

October 2014

## **Infrastructure Development Investment Program for Tourism (IDIPT) - Punjab**

**Subproject – Heritage Conservation and Tourism  
Development in Gurdaspur District**

Prepared by the Government of Punjab

## **CURRENCY EQUIVALENTS**

(as of 7 October 2014)

Currency unit	–	Indian rupee/s (Re/Rs)
Re1.00	=	\$0.0163
\$1.00	=	Rs61.326

## **ABBREVIATIONS**

ADB –	Asian Development Bank
BPL –	Below Poverty Line
DSC –	Design and Supervision Consultants
EA-	Executing Agency
EAC –	Expert Appraisal Committee
EARF –	Environmental Assessment Review Framework
EIA –	Environmental Impact Assessment
EMP –	Environmental Management Plan
GoI –	Government of India
GoP-	Government of Punjab
PHTPB-	Punjab Heritage and Tourism Promotion Board
PPCB –	Punjab Pollution Control Board
IDIPT –	Infrastructure Development Investment Program for Tourism
IEE –	Initial environmental examination
MC –	Municipal Corporation
MLD –	Million Litres per day
MOEF –	Ministry of Environment and Forests
MSL –	Mean Sea Level
NGO –	Non-Governmental Organization
O&M –	Operations and Management
PIU –	Project Implementation Unit
PMC-	Project Management Consultants
PMU –	Project Management Unit
REA –	Rapid Environmental Assessment
SEAC –	State Expert Appraisal Committee
SPM –	Suspended Particulate Matter
SPS –	Safeguards Policy Statement
TCP –	Town and Country Planning
TMP-	Traffic Management Plan
TDS –	Total Dissolved Solids
TSS –	Total Suspended Solids

## **NOTES**

In this report, "\$" refers to US dollars.

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## EXECUTIVE SUMMARY

12. **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; (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. Physical infrastructure investments will be accompanied by: (iii) 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.
13. The sites selected for conservation and provision of visitor amenities are part of Gurdaspur district of Punjab state. The district is part of Western Circuit<sup>1</sup>. The sites identified for enhanced protection and management of natural and cultural tourism assets are located within the Gurdaspur city. These sites are important due to their historical importance and cultural settings.
14. **Executing and implementing agencies.** The executing agency is the Punjab Heritage and Tourism Promotion Board, Punjab. Project Management Unit (PMU) is set up at Chandigarh to coordinate the overall execution. Project Management Consultant (PMC) at Chandigarh provides assistance to PMU in execution. The implementing agency is Project Implementation Unit (PIU) set up at Amritsar, to be supported by Design Supervision Consultant (DSC). Temple and mosque committees are the asset owners for the proposed components.
15. **Categorization.** This Gurdaspur district subproject Package No. PB/IDIPT/T3/11/19 to be advertised Q4/2015 is classified as Environmental Category 'B' as per the SPS as no significant impacts are envisioned. Accordingly this Initial Environmental Examination (IEE) has been prepared and assesses the environmental impacts and provides mitigation and monitoring measures to ensure no significant impacts as a result of the subproject.
16. **Subproject Scope.** The major scope of this subproject as per Summary Appraisal Report (SAR) 11 - Package No. PB/IDIPT/T3/11/19 to be advertised Q4/2015 are: Conservation and Protection of Panj Mandir including Restoration of Paintings at Panj Mandir, Fatehgarh Choorian; Restoration / Conservation of Mosque, Provision of Public Conveniences at the mosque at Rattar Chattar Mosque; Parking and Associated Works, Provision of Public Conveniences at the temple at Achaleshwar Dham.

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<sup>1</sup> The Western Circuit is located in the northwestern 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.

17. **Description of the Environment.** Subproject components are located in rural areas of Gurdaspur District. The western corridor is located in the north western segment of the state and includes the districts of Kapurthala, Gurdaspur and Amritsar. The area borders Pakistan in the west and the River Beas flows through the eastern portion. Gurdaspur district is part of Sikh Heritage Trail and Grand Trunk Trail and Imperial Highway, identified under United Nations World Tourism Organization (UNWTO) Master Plan, (Source: As per Punjab Tourism Development Master Plan, 2008-2023; UNWTO).
18. **Environmental Management.** An environmental management plan (EMP) is included as part of this IEE, which includes (i) mitigation measures for environmental impacts during implementation; (ii) an environmental monitoring program, and the responsible entities for mitigating, monitoring, and reporting; (iii) public consultation and information disclosure; and (iv) grievance redress mechanism. A number of impacts and their significance have already been reduced by amending the designs. The EMP will be included in civil work bidding and contract documents.
19. Locations and siting of the proposed infrastructures were considered to further reduce impacts. The concepts considered in design of the subproject are (i) design, material and scale will be compatible to the local architectural, physical, cultural and landscaping elements; (ii) preference will be given to the use of local material and labour as best as possible; (iii) for conservation, local construction material available in the nearby region as best as possible suiting to those in existence; (iv) all painting (interior and exterior) will be with environment-friendly low volatile organic compounds paints (v) earth backfill, if any will be done from the site excavated material; and (vi) ensuring all planning and design interventions and decisions are made in consultation with local communities and reflecting inputs from public consultation and disclosure for site selection.
20. During the construction phase, impacts mainly arise from the need to dispose of moderate quantities of waste material. These are common impacts of construction in urban areas, and there are well developed methods for their mitigation. Measures such as conducting work in lean season and minimizing inconvenience by best construction methods will be employed. In the operational phase, all facilities and infrastructure will operate with routine maintenance, which should not affect the environment. Facilities will need to be repaired from time to time, but environmental impacts will be much less than those of the construction period as the work will be infrequent, affecting small areas only.
21. Mitigation measures have been developed to reduce all negative impacts to acceptable levels. Mitigation will be assured by a program of environmental monitoring to be conducted during 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 observations on- and off-site, document checks, and interviews with workers and beneficiaries. Any requirements for corrective action will be reported to the ADB.
22. The stakeholders were involved in developing the IEE through discussions on-site and public consultation, 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.

23. The tourists, local community, religious committees, women and children groups, and business people (organizations) of Gurdaspur town area 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 access to reliable and adequate tourism facilities and propagate the local traditions and Religious/ Cultural Heritage of the state. This subproject will also 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.
24. **Consultation, Disclosure and Grievance Redress.** Public consultations will be done in the preparation of the detail design and final IEE. On-going consultations will occur throughout the project implementation period. A grievance redress mechanism is described within the IEE to ensure any public grievances are addressed quickly (Annexure 5).
25. **Monitoring and Reporting.** The PMU, PIU, PMC and DSC will be responsible for environmental monitoring. The PIU with support from the DSC will submit monthly, 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 will post the environmental monitoring reports on its website.
26. **Conclusions and Recommendations.** Therefore the proposed subproject is unlikely to cause significant adverse impacts. The potential impacts that are associated with design, construction and operation can be mitigated to standard levels without difficulty through proper engineering design and the incorporation or application of recommended mitigation measures and procedures. 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 or Government of India EIA Notification, 2006.

## I INTRODUCTION

1. **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; (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. Physical infrastructure investments will be accompanied by: (iii) 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.
2. The Subproject is part of Western Circuit. The Western Circuit is located in the north western segment of the state and includes the districts of Kapurthala, Gurdaspur and Amritsar. The circuit borders Pakistan in the west and the River Beas flows through the eastern portion. The project aims to enhance tourist destination urban environment and support facilities along with protection and management of religious and cultural tourism attractions in Gurdaspur district in Punjab state. Gurdaspur district is part of Sikh Heritage Trail and Grand Trunk Trail and Imperial Highway, identified under United Nations World Tourism Organization (UNWTO) Master Plan, (*Source: As per Punjab Tourism Development Master Plan, 2008-2023; UNWTO*).
3. Subproject sites are located in Gurdaspur city which is part of Western Circuit of Punjab state. Gurdaspur District is situated in the northern part of Punjab. The city of Gurdaspur is situated in the Amritsar-Jammu National Highway at a distance of 36 km from Pathankot and 32 km from Batala city. The India-Pakistan border is at a distance of 10 km from Gurdaspur. The district has immense historical value due to the presence of famous Gurudwaras. The river Beas flows on one side and the river Ravi on the other side of Gurdaspur District.
4. **Executing and Implementing Agencies.** The executing agency is the Punjab Heritage and Tourism Promotion Board, Punjab. Project Management Unit (PMU) is set up at Chandigarh to coordinate the overall execution. Project Management Consultant (PMC) at Chandigarh provides assistance to PMU in execution. The implementing agency is Project Implementation Unit (PIU) set up at Kapurthala, to be supported by Design Supervision Consultant (DSC). Deputy Commissioner of Kapurthala is the asset owner for proposed components.
5. **Proposed sub-project.** The objective of this subproject is to improve, conserve and manage physical and environmental image of the historical sites/route with planned interventions consistent to its historic status, revitalization of walled city along with sustainable model for citizens and tourists, to educate visitors about the historical structures, culture and the values of city, providing tourist infrastructure facilities along with protecting the heritage value of the property and to enhance tourist attractions with all facilities.
6. The major scope of this subproject as per Summary Appraisal Report (SAR) 11 - Package No. PB/IDIPT/T3/11/19 to be advertised Q4/2015 are: Conservation and Protection of Panj

Mandir including Restoration of Paintings at Panj Mandir, Fatehgarh Choorian; Restoration / Conservation of Mosque, Provision of Public Conveniences at the mosque at Rattar Chattar Mosque; Parking and Associated Works, Provision of Public Conveniences at the temple at Achaleshwar Dham.

7. **Categorization.** As per the Asian Development Bank's (ADB) Safeguard Policy Statement 2009, and in line with the Environment Assessment & Review Framework (EARF) for the project, the sub-project "Heritage Conservation and Tourism Development in Gurdaspur District" are categorized as 'B' and an Initial Environmental Examination (IEE) prepared. The IEE was based on a review of sub-project site plans and reports; field visits, and secondary data to characterize the environment and identify potential impacts; and interviews and discussions with stakeholders.
8. **Purpose of the IEE.** This report gives an account of the initial environmental examination (IEE) of subproject as per SAR-11 and preliminary design. The adverse environmental impacts for this contract package are primarily related to construction activities. The proposed construction activity is selected considering 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 sub-project components are categorized as 'B' and 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 of the Subproject

9. **Location:** The proposed project sites of Package No: PB/IDIPT/T3/11/19 to be advertised in Q4/2015 located within the rural areas of Gurdaspur District. Gurdaspur District is situated in the northern part of Punjab. The city of Gurdaspur is situated in the Amritsar-Jammu National Highway at a distance of 36 km from Pathankot and 32 km from Batala city. The India-Pakistan border is at a distance of 10 km from Gurdaspur. The district has immense historical value due to the presence of famous Gurudwaras. The river Beas flows on one side and the river Ravi on the other side of Gurdaspur District.
27. **Brief History:** The subproject sites in Gurdaspur District represent a lasting legacy and the rich heritage of Punjab state. About 500 domestic tourists visit Gurdaspur Town daily. Number of tourists visiting subproject sites are, Panj Mandir (500 per day), Rattar Chattar Mosque (500 and at peak season 30,000), and Achaleshwar Dham (500 to 1000 per day), (Source: Statistics Unit- PHTPB, 2014).

The sites identified for enhanced protection and management of natural and cultural tourism assets are important due to their historical importance and cultural settings. Currently, the subproject sites have poor facilities and services with inadequate infrastructure and access. Better accessibility and tourism infrastructure will enhance tourist experience.

#### a. Panj Mandir

- i. The temple is 190 years old and has unique architectural and historic value because of the wall paintings depicting both Hindu and Sikh themes.
- ii. The temple is not maintained properly and is in near abandoned state.



- iii. Frescoes are vanishing. The precious frescoes of immense value have been white washed due to ignorance and they are losing their beauty and historical value. The frescoes are decaying due to moisture and lack of knowledge amongst local inhabitants.
  - iv. The small temple structure lying opposite to the main temple is in shambles.
  - v. Due to neglect and inadequate management, locals have constructed houses around the temple.
- b. Rattar Chattar Mosque:
  - i. The structure is in a dilapidated state.
  - ii. Urgent need for conservation and preservation of the 325 year old mosque.
  - iii. Need to upgrade the mosque as the roof of the mosque has collapsed.
  - iv. Absence of connectivity to the site.
  - v. Lack of public conveniences such as toilets and baths.
- c. Achaleshwar Dham :
  - i. Annual fair (mela) is arranged at the temple during Shivaratri for which large no. of tourists visit this sacred place.
  - ii. A huge parcel of land is available in front of the site which is used for parking but is not finished with pavers or any surface material.
  - iii. No ladies toilet at Achleshwar temple.

10. **Existing Conditions:** Existing conditions of proposed components are as below-

a. **Panj Mandir**

- i. Decay of frescoes due to poor awareness among the local inhabitants of the area.
- ii. Need for proper interventions to conserve site. The lower portion of the walls, which were adorned with priceless frescoes in three temples, has been whitewashed by the caretakers of the temple.
- iii. A small shrine opposite to the temple is in shambles.

b. **Rattar Chattar Mosque**

- i. Structure is in a very pitiable state, with dilapidated roofs.
- ii. There is vegetative growth on the structure.
- iii. Need to strengthen the walls as they are in precarious state.
- iv. Lack of basic tourist amenities and facilities.

c. **Achaleshwar Dham :**

- i. No proper parking, visitors park their vehicles on the vacant land in front of the site.
- ii. Lack of public convenience such as ladies toilet.



**B. Proposed Subproject**

- 11. The sub projects has been designed so that following requirements can be catered:

**a. Panj Mandir**

- i. Conservation and restoration of the temple with planned interventions.
- ii. Preservation of frescoes. Conservation of wall paintings in the temple by suitable methods. Consolidation of weakened paint layers.
- iii. Consolidation of plaster, re-plastering filleting, patch work repair etches needs to be done due to dampness.
- iv. Landscaping and Area Development:
  - o Signage and Interpretation.
  - o Upgrade and provision of adequate visitor facilities.
- v. Capacity building of local community which will comprise tourism awareness regarding social, economic and environment impacts and community awareness. Encouraging active community participation with emphasis on women participation in the project to ensure social responsibility.

**b. Rattar Chattar Mosque**

- i. The conservation works for Mosque requires a step by step conservation beginning with structural stabilization as first priority, taking into consideration the current state of the structure.
- ii. Removal of vegetative growth from the structure and water proofing for all roof and terrace areas.
- iii. Consolidation of Plaster, re-plastering, etc needs to be done.
- iv. Site Development:
  - Signage and Interpretation
  - Provision of public conveniences such as toilets and drinking water facilities.
- v. Provision of adequate parking facility.

**c. Achaleshwar Dham**

- i. Site Development:
  - Provision of parking space with fencing and lighting in an area of 2558 sqm.
  - Signage and Interpretation
- ii. Provision of toilets, total 7 toilets and one toilet for the handicapped including two baths.
- iii. Capacity building of local community which will comprise tourism awareness regarding social, economic and environment impacts and community awareness. Encouraging active community participation with emphasis on women participation in the project to ensure social responsibility.

12. All sites for subproject (PB/IDIPT/T3/11/19 to be advertised by Q4/2015) are owned by Temple and mosque committees, thus no land acquisition is required. The sites are located in Gurdaspur district rural areas, and are known for their religious/ cultural significance for more than hundred years now, there is no natural habitat left around these sites. The sites are not within or adjacent to any protected areas. Location map of proposed site is shown in **Figure-1**.
13. The design, material and scale will be compatible to the local architectural, physical, cultural and landscaping elements. Preference will also be given to the use of local material and labour as best as possible. For the conservation, local construction material available in the nearby region as best as possible suiting to those in existence.

All painting (interior and exterior) will be with environment-friendly low volatile organic compound paints.

14. The earth backfill, if any will be done from the site excavated material. Stone, aggregate, sand and other raw materials required are available within 50 km radius from sites. Also formwork and skilled labour is locally available. For brick wall construction, bricks are also available within 50 km radius from the proposed site/region.
15. No excessive usage of water during construction period is required. Water supply during construction will be provided by Municipal Corporation and its Public Health Division from their existing system or will be transported through mobile water tankers, if required. Solid waste generated at sites will be disposed at designated areas through Municipal Corporation.
16. Site plan for the proposed sub project area is shown in **Figure 2. Annexure 2** shows photo illustration of the project site.

### **C. Implementation Schedule**

17. Preliminary design of the subproject has been done by the Design and Supervision Consultant (DSC) and Project Management Consultant (PMC) team and will be finalized during detailed design stage. It is estimated that construction period will cover 24 months.
18. The final detailed implementation schedule will be provided in the updated IEE once the detailed design phase is completed.



**Figure 1: Location Map of Panj Mandir, Fatehgarh Churian**



Figure 1: Location of Achaleshwar Dham

### III. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

#### A. ADB Policy

19. 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.
20. **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:
  28. Category A. Projects could have significant adverse environmental impacts. An EIA is required to address significant impacts.
  29. 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.
  30. Category C. Projects are unlikely to have adverse environmental impacts. No EIA or IEE is required, although environmental implications are reviewed.
  31. 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.
21. **Environmental Management Plan.** An EMP which addresses the potential impacts and risks identified by the environmental assessment shall be 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.

22. **Public Disclosure.** The IEE will be put in an accessible place (e.g., local government offices, libraries, community centers, 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 in 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**

23. Implementation of the subproject will be governed by the national and State of Punjab State 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 and maintenance.
24. The realm of environmental regulations and mandatory requirements for the proposed sub-project is shown in **Table 1**. The Environmental Impact Assessment (EIA) notification, 2006 by the Ministry of Environment and Forests (MoEF, GoI) specifies the mandatory environmental clearance requirements. Accordingly, projects and activities are broadly categorized in two categories<sup>2</sup> - 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.

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<sup>2</sup> 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 Forests (MoEF) 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.

**Table 1: Environmental Regulatory Compliance**

Sub-Project	Applicability of Acts/Guidelines	Compliance Criteria
<p>Heritage conservation and Tourism Development in Gurdaspur District</p> <p><b>a. Panj Mandir, Fatehgarh Choorian</b> I. Conservation and Protection of Panj Mandir including Restoration of Paintings.</p> <p><b>b. Rattar Chattar Mosque</b> I. Restoration / Conservation of Mosque. II. Provision of Public Conveniences at the mosque.</p> <p><b>c. Achaleshwar Dham</b> I. Parking and Associated Works. II. Provision of Public Conveniences at the temple.</p>	<p>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.</p>	<p>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.</p>
	<p>ADB's Safeguard Policy Statement 2009</p>	<p>Categorization of sub-project components into A, B or C and developing required level of environmental assessment for each component. Categorized as B and IEE prepared</p>
	<p>The Wildlife Conservation Act, 1972, amended in 2003 and 2006, provides for protection and management of Protected Areas.</p>	<p>Not applicable. No wildlife protected area.</p>
	<p>The Forest Conservation Act, 1980 and its subsequent amendments necessitate obtaining clearance from the MoEF for diversion of forest land for non-forest purposes.</p>	<p>Project site is not located within forest area. No tree felling is required.</p>
	<p>Water (Prevention and control of pollution) Act, 1974 and;  Air (prevention and control of pollution) Act, 1981</p>	<p>Consent for Establishment (CFE) and Consent for Operation (CFO) from the PPCB for setting up of diesel generators (if any) and batching plant to be obtained by the Contractor, prior to commencement of construction works at site. Apart from this CFE and CFO is also required for stone crushers and quarry sites if exclusively setting up for this project, otherwise it has to be ensured that the construction materials is to be procured from approved quarry sites and stone crushers.</p>
	<p>The Ancient Monuments and Archaeological Sites and Remains Act, 1958, and the rules, 1959 provide guidance for carrying out activities, including conservation, construction and reuse in and around the protected monuments.</p>	<p>The monuments proposed for conservation and revitalization are not ASI monument. Therefore, the provisions of the act do not apply.</p>
	<p>"The Punjab Ancient and Historical Monuments and Archaeological sites and</p>	<p>The religious/ cultural sites identified under the project are not protected buildings under</p>

Sub-Project	Applicability of Acts/Guidelines	Compliance Criteria
	remains Act, 1964"	this Act and NOC has been obtained from the temple/ mosque committees, however, there is no ownership issues involved in the project.

25. The above Table indicates that the proposed sub-project 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. The sub-project has been categorized as B. Accordingly this IEE is prepared to address the potential impacts, in line with the recommended IEE content and structure for Category B projects.

## I. DESCRIPTION OF ENVIRONMENT

### A. Environmental Profile

32. The Gurdaspur district is the northern most district of Punjab state. It falls in the Jalandhar division and is sandwiched between river Ravi and Beas. The geographical extent of the area is 2,610 sq.km. The district lies between north-latitude 31°36' and 32°34' and east longitude 74°56' and 75°24' and shares common boundaries with Pathankot district in the north, Beas River in the northeast, Hoshiarpur district in the south-east, Kapurthala district in the south, Amritsar district in the south west and Pakistan in the north west.

### Physiography

33. All the Tehsils of the district namely Gurdaspur, Batala and Dera Baba Nanak are plain and similar to the rest of the Punjab plains in structure. The landscape of the district has varied topography comprising of undulating plain, the flood plains of the Ravi and the Beas and the up land plain. To its south lies an area of about 128sq.km which is highly dissected and is an undulating plain. Its elevation ranges from about 305 to 381 metre above sea level. It is traversed by a number of choes and has an undulating topography.
34. The flood plains of the Ravi and the Beas are separated from the up land plain by sharp river cut bluffs. They are low lying, with slightly uneven topography. Sand dominates in the soil structure of the flood plains, but it diminishes in both quantity and coarseness in the upland plain. The up land plain covers a large part of the district particularly. Its elevation ranges from about 305 metre above sea level in the north-east to about 213 metre above sea level in the south west, with a gentle gradient of about 1 metre to 1.6 km. This is the most important physiographic unit in the district.

### Climate

35. There are mainly two seasons i.e. summer and winter. The summer season falls between the months of April to July and the winter November to March. In summer season the temperature touches 45°C and sometimes even cross it. June is the hottest month and January is the coldest one. Mostly the rain falls in the month of July. The winter rains are experienced during January and February. The dust storm occurs in the month of May and June. Relative humidity is generally high in the mornings, and it generally exceeds 70%, except during the summer season when it is less than 50%.



The humidity is comparatively less in the afternoons. The driest part of the year is the summer season when the relative humidity in the afternoons is about 25% or less.

36. Winds are generally light with some strengthening in the summer and early part of the monsoon season. In the post-monsoon and cold season, winds are light and variable in direction in the morning and mostly from the west or north-west in the afternoons. In April and May, winds are mainly from direction between north-west and north-east in the mornings and between west and north-east in the afternoons. By June, easterlies and south –easterlies also blow and also during the south-west monsoon season, winds blow commonly between north-east and south-east directions.

37.

### **Rainfall**

38. The south-west monsoon generally arrives in the first week of July and continues up to the end of August. About 70% of the rainfall in the district is received during the period from June to September and as much as about 18 percent rainfall occurs during the period from December to February.

### **Soil**

39. The soils are loamy and the clay content is below 10%. They contain small quantities of lime but the magnesia content is high. They are well supplied in potash and phosphoric acid but their quantities are low. Agriculture is dependent to a large extent on the nature of its soils which in turn, is influenced mainly by climatic factors. The soil of the district is quite alluvial and fertile. The district consists of three kinds of soils: Riarki, Bangar and Bet. The area of Dhariwal Ghuman, Qadian, Harchowal and Sri Hargobindpur is called Riarki. The western side of Kahnuwan Lake up to Aliwal canal is called Bangar and the area between the rivers of Beas and Ravi is known as Bet. Nearly 300 villages falls within Bet Area of this district.

### **Geology**

40. The area forms a part of the Indo-Ganga alluvium, with a north-west-south-east running hilly terrain of the Shiwaliks forming the foot-hills of the Himalayas. The oldest rocks belong to the lower Shiwalik formation comprising of alternating sandstone, silt and shale horizons of grey and maroon colours. To the south-west of the Shiwalik range are exposed gravel, sand and clay beds of the quaternary period. Vertebrate fossils are noticed associated with the Shiwalik formations indicating a luxurious growth of animal life which later perished due to severe glaciation during the upper Pleistocene period.

### **Surface Water Quality**

41. Beas and Ravi Rivers account for surface waters in Gurdaspur districts. The rivers flood during the rainy season. All through the course of River Beas, 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 1.5 metres during the dry season to about 4.5 metres during the rainy season. The Chakki Khad is the chief tributary of the Beas in Gurdaspur district. A number of tributaries join River Ravi from both sides. On its right bank, River Ravi is joined by the Ujh, the Jalalia, the Shingarwan and the Masto, all of which originates in the Jammu hills. The Kiran and the Naumuni streams, which take their origin from local depression in Gurdaspur district, are its left bank tributaries.
42. Table 2: Beas and Ravi Rivers Surface Water Quality



Sl.no	Parameter	Beas River	Ravi River
43.	Temperature (degrees C)	16	14
44.	pH	7.8	7.8
45.	Conductivity (micro siemens/cm)	342	202
46.	Total N (mg/l)	1.4	0.4
47.	DO (mg/l)	7.8	9
48.	BOD.(mg/l)	4.2	0.4
49.	COD. (mg/l)	14.4	1.6
50.	Chloride (mg/l)	23	10
51.	Sulphate (mg/l)	16	8
52.	Sodium (mg/l)	14.6	1.8
53.	Faecal Coliforms (MPN / 100ml)	500	0
54.	Turbidity (NTU)	24	7
55.	Total Coliforms (MPN / 100ml)	5000	7
56.	TDS (mg/l)	302	194

Source: DDMP, Gurdaspur

57. From the given information, with exemption to the Total Coliforms in River Ravi, all other physicochemical parameters for both the river waters are well within the limits (CPCB Norms for Surface Waters) for surface water quality. The presence of the total coliforms indicates the sewerage inlet into the river.

### Groundwater Quality

58. The ground water in the Gurdaspur district is alkaline in nature with low mineralisation. The pH value ranges from 7.77 to 8.25 indicating a weak base type characteristic. Specific conductance, a measure of total dissolved solids present in water; ranges from 235 to 1640 micro mhos/cm at 25°C. Chloride values in the area are directly proportional to the specific conductance of the water samples. The fluoride concentration in the entire district is within the permissible limit of 1.5mg/l of BIS drinking water standards and it ranges from 0.12 to 1.16mg/l. Nitrate values are below the permissible limit with an exception at two villages, i.e. Batala (138mg/l) and Kalanaur (146mg/l). Iron, essential for plant and animal growth, is below 1.0mg/l in the entire district. Arsenic above the prescribed BIS permissible limit of 0.01mg/l is found in well waters located at Nishayra (0.015mg/l), Behrampur (0.0113mg/l), Galri (0.0201mg/l) and Sri Hargobindpur (0.010mg/l).

### Ambient air Quality

59. Under the NAMP program (National Ambient Air Quality Monitoring Program) conducted by the Central Pollution Control Board (CPCB), New Delhi all the State

Pollution Control Boards are requested to conduct the ambient air quality monitoring for the selected industrial and residential areas. In Punjab, the Punjab Pollution Control Board has taken the initiative to conduct NAAQM program. The monitored results are shared by preparing the overall air quality status report. For this assignment, the air quality information for the Gurdaspur area has been taken from the status report for discussion.

**Table 3: National Ambient Air Quality Monitoring (NAAQM) Programme**

Timing	Commercial Area, Gurdaspur			Residential Area, Gurdaspur			Industrial Area, Gurdaspur		
	SPM ( $\mu\text{g}/\text{m}^3$ )	SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )	NO <sub>x</sub> ( $\mu\text{g}/\text{m}^3$ )	SPM ( $\mu\text{g}/\text{m}^3$ )	SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )	NO <sub>x</sub> ( $\mu\text{g}/\text{m}^3$ )	SPM ( $\mu\text{g}/\text{m}^3$ )	SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )	NO <sub>x</sub> ( $\mu\text{g}/\text{m}^3$ )
<b>Standards</b>	<b>500</b>	<b>120</b>	<b>120</b>	<b>200</b>	<b>80</b>	<b>80</b>	<b>500</b>	<b>120</b>	<b>120</b>
10 AM - 6 PM	760	20	38	488	15	24	512	24	38
10 AM - 6 PM	-	18	33	-	30	17	-	35	23

Source: NAMP Report, CPCB, Delhi

60. It is observed from the analysis, that the key noxious air pollutants like sulphur di-oxide and oxides of nitrogen are well within the permissible limits set by the CPCB. However, the concentration of SPM is relatively high in comparison with the standard. This may be due to the moving traffic and other anthropogenic activities.
61. Ambient Noise Quality
62. Ambient noise quality has been monitored by Punjab Pollution Control Board Pollution (PPCB) at various locations, indicating high noise levels arising largely from vehicles. Noise level measures in Batala city of Gurdaspur district ranges from 64 dB to 68 dB.

### Agriculture

63. The principal kharif crops are paddy, cotton, maize and sugarcane; subsidiary crops are kharif vegetables, such as ladyfinger, cauliflower, tomato, brinjal, cucurbits, kharif pulses and fruits. The principal rabi crops are wheat, gram, barley etc. Wheat, Maize, Rice and Bajra are the important cereals of the state. Wheat dominates the production among overall crop pattern, while cotton is the major cash crop produced. Groundnut, Sugarcane and Potatoes are other crops. The principal rabi oilseeds (sarson, toramira, alsi and toria), and winter vegetables such as peas, turnip, radish, carrots, lobia.
64. In terms of natural vegetation, in the Shahpur Kandi range which lies in the hilly tract comprises mainly of the miscellaneous hardwood species and the Chil pine. Where water facilities are available, Shisham, mulberry, eucalyptus and poplar are being planted. Besides mango and mulberry, other fruit trees cultivated in the district include orange and Kinnow Lemon tree.

### Ecological Resources

65. **Flora** in the project area and nearby places is mostly those related to agricultural crops and few trees like Aam (*Mangifera indica*), Amla (*Embllica officinalis*), Anjir (*Ficus carica*), Kala siras (*Albizzia lebbeck*), Kadamb (*Anthocephalus indicus*), Nimbu (*Citrus medica*), Babool (*Acacia arabica*), Baheda (*Terminalia belerica*), Peepal (*Ficus religiosa*), Shisham (*Delbergia sissoo*), Vilayati babool (*Prosopis juliflora*), Amarbel (*Cuscuta reflexa*), Bans (*Dendrocalamus strictus*), Sugarcane (*Saccharum sp.*), Bel (*Aegle marmelos*), Nashpati (*Pyrus communis*), Neem (*Azadirachta indica*), Amrood (*Psidium guajava*) and Ashok (*Polyalthia longifolia*)
66. **Fauna** of Gurdaspur district includes Nilgai (*Boselaphus tragocamelus*), (*Cynopterus sphinx vahl*), Five stripped palm squirrel (*Funambulus pennanti*), Common mongoose

(*Herpestes edwardsi*), Hare (*Lepus nigricollis*), Myna (*Acridotheres tristis*), Blue rock pigeon (*Columba livia*), Woodpecker (*Dinopium benghalense*), Parrot (*Psittacula krameri*), House crow (*Corvus splendens*), Common garden lizard (*Calotes vesicolor*), Dog (*Canis lupus*), Goats (*Capra aegagrus hircus*), Cat (*Felis cattus*), Buffaloes (*Bubalus bubalis*), Toads (*Bufo malanostictus*) and Bull frog (*Rana tigrina*).

## B. Social Profile

### Population Distribution

67. As per 2011 Census, Punjab population is 2.77 crores, which shows an increase in the population in comparison with the 2001 Census (2.44 crores). Total population of the Gurdaspur District is 22.98 lakh in 2011 which was 21.04 lakh in 2001. However, the district population growth shows a down trend in Average Annual Growth Rate (AAGR) of nearly 0.9 percent. As per the census 2011, the total number of HH in the district is 4,43,666. The Average Household (HH) size has reduced from 5.7 (census 2001) to 5.2 (census 2011).
68. Urban and Rural Population
69. The urban population in Punjab during 2001 was 33.9% which has increased to 37.5% in 2011. The urban population in Gurdaspur District is 25% as per 2001 census which is increased to 29% in 2011 census. The
70. **Table 4** below presents the Population distribution of the State and the Gurdaspur District.

**Table 4: Population Distribution – Gurdaspur District**

Population Distribution	2001		2011	
	Punjab	Gurdaspur	Punjab	Gurdaspur
Area (Sq.km)	50,362	3,551	50,362	3,551
Avg. HH size	5.6	5.7	5.0	5.2
Tot Population	24,358,999	2,104,011	27,743,338	2,298,323
AAGR (1991-2001-2011)	1.8	1.8	1.3	0.9
Tot Urban Pop	8,262,511	535,223	10,399,146	659,319
Tot Rural Pop	16,096,488	1,568,788	17,344,192	1,639,004
% of Urban Population	33.92	25.44	37.48	28.69

Source: Compiled from Primary Census Abstract, 1991, 2001 and 2011

### Population Density

71. Population Density of Punjab is 551 per sq.km in 2011. Density of Gurdaspur is 647 per sq.km in 2011, which is higher than the value of 2001 census (593 Sq.km).

### Sex Ratio

72. As per 2011 census, the sex ratio of the state was 895 females per 1000 males. Whereas it was 874 females per 1000 males in 2001. In the Gurdaspur District it was 895 females per 1000 males, which is higher than the 2001 figures (890 females per 1000 males).

### Literacy Rate

73. The average literacy rate for the Gurdaspur district is 79.9% as per 2011 census which is higher in comparison to the Punjab state average of 75.8%. The district itself has a considerable growth in the literacy rate in comparison to the 2001 census (73.8%).

### Work participation Rate

74. As per 2011 census, the Workforce Participation Rate in the Gurdaspur district is 33 percent, which is slightly lower than Punjab state average of 36 percent. Gurdaspur District Workforce Participation was 35 percent in 2001 which is now decreased to 33 percent.

### Social Characteristics

75. There is no ST population in the Punjab state. The percentage of the SC in the Punjab state is 32% and the Gurudaspur district constitutes to 25% (as per 2011 census).The
76. **Table 5** below presents the Demographic status of the Punjab state and the Gurdaspur district.

**Table 5: Social Characteristic – Gurdaspur District**

Social component	2001		2011	
	Punjab	Gurdaspur	Punjab	Gurdaspur
Population Density	484	593	551	647
Sex Ratio	876	890	895	895
Literacy Rate	69.65	73.77	75.84	79.95
Workforce Rate	37.47	33.30	35.67	32.94
% of SC	28.85	24.75	31.94	25.26

*Source: Compiled from Primary Census Abstract, 2001& 2011*

## V. ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

26. The assessment of environmental impacts for the proposed interventions under this package has been carried out during the following stages 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.

27. The proposal envisages medium scale construction activity in the adjoining area of existing buildings and facilities on the site. This would result in some environmental impacts typical to small construction activity even though the proposed facility is compatible with the existing activities taking place at these sites. The plot of land for development of proposed facilities is available inside the existing premises free from any encumbrances and with easy accessibility for the visitors.

- The site is located within densely populated area of city. Gaining free access and movement of workers, vehicles and other construction related machinery would be an issue that will be dealt with by obtaining requisite permissions before commencement of construction works on site. Identity cards & vehicle permits shall be provided by the contractor for all such movement to and from the site.
- 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.

28. **Land Acquisition and Resettlement and cultural Impacts.** The proposed sites of proposed Package no. PB/IDIPT/T3/11/19 to be advertised by Q4/2015 are located within existing facilities, and the creation of such a facility does not have any adverse cultural impact. Also, as per the resettlement framework, the proposed categorization for this project is Category C for involuntary resettlement (IR) as it do not result in any physical or economic displacement due to involuntary acquisition of land, or involuntary restrictions on land use or access to the site, as confirmed through site visits during Fact Finding Mission (FFM).

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

- Incorporation of adequate drainage provisions
- Adoption of design compatible with the natural environment and suitable selection of materials to enhance the aesthetic appeal and blend with the natural surroundings.
- Straight lines and simple geometry in the proposed landscape and architectural features.
- Use of subtle colours and simple ornamentation in the structures.
- Natural tree species in the proposed landscape.
- Use of local stone in the proposed walkways and built structures thus maintaining a rustic architectural character

30. 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) as defined in the management plan of the area.

### **Assessment of Environmental Impacts**

31. **Determination of Area of Influence.** The primary impact areas are (i) sites for proposed project 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 village area outside of the delineated primary impact area; and (ii) entire Gurdaspur district in terms of over-all environmental improvement.

32. In the case of this subproject the components will involve straight forward construction and operation, and impacts will be mainly localized, short in duration and expected only during construction period.

### **Pre-construction Impacts and Mitigation Measures**

33. **Consents, permits, clearances, no objection certificate (NOC), etc.** Failure to obtain necessary consents, permits, NOCs, etc. can result to design revisions and/or stoppage of works., however all NoCs/ undertakings have been already obtained for this project as attached in Annexure 11.

34. **Mitigation measures.** The following will be conducted during detailed design phase:

- Obtain all necessary consents, permits, clearance, NOCs, etc. prior to start of civil works.
- 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.

77. **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.

35. **Social and Cultural Resources.** There is a risk that any work involving ground disturbance can uncover and damage archaeological and historical remains. Although no such sites have been identified. For this subproject, excavation will occur in and around existing sites, RoWs and specified government land so no risk is foreseen to these structures. 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.

36. **Sites for construction work camps and areas for stockpile, storage and disposal.** The subproject site is near to residences and commercial areas, therefore construction camps are not recommended within or nearby the proposed site. The contractor will be required to meet the following criteria for the sites:

- 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, shortages of amenities, and crime).
- 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 the river bank. Any construction camp site will be finalized in consultation with DSC and PIU.

37. **Sources of construction materials.** Moderate amounts of gravel, sand, and cement will be required for this subproject. Extraction of materials can disrupt natural land contours

and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution. The contractor will be required to:

- Use 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 to PIU/DSC on a monthly basis documentation of sources of materials.

38. It will be the construction contractor's responsibility to verify the suitability of all material sources and to obtain the approval of PIU/DSC. If additional quarries are required after construction is started, then the contractor obtains written approval of PIU.

39. **Access.** Hauling of construction materials and operation of equipment on-site can cause traffic problems and conflicts in ROWs. Construction traffic will access most work areas from the existing roads therefore potential impacts will be of short-duration, localized and can be mitigated. The contractor will need to adopt the following mitigation measures:

- Plan transportation routes so that heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites.
- 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.
- Coordinate with the Traffic Police Department for temporary road diversions and for provision of traffic aids if transportation activities cannot be avoided during peak hours.
- Notify affected sensitive receptors by providing sign boards with information about the nature and duration of construction works and contact numbers for concerns/complaints.

40. Summary of pre-construction activities is presented in **Table 4**. The responsibilities, monitoring program and costs are provided in detail in the EMP. The contractor is required to update the information during detailed design phase. Sample waste/spoils management plan, traffic management plan, etc. are attached as **Annexes 3 & 4**.

**Table 4: Summary of Pre-Construction Mitigation Measures**

Parameters	Mitigation Measures
Consents, permits, clearances, no objection certificate (NOC), etc.	<ul style="list-style-type: none"> <li>• Obtain all necessary consents, permits, clearance, NOCs, etc. prior to start of civil works.</li> <li>• Acknowledge in writing and provide report on compliance all obtained consents, permits, clearance, NOCs, etc.</li> <li>• Include in detailed design drawings and documents all conditions and provisions if necessary</li> </ul>
Utilities	<ul style="list-style-type: none"> <li>• Identify and include locations and operators of these utilities in the detailed design documents to prevent unnecessary disruption of services during the construction phase.</li> <li>• Require contractors to prepare a contingency plan to include actions to be done in case of unintentional interruption of services.</li> <li>• Obtain from the PIU and/or DSC the list of affected utilities and operators;</li> <li>• Prepare a contingency plan to include actions to be done in case of</li> </ul>

Parameters	Mitigation Measures
	<p>unintentional interruption of services.</p> <ul style="list-style-type: none"> <li>• If relocations are necessary, contractor will coordinate with the providers to relocate the utility.</li> </ul>
Social and Cultural Resources	<ul style="list-style-type: none"> <li>• Consult Archaeological Survey of India or State Department of Archaeology to obtain an expert assessment of the archaeological potential of the site.</li> <li>• Consider alternatives if the site is found to be of medium or high risk.</li> <li>• 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.</li> <li>• 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.</li> </ul>
Sites for construction work camps, areas for stockpile, storage and disposal	<ul style="list-style-type: none"> <li>• Will not promote instability and result in destruction of property, vegetation, irrigation, and drinking water supply systems, etc.</li> <li>• 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, shortages of amenities, and crime).</li> <li>• Disposal will not be allowed near sensitive areas which will inconvenience the community.</li> <li>• The construction camp, storage of fuel and lubricants should be avoided at the river bank. The construction camp site for intake well should be finalized in consultation with DSC and PIU.</li> </ul>
Sources of construction materials	<ul style="list-style-type: none"> <li>• Use quarry sites and sources permitted by government.</li> <li>• Verify suitability of all material sources and obtain approval from PIU/DSC.</li> <li>• If additional quarries are required after construction has started, obtain written approval from PIU/DSC.</li> <li>• Submit to DSC on a monthly basis documentation of sources of materials.</li> </ul>
Access	<ul style="list-style-type: none"> <li>• Plan transportation routes so that heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites.</li> <li>• Schedule transport and hauling activities during non-peak hours.</li> <li>• Locate entry and exit points in areas where there is low potential for traffic congestion.</li> <li>• Keep the site free from all unnecessary obstructions.</li> <li>• Drive vehicles in a considerate manner.</li> <li>• Coordinate with the Traffic Police Department for temporary road diversions and for provision of traffic aids if transportation activities cannot be avoided during peak hours.</li> <li>• Notify affected sensitive receptors by providing sign boards with information about the nature and duration of construction works and contact numbers for concerns/complaints.</li> </ul>

## B. Anticipated Construction Impacts and Mitigation Measures

41. The impacts during the proposed construction works 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.

42. **Construction Schedule and Method.** As per preliminary design, construction activities will cover approximately 2 years. The exact implementation schedule will be updated during detailed design phase and will be reflected in this IEE.

43. The infrastructures will be constructed manually according to design specifications. Demolished materials will be reused to the maximum extent possible. Materials will be brought to site by trucks and will be stored on unused areas within the proposed complexes and nearby vacant areas. Any excavated road will be reinstated. The working hours will be 8 hours daily, the total duration of each stage depends on the soil condition and other local features. Night works may be considered in commercial areas and high day-time traffic as per prevailing conditions at the time of construction.

44. There is sufficient space for a staging area, construction equipment, and stockpiling of materials. However, the contractor will need to remove all construction and demolition wastes on a daily basis.

45. Although construction of these project components involves quite simple techniques of civil work, the invasive nature of restoration works and the subproject sites in built-up areas where there are a variety of human activities, will result to impacts to the environment and sensitive receptors such as residents, businesses, and the community in general. These anticipated impacts are short-term, site-specific and within relatively small areas.

46. **Erosion Hazards.** The sites are in the built up area of the town therefore risk of erosion is low, limited during construction activities and not expected to have any negative impact on the drainage and hydrology of the area.

47. **Impacts on Water Quality.** There are no surface water sources near the subproject site therefore impacts on water quality is negligible. Nevertheless, the contractors will be required to:

- Schedule civil works during non-monsoon season, to the maximum extent possible.
- Ensure drainages within the construction zones are kept free of obstructions.
- Keep loose soil material and stockpiles out of drains and flow-lines.
- Avoid stockpiling of excavated and construction materials (sand, gravel, cement, etc.) unless covered by tarpaulins or plastic sheets.
- Re-use/utilize, to maximum extent possible, excavated materials.
- Dispose any residuals at identified disposal site (PIU/DSC will identify approved sites).
- Dispose waste oil and lubricants generated as per provisions of Hazardous Waste (Management and Handling) Rules, 1989.

48. **Impacts on Air Quality.** There is potential for increased dust particularly during summer/dry season due to stockpiling of construction materials. Emissions from vehicles transporting workers, 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, trenches and sand piles.
- Conduct regular visual inspection along alignments and construction zones to ensure no excessive dust emissions.
- Spreading crushed gravel over backfilled surfaces if re-surfacing of disturbed areas cannot be done immediately.
- Maintain construction vehicles and obtain "pollution under control" certificate from Punjab Pollution Control Board (PPCB).

- Obtain CFE and CFO for hot mix plants, crushers, diesel generators, etc., if to be used in the project.

49. **Noise and Vibration Impacts.** Most of the activities during proposed works shall be done manually and no big equipments are supposed to be used therefore no noise and vibration impacts are expected. Nevertheless, the contractor will be required to:

- Limit construction activities near sensitive areas and other important sites to 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 jackhammers 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 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 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.
- 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.<sup>3</sup>
- Ensure vehicles comply with Government of India noise limits for vehicles. The test method to be followed shall be IS:3028-1998.

50. **Impacts on Flora and Fauna.** As per preliminary design, tree-cutting is not required. This will be reassessed during detailed design phase. There are no protected areas in the direct and indirect impact zones and no diverse ecological biodiversity is found within project area thus no impacts on flora and fauna will be envisaged. But in general the contractor will be required to:

- Conduct site induction and environmental awareness.
- Limit activities within the work area.
- Replant trees in the area using minimum ratio of 2 new trees for every 1 tree cut, if any. Replacement species must be approved by District Forest Department.

51. **Impacts on Physical and Cultural Resources.** There may be inconvenience to tourists, residents, businesses, and other road users due to construction activities in the proposed complexes and slower flow of traffic in areas of heritage walk with narrow roads. This potential 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 and vehicles.
- Provide sign boards to inform nature and duration of construction works and

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<sup>3</sup> Day time shall mean from 6.00 am to 10.00 pm. Silence zone is an area comprising 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.

contact numbers for concerns/complaints.

- Increase the workforce in front of critical areas such as institutions, place of worship, business establishment, hospitals, and schools;
- Implement good housekeeping. Remove wastes 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. 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.
- 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.

**70. Impacts due to Waste Generation.** Demolished structures will be reused to the maximum extent possible. Construction activities will produce excess excavated soils, 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 Municipal 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.

**71. Impacts on Occupational Health and Safety.** Residential accommodation for workers is not proposed. Workers need to be mindful of occupational hazards which can arise from excavation works in high-traffic and busy areas. Exposure to work-related chemical, physical, biological and social hazard is typically intermittent and of short duration, but is likely to reoccur. Potential impacts are negative and long-term but reversible by mitigation measures. Overall, the contractor should comply with IFC EHS Guidelines on Occupational Health and Safety (this can be downloaded from <http://www1.ifc.org/wps/wcm/connect/9aef2880488559a983acd36a6515bb18/2%2BOccupational%2BHealth%2Band%2BSafety.pdf?MOD=AJPERES>). The contractor will be required to:

- Disallow worker exposure to noise level greater than 85 dBA for a duration of more 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 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 during excavation works; (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.
- 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 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.
- 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.

**72. Impacts on Socio-Economic Activities.** Manpower will be required during the 24 months construction phase. This can help generate contractual employment and increase in local revenue. Thus potential impact is positive and long-term. As per preliminary design, land acquisition and closure of roads are not required. However, construction activities may impede access of residents and customers to shops. The potential impacts are negative and moderate but short-term and temporary. The contractor will need to adopt the following mitigation measures:

- Leave space for access between mounds of soil/construction materials.
- Provide walkways and metal sheets where required to maintain access to visitors/tourists along trenches/excavated/disturbed areas.
- Consult operating authorities/tourists regarding operating hours and factoring this in to work schedules.
- Provide sign boards for tourists/visitors to inform nature and duration of construction works and contact numbers for concerns/complaints.
- Employ at least 50% of the labor force, or to the maximum extent, local persons within the 20-km immediate area if manpower is available.

**73. Summary of Mitigation Measures during Construction.** Table 5 provides summary of mitigation measures to be considered by the contractor during construction phase. The detailed mitigation measures, environmental monitoring and reporting requirements, emergency response procedures, related implementation arrangements, capacity development and training measures, implementation schedule, cost estimates, and performance indicators are provided in the EMP.

**Table 5: Summary of Mitigation Measures during Construction Phase**

Potential Impact	Mitigation Measures
Impacts on water quality	<ul style="list-style-type: none"> <li>• Schedule civil works during non-monsoon season, to the maximum extent possible.</li> <li>• Ensure drainages and water bodies within the construction zones are kept free of</li> </ul>

Potential Impact	Mitigation Measures
	<p>obstructions.</p> <ul style="list-style-type: none"> <li>Keep loose soil material and stockpiles out of drains, flow-lines and watercourses.</li> <li>Avoid stockpiling of excavated and construction materials (sand, gravel, cement, etc.) unless covered by tarpaulins or plastic sheets.</li> <li>Re-use/utilize, to maximum extent possible, excavated materials.</li> <li>Dispose any residuals at identified disposal site (PIU/DSC will identify approved sites).</li> <li>Dispose waste oil and lubricants generated as per provisions of Hazardous Waste (Management and Handling) Rules, 1989.</li> </ul>
Impacts on air quality	<ul style="list-style-type: none"> <li>Conduct regular water spraying on earth piles, trenches and sand piles.</li> <li>Conduct regular visual inspection along alignments and construction zones to ensure no excessive dust emissions.</li> <li>Spreading crushed gravel over backfilled surfaces if re-surfacing of disturbed ROWs cannot be done immediately.</li> <li>Maintain construction vehicles and obtain "pollution under control" certificate from Punjab SPCB.</li> <li>Obtain CFE and CFO for hot mix plants, crushers, diesel generators, etc., if to be used in the project.</li> </ul>
Noise and vibrations impacts	<ul style="list-style-type: none"> <li>Limit construction activities in proposed complexes and other important sites to daytime only.</li> <li>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.</li> <li>Minimize noise from construction equipment by using vehicle silencers and fitting jackhammers with noise-reducing mufflers.</li> <li>Avoid loud random noise from sirens, air compression, etc.</li> <li>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: (i) locate stationary construction equipment as far from nearby noise-sensitive properties as possible; (ii) shut off idling equipment; (iii) reschedule construction operations to avoid periods of noise annoyance identified in the complaint; and/or (iv) notify nearby residents whenever extremely noisy work will be occurring.</li> <li>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.<sup>4</sup></li> </ul>
Impacts on flora and fauna	<ul style="list-style-type: none"> <li>Conduct site induction and environmental awareness.</li> <li>Limit activities within the work area.</li> <li>Replant trees in the area using minimum ratio of 2 new trees for every 1 tree cut, if any. Replacement species must be approved by District Forest Department</li> </ul>
Impacts on physical resources	<ul style="list-style-type: none"> <li>Ensure no damage to structures/properties near construction zone.</li> <li>Provide walkways and metal sheets where required to maintain access of tourists and visitors.</li> <li>Provide sign boards to inform nature and duration of construction works and contact numbers for concerns/complaints.</li> <li>Implement good housekeeping. Remove wastes immediately. Prohibit stockpiling of materials that may obstruct/slow down pedestrians and/or vehicle movement.</li> <li>Ensure workers will not use nearby/adjacent areas as toilet facility.</li> <li>Coordinate with PIU/DSC for transportation routes and schedule. Schedule transport and hauling activities during non-peak hours. Communicate road</li> </ul>

<sup>4</sup> Day time shall mean from 6.00 am to 10.00 pm. Silence zone is an area comprising not less than 100 meters around hospitals, educational institutions, courts, religious places or any other area which is declared as such by CPCB (Central Pollution Control Board). Mixed categories of areas may be declared as one of the above mentioned categories.

Potential Impact	Mitigation Measures
	<p>detours via visible boards, advertising, pamphlets, etc.</p> <ul style="list-style-type: none"> <li>• 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.</li> </ul>
Impacts on waste generation	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Coordinate with Municipal Authorities for beneficial uses of demolished materials/silts/sediments or immediately dispose to designated areas.</li> <li>• Recover used oil and lubricants and reuse; or remove from the sites.</li> <li>• 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).</li> <li>• Prohibit disposal of any material or wastes (including human waste) into drainage, nallah, or watercourse.</li> </ul>
Impacts on occupational health and safety	<ul style="list-style-type: none"> <li>• Comply with IFC EHS Guidelines on Occupational Health and Safety</li> <li>• 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.</li> <li>• Develop comprehensive site-specific health and safety (H&amp;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.</li> <li>• Include in H&amp;S plan measures such as: (i) type of hazards during excavation works; (ii) corresponding personal protective equipment for each identified hazard; (iii) H&amp;S training for all site personnel; (iv) procedures to be followed for all site activities; and (v) documentation of work-related accidents.</li> <li>• Provide H&amp;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.</li> <li>• 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.</li> <li>• Provide medical insurance coverage for workers.</li> <li>• Secure construction zone from unauthorized intrusion and accident risks.</li> <li>• Provide supplies of potable drinking water.</li> <li>• Provide clean eating areas where workers are not exposed to hazardous or noxious substances.</li> <li>• 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.</li> <li>• Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas.</li> <li>• Ensure moving equipment is outfitted with audible back-up alarms.</li> <li>• 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.</li> </ul>
Impacts on socio-economic activities	<ul style="list-style-type: none"> <li>• Leave space for access between mounds of construction materials.</li> <li>• Provide walkways and metal sheets where required to maintain access to tourists/visitors along trenches/excavated/disturbed areas.</li> <li>• Consult operating authorities and tourists regarding operating hours and factoring this in to work schedules.</li> <li>• Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints.</li> </ul>

Potential Impact	Mitigation Measures
	<ul style="list-style-type: none"> <li>• Employ at least 50% of the labor force, or to the maximum extent, local persons within the 2-km immediate area if manpower is available.</li> <li>• “Mobility Plan” has to be chalked out in consultation with the District Administration and asset owner prior to start of work.</li> </ul>

74. The construction related impacts due to proposed subproject components are generic to construction activities, and are typical of building and other construction projects. The potential impacts that are associated with construction activities can be mitigated to standard levels without difficulty through incorporation or application of the recommended mitigation measures and procedures.

### **C. Post-Construction Impacts and Mitigation Measures**

75. 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.
  - Use removed topsoil to reclaim disturbed areas.
  - Re-establish the original grade and drainage pattern to the extent practicable.
  - Stabilize all areas of disturbed vegetation using weed-free native shrubs, grasses, and trees.
  - Restore access roads, staging areas, and temporary work areas.
  - Restore roadside vegetation.
  - 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 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.

### **D. Anticipated Operations and Maintenance (O&M) Impacts and Mitigation Measures**

76. 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 well located rest points for pedestrians 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**

- 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 project was prepared based on opinions of all those

consulted, especially at the micro level, by setting up dialogues with the local people and fishermen from whom information on site facts and prevailing conditions were collected.

- 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 wild life authorities and NGOs, and secondly to discuss mitigating measures and get concurrence of stakeholders.

## **B. Process for Consultation followed**

- During project preparation (June to September 2014), consultations have been held with the Department of Tourism, tourists of Gurdaspur, Temple/ mosque committees, PWD and District administration, Health Department, Punjab, District Municipal Administration, local community representatives, tourism officers, and tourist guides/photographers 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**.

## **C. Plan for Continued Public Participation**

- To ensure continued public participation, stakeholder engagement at main stages of work 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 sub-project location, information regarding grievance redress mechanism shall be published in local newspapers. This information is also made available on PHTPB website.
- The 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.
- 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, Gurdaspur District (iv) District/Public libraries of the Chandigarh/Gurdaspur 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**

- 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.

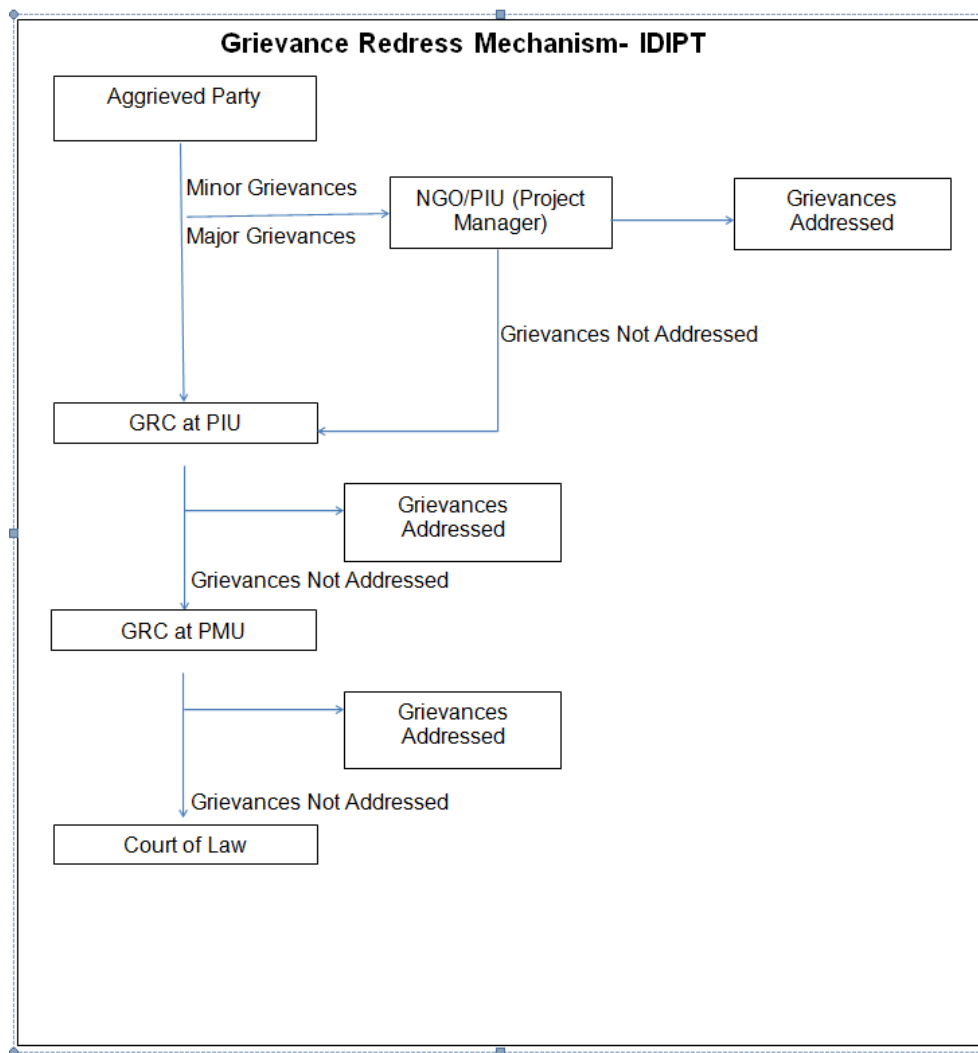
- GRC at PMU shall discuss the issue and try to resolve it and inform the PIU accordingly. If the matter is not resolved by the GRC at PMU level within one month of time, the aggrieved person/party can bring the matter to The Court of Law. The PIU shall keep records of all grievances received including 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**

- **Local Grievance Committee (LGC).** In this LGC has worked with NGO, SHG, Line Agency, Special invitee.
- **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). 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.
- **GRC within Environmental and Social Management Cell (ESMC) 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. 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). Sample Grievance Redress Form is attached as **Annexure-5**

#### **B. Approach to GRC.**

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



**Figure 3: Grievance Redress Mechanism in IDIPT, Punjab**

Note: LGC -NGO, SHG, Line Agency, Representative of Gram Panchayat, 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)

## VIII .ENVIRONMENTAL MANAGEMENT PLAN

- 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 (Table 5).
- A copy of the EMP must be kept on work sites at all times. This EMP will be included in the bid documents and will be further reviewed and updated during implementation. The EMP will be made binding on all contractors operating on the site and will be included in the contractual clauses. Non-compliance with, or any deviation from, the conditions set out in this document constitutes a failure in compliance.
- 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.

- **Responsibilities for EMP Implementation:** The following agencies will be responsible for EMP Implementation:

- Punjab Heritage and Tourism Promotion board (PHTPB). is the Executing Agency (EA) responsible for overall management, coordination, and execution of all activities funded under the loan;
- PIU, Amritsar 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;
- A Project Implementation Unit (PIU) already exists 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 Amritsar and DSC. The environmental related mitigation measures will also be implemented by the contractor.

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

<b>Box 1: Terms of Reference of Safeguards Specialist – PMU</b>	
78.	Review the IEE document and ensure adequacy under Safeguard Policy Statement, 2009 and identify any areas for improvement.
79.	Ensure that the project design and specification adequately reflect the IEE, co-ordinate the obtaining of requisite environmental clearances for the project
80.	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.
81.	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
82.	Review and approve the Contractor's Implementation Plan for the environmental measures, as per IEE.
83.	Liaise with the Contractors and Consultants on the implementation of the Environmental management measures proposed in the IEE
84.	Liaise with the various Government agencies on environmental and other regulatory matters
85.	Continuously interact with the NGOs and Community groups to be involved in the

<b>Box 1: Terms of Reference of Safeguards Specialist – PMU</b>	
	project
86.	Establish dialogue with the affected communities and ensure that the environmental concerns and suggestions are incorporated and implemented in the project.
87.	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
88.	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
89.	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

<b>Box 2: Terms of Reference of Safeguards Specialist (Environment) of DSC</b>	
90.	Review the IEE document and ensure adequacy under ADB SPS, 2009.
91.	Interact on a regular basis with the sector specialists of the DSC and integrate environmentally sound practices into the detailed design of project components.
92.	Advise PMU/PIU for compliance with statutory clearances.
93.	Work out the site specific mitigation measures for components as required and integrate the same into contractual provisions.
94.	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.
95.	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).
96.	Supervise the implementation of the Environmental provisions by the Contractors.
97.	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
98.	Review the Contractors' Environmental Implementation Plans to ensure compliance with the IEE.
99.	Develop good practice construction guidelines to assist the contractors in implementing the provisions of IEE.
100.	Prepare and submit regular environmental monitoring and implementation progress reports.
101.	Assist Environmental Specialist of the PMU to prepare good practice dissemination notes based on the experience gained from site supervision.

<b>Box 3: Terms of Reference of Safeguards Specialist (Environment) of PMC</b>	
	Support and Advice the PMU and Consultants team in-
102.	Best Environmental Practices for responding to environmental issues involved with implementation of the projects on a sustainable basis

<b>Box 3: Terms of Reference of Safeguards Specialist (Environment) of PMC</b>
103. Assistance and advice on institutional strengthening and capacity building at the PMU and PIU levels in regards to environmental practices.
104. Ensure that baseline surveys, environmental monitoring plans and programs, initial environmental examinations (IEE) as may be required are carried out.
105. Preparation of ADB procedure compliant environmental safeguard actions including impact assessment if any during the design stage
106. Management plan and mitigation measures
107. Oversight of implementation of environmental standards and safeguards as part of project implementation
108. Participate in preparation of Master Plan for additional sites and contribute to the environmental safeguards to the plan and sub components
109. Preparation of performance monitoring reports



- **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.

- **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 Municipal Authority and Department of Tourism.

- **Responsibility for Reporting.** PIU in coordination with DSC will submit monthly, 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 is attached as **Annexure-7 to 9.**

#### **EMP Tables**

- **Tables 5 to 7** show the potential adverse environmental impacts, proposed mitigation measures, responsible parties, and cost of implementation. This EMP will be included in the bid documents and will be further reviewed and updated during implementation.

Table 6: Pre-Construction EMP Table

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds to Implement Mitigation Measures
Consents, permits, clearances, no objection certificate (NOC), etc.	<b>110.</b> Obtain all necessary consents, permits, clearance, NOCs, etc. prior to start of civil works.	<b>111.</b> Consents, permits, clearance, NOCs, etc.	PMU	EA to report to ADB in environmental monitoring report (EMR)	check CFEs, permits, clearance, prior to start of civil works	PMU
	<b>112.</b> Acknowledge in writing and provide report on compliance all obtained consents, permits, clearance, NOCs, etc.	<b>113.</b> Records and communications	PMU	EA to report to ADB in EMR	Acknowledge upon receipt  Send report as specified in CFE, permits, etc.	PMU
	<b>114.</b> Include in detailed design drawings and documents all conditions and provisions if necessary	<b>115.</b> Detailed design documents and drawings	Contractor	PMU and PMC PIU and DSC	Upon submission by contractor	Contractor
Establishment of baseline environmental conditions prior to start of civil works	<b>116.</b> Conduct documentation of location of components, areas for construction zone (camps, staging, storage, stockpiling, etc.) and surroundings (within direct impact zones). Include photos and GPS coordinates	<b>117.</b> Records	Contractor	PMU and PMC PIU and DSC	to be included in updated IEE report	PMU
Utilities	<b>118.</b> Identify and include locations and operators of	List and maps showing utilities to be shifted	- DSC to prepare preliminary list	PMU and PMC PIU and DSC	to be included in updated IEE report	DSC – preliminary design

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds to Implement Mitigation Measures
	<p>these utilities in the detailed design documents to prevent unnecessary disruption of services during the construction phase.</p> <p><b>119.</b> Require contractors to prepare a contingency plan to include actions to be done in case of unintentional interruption of services.</p> <p><b>120.</b> Obtain from the PIU and/or DSC the list of affected utilities and operators;</p> <p><b>121.</b> If relocations are necessary, contractor will coordinate with the providers to relocate the utility.</p>	Contingency plan for services disruption	and maps of utilities to be shifted - During detailed design phase, contractor to (i) prepare list and operators of utilities to be shifted; (ii) contingency plan			stage Contractor – implementation stage
Social and Cultural Resources	<b>122.</b> Consult Archaeological Survey of India (ASI) or Punjab State Archaeology Department to obtain an expert assessment of the archaeological potential of the site.	Chance find protocol (Annexure 9)	- PMC to consult ASI or Punjab State Archaeology Department - PMC to develop protocol for	PMU	to be included in updated IEE report	PMC

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds to Implement Mitigation Measures
	<p><b>123.</b> Consider alternatives if the site is found to be of medium or high risk.</p> <p><b>124.</b> 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.</p> <p><b>125.</b> 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.</p>		chance finds			
Sites for construction work camps, areas for stockpile, storage and disposal	<p><b>126.</b> Will not promote instability and result in destruction of property, vegetation, irrigation, and drinking water supply systems, etc.</p> <p><b>127.</b> Residential areas will not be considered so as to</p>	<p>List of pre-approved sites for construction work camps, areas for stockpile, storage and disposal</p> <p>Waste management plan</p>	<p>- DSC to prepare list of potential sites</p> <p>DSC to inspect sites proposed by contractor if not included in</p>	PMU PIU	to be included in updated IEE report	Contractor



Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds to Implement Mitigation Measures
	<p>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, shortages of amenities, and crime).</p> <p><b>128.</b> Disposal will not be allowed near sensitive areas which will inconvenience the community.</p> <p><b>129.</b> The construction camp, storage of fuel and lubricants should be avoided at the river bank. The construction camp site for intake well should be finalized in consultation with DSC and PIU.</p>		pre-approved sites			
Sources of construction materials	<p><b>130.</b> Use quarry sites and sources permitted by government.</p> <p><b>131.</b> Verify suitability of all material sources and obtain approval from PIU.</p>	Permits issued to quarries/sources of materials	<p>Contractor</p> <p>PMC and DSC to verify sources (including permits) if additional is</p>	<p>PMU</p> <p>PIU</p>	Upon submission by contractor	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds to Implement Mitigation Measures
	<p><b>132.</b> If additional quarries are required after construction has started, obtain written approval from PIU.</p> <p><b>133.</b> Submit to DSC on a monthly basis documentation of sources of materials.</p>		requested by contractor			
Access	<p><b>134.</b> Plan transportation routes so that heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites.</p> <p><b>135.</b> Schedule transport and hauling activities during non-peak hours.</p> <p><b>136.</b> Locate entry and exit points in areas where there is low potential for traffic congestion.</p> <p><b>137.</b> Keep the site free from all unnecessary obstructions.</p> <p><b>138.</b> Drive vehicles in a considerate manner.</p> <p><b>139.</b> Coordinate with the Traffic Police Department for</p>	Traffic management plan	Contractor	PIU and DSC	to be included in updated IEE report	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds to Implement Mitigation Measures
	<p>temporary road diversions and for provision of traffic aids if transportation activities cannot be avoided during peak hours.</p> <p><b>140.</b> Notify affected sensitive receptors by providing sign boards with information about the nature and duration of construction works and contact numbers for concerns/complaints.</p> <p><b>141.</b> Provide free access to households along the alignments of raw and clear water transmission routes during the construction phase.</p>					
Occupational health and safety	<p><b>142.</b> Comply with IFC EHS Guidelines on Occupational Health and Safety</p> <p><b>143.</b> Develop comprehensive site-specific health and safety (H&amp;S) plan. The overall objective is to</p>	Health and safety (H&S) plan	Contractor	PMU and PMC PIU and DSC	to be included in updated IEE report	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds to Implement Mitigation Measures
	<p>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.</p> <p><b>144.</b> Include in H&amp;S plan measures such as: (i) type of hazards in the intake wells site; (ii) corresponding personal protective equipment for each identified hazard; (iii) H&amp;S training for all site personnel; (iv) procedures to be followed for all site activities; and (v) documentation of work-related accidents.</p> <p><b>145.</b> Provide medical insurance coverage for workers.</p>					
Public consultations	<b>146.</b> Continue information dissemination, consultations, and	<ul style="list-style-type: none"> <li>- Disclosure records</li> <li>- Consultations</li> </ul>	PMU and PMC PIU and DSC	PMU and PMC	<ul style="list-style-type: none"> <li>- During updating of IEE Report</li> <li>- During preparation</li> </ul>	PMU Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds to Implement Mitigation Measures
	involvement/participation of stakeholders during project implementation.		Temple administrators Contractor		of site- and activity-specific plans as per EMP - Prior to start of construction - During construction	to allocate funds to support

**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 water quality	<b>147.</b> Schedule construction activities during non-monsoon season, to the maximum extent possible.	Work schedule	Contractor	PIU and DSC  PIU to submit EMP monitoring report to PMU	- daily inspection by contractor supervisor and/or environment specialist - weekly visual inspection by DSC (more frequent during monsoon season and if corrective action is required) - random inspection by PMU, PIU, PMC and/or DSC	
	<b>148.</b> Ensure drainages and water bodies within the construction zones are kept free of obstructions.	Visual inspection				
	<b>149.</b> Keep loose soil material and stockpiles out of drains and flow-lines.	Visual inspection				
	<b>150.</b> Avoid stockpiling of excavated and construction materials (sand, gravel, cement, etc.) unless covered by tarpaulins or plastic sheets.	Visual inspection				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	<b>151.</b> Re-use/utilize, to maximum extent possible, excavated materials.	condition in waste management plan				
	<b>152.</b> Dispose any residuals at identified disposal site (PIU/DSC will identify approved sites).	condition in waste management plan				
	<b>153.</b> Dispose waste oil and lubricants generated as per provisions of Hazardous Waste (Management and Handling) Rules, 1989.	condition in waste management plan				
	<b>154.</b> Inspect all vehicles daily for fluid leaks before leaving the vehicle staging area, and repair any leaks before the vehicle resumes operation.	Vehicle inspection report				
Impacts on air quality	<b>155.</b> Conduct regular water spraying on stockpiles.	- Visual inspection - No complaints from sensitive receptors - Records	Contractor	PIU and DSC	- 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	Contractor
	<b>156.</b> Conduct regular visual inspection in the construction zones to ensure no excessive dust emissions.	Visual inspection				
	<b>157.</b> Maintain construction vehicles and obtain "pollution under	PUC certificates				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency Monitoring of	Source Funds of
	control” certificate from BSPCB.					
	<b>158.</b> Obtain CFE and CFO for hot mix plants, crushers, diesel generators, etc., if to be used in the project.	CTE and CTO				
Noise and vibrations impacts	<b>159.</b> Limit construction activities in proposed complexes and other important areas to daytime only. <b>160.</b> 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	- 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	Contractors
	<b>161.</b> Minimize noise from construction equipment by using vehicle silencers and fitting jackhammers with noise-reducing mufflers.	Report on ambient noise level monitoring within direct impact zones				
	<b>162.</b> Avoid loud random noise from sirens, air compression, etc.	zero incidence				
	<b>163.</b> 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				
	<b>164.</b> If specific noise complaints are received during construction, the	- Complaints addressed satisfactory				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	<p>contractor may be required to implement one or more of the following noise mitigation measures, as directed by the project manager:</p> <p><b>165.</b> Locate stationary construction equipment as far from nearby noise-sensitive properties, such as the hospital, as possible.</p> <p><b>166.</b> Shut off idling equipment.</p> <p><b>167.</b> Reschedule construction operations to avoid periods of noise annoyance identified in the complaint.</p> <p><b>168.</b> Notify nearby residents whenever extremely noisy work will be occurring.</p>	- GRM records				
Impacts on flora and fauna	<b>169.</b> Conduct site induction and environmental awareness.	Records	Contractor	PIU and DSC	<p>- daily inspection by contractor supervisor and/or environment specialist</p> <p>- weekly visual inspection by DSC (more frequent if corrective action is required)</p> <p>- random inspection by PMU, PIU, PMC and/or DSC</p>	Contractor
	<b>170.</b> Limit activities within the work area.	Barricades along excavation works				
	<b>171.</b> Replant trees in the area using minimum ratio of 2 new trees for every 1 tree cut. Replacement species must be approved by district Forest Department.	-Number and species approved by Punjab State Forest Department				



Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	172.					
Impacts on physical cultural resources	<b>173.</b> 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 WTP 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
	<b>174.</b> Provide sign boards to inform nature and duration of construction works and contact numbers for concerns/complaints.	- no complaints received - photo-documentation				
	<b>175.</b> Increase the workforce in WTP components near the hospital and other sensitive receptors.	- Records of workers deployment - Work schedule				
	<b>176.</b> Implement good housekeeping. Remove wastes immediately.	- Visual inspection - No stockpiled/stored wastes				
	<b>177.</b> Ensure workers will not use nearby/adjacent areas as toilet facility.	- No complaints received - Sanitation facilities for use of workers				
	<b>178.</b> Coordinate with PIU/DSC for transportation routes and schedule. Schedule transport and hauling activities during non-peak hours. Communicate road	- Approved routes in traffic management plan				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	detours via visible boards, advertising, pamphlets, etc. <b>179.</b> Ensure heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites.					
	<b>180.</b> 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 (Annexure 9)				
Impact due to waste generation	<b>181.</b> 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. <b>182.</b> Coordinate with PIU/DSC for beneficial uses of excavated soils or immediately dispose to designated areas. <b>183.</b> Recover used oil and lubricants and reuse; or remove from the site.	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 Monitoring of	Source Funds of
	<p><b>184.</b> Avoid stockpiling and remove immediately all excavated soils, excess construction materials, and solid waste (removed concrete, wood, trees and plants, packaging materials, empty containers, oils, lubricants, and other similar items).</p> <p><b>185.</b> Prohibit disposal of any material or wastes (including human waste) into drainage, nallah, or watercourse.</p>					
Impacts on occupational health and safety	<b>186.</b> Comply with IFC EHS Guidelines on Occupational Health and Safety	<ul style="list-style-type: none"> <li>- Visual inspection</li> <li>- Records</li> </ul>	Contractor	PIU and DSC	<ul style="list-style-type: none"> <li>- daily inspection by contractor supervisor and/or environment specialist</li> <li>- weekly visual inspection by DSC (more frequent if corrective action is required)</li> <li>- random inspection by PMU, PIU, PMC and/or DSC</li> </ul>	Contractor
	<b>187.</b> Disallow worker exposure to noise level greater than 85 dBA for a duration of more than 8 hours per day without hearing protection. The use of hearing protection shall be enforced actively.	<ul style="list-style-type: none"> <li>- Visual inspection</li> <li>- Work schedule</li> <li>- Noise level monitoring in work area</li> </ul>				
	<b>188.</b> 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	<ul style="list-style-type: none"> <li>- Records</li> <li>- Condition in H&amp;S plan</li> </ul>				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency Monitoring of	Source Funds of
	workers.					
	<b>189.</b> 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				
	<b>190.</b> Provide medical insurance coverage for workers.	Records				
	<b>191.</b> Secure construction zone from unauthorized intrusion and accident risks.	- Area secured - Trenches barricaded				
	<b>192.</b> Provide supplies of potable drinking water.	- Supply of water				
	<b>193.</b> Provide clean eating areas where workers are not exposed to hazardous or noxious substances.	- Workers area				
	<b>194.</b> 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.	- Records - Condition in H&S plan				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency Monitoring of	Source Funds of
	<b>195.</b> Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas.	- Visual inspection - Condition in H&S plan				
	<b>196.</b> Ensure moving equipment is outfitted with audible back-up alarms.	- Construction vehicles - Condition in H&S plan				
	<b>197.</b> 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	<b>198.</b> 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 inspection by PMU, PIU, PMC	Contractor
	<b>199.</b> Employ at least 50% of the labor force, or to the maximum extent, local persons within the 2-km immediate area if manpower is available.	Employment records				

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Table 7: 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
Solid waste (debris, excavated soils, etc.)	<p><b>200.</b> Backfill any excavation and trenches, preferably with excess excavation material generated during the construction phase.</p> <p><b>201.</b> Use removed topsoil to reclaim disturbed areas.</p> <p><b>202.</b> Re-establish the original grade and drainage pattern to the extent practicable.</p> <p><b>203.</b> Stabilize all areas of disturbed vegetation using weed-free native shrubs, grasses, and trees.</p> <p><b>204.</b> Restore access roads, staging areas, and temporary work areas.</p> <p><b>205.</b> Restore roadside vegetation, if removed</p> <p><b>206.</b> Remove all tools, equipment,</p>	<p>Pre-existing condition</p> <p>Construction zone has been restored</p>	Contractor	<p>PIU and DSC</p> <p>PIU to submit EMP monitoring report to PMU</p>	- visual inspection by contractor supervisor and/or environment specialist	Contractor

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency Monitoring of	Source of Funds
	<p>barricades, signs, surplus materials, debris, and rubbish. Demolish buildings/structures not required for O&amp;M. Dispose in designated disposal sites.</p> <p><b>207.</b> Monitor success of re-vegetation and tree re-planting. Replace all plants determined to be in an unhealthy condition.</p> <p><b>208.</b> Request in writing from PIU/DSC that construction zones have been restored.</p>					

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

1. **Table 8** summarizes site and activity-specific plans to be prepared as per EMP tables.

**Table 8: 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	PMC/DSC	Contractor
Detailed Design Phase	List and maps showing utilities to be shifted	Utilities shifting	IPIU/DSC during preliminary stage Contractor as per detailed design	Contractor
Detailed Design Phase	Contingency plan	Mitigate impacts due to interruption of services during utilities shifting	Contractor	Contractor
Detailed Design Phase	Chance find protocol	Address archaeological or historical finds	PMU and PMC	Contractor
Detailed Design Phase	List of pre-approved sites	Location/s for work camps, areas for stockpile, storage and disposal	PIU and DSC	Contractor
Detailed Design Phase	Waste management plan	Mitigate impacts due to waste generation	Contractor	Contractor
Detailed Design Phase	H&S plan	Occupational health and safety	Contractor	Contractor

### B. Environmental Monitoring Program

2. 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 of this IEE report.

3. **Table 9** 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 9: Indicative Environmental Monitoring Program**

	Field	Phase	Parameters	Location	Frequency	Responsibility
1.	Air quality	Detailed design phase to establish baseline	Particulate matters, SO <sub>x</sub> , NO <sub>x</sub>		24 hours (once)	PMU
		Construction	Particulate matter,	Achleshwar Dham, Rattar	24 hours (six monthly)	Contractor



	Field	Phase	Parameters	Location	Frequency	Responsibility
			SOx, NOx	Chattar and Panj Mandir	except monsoon season)	
2.	Noise	Detailed design phase to establish baseline	Day time dB(A)	Achleshwar Dham, Rattar Chattar and Panj Mandir.	Once before construction	Contractor
		Construction	Day time dB(A)	Achleshwar Dham, Rattar Chattar and Panj Mandir.	During noise-generating activities	Contractor

### C. Capacity Building

4. 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 10 below. This training program is intended for the entire destination and is not just specific to this package.

**Table 10: Training Modules for Environmental Management (common for entire project)**

Program	Description	Participants	Form of Training	Duration/ Location	Training Conducting Agency
<b>A. Pre-Construction Stage</b>					
• Sensitization Workshop	<ul style="list-style-type: none"> <li>Introduction to Environment:</li> <li>Basic Concept of environment</li> <li>Environmental Regulations and Statutory requirements as per Govt. of India and ADB</li> </ul>	PWD / Temple & Mosque Committees / Roads / Culture Department Officials, Project Director (PD) and Environmental Specialist (ES) of the PMU/PIU	Workshop	½ Working Day	Environmental Specialist of the PMC and DSC
<b>B. Construction Stage</b>					
• Module 1	<ul style="list-style-type: none"> <li>Roles and Responsibilities of officials / contractors / consultants towards protection of environment</li> <li>Implementation Arrangements</li> </ul>	Engineers and staff of line depts. of Government of Punjab, and PMU/PIU (including the ES)	Lecture / Interactive Sessions	½ Working Day	Safeguards Specialist of the PMC and DSC
• Module 2	<ul style="list-style-type: none"> <li>Monitoring and Reporting System</li> </ul>	Engineers and staff of implementing agencies and PMU/PIU (including ES)	Lecture / Interactive Sessions	½ Working Day	Safeguards Specialist of the PMC and DSC

### D. EMP Implementation Cost

5. As part of good engineering practices in the project, 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.

6. This is a small construction project and it is not expected to cause much significant air, water and noise pollution. The main EMP cost will arise from monitoring of environmental parameters (air, water and noise) and training.

7. 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 11** below.

209.

**Table 11: Indicative EMP Budget**

S.N.	Particulars	Stages	Unit	Total number	Rate (INR)	Cost (INR)	Source of fund
<b>A. Monitoring Measures</b>							
1	Air quality monitoring	Detailed design	Per sample	1	10,000	10,000	PMU
2	Noise Levels – silence zones	Detailed design	Per location	2	4,000	8,000	PMU
3	Ambient Air Quality	Construction	Per Sample	4	10,000	40,000	Contractor budget
4	Ambient Noise Quality	Construction	Per Sample	4	4,000	16,000	Contractor budget
<b>Sub- Total (A)</b>						<b>74,000</b>	
<b>B. Capacity Building – Training cost</b>							
1	Sensitization Workshop	Pre-Construction	L.S			1,50,000	PMU
2	Training Session I	Construction	L.S			1,50,000	PMU
3	Training Session II	Construction	L.S			1,50,000	PMU
<b>Sub -Total (B)</b>						<b>4,50,000</b>	
<b>Total (A+B) INR</b>						<b>5,24,000</b>	

## IX. FINDINGS and RECOMMENDATIONS

8. The proposed components as part of the package are in line with the sub-project selection criteria for the program. The subproject conforms to all GoI and ADB regulations, policies, and standards including all necessary government permits and clearances

9. The specific management measures laid down in the IEE will effectively address any adverse environmental impacts due to the sub-project. The effective implementation of the measures proposed will be ensured through the building up of capacity towards environmental management within the PMU supplemented with the technical expertise of a Safeguards Specialist as part of the DSC Consultants. Further, the environmental monitoring plans provide adequate opportunity towards course correction to address any residual

impacts during construction or operation stages.

## **X. CONCLUSIONS**

10. The IEE carried out for the sub-project show that the proposed sub-components will result in net environmental benefits, and that any adverse 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 for mitigation of all identified impacts and the Contract clauses for the environmental provisions 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.

11. 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).



## APPENDIX 1: REA CHECKLIST RAPID ENVIRONMENTAL ASSESSMENT (REA) CHECKLIST

### 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.

**Country/Project Title:** IDIPT – Punjab: Heritage Conservation and Tourism Development in Gurdaspur District

**Sector Division:** SARD (Urban Development and Water Division)

Screening Questions	Yes	No	Remarks
<b>A. Project Siting</b>			
Is the project area adjacent to or within any of the following environmentally sensitive areas?			
▪ Cultural heritage site	✓		All sites under the subproject are religious/ cultural heritage sites, with origin of more than 250 years old.
▪ Protected Area		✓	The project site is not in a protected area.
▪ Wetland		✓	The project sites are not in wetland area.
▪ Mangrove		✓	The project site is not in a mangrove area.
▪ Estuarine		✓	The project site is not in an estuarine.
▪ Buffer zone of protected area		✓	The project area is not in any buffer zone of protected area.
▪ Special area for protecting biodiversity		✓	The project is not in any special area for protecting biodiversity.
<b>B. Potential Environmental Impacts</b>			
Will the Project cause:			
▪ encroachment on historical/cultural areas; disfiguration of landscape by road embankments, cuts, fills, and quarries?			
▪ encroachment on precious ecology (e.g. sensitive or protected areas)?		✓	No component of the subproject causes this impact.
▪ alteration of surface water hydrology of waterways crossed by roads, resulting in increased sediment in streams affected by increased soil erosion at construction site?		✓	No component of the subproject causes this impact.
▪ deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?		✓	Guidelines for siting the labor camps will avoid such problems.
▪ increased local air pollution due to rock crushing, cutting and filling works, and chemicals from asphalt processing?		✓	No component of the subproject causes this impact.

Screening Questions	Yes	No	Remarks
▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation during project construction and operation?		✓	No component of the subproject causes this impact.
▪ noise and vibration due to blasting and other civil works?		✓	Noise impacts from civil works will be a short term impact due to the movement of construction equipment and its operations.
▪ dislocation / involuntary resettlement of people?		✓	Dislocation or involuntary resettlement of people is not involved as sites are free from any encumbrances.
▪ dislocation and compulsory resettlement of people living in right-of-way?		✓	All sites identified for proposed activities are under the ownership of PWD and maintained by the temple/ mosque committees and PWD. All required NoCs and undertakings have been obtained. Sites visits have further confirmed that site is free from any issues of dislocation and compulsory resettlement of people.
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?		✓	There are disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups, the soft component in the project will ensure to provide training to the community women.
▪ other social concerns relating to inconveniences in living conditions in the project areas that may trigger cases of upper respiratory problems and stress?		✓	There will not be inconvenient living conditions in the project areas that may trigger cases of upper respiratory problems and stress.
▪ hazardous driving conditions where construction interferes with pre-existing roads?		✓	During construction, some parts of the roads may be affected for short periods. In order to mitigate the same, a proper traffic management plan for regulating the traffic flow, incorporating adequate traffic safety measures and signage or provisions of alternative routes shall be provided.
▪ 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 works can be handled by local labour. The sanitation system shall be properly designed and built so that no water pollution takes place to any water-body or water course.
▪ creation of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents?		✓	IEE/EMP stipulates adoption of good engineering practices that will prevent temporary ponding around the construction sites.
▪ accident risks associated with increased vehicular traffic, leading to accidental spills of toxic materials?		✓	No component of the subproject causes this impact.
▪ increased noise and air pollution resulting from traffic volume?		✓	There may be a slight and temporary increase in air and noise pollution, but with improved surface roughness, facilitation of continuous movement at a constant speed without frequent changing of gears, lesser honking will result in lowering of the pollution.

Screening Questions	Yes	No	Remarks
▪ increased risk of water pollution from oil, grease and fuel spills, and other materials from vehicles using the road?		✓	No significant impact is anticipated as limited equipment / vehicle movement will occur.
▪ social conflicts if workers from other regions or countries are hired?		✓	The works can be handled by local labour.
▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?		✓	The works can be handled by local labour.
▪ 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 component of the subproject causes this impact.
▪ 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 their failure could result in injury to the community throughout project construction, operation and decommissioning.		✓	No component of the subproject causes this impact.

## A Checklist for Preliminary Climate Risk Screening

**Country/Project Title:** IDIPT – Punjab: Heritage conservation and tourism development in Gurdaspur district  
**Sector:** SAUW (South Asia Urban Development and Water Division)  
**Subsector:**  
**Division/Department:**

Screening Questions		Score	Remarks <sup>5</sup>
<b>Location and Design of project</b>	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	The proposed subproject is pertaining to conservation/restoration works and allied facilities at the significant religious/cultural sites of Gurdaspur. Hence no climatic impacts are anticipated on regional scale. The activities are site specific and within the premises of the proposed sites.
	Would 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	Does not arise
<b>Materials and Maintenance</b>	Would 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 hydro-meteorological parameters likely affect the selection of project inputs over the life of project outputs (e.g. construction material)?	0	The construction materials used for this project shall not have any impact on the climate change. The project involves conservation/restoration works and allied facilities at the significant religious/cultural sites of Gurdaspur. All efforts will be made to utilize environment friendly construction strategies and materials.
	Would weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s)?	0	Does not arise
<b>Performance of project outputs</b>	Would 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	Does not arise

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.

<sup>5</sup> 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.

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

**Other Comments:** The proposed subproject is up gradation/ strengthening of the approach road to the Pindori Dham with landscaping on either side of the road. The subproject also includes the provision for visitors' facilities like vehicle parking, toilets and water supply. The purpose of this subproject is to provide quality approach road with visitors facilities to the tourists/ pilgrims. The proposed construction, operation and maintenance of the subproject do not have any impact on the climatic conditions.

**Prepared by:** Department of Tourism, Punjab


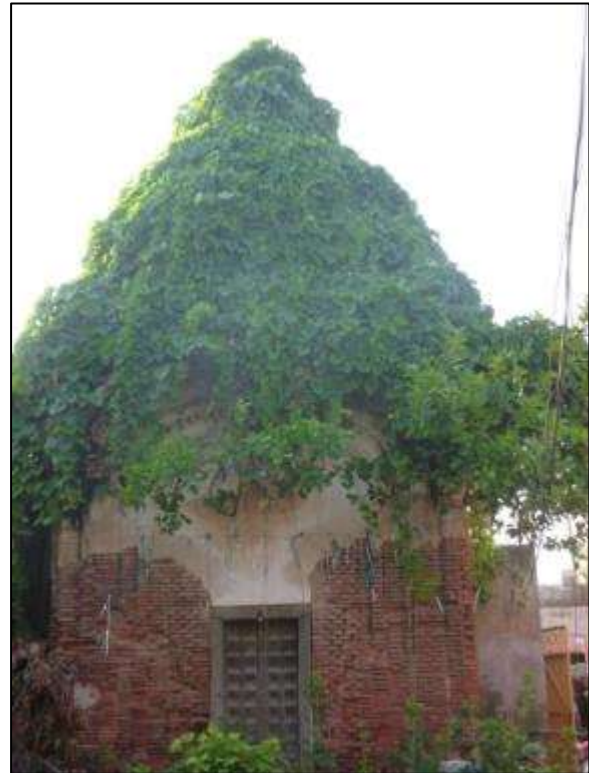
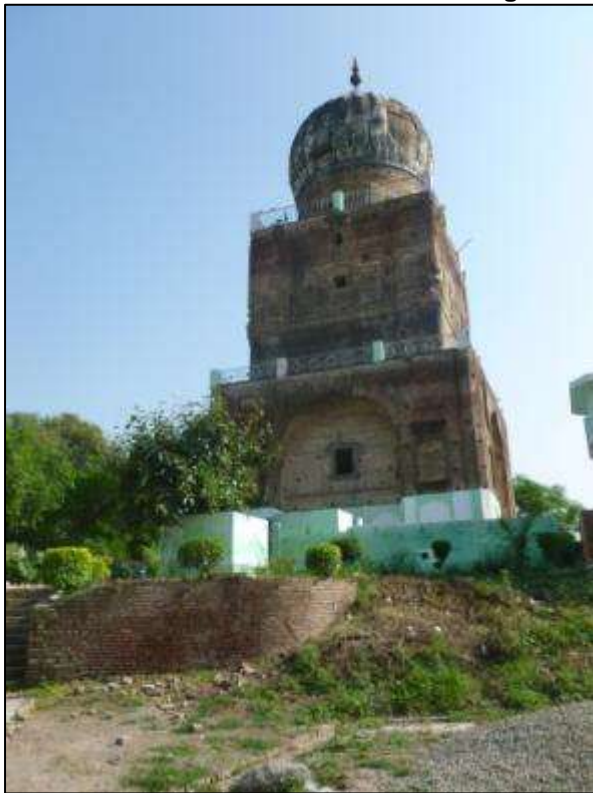




Photo Illustration



Existing Situation PanjMandir



Existing Situation RattarChhattar Mosque



**Existing Situation Achaleshwar Dham**

## 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:

- 210.** To minimize spoil generation where possible
- 211.** Maximize beneficial reuse of spoil from construction works in accordance with spoil management hierarchy
- 212.** Manage onsite spoil handling to minimize environmental impacts on resident and other receivers
- 213.** Minimize any further site contamination of land, water, soil
- 214.** Manage the transportation of spoil with consideration of traffic impacts and transport related emissions
- 215.

### 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.

**216.** Consideration of likely spoil characteristics

**217.** Identification of possible reuse sites

**218.** Screening of possible reuse opportunities

219.

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.**

### Public Consultations

Public Consultations shall be done during detailed design phase and included in final IEE report (Please insert if consultations done for this project)

S.No.	Date of Site Visit	Location	Sites Visited	Name of the officials met	Issues Discussed
220. 6	01.02.14	Taran Tarn & Gurdaspur	All sites of Tranche II	PWD, Temple committee, mosque committee.	221. Ownership of the assets under the site and accessibility to the sites. 222. Development activities required at the site for its enhancement/ or adaptive reuse. 223. Responsible agencies for the O & M of the site. 224. Confirmation and consensus for the required interventions through the agencies. 225. Key gender issues and requirements of the local women groups in the area. 226. Income
229. 1 1	28.05.14	Gurdaspur	Panj Mandir, Achleshwar Dham, Rattar Chattar, Kishan Kot Temple	Local Community, Stakeholders.	
230. 1 2	29.05.14	Taran Tarn Gurdaspur	Panj Mandir, Achleshwar Dham, Rattar Chattar, Kishan Kot Temple	Local community people, tourists, stakeholders and line agency departments.	
231. 1 3	16.07.14	Gurdaspur	Sub Project Sites of Tranche-2	PWD, local community people, tourists, stakeholders and line agency departments. Temple committee, mosque committee.	

					<p>generating activities which can be taken up by the local community, tourists guides, Solid waste management and community involvement.</p> <p>227. Expected benefits of the project by the local community and the stakeholders.</p> <p>228. NoC and undertakings required for development of the site.</p>
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**Sample Grievance Redress Form**  
(To be available in Local Language and English)

**Annexure-5**

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.

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

#### FOR OFFICIAL USE ONLY

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



### Sample Semi-Annual 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

- 232. Overall project description and objectives
- 233. Description of sub-projects
- 234. Environmental category of the sub-projects
- 235. Details of site personnel and/or consultants responsible for environmental monitoring
- 236. 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		
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

#### 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

- 237.** Provide the monitoring results as per the parameters outlined in the EMP. Append supporting documents where applicable, including Environmental Site Inspection Reports.
- 238.** 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:
- 239.** What are the dust suppression techniques followed for site and if any dust was noted to escape the site boundaries;
- 240.** If muddy water was escaping site boundaries or muddy tracks were seen on adjacent roads;



- 241.** 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;
- 242.** Are their designated areas for concrete works, and refuelling;
- 243.** Are their spill kits on site and if there are site procedure for handling emergencies;
- 244.** Is there any chemical stored on site and what is the storage condition?
- 245.** Is there any dewatering activities if yes, where is the water being discharged;
- 246.** How are the stockpiles being managed;
- 247.** How is solid and liquid waste being handled on site;
- 248.** Review of the complaint management system;
- 249.** Checking if there are any activities being under taken out of working hours and how that is being managed.

**Annexure-7****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

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)

**250.** Brief discussion on the basis for monitoring

**251.** Indicate type and location of environmental parameters to be monitored

**252.** Indicate the method of monitoring and equipment to be used

**253.** 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)		
			PM10 (µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)

Site No.	Date of Testing	Site Location	Parameters (Monitoring Results)		
			PM10 (µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)

### 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 <sub>eq</sub> (dBA) (Government Standard)	
			Day Time	Night Time

Site No.	Date of Testing	Site Location	LA <sub>eq</sub> (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

**254.** Photos

**255.** Summary of consultations

**256.** Copies of environmental clearances and permits

**257.** Sample of environmental site inspection Report

**258.** Other

**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 9: ARCHAEOLOGICAL MONITORING AND CHANCE ENCOUNTER PROTOCOL**

### **Protocol for Design and Supervision Consultants (DSC)**

### **RECORDING WHEN HISTORIC FEATURES ARE REVEALED DURING EXCAVATIONS IN ARCHEOLOGICALLY SIGNIFICANT BUILDINGS AND STRUCTURES.**

PREPARED BY CULTURAL HERITAGE CONSERVATION SPECIALIST (CHCS) INTL. PMC,  
THOMAS ADDYMAN (SIMPSON AND BROWN ARCHITECTS, EDINBURG.

#### *1.1 Introduction*

When historic features such as walls, brick constructions and other features are encountered during excavation the excavation must be stopped immediately and the DSC must be informed immediately.

#### *1.2 Cleaning*

When a feature is discovered it must be defined by careful cleaning. Roots must be removed and dirt must be carefully cleaned away and brickwork revealed and carefully scraped clean. The section or trench base should also be cleaned back for a little distance around the feature.

#### *1.3 Record photography*

When the feature is clean good photography should be taken – vertical and face-on shots and a few general shots of the feature, also showing its position in relation to surrounding features, buildings, etc. The red and white photographic scale should be in each photograph. The scale should be parallel to the top and bottom of each camera shot. The photographic scale should be kept in the store room in the northern bastion on site when not in use [ADD EXAMPLE PHOTOS].

When test excavations / investigations are made at the fort (to examine historic floor levels, etc) these should also be recorded photographically. The photographic scale should be used.

The photographed should be catalogued (date, location, direction of shot)

#### *1.4 Drawn record*

When features are revealed a drawn record should also be made.

259. General location record – measuring its position and orientation within the fort / in relation to surrounding structures

260. Record drawings – detail drawings made in plan and section/profile. The extent (edges) of the feature should be drawn and the level of the existing ground surface and the top and base of the feature should be recorded. These levels should be marked on the drawings. The drawings should include detail of the construction of the feature. Perspective sketches could also be made if necessary. Explanatory notes can also be put on the drawings.

#### *1.5 Reporting finds*

When finds are made these should be reported to PMC (for the attention of Tom Addyman). Photographs and record drawings should be sent.

#### *1.6 Discovery of historic objects*

When clearance and excavation takes place artefacts and historic objects are sometimes found. These should be recovered and kept in a safe place. The place of discovery should be recorded and each find given a number and tag tied to the find with the same number on it. A list of the finds should be kept (with the find No. And place of discovery and date of discovery recorded). Tom Addyman will inspect the finds in the store when he does site inspections to decide which are important and should be kept.

#### *1.7 Contractors' instruction: mechanical excavation of services trenches at Gobindgarh Fort*

Contractors working at Gobindgarh Fort must take additional care not to destroy or damage historic features during excavations. There are many buried historic features inside the fort – wells, ancient drains, remains of buildings, other walls, grain pits, etc. Every care must be made not to destroy these during excavations.

### **IEE: Conservation and Adaptive Reuse of Colonial Heritage in Kapurthala**

Excavator drivers need to be instructed to be aware of hitting buried features and that they must be investigated before continuing work.

When features are encountered during mechanical excavation work should stop and the DSC must be informed immediately so that they can be inspected at the first opportunity.

**Annexure 10**

**STATUS OF NOCS AND UNDERTAKINGS OBTAINED FOR THE PROJECT**

<b>S.No.</b>	<b>Sub Project Component</b>	<b>Asset Owner</b>	<b>NOC/Undertaking</b>	<b>Date of Issue</b>
261.	Panj Mandir, Fatehgarh Choorian, Gurdaspur.	Sh. Mahinder Kumar, Mahant of Panj Mandir	NOC	28.08.2014
262.	Panj Mandir, Fatehgarh Choorian, Gurdaspur.	Sh. Mahinder Kumar, Mahant of Panj Mandir	NOC	28.08.2014
263.	Restoration and conservation works at Rattar Chattar Mosque.	Executive Engineer, Provisional Division, PWD (B & R), Gurdaspur. Head of Mosque Committee.	NOC	August 2014
264.	Restoration and conservation works at Rattar Chattar Mosque.	Executive Engineer, Provisional Division, PWD (B & R), Gurdaspur, Head of Temple Committee.	Undertaking	August 2014
265.	Achaleshwar Dham	Executive Engineer, Construction Division, PWD, Batala, and Achleshwar Temple Committee/ Trust	NoC	August 2014
266.	Achaleshwar Dham	Executive Engineer, Construction Division, PWD, Batala, and Achleshwar Temple Committee/ Trust	Undertaking	August 2014



**Annexure 11: NO OBJECTION CERTIFICATES AND  
UNDERTAKINGS FOR OPERATION AND MAINTENANCE**

**PANJ MANDIR, FATEHGARH CHOORIAN**

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**NO OBJECTION CERTIFICATE**

It is certified that there is no objection if the proposed project Panj Mandir  
Fatehghar Choorian (Gurdaspur)  
(Name of the project)

is executed by PHTPB of the Tourism Department (Punjab) as per the guide lines of  
Govt. of India and ADB loan funded projects under IDIPT at Fatehghar Choorian  
at (Gurdaspur)  
(Details of land/area/ building)

Place: Fatehghar Choorian  
Date: 28/8/14

Signature: [Signature]  
Department / owner  
Mohinder Kumar  
Mahant of Panj Mandir  
(Official Stamp)

Counter Signed

Deputy Commissioner

(Official Stamp)

# CERTIFICATE AND UNDERTAKING

It is certified that: -

1. The Pany mandir at Fatehgarh Choorian (Gurdaspur)  
(Details of land/area/ building)

Where  
the Daughter-in-law of Mahant Singh constructed  
(Name of the project)  
Pany mandir (Temple)

project is proposed, for execution by PHTPB of the Tourism Department (Punjab), is  
(Details of the owner)  
under the ownership of

Sh. Mohindu Kumar (Mahant) and is  
under the possession of Mahant of Pany Mandir Fatehgarh Choorian  
(Details of possessor)

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 Govt. 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

Sh. Mohindu Kumar (Mahant) Pany mandir  
(Name of the department/organization)

Place: Fatehgarh Choorian

Date: 28/8/14

Signature

Department/Organisation/Owner

(Official Stamp)

Mohindu Kumar (Mahant)

Counter Signed

Deputy Commissioner

(Official Stamp)

RATTAR CHHATTAR

7

NO OBJECTION CERTIFICATE

It is certified that there is no objection if the proposed project Restoration

Conservation of Mosque at Rattar Chhattar  
(name of the project)

is executed by PHTPB of the Tourism Department (Punjab) as per the guide lines of

Govt. of India and ADB loan funded projects under IDIPT at Rattar Chhattar

Block Dera Beha Nandla

(details of land/area/building)

Place:

Signature .....

Department/owner

Date:


(Official Stamp)

Counter Signed

  
Executive Engineer,  
Provincial Division, PWD (B&R),  
Gurdaspur

Deputy Commissioner

(Official Stamp)

  
ਪ੍ਰਮਾਣਿਤ ਕਰਦਾ ਹੋਵਾਂਗਾ ਕਿ ਇਹ ਪ੍ਰੋਜੈਕਟ  
ਵੱਲੋਂ ਸਮਝੌਤਾ (ਗੁਪਤ ਅਧਿਕਾਰ)

CERTIFICATE AND UNDERTAKING

It is certified that:-

1. The ... Conservation of Masjid at Pather Challe ...  
(details of land/area/building)

... Pathe Challe, Block Dese Baba Nankh ...

the ...  
(name of the project)

Restoration of Pather Challe Masjid ... project is proposed, for  
execution by PHTPB of the Tourism Department (Punjab), is under the ownership of  
... and is

Under the possession of ... Goran Pandey ...

(Details of possessor)

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 Govt. 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 ... Goran Pandey ...

(Name of the department/organization)

... Goran Pandey ...

Place:

Signature ...

Department/owner

Date:

(Official Stamp)

Executive Engineer,  
Provincial Division, PWD (B&R),  
Gurdaspur

Counter Signed

Deputy Commissioner

(Official Stamp)

40/8 203/2/2  
ਪੰਜਾਬ ਸਰਕਾਰ  
ਵਿੱਤਤ ਫੰਡਿੰਗ (ਸ਼ਹਿਰੀ ਵਿਕਾਸ)

ACHALESHWAR DHAM

NO OBJECTION CERTIFICATE

It is certified that there is no objection if the proposed project Development  
of Panchy Sirk at Achleshwar Temple, Achal Sahib Bkt.  
(name of the project)  
is executed by PHTPB of the Tourism Department (Punjab) as per the guide lines of  
Govt. of India and ADS loan funded projects under IDIPT at Achal Sahib  
Bhains - Batala  
(details of land/area/ building)

Place:

Date:

Signature

Department /owner

(Official Stamp)

h. Singh  
Executive Engineer,  
Construction Division, P.W.D. B&R Br. Counter Signed  
BATALA

Deputy Commissioner

(Official Stamp)

# CERTIFICATE AND UNDERTAKING

It is certified that:-

1. The Achleshwar Temple  
(details of land/area/ building )  
Block Batala Where  
the Development of Parking Site  
(name of the project )  
..... project is proposed, for  
execution by PHTPB of the Tourism Department (Punjab), is under the ownership of  
Achleshwar Temple Committee, Achleshwar and is  
(Details of the owner)  
under the possession of Achleshwar Temple Committee  
(Details of possessor)  
Sri. Achleshwar Sahib, Batala  
2. There is NO encroachment and NO resettlement/displacement/rehabilitation of  
people involved in the above Proposed Project area/building/land. 537  
3. 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.  
4. The assets created as a result of the execution of above stated project will be taken  
over for operation and maintenance by Achleshwar Temple Committee  
(Name of the department/organization)  
A.T. Achleshwar Sahib, Batala  
Place: Batala  
Date: \_\_\_\_\_  
Signature \_\_\_\_\_  
Department/Organisation/Owner  
(Official Stamp)

W. Singh  
Executive Engineer,  
Construction Division, P.W.D. B&P Br.  
ATALA.

Counter Signed  
Deputy Commissioner  
(Official Stamp)