Initial Environment Examination

Project Number: 40648-034
January 2017

IND: Infrastructure Development Investment Program for Tourism - Tranche 3

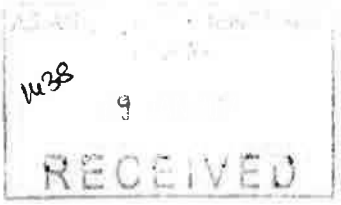
Sub Project : Imperial Highway Heritage C onservation and Visitor Facility Development: (L ot-3) Adaptive Reuse of Aam Khas Bagh and Interpretation Centre/Art and Craft C entre at Maulsari, Fatehgarh Sahib

Submitted by

Program Management Unit, Punjab Heritage and Tourism Board, Chandigarh

Asian Development Bank

NK/VV



----- Forwarded by Shanti S. Singh/Consultants/ADB on 01/18/2017 05:49 PM -----

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Date:	01/18/2017 04:29 PM
Subject:	Re: Loan 3223-IND: IDIPT-IEE Report for package no. PB/IDIPT/T3/03-12/18 (Lot 3)- Adaptive Reuse of Aam Khas Bagh and interpretation Centre/Art and Craft Centre at Maulsari, Fatehgarh sahib--

Sir,

This is in reference to the trailing mail, Please find attached revised IEE report along with compliance matrix.

Regards:

Manager (IDIPT)
Chandigarh

Hard copy recd 18.01.17.

Compliance matrix to the Queries from ADB

Package no.: PB/IDIPT/T3-03/12/18 (Lot-3): Imperial Highway Heritage Conservation and Visitor Facility Development: Adaptive Reuse of Aam Khas Bagh and Interpretation Centre/Art and Craft Centre at Maulsari, Fatehgarh Sahib

Sl.no	Query from ADB	Response from PMU
1.	We note that there are two components i.e. Aam Khas Bagh and Maulsari (para 3, page 1) of above project, however the scope of work under Maulsari is only given (para 7, page 1-2 and para 23, page 5) in the report. Please provide the scope of work under Aam Khas Bagh sub-project	Noted, the para has been revised for better understanding. As indicated there are two subproject components i.e. Aam Khas Bagh and Maulsari. The subproject component on Aam Khas Bagh has already been bid out (Package No. PB/IDIPT/T3-03/12/02) and the same is under construction. The subproject component on Maulsari is yet to be bid out and hence the scope of work pertaining to Maulsari has been discussed in the report.
2.	Please provide the attendance sheet of public consultation done at Maulsari, Aam Khas Bagh for the sub-project and remove the attendance sheet of consultation at TIC Chandigarh (annexure 5) from the report	Noted, the attached attendance sheet belongs to the Maulsari.
3.	We note the Maulsari Tourist complex has not been operated since 2010 (para 29, page 6-7), Please provide the environmental assessment after conservation (during operational stage) of Maulsari Tourist complex and Aam Khas Bagh	Noted, it is well defined in the subproject components/ interventions that the Maulsari shall have visitor facilities like (i) Interpretation area, (ii) Restaurant and toilet facilities and (iii) Kitchen services and administration and hence the anticipated environmental impacts during operational stage are very much limited restricting to generation of solid waste from kitchen and maintenance of the sewerage line connecting the toilets. Accordingly the EMP for the operation phase has been modified (Refer Table 7). Aam Khas Bagh is not a part of the subproject component.

NK
GEM/VV

Punjab Heritage and Tourism Promotion Board
Infrastructure Development Investment Programme for Tourism (IDIPT)
(ADB Assisted Project)
Plot No. 03, Sector 38 A, Chandigarh, Ph. 0172-2625952, 5014495
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PUNJAB
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To

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

No. PHTPB/IDIPT/2016/4938-45

Dated: 22|12|2016

Project: Loan 3223-IND: Infrastructure Development Investment Programme for Tourism (IDIPT) - IEE Report for Package no: PB/IDIPT/T3/03-12/18 (Lot-3) - Adaptive Reuse of Aam Khas Bagh and Interpretation Centre/Art and Craft Centre at Maulsari, Fatehgarh Sahib

Subject: Submission of Initial Environmental Examination (IEE) Report

The Initial Environmental Examination (IEE) Report for the contract Package PB/IDIPT/T3/03-12/18 (Lot-3) seeking ADB's concurrence is hereby enclosed with this letter for your approval.

21.12.16

Addl. Project Director

CC:

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

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Initial Environmental Examination

Project Number: 40648-023
ADB loan Number: 3223-IND
January 2017

Infrastructure Development Investment Program for Tourism (IDIPT) - Punjab

Imperial Highway Heritage Conservation and Visitor Facility Development: (Lot-3) Adaptive Reuse of Aam Khas Bagh and Interpretation Centre/Art and Craft Centre at Maulsari, Fatehgarh Sahib

(Package no: PB/IDIPT/T3-03/12/18)

Prepared by the Government of Punjab

ABBREVIATIONS

ADB	:	Asian Development Bank
AAQ	:	Ambient Air Quality
CTE	:	Consent to Establish
CTO	:	Consent to Operate
DSC	:	Design Supervision Consultant
DoT	:	Department of Tourism
EA	:	Executing Agency
EAC		Expert Appraisal Committee
EARF	:	Environment Assessment & Review Framework
EIA	:	Environmental Impact Assessment
EMP	:	Environmental Management Plan
GoI	:	Government of India
GoP	:	Government of Punjab
GRC	:	Grievance Redress Committee
H&S	:	Health and Safety
IEE	:	Initial Environmental Examination
IDIPT	:	Infrastructure Development Investment Programme for Tourism
LGC	:	Local Grievance Committee
NoC	:	No Objection Certificate
NGO	:	Non-Governmental Organization
MoEF&CC	:	Ministry of Environment, Forest and Climate Change
MC	:	Municipal Corporation
O&M	:	Operation and Maintenance
PIU	:	Project Implementation Unit
PHTPB	:	Punjab Heritage and Tourism Promotion Board
PMC	:	Project Management Consultant
PMU	:	Project Management Unit
PPCB		Punjab Pollution Control Board
REA	:	Rapid Environmental Assessment
SEAC		State Expert Appraisal Committee
SPS	:	Safeguard Policy Statement
SLEC	:	State Level Empowered Committee
TSS	:	Total Suspended Solids
UNWTO	:	United Nations World Tourism Organization
VOC’s		Volatile Organic Compounds

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EXECUTIVE SUMMARY

1. **Background.** The Infrastructure Development Investment Program for Tourism 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:

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

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

3. There are two subproject components i.e. Aam Khas Bagh and Maulsari that are proposed to implement under the Tranche -3. The subproject component on Aam Khas Bagh has been bid out separately (Package No. PB/IDIPT/T3-03/12/02) and it is being under construction. The subproject component on Maulsari has been proposed to bid out, and hence as per the requirement of the ADB, this IEE report has been prepared to address the anticipated impacts due to the proposed subproject interventions (refer para 8).

4. The subproject is located in district Fatehgarh Sahib of Punjab, which is bounded by Ludhiana and Ropar in the North, Patiala in the South, parts of Ropar and Patiala in the East and parts of Ludhiana and Sangrur in the West. It is situated between $30^0$38' North $16^0$27' East and it is 50 Kms. towards the west of Chandigarh, the capital of Punjab.

5. Fatehgarh Sahib District comprises of 455 villages (450 inhabited and 5 uninhabited) spread over four Tehsils and one sub-tehsil namely, Amloh, Bassi-Pathana, Fatehgarh Sahib and Khamano along with Sub-tehsil Gobindgarh of Tehsil Amloh.

6. **Executing and implementing agencies.** The executing agency is the Department of Tourism (DoT), Govt. of Punjab. The implementing agency is Punjab Heritage and Tourism Promotion Board (PHTPB), Punjab. Project Management Unit (PMU) is set up at Chandigarh to coordinate the overall project execution and is supported by the Project Management Consultant (PMC). Project Implementation Units (PIU) is set up at Rupnagar and is supported by Design Supervision Consultant (DSC). The asset owner of the subproject site is the Department of Cultural Affairs, Archaeology and Museums, Govt. of Punjab.

7. **Categorization.** The proposed sub-project 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-

Sl.no	Subproject Component	Proposed Interventions
1.	**Maulsari**	• Visitors Amenities o Reuse and refurbishment of reception area into an interpretation space. o Refurbishment of restaurant, kitchen and other

Sl.no	Subproject Component	Proposed Interventions
		related services. o Refurbishment of existing toilets and other visitor amenities. o Development of parking and area development in front of Maulsari
		• Residential Areas o Re-use of existing restaurant as studio o Refurbishment of existing kitchen and rooms

9. **Description of the Environment.** Subproject components are located in Fatehgarh Sahib District of Punjab. The environment of the district remains undisturbed due to the absence of major industrial activities. The ground water is available at approx. 400 feet and surface water is available at approx. 120 feet. The Aam Khas Bagh and Maulsari are situated in the garden (bagh) area having a number of trees and ornamental plantations and shrubs. There has been no wild life reported in the subproject areas. There are no protected areas, forests, eco sensitive sites within or adjacent to the subproject sites.

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 (i) design and material will be compatible to the local architectural, physical, cultural and landscaping elements; (ii) preference will be given to the use of local material and labour as faras possible; (iii) for conservation, local construction material is available in the nearby region which shall be utilised as far as possible; (iv) The paints having low volatile organic compounds (VOC's) shall be used for all painting (interior and exterior) work (v) earth backfill(if any) will be done from the site excavated material; and (vi) ensuring all planning and design interventions and decisions are made in consultation with local communities and reflecting inputs from public consultation.

12. During the construction phase, the major impacts may arise due to the disturbances caused by 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 the impacts to the surrounding environment and tourists. In the operational phase, all the infrastructure facilities will be operational followed by routine maintenance, which should not affect the environment. The anticipated environmental impacts during the operation period will be much less than those of the construction period .

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 observations on and off-site, document checks and consultation with workers and beneficiaries. Any requirements for corrective action will be reported to the ADB.

14. The tourists and the local people of Fatehgarh Sahib town areas would be the major beneficiaries of the project. The most noticeable net environmental benefits to the tourists and population of the town will be positive. The proposed subproject will improve access to reliable and adequate tourism facilities which will in turn propagate the local traditions and Cultural

Heritage of the state. This subproject along with other subprojects proposed in Fatehgarh Sahib and adjacent towns will also provide a common platform for local traditions and values; provide and improve business opportunities for local communities, linked to the cultural and natural heritage tourism.

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

16. A grievance redress mechanism is established and described within the IEE to ensure any public grievances are addressed quickly.

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

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

I. INTRODUCTION

19. **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.

20. 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.

21. The subproject interventions proposed at Fatehgarh Sahib comes under the Eastern circuit[1]. The scope of the project is to enhance protection and management of cultural tourism assets at Fatehgarh Sahib. The district is a part of the Sikh Heritage Trail (Source: Punjab Tourism Development Master Plan, 2008-2023; United Nations World Tourism Organization (UNWTO).

22. **Executing and Implementing Agencies.** The executing agency is Department of Tourism (DoT), Punjab. The implementing agency is the Punjab Heritage and Tourism Promotion Board (PHTDB) Punjab. Project Management Unit (PMU) is set up at Chandigarh to coordinate the overall project execution. Project Management Consultant (PMC) at Chandigarh provides assistance to PMU in the project execution. Project Implementation Unit (PIU) is set up at Rupnagar and it is supported by Design Supervision Consultant (DSC). The asset owner of the subproject site is the Department of Cultural Affairs, Archaeology and Museums, Govt. of Punjab.

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

1. [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)

with protecting the heritage value of the property and to enhance tourist attractions with all facilities.

24. The scope of work assigned for this subproject includes:

Sl.no	Subproject Components	Proposed Interventions
1.	**Maulsari**	• Visitors Amenities o Reuse and refurbishment of reception area into an interpretation space. o Refurbishment of restaurant, kitchen and other related services. o Refurbishment of existing toilets and other visitor amenities. o Development of parking and area development in front of Maulsari
		• Residential Areas o Re-use of existing restaurant as studio o Refurbishment of existing kitchen and rooms

25. **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 subproject is categorized as 'B' and accordingly an Initial Environmental Examination (IEE) has been prepared. The IEE was based on the review of subproject site plans, reports, field visits, secondary data (to characterize the environment and identify potential impacts), interviews and discussions with the stakeholders.

26. **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

A. Existing Condition and Need for the Subproject

a) Locations

27. The proposed subproject site is located in Fatehgarh Sahib District of Punjab. Fatehgarh Sahib town is located on Ambala-Ludhiana National Highway (NH-1) and is well connected through road linkages to other important towns/cities of Punjab and Chandigarh. The town lies between 76°-22' E to 76°- 25' E longitudes and 30°-36' to N 30°-39' N latitude. The town has one railway station on Delhi-Amritsar broad-gauge double railway line and another on Sirhind-Nangal railway line.

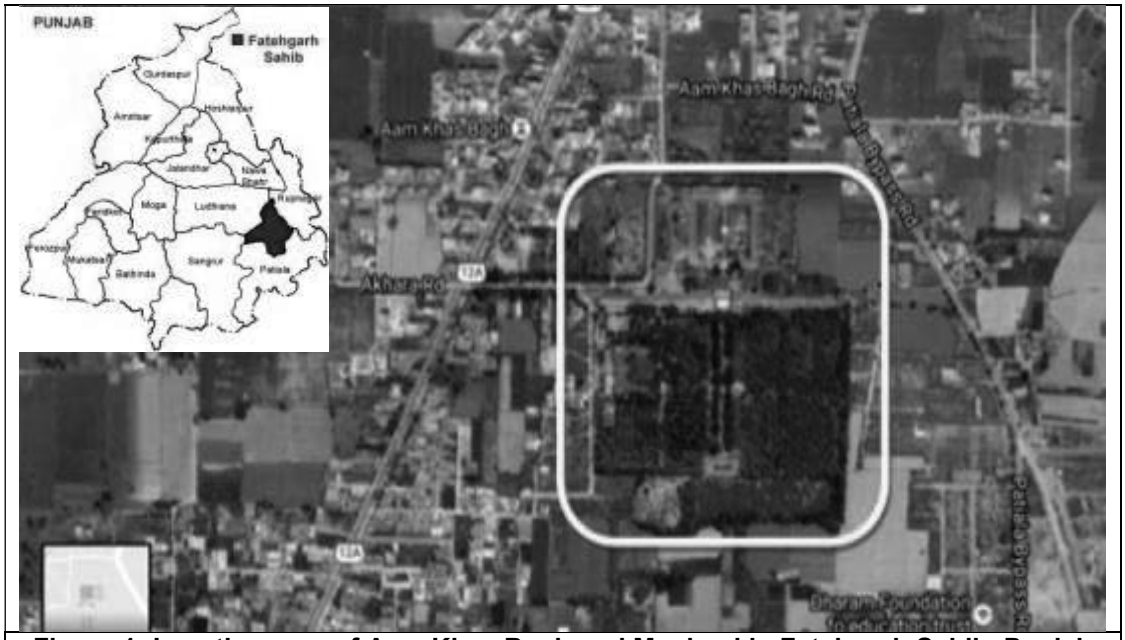


Figure 1: Location map of Aam Khas Bagh and Maulsari in Fatehgarh Sahib, Punjab

b) Brief History

28. The historic and pious District of Fatehgarh Sahib came into existence with effect from 13thApril 1992, Baisakhi Day deriving its name from Sahibzada Fateh Singh, the youngest son of Guru Gobind Singh. The Fatehgarh Sahib is historically known as Sirhind. There are different views about the origin and development of Sirhind. Its first reference appears in the `PRASHARTANTARA' which is mainly a compilation of prophecies. `VARAHA MIHIRA' has made a reference to Sirhind in his book `BRIHAT SAMHITA' which is based on `Prashartantara'. Sirhind was known as `SATUDAR DESH' and was inhabited by Sairind has Aryans. In latter period it became an important border town of Pal Kingdom. According to another manuscript, Sirhind was the Eastern Frontier of Kingdom of Brahmin dynasty of Kabul. In the Eleventh Century, Mehmood of Ghazni invaded India and the hold of Hindu Kings ended in 1193 A.D. Then Sultan Aram Shah ruled here. Nasir-ud-din Qubacha conquered Sirhind in 1210 A.D. But Illutmish won back this territory. Sher Khan, nephew of Balban, built a fort here. After Ibrahim Lodhi's defeat in battle of Panipat in 1526 A.D., the town came under Mughal Empire.

29. The tenth Sikh Guru, Guru Gobind Singh fought against the atrocities of Mughal Emperor Aurangzeb, due to which he bore the wrath of the Dynasty. The youngest Sahibzadas of Guru Ji namely Sahibzada Zorawar Singh & Sahibzada Fateh Singh along with their grandmother Mata Gujriji was done to death in this very town. The present Gurudwara Fategarh Sahib has been constructed in their holy memory. TheDistrict Administrative Complex is in close vicinity of the Gurudwara Sahib.

30. Bagh-i- Hafiz Rakhna (now popularly known as Aam Khas Bagh) is one of the earliest Mughal garden at Sirhind which was a garden complex used as royal sarai as well as palace by Mughal princes and emperors. The origin of the garden can be traced to the period of Akbar. The garden complex is also referred as Bagh-i– Naulakha. It was built and planned by Hafiz Sultan Muhammad Rakhna of Herat who was a shiqdar during the reign of Akbar during 16thcentury AD. Later new structures were added in the garden under the patronage of Jahangir and Shahjahan, who has visited and stayed in the gardens on multiple occasions. The Maulsari Hotel is a modern addition to the complex and was built and

operated by the Punjab Tourism Development Corporation as Maulsari Tourist Complex but has been out of operation since 2010.

c) Existing Conditions

31. **Maulsari:** The existing building is a contemporary structure and has recently been constructed. Therefore, there are no evident structural problems. As the building is out of operation since 2010, maintenance issues have been noticed. Water seepage is a major issue which is observed throughout the structure. Metal and wooden frames of openings are intact but glass panes are broken and wooden shutters have deteriorated in few places. Electrical and plumbing outlets are visible but fixtures are missing. **Annexure 2** shows the site photo of the subproject area.

B. Proposed Subproject Components

32. Proposed works in Maulsari:

- Visitors Amenities:
    - Re-use and refurbishment of reception area into an interpretation space.
    - Refurbishment of restaurant, kitchen and other related services.
    - Refurbishment of existing toilets and other visitor amenities.
    - Development of parking and area development in front of Maulsari

33. These areas are being developed so as to first provide basic amenities that are essential from the perspective of infrastructure development for the garden complex. The restaurant and toilets will be made functional to serve the visitors and will be used to promote the residential facility.

- Residential Areas
    - Major Components for re-use and refurbishment:
    - Re-use of existing restaurant as studio
    - Refurbishment of existing kitchen and rooms

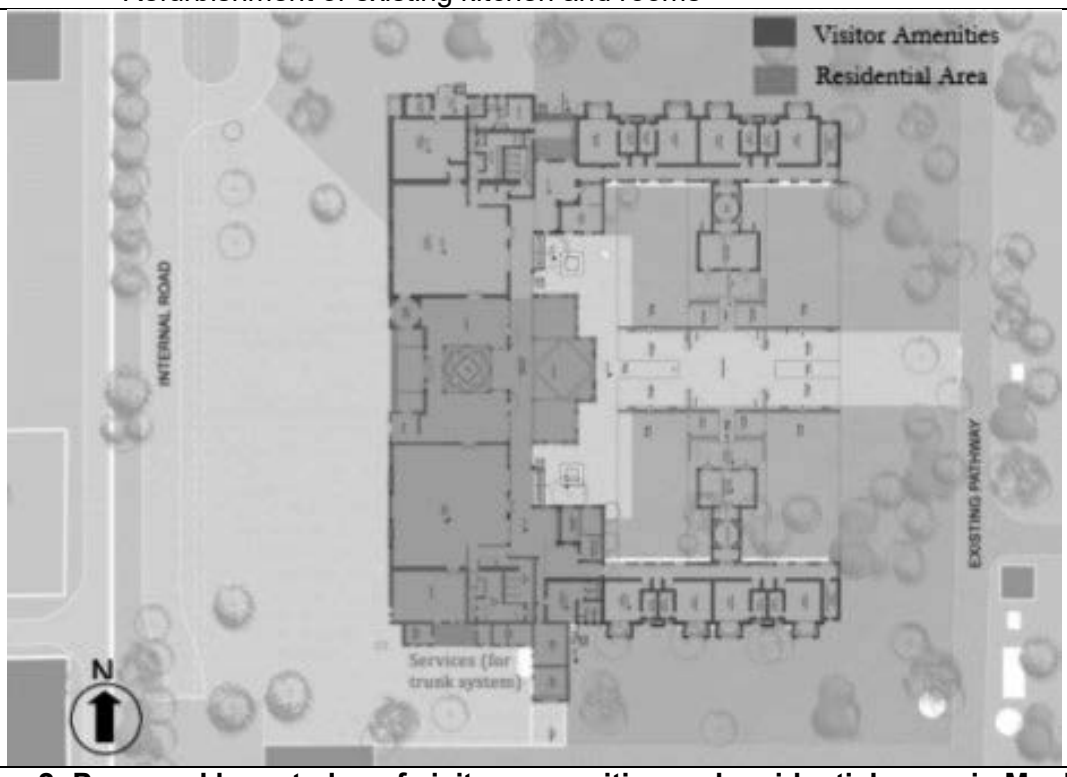


Figure 2: Proposed layout plan of visitors amenities and residential areas in Maulsari

34. These areas are being developed so as to provide the facilities which are essential from the perspective of institutional use. The studio shall be used for the demonstration purposes.

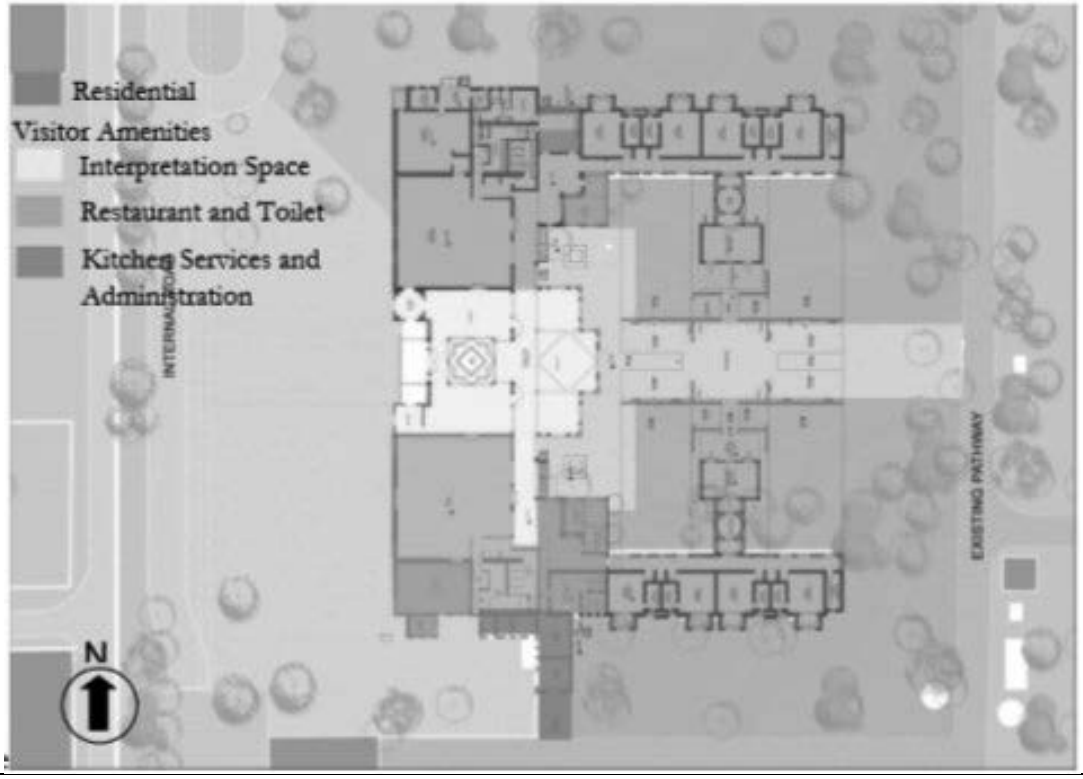


Figure 3: Layout Plan of visitors amenities in Maulsari

C. Implementation Schedule

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

III. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

A. ADB Policy

36. 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.

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

- **Category A.** Projects could have significant adverse environmental impacts. An EIA is required to address significant impacts.

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

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

39. **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.

B. National and State Laws

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

41. The realm of environmental regulations and mandatory requirements for the proposed sub-project is shown in **Table 1**. The Environmental Impact Assessment (EIA) notification, 2006 by the Ministry of Environment, Forest and Climate Change (MoEF& CC, GoI) specifies the mandatory environmental clearance requirements. Accordingly, projects and activities are broadly categorized in two categories[2] - Category A and Category B,

[2]All projects or activities included as Category 'A' in the Schedule, including expansion and modernization of existing projects or activities and change in product mix, will require prior environmental clearance from the Central Government in the Ministry of Environment, 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, *will* require prior environmental clearance from the State/Union territory Environment Impact Assessment Authority (SEIAA). The SEIAA shall base its decision on the recommendations of a State or Union territory level Expert Appraisal Committee (SEAC) as to be constituted for in this notification. In addition, General Condition (GC) of the notification specifies that any project or activity specified in Category 'B' will be treated as Category A, if located in whole or in part within 10 km from the boundary of: (i) Protected Areas notified under the Wild Life Protection) Act,

based on the spatial extent of potential impacts and potential impacts on human health and; natural and man-made resources.

Table 1: Environmental Regulatory Compliance

Sub-Project	Applicability of Acts/Guidelines	Compliance Criteria
Adaptive Reuse of Aam Khas Bagh and Interpretation Centre/Art and Craft Centre at Maulsari, Fatehgarh Sahib	The Environment Protection Act, 1986 - under EIA notification, 2006 (and its subsequent amendments in 2009) provides for categorization of projects into category A and B, based on extent of impacts.	The sub-project is not covered in the ambit of the EIA notification as they are not covered either under Category A or Category B of the notification. As a result, the categorization, and the subsequent environmental assessment and clearance requirements, either from the State government or the GoI is not triggered.
	ADB's Safeguard Policy Statement 2009	Categorization of 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 EE 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 areas within or in the vicinity of the subproject site
	The Forest Conservation Act, 1980 and its subsequent amendments necessitate obtaining clearance from the MoEF&CC for diversion of forest land for non-forest purposes.	Not applicable, the subproject site is not located within or in the vicinity of the forest area. Felling of trees are not envisaged in this sub-project implementation and hence tree felling/ cutting permission are not required
	Water (Prevention and control of pollution) Act, 1974 and; Air (prevention and control of pollution) Act, 1981	Consent to Establish (CTE) and Consent to Operate (CTO) has to be obtained by the Contractor from the PPCB for setting up of diesel generators and batching plant (if any), prior to the commencement of construction works. Apart from this the CTE and CTO are also required for stone crushers 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.	Some of the building structures of Aam Khas Bagh like the Palace, Chabutara, Sheehmahal, Navgraha, Hamam, Sardkhana, Daulatkhana, Hathikhana, Sarai wing, Main tank, Fountains, Wells and Water Channels are Punjab State Protected monuments. However, none of these structures are taken for restoration works under this project (Refer **Annexure 3**). Maulsari is the new component added in Aam Khas Bagh and is not protected under

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
		any of these acts. Therefore, no clearance is required from ASI or State Archeology Department.

42. 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 subproject components will not require consent/ clearances from Competent Authorities. Therefore, any further approvals or clearances from the GoI or GoP are not envisaged. The ADB guidelines, stipulate addressing environmental concerns, if any, of a proposed activity in the initial stages of Project preparation. For this, the ADB Guidelines categorizes the proposed components into categories (A, B or C) to determine the level of environmental assessment required to address the potential impacts. This subproject has been categorized as B. Accordingly this IEE has been prepared to address the potential impacts, in line with the recommended IEE content and structure for Category B projects.

IV. DESCRIPTION OF ENVIRONMENT

A. Physical Environment

a) Climate & Rainfall

43. The climate of the district is classified as tropical steppe, hot and semi-arid which is mainly dry with very hot summer and cold winter except during monsoon season The normal annual rainfall of the district is 692 mm that has been distributed over 28 days. Monsoon rainfall contributes to 79 % of annual rainfall in the district. The rainfall increases from southwest to northeast in the district. The temperature ranges from 45°C (in May/June) to 4°C in December/January.

b) Geology & Soil

44. Fatehgarh sahib district falls in Satluj Doab between River Satluj& Yamuna. The Doab form part of Indo - Gangetic alluvial plains. Elevation of land surface ranges from 285m (msl) in the north east to 246 m (msl) in south to south west direction.

45. The topography of the district is even. The general slope in the district is towards south to south west direction with an average gradient of 0.4 m per km. Soils in the district are loamy sand at the surface and calcareous sandy loam in subsurface layers. Sand constitutes 80% in the soil profile. Silt constitutes 11% and clay 9% in the soils. The district is mostly a plain of alluvial type. It also has loam to heavy loam and sand to sandy loam soils in certain parts of the district. Soil is rich in nutrients and suitable for crops like wheat, Paddy, Oil seeds, Sugar Cane, Potato and vegetables etc.

c) Surface water

46. There are two streams (Patiali-ki-Rao and Sirhind Choe) which drain the area. Patiali-ki-Rao drains the eastern part of the district whereas; Sirhind Choe drains central and western part of the district. River Satluj was flowing through the district in the past. The paleo channels of River Satluj exist in the district.

d) Ground Water

47. Water bearing formations in the area mainly include fine to medium grained sand or sand with little admixture of clay. At shallow depth the ground water occurs under unconfined water table conditions and in deeper aquifers occurs under confined conditions. The depth to ground water table in the area ranges from 4.05 m below ground level (mbgl) in the central to 18.10 mbgl in the north eastern parts. The quality of ground water in shallow aquifers confirm to maximum permissible limits for drinking water standards except along western part where high values of fluoride (1.5 to 2.10 ppm) have been noticed and in central

Fatehgarh Sahib showing high values of sodium, zinc, iron, sulphate, nitrate and chloride. The deeper waters in general are found to be suitable for irrigation and domestic purposes.

e) Ambient Air and Noise Quality

48. The ambient air and noise quality for the subproject area has been established by using the air and noise quality monitoring information, which was conducted under IDIPT from existing projects at Aam Khas Bagh in Fatehgarh District. The monitored results are shown in the **Table 2 & 3**.

Table 2: Ambient Air Quality of Fatehgarh Sahib (Under IDIPT, Punjab)

Parameters	Mehtab Bagh, Aam Khas Bagh, dtd. 05.08.2016	Old Hotel (Maulsari), Aam Khas Bagh, dtd. 05.08.2016	Navgrah, Aam Khas Bagh, dtd. 05.08.2016	Standards (as per CPCB notification 18.11.2009)	
				Industrial, Residential, rural and other areas (24 hours basis)	Ecologically sensitive areas
$PM_{2.5}$ ($\mu g/m^3$)	23.75	25.00	28.75	60	60
PM_{10} ($\mu g/m^3$)	62.16	65.72	59.76	100	100
CO (mg/m^3)	0.74	0.79	0.70	2.0 (8 hours basis)	2.0
SO_x ($\mu g/m^3$)	11.33	10.36	9.27	80	80
NO_x ($\mu g/m^3$)	21.80	25.15	23.63	80	80

Source: IDIPT, PIU, Rupnagar

Table 3: Ambient Noise Quality of Fatehgarh Sahib (Under IDIPT, Punjab)

Parameters	Mehtab Bagh, Aam Khas Bagh, dtd. 05.08.2016	Old Hotel (Maulsari), Aam Khas Bagh, dtd. 05.08.2016	Navgrah, Aam Khas Bagh, dtd. 05.08.2016	Standards (as per the Noise Pollution (Regulation and Control) Rules 2000)		
				Residential	Commercial	Industrial
Noise level in day time dBA, L_{eq}	59.7	57.2	59.7	55	65	75

Source: IDIPT, PIU, Rupnagar

49. From the observation, it is 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, the increase in noise level is due to the movement of traffic in the highways, which is located close to the subproject area.

B. Ecological Environment

50. ***Forests:*** Fatehgarh Sahib district does not have abundant forest resource. An area of 20 sq. km. is covered under protected forests, which is only 0.40% of the total forest area of the State.

40. ***Flora:*** In Fatehgarh Sahib district, the floral diversity consists of scattered Khair (*Acacia catechu*), Chhal (*Anogeisus latifolia*), Kikar (*Acacia nilotica*), Ber (*Zizyphus mauritiana*), shisham (*Dalbergia sisoo*),neem (*Azadirachta Indica*), mango(*Mangifera indica*), dhak (*Butea monosperma*) etc. There are no endangered floral species that have been recorded.

51. ***Fauna****:* The common animals found near the subproject areas are- Five stripped palm squirrel (*Funambulus pennanti*), Common mongoose (*Herpestes edwardsi*), Hare (*Lepusnigricollis*), Myna (*Acridotheres tristis*), Bluerock pigeon (*Columba livia*), Woodpecker (*Dinopium benghalense*), Parrot (*Psittacula krameri*), House crow (*Corvus splendens*), Common garden lizard (*Calotes vesicolor*), Dog(*Canis lupus*), Goats (*Capra*

aegagrushircus), Cat (*Felis cattus*), Buffaloes (*Bubalus bubalis*), Toads (*Bufo malanostictus*) and Bull frog (*Rana tigrina*).There are no endangered faunal species that have been recorded.

52. **Protected Areas.** There are no protected ecological areas (national parks, sanctuaries, wetland etc.) in the vicinity of the subproject site.

C. Socio Cultural and Economic Environment

f) Demographic profile

53. As per 2011 Census, the Punjab population is 2.77 crores, which shows an increase in the population in comparison with the 2001 Census (2.44 crores). Total population of the Fatehgarh Sahib District is 600,163 in 2011 which was 538,470 in 2001. However, the district population growth shows a down trend in Average Annual Growth Rate (AAGR).Population details of the district are shown in **Table 4**.

Table 4: Population Data of Fatehgarh Sahib District

Description	2011	2001
Actual Population	600,163	538,470
Male	320,795	290,370
Female	279,368	248,100
Population Growth	11.46%	18.26%
Area Sq. Km	1,180	1,180
Density/km2	509	456
Proportion to Punjab Population	2.16%	2.21%
Sex Ratio (Per 1000)	871	854
Child Sex Ratio (0-6 Age)	842	766
Average Literacy	79.35	73.60
Male Literacy	83.33	78.30
Female Literacy	74.80	68.30
Total Child Population (0-6 Age)	63,271	0
Male Population (0-6 Age)	34,340	0
Female Population (0-6 Age)	28,931	0
Literates	426,033	0

Source: Compiled from Census of India 2001 and 2011

54. **Population density.** Population density of Punjab is 551 people per sq.km in 2011. Population density of Fatehgarh Sahib is 509 people per sq.km in 2011, which is higher than the value of 2001 census (456 Sq.km).

55. **Literacy rate.** The average literacy rate for the Fatehgarh Sahib district is 79.35% 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%).

56. **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 Fatehgarh Sahib District it was 871 females per 1000 males, which is higher than the 2001 figures (854 females per 1000 males).

57. **Employment.** Agriculture is the main occupation of people of Fatehgarh Sahib in the rural areas of the district. There are some industries in urban areas where workers are employed from nearby villages and towns.

58. **Agriculture.** The principal kharif crops are paddy, cotton, maize and sugarcane; subsidiary crops are kharif vegetables, such as ladyfinger, cauliflower, tomato, brinjal, cucurbits, kharif pulses and fruits. The principal rabi crops are wheat, gram, barley etc.

Wheat, Maize, Rice and Bajra are the important cereals of the district. Wheat dominates the production among overall crop pattern, while cotton is the major cash crop which is produced. Groundnut, Sugarcane and Potatoes are other crops. The principal rabi oilseeds (sarson, toramira, alsi and toria), and winter vegetables such as peas, turnip, radish, carrots and lobia.

g) Industrial profile

59. In Fatehgarh Sahib there are 4 Large Scale Industries.

1. M/s. Punjab Agri Vents Ltd., Bara Farm, G.T. Road, Sirhind
2. M/s. Lakshmi Energy and Food Ltd., Chandigarh-Ludhiana Highway
3. M/s. Kandhari Beverages Pvt. Ltd., Vill. Nabipur, PO Sadhugarh
4. M/s. Nahar Industries Enterprises Ltd., Mandi Gobindgarh.

60. The major investment in large sector is in agro & food sector for which bulk purchases are made from local suppliers. There are a total of 8 listed medium Scale industries and other small scale industries in the district, which produces goods & services pertaining to different industrial groups such as Food & Beverages, Readymade Garments & Hosiery, Wooden Products, Paper Products & Printing, Leather Goods, Rubber & Plastic Products, Chemical & Chemical Products, Non-metallic Mineral Products, Mechanical Products, Electrical Machinery & Apparatus, Machinery & Parts, Repair & Services and Transport Equipment & Parts etc.

V. ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

61. The assessment of environmental impacts for the proposed interventions under this package has been carried out during the following stages of the project planning and implementation:

Location impacts. Impacts associated with site selection, including impacts on environment and resettlement or livelihood related impacts on communities.

Design impacts. Impacts arising from project design, including the technology used, scale of operations etc.

Construction impacts. Impacts resulting from construction activities including site clearance, earthworks, civil works, etc.

O&M impacts. Impacts associated with the operation and maintenance of the infrastructure built in the project.

62. **Location impacts:** The proposal envisages minor construction activities that are related to the renovation and improving the basic amenities of the existing buildings. This would result in some environmental impacts that are typical to small construction activity of this type. The proposed site i.e. Maulsari is under the Department of Cultural Affairs, Archaeology and Museums, Govt. of Punjab and hence there are no Land acquisition and encroachments, the site is free from encumbrances.

- The subproject sites are located in the urban areas of town with easy access therefore there will be no problem for movement of construction equipment and vehicles.
- 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 of water for construction will be made through existing bore wells or through mobile water tankers.

63. **Land Acquisition and Resettlement and cultural Impacts.** The asset owner for the subproject is 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 does not result in any physical or economic displacement due to involuntary acquisition of land, or involuntary restrictions on land use or access to the site. As per the requirement, the project site shall be handed over to the IDIPT before start of the construction works (Refer **Annexure 3** for NOC).

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

- Shaded courtyards are used for natural cooling and ventilation.
- The local burnt brick and wood materials shall be used for design works; traditional lime plaster shall be used in the place of cement.
- Brick domes shall be used that help in minimizing steel and cement consumption and also help in dissipating heat, thereby reducing the heat gain of the building and eliminating need for air conditioning.
- Mud 'kulhars' by local artisans and waste, broken tiles recovered on site shall be used for terracing. This would further reduce the heat gain into the building as well as for making use of waste products on site.
- Use of pergola with creepers along the entrances to protect against the harsh sun and minimize heat gain.
- Provision for rain water harvesting through 'parnalas' and PCC spouts to collect and redirect water from roof to planter beds.
- Solar energy will be used for the lighting and ventilation.

65. 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 detailed project report.

A. Assessment of Environmental Impacts

66. **Determination of Area of Influence.** The primary impact areas are (i) site 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 area outside the delineated primary impact area; and (ii) entire Fatehgarh Sahib town in terms of over-all environmental improvement.

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

B. Pre-construction Impacts and Mitigation Measures

68. **Consents, permits, clearances, no objection certificate (NOC), etc.** For the proposed works NOC from the concerned authority (Department of Cultural Affairs, Archaeology and Museums, Govt. of Punjab) is obtained during preliminary design stage (**Refer Annexure 3).**Consents and permits for procurement and transportation of materials, NOC for construction camps/labour camps etc will be required before construction starts. Failure to obtain necessary consents, permits, NOCs, etc. can result to design revisions and/or stoppage of works.

69. **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 from the Department of Cultural Affairs, Archaeology and Museums, Govt. of Punjab (Assets owners) have been obtained and enclosed in **Annexure 3.**
- 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

70. **Social and Cultural Resources.** There is a risk that any work involving ground disturbance can uncover and damage archaeological and historical remains. For this subproject, excavation work is not envisaged and hence there will be no risk which is foreseen for any cultural resources.

71. **Sites for construction work camps and areas for stockpile, storage and disposal.** Within the proposed sub-project sites and in the adjacent areas, there is enough space for establishment of construction camp including labour camp. Nevertheless, if contractor want to establish these facilities in other areas, 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, 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. Sample waste/spoils management plan is attached in the **Annexure 4.**
- 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.

72. **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. Therefore contractor should take following mitigation measures:

- 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

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

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

C. Anticipated Construction Impacts and Mitigation Measures

74. The proposed subproject components are limited to the renovation/ rearrangement in the existing buildings (Maulsari) for providing visitors amenities and residential facilities. The construction activities also include area improvement, parking and other related works. The proposed construction activities do not have major construction impacts.

75. The environmental impacts during the proposed construction works are generic to the minor construction activities of this type and not expected to be significant. The EMP specifies the necessary mitigation measures that are to be strictly followed by the contractor and supervised by the DSC. Key impacts during construction are envisaged on the following aspects: (i) transportation of materials, (ii) dust generation, air and noise pollution from construction activities, (iii) handling of construction materials at site and, (iv) adoption of safety measures during construction.

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

77. The infrastructures will be constructed manually according to design specifications. Demolished materials will be reused to the maximum extent possible. Construction 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.

78. 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 has to obtain prior permission and needs to remove all construction and demolition wastes on a daily basis.

79. The proposed subproject interventions are minor restoration works 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 in the EMP.

80. **Impacts on Water Quality.** There are no natural surface water sources near or adjacent to sites. Therefore there are no impacts on water quality.

81. **Impacts on Air Quality.** There is a potential for an increase in dust particularly during summer/dry season due to the construction activities including stockpiling of construction materials. Secondary air pollution may occur due to emissions from vehicles transporting workers, construction materials and debris/materials that are to be disposed, which may cause an increase in air pollutants outside the construction zone. These are inherent impacts which are of low magnitude, short in duration and can be easily mitigated. Therefore, the contractor will be required to:

- Conduct regular water spraying on earth piles and sand piles.
- Conduct regular visual inspection throughout the construction sites to ensure that there are no excessive dust emissions.
- 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 crushers, diesel generators, etc., if they are to be used in the subproject.
- Ambient Air Quality (AAQ) monitoring has to be performed as per the Environmental Monitoring Program.

82. **Noise and Vibration Impacts.** Most of the construction activities shall be done manually without involving heavy equipment's and hence the chances for noise and vibration

impacts are not envisaged. Nevertheless the contractor will be required to:

- Limit construction activities in daytime only.
- Plan activities in consultation with the PIU/DSC so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance.
- Minimize noise from construction equipment by using vehicle silencers and fitting jackhammers with noise-reducing mufflers.
- Inform drivers that horns are not to 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 PIU/DSC:
    - Locate stationary construction equipment as far as possible from nearby noise-sensitive properties.
    - Shut off idling equipment.
    - Reschedule construction operations to avoid period of noise annoyance as identified in the complaint.
- Follow Noise Pollution (Regulation and Control) Rules, day time ambient noise levels should not exceed 65 dB(A) in commercial areas, 55 dB(A) in residential areas, and 50 dB(A) in silence zone[3]
- Ensure vehicles comply with Government of India noise limits. The test method to be followed shall be IS:3028-1998.
- Ambient Noise levels have to be monitored as per the Environmental Monitoring Program

83. **Impacts on Flora and Fauna.** As per detail design, 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. Therefore no impacts on flora and fauna are envisaged. 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 a minimum ratio of 2 trees for every 1 tree that are being cut, if any. Replacement species must be approved by District Forest Department.

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

- Ensure no damage to structures/properties near construction zone.
- Provide walkways and metal sheets where required to maintain access of people and workers.
- Provide sign boards to inform nature and duration of construction works and contact numbers for concerns/complaints.

[3]Day time shall mean from 6.00 am to 10.00 pm. Silence zone does an area comprise 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.

- Implement good housekeeping. Remove wastes immediately. Prohibit stockpiling of materials that may obstruct/slow down pedestrians and/or vehicle movement.
- Coordinate with DSC for transportation routes and schedule. Schedule transport and hauling activities during non-peak hours.
- 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 the chance finds are cleared by experts.

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

- Prepare and implement a waste management plan.
- Manage solid waste according to the following hierarchy: reuse, recycling and disposal. Include in waste management plan designated/approved disposal areas.
- Coordinate with Municipal Authorities for beneficial use of demolished materials or to dispose to designated areas.
- Recover used oil and lubricants and reuse; or remove from the sites.
- Avoid stockpiling and remove 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.

86. **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 (this can be downloaded fromhttp://www1.ifc.org/wps/wcm/connect/9aef2880488559a983acd36a6515bb18/2%2BOccupational%2BHealth%2Band%2BSafety.pdf?MOD=AJPERES).The contractor will be required to:

- Prohibit worker exposures to noise level greater than 85 dBA for duration of more than 8 hours per day without proper 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 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 mobile 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.

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

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

88. 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.

D. Post-Construction Impacts and Mitigation Measures

89. 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 and dispose in designated disposal sites after completion of construction.
- Monitor survival of all plantations, re-vegetation and tree re-planting.
- Request in writing from PIU/DSC that construction zones have been restored.

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

90. 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 – implementation of speed restrictions, provision of appropriate road signage and maintenance of access roads - Shall be addressed by O&M authority
- Increase demands for services – Shall be addressed by the O&M authority
- Increase solid waste generation – O&M authority/Municipal Corporation (MC) to put in place solid waste management programs.

VI. INFORMATION DISCLOSURE, CONSULTATION AND PARTICIPATION

A. ADB Disclosure Policy

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

92. 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 preliminary design work with the key stakeholders particularly with asset owners/facility users and visitors, and secondly to discuss mitigating measures and get concurrence of stakeholders.

B. Process for Consultation followed

93. During the project preparation, consultations have been held with the Department of Tourism, tourists visiting Aam Khas Bagh, District Administration, District Municipal Authorities, local community representatives and tourism officers regarding issues pertaining to the selection of subprojects and identification of key issues including addressing the current gaps in provision of basic services and improvement of tourist infrastructure. Records of the consultations are provided in **Annexure 5.**

C. Plan for Continued Public Participation

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

95. 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.

96. 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, Rupnagar; (iii) Office of the District Commissioner, Fatehgarh Sahib District (iv) District/Public libraries of the Chandigarh/Fatehgarh Sahib 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

97. 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.

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

A. Composition and Functions of GRC

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

100. **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.

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

102. **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).

B. Approach to GRC.

103. 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.

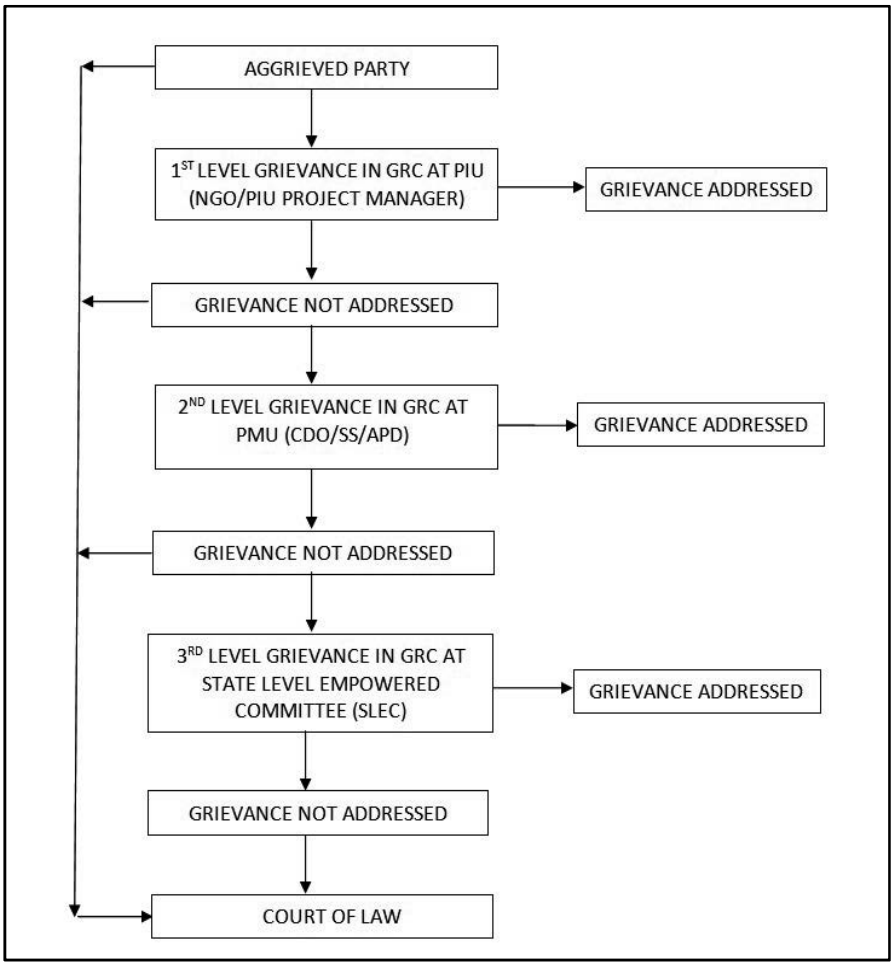


Figure 4: Grievance Redress Mechanism in IDIPT, Punjab

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

104. 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.

105. 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.

106. The contractor will be required to (i) establish an operational system for managing environmental impacts (ii) carry out all of the monitoring and mitigation measures set forth in the EMP; and (iii) implement any corrective or preventative actions set out in safeguards

monitoring reports that PMU and PIU will prepare from time to time to monitor implementation of this IEE and EMP. The contractor shall allocate a budget for compliance with these EMP measures, requirements and actions.

A. Responsibilities for EMP Implementation:

107. 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 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 and supervision of the PIU and DSC. The environmental related mitigation measures will also be implemented by the contractor.

108. 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

Box 1: Terms of Reference of Safeguards Specialist – PMU
the same to the Project Director, and initiate necessary follow-up actions • Provide support and assistance to the Government Agencies and the Asian Development Bank to supervise the implementation of the IEE during the construction as well as operation stage of the project • Document the good practices in the project on incorporation and integration of environmental issues into engineering design and on implementing measures in the construction, and dissemination of the same

Box 2: Terms of Reference of Safeguards Specialist (Environment) of DSC
• To prepare the IEE document and ensure adequacy under ADB SPS, 2009. • Interact on a regular basis with the sector specialists of the DSC and integrate environmentally sound practices into the detailed design of project components. • Advise PMU/PIU for compliance with statutory clearances. • Work out the site specific mitigation measures for components as required and integrate the same into contractual provisions. • Develop, organise and deliver environmental training programmes and workshops for the staff of the PIU and Contractors and in accordance to the Capacity Building Programme as specified in the IEE. • Preparation of Activity Plans as identified in IEE (these include Site Management Plans, Waste Management Plans, Sludge Management and Disposal Plans, Occupational Safety Plans etc). • 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.

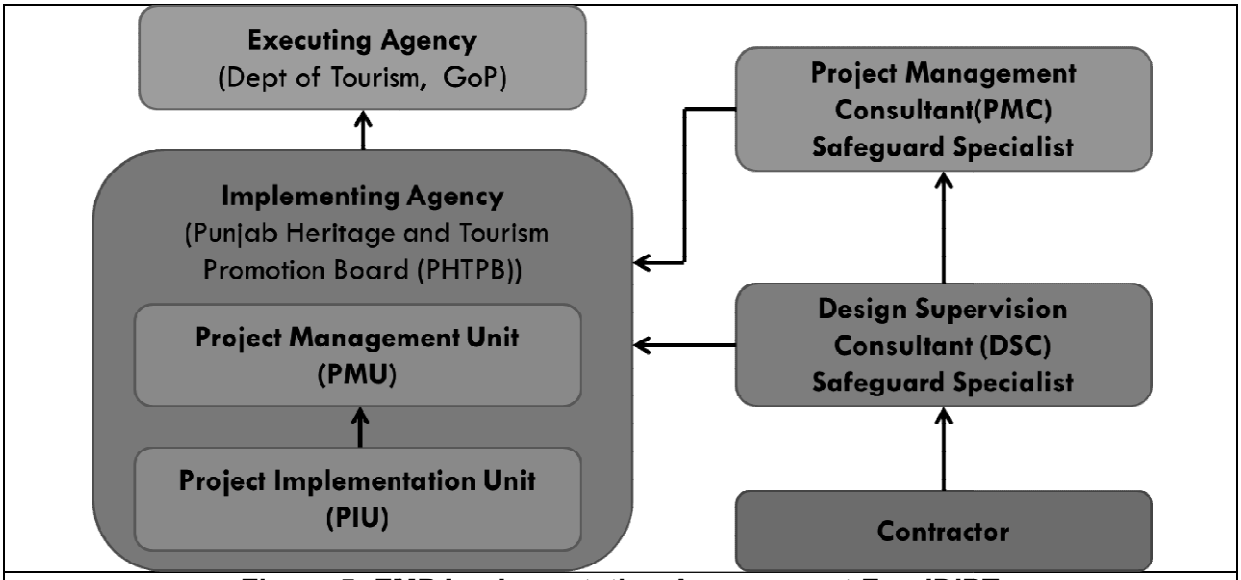


Figure 5: EMP Implementation Arrangement For IDIPT

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

110. **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.

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

B. EMP Tables

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

Table 5: Pre-Construction EMP Table

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 have been obtained and enclosed as **Annexure 3**)	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 all obtained consents, 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	Baseline environmental profile including ambient air, noise, water quality as per the standards	Contractor	PIU and DSC supported by PMU and PMC	Once during detailed design by DSC	PMU
Utilities	Identify and include locations and operators of these utilities in the detailed design documents to prevent unnecessary disruption of services during the construction phase. Require contractors to prepare a contingency plan to include actions to be done in case of unintentional interruption of services. Obtain from the PIU and/or DSC the list of affected utilities and operators; If relocations are necessary, contractor will coordinate with the providers to relocate the utility.	List showing utilities to be shifted Contingency plan for services disruption	DSC to prepare preliminary list and maps of utilities to be shifted During detailed design phase, contractor to prepare list and operators of utilities to be shifted; contingency plan	PIU and DSC supported by PMU and PMC	Once during detailed design by DSC	DSC – preliminary design stage Contractor – implementation stage
Sites for	Will not promote instability and result in	List of pre-approved	DSC to prepare list	PIU and DSC	Once during detailed	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds
construction work camps, areas for stockpile, storage and disposal	destruction of property, vegetation, irrigation, and drinking water supply systems, etc. Residential areas will not be considered so as to protect the human environment (i.e., to curb accident risks, health risks due to air and water pollution and dust, and noise, and to prevent social conflicts, shortages of amenities, and crime). Disposal will not be allowed near sensitive areas which will inconvenience the community. The construction camp, storage of fuel and lubricants should be avoided at sensitive zones. The construction camp site should be finalized in consultation with DSC and PIU.	sites for construction work camps, areas for stockpile, storage and disposal Waste management plan	of potential sites DSC to inspect sites proposed by contractor if not included in pre-approved sites		design by DSC	
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	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
	activities and tasks associated with the project. Include in H&S plan measures such as: (i) type of hazards in the construction site; (ii) corresponding personal protective equipment for each identified hazard; (iii) H&S training for all site personnel; (iv) procedures to be followed for all site activities; and (v) documentation of work-related accidents. 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 6: EMP Table during Construction Phase

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
Impacts on water quality	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 PMU, PIU, PMC and/or	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 tarpaulins or plastic sheets.	Visual inspection				
	Re-use/utilize, to maximum extent possible, excavated materials.	condition in waste management plan				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	Dispose any residuals at identified disposal site (PIU/DSC will identify approved sites).	condition in waste management plan			DSC	
	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 “pollution under control” certificate from PPCB.	PUC certificates				
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	Contractor

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	Minimize noise from construction vehicles by using vehicle silencers and other equipment with noise-reducing mufflers.	Direct Observation and feedback from receptors within direct and direct impact zone			during noise-generating activities and if corrective action is required) Random inspection by PMU, PIU, PMC and/or DSC	
	Avoid loud random noise from sirens, air compression, etc.	Direct Observation and feedback from receptors within direct and direct impact zone				
	Inform drivers that horns are not to 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 has 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: Shut off idling equipment. Reschedule construction operations to avoid periods of noise annoyance identified in the complaint. Notify nearby residents whenever extremely noisy work will be occurring.	Direct Observation and feedback from receptors within direct and direct impact zone				
Impacts on flora and fauna	Conduct site induction and environmental awareness. Strictly instruct workers not to cut trees for fuel wood Do not harm existing vegetation in the	IEE baseline information for flora and fauna for the subproject area	Contractor	PIU and DSC	Daily 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
	area except indicated in site plan				Weekly visual inspection by DSC (more frequent if corrective action is required) Random inspection by PMU, PIU, PMC and/or DSC	
	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 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	Contractor In coordination with PIU and DSC for any structures within proposed site and construction zone	PIU and DSC	Daily inspection by contractor supervisor and/or environment specialist Weekly visual inspection by DSC (more frequent if corrective action is required) Random inspection by PMU, PIU, PMC and/or DSC	Contractor
	Provide sign boards to inform nature and duration of construction works and contact numbers for concerns/complaints.	Sign board at site photo-documentation				
	Implement good housekeeping. Remove wastes immediately.	Visual inspection No stockpiled/ stored wastes				
	Ensure workers will not use nearby/adjacent areas as toilet facility.	Non complaints received Sanitation facilities for use of workers				
	Coordinate with PIU/DSC for transportation routes and schedule. Schedule transport and hauling activities during non-peak hours. Ensure heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites.	Approved routes in consultation with the PIU/ DSC				
	Provide instructions on event of chance finds for archaeological and/or ethno-botanical resources. Works must be stopped immediately until such time	Condition in chance find protocol				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	chance finds are cleared by experts.					
Impact due to waste generation	Prepare and implement a waste management plan. Manage solid waste according to the following hierarchy: reuse, recycling and disposal. Include in waste management plan designated/approved disposal areas. Coordinate with PIU/DSC for beneficial uses of excavated soils or immediately dispose to designated areas. 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.	condition in waste management plan	Contractor	PIU and DSC	Daily inspection by contractor supervisor and/or environment specialist Weekly visual inspection by DSC (more frequent if corrective action is required) Random inspection by PMU, PIU, PMC and/or DSC	Contractor
Impacts on occupational health and safety	Comply with all the legal requirements on Occupational Health and Safety	Visual inspection H&S Plan	Contractor	PIU and DSC	Daily inspection by contractor supervisor and/or environment specialist Weekly visual inspection by DSC (more frequent if corrective action is required) Random inspection by PMU, PIU, PMC and/or DSC	Contractor
	Disallow worker exposure to noise level greater than 85 dBA for duration of more than 8 hours per day without hearing protection. The use of hearing protection shall be enforced actively.	Visual inspection Work schedule Noise level monitoring in work area				
	Provide H&S orientation training to all new workers to ensure that they are apprised of the rules of work at the site, personal protective equipment, and preventing injury to fellow workers.	Records of H&S trainings Condition in H&S plan				
	Ensure that first-aid facility is available at site. Equipped first-aid stations shall be	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
	easily accessible 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				
	Provide appropriate Personal Protective equipment (PPEs) to all workers especially during work at height to ensure workers safety	Visual inspection for use of PPEs Records of PPEs Condition in H&S plan				
	Ensure mobile 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 and be well known to, and easily understood by workers, visitors, and the general public as appropriate.	Visible and understandable sign boards in construction zone H&S plan includes appropriate signs for each hazard present				
Impacts on socio-economic	Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for	Visible and understandable sign boards in	Contractor	PIU and DSC	Daily inspection by contractor supervisor	Contractor

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
activities	concerns/complaints.	construction zone			Weekly visual inspection by DSC (more frequent if corrective action is required) Random inspection by PMU, PIU, PMC	
	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 7: EMP Table during Post-Construction Phase

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
Solid waste (debris, excavated soils, etc.)	Re-establish the original grade and drainage pattern to the extent practicable. Restore access roads, staging areas, and temporary work areas. Remove all tools, equipment, barricades, signs, surplus materials, debris, and rubbish. Demolish buildings/structures not required for O&M. Dispose in designated disposal sites. Request in writing from PIU/DSC that construction zones have been restored.	Pre-existing condition Construction zone has been restored	Contractor	PIU and DSC PIU and DSC to submit EMP monitoring report to PMU	Visual inspection by contractor supervisor and/or environment specialist	Contractor
Generation of solid waste from the restaurant	Engage the local solid waste collector for disposal of waste (or) the collected solid waste shall be disposed in designated location as identified by the local panchayat/ municipalities.	Visual inspection and prevention of odour due to decomposition of the waste	PMU	PMU	PMU	PMU
Lack of maintenance of the lavatory facility	The sewerage network should be inspected to remove materials that may clog the drain	Visual inspection and Clogging of drain	PMU	PMU	PMU	PMU

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

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

Table 8: Site- and Activity-Specific Plans/Programs as per EMP

To be Prepared During	Specific Plan/Program	Purpose	Responsible for Preparation	Responsible for Implementation
Detailed Design Phase	Environmental monitoring program as per detailed design	Indicate sampling locations, methodology and parameters	DSC	Contractor under the supervision of the DSC
Detailed Design Phase	List showing utilities to be shifted	Utilities shifting	PIU/DSC during preliminary stage Contractor as per detailed design	Contractor under the supervision of the DSC
Detailed Design Phase	Contingency plan	Mitigate impacts due to interruption of services during utilities shifting	Contractor	Contractor under the supervision of the DSC
Detailed Design Phase	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

114. 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.

115. **Table 9** provides the indicative environmental monitoring program which includes relevant environmental parameters, with a description of the sampling stations, frequency of monitoring, applicable standards, and responsibility. This will be updated during detailed design to ensure EMP and monitoring program is commensurate to the impacts of the subproject.

Table 9: Indicative Environmental Monitoring Program

S.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	Maulsari (in Aam Khas Bagh)	24 hours (Once before start of the construction)	PIU
		Construction	Particulate matter	Maulsari (in Aam Khas Bagh)	24 hours (quarterly	Contractor

S.no	Field	Phase	Parameters	Locations	Frequency	Responsibility
			(PM_{10}& $PM_{2.5}$), SOx, NOx, CO		except monsoon season)	
2.	Noise	Pre-construction (before commencement of civil works)	Day time dB(A)	Maulsari (in Aam Khas Bagh)	24 hours Once before start of the construction	PIU
		Construction	Day time dB(A)	Maulsari (in Aam Khas Bagh)	24 hours (quarterly except monsoon season)	Contractor

X. CAPACITY BUILDING

116. The Environmental Specialist of the DSC will provide the basic training required for environmental awareness followed by specific aspects of Infrastructure Improvement Projects along with Environmental implications for projects. Specific modules customized for the available skill set will be devised after assessing the capabilities of the members of the Training Programme and the requirements of the project. The entire training would cover basic principles of environmental assessment and management; mitigation plans and programmes, implementation techniques, monitoring methods and tools. The proposed training program along with the frequency of sessions is presented in **Table 10** below. This training program is intended for the entire destination and is not just specific to this package.

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

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

117. As part of good engineering practices in the project, there have been several measures as safety, signage, dust suppression, procurement of personal protective equipment, provision of drains, etc. and the costs for which will be included in the design costs of specific subprojects. Therefore, these items of costs have not been included in the

IEE budget. Only those items not covered under budgets for construction are considered in the IEE budget.

118. Proposed works comprises relatively of 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.

119. The costs of water sprinkling for dust suppression and providing personal protective equipment to construction workers shall borne by contractor as part of conditions of the contract. In addition the sources of funds for Mitigation measures during construction stage including monitoring during construction stage are also to be borne by the contractor. These are deemed to be included as part of the contract price amount quoted by the contractor for the works. The costs of components for monitoring in operation stage and the capacity building costs are to be funded by the PMU. The EMP cost is given in the **Table 11** below.

Table 11: Indicative EMP Budget

S.N.	Particulars	Stages	Unit	Total number	Rate (INR)	Cost (INR)	Source of fund
A. Monitoring Measures							
1	Air quality monitoring	Detailed design	Per sample	1	10,000	10,000	PMU
2	Noise Levels	Detailed design	Per location	1	4,000	4,000	PMU
3	Ambient Air Quality	Construction	Per Sample	5	10,000	50,000	Contractor budget
4	Ambient Noise Quality	Construction	Per Sample	5	4,000	20,000	Contractor budget
Sub- Total (A)						**84,000**	
B.	**Capacity Building – Training cost**						
1	Sensitization Workshop	Pre-Construction	L.S			1,50,000	PMU
2	Training Session I	Construction	L.S			1,50,000	PMU
3	Training Session II	Construction	L.S			1,50,000	PMU
Sub -Total (B)						**4,50,000**	
Total (A+B) INR						**5,34,000**	

XII. FINDINGS AND RECOMMENDATIONS

120. 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 demolition, loading and unloading 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.

121. The EMP has been designed to address the impacts that are likely to arise during the pre-construction, 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 of PMU/PIU and contractors.

122. Mitigation will be implemented with the help of environmental monitoring program 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.

123. The implementation of the subproject will have positive impacts to the local people during the project construction stage by generating employment opportunity for skilled and unskilled labourers for 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 tourists thus it will have direct positive impact in the livelihood of the local people.

124. 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

125. The IEE carried out for the sub-project shows that the proposed interventions/ components will result in net environmental benefits and that any likely environmental impact can be addressed through proper planning and design of the proposed sub-project; control of construction activity and mitigation measures. The EMP provides 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 redressal in terms of environmental safeguards are known to exist at present.

126. 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: Adaptive Reuse of Aam Khas Bagh and Interpretation Centre/Art and Craft Centre at Maulsari, Fatehgarh Sahib

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

Sector Division: Urban Development.

Screening Questions	Yes	No	Remarks
A. Project Siting It is Project area adjacent to or within any of the following environmentally sensitive areas?			
▪ Cultural heritage site	✓		The subproject (Maulsari) is located within the Aam Khas Bagh premises which is a cultural heritage monument protected by State Archaeological Department
▪ Protected Area		✓	
▪ Wetland		✓	
▪ Mangrove		✓	
▪ Estuarine		✓	
▪ Buffer zone of protected area		✓	
▪ Special area for protecting biodiversity		✓	
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 are envisaged as the Maulsari is a new building and encroachments on historical/cultural areas are envisaged
▪ Encroachment on precious ecology (e.g. sensitive or protected areas)?		✓	Not envisaged as there are no protected or sensitive areas within or near the proposed sites
▪ Alteration of surface water hydrology of waterways crossed by roads, resulting in increased sediment in streams affected by increased soil erosion at construction site?		✓	Not envisaged as there are no 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 are no surface water source near the proposed sites
▪ Increased local air pollution due to rock crushing, cutting and filling works, and chemicals from asphalt processing?		✓	No such works are proposed

Screening Questions	Yes	No	Remarks
▪ Risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?	✓		Occupational health and safety risks for workers is envisioned during construction works
▪ 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?		✓	Construction works are not near the busy roads and no such impacts may arise
▪ Poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases (such as STI's and HIV/AIDS) from workers to local populations?		✓	The MSW generated in the construction 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 of the project are accessible to members of the affected community or where the failure could result in injury to the community throughout project construction, operation and decommissioning.		✓	No such impacts may arise

PRELIMINARY CLIMATE RISK SCREENING CHECKLIST FOR SAMPLE SUBPROJECT TOWNS

Screening Questions		Score	Remarks[4]
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 in the existing Maulsari building. The proposed renovation works includes area development, lighting, landscaping etc., hence the anticipated environmental impacts are very marginal and the construction activities does not impose any threat to the existing climatic conditions.

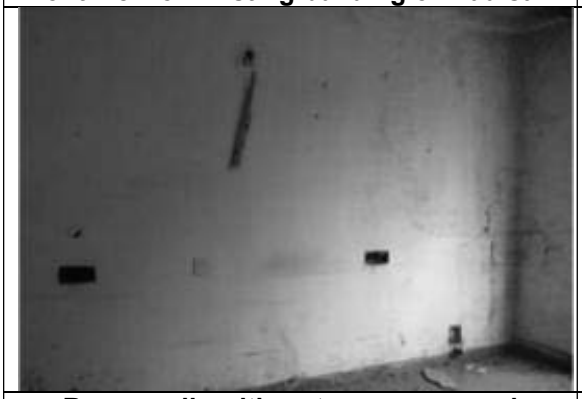
[4]If possible, provide details on the sensitivity of project components to climate conditions, such as how climate parameters are considered in design standards for infrastructure components, how changes in key climate parameters and sea level might affect the siting/routing of project, the selection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

Annexure-2

Photo Illustration

Front view of Existing building of Maulsari

Back view of Existing buildings of Maulsari



Room walls with water seepage and damaged electrical fittings

View of corridor

Conditions of existing toilets

Damaged front elevation of building

View of East and South wall of entrance hall

View of West Wall of entrance hall

Annexure-3

NO OBJECTION CERTIFICATE

It is certified that there is no objection if the proposed project Management and reuse plan of Aam Khas Bagh including Conservation of Boundary wall and Providing visitors facilities at arts and crafts centre (Maulari)
(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 Aam Khas Bagh, Distt Fatehgarh Sahib, Punjab.
(details of land/area/ building)

Place: Chandigarh

Date: 28/8/14

Signature .....
Department /owner

Director,
Cultral Affairs Archaeology &
Museums, Punjab, Chandigarh
(Official Stamp)

Counter Signed

Deputy Commissioner

(Official Stamp)

NoC from Department of Cultural Affairs, Archaeology and Museums, Govt. of Punjab

Annexure-4

Sample Outline of Spoil Management Plan (SMP)

1.0 Purpose and application:

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

2.0 Objectives of SMP:

The objectives of SMP are:

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

3.0 Structure of SMP:

Section 1: Introduction of SMP
Section 2: Legal and other requirements
Section 3: Roles and responsibilities
Section 4: Identification and assessment of spoil aspects and impacts
Section 5: Spoil volumes, characteristics and minimization
Section 6: Spoil reuses opportunities, identification and assessment
Section 7: On site spoil management approach
Section 8: Spoil transportation methodology
Section 9: Monitoring, Reporting, Review, and Improvements

4.0 Aspects and Potential Impacts

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

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

5.0 Spoil volumes, characteristics and minimization

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

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

5.3 Adopt Spoil Reduce, Reuse Opportunities

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

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

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

5.5 Storage and stock piling

5.6 Transportation and haulage route

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

Annexure-5

Public and Stakeholder Consultations

Proposed project site is under the Department of Cultural Affairs, Archaeology and Museums. Therefore the Department of Tourism is the primary stakeholder. Most of the stakeholder consultations were in form of formal and informal meetings and discussions within the department.

Some of the consultations were conducted at Maulsari. Report on these consultations are given below-

Meeting date: 5th April, 2016

Time: 3:00 pm

Venue: Maulsari, Aam Khas Bagh, Distt. Fatehgarh Sahib

Agenda: To discuss about the proposed scope of work at Maulsari.

Undertaken by: Abhay Srivastava, Meera Mathur, Safeguard Specialists, DSC

Following points were discussed:

1. The present status of ongoing project at Aam Khas Bagh was discussed with the contractor and DSC and PIU engineers.

2. Consultation was done with the visitors/tourists and they were informed about ongoing work at the site and also about the future scope of the work at Maulsari. They were also told about the benefits that the visitors are likely to avail in future.

3. The suggestions of tourists/visitors were also taken for the requirement of refurbishment works of Maulsari and necessary requirement of any other works in Maulsari.

Outcome of the consultation:

- The visitors appreciated the efforts extended by the Tourism Department in development of the area. They believed that as the Aam Khas Bagh is a historical place therefore this effort was quite necessary for the safeguard of our history and culture.
- The local visitors said that they have no grievances regarding the ongoing work at Aam Khas Bagh.
- Existing contractor, PIU and DSC officers informed that there are no disturbance from visitors or line agencies in the existing works and proposed works will also be expected to be undertaken smoothly.

PHOTOGRAPHS OF CONSULTATIONS

Consultations at Maulsari

Consultations near Aam Khas Bagh

Interaction with local residents

Attendance Sheet (Consultation at Aam Khas Bagh and Maulsari)

STAKEHOLDER'S CONSULTATION
ATTENDANCE SHEET

STAGE OF CONSULTATION (PROJECT DESIGN/ IMPLEMENTATION): Implementation

PROJECT AND PACKAGE: Imperial Highway heritage Conservation and visitor facility development at Aam Khas Bagh, Tombs of Fatehgarh Sahib

NAME OF THE PERSONS WHO MADE CONSULTATION: Mr. H.S. Dhillon (F.S), Ms. Sumati Bhaskar (GS), Mr. Kamaljeet (CDO),

DESIGNATION:

PROJECT OFFICE: PIU (Ropar)

S.No.	Name of the person consulted	Designation of the person consulted	Address of the person consulted	Issues Discussed	Outcome	Signature of the person
1	H.S. Dhillon	FS.	PIU - Ropar			[signature]
2	NAVRAJ BRAR	SPM, FGS	9888 888 802			[signature]
3	Ashish Choudhary	Site Engg (Contractor)	7087107754			[signature]
4	Tara Chand	Inspector	M.C. Sirhind-Fgs			[signature]
5	Dharminder Kumar	Jr Asstt	M.C. Sirhind			[signature]
6.	Harjit Singh	SE (DSC)	SE (DSC)			[signature]
7.	Dharminder Singh	Civil Engr.	PIU (Fatehgarh)			[signature]
8.	Savanpreet Kaur	CDS (DSC)	DSC, Ropar			[signature]
9.	Mamta Devi	S/M (PIU)	PIU Ropar			[signature]
10.	Manpreet Singh	SE (PIU)	PIU Ropar			[signature]
11	KamalJEET SINGH	CDO/PIU	PIU Ropar			[signature]
12.	Pardeep Singh	Supervisor	Competent Construction			[signature]
13	Jog Mohan	Supervisor	"			[signature]
14	Raju					[signature]
15	Laddi Raj					[signature]
16	Gurtej Singh					[signature]
17	[illegible] Singh					[signature]
18	Lakhwinder Singh					[signature]
19	[illegible]					[signature]

.No.	Name of the person consulted	Designation of the person consulted	Address of the person consulted	Issues Discussed	Outcome	Signature of the person
20	mohan					Mohan
21	रामलाल					रामलाल
22	Ramlal					Ramlal
23	रामआसरे					रामआसरे
24	सोनू					सोनू
25						धीरज
26	धीरज					पक्कू
27	पक्कू					
28	राजू					
30						
31.	बेसहारा					
32	गोदी					गोदी
33.	राजू					राजू
34	रमेश					रमेश
35	Ravi Kumar					Ravi Kumar
36	उपाध्याय					उपाध्याय
37						
38	असलम					
39						Shankar
40	शिवराम					
41	रविशंकर					3
42	ताराचन्द्र					
						राजपाल
43						संजय
44						
45						
46						

.No.	Name of the person consulted	Designation of the person consulted	Address of the person consulted	Issues Discussed	Outcome	Signature of the person
47	राधे श्याम					राधे श्याम
48	धर्मवीर					धर्मवीर
49	शशील					शशील
50	संजय					संजय
51	रामपाल					रामपाल
52	अखिल					अखिल
53	प्रकाश					प्रकाश
54	हरिराम					हरिराम
55	एस					एस
56	पप्पू					पप्पू
57	रवि					रवि
58	अज्ञानदास					अज्ञानदास
59	संतोष					संतोष
60	रामराम					रामराम
61	अशोक					अशोक
62	मोनू					मोनू
63	कलावती					कलावती
64	Rampal					Rampal
65	रेखा F					रेखा
66	पार्वती F					पार्वती
67	सविता F					सविता
68	रानी F					रानी
69	कमला F					कमला
70	पुष्पा F					पुष्पा
71	पुष्प F					पुष्प
72	सुहाग F					सुहाग
73	कमलावती F					कमलावती
74	गीता F					गीता
75	कमलवती F					कमलवती
76	प्रतिज्ञा F					प्रतिज्ञा
77	चमेली F					चमेली

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 Semi-Annual Environmental Monitoring Report Template

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

INTRODUCTION

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

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

COMPLIANCE STATUS WITH NATIONAL/STATE/LOCAL STATUTORY ENVIRONMENTAL REQUIREMENTS

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

COMPLIANCE STATUS WITH ENVIRONMENTAL LOAN COVENANTS

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

COMPLIANCE STATUS WITH THE ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN

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

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

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**