Initial Environmental Examination

Project Number: 40648-034
February 2017

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

Package : Restoration and Beautification of Ancient Temples and Surrounding Areas at Rampur Bushahar, Shimla (Package no. HPTDB/16/5)

Submitted by:

Program Management Unit, Tourism Development Board, IDIPT-Himachal Pradesh, Shimla

Asian Development Bank

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NK/W

No. IDIPT-HP/3223-IND/IEE/ Rampur/2016- 4891 **Dated** 03 **.02. 2017**
Project Director

To

The Country Director,
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ASIAN DEVELOPMENT BANK
INRM
COUNTRY DIRECTOR'S OFFICE
06 FEB 2017
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Kind Attn. Mr. Leonardus Boenawan Sondjaja (ADB)

Subject: **ADB Loan 3223-IND, IDIPT-HP, – Submission of revised Initial Environmental Examination for Restoration and Beautification of Ancient Temples and Surrounding Areas at Rampur Bushahar, Shimla under Tranche 3 – Regarding**

Ref: **ADB email dated 12 January, 2017 by Mr. Shanti Swaroop Singh, Project Analyst (Urban Sector) – Consultant, Asian Development Bank**

Madam,

This is with reference to the subject cited above. The Initial Environmental Examination (IEE) for Restoration and Beautification of Ancient Temples and Surrounding Areas at Rampur Bushahar, Shimla (Package no. HPTDB/16/5) under Tranche 3 has been revised. The compliance matrix is as below :

Sr. No.	ADB observations	Compliances
	Email dated 12 January, 2017 by Mr. Shanti Swaroop Singh, Project Analyst (Urban Sector) – Consultant, Asian Development Bank	
5	(i) the parking site proposed in Rampur is located 25 meters from the river Satluj (Para 18 page 9); and (ii) the parking site proposed at Sarahan is right on the bank of the	**Complied** As per final design, the actual distance of water bodies is as below; 1-The shortest distance from River edge to line of proposed retaining wall for proposed Rampur Parking

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Sr. No.	ADB observations	Compliances
	natural nallah (Para 19 page 9) and is currently being used as a dumping ground for the solid waste. Based on the above, please further revise the IEE report and the environmental implications associated with the proposed works and the likely impacts on the water bodies as well as the disposal of the dumped waste need to be considered and included in the revised IEE report.	is 30 Meter. 2-The shortest distance from seasonal Nallah edge to line of proposed Sarhan parking is 1.60 Meter. Described in the chapter V Environmental Impacts and Mitigation Measures in para nos. 83, 91 & 102 and Table 8, 9, 10 & 11

The revised IEE is enclosed. Kindly accord approval for the.

Enclosures: As Above

Regards,

Project Director,
IDIPT-HP.

Tourism Development Board
IDIPT-HP (ADB Loan No.2676-IND)
Project Management Unit
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No. IDIPT-HP/3223-IND/IEE-Rampur/2016- 4327 **Dated** 23.12. 2016

Project Director

To

The Country Director,
India Resident Mission,
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Kind Attn. Mr. Leonardus Boenawan Sondjaja (ADB)

Subject: **ADB Loan 3223-IND, IDIPT-HP, – Submission of revised Initial Environmental Examination for Restoration and Beautification of Ancient Temples and Surrounding Areas at Rampur Bushahar, Shimla under Tranche 3 – Regarding**

Ref: **ADB email dated 22nd November, 2016 by Mr. Vivek Vishal, Project Officer (Urban) Asian Development Bank, India Resident Mission**

Madam,

This is with reference to the subject cited above. The Initial Environmental Examination (IEE) for Restoration and Beautification of Ancient Temples and Surrounding Areas at Rampur Bushahar, Shimla (Package no. HPTDB/16/5) under Tranche 3 has been revised. The compliance matrix is as below :

Sr. No.	ADB observations	Compliances
1	**Point 1:** We note that six temples are located within 1 km radius of Rampur Bushahar parking site (environmental monitoring program, table 13, page 60) and please describe the same in project description chapter of IEE report;	**Complied** Described in the chapter II description of Project in para no. 33 supported by photographs of proposed sites in Fig. 2
2	**Point 2:** Please correct total twenty eight samples of ambient air quality, and ambient noise levels and	**Complied** We have earlier given thirty two

Sr. No.	ADB observations	Compliances
	fourteen samples of surface water quality testing (table 14, page 71) by thirty two samples of ambient air quality, and ambient noise levels and sixteen samples of surface water quality respectively. Please also correct the environmental monitoring cost accordingly;	samples of ambient air quality & ambient noise levels and sixteen samples of surface water quality in Table 14. However, as per our discussion we added one more location of ambient air and noise monitoring near cluster of temples falling within one km and present details are as under: 1. Dattatreya Temple 2. Rampur Bushahar Parking site at MC land (covering Ayodhyanath temple, Boudh Temple and JankimaiGufa Temple within 1 Km aerial distance) 3. Chuvacha Temple, Rampur Bushahar (covering Raghunath Temple and Narsingh Temple within 1 Km aerial Distance) 4. Bhimakali Parking, Sarahan 5. Bhimakali Temple, Sarahan Locations proposed for water quality monitoring are as under: 1. one from River Sutlej near Parking site at Rampur Bushahr 2. one from Natural nallah near proposed parking site at Bhimakali, Sarahan Total numbers of samples are now forty (40) for ambient air & noise monitoring and sixteen (16) for water considering once prior to construction, quarterly during construction and once during post-construction for 24 months period. Details are given in Table 13 & 15
3	**Point 3:** Please delete "at one site" from table 10 (page 49, and 50) of ambient air quality, and ambient noise levels monitoring; and	**Complied** Deleted as suggested
4	**Point 4:** We note that the public consultations have been carried out along the sub-projects and please provide the attendance sheets of these consultations in the report.	**Complied** Public consultations have been carried out at different sites. Records of consultations are supported by the attendance sheet and photographs given in Annexure-5

The revised IEE is enclosed. Kindly accord approval for the.

With Regards,

Project Director,
IDIPT-HP.

Enclosures: Initial Environmental Examination for Restoration and Beautification of Ancient Temples and Surrounding Areas at Rampur Bushahar, Shimla under Tranche 3

Environmental Assessment Document

Initial Environmental Examination

ADB Loan No. 3223–IND
Project Number: 40648

Tranche 3

Subproject- Restoration and Beautification of Ancient Temples and Surrounding Areas at Rampur Bushahar, Shimla (Package no. HPTDB/16/5)

January 2017

Prepared by the Government of Himachal Pradesh

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ABBREVIATIONS

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

EXECUTIVE SUMMARY

1. **Background.** The Infrastructure Development Investment Program for Tourism Financing Facility (the Facility) will develop and improve basic urban infrastructure and services in the four participating states of Himachal Pradesh, Punjab, Uttarakhand and Tamil Nadu to support the tourism sector as a key driver for economic growth. It will focus on: (i) strengthening connectivity to and among key tourist destinations; (ii) improving basic urban infrastructure and services, such as water supply, road and public transport, solid waste management and environmental improvement, at existing and emerging tourist destinations to ensure urban amenities and safety for the visitors, and protect nature and culture-based attractions. Physical infrastructure investments will be accompanied by: (iii) capacity building programs for concerned sector agencies and local communities for better management of the tourist destinations and for more active participation in the tourism-related economic activities, respectively.

2. Shimla has been primarily a tourist destination, since its discovery in 1819 and is today the most preferred tourist destinations in Himachal Pradesh especially during the summer months. The former summer capital of the British in India, and the present capital of Himachal Pradesh; Shimla has been blessed with immense natural bounties, it has got a scenic location, as it is surrounded by green hills with snow - capped peaks. Apart from the main market area, Shimla historic town is connected via major roads and streets which are not only the main circulation routes but also the best scenic walks of the city. These roads have either restricted vehicular movement or completely pedestrian movement which makes them witness a lot of tourist.

3. **Executing and implementing agencies.** The executing agency is the Dept. of Tourism and Civil Aviation, Himachal Pradesh. The implementing agency is Himachal Pradesh Tourism Development Board, Shimla. A Project Management Unit (PMU) is set up at Shimla to coordinate the overall execution. Project Management Consultant (PMC) at Shimla provides assistance to PMU in execution. Project Implementation Unit (PIU) established in Shimla to be supported by Design Supervision Consultant (DSC). The asset owner is the District Administration/ Bhimakali Temple Trust.

4. **Categorization.** The Subproject package HPTDB/16/5, Restoration and Beautification of Ancient Temples and surrounding areas at Rampur Bushahar in District Shimla is classified as Environmental Category B as per the SPS 2009 as no significant impacts are envisioned. Accordingly this Initial Environmental Examination (IEE) has been prepared and assesses the environmental impacts and provides mitigation and monitoring measures to ensure no significant impacts as a result of the subproject.

5. **Subproject Scope.** The major scope of work for this subproject as per Detailed Project Report is, Conservation and restoration for the ancient temple structures (Bhimakali Temple, Raghunath Temple, Narsingh Temple, Ayodhyanath Temple, Chuvacha Temple, Janki Mai Gufa Temple, Bouddha Temple & Dattatreya Temple) which will include complete conservation (involving structural, architectural interventions while retaining the historic authenticity and integrity and respecting the heritage value of the sites); Infrastructure Proposals like Electricity, Drinking Water, Structure/ Civil work repair and up gradation

(Some benches need to be built around the temple so that aged people and other visitors can rest for some time and spend their time in peace), Landscape, Pathway and Parking at Sarahan and Rampur.

6. Upgrading Urban Infrastructure by improving existing facilities in addition to new proposals for tourist facilitation; parking at Sarahan and parking at Rampur, Improvements to roads with appropriate design interventions by providing street furniture, landscaping where required, toilets, signage; Increase in outreach of local arts and crafts; Increase in income of local artisans/ SHGs, tour operators, taxi drivers, Hotels/ restaurants, cafeterias and shopkeepers.

7. **Description of the Environment.** The proposed subproject is located in Rampur Bushahar. Rampur Bushahar is a city and a municipality in Shimla district in the state of Himachal Pradesh. It is 130 km from Shimla well connected with National Highway which passes through Narkanda. Shimla features a subtropical highland climate under the Köppen climate classification. The climate in Shimla is predominantly cool during winters and moderately warm during summer. Temperatures typically range from −4 °C (25 °F) to 31°C (88 °F) over the course of a year. The average temperature during summer is between 19°C (66 °F) and 28 °C (82 °F), and between −1 °C (30 °F) and 10 °C (50 °F) in winter and there is no natural habitat left at these sites. The subproject components will be located in government-owned sites. There are no protected areas, wetlands, mangroves, or estuaries in or near the subproject locations.

8. **Environmental Management.** An environmental management plan (EMP) is included as part of this IEE, which includes (i) mitigation measures for environmental impacts during implementation; (ii) an environmental monitoring program, and the responsible entities for mitigating, monitoring, and reporting; (iii) public consultation and information disclosure; and (iv) grievance redress mechanism. A number of impacts and their significance have already been reduced by amending the designs. The EMP will be included in civil work bidding and contract documents.

9. Locations and siting of the proposed infrastructures were considered to further reduce impacts. The concepts considered in design of the proposed subproject are (i) design, material and scale will be compatible to the local architectural, physical, cultural and landscaping elements; (ii) preference will be given to the use of local material and labour as best as possible; (iii) for conservation, local construction material available in the nearby region as best as possible suiting to those in existence; (iv) all painting (interior and exterior) will be with environment-friendly low volatile organic compounds paints; (v) for retaining wall repair works, random rubble masonry will be used, with locally available stone to be laid in cement mortar by local skilled labour; (vi) earth backfill, if any will be done from the site excavated material; and (vii) ensuring all planning and design interventions and decisions are made in consultation with local communities and reflecting inputs from public consultation and disclosure for site selection.

10. During the construction phase, impacts mainly arise from the need to dispose of moderate quantities of waste soil and debris due to excavation and demolition and disturbances to tourists and visitors during construction works. These are common impacts of construction in urban areas, and there are well developed methods for their mitigation.

Measures such as conducting work in lean season and minimizing inconvenience by best construction methods will be employed. In the operational phase, all facilities and infrastructure will operate with routine maintenance, which should not affect the environment. Facilities will need to be repaired from time to time, but environmental impacts will be much less than those of the construction period as the work will be infrequent, affecting small areas only.

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

12. The stakeholders were involved in developing the IEE through discussions on-site and public consultation, after which views expressed were incorporated into the IEE and in the planning and development of the proposed 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 Himachal Pradesh Department of Tourism 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.

13. The tourists, business people and citizens of Shimla town area will be the major beneficiaries of the project. The most noticeable net environmental benefits to the tourists and population of the town will be positive and large as the proposed subproject will improve access to reliable and adequate tourism facilities and propagate the local traditions and Cultural Heritage of the state. This subproject will also provide a common platform for local traditions and values, provide and improve business opportunities for local communities, linked to the cultural and natural heritage tourism.

14. **Consultation, Disclosure and Grievance Redress.** Public consultations were done in the preparation of the project and IEE. On-going consultations will occur throughout the project implementation period. A grievance redress mechanism is described within the IEE to ensure any public grievances are addressed quickly.

15. **Monitoring and Reporting.** The PMU, PIU, PMC and DSC will be responsible for environmental monitoring. PIU in coordination with DSC will submit monthly monitoring report to PMU and thereafter the report will be submitted to ADB on semi-annual basis. ADB will post the environmental monitoring reports on its website. Any major accidents having serious environmental consequences will be reported immediately. PMC environmental expert will help in preparing progress reports including environmental closure report.

16. **Conclusions and Recommendations.** The proposed subproject HPTDB/16/5 is unlikely to cause significant adverse impacts. The potential impacts that are associated with design, construction and operation can be mitigated to standard levels without difficulty through proper engineering design and the incorporation or application of recommended

mitigation measures and procedures. Based on the findings of the IEE, there are no significant impacts and the classification of the subproject as Category “B” is confirmed. No further special study or detailed environmental impact assessment (EIA) needs to be undertaken to comply with ADB SPS - 2009 or Government of India EIA Notification, 2006.

I. INTRODUCTION

1. The Infrastructure Development Investment Program for Tourism Financing Facility (the Facility) will develop and improve basic urban infrastructure and services in the four participating states of Himachal Pradesh, Punjab, Uttarakhand and Tamil Nadu to support the tourism sector as a key driver for economic growth. It will focus on: (i) strengthening connectivity to and among key tourist destinations; (ii) improving basic urban infrastructure and services, such as water supply, road and public transport, solid waste management and environmental improvement, at existing and emerging tourist destinations to ensure urban amenities and safety for the visitors, and protect nature and culture-based attractions. Physical infrastructure investments will be accompanied by: (iii) capacity building programs for concerned sector agencies and local communities for better management of the tourist destinations and for more active participation in the tourism-related economic activities, respectively.

2. The proposed project for Ancient Temples and surrounding areas at Rampur Bushahar town of District Shimla, Rampur is located at 31°27′N77°38′E / 31.45°N 77.63°E / 31.45; 77.63. It has an average elevation of 1350 m (4429 feet) at the bank of river Sutlej. The principality of Bushahar (also known as Bashair, Bushahr) was once among the largest of the twenty-eight Shimla Hill States under the administration of the British Raj keen to invest on regional, transcontinental trade and exploit Himalayan resources. It bordered on the north with Spiti, on the east with Tibet, on the south with Garhwal, and on the west with Jubbal, Kotkhai, Kumharsain, Kotgarh and Kullu. Caught in the machinations of the British imperial enterprise, it was subjected to political-cum-economic vicissitudes, acceding to the Indian Union in 1947. On the 8th March 1948, along with twenty other princely hill States of Punjab and Shimla, Bushahar signed an agreement which resulted in its inclusion in the Indian State of Himachal Pradesh.

3. **Executing and implementing agencies.** The executing agency is the Dept. of Tourism and Civil Aviation, HP. The implementing agency is Himachal Pradesh Tourism Development Board (HPTDB), Shimla. Project Management Unit (PMU) is set up at Shimla to coordinate the overall execution. Project Management Consultant (PMC) at Shimla provides assistance to PMU in execution. Project Implementation Unit (PIU), set up at Shimla will be supported by Design Supervision Consultant (DSC). The asset owner is the District Administration / Temple Trust. MoU has been signed by the District Administration and is attached at **Annexure 10.** A team of technical, administrative and financial officials, including safeguards specialists, is being provided at the PMU to implement, manage and monitor project implementation activities. The PIUs are staffed by qualified and experienced officers and responsible for the day-to-day activities of subproject implementation in the field, and will be under the direct administrative control of the PMU. Consultant teams are responsible for subproject planning and management and assuring technical quality of design and construction; and designing the infrastructure and supervising construction; and safeguards preparation.

4. **Proposed subproject.** The major scope of this subproject HPTDB/16/5 as per Detailed Project Report is Conservation & restoration proposals for the ancient temple structures and Temple site improvement and upgrading the tourist infrastructure of the surrounding areas.

5. **Categorization.** An environmental assessment using ADB's Rapid Environmental Assessment (REA) checklist for urban development (**Annexure 1**) was conducted. Results of the assessment as per subproject appraisal report and preliminary design of subproject is unlikely to cause any significant adverse impacts. Thus it is classified as Environmental Category B as per ADB's SPS 2009 as no significant impacts are envisioned.

6. **Purpose of the IEE.** This report gives an account of the initial environmental examination (IEE) of subproject as per detailed design. It has been prepared in accordance with ADB SPS's requirements for environment Category B projects and provides measures to (i) ensure the environmental sustainability of subproject (ii) integrate environmental considerations into the project preparation process; and (iii) provide for environmental management during project implementation.

II. DESCRIPTION OF THE PROJECT

A. Location, Existing Condition and Need of the Subproject

7. **Location**. Rampur is located at 31°27′N77°38′E / 31.45°N 77.63°E / 31.45; 77.63 at the bank of river Sutlej. It has an average elevation of 1350 m (4429 feet). The project will enhance facilities and improve the cultural value and facilitate the residents and tourists alike. The **Figure 1 to 4** depicts town location and satellite image of the of the project location.

8. Rampur was also located along pilgrimage routes to sacred sites in western Tibet shared by Hindus, Bon and Buddhists alike, i.e., Mount Kailash and Lake Mansarovar. Missionary and pilgrimage activities, intensified by trading possibilities, created the conditions for Tibetan Buddhism to take a firm stronghold in these borderland regions.

Figure 1: Location of Rampur and Sarahan town

Figure 2: location of selected temples in Rampur in Google map

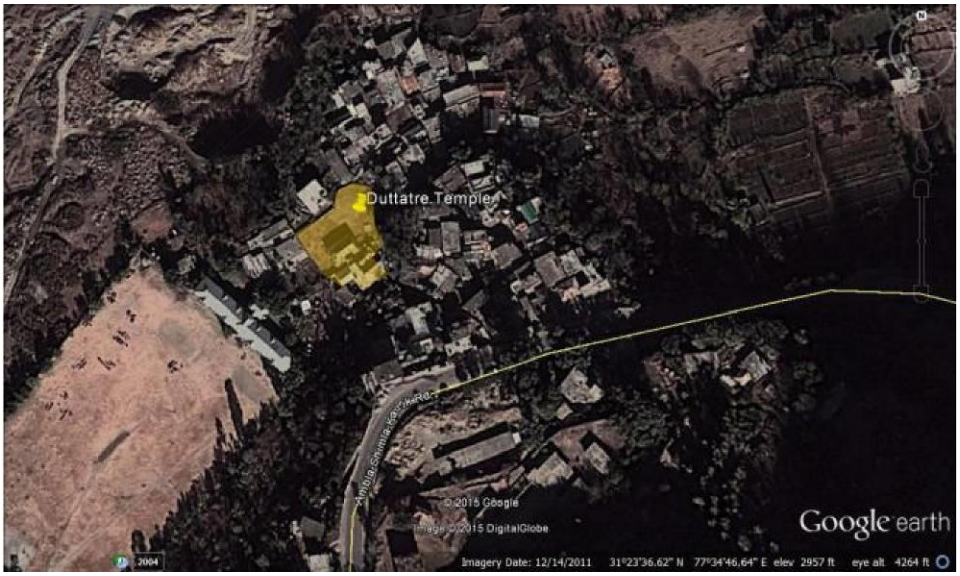


Figure 3: location of Duttatreya temple in Google map

Figure 4: location of Bhimakali temple in Google map

9. **Existing Conditions and Need of the Subproject**. Originally, the temples were either established by Mahants (Priests) or by the Royal family. Some temples were established to house the idols brought by the queens from their hometowns after marriage to one or the other prince of the Rampur Bushahar. Presently, all the temples under consideration are owned and managed by the Bhimakali Temple Trust.

10. **Dattatreya Temple.** The access to the Dattatreya temple is through a flight of steps in concrete leading to a small platform with cement concrete flooring. The steps as well as the columns next to them that support the railing are damaged. There is a natural source of water in the form of a small kund towards the left of these steps. Due to mismanagement of this water source, the cement floor in front of it is damaged and there is dampness, wild vegetation and algae deposition all over this area. This platform leads into the temple courtyard through a stone arched entrance doorway. The stone columns at this entrance are damaged.

11. **Janki Mai Gufa Temple**. Cement concrete steps lead to the Janki Gufa temple. The area close to the entrance is a recent construction. There is vacant space beneath this new construction. There is earth and debris accumulation here. Opposite to this is large open land with wild vegetative growth. There is lot of left over open space around the complex with wild vegetation all over. The compound wall is bulging, has algae growth and has developed structural cracks also. There is a dead tree that has caused damage in the compound wall. There is a gufa (cave) in the temple complex. The area in front of the gufa has been incongruently developed.

12. **Chuvacha Temple.** The Chuvacha temple is in a dilapidated state. The temple has been altered and modified many times leading to further deterioration. The slate stones of the roof are displaced. There is blackening and water seepage as well. The slate stones have been damaged due to weathering. The temple has an entrance built in the traditional style with ashlar masonry, exquisitely carved wooden gate and a wooden and slate tile canopy. The wooden threshold is majorly damaged. The compound wall has water seepage problem at one corner. The paint is flaking at some places. Gaps have also developed in the masonry joints and slate stones have displaced. There are planters along the pathway and the rest of the area is paved with slate stone. The planters and the pathways are improperly design.

13. **Narsingh Temple.** The Narsingh temple has an entrance through a stone facade with carved columns and niches. The facade needs scraping and cleaning. The temple is placed in the centre of a large compound. Restoration work has been done recently. The compound flooring is recently done in kandla grey stone. It has improper slope and many of the stone tiles are cracked. At many places, the skirting is missing. The water connection is improperly placed in the middle of the platform. The compound wall is damaged partially and needs to be repaired. There are planters adjoining the boundary wall. The plants are destroyed now and redundant building material left over from recent repair and reconstruction activities is kept there. The plinth is faced with stone carvings. The carved stone members are extremely damaged at some places.

14. **Raghunath Temple.** The entrance plaza and the steps leading up to the Raghunath temple is a recent construction in terracotta tiles and red sandstones. The compound wall

has ashlar masonry using local stones. The temple has been greatly modified from its original state. Lots of insensitive additions have been made. The materials and techniques used are absolutely incongruent with the traditional materials observed in the other temples. The temple has mosaic flooring. The columns are built in concrete with mosaic used as facing material. Two columns are added to the entrance of garbhagriha also which support the mandapa roofing. The garbhagriha walls are painted with grey enamel paint while the ceiling is painted white.

15. **Ayodhyanath Temple.** The Ayodhyanath temple is set in a courtyard with G+2 commercial buildings around it. The entrance porch of the temple is at the bottom of a newly built structure. The area is left in cement without paint or plaster. The courtyard faces large blank walls around it. The walls are left cemented or painted white. There are rooms on one side of the temple used as residence for the priest and his family. There are tin chajjas on this wall. There is a railing to separate the temple area with this residential area. The temple compound has Kota stone flooring with marble strips. The temple mandapa has marble and granite flooring. The columns are carved in wood with concrete base faced with marble on the outside. Two of the columns are displaced from their base. The plinth is faced with carved stone elements that are corroded at places.

16. **Bouddha Temple.** The Boudh temple is a much later construction as compared to the other Rampur temples. Hence, it is in a very good condition. It is a Buddhist temple and has a very different style of architecture. The temple is constructed in ashlar stone masonry. It is a G+3 structure with a small footprint. It also has a basement. The main shrine is located in the basement. The ground floor is also a place for worship while the above two storeys are occupied by a library. The lower two floors are exposed while the top two floors are painted white. It has a sloping roof with the corners bent upwards. There are sloping projections at every level. The temple facades are painted in vibrant colours and figures depicting buddhist mythology. The projections are wooden and are painted. The paint is flaking in many places.

17. **Bhimakali Temple.** The Bhimakali temple is a huge temple complex with clusters of structures around a total of three courtyards. Each successive courtyard is placed at a higher level than the previous one. The entrance to the complex is from the lowest courtyard. The main temple building is located on a platform in the centre of the last courtyard. The first courtyard has canteen and kitchen next to the main entrance. On the opposite side, is a secondary entrance, temple office, facilities and a room used by the staff. In this entrance lobby, the floor and the walls are clad in marble. The exterior wall of these rooms, towards the courtyards is plastered and painted yellow.

18. **Parking site at Rampur.** The site allocated at Rampur for parking belongs to State Government (Municipal Council, Rampur). River Satluj flows near proposed parking site. The shortest distance from River edge to line of proposed retaining wall for proposed parking is 30 Meter.

19. **Parking Site at Sarahan.** The site allocated for parking at Sarahan belongs to State Government (Municipal Council, Rampur) and is used currently as a dumping ground. There is uncontrolled wild vegetative growth on the site and heaps of garbage and debris are accumulated. The site is adjacent to a seasonal nallah and road to Bhimakali Temple. The

shortest distance from seasonal nallah edge to line of proposed parking is 1.60 Meter.

20. Photos of existing conditions of the sites are attached as **Annexure 2**.

B. Proposed Subproject

21. The temple structures have several issues related to repair, restoration and consolidation which require urgent attention. Water seepage and major damages in the slate stone tiles used in the sloping roofs are conservation issues of prime concern. There are patches of blackening, algae deposition and dampness all over the roofing that need to be taken care of. Vegetation growth on open joints of walls, Shikhara, mandapa roofing, etc. needs to be cleared. Algae growth on exterior surface needs to be removed. It is very important to remove unwanted vegetation from the surroundings as well as from surface of the structure. Incompatible addition and repair work done in past have to be reversed. This includes restoring the original stone flooring, removing metal railings, removing incompatible column bases and fixing column bases similar to the original ones, removal of plaster and paint from various stone or wooden surfaces. Other than structural issues, its decorative features and elements are in deteriorating condition. The important elements in stone that are corroded include carved plinth facing elements and carved column bases. These need to be removed and replaced in similar material and design. The aim is to prevent any kind of further loss to structure and to preserve and protect the existing state of built form and restore it to its former glory.

22. Proposed works in each of component are described in following paragraphs-

23. **Bhimakali Temple.**

- Planned development in the first courtyard by redesigning sitting areas and shoe racks.
- Reconstruction of planter and addition of stone railing.
- Removal and re-fixing of the front wall leading into the second court.
- Removal of paint from the main entrance.
- Removal of plaster from the exterior wall opposite the main entrance.
- In the second court, masonry wall to be reconstructed in traditional style to house the water tanks.
- Wash basin to be relocated.
- Paint and polish on existing wooden elements.
- Removal of algae from the horizontal and vertical surfaces of the stepped plinth.
- The structure at the rear of the main temple structure in the third courtyard at in a completely dilapidated state. Therefore, it is required to dismantle and re-fix the entire structure.
- The level of the entire structure will be raised to match the level of the courtyard.
- Plinth protection of the entire structure in P.C.C. at appropriate levels.
- Replacing the damaged and weakened slate stone tiles of the roofing.
- The broken wooden decorative hanging elements to be replaced.
- The plaster is needed to be removed from the internal walls
- In the rooms where flooring has been changed, wooden flooring to be re-laid.
- Relocating the flood light.
- Removal of incongruent materials like ply and glass from the wall and floor surfaces.
- Development of the courtyard by relaying stone flooring and adding planters in stone

with stone railing.

24. **Raghunath Temple.**

- Replacing the chips mosaic flooring of the mandapa to kandla grey stone flooring.
- A band of slate stone around the temple to be provided as plinth protection.
- Removal of RCC column and slab and reconstructing the columns and roofing in wood and slate tiles using techniques similar to the traditional roofing seen in other Rampur temples.
- Removal of RCC columns on the front façade of the garbhagriha.
- The metal railing between columns to be replaced with wooden railing as seen in Chuvacha temple.
- The steps in front of the sanctum to be rebuilt in stone.
- Removal of paint from the garbhagriha walls.
- Lime khamira to be removed from the surface of the Shikhar.

25. **Narsingh Temple**

- Typical traditional style roofing structure to be added on to the entrance.
- The outer stone façade at the main entrance to be scraped and cleaned.
- The flooring will be removed and re-laid aligning it to the base of the temple.
- New area for hand-wash to be constructed near the main entrance.
- Two Up lighters to be added in corners towards the main road to highlight the temple.
- The boundary wall towards the main road to be plastered.
- Planter to be constructed in stone next to the boundary wall.
- Joints of the garbhagriha walls to be filled and preservative coating will be applied.
- Missing part of skirting to be replaced.
- The corroded plinth facing carved elements in stone to be replaced.
- Addition of carved stone band at the base of the shikhara.
- The mosaic flooring of the mandapa to be replaced with stone flooring.
- The exterior walls of the newly constructed hall and rooms surrounding the temple to be repainted.
- Roofing tiles to be replaced

26. **Ayodhyanath Temple**

- An entrance structure to be constructed in the traditional materials and style to improve the visibility of the temple from the main road.
- Murals depicting Hindu mythology to be created on the large blank walls surrounding the temple.
- The tin chajjas to be replaced with slate stone chajjas supported on wooden beams.
- Removal of vegetation, algae and blackening from the surface of the plinth.
- Replacing the corroded parts of carved plinth stone elements.
- Removal and re-fixing of wooden false ceiling, columns, overhangs and roof as required.
- The hanging wooden decorative elements that are missing to be replaced.
- Removal of paint from the garbhagriha walls and protective coating to be applied.

- Removal of algae and blackening from the shikhara and application of protective coating.
- M.S. railing required at one place in the temple compound.
- Redesigning the green area at the rear of the temple compound.

27. **Chuvacha Temple**

- Three rooms that have been created later by adding wooden partitions, tin etc. to be removed.
- The wooden threshold at the entrance to be replaced.
- Repair work in wooden flooring
- Base wall to be reconstructed below the temple.
- Plinth protection to be provided.
- Removal and relaying of flooring of the corridor surrounding the temple.
- Redesigning pathway and planters.
- Marble work on the platform in antrala.
- Joint repair work in the stone flooring of the compound.
- Removal of plaster and paint from the temple walls and application of protective coating

28. **Janki Mai Gufa Temple**

- The main entrance to be widened and redesigned in wood and stone using traditional design.
- Stone wall to be constructed to support the structure close to main entrance and the area to be cleaned.
- Tow wall to be constructed on both side of the steps leading to the temple.
- New stone platform to be constructed around the tulsi tree and another large tree near the temple.
- Development of Garden space and Planters around the Existing Trees.
- Addition of stone pathway as plinth protection all along the site edges.
- Preservative coating on columns and stone base at columns.
- Some columns to be replaced with new wooden carved columns.
- Lime khamira to be applied on temple walls.
- Metal railing to be replaced with wooden railing.
- Removal of algae and blackening from the shikhara and application of protective coating.
- Riverfront area to be developed with pathways, planters, railing, stone benches and large steps facing the river to be used as sitting.
- Drain to be re-planned.
- CC steps leading to the Gufa to be reconstructed using local stone.
- Structure next to the Gufa to be removed and reconstructed using traditional materials and techniques.

29. **Bouddha Temple.** The Boudh temple was constructed much later than the other Rampur temples. Hence, it is in an overall good condition. The ceiling and the overhangs are made of wood and painted. The paint is flaking. The only proposal in the Boudh temple is to

repaint the wooden surfaces where paint is observed to be flaking.

30. **Dattatreya Temple**

- The steps leading to the temple courtyard to be finished in stone.
- Cleaning, repair and stone flooring of the platform before the main entrance.
- Cleaning and repair of the stone columns at the main entrance.
- Repairing of cracks and removal of vegetation from the compound wall.
- Pointing lime work at joints.
- Vegetation to be cleared from the large open courtyard and the area to be landscaped with stone planters, paved areas and pathways in kandla grey stone and stone benches.
- Plinth protection to be done for the abandoned structure in this courtyard and a sunken court is proposed in front of it.
- Existing platform to be removed and reconstructed at a proper location as a part of the landscape design.
- Solar lights to be relocated.
- Proper ramp to be provided and steps to be reconstructed in stone as required to access the main temple complex.
- Removal of paint from front door
- Plinth protection to be provided around the temple structure.
- The compound flooring to be re-laid in kandla grey stone with proper slope and level to be changed in context to the temple flooring.
- Replacement of Stone tiles and Wooden members at Roof as Required.
- Removal of plaster from the temple walls.
- Replacing the broken parts of carved wooden decorative hangings.
- Removal of RCC Slab from the structure next to entrance and redesign of slab in traditional style of Architecture.
- Cleaning of efflorescence, salt & algae deposits from the wall next to natural water source.
- Addition of Gomukh.
- Cleaning of stone sculptures and application of protective coating
- Addition of appropriate steps in kandla grey stone to access the court in front of the temple.
- Paving and planters around the existing trees in this court.
- Appropriate sitting in the form of wooden benches.

31. **Infrastructure Proposals**

1. **Electricity** - Sufficient light needs to be provided at the entrance as well as on the pathway to the temples to make it convenient for the worshippers and visitors.
2. **Drinking Water –** Temples should be provided with some water storage place at one side of the temple which can suffice the visitors and worshippers, correspondingly water supply line should be provided (Underground).
3. **Structure/ Civil work repair and up gradation -** Some benches need to be built around the temple so that aged people and other visitors can rest for some time and spend their time in peace.

4. **Landscape –** The temples are on a hilly terrain, most face the riverside and there is abundance of vegetation. Hence, a beautiful landscape can be developed within the premises.
5. **Pathway –** A proper pathway along with railing needs to be constructed so that visitors can easily walk up to the temples.

32. **Parking at Sarahan and Rampur.** At Sarahan there is proposal of parking of 72 cars, rain shelter and toilets. For Rampur parking the proposal is for about 114 cars, rain shelter and toilets are proposed. The built up area of parking is 1007.98 sq meters for Sarhan parking and 3048 sq. meters for Rampur parking.

33. Total six numbers of temples viz. Raghunath Temple, Narsingh Temple, Ayodhyanath Temple, Chuvacha Temple, Jankimai Gufa Temple and Budha Temple are located within radius of 1 Km from the proposed parking site at Rampur as shown in **Figure 2.**

34. All sites for proposed subproject are owned by HP Government & Temple Trust thus no land acquisition is required. The sites are located in Rampur; Shimla district area of subproject is already used as tourism site. The sites are not within or adjacent to any protected area.

35. The design, material and scale will be compatible to the local architectural, physical, cultural and landscaping elements. Preference will also be given to the use of local material and labour as best as possible. For the conservation, local construction material available in the nearby region as best as possible suiting to those in existence. All painting (interior and exterior) will be with environment-friendly low volatile organic compound paints.

36. For retaining wall repair works, random rubble masonry will be preferred, with locally available stone to be laid in cement mortar by local skilled labour. The earth backfill, if any will be done from the site excavated material. Stone aggregate and sand are available within 40 km radius from sites. Also formwork and skilled labour is locally available. For brick wall construction, bricks are also available within 50 km radius from the proposed site/region.

37. Water supply during construction will be provided by HP Irrigation and Public Health (IPH) Department from their existing system or will be transported through mobile water tankers, if required. Solid waste generated at sites will be disposed at designated areas.

C. Implementation Schedule

38. Detail design of the subproject has been done by the Design and Supervision Consultant (DSC) team. It is estimated that construction period will cover 24 months.

III. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

A. ADB Policy

39. 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.

40. **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.

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

42. **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 for other stakeholders. 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

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

44. The realm of environmental regulations and mandatory requirements for the proposed sub-project is shown in **Table 1**. The Environmental Impact Assessment (EIA) notification, 2006 by the Ministry of Environment and Forests (MoEF, GoI) specifies the mandatory environmental clearance requirements. Accordingly, projects and activities are broadly categorized in two categories[1] - Category A and Category B, based on the spatial extent of potential impacts and potential impacts on human health and; natural and man-made resources.

Table 1: Environmental Regulatory Compliance

Sub-Project	Applicability of Acts/Guidelines	Compliance Criteria
Restoration and Beautification of Ancient Temples and surrounding areas at Rampur Bushahar, District Shimla, H.P.	The Environment Protection Act, 1986 - under EIA notification, 2006 (and its subsequent amendments in 2009) provides for categorization of projects into category A and B, based on extent of impacts.	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. Hence, the categorization, 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. Categorized as B and IEE prepared
	The Wildlife Conservation Act, 1972, amended in 2003 and 2006, provides for protection and management of Protected Areas.	There are no protected area under influence of this sub project
	The Forest Conservation Act, 1980 and its subsequent amendments necessitate obtaining clearance from the MoEF for diversion of forest land for non-forest purposes.	The project does not evolve any land diversion or tree cutting therefore, no clearance required. if any tree cutting is required, this act can be applicable

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

Sub-Project	Applicability of Acts/Guidelines	Compliance Criteria
	Water (Prevention and control of pollution) Act, 1974 and; Air (prevention and control of pollution) Act, 1981	Consent for Establishment (CFE) & Consent for Operation (CFO) from the HP PCB for setting up of diesel generators (if any), hot mix plant, wet mix plant, crusher plant (if exclusively for this project) to be obtained by the Contractor, prior to commencement of construction works at site. If contractor purchases the construction materials (eg. Sand, gravel) from third party, he must ensure that materials are coming from approved quarry sites.
	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. The Himachal Pradesh Ancient and Historical Monuments and Archaeological Sites and Remains Act, 1976;	Not applicable as neither any such monuments or Archaeological sites present at the site nor the proposed land is under influence of such any issue.
	Himachal Pradesh Ground Water (Regulation and Control of Development and Management) Act, 2005; Himachal Pradesh Ground Water (Regulation and Control of Development and Management) Rules, 2006;	At the site or nearby, no ground water shall be used while construction, therefore, not applicable.
	Himachal Pradesh Policy on Ecotourism;	Shall be adopted.
	Himachal Pradesh Participatory Forest Management Regulations, 2001;	NOC from state forest department shall be obtained If tree cutting involved.
	The Himachal Pradesh non-biodegradable garbage (control) Act, 1995;	Shall be adopted.
	The Himachal Pradesh Town and Country Planning Act, 1977;	Not applicable
	The Shimla Road users and Pedestrians (Public Safety and Convenience) act, 2007;	Shall be adopted.
	The BOCW Act 1996 Employer shall- • Provide and maintain, at suitable point, sufficient quantity of wholesome drinking water, such point shall be at least 6 meters away from any washing areas, urinals or toilets • Provide sufficient urinals and latrines at convenient place, easily accessible by workers • Provide free of charge, temporary living accommodations near to work sites with separate cooking	Contractors are required to follow all the provisions of BOCW Act.

Sub-Project	Applicability of Acts/Guidelines	Compliance Criteria
	place, bathing and lavatory facilities and restore the site as pre conditions after completing the construction works • Provide crèche with proper accommodation, ventilation, lighting, cleanliness and sanitation if more than fifty female workers are engaged • Provide first aid facilities in all construction sites For safety of workers employer shall provide- • Safe access to site and work place • Safety in demolition works • Safety in use of explosives • Safety in operation of transporting equipments and appoint competent person to drive or operate such vehicles and equipments • Safety in lifting appliance, hoist and lifting gears • Adequate and suitable lighting to every work place and approach • Prevention of inhalation of dust, smoke, fumes, gases during construction works and provide adequate ventilation in work place and confined space • Safety in material handling and stacking/un stacking • Safeguarding the machinery with fly-wheel of moving parts • Safe handling and use of plants operated by compressed air • Fire safety • Limit of weight to be lifted by workers individually • Safety in electric wires, apparatus, tools and equipment's • Provide safety net, safety sheet, safety belts while working at height (more than1.6 mtrs as per OSHA) • Providing scaffolding, ladders and stairs, lifting appliances, chains and accessories where required • Safety in pile works, concrete works, hot asphalt, tar, insulation, demolition works, excavation, underground construction and handling materials • Provide and maintain medical facilities for workers Any other matters for the safety and health of workers	

Sub-Project	Applicability of Acts/Guidelines	Compliance Criteria
	Motor Vehicles Act, 1988 No person will be allowed to drive a motor vehicle unless he holds an valid driving license issued to him authorizing him to drive the vehicle	Valid and appropriate (LMV/HMV) driving licence of operators and drivers is required to operate or drive vehicle and equipment at construction site
	The Petroleum Rules 2002 All due precautions will be taken at all times to prevent escape of petroleum into any drain, sewer, and harbour, river or watercourse or over any public road or railway line.	Do not allow any escape of diesel, lubricants in to drain or any nearby water course
	Gas Cylinder Rules 2004 These rules deal with Filling, possession, import and transport of cylinders, Safety relief devices, Marking on cylinders, Markings on valve, Identification colours, Labelling of cylinders, Restriction on delivery or despatch of cylinders, repairing of cylinders, Prohibition of employment of children and intoxicated persons, Prohibition of smoking, fires, lights and dangerous substances, General precautions, Special precautions against accidents, Competent person to be incharge of operations, Handling and use, Restrictions on filling, Loading, unloading and transport of cylinders, Storage of cylinders, ownership and record keeping etc.	All the safety in storage, transportation, handling, usage, maintenance, repairing of gas cylinders and other precautions should be taken and record should be kept maintained.
	Labor Laws The contractor shall not make employment decisions based upon personal characteristics unrelated to job requirements. The contractor shall base the employment relationship upon equal opportunity and fair treatment, and shall not discriminate with respect to aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment or retirement, and discipline. The contractor shall provide equal wages and benefits to men and women for work of equal value or type.	**Annexure 11** provides applicable labour laws including amendments issued from time to time applicable to establishments engaged in construction of civil works.

45. The proposed subproject HPTDB/16/5 does not require statutory clearances from MoEF. All no objection certificates, CFEs and other clearances will be obtained prior to award of contract.

IV. DESCRIPTION OF THE ENVIRONMENT

A Physical Environment

46. **Climate**. The Climate of Rampur is of temperate zone at high altitude above 1000mtr and sub-tropical at lower elevations. Generally April to June and Oct-Dec. are dry months. The Major precipitation is received in the months July & August while snow and rain precipitate in the area during January to March. Snowfall occurs above 1600 m autumn is generally very cold, May and June is very hot at lower elevations.

47. **Geology and Soil.** The whole tract of Rampur Aniforest division drains into the Satluj River. The tract is hilly with altitude varying from 730 to 5690 m the slopes vary from moderate to steep & very steep to precipitous Rugged and sharp edged cliffs are very common. The main rock types are Micaceous, Schist and Chositite Schist with Gneiss, Granite, States and Quartzite. Lime stone rocks are also found in Sangri area. In Delta area and along the Satluj the main rock types are Gneiss, Granite with outcrops of schists containing view of quartzite. The forest soil is mainly of two types (a) Acidic soil with low base status and (b) Neutral soil with high base status. Soil is rich in humus in Deodar and Fir forest, which hampers the natural regeneration.

48. In Shimla district, the soil is generally shallow in depth except in areas having vegetation cover. The soils are acidic in nature with the organic content ranging from medium to high.

49. **Land Use.** Of the total area of 9950 hectares of Shimla, 15% of the area is under urban use. 21.85% in agriculture, 61.12% covered by forests, 2.20% comprises of water-bodies and undeveloped land. The existing land use of urban area shows 61.19% residential use, 1.71% commercial, 0.62% industrial, 1.47% tourism, 9.4% for public and semi-public use, 0.41% for parks and opens spaces, and 3.75% for traffic and transportation

50. **Water bodies.** Shimla is highly dissected by a number of seasonal tributaries joining the consequent streams. Shimla being a hill city, natural drains carries the water to valleys into Khads, which are used as source of water supply. Sutlej River is the nearest river system. Natural nallah flows just behind the proposed parking site at Sarahan and River Sutlej flows behind the proposed parking site at Rampur Bushahar at a distance of approx. 25 meters.

51. **Ambient Air and Noise Quality.** Air quality is being monitored in two stations at Tekka Bench on Ridge and ISBT (Bus stand). The range of monthly average values of SO_2, NO_x and RSPM monitored from April 2012 to March 2015 are found to be mostly within the maximum permissible limits. The RSPM, however, observed in June 2012 was more than permissible limits. The air quality of Shimla is shown in **Table 2** below:

Table - 2: Ambient Air Quality of Shimla

Month	Station: Tekka Bench (Residential) Monthly Average			Station: Bus stand (Residential) Monthly Average		
	SO_2 in µg/ m^3	NO_X in µg/ m^3	RSPM in µg/ m^3	SO_2 in µg/ m^3	NO_X in µg/ m^3	RSPM in µg/ m^3
April 2012	2.0	9.1	55.2	2.0	16.0	61.5
May 2012	2.0	10.1	71.9	2.0	19.6	81.7
June 2012	2.0	6.2	86.1	2.0	8.8	122.2
July 2012	2.0	12.0	50.1	2.0	10.6	68.9
August 2012	2.0	9.1	31.5	2.0	11.1	33.0
September 2012	2.0	8.9	24.1	2.0	12.8	30.9
October 2012	2.0	10.6	38.2	2.0	11.3	40.4
November 2012	2.0	8.4	43.8	2.0	12.8	54.8
December 2012	2.0	10.7	41.3	2.0	11.3	47.9
January 2013	2.0	9.4	41.6	2.0	12.4	57.0
February 2013	2.0	8.5	40.3	2.0	12.2	45.4
March 2013	2.0	9.2	44.6	2.0	12.6	48.0
January 2014	2.0	9.8	39.8	2.0	10.4	44.7
February 2014	2.0	9.8	39.8	2.0	10.8	47.1
March 2014	2.0	9.9	36.7	2.0	11.7	45.0
April 2014	2.0	10.6	36.2	2.0	13.0	47.4
May 2014	2.0	9.5	53.4	2.0	11.1	61.5
June 2014	2.0	10.0	45.6	2.0	11.8	56.3
July 2014	2.0	9.7	44.5	2.0	11.7	46.0
August 2014	2.0	10.4	35.8	2.0	11.2	48.5
September 2014	2.0	9.7	34.0	2.0	11.2	36.3
October 2014	2.0	10.6	46.7	2.0	11.7	55.1
November 2014	2.0	10.2	52.6	2.0	16.0	50.0
December 2014	2.0	9.5	63.1	2.0	15.9	64.7
January 2015	2.0	9.7	59.2	2.0	12.5	68.9
February 2015	2.0	9.5	43.4	2.0	15.5	71.0
March, 2015	2.0	9.9	39.0	2.0	16.8	75.7
Standard	80.0	80.0	100.0	80.0	80.0	**100.0**

Source: Himachal Pradesh Pollution Control Board (2015)

52. The main source of air pollution and increased noise are vehicles as Shimla is along national highways. Ambient air quality and noise levels in the subproject site are expected to be within Himachal Pradesh State Pollution Control Board standard.

53. Ambient noise level being monitored at IGMC, Totu, Ridge & Shoghi in Shimla town by HPPCB. The ambient noise level of Shimla is shown in **Table 3** below:

Table -3: Ambient Noise Level of Shimla

Ambient Noise dB(A)	Day time Results (Average) 26th March, 2015	Limit
Silence Area IGMC	62	50
Residential Area Totu	51	55
Commercial Area Ridge	56	65
Industrial Area Shoghi	65	75

Source: Himachal Pradesh Pollution Control Board (2015)

54. The air and noise quality monitoring will be done at proposed site before construction, during construction and during post construction periods as per EMP.

B. Ecological Environment

55. Shimla is adorned with meadows and wooded hill sides laced with pine, fir, poplar, oak and deodar. All these contribute in making the serene hill station even more romantic.

Forest

56. Forests are an important resource of Himachal Pradesh. Although the area classified as "Area under Forest" is 67 percent of the total area of the Pradesh, yet the effective forest cover is much lower than this area, primarily on account of the fact that a very large area is either alpine meadows or is above the tree line.

57. The climatic conditions prevailing in Himachal Pradesh and varying elevations are most suitable for the growth of forests. The forests provide valuable timber, medicinal herbs, raw material for industries and also provide employment and play a vital role in conserving the soil and ensure timely rains.

58. As per District Human Development Report of Shimla, district Shimla had 340,103 hectares of land area was under forests at the end of the year 1989-90. However, by the year 2008-09 as shown in Table 3 the land area under forests declined to 336,683.25 hectares. Out of this total area under forests, in the year 2008-09, 127,722.21 hectares constituted reserved forests, 5,337.42 hectares as protected forests and 203,623.62 hectares as un-demarcated forests.

Table 4: Status of Forest Cover

Legal Status of Forest Area (2008-09)		Area In Hectares
		Shimla
1	Reserve Forest	127,722.21
2	Protected Forest	5,337.42
3	Unclassified forest	203,623.62
4	Total forest In Circle	336,683.25
Source : District Statistical Abstract, 2008 – 09		

59. In Shimla district, important species of trees such as Deodar, Kail, Chil, Oak, Mohru and Kharsu etc. are found in the forests and the major forest produce are resin and medicinal herbs. The available resin in the district is being processed by two Government owned resin and turpentine factories at Bilaspur and Nahan. However the medicinal herbs are being exported in raw form out of the district. The forests in the district lie mainly in the outer Shivalik to the mid Himalayas. The soil is generally sandy loam and depth is shallow, except in the areas having vegetation over where it is fairly deep. In the regions above 1,500 metres, the soil is generally deep and contains a thin layer of leaf molded species of Ban, Oak, Chil, Kail and Deodar. In the lower elevation, shrub forms are found while in the higher altitude Chil, Deodar, Kail etc. are available. In the lower ranges with warmers aspects and sharp slopes, with deep soil and favorable condition, species of mixed forest, of bamboo and shrubs are found.

Table 5: Forest Cover 2007 in Shimla and Himachal Pradesh

S No	Item	Area (in km^2)		
		Shimla		Himachal Pradesh
1	Geographical Area	5,131		55,673
2	Very Dense forest	739		3,224
3	Moderate Dense forest	1,037		6,383
4	Open forest	608		5,061
	Sub-total	2,384		14,668
	Scrub Forest	32		327

Source: India State of Forest Report 2009

Flora

60. The Shimla district is endowed with a variety of trees, shrubs grasses and climbers. In addition to the above mentioned varieties of trees found in district Shimla, *Pinus wallichiana (*Blue pine*); Picea smithiana (*Rai*), Abies spectabilis, Juniperus macropoda, Populus ciliata, Salix viminalis, Quercus dilata, Alnus indica. Cedrus deodara, Aesculus indica, Corylus colurna, Juglans regia, Prunus cornata, Pinus roxburghii (Chil), Quercus leucotrichophora, Rododendron arboreum, Lyonia ovalifalia, Acacia catehu, Terminalia chebula, Syzygium cumunni, Emblica officinalis, Mallotus philippinensis* and dominant shrubs comprise *of Salix, Barberis, Rosa, Viburnum, Lonicera sp. Carissa opaca, Carissa spinarum, Dodonea viscosa, Indegofera heterantha, Rhamnus virgata* etc.

Fauna

61. The Shimla district use to be a home of wild life in the distant past. Important animals found in the district are Pig, Deer, Rabbit, Tiger, Bear, Ghurral, Kakar, Chittal Deer, Sambar Dear whereas birds found are, Bater, Dove, Peacock, Black Francolin, Yellow footed green Pigeon, Pigeon, Jungle fowl Kolsa, Chakour etc. In Kinnaur district, Serow, Blue Sheep, Red Fox, Musk Deer, Goral, Ibex, Leopard, Snow Leopard, Brown Bear, Himalayan Black Bear are found in different wild life sanctuaries of the district, Yaks, Donkeys and Ponies are reared by local farmers in the higher areas.

C. Socio Cultural and Economic Environment

62. **Demographic Profile.** In 2011, Shimla district had population of 814,010 of which male and female were 425,039 and 388,971 respectively. In 2001 census, Shimla had a population of 722,502 of which males were 380,996 and remaining 341,506 were females. The initial provisional data released by census India 2011, shows that density of Shimla district for 2011 is 159 people per sqkm. In 2001, Shimla district density was at 141 people per sqkm. Shimla district administers 5,131 sqkm of areas. Average literacy rate of Shimla in 2011 were 83.64 compared to 79.12 of 2001. If things are looked out at gender wise, male and female literacy were 89.59 and 77.13 respectively. For 2001 census, same figures stood at 87.19 and 70.07 in Shimla District.

63. As per reports of Census India, population of Shimla city (urban area) in 2011 is 169,758; of which male and female are 93,364 and 76,394 respectively. Although Shimla city has population of 169,758; its urban / metropolitan population is 171,817 of which 94,797 are males and 77,020 are females. In education section, total literates in Shimla city are

147,799 of which 82,486 are males while 65,313 are females. Average literacy rate of Shimla city is 94.67 percent of which male and female literacy was 95.75 and 93.35 percent. The sex ratio of Shimla city is 818 per 1000 males. Child sex ratio of girls is 890 per 1000 boys. Total children (0-6) in Shimla city are 13,646 as per figure from Census India report on 2011. There were 7,221 boys while 6,425 are girls. The child forms 8.04 % of total population of Shimla City.

64. **Economy and Agriculture.** Employment is largely driven by the Government and tourism. Education and horticultural produce processing, comprise most of the remainder. In addition to being the local hub of transportation and trade, Shimla is the area's healthcare centre, hosting a medical college and four major hospitals: the Indira Gandhi Hospital (formerly known as Snowdown Hospital,) Deen Dayal Upadhyay Hospital (formerly called Ripon Hospital,) Kamla Nehru Hospital, and Indus Hospital. The city's development plan aims make Shimla an attractive health tourism spot. Hotel industry is one of the major sources of income generation for the city. Shimla leads the list of Indian cities with the highest ranked hotels. Government is trying to promote technology and IT sector as the new area for growth and promotion although not many companies have yet settled in Shimla. Two notable companies that are registered in Shimla are Avant-Garde Digital, an international company, and Instablogs, a company that deals with media publishing.

65. Maize and wheat are the major cereal crops in Shimla district. Under cash crop, potato is the main crop. Area and production under other crops viz. Millets, pulses and oil seeds is very low. Shimla district occupies a place of pride in the field of horticulture not only in the State but also in the country. Shimla is the biggest Apple growing district in Himachal Pradesh. Other fruits grown include peach, plum apricot, walnut, almond cherry, citrus, etc. Biological Environment.

66. **Industry.** Tourism and agriculture are the mainstays of the district economy. Shimla is a multifunctional city with dominance in tourism, administration and institutional activities. Percentage contribution of primary sectors to total GDP is 25.40%, while that of secondary sector is 35.59 % and tertiary sector is 39.01%. Industrial development in the past has been limited largely due to unavailability of proper infrastructure, hilly region, and cost of transportation. Traditional small-scale industries like wool spinning and weaving, basket making, metal work, that use local resources are still alive without much progress. Apart from this, wood working, black-smith, dying and manufacturing works, oil crushing, leather works, pottery, gold smith, food processing are other small scale industries practiced in the town. The drivers for the majority of these industries are tourists and local people. There are around 259 registered small scale industries in Shimla, with food based industries, textile, leather, wood and wood works, paper and paper products manufacture, and service industries.

67. **Physical Infrastructure and Services.** Department of Irrigation and Public Health are planning and implementing drinking water supply as well as sewage disposal. Public Works department is responsible for planning, construction and operation and maintenance of road network; while internal roads are maintained by local body. Local body does solid waste disposal and management.

V. ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

68. The assessment of environmental impacts for the proposed interventions under this package has been carried out during the preparation of the SAR. An environmental assessment using ADB's Rapid Environmental Assessment (REA) checklist for urban development (**Annexure 1**) was conducted. The following are categories of impacts assessed:

- **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.

69. **Land Acquisition and Resettlement Impacts.** The sub-project does not envisage any diversion of forest land for which any statutory and necessary formalities is required. The project sites are within the main city of Rampur, which is a popular tourist destination. The area is administered under the Municipal Committee of Rampur. The project components of parking are on Government Lands and that for proposed temples, Bhimakali Temple Trust is the authority. Therefore no land acquisition is required and no any resettlement impact will be anticipated.

70. **Design considerations to avoid environmental impacts.** The following are design considerations to avoid environmental impacts:

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

71. 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, etc.) as defined in the management plan of the area.

A. Assessment of Environmental Impacts

72. **Determination of Area of Influence.** The primary impact areas for the proposed subproject are the proposed sites available for the construction of project components.

73. In the case of this subproject the components will involve straight forward

construction and operation, and impacts will be mainly localized, short in duration and expected only during construction period.

74. Environmental impacts have been accessed as per the scope of works of DPR and shall be accessed again before construction works starts and during construction also and if any further impact is identified, it shall be updated in IEE and communicated to ADB and contractor.

B. Pre-construction Impacts and Mitigation Measures

75. **Consents, permits, clearances, no objection certificate (NOC), etc.** All the consents, permits, clearances and NOCs shall be obtained during detailed design and/or before start of works. Failure to obtain necessary consents, permits, NOCs, etc. can result to design revisions and/or stoppage of works.

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

- Obtain all necessary consents, permits, clearance, NOCs, etc. prior to start of civil works.
- Acknowledge in writing and provide report on compliance all obtained consents, permits, clearance, NOCs, etc.
- Include in detailed design drawings and documents all conditions and provisions if necessary

77. **Erosion control.** Most of the impacts will occur due to excavation and earth movements during construction phase. Prior to commencement of civil works, the contractor will be required to:

- Develop an erosion control and re-vegetation plan to minimize soil loss and reduce sedimentation to protect water quality.
- Minimize the potential for erosion by balancing cuts and fills to the extent feasible.
- Identify and avoid areas with unstable slopes and local factors that can cause slope instability (groundwater conditions, precipitation, seismic activity, slope angles, and geologic structure).
- Minimize the amount of land disturbed as much as possible. Use existing roads, disturbed areas, and borrow pits and quarries when possible. Minimize vegetation removal. Stage construction to limit the exposed area at any one time.

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

- Identify and include locations and operators of these utilities in the detailed design documents to prevent unnecessary disruption of services during the construction phase.
- Require contractors to prepare a contingency plan to include actions to be done in case of unintentional interruption of services.

- Require contractor to obtain from the PIU and/or DSC the list of affected utilities and operators;
- If relocations are necessary, contractor along with PIU will coordinate with the providers to relocate the utility.

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

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

80. **Sites for construction work camps and areas for stockpile, storage and disposal.** The priority is to locate these near the subproject sites. The contractor will be required to meet the following criteria for the sites:

- Will not promote instability and result in destruction of property, vegetation, irrigation, and drinking water supply systems, etc.
- Residential areas will not be considered so as to protect the human environment (i.e., to curb accident risks, health risks due to air and water pollution and dust, and noise, and to prevent social conflicts, shortages of amenities, and crime).
- Disposal will not be allowed in to nearby water course or any nearby sensitive areas which may pollute surface water or can inconvenience the community.
- The construction camp, storage of fuel and lubricants should be avoided at the river bank. Any construction camp site will be finalized in consultation with DSC and PIU.

81. **Sources of construction materials.** Significant amounts of gravel, sand, and cement will be required for this subproject. Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution. The contractor will be required to:

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

82. It will be the construction contractor's responsibility to verify the suitability of all

material sources and to submit NOCs/approvals of the quarry sites and obtain the approval of PIU/DSC. If additional quarries are required after construction is started, then the contractor should obtain written approval of PIU.

83. **Site Clearance (Parking).** Rampur proposed parking site will be handed over by MC, Rampur while presently garbage/debris is lying at proposed parking site, Sarhan, which have to be properly disposed off to nullify potential land deterioration and health impacts. The contractor will need to adopt the following mitigation measures:

- Minimize vegetation removals and use of proper clearing techniques and protect retained vegetation should be ensured during pre-construction activities.
- Design and implement erosion and sediment controls to contain/isolate the construction zone, manage site drainage/runoff and prevent erosion of exposed soils and migration of sediment throughout construction.
- Installation of sediment and erosion control measures during cleaning and prior to commencement of construction to prevent sediment from entering nearby water bodies.
- Design and implement vegetation rehabilitation plan following construction to re-plant vegetation with native species compatible with site conditions to pre-construction or better condition.
- Solid waste presently dumped/accumulated at Sarahan Parking site should be carefully removed from the site to dispose in designated areas with the approval of competent authority (by administration) all the care should be taken by appropriate hard barricading that during removal of solid waste from site no litter/garbage should be absolved in the natural nallah.
- Temporarily store, handle and dispose of all materials used or generated (e.g., stones, aggregates soils, woody debris, temporary stockpiles, and construction debris) during site preparation and clean-up in a manner that prevents their migration to adjacent areas and water bodies.
- Existing drainage contours at toe of slope should be maintained.

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

85. Summary of pre-construction activities is presented in **Table 6**. The responsibilities, monitoring program and costs are provided in detailed in the EMP. The contractor is required to update the information during detailed design phase. Sample waste/spoils management plan, traffic management plan, etc. are attached as **Annexures 3 & 4**. Site-specific plans will be developed as per detailed design.

Table 6: Summary of Pre-Construction Mitigation Measures

Parameters	Mitigation Measures
Consents, permits, clearances, no objection certificate (NOC), etc.	• Obtain all necessary consents, permits, clearance, NOCs, etc. prior to start of civil works. • Acknowledge in writing and provide report on compliance all obtained consents, permits, clearance, NOCs, etc. • Include in detailed design drawings and documents all conditions and provisions if necessary
Erosion control	• Develop an erosion control and re-vegetation plan to minimize soil loss and

Parameters	Mitigation Measures
	reduce sedimentation to protect water quality. • Minimize the potential for erosion by balancing cuts and fills to the extent feasible. • Identify and avoid areas with unstable slopes and local factors that can cause slope instability (groundwater conditions, precipitation, seismic activity, slope angles, and geologic structure). • Minimize the amount of land disturbed as much as possible. Use existing roads, disturbed areas, and borrow pits and quarries when possible. Minimize vegetation removal. Stage construction to limit the exposed area at any one time.
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; • Prepare a contingency plan to include actions to be done in case of unintentional interruption of services. • If relocations are necessary, contractor will coordinate with the providers to relocate the utility.
Social and Cultural Resources	• Consult Archaeological Survey of India or State Department of Archaeology (i.e. Language and Culture Department of GoHP) to obtain an expert assessment of the archaeological potential of the site. • Consider alternatives if the site is found to be of medium or high risk. • Include state and local archaeological, cultural and historical authorities, and interest groups in consultation forums as project stakeholders so that their expertise can be made available. • Develop a protocol for use by the construction contractors in conducting any excavation work, to ensure that any chance finds are recognized and measures are taken to ensure they are protected and conserved.
Sites for construction work camps, areas for stockpile, storage and disposal	• Will not promote instability and result in destruction of property, vegetation, irrigation, and drinking water supply systems, etc. • Residential areas will not be considered so as to protect the human environment (i.e., to curb accident risks, health risks due to air and water pollution and dust, and noise, and to prevent social conflicts, shortages of amenities, and crime). • Disposal will not be allowed near sensitive areas which will inconvenience the community. • Disposal will not be allowed in nearby river to check water pollution • The construction camp, storage of fuel and lubricants should be avoided at the river bank. The construction camp site for intake well should be finalized in consultation with DSC and PIU.
Sources of construction materials	• Use quarry sites and sources permitted by government. • Verify suitability of all material sources and obtain approval from PIU/DSC. • If additional quarries are required after construction has started, obtain written approval from PIU/DSC. • Submit to PIU/DSC on a monthly basis documentation of sources of materials.
Site clearance, parking	• Minimize vegetation removals and use of proper clearing techniques and protect retained vegetation should be ensured during pre-construction activities. • Design and implement erosion and sediment controls to contain/isolate the construction zone, manage site drainage/runoff and prevent erosion of exposed soils and migration of sediment throughout construction. • Installation of sediment and erosion control measures during cleaning and prior to commencement of construction to prevent sediment from entering nearby water bodies.

Parameters	Mitigation Measures
	• Design and implement vegetation rehabilitation plan following construction to re-plant vegetation with native species compatible with site conditions to pre-construction or better condition. • Solid waste presently dumped/accumulated at Sarahan Parking site should be carefully removed from the site to dispose in designated areas with the approval of competent authority (by administration) all the care should be taken by appropriate hard barricading that during removal of solid waste from site no litter/garbage should be absolved in the natural nallah. • Temporarily store, handle and dispose of all materials used or generated (e.g., stones, aggregates soils, woody debris, temporary stockpiles, and construction debris) during site preparation and clean-up in a manner that prevents their migration to adjacent areas and water bodies. • Existing drainage contours at toe of slope should be maintained.
Access	• Plan transportation routes so that heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites. • Schedule transport and hauling activities during non-peak hours. • Locate entry and exit points in areas where there is low potential for traffic congestion. • Keep the site free from all unnecessary obstructions. • Drive vehicles in a considerate manner. • Coordinate with the Traffic Police Department for temporary road diversions and for provision of traffic aids if transportation activities cannot be avoided during peak hours. • Notify affected sensitive receptors by providing sign boards with information about the nature and duration of construction works and contact numbers for concerns/complaints. • Provide free access to households and businesses/shops along ROWs during the construction phase.

C. Anticipated Construction Impacts and Mitigation Measures

86. **Construction Schedule and Method.** As per detailed design, construction activities will cover 24 months.

87. The infrastructures will be constructed manually according to design specifications. Excavations and trenches, if required, will be dug by small backhoe diggers supplemented by manual digging where necessary. Excavated soil will be placed nearby. Excavated materials will be reused to the maximum extent possible. Materials will be brought to site by trucks and will be stored on unused areas within sites and nearby vacant areas. Any excavated road will be reinstated. The working hours will be 8 hours daily, the total duration of each stage depends on the soil condition and other local features. Night works may be considered in commercial areas and high day-time traffic.

88. Proposed roads are narrow and busy city roads. There will be no space for storage of huge quantity of construction material or plying construction machineries. Therefore contractor will be require to bring the required quantity of construction material for a single day only and the contractor will also need to remove all construction and demolition wastes on a daily basis.

89. Although construction of these project components involves quite simple techniques of civil work, the invasive nature of excavation and the subproject sites in built-up areas where there are a variety of human activities, will result to impacts to the environment and

sensitive receptors such as residents, businesses, and the community in general. These anticipated impacts are short-term, site-specific and within relatively small areas.

90. **Erosion Hazards.** The sites is having uneven terrain therefore risk of erosion is very high but limited during construction activities and expected to have negative impact on the drainage and hydrology of the area. Runoff will produce a highly variable discharge in terms of volume and quality. Therefore the contractor will be required to:

- Save top soil removed during excavation and use to reclaim disturbed areas, as soon as it is possible to do so.
- Use dust abatement such as water spraying to minimize windblown erosion.
- Provide temporary stabilization of disturbed/excavated areas that are not actively under construction.
- Apply erosion controls (e.g., silt traps) along the drainage leading to the water bodies.
- Maintain vegetative cover within unused land to prevent erosion and periodically monitor the area to assess erosion.
- Clean and maintain catch basins, drainage ditches, and culverts regularly.
- Conduct routine site inspections to assess the effectiveness of and the maintenance requirements for erosion and sediment control systems.

91. **Impacts on Water Quality.** Excavated materials may end up in drainages and water bodies adjacent to the subproject sites, particularly during monsoon season. Other risks of water pollution may be caused by: (i) poorly managed construction sediments, wastes and hazardous substances; and (ii) poor sanitation practices of construction workers. The contractor will be required to:

- Schedule civil works during non-monsoon season, to the maximum extent possible.
- Ensure drainages and water bodies within the construction zones are kept free of obstructions.
- Keep loose soil material and stockpiles out of drains, flow-lines and watercourses.
- Avoid stockpiling of excavated and construction materials (sand, gravel, cement, etc.) unless covered by tarpaulins or plastic sheets.
- Re-use/utilize, to maximum extent possible, excavated materials.
- Dispose any residuals at identified disposal site (PIU/DSC will identify approved sites).
- Dispose waste oil and lubricants generated as per provisions of Hazardous Waste (Management and Handling) Rules, 1989.
- Develop a spill prevention and containment plan, educate workers about the plan, and have the necessary materials on site prior to and during construction.
- Refuel equipment within the designated refuelling containment area away from drainages, *nallahs*, or any water body.
- Inspect all vehicles daily for fluid leaks before leaving the vehicle staging area, and repair any leaks before the vehicle resumes operation.
- Chemicals to be used for temple cleaning shall not be allowed to spill and not go to the water bodies.
- Steep slopes should be stabilized through the use of retaining walls or check dams derived from masonry works, straw bales, berms or gabion baskets.

- To protect river/ seasonal nallah, retaining wall shall be preferred for river and hard barricading for seasonal nallah
- Slopes should be re-vegetated with native seed mix as soon as practical following construction activities with a layer of erosion control matting to assist propagation of the seed mixture. Seeded areas should be protected with appropriate stabilizing techniques (e.g., straw mats).
- Sediment control fencing should be regularly inspected and maintained throughout construction, restoration and rehabilitation, until vegetative cover is fully established. The requirement for, and location of, sediment control fencing should minimize potential for sediments to enter the water bodies (e.g., stockpiles, excavated material). The placement of sediment control fence should be determined by Site Engineers.

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

- Conduct regular water spraying on earth piles, trenches and sand piles.
- Conduct regular visual inspection along alignments and construction zones to ensure no excessive dust emissions.
- Spreading crushed gravel over backfilled surfaces if re-surfacing of disturbed areas cannot be done immediately.
- Maintain construction vehicles and obtain “pollution under control” certificate from HPSPCB.
- Obtain CFE and CFO for hot mix plants, crushers, diesel generators, etc., if to be used in the project.

93. **Noise and Vibration Impacts.** Noise and vibration-emitting construction activities include earthworks, rock crushing, concrete mixing, movement and operation of construction vehicles and equipment, and loading and unloading of coarse aggregates. The significance of noise and vibration impacts will be high in areas where noise-sensitive institutions such as health care and educational facilities are situated. These impacts will be temporary, short-term, intermittent, and expected to be in the range of 80 to 100 dB(A) as per **Table 7** (typical noise levels of principal construction equipment).

Table 7: Typical Noise Levels of Principal Construction Equipment

CLEARING		STRUCTURE CONSTRUCTION	
Bulldozer	80	Crane	75-77
Front end loader	72-84	Welding generator	71-82
Jack hammer	81-98	Concrete mixer	74-88
Crane with ball	75-87	Concrete pump	81-84
		Concrete vibrator	76
EXCAVATION & EARTH MOVING		Air compressor	74-87
Bulldozer	80	Pneumatic tools	81-98
Backhoe	72-93	Bulldozer	80
Front end loader	72-84	Cement and dump trucks	83-94
Dump truck	83-94	Front end loader	72-84

Jack hammer	81-98	Dump truck	83-94
Scraper	80-93	Paver	86-88
GRADING AND COMPACTING		LANDSCAPING AND CLEAN-UP	
Grader	80-93	Bulldozer	80
Roller	73-75	Backhoe	72-93
		Truck	83-94
PAVING		Front end loader	72-84
Paver	86-88	Dump truck	83-94
Truck	83-94	Paver	86-88
Tamper	74-77	Dump truck	83-94

Source: U.S. Environmental Protection Agency. Noise from Construction Equipment and Operations. Building Equipment and Home Appliances. NJID. 300.1. December 31. 1971

94. The contractor will be required to:

- Limit construction activities to **day time 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.
- Avoid loud random noise from sirens, air compression, etc.
- Require drivers that horns not be used unless it is necessary to warn other road users or animals of the vehicle's approach.
- If specific noise complaints are received during construction, the contractor may be required to implement one or more of the following noise mitigation measures, as directed by the project manager:
    - Locate stationary construction equipment as far from nearby noise-sensitive properties as possible.
    - Shut off idling equipment.
    - Reschedule construction operations to avoid periods of noise annoyance identified in the complaint.
    - Notify nearby residents whenever extremely noisy work will be occurring.
- Follow Noise Pollution (Regulation and Control) Rules, day time ambient noise levels should not exceed 65 dB(A) in commercial areas, 55 dB(A) in residential areas, and 50 dB(A) in silence zone.[2]
- Ensure vehicles comply with Government of India noise limits for vehicles. The test method to be followed shall be IS:3028-1998.

95. **Impacts on Flora and Fauna.** As per preliminary design, tree-cutting is not required. This will be reassessed during detailed design phase. There are no protected areas in the direct and indirect impact zones and no diverse ecological biodiversity as vegetation and animals found in the construction zones are common in built up/urban areas. The contractor will be required to:

- Conduct site induction and environmental awareness.

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

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

96. **Impacts on Physical Cultural Resources.** There may be inconvenience to tourists, residents, businesses, and other road users due to construction activities in the proposed area. 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 sign boards to inform nature and duration of construction works and contact numbers for concerns/complaints.
- Implement good housekeeping. Remove wastes immediately. Prohibit stockpiling of materials that may obstruct/slow down pedestrians and/or vehicle movement.
- Ensure workers will not use nearby/adjacent areas as toilet facility.
- Coordinate with DSC for transportation routes and schedule. Schedule transport and hauling activities during non-peak hours. Communicate road detours via visible boards, advertising, pamphlets, etc.
- Ensure heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites.
- Provide instructions on event of chance finds for archaeological and/or ethno-botanical resources. Works must be stopped immediately until such time chance finds are cleared by experts.

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

- Prepare and implement a waste management plan. Manage solid waste according to the following hierarchy: reuse, recycling and disposal. Include in waste management plan designated/approved disposal areas.
- Coordinate with Local Municipal Authority for beneficial uses of excavated soils/silts/sediments or immediately dispose to designated areas.
- Recover used oil and lubricants and reuse; or remove from the sites.
- Avoid stockpiling and remove immediately all excavated soils, excess construction materials, and solid waste (removed concrete, wood, trees and plants, 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.

98. **Impacts on Occupational Health and Safety.** Workers need to be mindful of occupational hazards which can arise from construction works. Exposure to work-related chemical, physical, biological and social hazard is typically intermittent and of short duration, but is likely to reoccur. Potential impacts are negative and long-term but reversible by mitigation measures. Overall, the contractor should comply with IFC EHS Guidelines on

Occupational Health and Safety (this can be downloaded from http://www1.ifc.org/wps/wcm/connect/9aef2880488559a983acd36a6515bb18/2%2BOccupational%2BHealth%2Band%2BSafety.pdf?MOD=AJPERES). The contractor will be required to:

- Disallow worker exposure to noise level greater than 85 dB(A) for duration of more than 8 hours per day without hearing protection. The use of hearing protection shall be enforced actively.
- Develop comprehensive site-specific health and safety (H&S) plan. The overall objective is to provide guidance to contractors on establishing a management strategy and applying practices that are intended to eliminate, or reduce, fatalities, injuries and illnesses for workers performing activities and tasks associated with the project.
- Include in H&S plan measures such as: (i) type of hazards during excavation works; (ii) corresponding personal protective equipment for each identified hazard; (iii) H&S training for all site personnel; (iv) procedures to be followed for all site activities; and (v) documentation of work-related accidents.
- Provide H&S orientation training to all new workers to ensure that they are apprised of the rules of work at the site, personal protective protection, and preventing injury to fellow workers.
- Ensure that qualified first-aid can be provided at all times. Equipped first-aid stations shall be easily accessible throughout the site as well as at construction camps.
- Provide medical insurance coverage for workers.
- Secure construction zone from unauthorized intrusion and accident risks.
- Provide supplies of potable drinking water.
- Provide clean eating areas where workers are not exposed to hazardous or noxious substances.
- Provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present. Ensure also that visitor/s do not enter hazard areas unescorted.
- Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas.
- Ensure moving equipment is outfitted with audible back-up alarms.
- Mark and provide sign boards in the construction zone, and areas for storage and disposal. Signage shall be in accordance with international standards and be well known to, and easily understood by workers, visitors, and the general public as appropriate.

99. **Impacts on Socio-Economic Activities.** Manpower will be required during the 24 months construction phase. This can help generate contractual employment and increase in local revenue. Thus potential impact is positive and long-term. As per preliminary design, land acquisition and closure of roads are not required; therefore no negative impact is expected. However, the contractor will need to adopt the following mitigation measures:

- Leave space for access between mounds of soil.
- Provide walkways and metal sheets where required to maintain access to shops/businesses along trenches.

- Consult businesses and institutions regarding operating hours and factoring this in to work schedules.
- Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints.
- Employ at least 50% of the labor force, or to the maximum extent, local persons within the 2-km immediate area if manpower is available.

100. **Summary of Mitigation Measures during Construction. Table 8** provides summary of mitigation measures to be considered by the contractor during construction phase. The detailed mitigation measures, environmental monitoring and reporting requirements, emergency response procedures, related implementation arrangements, capacity development and training measures, implementation schedule, cost estimates, and performance indicators are provided in the EMP

Table 8: Summary of Mitigation Measures during Construction Phase

Potential Impact	Mitigation Measures
Erosion hazards	• Save topsoil removed during excavation and use to reclaim disturbed areas, as soon as it is possible to do so. • Use dust abatement such as water spraying to minimize windblown erosion. • Provide temporary stabilization of disturbed/excavated areas that are not actively under construction. • Apply erosion controls (e.g., silt traps) along the drainage leading to the water bodies. • Maintain vegetative cover within road ROWs to prevent erosion and periodically monitor ROWs to assess erosion. • Clean and maintain catch basins, drainage ditches, and culverts regularly. • Conduct routine site inspections to assess the effectiveness of and the maintenance requirements for erosion and sediment control systems.
Impacts on water quality	• Schedule civil works during non-monsoon season, to the maximum extent possible. • Ensure drainages and water bodies within the construction zones are kept free of obstructions. • Keep loose soil material and stockpiles out of drains, flow-lines and watercourses. • Avoid stockpiling of excavated and construction materials (sand, gravel, cement, etc.) unless covered by tarpaulins or plastic sheets. • Re-use/utilize, to maximum extent possible, excavated materials. • Dispose any residuals at identified disposal site (PIU/DSC will identify approved sites). • Dispose waste oil and lubricants generated as per provisions of Hazardous Waste (Management and Handling) Rules, 1989. • Develop a spill prevention and containment plan, educate workers about the plan, and have the necessary materials on site prior to and during construction. • Refuel equipment within the designated refuelling containment area away from drainages, nallahs, or any water body. • Inspect all vehicles daily for fluid leaks before leaving the vehicle staging area, and repair any leaks before the vehicle resumes operation. • Chemicals to be used for temple cleaning shall not be allowed to spill and not go to the water bodies. • Steep slopes should be stabilized through the use of check dams or retaining walls derived from masonry works, straw bales, berms or gabion baskets. • To protect river/ seasonal nallah at parking sites , retaining wall shall be

Potential Impact	Mitigation Measures
	preferred in river and hard barricading in seasonal nallah • Slopes should be re-vegetated with native seed mix as soon as practical following construction activities with a layer of erosion control matting to assist propagation of the seed mixture. Seeded areas should be protected with appropriate stabilizing techniques (e.g., straw mats). • Sediment control fencing should be regularly inspected and maintained throughout construction, restoration and rehabilitation, until vegetative cover is fully established. The requirement for, and location of, sediment control fencing should minimize potential for sediments to enter the water bodies (e.g., stockpiles, excavated material). The placement of sediment control fence should be determined by Site Engineers.
Impacts on air quality	• Conduct regular water spraying on earth piles, trenches and sand piles. • Conduct regular visual inspection along alignments and construction zones to ensure no excessive dust emissions. • Spreading crushed gravel over backfilled surfaces if re-surfacing of disturbed ROWs cannot be done immediately. • Maintain construction vehicles and obtain "pollution under control" certificate from HPSPCB. • Obtain CFE and CFO for hot mix plants, crushers, diesel generators, etc., if to be used in the project.
Noise and vibrations impacts	• Limit construction activities in **day time 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. • Avoid loud random noise from sirens, air compression, etc. • Require drivers that horns not be used unless it is necessary to warn other road users or animals of the vehicle's approach. • If specific noise complaints are received during construction, the contractor may be required to implement one or more of the following noise mitigation measures, as directed by the project manager: (i) locate stationary construction equipment as far from nearby noise-sensitive properties as possible; (ii) shut off idling equipment; (iii) reschedule construction operations to avoid periods of noise annoyance identified in the complaint; and/or (iv) notify nearby residents whenever extremely noisy work will be occurring. • Follow Noise Pollution (Regulation and Control) Rules, day time ambient noise levels should not exceed 65 dB(A) in commercial areas, 55 dB(A) in residential areas, and 50 dB(A) in silence zone.[3] • Ensure vehicles comply with Government of India noise limits for vehicles. The test method to be followed shall be IS:3028-1998.
Impacts on flora and fauna	• Conduct site induction and environmental awareness. • Limit activities within the work area. • Replant trees in the area using minimum ratio of 2 new trees for every 1 tree cut, if any. Replacement species must be approved by District Forest Department.
Impacts on physical resources	• Ensure no damage to structures/properties near construction zone. • Provide sign boards to inform nature and duration of construction works and contact numbers for concerns/complaints. • Implement good housekeeping. Remove wastes immediately. Prohibit stockpiling of materials that may obstruct/slow down pedestrians and/or

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

Potential Impact	Mitigation Measures
	vehicle movement. • Ensure workers will not use nearby/adjacent areas as toilet facility. • Coordinate with PIU/DSC for transportation routes and schedule. Schedule transport and hauling activities during non-peak hours. Communicate road detours via visible boards, advertising, pamphlets, etc. • Ensure heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites. • Provide instructions on event of chance finds for archaeological and/or ethno-botanical resources. Works must be stopped immediately until such time chance finds are cleared by experts.
Impacts on waste generation	• Prepare and implement a waste management plan. Manage solid waste according to the following hierarchy: reuse, recycling and disposal. Include in waste management plan designated/approved disposal areas. • Coordinate with Town Municipal Authority for beneficial uses of excavated soils/silts/sediments or immediately dispose to designated areas. • Recover used oil and lubricants and reuse; or remove from the sites. • Avoid stockpiling and remove immediately all excavated soils, excess construction materials, and solid waste (removed concrete, wood, trees and plants, packaging materials, empty containers, oils, lubricants, and other similar items). • Prohibit disposal of any material or wastes (including human waste) into drainage, *nallah*, or watercourse.
Impacts on occupational health and safety	• Comply with IFC EHS Guidelines on Occupational Health and Safety • Disallow worker exposure to noise level greater than 85 dBA for a duration of more than 8 hours per day without hearing protection. The use of hearing protection shall be enforced actively. • Develop comprehensive site-specific health and safety (H&S) plan. The overall objective is to provide guidance to contractors on establishing a management strategy and applying practices that are intended to eliminate, or reduce, fatalities, injuries and illnesses for workers performing activities and tasks associated with the project. • Include in H&S plan measures such as: (i) type of hazards during excavation works; (ii) corresponding personal protective equipment for each identified hazard; (iii) H&S training for all site personnel; (iv) procedures to be followed for all site activities; and (v) documentation of work-related accidents. • Provide H&S orientation training to all new workers to ensure that they are apprised of the rules of work at the site, personal protective protection, and preventing injury to fellow workers. • Ensure that qualified first-aid can be provided at all times. Equipped first-aid stations shall be easily accessible throughout the site as well as at construction camps. • Provide medical insurance coverage for workers. • Secure construction zone from unauthorized intrusion and accident risks. • Provide supplies of potable drinking water. • Provide clean eating areas where workers are not exposed to hazardous or noxious substances. • Provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present. Ensure also that visitor/s do not enter hazard areas unescorted. • Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas. • Ensure moving equipment is outfitted with audible back-up alarms. • Mark and provide sign boards in the construction zone, and areas for storage and disposal. Signage shall be in accordance with international standards and be well known to, and easily understood by workers, visitors, and the general public as appropriate.
Impacts on	• Leave space for access between mounds of soil.

Potential Impact	Mitigation Measures
socio-economic activities	• Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints. • Employ at least 50% of the labor force, or to the maximum extent, local persons within the 2-km immediate area if manpower is available. • "Mobility Plan" has to be chalked out in consultation with the District Administration prior to start of work.

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

D. Post-Construction Impacts and Mitigation Measures

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

- Backfill any excavation and trenches, preferably with excess excavation material generated during the construction phase.
- Use removed topsoil to reclaim disturbed areas.
- Re-establish the original grade and drainage pattern to the extent practicable.
- Ensure site and all areas to water body are stabilized prior to removal of erosion and sediment control measures following construction. With implementation of the mitigation measures recommended above, the potential mobilization of soils and potential impacts to watercourses will be minimized using proper vegetation management techniques, installation of sediment and erosion control measures, and appropriate watercourse crossing methods.
- Stabilize all areas of disturbed vegetation using weed-free native shrubs, grasses, and trees.
- Restore access roads, staging areas, and temporary work areas.
- Restore roadside vegetation.
- Remove all tools, equipment, barricades, signs, surplus materials, debris, and rubbish. Demolish buildings/structures not required for O&M. Dispose in designated disposal sites.
- Monitor success of re-vegetation and tree re-planting. Replace all plants determined to be in an unhealthy condition.
- Request in writing from PIU/DSC that construction zones have been restored.

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

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

- Increased vehicular movement along the roads - speed restrictions, provision of appropriate road signage and well located rest points for pedestrians shall minimize impacts on safety of the people
- Increase demands for services – addressed through the subproject design
- Increase solid waste generation – Rampur Municipality to put in place solid waste management programs.

VI. INFORMATION DISCLOSURE, CONSULTATION AND PARTICIPATION

A. ADB Disclosure Policy

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

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

B. Process for Consultation followed

106. During project preparation (June to August 2014), consultations have been held with the HP Department of Tourism, tourists of Rampur and local administration, Municipal Council, local community representatives, tourism officers, and tourist guides/photographers regarding issues pertaining to the selection of subprojects and identification of key issues including addressing the current gaps in provision of basic services and improvement of tourist infrastructure. Consultations with stakeholders were also done during detail design to understand the existing site conditions and any special requirements/measures during construction phase. Records of the consultations are provided in **Annexure-5**.

C. Plan for continued public participation

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

108. The EA will submit to ADB the following documents for disclosure on ADB's website: (i) the final IEE; (ii) a new or updated IEE and corrective action plan prepared during project

implementation, if any; and (iii) the semi-annual environmental monitoring reports.

109. For the benefit of the community, relevant information in the IEE (Executive Summary) will be translated in Hindi and made available at: (i) Office of the PMU; and, (ii) Office of the District Commissioner, Shimla District. These copies will be made available free of cost to any person seeking information on the same. Hard copies of the IEE will be available in the PMU/PIU as well as the district library at Shimla, 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 Tourism Department and the website of ADB after approval of the documents by Government and ADB. The PMU will issue notification on the disclosure mechanism, 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 one month ahead of the implementation works.

VII. GRIEVANCE REDRESS MECHANISM

110. The affected person/aggrieved party can give their grievance verbally or in written to the 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.

111. 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.

i) Composition and Functions of GRC

112. **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 Himachal Pradesh, 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.

113. **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.

114. **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).

115. The details are attached as **Annexure 6.**

ii. Approach to GRC.

116. 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–7.**
- Telecom based: The Project Manager office no. is displayed at various construction sites so that general public can register their complaint through telephone / mobile phone to the PIU office.

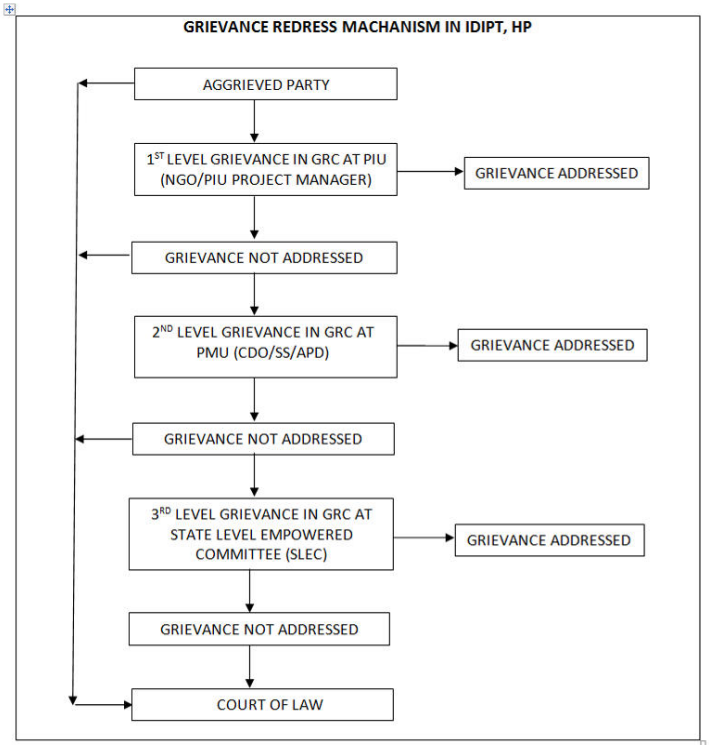


Figure 3: Grievance Redress Mechanism in IDIPT, Himachal Pradesh

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

117. 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.

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

119. 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

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

- The Department of Tourism and Civil Aviation (DoTCA), Government of Himachal Pradesh, is the Executing Agency.
- The implementing agency is the Himachal Pradesh Tourism Development Board (HPTDB).
- The Project Management Unit (PMU) has been established in Shimla for the overall project management and
- Project Implementation Unit (PIU) has been established in Shimla.
- Environmental Specialist has been deputed by the PMU, who will be responsible for implementation of the environmental safeguard provisions. The Project Management Consultants (PMC) and Design and Supervision Consultant (DSC, Shimla) have been recruited to provide assistance to the PMU/PIUs in project implementation.
- Within the PMC team, an Environmental Specialist provides overall direction for management of environmental issues, and provides technical support to the PMU including implementation of the environmental safeguards according to ADB requirements, and assist in monitoring impacts and mitigation measures associated with subprojects.
- The Environmental Specialist of the DSC team is responsible for preparation of the Environmental assessment documents in line with the EARF and supervises the implementation of the EMP provisions in the subprojects. The DSC

Safeguards specialist supports environmental management functions including updating IEEs with respect to sub-project Environmental Management Plans, and assist in monitoring impacts and mitigation measures associated with subprojects. He/she will be required to include mitigation measures in designs where appropriate, and to specify other measures in construction contracts. Contractors will be required by their contracts to implement all specified mitigation, monitoring, and reporting assigned to contractors as presented in the EMP.

- The PMU, oversees the implementation of the environmental provisions related to subproject implementation, its responsibilities include preparation and updation of IEEs consistent with the ADBs Safeguards Policy Statement and the environmental compliance requirements of the Government of Himachal Pradesh and the Government of India. Environmental monitoring will be undertaken by the PMU supported by the DSC - Safeguards Specialist.
- The project includes upfront and on-going supervision and training assistance for environmental monitoring reporting in project management structures. The effective implementation of the measures proposed will be ensured through the building up of capacity towards environmental management within the PMU supplemented with the technical expertise of a Safeguards Specialist as part of the PMC/DSC.

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

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

Box 2: Terms of Reference of Safeguards Specialist (Environment) of DSC
• Review 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- • 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 • Management plan and mitigation measures • 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

122. **Responsibility for updating IEE during detailed design.** DSC will update this IEE when required and submit to PMU for final review before submission to ADB. PMC will assist PMU and coordinate with DSC.

123. **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 Town Municipal Authority, Rampur & Temple Trust.

124. **Responsibility for reporting.** The PMU, PIU, PMC and DSC will be responsible for environmental monitoring. PIU in coordination with DSC will submit monthly monitoring report to PMU thereafter the reports will be submitted to ADB on semi-annual basis. ADB will post the environmental monitoring reports on its website. Any major accidents having

serious environmental consequences will be reported immediately. PMC environmental expert will help in preparing progress reports including environmental closure report. The sample field monitoring report and semi-annual environmental monitoring templates are attached as **Annexure- 8 & 9**.

B. EMP Tables

125. **Table 9 to 11** show the potential adverse environmental impacts, proposed mitigation measures, responsible parties, and cost of implementation. This EMP will be included in the bid documents and will be further reviewed and updated during implementation.

Table 9: Pre-Construction EMP Table

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds to Implement Mitigation Measures
Consents, permits, clearances, no objection certificate (NOC), etc.	• Obtain all necessary consents, permits, clearance, NOCs, etc. prior to start of civil works.	Consents, permits, clearance, NOCs, etc.	PMU	EA to report to ADB in environmental monitoring report (EMR)	check CFEs, permits, clearance, prior to start of civil works	PMU
	• Acknowledge in writing and provide report on compliance of all obtained consents, permits, clearance, NOCs, etc.	Records and communications	PMU	EA to report to ADB in EMR	Acknowledge upon receipt Send report as specified in CFE, permits, etc.	PMU
	• Include in detailed design drawings and documents all conditions and provisions if necessary	Detailed design documents and drawings	Contractor	PMU and PMC PIU and DSC	Upon submission by contractor	PMU
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). Include photos and GPS coordinates • Prior to start of civil works ambient air quality, ambient noise level and Water testing will be generated (once except monsoon period).	Records/ Ambient air Parameter's (PM10, PM2.5, SO_2, NO_2,); ambient noise level (8 hourly dB(A)) & Water Testing Parameters (pH, TDS, DO, BOD, Total coliform and Oil & Grease)	Contractor/PMU	PIU and DSC	Baseline data will be generated prior to start of civil work.	Contractor
Erosion control	• Develop an erosion control and re-vegetation plan to minimize soil loss and reduce sedimentation to protect water quality.	Erosion control and re-vegetation plan covering construction phase	Contractor	PIU and DSC	to be included in updated IEE report	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds to Implement Mitigation Measures
	• Minimize the potential for erosion by balancing cuts and fills to the extent feasible. • Identify and avoid areas with unstable slopes and local factors that can cause slope instability (groundwater conditions, precipitation, seismic activity, slope angles, and geologic structure). • Minimize the amount of land disturbed as much as possible. Use existing roads, disturbed areas, and borrow pits and quarries when possible. Minimize vegetation removal. Stage construction to limit the exposed area at any one time. Minimize the amount of land disturbed as much as possible. Use existing roads, disturbed areas, and borrow pits and quarries when possible. Minimize vegetation removal. Stage construction to limit the exposed area at any one time.					
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	List and maps 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 (i) prepare list and	PIU and DSC	to be included in updated IEE report	DSC – preliminary design stage Contractor – detailed design stage

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds to Implement Mitigation Measures
	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.		operators of utilities to be shifted; (ii) contingency plan			
Social and Cultural Resources	• Consult Archaeological Survey of India (ASI) or HP State Archaeology Department to obtain an expert assessment of the archaeological potential of the site. • Consider alternatives if the site is found to be of medium or high risk. • Include state and local archaeological, cultural and historical authorities, and interest groups in consultation forums as project stakeholders so that their expertise can be made available. • Develop a protocol for use by the construction contractors in conducting any excavation work, to ensure that any chance finds are recognized and measures are taken to ensure they are protected and conserved.	Chance find protocol	- PMC to consult ASI or HP State Archaeology Department - PMC to develop protocol for chance finds	PMU	to be included in updated IEE report	PMU

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds to Implement Mitigation Measures
Sites for construction work camps, areas for stockpile, storage and disposal	• Will not promote instability and result in destruction of property, vegetation, irrigation, and drinking water supply systems, etc. • Residential areas will not be considered so as to protect the human environment (i.e., to curb accident risks, health risks due to air and water pollution and dust, and noise, and to prevent social conflicts, shortages of amenities, and crime). • Disposal will not be allowed near sensitive areas which will inconvenience the community. • The construction camp, storage of fuel and lubricants should be avoided at the river bank. The construction camp site for intake well should be finalized in consultation with DSC and PIU.	List of pre-approved sites for construction work camps, areas for stockpile, storage and disposal Waste management plan	- DSC to prepare list of potential sites DSC to inspect sites proposed by contractor if not included in pre-approved sites	PIU/DSC	Monthly	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 PIU/DSC on a monthly basis documentation of sources of materials.	Permits issued to quarries/sources of materials	Contractor PIU and DSC to verify sources (including permits) if additional is requested by contractor	PMU/PIU	Upon submission by contractor, monthly	PMU and DSC

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds to Implement Mitigation Measures
Site Clearance, Parking	• Minimize vegetation removals and use of proper clearing techniques and protect retained vegetation should be ensured during pre-construction activities. • Design and implement erosion and sediment controls to contain/isolate the construction zone, manage site drainage/runoff and prevent erosion of exposed soils and migration of sediment throughout construction. • Installation of sediment and erosion control measures during cleaning and prior to commencement of construction to prevent sediment from entering nearby water bodies. • Design and implement vegetation rehabilitation plan following construction to re-plant vegetation with native species compatible with site conditions to pre-construction or better condition. • Solid waste presently dumped/accumulated at Sarahan Parking site should be carefully removed from the site to dispose in designated areas with the approval of competent authority (by administration) all	-Permits for garbage disposal -Vegetative rehabilitation plan	Contractor	PIU and DSC	Continuous during construction	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds to Implement Mitigation Measures
	the care should be taken by appropriate hard barricading that during removal of solid waste from site no litter/garbage should be absolved in the natural nallah. • Temporarily store, handle and dispose of all materials used or generated (e.g., stones, aggregates soils, woody debris, temporary stockpiles, and construction debris) during site preparation and clean-up in a manner that prevents their migration to adjacent areas and water bodies. • Existing drainage contours at toe of slope should be maintained.					
Access	• Plan transportation routes so that heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites. • Schedule transport and hauling activities during non-peak hours. • Locate entry and exit points in areas where there is low potential for traffic congestion. • Keep the site free from all unnecessary obstructions. • Drive vehicles in a considerate manner. • Coordinate with the Traffic	Traffic management plan	Contractor	PIU and DSC	Continuous during construction	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds to Implement Mitigation Measures
	Police Department for temporary road diversions and for provision of traffic aids if transportation activities cannot be avoided during peak hours. • Notify affected sensitive receptors by providing sign boards with information about the nature and duration of construction works and contact numbers for concerns/complaints. • Provide free access to households along the alignments of raw and clear water transmission routes during the construction phase.					
Occupational health and safety	• Comply with IFC EHS Guidelines on Occupational Health and Safety • Develop comprehensive site-specific health and safety (H&S) plan. The overall objective is to provide guidance to contractors on establishing a management strategy and applying practices that are intended to eliminate, or reduce, fatalities, injuries and illnesses for workers performing activities and tasks associated with the project. • Include in H&S plan measures such as: (i) type of hazards in the intake wells site; (ii)	Health and safety (H&S) plan	Contractor	PIU and DSC	Continuous during construction	Contractor

Parameters	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of monitoring	Source of Funds to Implement Mitigation Measures
	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	PMC and DSC	PMU and PMC	- During updating of IEE Report - During preparation of site- and activity-specific plans as per EMP - Prior to start of construction - During construction	PMU/PMC/DSC

Table 10: 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
Erosion hazards	• Save topsoil removed during excavation and use to reclaim disturbed areas, as soon as it is possible to do so. • Use dust abatement such as	Erosion control and re-vegetation plan	Contractor	PIU and DSC PIU to submit EMP monitoring	- daily visual inspection by contractor supervisor and/or environment	Contractor

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	water spraying to minimize windblown erosion. • Provide temporary stabilization of disturbed/excavated areas that are not actively under construction. • Apply erosion controls (e.g., silt traps) along the drainage leading to the water bodies. • Maintain vegetative cover within road ROWs to prevent erosion and periodically monitor ROWs to assess erosion. • Clean and maintain catch basins, drainage ditches, and culverts regularly. • Conduct routine site inspections to assess the effectiveness of and the maintenance requirements for erosion and sediment control systems.			report to PMU	specialist - weekly visual inspection by DSC (more frequent during monsoon season and if corrective action is required) - random inspection by PMU, PIU, PMC and/or DSC	
Impacts on water quality	• During construction, surface water quality testing will be done at two sites (quarterly except monsoon period for 24 month)	pH, TDS, DO, BOD, Total coliform and Oil & Grease	PMU/ PMC	PMC/DSC	- Data will be generated during the construction phase	
	• Schedule construction activities during non-monsoon season, to the maximum extent possible.	Work schedule	Contractor	PIU and DSC PIU to submit EMP monitoring report to PMU	- daily inspection by contractor supervisor and/or environment specialist - weekly visual inspection by DSC (more frequent during	
	• Ensure drainages and water bodies within the construction zones are kept free of obstructions.	Visual inspection				
	• Keep loose soil material and stockpiles out of drains and flow-	Visual inspection				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	lines.				monsoon season and if corrective action is required) - random inspection by PMU, PIU, PMC and/or DSC	
	• 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				
	• Dispose any residuals at identified disposal site (PIU/DSC will identify approved sites).	condition in waste management plan				
	• Dispose waste oil and lubricants generated as per provisions of Hazardous Waste (Management and Handling) Rules, 1989.	condition in waste management plan				
	• Develop a spill prevention and containment plan, educate workers about the plan, and have the necessary materials on site prior to and during construction.	condition in waste management plan				
	• Refuel equipment within the designated refueling containment area away from drainages, *nallahs*, or water body.	condition in list of pre-approved sites for construction work camps, areas for stockpile, storage and disposal				
	• 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				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	• Chemicals to be used for temple cleaning shall not be allowed to spill and not go to the water bodies	condition in waste management plan				
	• Steep slopes should be stabilized through the use of check dams or retaining walls derived from masonry works, straw bales, berms or gabion baskets.	Slope stabilization				
	• To protect river/ seasonal nallah, retaining wall shall be preferred for river and hard barricading for seasonal nallah	Retaining wall/Hard Barricading				
	• Slopes should be re-vegetated with native seed mix as soon as practical following construction activities with a layer of erosion control matting to assist propagation of the seed mixture. Seeded areas should be protected with appropriate stabilizing techniques (e.g., straw mats).	Re-vegetation plan				
	• Sediment control fencing should be regularly inspected and maintained throughout construction, restoration and rehabilitation, until vegetative cover is fully established. The requirement for, and location of, sediment control fencing should minimize potential for sediments to enter the water bodies (e.g.,	Sediment fencing				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	stockpiles, excavated material). The placement of sediment control fence should be determined by Site Engineers.					
Impacts on air quality	• During construction ambient air quality testing will be done at five sites (quarterly except monsoon period for 24 months)	PM10, PM2.5, SO2, NO2,	PMU/ PMC	PMC/DSC	- Data will be generated during the construction phase.	Contractor
	• 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				
	• Maintain construction vehicles and obtain “pollution under control” certificate from HPSPCB.	PUC certificates				
	• Obtain CFE and CFO for hot mix plants, crushers, diesel generators, etc., if to be used in the project.	CTE and CTO				
Noise and vibrations impacts	• During construction noise quality testing will be done at five sites (quarterly except monsoon period for 24 months)	8 hourly dB (A)	PMU/ PMC	PMC/DSC	- Data will be generated during the construction phase	Contractor
	• Limit construction activities in temple complexes and other important areas to daytime only. • Plan activities in consultation with	Work schedule	Contractor	PIU and DSC	- daily inspection by contractor supervisor and/or environment	Contractors

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	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.				specialist - weekly visual inspection by DSC (more frequent during noise-generating activities and if corrective action is required) - random inspection by PMU, PIU, PMC and/or DSC	
	• Minimize noise from construction equipment by using vehicle silencers and fitting jackhammers with noise-reducing mufflers.	Report on ambient noise level monitoring within direct impact zones				
	• Avoid loud random noise from sirens, air compression, etc.	zero incidence				
	• Require drivers that horns not be used unless it is necessary to warn other road users or animals of the vehicle's approach.	feedback from receptors within direct and direct impact zone				
	• If specific noise complaints are received during construction, the contractor may be required to implement one or more of the following noise mitigation measures, as directed by the project manager: • Locate stationary construction equipment as far from nearby noise-sensitive properties, such as the hospital, as possible. • Shut off idling equipment. • Reschedule construction operations to avoid periods of noise annoyance identified in the complaint. • Notify nearby residents whenever extremely noisy work will be	- Complaints addressed satisfactory - GRM records				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	occurring.					
Impacts on flora and fauna	• Conduct site induction and environmental awareness.	Records	Contractor	PIU and DSC	- daily inspection by contractor supervisor and/or environment specialist - weekly visual inspection by DSC (more frequent if corrective action is required) - random inspection by PMU, PIU, PMC and/or DSC	Contractor
	• Limit activities within the work area.	Barricades along excavation works				
	• Replant trees in the area using minimum ratio of 2 new trees for every 1 tree cut. Replacement species must be approved by District Forest Department.	Number and species approved by District Forest Department				
Impacts on physical and cultural resources	• Ensure no damage to structures/properties adjacent to construction zone.	- Visual inspection - any impact should be addressed by project resettlement plan	Contractor in coordination with PIU and DSC for any structures within 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.	- no complaints received - photo-documentation				
	• Increase the workforce near the school and other sensitive receptors.	- Records of workers deployment - Work schedule				
	• Implement good housekeeping. Remove wastes immediately.	- Visual inspection - No stockpiled/ stored wastes				
	• Ensure workers will not use nearby/adjacent areas as toilet facility.	- No complaints received - Sanitation facilities for use of workers				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	• Coordinate with PIU/DSC for transportation routes and schedule. Schedule transport and hauling activities during non-peak hours. Communicate road detours via visible boards, advertising, pamphlets, etc. • Ensure heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites.	- Approved routes in traffic management plan				
	• Provide instructions on event of chance finds for archaeological and/or ethno-botanical resources. Works must be stopped immediately until such time chance finds are cleared by experts.	condition in chance find protocol				
Impact due to waste generation	• Prepare and implement a waste management plan. Manage solid waste according to the following hierarchy: reuse, recycling and disposal. Include in waste management plan designated/approved disposal areas. • Coordinate with PIU/DSC for beneficial uses of excavated soils or immediately disposal to designated areas. • Recover used oil and lubricants and reuse; or remove from the site.	condition in waste management plan	Contractor	PIU and DSC	- daily inspection by contractor supervisor and/or environment specialist - weekly visual inspection by DSC (more frequent if corrective action is required) - random inspection by PMU, PIU, PMC and/or DSC	Contractor

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	• Avoid stockpiling and remove immediately all excavated soils, excess construction materials, and solid waste (removed concrete, wood, trees and plants, packaging materials, empty containers, oils, lubricants, and other similar items). • Prohibit disposal of any material or wastes (including human waste) into drainage, *nallah*, or watercourse.					
Impacts on occupational health and safety	• Comply with IFC EHS Guidelines on Occupational Health and Safety	- Visual inspection - Records	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 protection, and preventing injury to fellow workers.	- Records - Condition in H&S plan				
	• Ensure that qualified first-aid can be provided at all times. Equipped first-aid stations shall be easily accessible throughout	- Visible first aid equipment and medical supplies - Condition in H&S plan				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	the site as well as at construction camps.					
	• Provide medical insurance coverage for workers.	Records				
	• 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 - Condition in H&S plan				
	• Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas.	- Visual inspection - Condition in H&S plan				
	• Ensure moving equipment is outfitted with audible back-up alarms.	- Construction vehicles - Condition in H&S plan				
	• Mark and provide sign boards in the construction zone, and areas for storage and disposal. Signage shall be in accordance with international standards and	- Visible and understandable sign boards in construction zone - H&S plan includes				

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	be well known to, and easily understood by workers, visitors, and the general public as appropriate.	appropriate signs for each hazard present				
Impacts on socio-economic activities	• Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints.	Visible and understandable sign boards in construction zone	Contractor	PIU and DSC	- daily inspection by contractor supervisor 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
	• Employ at least 50% of the labor force, or to the maximum extent, local persons within the 2-km immediate area if manpower is available.	Employment records				

Table 11: EMP Table during Post-Construction Phase

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
Solid waste (debris, excavated soils, etc.)	• Backfill any excavation and trenches, preferably with excess excavation material generated during the construction phase.	Pre-existing condition Construction zone has been restored	Contractor within defect liability period	PIU and DSC PIU to submit EMP monitoring report to PMU	- visual inspection by contractor supervisor and/or environment specialist	Contractor
	• Use removed topsoil to reclaim	-DO-	-DO-	-DO-	-DO-	-DO-

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	disturbed areas.					
	• Re-establish the original grade and drainage pattern to the extent practicable.	-DO-	-DO-	-DO-	-DO-	-DO-
	• Ensure site and all areas to water body are stabilized prior to removal of erosion and sediment control measures following construction. With implementation of the mitigation measures recommended above, the potential mobilization of soils and potential impacts to watercourses will be minimized using proper vegetation management techniques, installation of sediment and erosion control measures, and appropriate watercourse crossing methods.	-DO-	-DO-	-DO-	-DO-	-DO-
	• Stabilize all areas of disturbed vegetation using weed-free native shrubs, grasses, and trees.	-DO-	-DO-	-DO-	-DO-	-DO-
	• Restore access roads, staging areas, and temporary work areas.	-DO-	-DO-	-DO-	-DO-	-DO-
	• Restore roadside vegetation, if removed	-DO-	PIU/PMU*	-DO-	-DO-	PMU
	• Remove all tools, equipment, barricades, signs, surplus materials, debris, and rubbish. Demolish buildings/structures not required for O&M. Dispose in	-DO-	Contractor within defect liability period	-DO-	-DO-	Contactor

Potential Impact	Mitigation Measures	Parameter/ Indicator of Compliance	Responsible for Implementation	Responsible for Supervision	Frequency of Monitoring	Source of Funds
	designated disposal sites.					
	• Monitor success of re-vegetation and tree re-planting. Replace all plants determined to be in an unhealthy condition.	Construction zone vegetation has been enhanced	PIU/PMU*	-DO-	-DO-	PMU
	• Request in writing from PIU/DSC that construction zones have been restored.	Certificate	PMU	PMC/PMU	-DO-	PMU
Environmental conditions	• Ambient air quality- During construction ambient air quality testing will be done at five sites (once except monsoon period).	PM10, PM2.5, SO_2, NO_2,	PMU	PMU/PMC	Data will be generated after the work is completed	PMU
	• Noise testing- During construction noise quality testing will be done at five sites (once except monsoon period).	8 hourly dB(A)	PMU	PMU/PMC	Data will be generated after the work is completed	PMU
	• Water testing- During construction surface water quality testing will be done at two sites ((once except monsoon period).	pH, TDS, DO, BOD, Total coliform and Oil & Grease	PMU	PMU/PMC	Data will be generated after the work is completed	PMU

*The site will be handed over to the asset owner (***Municipal Council, Rampur & Temple Trust***.) after the restoration of the site and consent form asset owner will be taken to maintain the area with provisions of required solid waste management and aesthetic value*

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

126. **Table 12** summarizes site and activity-specific plans to be prepared as per EMP tables.

Table 12: Site- and Activity-Specific Plans/Programs as per EMP

To be Prepared During	Specific Plan/Program	Purpose	Responsible for Preparation	Responsible for Implementation
Detailed Design Phase	Environmental monitoring program as per detailed design	Indicate sampling locations, methodology and parameters	PMC/DSC	Contractor
Detailed Design Phase	Erosion control and re-vegetation plan	Mitigate impacts due to erosion	PMC/DSC	Contractor
Detailed Design Phase	List and maps showing utilities to be shifted	Utilities shifting	DSC during preliminary stage Contractor as per detailed design	Contractor
Detailed Design Phase	Contingency plan	Mitigate impacts due to interruption of services during utilities shifting	Contractor	Contractor
Detailed Design Phase	Chance find protocol	Address archaeological or historical finds	PMC/DSC	Contractor
Detailed Design Phase	List of pre-approved sites	Location/s for work camps, areas for stockpile, storage and disposal	PIU and DSC	Contractor
Detailed Design Phase	Waste management plan	Mitigate impacts due to waste generation	Contractor	Contractor
Detailed Design Phase	Traffic management plan	Mitigate impacts due to transport of materials and pipe laying works	Contractor	Contractor
Detailed Design Phase	H&S plan	Occupational health and safety	Contractor	Contractor
Detailed Design Phase	Spill prevention and containment plan	Mitigate impacts of accidental spills of oil, lubricants, fuels, concrete, and other hazardous materials	Contractor	Contractor

D. Environmental Monitoring Program

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

128. **Table 13** 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 13: Indicative Environmental Monitoring Program

Potential Impact	Parameter to be monitored	Proposed Locations	Method of Monitoring	Frequency of monitoring	Indicator of Compliance	Cost	Source of Funds
1. Detailed Design Phase							
Consents, permits, clearances, no objection certificate (NOC), etc.	- Consents, permits, clearance, NOCs, etc. - Records and communications - Detailed design documents and drawings	n/a	Visual inspection	check CFEs, permits, clearance, Acknowledge upon receipt Send report as specified in CFE, permits, etc.	Obtained prior to start of civil works Conditions of consents, permits, clearance, NOCs, etc incorporated in detailed design	already covered under PMU and PIU	PMU
Establishment of baseline environmental conditions prior to start of civil works and monitoring during-construction time	Ambient air quality – PM10, PM2.5, SO_2, NO_2,	Locations proposed as under: 1. Dattatreya Temple 2. Rampur Bushahar Parking site at MC land (covering Ayodhyanath temple, Boudh Temple and Jankimai Gufa Temple within 1 Km aerial distance) 3. Chuvacha Temple, Rampur Bushahar (covering Raghunath	Collection of air samples (continuously 24 hours)	1. Prior to start of civil works (once at five sites except monsoon period) 2. During construction (quarterly except monsoon period for 24 month at five sites) -First quarter during January to March) -Second quarter during April to June) -Third quarter during October to December) 3. During post construction (once at five sites except monsoon period).	1. Baseline data will be generated prior to start of civil work. 2. Data will be generated during the construction phase. 3. Data will be generated after the work is completed	7,800 per sample (total forty samples) Transportation charges extra (1,000/- per sample)	PMU

Potential Impact	Parameter to be monitored	Proposed Locations	Method of Monitoring	Frequency of monitoring	Indicator of Compliance	Cost	Source of Funds
		Temple and Narsingh Temple withi 1 Km aerial Distance) 4. Bhimakali Parking, Sarahan 5. Bhimakali Temple, Sarahan					
	Noise levels – day time	Locations proposed as under: Locations proposed as under: 1. Dattatreya Temple 2. Rampur Bushahar Parking site at MC land (covering Ayodhyanath temple, Boudh Temple and Jankimai Gufa Temple within 1 Km aerial distance) 3. Chuvacha Temple, Rampur Bushahar	Use of noise meters (once)	1. Prior to start of civil works (once at five sites except monsoon period) 2. During construction (quarterly except monsoon period for 24 month at five sites) -First quarter during January to March) -Second quarter during April to June) -Third quarter during October to December) 3. During post construction (once at five sites except monsoon period)	1. Baseline data will be generated prior to start of civil work. 2. Data will be generated during the construction phase. 3. Data will be generated after the work is completed	4,000 per sample (total forty samples) Transportation charges extra (1,000/- per sample)	PMU

Potential Impact	Parameter to be monitored	Proposed Locations	Method of Monitoring	Frequency of monitoring	Indicator of Compliance	Cost	Source of Funds
		(covering Raghunath Temple and Narsingh Temple withi 1 Km aerial Distance) 4. Bhimakali Parking, Sarahan 5. Bhimakali Temple, Sarahan					
	Water Testing- pH, TDS, DO, BOD, Total coliform and Oil & Grease	Two locations proposed as under: 1. one from River Sutlej near Parking site at Rampur Bushahr 2. one from Natural nallah near proposed parking site at Bhimakali, Sarahan	As per IS code	1. Prior to start of civil works (once at two sites except monsoon period) 2. During construction (quarterly except monsoon period for 24 month at two sites) -First quarter during January to March) -Second quarter during April to June) -Third quarter during October to December) 3. During post construction (once at two sites except monsoon period)	1. Baseline data will be generated prior to start of civil work. 2. Data will be generated during the construction phase. 3. Data will be generated after the work is completed	6,000 per sample (total sixteen samples) Transportation charges extra (1,000/- per sample)	PMU
Erosion control	Erosion control and re-vegetation plan covering	n/a	Checking of erosion control and re-	Upon finalization of detailed design	Included in updated IEE report	already covered under PMU /PIU and	Contractor

Potential Impact	Parameter to be monitored	Proposed Locations	Method of Monitoring	Frequency of monitoring	Indicator of Compliance	Cost	Source of Funds
	construction phase		vegetation plan		The contractor will submit a plan before any excavation work will take place during construction phase.	Contractor	
Utilities	List and maps showing utilities to be shifted Contingency plan for services disruption	n/a	Checking of list and maps showing utilities to be shifted Checking of contingency plan for services disruption	Upon finalization of detailed design	included in updated IEE report Will be provided to contractor before start of civil work.	already covered under PMU/PIU /PMC/DSC and Contractor	PMU
Social and Cultural Resources	Chance find protocol	n/a	Checking of chance find protocol	Upon finalization of detailed design and during construction	included in updated IEE report	already covered under PMU/PIU and PMC/DSC	NA
Sites for construction work camps, areas for stockpile, storage and disposal	List of pre-approved sites for construction work camps, areas for stockpile, storage and disposal	sites for construction work camps, areas for stockpile, storage and disposal	Visual inspection	Upon approval of site/s	included in updated IEE report The contractor will submit a plan before the civil work starts.		NA
	Waste management plan	n/a	Checking of waste management plan	Upon finalization of detailed design	included in updated IEE report The contractor will submit a plan before the civil work stars.	already covered under PMU/PIU and PMC/DSC	NA
Sources of construction materials	Permits issued to quarries/sources of materials	n/a	Checking of permits	Upon submission by contractor	contractor's submission	already covered under PMU/PIU and PMC/DSC	NA

Potential Impact	Parameter to be monitored	Proposed Locations	Method of Monitoring	Frequency of monitoring	Indicator of Compliance	Cost	Source of Funds
Access	Traffic management plan	n/a	Checking of traffic management plan as per detailed design (alignment, routes, etc)	Prior to start of civil works	contractor's submission	contractor's cost	Contractor
Occupational health and safety	Health and safety (H&S) plan	n/a	Checking of H&S plan	Prior to start of civil works	contractor's submission	contractor's cost	Contractor
Public consultations	- Disclosure records - Consultations	- locations of affected persons - locations of stakeholders	Documentation of (minutes of consultations, date/s, location/s, issue/s raised, photographs, etc.)	- During updating of IEE Report - During preparation of site- and activity-specific plans as per EMP - Prior to start of construction - During construction	included in updated IEE	already covered under PMU/PIU and PMC/DSC	NA
Identification of Muck disposal site	• Identify muck disposal areas in consultation with MC, Shimla to dispose off dismantle wastes of the building • Utilize the dismantle material as much as possible.	To be identified with MC	PIU and DSC	PMU and PMC	- Disclosure records - Consultations	PMU/PIU/Contractor	
2. Construction Phase							
Erosion hazards	Erosion control and re-vegetation plan	- Construction zone - storage areas	Visual inspection	- daily visual inspection by contractor supervisor and/or environment specialist	- no erosion - erosion control in place - measures in erosion control and re-	Contractor's cost	Contractor

Potential Impact	Parameter to be monitored	Proposed Locations	Method of Monitoring	Frequency of monitoring	Indicator of Compliance	Cost	Source of Funds
				- weekly visual inspection by DSC (more frequent during monsoon season and if corrective action is required) - random inspection by PMU, PIU, PMC and/or DSC	vegetation plan implemented		
Impacts on water quality	- Any construction related materials - visible seepage of paints, oils, silts, etc. from storage areas - complaints related to water quality	Adjacent bodies of water including drainages, canals/nallahs, etc.	Visual inspection	- daily visual inspection by contractor supervisor and/or environment specialist - weekly visual inspection by DSC (more frequent during monsoon season and if corrective action is required) - random inspection by PMU, PIU, PMC and/or DSC	- no visible change in pre-construction quality of adjacent bodies of water including drainages, canals/nallahs, etc. - no disposal and/or seepage to adjacent bodies of water including drainages, canals/nallahs, etc.	Contractor's cost	Contractor
Impacts on air quality	- water spraying on stockpiles - excessive dust emissions - vehicles "pollution under control" certificate from Himachal Pradesh SPCB - CFE and CFO for hot mix plants, crushers, diesel generators, etc., if to	- Construction zone - Sensitive receptors site/s	Visual inspection	- daily visual inspection by contractor supervisor and/or environment specialist - weekly visual inspection by DSC (more frequent during summer season and if corrective action is required) - random inspection by PMU, PIU, PMC	- no excessive dust emissions - no complaints from sensitive receptors - Valid pollution under control certificate/s. CFE, and/or CFO	Contractor's cost	Contractor

Potential Impact	Parameter to be monitored	Proposed Locations	Method of Monitoring	Frequency of monitoring	Indicator of Compliance	Cost	Source of Funds
	be used in the project - complaints related to air quality			and/or DSC			
Noise and vibrations impacts	- work schedule (limit to day time only in temple complexes and other important areas) - activities with the greatest potential to generate noise (conducted during periods of the day which will result in least disturbance) - vehicle silencers and noise-reducing mufflers - complaints related to noise and vibrations	- Construction zone - Sensitive receptors site/s - silence zone/s	Visual inspection	- daily visual inspection by contractor supervisor and/or environment specialist - weekly visual inspection by DSC (more frequent during machine operation and if corrective action is required) - random inspection by PMU, PIU, PMC and/or DSC	- no complaints from sensitive receptors	Contractor's cost	Contractor
Impacts on flora and fauna	- site induction and environmental awareness - number of trees cut - number of trees replanted - survival rate of trees planted	- construction zone - sites approved by Forest Department for replanting, if any	Visual inspection	- daily visual inspection by contractor supervisor and/or environment specialist - weekly visual inspection by DSC (more frequent during monsoon season and if corrective action is required) - random inspection by PMU, PIU, PMC and/or DSC	- all contractor's employees have undertaken site induction and environmental awareness prior to mobilization - approved trees to be cut - approved tree species for replantation	Contractor's cost	Contractor

Potential Impact	Parameter to be monitored	Proposed Locations	Method of Monitoring	Frequency of monitoring	Indicator of Compliance	Cost	Source of Funds
Impacts on physical and cultural resources	- damage to structures/properties adjacent to construction zone - sign boards to inform nature and duration of construction works and contact numbers for concerns/complaints - number of workforce near the school/s and other sensitive receptor/s - housekeeping practices, wastes around construction zones - toilet facilities for workers - transportation routes and schedule - chance find procedure	- construction zone	Visual monitoring	- daily visual inspection by contractor supervisor and/or environment specialist - weekly visual inspection by DSC (more frequent during monsoon season and if corrective action is required) - random inspection by PMU, PIU, PMC and/or DSC	- no damage to structures/properties adjacent to construction zone - sign boards understandable by local people - sufficient number of workforce near the school/s and other sensitive receptor/s - wastes managed according to waste management plan - clean and usable toilet facilities for workers - transportation routes and schedule followed - no complaints from sensitive receptors - chance find procedures followed, as necessary	Contractor's cost	Contractor
Impact due to waste generation	- provisions of the waste management plan - quantity of excavated soils - quantity of used oil and lubricants - excess construction materials, and solid waste (removed concrete, wood, trees and plants,	- construction zone	Visual monitoring	- daily visual 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	- wastes managed according to waste management plan - no complaints from sensitive receptors	Contractor's cost	Contractor

Potential Impact	Parameter to be monitored	Proposed Locations	Method of Monitoring	Frequency of monitoring	Indicator of Compliance	Cost	Source of Funds
	packaging materials, empty containers, oils, lubricants, and other similar items)			PMU, PIU, PMC and/or DSC			
Impacts on occupational health and safety	- IFC EHS Guidelines on Occupational Health and Safety - noise level and duration of exposure - PPEs, high visibility vests, hearing protection, etc. - conduct of H&S orientation training - qualified first aider and equipped first aid stations - medical insurance coverage for workers - security in construction zone - potable drinking water supply - clean eating areas - conduct of visitor orientation - audible back-up alarms for vehicles - sign boards in the construction zone - site accident records	- construction zone	- visual monitoring - checking of records	- daily visual inspection by contractor supervisor and/or environment specialist - weekly visual inspection by DSC (more frequent during monsoon season and if corrective action is required) - random inspection by PMU, PIU, PMC and/or DSC	- conditions in H&S plan - all workers oriented on H&S plan - use of PPEs, etc at all times - max of 80 dB(A) and 8 hours exposure - visible first aid equipment and medical supplies - areas secured - trenches barricaded - adequate potable drinking water - clean eating areas away from hazardous or noxious substances - visible and understandable sign boards in construction zone	Contractor's cost	Contractor
Impacts on socio-economic activities	- % of locals in labor force - complaints/ grievances	- construction zone	checking of records	- random inspection by PMU, PIU, PMC and/or DSC - during complaints/	- least 50% of the labor force, or to the maximum extent, local persons within the 2-	Contractor's cost	Contractor

Potential Impact	Parameter to be monitored	Proposed Locations	Method of Monitoring	Frequency of monitoring	Indicator of Compliance	Cost	Source of Funds
				grievance redressal	km immediate area if manpower is available - complaints/ grievance addressed as per GRM		
3. Post-construction Phase							
Solid waste (debris, excavated soils, etc.)	- disturbed areas	- construction zone	visual inspection	upon completion of civil works prior to turn over to asset owner	- backfilled any excavation and trenches - reclaimed disturbed areas. - Re-established original grade and drainage pattern to the extent practicable. - stabilized all areas of disturbed vegetation using weed-free native shrubs, grasses, and trees - restored access roads, staging areas, and temporary work areas. - restored roadside vegetation, if removed - removed all tools, equipment, barricades, signs, surplus materials, debris, and rubbish. - demolished buildings/ structures not required for O&M. - disposed in designated disposal sites. - success of re-vegetation and tree re-	Contractor's cost PMU cost	Contractor PMU

Potential Impact	Parameter to be monitored	Proposed Locations	Method of Monitoring	Frequency of monitoring	Indicator of Compliance	Cost	Source of Funds
					planting. Replaced all plants determined to be in an unhealthy condition. - documentation from PIU/DSC that construction zones have been restored.		

E. Capacity Building

129. 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 will 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 14** below. This training program is intended for the entire destination and is not just specific to this package.

Table 14: Training Modules for Environmental Management (Common for Entire Project)

Program	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 Govt. 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	Environmental Specialist of the PMC and DSC
B. Construction Stage					
Module 1	Roles and Responsibilities of officials / contractors / consultants towards protection of environment Implementation Arrangements	Engineers and staff of line depts. of GoHP, and PMU/PIU (including the ES)	Lecture / Interactive Sessions	½ Working Day	Safeguards Specialist of the PMC and DSC
Module 2	Monitoring and Reporting System	Engineers and staff of implementing agencies and PMU/ PIU (including ES)	Lecture / Interactive Sessions	½ Working Day	Safeguards Specialist of the PMC and DSC

F. EMP Implementation Cost

130. 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.

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

132. The costs of water sprinkling for dust suppression and providing personal protective equipment's to construction workers shall borne by contractor as part of conditions of contract. In addition the sources of funds for Mitigation measures during construction stage including monitoring during construction stage are also to be borne by the contractor. These are deemed to be included as part of the contract price amount quoted by the contractor for the works. The costs of components for monitoring in operation stage and the capacity building costs are to be funded by the PMU. The EMP cost is given in the **Table 15** below.

Table 15: Indicative EMP Budget

S.N.	Particulars	Stages	Unit	Total number	Rate (INR)	Cost (INR)	Source of fund
A. Monitoring Measures							
1.	Air quality monitoring- 24 hourly (PM10, PM2.5, SO2, NO2,) (Five Locations)	1. Prior to start of civil works (once at all selected sites except monsoon period) 2. During construction (quarterly except monsoon period for 24 month at all selected sites) -First quarter during January to March) -Second quarter during April to June) -Third quarter during October to December) 3. During post construction (once at all selected sites except monsoon period)	Per sample	Pre-construction-5 Construction-5X6=30 Post Construction-5 Total=40 nos.	7,800	3,12,000	PMU
	Transportation & sampling cost			40	1000	40,000	
2.	Noise Levels -Day time by noise meter (Five Locations)		Per sample	Pre-construction-5 Construction-5X6=30 Post Construction-5 Total=40nos.	4000	1,60,000	
	Transportation & sampling cost			40	1000	40,000	
3.	Water Tests- pH, TDS, DO, BOD, Total coliform and Oil & Grease-IS code (Two Locations)		Per sample	Pre-construction-2 Construction-2X6=12 Post Construction-2 Total=16 nos.	6000	96,000	
	Transportation & sampling cost			16	1000	16,000	
Sub- Total (A)						**6,64,000**	
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	
3	Training Session II	Construction	L.S			1,50,000	
Sub -Total (B)						**4,50,000**	
Total (A+B) INR						**11,14,000**	

IX. FINDINGS AND RECOMMENDATIONS

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

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

X. CONCLUSIONS

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

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

Annexure-1

Rapid Environmental Assessment (REA) Checklist

Subproject: Restoration and Beautification of ancient temples and surrounding areas at Rampur Bushahar, Shimla.
Country/Project Title: India/Infrastructure development Investment program (IDIPT-HP)
Sector Division: Urban Division

Screening Questions	Yes	No	Remarks
A. Project Siting Is the project area…			
▪ Densely populated?	✓		The site is located in town centre and its vicinity which is the hub of business, education, entertainment and tourist activity.
▪ Heavy with development activities?		✓	Normal development activities observed.
▪ Adjacent to or within any environmentally sensitive areas?			
• Cultural heritage site		✓	Cultural heritage centres. Connected to other circuitous pilgrimage sites like Sarahan, Kalpa etc.
• Protected Area		✓	No protected area.
• Wetland		✓	Densely grown habitations seen in & around the area. No wetland
• Mangrove		✓	No mangrove.
• Estuarine		✓	Site is on a hilly area.
• Buffer zone of protected area		✓	Not a buffer zone.
• Special area for protecting biodiversity		✓	Not declared.
• Bay		✓	Site is on a hilly area.
B. Potential Environmental Impacts Will the Project cause…			
▪ impacts on the sustainability of associated sanitation and solid waste disposal systems and their interactions with other urban services.		✓	Temporary. Minor impact is anticipated during construction phase for which adequate measures envisaged in the proposals.
▪ deterioration of surrounding environmental conditions due to rapid urban population growth, commercial and industrial activity, and increased waste generation to the point that both manmade and natural systems are overloaded and the capacities to manage these systems are overwhelmed?		✓	Minor impacts cannot be ruled out. However, adequate measures proposed and included in DPR for handling the issues.
▪ Degradation of land and ecosystems (e.g. loss of wetlands and wild lands, coastal zones, watersheds and forests)?		✓	No cultivation land, no watershed area, and hence no such impacts (land/eco degradation) envisaged. Not a coastal zone or a forest area.
▪ Dislocation or involuntary resettlement of people?		✓	Not required as no land acquisition involved and all the project activities are restricted within the available Govt. land/Temple trust assets
▪ Disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable group?		✓	No such impacts are anticipated. No such indigenous people exist in the area.

Screening Questions	Yes	No	Remarks
▪ Degradation of cultural property, and loss of cultural heritage and tourism revenues?		✓	On completion of the subproject the cultural heritage value will enhance and thereby influx of tourists will increase and tourism revenue will grow.
▪ Occupation of low-lying lands, floodplains and steep hillsides by squatters and low-income groups, and their exposure to increased health hazards and risks due to pollutive industries?		✓	No such cases noticed and more over the project has no polluting industrial activities.
▪ Water resource problems (e.g. depletion/ degradation of available water supply, deterioration for surface and ground water quality , and pollution of receiving waters?	✓		Minor and negligible problems such as deterioration of surface water quality and pollution of nearby water course may emerge due to the construction activity for which proper measures are included in the proposals.
▪ Air pollution due to urban emissions?		✓	Though not directly, but during the construction phase anticipated if any, will be addressed properly by adopting suitable mitigation measures during implementation.
▪ Risks and vulnerabilities related to occupational health and safety due to physical, chemical and biological hazards during project construction and operation?	✓		During execution stage, workers may face occupational health and safety related issues if personal protection measures are not used properly. No such impacts are anticipated during the operation stage. Contractor will be required to adopt safety measures such as use of personal protective wear, cautionary signage and proper material storage.
▪ Road blocking and temporary flooding due to land excavation during rainy season?		✓	Temporary. However caution shall need to be exercised for taking up construction activity during extreme weather conditions (like rain or snow) to avoid accidents and injury either to the general public or workers on site
▪ Noise and dust from construction activities?	✓		Minor increase in noise levels and dust generation from construction activities is anticipated but shall be temporary in nature coinciding only with the duration of construction activities and will be of site specific. This shall be minimized by adopting suitable mitigation measures during implementation.
▪ Traffic disturbances due to construction material transport and wastes?		✓	However, traffic diversion plan, if required, will be prepared by contractor in consultation with Engineer to avoid traffic disturbances.
▪ Temporary silt runoff due to construction?	✓		Temporary silt run off possible, coinciding with rainy season. Majority works shall be carried out during dry periods to avoid such impacts. To avoid silt flow in drain during rainy seasons, silt barrier will be provided at the sides of the drains. Appropriate material storage will help mitigate temporary silt run-off. Other project components such as landscaping shall also help minimize silt run-off in the long term.
▪ Hazards to public health due to ambient, household and occupational pollution, thermal inversion, and smog formation?		✓	Not foreseen due to the nature of works involved
▪ Water depletion and/or degradation?		✓	Though minor and negligible, precautions will be included in the Environmental monitoring & planning schedule

Screening Questions	Yes	No	Remarks
▪ Overpaying of ground water, leading to land subsidence, lowered ground water table, and salinization?		✓	No ground water exploitation envisaged.
▪ Contamination of surface and ground waters due to improper waste disposal?	✓		Contamination of surface and ground water cannot be ruled out as improper material handling and storage such as paints and fuels. Appropriate material storage and handling practice can help mitigate this risk for which instructions shall be caused to the Contractor. Besides adequate measures have been proposed like treatment facilities for waste water & solid waste disposal.
▪ Pollution of receiving waters resulting in amenity losses, fisheries and marine resource depletion, and health problems?		✓	No effective pollution predicted. There is no fishery or marine resource in the vicinity of the site. No disposal to receiving waters as waste water treatment and disposal system is proposed based on zero discharge principles.
▪ Large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?		✓	Negligible quantum only and measures included in project proposal and in the EMP
▪ Social conflicts if workers from other regions or countries are hired?		✓	Not applicable as the demand for labour category is much high.
▪ 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 operation and construction?		✓	The construction activity needs to be well planned & executed in a phased manner so as to minimize community health and safety risks especially with respect to seasonal challenges, mobility issues and impact on local businesses.
▪ Community safety risks due to both accidental and natural hazards, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning?	✓		The subproject is located in seismic zone IV. Due to the natural topography of hilly terrain landslides are a common phenomenon. Safety risks due to accidents and natural causes cannot be ruled out and can become a major hazard if the project execution is not carried out in a well-planned and phased manner. Proper measures will be included in the EMP.

Climate Change and Disaster Risk Questions The following questions are not for environmental categorization. They are included in this checklist to help identify potential climate and disaster risks.	Yes	No	Remarks
• Is the Project area subject to hazards such as earthquakes, floods, landslides, tropical cyclone winds, storm surges, tsunami or volcanic eruptions and climate changes (see Appendix I)?	✓		The sub-project location is vulnerable to earthquakes (seismic zone IV) and the restoration work of the built-elements shall be worked out considering the seismic vulnerability.
▪ Could changes in temperature, precipitation, or extreme events patterns over the Project life span affect technical or financial sustainability (e.g., increased extreme rainfall increases flooding, damaging proposed infrastructure)?	✓		Heavy rainfall or snow or unpredictable climatic changes can have an impact on the proposed infrastructure in the long term for which adequate technical considerations are well included in DPR.

▪ Are there any demographic or socio-economic aspects of the Project area that are already vulnerable (e.g., high incidence of marginalized populations, rural-urban migrants, illegal settlements, ethnic minorities, women or children)?		✓	No such issues are anticipated.
▪ Could the Project potentially increase the climate or disaster vulnerability of the surrounding area (e.g., by paving vulnerable groundwater recharge areas, or using water from a vulnerable source that is relied upon by many user groups, or encouraging settlement in earthquake zones)?		✓	No such issues are related to the sub project

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?	1	Extreme cold conditions is experienced in Shimla during winters and Shimla is also prone to landslides. Site for parking at Rampur Bushahar is prone to landslides and flood
	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 issue may affect the project
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)?	1	Proposed site for parking at Rampur Bushahar is having risk of floods and landslides
	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 problem is envisaged in future which likely affect the maintenance
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 <u>low risk</u> 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 <u>medium risk</u> 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 <u>high risk</u> project.

[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.

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

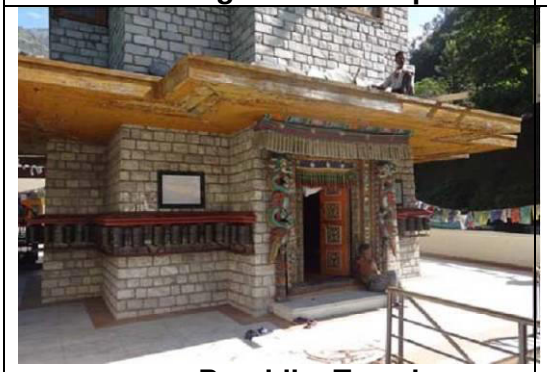
Other Comments: Proposed site for parking at Rampur Bushahar is prone to high risk of flood, landslides and earthquake, therefore design proposals are to give proper attention to address these issues.

Annexure -2

Photo Illustration of proposed sites

Raghu Nath Temple

Bodh Temple



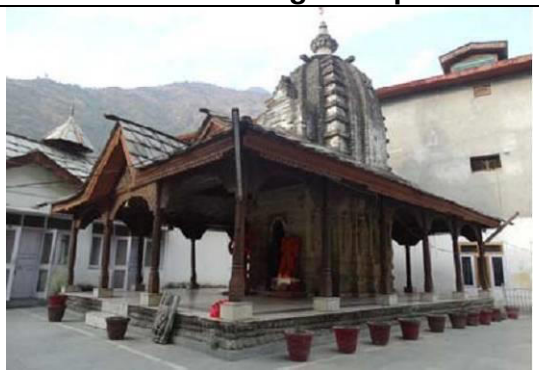
Bouddha Temple

Dattatreya Temple

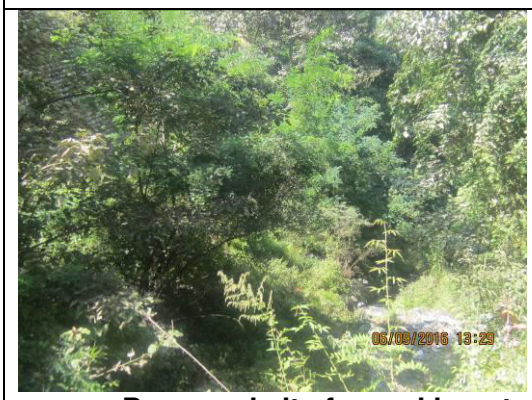
Janki Gufa Temple

Narsingh Temple

Chuvacha Temple



Ayodhyanath Temple

 **Bhimakali temple**	 **Approach to Site for parking at Rampur**
 **Proposed site for parking at Sarahan**	 **Approach to site for parking at Sarahan**

Annexure - 3

Sample Outline of Spoil Management Plan (SMP)

1.0 Purpose and application:

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse 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 - 4

Sample Traffic Management Plan (TMP)

A. Principles

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

(i) the safety of pedestrians, bicyclists, and motorists travelling through the construction zone;
(ii) protection of work crews from hazards associated with moving traffic;
(iii) mitigation of the adverse impact on road capacity and delays to the road users;
(iv) maintenance of access to adjoining properties
(v) Avoid hazards in
(vi) addressing issues that may delay the project.

B. Operating Policies for TMP

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

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

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

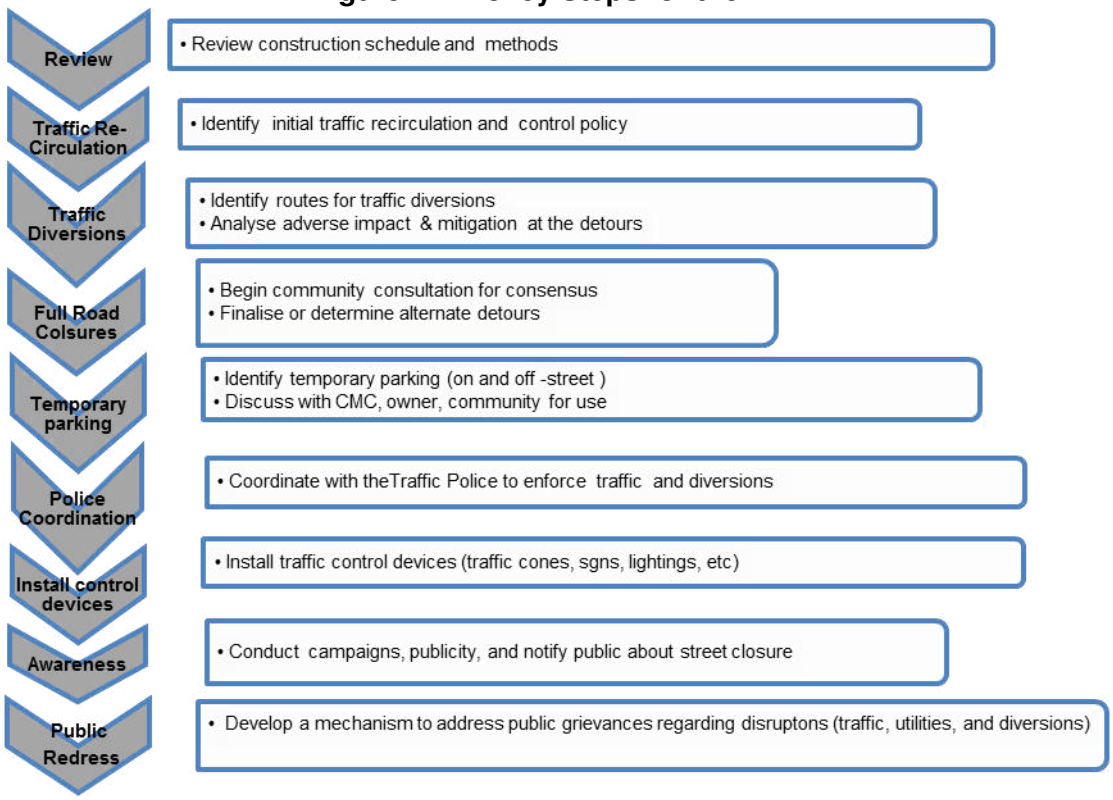
3. Apart from the capacity analysis, a final decision to close a particular street and divert the traffic should involve the following steps:

(i) approval from the PIU, local administration to use the local streets as detours;
(ii) consultation with businesses, community members, traffic police, PWD, etc, regarding the mitigation measures necessary at the detours where the road is diverted during the construction;
(iii) determining of the maximum number of days allowed for road closure, and incorporation of such provisions into the contract documents;

(iv) determining if additional traffic control or temporary improvements are needed along the detour route;
(v) considering how access will be provided to the worksite;
(vi) contacting emergency service, school officials, and transit authorities to determine if there are impacts to their operations; and
(vii) developing a notification program to the public so that the closure is not a surprise. As part of this program, the public should be advised of alternate routes that commuters can take or will have to take as result of the traffic diversion.

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

Figure A1: Policy Steps for the TMP



D. Public awareness and notifications

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

6. The awareness campaign and the prior notification for the public will be a continuous activity which the project will carry out to compensate for the above delays and minimize public claims as result of these problems. These activities will take place sufficiently in advance of the time when the roadblocks or traffic diversions take place at the particular

streets. The reason for this is to allow sufficient time for the public and residents to understand the changes to their travel plans. The project will notify the public about the roadblocks and traffic diversion through public notices, ward level meetings and city level meeting with the elected representatives.

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

(i) traffic control devices in place at the work zones (signs, traffic cones, barriers, etc.);
(ii) defensive driving behaviour along the work zones; and
(iii) reduced speeds enforced at the work zones and traffic diversions.

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

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

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

E. Vehicle Maintenance and Safety

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

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

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

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

is important to install good traffic signs at the work zones. The following traffic control devices are used in work zones:

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

11. Procedures for installing traffic control devices at any work zone vary, depending on road configuration, location of the work, construction activity, duration, traffic speed and volume, and pedestrian traffic. Work will take place along major roads, and the minor internal roads. As such, the traffic volume and road geometry vary. The main roads carry considerable traffic; internal roads in the new city areas are wide but in old city roads very narrow and carry considerable traffic. However, regardless of where the construction takes place, all the work zones should be cordoned off, and traffic shifted away at least with traffic cones, barricades, and temporary signs (temporary “STOP” and “GO”).

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

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

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

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

Annexure-5

Public Consultations

1. Public Consultations During Preliminary Design Stage

During project preparation (June to August 2014), consultations have been held with the following departments

- ✓ HP Department of Tourism,
- ✓ Tourists of Rampur and local administration,
- ✓ Municipal Council, local community representatives,
- ✓ Tourism officers, and tourist guides/photographers
- ✓ Bhimakali Temple Trust officers

The 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 were discussed. The key issues identified are-

a) The temples are under the District Administration, the authorities are interested in preserving the ancient temple sites; upgrade the spaces and facilities in response to the growing tourism in the region.

b) The town is a major trading routes that join Indian markets with Central Asia and Tibet, it buzzed with mercantile activity, especially in November during the Lavi fair, the largest trading event in the north Himalayas attracting traders from Kashmir, Ladakh, Yarkand, and the Indian mainland.

c) There is a dire need for up grading and providing better & more facilities to the areas around the temple for making a good tourist destination along with the up grading of the space sand facilities would also be beneficial the locals.

2. Public Consultations during Detailed Design Stage

Consultations were done during detailed design stage with stakeholders such as Pujaris/officers of proposed temples, nearby habitants, shopkeepers etc. Details of consultations are given below-

Topics Discussed- Proposed works, existing conditions, inflow of tourists at site, facilities required etc.

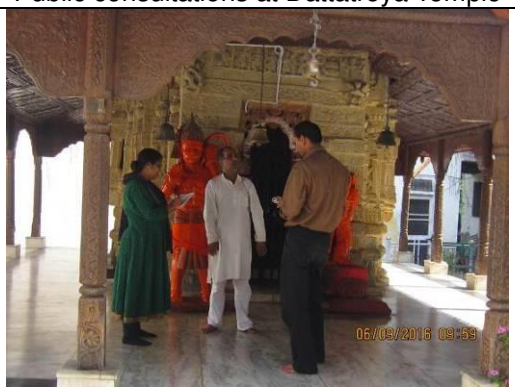
S.N.	Place and date of consultations	Persons consulted	Outcome of consultations
1.	Dattatreya Temple, Datt Nagar, Rampur dtd, 05.09.2016	Shiv Ram Sharma, Priest of Dattatreya Temple	He informed that proposed works are taken with prior consultations and shown willingness and requirements for the proposed works, public toilet is recently constructed at site, festivals observed at this temple are Dattatreya Jayanti (In December), Diwali and Shivratri. He also informed that many tourists visit this temple.
2.	Raghunath Temple, Rampur, dtd. 06.09.2016	Rakesh Sharma, Priest of Raghunath	He informed that many tourists visit this temple. He was agreed for proposed works and informed that if temple is restored as its original shape, it will be good for cultural heritage; he also told that

S.N.	Place and date of consultations	Persons consulted	Outcome of consultations
		Temple	there is requirement of Hanuman Temple in the premises as the Hanuman idol is kept in verandah of temple. No remarkable festival is celebrated in this temple
3.	Narsingh Temple, Rampur, dtd. 06.09.2016	Chitra Devi, mother of priest of Narsingh Temple	She informed that restoration works has been done by temple committee recently and shown interest in proposed works, many visitors visit the temple on daily basis.
4.	Janki Mai Gufa Temple, Rampur, 06.09.2016	Rupesh Gautam, Priest of Janki Mai Temple	He informed that this temple is very less known to tourists and visitors, the marble flooring was done few months ago, there is ample space on river side for proposed development works, he shown interest in proposed works and also assured for cooperation during construction works. The cave (Gufa) is closed for visitors and is filled with muck and debris during last flood
5.	Ayodhyanath Temple, Rampur, dtd. 06.09.2016	Jeevan Prakash, Priest of Ayodhyanath Temple	He informed that this temple observes Dussehra and Vasant Panchami festivals and several devotees visit this temple during these festivals. He required for public toilets and entrance gate in temple architecture for improvements in temple.
6.	Proposed parking site (Indira Market) at Rampur Bushahar, dtd. 06.09.2016	Budhram, Iqbal, Chowdhary, Inder Mohan Sharma, Shopkeepers of Indira Market	There is no parking facility in Rampur and the proposed works will solve problem of parking in Rampur Bushahar. The people were happy with the upcoming parking and had given assurance to support the project.
7.	Bhimakali Temple, dtd. 06.09.2016	Amarnath, Deputy Incharge, Bhimakali Temple Trust	There are no issues in proposed works, the huts in backside of temple is in dilapidated conditions and needs restoration. Main tourist season is during summer vacations during which 500-1000 visitors visit this temple. Main festivals observed in this temple are Dussehra and Chaitra Navratra. All the facilities of drinking water, toilets, benches, stays are available in temple premises

Photographs of consultations

Public consultations at Dattatreya Temple

Public consultations at Raghunath Temple



Public consultations at Ayodhyanath Temple

Public consultations at Janki Mai Temple

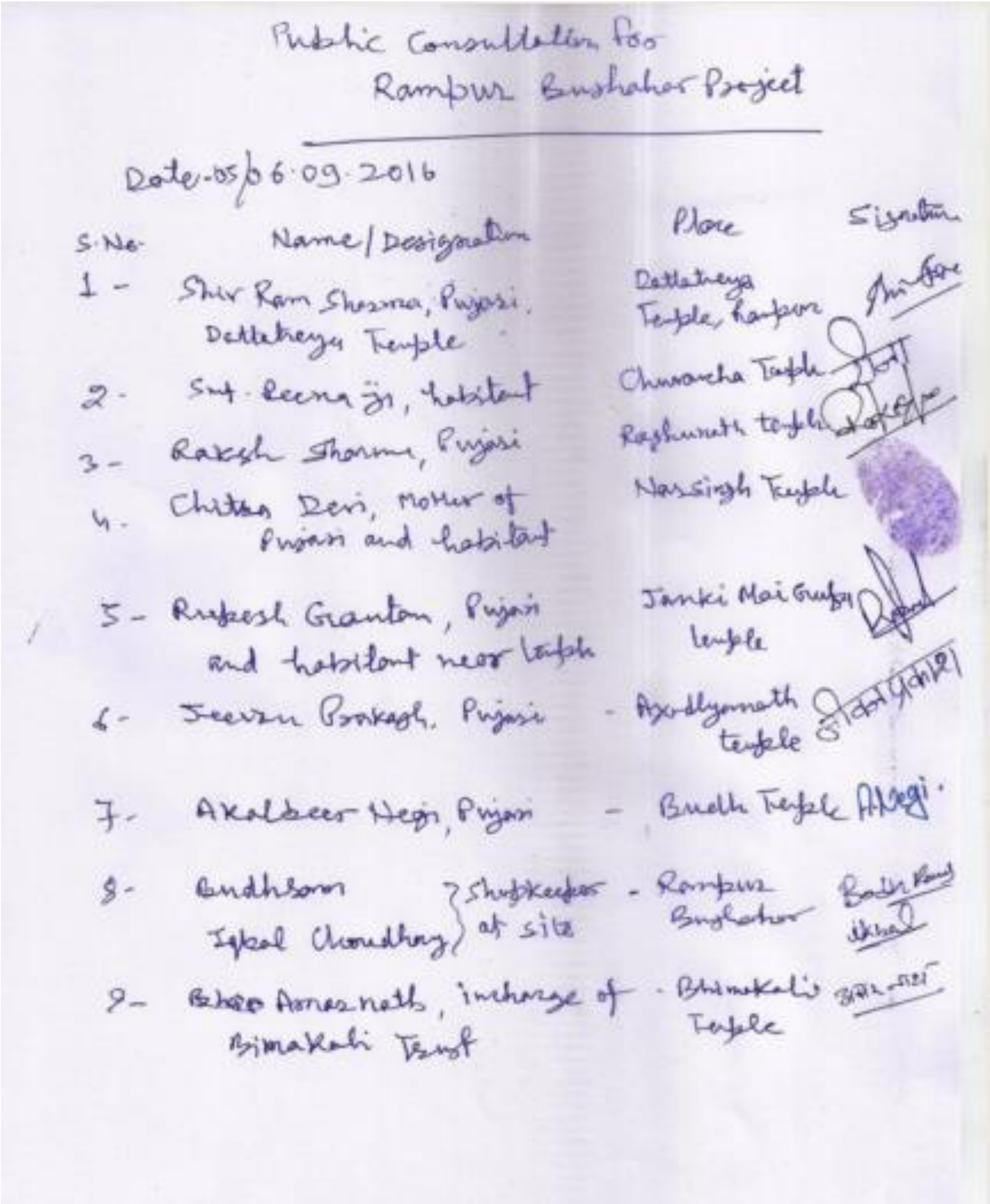
Public consultations at Narsingh Temple

Public consultations at Bhimakali Temple

Public consultations at Parking site at Rampur Bushahar

Public consultations at Parking site at Rampur Bushahar

Attendance sheet of consultations at Rampur


Public Consultation for
Rampur Bushahar Project

Date-05/06.09.2016

S.No.	Name / Designation	Place	Signature
1 -	Shiv Ram Sharma, Pujari, Dattatreya Temple	Dattatreya Temple, Rampur	[signature]
2 -	Smt. Reena ji, habitant	Chuvarcha Temple	[signature]
3 -	Rakesh Sharma, Pujari	Raghunath temple	[signature]
4 -	Chitra Devi, Mother of Pujari and habitant	Narsingh Temple	[thumb impression]
5 -	Rupesh Gautam, Pujari and habitant near temple	Janki Mai Gufa temple	[signature]
6 -	Jeevan Prakash, Pujari	- Ayodhyanath temple	[signature]
7 -	Akalbeer Negi, Pujari	- Budh Temple	A Negi
8 -	Budhram, Iqbal Choudhary } Shopkeeper at site	- Rampur Bushahar	[signatures]
9 -	Bhoo Amarnath, incharge of Bimakali Trust	- Bhimakali Temple	[signature]

Annexure-6

Office Orders of GRC set-up at PMU Level

19

Infrastructure Development Investment Program for Tourism,
(ADB Loan No. 2676-IND)
Himachal Pradesh Tourism Development Board,
Department of Tourism and Civil Aviation, Himachal Pradesh.
PMU Office U. S. Club, Shimla-1.

TEL (0177)2659962. **Fax. (0177) 2659925.**

No: IDIPT-HP/2676-IND/GRC-PMU/2013- 396 - 58. **Dated:** 2nd May, **2013.**

OFFICE ORDER

Following Grievance Redress Committee (PMU, IDIPT-HP) has been constituted for the registration of grievances/complaints/suggestions/ comments/questions/ feedback etc. of the general public on the IDIPT-HP projects (ADB Loan No. 2676-IND) and further reviewing/recommending appropriate action on the same to the competent authority:-

1. Executive Engineer, PMU, IDIPT-HP.
2. Community Development Officer, PMU, IDIPT-HP.
3. Deputy Director (Tourism), Shimla Division.
4. Representative of Line Agency, IDIPT-HP Projects.
5. Environment Safeguard Specialist, PMC.

D/C **Mission Director**
IDIPT-HP, Shimla.
Dated: 2nd May, **2013.**

Endst. No. As above.
Copy to the following along with a Grievance Registration Form for information and necessary action please:-

1. The Principal Secretary (Tourism) to the Govt. of HP, Shimla-2.
2. All the Deputy Commissioners in HP.
3. The Commissioner, MC, Shimla.
4. All the concerned members of the above Committee for initiating further necessary action at their level.
5. Executive Engineer, PIU, IDIPT-HP, Shimla.
6. Junior Engineers, PMU/PIU, IDIPT-HP, Shimla/ Kangra.
7. Team Leaders, PMC/ DSC.

D/C **Mission Director**
IDIPT-HP, Shimla.

Infrastructure Development Investment Program for Tourism
(ADB Loan No. 2676-IND.)
Himachal Pradesh Tourism Development Board
Department of Tourism and Civil Aviation, Himachal Pradesh,
PMU Office U. S. Club, Shimla-1.

TEL (0177)2659962. **Fax. (0177)2659925.**
No.: IDIPT-HP/3223-IND/GRC-PIU /2015- 647-670 **Dated:**09**.05.2016.**

Office Order

In supersession of this office order No. IDIPT-HP/2676-IND/GRC-PMU/2013-326-52 dated 02.05.2013 wherein the Grievance Redress Committee (PMU, IDIPT-HP) has been constituted for the registration of grievances/ complaints/ suggestions/ comments/ questions/ feedback etc. of the general public on the IDIPT-HP projects (ADB Loan No. 2676-IND). Now the said committee is re-structured as under for the registration of grievances/ complaints/ suggestions/ comments/ questions/ feedback etc. of the general public on the IDIPT-HP projects under Loan No.2676-IND as well as Loan No. 3223-IND and further reviewing/recommending appropriate action on the same to the competent authority:-

1. The Technical Consultant, PMU, IDIPT-HP.
2. The Executive Engineer, PMU, IDIPT-HP.
3. The Community Development Officer, PMU, IDIPT-HP.
4. The Deputy Director (Tourism), Shimla Division.
5. The Representative of Line Agencies, IDIPT-HP Projects in HP.
6. The Safeguard Specialists, PMU/PMC/DSC, Shimla.

Priyanka

Commissioner (Tourism)-cum-
Mission Director,
IDIPT-HP

Endst. No. As above. **Dated:**09**.05.2016.**

Copy to the following alongwith a Grievance Registration Form and Grievance Redress Mechanism for information and necessary action please:

1. The Additional Chief Secretary (Tourism), to the Govt. of H.P., Shimla-2.
2. All the Deputy Commissioner in H.P.
3. All the Deputy Directors (Tourism) in HP.
4. The Commissioner, Municipal Corporation Shimla
5. All the concerned members of the above Committee for initiating further necessary action at their level.
6. The Technical Consultant, PMU, IDIPT-HP, U. S. Club, Shimla.
7. The Executive Engineer, PMU, IDIPT-HP, U. S. Club, Shimla.
8. The Team Leader, PMC/DSC, IDIPT-HP.

Received Ambika 10/5/16. Recieved Rupesh Thakur 10/5/16

Commissioner (Tourism)-cum-
Mission Director,
IDIPT-HP

Office orders of GRC set-up at PIU level.

Infrastructure Development Investment Program for Tourism
(ADB Loan No. 2676-IND.)
Himachal Pradesh Tourism Development Board
Department of Tourism and Civil Aviation, Himachal Pradesh,
PMU Office U. S. Club, Shimla-1.

TEL (0177)2659962. **Fax. (0177)2659925.**

No.: IDIPT-HP/2676-IND/GRC-PIU /2015-\D66 **Dated:** 24.06.2015.

Office Order

Following Grievance Redress Committee (PIU Shimla, IDIPT-HP) has been constituted for the registration of grievances/ complaints/ suggestions/ comments/ questions/ feedback etc. of the general public on the IDIPT-HP projects (ADB Loan No. 2676-IND) and further reviewing recommending appropriate action on the same to the competent authority:

1. The Project Manager, PIU Shimla, IDIPT-HP.
2. The Deputy Director (Tourism), Shimla, H.P.
3. The Community Development Officer, PIU Shimla.
4. Representative of Line Agency, IDIPT-HP Projects.
5. The Safeguard Specialist, PMU/PMC/DSC.

Commissioner (Tourism)-cum-
Mission Director,
IDIPT-HP

Endst. No. As above. D66 **Dated:** 24.06.2015.

Copy to the following alongwith a Grievance Registration Form for information and necessary action please:

1. The Additional Chief Secretary (Tourism), to the Govt. of H.P., Shimla-2.
2. All the Deputy Commissioner in H.P.
3. The Commissioner, Municipal Corporation Shimla
4. All the concerned members of the above committee.
5. The Executive Engineer, PMU, IDIPT-HP Shimla.
6. The Project Manager, PIU, IDIPT, Shimla. He is informed that suggestions/ comments/ questions/ feedback/ grievances/ complaints box has already been installed outside the office premises in U. S. Club. Necessary follow up action on suggestions/ comments/ questions/ feedback/ grievances/ complaints etc. if any, received in the office/box, may be initiated in co-ordination with Safeguards Specialist (Social & Environment) PMU, Shimla in a time bound manner at his level.
7. The Team Leader, PMC/DSC.

Infrastructure Development Investment Program for Tourism
(ADB Loan No. 2676-IND.)
Himachal Pradesh Tourism Development Board
Department of Tourism and Civil Aviation, Himachal Pradesh,
PMU Office U. S. Club, Shimla-1.

TEL (0177)2659962. **Fax. (0177)2659925.**

No.: IDIPT-HP/3223-IND/GRC-PIU /2015- **Dated: 09.05.2016.**

Office Order

In supersession of this office order No. IDIPT-HP/2676-IND/GRC-PIU/2015-1049-72 dated 24.06.2015 wherein the Grievance Redress Committee (PIU Shimla, IDIPT-HP) has been constituted for the registration of grievances/ complaints/ suggestions/ comments/ questions/ feedback etc. of the general public on the IDIPT-HP projects (ADB Loan No. 2676-IND). Now the said committee is re-structured for the registration of grievances/ complaints/ suggestions/ comments/ questions/ feedback etc. of the general public on the IDIPT-HP projects under ADB Loan No.2676-IND as well as Loan No. 3223-IND and further reviewing/recommending appropriate action on the same to the competent authority as following:

1. The Project Manager, PIU Shimla, IDIPT-HP.
2. The Deputy Director (Tourism), Shimla, H.P.
3. The Community Development Officer, PIU Shimla.
4. Representative of Line Agency, IDIPT-HP Projects at Shimla.
5. The Safeguard Specialist, PMU/PMC/DSC.

Commissioner (Tourism)-cum-
Mission Director,
IDIPT-HP

Endst. No. As above. 616 **Dated: 09.05.2016.**

Copy to the following alongwith a Grievance Registration Form and Grievance Redress Mechanism for information and necessary action please:

1. The Additional Chief Secretary (Tourism), to the Govt. of H.P., Shimla-2.
2. The Deputy Commissioner, Shimla, HP.
3. The Commissioner, Municipal Corporation Shimla
4. All the concerned members of the above committee.
5. The Technical Consultant, PMU, IDIPT-HP, U. S. Club, Shimla.
6. The Executive Engineer, PMU, IDIPT-HP, U. S. Club, Shimla.
7. The Project Manager, PIU, IDIPT, U. S. Club, Shimla. He is informed that suggestions/ comments/ questions/ feedback/ grievances/ complaints box has already been installed outside the office premises in U. S. Club. Necessary follow up action on suggestions/ comments/ questions/ feedback/ grievances/ complaints etc. if any, received in the office/box, may be initiated in co-ordination with Safeguards Specialist (Social & Environment) PMU, Shimla in a time bound manner at his level.
8. The Team Leader, PMC/DSC, IDIPT-HP.

Commissioner (Tourism)-cum-
Mission Director,
IDIPT-HP.

Annexure-7

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-8

Sample Field Environmental Monitoring Template

ADB LOAN NO.3223–IND

India: Infrastructure Development Investment Program for Tourism
Himachal Pradesh

ENVIRONMENTAL MONITORING CHECKLIST (Note: To be filled in separately for each package)				
Project no.				
Site location				
Date & Time of visit				
Stage	Pre-construction/Construction/Post construction phase			
Activity	**Parameter monitored**	**Observation**		**Remark/s, if any**
		Yes	No	
Activity 1: Signage & display	Is the content & design of project related signage on site found correct?			
	Is the signage/display appropriately located?			
	Is there proper cautionary & directional signage on site?			
	Has the surrounding population been informed about the nature and duration of the works?			Note: Give dates & method of communication
Activity 2: Ambient Air Quality	Is the emissions testing done as specified in the EMP?			Note: Give dates
	Is the testing record being maintained as specified?			
	Were there any fumes, bad odour or dust observed on site?			
	If yes, has this been communicated to the Contractor for him to take appropriate measures to redress the issue?			
	Is the dust suppression/sprinkling being done adequately/as prescribed in the EMP?			
	If not, has the contractor been informed to improve the situation?			
Activity 3: Solid Waste Management & Debris Disposal	Are litter bins provided on site for solid waste collection?			
	Is there any litter found lying around on site or nearby the site but originating from the site that creates unsafe or unhealthy working conditions (e.g. risk of slipping, falling over, or mosquito breeding)?			
	Is the frequency of waste			

	removal from site adequate?			
	Is the mode of waste disposal appropriate e.g. recycling, composting, removal to MC bin etc.?			
	Are the debris/ muck from earthwork/excavation being properly disposed off in a pre-designated disposal site?			
	Is the demolition or construction waste being properly carried out & disposed off from site as specified in the EMP?			
Activity 4: Water & drainage	Is the water quality testing done as specified in the EMP?			Note: Give dates
	If standards were exceeded: has this been communicated to the Contractor directly after the results were available, for him to take appropriate action?			
	Is the testing record being maintained as specified?			
	Is there any water-logging at site?			
Activity 5: Noise	Is the noise testing done as specified in the EMP?			Note: Give dates
	If standards were exceeded: has this been communicated to the Contractor directly after the results were available, for him to take appropriate action?			
	Is the testing record being maintained as specified?			
	Is the generator set being housed in an insulated enclosure to prevent noise pollution on site?			
	Is there any other undue noise activity or noise source observed on site?			
Activity 6: Site operations & management	Is the site being inspected by field staff on regular basis or as required by the EMP?			Note: Attach a copy of site inspection record
	Are the work areas properly barricaded or fenced?			
	Is there proper pedestrian and vehicular access to site?			
	Is the alternate mobility route/decongestion plan being followed on site, if applicable?			
	Is there proper storage			

	arrangement for construction materials & supplies on site? e.g. preventing water logging or water pollution			
	Are the hazardous substances like fuel – (diesel, LPG, kerosene, oil) or paints or asbestos being properly stored and used on site/as specified in the EMP?			
	Are there adequate fire safety precautions being maintained onsite?			
	Are the machinery & other construction implements being maintained properly on site?			
	Are the vehicles carrying raw material/supplies and heavy equipment parked at the designated area within or near the site?			
	Is there any incidence of soil/water contamination from toxic substances observed on site? e.g. from oil spill or waste engine oil			Note: If yes, please specify date and describe incident, how was it resolved and how to avoid in future
	Is the oil /waste oil disposal being done safely and properly away from site?			Note: Safe disposal should be done on sealed ground preventing leakage and run-off, away from direct sunlight and combustible products.
Activity 7: Occupational Health & Safety	Is the OHS plan being followed and record being maintained as specified?			
	Is proper safety gear being used by workers on site? E.g. gloves, shoes, helmets & hearing protection equipment			
	Is there provision of safe drinking water on site?			
	Are there proper and clean toilets for workers on or near the site?			
	Is the provision for First Aid & Emergency Services available on site?			Note: Check the availability, accessibility and completeness of the first aid kit (e.g. are band-aids, disinfectant?).
	Is there any accident reported on site?			Note: If yes, please provide detailed report on any incident, accident, or fatality during the

				reporting period. Specify what and how it happened and what will be done to avoid a similar situation to occur again
	Is the accident record being properly maintained on site?			
	Is there any incidence of water borne disease or exposure to toxic substance on site?			
	Are disease preventive measures such as inoculation, sprays etc. being carried out on site?			
	Are there any labour camps established within or in close proximity to protected areas or heritage sites?			
As per Loan <u>covenant 6 under Schedule 5</u> for HPIDIPT: "The State shall ensure that civil works Contracts under the projects follow all applicable labour laws of the Borrower and the State and that these further include provisions to the effect that Contractors ……..				
	… (i) carry out HIV/AIDS awareness programs for labour and disseminate information at worksites on risks of sexually transmitted diseases and HIV/AIDS as part of health and safety measures			Note: Give dates & a brief report on compliance where applicable
	… (ii) follow and implement all statutory provisions on labour, health, safety, welfare, sanitation and working conditions.			Note: Attach an undertaking from the Contractor
Concluding remarks	Environmental compliance of this sub-project: □ Fully compliant □ Nearly compliant □ Partially compliant □ Non-compliant			
Checked by				
Designation				

Annexure-9

Sample EMR Template

Environmental Monitoring Report

Loan Number: ----------
Reporting period: (month/year to month/year)

(Title of Project)

Prepared by: ----------

Implementing Agency: ----------

Executing Agency: ----------

Date: (dd/ mm/ yyyy)

Project Title /Loan number /report reference number /date of report

TABLE OF CONTENTS

(page no.)

1. Introduction

- overall project description;
- project objectives;
- environmental category;
- environmental performance indicators, if any;
- overall project progress, agreed milestones and implementation schedules;
- any other information useful for assessing environmental performance of the project

(Limited to 3/4 of a page)

2. Compliance status with National /State /Local statutory environmental requirements

- Tabular presentation of statutory environmental requirements for the project at national, state and local levels (applicable to the borrower, sub-borrowers, contractors, vendors, etc. as the case may be), and the status of compliance thereof.
- If the project is not in compliance with any of those requirements, the report would provide actions proposed for achieving compliance within an agreed time frame duly approved by the respective regulatory agencies.

(Limited to 1/2 to 1 page)

3. Compliance status with the environmental covenants as stipulated in the Loan Agreement

- Tabular presentation of environmental covenants as stipulated in the Loan Agreement and the status of compliance thereof.
- If the project is not in compliance with any of those requirements, the report would provide actions proposed for achieving compliance within a time frame to be reviewed and approved by the ADB.

(Limited to 3/4 of a page)

4. Compliance status with environmental management and monitoring plans as stipulated in the environmental documentation as agreed with ADB

- Tabular presentation of environmental management and monitoring plans and environmental assessment and review framework/procedures as agreed and the status of implementation thereof.
- The status chart would provide details of actions proposed to be taken by various agencies, including contractors/vendors for implementation, the current status of compliance.
- In case any corrective measures are warranted, the status chart would outline the corrective action plan with an agreed time frame duly agreed by all those agencies concerned for ADB's review and concurrence.
- In case of corrective measures are implemented based on the earlier monitoring, the status chart would elaborate clearly the improvements noticed and further steps required if any.

(Limited to 2 pages)

5. Approach and methodology engaged for environmental monitoring of the project

- Monitoring basis
  - rationale for selection of sampling/ monitoring locations,
  - selection of environmental receptors /attributes for monitoring,
  - linkage with environmental performance indicators agreed upon,
  - phases of project – design, construction, operation
- Standards /monitoring methods to be employed for assessment
- Monitoring Quality Control

(Limited to 1 page)

6. Monitoring of environmental receptors/ attributes (e.g. ambient air, surface water, ground water, land, ecological aspects, noise, hazardous/toxic wastes, etc.)

- Type of environmental receptor/attribute to be monitored (for each type)
  - Method of monitoring
  - Duration and frequency of monitoring
  - Equipment /instrumentation to be used for monitoring
  - Sampling locations/ sites for monitoring (linked with Appendix 1 – location map)
  - Reporting monitoring results (provide tabular presentation)
  - Detailed analyses of monitoring reports and conclusions (use histograms or any other methods)
  - Correlate the monitoring results with statutory requirements at national/state/local levels
  - Corrective actions proposed in case on non-compliance /improvements noticed due to corrective actions taken during the reporting period, and further actions required if any.
  - Recommendations /Suggestions.

(Limited to 2 pages)

7. Any other environmental aspects, impacts observed during implementation which were not covered earlier

(Limited to 1/2 page)

8. Details of Grievance Redress Committee and complaints received from public and actions taken thereof to resolve

(Limited to 1 page)

9. Follow-up actions and conclusions

(Limited to 1/2 to 1 page)

Signed by:

Monitoring agency:
(name, title, date)
Authorized signatory from Implementing Agency /Executing Agency:
(name, title, date)

APPENDIX 1

Location Map for Environmentally Sensitive Sites and Monitoring Stations

Annexure-10

MoU

MOU for Operation & Maintenance
(Under Taking from Assets Owner)

I Daljit Negi, SDO (C) (name), agree to undertake the operation and maintenance of the assets which will be constructed, renovated, restored and etc. by the HPTDB under Tranche 3 of the IDIPT-HP program together with other assets currently maintained by us. All works under Tranche 3 including but not limited to landscape works, pathways, railing, toilets, car parking and etc. will be maintained by us, with our own funds generated from operations or received from various sources.

Our annual total receipts are Rs...../-.....(Optional).

I have no objection for any work being taken up by HPTDB under Tranche 3 of the IDIPT program within the boundary premises and pathways, access to the premises from main road and etc. I assure you that the operation and maintenance of the assets will be done by us from our own resources.

Designation of the **(Asset Owner)**

Sub-Divisional Officer (Civil)
Rampur Bushahr

Annexure-11

Salient Features of Major Labor Laws Applicable to Establishments Engaged in Construction/Civil Works

(i) Workmen Compensation Act, 1923 - The Act provides for compensation in case of injury by accident arising out of and during the course of employment.

(ii) Payment of Gratuity Act, 1972 - Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years' service or more or on death at the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.

(iii) Employees' PF and Miscellaneous Provisions Act, 1952 - The Act provides for monthly contributions by the employer plus workers @10 % or 8.33 %. The benefits payable under the Act are:

(a) Pension or family pension on retirement or death as the case may be; (b) deposit linked insurance on the death in harness of the worker; (c) payment of PF accumulation on retirement/death etc.

(iv) Maternity Benefit Act, 1951 - The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.

(v) Contract Labour (Regulation and Abolition) Act, 1970 - The Act provides for certain welfare measures to be provided by the Contractor to contract labor and in case the Contractor fails to provide, the same are required to be provided by the Principal Employer by Law. The principal employer is required to take Certificate of Registration and the Contractor is required to take a License from the designated Officer. The Act is applicable to the establishments or Contractor of principal employer if they employ 20 or more contract labor.

(vi) Minimum Wages Act, 1948 - The employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Construction of Buildings, Roads, Runways are scheduled employment.

(vii) Payment of Wages Act, 1936 - It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.

(viii) Equal Remuneration Act, 1979 - The Act provides for payment of equal wages for work of equal nature to Male and Female workers and not for making discrimination against Female employees in the matters of transfers, training and promotions etc.

(ix) Payment of Bonus Act, 1965 - The Act is applicable to all establishments employing 20 or more workmen. The Act provides for payments of annual bonus subject to a minimum of 8.33 % of wages and maximum of 20 % of wages to employees drawing Rs. 3,500/- per month or less. The bonus to be paid to employees getting Rs. 2,500/- per month or above up to Rs.3,500/- per month shall be worked out by taking wages as Rs.2,500/- per month only. The Act does not apply to certain establishments. The newly set up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of the Act.

(x) Industrial Disputes Act, 1947 - The Act lays down the machinery and procedure

for resolution of industrial disputes, in what situations a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.

(xi) Industrial Employment (Standing Orders) Act, 1946 - It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the employer on matters provided in the Act and get the same certified by the designated Authority.

(xii) Bulding and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996 - - Applicable to all construction works in the project, Contractor to obtain license from designated labour officer, Contractor shall register with Labour Department, GOR if Inter-state migrant workmen are engaged, Adequate and appropriate amenities and facilities shall be provided to workers including housing, medical aid, travelling expenses from home and back, etc.