basis)		
SO_x (µg/m^3)	12	80		
NO_x (µg/m^3)	15.5	80		
B: Ambient Noise Quality at Darbar Hall, Kapurthala				
Parameters	**Darbar Hall, Kapurthala**	**Standards (as per the Noise Pollution (Regulation and Control) Rules 2000)**		
		Residential	Commercial	Industrial
Noise level in day time dB(A)	62.7	55	65	75

Source: IDIPT, PIU, Amritsar

52. From the observation, it shall be concluded that the recorded ambient air quality is well within the limits in comparison with the NAAQM standards. The recorded noise levels are also within the stipulated limits; however, it is very close as it may exceed the noise levels of the commercial area. The increase in noise level is due to the movement of traffic in the road, which is located close to the subproject area.

B. Ecological Environment

53. **Flora.** The floral diversity consists of scattered Khair (*Acacia catechu*), Chhal (*Anogeisus latifolia*), Jhingan (*Lanea grandis*), Kikar (*Acacia nilotica*) Phalahi (*Acacia modesta*), Ber (*Zizyphus mauritiana*), Shisham (*Dalbergia sissoo*), Neem (*Azadirachta indica*), Mango (*Mangifera indica*), Dhak (*Butea monosperma*) etc., Shrubs such as Garna (*Carissa spinarum*), Mehnder (*Dodona viscasa*), Mallah (*Zizyphus nummularia*) Gandhala (*Marraya koenigil*), Basuti (*Adathoda vasica*), jhav(*Artemesia spp*), Kair (*Capparis decidua*), Panwar (*Cassia tara*), Phulbuti (*Lantana camara*), etc. and grasses such as (*Saccharum bengalenese*).

54. The forest strips have mostly artificially raised plantations like Shisham (*Dalbergia sissoo*), Eucalyptus (*Edcalyptus spp*), Siris (*Albizzia lebbek*), Mango (*Mangifera indica*) Jaman (*Syzygium communi*) Tun (*Cedrela toona*) Neem (*Azadirachta indica*). Some of the

mixed plantations are Amaltas (*Cassia fistula*) Jacranda (*Jacranda ovalifolia*), Kachnar (*Bauhincavariegata*), Bottle brush (*Callistemon vimnalis*) Gulmohar (*Delomixrigia*) Amla (*Emblicaofficivalis*) etc.There is no endangered flora identified in the project area

55. **Fauna**.The main animals found in these areas are Blue Bull (*Bose laphustragocamelus*), Wild boar (*Sus scrofa*), Sambhar (*Cervas unicolor*), Jackal (*Canis aureus*), Common Mongoose (*Herpestes spp.*), Indian Porcupine (*Hystrix indica*) and Rhesus Monkey (*Macaca mulatta*) etc.

The common birds found in the district are :House crow (*Corvussplendens*), Indian cormorant (*Phalacrocorax fuscicollis*), Little cormorant (*Microcarboniger*), Indian darter or Snake bird (*Anhinga melanogaster*), Indian parakeets (*Psitta culaeupatria*) , Rose-ringed parakeets (*Psittaculakrameri*), Shikra (*Accipiter badius*), sparrow-hawk (*Accipiter nisus*), Red-headed merlin (*Falco chicquera*), Indian common night jar (*Caprimulgusasiaticus*), Green pigeon (*Treronpompadora*), Blue rock pigeon (*Columba livia*), Rufous turtle dove (*Streptopeliaorientalis*), Ring dove (*Strepto peliarisoria*), Spotted dove (*Spilopeliachinensis*), Common peafowl (*Pavo cristatus*), Bush quail (*Perdiculaasiatica*), Indian button quail (*Turnix suscitator*), Common quail (*Coturnix coturnix*), Grey partridge (*Perdixperdix*), Common coot (*Fulicaatra*), Purple moorhen (*Porphyrioporphyrio*), Lapwing pee-wit (*Vanellusvanellus*), Fantail snipe (*Gallinagogallinago*), Weaver bird (*Ploceusphilippinus*), red munia (*Amandavaamandava*), Indian robin (*Saxicoloidesfulicatus*), Asian koel (*Eudynamysscolopaceus*), Spotted munia (*Lonchurapunctulata*), Kingfisher (*Alcedoatthis*), Small blue king fisher (*Alcedoatthis*), Common sparrow (*Passer domesticu*), Vulture (*Gyps indicus*), Flower pecker (*Dicaeumtrigonostigma*), and Black-winged kite (*Elanus caeruleus*).There is no endangered fauna identified in the project area.

56. **Forest and Protected Areas.** Kanjli Wetland (under the Ramsar Convention) is the only protected area situated in the Kapurthala district and it is located nearly 7km away from the subproject areas. It is a very popular site for bird watching and boating. Other than this, there are no other protected areas (national parks, sanctuaries, wetland etc.) in the vicinity of the subproject site.

C. Socio Cultural and Economic Environment

Demographic profile

57. As per the 2011 census, Kapurthala district has a population of 815,168. This gives it a ranking of 481st in India (out of a total of 640). The district has a population density of 499 inhabitants per sq.km. Its population growth rate over the decade 2001-2011 was 8.37%.Kapurthala has a sex ratio of 912 females per 1000 males and a literacy rate of 80.2%.

Table 5: Population Data of Kapurthala District

Population Distribution	2001		2011	
	Punjab	Kapurthala	Punjab	Kapurthala
Area (Sq.km)	50,362	1,633	50,362	1,633
Avg. HH size	5.6	5.5	5.0	4.9
Total Population	24,358,999	754,521	27,743,338	815,168
AAGR (1991-2001-2011)	1.8	1.6	1.3	0.8
Total Urban Pop	8,262,511	246,527	10,399,146	282,462
Total Rural Pop	16,096,488	507,994	17,344,192	532,706
% of Urban Population	33.92	32.67	37.48	34.65

Source: Compiled from Census of India 2001 and 2011 (AAGR: Annual Average Growth Rate)

58. **Population density.** Population density of Punjab is 551 per sq.km in 2011. The population density of Kapurthala is 499 per sq.km in 2011, which is higher than the value of 2001 census (462 Sq.km).

59. **Literacy rate.** Average literacy rate for Kapurthala District was 80.2% as per 2011 census which is higher in comparison to the Punjab state literacy average of 75.8%.

60. **Sex ratio.** The sex ratio (as per 2011) was 912 females per 1000 males, which is higher than the 2001 figures (888 females per 1000 males).

61. **Employment.** Agriculture is the main occupation of people of Kapurthala in the rural areas of the district. There are some industries in urban areas where workers are employed from nearby villages and towns. As per 2011 census, the Workforce Participation Rate in the Kapurthala District is 35%, which is slightly lower than Punjab state average of 36%. Kapurthala District Workforce Participation was 34.8% in 2001 which has decreased to 34% in 2011.

62. **Agriculture.** Major field crops are rice, maize, wheat, rapseed/mustard, sunflower and sesame. Apart from these field crops green vegetables, potato and onion are major cash crops. Major horticultural crops are kinnow, orange, lemon, mangoes, litchi, guava, pears, peach, plum, grapes, ber and amlas.

Industrial profile

63. Kapurthala is home to several medium and large scale industries. Some of these are

- **Rail Coach Factory:** A Govt. Of India enterprise and premier in manufacturing of rail coaches,
- JCT Mills Phagwara (a sub-division of Kapurthala district): one of the most successful textile mills in India
- **SSK**: one of India's oldest and biggest manufacturers of Electrical wiring accessories, founded in 1935
- Oswal Agro (Sugar) Mills,
- **Jagatjit Industries Limited (JIL):** set up under the patronage of the Maharajah of Kapurthala in 1944, one of the largest alcoholic beverage breweries and manufacturers of dairy products in India,
- **Heavy Engineering and ancillary** units are coming up in the city to cater to the needs of the Rail Coach Factory,
- **Agro processing industries** have been in the city from the 1950s, mainly oil extraction from oil seeds like sunflower, mustard, cotton seed and rice bran.
- **Rice mills** due to proximity to the surrounding fertile agricultural lands. Kapurthala is a prominent market in Punjab for both Basmati & non-Basmati paddy and rice.

V. ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

64. The assessmentof environmental impacts for the proposed interventions under this package (PB/IDIPT/T3/13/15) has been carried out during the following stage of the project planning and implementation:

Location impacts. Impacts associated with site selection, including impacts on environment and resettlement or livelihood related impacts on communities
Design impacts. Impacts arising from project design, including the technology used, scale of operations etc.
Construction impacts. Impacts resulting from construction activities including site clearance, earthworks, civil works, etc.
O&M impacts. Impacts associated with the operation and maintenance of the infrastructure built in the project.

65. **Location impacts:** The proposal envisages construction activities in the adjoining area of existing buildings/ monument and facilities on the site. This would result in some

environmental impacts typical to small construction activities. The land for development of proposed facilities is available inside the existing premises/monuments, which is free from any encumbrances and with easy accessibility for the visitors

- The subproject sites are located in the urban area (Kapurthala Town). The proposed sites are having easy accessibility through roads for the construction equipment, workers and visitors therefore there will not be any problem for movement of construction equipment and vehicles during construction and operation phases.
- Other impacts related to construction activities such as generation of dust and noise, removal of construction debris and demolition wastes etc., are envisaged which shall be minimized and addressed by adopting safe engineering practices and appropriate building design. Caution will be exercised in planning for safe construction and operations phase to minimize disturbance to the adjoining existing activities.
- Provision for water for construction will be made through municipal water supply or through mobile water tankers.

A. Land Acquisition and Resettlement and cultural Impacts.

66. The asset owners for all the three subproject sites are the Directorate of Cultural Affairs, Archaeology & Archives, Museum, Government of Punjab. Hence, there are no land acquisition and R&R issue. The department has given NOC for carrying out the proposed interventions.

67. **Design Considerations to Avoid Environmental Impacts.** The following are design considerations to avoid environmental impacts:

- Performing site and spatial planning in accordance to Punjab heritage and culture
- Adoption of design compatible with the natural and cultural environment and suitable selection of materials to enhance the aesthetic appeal and blend with the natural and cultural surroundings.
- Native tree species in the proposed landscape.
- Use of subtle colours and simple ornamentation in the structures.

68. The results of interventions are unobtrusive and will be integral part of the ambience of the site. The physical components have been proposed with minimalist design treatment emphasising use of local materials (wood, stone) and crafts as defined in the Detail Project Report (DPR).

B. Assessment of Environmental Impacts

69. **Determination of Area of Influence.** The primary impact areas are (i) sites for proposed subproject components; (ii) main routes/intersections which will be traversed by construction vehicles; and (ii) quarries and borrow pits as sources of construction materials. The secondary impact areas are: (i) entire town area outside of the delineated primary impact area; and (ii) entire Kapurthala town in terms of over-all environmental improvement.

70. The implementation of the subproject components involves minor construction activities which shall have localised impacts, but shall remain for shorter duration and are expected only during construction period.

C. Pre-construction Impacts and Mitigation Measures

71. **Consents, permits, clearances, no objection certificate (NOC), etc.** For the proposed work NOC/undertakings certificates from Department of Police, Directorate of Cultural Affairs, Archaeology & Archives, Museum, Govt. of Punjab is required before start of the construction works. Some of the NOCs from concerned departments have already been

obtained (refer **Annexure 4**). Failure to obtain necessary consents, permits, NOCs, etc. can result to design revisions and/or stoppage of works. The following measures will be conducted during detailed design phase

- Obtain all necessary consents, permits, clearance, NOCs, etc. prior to start of civil works. NoCs from the asset owners (Department of Cultural Affairs, Archaeology and Museums) have been obtained and enclosed in **Annexure 4**
- Acknowledge in writing and provide report on compliance all obtained consents, permits, clearance, NOCs, etc.
- Include in detailed design drawings and documents all conditions and provisions if necessary.

72. **Utilities.** Interruption of services (water supply, electricity, toilets etc.) will be scheduled and intermittently related to localized construction activities. To mitigate impacts, PIU/DSC will:

- Identify and include locations and operators of these utilities in the detailed design documents to prevent unnecessary disruption of services during the construction phase.
- Require contractors to prepare a contingency plan to include actions to be done in case of unintentional interruption of services.
- Require contractor to obtain from the PIU and/or DSC the list of affected utilities and operators;
- If relocations are necessary, contractor along with PIU/DSC will coordinate with the providers/line agencies to relocate the utility.

73. **Social and Cultural Resources.** There is a risk that any work involving ground disturbance can uncover and damage archaeological and historical remains. For this subproject, no major excavation is required therefore no risk is foreseen for any cultural resources. Nevertheless, the PIU/DSC will:

- Consult Archaeological Survey of India and/or State Department of Archaeology to obtain an expert assessment of the archaeological potential of the site.
- Consider alternatives if the site is found to be of medium or high risk.
- Include state and local archaeological, cultural and historical authorities, and interest groups in consultation forums as project stakeholders so that their expertise can be made available.
- Develop a protocol for use by the construction contractors in conducting any excavation work, to ensure that any chance finds are recognized and measures are taken to ensure they are protected and conserved.

74. **Sites for construction work camps and areas for stockpile, storage and disposal.** Sizeable space is available within the subproject areas for the contractor to have construction and labour camps. However, if the contractor wants to establish construction and labour camps at some other place, then he should adopt the following criteria

- Will not promote instability and result in destruction of property, vegetation, irrigation, and drinking water supply systems, etc.
- Residential areas will not be considered so as to protect the human environment (i.e., to curb accident risks, health risks due to air and water pollution and dust, and noise, and to prevent social conflicts and shortages of amenities).
- Disposal will not be allowed near sensitive areas which will inconvenience the community
- In the construction camp, fuel and lubricants shall be stored over the impervious layer/ concrete floor to prevent any chances of soil and groundwater contamination due to leaching of the oil and grease. Any construction camp site will be finalized in

consultation with DSC and PIU.

75. **Sources of construction materials.** Extraction of materials can disrupt topography/ terrain of the land and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding, water logging and water pollution. It will be the Contractor's responsibility to verify the suitability of all material sources and to obtain the approval of PIU/DSC. The Contractor will be required to:

- Use approved quarry sites and sources permitted by government.
- Verify suitability of all material sources and obtain approval from PIU/DSC.
- If additional quarries are required after construction has started, obtain written approval from PIU/DSC.
- Submit documentation of sources of materials on monthly basis to PIU/DSC.

76. **Access.** Hauling of construction materials and operation of equipment on-site can cause traffic problems. Construction traffic will access the existing approach roads to reach the subproject sites and in turn can cause temporary traffic problems, which shall be mitigated through the following mitigation measures:

- Schedule transport and hauling activities during non-peak hours.
- Locate entry and exit points in areas where there is low potential for traffic congestion.
- Keep the site free from all unnecessary obstructions.
- Drive vehicles in a considerate manner.

77. Details of the pre-construction activities, mitigation measures and frequency of monitoring have been presented in the EMP **Table 6**. The contractor is required to update the information during detailed design phase. Sample waste/spoils management plan is attached in the **Annexure 3.**

D. Anticipated Construction Impacts and Mitigation Measures

78. The proposed subproject components are limited to the renovation/ conservation works in the existing buildings, area improvement, landscaping and signage. The anticipated environmental impacts during the proposed construction work are generic to the construction activities and not expected to be significant. The EMP specifies the necessary mitigation measures to be strictly followed by the Contractor and supervised by the DSC. Key impacts during construction are envisaged on the following aspects: (i) transportation of materials, (ii) dust generation, air and noise pollution from construction activities, (iii) handling of construction materials at site and, (iv) adoption of safety measures during construction.

79. **Construction Schedule and Method.** It is estimated that the construction activities shall take 18 months for completion from the date of award of contract.

80. The infrastructures will be constructed manually according to design specifications. Demolished materials will be reused to the extent possible. Materials will be brought to site by trucks or hand/push cart and will be stored in the vacant areas/unused land.

81. There is sufficient space available in the vicinity of the subproject areas for stockpiling of materials and to park construction equipment's. However, the contractor will need to remove all construction and demolition wastes on a daily basis.

82. The proposed subproject interventions are minor conservation work having minimal civil work therefore there will be no major impacts on the environment but it may affect the nearby community and visitors/ tourist causing disturbance and inconvenience. These impacts will be short term, site specific and can be mitigated easily by adopting mitigation measures suggested.

83. **Impacts on Water Quality.** There are no surface water sources near or adjacent to sites therefore there is no risk of impacts on water quality.

84. **Impacts on Air Quality.** There is potential for increased dust particularly during summer/dry season due to the construction activities including stockpiling of construction materials. Emissions from vehicles transporting construction materials and debris/materials to be disposed may cause increase in air pollutants within the construction zone. These are inherent impacts which are site-specific, low magnitude, short in duration and can be easily mitigated. The contractor will be required to:

- Conduct regular water spraying on earth piles and sand piles.
- Conduct regular visual inspection throughout the construction sites to ensure that there are no excessive dust emissions.
- Maintain construction vehicles and obtain "pollution under control" (PUC) certificate from PPCB.
- Obtain CTE and CTO for crushers, diesel generators, etc., if to be used in the subproject.
- Ambient Air Quality (AAQ) monitoring has to be performed as per the Environmental Monitoring Program.

85. **Noise and Vibration Impacts.** Most of the construction activities shall be done manually without involving heavy equipment's and hence the chances for noise and vibration impacts are not envisaged. Nevertheless the contractor will be required to:

- Limit construction activities in daytime only.
- Plan activities in consultation with the PIU/DSC so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance.
- Minimize noise from construction equipment by using vehicle silencers and fitting other noise generating equipment with noise-reducing mufflers.
- Require drivers that horns not be used unless it is necessary to warn other road users or animals of the vehicle's approach.
- If specific noise complaints are received during construction, the contractor may be required to implement the following noise mitigation measures, as directed by the DSC:
    - Locate stationary construction equipment as far from nearby noise-sensitive properties as possible.
    - Shut off idling equipment.
    - Reschedule construction operations to avoid periods of noise annoyance identified in the complaint.
- Follow Noise Pollution (Regulation and Control) Rules, day time ambient noise levels should not exceed 65 dB(A) in commercial areas, 55 dB(A) in residential areas, and 50 dB(A) in silence zone[3]
- Ensure vehicles comply with Government of India noise limits for vehicles. The test method to be followed shall be IS:3028-1998.
- Ambient Noise levels have to be monitored as per the Environmental Monitoring Program.

86. **Impacts on Flora and Fauna.** Tree cutting is not required for any of the subproject sites. There are no protected areas in the direct impact zones and no wild species of flora and fauna found in these areas. Nevertheless the contractor will be required to:

- Conduct site induction and environmental awareness among all workers.

[3]Day time shall mean from 6.00 am to 10.00 pm. Silence zone is an area that comprises an area not less than 100 meters around hospitals, educational institutions, courts, religious places or any other area which is declared as such by PPCB. Mixed categories of areas may be declared as one of the above mentioned categories by PPCB.

- Limit activities within the work area.
- Do not remove or harm existing vegetation except required under proposed contract
- Strictly instruct workers not to cut trees for fuel wood.
- Replant trees in the area using minimum ratio of 2 trees for every 1 tree cut, if any. Replacement species must be approved by District Forest Department.

87. **Impacts on Physical and Cultural Resources.** There may be inconvenience to visitors/ tourists, residents, businesses and other road users due to the construction activities. This impact is site-specific, short-term and can be mitigated. The contractor will be required to:

- Ensure no damage to structures/properties near construction zone.
- Provide walkways and metal sheets where required to maintain access of people.
- Provide sign boards to inform nature and duration of construction works and contact numbers for concerns/complaints.
- Implement good housekeeping. Remove waste immediately. Prohibit stockpiling of materials that may obstruct/slow down pedestrians and/or vehicle movement.
- Ensure workers will not use nearby/adjacent areas as toilet facility.
- Coordinate with DSC for transportation routes and schedule. Schedule transport and hauling activities during non-peak hours.
- Provide instructions on event of chance finds for archaeological and/or ethno-botanical resources. Works must be stopped immediately until such time chance finds are cleared by experts.

88. **Impact due to Waste Generation.** Demolished structures will be reused to the maximum extent possible. Construction activities will produce excess construction materials and solid wastes (such as removed concrete, wood, packaging materials, empty containers, oils, lubricants, and other similar items). These impacts are negative but short-term and reversible by mitigation measures. The contractor will need to adopt the following mitigation measures:

- Prepare and implement a waste management plan.
- Manage solid waste according to the following hierarchy: reuse, recycling and disposal. Include in waste management plan designated/approved disposal areas.
- Coordinate with local authorities for beneficial uses of demolished materials or immediately dispose to designated areas.
- Recover used oil and lubricants and reuse; or remove from the sites.
- Avoid stockpiling and remove immediately all demolished materials, excess construction materials and solid waste (removed concrete, wood, packaging materials, empty containers, oils, lubricants, and other similar items).
- Prohibit disposal of any material or wastes (including human waste) into drainage, nallah or watercourse.

89. **Impacts on Occupational Health and Safety.** Workers need to be aware of occupational hazards which can arise during the subproject implementation/ execution. The Contractor should comply with IFC EHS Guidelines on Occupational Health and Safety[4]. The contractor will be required to:

- Disallow worker exposure to noise level greater than 85 dBA for duration of more

[4](this can be downloaded from http://www1.ifc.org/wps/wcm/connect/9aef2880488559a983acd36a6515bb18/2%2BOccupational%2BHealth%2Band%2BSafety.pdf?MOD=AJPERES).

than 8 hours per day without hearing protection. The use of hearing protection shall be enforced actively.

- Develop comprehensive site-specific Health and Safety (H&S) plan. The overall objective is to provide guidance to Contractor on establishing a management strategy and applying practices that are intended to eliminate, or reduce, fatalities, injuries and illnesses for workers performing activities and tasks associated with the project.
- Include in H&S plan measures such as:
  - Type of hazards during excavation works;
  - Corresponding personal protective equipment for each identified hazard;
  - H&S training for all site personnel;
  - Procedures to be followed for all site activities; and
  - Documentation of work-related accidents.
- Provide H&S orientation training to all new workers to ensure that they are apprised of the rules of work at the site, personal protective protection, and preventing injury to fellow workers.
- Ensure that first-aid facility is available at site. Equipped first-aid stations shall be easily accessible throughout the site as well as at construction camps.
- Provide medical insurance coverage for workers.
- Secure construction zone from unauthorized intrusion and accident risks.
- Provide supplies of potable drinking water.
- Provide clean eating areas where workers are not exposed to hazardous or noxious substances.
- Provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present. Ensure also that visitor/s do not enter hazard areas unescorted.
- Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas.
- Ensure moving equipment is outfitted with audible back-up alarms.
- Mark and provide sign boards in the construction zone, and areas for storage and disposal. Signage shall be in accordance with international standards and be well known to, and easily understood by workers, visitors, and the general public as appropriate.

90. **Impacts on Socio-Economic Activities.** Manpower will be required during the 18 months construction phase. This can help generate contractual employment and increase in local revenue. As per detailed design, land acquisition and closure of roads are not required. However, construction activities may impede access of residents, tourists and visitors. The potential impacts are negative and moderate but short-term and temporary. The contractor will need to adopt the following mitigation measures:

- Provide sign boards for visitors to inform nature and duration of construction works and contact numbers for concerns/complaints.
- Employ at least 50% of the labour force, or to the maximum extent, local persons within the 20-km immediate area if manpower is available.

91. The detailed mitigation measures, environmental monitoring and reporting requirements, implementation arrangements, capacity development and training measures, implementation schedule, cost estimates and performance indicators are provided in the Environmental Management Plan (**Table 7**) . The potential impacts that are associated with construction activities can be mitigated through incorporation or application of the recommended mitigation measures and procedures.

E. Post-Construction Impacts and Mitigation Measures

92. Site clean-up is necessary after construction activities. The contractor will be required to:

- Backfill any excavation and trenches, preferably with excess excavation material generated during the construction phase.
- Re-establish the original grade and drainage pattern to the extent practicable
- Restore access roads, staging areas and temporary work areas.
- Remove all tools, equipment, barricades, signs, surplus materials, debris, and rubbish. Demolish buildings/structures not required for O&M. Dispose in designated disposal sites.
- Monitor success of all plantations, re-vegetation and tree re-planting. Replace all plants determined to be in an unhealthy condition.
- Request in writing from PIU/DSC that construction zones have been restored.

F. Anticipated Operations and Maintenance (O&M) Impacts and Mitigation Measures

93. Impacts on environmental conditions associated with the O&M of the subproject components pertain to impacts related to increased tourists in the areas resulting to increased vehicular movement along the roads, increased demands for services, and increased solid waste generation. These impacts can be mitigated by:

- Increased vehicular movement along the roads - speed restrictions, provision of appropriate road signage and maintenance of access roads shall minimize impacts on safety of the people
- Increase demands for services – addressed through the subproject design
- Increase solid waste generation – Municipal Corporation to put in place solid waste management programs.

VI. INFORMATION DISCLOSURE, CONSULTATION AND PARTICIPATION

A. ADB Disclosure Policy

94. Public consultation was undertaken as per ADB SPS requirements. All the five principles of information dissemination, information solicitation, integration, coordination and engagement into dialogue were incorporated during the task. A framework of different environmental impacts likely from the subproject was prepared based on opinions of all those consulted, especially at the micro level, by setting up dialogues with the local people and stakeholders from whom information on site facts and prevailing conditions were collected.

95. As per ADB safeguard requirement, public consultation is to be carried out before and after impact identification. Public consultation was therefore carried out twice, once at the time of start of work with the key stakeholders particularly with asset owners/facility users and nearby habitants, and secondly to discuss mitigating measures and get concurrence of stakeholders.

B. Process for Consultation followed

96. During the project preparation, consultations have been held with the Department of Tourism, visitors, nearby settlements, District Administration, Municipal Administration, representatives from local community and nearby shopkeepers regarding issues pertaining to the selection of subprojects and identification of key issues including addressing the current gaps in provision of basic services and improvement of tourist infrastructure. Records of the consultations are provided in **Annexure-5**. Public consultations are also

being conducted at the site using formal and informal approach. The outcome of the consultation has been recorded and enclosed in **Annexure 10.**

C. Plan for Continued Public Participation

97. To ensure continued public participation, stakeholder engagement during the project design and implementation is proposed. A grievance redress cell has been set up within the PIU/DSC at field office and PMU, Chandigarh office. To ensure an effective disclosure of the project proposal to the stakeholders and the community living in the vicinity of the subproject location, information regarding grievance redress mechanism shall be published in local newspapers. This information is also made available on PHTPB website.

98. The Executing Agency (EA) will submit to ADB the following documents for disclosure on ADB's website: (i) the final IEE; (ii) a new or updated IEE and corrective action plan prepared during project implementation, if any; and (iii) the environmental monitoring reports.

99. For the benefit of the community, relevant information in the IEE (Executive Summary) will be translated in Hindi/Punjabi and made available at: (i) Office of the PMU; and, (ii) Office of PIU, Amritsar; (iii) Office of the District Commissioner, Kapurthala District (iv) District/Public libraries of the Chandigarh/Kapurthala towns. These copies will be made available free of cost to any person and accessible to citizens as a means to disclose the document and at the same time creating wider public awareness. On demand, the person seeking information can obtain a hard copy of the complete IEE document at the cost of photocopy from the office of the PMU/PIU, on a written request and payment for the same to the Project Director. Electronic version of the IEE will be placed in the official website of the PHTPB and the website of ADB after approval of the documents by Government and ADB. The PMU will issue notification on the disclosure mechanism in local newspapers, ahead of the initiation of implementation of the project, providing information on the project, as well as the start date and expected completion dates etc. The notice will be issued by the PMU in local newspapers one month ahead of the implementation works.

VII. GRIEVANCE REDRESS MECHANISM

100. The affected person/aggrieved party can give their grievance verbally or in written to the local grievances committee. Grievances of affected person will first be brought to the attention of the PIU who can resolve the issue at site level. If the matter is not solved within 7 days period by the PIU, it will be brought to the Grievance Redress Committee constituted for the purpose in PIU. This GRC shall discuss the issue in its monthly meeting and resolve the issues within one month of time after receiving the grievance. If the matter is not resolved by GRC at PIU level within stipulated time, it shall be referred to GRC at PMU level by Executive Engineer of PIU.

101. GRC at PMU shall discuss the issue and try to resolve it and inform the PIU accordingly. If the matter is not resolved by the GRC at PMU level within one month of time, the aggrieved person/party can bring the matter to The Court of Law. The PIU shall keep records of all grievances received including contact details of complainant, date of receiving the complaint, nature of grievance, agreed corrective actions and the date these were affected and final outcome. The grievance redress process is shown below.

A. Composition and Functions of GRC

102. **Local Grievance Committee (LGC).** In this LGC has worked with NGO, SHG, Line Agency, Special invitee.

103. **First Level Grievance Redress Committee (GRC) at PIU.** In each PIU there shall be one GRC, which will include Project Manager (PIU), District Tourist Officer of Department of Tourism of Govt. of Punjab, Community Development Officer of PIU, nominated

representative of District Magistrate and nominated representative committee shall be headed by Project Manager (PIU). PIU can associate NGO as per his decision. The committee will meet at least once in every month. Agenda of meeting shall be circulated to all the members and affected persons/aggrieved party along with venue, date and time; informed in written at least 7 days in advance of meeting. The matters shall remain with GRC at PIU level for one month and if grievance is not resolved within this time period, the matter shall be referred to GRC at PMU.

104. **Second Level Grievance Redress Committee (GRC) at PMU.** There shall be one GRC in PMU. The matters not resolved by the GRC at PIU level within one month shall come under GRC at PMU. GRC at PMU will include Community Development Expert of PMU, Safeguard Specialist of PMU and Additional Project Director (APD) of PMU. The Committee shall be headed by APD of PMU. This committee shall look the matters, which are referred to and not resolved by GRC at PIU level. GRC at PMU will resolve the issue within one month.

105. **Third Level Grievance Redress Committee (GRC) at SLEC.** If the matter is not resolved by the GRC at PMU level within one month of time, the aggrieved person/party can bring the matter to The Executive Committee/State Level Empowered Committee (SLEC).

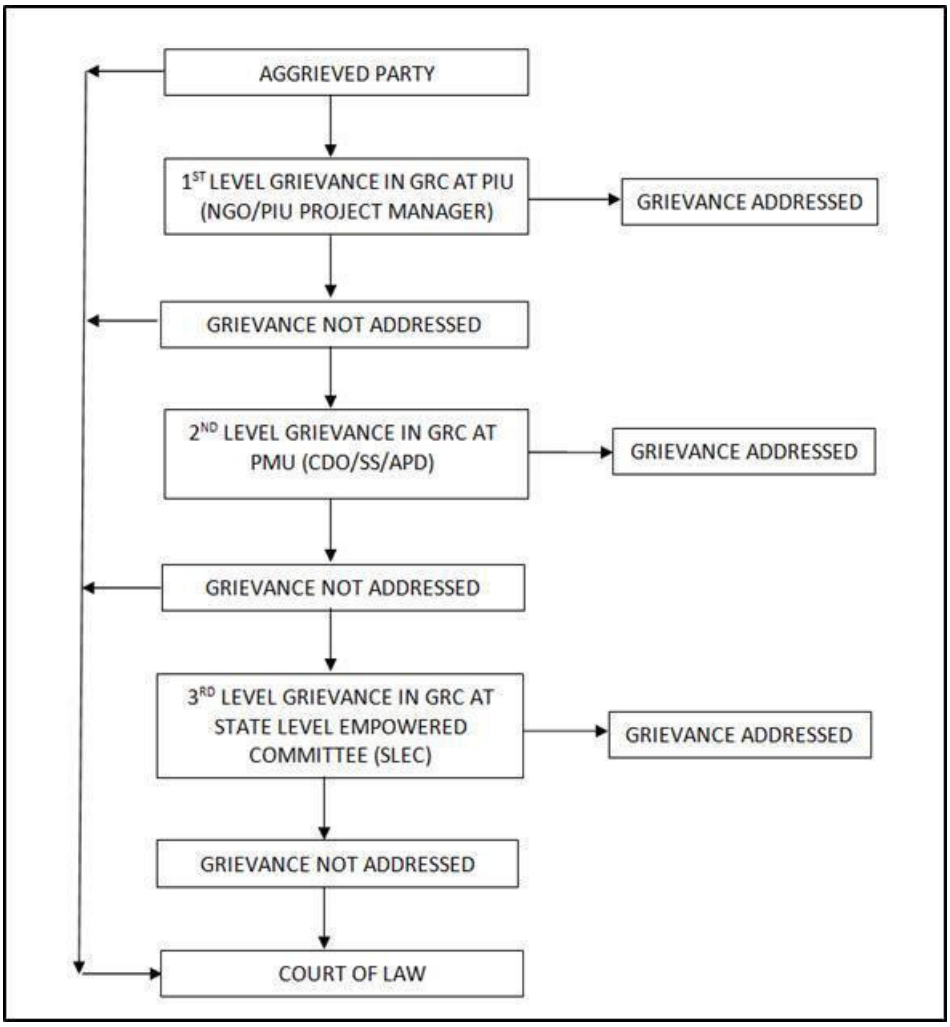

Figure 4: Grievance Redress Mechanism in IDIPT, Punjab

Note: LGC -NGO, SHG, Line Agency, Special invitee GRC – PM, CDO, Engineer, DFO, DTO, SDM GRC in Environment and Social Management Cell (ESMC) –PMU (APD, SS, CDS, FS), PMC (EE, CDE)

B. Approach to GRC.

106. Affected person/aggrieved party can approach to GRC for redress of his/their grievances through any of the following modes:

- Through Grievance Redress Form: Aggrieved person/party can give their grievance in Grievance Redress Form available at PIU and PMU. Sample Grievance Redress Form is attached as **Annexure 6**
- Web based: A separate corner will be developed at the program website so that public / community/ affected person can register their complaint in the online column.
- Telecom based: A toll free no. Will be issued by the PMU/ PIU so that general public can register their complaint through telephone / mobile phone to the PIU/PMU office.

VIII. ENVIRONMENTAL MANAGEMENT PLAN

107. The purpose of the environmental management plan (EMP) is to ensure that the activities are undertaken in a responsible, non-detrimental manner with the objectives of: (i) providing a proactive, feasible, and practical working tool to enable the measurement and monitoring of environmental performance on-site; (ii) guiding and controlling the implementation of findings and recommendations of the environmental assessment conducted for the project; (iii) detailing specific actions deemed necessary to assist in mitigating the environmental impact of the project; and (iv) ensuring that safety recommendations are complied with.

108. A copy of the EMP must be kept on work sites at all times. This EMP will be included in the bid documents under appropriate contract clauses and will be further reviewed and updated during implementation. Non-compliance with, or any deviation from, the conditions set out in this document constitutes a failure in compliance.

109. The contractor will be required to (i) establish an operational system for managing environmental impacts (ii) carry out all of the monitoring and mitigation measures set forth in the EMP; and (iii) implement any corrective or preventative actions set out in safeguards monitoring reports that PMU and PIU will prepare from time to time to monitor implementation of this IEE and EMP. The contractor shall allocate a budget for compliance with these EMP measures, requirements and actions.

A. Responsibilities for EMP Implementation:

110. The following agencies will be responsible for EMP Implementation:

- Department of Tourism, Govt. of Punjab is the Executing Agency (EA) responsible for overall management, coordination, and execution of all activities funded under the loan;
- Punjab Heritage and Tourism Promotion board (PHTPB) including PIUs, will be the Implementing Agency (IA) responsible for coordinating procurement and construction of the project. PIU through its Project Management Unit (PMU) at Chandigarh will be implementing the project;
- The Project Management Consultant (PMC) assists PMU in managing the project including procurement and assures technical quality of design and construction;
- The Design and Supervision Consultant (DSC) will prepare the DPR of the project and will carry out construction supervision during project implementation. Their responsibility will also include EMP implementation/supervision;
- Project Implementation Unit (PIU) has been established in Amritsar. This PIU will look into progress and coordination of day to day construction works with the assistance of DSC; and

- The Contractor will be responsible for execution of all construction works. The contractor will work under the guidance of the PIU and DSC. The environmental related mitigation measures will also be implemented by the contractor.

111. The Contractor's conformity with contract procedures and specifications during construction will be carefully monitored by the PIU. Safeguard Specialists are deputed in DSC, PMC and PMU, who will monitor the environmental performance of contractors. Terms of References of Safeguards Specialists are given in boxes below

Box 1: Terms of Reference of Safeguards Specialist – PMU

- Review the IEE document and ensure adequacy under Safeguard Policy Statement, 2009 and identify any areas for improvement.
- Ensure that the project design and specification adequately reflect the IEE, co-ordinate the obtaining of requisite environmental clearances for the project
- Monitor construction activities to ensure that identified and appropriate control measures are effective and in compliance with the IEE and advise PIU for compliance with statutory requirements.
- Develop training programme for the PMU/PIUs staff, the contractors and others involved in the project implementation, in collaboration with the Environmental Specialist of the PMC and DSC
- Review and approve the Contractor's Implementation Plan for the environmental measures, as per IEE.
- Liaise with the Contractors and Consultants on the implementation of the Environmental management measures proposed in the IEE
- Liaise with the various Government agencies on environmental and other regulatory matters
- Continuously interact with the NGOs and Community groups to be involved in the project
- Establish dialogue with the affected communities and ensure that the environmental concerns and suggestions are incorporated and implemented in the project.
- Review the environmental performance of the project through an assessment of the periodic environmental monitoring reports submitted by the DSC; provide a summary of the same to the Project Director, and initiate necessary follow-up actions
- Provide support and assistance to the Government Agencies and the Asian Development Bank to supervise the implementation of the IEE during the construction as well as operation stage of the project
- Document the good practices in the project on incorporation and integration of environmental issues into engineering design and on implementing measures in the construction, and dissemination of the same

Box 2: Terms of Reference of Safeguards Specialist (Environment) of DSC

- To prepare the IEE document and ensure adequacy under ADB SPS, 2009.
- Interact on a regular basis with the sector specialists of the DSC and integrate environmentally sound practices into the detailed design of project components.
- Advise PMU/PIU for compliance with statutory clearances.
- Work out the site specific mitigation measures for components as required and integrate the same into contractual provisions.
- Develop, organise and deliver environmental training programmes and workshops for the staff of the PIU and Contractors and in accordance to the Capacity Building Programme as specified in the IEE.
- Preparation of Activity Plans as identified in IEE (these include Site Management Plans, Waste Management Plans, Sludge Management and Disposal Plans, Occupational Safety Plans etc).

Box 2: Terms of Reference of Safeguards Specialist (Environment) of DSC
• Supervise the implementation of the Environmental provisions by the Contractors. • Review and approve site specific environmental enhancement/mitigation designs worked out by the Contractor. Hold regular consultation meetings with the Environmental specialist of the PMU • Review the Contractors' Environmental Implementation Plans to ensure compliance with the IEE. • Develop good practice construction guidelines to assist the contractors in implementing the provisions of IEE. • Prepare and submit regular environmental monitoring and implementation progress reports. • Assist Environmental Specialist of the PMU to prepare good practice dissemination notes based on the experience gained from site supervision.

Box 3: Terms of Reference of Safeguards Specialist (Environment) of PMC
• Support and advice the PMU and Consultants team in finalizing the IEE reports as per the safeguard requirement • Best Environmental Practices for responding to environmental issues involved with implementation of the projects on a sustainable basis • Assistance and advice on institutional strengthening and capacity building at the PMU and PIU levels in regards to environmental practices. • Ensure that baseline surveys, environmental monitoring plans and programs, initial environmental examinations (IEE) as may be required are carried out. • Preparation of ADB procedure compliant environmental safeguard actions including impact assessment if any during the design stage. • Oversight of implementation of environmental standards and safeguards as part of project implementation. • Participate in preparation of Master Plan for additional sites and contribute to the environmental safeguards to the plan and sub components. • Preparation of performance monitoring reports.

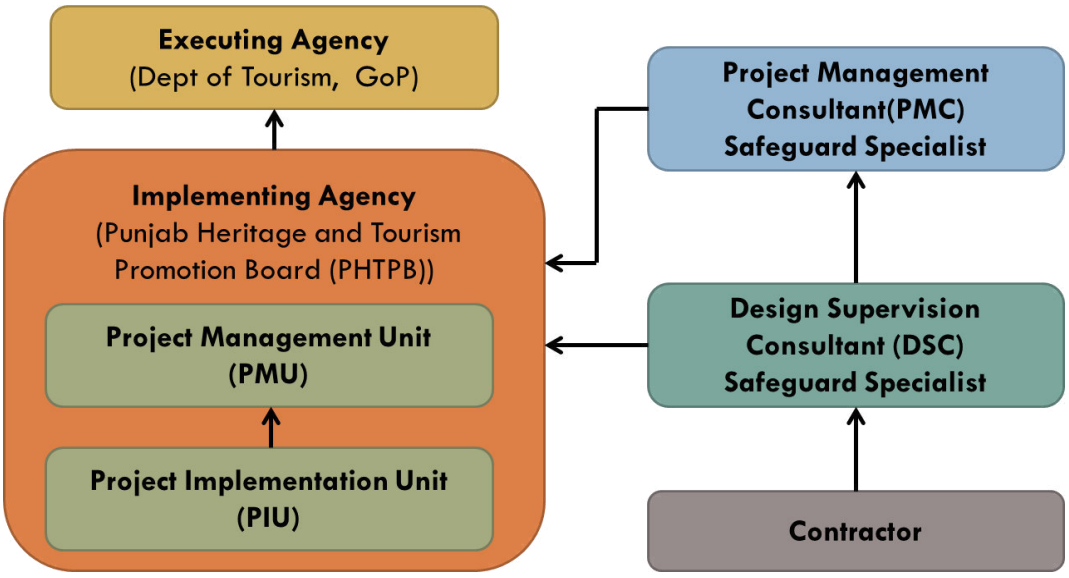

Figure 5: EMP Implementation Arrangement For IDIPT

112. **Responsibility for updating IEE during detailed design**. DSC will be responsible for preparation of IEE and updating it time to time, when required during detailed design and implementation phase.

113. **Responsibility for monitoring**. During construction, DSC's Environmental Specialist and the designated representative engineer of the PIU will monitor the contractor's environmental performance on day to day basis while PMC expert will randomly monitor the performance for corrective measures if required. During the operation phase, monitoring will be the responsibility of the Department of Tourism or the asset owners.

114. **Responsibility for Reporting**. PIU in coordination with DSC will submit quarterly and semi-annually monitoring report to PMU. On the basis of it PMU will submit to ADB semi-annual monitoring reports on implementation of the EMP and will permit ADB to field environmental review missions which will review in detail the environmental aspects of the project. Any major accidents having serious environmental consequences will be reported immediately. PMC environmental expert will help in preparation and finalization of quarterly, semi-annual and annual progress reports. The sample environmental monitoring template, summary monitoring table and sample environmental site inspection report format is attached as **Annexure 7 to 9**.

B. EMP Tables

115. **Table 6 to 8** shows the potential environmental impacts, proposed mitigation measures, responsible parties. This EMP will be included in the bid documents and will be further reviewed and updated during implementation.

Table 6: EMP Table during Pre-Construction Phase

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
Consents, permits, clearances, no objection certificate (NOC), etc. (If applicable)	• Obtain all necessary consents, permits, clearance, NOCs, etc. prior to start of civil works. NoC's from the asset owner have been obtained and enclosed in **Annexure 4**)	• Consents, permits, clearance, NOCs, etc.	PMU	DSC and PIU	As per the conditions of the Consents, permits, clearance and NOCs	PMU
	• Acknowledge in writing and provide report on compliance all obtained consents, permits, clearance, NOCs, etc.	• Records and communications	PMU	DSC and PMU	Acknowledge upon receipt. Prepare reports as specified in CTE, permits, etc.	PMU
	• Include in detailed design drawings and documents all conditions and provisions if necessary	• Detailed design documents and drawings	Contractor	PIU and DSC supported by PMU and PMC	Once during detailed design	Contractor
Establishment of baseline environmental conditions prior to start of civil works	• Conduct documentation of location of components, areas for construction zone (camps, staging, storage, stockpiling, etc.) and surroundings (within direct impact zones), locations of environmental monitoring Include photos and GPS coordinates	• Baseline environmental profile including ambient air, noise, water quality as per the standards	Contractor	PIU and DSC supported by PMU and PMC	Once before start of the construction work	PMU
Utilities	• Identify and include locations and operators of these utilities in the detailed design documents to	• List showing utilities to be shifted	• DSC to prepare preliminary list of utilities	PIU and DSC supported by PMU and PMC	Once prior to start of construction work	DSC preliminary design stage

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
	prevent unnecessary disruption of services during the construction phase. • Require contractor to obtain from the PIU and/or DSC the list of affected utilities • If relocations are necessary, contractor along with PIU/DSC will coordinate with the providers/line agencies to relocate the utility.	• Contingency plan for services disruption	to be shifted • During detailed design phase, • Contractor to prepare list and operators of utilities to be shifted; • contingency plan			Contractor implementation stage
Social and Cultural Resources	• Consult Archaeological Survey of India (ASI) or Punjab State Archaeology Department to obtain an expert assessment of the archaeological potential of the site. • Consider alternatives if the site is found to be of medium or high risk. • Include state and local archaeological, cultural and historical authorities, and interest groups in consultation forums as project stakeholders so that their expertise can be made available. • Develop a protocol for use by the	• Chance find protocol	• DSC through PIU to consult ASI or Punjab State Archaeology Department • DSC to develop protocol for chance finds	PMU	Once during detailed design by DSC	DSC

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
	contractor in conducting any excavation work, to ensure that any chance finds are recognized and measures are taken to ensure they are protected and conserved.					
Sites for construction work camps, areas for stockpile, storage and disposal	• Will not promote instability and result in destruction of property, vegetation, irrigation, and drinking water supply systems, etc. • Residential areas will not be considered so as to protect the human environment (i.e., to curb accident risks, health risks due to air and water pollution and dust, and noise, and to prevent social conflicts and shortages of amenities). • Disposal will not be allowed near sensitive areas which will inconvenience the community. • The construction camp, storage of fuel and lubricants should be avoided at sensitive zones. The construction camp site should be finalized in consultation with DSC and PIU.	• List of pre-approved sites for construction work camps, areas for stockpile, storage and disposal • Waste management plan	• DSC to prepare list of potential sites • DSC to inspect sites proposed by contractor if not included in pre-approved sites	PIU and DSC	Once during detailed design by DSC	Contractor
Sources of construction materials	• Use quarry sites and sources permitted by government. • Verify suitability of all material sources and obtain approval	• Permits issued to quarries/sources of materials	• DSC to verify sources (including permits) if	• Contractor • DSC to verify sources (including	PIU and DSC	As per the condition of the permits

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
	from PIU. • If additional quarries are required after construction has started, obtain written approval from PIU. • Submit to DSC on a monthly basis documentation of sources of materials.		additional is requested by contractor	permits) if additional is requested by contractor		/ clearance issued
Occupational health and safety	• Comply with IFC EHS Guidelines on Occupational Health and Safety • Develop comprehensive site-specific health and safety (H&S) plan. The overall objective is to provide guidance to contractors on establishing a management strategy and applying practices that are intended to eliminate, or reduce, fatalities, injuries and illnesses for workers performing activities and tasks associated with the project. • Include in H&S plan measures such as: (i) type of hazards in the construction site; (ii) corresponding personal protective equipment for each identified hazard; (iii) H&S training for all site personnel; (iv) procedures to be followed for all site activities; and (v) documentation of work-related accidents and (vi) provision of	• Health and safety (H&S) plan	Contractor	PIU and DSC supported by PMU and PMC	As per the provisions given in the H&S Plan	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
	personal protective equipment for safety of workers • Provide medical insurance coverage for workers.					
Public consultations	• Continue information dissemination, consultations, and involvement/participation of stakeholders during project implementation.	• Disclosure records • Consultations records	PIU and DSC,	PMU and PMC	• During updating of IEE Report • Prior to start of construction	PMU

Table 7: EMP Table during Construction Phase

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
Impacts on air quality	• Conduct regular water spraying on stockpiles.	• Visual inspection • No complaints from sensitive receptors • Records	Contractor	PIU and DSC PIU and DSC to submit EMP monitoring report to PMU	• Daily inspection by contractor supervisor and/or environment specialist • Weekly visual inspection by DSC (more frequent during dry season and if corrective action is required) • Random inspection by PMU, PIU, PMC and/or DSC	• Conduct regular water spraying on stockpiles.
	• Conduct regular visual inspection in the construction zones to ensure no excessive dust emissions.	• Visual inspection				
	• Maintain construction vehicles and obtain "pollution under control" certificate from PPCB.	• PUC certificates				
	• Ambient Air Quality monitoring has to be performed as per the Environmental Monitoring Program	Particulate matter (PM_{10} & $PM_{2.5}$), SOx, NOx, CO				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	• Obtain CTE and CTO for hot mix plants, crushers, diesel generators, etc., if to be used in the project.	• CTE and CTO				
Noise and vibrations impacts	• Limit construction activities to the daytime only. • Plan activities in consultation with PIU/DSC so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance.	• Work schedule	Contractor	PIU and DSC to submit EMP monitoring report to PMU	• Daily inspection by contractor supervisor and/or environment specialist • Weekly visual inspection by DSC (more frequent during noise-generating activities and if corrective action is required) • Random inspection by PMU, PIU, PMC and/or DSC	Contractor
	• Minimize noise from construction equipment by using vehicle silencers and fitting noise producing equipment with noise-reducing mufflers.	• Direct Observation and • feedback from receptors within direct and direct impact zone				
	• Avoid loud random noise from sirens, air compression, etc.	• Direct Observation and • feedback from receptors within direct and direct impact zone				
	• Require drivers that horns not be used unless it is necessary to warn other road users or animals of the vehicle's approach.	• feedback from receptors within direct and direct impact zone				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	• Ambient Noise levels have to be monitored as per the Environmental Monitoring Program	Day time dB(A)				
	• If specific noise complaints are received during construction, the contractor may be required to implement one or more of the following noise mitigation measures, as directed by the project manager: • Locate stationary construction equipment as far from nearby noise-sensitive properties, such as the hospital, as possible. • Shut off idling equipment. • Reschedule construction operations to avoid periods of noise annoyance identified in the complaint. • Notify nearby residents whenever extremely noisy work will be occurring.	• Direct Observation and feedback from receptors within direct and direct impact zone				
Impacts on flora and fauna	• Conduct site induction and environmental awareness. • Strictly instruct workers not to cut trees for fuel wood • Do not harm existing vegetation in the area except indicated in site plan	• IEE baseline information for flora and fauna for the subproject area	Contractor	PIU and DSC	• Daily inspection by contractor supervisor and/or environment specialist • Weekly visual inspection by DSC (more frequent if corrective action is required) • Random inspection by	Contractor
	• Limit activities within the work area. • Strictly prohibit poaching of birds and animals in the vicinity of work sites	• Barricades along excavation works • Sign boards for				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
		awareness among workers • Training records			PMU, PIU, PMC and/or DSC	
	• Replant trees in the area using minimum ratio of 2 trees for every 1 tree cut. Replacement species must be approved by district Forest Department.	• Number and species approved by Punjab State Forest Department				
Impacts on physical cultural resources	• Ensure no damage to structures/properties adjacent to construction zone.	• Visual inspection • any impact should be addressed by project resettlement plan	Contractor In coordination with PIU and DSC for any structures within the site and construction zone	PIU and DSC	• Daily inspection by contractor supervisor and/or environment specialist • Weekly visual inspection by DSC (more frequent if corrective action is required) • Random inspection by PMU, PIU, PMC and/or DSC	Contractor
	• Provide sign boards to inform nature and duration of construction works and contact numbers for concerns/complaints.	• photo-documentation				
	• Implement good housekeeping. Remove wastes immediately.	• Visual inspection • No stockpiled/ stored wastes				
	• Ensure workers will not use nearby/adjacent areas as toilet facility.	• No complaints received • Sanitation facilities for use of workers				
	• Coordinate with PIU/DSC for transportation routes and schedule.	• As per contingency				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	Schedule transport and hauling activities during non-peak hours. Communicate road detours via visible boards, advertising, pamphlets, etc. • Ensure heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites.	plan				
	• Provide instructions on event of chance finds for archaeological and/or ethno-botanical resources. Works must be stopped immediately until such time chance finds are cleared by experts.	• condition in chance find protocol				
Impact due to waste generation	• Prepare and implement a waste management plan. Manage solid waste according to the following hierarchy: reuse, recycling and disposal. Include in waste management plan designated/approved disposal areas. • Coordinate with PIU/DSC for beneficial uses of excavated soils or immediately dispose to designated areas. • Avoid stockpiling and remove immediately all excavated soils, excess construction materials, and solid waste (remove concrete, wood, packaging materials, empty containers, oils, lubricants, and other similar items).	condition in waste management plan	Contractor	PIU and DSC	• Daily inspection by contractor supervisor and/or environment specialist • Weekly visual inspection by DSC (more frequent if corrective action is required) • Random inspection by PMU, PIU, PMC and/or DSC	Contractor

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	• Prohibit disposal of any material or wastes (including human waste) into drainage/nallah.					
Impacts on occupational health and safety	• Comply with IFC EHS Guidelines on Occupational Health and Safety	• Visual inspection • H&S Plan	Contractor	PIU and DSC	• Daily inspection by contractor supervisor and/or environment specialist • Weekly visual inspection by DSC (more frequent if corrective action is required) • Random inspection by PMU, PIU, PMC and/or DSC	Contractor
	• Disallow worker exposure to noise level greater than 85 dBA for duration of more than 8 hours per day without hearing protection. The use of hearing protection shall be enforced actively.	• Visual inspection • Work schedule • Noise level monitoring in work area				
	• Provide H&S orientation training to all new workers to ensure that they are apprised of the rules of work at the site, personal protective equipment, and preventing injury to fellow workers.	• Condition in H&S plan				
	• Ensure that qualified first-aid can be provided at all times. Equipped first-aid stations shall be easily accessible throughout the site as well as at construction camps.	• Visible first aid equipment and medical supplies • Condition in H&S plan				
	• Provide medical insurance coverage for workers.	• As per health Insurance Plan				
	• Secure construction zone from unauthorized intrusion and accident risks.	• Area secured • Trenches barricaded				
	• Provide supplies of potable drinking water.	• Supply of water				
	• Provide clean eating areas where workers are not exposed to	• Workers area				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	hazardous or noxious substances.					
	• Provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present. Ensure also that visitor/s do not enter hazard areas unescorted.	• Condition in H&S plan • Visual inspection				
	• Provide appropriate Personal Protective equipment (PPEs) to all workers especially during work at height to ensure workers safety	• Visual inspection for use of PPEs • Records of PPEs • Condition in H&S plan				
	• Mark and provide sign boards in the construction zone, and areas for storage and disposal. Signage shall be in accordance with international standards and be well known to, and easily understood by workers, visitors, and the general public as appropriate.	• Visible and understandable sign boards in construction zone • H&S plan includes appropriate signs for each hazard present				
Impacts on socio-economic activities	• Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints.	• Visible and understandable sign boards in construction zone	Contractor	PIU and DSC	• Daily inspection by contractor supervisor • Weekly visual inspection by DSC (more frequent if corrective action is required) • Random	Contractor
	• Employ at least 50% of the labour force, or to the maximum extent, local persons within the 20-km immediate area if manpower is	• Employment records				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	available.				inspection by PMU, PIU, PMC	

Table 8: EMP Table during Post-Construction Phase

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
Construction Solid waste (debris, excavated soils, etc.)	• Re-establish the original grade and drainage pattern to the extent practicable. • Restore access roads, staging areas, and temporary work areas. • Remove all tools, equipment, barricades, signs, surplus materials, debris, and rubbish. Demolish buildings/structures not required for O&M. Dispose in designated disposal sites. • Request in writing from PIU/DSC that construction zones have been restored.	• Pre-existing condition • Construction zone has been restored	Contractor	PIU and DSC PIU and DSC to submit EMP monitoring report to PMU	• Visual inspection by contractor supervisor and/or environment specialist	Contractor
Wastewater Generation and Disposal	• Estimation of waste water generated from hotel operation in terms of quality and quantity (including guest rooms, kitchen/restaurant etc.) • Develop a suitable mechanism for collection, treatment and disposal of waste water • Options for recycling of water should be explored (such as	• Monitoring onsite waste water system. • To check the Water balance using water meter.	Concessionaire	PIU and PMU	• Visual Inspection by ESS (PMU)	Concessionaire

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	reuse of gray water for landscaping purposes)					
Water Management	• Estimate the quantity of water required for hotel operations (including guest rooms, kitchen/restaurant etc.) • Identify source of the water supply (with appropriate clearance/NoC from the competent department/ authority if any) • Explore mechanism for collecting rain water on-site to augment available water • Resource conservation through reduction in water use (e.g. installation of low-flow fittings for toilets, faucets, showers and kitchen equipment), reuse and recycling	• To check the water balance using water meter. • As per the Conditions (if any) received from the competent authority. • Maintenance of checklist.	Concessionaire	PIU and PMU	• Visual Inspection by ESS (PMU)	Concessionaire
Energy Supply and Use	• Explore the options for the use of renewable sources of energy such as solar • Resource conservation through high-efficiency lighting and equipment, motion sensors, etc.	• As per the Bureau of Energy Efficiency (BEE)	Concessionaire	PIU and PMU	• Visual Inspection by ESS (PMU)	Concessionaire
Air Emissions	• Control of air pollution from Diesel generators by using CPCB-II norms certified generators.	• The Emission Standards for Diesel Engines - CPCB	Concessionaire	PIU and PMU	• Visual Inspection by ESS (PMU)	Concessionaire
Solid Waste Management	• Estimate the quantity and type of waste generated from hotel	• Waste characteristic	Concessionaire	PIU and PMU	• Visual Inspection by ESS (PMU)	Concessionaire

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	operations (including guest rooms, kitchen/restaurant etc.) • Develop a suitable mechanism for collection, treatment and disposal including segregation of waste at source. • Explore options for waste reduction, reuse and recycling • Identify suitable location/place for disposal of waste or have a MoU with local panchayat/ municipalities for collection and disposal of waste.	checklist (including the quantity and type)				
Occupational Health and Safety	• Avoid occupational hazards to hotel employees include slipping, tripping, and injuries (cuts, burns etc.,) from handling of equipment and activities associated with house-keeping • Prepare health and safety plan to prevent injuries and accidents • Provision for First aid kit to treat minor injuries	• As per the health and safety plan • Health and safety checklist to be maintained	Concessionaire	PIU and PMU	• Visual Inspection by ESS (PMU)	Concessionaire

C. Summary of Site and Activity-Specific Plans as per EMP

116. **Table 9** summarizes site and activity-specific plans to be prepared as per EMP tables.

Table 9: Site- and Activity-Specific Plans/Programs as per EMP

To be Prepared During	Specific Plan/Program	Purpose	Responsible for Preparation	Responsible for Implementation
Detailed Design Phase	Environmental monitoring program as per detailed design	Indicate sampling locations, methodology and parameters	DSC	Contractor under the supervision of the DSC
Detailed Design Phase	List showing utilities to be shifted	Utilities shifting	PIU/DSC during preliminary stage Contractor as per detailed design	Contractor under the supervision of the DSC
Detailed Design Phase	Contingency plan	Mitigate impacts due to interruption of services during utilities shifting	Contractor	Contractor under the supervision of the DSC
Detailed Design Phase	Chance find protocol	Address archaeological or historical finds	PIU and DSC	Contractor under the supervision of the DSC
Detailed Design Phase	List of pre-approved sites	Location/s for work camps, areas for stockpile, storage and disposal	PIU and DSC	Contractor under the supervision of the DSC
Detailed Design Phase	Waste management plan	Mitigate impacts due to waste generation	Contractor	Contractor under the supervision of the DSC
Detailed Design Phase	H&S plan	Occupational health and safety	Contractor to prepare or follow the EMP in IEE	Contractor under the supervision of the DSC

IX. ENVIRONMENTAL MONITORING PROGRAM

117. Through integration of mitigation measures in project design, impacts are mostly insignificant, temporary in nature and can be properly avoided or mitigated by following proposed mitigation measures given in the EMP.

118. **Table 10** provides the indicative environmental monitoring program which includes relevant environmental parameters, with a description of the sampling stations, frequency of monitoring, applicable standards and responsibility. This will be updated during detailed design to ensure EMP and monitoring program is commensurate to the impacts of the subproject.

Table 10: Indicative Environmental Monitoring Program

Sl.no	Field	Phase	Parameters	Locations	Frequency	Responsibility
1.	Air quality	Pre-construction (before commencement of civil works)	Particulate matter (PM_{10} & $PM_{2.5}$), SOx, NOx, CO	• Gol Kothi • Gulabi Kothi • Buggy Khana	24 hours (Once before start of the construction)	PIU

Sl.no	Field	Phase	Parameters	Locations	Frequency	Responsibility
		Construction	Particulate matter (PM_{10}& $PM_{2.5}$), SOx, NOx, CO	• Gol Kothi • Gulabi Kothi • Buggy Khana	24 hours (quarterly except monsoon season)	Contractor
2.	Noise	Pre-construction (before commencement of civil works)	Day time dB(A)	• Gol Kothi • Gulabi Kothi • Buggy Khana	24 hours Once before start of the construction	PIU
		Construction	Day time dB(A)	• Gol Kothi • Gulabi Kothi • Buggy Khana	24 hours (quarterly except monsoon season)	Contractor

X. CAPACITY BUILDING

119. The Environmental Specialist of the DSC will provide the basic training required for environmental awareness followed by specific aspects of Infrastructure Improvement Projects along with environmental implications for projects. Specific modules customized for the available skill set will be devised after assessing the capabilities of the members of the Training Programme and the requirements of the project. The entire training would cover basic principles of environmental assessment and management; mitigation plans and programmes, implementation techniques, monitoring methods and tools. The proposed training program along with the frequency of sessions is presented in **Table 11**. This training program is intended for the entire destination and is not just specific to this package.

Table 11: Training Modules for Environmental Management (common for entire project)

Programme	Description	Participants	Form of Training	Duration/ Location	Training Conducting Agency
A. Pre-Construction Stage					
Sensitization Workshop	Introduction to Environment: Basic Concept of environment Environmental Regulations and Statutory requirements as per Government of India and ADB	Tourism / Forest / Roads / Culture Department Officials, Project Director (PD) and Environmental Specialist (ES) of the PMU/PIU	Workshop	½ Working Day	Safeguard Specialist of the PMC
Session I					
Module I	Introduction to Environment: Basic Concept of environment Safeguards Regulations and Statutory requirements as per Government of India and ADB Guidelines on cultural resources, Environmental considerations in planning, design and implementing projects	PMU/PIU (including the ES) and Engineering staff of the implementing agencies	Lecture	1Working Day	Safeguards Specialist of the PMC

Programme	Description	Participants	Form of Training	Duration/ Location	Training Conducting Agency
Module II	Environmental components impacted in construction and operation stages Activities causing pollution during construction and operation stages Environmental Management Environmental Provisions Implementation Arrangements Methodology of Assessment Good engineering practices to be integrated into contract documents	PMU/PIU (including the ES) and Engineering staff of Tourism dept.	Workshop	¼ Working Day	Safeguards Specialist of the PMC
Module III	Environmental considerations in planning, designing and implementing heritage buildings and conservation projects	PMU/PIU (including the ES) and Engineering staff of Tourism dept.	Lecture / Interactive Sessions and site visits	2 working days	Safeguards specialist of the PMC with support from the International Conservation specialist of the PMC
Module IV	Improved Co-ordination with other Departments: Statutory Permissions – Procedural Requirements Co-operation & Co-ordination with other Departments.	PMU/PIU (including the ES) and Engineering staff of Tourism dept.	Lecture / Interactive Sessions	1Working Day	Safeguards Specialist of the PMC
B. Construction Stage					
Session II					
Module V	Role during Construction Roles and Responsibilities of officials/ contractors/ consultants towards protection of environment Implementation Arrangements Monitoring mechanisms	Engineers and staff of line depts. of GoP, and PMU/PIU (including the ES)	Lecture / Interactive Sessions	½ Working Day	Safeguards Specialist of the PMC
Module VI	Monitoring and Reporting System	Engineers and staff of implementing agencies , and PMU/PIU (including the ES)	Lecture / Interactive Sessions	½ Working Day	Safeguards Specialist of the PMC

XI. EMP IMPLEMENTATION COST

120. As part of good engineering practices, there have been several measures as safety, signage, dust suppression, procurement of personal protective equipment, provision of drains, etc. and the costs for which will be included in the design costs of specific

subprojects. Therefore, these items of costs have not been included in the IEE budget. Only those items not covered under budgets for construction are considered in the IEE budget.

121. From the construction activities point of view, it is relatively a minor construction project associated with more on restoration components and hence it is not expected to cause significant air, water and noise pollution. However as per the environmental monitoring plan suggested for this subproject area, provisions had been given in the EMP budget for conducting ambient air and noise quality monitoring.

122. The costs of water sprinkling for dust suppression and providing personal protective equipment's to construction workers shall borne by contractor as part of conditions of contract. In addition the sources of funds for Mitigation measures during construction stage including monitoring during construction stage are also to be borne by the contractor. These are deemed to be included as part of the contract price amount quoted by the contractor for the works. The costs of components for monitoring in operation stage and the capacity building costs are to be funded by the PMU. The EMP cost is given in the **Table 12**.

Table 12: Indicative EMP Budget

S.N.	Particulars	Stages	Unit	Total number	Rate (INR)	Cost (INR)	Source of fund
A. Monitoring Measures							
1	Air quality monitoring	Detailed design	Per sample	3	10,000	30,000	PMU
2	Noise Levels	Detailed design	Per location	3	4,000	12,000	PMU
3	Ambient Air Quality	Construction	Per Sample	15	10,000	1,50,000	Contractor budget
4	Ambient Noise Quality	Construction	Per Sample	15	4,000	60,000	Contractor budget
Sub- Total (A)						**2,52,000**	
B.	**Capacity Building – Training cost**						
1	Sensitization Workshop	Pre-Construction	Lump sum			1,50,000	PMU
2	Training Session I	Construction	Lump sum			1,50,000	PMU
3	Training Session II	Construction	Lump sum			1,50,000	PMU
Sub -Total (B)						**4,50,000**	
Total (A+B) INR						**7,02,000**	

XII. FINDINGS AND RECOMMENDATIONS

123. The potential impacts that are likely to arise due the proposed subproject interventions have been assessed and suitable mitigation measures have been suggested. Being a restoration work, significant environmental impacts are not anticipated, however, construction related minimal impacts like dust pollution during cleaning/chipping operation, fugitive emissions during painting work, usage of chemical as treatment agents, noise pollution during equipment operation etc., will have impact to the surrounding which may have an impact to the labours (causing health hazard). Accordingly the EMP has been provided with mitigation measures to take care of the labourer's safety during construction.

124. The EMP has been designed to address the impacts that are likely to arise during the pre-construction, during construction and post construction stages of the project with appropriate mitigation and monitoring mechanism with responsibilities. The effective implementation of the proposed environmental management measures will be ensured through capacity building within the PMU/PIU.

125. Mitigation measures will be assured by a program of environmental monitoring conducted during the construction to ensure that all measures are implemented and to determine whether the environment is protected as intended. This will include on- and off-site observations, document checks and interviews with workers and beneficiaries and any requirements for remedial action will be reported to the PMU.

126. The implementation of the subproject will have positive impacts to the local people during the project construction stage by generating employment opportunity for skilled and unskilled labourers for a short period of time (construction stage) and during operation stage there are potential for more shops/ souvenir shops to be benefited through businesses that are generated due to the arrival of more/ increased tourists. Thus it will have direct positive impact in the livelihood of the local people.

127. Stakeholder consultations have been conducted throughout the IEE process and their views have been examined and included in the project design/ planning and development of the project. The IEE that has been prepared will be made available at public locations in the town and will be disclosed to a wider audience via the ADB website. The consultation process will be continued and expanded during project implementation to ensure that stakeholders are fully engaged in the project and have the opportunity to participate in its development and implementation.

XIII. CONCLUSIONS

128. The IEE carried out for the subproject shows that the proposed interventions/ components will result in net environmental benefits and that any environmental impact can be addressed through proper location, planning and design of the proposed sub-project; control of construction activity and mitigation measures. The EMP provides measures for mitigation of all identified impacts and the Contract clauses for the environmental provisions which will be part of the civil works contracts. Further, the proposed designs have been consulted with the stakeholders and no significant issues requiring redress in terms of environmental safeguards are known to exist at present.

129. Based on the findings of the IEE, there are no significant impacts and the classification of the subproject as Category “B” is confirmed. No further special study or detailed environmental impact assessment (EIA) needs to be undertaken to comply with ADB SPS (2009).

Annexure 1

Rapid Environmental Assessment (REA) Checklist

URBAN DEVELOPMENT

Instructions:

(i) The project team completes this checklist to support the environmental classification of a project. It is to be attached to the environmental categorization form and submitted to the Environment and Safeguards Division (RSES), for endorsement by Director, RSES and for approval by the Chief Compliance Officer.
(ii) This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB's (a) checklists on involuntary resettlement and Indigenous Peoples; (b) poverty reduction handbook; (c) staff guide to consultation and participation; and (d) gender checklists.
(iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

Subproject: Conservation and Adaptive Reuse of Colonial Heritage in Kapurthala-Gol Kothi, Gulabi Kothi and Buggy Khana

Country/Project Title: India/Infrastructure development Investment program (IDIPT-Punjab)

Sector Division: Urban Development.

Screening Questions	Yes	No	Remarks
A. Project Siting It is Project area adjacent to or within any of the following environmentally sensitive areas?			
▪ Cultural heritage site	✓		The proposed sites of Gol Kothi, Gulabi Kothi and Buggy Khana are historic and cultural heritage sites
▪ Protected Area		✓	Not envisaged
▪ Wetland		✓	Not envisaged
▪ Mangrove		✓	Not envisaged
▪ Estuarine		✓	Not envisaged
▪ Buffer zone of protected area		✓	Not envisaged
▪ Special area for protecting biodiversity		✓	Not envisaged
B. Potential Environmental Impacts Will the Project cause...			
▪ Encroachment on historical/cultural areas; disfiguration of landscape by road embankments, cuts, fills, and quarries?		✓	Not envisaged
▪ Encroachment on precious ecology (e.g. sensitive or protected areas)?		✓	Not envisaged as there are no protected or sensitive areas within or near the proposed sites
▪ Alteration of surface water hydrology of waterways crossed by roads, resulting in increased sediment in streams affected by increased soil erosion at construction site?		✓	Not envisaged
▪ Deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?		✓	Not envisaged
▪ Increased local air pollution due to rock crushing, cutting and filling works, and chemicals from asphalt processing?		✓	Not envisaged
▪ Risks and vulnerabilities related to occupational		✓	Not envisaged

Screening Questions	Yes	No	Remarks
health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?			
▪ Noise and vibration due to blasting and other civil works?		✓	Not envisaged
▪ Dislocation or involuntary resettlement of people?		✓	Not envisaged
▪ Dislocation and compulsory resettlement of people living in right-of- way?		✓	Not envisaged
▪ Disproportionate impacts on the poor, women and children indigenous peoples or other vulnerable groups?		✓	Not envisaged
▪ Other social concerns relating to inconveniences in living conditions in the project areas that may trigger cases of upper respiratory problems and stress?		✓	Not envisaged
▪ Hazardous driving condition where construction interferes with pre-existing roads?		✓	Not envisaged
▪ Poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases (such as STI's and HIV/AIDS) from workers to local populations?	✓		The MSW generated in the construction camps and work site can create problems if not properly managed. IEC materials shall be displayed for HIV/ AIDS prevention.
▪ Creation of temporary breeding habitats for disease such as those transmitted by mosquitoes and rodents?		✓	Not envisaged
▪ Accident risks associated with increased vehicular traffic, leading to accidental spills of toxic materials?		✓	Not envisaged
▪ Increase noise and air pollution resulting from traffic volume?		✓	Not envisaged
▪ Increase risk of water pollution from oil, grease and fuel spills, and other materials from vehicles using the road?		✓	Not envisaged
▪ Social conflicts if workers from other region of countries are hired?		✓	No such impacts may arise.it is proposed to engage local labours for construction works.
▪ Large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?		✓	No such impacts may arise as the labour requirement is minimal
▪ Risks to community health and safety due to the transport, storage, and use and /or disposal of materials such as explosives, fuel and other chemicals during construction and operation?		✓	No such materials are required which may create community health and safety risks
▪ Community safety risks due to both accidental and natural causes, especially where the structural elements or components of the project are accessible to members of the affected community or where the failure could result in injury to the community throughout project construction, operation and decommissioning.		✓	No such impacts may arise

PRELIMINARY CLIMATE RISK SCREENING CHECKLIST FOR SAMPLE SUBPROJECT TOWNS

Screening Questions		Score	Remarks[5]
Location and Design of project	Is siting and/or routing of the project (or its components) likely to be affected by climate conditions including extreme weather related events such as floods, droughts, storms, landslides?	0	No such impacts are envisaged
	Will the project design (e.g. the clearance for bridges) need to consider any hydro-meteorological parameters (e.g., sea-level, peak river flow, reliable water level, peak wind speed etc)?	0	No such impacts are envisaged
Materials and Maintenance	Will weather, current and likely future climate conditions (e.g. prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity, and hydro-meteorological parameters) affect the selection of project inputs over the life of project outputs (e.g. construction material)?	0	No such issue may affect the project
	Will weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s)?	0	No such issue may affect the project
Performance of project outputs	Will weather/climate conditions and related extreme events likely affect the performance (e.g. annual power production) of project output(s) (e.g. hydro-power generation facilities) throughout their design life time?	0	No problem will envisaged in future which likely affect the performance of project output

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

Responses when added that provide a score of 0 will be considered low risk project. If adding all responses will result to a score of 1-4 and that no score of 2 was given to any single response, the project will be assigned a medium risk category. A total score of 5 or more (which include providing a score of 1 in all responses) or a 2 in any single response will be categorized as high risk project.

Result of Initial Screening (Low, Medium, High): Low

Other Comments: The proposed subproject activity involves renovation works which includes restoration of existing buildings, lighting, sitting arrangement, landscaping etc., hence the anticipated environmental impacts are very marginal and the construction activities does not impose any threat to the existing climatic conditions.

[5]If possible, provide details on the sensitivity of project components to climate conditions, such as how climate parameters are considered in design standards for infrastructure components, how changes in key climate parameters and sea level might affect the siting/routing of project, the selection of construction material and/or scheduling, performances and/or the maintenance cost/scheduling of project outputs.

Annexure 2

Photo Illustration

Existing Condition of GolKothi in deteriorated stage

Growth of wild vegetation in the Gol Kothi walls

Internal conditions of room in Gol Kothi

Internal condition of kitchen in Gol Kothi

Front outer view of Gulabi Kothi

Approach road and vacant area in front of Gulabi Kothi

Backside outer view and amended structure of Gulabi Kothi

Growth of wild vegetation of the wall of Gulabi Kothi

Windows and drain pipes in deteriorated stage

Vacant space and nearby habitations at Gulabi Kothi

Entrance gate of Buggy Khana

Wild vegetative growth on the outer walls of Buggy Khana

Inner view of outer ring wall of Buggy Khana

Outer view of inner ring wall of Buggy Khana

Extensive growth of wild shrubs and trees between open space of outer and inner rings

Dumping of solid waste inside the Buggy Khana

Annexure3

Sample Outline of Spoil Management Plan (SMP)

1.0 Purpose and application:

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse of spoil from works in accordance with the spoil management hierarchy outlined in this document.

2.0 Objectives of SMP:

The objectives of SMP are:

- To minimize spoil generation where possible
- Maximize beneficial reuse of spoil from construction works in accordance with spoil management hierarchy
- Mange onsite spoil handling to minimize environmental impacts on resident and other receivers
- Minimize any further site contamination of land, water, soil
- Manage the transportation of spoil with consideration of traffic impacts and transport related emissions

3.0 Structure of SMP:

Section 1: Introduction of SMP

Section 2: Legal and other requirements

Section 3: Roles and responsibilities

Section 4: Identification and assessment of spoil aspects and impacts

Section 5: Spoil volumes, characteristics and minimization

Section 6: Spoil reuses opportunities, identification and assessment

Section 7: On site spoil management approach

Section 8: Spoil transportation methodology

Section 9: Monitoring, Reporting, Review, and Improvements

4.0 Aspects and Potential Impacts

The key aspects of potential impacts in relation to SMP are listed in table below

Aspects	Potential Impacts
Air Quality	Potential for high winds generating airborne dust from the stock piles
Sedimentation	Potential for sediment laden site runoff from spoil stockpiles and potential for spillage of spoil from truck on roads
Surface and Groundwater	Contamination of water (surface and ground water)
Noise	Associated with spoil handling and haulage and storage
Traffic	Impacts associated with spoil haulage
Land Use	Potential for spoil to be transported to a receivable site that doesn't have permission for storage/disposal
Design specifications	Limitations on opportunities to minimize spoil generation
Sustainability	Limited sites for storage, reuse opportunities

5.0 Spoil volumes, characteristics and minimization

5.1 Spoil volume calculations: Estimate the volumes of spoils produced from each of the construction sites.

5.2 Characterization of spoil: Based on the type of spoil; characterization is done (sand stone, mud mix materials, reusable materials

5.3 Adopt Spoil Reduce, Reuse Opportunities

An overview of the assessment methodology to be used is mentioned below.

- Consideration of likely spoil characteristics
- Identification of possible reuse sites
- Screening of possible reuse opportunities

5.4 Identification of possible safe disposal sites for spoil: Those spoils which can't be reuse shall be properly disposed in designated areas, such disposal areas should be identified in project locations. Such disposal areas should be safe from environmental aspects and there should be any legal and resettlement related issues. Such areas need to be identified and prior cliental approval should be obtained to use it as spoil disposal area. The local administration must be consulted and if required permission should be obtained from them.

5.5 Storage and stock piling

5.6 Transportation and haulage route

6.0 Based on the above, the contractor will prepare a SMP as an integral part of EMP and submit it to the PIU/DSC for their review and approval.

Annexure4

NOCs

GolKothi: NOC from Department of Cultural Affairs, Archaeology & Museums, Punjab

Department of Cultural Affairs, Archaeology & Museum, Punjab
Plot No. 3, Sector 38-A, Chandigarh.

DCAM/ACRH/No 7203 **Dated:** 16-12-13

Subject:- No Objection Certificate and undertaking for Gol kothi, Distt Kapurthala by PHTPB.

It is certified that there is no objection if the proposed project is executed by PHTPB of the Tourism Department (Punjab). This may be done as per the guide lines of Govt. of India and ADB loan funded project under IDIPT at Gol Kothi, kapurthala (as per map). This site contains a total of area 9 kanal 9 Marla protected vide notification No. 12/154-02/4 TC/2544, Dated 21-10-2005. The conservation should be done as per archaeological principals. The Department of Cultural Affairs undertakes that:-

1. There is no encroachment and no resettlement/ displacement/rehabilitation of people involved in the above Proposed Project area/building/land.
2. The proposed project is not partially/fully part of any other project funded under any other scheme/programme of the State/Central Govt. or any external funding.
3. The assets created as a result of the execution of above stated project will be taken over for operation and maintenance by Department of Cultural Affairs, Archaeology & Museums, Punjab.

A management plan of the monument/building may please be made.

Director

Place:

Date:

Buggy Khana: NOC from Local Administration and Punjab Police

Annexure- II

NO OBJECTION CERTIFICATE

It is certified that :-

1. The Baghi Khana (4 Acre 1 Kanal 7 Marlas) where the IDIPT Project is proposed for execution by PHTPB of the Tourism Department(Punjab), is under the ownership of Punjab Government and is under the possession of Punjab Police(partly).
2. There is NO encroachment and NO resettlement/displacement/rehabilitation of people involved in the above Proposed Project area/building/land.
3. The proposed Project is not Partially/fully part of any other project funded under any other scheme/programme of the State/Central Government or any external funding.
4. The assets created as a result of the execution of above stated project will be taken over for operation and maintenance by Punjab Police.

Place: Kapurthala
Date: 1.10.14

Superintendent of Police
Hqrs. Kapurthala

Head Clerk

Countersigned

Senior Superintendent Of Police
Kapurthala

x

NOC by Local Administration for proposed works in Kapurthala

CERTIFIED AND UNDERTAKING

It is certified that :

1. a) The Jagatjit Palace (163 Acres 3 Kanal 18 Marlas) Kapurthala , is under the ownership of Punjab Govt and is under the possession of Sainik School (Ministary of Deffence)

b) The Baghi Khana (4 Acre 1 Kanal 7 Marlas) is under the ownership of Punjab Govt and is under the possession of Punjab Police.

c) The Gol Kothi , Kapurthala (1 Acre) is under the ownership of Punjab Govt and is under the possession of Heritage, Kapurthala.

d) Civil Rest House, Kapurthala (4 Acres)) is under the ownership of Punjab Govt and is under the possession of P.W.D., Kapurthala.

2) There is No encroachment and No resettlement/displacement /rehabilitation of people involved in the above proposed project area/building/land.

3) The proposed Project is not Partially/Fully part of any other projectf unded under any other scheme/programming of the State/Central or any external funding.

4) The assets created as a result of the execution of above states project will be taken over for operation and maintenance by Archeological Department.

Place : Kapurthala

Date: 4/6/2013

Sub Divisional Magistrate,
Kapurthala

Tehsildar,
Kapurthala

TEHSILDAR
Kapurthala

Counter Signed

Deputy Commissioner,
Kapurthala.

Deputy Commissioner
Kapurthala

Annexure 5

Stakeholder Consultations

Proposed subproject sites are under the Directorate of Cultural Affairs, Archaeology and Museums, Chandigarh. Therefore the Department of Tourism is one of the primary stakeholders. The stakeholder consultation (formal and informal consultations) was conducted with the line departments. Few consultations were conducted at the subproject areas (Buggy Khana, Gulabi Kothi and Gol Kothi) during site assessment. Report on these consultations is given below

1. Proceedings of discussions with the Kapurthala DC on 26th April 2016

Venue: Deputy Commissioner Office, Kapurthala

Attendees: Mr. Jaskaran Singh, DC, Kapurthala

Ms. Gurmeet Rai, Director and Principal Conservation Architect, CRCI

Ms. AishwaryaTipnis, Conservation Architect

Points of Discussion and outcome:

Discussed matters related to the need for relocation of the offices currently housed in the buildings that has been raised. For that, DC has extended his full support to the project.

Information requested:

He has requested permission letter for records and also requested to do the needful.

2. Proceedings of discussions with HH Maharaja Sri Sukhjit Singh Sahib Bahadur on 27th April 2016

Venue: The Villa Buno Vista, Kapurthala

Attendees: Brig. HH Maharaja Sri Sukhjit Singh Sahib Bahadur

Ms Cynthia Meera Fredrick, Co-President French Heritage in India Society

Ms. Aishwarya Tipnis, Conservation Architect

Ms. Ipsita Acharya, Architect, CRCI

Points of Discussion and outcome:

- Brig Sukhjit Singh was pleased that work has begun on the restoration of historical monuments in Kapurthala. He is very keen to support the initiatives. He has an archive of old photographs of Kapurthala from the 1920s and was happy to share images for Gol Kothi, Buggy Khana, which is available with him.
- He clarified that the building Gol Kothi was the headquarters of the State Army and in his opinion it would be a perfect place for making a boutique hotel with a swimming pool. He suggested that the hotels like Raddison Blu may be interested in doing business.
- He suggested that the Buggy Khana would make a good shopping complex with a food court in the inner court. He was of the opinion that the fine dining culture is not present in Kapurthala and hence a food court will make more sense.
- Ms Cynthia is keen to collaborate on any outreach activity for raising the awareness of the heritage of Kapurthala. Brig Sukhjit Singh mentioned that detailed drawings of all the buildings of the Kapurthala were handed

over to the PEPSU PWD in the 1950 and may be available at the State Archives.

3. Record of proceedings of discussions at the DC Office on 27th April 2016

Venue: Deputy Commissioner Office, Kapurthala

Attendees: Mr. Jaskaran Singh, DC, Kapurthala

Mr. Satwant Singh, GA to the DC, Kapurthala

Ms. Aishwarya Tipnis, Conservation Architect

Ms. Ipsita Acharya , Architect, CRCI

Points of Discussion and outcome:

- A request was made to the office of the DM for permission letter to survey the buildings of the Buggy Khana and Gol Kothi.
- Mr Satwant Singh personally facilitated the survey by introduction to the officials of Punjab CIA at Buggy Khana.
- Mr Satwant Singh mentioned the local NGOs that were working towards the preservation of Kapurthala's heritage. He requested us to contact Mr. Harry Randhawa, who heads the “Kapurthala Heritage Society” for more information on the history and heritage of these buildings. He also suggested fee more name Mrs Kiran Bawa and Mrs Meena Malhotra, Principal Randhir College shall also be met for further information
- Obtained permission letter to document and survey heritage sites in Kapurthala.
- Letters has been sent to all the concerned departments like health, PWD etc. ensuring extended support.

Annexure 6

Sample Grievance Redress Form

(To be available in Local Language and English)

The _____Project welcomes complaints, suggestions, queries and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback. Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing *(CONFIDENTIAL)* above your name. Thank you.

Date		**Place of registration**			
Contact Information/Personal Details					
Name		**Gender**	* Male * Female	**Age**	
Home Address					
Place					
Phone no.					
E-mail					
Complaint/Suggestion/Comment/Question Please provide the details (who, what, where and how) of your grievance below: If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of Official registering grievance)	
Mode of communication: Note/Letter E-mail Verbal/Telephonic	
Reviewed by: (Names/Positions of Official(s) reviewing grievance)	
Action Taken:	
Whether Action Taken Disclosed:	Yes No
Means of Disclosure:	

Annexure 7

Sample Quarterly Environmental Monitoring Report Template

This template must be included as an Annex in the EIA/IEE that will be prepared for the project. It can be adapted to the specific project as necessary.

INTRODUCTION

- Overall project description and objectives
- Description of sub-projects
- Environmental category of the sub-projects
- Details of site personnel and/or consultants responsible for environmental monitoring
- Overall project and sub-project progress and status

No.	Sub-Project Name	Status of Sub-Project				List of Works	Progress of Works
		Design	Pre-Construction	Construction	Operational		
		☐	☐	☐	☐		
		☐	☐	☐	☐		
		☐	☐	☐	☐		

COMPLIANCE STATUS WITH NATIONAL/STATE/LOCAL STATUTORY ENVIRONMENTAL REQUIREMENTS

No.	Sub-Project Name	Statutory Environmental Requirements	Status of Compliance	Action Required

COMPLIANCE STATUS WITH ENVIRONMENTAL LOAN COVENANTS

No. (List schedule and paragraph number of Loan Agreement)	Covenant	Status of Compliance	Action Required

COMPLIANCE STATUS WITH THE ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN

- Provide the monitoring results as per the parameters outlined in the EMP. Append supporting documents where applicable, including Environmental Site Inspection Reports.
- There should be Reporting on the following items which can be incorporated in the checklist of routine Environmental Site Inspection Report followed with a summary in the semi-annual Report send to ADB. Visual assessment and review of relevant site documentation during routine site inspection needs to note and record the following:
- What are the dust suppression techniques followed for site and if any dust was noted to escape the site boundaries;
- If muddy water was escaping site boundaries or muddy tracks were seen on adjacent roads;
- adequacy of type of erosion and sediment control measures installed on site, condition of erosion and sediment control measures including if these were intact following heavy rain;
- Are their designated areas for concrete works, and refuelling;
- Are their spill kits on site and if there are site procedure for handling emergencies;
- Is there any chemical stored on site and what is the storage condition?
- Is there any dewatering activities if yes, where is the water being discharged;
- How are the stockpiles being managed;
- How is solid and liquid waste being handled on site;
- Review of the complaint management system;
- Checking if there are any activities being under taken out of working hours and how that is being managed.

Annexure8

Summary Monitoring Table

Impacts (List from IEE)	Mitigation Measures (List from IEE)	Parameters Monitored (As a minimum those identified in the IEE should be monitored)	Method of Monitoring	Location of Monitoring	Date of Monitoring Conducted	Name of Person Who Conducted the Monitoring
Design Phase						
Pre-Construction Phase						
Construction Phase						
Operational Phase						

Overall Compliance with CEMP/EMP

No.	Sub-Project Name	EMP/CEMP Part of Contract Documents (Y/N)	CEMP/EMP Being Implemented (Y/N)	Status of Implementation (Excellent/ Satisfactory/ Partially Satisfactory/ Below Satisfactory)	Action Proposed & Additional Measures Required

APPROACH AND METHODOLOGY FOR ENVIRONMENTAL MONITORING OF THE PROJECT

(iii) Brief description on the approach and methodology used for environmental monitoring of each sub-project

MONITORING OF ENVIRONMENTAL IMPACTS ON PROJECT SURROUNDINGS (AMBIENT AIR, WATER QUALITY AND NOISE LEVELS)

- Brief discussion on the basis for monitoring
- Indicate type and location of environmental parameters to be monitored
- Indicate the method of monitoring and equipment to be used
- Provide monitoring results and an analysis of results in relation to baseline data and statutory requirements

As a minimum the results should be presented as per the tables below.

Air Quality Results

Site No.	Date of Testing	Site Location	Parameters (Government Standards)		
			PM_{10} ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)

Site No.	Date of Testing	Site Location	Parameters (Monitoring Results)		
			PM_{10} ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)

Water Quality Results

Site No.	Date of Sampling	Site Location	Parameters (Government Standards)					
			pH	Conductivity (µS/cm)	BOD (mg/L)	TSS (mg/L	TN (mg/L)	TP (mg/L)

Site No.	Date of Sampling	Site Location	Parameters (Government Standards)					
			pH	Conductivity (µS/cm)	BOD (mg/L)	TSS (mg/L	TN (mg/L)	TP (mg/L)

Noise Quality Results

Site No.	Date of Testing	Site Location	LA_{eq} (dBA) (Government Standard)	
			Day Time	Night Time

Site No.	Date of Testing	Site Location	LA_{eq} (dBA) (Government Standard)	
			Day Time	Night Time

SUMMARY OF KEY ISSUES AND REMEDIAL ACTIONS

- Summary of follow up time-bound actions to be taken within a set timeframe.

Annexes

- Photos
- Summary of consultations
- Copies of environmental clearances and permits
- Sample of environmental site inspection Report
- Other

Annexure9

Sample Environmental Site Inspection Report

Project Name

Contract Number

NAME: _____ DATE: _____

TITLE: _____ DMA: _____

LOCATION:_____ GROUP: _____

WEATHER CONDITION:

_____

INITIAL SITE CONDITION:

_____

CONCLUDING SITE CONDITION:

Satisfactory _____ Unsatisfactory_____ Incident_____ Resolved _____ Unresolved _____

INCIDENT:

Nature of incident:

_____

Intervention Steps:

_____

Incident Issues

Resolution

Project Activity Stage	Survey	
	Design	
	Implementation	
	Pre-Commissioning	
	Guarantee Period	

Inspection

Emissions	Waste Minimization
Air Quality	Reuse and Recycling
Noise pollution	Dust and Litter Control
Hazardous Substances	Trees and Vegetation

Site Restored to Original Condition Yes No

Signature

_____

_____ _____

Name **Position**

Annexure 10

Public consultations at Gol Kothi, Gulabi Kothi and Buggy Khana

Date	:	07.04.2016
Place	:	Buggy Khana and Gulabi Kothi
Persons consulted	:	Mr. Ahok Kumar, Soft drink shop in front of Buggy Khana
Discussion and outcome	:	He informed that there are 10-15 shops near the outer wall of Buggy Khana and he is having his business for more than 50 years. He said that he can temporarily shift his shop to nearby place during construction works (if required). He appraised the proposed works and said it is very necessary to restore this historic building
Consultation with shopkeeper near Buggy Khana	:	
Persons Consulted	:	Mr. Jasbir Singh, District Commander, Home guards, Gulabi Kothi
Discussion and outcome	:	He informed that Gulabi Kothi is popularly known as Bhoot Bangla which is presently head quarter of Home Guards, govt. of Punjab since 1973. There are three offices in this building from different branches of home guards. About 15-20 employees are presently working in this building. He also informed that this office is planned to be shifted to collectorate campus, which is under construction now. He also informed that most of the rooms of building are in deteriorated conditions and no repairing works have been undertaken since last 5-6 years.

Consultation with officer and staff of Home Guards at Gulabi Kothi		
Interaction with the local residents adjacent to Gol Kothi & Gulabi Kothi		

Interaction with local shopkeepers near Gol Kothi & Gulabi Kothi		

Attendance sheet

PROJECT AND PACKAGE No: Conservation and adaptive reuse of colonial heritage in Kapurthala, Buggy Khana (PB/IDIPT/T3/13/15)

NAME OF THE PERSON WHO MADE CONSULTATIONS: Mr. Raghubir Singh (SSS) PMU & Ms. Vidushi Sharma (ESS) PMU

Sr.No.	Name of the person consulted	Designation of the person consulted	Address of the person consulted	Issues discussed	Signature
1	[illegible]	DPT	Baggi Khana 63/21	Scope of work propored	[illegible]
2	Sachin	Student	Baggi Khana 57/21	at Buggy Khana.	Sachin
3	Ajay Kumar	Shop Keeper	Baggi Khana 33/30	Awareness about the	Ajay
4	Kiran Bala	Home wife	Baggi Khana 43/21	propose site to the	[illegible]
5	Sawan Kumar	Worker	Baggi Khana 59/21	local community.	Sawan Kumar
6	Kanchan	Housewife	Baggi Khana 41/21		Kanchan
7	Meena	Housewife	Baggi Khana 41/21		Meena
8	Vinni Sharma	House wife	Baggi Khana		Vinni Sharma
9	Ritika sharma	House wife	Baggi Khana 49/21		Ritika
10	mahesh kumar	Head clerk	Baggi Khana		Mahesh
11	Sandya	House wife	Baggi Khana		[illegible]

PROJECT AND PACKAGE No: Conservation and adaptive reuse of colonial heritage in Kapurthala, Gulabi Kothi (PB/IDIPT/T3/13/15)

NAME OF THE PERSON WHO MADE CONSULTATIONS: Mr. Raghubir Singh (SSS) PMU & Ms. Vidushi Sharma (ESS) PMU

Sr.No.	Name of the person consulted	Designation of the person consulted	Address of the person consulted	Issues discussed	Signature
1	Narinder Singh	Mother Jaradeeper	H. No: 1514, opp Shalimar bagh	Scope of work proposed	[illegible]
2	Jarnail Singh	Businessman	Same as above	for the restoration	[illegible]
3	Narinder Singh	Student	Same as above	of Gulabi Kothi.	Narinder Singh
4	Gurmanjeet	Student	Same as above	Benefits and awareness	Singh
5	Jaswinder Singh	Travel Agent	Shalimar Taxi Stand	about the proposed	Jaswinder Singh
6	Madass	Travel Agent	Shalimar Taxi Stand	site to the local	[illegible]
7				community.	Madass
8	Amit Gupta	Business	Amritsar Road		Amit Gupta
9	Bunit Khanna	Business	Jalokhana		Bunit Khanna
10	Nishant Vaid	Civil Hospital	H. No. B8/21, Lahori Gate Kpt		[illegible]
11	Raju.	Shop Keeper	Aggarwal Mandwa		RAJU

PROJECT AND PACKAGE No: Conservation and adaptive reuse of colonial heritage in Kapurthala, Gulabi Kothi (PB/IDIPT/T3/13/15)

NAME OF THE PERSON WHO MADE CONSULTATIONS: Mr. Raghubir Singh (SSS) PMU & Ms. Vidushi Sharma (ESS) PMU

Sr.No.	Name of the person consulted	Designation of the person consulted	Address of the person consulted	Issues discussed	Signature
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

PROJECT AND PACKAGE No: Conservation and adaptive reuse of colonial heritage in Kapurthala, Gol Kothi (PB/IDIPT/T3/13/15)

NAME OF THE PERSON WHO MADE CONSULTATIONS: Mr. Raghubir Singh (SSS) PMU & Ms. Vidushi Sharma (ESS) PMU

Sr.No.	Name of the person consulted	Designation of the person consulted	Address of the person consulted	Issues discussed	Signature
1	Tripta Sharma	House-wife	HN/96/1 Niranjan nagar Kpt	Scope of work proposed	Tripta
2	Narinder Singh	Java developer	15/4 Opp. Shalimar Garden	to be carried out at	[signature]
3	Jarnail Singh	Businessman	Same as above	Gol kothi, Kapurthala.	[signature]
4	Gurmukh [illegible]	Student	Same as above	Benefits and awareness	[signature]
5	Navinder Singh	Student	Same as above	about the proposed	Singh
6	Harpal Singh	Student	OPP. Shalimar Taxi Stand	site to the local	[signature]
7	Jaswinder Singh	travel	Agent Taxi Stand.	community	[signature]
8	Mandeep Singh	travel	Agent Taxi Stand.		Jaswinder Pal
9					Mandeep S
10	Amit Gupta	Business	Amritsar Road, Kpt		Amit Gupta
11	Nishat Vaid	Civil Hospital	H.No. 8/21, Lahori Gate Kpt		[signature]

PROJECT AND PACKAGE No: Conservation and adaptive reuse of colonial heritage in Kapurthala, Gol Kothi (PB/IDIPT/T3/13/15)

NAME OF THE PERSON WHO MADE CONSULTATIONS: Mr. Raghubir Singh (SSS) PMU & Ms. Vidushi Sharma (ESS) PMU

Sr.No.	Name of the person consulted	Designation of the person consulted	Address of the person consulted	Issues discussed	Signature
12	Bunitkhanna	Business	Jolokhana		Bunitkhanna
13	Rajeshsharma	Shopkeeper	Aggarwal Hardware		RAJU
14	Sukeshsharma	[illegible]	Sharma [illegible] house [illegible]		[illegible]
15	Sunilkumar	[illegible]	[illegible]		[illegible]
16	Ashish Kumar	Architect	Sanatan Dharm Sabha KPT		Ashish
17	ASHISH [illegible]	Shopkeeper	opp S.D. B[illegible]		[illegible]
18	Shiv Kumar	photographer	B 30/117 Moh Hakim Sabher Ali KPT		[illegible]
19	[illegible]	SM F.M	[illegible]		[illegible]
20	Chet[illegible]	Business	Kanan [illegible] KPT		Chet[illegible]
21	Kuldeep Sharma	Business	Near Hindu Kanya College		[illegible]
22	[illegible]	[illegible]	[illegible]		[illegible]