Initial Environmental Examination

Project Number: 40648-034
November 2016

IND: Infrastructure Development Investment Program for Tourism (IDIPT) - Tranche 3

Package : PB/IDIPT/T3/07/08 - Establishment of Tourism facilities and Infrastructure Showcasing of Sikh culture (Lot-1) - Interpretation Centres at Chamkaur Sahib, Wadda and Chhota Ghallughara

Submitted by:

Program Management Unit, Punjab Heritage and Tourism Board, Chandigarh

Asian Development Bank

RWS

for logging pls NK/VV

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Date: 10/20/2016 12:32 PM
Subject: Loan 3223-IND: IDIPT- Establishment of Tourism facilities and infrastructure showcasing of Sikh Culture Interpretation Centres at Chamkaur Sahib, Wadda and Chhota Ghallughara- Package no.: PB/IDIPT/T3/07/08 (Lot-1)

Sir,

Please find attached Initial Environmental Examination (IEE) Report for the contract package no. PB/IDIPT/T3/07/08 (Lot-1)

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Regards

Manager
from O/o Additional Project Director
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Initial Environmental Examination

Project Number: 40648-023
ADB loan Number: 3223-IND
November 2016

Infrastructure Development Investment Program for Tourism (IDIPT) - Punjab

Subproject –Establishment of Tourism facilities and Infrastructure Showcasing of Sikh culture (Lot-1) - Interpretation Centres at Chamkaur Sahib, Wadda and Chhota Ghallughara

(Package no: PB/IDIPT/T3/07/08)

Prepared by the Government of Punjab

ABBREVIATIONS

ADB	–	Asian Development Bank
CTE	–	Consent to Establishment
CTO	–	Consent to Operation
DSC	–	Design and Supervision Consultants
DPR	–	Detailed Project Report
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
GRC	–	Grievance Redress Committee
IDIPT	–	Infrastructure Development Investment Program for Tourism
IEE	–	Initial Environmental Examination
LGC	–	Local Grievance Committee
MC	–	Municipal Council
MoEF&CC	–	Ministry of Environment, Forest and Climate Change
NGO	–	Non-Governmental Organization
NoC	–	No Objection Certificate
O&M	–	Operations and Management
PEPSU	–	Patiala and East Punjab State Union Government
PHTPB	–	Punjab Heritage and Tourism Promotion Board
PIU	–	Project Implementation Unit
PMC	–	Project Management Consultants
PMU	–	Project Management Unit
PPCB	–	Punjab Pollution Control Board
PUC	–	Pollution Under Control
REA	–	Rapid Environmental Assessment
SEAC	–	State Expert Appraisal Committee
SLEC	–	State Level Empowered Committee
SPM	–	Suspended Particulate Matter
SPS	–	Safeguards Policy Statement
TMP	–	Traffic Management Plan
TDS	–	Total Dissolved Solids
TSS	–	Total Suspended Solids
UNWTO	–	United Nations World Tourism Organization

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ANNEXURES

EXECTUVE SUMMARY

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

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

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

3. There are three subproject locations in this package. The subproject location at ChhotaGhalugharacomes under Gurdaspur district. The Gurdaspur district is the northern most district of Punjab state, it falls in theJalandhar division and it lies between River Ravi and Beas. The geographical extentof the area is 2,610sq.km. The district lies between north-latitude 31°36' and 32°34' and eastlongitude 74°56' and 75°24' and shares common boundaries with Pathankot district in thenorth, Beas River in the northeast, Hoshiarpur district in the south-east, Kapurthala district inthe south, Amritsar district in the south west and Pakistan in the north west.

4. The subproject location at Chamkaur Sahib falls under theRupnagar (Ropar) district, whichis located in the eastern part of the Punjab State and geographically it lies betweenNorth latitudes of 76°19' and 76°45' and East longitudes of 30°44' and 31°25'. The geographical extent of the area is 1440sq.km. The area is bounded by HimachalPradesh in the north and north east, Hoshiarpur, Nawanshahr and Ludhiana district in thewest, Fatehgarh Sahib District in the South and Mohali district in the south east. The districtcomprises of 4 Tehsils, Rupnagar, Anandpur Sahib, Nangal and Chamkaur Sahib andincludes 624 villages and 6 towns namely Rupnagar, Chamkaur Sahib, AnandpurSahib,Morinda, Kiratpur Sahib and Nangal. The Sutlej river passes close (2 to 5 km) to the townsof Nangal, Rupnagar and Anandpur Sahib.

5. The sub-project site of WaddaGhallugharais located inMalerkotla in the Sangrur district, which is one of the four districts in Patiala Division and it is one of the southern districts of the State. It lies between 29º4' & 30º42' North latitude and 75º18' and 76º13' East longitude. It is bounded by Ludhiana district in the north, Barnala district in the west, Patiala district in the east and Fatehabad district (State Haryana) in the south.The district headquarters shall be accessed through road networks connecting Chandigarh (142 Km), Ludhiana (80 Km), Budhlada (73 Km), Delhi (257 Km), Sultanpur (189 Km), Gurdaspur(250 Km), Ganga-Nagar(240 Km), Nangal (138Km). It shall also be accessed through railnetwork from Ludhiana and Jhakhal (in Haryana).

6. **Executing and implementing agencies.** The Executing Agency (EA)is the Department of Tourism (DoT), Punjab. The implementing agency is the Punjab Heritage and Tourism Promotion Board (PHTPB), Punjab. Project Management Unit (PMU) is set up at Chandigarh to coordinate the overall project execution and is supported by the Project Management Consultant (PMC). Project Implementation Units (PIU) are set up at

Amritsarand Rupnagar and are supported by Design Supervision Consultant (DSC). The asset owners of all three subprojects are the Department of Cultural Affairs, Archaeology and Museums, Govt. of Punjab.

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

8. **Subproject Scope.**The scope of work assigned for this subproject includes:

Table 1 : Subproject Scope

Sl.no	Subproject Location	Proposed Interventions
1	**ChamkaurSahib**	Development of SakaChamkaur Di Garhi as a Sikh valour park including interiors works, interpretation centre, interpretative materials, development of site and left out works
2	**ChhotaGhallughara**	Up-gradation of existing buildings with the following components: - Provision of Interpretative materials including multimedia content - Fitting and fixtures - Display materials
3	**WaddaGhallughara**	Up-gradation of existing buildings with the following components: - Provision of Interpretative materials including multimedia content - Fitting and fixtures - Display materials

9. **Description of the Environment.**Subprojectcomponents are located in the districts ofGurdaspur, Rupnagar and Sangrur. All the subproject sites are situated in the rural areas surrounded by agricultural fields with sparse population. There are no protected areas, forests, eco sensitive sites within or adjacent to the subproject sites.The main surface water bodies are River Ravi and Beas inGurdaspur district and River Sutlej inRupnagar.

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

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

- Design and material will be compatible to the local architectural, physical, cultural and landscaping elements;
- Preference will be given to the use of local material and labour as far as possible;
- For conservation work, local construction material available in the nearby region shall be utilised as far as possible;
- The paints having low volatile organic compounds (VOC's) shall be used for all

painting work(interior and exterior); and

- Ensuring all planning and design interventions and decisions are made in consultation with the local communities and reflecting inputs from public consultation.

12. During the construction phase, the major impacts may arise due to the disturbances causedby the construction activities to the tourists/visitors. These are common construction impacts and can be mitigated through appropriate management measures such as conducting work in the tourism-off season and minimizing inconvenience by best construction methods to reduce theimpacts to the surrounding environment and tourists. In the operational phase, all theinfrastructure facilities will be operationalfollowed by routine maintenance, which should not affect the environment.

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

14. The tourists and the local people of Gurdaspur, Rupnagar and Sangrur town areas 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 Cultural Heritage of the state. This subproject alongwith other subprojects proposed in Gurdaspurwill 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.

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

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

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

I. INTRODUCTION

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

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

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

20. The subproject interventions proposed at Chamkaur Sahib comes underthe Eastern circuit[1] and the subproject interventions proposed at ChhotaGhallughara and WaddaGhallugharacomes under the Western Circuit[2]. The scope of the project isto enhance protection and management of natural and cultural tourism assets at Gurdaspur, Rupnagar and Sangrur Districts. The districtsare a part of the Sikh Heritage Trail (Source: Punjab Tourism Development Master Plan, 2008-2023; United Nations World Tourism Organization (UNWTO)).

21. **Executing and Implementing Agencies.**The Executing Agency (EA)isDepartment of Tourism (DoT), Punjab. The implementing agency is the Punjab Heritage and Tourism Promotion Board (PHTPB) Punjab. Project Management Unit (PMU) is set up at Chandigarh to coordinate the overall project execution. Project Management Consultant (PMC) at Chandigarh provides assistance to PMU in the project execution. Project Implementation Units (PIU) are set up at Amritsar and Rupnagar and are supported by Design Supervision Consultant (DSC). The asset owners of all the three subprojects are Department of Cultural Affairs, Archaeology and Museums, Govt. of Punjab.

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

[1]The Eastern Circuit connects the main pilgrimage, historic and natural tourism assets of the eastern part of the state located on a line from Patiala, Fatehgarh Sahib, Chandigarh, Rajpura, Rupnagar, Ghanouli, Kiratpur, and Nangal. The Circuit is linked to the south eastern end of the Western Pilgrimage and Ecotourism Circuit in Himachal Pradesh and is the main route to access this Circuit from the south. Chandigarh is the main air, rail and road gateway for the corridor, as well as the main overnight centre for travel in and around it. (Source: As per Punjab Tourism Development Master Plan, 2008-2023; United Nations World Tourism Organization (UNWTO)

[2]The Western Circuit is located in the north-western segment of the state and includes the districts of Amritsar, Gurdaspur and Kapurthala. The area borders Pakistan in the west and the River Beas flows through the eastern portion.

23. The scope of workassigned for this subproject includes:

Sl.no.	Subproject Location	Proposed Interventions
1	**ChamkaurSahib**	Development of SakaChamkaur Di Garhi as a Sikh Valour park including interiors works, interpretation centre, interpretative materials, development of site and left out works
2	**ChhotaGhallughara**	Up-gradation of existing buildings with the following components: - Provision of Interpretative materials including multimedia content - Fitting and fixtures - Display materials
3	**WaddaGhallughara**	Up-gradation of existing buildings with the following components: - Provision of Interpretative materials including multimedia content - Fitting and fixtures - Display materials

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

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

II. DESCRIPTION OF THE SUB PROJECT

Existing Condition and Need forthe Subproject

Locations

26. The proposed subproject sites are located in the Rupnagar, Gurdaspur and Sangrur districts of Punjab. The subproject location at ChhotaGhalugharacomes under Gurdaspur district. The Gurdaspur district is the northern most district of Punjab state, it falls in theJalandhar division and it lies between River Ravi and Beas. The geographical extentof the area is 2,610sq.km. The district lies between north-latitude 31°36' and 32°34' and eastlongitude 74°56' and 75°24' and shares common boundaries with Pathankot district in thenorth, Beas River in the north-east, Hoshiarpur district in the south-east, Kapurthala district inthe south, Amritsar district in the south west and Pakistan in the north west.

27. The sub-project location at Chamkaur Sahib falls under the Rupnagar (Ropar) district, which is located in the eastern part of the Punjab State and geographically it lies betweenNorth latitudes of 76°19' and 76°45'and East longitudes of 30°44' and 31°25'.The geographical extent of the area is 1440sq.km. The area is bounded by HimachalPradesh in

the north and north east, Hoshiarpur, Nawanshahr and Ludhiana district in thewest, Fatehgarh Sahib District in the South and Mohali district in the south east. The districtcomprises of 4 Tehsils, Rupnagar, Anandpur Sahib, Nangal and Chamkaur Sahib andincludes 624 villages and 6 towns namely Rupnagar, Chamkaur Sahib, AnandpurSahib,Morinda, Kiratpur Sahib and Nangal. The Sutlej river flows close (2 to 5 km) to the townsof Nangal, Rupnagar and Anandpur Sahib.

28. The sub-project site of WaddaGhallughara is located in Malerkotla in the Sangrur district, which is one of the four districts in Patiala Division. It is, one of the southern districts of the State and lies between 29°04' & 30°42' North latitude and 75°18' and 76°13' East longitude. It is bounded by Ludhiana district in the north, Barnala district in the west, Patiala district in the east and Fatehabad district (State Haryana) in the south. The district headquarters shall be accessed throughroad networks connecting Chandigarh (142 Km), Ludhiana (80 Km), Budhlada (73 Km), Delhi (257 Km), Sultanpur (189 Km), Gurdaspur(250 Km), Ganga-Nagar(240 Km), Nangal (138Km). It shall also be accessed through rail network from Ludhiana and Jhakhal (in Haryana).

Brief History

29. **Chamkaur Sahib:**Chamkaur Sahib is a place of religious and historical importance for Sikhs.The town is situated on the banks of the Sirhind Canal at a distance of 15 km from Morinda and 16 km from Rupnagar town. The project area is famous for the Battle of Chamkaur fought between the Mughals and Guru Gobind Singh. Chamkaur Sahib is steeped in history. There are a number of historical Gurudwara located within the town which are interlinked by narrow roads. The presence of the Gurudwaras such as Katalgarh Sahib, Tarri Sahib, Garhi Sahib, Damdama Sahib and RanjitGarh Sahib which attract people in large number from all over.

Figure 1: Location map of SakaChamkaur Di Garhi, Chamkaur Sahib

30. **WaddaGhallughara:**The WaddaGhallugharaor the Sikh Battleof 1762 refers to the mass sacrifices of the Sikhs by Afghani Forces that happened during the years of Afghan influence in the Punjab region owing to the repeated incursions of Ahmad Shah Durrani in 1764. As such, it is distinguished from theChhotaGhallughara or the Sikh Battle of 1746.The Sikh Battles were not pogroms in the sense of the killing of masses of defenceless people. Since the martyrdom of the fifth Sikh Guru, Guru ArjanDev, in 1606, Sikhs wielded arms in self-defence. These events are called "Ghallughara" because of the wholesale slaughter of the innocent with the intention of genocide. The first Battle was brutal and included mass destruction during the Afghan provincial government's campaign to wipe out the Sikhs, an offensive route that had begun with the Mughals and lasted several decades.

31. It was estimated that 25,000 to 30,000 Sikhs sacrificed their lives on that terrible day of 5th February, 1762. As it is doubtful their entire population would have numbered 100,000, it means one third to a half of all Sikhs perished. The Sikhs were not the only people who were targeted; the Mughals also captured Hindus, especially intellectuals and those who sheltered the Sikhs. The Memorial was built here to pay tribute to the martyrs.

Figure 2:Location map of WaddaGhallughara

32. **ChhotaGhallughara:**This refers to a lesser carnage, as distinguished from Wada Ghallughara or major Sikh Battle. This is how Sikh chronicles refer to significant destruction during the severe campaign of persecution launched by the Mughal government at Lahore against the Sikhs in 1746. Early in that year, JaspatRai, the faujdar of Eminabad, 55 km north of Lahore, was killed in an encounter with a roving band of Sikhs. JaspatRai's brother, LakhpatRai, who was a diwan or revenue minister at Lahore, vowed revenge declaring that he would not put on his head dress nor claim himself to be a Khatri, to which caste he belonged, until he had scourged the entire Sikh Panth out of existence. The memorial was built here to pay tribute to the martyrs.

Figure 3:Location map of ChhotaGhallughara

Existing Conditions

33. **SakaChamkaur Di Garhi, Chamkaur Sahib:**TheSakaChamkaur Di Garhi (Sikh Valour Park) is having few partially completed built-up structures whichincludedisplay halls, interpretation centre, open air theatre, reception centre andtoilets. Hence, in order to complete the remaining / leftover construction works, the scope of work has been formulated accordingly in this subproject. Other additional work includesfixing the entrance gate, arranging fountains etc.,

34. **WaddaGhallughara:**All the civil works have been already completed in separate project. The site is well established with infrastructure like buildings, landscaping, fountain, pathways, boundary wall, parking etc. However, there is absence of displays and interpretative materials of history of Sikh valour at the site, which is proposed to be taken up under this subproject.

35. **ChhotaGhallughara:**All the civil works have been already completed in separate project. The site is well established with infrastructures like buildings, landscaping, fountain, pathways, boundary wall, parking etc. However, there is absence of displays and interpretative materials of history of sikh valour at site.**Annexure 2** shows the site photo of the subproject area.

B. Proposed SubprojectComponents

36. The proposed works under this sub project are as follows-

Table 2: Proposed Interventions

Sl.no	Subproject location	Proposed Interventions
1	SakaChamkaur Di Garhi,	**1. Interior of Art and crafts area** a) Designing and development of display and scenes

Sl.no	Subproject location	Proposed Interventions
	ChamkaurSahib, Rupanagar	b) Furniture layouts **2. Interior of TRC and office** a) Designing of the furniture layouts 3. Interiors of Interpretation area a) Designing and development of scenes and displays using mannequins and relief work b) Flooring and wall finishes **4. Services** a) Electrical and lighting only for interior display areas and scenes b) Air conditioning c) Safety and security d) Fire detection e) Public Announcement system f) Multimedia **5. Equipment of musical fountain** **6. Procurement of art and crafts objects and artefacts for display**
2	ChottaGhallughara	**Upgradation of existing building at ChhotaGhallughara with the following components:** 1. Sculpture Garden with Bronze statues-The projectcomponents will depict different scenes, each sculpture will have a personal meaning in terms of life experience and incidents.Each sculpture will represent the nostalgic time in terms of expressions and atrocities experienced by theSikhs.The material of sculpture would be bronze; with R.C.C foundation pedestal at base.The mounds willmount bronze sculptures. 2. Lighting Fitting and fixtures-LED Uplighters would be installed at appropriate locations in front of Sculptures; this wouldhelp to highlight the sculptures. 3. Signage
3	WaddaGhallughara	**Upgradation of existing building at WaddaGhallughara with the following components:** 1. Sculptured court. - The project components will depict different scenes; each sculpture will have a personal meaning interms of life experience and personal incidents.Each sculpture will represent the nostalgic time in terms of expressions and atrocities experienced by theSikhs.The material of sculpture would be bronze, with R.C.C foundation pedestal at base. The mounds willmount bronze sculptures. 2. Lighting fixtures- LED Uplighters would be installed at appropriate locations in front of Sculptures, this wouldhelp to highlight the sculptures. 3. Signage

Implementation Schedule

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

III. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

ADB Policy

38. 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.

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

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

The proposed subproject Interpretation Centres at Chamkaur Sahib, Wadda and ChhotaGhallughara falls under Category 'B' as per ADB's Safeguard Policy Statement (2009) and Environment Assessment & Review Framework (EARF).

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

41. **Public Disclosure.** The IEE will be put in an accessible place (e.g., local government offices, libraries, community centres, etc.), and a summary translated into Hindi/Punjabi for the project affected people and other stakeholders shall also be disclosed. The following safeguard documents will be put up 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**.**

NationalandStateLaws

42. Implementation of the subproject will be governed by the national and State of Punjabenvironmental 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.

43. The realm of environmental regulations and mandatory requirements for the proposed sub-project is shown in **Table 3**. The Environmental Impact Assessment (EIA) notification, 2006 by the Ministry of Environment, Forests and Climate Change (MoEF&CC, GoI) specifies the mandatory environmental clearance requirements. Accordingly, projects and activities are broadly categorized in two categories[3] - Category A and Category B, based on the spatial extent of potential impacts and potential impacts on human health and; natural and man-made resources.

Table 3: Environmental Regulatory Compliance

Sub-Project	Applicability of Acts/Guidelines	Compliance Criteria
Establishment of Tourism facilities and Infrastructure Showcasing of Sikh culture (Lot-1)- Interpretation Centres at Chamkaur Sahib, Wadda and ChhotaGhallughara	The Environment Protection Act, 1986 - under EIA notification, 2006 (and its subsequent amendments in 2009) provides for categorization of projects into category A and B, based on extent of impacts.	The subproject is not covered in the ambit of the EIAnotification as they are not covered either under Category A or Category B of the notification. As a result, the categorization, and the subsequent environmental assessment and clearance requirements, either from the State government or the GoI is not triggered.
	ADB's Safeguard Policy Statement 2009	Categorization of sub-project components into A, B or C and developing required level of environmental assessment for each component. The subproject has been Categorized as B and accordingly this IEE has been prepared.
	The Wildlife Conservation Act, 1972, amended in 2003 and 2006, provides for protection and management of Protected Areas.	Not applicable. As there are no wildlife protected areaswithin or in the vicinity of the subproject site
	The Forest Conservation Act, 1980 and its subsequent amendments necessitate obtaining clearance from the MoEF&CC for diversion of forest land for non-forest purposes.	Not applicable, the subproject site is not located within or in the vicinity of the forest area. Felling of trees are not envisaged in this sub-project implementation and hence tree felling/ cutting permission are not required
	Water (Prevention and control of	Consent toEstablishment (CTE) and

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

Sub-Project	Applicability of Acts/Guidelines	Compliance Criteria
	pollution) Act, 1974 and; Air (prevention and control of pollution) Act, 1981	Consent toOperation (CTO) has to be obtained by the Contractor from the PPCB for setting up of diesel generators and batching plant(if any), prior to the commencement of construction works. Apart from this, theCTE and CTO are 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 are procured from approved/ licensed quarry sites and stone crushers.
	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.	Not applicable as these sites and monuments are not under the ambit of this Act.
	Wetland rules, 2010	The proposed interventions are planned to be developed within the existing sub-projects Chamkaur Sahib, Wadda and ChhotaGhallughara and the interventions are restricted only to renovation work and hence it shall be concluded that the provision given under the Wetland Rules 2010 are not applicable for this subproject.

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

IV. DESCRIPTION OF ENVIRONMENT

Physical Environment

a) Climate

45. The subproject districts (Gurdaspur,Rupnagar and Sangrur) shares the similar climatic conditions. There are mainly two seasons i.e. summer and winter. The summer season starts in the months of April to July and the winter season starts in the month of November to March. In the summer season the temperature reaches up to 45°C and sometimes it even exceeds. The month of June is the hottest month and January is the coldest (15°C). The subproject district receives the rainfall in the month of July to September. The winter rains are experienced during January to February. The dust storm occasionally occurs in the month of May and June. Relative humidity is generally high in the mornings (70%) and comparatively less in the afternoons.

46. In the post-monsoon and in the winter season, winds are light and variable indirection during morning and mostly from the west or north-west during afternoons. In the month of April and May,winds blow 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.

b) Geology& Soil

47. **Gurdaspur**: The area forms a part of the Indo-Ganga alluvium with a north-west-south-eastrunning hilly terrain of the Shiwaliks forming the foot-hills of the Himalayas. The oldest rocksbelong 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 exposedgravel, sand and clay beds of the quaternary period. Vertebrate fossils are noticedassociated with the Shiwalik formations indicating growth of animal life whichlater perished due to severe glaciation during the upper Pleistocene period.

48. The soils are loamy and the clay content is below 10%. They contain small quantitiesof lime but the magnesia content is high. They are well supplied in potash and phosphoricacid but their quantities are low. Agriculture is dependent to a large extent on the nature ofits soils which in turn,is influenced mainly by climatic factors. The soil of the district is quitealluvial and fertile. The district consists of three kinds of soils: Riarki, Bangar and Bet. Thearea of DhariwalGhuman, Qadian, Harchowal and Sri Hargobindpur is called Riarki. Thewestern side of Kahnuwan Lake up to Aliwal canal is called Bangar and the area betweenthe rivers of Beas and Ravi is known as Bet. Nearly 300 villages fall within Bet Area.

49. **Rupnagar**: The rock formations in the district include river terraces, gravelbeds, alluvial fans and calc tufa beds of recent origin and conglomerates, sandstones andclaystone's of Upper Shiwalik. The Upper Shiwalik mostly comprises boulder conglomeratebeds with poorly to moderately sorted sandstone beds. The conglomerate bands are usuallypoorly cemented and include cobbles and pebbles with some boulders of quartzite,sandstone and siltstone with stray fragments of coarse and fine grained granites, bandedquartzite, limestone, trap rock, claystone, carbonaceous phyllite, schist and purple shale.Sub-recent to recent deposits include mainly gravel beds, alluvial fans, river terraces andcalc tufa beds.

50. **Sangrur**: The area forms a part of Indo gangetic plain. Sangruris more or less flat except towards its north western part which is profusely dotted with sand dunes. The elevation of the land in the area varies from 251m in the south western to 236m above mean sea level in NE. The master slope of the area is towards the south west. There is no well-defined material drainage system in the area but for the southern part of the district, which is drained by the GhaggarRiver. This river causes floods when heavy rainfall occurs in the catchment area. Three main canals pass through the area-Ghaggar branch in south western part,Kotla branch in the central part and the Bathinda branch in the northern part. All these canals run in the south westerly or westerly direction. The entire canal belongs to Sirhind canal system of Bhakhra main canal.Thesoil of the district is loamy sand and sandy loam;kaller land is also spotted at a few places. The soil is sandy/brown blown sand clay the boarder of Faridkot, Moga district

c) Surface water

51. **Gurdaspur**: Beas and Ravi Rivers account for surface water in Gurdaspur districts. The riversflood during the rainy season. All through the course of River Beas, a strip of shallow alluvialsoil fringes its bank which is subject to inundation during the rainy season. The main channelof the river is broad, dotted with islands and wide pools. The depth of water varies fromabout 1.5m during the dry season to about 4.5m during the rainy season. TheChakkiKhad is the chief tributary of the Beas in Gurdaspur district. A number of tributariesjoin River Ravi from both sides. On its right bank, River Ravi is joined by the Ujh, the Jalaliathe Shingarwan and the Masto, all of which originates in the Jammu hills. The

Kiran and theNaumuni streams, which take their origin from local depression in Gurdaspurdistrict, are itsleft bank tributaries. No surface water body exists near to proposed project sites.

52. **Rupnagar:**River Sutlej is the main river which traversesthrough the Rupnagar Districtand it is supported by many tributaries. The irrigation system in the district is fed by twocanals namely Sirhind and Bhakra main canal. Sirhind canal flows near the subproject site. Results of surface water quality of Sutlej shows that at some places water quality is deteriorated due to discharge of sewers into it.

53. **Sangrur:**Most of the area of the district is without any major water channels. It is drained by only two seasonal streams. River Ghaggar traverses through the southernmost part of the district. Sirhindchoe is another small torrent which constitutes a part of the surface drainage of the district. Apart from these two water channels, some stagnant pools of water, called 'ponds' which are found near the settlements, are distributed over the whole district.

d) Ground Water

54. **Gurdaspur**: The ground water in the Gurdaspur district is alkaline in nature with lowmineralisation. The pH value ranges from 7.77 to 8.25 indicating a weak base typecharacteristic. Specific conductance, a measure of total dissolved solids present in water;ranges from 235 to 1640 micromhos/cm at 25°C. Chloride values in the area are directlyproportional to the specific conductance of the water samples. The fluoride concentration inthe entire district is within the permissible limit of 1.5mg/l of BIS drinking water standards andit ranges from 0.12 to 1.16mg/l. Nitrate values are below the permissible limit with anexception at two villages, i.e. Batala (138mg/l) and Kalanaur (146mg/l). The presence of Iron is below 1.0mg/l in the entire district. The Arsenic concentration is above the prescribedBIS permissible limit of 0.01mg/l in well waters located at Nishayra (0.015mg/l),Behrampur (0.01mg/l), and Galri (0.02mg/l).

55. **Rupnagar:**Groundwateris available under phreatic condition in the shallow aquifers of quaternary alluvium deposits, Intermountain valley and Kandi formation. The groundwater occurs under leaky confined to confined conditions in the deeper aquifers of alluvium. In the case of unconfined aquifers, the depth to water level varies from 3.55 m to 9.08m during pre-monsoon and 3.61 m to 10.14m during post-monsoon. Seasonal fluctuation shows that in general there is an overall fall in water level except few isolated patches.The groundwater development for the district is 110%, which makes it fall in Over Exploited Category. While considering the development block wise, 3 out of 5 blocks namely Chamkaur

56. Sahib, NurpurBedi and Morinda, stage of groundwater development has exceeded the available recharge (>100%), thus categorized as over- exploited.The ground water in the district is alkaline in nature with medium to high salinity. The chemical quality data from the shallow and deep aquifers indicate that all major cations (Ca, Mg, Na, K) and anions (CO_3, HCO_3, Cl, SO_4) are within the permissible limits set by BIS, 2012.

57. **Sangrur**: The district is occupied by Indo-gangetic alluvial plain of Quaternary age and falls in Ghaggar sub-basin. The ground water occurs in alluvial formations comprising fine to coarse sand which forms the potential aquifers. In the shallow aquifers upto 50m ground water occurs under unconfined /water table conditions where as in deeper aquifers semi confined /confined conditions exists.The depth to water level ranges from 12.25 to 29.60 m during the pre-monsoon period and 13.80 m to 30.15m bgl during post monsoon period. The seasonal fluctuation varies from 1.05 m to 5.32m in the area. The long term fluctuation trend indicates that there is a fall of 0.65m/year.

e) Ambient Airand Noise Quality

58. **Gurdaspur:** The ambient air quality for the subproject area has been established by using the air quality monitoring information, which was conducted under IDIPT from Keshopur Wetland in Gurdaspur District.The monitored results are shown in the**Table 4**.

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

A: Ambient Air Quality of Gurdaspur			
Parameters	**Vil. Keshopur, District. Gurdaspur**	**Standards (as per CPCB notification 18.11.2009)**	
		Industrial, Residential, rural and other areas (24 hours basis)	Ecologically sensitive areas
$PM_{2.5}$ (µg/m^3)	34	60	60
PM_{10} (µg/m^3)	61	100	100
COmg/m^3	12	2.0 (8 hours basis)	2.0
SO_x (µg/m^3)	15	80	80
NO_x (µg/m^3)	Not Detected	80	80

B: Ambient Noise Quality of Gurdaspur				
Parameters	**Vil. Keshopur, District. Gurdaspur**	**Standards (as per the Noise Pollution (Regulation and Control) Rules 2000)**		
		Residential	Commercial	Industrial
Noise level in day time dB(A)	64.2	55	65	75

Source: IDIPT, PIU, Amritsar

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

60. **Rupnagar:**Under the ongoingIDIPT program, environmental monitoring has been conducted for Tranche-3 subprojects (Chamkaur Sahib in Rupnagar).The outcome of the analysis is shown in the**Table 5**.

Table 5: AmbientAir and Noise Quality at Chamkaur Sahib, Rupnagar

Parameters	**Location**	**Date**	**Results**	**Prescribed Standard (24 hrs basis residential)**
PM_{10}(µg/m^3)	Existing works at Chamkaur Sahib, Rupnagar	26.02.2016	68.4	100
COmg/m^3		26.02.2016	Nil	2.0 (8 hours basis)
SO_x (µg/m^3)		26.02.2016	0.9	80
NO_x (µg/m^3)		26.02.2016	0.08	80
Noise level (day time dBA)		26.02.2016	46 (averageLeq)	65 (commercial Zone)

61. From the observation, it is evident that the ambient air quality and noise quality in the subproject area is well within the prescribed limit indicating that there areno major activities resulting in pollutionhappening In the vicinity of the project site.

62. **Sangrur**:As per the site assessment, the subproject area (Sangrur) is free from major industrial and commercial activities in the surroundings, which leads to good ambient air quality. In order to describe the AAQ of the district, secondary information obtained from the literature/ reports has been utilised in the **Table 6**. The monitoring has been done in the commercial area where the Highway (NH 64) traverses through the urban settlements.

Table 6: Ambient Air Quality in Sangrur

Sl.no	**Parameters**	**Location**		**NAAQ Standard**
		Bhawanigarh	**Sangrur**	
1	PM_{10} µg/m^3	115.0	124.0	100.0
2	$PM_{2.5}$ µg/m^3	38.0	40.0	60.0
3	SO_2 µg/m^3	17.0	18.0	80.0

4	NO_X µg/m^3	26.0	24.0	80.0

Source: EIA NH- 64 from Patiala to Sangrur (km 50.00 to km 113.00)

63. From the observation it shall be concluded that the Particulate Matter (PM_{10}) is exceeding the standards at both the monitoring stations. Other key parameters are well within the limits. The increase in PM_{10} may be due to wind, commercial activities, vehicle movements and other anthropogenic activities.

64. Secondary information reveals that the ambient noise levels in Sangrur is above the stipulated standard for commercial noise levels (**Table 7**). The monitored locations are similar to the AAQ stations and hence the influence of the highway vehicle shall be the main reason for the increased noise levels.

Table 7: Noise Quality in Sangrur

Sl.no	Parameters	Location		Noise levels Standard for commercial Zone
		Bhawanigarh	Sangrur	
1	Noise levels at Day Time (dB(A))	68.6	76.5	65.0
2	Noise levels at Night Time (dB(A))	57.3	65.2	55.0

Source: EIA NH- 64 from Patiala to Sangrur (km 50.00 to km 113.00)

Ecological Environment

Gurdaspur

65. **Flora.** The predominant flora observed in the Gurdaspur district are Aam *(Mangiferaindica),*Amla *(Emblicaofficinalis),*Anjir *(Ficuscarica),* Kala siras *(Albizzialebbeck),*Kadamb*(Anthocephalusindicus),*Nimbu *(Citrusmedica),*Babool *(Acciaarabica),*Baheda *(Terminaliabelerica),*Peepal *(Ficusreligiosa),*Shisham *(Delbergiasissoo),*Vilayatibabool *(Prosopisjuliflora),*Amarbel *(Cuscutareflexa),*Bans *(Dendrocalamusstrictus),* Sugarcane *(Saccharum sp.),*Bel *(Aeglemarmelos),*Nashpati *(Pyruscommunis),*Neem *(Azadirachtaindica),*Amrood *(Psidiumguajava)*andAshok *(Polyalthialongifolia).*There are no endangered flora identified in the project area

66. **Fauna**of Gurdaspur district includesNilgai *(Boselaphustragocamelus), (Cynopterus sphinx vahl),*Five stripped palm squirrel *(Funambuluspennanti),*Common mongoose *(Herpestesedwardsii),*Hare *(Lepusnigricollis),Myna (Acridotherestristis),*Blue rock pigeon *(Columba livia),*Woodpecker *(Dinopiumbenghalense),*Parrot *(Psittaculakrameri),*House crow *(Corvussplendens),*Common garden lizard *(Calotesvesicolor), Dog (Canis lupus),*Goats *(Capra aegagrushircus), Cat (Feliscattus),*Buffalo *(Bubalusbubalis),*Toads *(Bufomalanostictus) and Bull frog (Ranatigrina).*There are no endangered fauna identified in the project area.

67. **Protected Areas.**There are no protected areas (national parks, sanctuaries, wetland etc.,) in the vicinity of the subproject site. However, the presence of the KeshopurChumb Wetland the only protected area available in the Gurdaspur district and it is located nearly 45km (areal distance) from the sub project area.

Rupnagar

68. **Flora.** The floral diversity consists of scattered Khair (Acacia catechu), Chhal (*Anogeisuslatifolia),*Jhingan *(Laneagrandis*), Kikar *(Acacia nilotica),* Phalahi *(Acacia modesta),*Ber *(Zizyphusmauritiana),*shisham *(Dalbergiasisoo),*neem *(Azadirachta Indica), mango(Mangiferaindica),*dhak *(Buteamonosperma)* etc., Shrubs such as garna (*Carissaspinarum),*mehnder (*Dodona viscasa),*mallah (*Zizyphusnummularia),*gandhala*(Murrayakoenigii),*basuti *(Adathodavasica),*

*jhav(Artemesiaspp),*hins *(Capparisdecidua),*panwar *(Cassia tara),* phulbuti *(Lantana camara),* etc. and grasses such as *(Saccharumbengalenese).*

69. The forest strips mostly have artificially raised plantations like shisham (*Dalbergiasissoo*), eucalyptus *(Eucalyptusspp),*siris *(Albizzialebbek),* mango *(Mangiferaindica)*
jaman *(Syzygiumcommuni),*tun *(Cedrelatoona),*neem *(Azadiachtaindica).* Some of the mixed plantations are amaltas *(Cassia fistula)* jacranda *(Jacrandaovalifolia),*kachnar *(Bauhincavariegata),* bottle brush *(Callistemon vimnalis),* gulmohar *(DelonixRegia),* amla *(Emblicaofficivalis),* etc. There are no endangered flora identified in the project area

70. **Fauna.**The main animals found in these areas are Blue Bull *(Boselaphus tragocamelus),* Wild boar *(Susscrofa),*Sambhar *(Cervas unicolor),* Jackal *(Canisaureus),* Common Mongoose *(Herpestes spp.),* Indian Porcupine *(Hystrixindica)* and Rhesus Monkey *(Macacamulatta),* etc.

71. The common birds found in the district are : *Phalacrocoraxniger* (vieillot), *Butorides striatuschloriceps* (Bonaparte), *Ardeolagrayii* (sykes), *Bubulcus ibis* or *coromandus* (Boddaert), *Ardea alba modesta*(Gray), *E. garzetta* (Linnaeus), *Anastomusoscitans* (Boddaert), *C. ciconia* (Linnaeus), *C. migra* (Linnacus), *Tadornaferruginea* (pallas), *T tadorna* (Linnaeus), *Nettapuscoromandelianus* (Gmelin), *Haliaeetusleucoryphus* (Pallas), *Coturnixcoromandelica* (Gmelin), *T. stagnatili* (Bechastein), *S. Pagodrum*(Gmelin), *Chrysommasinense* (Gmelin).There are no endangered fauna identified in the project area.

72. **Protected Areas.**Thereare no protected areas (national parks, sanctuaries, wetland etc.,) in the vicinity of the subproject site. However, the presence of the Ropar Wetland[4] the only protected area available in the Rupnagar district and it is located nearly 15km (areal distance) from the subproject area.

Sangrur

73. **Flora** in the Sangrur district is featured by Northern Tropical Dry Mixed Deciduous Forest Type. The Kikar *(Acacia nilotica*) is grown abundantly throughout the district, whereas ber (*ZizyphusmauritianaLamk*.) is planted near wells and fields. In certain places mango *(Mangiferaindica*) is grown in plenty. The pipal *(Ficusreligiosa*.) Barotaneem (*Azadirachtaindica)* is planted near villages. Shisham *(Dalbergiasissoo*) has been planted along canals and Siras *(Albiziaprocera or Albizialebbeck*) are seen along the roadsides. In addition to these fras *(Tamarixaphylla*) is common near villages and it is useful for roofing. There are patches of jungle in certain localities in the district mostly confined to jand *(Prosopis cineraria*), Karir *(Capparisdecidus*.) and jal (*Salwadoraeleodes*) the Dhak *(Buteamonosperma*) is also common in marshy places whereas the khajur-date palm (*Phoenix sylvestris*) is found in sandy areas.There are no endangered flora identified in the project area

74. **Fauna.** Common mammals found in the Sangrur are hodgson's bat *(Myotisformosus*), *Long-eared* bat *(Plecotusauritushomochrous*, *hodgson)*, northern palm squirrel (*Fundumbuluspennanti)*, crested porcupine (Hystrixcristata*),* Indian rat (*Rattusrattus*), the India gerbille *(tateraindica),* India field mouse *(Musbooduga)*, Indian hare *(Lepusnigricollis)*, Indian fox *(Vulpes bengalensis)*, asiatic jackal (*Canisaurena)*, small India civet (*Viverriculaindica*), common mongoose *(Herpestesedwardsii*), and rhesus macaque *(Macacamulatta*).

[4]A human made wetland of lake and river formed by the 1952 construction of a barrage for diversion of water from the Sutlej River for drinking and irrigation supplies. The site is an important breeding place for the nationally protected Smooth Indian Otter, Hog Deer, Sambar, and several reptiles, and the endangered Indian Pangolin (*Maniscrassicaudata*) Some 35 species of fish play an important role in the food chain, and about 150 species of local and migratory birds are supported by this wetland.

75. The common birds found in the Sangrur district are :*Phalacrocoraxniger* (vieillot), *Butoridesstriatuschloriceps* (Bonaparte), *Ardeolagrayii* (sykes), *Bubulcusibis*coromandus (Boddaert), *Egretta alba modesta* (Gray), *E. garzetta* (Linnaeus), *Anastomusoscitans* (Boddaert), *C. ciconia* (Linnaeus), *C. migra* (Linnacus), *Tadornaferruginea* (pallas), *T tadorna*(Linnaeus), *Nettapuscoromandelianus* (Gmelin), *Haliaeetusleucoryphus* (Pallas), *Coturnixcoromandelica* (Gmelin), *T. stagnatili* (Bechastein), *S. pagodrum*(Gmelin), *Chrysommasinense*(Gmelin). There are no endangered fauna identified in the project area

76. **Protected Areas:** BirAishwan Wildlife Sanctuary is situated at 3 km from Sangrur city on Sohian Road in District Sangrur (The project site is located 4.25km away from the Wildlife Sanctuary). This Sanctuary is spread over 264.40 ha of Government area. The bir area has been declared as wildlife sanctuary under the Preservation of Faunae of Patiala Rules, 1896 vide Patiala and East Punjab State Union Government (PEPSU) notification no. F-150/50 dated 28-2-1952. It harbours wildlife species as indicated in the **Table 8**.

Table 8: Flora and Fauna in BirAishwan Wildlife Sanctuary

Important Fauna		Important Flora	
Common name	**Zoological Name**	**Common name**	**Botanical Name**
Blue Bull	*Boselaphustragocamelus*	Arjun	*Terminaliaarjuna*
Hare	*Lepusnigricollis*	Beri	*Ziziphus jujube*
Jackal	*Canisaureus*	Jamun	*Syzigiumcumini*
Jungle Cat	*Felischaus*	Karir	*Capparisaphylla*
Rhesus Monkey	*Macacamulatta*	Karonda	*Carissa karanda*
Black Partridge	*Melanoperdixniger*	Khair	*Acacia catechu*
Grey Partridge	*Perdixperdix*	Kikar	*Acacia nilotica*
Peafowl	*Pavocristatus*	Mesquite	*Prosopisjuliflora*
Rose Ringed Parakeet	*Psittaculakrameri*	Mulberry	*Mulberry spp.*
Spotted Owlet	*Athenebrama*	Shisham	*Dalbergiasissoo*

Source: Chief Wildlife Warden, Punjab, 2009 (Personal communication)

Socio Cultural and Economic Environment

Gurdaspur

Demographic profile

77. As per 2011 Census, the Punjab population is 2.77 crores, which shows an increase inthe population in comparison with the 2001 Census (2.44 crores). Total population of theGurdaspur District was 22.98 lakh in 2011 which was 21.04 lakh in 2001. However, the districtpopulation CAGR shows a down trend in growth rate compared to State Record. As per the census 2011, the total number of Households in the district is 4,43,666. TheAverage Household (HH) size has reduced from 5.7 (census 2001) to 5.2 (census 2011).

Table 9: Population Data of 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
CAGR (2001-2011)%			**0.14**	**0.09**
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 2001 and 2011

- **Population density.**Population Density of Punjab is 551 people per sq.km in 2011. Density of Gurdaspur is 647 people per sq.km in 2011, which is higher than the value of 2001 census (593 Sq.km).
- **Literacy rate.**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%).
- **Sex ratio.** 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 Gurdaspurdistrict there were 895 females per 1000 males, which is slightly higher than the 2001 figures (890 females per 1000 males).
- **Employment.**Agriculture is the main occupation of people of Gurdaspur in the rural areas of the district. There are some industries in urban areas where workers are employed from nearby villages and towns.

Rupnagar

78. **Demographic Profile.** The total population in the Rupnagar district was estimated to be5,83,478 which includes the rural and urban population. The Rupnagar constitutes 30.8% ofthe total population followed by Anandpur Sahib (25.7%), NurpurBedi (16.5%), Morinda (14.8%)and Chamkaur Sahib (12.2%). The total SC population in Rupnagar District was estimated to be 22.43%of the total population. Rupnagar has 28.8% of SC population which is followed byChamkaur Sahib (18.97%), Anandpur Sahib (18.80%), Morinda (18.07%) and NurpurBedi(15.29%).

- **Population density.** As per the census 2011, the population density of Rupnagar is505 people per sq. km. In 2001, the population density was about 449 people per sq. km. Incomparison with 2001 census, the population density has increased by 12.47%.
- **Literacy rate.** Average literacy rate of Rupnagar in 2011 were 82.19% compared to76.10% of 2001. Gender wise, male and female literacy were 87.50% and 76.42%respectively. For 2001 census, same figures stood at 82.70% and 68.70%. Total literateswere 502,731 out of which male and female were 278,534 and 224,197 respectively.
- **Sex ratio.** With regards to sex ratio in Rupnagar, it stood at 915 per 1000 males compared to 2001 census of 889 per 1000 male. The average national sex ratio in India is940 per 1000 male. The child sex ratio is 863 girls per 1000 boys compared to a figure of799 girls per 1000 boys of 2001 census.
- **Employment.** Non-agricultural workers are edging over the agricultural workers. Asper the census information, the Anandpur Sahib constitutes 27.26% of worker populace,followed by Rupnagar (24%), NurpurBedi (21.42%), Morinda (13.92%) and ChamkaurSahib (13.4%).

Sangrur

79. According to 2011 Census of India, Sangrur district ranks 7th in Punjab with a population of 16,54,408 which is 6% of the total population 2,77,04,236 (Provisional) of Punjab State. The sex ratio according to the 2011 census is 893 females per thousand males in the district which is slightly higher in comparison with 2001 census, which was 876. Though the rate of population growth is meagre yet the density of population has increased which is457 per Sq.km as compared to 486 by 2001 census.

- **Literacy.** Sangrur district holds 17th rank in the field of literacy in the state. 68.9% population is literate whereas the rate for male and female literacy is 74.2 % and 62.9% respectively**.**
- **Population density.** As per the census 2011, the population density of Sangrur is449 people per sq. km.

- **Sex Ratio**. According to the Census 2011, the sex ratio in the Sangrur district was 893 females per 1000 males. Child sex ratio (0-6 years of age) was 835 girls per 1000 boys**.**
- **Employment**.Most of the population of Sangrur is living in rural areas and mainly depends on agriculture and allied works.

V. ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

80. The assessment of environmental impacts for the proposed interventions under this package (PB/IDIPT/T3/07/08) 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.

81. **Location Impact**: 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 in upgrading the existing building and refurbishing the structure. The land for development of proposed facilities is available inside the existing premises (Chamkaur Sahib, Wadda and ChhotaGhallughara)and it is free from any encumbrances and with easy accessibility for the visitors.

- The subproject sites are located within the rural area. Hence gaining free access and movement of workers, vehicles and other construction related machineries would not be an issue. However, the contractor should record all the anticipated issues in the contingency plan before commencement of construction works on site. Identity cards & vehicle permits shall be provided by the contractor for the construction vehicles used in 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.

82. **Land Acquisition and Resettlement and cultural Impacts.**The asset owners for all the three subprojects are the Department of Cultural Affairs, Archaeology and Museums, Govt. of Punjab. Hence, there are no land acquisition and resettlement issue. Also, as per the resettlement framework, the proposed categorization for this project is Category C for involuntary resettlement (IR) as it doesnot 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 per the requirement, the project sites shall be handed over to the IDIPT before start of the construction works.

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

- Site and spatial planning according to Punjab heritage and culture
- Adoption of design compatible with the natural environment and suitable selection of materials to enhance the aesthetic appeal and blend with the natural surroundings.
- Use of subtle colours and simple ornamentation in the structures.

- Such articles and articrafts are selected for display which is of original Punjabi culture prevalent in the locality.

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

Assessment of Environmental Impacts

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

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

Pre-construction Impacts and Mitigation Measures

87. **Consents, permits, no objection certificate (NOC), etc.**For the proposed works NOC/undertakings certificates/land transfer from the concerned authorities (Department of Cultural Affairs, Archaeology and Museums, Govt. of Punjab) is required before start of the construction works. Failure to obtain necessary consents, permits, NOCs, etc. can result to design revisions and/or stoppage of works.

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

- Obtain all necessary consents, permits, clearance, NOCs, etc. prior to start of civil works.NoC for all three subproject sites from the Department of Cultural Affairs, Archaeology and Museums (Assets owners) have been obtained and enclosed in**Annexure -10**
- 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.

89. **Sites for construction work camps and areas for stockpile, storage and disposal.** Within the proposed subproject sites, there may not be possibility for establishment of construction camp including labour camp. Therefore contractor is required to identify a suitable land near to the proposed project sites to have construction camp including labour camp. The contractor will be required to meet the following criteria for selection of the construction 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, and shortage of amenities).
- Disposal will not be allowed near sensitive areas which will cause inconvenience to the community
- The fuel and lubricants shall be stored over an impervious platform/ layer to avoid any soil and groundwater contamination. Any construction camp site will be

finalized in consultation with DSC and PIU.

90. **Sources of construction materials.** Extraction of materials can disrupt topography/ terrain of the land and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding 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 documentation of sources of materials on monthly basis to PIU/DSC

91. Summary of the pre-construction activities are presented inthe **Table 10**.The contractor is required to update the information during detailed design phase. Sample waste/spoils management plan is attached in the **Annexure 3.**

Table 10: Summary of Pre-Construction Mitigation Measures

Parameters	Mitigation Measures
Consents, permits, clearances, no objection certificate (NOC), etc.	• Obtain all necessary permits, clearance, NOCs etc. prior to start of civil works.NoC from the asset owners (Department of Cultural Affairs, Archaeology and Museums) have been obtained and enclosed as **annexure 10.** • Acknowledge in writing and provide report on compliance for the obtained permits, clearance, NOCs, etc. • Include in detailed design drawings and documents all conditions and provisions if necessary
Sites for construction work camps, areas for stockpile, storage and disposal	• Will not promote instability and result in destruction of property, vegetation, irrigation, and drinking water supply systems, etc. • Residential areas will not be considered so as to protect the human environment (i.e., to curb accident risks, health risks due to air and water pollution and dust, and noise, and to prevent social conflicts and shortages of amenities). • Disposal will not be allowed near sensitive areas which will inconvenience the community. • In the construction camps, fuel and lubricants shall be stored over the impervious layer/ concrete floor to prevent any chances of soil and groundwater contamination due to the leaching of the oil and grease. • Any construction camp site will be finalized in consultation with DSC and PIU.
Sources of construction materials	• 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 the PIU/DSC. • Submit monthly basis documentation of sources of materials to DSC.

Anticipated Construction Impacts and Mitigation Measures

92. The proposed subproject components are limited to the renovation/ rearrangement in the existing buildings for displaying the interpretative materials and fixtures in ChottaGhallughara and WaddaGhallughara. Whereas, in Chamkaur Sahib, the construction activity includes area improvement and completion of left out civil works. The proposed construction activities do not have major construction impacts.

93. The environmental 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 pollutionfrom construction activities, (iii) handling of construction materials at site and, (iv) adoption of safety measures during construction.

94. **Construction Schedule and Method.** It is estimated that the construction activities shall take 18 months for completion from the date of award of contract.The proposed infrastructures will be constructed manually as per the design specifications. Demolished materials will be reused to the maximum extent possible. Materials will be brought to site by trucks or hand/push cart and will be stored in the barren land/ unused land near the subproject site.

95. There is sufficient space available in the vicinity of the subproject areas for stockpiling of materials and to park construction equipment's. However, the contractor will need to remove all construction and demolition wastes on a daily basis.The proposed subproject interventions are minor restoration/ conservation work having minimal civil work therefore there will be no major impacts on the environment but it may affect the nearby community and visitors/ tourists as it may result in disturbance and inconvenience. These impacts will be short term, site specific and can be mitigated easily by adopting mitigation measures as suggested

96. **Impacts on Water Quality.**There are no surface water sources near or adjacent to the subproject sites (except Chamkaur Sahib, where there is a canal located at a distance of 1km from the site); therefore risk of impacts on water quality is very low. 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 all the construction debris and refuse at identified disposal site with prior permission from concerned local authority. PIU/DSC will identify and approve disposal sites.
- Dispose waste oil and lubricants generated during construction activities as per provisions of Hazardous Waste (Management and Handling) Rules, 1989

97. **Impacts on Air Quality.** There is potential for increased dust particularly during summer/dry season due to the construction activities including stockpiling of construction materials. Emissions from vehicles transporting 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 throughout the construction sitesto ensure that there are 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" (PUC) certificate from PPCB.
- Obtain CTE and CTO for hot mix plants, crushers, diesel generators, etc., if to be used in the subproject.

- Ambient Air Quality (AAQ) monitoring has to be performed as per the Environmental Monitoring Program.

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

- Limit construction activities to the 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.
- Unnecessary use of sound horns should be prohibited. It shall be used only to warn road users or animals when they approach near the vehicle.
- If specific noise complaints are received during construction, the contractor may be required to implement the following noise mitigation measures, as directed by the DSC:
    - Locate stationary construction equipment as far from nearby noise-sensitive properties as possible.
    - Shutoff idling equipment.
    - Reschedule construction operations to avoid periods of noise annoyance identified in the complaint.
- Follow Noise Pollution (Regulation and Control) Rules, day time ambient noise levels should not exceed 65 dB(A) in commercial areas, 55 dB(A) in residential areas, and 50 dB(A) in silence zone[5]
- Ensure vehicles comply with Government of India noise limits for vehicles. The test method to be followed shall be IS:3028-1998.
- Ambient Noise levels have to be monitored as per the Environmental Monitoring Program

99. **Impacts on Flora and Fauna.**As per detaildesign, tree-cutting is not required. There are no protected areas in the direct impact zones and no wild species of flora and fauna found in these areas. Nevertheless the contractor will be required to:

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

100. **Impacts on Physical and Cultural Resources.**There may be inconvenience to tourists, residents, businesses, and other road users due to construction activities and slowmoving traffic in the areashavingnarrow 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.
- Provide sign boards to inform nature and duration of construction works and contact numbers for concerns/complaints.
- Implement good housekeeping. Remove wastes immediately. Prohibit stockpiling

[5]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.

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.

101. **Impact 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 thehierarchy of reuse, recycling and disposaland 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.

102. **Impacts on Occupational Health and Safety.**Workers need to be aware of occupational hazards which can arise from the proposed works. The contractor should comply with IFC EHS Guidelines on Occupational Health and Safety[6].The contractor will be required to:

- 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.
- 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:
  - Type of hazards during excavation works;
  - Corresponding personal protective equipment for each identified hazard;
  - H&S training for all site personnel;
  - Procedures to be followed for all site activities; and
  - Documentation of work-related accidents.
- Provide H&S orientation training to all new workers to ensure that they are apprised of the rules of work at the site, personal protective protection, and preventing injury to fellow workers.

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

- Ensure that first-aid facility is available at site. Equipped first-aid stations shall be easily accessible throughout the site as well as at construction camps.
- Provide medical insurance coverage for workers.
- Secure construction zone from unauthorized intrusion and accident risks.
- Provide supplies of potable drinking water.
- Provide clean eating areas where workers are not exposed to hazardous or noxious substances.
- Provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present. Ensure also that visitor/s do not enter hazard areas unescorted.
- Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas.
- Ensure moving equipment is outfitted with audible back-up alarms.
- Mark and provide sign boards in the construction zone, and areas for storage and disposal. Signage shall be in accordance with international standards and be well known to, and easily understood by workers, visitors, and the general public as appropriate.

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

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

104. **Table 11**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 11: Summary of Mitigation Measures during Construction Phase

Potential Impact	Mitigation Measures
Impacts on water quality	• 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 all the construction debris and refuse at identified disposal site with prior permission from concerned local authority. PIU/DSC will identify and approve disposal sites. • Dispose waste oil and lubricants generated during construction activities as per provisions of Hazardous Waste (Management and Handling) Rules, 1989.
Impacts on air quality	• Conduct regular water spraying on earth piles, trenches and sand piles. • Conduct regular visual inspection throughout the construction site to ensure no excessive dust emissions. • Maintain construction vehicles and obtain “Pollution under Control” (PUC) certificate from PPCB.

Potential Impact	Mitigation Measures
	• Obtain CTE and CTO for hot mix plants, crushers, diesel generators, etc., if to be used in the project. • Ambient Air Quality (AAQ) monitoring has to be performed as per the Environmental Monitoring Program.
Noise and vibrations impacts	• Limit construction activities to the daytime only. • Plan activities in consultation with the PIU/DSC so that activities that 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. • Avoid loud random noise from sirens, air compression, etc. • Require drivers that horns not be used unless it is necessary to warn other road users or animals of the vehicle's approach. • If specific noise complaints are received during construction, the contractor may be required to implement the following noise mitigation measures, as directed by the DSC: o locate stationary construction equipment as far from nearby noise-sensitive properties as possible; o shut off idling equipment; o reschedule construction operations to avoid periods of noise annoyance identified in the complaint; and/or o 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.[7] • Ensure vehicles comply with Government of India noise limits for vehicles. The test method to be followed shall be IS:3028-1998. • Ambient Noise levels have to be monitored as per the Environmental Monitoring Program.
Impacts on flora and fauna	• Conduct site induction and environmental awareness among all workers. • Limit activities within the work area. • Do not remove or harm existing vegetation except required under proposed contract • Strictly instruct workers not to cut trees for fuel wood. • Replant trees in the area using minimum ratio of 2 trees for every 1 tree cut, if any. Replacement species must be approved by District Forest Department.
Impacts on physical resources	• 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 contact numbers for concerns/complaints. • 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 PIU/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

[7] 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.

Potential Impact	Mitigation Measures
	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.
Impacts on waste generation	• Prepare and implement a waste management plan. Manage solid waste according to the following hierarchy: reuse, recycling and disposal. Include in waste management plan designated/approved disposal areas. • Coordinate with Municipal Authorities for beneficial uses of demolished materials/silts/sediments 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.
Impacts on occupational health and safety	• Comply with IFC EHS Guidelines on Occupational Health and Safety • 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. • 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 adequatefirst-aid facilities are available at the site. Equipped first-aid stations shall be easily accessible throughout the site as well as at construction camps. • Provide medical insurance coverage for workers. • Secure construction zone from unauthorized intrusion and accident risks. • Provide supplies of potable drinking water. • Provide clean eating areas where workers are not exposed to hazardous or noxious substances. • Provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present. Ensure also that visitor/s do not enter hazard areas unescorted. • Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas. • Ensure moving equipment is outfitted with audible back-up alarms. • Mark and provide sign boards in the construction zone, and areas for storage and disposal. Signage shall be in accordance with international standards and be well known to, and easily understood by workers, visitors, and the general public as appropriate.
Impacts on socio-economic activities	• Provide sign boards for visitors to inform nature and duration of construction works and contact numbers for concerns/complaints. • Employ at least 50% of the labour force, or to the maximum extent, local persons within the 2km immediate area if manpower is available.

105. The anticipated construction impacts are associated with the conservation/ restoration works. The potential impacts, that are associated with construction activities, can be mitigatedthrough recommended mitigation measures and procedures.

Post-Construction Impacts and Mitigation Measures

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

- Restore access roads, staging areas, and temporary work areas.
- Remove all tools, equipment, barricades, signs, surplus materials, debris, and rubbish. Demolish buildings/structures not required for O&M. Dispose in designated disposal sites.
- Monitor success of 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.

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

107. 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

ADB Disclosure Policy

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

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

Process for Consultation followed

110. During the project preparation, consultations have been held with the Department of Tourism, tourists/ visitors, District administration, District Municipal Administration, local community representatives and tourism officersregarding issues pertaining to the selection of subprojects and identification of key issues including addressing the current gaps in provision of basic services and improvement of tourist infrastructure. Records of the consultations are provided in **Annexure-5**. Public consultations were conducted at the site

using formal and informal approach. The outcome of the consultation has been recorded and enclosed in **Annexure 11**.

Plan for Continued Public Participation

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

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

113. 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

114. 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.

115. 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.

Composition and Functions of GRC

116. **Local Grievance Committee (LGC).** In this LGC has worked with NGO, SHG, Line Agency, representative of Gram Panchayat, Special invitee.

117. **First Level Grievance Redress Committee (GRC) at PIU.** In each PIU there shall be one GRC, which will include Project Manager (PIU), District Tourist Officer of Department of Tourism of Govt. of Punjab, Community Development Officer of PIU, nominated representative of District Magistrate and nominated representative committee shall be headed by Project Manager (PIU). PIU can associate NGO as per his decision. The committee will meet at least once in every month. Agenda of meeting shall be circulated to all the members and affected persons/aggrieved party along with venue, date and time; informed in written at least 7 days in advance of meeting. The matters shall remain with GRC at PIU level for one month and if grievance is not resolved within this time period, the matter shall be referred to GRC at PMU.

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

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

Approach to GRC.

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

- Through Grievance Redress Form: Aggrieved person/party can give their grievance in Grievance Redress Form available at PIU and PMU.Sample Grievance Redress Form is attached as **Annexure 6**
- Web based: A separate corner will be developed at the program website so that public / community/ affected person can register their complaint in the online column.
- Telecom based: A toll free number will be issued by the PMU/ PIU so that general public can register their complaint through telephone / mobile phone to the PIU/PMU office.

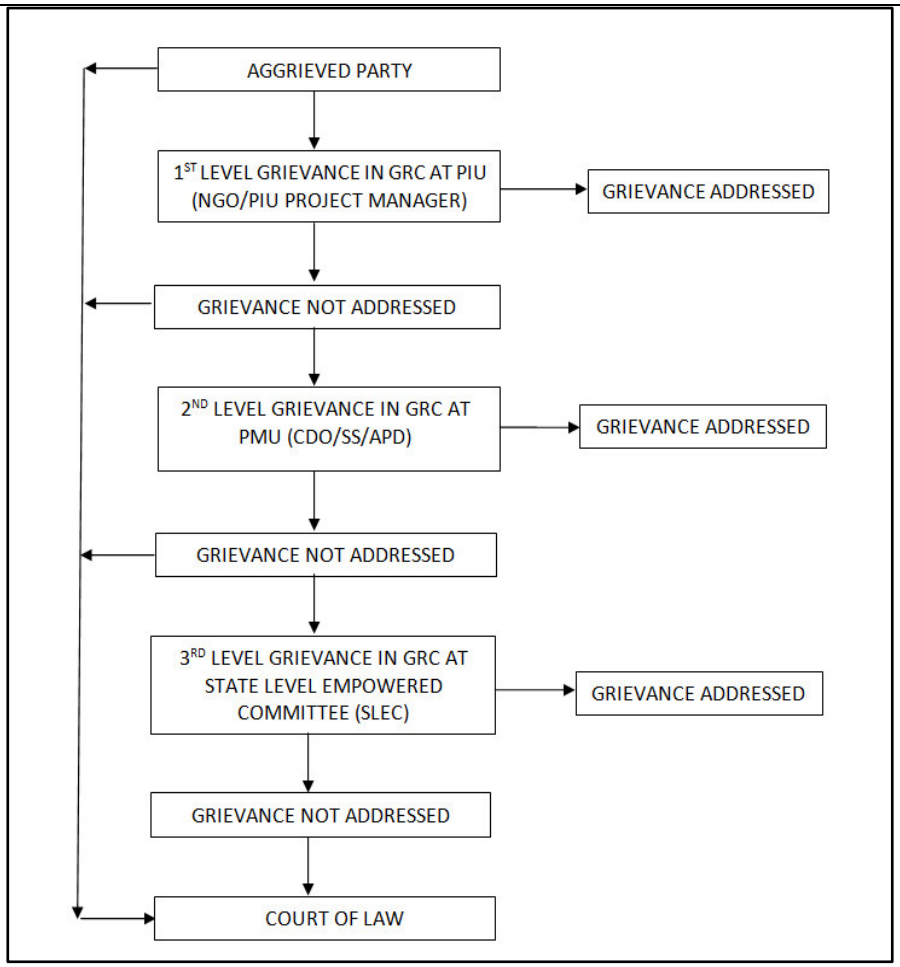

Figure 4: Grievance Redress Mechanism in IDIPT, Punjab

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

121. 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.

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

123. 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:

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

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

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

Box 1: Terms of Reference of Safeguards Specialist – PMU
• Review the IEE document and ensure adequacy under Safeguard Policy Statement, 2009 and identify any areas for improvement. • Ensure that the project design and specification adequately reflect the IEE, co-ordinate the obtaining of requisite environmental clearances for the project • Monitor construction activities to ensure that identified and appropriate control measures are effective and in compliance with the IEE and advise PIU for compliance with statutory requirements. • Develop training programme for the PMU/PIUs staff, the contractors and others involved in the project implementation, in collaboration with the Environmental Specialist of the PMC and DSC • Review and approve the Contractor's Implementation Plan for the environmental measures, as per IEE. • Liaise with the Contractors and Consultants on the implementation of the Environmental management measures proposed in the IEE • Liaise with the various Government agencies on environmental and other regulatory matters • Continuously interact with the NGOs and Community groups to be involved in the project • Establish dialogue with the affected communities and ensure that the environmental concerns and suggestions are incorporated and implemented in the project. • Review the environmental performance of the project through an assessment of the periodic environmental monitoring reports submitted by the DSC; provide a summary of the same to the Project Director, and initiate necessary follow-up actions • Provide support and assistance to the Government Agencies and the Asian Development Bank to supervise the implementation of the IEE during the construction

Box 1: Terms of Reference of Safeguards Specialist – PMU
as well as operation stage of the project • Document the good practices in the project on incorporation and integration of environmental issues into engineering design and on implementing measures in the construction, and dissemination of the same

Box 2: Terms of Reference of Safeguards Specialist (Environment) of DSC
• To prepare the IEE document and ensure adequacy under ADB SPS, 2009. • Interact on a regular basis with the sector specialists of the DSC and integrate environmentally sound practices into the detailed design of project components. • Advise PMU/PIU for compliance with statutory clearances. • Work out the site specific mitigation measures for components as required and integrate the same into contractual provisions. • Develop, organise and deliver environmental training programmes and workshops for the staff of the PIU and Contractors and in accordance to the Capacity Building Programme as specified in the IEE. • Preparation of Activity Plans as identified in IEE (these include Site Management Plans, Waste Management Plans, Sludge Management and Disposal Plans, Occupational Safety Plans etc). • Supervise the implementation of the Environmental provisions by the Contractors. • Review and approve site specific environmental enhancement/mitigation designs worked out by the Contractor. Hold regular consultation meetings with the Environmental specialist of the PMU. • Review the Contractors' Environmental Implementation Plans to ensure compliance with the IEE. • Develop good practice construction guidelines to assist the contractors in implementing the provisions of IEE. • Prepare and submit regular environmental monitoring and implementation progress reports. • Assist Environmental Specialist of the PMU to prepare good practice dissemination notes based on the experience gained from site supervision.

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

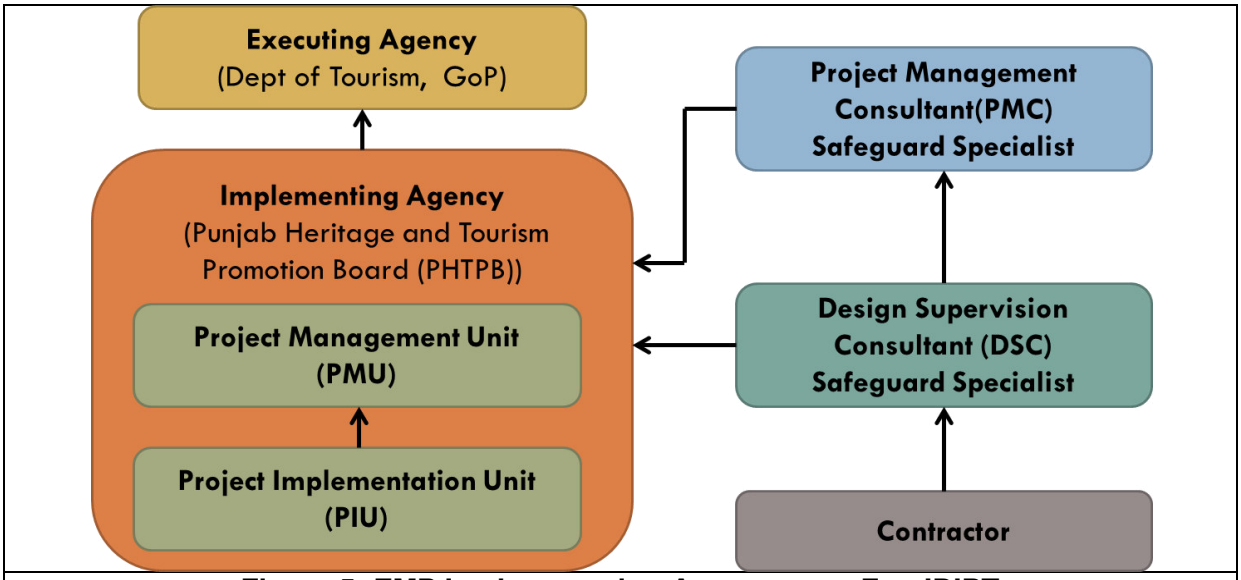

Figure 5: EMP Implementation Arrangement For IDIPT

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

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

128. **Responsibility for Reporting**. PIU in coordination with DSC will submit quarterly and semi-annually monitoring report to PMU. On the basis of it PMU will submit to ADB semi-annual monitoring reports on implementation of the EMP and will permit ADB to field environmental review missions which will review in detail the environmental aspects of the project. Any major accidents having serious environmental consequences will be reported immediately. PMC environmental expert will help in preparation and finalization of quarterly, semi-annual and annual progress reports. The sample environmental monitoring template, summary monitoring table and sample environmental site inspection report format is attached as **Annexure7 to 9**.

EMP Tables

129. **Table 12 toTable 14** shows 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 12: EMP duringPre-Construction Phase

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
Consents, permits, clearances, no objection certificate (NOC), etc. (If applicable)	Obtain all necessary consents, permits, clearance, NOCs, etc. prior to start of civil works.(NoC from the asset owner (Department of Cultural Affairs, Archaeology and Museums) have been obtained and enclosed as **annexure 10**)	Consents, permits, clearance, NOCs, etc.	PMU	DSC and PIU	Once prior to start of construction activities	PMU
	Acknowledge in writing and provide report on compliance for the obtained permits, clearance, NOCs, etc.	Records and communications	PMU	DSC and PMU	Once prior to start of construction activities	PMU
	Include in detailed design drawings and documents all conditions and provisions if necessary	Detailed design documents and drawings	Contractor	PIU and DSC supported by PMU and PMC	Upon submission of work plan by contractor	Contractor
Establishment of baseline environmental conditions prior to start of civil works	Conduct documentation of location of components, areas for construction zone (camps, staging, storage, stockpiling, etc.) and surroundings (within direct impact zones), locations of environmental monitoring Include photos and GPS coordinates	Construction cum labour camp layout	Contractor	PIU and DSC supported by PMU and PMC	Once during detailed design by DSC	PMU
Sites for construction work camps, areas for stockpile, storage and disposal	Will not promote instability and result in destruction of property, vegetation, irrigation, and drinking water supply systems, etc. Residential areas will not be considered so as to protect the human environment (i.e., to curb accident risks, health risks due to air and water pollution and dust, and noise, and to	List of pre-approved sites for construction work camps, areas for stockpile, storage and disposal Waste management plan	DSC to prepare list of potential sites DSC to inspect sites proposed by contractor if not included in pre-approved sites	PIU and DSC	Once during detailed design by DSC	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
	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 sensitive zones. The construction camp site should be finalized in consultation with DSC and PIU.					
Sources of construction materials	Use quarry sites and sources permitted by government. Verify suitability of all material sources and obtain approval from PIU. If additional quarries are required after construction has started, obtain written approval from PIU. Submit to DSC on a monthly basis documentation of sources of materials.	Permits issued to quarries/sources of materials	Contractor DSC to verify sources (including permits) if additional is requested by contractor	PIU and DSC	Upon submission of work plan by contractor	Contractor
Occupational health and safety	Comply with IFC EHS Guidelines on Occupational Health and Safety Develop comprehensive site-specific health and safety (H&S) plan. The overall objective is to provide guidance to contractors on establishing a management strategy and applying practices that are intended to eliminate, or reduce, fatalities, injuries and illnesses for workers performing activities and tasks associated with the project.	Health and safety (H&S) plan	Contractor	PIU and DSC supported by PMU and PMC	Once during detailed design by DSC	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
	H&S plan shall include measures such as: (i) type of hazards in the construction site; (ii) corresponding personal protective equipment for each identified hazard; (iii) H&S training for all site personnel; (iv) procedures to be followed for all site activities; and (v) documentation of work-related accidents. Provide medical insurance coverage for workers.					
Public consultations	Continue information dissemination, consultations, and involvement/participation of stakeholders during project implementation.	Disclosure records Consultations	PIU and DSC	PMU and PMC	During preparation of IEE	PIU

Table 13: EMP 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	Schedule construction activities during non-monsoon season, to the maximum extent possible.	Work schedule	Contractor	PIU and DSC PIU and DSC to submit EMP monitoring report to PMU	Daily inspection by contractor supervisor and/or environment specialist Weekly visual inspection by DSC (more frequent during monsoon season and if corrective action is required) Random inspection by	Contractor on his own expense
	Ensure drainages within the construction zones are kept free of obstructions.	Visual inspection				
	Keep loose soil material and stockpiles out of drains and flow-lines.	Visual inspection				
	Avoid stockpiling of excavated and construction materials (sand, gravel, cement, etc.) unless covered by	Visual inspection				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	tarpaulins or plastic sheets.				PMU, PIU, PMC and/or DSC	
	Re-use/utilize, to maximum extent possible, excavated materials.	condition in waste management plan				
	Dispose any residuals at identified disposal site (PIU/DSC will identify approved sites).	condition in waste management plan				
	Dispose waste oil and lubricants generated as per provisions of Hazardous Waste (Management and Handling) Rules, 1989.	condition in waste management plan				
	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				
	Strictly prohibit open defecation by workers in nearby areas	condition in waste management plan				
		H&S plan				
Impacts on air quality	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
	Conduct regular visual inspection in the construction zones to ensure no excessive dust emissions.	Visual inspection				
	Ambient Air Quality monitoring has to be performed as per the Environmental Monitoring Program	Particulate matter (PM_{10} & $PM_{2.5}$), SOx, NOx, CO				
	Maintain construction vehicles and obtain	PUC certificates				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	"pollution under control" certificate from PPCB.					
Noise and vibrations impacts	Limit construction activities to the daytime only. Plan activities in consultation with PIU/DSC so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance.	Work schedule	Contractor	PIU and DSC	Daily inspection by contractor supervisor and/or environment specialist Weekly visual inspection by DSC (more frequent during noise-generating activities and if corrective action is required) Random inspection by PMU, PIU, PMC and/or DSC	Contractor
	Minimize noise from construction equipment by using vehicle silencers and fitting jackhammers with noise-reducing mufflers.	Site observation				
	Avoid loud random noise from sirens, air compression, etc.	Site observation				
	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				
	Ambient Noise levels have to be monitored as per the Environmental Monitoring Program	Day time dB(A)				
	If specific noise complaints are received during construction, the contractor may be required to implement one or more of the following noise mitigation measures, as directed by the project manager: Locate stationary construction equipment as far from nearby noise-sensitive properties, such as the hospital, as	Grievance/complaint Register Records				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	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.					
Impacts on flora and fauna	Conduct site induction and environmental awareness. Strictly instruct workers not to cut trees for fuel wood Do not harm existing vegetation in the area except indicated in site plan	Records of training, tool box talk, safety induction etc.	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
	Limit activities within the work area. Strictly prohibit poaching of birds and animals in the vicinity of work sites	Barricades along excavation works Sign boards for awareness among workers Training records				
	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				
Impacts on physical cultural resources	Ensure no damage to structures/properties adjacent to construction zone.	Visual inspection any impact should be addressed by project resettlement plan	Contractor	PIU and DSC	Daily inspection by contractor supervisor and/or environment specialist Weekly visual inspection	Contractor

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	Provide sign boards to inform nature and duration of construction works and contact numbers for concerns/complaints.	photo-documentation			by DSC (more frequent if corrective action is required) Random inspection by PMU, PIU, PMC and/or DSC	
	Implement good housekeeping. Remove wastes immediately.	Visual inspection No stockpiled/ stored wastes				
	Ensure workers will not use nearby/adjacent areas as toilet facility.	Sanitation facilities provided for use of workers				
	Coordinate with PIU/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.	Approved routes in traffic management plan				
	Provide instructions on event of chance finds for archaeological and/or ethno-botanical resources. Works must be stopped immediately until such time chance finds are cleared by experts.	condition in chance find protocol				
Impact due to waste generation	Prepare and implement a waste management plan. Manage solid waste according to the following hierarchy: reuse, recycling and disposal. Include in waste management plan designated/approved disposal areas. Coordinate with PIU/DSC for beneficial uses of excavated soils or immediately	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	Contractor

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	dispose to designated areas. Recover used oil and lubricants and reuse; or remove from the site. Avoid stockpiling and remove immediately all excavated soils, excess construction materials, and solid waste (remove concrete, wood, packaging materials, empty containers, oils, lubricants, and other similar items). Prohibit disposal of any material or wastes (including human waste) into drainage, nallah, or watercourse.				required) Random inspection by PMU, PIU, PMC and/or DSC	
Impacts on occupational health and safety	Comply with IFC EHS Guidelines on Occupational Health and Safety	Visual inspection Records of PPEs, safety orientations, management plans etc.	Contractor	PIU and DSC	Daily inspection by contractor supervisor and/or environment specialist Weekly visual inspection by DSC (more frequent if corrective action is required) Random inspection by PMU, PIU, PMC and/or DSC	Contractor
	Disallow worker exposure to noise level greater than 85 dBA for duration of more than 8 hours per day without hearing protection. The use of hearing protection shall be enforced actively.	Visual inspection Work schedule Noise level monitoring in work area				
	Provide H&S orientation training to all new workers to ensure that they are apprised of the rules of work at the site, personal protective equipment, and preventing injury to fellow workers.	Records of H&S trainings Condition in H&S plan				
	Ensure that qualified first-aid can be provided at all times. Equipped first-aid stations shall be easily accessible	Visible first aid equipment and				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	throughout the site as well as at construction camps.	medical supplies Condition in H&S plan				
	Provide medical insurance coverage for workers.	Records of medical insurance				
	Secure construction zone from unauthorized intrusion and accident risks.	Area secured Trenches barricaded				
	Provide supplies of potable drinking water.	Supply of water				
	Provide clean eating areas where workers are not exposed to hazardous or noxious substances.	Workers area				
	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 of visitors register Condition in H&S plan				
	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				
	Ensure moving equipment is outfitted with audible back-up alarms.	Construction vehicles Condition in H&S plan				
	Mark and provide sign boards in the construction zone, and areas for storage and disposal. Signage shall be in accordance with international standards	Visible and understandable sign boards in				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	and be well known to, and easily understood by workers, visitors, and the general public as appropriate.	construction zone H&S plan includes appropriate signs for each hazard present				
Impacts on socio-economic activities	Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints.	Visible and understandable sign boards in construction zone	Contractor	PIU and DSC	Daily inspection by contractor, supervisor Weekly visual inspection by DSC (more frequent if corrective action is required) Random inspection by PMU, PIU, PMC	Contractor
	Employ at least 50% of the labour force, or to the maximum extent, local persons within the 20-km immediate area if manpower is available.	Employment records				

Table 14 : 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.)	Backfill any excavation and trenches, preferably with excess excavation material generated during the construction phase. Re-establish the original grade and drainage pattern to the extent practicable. Restore access roads, staging areas, and temporary work areas. Remove all tools, equipment, barricades, signs, surplus materials, debris, and	Pre-existing condition Construction zone has been restored	Contractor	PIU and DSC PIU and DSC to submit EMP monitoring report to PMU	Visual inspection by contractor supervisor and/or environment specialist	Contractor

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	rubbish. Demolish buildings/structures not required for O&M. Dispose in designated disposal sites. Request in writing from PIU/DSC that construction zones have been restored.					

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

130. **Table 15** summarizes site and activity-specific plans to be prepared as per EMP tables.

Table 15 : Site- and Activity-Specific Plans/Programs as per EMP

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

IX. ENVIRONMENTAL MONITORING PROGRAM

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

132. **Table 16** 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 16 : Indicative Environmental Monitoring Program

Sl.no	Field	Phase	Parameters	Locations	Frequency	Responsibility
1.	Air quality	Pre-construction (before commencement of civil works)	Particulate matter (PM_{10}& $PM_{2.5}$), SOx, NOx, CO	• Chamkaur Sahib • Chhota Ghallughara • Wadda Ghallughara	24 hours (Once before start of the construction)	PIU
		Construction	Particulate matter (PM_{10}&$PM_{2.5}$), SOx, NOx,	• Chamkaur Sahib • Chhota Ghallughara	24 hours (quarterly except monsoon	Contractor

Sl.no	Field	Phase	Parameters	Locations	Frequency	Responsibility
			CO	• WaddaGhallughara	season)	
2.	Noise	Pre-construction (before commencement of civil works)	Day time dB(A)	• Chamkaur Sahib • ChhotaGhallughara • WaddaGhallughara	24 hours Once before start of the constructio n	PIU
		Construction	Day time dB(A)	• Chamkaur Sahib • ChhotaGhallughara • WaddaGhallughara	24 hours (quarterly except monsoon season)	Contractor

X. CAPACITY BUILDING

133. 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 17**below. This training program is intended for the entire destination and is not just specific to this package.

Table 17: Training Modules for Environmental Management (common for entire project)

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

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

XI. EMP IMPLEMENTATION COST

134. As a 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.

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

136. The costs of water sprinkling for dust suppression and providing personal protective equipment's to construction workers shall be borne by the 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 18**.

Table 19: Indicative EMP Budget

S.No.	Particulars	Stages	Unit	Total number	Rate (INR)	Cost (INR)	Source of fund
A. Monitoring Measures							
1	Ambient Air Quality	Pre - Construction	Per sample	3	10,000	30,000.00	PMU
2	Noise Monitoring	Pre - Construction	Per sample	3	4,000	12,000.00	PMU
3	Ambient Air Quality	Construction	Per sample	15	10,000	150,000.00	Contractor budget
4	Noise Monitoring	Construction	Per sample	15	4,000	60,000.00	Contractor budget
Sub- Total (A)						**252,000.00**	
B.	**Capacity Building – Training cost**						
1	Sensitization Workshop	Pre-Construction	Lump sum			1,50,000	PMU
2	Training Session I	Construction	Lump sum			1,50,000	PMU
3	Training Session II	Construction	Lump sum			1,50,000	PMU
Sub -Total (B)						**4,50,000**	
Total (A+B) INR						**7,02,000**	

XII. FINDINGS AND RECOMMENDATIONS

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

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

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

140. The implementation of the subproject will have positive impacts to the local people during the project construction stage bygenerating employment opportunity for skilled and unskilled labourers for short time (construction stage) and during operation stage there are potential for more shops/ souvenir shops to be benefited through business generated due to the arrival of more/ increased touriststhus it will have direct positive impact in thelivelihood of the local people.

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

XIII. CONCLUSIONS

142. The IEE carried out for the sub-project shows that the proposed interventions/ components will result in net environmental benefits and that any likelyenvironmental 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.

143. 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 study or detailed Environmental Impact Assessment (EIA) needs to be undertaken to comply with ADB SPS (2009).

Annexure 1

Rapid Environmental Assessment (REA) Checklist

URBAN DEVELOPMENT

Instructions:

(i) The project team completes this checklist to support the environmental classification of a project. It is to be attached to the environmental categorization form and submitted to the Environment and Safeguards Division (RSES), for endorsement by Director,RSES and for approval by the Chief Compliance Officer.

(ii) This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB's (a) checklists on involuntary resettlement and Indigenous Peoples; (b) poverty reduction handbook; (c) staff guide to consultation and participation; and (d) gender checklists.

(iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

Subproject:Initial Environmental Examination: Establishment of Tourism facilities and Infrastructure Showcasing of Sikh culture (Lot-1)- Interpretation Centersat Chamkaur Sahib, Wadda and ChhotaGhallughara

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

Sector Division: Urban Development.

Screening Questions	Yes	No	Remarks
A. Project Siting Is the Project area adjacent to or within any of the following environmentally sensitive areas?			
▪ Cultural heritage site	✓		The proposed sites ofChamkaur Sahib, ChhotaGhallughara and WaddaGhallugharaare cultural heritage sites
▪ Protected Area		✓	Not applicable
▪ Wetland		✓	Not applicable
▪ Mangrove		✓	Not applicable
▪ Estuarine		✓	Not applicable
▪ Buffer zone of protected area		✓	Not applicable
▪ Special area for protecting biodiversity		✓	Not applicable
B. Potential Environmental Impacts Will the Project cause...			
▪ Encroachment on historical/cultural areas; disfiguration of landscape by road embankments, cuts, fills, and quarries?		✓	No such impacts envisaged
▪ Encroachment on precious ecology (e.g. sensitive or protected areas)?		✓	Not envisaged as there are no protected or sensitive areas withinor near the proposed sites
▪ Alteration of surface water hydrology of waterways crossed by roads, resulting in increased sediment in streams affected by increased soil erosion at construction site?		✓	Not envisaged as there isn't any surface water source near the proposed sites
▪ Deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?		✓	Not envisaged as there isn't any surface water source near the proposed sites which can be affected due to proposed works

Screening Questions	Yes	No	Remarks
▪ Increased local air pollution due to rock crushing, cutting and filling works, and chemicals from asphalt processing?		✓	No such works are proposed
▪ Risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?		✓	Not envisaged
▪ Noise and vibration due to blasting and other civil works?		✓	Blasting operations are not required
▪ Dislocation or involuntary resettlement of people?		✓	Not envisaged
▪ Dislocation and compulsory resettlement of people living in right-of- way?		✓	Not envisaged
▪ Disproportionate impacts on the poor, women and children indigenous peoples or other vulnerable groups?		✓	No such impacts may arise
▪ Other social concerns relating to inconveniences in living conditions in the project areas that may trigger cases of upper respiratory problems and stress?		✓	No such impacts may arise
▪ Hazardous driving condition where construction interferes with pre-existing roads?	✓		During transportation of construction materials hazards may arise due to unsafe driving
▪ 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?		✓	Local labours shall be engaged in the construction works. The MSW generated in the construction site shall be disposed on day to day basis. IEC materials shall be displayed for HIV/ AIDS prevention.
▪ Creation of temporary breeding habitats for disease such as those transmitted by mosquitoes and rodents?		✓	No such impacts may arise
▪ Accident risks associated with increased vehicular traffic, leading to accidental spills of toxic materials?		✓	Not envisaged
▪ Increase noise and air pollution resulting from traffic volume?		✓	Not envisaged
▪ Increase risk of water pollution from oil, grease and fuel spills, and other materials from vehicles using the road?		✓	Not envisaged
▪ Social conflicts if workers from other region of countries are hired?		✓	No such impacts may arise. It is proposed to engage local labours for construction works.
▪ Large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?		✓	No such impacts may arise as the labour requirement is minimal
▪ Risks to community health and safety due to the transport, storage, and use and /or disposal of materials such as explosives, fuel and other chemicals during construction and operation?		✓	No such materials are required which may create community health and safety risks.
▪ Community safety risks due to both accidental and natural causes, especially where the structural elements or components		✓	No such impacts may arise

Screening Questions	Yes	No	Remarks
of the project are accessible to members of the affected community or where the failure could result in injury to the community throughout project construction, operation and decommissioning.			

PRELIMINARY CLIMATE RISK SCREENING CHECKLIST FOR SAMPLE SUBPROJECT TOWNS

Screening Questions		Score	Remarks[8]
Location and Design of project	Is siting and/or routing of the project (or its components) likely to be affected by climate conditions including extreme weather related events such as floods, droughts, storms, landslides?	0	No such impacts are envisaged
	Will the project design (e.g. the clearance for bridges) need to consider any hydro-meteorological parameters (e.g., sea-level, peak river flow, reliable water level, peak wind speed etc)?	0	No such impacts are envisaged
Materials and Maintenance	Will weather, current and likely future climate conditions (e.g. prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity, and hydro-meteorological parameters) affect the selection of project inputs over the life of project outputs (e.g. construction material)?	0	No such issue may affect the project
	Will weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s)?	0	No such issue may affect the project
Performance of project outputs	Will weather/climate conditions and related extreme events likely affect the performance (e.g. annual power production) of project output(s) (e.g. hydro-power generation facilities) throughout their design life time?	0	No problem will envisaged in future which likely affect the performance of project output

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

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

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

Other Comments: The proposed subproject activity involves renovation works which includes fixing of furniture and interpretative materials, pathway flooring works, lighting, sitting arrangement, landscaping etc., hence the anticipated environmental impacts is very marginal and the construction activities does not impose any threat to the existing climatic conditions.

[8] 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.

Annexure2

Photo Illustration

Existing buildings at ChhotaGhallughara

Existing buildings at ChhotaGhallughara

Inside view of interpretation centre at ChhotaGhallughara

Existing site of Chamkaur Sahib

Ongoing Construction works at Chamkaur Sahib under IDIPT

Completed works at Chamkaur Sahib

	
Existing buildings at WaddaGhallughara	**Existing buildings at WaddaGhallughara**

Annexure-3

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 spoil from works in accordance with the spoil management hierarchy outlined in this document.

2.0 Objectives of SMP:

The objectives of SMP are:

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

3.0 Structure of SMP:

Section 1: Introduction of SMP

Section 2: Legal and other requirements

Section 3: Roles and responsibilities

Section 4: Identification and assessment of spoil aspects and impacts

Section 5: Spoil volumes, characteristics and minimization

Section 6: Spoil reuses opportunities, identification and assessment

Section 7: On site spoil management approach

Section 8: Spoil transportation methodology

Section 9: Monitoring, Reporting, Review and Improvements

4.0 Aspects and Potential Impacts

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

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

5.0 Spoil volumes, characteristics and minimization

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

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

5.3 Adopt Spoil Reduce, Reuse Opportunities

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

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

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

5.5 Storage and stock piling

5.6 Transportation and haulage route

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

Annexure-4

Sample Traffic Management Plan (TMP)

A. Principles

1. One of the prime objectives of this TMP is to ensure the safety of all the road users along the work zone, and to address the following issues:

- the safety of pedestrians, bicyclists, and motorists travelling through the construction zone;
- protection of work crews from hazards associated with moving traffic;
- mitigation of the adverse impact on road capacity and delays to the road users;
- maintenance of access to adjoining properties;
- Avoid hazards inaddressing issues that may delay the project.

B. Operating Policies for TMP

2. The following principles will help promote safe and efficient movement for all road users (motorists, bicyclists, and pedestrians, including persons with disabilities) through and around work zones while reasonably protecting workers and equipments.

- Make traffic safety and temporary traffic control an integral and high-priority element of every project from planning through design, construction, and maintenance.
- Inhibit traffic movement as little as possible.
- Provide clear and positive guidance to drivers, bicyclists, and pedestrians as they approach and travel through the temporary traffic control zone.
- Inspect traffic control elements routinely, both day and night, and make modifications when necessary.
- Pay increased attention to roadside safety in the vicinity of temporary traffic control zones.
- Train all persons that select, place, and maintain temporary traffic control devices.
- Keep the public well informed.
- Make appropriate accommodation for abutting property owners, residents, businesses, emergency services, railroads, commercial vehicles, and transit operations.

C. Analyze the impact due to street closure, if required

3. Apart from the capacity analysis, a final decision to close a particular street and divert the traffic should involve the following steps:

- approval from the PIU, local administration to use the local streets as detours;
- consultation with businesses, community members, traffic police, PWD, etc, regarding the mitigation measures necessary at the detours where the road is diverted during the construction;
- determining of the maximum number of days allowed for road closure, and incorporation of such provisions into the contract documents;
- determining if additional traffic control or temporary improvements are needed along the detour route;
- considering how access will be provided to the worksite;
- contacting emergency service, school officials, and transit authorities to determine if there are impacts to their operations; and
- developing a notification program for the public so that the closure is not a surprise. As part of this program, the public should be advised of alternate routes that commuters

can take or will have to take as a result of the traffic diversion.

4. If full road-closure of certain streets within the area is not feasible due to inadequate capacity of the Detour Street or public opposition, the full closure can be restricted to weekends with the construction commencing on Saturday night and ending on Monday morning prior to the morning peak period.

Figure A1: Policy Steps for the TMP

Review	• Review construction schedule and methods.
Traffic Re-Circulation	• Identify initial traffic recirculation and control policy.
Traffic Diversions	• Identify routes for traffic diversions. • Analyse adverse impact & mitigation at the detours.
Full Road Colsures	• Begin community consultation for consensus. • Finalise or determine alternate detours.
Temporary parking	• Identify temporary parking (on and off -street) • Discuss with CMC, owner and community for use.
Police Coordination	• Coordinate with theTraffic Police to enforce traffic and diversions
Install control devices	• Install traffic control devices (traffic cones, signs, lightings, etc.)
Awareness	• Conduct campaigns, publicity, and notify public about street closure.
Public Redress	• Develop a mechanism to address public grievances regarding disruptions (traffic, utilities, and diversions)

D. Public awareness and notifications

5. As per discussions in the previous sections, there will be travel delays during the constructions, as is the case with most construction projects, albeit on a reduced scale if utilities and traffic management are properly coordinated. There are additional grounds for travel delays in the area, as most of the streets lack sufficient capacity to accommodate additional traffic from diverted traffic as a result of street closures to accommodate the works.

6. The awareness campaign and the prior notification for the public will be a continuous activity which the project will carry out to compensate for the above delays and minimize public claims as result of these problems. These activities will take place sufficiently in advance of the time when the roadblocks or traffic diversions take place at the particular streets. The reason for this is to allow sufficient time for the public and residents to understand the changes to their travel plans. The project will notify the public about the roadblocks and traffic diversion through public notices, ward level meetings and city level meeting with the elected representatives.

7. The PIU will also conduct an awareness campaign to educate the public about the following issues:

(i) traffic control devices in place at the work zones (signs, traffic cones, barriers, etc.);

(ii) defensive driving behaviour along the work zones; and
(iii) reduced speeds enforced at the work zones and traffic diversions.

8. It may be necessary to conduct the awareness programs/campaigns on road safety during construction.

9. The campaign will cater to all types of target groups i.e. children, adults, and drivers. Therefore, these campaigns will be conducted in schools and community centres. In addition, the project will publish a brochure for public information. These brochures will be widely circulated around the area and will also be available at the PIU, and the contractor's site office. The text of the brochure should be concise to be effective, with a lot of graphics. It will serve the following purpose:

(i) explain why the brochure was prepared, along with a brief description of the project;
(ii) advise the public to expect the unexpected;
(iii) educate the public about the various traffic control devices and safety measures adopted at the work zones;
(iv) educate the public about the safe road user behaviour to emulate at the work zones;
(v) tell the public how to stay informed or where to inquire about road safety issues at the work zones (name, telephone, mobile number of the contact person; and
(vi) indicate the office hours of relevant offices.

E. Vehicle Maintenance and Safety

10. A vehicle maintenance and safety program shall be implemented by the construction contractor. The contractor should ensure that all the vehicles are in proper running condition and it comply with roadworthy and meet certification standards of GoI. All vehicles to be used at IDIPT shall be in perfect condition meeting pollution standards of GoI. The vehicle operator requires a pre state of shift checklist. Additional safety precautions will include the requirement for:

- Driver will follow the special code of conduct and road safety rules of Government of Nepal.
- Drivers to ensure that all loads are covered and secured drivers to ensure operation equipment can't leak materials hauled
- Vehicles will be cleaned and maintained in designed places.

F. Install traffic control devices at the work zones and traffic diversion routes

10. The purpose of installing traffic control devices at the work zones is to delineate these areas to warn, inform, and direct the road users about a hazard ahead, and to protect them as well as the workers. As proper delineation is a key to achieve the above objective, it is important to install good traffic signs at the work zones. The following traffic control devices are used in work zones:

- Signs
- Pavement Markings
- Channelizing Devices
- Arrow Panels
- Warning Lights

11. Procedures for installing traffic control devices at any work zone vary, depending on road configuration, location of the work, construction activity, duration, traffic speed and volume, and pedestrian traffic. Work will take place along major roads, and the minor internal roads. As such, the traffic volume and road geometry vary. The main roads carry considerable traffic; internal roads in the new city areas are wide but in old city roads very narrow and carry considerable traffic. However, regardless of where the construction takes

place, all the work zones should be cordoned off, and traffic shifted away at least with traffic cones, barricades, and temporary signs (temporary “STOP” and “GO”).

12. The work zone should take into consideration the space required for a buffer zone between the workers and the traffic (lateral and longitudinal) and the transition space required for delineation, as applicable. For the works, a 30 cm clearance between the traffic and the temporary STOP and GO signs should be provided. In addition, at least 60 cm is necessary to install the temporary traffic signs and cones.

13. Traffic police should regulate traffic away from the work zone and enforce the traffic diversion result from full street closure in certain areas during construction. Flaggers/ personnel should be equipped with reflective jackets at all times and have traffic control batons (preferably the LED type) for regulating the traffic during night time.

14 In addition to the delineation devices, all the construction workers should wear fluorescent safety vests and helmets in order to be visible to the motorists at all times. There should be provision for lighting beacons and illumination for night constructions.

15. The PIU and contractor will coordinate with the local administration and traffic police regarding the traffic signs, detour, and any other matters related to traffic. The contractor will prepare the traffic management plan in detail and submit it along with the EMP for the final approval.

Annexure-5

StakeholderConsultations

Stakeholder consultation with manager, staff of WaddaGhallughara and local residents just near-by village was organised on 2nd September 2016 .The following were the main outcome of the discussions:

Chamkaur Sahib:

- Existing labours especially women working at Chamkaur Sahib were happy about officials and expert concerns on their welfare.
- Contractor ensured to keep on teacher for children coming in crèche established at construction site and maintain sanitation condition of the labour camp.

WaddaGhallughara:

- Manager and staff informed that, at present not many visitors come to visit the site. This is mainly due to lack of basic facilities, no displays in interpretation centres, nothing to display in auditorium.
- Local Residents were happy to get acquainted with the proposed intervention and suggested to develop the existing interpretation centre so that, local residents could also earn something in near future.

ChhotaGhallughara:

- Caretaker and others informed that, at present few tourists come to visit the site in the absence of restaurant facility.Maintenance of existing / newly constructed toilet facility and display of information relating to its historical and cultural importance is required.

Annexure-6

Sample Grievance Redress Form

(To be available in Local Language and English)

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

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

FOR OFFICIAL USE ONLY

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

Annexure-7

Sample Quarterly Environmental Monitoring Report Template

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

INTRODUCTION

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

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

COMPLIANCE STATUS WITH NATIONAL/STATE/LOCAL STATUTORY ENVIRONMENTAL REQUIREMENTS

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

COMPLIANCE STATUS WITH ENVIRONMENTAL LOAN COVENANTS

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

COMPLIANCE STATUS WITH THE ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN

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

Annexure-8

Summary Monitoring Table

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

Overall Compliance with CEMP/EMP

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

APPROACH AND METHODOLOGY FOR ENVIRONMENTAL MONITORING OF THE PROJECT

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

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

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

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

Air Quality Results

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

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

SUMMARY OF KEY ISSUES AND REMEDIAL ACTIONS

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

Annexes

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

Annexure-9

SAMPLE ENVIRONMENTAL SITE INSPECTION REPORT

Project Name

Contract Number

NAME: _____ DATE: _____

TITLE: _____ DMA: _____

LOCATION:_____GROUP: _____

WEATHER CONDITION:

_____

INITIAL SITE CONDITION:

_____

CONCLUDING SITE CONDITION:

Satisfactory _____ Unsatisfactory_____ Incident_____ Resolved _____ Unresolved _____

INCIDENT:

Nature of incident:

_____

Intervention Steps:

_____

Incident Issues

Resolution

Project Activity Stage	Survey	
	Design	
	Implementation	
	Pre-Commissioning	
	Guarantee Period	

Inspection

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

Site Restored to Original Condition Yes No

Signature

_____

_____ _____

Name **Position**

Annexure – 10

No Objection Certificate from Competent Authority

NO OBJECTION CERTIFICATE

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

Interpretation Center at Chota Ghallughara

(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 Gurdaspur.....

.....

(details of land/area/ building)

.....

Place: Chandigarh

Date: 11/9/14

Signature .....

Department /owner

Director,
Cultral Affairs Archaeology &
Museums, Punjab, Chandigarh

(Official Stamp)

Counter Signed

Deputy Commissioner

(Official Stamp)

NoC for ChottaGhallughara

NO OBJECTION CERTIFICATE

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

....Interpretation Center at Wada Ghallughara.....

(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 ..Malerkotla.....

....dist. Sangrur..... .....

(details of land/area/ building)

.....

Place: Chandigarh

Date: 11/9/14

Signature .....

Department /owner

Director,
Cultral Affairs Archaeolog
Museums, Punjab, Chandig

(Official Stamp)

Counter Signed

Deputy Commissioner

(Official Stamp)

Deputy Commissioner
SANGRUR

NoC for WadaGhallughara

NO OBJECTION CERTIFICATE

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

.....CHAMKAUR SAHIB, SAKA CHAMKAUR DI GARHI.....
(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 .....

....CHAMKAUR SAHIB.....
(details of land/area/ building) .....

.....

Place: Chandigarh

Date: 27/8/14

Signature .....
Department /owner

(Official Stamp)

Counter Signed

Director,
Cultral Affairs Archaeology & Museums, Punjab, Chandigarh

Deputy Commissioner

(Official Stamp)

NoC for Chamkaur Sahib

Annexure – 11

Public Consultation

1. Public Consultations with labours and contractors at Chamkaur Sahib Di Garhi and Caretakers at ChhotaGhallughara, officials from PIU and experts from DSC has been conducted.

2. The local community comprises cluster of villages within/adjacent to tourist attraction site. The local communities are accessed through roads. The local people have a positive perception about the project with respect to the business development by increasing tourist/visitors, employment opportunities during construction which the project can provide to the local community. There is strong support for development from the key stakeholders concerned government agencies, private sector, local community and development partners.

3. During the preparation of report, the necessary consultations have been held with the PMU, PMC, PIU, DSC and other concerned representatives on 6th April 2016, 9th May 2016 14th June 2016.

Site Visit and Consultation Photographs

Sr. No.	Date of Site Visit	Location	Participants & No.	Issues Discussed
1	6th April 2016	ChamkauSahib	Contractors, DSC, PIU, labours (men and women), children at crèche	Site visit to identify and assess the existing situation, problems, opinion on proposed work, likely benefits, issues related to safeguard compliances, any adverse impacts
2	9th May 2016	ChhotaGhallughara	Caretakers, DSC, PIU	Site visit to identify and assess the existing situation, problems, opinion on proposed work, likely benefits, issues related to safeguard compliances, any adverse impacts
3	14th June 2016	ChamkaurShahib	Labours, contractors, DSC, PIU	Social and environment safeguard, gender concerns, labours safety, use of PPE, labour laws, issues related to gender action plan, etc.
4	2nd September 2016	WaddaGhallughara	Manager, Staff, Local Staff and Local residents in nearby village	Site visit to identify and assess the existing situation, problems, opinion on proposed work, likely benefits, issues related to safeguard compliances, any adverse impacts

Source: DSC team

Glimpses of Public Consultation

Consultation at ChhotaGhallughara

Interaction with Children at Chamkaur Sahib

Interaction with Staff at WaddaGhallughara

Interaction with labours at Chamkaur Sahib Di Garhi

Interaction with Villagers near-by WaddaGhallughara

Source: DSC team