Semi-Annual Environmental Safeguard Monitoring Report

Project Number: 44212-013
Semestral Report
June 2016

BAN: Coastal Towns Environmental Infrastructure Project (CTEIP)

Prepared by Local Government Engineering Department (LGED) for the People's Republic of Bangladesh and the Asian Development Bank.

CURRENCY EQUIVALENTS
(as of 30 June 2016)

Currency unit	–	taka (Tk)
Tk1.00	=	$0.01276
$1.00	=	Tk78.350

NOTES

(i) The fiscal year (FY) of the Government of Bangladesh ends on 30 June. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY2016 ends on June 2016.

(ii) In this report, "$" refers to US dollars.

LOCAL GOVERNMENT ENGINEERING DEPARTMENT

(Ministry of Local Government and Rural Development Cooperatives)

Third Environmental Safeguard Monitoring Report (January to June 2016)

ADB ODA Loan Project **Loan/ Grant Nos**.:
L3133-BAN(SF)/L8284-BAN(SCF)/G0394-BAN(SCF)
Project No**.: BAN 44212**

COASTAL TOWNS ENVIRONMENTAL INFRASTRUCTURE PROJECT (CTEIP)

ENVIRONMENTAL Safeguards Monitoring Report (ESMR-03)

JUNE 2016

Project Management and Supervision Consultant (PMSC)
EPTISA Services de Ingenieria S.L. *KS Consultants*
eptisa engineering

ENVIRONMENTAL
Safeguards Monitoring Report
(ESMR-03)

Issue and Revision Record

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Abbreviations and Acronyms:

Abbr	Abbreviation
ADB	Asian Development Bank
AFD	Agence Française Développement
AMT	Amtoli Pourashava
ASCE	American Society of Civil Engineers
BD	Bid Document
BDT	Bangladesh Taka
BH	Borehole
BL	Boat Landing Station package
BMGF	Bill & Melinda Gates Foundation
BNBC	Bangladesh National Building Code
BOO	Build Own Operate
BoQ	Bill of Quantities
BOT	Build Operate Transfer
BOOT	Build Own Operate Transfer
BT	Bus Terminal package
BWDB	Bangladesh Water Development Board
CBR	California Bearing Ratio
CDTA	Capacity Development Technical Assistance: (7890) Strengthening the Resilience of the Urban Water Supply, Drainage, and Sanitation to Climate Change in Coastal Towns
CIF	Climate Investment Funds
CP	Contract Package
CS	Cyclone Shelter Component
CTIIP	Coastal Towns Environmental Infrastructure Project
DDS	Detailed Design Service
DED	Detailed Engineering Design
DFM	Domestic Flow meter
DPHE	Department of Public Health Engineering
DR	Drainage package, including Flood Control Works
EA	Executing Agency
EIA	Environmental Impact Assessment
EIRR	Economic Internal Rate of Return
EMP	Environmental Management Plan
ESMR	Environmental Safeguards Monitoring Report
FTP	Fast Track Package
FIRR	Financial Internal Rate of Return
GAL	Galachipa Pourashava
GAP	Gender Action Plan
GLT	Ground Level Tank
GoPRB	Government of the People's Republic of Bangladesh
GPS	Global Positioning System
IBC	International Building Code
ICB	International Competitive Bidding
ICAC	Institutional Capacity and Awareness Consultant
IEE	Initial Environmental Examination
IS	International Shopping

Km	Kilometer
LAR	Land Acquisition and Resettlement
LCB	Local Competitive Bidding
LGED	Local Government Engineering Department
MAT	Mathbaria Pourashava
MDB	Multilateral Development Bank
MDGs	Millennium Development Goals
M&E	Mechanical and Electrical
MLD	Million litres per day
MLGRDC	Ministry of Local Government and Rural Development Cooperatives
MM	Multi-purpose Market package
MWR	Ministry of Water Resources
NCB	National Competitive Bidding
NGO	Non Government Organization
OHT	Overhead Tank
O&M	Operation and Maintenance
OTJT	On-the-job-training
PAM	Project Administration Manual
PLSC	Pourashava Level Coordination Committee
PDA	Project Design Advance
PIR	Pirojpur Pourashava
PIU	Project Implementation Unit
PMSC	Project Management and Supervision Consultant
PMU	Project management Unit
PPCR	Pilot Program for Climate Resilience
PPTA	Project Participatory Technical Assistance
PTW	Production Tube-well
RCC	Reinforced Cement Concrete
RRP	Report and Recommendation of the President
QA/QC	Quality Assurance/ Quality Control
RD	Road package, including Bridges
SCF	Strategic Climate Fund
SLR	Sea Level Rise
SP	Subproject
SPAR	Subproject Appraisal Report
SPCR	Strategic Programme for Climate Resilience
SSMR	Social Safeguards Monitoring Report
STWSSP	Secondary Towns Water Supply and Sanitation Project
TA	Technical *Assistance*
ToR	Terms of Reference
TW	Tubewell
UGIIP	Urban Governance and Environmental Infrastructure (Sector) Project
US$	United States Dollar
WC-SBP	Waste Concern - Sanitation Business Plan
WAPDA	Water and Power Development Authority
WPS	Water Pumping Station
WS	Water Supply package: including Sanitation and Solid Waste Management
WTP	Water Treatment Plant

EXECUTIVE SUMMARY

The Coastal Towns Environmental Infrastructure Project (CTEIP) is a key infrastructure initiative of the Government of Bangladesh. The intervention is planned to develop climate resilient structures, for the proposed sub-projects for construction and improvement of roads, drains, water supply and cyclone shelters. The sub-projects are located within urban and semi urban areas of the respective Pourashavas. Award of contract has been completed for 17 contracts comprising: for the Cyclone Shelter Contract Packages for the actives contracts CTEIP/MAT/CS/01, CTEIP/GAL/CS/01, CTEIP/PIR/CS/01, CTEIP/PIR/CS/02 and CTEIP/AMT/CS/01; and the Road Contract Packages for the actives contracts CTEIP/MAT/RD/01, CTEIP/GAL/RD/01, CTEIP/GAL/RD/02, CTEIP/PIR/RD/01, CTEIP/PIR/RD/02, CTEIP/AMT/RD/01 and CTEIP/AMT/RD/02; and Drain Contract Package for the active contract CTEIP/GAL/DR/01, CTEIP/PIR/DR/01 and CTEIP/AMT/DR/01 and Water Supply Contract Package for the active contract CTEIP/GAL/WS/01 and CTEIP/AMT/WS/01.

The challenge for the project is that the sub-projects are implemented in the most economically feasible, climate resilient, environmentally sustainable and socially acceptable, manner. The PPTA feasibility study, completed in October 2013, has provided a comprehensive set of recommendations for the planning, design and implementation of the Project. Based on the recommendations of this study, the DDS Consultant have completed the Detailed Engineering Design for the construction of the awarded contracts.

***Implementation Arrangements**:* Local Government Engineering Department (LGED) is the executing agency (EA), and Department of Public Health Engineering (DPHE) is co-executing agency. LGED is responsible for providing support and guidance to Pourashavas concerning performance criteria and Pourashava development planning. Implementation activities will be overseen by a separate program management unit (PMU). The participating Pourashavas are the implementing agencies (IA), with a project implementation unit (PIU) within the Pourashava structure. Local LGED and DPHE offices will be involved in the functioning of the PIUs to provide technical support..

An environmental assessment using ADB's Rapid Environmental Assessment (REA) checklist for urban development was conducted and results of the assessment demonstrated that the subproject is unlikely to cause significant adverse impacts. The proposed infrastructure development programme subprojects are classified as **Environmental Category B** as per the ADB SPS 2009 as no significant impacts are envisioned. The related Initial Eenvironmental Examination (IEE) report have been prepared in accordance with ADB SPS 2009 requirements for environment category B projects and provides mitigation and monitoring measures to ensure no significant impacts as a result of the subproject.

The environmental mitigation measures as stipulated in the EMP (**Chapter 6**) and in the obtained environmental permit are monitored during implementation of the proposed infrastructure development programme. In order to perform monitoring of EMP, the contractor shall engage experienced laboratory and third party services in complying the required environmental testing of parameters listed in **Chapter 8**.

The social impacts for each subproject was screened in accordance with ADB SPS 2009 requirements to assess the likely impacts, categorized as **Category B**. Due Diligence Report (DDR) and Resettlement Action Plan (RAP) have been prepared to address the negative impacts.

There are no indigenous people present in the subproject areas; there is no impact on Indigenous peoples (IPs). These subprojects are hence categorized as **Category C** for Indigenous People. Therefore, no Indigenous Peoples Development Plan (IPDP) was required.

This Environmental Safeguards Monitoring Report (ESMR) is the third semi-annual report covering the start of the construction and during the initial preliminary stage of the construction phase to June 2016. The parameters of Water Quality, Air Quality, Noise measurement, and Soils quality shall be monitored; as specified in **Chapter 8**.

During public consultation recommendations were drawn including: a) involve local communities in all stages of project planning and development, b) establish permanent communication between project

initiators and local authorities, c) setup grievance redress mechanism which will publicized through Pourashava level co-ordination committee and monitoring register and d) during construction, local people including women shall be given first priority in the employment of skilled and unskilled labour.

The LGED has disclosed the related Environmental Management Framework by making copies available at its head office and in the District / Pourashava where the Project is located. Copies are also made available to the Local Government's Agencies, the Environmental and Social Group and other stakeholders. The Government of Bangladesh has authorized the Asian Development Bank to disclose this IEE and EMP electronically through its InfoShop.

Five Cyclone Shelter Contracts: EMP Monitored Result: of the 98 monitored Environmental parameters of the EMP, for the Cyclone Shelter component of the CTEIP programme for contract packages: CTEIP/MAT/CS/01, CTEIP/GAL/CS/01, CTEIP/PIR/CS/01, CTEIP/PIR/CS/02 and CTEIP/AMT/CS/01: 39 line items were either yet to start or not applicable at this stage of the construction phase. The overall score was found to be 170 points, equivalent to a resultant 2.9 ranking. Hence, the overall compliance for the Cyclone Sub-projects is found to be **Partially Satisfactory** but with **3 key non-compliances**.

Seven Road Contracts: EMP Monitored Result: of the 98 monitored environmental parameters of the EMP, for the Road component of the CTEIP programme for contract packages: CTEIP/MAT/RD/01, CTEIP/GAL/RD/01, CTEIP/GAL/RD/02, CTEIP/PIR/RD/01, CTEIP/PIR/RD/02, CTEIP/AMT/RD/01 and CTEIP/AMT/RD/02: 27 line items were either yet to start or not applicable at this stage of the construction phase. The overall score was found to be 199 points, equivalent to a resultant 2.8 ranking. Hence, the overall compliance for the Cyclone Sub-projects is found to be **Partially Satisfactory** but with **5 key non-compliances.**

Three Drain Contracts: EMP Monitored Result: of the 98 monitored Environmental parameters of the EMP, for the Drain component of the CTEIP programme for contract packages: CTEIP/GAL/DR/01, CTEIP/PIR/DR/01 and CTEIP/AMT/DR/01: 27 line items were either yet to start or not applicable at this stage of the construction phase. The overall score was found to be 199 points, equivalent to a resultant 2.8 ranking. Hence, the overall compliance for the Cyclone Sub-projects is found to be **Partially Satisfactory** but with **5 key non-compliances**.

Two Water Supply Contracts: EMP Monitored Result: of the 98 monitored Environmental parameters of the EMP, for the Water Supply component of the CTEIP programme for contract packages: CTEIP/GAL/WS/01 and CTEIP/AMT/WS/01: 39 line items were either yet to start or not applicable at this stage of the construction phase. The overall score was found to be 176 points, equivalent to a resultant 3.0 ranking. Hence, the overall compliance for the Cyclone Sub-projects is found to be **Satisfactory** but with **3 key non-compliances**.

Conclusion and Findings:

Cyclone Shelter Contracts: CTEIP/MAT/CS/01, CTEIP/GAL/CS/01, CTEIP/PIR/CS/01, CTEIP/PIR/CS/02 and CTEIP/AMT/CS/01: The result of this initial monitoring of the environmental covenants for the five active cyclone shelter contract packages of Mathbaria, Galachipa, Pirojpur and Amtali Pourashavas is found to be partially satisfactory but with many key non compliances. Immediate action regarding follow up action for completion of the verified monitoring for the ESMR and related activities are required to address the situation as follows:

i. Instigate greater frequency of public consultation during construction;
ii. Sample monitoring and testing of the designated Environmental Parameters in full accordance with the contracted financing plan and testing requirements;
iii. Grievance Redressal Mechanism: To implement according to EMP;
iv. EMP implementation and monitoring Training; and
v. Gender awareness and sensitivity.

The timeframe to take such action is as stated immediate so that rectification and compliance with the terms of the EMP sample testing will be addressed. Accordingly, PMU/PIU/Consultant is to formulate the necessary training programmes.

Roads Contracts: CTEIP/MAT/RD/01, CTEIP/GAL/RD/01, CTEIP/GAL/RD/02, CTEIP/PIR/RD/01, CTEIP/PIR/RD/02, CTEIP/AMT/RD/01 and CTEIP/AMT/RD/02: The result of this initial monitoring of the environmental covenants for the Seven active road contract packages of Mathbaria, Galachipa, Pirojpur and Amtali Pourashavas is found to be partially satisfactory but with many key non compliances. Immediate action regarding follow up action for completion of the verified monitoring for the ESMR and related activities are required to address the situation as follows:

i. Instigate greater frequency of public consultation during construction;
ii. Sample monitoring and testing of the designated Environmental Parameters in full accordance with the contracted financing plan and testing requirements;
iii. Grievance Redressal Mechanism: to implement according to EMP;
iv. EMP implementation and monitoring Training.

The timeframe to take such action is as stated immediate so that rectification and compliance with the terms of the EMP sample testing will be addressed. Accordingly, PMU/PIU/Consultant is to formulate the necessary training programmes.

Drain Contracts: CTEIP/GAL/DR/01, CTEIP/PIR/DR/01 and CTEIP/AMT/DR/01: The result of this initial monitoring of the environmental covenants for the three active drain contract packages of Galachipa, Pirojpur and Amtali Pourashavas is found to be partially satisfactory but with many key non compliances. Immediate action regarding follow up action for completion of the verified monitoring for the ESMR and related activities are required to address the situation as follows:

i. Sample monitoring and testing of the designated Environmental Parameters in full accordance with the contracted financing plan and testing requirements;
ii. Instigate greater frequency of public consultation during construction;
iii. Grievance Redressal Mechanism: To implement according to EMP;
iv. EMP implementation and monitoring Training; and
v. Gender awareness and sensitivity.

The timeframe to take such action is as stated immediate so that rectification and compliance with the terms of the EMP sample testing will be addressed. Accordingly, PMU/PIU/Consultant is to formulate the necessary training programmes.

Water Supply Contracts: CTEIP/GAL/WS/01 and CTEIP/AMT/WS/01: The result of this initial monitoring of the environmental covenants for the two active water supply contract packages of Galachipa and Amtali Pourashavas is found to be satisfactory but with many key non compliances. Immediate action regarding follow up action for completion of the verified monitoring for the ESMR and related activities are required to address the situation as follows:

i. Sample monitoring and testing of the designated Environmental Parameters in full accordance with the contracted financing plan and testing requirements;
ii. Instigate greater frequency of public consultation during construction;
iii. Grievance Redressal Mechanism: To implement according to EMP;
iv. EMP implementation and monitoring Training; and
v. Gender awareness and sensitivity.

The timeframe to take such action is as stated immediate so that rectification and compliance with the terms of the EMP sample testing will be addressed. Accordingly, PMU/PIU/Consultant is to formulate the necessary training programmes.

Chapter 1: Introduction

PROJECT MANAGEMENT AND SUPERVISION CONSULTANT

ENVIRONMENTAL
Safeguards Monitoring Report
(ESMR-03)

1. INTRODUCTION

1.1. Background

Based on the Capacity Development Technical Assistance (CDTA) and Project Planning Technical Assistance (PPTA); the project on "Coastal Towns Infrastructure Improvement Project (CTIIP), now referred as Coastal Towns Environmental Infrastructure Project (CTEIP), Project Design Advance (PDA) for Detailed Design Services (DDS)" plans to strengthen the climate resilience, in incorporating climate change adaptation parameters in the design of the project related components, inclusive of urban water supply, sanitation, drainage, roads and solid waste management of the CTEIP Pourashavas.

CTEIP was approved by ADB on 6 August 2012 for an amount of $3.5 million equivalent from ADB's Special Funds resources. The PDA Agreement was signed on 23 October 2012 and became effective on 29 October 2012. The Technical Assistance Project Proposal for the PDA was approved by the government on 3 April 2013. The PDA supported advanced preparatory work through Detailed Design Services (DDS) consultants to achieve project readiness including: (i) detailed engineering designs; (ii) advanced procurement; and (iii) safeguard document preparation. The PDA was refinanced under the ensuing ADB loan upon its effectiveness in September 2014.

The main investment project was signed by the Government of Bangladesh and ADB on 29 June 2014 for a total loan amount of $82 million equivalent and a total grant amount of $12 million. The loans and grants were effective on 19 September 2014 and scheduled to close on 31 December 2020. The total project amount for the eight Pourashavas is estimated to be $117.1 million, and the implementation period is five years.

CTEIP finances basic urban services improvements and aims to increase climate resiliency that are vulnerable to the effects of climate change. The eight project Pourashavas will receive investments in two stages: (i) Stage 1 focuses on infrastructure crucial for climate resilience (e.g., roads, cyclone shelters, solid waste, drainage, water supply, and sanitation); and (ii) Stage 2 includes other infrastructure that contributes to general economic development (e.g., additional roads, markets, boat landings and bus terminals).

This report is the third Bi-annual Environmental Safeguard Monitoring Report by the Consultant for the Project. This report of the Coastal Towns Environmental Infrastructure Project (CTEIP) covers the period from January 2016 to June 2016 in compliance with the environmental scope of the construction supervision. The main purpose of this monitoring is to ensure the implementation of environmental mitigation measures during construction through supervision by the Engineer during the construction phase. Environmental issues also are anticipated to be identified in advance for avoidance and to ensure timely completion of the project. This third bi-annual environmental safeguard monitoring report is produced as a report to the requirements of the Contract for the provision of Project Management and Supervision Consultant (PMSC) Services to the Local Government Engineering Department (LGED) under the Asian Development Bank, ADB ODA Loan Project Loan/ Grant Nos.: L3133-BAN(SF)/L8284-BAN(SCF)/G0394-BAN(SCF); Project No.: BAN 44212

1.2. Project Objectives

The Coastal Towns Environmental Infrastructure Project will improve the quality of life for both the resident community members and for those visiting the urban areas, included within the Project. The majority of the resident urban populous, presently living under poor environmental conditions, would benefit from improved infrastructure and better utility services. As result, the economy would benefit from the increased efficiencies accrued inclusive of improvements made to road communications, safe and sustainable water supply provisions, upgraded drainage facilities and improved sanitation services. The enhanced capabilities of the Pourashavas, inclusive of the positive strategy of gender involvement and the participatory role of the

community, in efficient operations and maintenance of the urban facilities, would establish a sustainable capability for future effective urban governance.

The Subprojects would therefore be instrumental in attaining improved environmental conditions, which would inspire economic growth and entice the urban poor to actively participate. This will be achieved through strengthened urban management and support for priority investments in urban infrastructure and services required to meet basic human needs, improve quality of life, and stimulate sustainable economic development through equitable distribution of basic urban services to the residents that are technically feasible, financially viable, climatically resilient, environmentally sustainable, socially acceptable and operationally manageable.

The project aims to assure governance improvement and build resilience by linking each stage of investment to demonstrated reforms, as proven highly effective in previous ADB urban projects in Bangladesh. The eight project towns are divided into two batches of four, with each town entitled to two stages of investment (stages 1 and 2), refer to **Figure 1.1**. Towns will receive funding under each stage if they fulfil agreed performance criteria. Performance will be evaluated in the following areas: (i) strengthening climate-disaster planning; (ii) strengthening citizen participation; (iii) improving municipal planning, service delivery, and operation and maintenance; and (iv) strengthening municipal financial management. A performance evaluation committee will evaluate each Pourashava. The project reflects the successful experience in governance-led investment through performance-based allocation from the first and second Urban Governance and Infrastructure Improvement (Sector) Projects. The project also reflects findings of downscaled climate modelling from the technical assistance on strengthening the Resilience of the Urban Water Supply, Drainage, and Sanitation to Climate Change in Coastal Towns.

1.3. Objectives of the PMSC

The Project will strengthen climate resilience and disaster preparedness in 8 vulnerable coastal Pourashavas of Bangladesh in two batches. The first batch of towns includes Pirojpur, Amtali, Mathbaria, and Galachipa, and the second batch includes Barguna, Bhola, Daulatkhan, and Kalapara.

The Project takes a holistic and integrated approach to urban development, which includes (i) provide climate-resilient municipal infrastructure, and (ii) strengthen institutional capacity, local governance, and public awareness, for improved planning and service delivery considering climate change and disaster risks. Key infrastructure investments include (i) drainage, (ii) water supply, (iii) sanitation, (iv) cyclone shelters, and (v) other municipal infrastructure including emergency access roads and bridges, solid waste management, bus terminals, slum improvements, boat landings, and markets.

The main objectives of the PMSC, in assisting LGED, the PMU/ PIU's and the related authorities of the CTEIP Pourashavas, in monitoring the identified environmental safeguards, in compliance with ADB guidelines, include the following:

Environmental Safeguards:

i. Assist in determining adequacy of cost for EMP implementation;
ii. Assist in addressing any concern related to IEEs and EMPs;
iii. Assist in summarizing IEEs, translating to language understood by local people and disclosure in public locations;
iv. Oversee implementation of EMP including environmental monitoring of contractors;
v. Assist in implementing corrective actions when necessary to ensure no environmental impacts;
vi. Review monthly reports by contractors, assist PIUs in preparation of monthly environmental monitoring reports and submit to PMU;
vii. Assist in establishing the grievance mechanism for safeguards and addressing any grievances brought about through the GRM in a timely manner as per IEEs;
viii. Submit semi-annually environmental safeguards monitoring report to PMU;
ix. Be responsible for training the PMU safeguards officer and the PIUs safeguard assistants on environmental awareness and management in accordance with both ADB and government requirements and implement the capacity building program for PMU, PIUs, and all staff involved in project implementation on (a) ADB SPS, (b) Government of Bangladesh national and local environmental laws and regulations, (c) core labor standards, (d) occupational health and safety monitoring given in the Social Safeguards Monitoring Report (SSMR July 2016), (e) EMP

implementation especially spoil management, working in congested areas, public relations and ongoing consultations, grievance redress, etc.; and

x. Provide induction course for the training of contractors preparing them on EMP implementation.

1.4. Climate Change Adaptation Measures

CTEIP has incorporated climate change adaptation measures in ensuring climate resilient municipal infrastructure. The interrelated design approach, under integrated development, has been conducted which forms the following summarized component-wise scope for the contract packages of the Batch 1, Stage I programme:

- Urban roads and bridges;
- Water Supply, Sanitation and Solid Waste Management;
- Flood Control and Storm water Drainage;
- Commercial facilities including Bus Terminals and Multipurpose Markets; and
- Boat Landing Stations.

All related designs have been prepared being fully compatible with all relevant climate adaptation codes of practice in ensuring durability and sustainability of the sector component designs. Full coordination has been made with the respective Pourashava authorities, related stakeholders and implementing agencies, regarding the progressed designs.

1.5. Project Scope and Implementation

The Project is to be implemented over a five year period from the date of loan effectiveness, scheduled for completion by February 2020. Prior to effectiveness of the CTEIP, conditionally scheduled in June 2014, ADB agreed with PMU and DDS consultancy during the Inception Review Mission (February 2014), on a preliminary

The Fast Track Programme was included to expedite the preparation of bid documents for the selected subprojects of Batch 1 Pourashavas, including 17 contract packages comprising 5 Cyclone Shelter packages, 12 Road packages, 3 Drain packages and 2 water supply packages. **Table 1.1** gives a summarized progress status to date of the 17 awarded contracts under various stages of construction.

Out of this fast track programme, the following contract packages have been awarded to date, for the construction programme is ongoing and for which this Environmental Safeguards Monitoring Report has been prepared:

- Amtali Pourashava: AMT/CS/01, AMT/CS/02, AM/RD/01, AMT/RD/02, and AMT/DR/01;
- Mathbaria Pourashava: MAT/RD/01 and MAT/CS/01;
- Galachipa Pourashava: GAL/RD/01, GAL/RD/02, GAL/CS/01, GAL/DR/01 and GAL/WS/01;
- Pirojpur Pourashava: PIR/CS/01, PIR/CS/02, PIR/RD/01, PIR/RD/02, and PIR/DR/01.

Chapter 2: Project Location and Stage I Components

2. PROJECT LOCATION AND STAGE I COMPONENTS

2.1 Sub-project Selection Process

Particular attention has been paid to the data and recommendations contained in the PPTA Reports, which have been further reviewed and site verified by the DDSC in advance of progressing with the detailed engineering design. Based on risk and vulnerability; the ADB's subproject selection criteria, discussions held with community members and related stakeholders, which included the Pourashava administration, local people and educational administrations according to selected cyclone shelters. In the case of the proposed cyclone shelters, the siting of the building has been laid in such a way so that it does not interfere with the activities of other buildings and it is easily approachable by the people through established road access or included road access.

Selected sub-project schemes, including roads, water supply and drains, were identified and finalized during PPTA through the workshop organized in Pourashava in the presence of the Mayor, Councilors, Engineers and invited officials from relevant organizations. Particular attention was paid to the data and recommendations contained in the PPTA reports, which have been further reviewed and site verified in advance of progressing with the detailed design and IEE study conducted by the DDSC.

2.2 Cyclone Shelter State and Component

Research commissioned by the various development partners in Bangladesh, shows that 13 types of cyclone shelters have been constructed in Bangladesh. Generally they all follow similar designs, using a framed structure that can withstand storm flows and high winds. The population of the area has been regular victim of the frequent storm surges. The history and future prediction have indicated storm surges of 9.4 m without decay due to land hindrances. Storm surge level of 5.7 m is anticipated due to climate change in 2050 with decay in surge height.

Climate Change Adaptation design has been considered inclusive of rise in sea, flood levels due to tidal change and periodic flood surging. Plinth levels have therefore been designed for such changes requirements. Plot areas of the cyclone shelters have also been reviewed with respect to maintaining sufficient assembly area and save space for accommodating increased collection of crowd expected to occupy the facility during the times of adverse weather and cyclonic conditions. Improvements to the provisions of toilets and gender facilities have been completed and incorporated within the respective drawings and cost estimates.

2.3 Roads and Bridge Component

The existing road surface range from asphalt and/or concrete, herring bone brick and earthen roads. The formation level of most of the roads is typically raised above existing ground levels but not flood / tide / surge resilient. Roads are found to be in various degree of deterioration mainly due to poor construction practices and inadequate maintenance provisions. There is a need to design these roads as climate resilient so that these can be utilized in all seasons. The drainage along the road is non existence/ non-functional. The history and future prediction have indicated storm surges of 9.4 m without decay due to land hindrances. Storm surge level of 5.7m is anticipated due to climate change in 2050 with decay in surge height. The highest tide level is between 2.70-2.92[1] m PWD.

Climate change adaptation has been incorporated so that roads are climate resilient to 2050, considering rainfall, temperature, tide and/or floods and surge levels. Road formation levels have been kept above surge/ tide/ flood levels. Due allowance has also been given for the future staged development of the roads under normal maintenance processes, whereby it is estimated that the FRL's will be increased by a minimum of 40mm over a 7 year cycle period.

[1] Based on Local information and sea level rise.

2.4 Water Supply Component

The sub-project was identified during PPTA through officials from relevant organizations. Particular attention was paid to the data and recommendations contained in the PPTA reports, which are further reviewed, and sites verified in advance of progressing with the detailed design by the DDSC.

The design for the water supply component has been fully coordinated with representatives of the DPHE for which the Contract package for Amtali and Galachipa Pourashava are currently under the bidding procedures. The Draft DED for Mathbaria Pourashava is presently under scrutiny by the DPHE, awaiting finalization by the DDSC. The term of reference (ToR) for the water supply components has been approved by the department of environment (DoE) and accordingly the detail environmental impact assessment (EIA) has prepared for water supply component which has been submitted to DoE for getting the environmental clearance certificate (ECC).

2.5 Drainage and Flood Control Component

The intervention is planned to develop climate resilient structures, including drainage, drainage related structures and flood protection infrastructural works. The proposed sites for construction of the drainage works are located within the respective Pourashava areas, within rights of way and within urban and semi urban areas. Investments under this subproject include construction of drains, box culverts, rehabilitation, and re-excavation of khals inclusive of necessary stabilization of embankments and rehabilitation / construction of culverts.

Chapter 3: Environmental Responsibilities and Institutional Setup

3 ENVIRONMENTAL RESPONSIBILITIES AND INSTITUTIONAL SETUP

3.1 Environmental Responsibilities

The Local Government Engineering Department (LGED) is the executing agency. LGED has constituted a Project Management Unit (PMU) and Project Implementation Unit (PIU). The PMU is headed by Project Director (PD). In order to put the project to logical conclusion the PD is assisted by three consultant team to assist and support the PMU and PIU (Project Implementation Unit). The consultant teams are: i) Detailed Design Services (DDS); ii) Project Management and Supervision Consultant (PMSC), and Institutional Capacity and Community Development consultant (ICCDC). The Pourashava will be the implementing agency and will be assisted by PIU. The facility created during the sub-project will be operated and maintained by the Pourashava.

3.2 Institutional Arrangements

Refer to **Figure 3.1** for the overall CTEIP organization setup and the inter-related relationships of PMU/ the Pourashava staff/ Consultants and all related stakeholders and interested agencies, inclusive of details of all the Project Management officially CTEIP formed committees.

The main Ministry, Department, Institutions and Boards responsible for development of policy, framing regulation, developing projects, monitoring and approval of issues related to environment protection and conservation are presented in this section. The Department of Environment (DoE) was established in 1977 under the Environment Pollution Control Ordinance, 1977. During 1987-89, Forestry was a Division of Agriculture Ministry with a Secretary to Government in charge of the Forestry Division. With the formation of the new Ministry of Environment and Forests, in 1989, both the departments were transferred to this new Ministry. The DoE has been placed under the MoEF as its technical wing and is statutorily responsible for the implementation of the Environment Conservation Act, 1995. Besides these two departments, MoEF controls the Bangladesh Forest Industries Development Corporation (BFIDC), Bangladesh Forest Research Institute (BFRI) and Bangladesh National Herbarium (BNH).

3.3 Implementation, Monitoring and Reporting Compliance

The existing IEE's and EMP's were updated, by the DDSC, based on the finalized detailed engineering designs and have been prepared in accordance with the EARF and subproject selection criteria related to safeguards, which were included in the respective Bid Documents and form part of the respective Contract Documents for the currently awarded and active civil works packages.

The PIU/Contractors are following all provisions detailed in the respective IEE's and EMP's, which are being closely implemented according to the environmental safeguard requirements of the project, including monitoring of the related specific indicators to the current status of the respective EMP's for the road, cyclone shelter, water supply and drain packages, as reviewed and recorded in this ESMR.

3.4 Grievance Redressal Status

A project-specific grievance redress mechanism (GRM) has been established in each Pourashava to receive, evaluate, and facilitate the concerns, complaints, and grievances about the environmental performance at the level of the project. The GRM provides a time-bound and transparent mechanism to voice and resolve the environmental concerns linked to the project. The GRM is established for environmental, or any other grievances related to CTEIP.

The GRM provides an accessible platform for receiving and facilitating grievances related to the project. The multi-tier GRM for the project is given with each tier having time-bound schedules and with responsible persons identified to address grievances and seek appropriate persons' advice at each stage, as required.

Chapter 4: Project Status of Ongoing Contract Packages

4. PROJECT STATUS OF ONGOING CONTRACT PACKAGES

Refer to **Table 4.1** for a summarized progress status of the referred contract packages.

4.1 Description of Contracted Cyclone Shelter Works

A summarized description of the five active Cyclone Shelter Contract Packages, which are presently under various stages of construction, is given below.

1 **Mathbaria Pourashava: Package No. CTEIP/MAT/CS/01**

Construction of Multi-purpose Cyclone Shelter at Momenia Dakhil Madrassa (Ward-1), Mathbaria Pourashava, District: Pirojpur

Sl No.	Component Name
	Construction of Cyclone Shelter at Momenia Dakhil Madrasha(word-01):
(1)	Schedule 1: General & Site Facilities.
(2)	Schedule 2: Civil work
(3)	Schedule 3: Internal Road
(4)	Schedule 4: Sanitary work
(5)	Schedule 5: Electrical work
(6)	Schedule 6: Tube well work (2nos Tube well)
(7)	Schedule 7: Furniture work
(8)	Schedule 8: Environmental Mitigation Enhancement Works

2 **Galachipa Pourashava: Package No. CTEIP/GAL/CS/01**

Construction of 3 (three) Multi-purpose Cyclone Shelters under Galachipa Pourashava, District: Patuakhali

Sl No.	Component Name
	Construction of Cyclone Shelter at Furfura Sharif Talimul Quran Madrasha (word-02):
(1)	Schedule 1: General & Site Facilities.
(2)	Schedule 2-1: Civil work
(3)	Schedule 2-3: Sanitary work
(4)	Schedule 2-4: Electrical work
(5)	Schedule 2-5: Tube well work (2nos Tube well)
(6)	Schedule 2-6: Furniture work
	Construction of Cyclone Shelter at Galachpa Degree College Compound (word-09):
(7)	Schedule 3-1: Civil work
(8)	Schedule 3-3: Sanitary work
(9)	Schedule 3-4: Electrical Work
(10)	Schedule 3-5: Tube well work (2nos Tube well)
(11)	Schedule 3-6: Furniture work
	Construction of Cyclone Shelter at Sarshina Khanka Hafezia Madrasa (word-03):
(12)	Schedule 4-1: Civil work
(13)	Schedule 4-3: Sanitary work

(14)	Schedule 4-4: Electrical Work
(15)	Schedule 4-5: Tube well work (2nos Tube well)
(16)	Schedule 4-6: Furniture work
(17)	Schedule 5: Environmental Mitigation Enhancement Works

3 **Pirojpur Pourashava: Package No. CTEIP/PIR/CS/01**

Construction of 3 (three) Multi-purpose Cyclone Shelters under Pirojpur Pourashava, District: Pirojpur

Sl No.	Component Name
	Construction of Cyclone Shelter at Adarshapara Secondary School (word-05):
(1)	Schedule 1: General & Site Facilities.
(2)	Schedule 2-1: Civil work
(3)	Schedule 2.2: Internal Road
(4)	Schedule 2-3: Sanitary work
(5)	Schedule 2-4: Electrical work
(6)	Schedule 2-5: Tube well work (2nos Tube well)
(7)	Schedule 2-6: Furniture work
	Construction of Cyclone Shelter at Khamkata Govt Primary school.(Ward-08):
(8)	Schedule 3-1: Civil work
(9)	Schedule 3.2: Internal Road
(10)	Schedule 3-3: Sanitary work
(11)	Schedule 3-4: Electrical Work
(12)	Schedule 3-5: Tube well work (2nos Tube well)
(13)	Schedule 3-6: Furniture work
	Construction of Cyclone Shelter at Hularhat Dakhil Madrasa (ward-03):
(14)	Schedule 4-1: Civil work
(15)	Schedule 4.2: Internal Road
(16)	Schedule 4-3: Sanitary work
(17)	Schedule 4-4: Electrical Work
(18)	Schedule 4-5: Tube well work (2nos Tube well)
(19)	Schedule 4-6: Furniture work
(20)	Schedule 5: Environmental Mitigation Enhancement Works of Pirojpur Pourashava

4 **Pirojpur Pourashava: Package No. CTEIP/PIR/CS/02**

Construction of 2 (two) Multi-purpose Cyclone Shelters under Pirojpur Pourashava, District: Pirojpur

Sl No.	Component Name
	Construction of Cyclone Shelter at Moidho Dumuritala Govt. Primary School (Ward-09):
(1)	Schedule 1: General & Site Facilities.
(2)	Schedule 2-1: Civil work

(3)	Schedule 2.2: Internal Road
(4)	Schedule 2-3: Sanitary work
(5)	Schedule 2-4: Electrical work
(6)	Schedule 2-5: Tube well work (2nos Tube well)
(7)	Schedule 2-6: Furniture work
	Construction of Cyclone Shelter at Moidho Namajpur Govt Primary school.(Ward-06):
(8)	Schedule 3-1: Civil work
(9)	Schedule 3.2: Internal Road
(10)	Schedule 3-3: Sanitary work
(11)	Schedule 3-4: Electrical Work
(12)	Schedule 3-5: Tube well work (2nos Tube well)
(13)	Schedule 3-6: Furniture work
(14)	Schedule 5: Environmental Mitigation Enhancement Works of Pirojpur Pourashava

5 **Amtali Pourashava: Package No. CTEIP/AMT/CS/01**

Construction of 3 (three) Multi-purpose Cyclone Shelters under Amtali Pourashava, District: Barguna

Sl No.	Component Name
	Construction of Cyclone Shelter at Amtali Bandar Hossainia Fazil Madrasha (Ward 4).
(1)	Schedule 1: General & Site Facilities.
(2)	Schedule 2-1: Civil work
(3)	Schedule 2.2: Internal Road
(4)	Schedule 2-3: Sanitary work
(5)	Schedule 2-4: Electrical work
(6)	Schedule 2-5: Tube well work (2nos Tube well)
(7)	Schedule 2-6: Furniture work
	Construction of Cyclone Shelter at Suri Kata Govt Primary school.(Ward-07):
(8)	Schedule 3-1: Civil work
(9)	Schedule 3.2: Internal Road
(10)	Schedule 3-3: Sanitary work
(11)	Schedule 3-4: Electrical Work
(12)	Schedule 3-5: Tube well work (2nos Tube well)
(13)	Schedule 3-6: Furniture work
	Construction of Cyclone Shelter at Basugi Non-government Primary School (Ward 8)
(14)	Schedule 4-1: Civil work
(15)	Schedule 4.2: Internal Road
(16)	Schedule 4-3: Sanitary work
(17)	Schedule 4-4: Electrical Work
(18)	Schedule 4-5: Tube well work (2nos Tube well)

(19)	Schedule 4-6: Furniture work
(20)	Schedule 5: Environmental Mitigation Enhancement Works of Pirojpur Pourashava

4.2 Description of Contracted Road and Bridge Works

A summarized description of the seven active Road Contract Packages, which are presently under various stages of construction, is given below.

6 **Mathbaria Pourashava: Package No. CTEIP/MAT/RD/01**

Construction/Improvement of 4 Nos. Roads, Totaling 3.741 km in Mathbaria Pourashava, District: Pirojpur

Sl No.	Component Name
	Construction / Improvement of R&H Road to Bairatola Khal via Veterinary Hospital. Ward #05.
(1)	(Road) (Length = 541.00 m)
(2)	(Drain) Length=224.00m
(3)	(Protection Wall) (Length = 49.00m)
	Construction / Improvement of Road from Mathbaria Masua Road to Mathbaria Tushkhali khal via Women's College. Ward # 02.
(4)	(Road) (Length = 375.00 m)
(5)	(Drain) Length=341.00m
(6)	(R.C.C Protection Wall) (Length = 87.0m)
	Construction / Improvement of road from R & H road to Govt. College via New Market. Ward# 7
(7)	(Road) (Length = 860.00 m)
(8)	(Road side Drain) (Length = 855.00m)
(9)	(Box Culvert: 1x1.5x8.10m) 01 Nos.
(10)	(Protection Wall) (Length = 29.00m)
	Construction / Improvement of Bairatola to Mistribari via (Shafa Road) end of Pourashava, Ward #05.
(11)	(Road) (Length= 1965.00m).
(12)	(Box Culvert) (1 x 3.5 x 3.5) 1 Nos. (Length = 9.10m).
(13)	(Box Culvert) (1 x 1.2 x 1.5) 3 Nos. (Length=9.10m).
(14)	(Box Culvert) (1 x 1 x 1.5) 4 Nos. (Length=8.10m).
(15)	Environmental Mitigation Enhancement Works of Mathbaria Pourashava

7 **Galachipa Pourashava: Package No. CTEIP/GAL/RD/01**

Construction/Improvement of 5 Nos. Roads, Totaling 6.555 km in Galachipa Pourashava, District: Patuakhali

Sl No.	Component Name
	1. Construction /Improvement of College Road & Connecting Road of Proposed CS in Degree College, Ward # 8 to 9
(1)	(Road) Total Length = 2165.00m
(2)	(Drain) Length=283.00m
(3)	(Box Culvert 1 x 1x 1.5 x 9.10m) 01 Nos.
(4)	(Box Culvert: 1 x 2 x 2.5 x 9.10m) 01 Nos.
(5)	(Protection Wall) Length=85.00m
	2. Construction/Improvement of Wapda Road (Damaged Parts), Ward # 1,2,3 & 4
(6)	(Road) (Length =1575.00 m)
(7)	(Protection Wall) (Length = 132.00m)
	3. Construction/Improvement of Banani Road with Connecting Khalifa Road,Ward # 09
(8)	(Road) (Length = 1355.00 m)

(9)	(Box Culvert: 1 x 1 x 1.5 x 7.10m) 7 Nos.
(10)	(Box Culvert: 1 x 2 x 2.5m) (Length = 7.10m) 1 Nos.
	4. Construction/Improvement of Santibag Road ,Ward #03
(11)	(Road) (Length = 610.00 m)
(12)	(Box Culvert) (1 x 1 x 1.5) (Length = 8.10 m) 3 Nos.
(13)	(Slope Protection Work With C C Block) (Length = 30.00 m)
	5. Construction / Improvement of Sadar Road, Ward # 04 to 07.
(14)	(Road) (Length = 850.00 m)
(15)	(Drain) (Length = 758.00 m)
(16)	(Box Culvert) (1 x 1.2 x 1.6) (Length = 9.10 m) 01 Nos.
(17)	Environmental Mitigation Enhancement Works of Galachipa Pourashava

8 **Amtali Pourashava: Package No. CTEIP/AMT/RD/01**

Construction/Improvement of 4 Nos. Roads, Totaling 3.380 km & road side drain 0.481 km in Amtali Pourashava, District: Barguna

Sl No.	Component Name
	3. Construction /Improvement of Road from Pourashava near Jogen Singh House to Bandth of Ward # 01, 04.
(1)	(Road) Total Length = 340.00m
(2)	(Pipe Culvert) D600 x 7.2m
(3)	(Road Protection Work-RCC) Length=10.00m
	4. Zilla Parishad Road to Ferry Ghat Road via TNT office. Ward# 05, 06.
(4)	(Road) (Length =635.00 m)
(5)	(Drain) (Length = 481.00 m)
(6)	(Pipe Cross Drain) 08 Nos
(7)	(Cross Drain 1.0 x 1.25 x 10.0m) 4 Nos.
(8)	(Cross Drain 0.60 x 1.05 x 10.0m) 1 Nos.
(9)	(Box Culvert: 1 x 1 x 1.25 x 8.0m) 1 Nos.
(10)	(Slope Protection Work with CC Block) (Length = 47.20m)
	8. Construction/Improvement of Surikata R&H Road to Locha Bottola. Ward# 9.
(11)	(Road) (Length = 1400.00 m)
(12)	(Pipe Culvert D600 x 7.2m) 2 Nos.
(13)	(Box Culvert: 1 x 1 x 1.5 x 7.10m) 2 Nos.
(14)	(Box Culvert: 1 x 1 x 1.5 x 8.0m) 1 Nos.
(15)	(Road Protection Work-RCC) Length=60.00m
	9. Construction/Improvement of Wapda Road to Piku Mirdha House via House of Lal Gazi and Kalu Khan. Ward# 8,9.
(16)	(Road) (Length = 1005.00 m)
(17)	(Pipe Culvert D600 x 7.2m) 1 Nos.
(18)	(Road Protection Work-RCC) Length=50.00m
(19)	(Slope Protection Work With CC Block) (Length = 10.20m)
(20)	Environmental Mitigation Enhancement Works of Amtali Pourashava (Package: CTEIP/AMT/RD/01

9 **Amtali Pourashava: Package No.CTEIP/AMT/RD/02**

Construction/Improvement of 04 no. Roads, totaling 4.531 kms, and 02 nos. Road side Drain, totaling 0.217 kms

SL.No.	Component Name	
	Road no.01: Sabujbag Selim,s house to R&H road via TNT & College Mosque (Ward no.05,06)	
(1)	(Road) , Total Length	= 550 m
(2)	250 mm dia uPVC road cross pipe	= 02 nos.
(3)	Cross Drain (1.00x1.00x 7.0)	= 01 no.

(4)	RCC pre cast protection work =73 m
(5)	RCC "U" drain =93 m
	Road no.02 Wapda road to Kamal Sangbadik house via Mostafa Commissioner and Firoj house (Ward no.08)
(6)	(Road) , Total Length = 2870 m
(7)	250 mm dia uPVC road cross pipe =03 nos.
(8)	RCC Pipe Culvert (600 mm dia x 7.2) =02 nos.
(9)	RCC Box Culvert (1.00x1.5x7.0) =07 nos.
(10)	RCC Box Culvert (2.00x2.5x6.2) =02 nos.
(11)	RCC Box Culvert (3.0x3.5x6.2) =01 no.
(12)	Pre cast CC Block pro. Work =30.20 m
(13)	RCC pre cast protection work =15.0m
	Road no.05 Zilla Parisad road to Muktizodda School via Mofij Taluker house (Ward no.06,05)
(15)	(Road) , Total Length = 550 m
(16)	RCC "U" drain =124 m
(17)	250 mm dia uPVC road cross pipe =06 nos.
(18)	Cross Drain (1.00x1.0x 7.0) = 01 no.
(19)	Box Culvert (1.00x1.5x 7.0) =02 nos.
(20)	Pre cast CC Block pro. Work = 142,20 m
	Road no.06 Mazar road to ATO Kashem Mia house via Lakerpar (Ward no.03)
(21)	(Road) , Total Length = 561 m
(22)	250 mm dia uPVC road cross pipe =01 no.
(23)	RCC pre cast protection work =27 m
(24)	Environmental Mitigation Enhancement Works of Amtali Pourashava (Package: CTEIP/AMT/RD/02)

10 **Galachipa Pourashava: Package No. CTEIP/GAL/RD/02**

Construction/Improvement of 2 Nos. Roads, Totaling 1.195 km in Galachipa Pourashava, District: Patuakhali

Sl No.	Component Name
	6. Construction /Improvement of Feeder Road, Ward # 7
(1)	(Road) Total Length = 695.00m
(2)	(Drain) Length=455.00m
(3)	(Box Culvert 1 x 1x 1 x 7.10m) 01 Nos.
(4)	(Box Culvert: 1 x 1.5 x 1.5 x 7.10m) 01 Nos.
(5)	(Protection Wall) Length=30.00m
	7. Construction/Improvement of Samudabad Road, Ward # 6 to 8
(6)	(Road) (Length =500.00 m)
(7)	(Drain) Length=468.00m
(8)	(Box Culvert 1 x 1x 1 x 7.10m) 01 Nos.
(9)	Environmental Mitigation Enhancement Works of Galachipa Pourashava (Package: CTEIP/GAL/RD/02)

11 **Pirojpur Pourashava: Package No.CTEIP/PIR/RD/01**

Construction/Improvement of 8 no. Roads, totaling 13.533 kms, including Bridge and Culverts

SL.No.	Component Name
	Road no.01 : Masimpur main road from R&H road Sargicare(infront) towards Yasin khal Pul towards west side Jubo Unnayan to Bypass road(Ward No.08)

(1)	(Road) , Total Length = 2080 m
(2)	Box Culvert (1.0x1.50x 7.0) = 03 nos.
(3)	Box Culvert (1.5x 2.0x 7.0) =01 no.
(4)	Box Culvert (1.5x 2.5x 7.0) =05 nos.
(5)	Box Culvert (2.0x 3.0x 6.2) = 01 no.
(6)	Box Culvert (2.5x 3.0x 10.38) =01 no.
(7)	RCC pre cast protection work =354 m
(8)	Pre cast CC Block pro. Work =128.20 m
	Road no.02 : Balaka Club to Sargicare Hospital via Modho Pirojpur Govt. Pri.School (Masid Bari road (Ward No.07)
(9)	(Road) , Total Length = 1138 m
(10)	Box Culvert (1.0x1.00x 7.0) = 02 nos.
(11)	Road X- uPVC pipe =08 nos.
	Road No.05: Sadhona Bridge to Shaik Bari Mosque via Basontopoul (Ward No.05)
(12)	(Road) , Total Length = 575 m
(13)	RCC "U" drain , Length = 149 m
(14)	Road X- uPVC pipe =06 nos.
	Road No.06: Vijora road from R&H road (near Vijora govt. Primary School) to Mathkhola via Modho Namajpur Govt. Pri. School. (Ward No.06)
(15)	(Road) , Total Length = 2620 m
(16)	Box Culvert (1.00x1.5x 7.0) = 02 nos.
(17)	Box Culvert (1.5x2.0x 7.0) = 02 nos.
(18)	Box Culvert (1.5x2.5x 7.0) =03 nos.
(19)	Box Culvert (2.0x2.5x 6.2) =02 nos.
(20)	RCC pre cast protection work = 12 m
	Pre cast CC Block pro. Work 160.40 m
	Road No.07: Masimpur Varani khal from Boro Pul to Molla Bari Pul at east side. (Ward No. 8)
(21)	(Road) , Total Length = 1170 m
(22)	Box Culvert (1.0x1.5x 7.0) =03 nos.
(23)	Box Culvert (1.5x2.0x 7.0) =02 nos.
(24)	Box Culvert (2.0x2.5x 6.2) =02 nos.
(25)	Box Culvert (3.0x3.5x 6.2) =01 no.
(26)	Pre cast CC Block pro. Work =255.20 m
	Road no.10 : Mukterkati road from Pirojpur-Nazirpur road to Nima Bridge via Water supply road (Ward No.01,04)
(27)	(Road) , Total Length = 2215 m
(28)	Box Culvert (1.0x1.0x 7.0) =01 no.
(29)	Box Culvert (1.0x1.5x 7.0) =02 nos.
(30)	Box Culvert (1.5x1.5x 7.0) =01 no.
(31)	Road X- uPVC pipe =04 nos.
	Road No.13: Narkhali Mallik bari to Molla bari and Kalam Sk.house road (Ward No.03)
(32)	(Road) , Total Length = 1735 m
(33)	Box Culvert (1.5x2.5x 7.0) =01 no.
(34)	Box Culvert (2.0x2.5x 6.2) =01 no.
(35)	Box Culvert (2.5x3.0x 6.2) =01 no.
(36)	Box Culvert (3.5x3.5x 6.2) =01 no.
(37)	Pre cast CC Block pro. Work =135.80 m
(38)	Road X- uPVC pipe =15 nos.
	Road No.17: Vijora road from R&H road (near Boropul) to Vijora Krishnachura via Sikdar Bari (Ward no.6)
(39)	(Road) , Total Length = 2000 m
(40)	Box Culvert (1.0x1.5x 7.0) =03 nos.
(41)	Box Culvert (1.5x2.0x 7.0) =01 no.
(42)	Box Culvert (2.0x2.0x 7.0) =01 no.
(43)	Box Culvert (2.0x2.0x 6.2) =01 no.

(44)	Road X- uPVC pipe =10 nos.
(45)	RCC pre cast protection work =222 m
(46)	Pre cast CC Block pro. Work =5 m

Bridge, Culverts :	
SL.No.	Component Name
	Construction of 31.2 m Arch Bridge on Hularhat to Narkhali road over Damudar canal near Hularhat Dakhil Madrasha (Ward no. 3 & 9)
(47)	Total Bridge Span Length =31.20 m
(48)	Total Approach Road Length = 421 m
	Culverts:
	Construction of 3-vent RCC Box Culvert over Vijora khal at Ch.0+395 km of Vijora road (Road no.06)
(49)	Culvert Size, 3- vent Box Culvert (2.75mx 5.05) (3.70m x5.05m) (2.75 x5.05 m) x 3 vent
	Construction of 2-vent RCC Box Culvert at Ch.1+438 km of Masimpur Main road (Road no.01)
50)	Culvert Size, 2- vent Box Culvert (3.575 m x 4.050 m) x 2 vent
(51)	Environmental Mitigation Enhancement Works of Pirojpur Pourashava (Package: CTEIP/PIR/RD/01)

12 **Pirojpur Pourashava: Package No.CTEIP/PIR/RD/02**

Construction/Improvement of 8 nos. Road, totaling 8.044 kms, including 332 m road side drain

SL.No.	Component Name
	Road no.03: South Sikarpur Muslimpara road. (Ward No.04)
(1)	(Road) , Total Length = 967 m
(2)	250mm dia. uPVC pipe road cross drain =09 nos.
(3)	600mm dia. RCC pipe road cross drain =04 n0s.
	Road no.04 : Narkhali road from Lokhakati Baitul Ehsan Jame Mosque to Graveyard at Ch.0+500 via Narkhali Govt. Primary Schoo with Narkhali Govt.Primary School connecting road (Ward no.03)
(4)	(Road) , Total Length = 520 m
(5)	Box Culvert (1.00x1.5x 7.0) =01 no.
(6)	Pre cast CC Block pro. Work = 38.40 m
	Road no.09 : Apar Circular Branch road,Moddo road from Shahid Bidhan road to bypass road. (Ward no.5)
(7)	(Road) , Total Length = 925 m
(8)	250mm dia. uPVC pipe road cross drain = 05 nos.
(9)	Masonry "U " Drain =100m
	Road no.11: Jhatokati road Shahebpara road to Sunil,s Dakua,s house (Left side Canal). (Ward no.2)
(10)	(Road) , Total Length = 1150 m
(11)	600mm dia. RCC pipe road cross drain =02 nos.
(12)	Box Culvert (1.00x1.5x 7.0) =04 nos.
(13)	Box Culvert (1.5x2.0x 7.0) =01 no.
(14)	Pre cast CC Block pro. Work =41.20 m
	Road no.12: Pirojpur-Nazirpur R & H road to Police Line via Kanak Thakur,s house. (Ward no.2)
(15)	(Road) , Total Length = 1787 m
(16)	600mm dia. RCC pipe road cross drain = 02 nos.
(17)	Box Culvert (1.00x1.5x 7.0) =03 nos.
(18)	Box Culvert (2.0x3.0x 6.2) =01 no.
(19)	Two vent Box Culvert (3.5x3.5x 6.2)x2 =01 no.
(20)	Pre cast CC Block pro. Work =52 m

	Road no.14: Sikarpur branch CC road in front of Mosarraf Chairman,s house in (Ward no.4) and Adarshapara School/proposed Cyclone Shelter connecting road in (Ward No.5)
(21)	(Road) , Total Length = 400 m
(22)	Road side Drain with Top Slab =332 m
(23)	Cross Drain(1.00x1.25x10) =1 no.
(24)	250mm dia. uPVC pipe road cross drain =6 nos.
	Road no.15: Ranipur Bazar(from Hullarhat RHD road) to Bakutia -RHD road via Pourashava end culvert and Sorav Hossain Master house (Ward no.9)
(25)	(Road) , Total Length = 1670 m
(26)	600mm dia. RCC pipe road cross drain =02 nos.
(27)	Box Culvert (1.00x1.5x 7.0) = 02 nos.
(28)	Two vent Box Culvert (3.5x3.5x 6.2)x2 =01 no.
(29)	Pre cast CC Block pro. Work =20.20 m
	Road no.16: Brahmonkati road from Pirojpur- Nazipur BC road to Mozahar Mia,s house Misu Councilor's house. (Ward no.1)
(30)	(Road) , Total Length = 625 m
(31)	600mm dia. RCC pipe road cross drain = 02 nos.
(32)	250mm dia. uPVC pipe road cross drain =03 nos.
(33)	Pre cast CC Block pro. Work = 65 m
(34)	Environmental Mitigation Enhancement Works of Pirojpur Pourashava (Package: CTEIP/PIR/RD/02)

4.3 Description of Contracted Drainage & Flood Control Works

A summarized description of the three active Drainage and Flood Control Contract Packages, which are presently under various stages of construction, is given below.

13 **Amtali Pourashava: Package No. CTEIP/AMT/DR/01**

Construction/Rehabilitation of 11 nos Drain, Totaling 1.496 Km in Amtali Pourashava, District: Barguna.

Sl No.	Component Name
	NPD-01: RCC drain (CH. 0+000 to CH. 0+138m) with box culvert (CH.0+000 to 0.012) from Amtali Lake to Sluice Intake Channel crossing the Zilla Parishad Road.
(1)	RCC Drain Length: 138m,
(2)	Cross Culvert: 1 x (2.5~1.2) x (1~1.8), Length: 12m [1 no]
(3)	Flap Gate: 02 nos
	SD-06: CC block lining on khal south side of Nazrul Road (CH.0+000 to 0+325m).
(4)	Re-excavation of Canal and CC Block Lining = 325m
(5)	Cross Culvert: N/A
	NSD-07: RCC box culvert on Nazrul Road (Ch. 0+000 to Ch. 0+008m) near junction with Zilla Parishad road.
(6)	Box Culvert Length: 8m
(7)	Size: (1 x 2m x 2m)
	SD-09: CC Block lining on khal (CH. 0+000 to 0+460m) west of Zilla Parishad road.
(8)	Re-excavation of Canal and CC Block Lining=460m
(9)	Cross Culvert: 1 x 2 x 2.4, Length: 4.6m [2 nos]
	SD-11: RCC drain (CH. 0+000 to CH. 0+203m) from Rashid Sarker House to Shahnaj house.
(10)	RCC Drain Length: 203m,
(11)	Cross Culvert: 1 x 1 x 1.42, Length: 5m [1 no]; 1 x 1 x 1.3, Length: 5m [2 nos]
	SD-16: Box culvert (CH. 0+000 to Ch. 0+15.60m) on Khantakata Mazar road connecting two big ponds.
(12)	Box Culvert Length: 15.60m, Size: (1 x 2m x 3m)
	SD-17: Covered drain (CH. 0+000 to 0+100m) from Pond to Khontakata Lake/ Jheeler Pur.
(13)	RCC Drain Length: 100m,
(14)	Cross Culvert: N/A
	SD-18: RCC cross drain (Ch. 0+100 to 0+118m) from RCC end of SD-17 to Khontakata Lake/

	Jheeler Pur
(15)	Box Culvert Length: 18m, Size: (1 x 1.4m x 1.7m)
	NSD-20 : RCC drain from Bokul Gachia Mohila College Road to Kalibari Khal.
(16)	RCC Drain Length: 188m, Cross Culvert: N/A; Flap Gate: 01 no
	SD-21: Cleaning of box culvert and rehabilitation of gate at Natun Bazar Chowrasta.
(17)	Cleaning and Rehabilation , Flap Gate: 01 no
	SD-23: RCC box culvert (CH. 0+000 to 0+007.4m) on Bokul Gachia Mohila College Road.
(18)	Box Culvert Length: 7.40m, Size: (1 x 1.5m x 1.5m)
(19)	Environmental Mitigation Enhancement Works of Amtali Pourashava (Package: CTEIP/AMT/DR/01)

14 **Pirojpur Pourashava: Package No. CTEIP/PIR/DR/01**

Construction/Rehabilitation of 16 nos Drain, Totaling 19.14 Km in Pirojpur Pourashava, District: Pirojpur.

Sl No.	Component Name
(1)	SD-01: Re-excavation of Damuder Khal from Borokhalishkhali Bridge to Boleshwar River Under Ward No: 02,03, 04,05,07,08&09. Length: 4.90 Km
	Drain Length: 4.90 Km, Re-excavation of Canal
(2)	SD-02(a): Re-excavation of Pirojpur Parerhat Varani Khal from Malaria Pool to Damuder Khal (Ch. 1+025m - 0+000m) and from Malaria Pool to Borr Pool (Ch. 1+025m - 2+000m) Under Ward No: 05,06,07&08. Length: 2.00Km
	Drain Length: 2.00 Km, Re-excavation of Canal
(3)	SD-02(b): Re-excavation and CC Block lining of Pirojpur Varani Khal from Murshid Bari Primary School to Malaria Pool (Ch. 0+000m to 0+390m) Under Ward No: 05,06,07&08. Length: 390m
	Drain Length: 0.390 Km, Re-excavation of Canal and CC Block Lining
(4)	SD-03: Construction of RCC U-Drain at Pal Para From Mr. Kabil House to Damuder Khal (ch. 0+000 to 0+630m) and Link-1 (Ch. 0+00 to 0+100m) andLink-2 (Ch. 0+00 to 0+040m0) Under Ward No: 04. Length: 770m
	Drain Length: 0.770 Km, Re-excavation of Canal and CC Block Lining, RCC Drain
	Cross Culvert: (1 x 1.03m x 1.2m) L=5m [1 no]; (1 x 1.35m x 1.4m) L=6m [1 no]; (1 x 1.2m x 1.16~1.186m) L=11m [3 nos]
(5)	SD-04: Construction of Gazi Bari Khal RCC Drain from SK Jalil Mia's House to Damuder Khal Ch. 0+000 to 1+000m Under Ward No: 07. Length: 1.00Km
	Drain Length: 1.00 Km , RCC Drain
	Cross Culvert: (1 x 3.1m x 1.2m) L=5m [1 no]; (1 x 2.8m x 1.7m) L=4m [1 no]
(6)	PD-02: Re-Excavation of Chan Mari Khal from Sarder Bari Field to Boleshawar River (Ch. 0+000 to 1+570m) Under Ward No: 05 . Length: 1.57Km
	Drain Length: 1.57 Km, Re-excavation of Canal
	Cross Culvert: N/A, Retaining Wall: 60m
(7)	SD-09: Construction of RCC U-Drain from Haque Mia's House to Damuder Khal (Ch. 0+220 to 0+000m) Under Ward No. 07. Length: 220m
	Drain Length: 0.220 Km , RCC Drain
(8)	SD-10: Construction of RCC Drain from North Side of Bypass Road to Parerhat Road Varanai Khal Traffic Moor (Ch. 0+000 to 0+280m) and Re-Excavation of Khal from South Side of Bypass Road to Maddo Murshid House (Ch. 0+350 to 0+950m) Under Ward No. 07. Length: 880m
	Drain Length: 0.880 Km, Re-excavation of Canal and RCC Drain
	Cross Culvert: (1 x 1.1m x 1.2m) L=4m [1 no]
(9)	SD-11: Construction of Adorshopara RCC Drain from East Side of Sultan Mia's House to Boleshwar River (Ch. 0+000 to 0+450m) Under Ward No: 05. Length: 450m
	Drain Length: 0.450 Km , RCC Drain
(10)	PD-12: Construction of Murshid Bari Khal RCC U-Drain from Alam House to Marshid Bari Primary School (Ch. 0+000 to 0+390m) and Link-1 (Ch. 0+000 to 0+095m) Under Ward No: 07. Length: 485m
	Drain Length: 0.485 Km , RCC Drain
	Cross Culvert: (1 x 1.1m x 0.8m) L=4m [1 no]; (1 x 1.5m x 1.5m) L=5m [1 no]

(11)	SD-14(a): Re-Excavation of Shikarpur Khal from Pirojpur-Nazirpur Road Culvert (Shikder Bari) to Water Supply Compound (Boleshwar River), Ch. 0+437m to 0+000m and Pirojpur-Nazirpur Road Culvert (Shikder Bari) to Damuder Khal, Ch. 0+537m to 0+986m Under Ward No: 04. Length: 0.886 Km.
	Drain Length: 0.886 Km, Re-excavation of Canal
(12)	SD-14(b): Re-excavation of Sikarpur Khal from Sheikh Bari to Sikder Bari Culvert (Ch. 0+000 to 0+940m) Under Ward No: 04. Length: 940m
	Drain Length: 0.940 Km, Re-excavation of Canal
(13)	SD-14(.c): Construction of RCC Drain from Haque Driver House to Sikder Bari Culvert (Ch. 0+000 to 0+341m) Under Ward No: 04.
	Drain Length: 0.341 Km , RCC Drain
(14)	SD-15: Re-excavation of Fire Service Khal from Stadium Compound to Damuder Khal (Ch. 0+000 to 0+480m) Under Ward No. 08.
	Drain Length: 0.480 Km, Re-excavation of Canal
	Retaining Wall: 30m
(15)	SD-16: Re-excavation of Primary Teachers Training Institute Khal from Police Line to Damuder Khal (Ch. 0+000 to 2433m) Under Ward No: 02&04. Length: 2.433 Km
	Drain Length: 0.480 Km, Re-excavation of Canal
(16)	SD-17: Re-excavation of Dhup Pasha Khal from Krishna Nagar Field to Damuder Khal (Ch. 0+000 to 1.395m) Under Ward No: 08&09. Length: 1.395 Km
(17)	Drain Length: 1.395 Km, Re-excavation of Canal
(18)	Environmental Mitigation Enhancement Works of Pirojpur Pourashava (Package: CTEIP/PIR/DR/01)

15 **Galachipa Pourashava: Package No. CTEIP/GAL/DR/01**

Construction/Rehabilitation of 07 nos Drain, Totaling 4.713 Km in Galachipa Pourashava, District: Patuakhali.

Sl No.	Component Name
(1)	PD-04: Re-excavation of Golachipa Khal from Thana Moor to Sluice Gate (Ch.0+000m to 1+200m) and Re-excavation of Golachipa Khal from Textile School to Sluice Gate (Ch. 0+000 to 1+230) Under Ward No: 01,02,03,04,07&08.
	Re-excavation of Canal = 2430m
(2)	NPD-05: RCC open U Drain from Cinema Hall Moor to Asad Monjil Lane (Ch. 0+000 to 0+330) Under Ward No: 05&06. Length: 330m
	RCC Drain Length: 330m
	Cross Culvert: (1 x 0.7m x 1.025m) L=5m [1 no]; (1 x 1.4m x 1.0m) L=5.6m [1 no]
(3)	N SD-14: RCC Open U Drain from Dr. Alamin House to Jashim House Canal (Ch. 0+300 to 0+000 and 0+000 to 0+40) Under Ward No: 08&09.
	RCC Drain Length= 340m
(4)	N SD-15: Re-excavation of Earthen Canal from Delwar Matbor House to Golachipa khal via Chunnu Mollah's House (Ch. 0+000 to 0+203 m) Under Ward No: 03. Length: 203m
	Re-excavation of Canal = 203m
(5)	NPD-01: RCC open U Drain from Thana complex to Puran Piada Bari (Ch.0+000 to 1+030) under Ward No: 04,05&06.
	RCC Drain Length= 1030m
	Cross Culvert: (1 x 0.7m x 0.55~0.85m) L=5m [2 nos]; (1 x 1.0m x 1.0~1.28m) L=7.1m [4 nos]

(6)	N SD-13: Re-excavation of Earthen Canal from Veterinarian Hospital to Golachipa Khal. (Ch.0+000 to 0+200) Under Ward No: 02. Length: 200 m
	Re-excavation of Canal = 200m
	Construction of Drain on Banani Road with Connecting Khalifa Road, Ward#09. Drain
	RCC Drain Length= 180m
(7)	Environmental Mitigation Enhancement Works of Galachipa Pourashava (Package: CTEIP/GAL/DR/01)

4.4 Status of Civil Works Implementation

Refer to **Table 4.1**, which gives an overall summary of the progress status of implementation of the contracts to date. This includes the 24 contract Packages under Batch 1, Stage I CTEIP institutional development programme, out of which 17 contract packages have been awarded to date.

Chapter 5: Compliance with Environmental Related Project Covenants

5. COMPLIANCE WITH ENVIRONMENTAL RELATED PROJECT COVENANTS

5.1 National Covenants

The National Environmental Policy (NEP) was adopted in 1992 and is now under revision. It embraces different sectors related to agriculture, forest, power, health, transport, housing etc. The central theme of policy is to ensure protection and improvement in environment. The policy gives a thrust to sustainable development and long term use of natural resources. The National Environment Policy contains policy statements and strategic options with regard to population and land-use management, management and utilization of natural resources and other socio-economic sectors, as well as the necessary arrangements for the implementation of the policy.

The main Ministry, Department, Institutions and Boards responsible for development of policy, framing regulation, developing projects, monitoring and approval of issues related to environment protection and conservation are presented in this section. The Department of Environment (DoE) was established in 1977 under the Environment Pollution Control Ordinance, 1977. During 1987-89, Forestry was a Division of Agriculture Ministry with a Secretary to Government in charge of the Forestry Division. With the formation of the new Ministry of Environment and Forests, in 1989, both the departments were transferred to this new Ministry.

The DoE has been placed under the MoEF as its technical wing and is statutorily responsible for the implementation of the Environment Conservation Act, 1995. Besides these two departments, MoEF controls the Bangladesh Forest Industries Development Corporation (BFIDC), Bangladesh Forest Research Institute (BFRI) and Bangladesh National Herbarium (BNH).

The environmental policies are prepared by the Ministry of Environment and Forests (MoEF). MoEF has also formulated regulation toward clearance of projects from environmental angles based on environmental impact assessment report.

The Department of Environment is responsible for environmental issues while forest issues are looked after Department of Forests. Over the years the MoEF has adopted number of legal instrument in the form of Acts for the protection and conservation of the environment. **Table 5.1** summarizes the Environmental Legislation applicable to the sub-projects.

The **Ministry of Environment & Forests** is the nodal agency in the administrative structure of the Central Government, for the planning, promotion, co-ordination and overseeing the implementation of environmental and forestry programmes. MoEF oversees all environmental matters in the country and is a permanent member of the Executive Committee of the National Economic Council. The Ministry also plays a pivotal role as a participant of United Nations Environment Programme (UNEP). The principal activities undertaken by Ministry of Environment & Forests consist of conservation & survey of flora, fauna, forests and wildlife, prevention & control of pollution, forestation & regeneration of degraded areas and protection of environment, in the framework of legislations.

5.2 ADB Assigned Categorization

Asian Development Bank (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, loans involving financial intermediaries, and private sector loans.

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 impacts, 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.

As per above ADB environmental classification, the road and cyclone shelter sub-projects fall in **Category-B**.

5.3 ADB Safeguard Policy Statement

The important elements of ADB's resettlement policy statement (APS 2009) include the following:

(i) Compensation to replace lost assets, livelihood, and income;
(ii) Assistance for relocation, including provision of relocation sites with appropriate facilities and services; and
(iii) Assistance for rehabilitation to achieve at least the same level of well-being with the project as without it.

For any ADB operation requiring involuntary resettlement, resettlement planning is an integral part of project design, to be dealt with from the earliest stages of the project cycle, taking into account the following basic principles:

(i) Involuntary resettlement will be avoided whenever feasible.
(ii) Where population displacement is unavoidable, it should be minimized.
(iii) All lost assets acquired or affected will be compensated. Compensation is based on the principle of replacement cost.
(iv) Each involuntary resettlement is conceived and executed as part of a development project or program. Affected persons need to be provided with sufficient resources to re-establish their livelihoods and homes with time-bound action in co-ordination with civil works.
(v) Affected persons are to be fully informed and closely consulted.
(vi) Affected persons are to be assisted to integrate economically and socially into host communities so that adverse impacts on the host communities are minimized and social harmony is promoted.
(vii) The absence of a formal title to land is not a bar to ADB policy entitlements.
(viii) Affected persons are to be identified and recorded as early as possible to establish their eligibility, through a census which serves as a cut-off date, and prevents subsequent influx of encroachers.
(ix) Particular attention will be paid to vulnerable groups including those without legal title to land or other assets; households headed by women; the elderly or disabled; and indigenous groups. Assistance must be provided to help them improve their socio-economic status.
(x) The full resettlement costs will be included in the presentation of project costs and benefits.

Refer to **Table 5.2**, which gives the current status of the compliance with ADB's resettlement policy statement (APS 2009).

5.4 Contract Requirements

The following documents, relating to the identified environmental safeguards, form part of the Contract Package and are part of the monitoring requirements in ascertaining the degree of compliance:

a) Initial Environmental Examination (**IEE**) attached hereto as **Appendix A to the Contract**;
b) Environmental Management Plan (**EMP**) attached hereto as **Appendix B to the Contract**;
c) Quality Control / Quality Assurance (**QA/QC**) Plan: refer to **Subsection 4 of the Contract**; and

In addition to the foregoing, the Contractor is to provide the Project Manager with a written notice of any unanticipated environmental risks or impacts that arise during construction, implementation or operation of the Plant or Works, which were not considered in the IEE's and the EMP's.

5.4.1 Air Quality

During construction period the impact on air quality is mainly due to the material movement. However air quality over a small area is affected, though, not in significant levels. There is an increase in the dust levels all along the haul roads, the borrow areas and dumping areas. The emissions from the construction machinery are the source of ambient air pollution during the actual construction. Continuous use of generators, bulldozers, rollers, crane, trucks etc. give rise to the ambient levels.

The mitigation measures are as follows:

- In order to curb the increased fugitive dust emissions in the area due to vehicular movement and raw material transport, provisions should be made for sprinkling of water on the haul roads in the area. Sprinkling of water should be carried out at least once a day on a regular basis during the entire construction period. Special attention should be given to all the haul roads passing through residential areas in the region. Daily inspection at haul roads and at construction site should be carried out to ensure removal of construction debris to the landfill sites.
- Covered trucks shall be used for transportation of materials prone to fugitive dust emissions. Additionally materials which may collect on the horizontal surfaces of these trucks during loading should be removed before transportation.
- Idling of delivery trucks or other equipments should not be permitted when not in active use.
- The emission levels from diesel vehicles being used should be checked on monthly basis and brought to the required levels of emission standards.
- Proper care should be taken for storage of furnace oil, diesel, petrol etc.
- Work schedule and the operation time of construction machinery should be suitably modified to exercise a control on ambient air quality standards.
- To ensure the efficacy of the mitigation measures suggested, air quality monitoring shall be carried out as per environmental monitoring plan;
- As soon as the construction activity is over the surplus earth should be utilized to fill up the low lying areas, if any.

5.4.2 Noise Quality

Noise quality is also important for the construction phase. During the construction phase, there would be an increase in ambient noise levels due to construction machinery operation and movement of construction vehicles.

The following mitigation measures may be adopted:

- Construction yard shall be established at least 200 m away from any residential area. This will allow the noise to attenuate.
- Special acoustic enclosures should be provided for individual noise generating equipments. Enclosures may be provided by way of noise shields, which can, be either brick masonry structure or any other physical barrier which is effective in adequate attenuation of noise levels. A 3 m structure made up of brick and mud with internal plastering and of non-reflecting surface will be very effective in this regard.
- Noise measurement should be conducted during construction to assess the prevailing noise levels. Earplugs should be provided to those workers who will be working very close to noise generating construction machinery.
- The exposure of workers to high noise levels especially, near the construction site needs to be minimized during construction period. This could be achieved by: Job rotation, Protective devices, and Noise barriers. Stationery construction equipment should not be located near human habitation in particular schools, hospitals and institutions.
- Noise levels from loading and unloading can be reduced by usage of various types of cranes and by placing materials on sand or on the beds of sandy bags.
- Use of noisy construction equipment should not be permitted during night hours near residential areas or sensitive areas.

5.4.3 Health, Safety and Fuel Provisions

The Project will have no significant impact on disease transmission or other health factors. Positive health impacts will include improved access to health care facilities and quicker response time in emergency situations. No additional mitigation actions related to health are warranted. Refer to the Social Safeguards Monitoring Report (SSMR July 2016).

5.4.4 Construction Spoil & Debris Disposal

During construction about 15% of gravel, sand, bricks and cement is left as construction spoils. If it is not disposed properly it may become a place of mosquito breeding. Hence it is advocated that construction spoils shall be disposed off at a site approved by law.

5.5 Financing Agreement

5.5.1 Cyclone Shelter Environmental Monitoring Costs

Refer to **Annexure 4** for the total costs, along with the progress of the stipulated sample monitoring, of Environmental Management and Monitoring Plan, for the Cyclone Shelter forming an integral part of the contract package.

5.5.2 Roads Environmental Monitoring Costs

Refer to **Annexure 4** for the total costs, along with the progress of the stipulated sample monitoring, of Environmental Management and Monitoring Plan, for the Road components forming an integral part of the contract package.

Chapter 6: Environmental Monitoring Requirements

6. ENVIRONMENTAL MONITORING REQUIREMENTS

An environmental assessment, using ADB's Rapid Environmental Assessment (REA) checklist for urban development, was conducted and the results of the assessment demonstrated that the subprojects will not cause significant adverse impacts. The proposed infrastructure development programme is classified as **Environmental Category B** as per the ADB's SPS 2009, as no significant impacts are envisioned. The related initial environmental examination (IEE) reports has been prepared in accordance with ADB SPS 2009 requirements for environment category B projects and provide mitigation and monitoring measures, for no envisaged significant impacts, as a result of implementing the subprojects.

The environmental mitigation measures as stipulated in the respective EMP's, and in the obtained environmental permit, are so monitored during implementation of the proposed infrastructure development programme. In order to perform monitoring of EMP, the contractor has engaged experienced laboratory and third party services for Pirojpur, Galachipa, Mathbari and Amtali Paurashava's in complying with the required environmental testing of parameters, as listed in **Chapter 8**.

There are no indigenous people present in the subproject areas and so no impact on Indigenous peoples (IPs). These subprojects are hence categorized as **Category C** for Indigenous People. Therefore, no Indigenous Peoples Development Plan (IPDP) is required for this sub-project.

The environmental mitigation measures, as stipulated in respective EMP's for the currently active civil works contract packages for Road, Cyclone Shelter and Drain Contracts: Amtali Pourashava: AMT/CS/01, AMT/CS/02, AM/RD/01, AMT/RD/02, and AMT/DR/01; Mathbaria Pourashava: MAT/RD/01 and MAT/CS/01; Galachipa Pourashava: GAL/RD/01, GAL/RD/02, GAL/CS/01, GAL/DR/01 and GAL/WS/01; Pirojpur Pourashava: PIR/CS/01, PIR/CS/02, PIR/RD/01, PIR/RD/02, and PIR/DR/01; and in the environmental permit, as monitored during implementation. In order to perform monitoring of EMP, the contactor has been engaged laboratory and third party services in complying the required environmental testing of parameters for Galachipa, Amtali, Mathbaria and Pirojpur Paurashava's but they did environmental quality test only for 06 contract packages (GAL/CS/01; GAL/RD/01; PIR/CS/01; MAT/CS/01; AMT/CS/01; MAT/RD/01) out of total 17 contract packages. They were failed to engage laboratory and third party services in complying the required environmental testing of parameters for 11 different contract packages for this reporting period. *This issue is being actively pursued at present for Galachipa, and Amtali Paurashava's and further development for Pirojpur and Mathbaria Paurashava.*

6.1 Sampling and Testing of Environmental Parameters

6.1.1 Cyclone Shelter Contracts

Based on the Project description, Environmental Baseline Data and Environmental sampling and monitoring requirements Monitoring Plan for Contract Packages, refer to **Annexure 4** for and for the Cyclone Shelter Contract Packages for the actives contracts CTEIP/MAT/CS/01, CTEIP/GAL/CS/01, CTEIP/PIR/CS/01, CTEIP/PIR/CS/02 and CTEIP/AMT/CS/01.

The sampling of Environmental Parameters has been completed for the Cyclone Shelter contract package CTEIP/MAT/CS/01, CTEIP/GAL/CS/01, and CTEIP/AMT/CS/01 during this reporting period (Jan to Jun 2016) but the sampling of Environmental Parameters has yet to be completed for the two Cyclone Shelter contract packages, therefore causing a key non compliance for the active contracts CTEIP/PIR/CS/01 and CTEIP/PIR/CS/02.

6.1.2 Roads Contracts

Based on the Project description, Environmental Baseline Data and Environmental sampling and monitoring requirements Monitoring Plan for Contract Packages, refer to **Annexure 4** for the Road Contract Packages for the actives contracts CTEIP/MAT/RD/01, CTEIP/GAL/RD/01, CTEIP/GAL/RD/02, CTEIP/PIR/RD/01, CTEIP/PIR/RD/02, CTEIP/AMT/RD/01 and CTEIP/AMT/RD/02.

The sampling of Environmental Parameters has been completed for the Road contract package CTEIP/MAT/RD/01, and CTEIP/GAL/RD/01 during this reporting period (Jan to Jun 2016) but the sampling of Environmental Parameters has yet to be completed for the five road contract packages, therefore causing a key

non compliance for the active contracts CTEIP/GAL/RD/02, CTEIP/PIR/RD/01, CTEIP/PIR/RD/02, CTEIP/AMT/RD/01 and CTEIP/AMT/RD/02.

6.1.3 Drain Contracts

Based on the Project description, Environmental Baseline Data and Environmental sampling and monitoring requirements Monitoring Plan for Contract Packages, refer to **Annexure 4** for the Drain Contract Packages for the actives contracts CTEIP/GAL/DR/01, CTEIP/PIR/DR/01 and CTEIP/AMT/DR/01.

The sampling of Environmental Parameters has yet to be completed for the three drain contract packages, therefore causing a key non compliance.

6.1.4 Water Supply Contracts

Based on the Project description, Environmental Baseline Data and Environmental sampling and monitoring requirements Monitoring Plan for Contract Packages, refer to **Annexure 4** for the Water Supply Contract Packages for the actives contracts CTEIP/GAL/WS/01 and CTEIP/AMT/WS/01.

The sampling of Environmental Parameters has yet to be completed for the two water supply contract packages, therefore causing a key non compliance.

6.2 Environmental Management Plan Implementation

Based on the Project description, Environmental Baseline Data and Environmental Impacts, the Environmental Management and Monitoring Plan for Contract Packages, refer to **Annexure 5** for the Cyclone Shelter Contract Packages for the actives contracts CTEIP/MAT/CS/01, CTEIP/GAL/CS/01, CTEIP/PIR/CS/01, CTEIP/PIR/CS/02 and CTEIP/AMT/CS/01, inclusive of the detailed Environmental Fields versus the related impacts, mitigation measures for negative impacts, various responsibilities, monitoring indicators and frequency of such monitoring.

Based on the Project description, Environmental Baseline Data and Environmental Impacts, the Environmental Management and Monitoring Plan for Contract Packages, refer to **Annexure 5** for the Road Contract Packages for the actives contracts CTEIP/MAT/RD/01, CTEIP/GAL/RD/01, CTEIP/GAL/RD/02, CTEIP/PIR/RD/01, CTEIP/PIR/RD/02, CTEIP/AMT/RD/01 and CTEIP/AMT/RD/02, inclusive of the detailed Environmental Fields versus the related impacts, mitigation measures for negative impacts, various responsibilities, monitoring indicators and frequency of such monitoring.

Based on the Project description, Environmental Baseline Data and Environmental Impacts, the Environmental Management and Monitoring Plan for Contract Packages, refer to **Annexure 5** for the Drain Contract Packages for the actives contracts CTEIP/GAL/DR/01, CTEIP/PIR/DR/01 and CTEIP/AMT/DR/01, inclusive of the detailed Environmental Fields versus the related impacts, mitigation measures for negative impacts, various responsibilities, monitoring indicators and frequency of such monitoring.

Based on the Project description, Environmental Baseline Data and Environmental Impacts, the Environmental Management and Monitoring Plan for Contract Packages, refer to **Annexure 5** for the Water Supply Contract Packages for the actives contracts CTEIP/GAL/WS/01 and CTEIP/AMT/WS/01, inclusive of the detailed Environmental Fields versus the related impacts, mitigation measures for negative impacts, various responsibilities, monitoring indicators and frequency of such monitoring.

Chapter 7: Environmental Mitigation Measures Implementation

7. ENVIRONMENTAL MITIGATION MEASURES IMPLEMENTATION

The proposed road, cyclone shelter, drain and water supply subprojects have been planned to minimize any adverse environmental impacts, and adequate provisions have been incorporated into the project design to mitigate the impacts.

Preliminary design, field visits and results of the rapid environmental assessment indicate that road and cyclone shelter subproject implementation will not be having major negative impacts as activities will be localized / site-specific and of short duration. Following several aspects of the environment, that are not expected to be affected by the road, cyclone shelter, drain and water supply subprojects, can be screened out of the assessment at this stage.

7.1 Pre-Operation: Design Stage

7.1.1 Landscape

Impact: Adverse effects on aesthetics

Mitigation Measure: Development of the designs for the roads / bridges, cyclone shelters, drain and water supply must be compatible with the surrounding environment.

7.1.2 Consents and NOC's

Impact: Failure to obtain necessary consents, permits, NOC's can result in design revisions and/or stoppage of the works.

Mitigation Measure:

- Obtain all necessary consents, clearances, permits, NOC's prior to start of the Works.
- Acknowledge in writing and provide report on compliance all obtained on consents, clearances, permits, NOC's.
- Include in detailed design drawings and documents all conditions and provisions if necessary.

7.1.3 Existing utilities

Impact: Disruption of services.

Mitigation Measure:

- Identify and include locations and operators of theses utilities in detailed design documents to prevent unnecessary disruption of services during construction activities.
- Require construction contractors to prepare contingency plan to include actions to be done in case of unintentional interruption of services.
- Require construction contractors to prepare spoils management plan**:**
  i) Spoils Information: Materials Type; Potential Contamination; Expected Volume and Sources; Spoil Classification.
  ii) Spoils Management: Transportation of Spoil; Storage of Spoil; Contamination of Spoil; Approved Reuse and/or Disposal Sites.
  iii) Records of Reuse and/or Disposal.

7.1.4 Construction Work Camps

Impact: Hot mix plants, stockpile areas, storage disposal areas, disruption to traffic flow and sensitive receptors

Mitigation Measure: Determine locations prior to award of construction contracts.

7.1.5 Sources of Materials

Impact: Extraction of material can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage, patterns, ponding and water logging and water pollution

Mitigation Measure: Prepare list of approved quarry sites and sources of materials.

7.1.6 EMP Implementation Training

Impact: Negative irreversible impact to the environment, workers and community

Mitigation Measure: Project manager and all key workers will be required to undergo EMP implementation including spoils management, Standard Operating Procedures (SOP) for construction works; health and safety (H&S), core labour laws, and applicable environmental laws. The EMP implementation training for the active contracts has been completed where all the contractor representatives and Paurashava & Consultant Engineers were present.

7.2 Operation: Construction Stage

7.2.1 Physical Characteristics

Topography, landforms, geology and soils:

Impact: Significant amount of gravel, sand, and cement will be required for this subproject. Extraction of construction materials may cause localized changes in topography and landforms. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.

Mitigation Measure:

- Utilize readily available sources of materials. If contractor procures materials from existing burrow pits and quarries, ensure these conform to all relevant regulatory requirements.
- Borrow areas and quarries (If these are being opened up exclusively for the subproject) must comply with environmental requirements, as applicable. No activity will be allowed until formal agreement is signed between PIU, landowner and contractor.

Water Quality:

Impact: Excavation, run-off from stockpiled materials, and chemical contamination from fuels and lubricants may result to silt-laden runoff during rainfall which may cause siltation and reduction in the quality of adjacent bodies of water. The impacts are negative but short term, site-specific within a relatively small area and reversible by mitigation measures.

Mitigation Measure:

- Prepare and implement a spoils management plan.
- Prioritize re-use of excess spoils and materials in construction activities. If spoils will be disposed, consult with Local Authority on designated disposal areas.
- All earthworks must to be conducted during dry season to maximum extent possible to avoid the difficult working conditions that prevail during monsoon season such as problems from runoff.
- Location for stockyards for construction materials shall be identified at least 300m away from watercourses. Place storage areas for fuels and lubricants away from any drainage leading to water bodies.
- Take all precautions to minimize the wastage of water in the construction activities.
- Take all precautions to prevent entering of wastewater into streams, watercourses, or irrigation system. Install temporary silt traps or sedimentation basins along the drainage leading to the water bodies.
- Ensure diverting storm water flow during construction shall not lead to inundation and other nuisances in low lying areas.
- While working across or close to any water body, the flow of water must not be obstructed. Ensure no construction materials like earth, stone, or appendage are disposed of in a manner that may block the flow of water of any watercourse and cross drainage channels.
- Monitor water quality according to the environmental management plan.

Air Quality:

Impact: Conducting works at dry season and moving large quantity of materials may create dusts and increase in concentration of vehicle-related pollutants (such as carbon monoxide, sulphur oxides, particulate matter, nitrous oxides, and hydrocarbons) which will affect people who live and work near the sites. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.

Mitigation Measure:

- Damp down exposed soil and any sand stockpiled on site by spraying with water during dry weather.
- Use tarpaulins to cover soils, sand and other loose material when transported by trucks.
- Unpaved surfaces used for haulage of materials within settlements shall be maintained dust-free.
- Arrangements to control dust through provision of windscreens, water sprinklers, and dust extraction systems shall be provided at all hot-mix plants, batching plants and crushers (if these establishments are being set up exclusively for the subproject).
- Monitor air quality.

Acoustic Environment:

Impact: Construction activities will be on settlements, in and near schools, and areas with small-scale businesses. Temporary increase in noise level and vibrations may be caused by excavation equipment, and the transportation of equipment, materials, and people. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.

Mitigation Measure:

- Involve the community in planning the work program so that any particularly noisy or otherwise invasive activities can be scheduled to avoid sensitive times.
- Plan activities in consultation with Local Authority so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance.
- Use of high noise generating equipment shall be stopped during night time.
- Horns should not be used unless it is necessary to warn other road users or animals of the vehicle's approach.
- Utilize modern vehicles and machinery with the requisite adaptations to limit noise and exhaust emissions, and ensure that these are maintained to manufacturers' specifications at all times.
- All vehicles and equipment used in construction shall be fitted with exhaust silencers. Use silent-type generators (if required).
- Monitor noise levels. Maintain maximum sound levels not exceeding 80 decibels (dBA) when measured at a distance of 10 m or more from the vehicle/s.
- If it is not practicable to reduce noise levels to or below noise exposure limits, the contractor must post warning signs in the noise hazard areas. Workers in a posted noise hazard area must wear hearing protection.
- Identify any buildings at risk from vibration damage and avoiding any use of pneumatic drills or heavy vehicles in the vicinity. Complete work in these areas quickly.

Aesthetics:

Impact: The construction activities do not anticipate any cutting of trees but will produce excess excavated earth (spoils), excess construction materials, and solid waste such as removed concrete, wood, packaging materials, empty containers, spoils, oils, lubricants, and other similar items. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.

Mitigation Measure:

- Prepare the Debris Disposal Plan.
- Remove all construction and demolition wastes on a daily basis.
- Coordinate with Local Authority for beneficial uses of excess excavated soils or immediately dispose to designated areas avoid stockpiling of any excess spoils.
- Suitably dispose of collected materials from drainages, unutilized materials and debris either through filling up of pits/wasteland or at pre-designated disposal locations.

- All vehicles delivering fine materials to the site and carrying waste debris for disposal shall be covered to avoid spillage of materials. All existing roads used by vehicles of the contractor, shall be kept clear of all dust/mud or other extraneous materials dropped by such vehicles.
- Lighting on construction sites shall be pointed downwards and away from oncoming traffic and nearby houses.
- In areas where the visual environment is particularly important or privacy concerns for surrounding buildings exist, the site may require screening. This could be in the form of shade cloth, temporary walls, or other suitable materials prior to the beginning of construction.
- The site must be kept clean to minimize the visual impact of the site. Manage solid waste according to the following preference hierarchy: reuse, recycling and disposal to designated areas.

7.2.2 Biological Characteristics

Biodiversity:

Impact: Activities being located in the built-up area of Pourashava. There are no protected areas in or around subproject sites, and no known areas of ecological interest. There are no trees at the site that need to be removed.

Mitigation Measure:

- Check if tree-cutting will be required during detailed design stage. No trees, shrubs, or groundcover may be removed or vegetation stripped without the prior permission of the environment management specialist.
- If during detailed design cutting of trees will be required, compensatory plantation for trees lost at a rate of 10 trees for every tree cut, in addition to tree plantation as specified in the design, will be implemented by the contractor, who will also maintain the saplings for the duration of his contract.
- All efforts shall be made to preserve trees by evaluation of minor design adjustments/ alternatives (as applicable) to save trees.
- Special attention shall be given for protecting giant trees and locally-important trees (with religious importance) during implementation.
- Prevent workers or any other person from removing and damaging any flora (plant/vegetation) and fauna (animal) including fishing in any water body in the subproject vicinity.
- Prohibit employees from poaching wildlife and cutting of trees for firewood.

7.3 Post Construction Stage

Post-construction clean-up:

Impact: Damage due to debris, spoils, excess construction materials.

Mitigation Measure:

- Remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required.
- All excavated roads shall be reinstated to original condition.
- All disrupted utilities restored.
- All affected structures rehabilitated/compensated.
- The area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up.
- All hardened surfaces within the construction camp area shall be ripped.
- All imported materials removed and the area shall be top soiled and regressed using guidelines set out in the re-vegetation specification that forms part of this document.
- The contractor must arrange the cancellation of all temporary services.
- Request PMU/PMSC to report in writing that worksites and camps have been vacated and restored to pre-project conditions before acceptance of work.

7.4 Operation and Maintenance Stage

7.4.1 Physical Characteristics

Acoustic environment:

Impact: Temporary increase in noise level and vibrations. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.

Mitigation Measure:

- Plan activities in consultation with the Local Authority so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance.
- Identify any buildings at risk from vibration damage and avoiding any use of pneumatic drills or heavy vehicles in the vicinity. Complete work in these areas quickly.

Chapter 8: Key Environmental Issues And Action Plan

8. KEY ENVIRONMENTAL ISSUES AND ACTION PLAN

8.1 Affected Ecosystems

The following sub-projects, of the below listed active Cyclone Shelter Contract Packages, are considered environmentally non-sensitive:

- **CTEIP/MAT/CS/01**: Construction of Multi-purpose Cyclone Shelter at Momenia Dakhil Madrassa (Ward-1), Mathbaria Pourashava, District: Pirojpur: present progress status 49%;
- **CTEIP/GAL/CS/01**: Construction of 3 (three) Multi-purpose Cyclone Shelters under Galachipa Pourashava, District: Patuakhali: present progress status:53%;
- **CTEIP/PIR/CS/01**: Construction of 3 (three) Multi-purpose Cyclone Shelters under Pirojpur Pourashava, District: Pirojpur: present progress status: 46%.
- **CTEIP/PIR/CS/02**: Construction of 2 (three) Multi-purpose Cyclone Shelters under Pirojpur Pourashava, District: Pirojpur: present progress status: 13%.
- **CTEIP/AMT/CS/01**: Construction of 3 (three) Multi-purpose Cyclone Shelters under Amtali Pourashava, District: Barguna: present progress status: 42%.

The following sub-projects, of the below listed active Road Contract Packages, are considered environmentally non-sensitive:

- **CTEIP/MAT/RD/01**: Construction/Improvement of 4 Nos. Roads, Totaling 3.741 km in Mathbaria Pourashava, District: Pirojpur: present progress status: 85%;
- **CTEIP/GAL/RD/01**: Construction/Improvement of 5 Nos. Roads, Totaling 6.555 km in Galachipa Pourashava, District: Patuakhali: present progress status:96%;
- **CTEIP/GAL/RD/02**: Construction/Improvement of 2 Nos. Roads, Totaling 1.195 km in Galachipa Pourashava, District: Patuakhali: present progress status:28%;
- **CTEIP/AMT/RD/01**: Construction/Improvement of 4 Nos. Roads, Totaling 3.380 km & road side drain 0.481 km in Amtali Pourashava, District: Barguna: present progress status:21%;
- **CTEIP/AMT/RD/02**: Construction/Improvement of 4 Nos. Roads, Totaling 4.531 km & road side drain 0.217 km in Amtali Pourashava, District: Barguna: present progress status:2%;
- **CTEIP/PIR/RD/01**: Construction/Improvement of 08 Nos. Roads, Totaling 13.533 km & 01 no. three vent box culvert and 01 no. two vent box culvert in Pirojpur Pourashava, District: Pirojpur: present progress status:9%;
- **CTEIP/PIR/RD/02**: Construction/Improvement of 09 Nos. Roads, Totaling 8.044 km & road ide drains 0.322 in Pirojpur Pourashava, District: Pirojpur: present progress status:9%;

The following project is active Drain Contract Package, is considered environmentally non-sensitive:

- **CTEIP/AMT/DR/01**: Construction/Improvement of Box Cuivert, Drain, Lining of khal & Rehabilitation of culvert in Amtali Pourashava, District: Barguna: present progress status:18%;
- **CTEIP/GAL/DR/01**: Construction/Improvement of Box Cuivert, Drain, Lining of khal & Rehabilitation of culvert in Amtali Pourashava, District: Barguna: present progress status:3%; and
- **CTEIP/PIR/DR/01**: Construction/Improvement of 11 Nos Earthen Drain, 05 Nos RCC drains and maintenance equipment in Pirojpur Pourashava, District: Pirojpur: present progress status:22%; and

The following project is active Water Supply Contract Package, is considered environmentally non-sensitive:

- **CTEIP/AMT/WS/01**: Construction/Improvement of 02 production tube wells, 01 overhead tank, 31.5km new transmission line, etc in Amtali Pourashava, District: Barguna: present progress status:37%;
- **CTEIP/GAL/WS/01**: Construction/Improvement of 01 overhead tank, 25km transmission and distribution pipeline, etc in Galachipa Pourashava, District: Barguna: present progress status:47%;

8.2 Complaints and Response System

In case of grievances that are immediate and urgent in the perception of the complainant, the contractor and supervision personnel from the project management and supervision consultants (PMSC) on-site will provide the most easily accessible or first level of contact for quick resolution of grievances.

Contact phone numbers and names of the concerned PIU safeguards assistant, contractors, PMU safeguards officer, PMSC Environmental Safeguards specialists are to be posted at all construction sites at visible locations.

Records are to be kept by the respective Pourashava/PIU's of all grievances received, including contact details of complainant, date the complaint was received, nature of grievance, agreed corrective actions and the date these were affected and final outcome. The number of grievances recorded and resolved and the outcomes will be displayed/disclosed in the PMU office, municipal office, and on the web, as well as reported in monitoring reports submitted to ADB on a semi-annual basis.

All costs involved in resolving the complaints (meetings, consultations, communication and reporting / information dissemination) will be borne by the concerned PIU at town-level; while costs related to escalated grievances will be met by the PMU.

The Grievance Redressal Mechanism has been established in the Pourashavas for pre-CTEIP resolutions of problems. Based on this established mechanism, the Pourashavas have the provision of interaction with registered complaints and the requisite response sensitivity.

The Grievance Redressal Committee has been setup in each of the Pourashavas comprising 6 members: Panel Mayor-1 as the Convener, 3 Female Councilors, 1 Male Councilor and 1 male Slum Development Officer.

To date complaints are being registered in the GRC, out of which all are redressed and none were related to CTEIP. Although, the GRC received a category of complaints related to CTEIP works of a very rudimentary nature e.g. removal of debris from local areas and removal of electric pillars, which have been quickly addressed by the Pourashavas.

However, the GRC do not maintain formal records of the category of complaints and the requisite response time, along with complainants' contact details.

8.3 Environmental Safeguard Compliance on Application of EMP

The environmental safeguard monitoring was started from January 2016 for the Cyclone Shelter Contract Packages for the actives contracts CTEIP/MAT/CS/01, CTEIP/GAL/CS/01, CTEIP/PIR/CS/01, CTEIP/PIR/CS/02 and CTEIP/AMT/CS/01; and the Road Contract Packages for the actives contracts CTEIP/MAT/RD/01, CTEIP/GAL/RD/01, CTEIP/GAL/RD/02, CTEIP/PIR/RD/01, CTEIP/PIR/RD/02, CTEIP/AMT/RD/01 and CTEIP/AMT/RD/02; and Drain Contract Package for the active contract CTEIP/GAL/DR/01, CTEIP/PIR/DR/01 and CTEIP/AMT/DR/01 and Water Supply Contract Package for the active contract CTEIP/GAL/WS/01 and CTEIP/AMT/WS/01.

Through the monitoring checklists, which have been developed as per a prescribed Environmental Monitoring and Management Plan, the compliance with the application of the EMP, for the respective Pourashavas, are presently under scrutiny, which are in line with the specific scope of work, as defined by the respective Contract Packages and prevailing field conditions.

8.3.1 Cyclone Shelter Contract Packages

The summary of compliance level of EMP application, for the active Cyclone Shelter Contract Packages, as stipulated in the contracted EMP, as agreed by ADB and in accordance with ADB guidelines, is shown below:

Note: (Excellent/Satisfactory/Partially Satisfactory/Below Satisfaction/Poor/Very Poor)

	Name of Sub Project	EMP being Implemented (Yes / No)	Overall Status of EMP Implementation (Refer Annexure 5)	Actions Proposed/Additional Corrective Measures Required
1	**CTEIP/MAT/CS/01**: Construction of Multi-purpose Cyclone Shelter at Momenia Dakhil Madrassa (Ward-1), Mathbaria Pourashava, District: Pirojpur	Yes	Satisfactory	o Implementation of EMP especially dust suppression measures & Proper disposal of debris required on part of contractors o Proper disposal of debris o Some workers are equipped Personal Protective Equipments (PPEs) but need to be improved o Sample test done and needs to be done again
2	**CTEIP/GAL/CS/01**: Construction of 3 (three) Multi-purpose Cyclone Shelters under Galachipa Pourashava, District: Patuakhali	Yes	Satisfactory	o Implementation of EMP especially dust suppression measures & Proper disposal of debris required on part of contractors o Disposal of old filter media at designated location o Some workers are equipped Personal Protective Equipments (PPEs) but need to be improved o Sample test done and needs to be done again
3	**CTEIP/PIR/CS/01**: Construction of 3 (three) Multi-purpose Cyclone Shelters under Pirojpur Pourashava, District: Pirojpur	Yes	Partially Satisfactory	o Implementation of EMP especially dust suppression measures & Proper disposal of debris required on part of contractors o Strict surveillance by Engineer required on EMP implementation o Proper disposal of debris o Safety barriers need to be established o Sample test done and needs to be done again
4	**CTEIP/PIR/CS/02**: Construction of 2 (two) Multi-purpose Cyclone Shelters under Pirojpur Pourashava, District: Pirojpur	Yes	Partially Satisfactory	o Implementation of EMP especially dust suppression measures & Proper disposal of debris required on part of contractors o Strict surveillance by Engineer required on EMP implementation o Proper disposal of debris o Safety barriers need to be established o Sample test done and needs to be done
5	**CTEIP/AMT/CS/01**: Construction of 3 (three) Multi-purpose Cyclone Shelters under Amtali Pourashava, District: Barguna	Yes	Partially Satisfactory	o Implementation of EMP especially dust suppression measures & Proper disposal of debris required on part of contractors o Some workers are equipped Personal Protective Equipments (PPEs) but need to be improved o Safety barriers need to be established o Sample testing yet to be done

Refer to **Table 6.1** for the record of monitored Environmental Safeguard parameters for the Cyclone Shelter component of the CTEIP programme for contract packages: CTEIP/MAT/CS/01, CTEIP/GAL/CS/01, CTEIP/PIR/CS/01, CTEIP/PIR/CS/02 and CTEIP/AMT/CS/01, as summarized below:

	Grading	EMP Monitored Result
Total Score for 98 parameters	170	
Notes: YTS/Not Applicable	39	
Numerator Value	59	
Overall Score	**2.9**	**Partial Satisfactory**
Non Compliance Recorded	**3**	

Of the 98 monitored Environmental parameters of the EMP, for the Cyclone Shelter component of the CTEIP programme for contract packages: CTEIP/MAT/CS/01, CTEIP/GAL/CS/01, CTEIP/PIR/CS/01, CTEIP/PIR/CS/02 and CTEIP/AMT/CS/01: 39 line items were either yet to start or not applicable at this stage of the construction phase. The overall score was found to be 170 points, equivalent to a resultant 2.9 ranking. Hence, the overall compliance for the Cyclone Sub-projects is found to be **Partially Satisfactory** but with 3 **key non-compliances** recorded as follows:

EMP Ref. No.	**Field: Impacts**	**Ref.:**	**Mitigation Measures**	Implementing Agency/ Responsibility
1.6	**EMP Implementation Training**: Negative irreversible impact to the environment, workers and community	**10**	· Project manager and all key workers will be required to undergo EMP implementation including spoils management, Standard operating procedures (SOP) for construction works; health and safety (H&S), core labour laws, and applicable environmental laws.	Contractor with assistance of PIU, ICCDC and PMSC
2.1.3	**Air Quality**:	**22**	- Damp down exposed soil and any sand stockpiled on site by spraying with water during dry weather;	Contractor
2,1,4	**Acoustic Environment**	**30**	- Horns should not be used unless it is necessary to warn other road users or animals of the vehicle's approach;	Contractor
	-	**34**	- If it is not practicable to reduce noise levels to or below noise exposure limits, the contractor must post warning signs in the noise hazard areas. Workers in a posted noise hazard area must wear hearing protection.	Contractor
2.1.5	**Aesthetics**:	**36**	- Prepare the Debris Disposal Plan	Contractor/ District Authority
2.3.2		**64**	Enforcement Gender protocol according to the Gender Action Plan.	Contractor
2.3.4	Community Health and Safety:	**81**	- Interested and affected parties need to be made aware of the existence of the complaints book and the methods of communication available to them. The contractor must address queries and complaints by: (i) documenting details of such communications; (ii) submitting these for inclusion in complaints register; (iii) bringing issues to the environment management specialist's attention immediately; and (iv) taking remedial action as per environment management specialist's instruction.	Contractor
2.3.4	Community Health and Safety:	**82**	- The contractor shall immediately take the necessary remedial action on any complaint/grievance received by	Contractor

EMP Ref. No.	**Field: Impacts**	**Ref.:**	**Mitigation Measures**	Implementing Agency/ Responsibility
			him and forward the details of the grievance along with the action taken to the environment management specialist within 48 hours of receipt of such complaint/grievance.	

8.3.2 Roads Contract Packages

The summary of compliance level of EMP application, for the active Roads Contract Packages, as stipulated in the contracted EMP, as agreed by ADB and in accordance with ADB guidelines, is shown below:

Note: (Excellent/Satisfactory/Partially Satisfactory/Below Satisfaction/Poor/Very Poor)

	Name of Sub Project	**EMP being Implemented (Yes / No)**	**Overall Status of EMP Implementation (See Note)**	**Actions Proposed/Additional Corrective Measures Required**
1	**CTEIP/MAT/RD/01**: Construction/Improvement of 4 Nos. Roads, Totalling 3.741 km in Mathbaria Pourashava, District: Pirojpur	Yes	Satisfactory	o Implementation of EMP o Proper disposal of debris o Sample test done and needs to be done again
2	**CTEIP/GAL/RD/01**: Construction/Improvement of 5 Nos. Roads, Totalling 6.555 km in Galachipa Pourashava, District: Patuakhali	Yes	Satisfactory	o Implementation of EMP especially dust suppression measures & proper disposal of debris required; o Sample test done and needs to be done again
3	**CTEIP/GAL/RD/02:** Construction/Improvement of 2 Nos. Roads, Totaling 1.195 km in Galachipa Pourashava, District: Patuakhali	Yes	Partially Satisfactory	o Implementation of EMP especially dust suppression measures; o Proper disposal of debris required; o Sample testing yet to be done
4	**CTEIP/AMT/RD/01:** Construction/Improvement of 4 Nos. Roads, Totaling 3.380 km & road side drain 0.481 km in Amtali Pourashava, District: Barguna	Yes	Partially Satisfactory	o Implementation of EMP especially dust suppression measures; o Proper disposal of debris required; o Sample testing yet to be done
5	**CTEIP/AMT/RD/02**: Construction/Improvement of 4 Nos. Roads, Totaling 4.531 km & road side drain 0.217 km in Amtali Pourashava, District: Barguna	Yes	Partially Satisfactory	o Implementation of EMP especially dust suppression measures; o Proper disposal of debris required; o Sample testing yet to be done
6	**CTEIP/PIR/RD/01**: Construction/Improvement of 08 Nos. Roads, Totaling 13.533 km & 01 no. three vent box culvert and 01 no. two vent box culvert in Pirojpur Pourashava, District: Pirojpur	Yes	Partially Satisfactory	o Implementation of EMP especially dust suppression measures; o Proper disposal of debris required; o Sample testing yet to be done

Note: (Excellent/Satisfactory/Partially Satisfactory/Below Satisfaction/Poor/Very Poor)

	Name of Sub Project	EMP being Implemented (Yes / No)	Overall Status of EMP Implementation (See Note)	Actions Proposed/Additional Corrective Measures Required
7	**CTEIP/PIR/RD/02**: Construction/Improvement of 09 Nos. Roads, Totaling 8.044 km & road ide drains 0.322 in Pirojpur Pourashava, District: Pirojpur	Yes	Partially Satisfactory	o Implementation of EMP especially dust suppression measures; o Proper disposal of debris required; o Sample testing yet to be done

Refer to Annexure 5 for the record of monitored Environmental Safeguard parameters for the Roads component of the CTEIP programme for contract packages: CTEIP/MAT/RD/01, CTEIP/GAL/RD/01, CTEIP/GAL/RD/02, CTEIP/PIR/RD/01, CTEIP/PIR/RD/02, CTEIP/AMT/RD/01 and CTEIP/AMT/RD/02, as summarized below:

	Grading	EMP Monitored Result
Total Score for 98 parameters	199	
Notes: YTS/Not Applicable	27	
Numerator Value	71	
Overall Score	**2.8**	**Partial Satisfactory**
Non Compliance Recorded	**05**	

Of the 98 monitored environmental parameters of the EMP, for the Road component of the CTEIP programme for contract packages: CTEIP/MAT/RD/01, CTEIP/GAL/RD/01, CTEIP/GAL/RD/02, CTEIP/PIR/RD/01, CTEIP/PIR/RD/02, CTEIP/AMT/RD/01 and CTEIP/AMT/RD/02: 27 line items were either yet to start or not applicable at this stage of the construction phase. The overall score was found to be 199 points, equivalent to a resultant 2.8 ranking. Hence, the overall compliance for the Road Sub-projects is found to be **Partially Satisfactory** but with **05 key non-compliances** recorded as follows:

EMP Ref. No.	**Field: Impacts**	**Parameter Ref.:**	**Mitigation Measures**	Implementing Agency/ Responsibility
1.6	**EMP Implementation Training**: Negative irreversible impact to the environment, workers and community	**10**	· Project manager and all key workers will be required to undergo EMP implementation including spoils management, Standard operating procedures (SOP) for construction works; health and safety (H&S) Refer to the Social Safeguards Monitoring Report (SSMR July 2015), core labour laws, and applicable environmental laws.	Contractor with assistance of PIU, ICCDC and PMSC
2.1.2	**Water Quality**	**21**	- Monitor water quality according to the environmental management plan.	Contractor
2.1.3	**Air Quality**:	**25**	- Arrangements to control dust through provision of windscreens, water sprinklers, and dust extraction systems shall be provided at all hot-mix plants, batching plants and crushers (if these establishments are being set up exclusively for the subproject).	Contractor
		26	- Monitor air quality.	Contractor
2,1,4	**Acoustic Environment**	**33**	- Monitor noise levels. Maintain maximum sound levels not exceeding 80 decibels (dBA) when measured at a distance of 10 m or more from the vehicle/s	Contractor

EMP Ref. No.	**Field: Impacts**	**Parameter Ref.:**	**Mitigation Measures**	Implementing Agency/ Responsibility
	-	**34**	- If it is not practicable to reduce noise levels to or below noise exposure limits, the contractor must post warning signs in the noise hazard areas. Workers in a posted noise hazard area must wear hearing protection.	Contractor
2.1.5	**Aesthetics**:	**36**	- Prepare the Debris Disposal Plan	Contractor/ District Authority
		37	- Remove all construction and demolition wastes on a daily basis.	Contractor/ District Authority
2.3.1	Existing provisions for pedestrians and other forms of transport:	**54**	- Erect and maintain barricades, including signs, markings, flags and flagmen informing diversions and alternative routes when required.	Contractor
		61	- Coordinate with local authorities and prepare prior approved Traffic Management Plan (TMP), refer to TMP guidelines given in Annexure I. to EMP	Contractor
2.3.4	Community Health and Safety:	**81**	Refer to the **Social Safeguards Monitoring Report: Dated July 2015**.	Contractor
2.3.4	Community Health and Safety:	**82**	Refer to the **Social Safeguards Monitoring Report: Dated January 2016**	Contractor
2.3.5	**Worker's health and safety**:	**83 to 93**	Refer to the **Social Safeguards Monitoring Report: Dated January 2016**	Contractor
3.1	**Submission of EMP implementation Report** Unsatisfactory compliance to EMP	**98**	- Timely submission of monitoring reports including pictures.	Contractor

8.3.3 Drainage Contract Packages

The summary of compliance level of EMP application, for the active Drainage Contract Packages, as stipulated in the contracted EMP, as agreed by ADB and in accordance with ADB guidelines, is shown below:

Note: (Excellent/Satisfactory/Partially Satisfactory/Below Satisfaction/Poor/Very Poor)

	Name of Sub Project	**EMP being Implemented (Yes / No)**	**Overall Status of EMP Implementation (See Note)**	**Actions Proposed/Additional Corrective Measures Required**
1	**CTEIP/AMT/DR/01**: Construction/Improvement of Box Cuivert, Drain, Lining of khal & Rehabilitation of culvert in Amtali Pourashava, District: Barguna	Yes	Partially Satisfactory	o Implementation of EMP o Proper disposal of debris o Sample testing yet to be done
2	**CTEIP/GAL/DR/01**: Construction/Improvement of Box Cuivert, Drain, Lining of khal &	Yes	Partially Satisfactory	o Implementation of EMP especially dust suppression measures & proper disposal of debris required;

Note: (Excellent/Satisfactory/Partially Satisfactory/Below Satisfaction/Poor/Very Poor)

	Name of Sub Project	EMP being Implemented (Yes / No)	Overall Status of EMP Implementation (See Note)	Actions Proposed/Additional Corrective Measures Required
	Rehabilitation of culvert in Amtali Pourashava, District: Barguna			o Sample testing yet to be done
3	**CTEIP/PIR/DR/01**: Construction/Improvement of 11 Nos Earthen Drain, 05 Nos RCC drains and maintenance equipment in Pirojpur Pourashava, District: Pirojpur	Yes	Partially Satisfactory	o Implementation of EMP especially dust suppression measures; o Proper disposal of debris required; o Sample testing yet to be done

Refer to Annexure 5 for the record of monitored Environmental Safeguard parameters for the Drainage component of the CTEIP programme for contract packages: CTEIP/GAL/DR/01, CTEIP/PIR/DR/01 and CTEIP/AMT/DR/01, as summarized below:

	Grading	EMP Monitored Result
Total Score for 98 parameters	199	
Notes: YTS/Not Applicable	27	
Numerator Value	71	
Overall Score	**2.8**	**Partial Satisfactory**
Non Compliance Recorded	**05**	

Of the 98 monitored environmental parameters of the EMP, for the Drainage component of the CTEIP programme for contract packages: CTEIP/GAL/DR/01, CTEIP/PIR/DR/01 and CTEIP/AMT/DR/01: 27 line items were either yet to start or not applicable at this stage of the construction phase. The overall score was found to be 199 points, equivalent to a resultant 2.8 ranking. Hence, the overall compliance for the Drainge Sub-projects is found to be **Partially Satisfactory** but with **05 key non-compliances** recorded as follows:

EMP Ref. No.	**Field: Impacts**	**Parameter Ref.:**	**Mitigation Measures**	Implementing Agency/ Responsibility
1.6	**EMP Implementation Training**: Negative irreversible impact to the environment, workers and community	**10**	· Project manager and all key workers will be required to undergo EMP implementation including spoils management, Standard operating procedures (SOP) for construction works; health and safety (H&S) Refer to the Social Safeguards Monitoring Report (SSMR July 2015), core labour laws, and applicable environmental laws.	Contractor with assistance of PIU, ICCDC and PMSC
2.1.2	**Water Quality**	**21**	- Monitor water quality according to the environmental management plan.	Contractor
2.1.3	**Air Quality**:	**25**	- Arrangements to control dust through provision of windscreens, water sprinklers, and dust extraction systems shall be provided at all hot-mix plants, batching plants and crushers (if these establishments are being set up exclusively for the subproject).	Contractor
		26	- Monitor air quality.	Contractor

EMP Ref. No.	**Field: Impacts**	**Parameter Ref.:**	**Mitigation Measures**	Implementing Agency/ Responsibility
2,1,4	**Acoustic Environment**	**33**	- Monitor noise levels. Maintain maximum sound levels not exceeding 80 decibels (dBA) when measured at a distance of 10 m or more from the vehicle/s	Contractor
	-	**34**	- If it is not practicable to reduce noise levels to or below noise exposure limits, the contractor must post warning signs in the noise hazard areas. Workers in a posted noise hazard area must wear hearing protection.	Contractor
2.1.5	**Aesthetics**:	**36**	- Prepare the Debris Disposal Plan	Contractor/ District Authority
		37	- Remove all construction and demolition wastes on a daily basis.	Contractor/ District Authority
2.3.1	Existing provisions for pedestrians and other forms of transport:	**54**	- Erect and maintain barricades, including signs, markings, flags and flagmen informing diversions and alternative routes when required.	Contractor
		61	- Coordinate with local authorities and prepare prior approved Traffic Management Plan (TMP), refer to TMP guidelines given in Annexure I. to EMP	Contractor
2.3.4	Community Health and Safety:	**81**	Refer to the **Social Safeguards Monitoring Report: Dated July 2015**.	Contractor
2.3.4	Community Health and Safety:	**82**	Refer to the **Social Safeguards Monitoring Report: Dated January 2016**	Contractor
2.3.5	**Worker's health and safety**:	**83 to 93**	Refer to the **Social Safeguards Monitoring Report: Dated January 2016**	Contractor
3.1	**Submission of EMP implementation Report** Unsatisfactory compliance to EMP	**98**	- Timely submission of monitoring reports including pictures.	Contractor

8.3.4 Water Supply Contract Packages

The summary of compliance level of EMP application, for the active Water Supply Contract Packages, as stipulated in the contracted EMP, as agreed by ADB and in accordance with ADB guidelines, is shown below:

Note: (Excellent/Satisfactory/Partially Satisfactory/Below Satisfaction/Poor/Very Poor)

	Name of Sub Project	**EMP being Implemented (Yes / No)**	**Overall Status of EMP Implementation (See Note)**	**Actions Proposed/Additional Corrective Measures Required**
1	**CTEIP/AMT/WS/01**: Construction/Improvement of 02 production tube wells, 01 overhead tank, 31.5km new transmission line, etc in Amtali Pourashava, District: Barguna	Yes	Satisfactory	o Implementation of EMP o Proper disposal of debris o Sample test done and needs to be done again

Note: (Excellent/Satisfactory/Partially Satisfactory/Below Satisfaction/Poor/Very Poor)

	Name of Sub Project	EMP being Implemented (Yes / No)	Overall Status of EMP Implementation (See Note)	Actions Proposed/Additional Corrective Measures Required
2	**CTEIP/GAL/WS/01**: Construction/Improvement of 01 overhead tank, 25km transmission and distribution pipeline, etc in Galachipa Pourashava, District: Barguna	Yes	Satisfactory	o Implementation of EMP especially dust suppression measures & proper disposal of debris required; o Sample test done and needs to be done again

Refer to Annexure 5 for the record of monitored Environmental Safeguard parameters for the Water Supply component of the CTEIP programme for contract packages: CTEIP/GAL/WS/01 and CTEIP/AMT/WS/01, as summarized below:

	Grading	EMP Monitored Result
Total Score for 98 parameters	176	
Notes: YTS/Not Applicable	39	
Numerator Value	59	
Overall Score	**3.0**	**Partial Satisfactory**
Non Compliance Recorded	**03**	

Of the 98 monitored environmental parameters of the EMP, for the Water Supply component of the CTEIP programme for contract packages: CTEIP/GAL/WS/01 and CTEIP/AMT/WS/01: 39 line items were either yet to start or not applicable at this stage of the construction phase. The overall score was found to be 176 points, equivalent to a resultant 3.0 ranking. Hence, the overall compliance for the Water Supply Sub-projects is found to be **Satisfactory** but with **03 key non-compliances** recorded as follows:

EMP Ref. No.	**Field: Impacts**	**Parameter Ref.:**	**Mitigation Measures**	Implementing Agency/ Responsibility
1.6	**EMP Implementation Training**: Negative irreversible impact to the environment, workers and community	**10**	· Project manager and all key workers will be required to undergo EMP implementation including spoils management, Standard operating procedures (SOP) for construction works; health and safety (H&S) Refer to the Social Safeguards Monitoring Report (SSMR July 2015), core labour laws, and applicable environmental laws.	Contractor with assistance of PIU, ICCDC and PMSC
2.1.2	**Water Quality**	**21**	- Monitor water quality according to the environmental management plan.	Contractor
2.1.3	**Air Quality**:	**25**	- Arrangements to control dust through provision of windscreens, water sprinklers, and dust extraction systems shall be provided at all hot-mix plants, batching plants and crushers (if these establishments are being set up exclusively for the subproject).	Contractor
		26	- Monitor air quality.	Contractor
2,1,4	**Acoustic Environment**	**33**	- Monitor noise levels. Maintain maximum sound levels not exceeding 80 decibels (dBA) when measured at a distance of 10 m or more from the vehicle/s	Contractor

EMP Ref. No.	**Field: Impacts**	**Parameter Ref.:**	**Mitigation Measures**	Implementing Agency/ Responsibility
	-	**34**	- If it is not practicable to reduce noise levels to or below noise exposure limits, the contractor must post warning signs in the noise hazard areas. Workers in a posted noise hazard area must wear hearing protection.	Contractor
2.1.5	**Aesthetics**:	**36**	- Prepare the Debris Disposal Plan	Contractor/ District Authority
		37	- Remove all construction and demolition wastes on a daily basis.	Contractor/ District Authority
2.3.1	Existing provisions for pedestrians and other forms of transport:	**54**	- Erect and maintain barricades, including signs, markings, flags and flagmen informing diversions and alternative routes when required.	Contractor
		61	- Coordinate with local authorities and prepare prior approved Traffic Management Plan (TMP), refer to TMP guidelines given in Annexure I. to EMP	Contractor
2.3.4	Community Health and Safety:	**81**	Refer to the **Social Safeguards Monitoring Report: Dated July 2015**.	Contractor
2.3.4	Community Health and Safety:	**82**	Refer to the **Social Safeguards Monitoring Report: Dated January 2016**	Contractor
2.3.5	**Worker's health and safety**:	**83 to 93**	Refer to the **Social Safeguards Monitoring Report: Dated January 2016**	Contractor
3.1	**Submission of EMP implementation Report**	**98**	- Timely submission of monitoring reports including pictures.	Contractor
	Unsatisfactory compliance to EMP			

8.4 Compliance with Environmental Loan Covenants

The status of compliance of ADB's major Environmental Loan Covenants shown below

Environmental Loan Covenants	Status of Compliance
Environmental Management Plan	
The State and the project Paurashava shall ensure that the Project is carried out in accordance with the existing environmental laws and regulations of Bangladesh and ADB's environmental guidelines, in particular the Asian Development Bank (ADB) safeguard policy statement (SPS), 2009;	Under compliance in accordance with ADB Environmental Policy and Environmental Assessment Guidelines 2003.
(a) all monitoring and mitigation measures indicated in the Initial Environmental Examination and provided for under the Environmental Management Plan are undertaken for the Project	Under compliance: IEE screening of potential environmental impact and mitigation measures applied according to project location, specific sector development and associated design requirements. EMP's prepared and monitored for compliance of stated mitigation measures. Initial EMP Semi-Annual ESMR submitted in July 2015 (from January to June 2015).
(b) Project implementation shall include consultation with local communities on environmental issues;	Under compliance: completed under the design stage, which is ongoing by DDSC. This is also forming part of the ongoing PMSC/ICCDC public awareness campaign requirements. During construction consultation with local communities on environmental issues are being considered.
(c) Pourashavas shall take a proactive role in environmental planning, management and monitoring;	Under compliance: initiated as the concept and detailed design stages have been progressed.
(d) Clearances shall be obtained for all applicable Project components prior to commencement of work on those components;	Under compliance: all necessary clearances and land acquisition issues resolved. Specific clearance details are now complied for appropriate contract packages.
Operation & Maintenance	
The State shall ensure that each Project Paurashava undertakes operation and maintenance of project facilities in accordance with good practice for water supply, sewerage and solid waste management, and in accordance with the regulations of Bangladesh.	Shall be ensured as required Will form part of the training requirement in effective O & M practices by PMSC/ ICCDC. O&M Manuals to be prepared by PMSC.

8.5 Items of Focus

Application of the respective EMP is to be achieved through continuous monitoring in the field, followed by filling up of the appropriate monitoring checklist and generation of environmental baseline data for this third semi-annual ESMR (July 2016).

Pourashava PIU/ Consultants to be vigilant in identification of the related environmental safeguard issues/problems related to environment. The contractors are regularly being directed to ensure proper implementation of the respective EMPs, inclusive of their contractual obligations regarding the frequent sample testing and monitoring requirements, as per ADB guidelines and Contract provisions.

Á designated Nodal Environmental Officer (PMU)/ Consultant to have overall responsible for implementation of the respective EMP's and sample testing of the contracted environmental monitoring parameters. The Nodal Environmental Officer (PMU) / Consultant / Contractors to attend Environmental Safeguard monitoring training as a matter of urgency.

Sample testing/monitoring of environmental parameters to be conducted through external testing agency to be arranged by the Contractor.

8.6 Concluding Observations

According to the current status of the Environmental Management Plan for the monitored Contract Packages to date, the associated key observations for the active Contract Packages: for the Cyclone Shelter Contract Packages for the actives contracts CTEIP/MAT/CS/01, CTEIP/GAL/CS/01, CTEIP/PIR/CS/01, CTEIP/PIR/CS/02 and CTEIP/AMT/CS/01; and the Road Contract Packages for the actives contracts CTEIP/MAT/RD/01, CTEIP/GAL/RD/01, CTEIP/GAL/RD/02, CTEIP/PIR/RD/01, CTEIP/PIR/RD/02, CTEIP/AMT/RD/01 and CTEIP/AMT/RD/02; and Drain Contract Package for the active contract CTEIP/GAL/DR/01, CTEIP/PIR/DR/01 and CTEIP/AMT/DR/01 and Water Supply Contract Package for the active contract CTEIP/GAL/WS/01 and CTEIP/AMT/WS/01, are given as follows:

- Traffic diversion not yet required for pipe laying projects;
- The vehicles carrying sand & cement are to be appropriately covered;
- During the dry period of construction, water sprinkling by use of water tanker is to be complied;
- Monthly maintenance of noise producing equipment to be reported;
- For public safety, barricade, caution board, safety tape etc. to be provided at the active working sites, which requires constant attention;
- Sample Testing to be conducted in accordance with the contractual EMP provision;
- Environmental related training of Pourashava staff, contractors and community representatives has been completed.

8.7 Corrective Action Plan

According to the current status of the Environmental Management Plan for the monitored Contract Packages to date, for complete compliance at "satisfactory / excellent" level, the following Action Plan requirements are to be given:

Action Plan for Attaining Satisfactory Environmental Compliance

Action	To be taken by	Time frame
• Cyclone Shelter Contract Packages for the actives contracts CTEIP/MAT/CS/01, CTEIP/GAL/CS/01, CTEIP/PIR/CS/01, CTEIP/PIR/CS/02 and CTEIP/AMT/CS/01		
Instruction to contractors for implementation/ compliance and to PIU/Consultant for enforcement monitoring for: o Proper disposal of debris o Correct maintained records of all environmental related issues; o Correct maintained records regarding ESMR; o Restoration of road/lane after sectional completion – at earliest o Camp site management; o Water sprinkling during dry period	PIU, PMSC, Contractors	Continuous
Focus Group Discussion (FGD) / Public consultation during construction	PIU, PMSC, Contractors	At least once in a month
Sample monitoring and testing of the designated Environmental Parameters in full accordance with the contracted financing plan and testing requirements	Contractors	Immediate action, notwithstanding possible closure of sites
Follow up action for completion of the verified monitoring for the ESMR	PIU, PMSC, Contractors	Immediate
Grievance Redressal Mechanism: To implement according to EMP	PIU	Immediate
EMP implementation and monitoring Training	PIU, PMSC, Contractors	Immediate
Gender awareness and sensitivity to be applied	Contractor	Immediate

Action Plan for Attaining Satisfactory Environmental Compliance

Action	To be taken by	Time frame
Road Contract Packages for the actives contracts CTEIP/MAT/RD/01, CTEIP/GAL/RD/01, CTEIP/GAL/RD/02, CTEIP/PIR/RD/01, CTEIP/PIR/RD/02, CTEIP/AMT/RD/01 and CTEIP/AMT/RD/02		
Instruction to contractors for implementation/ compliance and to PIU/Consultant for enforcement monitoring for: o Proper disposal of debris o Correct maintained records regarding ESMR; o Restoration of road/lane after sectional completion – at earliest o Camp site management; o Water sprinkling during dry period	PIU, PMSC, Contractors	Continuous
Focus Group Discussion (FGD) / Public consultation during construction	PIU, PMSC, Contractors	At least once in a month
Sample monitoring and testing of the designated Environmental Parameters in full accordance with the contracted financing plan and testing	Contractors	Immediate action, notwithstanding possible closure of sites

Action	To be taken by	Time frame
Road Contract Packages for the actives contracts CTEIP/MAT/RD/01, CTEIP/GAL/RD/01, CTEIP/GAL/RD/02, CTEIP/PIR/RD/01, CTEIP/PIR/RD/02, CTEIP/AMT/RD/01 and CTEIP/AMT/RD/02		
requirements		
Follow up action for completion of the verified monitoring for the ESMR	PIU, PMSC, Contractors	Immediate
Grievance Redressal Mechanism: To implement according to EMP	PIU	Immediate
EMP implementation and monitoring Training	PIU, PMSC, Contractors	Immediate
Gender awareness and sensitivity to be applied	Contractor	Immediate

Action Plan for Attaining Satisfactory Environmental Compliance

Action	To be taken by	Time frame
Drain Contract Packages for the actives contracts CTEIP/GAL/DR/01, CTEIP/PIR/DR/01 and CTEIP/AMT/DR/01		
Instruction to contractors for implementation/ compliance and to PIU/Consultant for enforcement monitoring for: o Proper disposal of debris o Correct maintained records regarding ESMR; o Restoration of road/lane after sectional completion – at earliest o Camp site management; o Water sprinkling during dry period	PIU, PMSC, Contractors	Continuous
Focus Group Discussion (FGD) / Public consultation during construction	PIU, PMSC, Contractors	At least once in a month
Sample monitoring and testing of the designated Environmental Parameters in full accordance with the contracted financing plan and testing requirements	Contractors	Immediate action, notwithstanding possible closure of sites
Follow up action for completion of the verified monitoring for the ESMR	PIU, PMSC, Contractors	Immediate
Grievance Redressal Mechanism: To implement according to EMP	PIU	Immediate
EMP implementation and monitoring Training	PIU, PMSC, Contractors	Immediate
Gender awareness and sensitivity to be applied	Contractor	Immediate

Action Plan for Attaining Satisfactory Environmental Compliance

Action	To be taken by	Time frame
Water Supply Contract Packages for the actives contracts CTEIP/GAL/WS/01 and CTEIP/AMT/WS/01		
Instruction to contractors for implementation/ compliance and to PIU/Consultant for enforcement monitoring for: o Proper disposal of debris o Correct maintained records regarding ESMR; o Restoration of road/lane after sectional completion – at earliest	PIU, PMSC, Contractors	Continuous

Action	To be taken by	Time frame
Water Supply Contract Packages for the actives contracts CTEIP/GAL/WS/01 and CTEIP/AMT/WS/01		
o Camp site management; o Water sprinkling during dry period		
Focus Group Discussion (FGD) / Public consultation during construction	PIU, PMSC, Contractors	At least once in a month
Sample monitoring and testing of the designated Environmental Parameters in full accordance with the contracted financing plan and testing requirements	Contractors	Immediate action, notwithstanding possible closure of sites
Follow up action for completion of the verified monitoring for the ESMR	PIU, PMSC, Contractors	Immediate
Grievance Redressal Mechanism: To implement according to EMP	PIU	Immediate
EMP implementation and monitoring Training	PIU, PMSC, Contractors	Immediate
Gender awareness and sensitivity to be applied	Contractor	Immediate

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Annexure 1:

List of Monitored Sub-projects

Annexure 1: List of Monitored Sub-projects: Pourashava-wise

Amtali Scope of Work (CTEIP Batch 1, Stage 1)

Subproject Component	Scope of Work
Work ongoing / Awarded Contract Packages:	
Cyclone Shelters CTEIP/AMT/CS/01	3 Cyclone Shelters at: i) Surikata Primary School (Ward 7); ii) Basugi Non-government Primary School (Ward 8); and iii) Amtali Bandar Hossainia Fazil Madrassa (Ward 4).
Roads/ Bridges CTEIP/AMT/RD/01	Roads: 4, Total length: 3.380 km and Road side Drain 0.481 km • Road from Pourashava near Jogen Singh House to Bandth of Ward # 01,04. (Length=340.00m) • Zilla Parishad Road to Ferry Ghat Road via TNT office. Ward# 05 06. (Length=635.00m) • Surikata R&H Road to Locha Bottola. Ward# 9. (Length=1400.00m) • Wapda Road to Piku Mirdha House via House of Lal Gazi and Kalu Khan. Ward# 8,9. (Length=1005.00m)
Drainage CTEIP/AMT/DR/01	11 schemes of drainage, total length = 1.496 km • Earthen channels • Cement concrete block lined channels • Reinforced cement concrete box culverts • Reinforced cement concrete open drains • Box culvert cleaning and gate repair • Maintenance equipment
Roads/ Bridges CTEIP/AMT/RD/02	• 4 Roads (4.531 km) and • Road side drain (0.217 km)
Water Supply CTEIP/AMT/WS/01	• 2 production tubewells • 1 overhead tank • 31.5 km new transmission and distribution pipelines • Replacement of 50mm pipelines with 100mm pipes (5.0km) • 1,560 service connections • Reconnection of 400 existing service connections with 50mm pipelines • 1,560 no. service connection water meters • 3 bulk water meters • 30 hand deep tubewells • 1 mini water testing equipment • 1 pick-up, 2 motorcycles, 1 computer, 2 no. back-up generators
Bidding process ongoing for award:	
Remaining Scope for Stage I development programme:	
Sanitation	• 2 Public Toilet • 10 community latrines • 1 disludging Truck
Solid Waste Management	5 rickshaw vans; 10 push carts

Source: DDS Consultant Compilation

Galachipa Scope of Work (CTEIP Batch 1, Stage 1)

Subproject Component	Scope of Work
Work ongoing / Awarded Contract Packages:	
Roads/ Bridges CTEIP/GAL/RD/01	Under Package CTEIP/GAL/01, which is previously invited for bidding: Roads: 5, Total length: 6.555 km • College Road and Road Connecting Proposed CS in Degree College (Wards 8 and 9) • Wapda Road (Damaged Portions) (Wards 1,2,3 and 4) • Banani Road (Ward 9) • Shantibagh Road (Ward 3) • Sadar Road (Wards 4 and 7)
Roads/ Bridges CTEIP/GAL/RD/02	Roads: 2, Total length: 1.195 km and Road Side Drain: 0.923 km • Feeder Road (Ward 7) Length= 695.00 km • Samudabad Road (Ward 6 to 8) Length = 500.00 km
Cyclone Shelters CTEIP/GAL/CS/01	3 Cyclone Shelters: (i) Furfura Sharif Talimul Quran Madrassa (Ward 2); (ii) Galachipa Degree College (Ward 9); and (iii) Sharshina Khanka Hafezia Madrassa (Ward 3
Drainage CTEIP/GAL/DR/01	• 10.39 km drains: earthen channels; cement concrete block lined • Channels; reinforced cement concrete covered drains • Maintenance equipment
Water Supply CTEIP/GAL/WS/01	• 1 overhead tank 500m^3; • 25 km transmission and distribution pipeline; • 2,500 service connections • 2,500 water meters • mini water testing equipment • 1 pick-up, 2 motorcycles, 1 computer, 2 back-up generators
Bidding process ongoing for award:	
Remaining Scope for Stage I development programme:	
Sanitation	5 public toilets; 3 school latrines; 8 community latrines
	1 Septage Management System; 1 Public Sanitary Facility
	1 Waste Water Management
Solid Waste Management	5 rickshaw vans; 10 push carts

Source: DDS Consultant Compilation

Mathbaria Scope of Work (CTEIP Batch 1, Stage 1)

Subproject Component	Scope of Work	
Monitored Contract Packages:		
Roads/ Bridges CTEIP/MAT/RD/01	4 nos. Roads: 3,741m: • Land Office to Mollikbari via Sadar Road (Wards 2 & 4) • (Not in contract but deferred) • R&H Road to Bairatala Khal via Veterinary Hospital (Ward 5) • Masua Road to Tuskhali Khal via Women's College (Ward 2) • R&H Road to Govt. College via New Market (Ward 7) • Bairatala to Mistribari via Shafa Road end of Pourashava (Ward 5)	
Cyclone Shelter CTEIP/MAT/CS/01	1 at Momenia Dakhil Madrassa (Ward 1)	
Bidding process ongoing for award:		
Remaining Scope for Stage I development programme:		
Roads/ Bridges	Masua Khal Bridge: 1, length 42m	Pending Bid Document
Drainage:	3.693 km RCC drains	Draft DED Submitted to PMU
	Channels; reinforced cement concrete covered drains	
	maintenance equipment	
Water Supply	land acquisition, 10 acres (4.0 ha)	Draft DED under design review by DPHE
	Re-sectioning of canal, canal intake	
	1 surface water treatment plant 7.2 MLD capacity	
	embankment around plant 800m, commissioning of plant	
	1 overhead tank 680m^3; 1 ground reservoir 2,000m^3;	
	49 km transmission and distribution pipeline;	
	3,200 service connections	
	3,500 water meters	
	10 exploratory wells	
	mini water testing equipment	
	pick-up, 2 motorcycles, computer, 1 back-up generators	
Sanitation	5 public toilets; 7 school latrines; 8 community latrines	Scope to be verified for integrated development approach in formulation of Pilot Scheme
	1 de-sludging truck	
	BMGF-funded: public sanitation facility;	
	(toilet complex with wastewater treatment) in market area;	
	Septage management system/	
	Treatment plant across from sweepers' colony	
	1 truck-mounted de-sludging equipment	
Solid Waste Management	5 rickshaw vans; 10 push carts	

Source: DDS Consultant Compilation

Annexure 1: List of Monitored Sub-projects: Pourashava-wise

Pirojpur Scope of Work (CTEIP Batch 1, Stage 1)

Subproject Component	Scope of Work
Monitored Contract Packages:	
Cyclone Shelters CTEIP/PIR/CS/01	3 shelters in Batch 1, stage 1: CTEIP Fast Track Programme: Tendered in 2014 under CTEIP: i) Adrashapara Secondary School (Ward 5); ii) Khamkata Govt. Primary School (Ward 8); and iii) Hularhat Dakhil Madrassa (Ward 3).
Cyclone Shelters CTEIP/PIR/CS/02	2 shelters in Batch 1, stage 1: i) Programme: Moidho Nimajpur Government Primary School (Ward 6); and ii) Moidho Dumuritala Government Primary School (Ward 9).
Roads/ Bridges CTEIP/PIR/RD/01	• 08 Nos. Roads, Length:13.533 km • 1 Nos. three vent box culvert • 1 Nos. two vent box culvert
Roads/ Bridges CTEIP/PIR/RD/02	• 09 Nos. Roads, Length:8.044 km • Raod side drains: 0.322 km
Drainage CTEIP/PIR/DR/01	• 11 Nos. Earthen drains, length:15.794 km • 5 Nos. RCC drains, length: 3.346 km • Maintenance Eqiupment
Bidding process ongoing for award:	
Remaining Scope for Stage I development programme:	
Solid Waste Management	6 rickshaw vans; 15 push carts
Sanitation	5 public toilets
	3 school latrines
	16 community latrines
	1 desludging truck

Source: DDS Consultant Compilation

Annexure 2:

Tables to the Report

Table 1.1 Civil Works Progress

Table 4.1 Progress Status of Implementation of Contracts

Table 5.1 Applicable Environmental Legislation

Table 5.2 ADB Safeguard Policy Status

Table 1.1 Civil Works Progress

Coastal Towns Environmental Infrastructure Project (CTEIP)

Batch - I, Stage- I | *Progress Summary Statement* | Date: 31-May-16

Town	Contract Package	Component	Quantity - Unit		Package (No.)	Estimated Amount (Cr. Tk.)	Package Awarded (No.)	Contract Amount (Cr. Tk.)	Physical Progress (%)	Remarks
Pirojpur	CTEIP/PIR/2015-16/RD-01	Road	13.53	Km	1	21.04	1	21.79	9%	Contract Agreement 21/03/2016
	CTEIP/PIR/2015-16/RD-02		7.74	Km	1	9.03	1	9.74	9%	Contract Agreement 01/03/2016
	PIR/BR/01		18.50	M	1	-	-	-	-	Decision Pending
	CTEIP/2014-15/PIR/CS-01	Cyclone Shelter	3	No.	1	10.64	1	12.23	46%	Contract Agreement 02/01/2015
	e-GP/CTEIP/2014-15/PIR/CS-02		2	No.	1	7.48	1	8.23	13%	Contract Agreement 20/01/2016
	e-GP/CTEIP/2014-15/PIR/DR-01	Drain	19.14	Km	1	10.80	1	11.83	22%	Contract Agreement 11/02/2016
	PIR/IES/01	Integrated Env. Sanitation & SWM	-		1	-	-	-	-	Under feasibility study
	Pirojpur Sub-total				*7*	*58.99*	*5*	*63.81*	*32%*	
Mathbaria	CTEIP/MAT/RD/01	Road	3.74	Km	1	7.27	1	7.99	85%	Extension of time under process
	MAT/BR/01		42.00	M	1	-	-	-	-	Decision Pending
	CTEIP/MAT/CS/01	Cyclone Shelter	1	No.	1	3.11	1	3.57	49%	Extension of time under process
	MAT/WS/01	Water Supply	-	Km	1	-	-	-	-	ICB under review by ADB
	MAT/WS/02		48.70	Km	1	-	-	-		ICB under review by ADB
	MAT/WS/03		-		1	-	-	-		ICB doc. under Preparation.
	MAT/DR/01	Drain	3.69	Km	1	5.69	-	-	-	Bid opened 11/04/16. Being evaluated by PMU.
	MAT/IES/01	Integrated Env. Sanitation & SWM	-		1	-	-	-	-	Under feasibility study
	Mathbaria Sub-total				*8*	*16.07*	*2*	*11.56*	*74%*	
Galachipa	CTEIP/GAL/RD-01	Road	6.56	Km	1	10.35	1	11.37	96%	Time extended
	e-GP/CTEIP/2014-15/G AL/RD-02		1.195	Km	1	2.95	1	2.66	28%	Contract Agreement 25/11/2015
	CTEIP/GAL/CS-01	Cyclone Shelter	3	No.	1	11.72	1	12.88	53%	Contract Agreement 11/07/2015
	e-GP/CTEIP/2014-15/GAL/WS-01	Water Supply	33.5	Km	1	11.21	1	12.44	47%	Contract Agreement 14/01/16.
	CTEIP/GAL/DR/01	Drain	4.71	Km	1	3.71	1	3.33	3%	Contract Agreement 16/02/16.
	GAL/IES/01	Integrated Env. Sanitation & SWM	-		1	-	-	-		Under feasibility study
	Galachipa Sub-total				*6*	*39.94*	*5*	*42.69*	*68%*	
Amtali	e-GP/CTEIP/2014-15/AMT/RD-01	Road	3.38	Km	1	3.72	1	3.36	21%	Contract Agreementt 01/10/2015
	e-GP/CTEIP/2014-15/AMT/RD-02		4.53	Km	1	4.67	1	4.03	2%	Contract Agreement 01/02/16.
	CTEIP/AMT/CS-01	Cyclone Shelter	3	No.	1	12.65	1	14.00	42%	Contract Agreement 05/06/2015
	e-GP/CTEIP/2014-15/AMT/WS-01	Water Supply	31.50	Km	1	12.62	1	12.60	37%	Contract Agreement 17/01/16.
	e-GP/CTEIP/2014-15/AMT/DR-01	Drain	1.50	Km	1	3.29	1	3.11	18%	Commencement 07/07/2015
	AMT/IES/01	Integrated Env. Sanitation & SWM	-		1	-	-	-	-	Under feasibility study
	Amtali Sub-total				*6*	*39.94*	*5*	*37.10*	*34%*	
	Batch- I, Stage- I Total				*27*	*154.95*	*17*	*155.16*	*48%*	

Batch - I, Stage- I	*Component*	*Qty - Unit*		*Contract Amount (Cr. Tk.)*	*Physical Progress (%)*
	Road	*27.15*	*Km*	*39.15*	*61%*
	Bridge	*-*	*km*	*-*	*-*
	Cyclone Shelter	*12.00*	*Nos*	*50.89*	*39%*
	Drain	*25.35*	*Km*	*18.27*	*21%*
	Water Supply	*65.00*	*Km*	*25.04*	*-*
	Integrated Env. Sanitation & SWM	*-*	*-*	*-*	*-*
	Boat Landing Station	*-*	*-*	*-*	*-*
	Multipurpose Market	*-*	*-*	*-*	*-*
	Bus Terminal	*-*	*-*	*-*	*-*
	Total Batch - I			*133.36*	*48%*

4.1. Progress Status of Implementation of Contracts

The following 17 contract packages, comprising AMT/CS/01; AMT/RD/01; AMT/RD/02; AMT/DR/01; AMT/WS/01; GAL/CS/01; GAL/RD/01; GAL/RD/02; GAL/DR/01; GAL/WS/01; MAT/CS/01; MAT/RD/01; PIR/CS/01; PIR/CS/02; PIR/RD/01, PIR/RD/02, PIR/DR/01 have been awarded to date and are in various stages of implementation:

4.1.1 *Package no. CTEIP/AMT/CS/01*	Construction of Multipurpose Cyclone Shelter at (1) Amtali Bandar Hosainia Fazil Madrasa; (2) Suri Kata Govt. Primary School, (3) Basugi Non-Govt. Primary School: Amtali Pourashava, District: Barguna
Name of Contractor:	Abul Kalam Azad
Contract Amount:	BDT 139.966 million
Date of Commencement:	05.06.2015
Time of completion:	18 Months (09.12.2016)
Financial Progress:	BDT 63.167 million (45%)
Physical Progress:	47%
Elapsed Time:	66%
Incurred Delay	Poor Progress: incurred delay is to an estimated **4.5 months delay**
Progress Status:	**(1)** Amtali Bandar Hosainia Fazil Madrasa: 1st floor slab casting completed; **(2)** Suri Kata Govt. Primary School: 1st floor slab casting completed; **(3)** Basungi Primary School: Pile cap casting completed.
Remarks	**Environmental Monitoring** ongoing **Health and Safety initiatives** ongoing **Contractor / PIU staff / PAP's to be given training**
4.2.2 Package no. CTEIP/AMT/RD/01	Construction / Improvement of 4 roads (3.380 km) + Roadside Drain (0.481 km), under Amtali Pourashava, District: Barguna.
Name of Contractor:	M/S. Palli Store
Contract Amount:	BDT 33.631 million
Date of Commencement:	01.10. 2015
Time of completion:	12 Months (30.09.2016)
Financial Progress:	BDT 5.50 million (16%)
Physical Progress:	21%
Elapsed Time:	75%
Incurred delay	Progress poor: estimated **6.5 months delay**
Progress Status:	**(1)** Road No.3: 250m road from Pourashava near Jogen Singh house to Bandth (Ward nos.01,04): Temporally household boundary on designed road alignment created obstructions for implementation of works. **(2)** Road No.4: 600m road: Zilla Parisad road to Ferry Ghat via TNT office (Ward Nos. 05,06): ISG completed. Sub-base works completed. **(3)** Road No.8: 1,170m road Surikata R&H road to Locha Bottala (Ch.900 to

	2300) (Ward no.09): Sub-base works completed. **(4)** Road No.9: 1,100m road: Wapda road to Piku Mirdha house via houses of Lal Gazi and Kalu khan (Ward nos.08,09): Sub-base works ongoing.
Remarks:	**Poor progress made since award of contract**. **Overall progress is unacceptable** **Environmental Monitoring** ongoing **Health and Safety initiatives** ongoing **Contractor / PIU staff / PAP's to be given training**
4.2.3 Package no. CTEIP/AMT/RD/02	Improvement of existing 4-nos. road and 2-nos. road side drain under Pourashava: Amtali, District: Barguna.
Name of Contractor:	Md. Mahfug Khan
Contract Amount:	BDT 40.251 million
Date of Commencement:	01.02.2016
Time of completion:	12 Months (01.02.2017)
Financial Progress:	BDT 4.000 million (10% Advance)
Physical Progress:	2%
Elapsed Time:	33%
Incurred delay	**Poor progress: Estimated 3.7 months delay.**
Progress Status:	Basic civil works started. **(1)** Construction / Improvement of Sabujbag Selim's House to R & H Road via TNT & College Mosque. Ward# 05, 06 **(2)** Construction/ Improvement of Wapda Road to Kamal Sangbadik House via Mostafa Commissioner and Firoj. Ward# 08. Improved sub-grade works ongoing. **(3)** Construction/ Improvement of Zilla Parishad Road to Muktizoddha School via Mofij Talukder House. Ward# 05, 06 **(4)** Construction/ Improvement of Mazar Road to ATO Kashem Mia house via Lekerpar. Ward# 03 **(5)** Environmental Mitigation Enhancement Works of Amtali Pourashava
Remarks:	**Overall progress is unacceptable** **Environmental Monitoring** ongoing **Health and Safety initiatives** ongoing **Contractor / PIU staff / PAP's to be given training**
4.2.4 Package no. CTEIP/AMT/DR/01	**Construction/Improvement of 11 schemes @ 1.496 km, in Amtali Pourashava, District: Barguna.**
Name of Contractor:	Tohidul Bashar Kabir

Contract Amount:	BDT 31.107 million
Date of Commencement:	07.07. 2015
Time of completion:	12 Months (08.07.2016)
Financial Progress:	BDT 4.644 (15%)
Physical Progress:	18%
Elapsed Time:	90%
Incurred Delay	Poor Progress: Estimated **8.6 months delay**
Progress Status:	**(1**) RCC drain (CH. 0+000 to CH. 0+138m) with box culvert (CH.0+000 to 0.012) from Amtoli Lake to Sluice Intake Channel crossing the Zilla Parishad Road, (total length- 150m) – Vertical walls & top slab casting completed. **(2)** CC block lining on khal south side of Nazrul Road (CH.0+000 to 0+325m). (total length- 325m): Yet to start. **(3)** RCC box culvert on Nazrul Road (Ch. 0+000 to Ch. 0+008m) near junction with Zilla Parishad road. (total length- 8.00m): Yet to start. **(4)** CC Block lining on khal (CH. 0+000 to 0+460m) west of Zilla Parishad road. (total length- 460m): Yet to start. **(5)** RCC drain (CH. 0+000 to CH. 0+226m) from Rashid Sarker House to Shahnaj house. (total length- 226m): Yet to start. **(6)** Box culvert (CH. 0+000 to Ch. 0+15.60m) on Khantakata Mazar road connecting two big ponds. (total length- 15.60m): Yet to start. **(7)** Covered drain (CH. 0+000 to 0+100m) from Pond to Khontakata Lake/ Jheeler Pur. (total length- 100m): Excavation and CC works completed. **(8)** CC cross drain (Ch. 0+100 to 0+118m) from RCC end of SD-17 to Khontakata Lake/ Jheeler Pur. (total length- 18m): Yet to start. **(9)** RCC drain from Bokul Gachia Mohila College Road to Kalibari Khal. (total length- 188m): Excavation works completed. **(10)** Cleaning of box culvert and rehabilitation of gate at Natun Bazar Chowrasta: Yet to start. **(11)** RCC box culvert (CH. 0+000 to 0+007.4m) on Bokul Gachia Mohila College Road. (total length- 7.40m): Yet to start. **(12)** Environmental Mitigation Enhancement Works of Construction Drainage System at Amtali Pourashava
Remarks	**Environmental Monitoring to start** **Health and Safety initiatives to start** **Contractor / PIU staff / PAP's to be given training**
4.2.5 *Package no. CTEIP/AMT/WS/01*	Construction/ Installation of Water Supply System in Pourashava: Amtali, District: Barguna.
Name of Contractor:	M/s Zilani Traders-Noor & Co. (JV)
Contract Amount:	BDT 126.005 million

Date of Commencement:	18.01.2016
Time of completion:	18 Months (18.07.2017)
Financial Progress:	BDT 37.900 million (30%)
Physical Progress:	37%
Elapsed Time:	24%
Incurred delay	Ahead of programme by 2.30 months
Progress Status:	Preliminary civil works started. **(1)** 2 Production TW's (02 Test TW's: 15m deep Hand TW) **(2)** 1 OHT: **(3)** Pipeline (26.77 km pipeline; 4.4 km replaced pipeline; 1,747 Service Connections): 25 Km new pipeline complete. **(4)** 2 Pump Houses: **(5)** O&M Tools and 1 no. Generator set: **(6)** Supply, fitting, fixing and commissioning of Electro-mechanical works: **(7)** Environmental mitigation enhancement works::
Remarks:	**Environmental Monitoring** ongoing **Health and Safety initiatives** ongoing **Contractor / PIU staff / PAP's to be given training**

4.2.6 *Package no. CTEIP/GAL/CS/01*	Construction of 3 Multipurpose Cyclone Shelters: (1) Furfura Sharif Talimul Quran Madrasha; (2) Galachipa Degree College Compound; and (3) Sarshina Khanka Hafezia Madrasha: Galachipa Pourashava, District: Patuakhali
Name of Contractor:	MK-MF (JV)
Contract Amount:	BDT 128.770 million
Date of Commencement:	11.01.2015
Time of completion:	18 Months (11.07.2016)
Financial Progress:	BDT 74.171 million payment (58% including 10% Advance)
Physical Progress:	53%
Elapsed Time:	92%
Incurred Delay	Poor Progress during reported period: incurred delay is to an estimated **7.0 months delay**
Progress Status:	**(1)** Furfura Sharif Talimul Quran Madrasha: First floor slab casting completed. **(2)** Galachipa Degree College Compound: First floor slab casting completed. **(3)** Sarshina Khanka Hafezia Madrasha: First floor slab casting completed.
Remarks:	**Overall progress is poor** **Health and Safety initiatives poor**

	Environmental and Social Monitoring ongoing **Contractor / PIU staff / PAP's to be given training**
4.2.7 *Package no. CTEIP/GAL/RD/01*	Construction / Improvement of 5 nos. roads, totalling 6.999 kms, under Galachipa Pourashava: Galachipa, District: Patuakhali.
Name of Contractor:	M/S. S M Construction
Contract Amount:	BDT 113.738 million
Date of Commencement:	26.01. 2015
Time of completion:	Original Contract: 12 Months (26.01.2016) Contract extended to 15 months: (26.04.2016). Further extension under process
Financial Progress:	BDT 67.749 million payment (60%)
Physical Progress:	Total 96% completed to date
Elapsed Time:	108% 1st extension expired: 2nd extension under process.
Incurred delay	Estimated 2.9 months delay.
Progress Status:	**(1)** College Road & Connecting Road of Proposed CS in Degree College (2.17 km) including, Drain (283m), 3 nos Box Culverts & Protection Wall (85m): 1.40 Km BC pavement completed. BC pavement works ongoing. **(2)** Wapda Road (1.58km) including Protection Wall (132m): BC pavement completed. Earthworks on shoulder and slope incomplete. **(3)** Banani Road with Connecting Khalifa Road (1.36km) including Box Culvert (1x1.5x7.10m - 7nos, 2x2.5x7.10m - 1nos): RCC Pavement completed. Earthworks on shoulder and slope incomplete. **(4)** Santibag Road (0.61km) with box culvert & slope Protection Work (30m): BC pavement completed. Earthworks on shoulder and slope incomplete. **(5)** Sadar Road including drain & box culvert: RCC pavement completed. BC pavement completed.
Remarks:	**Environmental Monitoring** ongoing **Health and Safety initiatives** ongoing **Contractor / PIU staff / PAP's to be given training**
4.2.8 *Package no. CTEIP/GAL/RD/02*	Construction / Improvement of 2 nos. roads, totalling 1.195 km, under Pourashava: Galachipa, District: Patuakhali.
Name of Contractor:	M M Enterprise
Contract Amount:	BDT 26.599 million
Date of Commencement:	25.11. 2015
Time of completion:	12 Months (24.11.2016)
Financial Progress:	BDT 6.910 million (26%)
Physical Progress:	28%
Elapsed Time:	52%
Incurred delay	Estimated delay 2.9 months.
Progress Status:	**1)** Construction / Improvement of Feeder Road, Ward # 07 (road length =

	695.00 m) – Drain works completed. Preliminary road works started. **(2)** Construction / Improvement of Samudabad Road, Ward # 06 to 08 (road length = 500.00 m) – RCC Drain bottom slab casting complete and preliminary road works started.
Remarks:	**Poor progress made since award of contract**. **Environmental Monitoring** ongoing **Health and Safety initiatives** ongoing **Contractor / PIU staff / PAP's to be given training**
4.2.9 *Package no. CTEIP/GAL/DR/01*	Re excavation of 3 nos. Khal totalling 2.833 Km and Constructing of 4 nos. RCC drain, totalling 1.88 Km under Galachipa Pourashava, District: Patuakhali.
Name of Contractor:	M.N. Mallick & Monalisa Joint Venture
Contract Amount:	BDT 33.344 million
Date of Commencement:	16.02.2016
Time of completion:	18 Months (14.08.2017)
Financial Progress:	0%
Physical Progress:	3%
Elapsed Time:	29%
Incurred delay	Estimated delay 3.1 months.
Progress Status:	**(1)** Re-excavation of Golachipa Khal from Thana Moor to Sluice Gate (Ch.0+000m to 1+200m) and Re-excavation of Golachipa Khal from Textile School to Sluice Gate (Ch. 0+000 to 1+230) Under Ward No: 01,02,03,04,07&08. Length:2430m **(2)** RCC open U Drain from Cinema Hall Moor to Asad Monjil Lane (Ch. 0+000 to 0+330) Under Ward No: 05&06. Length: 330m **(3)** RCC Open U Drain from Dr. Alamin House to Jashim House Canal (Ch. 0+300 to 0+000 and 0+000 to 0+40) Under Ward No: 08&09. Length: 340m. Excavation and CC casting completed. **(4)** Re-excavation of Earthen Canal from Delwar Matbor House to Golachipa khal via Chunnu Mollah's House (Ch. 0+000 to 0+203 m) Under Ward No: 03. Length: 203m **(5)** RCC open U Drain from Thana complex to Puran Piada Bari (Ch.0+000 to 1+030) under Ward No: 04,05&06. Length: 1030m **(6)** Re-excavation of Earthen Canal from Veterinarian Hospital to Golachipa Khal. (Ch.0+000 to 0+200) Under Ward No: 02. Length: 200 m **(7)** Construction of Drain on Banani Road with Connecting Khalifa Road, Ward#09. Drain (Length=180.0m). Excavation ongoing. **(8)** Environmental Mitigation Enhancement Works of Galachipa Pourashava
Remarks:	**Poor progress made since award of contract**.

	Environmental Monitoring ongoing **Health and Safety initiatives** ongoing **Contractor / PIU staff / PAP's to be given training**
4.2.10 ***Package no. CTEIP/GAL/WS/01***	Construction/ Installation of Water Supply System in Pourashava: Galachipa, District: Patuakhali.
Name of Contractor:	M/s Zilani Traders-Noor & Co. (JV)
Contract Amount:	BDT 124,422 million
Date of Commencement:	24.01.2016
Time of completion:	18 Months (24.07.2017)
Financial Progress:	BDT 58.574 million (47%)
Physical Progress:	47%
Elapsed Time:	23%
Incurred delay	Ahead of programme by 4.30 months
Progress Status:	Preliminary civil works started. **(1)** 2 Production TW's (02 Test TW's: 15m deep Hand TW) **(2)** 1 OHT: 23 of 30 cast-in-situ pile complete. **(3)** Pipeline (30.100 km pipeline; 3.400 km replaced pipeline; 2,500 Service Connections) (2,500 nos. new and 600 nos replaced): 24.00 km Pipeline works completed. **(4)** 2 Pump Houses: **(5)** O&M Tools and 2 nos. Generator sets: **(6)** Supply, fitting, fixing and commissioning of Electro-mechanical works: **(7)** Environmental mitigation enhancement works:
Remarks:	**Progress is satisfactory**. **Environmental Monitoring** ongoing **Health and Safety initiatives** ongoing **Contractor / PIU staff / PAP's to be given training**
4.2.11 ***Package no. CTEIP/MAT/CS/01***	Construction of Multipurpose Cyclone Shelter at Momenia Dakhil Madrassa (Ward 1), Mathbaria Pourashava, District: Pirojpur
Name of Contractor:	M-Khan-STLI (JV)
Contract Amount:	BDT 35.687 million
Date of Commencement:	22.02.2015
Time of completion:	Original Contract: 12 Months (21.02.2016): Extension to 18 mths (21.08.2016) remains under process
Financial Progress:	BDT 14.800 million payment (41%)
Physical Progress:	49%

Elapsed Time:	85%
Incurred delay	Very Poor Progress: Incurred delay during reported period: estimated at **6.5 months delay**
Present Status:	First floor slab casting complete. **Overall progress remains very poor**
Remarks:	**Health and Safety ongoing** **Environmental and Social Safeguard Monitoring ongoing** **Contractor / PIU staff / PAP's to be given training**

4.2.12 ***Package no. CTEIP/MAT/RD/01***	Construction/Improvement of 4 nos. Roads, totalling 3.741 kms, in Mathbaria Pourashava, District: Pirojpur**.**
Name of Contractor:	TON (JV)
Contract Amount:	BDT 79.924 million
Date of Commencement:	22.02.2015
Time of completion:	Original Contract: 12 Months (21.02.2016) Contract extended to 15 months (21.06.2016) Further extension remains under process
Financial Progress:	58.897 million payment (74%)
Physical Progress:	Total 85% completed to date
Elapsed Time:	96%
Incurred delay	Very Poor Progress: Incurred delay during reported period: estimated at **1.6 months delay**
Progress Status:	**Rd (2):** R&H Road to Bairatola Khal via Veterinary Hospital Road including Drain (224.00m) & RCC Protection Wall (49.00m): 90% of scheme completed to date. RCC pavement works completed. All works except earthworks on shoulders and slopes completed. **Rd (3):** Mathbaria Masua Road to Mathbaria Tushkhali Khal via Women's College including Drain (200.00m) & RCC Protection Wall (107.00m): 97% of scheme completed to date. Bitumen pavement work completed. **Rd (4)**: R&H road to Govt. College via New Market BC/RCC pavement including Drain (855.00m), Box Culvert (1x1.5x8.10 m) & RCC Protection Wall (29.00m) All works expect BC/RCC pavement completed. Sub-grade works ongoing. **Rd (5):** Bairatola to Mistribai via (Shafa Road) end of Pourashava including Box Culvert (1x3.5x3.5x9.1m - 1nos, 1x1.2x1.5x9.1m - 3nos, 1x1x1.5x8.1 m - 4nos). All works expect earthworks on shoulders and slopes completed.
Remarks:	**Overall progress remains poor** **Environmental and Social Safeguard Monitoring ongoing** **Health and Safety initiatives ongoing** **Contractor / PIU staff / PAP's to be given training**

4.2.13 ***Package no. CTEIP/PIR/CS/01***	Construction of 3 Multipurpose Cyclone Shelters: (1) Adarshapara Secondary School; (2) Khamkata Govt. Primary School; and (3) Hularhut Dakhil Madrasha in Mathbaria Pourashava, District: Pirojpur**.**

Name of Contractor:	EE-JI (JV)
Contract Amount:	BDT 122.225 million
Date of Commencement:	02.01. 2015
Time of completion:	18 Months (02.07.2016)
Financial Progress:	BDT 49.270 million payment (40%)
Physical Progress:	46%
Elapsed Time:	91%
Incurred delay	Progress remains poor: estimated **8.1 months delay**
Progress Status:	**((1):** Adarshapara Secondary School: Ground floor columns casting completed. Formworks for 1st floor slab ongoing. **(2):** Khamkata Govt. Primary School: Ground floor columns casting completed. Formworks for first floor slab ongoing. **(3):** Hularhut Dakhil Madrasha: 1st floor slab casting completed.
Remarks:	**Overall progress is very poor** **Environmental and Social Monitoring** ongoing **Health and Safety initiatives** ongoing **Contractor / PIU staff / PAP's to be given training**

4.2.14 *Package no. CTEIP/PIR/CS/02*	Construction of 2 nos. Cyclone Shelters under Pourashava: Pirojpur, District: Pirojpur.
Name of Contractor:	Mahfuz Khan
Contract Amount:	BDT 82.250 million
Date of Commencement:	20.01.2016
Time of completion:	12 Months (20.01.2017)
Financial Progress:	BDT 16.724 million (20% including 10% Advance)
Physical Progress:	13%
Elapsed Time:	36%
Incurred delay	2.8 months delay
Progress Status:	**1)** Moidho Dumuritala Gov't Primary School (Ward-09) – 56 of 56 pile cast. **(2)** Moidho Namazpur Gov't Primary School (Ward-06)- Dismantling of old school building is going on.
Remarks:	**Environmental Monitoring** ongoing **Health and Safety initiatives** ongoing **Contractor / PIU staff / PAP's to be given training**

4.2.15 *Package no. CTEIP/PIR/DR/01*	Construction of RCC Drain& U-Drain (1) Re-excavation of khal (lenth: 14.994 km), (2) Construction of RCC Drain & U Drain (lenth:4.14 km) (Total: 13 No), under Pirojpur Pourashava, District: Pirojpur.
Name of Contractor:	LA-TTST Joint Venture
Contract Amount:	BDT 118.293 million
Date of Commencement:	11.02.2016

Time of completion:	18 Months (11.08.2017)
Financial Progress:	BDT 11.829 million (10%) Advance
Physical Progress:	22%
Elapsed Time:	30%
Incurred delay	1.0 month delay
Progress Status:	**(1)** Re-excavation of Damuder Khal from Borokhalishkhali Bridge to Boleshwar River Under Ward No: 02,03, 04,05,07,08&09. Length: 4.90 Km - 350 m re-excavation complete. **(2)** Re-excavation of Pirojpur Parerhat Varani Khal from Malaria Pool to Damuder Khal (Ch. 1+025m - 0+000m) and from Malaria Pool to Borr Pool (Ch. 1+025m - 2+000m) Under Ward No: 05,06,07&08. Length: 2.00Km - 780 m re-excavation complete. **(3)** Re-excavation and CC Block lining of Pirojpur Varani Khal from Murshid Bari Primary School to Malaria Pool (Ch. 0+000m to 0+390m) Under Ward No: 05,06,07&08. Length: 390m **(4)** Construction of RCC U-Drain at Pal Para from Mr. Kabil House to Damuder Khal (ch. 0+000 to 0+630m) and Link-1 (Ch. 0+00 to 0+100m) and Link-2 (Ch. 0+00 to 0+040m0) Under Ward No: 04. Length: 770m. Excavation and CC works started. **(5)** Construction of Gazi Bari Khal RCC Drain from SK Jalil Mia's House to Damuder Khal Ch. 0+000 to 1+000m Under Ward No: 07. Length: 1.00Km - RCC Drain works started. **(6)** Re-Excavation of Chan Mari Khal from Sarder Bari Field to Boleshawar River (Ch. 0+000 to 1+570m) Under Ward No: 05. Length: 1.57Km 250 m re-excavation complete. **(7)** Construction of RCC U-Drain from Haque Mia's House to Damuder Khal (Ch. 0+220 to 0+000m) Under Ward No. 07. Length: 220m **(8)** Construction of RCC Drain from North Side of Bypass Road to Parerhat Road Varanai Khal Traffic Moor (Ch. 0+000 to 0+280m) and Re-Excavation of Khal from South Side of Bypass Road to Maddo Murshid House (Ch. 0+350 to 0+950m) Under Ward No. 07. Length: 880m -RCC Drain works started. **(9)** Construction of Adorshopara RCC Drain from East Side of Sultan Mia's House to Boleshwar River (Ch. 0+000 to 0+450m) Under Ward No: 05. Length: 450m **(10)** Construction of Murshid Bari Khal RCC U-Drain from Alam House to Marshid Bari Primary School (Ch. 0+000 to 0+390m) and Link-1 (Ch. 0+000) to (0+095m) Under Ward No: 07. Length: 485m **(11)** Re-Excavation of Shikarpur Khal from Pirojpur-Nazirpur Road Culvert (Shikder Bari) to Water Supply Compound (Boleshwar River), Ch. 0+437m to 0+000m and Pirojpur-Nazirpur Road Culvert (Shikder Bari) to Damuder Khal, Ch. 0+537m to 0+986m Under Ward No: 04. Length: 0.886 Km. **(12)** Re-excavation of Sikarpur Khal from Sheikh Bari to Sikder Bari Culvert (Ch. 0+000 to 0+940m) Under Ward No: 04. Length: 940m **(13)** Construction of RCC Drain from Haque Driver House to Sikder Bari Culvert (Ch. 0+000 to 0+341m) Under Ward No: 04. Length: 341m

(14) Re-excavation of Fire Service Khal from Stadium Compound to Damuder Khal (Ch. 0+000 to 0+480m) Under Ward No. 08. Length: 480m
- 480 m re-excavation complete.

(15) Re-excavation of Primary Teachers Training Institute Khal from Police Line to Damuder Khal (Ch. 0+000 to 2433m) Under Ward No: 02&04.
Length: 2.433 Km - 2.43 Km re-excavation complete.

(16) Re-excavation of Dhup Pasha Khal from Krishna Nagar Field to Damuder Khal (Ch. 0+000 to 1.395m) Under Ward No: 08&09. Length: 1.395 Km. 1.39 Km re-excavation complete.

Remarks:

Environmental Monitoring ongoing
Health and Safety initiatives ongoing
Contractor / PIU staff / PAP's to be given training

4.2.16 ***Package no. CTEIP/PIR/RD/01***

Construction/Improvement of 8 nos. Roads, totalling 13.533 kms, including bridge and culvert in Pirojpur Pourashava, District: Pirojpur**.**

Name of Contractor:	Md. Mahfug Khan-MMBEL Joint Venture
Contract Amount:	BDT 217.928 million
Date of Commencement:	21.03.2016
Time of completion:	18 Months (20.09.2017)
Financial Progress:	0%
Physical Progress:	10%
Elapsed Time:	13%
Incurred delay	Ahead of programme by 0.4 month

Progress Status:

(1) Masimpur main road from R&H road Sargicare (in front) towards Yasin Khal Pul towards west side Jubo Unnayan to bypass road including box culvert & protective works. Road Length: 2.80 Km.

(2) Balaka Club to Sargicare hospital via Modho Pirojpur Govt. Primary School (Majid bari road) including box culvert, drain & protective work. Road Length: 1.14 Km. 2 Box culverts casting complete.

(3) Sadhona Bridge to Shaik Bari Mosque via Basontopul including drains. Road Length: 0.58 Km. RCC Drain 60 m Complete.

(4) Vijora Road, from R & H Road (Near Vijora Govt.Primary School) to Mathkhola via Modho Namajpur Govt. P/School including box culvert & protective works. Road Length: 2.62 Km. 8 Box culverts casting complete.

(5) Masimpur Varani Khal road from Baro Pul to Molla Bari Pul at east side, including box culvert & protective work. Road Length: 1.17 Km.
2 Box culverts casting complete.

(6) Muktarkati Road from Pirojpur-Nazirpur Road to Nima Bridge via Water Supply road including box culvert & drain. Road Length: 2.22 Km. Box culvert works started. 4 Box culverts casting complete.

(7) Narkhali Mollikbari to Mollabari & Kalam sk. House including box culvert, drain & protective work. Road Length: 1.74 Km. Box culvert works started.
3 Box culverts casting complete.

(8) Vijora Road, from R & H Road (Near Boropul) to Vijora Krishnachura via Skdar Bari including box culvert, drain & protective works. Road Length: 2.00 Km. Box culvert works started. 3 Box culverts casting complete.

31.2m Arch Bridge on Hularhat to Narkhali road over Damuda canal near Hularhat Dakhil Madrasha.

Arch Bridge on Hularhat to Narkhali road over Damudar canal near Hularhat Dakhil Madrasha. Bridge approach road.
8 out of 28 cast-in-situ piles casting complete.

3-vent R.C.C Box Culvert over Vijora Khal at Ch. 0+395 km of Vijora road

2-vent R.C.C Box Culvert at Ch. 1+438 km of Masimpur main road, Road no-01

Remarks:

Environmental Monitoring ongoing
Health and Safety initiatives ongoing
Contractor / PIU staff / PAP's to be given training

4.2.17 Package no. CTEIP/PIR/RD/02

Construction/Improvement of 8 nos. Roads, totalling 8.044 kms, including 2-nos road site drain and 15-nos Box culvert in Pirojpur Pourashava, District: Pirojpur**.**

Name of Contractor:	M/S Mohiuddin Ahmed
Contract Amount:	BDT 97.389 million
Date of Commencement:	01.03.2016
Time of completion:	12 Months (28.02.2017)
Financial Progress:	0%
Physical Progress:	9%
Elapsed Time:	25%
Incurred delay	Estimated 1.9 months delay
Progress Status:	Pre-work survey and preliminary civil works started.

(1) South Sikarpur Muslimpara road including pipe culvert, drain & protective works. Road Length: 0.667 Km.

(2) Uper circular Branch road, Moddo road from Shahid Bidhan road to bypass road including drain & cross drain. Road Length: 0.925 Km. Guidewall 60m complete. Other works ongoing.

(3) Ranipur Bazar (From Hularhat RHD road) to Bakutia-RHD road via Pourashava End culvert and Sorav Hossain Master's House, including box box culvert, & protective works. Road Length: 1.67 Km. ISG 250 complete. Other works ongoing.

(4) Brahmonkati road from Pirojpur-Nazirpur BC Road to Mozahar Mia's House via Misu Councilor's house, including box culvert, drain & protective works. Road Length: 0.625 Km. RCC road 150m complete. Other works ongoing.

(5) Construction/Improvement of Jhatokati road Sahebpara road to Sunil Dakua's house (Left side canal) including culvert, drain & protective works. Road Length: 1.15 Km.

(6) Pirojpur -Nazirpur R&H road to Police line via Kanak Thakur's house

	including culvert, & protective works. Road Length: 1.79 Km.
	(7) Narkahli road from Lokhakati Baitul Ehsan Jame Mosque to Graveyard at 0+500 via Narkhali Govt. Primary School with Narkhali Govt. Primary School Connecting Road including culvert & uPVC pipe. Road Length: 0.52 Km. ISG works complete. Sub-base works ongoing.
	(8) Sikarpur branch CC road in front of Mosarraf Chairman;s house in Ward # 4 and Adarshapara including culvert & uPVC pipe in School /proposed Cyclone Shelter connecting road. Road Length: 0.4 Km. 125 m RCC road complete. Other works ongoing.
Remarks:	**Environmental Monitoring** ongoing **Health and Safety initiatives** ongoing **Contractor / PIU staff / PAP's to be given training**

Table 5.1: Applicable GoB Environmental Legislations

S.No	Legislation	Requirement for the Project	Relevance
1	Environmental Conservation Act of 1995 and amendments in 2000, 2002 and 2010[1]	• Restriction on operation and process, which can be continued or cannot be initiated in the ecologically critical areas • Regulation on vehicles emitting smoke harmful to the environment • Remedial measures for injuries to ecosystems • Standards for quality of air, water, noise and soil for different areas and limits for discharging and emitting waste • Environmental guidelines	• The provisions of the Act apply to the entire subproject in the construction and operation and maintenance (O&M) phases.
2	Environmental Conservation Rules of 1997 and amendments in 2002 and 2003	• Environmental clearances • Compliance to environmental quality standards	• The subproject is categorized as Orange-B and requires LCC and ECC. All requisite clearances from DoE shall be obtained prior to commencement of civil works.
3	Forest Act of 1927 and amendments (2000)	• Clearance for any felling, extraction, and transport of forest produce	•Refer Baseline and EMP
4	Bangladesh Climate Change Strategy and Action Plan of 2009	• Ensure existing assets (e.g., coastal and river embankments) are well maintained and fit for purpose and that urgently needed infrastructures (roads and urban drainage) is put in place to deal with the likely impacts of climate change. • Enhance the capacity government ministries, civil society and private sector to meet the challenge of climate change	• Considered in project design components
5	Bangladesh Labour Law of 2006	• Compliance to the provisions on employment standards, occupational safety and health, welfare and social protection, labour relations and social dialogue, and enforcement • Prohibition of employment of children and adolescent	• The provisions of the act apply to the entire subproject in the construction and O&M phases. Provides for safety of workforce during construction phase.

Source: TA 8128 Coastal Towns Infrastructure Improvement Project Volume 6

[1] *ECA Amendment 2000* focuses on ascertaining responsibility for compensation in cases of damage to ecosystems, increased provision of punitive measures both for fines and imprisonment and the authority to take cognizance of offences. *ECA Amendment 2002* elaborates restrictions on polluting automobiles; restrictions on sale, production of environmentally harmful items like polythene bags; assistance from law enforcement agencies for environmental actions; break up of punitive measures; and authority to try environmental cases. In *ECA Amendment 2010,* no individual or institution (government or semi-government/non-government/ self governing can cut/raze any hill or hillock; fill-up or change the status of any water body even in case of national interest; without prior clearance from respective the departments.

Table 5.2: ADB Safeguard Policy Status

ADB Safeguard Policy Statement	Contract Package Status			
			Road Sub-project	**Cyclone Shelter Sub-project**
(i) Involuntary resettlement will be avoided whenever feasible.			complied	complied
(ii) Where population displacement is unavoidable, it should be minimized.			No displacement	No displacement
(iii) All lost assets acquired or affected will be compensated. Compensation is based on the principle of replacement cost.			Matrix formulated	NA
(iv) Each involuntary resettlement is conceived and executed as part of a development project or program. Affected persons need to be provided with sufficient resources to re-establish their livelihoods and homes with time-bound action in co-ordination with civil works.			Provided in Compensation Matrix	NA
(v) Affected persons are to be fully informed and closely consulted.			complied	complied
(vi) Affected persons are to be assisted to integrate economically and socially into host communities so that adverse impacts on the host communities are minimized and social harmony is promoted.			NA	NA
(vii) The absence of a formal title to land is not a bar to ADB policy entitlements.			NA	NA
(viii) Affected persons are to be identified and recorded as early as possible to establish their eligibility, through a census which serves as a cut-off date, and prevents subsequent influx of encroachers.			complied	NA
(ix) Particular attention will be paid to vulnerable groups including those without legal title to land or other assets; households headed by women; the elderly or disabled; and indigenous groups. Assistance must be provided to help them improve their socio-economic status.			complied	NA
(x) The full resettlement costs will be included in the presentation of project costs and benefits.			complied	NA

Annexure 3:

Figures to the Report

Figure 1.1 Pourashava Location Map
Figure 3.1 Project Organization Setup

Figure 1.1: Location of Batch 1 and Batch 2 Pourashavas

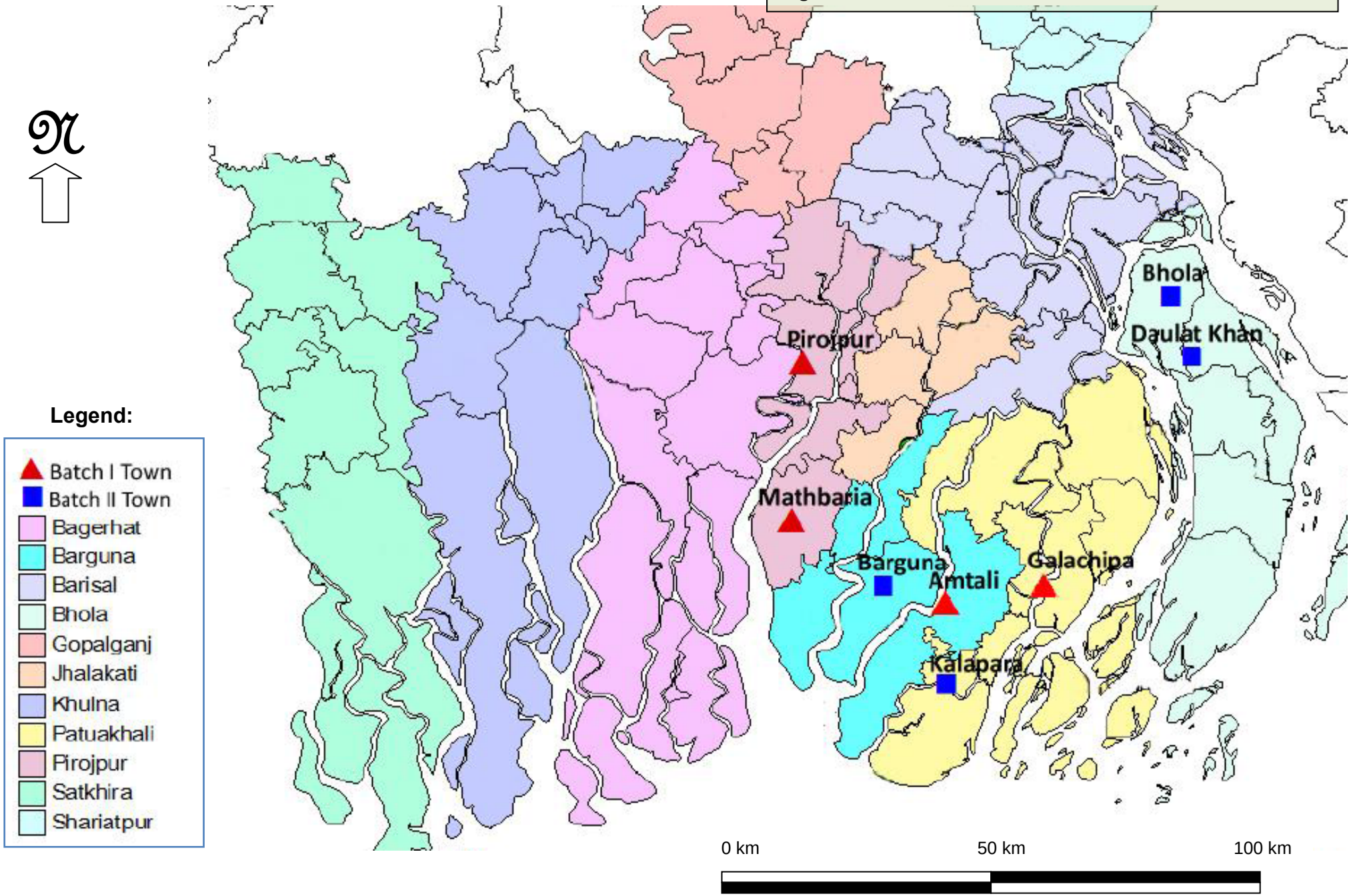
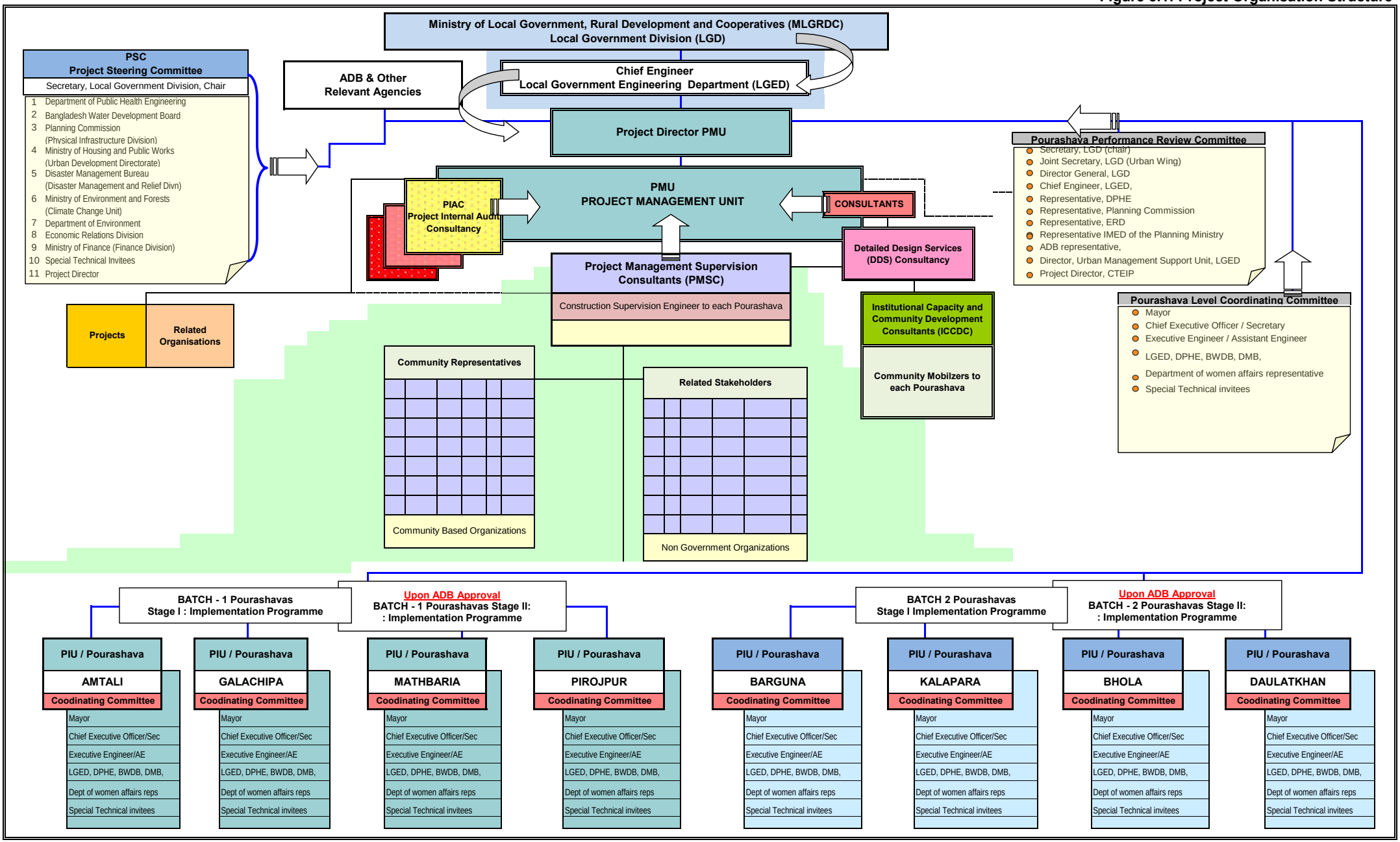


Figure 3.1: Project Organisation Structure



Annexure 4:

EMP BoQ of Sub-projects: Sample Testing and Monitoring Status

EMP Table 6: Bill of Quantities (BOQ) for Environmental Management Plan

Sl.No	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk)	Remarks
	Environmental Monitoring: CTEIP/AMT/CS/01						
1	Air Quality (SPM, RPM, and CO) During Construction	Samples	(3 location x 6 per year = 18 samples)	Once in two Months, during construction	12,000	216,000	Partially Complied
2	Water Quality Monitoring during pre-construction, construction and operation phases	Samples	3 locations (Total 18 samples)	1 samples/year, before construction, 5 during construction (1 years)	6,000	108,000	Partially Complied
3	Noise Levels	Samples	(3 locations x 4 points x 6 times x one years = 72 samples)	3 locations during construction for a day and at equipment yards, as and when necessary.	2,000	144,000	Partially Complied
4	Soil Monitoring (Organic Matter, Nitrogen, Phosphate, and Oils and Greases)	Samples	3 locations x 6 samples = 18 samples	As an when soil is expected polluted	4,000	72,000	Partially Complied
	Sub-Total of A					**540,000**	
	Total					**540,000**	

EMP Table 7: Environmental Mitigation/Enhancement Works

Sl. No	Description of Item with Measurement	Quantity	Unit	Rate (Tk.)	Amount (TK.)	Remarks
Environmental Monitoring: CTEIP/AMT/CS/01						
1.	(EM 01) Overall environmental management in addition to compliance to the clauses PCC 2.3 (j) and Appendix-A (IEE) to the entire satisfaction of Engineer In-Charge. a) Temporary Campsite waste treatment and disposal facilities including prevention of waste/effluent spillage/leakage, water pollution, etc., to the entire satisfaction of Engineer In-Charge.	1,000	each	124,793.00	124,793.00	Complied
2.	(EM 02) Overall environmental management in addition to compliance to the clauses PCC 2.3 (j) and Appendix-A (IEE) to the entire satisfaction of Engineer In-Charge. b) Dust suppression measures to the entire satisfaction of Engineer In-Charge	1,000	each	10,000.00	10.000.00	Partially Complied
3.	(EM 03) Overall environmental management in addition to compliance to the clauses PCC (j) and Appendix-A (IEE) to the entire satisfaction of Engineer In-Charge. c) Environmental Monitoring	1.000	each	180,000.00	180,000.00	Partially Complied
Total Environmental Mitigation/Enhancement Cost of the Package (Tk.)					**314,793.00**	

EMP Table 6: Bill of Quantities (BOQ) for Environmental Management Plan

Sl.No	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk)	Remarks
	Environmental Monitoring: CTEIP/GAL/CS/01						
1	Air Quality (SPM, RPM, and CO) During Construction	Samples	(3 location x 6 per year = 18 samples)	Once in two Months, during construction	12,000	216,000	Partially Complied
2	Water Quality Monitoring during pre-construction, construction and operation phases	Samples	3 locations (Total 18 samples)	1 samples/year, before construction, 5 during construction (1 years)	6,000	108,000	Partially Complied
3	Noise Levels	Samples	(3 locations x 4 points x 6 times x one years = 72 samples)	3 locations during construction for a day and at equipment yards, as and when necessary.	2,000	144,000	Partially Complied
4	Soil Monitoring (Organic Matter, Nitrogen, Phosphate, and Oils and Greases)	Samples	3 locations x 6 samples = 18 samples	As an when soil is expected polluted	4,000	72,000	Partially Complied
	Sub-Total of A					**540,000**	
	Total					**540,000**	

EMP Table 7: Environmental Mitigation/Enhancement Works

Sl. No	Description of Item with Measurement	Quantity	Unit	Rate (Tk.)	Amount (TK.)	Remarks
Environmental Monitoring: CTEIP/GAL/CS/01						
1.	(EM 01) Overall environmental management in addition to compliance to the clauses PCC 2.3 (j) and Appendix-A (IEE) to the entire satisfaction of Engineer In-Charge. a) Temporary Campsite waste treatment and disposal facilities including prevention of waste/effluent spillage/leakage, water pollution, etc., to the entire satisfaction of Engineer In-Charge.	1,000	each	124,793.00	124,793.00	Complied
2.	(EM 02) Overall environmental management in addition to compliance to the clauses PCC 2.3 (j) and Appendix-A (IEE) to the entire satisfaction of Engineer In-Charge. b) Dust suppression measures to the entire satisfaction of Engineer In-Charge	1,000	each	10,000.00	10.000.00	Partially Complied
3.	(EM 03) Overall environmental management in addition to compliance to the clauses PCC (j) and Appendix-A (IEE) to the entire satisfaction of Engineer In-Charge. c) Environmental Monitoring	1.000	each	180,000.00	180,000.00	Partially Complied
Total Environmental Mitigation/Enhancement Cost of the Package (Tk.)					**314,793.00**	

EMP Table 6: Bill of Quantities (BOQ) for Environmental Management Plan

Sl.No	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk)	Remarks
	Environmental Monitoring: CTEIP/MAT/CS/01						
1	Air Quality (SPM, RPM, and CO) During Construction	Samples	(1 location x 6 per year = 6 samples)	Once in two Months, during construction	12,000	72,000	Partially Complied
2	Water Quality Monitoring during pre-construction, construction and operation phases	Samples	1 locations (Total 6 samples)	1 samples/year, before construction, 5 during construction (1 years)	6,000	36,000	Partially Complied
3	Noise Levels	Samples	(4 locations x 6 times x one years = 24 samples)	3 locations during construction for a day and at equipment yards, as and when necessary.	2,000	48,000	Partially Complied
4	Soil Monitoring (Organic Matter, Nitrogen, Phosphate, and Oils and Greases)	Samples	6 samples	As an when soil is expected polluted	4,000	24,000	Partially Complied
	Sub-Total of A					**180,000**	
	Total					**180,000**	

EMP Table 7: Environmental Mitigation/Enhancement Works

Sl. No	Description of Item with Measurement	Quantity	Unit	Rate (Tk.)	Amount (TK.)	Remarks
Environmental Monitoring: CTEIP/MAT/CS/01						
1.	(EM 01) Overall environmental management in addition to compliance to the clauses PCC 2.3 (j) and Appendix-A (IEE) to the entire satisfaction of Engineer In-Charge. a) Temporary Campsite waste treatment and disposal facilities including prevention of waste/effluent spillage/leakage, water pollution, etc., to the entire satisfaction of Engineer In-Charge.	1,000	each	124,793.00	124,793.00	Complied
2.	(EM 02) Overall environmental management in addition to compliance to the clauses PCC 2.3 (j) and Appendix-A (IEE) to the entire satisfaction of Engineer In-Charge. b) Dust suppression measures to the entire satisfaction of Engineer In-Charge	1,000	each	10,000.00	10.000.00	Partially Complied
3.	(EM 03) Overall environmental management in addition to compliance to the clauses PCC (j) and Appendix-A (IEE) to the entire satisfaction of Engineer In-Charge. c) Environmental Monitoring	1.000	each	180,000.00	180,000.00	Partially Complied
Total Environmental Mitigation/Enhancement Cost of the Package (Tk.)					**314,793.00**	

EMP Table 6: Bill of Quantities (BOQ) for Environmental Management Plan

Sl.No	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk)	Remarks
	Environmental Monitoring: CTEIP/PIR/CS/01						
1	Air Quality (SPM, RPM, and CO) During Construction	Samples	(3 location x 6 per year = 18 samples)	Once in two Months, during construction	12,000	216,000	Partially Complied
2	Water Quality Monitoring during pre-construction, construction and operation phases	Samples	3 locations (Total 18 samples)	1 samples/year, before construction, 5 during construction (1 years)	6,000	108,000	Partially Complied
3	Noise Levels	Samples	(3 locations x 4 points x 6 times x one years = 72 samples)	3 locations during construction for a day and at equipment yards, as and when necessary.	2,000	144,000	Partially Complied
4	Soil Monitoring (Organic Matter, Nitrogen, Phosphate, and Oils and Greases)	Samples	3 locations x 6 samples = 18 samples	As an when soil is expected polluted	4,000	72,000	Partially Complied
	Sub-Total of A					**540,000**	
	Total					**540,000**	

EMP Table 7: Environmental Mitigation/Enhancement Works

Sl. No	Description of Item with Measurement	Quantity	Unit	Rate (Tk.)	Amount (TK.)	Remarks
Environmental Monitoring: CTEIP/PIRL/CS/01						
1.	(EM 01) Overall environmental management in addition to compliance to the clauses PCC 2.3 (j) and Appendix-A (IEE) to the entire satisfaction of Engineer In-Charge. a) Temporary Campsite waste treatment and disposal facilities including prevention of waste/effluent spillage/leakage, water pollution, etc., to the entire satisfaction of Engineer In-Charge.	1,000	each	124,793.00	124,793.00	Complied
2.	(EM 02) Overall environmental management in addition to compliance to the clauses PCC 2.3 (j) and Appendix-A (IEE) to the entire satisfaction of Engineer In-Charge. b) Dust suppression measures to the entire satisfaction of Engineer In-Charge	1,000	each	10,000.00	10.000.00	Partially Complied
3.	(EM 03) Overall environmental management in addition to compliance to the clauses PCC (j) and Appendix-A (IEE) to the entire satisfaction of Engineer In-Charge. c) Environmental Monitoring	1.000	each	180,000.00	180,000.00	Partially Complied
Total Environmental Mitigation/Enhancement Cost of the Package (Tk.)					**314,793.00**	

EMP Table 6: Bill of Quantities (BOQ) for Environmental Management Plan

Sl.No	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk)	Remarks
	Environmental Monitoring: CTEIP/PIR/CS/01						
1	Air Quality (SPM, RPM, and CO) During Construction	Samples	(2 location x 6 per year = 12 samples)	Once in two Months, during construction	12,000	144,000	Monitoring results pending
2	Water Quality Monitoring during pre-construction, construction and operation phases	Samples	2 locations (Total 12 samples)	1 samples/year, before construction, 5 during construction (1 years)	6,000	72,000	Monitoring results pending
3	Noise Levels	Samples	(2 locations x 4 points x 6 times x one years = 48 samples)	2 locations during construction for a day and at equipment yards, as and when necessary.	2,000	96,000	Monitoring results pending
4	Soil Monitoring (Organic Matter, Nitrogen, Phosphate, and Oils and Greases)	Samples	2 locations x 6 samples = 12 samples	As an when soil is expected polluted	4,000	48,000	Monitoring results pending
	Sub-Total of A					**360,000**	
	Total					**360,000**	

EMP Table 7: Environmental Mitigation/Enhancement Works

Sl. No	Description of Item with Measurement	Quantity	Unit	Rate (Tk.)	Amount (TK.)	Remarks
Environmental Monitoring: CTEIP/PIRL/CS/01						
1.	(EM 01) Overall environmental management in addition to compliance to the clauses PCC 2.3 (j) and Appendix-A (IEE) to the entire satisfaction of Engineer In-Charge. a) Temporary Campsite waste treatment and disposal facilities including prevention of waste/effluent spillage/leakage, water pollution, etc., to the entire satisfaction of Engineer In-Charge.	1,000	each	124,793.00	124,793.00	Partially Complied
2.	(EM 02) Overall environmental management in addition to compliance to the clauses PCC 2.3 (j) and Appendix-A (IEE) to the entire satisfaction of Engineer In-Charge. b) Dust suppression measures to the entire satisfaction of Engineer In-Charge	2,000	each	15,000.00	30.000.00	Partially Complied
3.	(EM 03) Overall environmental management in addition to compliance to the clauses PCC (j) and Appendix-A (IEE) to the entire satisfaction of Engineer In-Charge. c) Environmental Monitoring	1.000	each	403,200.00	403,200.00	Partially Complied
Total Environmental Mitigation/Enhancement Cost of the Package (Tk.)					**557,993.00**	

EMP Table 4: Bill of Quantities and Cost Estimates for Environmental Management Plan

BoQ Ref.:	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk.)	Environmental Safeguards Monitoring Status
	Mitigation Measures						**CTEIP/GAL/RD/01**
74	Overall Environmental management in addition to compliance to the clauses PCC 2.3(i) and Appendix-A(IEE) to the entire satisfaction of E-I-C **A**: On Temporary Camp Site : Establish water supply and Waste water treatment and disposal facilities including prevention of spillage, leakage of water pollution Toilet, Septic Tank, Soak pit, Solid waste collection, Treatment and Disposal as per standard) to the entire satisfaction of E-I-C.	Each	1.00	Establish along with Campsite	124,000	124,000	Temporary Camp Site : Partially complied along route of road-works at locations of active civil works. Prevention of spillage, leakage of water pollution: complied Solid waste collection limited along route of civil works: partially complied
75	**B**: Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and to Appendix-A(IEE) to the entire satisfaction of E-I-C Dust suppression measure to the entire satisfaction of the Engineer	m	6,550	As and when Required	120	786,000	Overall environmental management is poor. Dust suppression measures found to be poor. **Comments:** Training is required Permanent appointment of Environmental Officer remains pending
	Sub Total(A+B) =					**910,000**	

EMP Table 5: Bill of Quantities (BOQ) for Environmental Management Plan

BoQ Ref.:	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk)	Remarks
	Environmental Monitoring: CTEIP/GAL/RD/01						
76	Overall environmental management in addition to compliance to the clauses PCC 2.3(i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring i) Air quality (SPM, RPM and CO during construction at each road once in 6 months.	Each	20	Sample: 2x4x2 Environmental monitoring i) Air quality (SPM, RPM and CO during construction at each road once in 6 months.	12,000	240,000	
77	Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring ii)Water quality monitoring during construction.	Each	20	Sample: 2x4x2 Environmental monitoring ii) Water quality monitoring during construction.	6,000	120,000	
78	Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring iii) Noise Levels	Each	20	Sample: 2x4x2 Environmental monitoring iii) Noise Levels	2,000	40,000	
79	Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring iv)Soil Sampling(organics matter, Nitrogen, Phosphate, Oil and Grease)	Each	10	Sample: 2x4x1 Environmental mo iv) Soil Sampling(organics matter, Nitrogen, Phosphate, Oil and Grease)	4,000	40,000	
	Sub Total(C)					**440,000**	
	Total(A+B+C)					**1,350,000**	

EMP Table 4: Bill of Quantities for Environmental Management Plan

BoQ Ref.:	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk.)	Environmental Safeguards Monitoring Status
	Mitigation Measures						**CTEIP/MAT/RD/01**
65	Overall Environmental management in addition to compliance to the clauses PCC 2.3(i) and Appendix-A(IEE) to the entire satisfaction of E-I-C **A**: On Temporary Camp Site : Establish water supply and Waste water treatment and disposal facilities including prevention of spillage, leakage of water pollution Toilet, Septic Tank, Soak pit, Solid waste collection, Treatment and Disposal as per standard) to the entire satisfaction of E-I-C.	Each	1.00	Establish along with Campsite	124,000	124,000	Temporary Camp Site : Partially complied along route of road-works at locations of active civil works. Prevention of spillage, leakage of water pollution: complied Solid waste collection limited along route of civil works: partially complied
66	**B**: Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and to Appendix-A(IEE) to the entire satisfaction of E-I-C Dust suppression measure to the entire satisfaction of the Engineer	m	3,741	As and when Required	120	448,920	Overall environmental management is poor. Dust suppression measures found to be poor. **Comments:** Training is required Permanent appointment of Environmental Officer remains pending
	Sub Total(A+B) =					**572,920**	

EMP Table 5: Bill of Quantities (BOQ) and Cost Estimates

BoQ Ref.:	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk)	Remarks
Environmental Monitoring: CTEIP/MAT/RD/01							
67	Overall environmental management in addition to compliance to the clauses PCC 2.3(i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring i) Air quality (SPM, RPM and CO during construction at each road once in 6 months.	Each	16	Sample: 2x4x2 Environmental monitoring i) Air quality (SPM, RPM and CO during construction at each road once in 6 months.	12,000	192,000	Initial Monitoring results pending
68	Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring ii)Water quality monitoring during construction.	Each	16	Sample: 2x4x2 Environmental monitoring ii) Water quality monitoring during construction.	6,000	96,000	Initial Monitoring results pending
69	Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring iii) Noise Levels	Each	16	Sample: 2x4x2 Environmental monitoring iii) Noise Levels	2,000	32,000	Initial Monitoring results pending
70	Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring iv)Soil Sampling(organics matter, Nitrogen, Phosphate, Oil and Grease)	Each	8	Sample: 2x4x1 Environmental mo iv) Soil Sampling(organics matter, Nitrogen, Phosphate, Oil and Grease)	4,000	32,000	Initial Monitoring results pending
	Sub Total(C)					**352,000**	
	Total(A+B+C)					**924,920**	

EMP Table 4: Bill of Quantities for Environmental Management Plan

BoQ Ref.:	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk.)	Environmental Safeguards Monitoring Status
	Mitigation Measures						**CTEIP/AMT/RD/01**
65	Overall Environmental management in addition to compliance to the clauses PCC 2.3(i) and Appendix-A(IEE) to the entire satisfaction of E-I-C **A**: On Temporary Camp Site : Establish water supply and Waste water treatment and disposal facilities including prevention of spillage, leakage of water pollution Toilet, Septic Tank, Soak pit, Solid waste collection, Treatment and Disposal as per standard) to the entire satisfaction of E-I-C.	Each	1.00	Establish along with Campsite	124,000	124,000	Temporary Camp Site : Partially complied along route of road-works at locations of active civil works. Prevention of spillage, leakage of water pollution: complied Solid waste collection limited along route of civil works: partially complied
66	**B**: Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and to Appendix-A(IEE) to the entire satisfaction of E-I-C Dust suppression measure to the entire satisfaction of the Engineer	m	3,380	As and when Required	60	202,800	Overall environmental management is poor. Dust suppression measures found to be poor. **Comments:** Training is required Permanent appointment of Environmental Officer remains pending
	Sub Total(A+B) =					**326,800**	

EMP Table 5: Bill of Quantities (BOQ) and Cost Estimates

BoQ Ref.:	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk)	Remarks
Environmental Monitoring: CTEIP/AMT/RD/01							
67	Overall environmental management in addition to compliance to the clauses PCC 2.3(i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring i) Air quality (SPM, RPM and CO during construction at each road once in 6 months.	Each	16	Sample: 2x4x2 Environmental monitoring i) Air quality (SPM, RPM and CO during construction at each road once in 6 months.	12,000	192,000	Initial Monitoring results pending
68	Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring ii)Water quality monitoring during construction.	Each	16	Sample: 2x4x2 Environmental monitoring ii) Water quality monitoring during construction.	6,000	96,000	Initial Monitoring results pending
69	Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring iii) Noise Levels	Each	16	Sample: 2x4x2 Environmental monitoring iii) Noise Levels	2,000	32,000	Initial Monitoring results pending
70	Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring iv)Soil Sampling(organics matter, Nitrogen, Phosphate, Oil and Grease)	Each	16	Sample: 2x4x2 Environmental mo iv) Soil Sampling(organics matter, Nitrogen, Phosphate, Oil and Grease)	4,000	64,000	Initial Monitoring results pending
	Sub Total(C)					**384,000**	
	Total(A+B+C)					**710,800**	

EMP Table 4: Bill of Quantities for Environmental Management Plan

BoQ Ref.:	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk.)	Environmental Safeguards Monitoring Status
	Mitigation Measures						**CTEIP/GAL/RD/02**
65	Overall Environmental management in addition to compliance to the clauses PCC 2.3(i) and Appendix-A(IEE) to the entire satisfaction of E-I-C **A**: On Temporary Camp Site : Establish water supply and Waste water treatment and disposal facilities including prevention of spillage, leakage of water pollution Toilet, Septic Tank, Soak pit, Solid waste collection, Treatment and Disposal as per standard) to the entire satisfaction of E-I-C.	Each	1.00	Establish along with Campsite	124,000	124,000	Temporary Camp Site : Partially complied along route of road-works at locations of active civil works. Prevention of spillage, leakage of water pollution: complied Solid waste collection limited along route of civil works: partially complied
66	**B**: Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and to Appendix-A(IEE) to the entire satisfaction of E-I-C Dust suppression measure to the entire satisfaction of the Engineer	m	1,195	As and when Required	120	143,400	Overall environmental management is poor. Dust suppression measures found to be poor. **Comments:** Training is required Permanent appointment of Environmental Officer remains pending
	Sub Total(A+B) =					**267,400**	

EMP Table 5: Bill of Quantities (BOQ) for Environmental Management Plan

BoQ Ref.:	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk)	Remarks
	Environmental Monitoring: CTEIP/GAL/RD/01						
76	Overall environmental management in addition to compliance to the clauses PCC 2.3(i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring i) Air quality (SPM, RPM and CO during construction at each road once in 6 months.	Each	8	Sample: 2x2x2 Environmental monitoring i) Air quality (SPM, RPM and CO during construction at each road once in 6 months.	12,000	96,000	
77	Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring ii)Water quality monitoring during construction.	Each	8	Sample: 2x2x2 Environmental monitoring ii) Water quality monitoring during construction.	6,000	48,000	
78	Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring iii) Noise Levels	Each	8	Sample: 2x8x2 Environmental monitoring iii) Noise Levels	2,000	16,000	
79	Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring iv)Soil Sampling(organics matter, Nitrogen, Phosphate, Oil and Grease)	Each	8	Sample: 2x2x2 Environmental mo iv) Soil Sampling(organics matter, Nitrogen, Phosphate, Oil and Grease)	4,000	32,000	
	Sub Total(C)					**192,000**	
	Total(A+B+C)					**459,400**	

EMP Table 4: Bill of Quantities for Environmental Management Plan

BoQ Ref.:	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk.)	Environmental Safeguards Monitoring Status
	Mitigation Measures						**CTEIP/PIR/RD/01**
65	Overall Environmental management in addition to compliance to the clauses PCC 2.3(i) and Appendix-A(IEE) to the entire satisfaction of E-I-C **A**: On Temporary Camp Site : Establish water supply and Waste water treatment and disposal facilities including prevention of spillage, leakage of water pollution Toilet, Septic Tank, Soak pit, Solid waste collection, Treatment and Disposal as per standard) to the entire satisfaction of E-I-C.	Each	1.00	Establish along with Campsite	124,000	124,000	Temporary Camp Site : Partially complied along route of road-works at locations of active civil works. Prevention of spillage, leakage of water pollution: complied Solid waste collection limited along route of civil works: partially complied
66	**B**: Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and to Appendix-A(IEE) to the entire satisfaction of E-I-C Dust suppression measure to the entire satisfaction of the Engineer	Meter	13,533.00	As and when Required	60.00	811,980.00	Overall environmental management is poor. Dust suppression measures found to be poor. **Comments:** Training is required Permanent appointment of Environmental Officer remains pending
			915.00	As and when Required	60.00	54,900.00	
	Sub Total(A+B) =					**990,880.00**	

EMP Table 5: Bill of Quantities (BOQ) for Environmental Management Plan

BoQ Ref.:	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk)	Remarks
	Environmental Monitoring: CTEIP/PIR/RD/01						
67	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3(j) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: i) Air quality (SPM, RPM and CO during construction at each road once in 6 months	Each	48	Sample: 2 locations x 2 roads x 2 times in project duration Environmental monitoring: i) Air quality (SPM, RPM & CO during construction at each road once in 6 months.	12,000	5,76,000	Initial Monitoring results pending
68	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3 (j) and Appendix-A(IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: ii) Water quality monitoring during construction	Each	48	Sample: 2 locations x 2 roads x 2 times in project duration Environmental monitoring: ii) Water quality monitoring during construction	6,000	2,88,000	Initial Monitoring results pending
69	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3 (j) and Appendix-A(IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: iii) Noise Levels	Each	48	Sample: 2 locations x 2 roads x 2 times in project duration Environmental monitoring: iii) Noise Levels	2,000	96,000	Initial Monitoring results pending
70	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3 (j) and Appendix-A(IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: iv) Soil Sampling (organics matter, Nitrogen, Phosphate, Oil and Grease)	Each	48	Sample: 2 locations x 2 roads x 2 times in project duration Environmental monitoring: iv) Soil Sampling(organics matter, Nitrogen, Phosphate, Oil and Grease)	4,000	1,92,000	Initial Monitoring results pending
	Sub Total(C)					**11,52,000**	
	Total(A+B+C)					**21,42,880**	

EMP Table 4: Bill of Quantities for Environmental Management Plan

BoQ Ref.:	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk.)	Environmental Safeguards Monitoring Status
	Mitigation Measures						**CTEIP/PIR/RD/02**
65	Overall Environmental management in addition to compliance to the clauses PCC 2.3(j) and Appendix-E (IEE) to the entire satisfaction of E-I-C **A**: On Temporary Camp Site : Establish water supply and Waste water treatment and disposal facilities including prevention of spillage, leakage of water pollution Toilet, Septic Tank, Soak pit, Solid waste collection, Treatment and Disposal as per standard) to the entire satisfaction of E-I-C.	Each	1.00	Establish along with Campsite	124,000	124,000	Temporary Camp Site : Partially complied along route of road-works at locations of active civil works. Prevention of spillage, leakage of water pollution: complied Solid waste collection limited along route of civil works: partially complied
66	**B**: Overall environmental management in addition to compliance to the clauses PCC 2.3 (j) and to Appendix-E (IEE) to the entire satisfaction of E-I-C. Dust suppression measure to the entire satisfaction of the Engineer	Meter	7384.00	As and when Required	60.00	443040.00	Overall environmental management is poor. Dust suppression measures found to be poor. **Comments:** Training is required Permanent appointment of Environmental Officer remains pending
	Sub Total(A+B) =					**5,67,040.00**	

EMP Table 5: Bill of Quantities (BOQ) for Environmental Management Plan

BoQ Ref.:	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk)	Remarks
	Environmental Monitoring: CTEIP/PIR/RD/02						
67	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3(j) and Appendix-E (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: i) Air quality (SPM, RPM and CO during construction at each road once in 6 months	Each	32	Sample: 2 locations x 2 roads x 2 times in project duration Environmental monitoring: i) Air quality (SPM, RPM & CO during construction at each road once in 6 months.	12,000	3,84,000	Initial Monitoring results pending
68	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3 (j) and Appendix-E(IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: ii) Water quality monitoring during construction	Each	32	Sample: 2 locations x 2 roads x 2 times in project duration Environmental monitoring: ii) Water quality monitoring during construction	6,000	1,92,000	Initial Monitoring results pending
69	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3 (j) and Appendix-E(IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: iii) Noise Levels	Each	32	Sample: 2 locations x 2 roads x 2 times in project duration Environmental monitoring: iii) Noise Levels	2,000	64,000	Initial Monitoring results pending
70	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3 (j) and Appendix-E(IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: iv) Soil Sampling (organics matter, Nitrogen, Phosphate, Oil and Grease)	Each	32	Sample: 2 locations x 2 roads x 2 times in project duration Environmental monitoring: iv) Soil Sampling(organics matter, Nitrogen, Phosphate, Oil and Grease)	4,000	1,28,000	Initial Monitoring results pending
	Sub Total(C)					**7,68,000**	
	Total(A+B+C)					**13,35,040**	

EMP Table 4: Bill of Quantities for Environmental Management Plan

BoQ Ref.:	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk.)	Environmental Safeguards Monitoring Status
	Mitigation Measures						**CTEIP/GAL/DR/01**
65	Overall Environmental management in addition to compliance to the clauses PCC 2.3(i) and Appendix-A(IEE) to the entire satisfaction of E-I-C **A**: On Temporary Camp Site : Establish water supply and Waste water treatment and disposal facilities including prevention of spillage, leakage of water pollution Toilet, Septic Tank, Soak pit, Solid waste collection, Treatment and Disposal as per standard) to the entire satisfaction of E-I-C.	Each	1.00	Establish along with Campsite	124,000	124,000	Temporary Camp Site : Partially complied along route of road-works at locations of active civil works. Prevention of spillage, leakage of water pollution: complied Solid waste collection limited along route of civil works: partially complied
66	**B**: Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and to Appendix-A(IEE) to the entire satisfaction of E-I-C Dust suppression measure to the entire satisfaction of the Engineer Overall Environmental management in addition to compliance to the clauses PCC 2.3(i) and Appendix-A(IEE) to the entire satisfaction of E-I-C	M Each	4077	As and when Required	60.00	244,620	Overall environmental management is poor. Dust suppression measures found to be poor. **Comments:** Training is required Permanent appointment of Environmental Officer remains pending
	Sub Total(A+B) =					**368,620**	

EMP Table 5: Bill of Quantities (BOQ) for Environmental Management Plan

BoQ Ref.:	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk)	Remarks
	Environmental Monitoring: CTEIP/ GAL/DR/01						
67	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3(i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: i) Air quality (SPM, RPM and CO during construction once in 6 months.	Each	20	Sample: 2 locations x 2 times in project duration Environmental monitoring: i) Air quality (SPM, RPM and CO during construction at selected sites once in 6 months.	12,000	240,000	Initial Monitoring results pending
68	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: ii)Water quality monitoring during construction.	Each	20	Sample: 2 locations x 2 times in project duration Environmental monitoring: ii) Water quality monitoring during construction.	6,000	120,000	Initial Monitoring results pending
69	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: iii) Noise Levels	Each	20	Sample: 2 locations x 2 times in project duration Environmental monitoring: iii) Noise Levels	2,000	40,000	Initial Monitoring results pending
70	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: iv) Soil Sampling (organics matter, Nitrogen, Phosphate, Oil and Grease)	Each	20	Sample: 2 locations x 2 times in project duration Environmental monitoring: iv) Soil Sampling(organics matter, Nitrogen, Phosphate, Oil and Grease)	4,000	80,000	Initial Monitoring results pending
	Sub Total(C)					**480,000**	
	Total(A+B+C)					**848,620**	

EMP Table 7: Environmental Mitigation/Enhancement Works

Sl. No	Description of Item with Measurement	Quantity	Unit	Rate (Tk.)	Amount (TK.)	Remarks
Environmental Monitoring: CTEIP/PIRL/CS/01						
1.	(EM 01) Overall environmental management in addition to compliance to the clauses PCC 2.3 (j) and Appendix-A (IEE) to the entire satisfaction of Engineer In-Charge. a) Temporary Campsite waste treatment and disposal facilities including prevention of waste/effluent spillage/leakage, water pollution, etc., to the entire satisfaction of Engineer In-Charge.	1,000	each	124,000.00	124,000.00	Partially Complied
2.	(EM 02) Overall environmental management in addition to compliance to the clauses PCC 2.3 (j) and Appendix-A (IEE) to the entire satisfaction of Engineer In-Charge. b) Dust suppression measures to the entire satisfaction of Engineer In-Charge	1,000	each	100,000.00	100,000.00	Partially Complied
3.	(EM 03) Overall environmental management in addition to compliance to the clauses PCC (j) and Appendix-A (IEE) to the entire satisfaction of Engineer In-Charge. c) Environmental Monitoring	1.000	each	152,000.00	152,000.00	Partially Complied
Total Environmental Mitigation/Enhancement Cost of the Package (Tk.)					**376,000.00**	

EMP Table 4: Bill of Quantities for Environmental Management Plan

BoQ Ref.:	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk.)	Environmental Safeguards Monitoring Status
	Mitigation Measures						**CTEIP/GAL/DR/01**
65	Overall Environmental management in addition to compliance to the clauses PCC 2.3(i) and Appendix-A(IEE) to the entire satisfaction of E-I-C **A**: On Temporary Camp Site : Establish water supply and Waste water treatment and disposal facilities including prevention of spillage, leakage of water pollution Toilet, Septic Tank, Soak pit, Solid waste collection, Treatment and Disposal as per standard) to the entire satisfaction of E-I-C.	Each	1.00	Establish along with Campsite	124,000	124,000	Temporary Camp Site : Partially complied along route of road-works at locations of active civil works. Prevention of spillage, leakage of water pollution: complied Solid waste collection limited along route of civil works: partially complied
66	**B**: Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and to Appendix-A(IEE) to the entire satisfaction of E-I-C Dust suppression measure to the entire satisfaction of the Engineer	M	3693	As and when Required	60.00	221,580	Overall environmental management is poor. Dust suppression measures found to be poor. **Comments:** Training is required Permanent appointment of Environmental Officer remains pending
	Sub Total(A+B) =					**345,580**	

EMP Table 5: Bill of Quantities (BOQ) for Environmental Management Plan

BoQ Ref.:	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk)	Remarks
	Environmental Monitoring: CTEIP/ GAL/DR/01						
67	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3(i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: i) Air quality (SPM, RPM and CO during construction once in 6 months.	Each	36	Sample: 2 locations x 2 times in project duration Environmental monitoring: i) Air quality (SPM, RPM and CO during construction at selected sites once in 6 months.	12,000	432,000	Initial Monitoring results pending
68	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: ii)Water quality monitoring during construction.	Each	36	Sample: 2 locations x 2 times in project duration Environmental monitoring: ii) Water quality monitoring during construction.	6,000	216,000	Initial Monitoring results pending
69	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: iii) Noise Levels	Each	36	Sample: 2 locations x 2 times in project duration Environmental monitoring: iii) Noise Levels	2,000	72,000	Initial Monitoring results pending
70	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: iv) Soil Sampling (organics matter, Nitrogen, Phosphate, Oil and Grease)	Each	36	Sample: 2 locations x 2 times in project duration Environmental monitoring: iv) Soil Sampling(organics matter, Nitrogen, Phosphate, Oil and Grease)	4,000	144,000	Initial Monitoring results pending
	Sub Total(C)					**864,000**	
	Total(A+B+C)					**1,209,580**	

EMP Table 4: Bill of Quantities for Environmental Management Plan

BoQ Ref.:	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk.)	Environmental Safeguards Monitoring Status
	Mitigation Measures						**CTEIP/PIR/DR/01**
65	Overall Environmental management in addition to compliance to the clauses PCC 2.3(i) and Appendix-A(IEE) to the entire satisfaction of E-I-C **A**: On Temporary Camp Site : Establish water supply and Waste water treatment and disposal facilities including prevention of spillage, leakage of water pollution Toilet, Septic Tank, Soak pit, Solid waste collection, Treatment and Disposal as per standard) to the entire satisfaction of E-I-C.	Each	1.00	Establish along with Campsite	124,000	124,000	Temporary Camp Site : Partially complied along route of road-works at locations of active civil works. Prevention of spillage, leakage of water pollution: complied Solid waste collection limited along route of civil works: partially complied
66	**B**: Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and to Appendix-A(IEE) to the entire satisfaction of E-I-C Dust suppression measure to the entire satisfaction of the Engineer Overall Environmental management in addition to compliance to the clauses PCC 2.3(i) and Appendix-A(IEE) to the entire satisfaction of E-I-C	M Each	4411	As and when Required	60.00	264,660	Overall environmental management is poor. Dust suppression measures found to be poor. **Comments:** Training is required Permanent appointment of Environmental Officer remains pending
	Sub Total(A+B) =					**388,660**	

EMP Table 5: Bill of Quantities (BOQ) for Environmental Management Plan

BoQ Ref.:	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk)	Remarks
Environmental Monitoring: CTEIP/ PIR/DR/01							
67	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3(i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: i) Air quality (SPM, RPM and CO during construction once in 6 months.	Each	36	Sample: 9 Drains x 2 locations x 2 times in project duration Environmental monitoring: i) Air quality (SPM, RPM and CO during construction at selected sites once in 6 months.	12,000	432,000	Initial Monitoring results pending
68	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: ii)Water quality monitoring during construction.	Each	36	Sample: 9 Drains x 2 locations x 2 times in project duration Environmental monitoring: ii) Water quality monitoring during construction.	6,000	216,000	Initial Monitoring results pending
69	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: iii) Noise Levels	Each	36	Sample: 9 Drains x 2 locations x 2 times in project duration Environmental monitoring: iii) Noise Levels	2,000	72,000	Initial Monitoring results pending
70	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: iv) Soil Sampling (organics matter, Nitrogen, Phosphate, Oil and Grease)	Each	36	Sample: 9 Drains x 2 locations x 2 times in project duration Environmental monitoring: iv) Soil Sampling(organics matter, Nitrogen, Phosphate, Oil and Grease)	4,000	144,000	Initial Monitoring results pending
	Sub Total(C)					**864,000**	
	Total(A+B+C)					**1,252,660**	

EMP Table 4: Bill of Quantities for Environmental Management Plan

BoQ Ref.:	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk.)	Environmental Safeguards Monitoring Status
	Mitigation Measures						**CTEIP/PIR/DR/01**
65	Overall Environmental management in addition to compliance to the clauses PCC 2.3(i) and Appendix-A(IEE) to the entire satisfaction of E-I-C **A**: On Temporary Camp Site : Establish water supply and Waste water treatment and disposal facilities including prevention of spillage, leakage of water pollution Toilet, Septic Tank, Soak pit, Solid waste collection, Treatment and Disposal as per standard) to the entire satisfaction of E-I-C.	Each	1.00	Establish along with Campsite	124,000	124,000.00	Temporary Camp Site : Partially complied along route of road-works at locations of active civil works. Prevention of spillage, leakage of water pollution: complied Solid waste collection limited along route of civil works: partially complied
66	**B**: Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and to Appendix-A(IEE) to the entire satisfaction of E-I-C Dust suppression measure to the entire satisfaction of the Engineer	Km	37.724	As and when Required	3,137	118,340.19	Overall environmental management is poor. Dust suppression measures found to be poor. **Comments:** Training is required Permanent appointment of Environmental Officer remains pending
	Sub Total(A+B) =					**242,340.19**	

EMP Table 5: Bill of Quantities (BOQ) for Environmental Management Plan

BoQ Ref.:	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk)	Remarks
	Environmental Monitoring: CTEIP/ PIR/DR/01						
67	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3(i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: i) Air quality (SPM, RPM and CO during construction at each road once in 6 months.	Each	8	Sample: 2 locations x 2 times /yr x 2 year duration Environmental monitoring: i) Air quality (SPM, RPM and CO during construction at each road once in 6 months.	12,500	100,000	Partially Complied
68	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring ii) Water quality monitoring during construction.	Each	8	Sample: 2 locations x 2 times / yr x 2 year duration Environmental monitoring ii) Water quality monitoring during construction.	10,920	87,360	Partially Complied
69	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring iii) Noise Levels	Each	8	Sample: 2 locations x 2 times /yr x 2 year duration Environmental monitoring iii) Noise Levels	5,600	44.800	Partially Complied
70	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: iv)Soil Sampling (organics matter, Nitrogen, Phosphate, Oil and Grease)	Each	8	Sample: 2 locations x 2 times /yr x 2 year duration Environmental mo iv) Soil Sampling(organics matter, Nitrogen, Phosphate, Oil and Grease)	9,000	72,000	Partially Complied
	Sub Total(C)					**304,160**	
	Total(A+B+C)					**546,500.19**	

EMP Table 4: Bill of Quantities for Environmental Management Plan

BoQ Ref.:	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk.)	Environmental Safeguards Monitoring Status
	Mitigation Measures						**CTEIP/PIR/DR/01**
65	Overall Environmental management in addition to compliance to the clauses PCC 2.3(i) and Appendix-A(IEE) to the entire satisfaction of E-I-C **A**: On Temporary Camp Site : Establish water supply and Waste water treatment and disposal facilities including prevention of spillage, leakage of water pollution Toilet, Septic Tank, Soak pit, Solid waste collection, Treatment and Disposal as per standard) to the entire satisfaction of E-I-C.	Each	1.00	Establish along with Campsite	124,000	124,000	Temporary Camp Site : Partially complied along route of road-works at locations of active civil works. Prevention of spillage, leakage of water pollution: complied Solid waste collection limited along route of civil works: partially complied
66	**B**: Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and to Appendix-A(IEE) to the entire satisfaction of E-I-C Dust suppression measure to the entire satisfaction of the Engineer	Each	1.00	As and when Required	100,000	100.000	Overall environmental management is poor. Dust suppression measures found to be poor. **Comments:** Training is required Permanent appointment of Environmental Officer remains pending
	Sub Total(A+B) =					**224,000**	

EMP Table 5: Bill of Quantities (BOQ) for Environmental Management Plan

BoQ Ref.:	Impact Description	Unit	Quantity	Frequency	Rate	Total (Tk)	Remarks
	Environmental Monitoring: CTEIP/ PIR/DR/01						
67	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3(i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: i) Air quality (SPM, RPM and CO during construction at each road once in 6 months.	Each	8	Sample: 2 locations x 2 times /yr x 2 year duration Environmental monitoring: i) Air quality (SPM, RPM and CO during construction at each road once in 6 months.	12,500	99,840	Partially Complied
68	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring ii) Water quality monitoring during construction.	Each	8	Sample: 2 locations x 2 times / yr x 2 year duration Environmental monitoring ii) Water quality monitoring during construction.	10,920	87,360	Partially Complied
69	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring iii) Noise Levels	Each	8	Sample: 2 locations x 2 times /yr x 2 year duration Environmental monitoring iii) Noise Levels	5,600	44.800	Partially Complied
70	**C:** Overall environmental management in addition to compliance to the clauses PCC 2.3 (i) and Appendix-A (IEE) to the entire satisfaction of E-I-C c) Environmental monitoring: iv)Soil Sampling (organics matter, Nitrogen, Phosphate, Oil and Grease)	Each	8	Sample: 2 locations x 2 roads x 2 times /yr x 1 year duration Environmental mo iv) Soil Sampling(organics matter, Nitrogen, Phosphate, Oil and Grease)	9,000	72,000	Partially Complied
	Sub Total(C)					**304,000**	
	Total(A+B+C)					**528,400**	

Annexure 5:

EMP Monitoring

Annexure 5.1: Cyclone Shelter: Monitored EMP
Annexure 5.2: Road Packages: Monitored EMP
Annexure 5.3: Drain Packages: Monitored EMP
Annexure 5.4: Water Supply Packages: Monitored EMP

Contract Packages: CTEIP/MAT/CS/01, CTEIP/GAL/CS/01, CTEIP/PIR/CS/01, CTEIP/PIR/CS/02 & CTEIP/AMT/CS/01:

5.1: Environmental Management Plan: Cyclone Shelter Monitoring Report

Ref. No.	Field: / Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: / Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No) Y	Status of EMP (Yes / No) N	Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 - 4); Excellent (5)								**Yet to Start (YTS);**
1	During Pre-Construction Phase										
1.1	Landscape:	1	• Development of the designs for the shelter must be compatible with the surrounding environment.	Executive agency/ Consultant/	During Design Stage:	Consultancy Cost and EMP	y		3		
	Adverse effects on aesthetics				Incorporated design considerations						
1.2	Consents; NOC's:	2	• Obtain all necessary consents, clearances, permits, NOC's prior to start of the Works;	PMU/PIU, DDS Designer, PMSC	During Design Stage:	No costs required as mitigated measures put in place during Design phase	Y		3		
	Failure to obtain necessary consents, permits, NOC's can result in design revisions and/or stoppage of the Works	3	• Acknowledge in writing and provide report on compliance all obtained on consents, clearances, permits, NOC's;		Incorporated design considerations						Not Applicable
		4	• Include in detailed design drawings and documents all conditions and provisions if necessary.								Not Applicable
1.3	Existing utilities::	5	• Identify and include locations and operators of theses utilities in detailed design documents to prevent	PMU/PIU, DDS Designer, PMSC	During Design Stage:	No costs required as mitigated measures put in place during Design phase					
	Disruption of services	6	• Require construction contractors to prepare contingency plan to include actions to be done in case of unintentional interruption of services:		• List of affected utilities and operators in Bid Document;						Not Applicable
		7	• Require construction contractors to prepare spoils management plan:		• Required contingency plans for service interruption;		Y		3		
			i) Spoils Information:		• Follow Spoils Management Plan.		Y		3		
			Materials Type; Potential Contamination; Expected Volume and Sources; Spoil Classification								
			ii) Spoils Management:								
			Transportation of Spoil; Storage of Spoil; Contamination of Spoil; Approved Reuse and/or Disposal Sites								
			iii) Records of Reuse and/or Disposal								
1.4	Construction work camps,:	8	• Determine locations prior to award of construction contracts;	PMU/PIU, DDS Designer, PMSC	During Design Stage:	No costs required as mitigated measures put in place during Design phase	y		3		
	Hot mix plants, stockpile areas, storage disposal areas: Disruption to traffic flow and sensitive receptors				• List of selected sites;						
					• Indentified sources of materials;						
					• Written consent by landowners for disposal to agricultural land.						
1.5	Sources of Materials:	9	• Prepare list of approved quarry sites and sources of materials.	PMU/PIU, DDS Designer, PMSC	During Design Stage:	No costs required as mitigated measures put in place during Design phase					Not Applicable
	Extraction of material can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage, patterns, ponding and water logging and water pollution				• List of approved quarries and sources of materials;						
					• Bid document to include appropriate clauses;						
					• Bid document to include clause for verification of suitable sources						
1.6	EMP Implementation Training: Negative irreversible impact to the environment, workers and community	10	• Project manager and all key workers will be required to undergo EMP implementation including spoils management, Standard operating procedures (SOP) for construction works; health and safety (H&S), core labour laws, and applicable environmental laws.	Contractor with assistance of PIU, ICCDC and PMSC	During Design Stage and during mobilization of workers to site:	Costs: PMU/PIU Contractor	y		3		Partially done but needed more training
					• Safeguard compliance protocols in place;						
					• Prove of training completion at sites;						
					• Posting of EMP at work sites.						
2	During Construction Phase										

Ref. No.	Field: / Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: / Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No)		Progress Grading	EMP Score55	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 - 4); Excellent (5)				**Y**	**N**			**Yet to Start (YTS);**
2.1	Physical Characteristics										
2.1.1	Topography, landforms geology and soils:	11	Utilize readily available sources of materials. If contractor procures materials from existing burrow pits and quarries, ensure these conform to all relevant regulatory requirements.	Executive agency/ consultant/	Monthly by PIU:	Mitigation measures: Contract Cost	y		4		
	Significant amount of gravel, sand, and cement will be required for this subproject. Extraction of construction materials may cause localized changes in topography and landforms. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.			contractor	• Records of sources of materials.						
		12	Borrow areas and quarries (If these are being opened up exclusively for the subproject) must comply with environmental requirements, as applicable. No activity will be allowed until formal agreement is signed between PIU, landowner and contractor.								Not Applicable
2.1.2	Water Quality:	13	- Prepare and implement a spoils management plan;	Contractor	Monthly by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	y		2		
	Excavation, run-off from stockpiled materials, and chemical contamination from fuels and lubricants may result to silt-laden runoff during rainfall which may cause siltation and reduction in the quality of adjacent bodies of water. The impacts are	14	- Prioritize re-use of excess spoils and materials in construction activities. If spoils will be disposed, consult with Local Authority on designated disposal areas.		• Areas for stockpiles, storage of fuels and lubricants and waste materials;		y		3		
		15	- All earthworks must to be conducted during dry season to maximum extent possible to avoid the difficult working conditions that prevail during monsoon season such as problems from runoff.		• Numbers of silt traps installed along trenches leading to water bodies;		Y		3		
		16	- Location for stockyards for construction materials shall be identified at least 300m away from watercourses. Place storage areas for fuels and lubricants away from any drainage leading to water bodies.		• Records of surface water quality inspection;		Y		3		
		17	- Take all precautions to minimize the wastage of water in the construction activities.		• Effectiveness of water management measures with no visible degradation due to construction activities.		Y		3		
		18	- Take all precautions to prevent entering of wastewater into streams, watercourses, or irrigation system. Install temporary silt traps or sedimentation basins along the drainage leading to the water bodies.				Y		3		
		19	- Ensure diverting storm water flow during construction shall not lead to inundation and other nuisances in low lying areas.				Y		4		
		20	- While working across or close to any water body, the flow of water must not be obstructed. Ensure no construction materials like earth, stone, or appendage are disposed of in a manner that may block the flow of water of any watercourse and cross drainage channels.				Y		3		
		21	- Monitor water quality according to the environmental management plan.				Y		4		Done for 04 active contract packages and Testing to be start for another active contract package
2.1.3	Air Quality:	22	- Damp down exposed soil and any sand stockpiled on site by spraying with water during dry weather;	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	y		4		Done for 04 active contract packages and Testing to be start for another active contract

Ref. No.	Field: / Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: / Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No) Y	N	Progress Grading	EMP Score55	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 - 4); Excellent (5)								**Yet to Start (YTS);**
	Conducting works at dry season and moving large quantity of materials may create dusts and increase in concentration of vehicle-related pollutants (such as carbon monoxide, sulphur oxides, particulate matter, nitrous oxides, and hydrocarbons) which will affect people who live and work near the sites. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	**23**	- Use tarpaulins to cover soils, sand and other loose material when transported by trucks.		• Location of stockpiles;		y		3		
		24	- Unpaved surfaces used for haulage of materials within settlements shall be maintained dust-free.		• Numbers of complaints from sensitive receptors;		Y		3		
		25	- Arrangements to control dust through provision of windscreens, water sprinklers, and dust extraction systems shall be provided at all hot-mix plants, batching plants and crushers (if these establishments are being set up exclusively for the subproject).		• Heavy equipment and Heavy equipment and pollution control devices;		Y		3		started but needs further improvement
		26	- Monitor air quality.		• Certification that vehicles are compliant with air quality standards;		Y		4		Done for 04 active contract packages and Testing to be start for another active contract package
					• Maintain records.						
2.1.4	Acoustic Environment: Construction activities will be on settlements, in and near schools, and areas with small-scale businesses. Temporary increase in noise level and vibrations may be caused by excavation equipment, and the transportation of equipment, materials, and people. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	27	- Involve the community in planning the work program so that any particularly noisy or otherwise invasive activities can be scheduled to avoid sensitive times.	Contractor	Monthly visual Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	Y		3		
		28	- Plan activities in consultation with Local Authority so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance.		• Numbers of complaints from sensitive receptors;		Y		3		
		29	- Use of high noise generating equipment shall be stopped during night time.		• Use of silencers in noise producing equipment;		Y		3		
		30	- Horns should not be used unless it is necessary to warn other road users or animals of the vehicle's approach;		• Use of sound barriers;		y		3		
		31	- Utilize modern vehicles and machinery with the requisite adaptations to limit noise and exhaust emissions, and ensure that these are maintained to manufacturers' specifications at all times.		• Equivalent allowable day and night time noise levels maintained;		Y		3		
		32	- All vehicles and equipment used in construction shall be fitted with exhaust silencers. Use silent-type generators (if required).		• Maintain records.		Y		2		Poor records taken
		33	- Monitor noise levels. Maintain maximum sound levels not exceeding 80 decibels (dBA) when measured at a distance of 10 m or more from the vehicle/s.				Y		4		
		34	- If it is not practicable to reduce noise levels to or below noise exposure limits, the contractor must post warning signs in the noise hazard areas. Workers in a posted noise hazard area must wear hearing protection.				y		2		
		35	- Identify any buildings at risk from vibration damage and avoiding any use of pneumatic drills or heavy vehicles in the vicinity. Complete work in these areas quickly.				Y		3		
2.1.5	Aesthetics:	**36**	- Prepare the Debris Disposal Plan	Contractor/ District Authority	Monthly visual Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost		N	2		To be instigated
	The construction activities do not anticipate any cutting of trees but will produce excess excavated earth (spoils), excess construction materials, and solid waste such as removed concrete, wood, packaging materials, empty containers, spoils, oils, lubricants, and other similar items. The impacts are negative but short-term, site-specific	37	- Remove all construction and demolition wastes on a daily basis.		• Numbers of complaints from sensitive receptors;		Y		2		
		38	- Coordinate with Local Authority for beneficial uses of excess excavated soils or immediately dispose to designated areas Avoid stockpiling of any excess spoils		• Work site clear of, hazardous waste, oil/fuel, ;		Y		2		
		39	- Suitably dispose of collected materials from drainages, unutilized materials and debris either through filling up of pits/wasteland or at pre-designated disposal locations.		• Work site clear of any wastes collected materials from drainages, unutilized materials, debris;						Not Applicable

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No)		Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 - 4); Excellent (5)				**Y**	**N**			**Yet to Start (YTS);**
	within a relatively small area and reversible by mitigation measures.	**40**	- All vehicles delivering fine materials to the site and carrying waste debris for disposal shall be covered to avoid spillage of materials. All existing roads used by vehicles of the contractor, shall be kept clear of all dust/mud or other extraneous materials dropped by such vehicles.		• Transport routes to and fro site, within site, cleared of any dust/mud;		Y		2		
		41	- Lighting on construction sites shall be pointed downwards and away from oncoming traffic and nearby houses.		• Maintain records.		Y		2		Not fully applied
		42	- In areas where the visual environment is particularly important or privacy concerns for surrounding buildings exist, the site may require screening. This could be in the form of shade cloth, temporary walls, or other suitable materials prior to the beginning of construction.								Not Applicable
		43	- - The site must be kept clean to minimize the visual impact of the site. Manage solid waste according to the following preference hierarchy: reuse, recycling and disposal to designated areas.				Y		2		Not fully complied

Ref. No.	Field: / Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: / Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No)		Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 - 4); Excellent (5)				**Y**	**N**			**Yet to Start (YTS);**
2.2	Biological Characteristics										
2.2.1	Biodiversity:	44	- Check if tree-cutting will be required during detailed design stage. No trees, shrubs, or groundcover may be removed or vegetation stripped without the prior permission of the environment management specialist.	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost					Not Applicable
	Activities being located in the built-up area of Pourashava. There are no protected areas in or around subproject sites, and no known areas of ecological interest. There are no trees at the site that need to be removed.	**45**	- If during detailed design cutting of trees will be required, compensatory plantation for trees lost at a rate of 10 trees for every tree cut, in addition to tree plantation as specified in the design, will be implemented by the contractor, who will also maintain the saplings for the duration of his contract.		OR						Not Applicable
		46	- All efforts shall be made to preserve trees by evaluation of minor design adjustments/ alternatives (as applicable) to save trees.		More frequently as the need arises:						Not Applicable
		47	- Special attention shall be given for protecting giant trees and locally-important trees (with religious importance) during implementation.		• PMU and PIU to report in writing the number of trees cut and planted;						Not Applicable
		48	- Prevent workers or any other person from removing and damaging any flora (plant/vegetation) and fauna (animal) including fishing in any water body in the subproject vicinity.		• If tree cutting required, to be determined during Design stage;						Not Applicable
		49	- Prohibit employees from poaching wildlife and cutting of trees for firewood.		• Numbers of complaints from sensitive receptors on disturbance of vegetation, poaching, fishing etc.						Not Applicable
2.3	Socioeconomic Characteristics										
2.3.1	Existing provisions for pedestrians and other forms of transport:	**51**	- Plan transportation routes so that heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites.	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	Y		3		
	Road closure is not anticipated. Hauling of construction materials and operation of equipment on- site may cause traffic problems. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	52	- Maintain safe passage for vehicles and pedestrians throughout the construction period.		OR		Y		3		
		53	- Schedule truck deliveries of construction materials during periods of low traffic volume.		More frequently as the need arises:		Y		3		
		54	- Erect and maintain barricades, including signs, markings, flags and flagmen informing diversions and alternative routes when required.		• Traffic route during construction works including number of permanent signages barricades and flagmen on worksite as per Traffic Management Plan;						Not Applicable
		55	- Notify affected sensitive receptors by providing sign boards informing nature and duration of construction activities and contact numbers for concerns/complaints.		• Numbers of complaints from sensitive receptors;		Y		4		
		56	- Leave spaces for access between mounds of soil.		• Number of signages placed at project location;		Y		3		
		57	- Provide walkways and metal sheets where required to maintain access across for people and vehicles.		• Number of walkways signages, and metal sheets placed at project at project location.						Not Applicable
		58	- Increase workforce in front of critical areas such as institutions, place of worship, business establishment, hospitals, and schools.				Y		2		
		59	- Consult businesses and institutions regarding operating hours and factoring this in work schedules. Ensure there is provision of alternate access to businesses and institutions during construction activities, so that there is no closure of these shops or any loss of clientele.				Y		3		
		60	- Ensure any damage to properties and utilities will be restored or compensated to pre-work conditions.								Not Applicable
		61	- Coordinate with local authorities and prepare prior approved Traffic Management Plan (TMP), refer to TMP guidelines given in Annexure I.								Not Applicable
2.3.2	Socio-economic status:	62	Employ at least 50% of labour force from communities in the vicinity of the site. This will have the added benefit of avoiding social problems that sometimes occur when workers are imported into host communities, and avoiding environmental and social problems from workers housed in poorly serviced camp accommodation.	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	Y		3		

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No)		Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 - 4); Excellent (5)				**Y**	**N**			**Yet to Start (YTS);**
	Subproject components will be located in government land and existing school compounds thus there is no requirement for land acquisition or any resettlements. Manpower will be required during the 24-months construction stage. This can result to generation of contractual employment and increase in local revenue.				OR						
		63	Secure construction materials from local market.		More frequently as the need arises:		Y		3		
					• Employment records;						
		64	Enforcement Gender protocol according to the Gender Action Plan.		• Records of sources of materials;		y		3		
					• Records of compliance to Bangladesh Labour law and other applicable standards;						
					• Utilities contingency plan;						
					• Numbers of complaints from sensitive receptors.						
2.3.3	Other existing amenities for community welfare:	65	- Obtain details from Pourashava nature and location of all existing infrastructure, and plan excavation carefully to avoid any such sites to maximum extent possible;	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost					Not Applicable
	Although construction of subproject components involves quite simple techniques of civil work, the invasive nature of excavation and the subproject sites being in built-up areas of the Pourashava where there are a variety of human activities, will result in impacts to the sensitive receptors such as residents, businesses, and the community in general.	**66**	- Integrate construction of the various infrastructure subprojects to be conducted in the Pourashava (roads, water supply, etc.) so that different infrastructure is located on opposite sides of the road where feasible and roads and inhabitants are not subjected to repeated disturbance by construction in the same area at different times for different purposes.		OR						Not Applicable
	Excavation may also damage existing infrastructure (such as water distribution pipes, electricity pylons, etc) located alongside the roads. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	67	- Consult with local community to inform them of the nature, duration and likely effects of the construction work, and to identify any local concerns so that these can be addressed.		More frequently as the need arises:		Y		3		
		68	- Existing infrastructure (such as water distribution pipes, electricity pylons, etc.) shall be relocated before construction starts at the subproject sites.		• Utilities contingency plan;						Not Applicable
		69	- Prior permission shall be obtained from respective local authority for use of water for construction. Use of water for construction works shall not disturb local water users.		• Numbers of complaints from sensitive receptors.		Y		3		
		70	- If construction work is expected to disrupt users of community water bodies, notice to the affected community shall be served 7 days in advance and again 1 day prior to start of construction.								Not Applicable
		71	- Ensure any damage to properties and utilities will be restored or compensated to pre-work conditions.								Not Applicable
2.3.4	Community Health and Safety:	**72**	- Contractor's activities and movement of staff will be restricted to designated construction areas.	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	Y		3		
	Construction works will impede the access of residents and businesses in limited cases. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	73	- Locations of hot-mix plants, batching plants and crushers (if these establishments are being set up exclusively for the subproject) shall be shall be located at least 100 m away from the nearest dwelling preferably in the downwind direction.		OR		Y		3		
		74	- Consult with the Local Authority on the designated areas for stockpiling of, soils, gravel, and other construction materials.		More frequently as the need arises:						Not Applicable
		75	- If the contractor chooses to locate the work camp/storage area on private land, he must get prior permission from the environment management specialist and landowner.		• Number of permanent signages, barricades and flagmen on worksite as per Traffic Management Plan;						Not Applicable
		76	- Use small mechanical excavators to attain faster excavation progress. For rock and concrete breaking, use non-explosive blasting chemicals, silent rock cracking chemicals, and concrete breaking chemicals.[1]		• Numbers of complaints from sensitive receptors;						Not Applicable

Ref. No.	Field: / Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: / Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No)		Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 - 4); Excellent (5)				**Y**	**N**			**Yet to Start (YTS);**
		77	- Under no circumstances may open areas or the surrounding bushes be used as a toilet facility.		• Number of walkways signages, and metal sheets placed at project at project location;		Y		4		
		78	- Recycling and the provision of separate waste receptacles for different types of waste shall be encouraged.		• Agreement between landowner and contractors in case of using private lands as work camps, storage areas etc.		Y		2		To be improved
			- A general regard for the social and ecological well-being of the site and adjacent areas is expected of the site staff. Workers need to be made aware of the following general rules:								
		79	- no alcohol/drugs on site; (ii) prevent excessive noise; (iii) construction staff are to make use of the facilities provided for them, as opposed to ad hoc alternatives (e.g. fires for cooking, the use of surrounding bushes as a toilet facility); (iv) no fires permitted on site except if needed for the construction works;				Y		4		
		80	- (v) trespassing on private/commercial properties adjoining the site is forbidden; (vi) other than pre-approved security staff, no workers shall be permitted to live on the construction site; and (vii) no worker may be forced to do work that is potentially dangerous or that he/she is not trained to do.				Y		3		
		81	- Interested and affected parties need to be made aware of the existence of the complaints book and the methods of communication available to them. The contractor must address queries and complaints by: (i) documenting details of such communications; (ii) submitting these for inclusion in complaints register; (iii) bringing issues to the environment management specialist's attention immediately; and (iv) taking remedial action as per environment management specialist's instruction.					N	2		
		82	- The contractor shall immediately take the necessary remedial action on any complaint/grievance received by him and forward the details of the grievance along with the action taken to the environment management specialist within 48 hours of receipt of such complaint/grievance.					N	2		
2.3.5	Worker's health and safety:	**83 to 93**	For social monitoring references 83 to 93: Refer to the Social Safeguards Monitoring Report.	Contractor	DAILY INSPECTION BY CONTRACTOR'S SUPERVISOR						Refer to the Social Safeguards Monitoring Report.
2.4	Historical, Cultural and Archaeological Characteristics										
2.4.1	Physical and cultural heritage:	94	- All fossils, coins, articles of value of antiquity, structures and other remains of archaeological interest discovered on the site shall be the property of the government.	Contractor	Monthly Inspection by PIU and PMSC:	Mitigation measures: Contract Cost					YTS
	Construction works will not be in built-up areas of the Pourashava but risk for chance finds maybe low.	95	- Prevent workers or any other persons from removing and damaging any fossils, coins, articles of value of antiquity, structures and other remains of archaeological interest.		• Records of chance finds.						YTS
		96	- Stop work immediately to allow further investigation if any finds are suspected.								YTS
3	Others										
3.1	Submission of EMP implementation Report	97	- Appointment of Supervisor to ensure EMP implementation;	Contractor	Monthly monitoring report to be submitted by PIU and PMSC	Mitigation measures: Contract Cost	Y		3		
	Unsatisfactory compliance to EMP	98	- Timely submission of monitoring reports including pictures.		PMU to submit semi-annual monitoring report to ADB:		Y		3		
					• Availability and competency of appointed Supervisor;						
					• Monthly Report.						

Ref. No.	Field: / Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: / Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No) Y	Status of EMP (Yes / No) N	Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 - 4); Excellent (5)								**Yet to Start (YTS);**
4	Post Construction Activities										
4.1	Post-construction clean-up:	99	- Remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required;	Contractor	**Prior to turn-over of completed Works to the Pourashava**:	Mitigation measures: Contract Cost					Not Applicable
	Damage due to debris, spoils, excess construction materials.	100	- All excavated roads shall be reinstated to original condition;		• PMU/PMSC report in writing that (i) worksite is restored to original conditions; (ii) camp has been vacated and restored to pre-project conditions; (iii) all construction related structures not relevant to O&M are removed and (iv) worksite cleanup is satisfactory.						Not Applicable
		101	- All disrupted utilities restored;								Not Applicable
		102	- All affected structures rehabilitated/compensated;								Not Applicable
		103	- The area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up;								YTS
		104	- All hardened surfaces within the construction camp area shall be ripped;								Not Applicable
		105	- All imported materials removed and the area shall be top soiled and regressed using guidelines set out in the re-vegetation specification that forms part of this document;								YTS
		106	- The contractor must arrange the cancellation of all temporary services;								YTS
		107	- Request PMU/PMSC to report in writing that worksites and camps have been vacated and restored to pre-project conditions before acceptance of work.								YTS
5	Operation and Maintenance Phase										
5.1	Physical Characteristics										
5.1.1	Acoustic environment:	108	- Plan activities in consultation with the Local Authority so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance.	Contractor and Pourashava	**During repair works**:	Included in O&M Costs					YTS
	Temporary increase in noise level and vibrations. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	109	- Identify any buildings at risk from vibration damage and avoiding any use of pneumatic drills or heavy vehicles in the vicinity. Complete work in these areas quickly.		• No complaints from sensitive receptors.						YTS
5.2	Socioeconomic Characteristics										
5.2.1	Workers health and safety:	110 to 112	For social monitoring references 110 to 112: Refer to the Social Safeguards Monitoring Report.	Pourashava	**During repair works**:						Refer to the Social Safeguards Monitoring Report.
	Overall EMP Compliance Rating:				Total Score				170		
	Remarks:		**Key Non-Compliance Record:**		Notes: YTS/Not Applicable				39		
					Numerator Value				59		
					Overall Score					**2.9**	**Partial Satisfactory**
			98 Total Environmental monitoring parameters:		**Non Compliance Recorded**				**3**		

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No) Y	N	Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 -4); Excellent (5)								**Yet to Start (YTS);**
1	During Pre-Construction Phase										
1.1	Landscape:	1	• Development of the designs for the shelter must be compatible with the surrounding environment.	Executive agency/ Consultant/	During Design Stage:	Consultancy Cost and EMP	y		3		
	Adverse effects on aesthetics				Incorporated design considerations						
1.2	Consents; NOC's:	2	• Obtain all necessary consents, clearances, permits, NOC's prior	PMU/PIU, DDS Designer, PMSC	During Design Stage:	No costs required as mitigated measures put in place during Design phase	Y		3		
	Failure to obtain necessary consents, permits, NOC's can result in design revisions and/or stoppage of the Works	3	• Acknowledge in writing and provide report on compliance all obtained on consents, clearances, permits, NOC's;		Incorporated design considerations						Not Applicable
		4	• Include in detailed design drawings and documents all conditions and provisions if necessary.								Not Applicable
1.3	Existing utilities::	5	• Identify and include locations and operators of theses utilities in detailed design documents to prevent unnecessary disruption of services during construction activities;	PMU/PIU, DDS Designer, PMSC	During Design Stage:	No costs required as mitigated measures put in place during Design phase					
	Disruption of services	6	• Require construction contractors to prepare contingency plan to include actions to be done in case of unintentional interruption of services;		• List of affected utilities and operators in Bid Document;						Not Applicable
		7	• Require construction contractors to prepare spoils management plan:		• Required contingency plans for service interruption;		Y		3		
			i) Spoils Information:		• Follow Spoils Management Plan.		Y		3		
			Materials Type; Potential Contamination; Expected Volume and Sources; Spoil Classification								
			ii) Spoils Management:								
			Transportation of Spoil; Storage of Spoil; Contamination of Spoil; Approved Reuse and/or Disposal Sites								
			iii) Records of Reuse and/or Disposal								
1.4	Construction work camps,:	8	• Determine locations prior to award of construction contracts;	PMU/PIU, DDS Designer, PMSC	During Design Stage:	No costs required as mitigated measures put in place during Design phase	y		3		
	Hot mix plants, stockpile areas, storage disposal areas: Disruption to traffic flow and sensitive receptors				• List of selected sites;						
					• Indentified sources of materials;						
					• Written consent by landowners for disposal to agricultural land.						
1.5	Sources of Materials:	9	• Prepare list of approved quarry sites and sources of materials.	PMU/PIU, DDS Designer, PMSC	During Design Stage:	No costs required as mitigated measures put in place during Design phase	Y		3		
	Extraction of material can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage, patterns, ponding and water logging and water pollution				• List of approved quarries and sources of materials;						
					• Bid document to include appropriate clauses;						
					• Bid document to include clause for verification of suitable sources						
1.6	EMP Implementation Training: Negative irreversible impact to the environment, workers and community	10	• Project manager and all key workers will be required to undergo EMP implementation including spoils management, Standard operating procedures (SOP) for construction works; health and safety (H&S), core labour laws, and applicable environmental laws.	Contractor with assistance of PIU, ICCDC and PMSC	During Design Stage and during mobilization of workers to site:	Costs: PMU/PIU Contractor	Y		2		Partially done but needed more training
					• Safeguard compliance protocols in place;						
					• Prove of training completion at sites;						
					• Posting of EMP at work sites.						

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No)		Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP =	**Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 -4); Excellent (5)**			**Y**	**N**			**Yet to Start (YTS);**
2	During Construction Phase										
2.1	Physical Characteristics										
2.1.1	Topography, landforms geology and soils:	11	Utilize readily available sources of materials. If contractor procures materials from existing burrow pits and quarries, ensure these conform to all relevant regulatory requirements.	Executive agency/ consultant/	Monthly by PIU:	Mitigation measures: Contract Cost	y		4		
	Significant amount of gravel, sand, and cement will be required for this subproject. Extraction of construction materials may cause localized changes in topography and landforms. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.			Contractor	• Records of sources of materials.						
		12	Borrow areas and quarries (If these are being opened up exclusively for the subproject) must comply with environmental requirements, as applicable. No activity will be allowed until formal agreement is signed between PIU, landowner and contractor.				Y		3		
2.1.2	Water Quality:	13	- Prepare and implement a spoils management plan;	Contractor	Monthly by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	Y		3		only done for CTEIP/MAT/RD/01 & CTEIP/GAL/RD/01
	Excavation, run-off from stockpiled materials, and chemical contamination from fuels and lubricants may result to silt-laden runoff during rainfall which may cause siltation and reduction in the quality of adjacent bodies of water. The impacts are negative but short term, site-specific within a relatively small area and reversible by mitigation measures.	14	- Prioritize re-use of excess spoils and materials in construction activities. If spoils will be disposed, consult with Local Authority on designated disposal areas.		• Areas for stockpiles, storage of fuels and lubricants and waste materials;		Y		3		
		15	- All earthworks must to be conducted during dry season to maximum extent possible to avoid the difficult working conditions that prevail during monsoon season such as problems from runoff.		• Numbers of silt traps installed along trenches leading to water bodies;		Y		3		
		16	- Location for stockyards for construction materials shall be identified at least 300m away from watercourses. Place storage areas for fuels and lubricants away from any drainage leading to water bodies.		• Records of surface water quality inspection;		Y		3		
		17	- Take all precautions to minimize the wastage of water in the construction activities.		• Effectiveness of water management measures with no visible degradation due to construction activities.		Y		4		
		18	- Take all precautions to prevent entering of wastewater into streams, watercourses, or irrigation system. Install temporary silt traps or sedimentation basins along the drainage leading to the water bodies.				Y		3		
		19	- Ensure diverting storm water flow during construction shall not lead to inundation and other nuisances in low lying areas.				Y		4		
		20	- While working across or close to any water body, the flow of water must not be obstructed. Ensure no construction materials like earth, stone, or appendage are disposed of in a manner that may block the flow of water of any watercourse and cross drainage				Y		3		

Contract Packages: CTEIP/MAT/RD/01, CTEIP/GAL/RD/01, CTEIP/GAL/RD/02, CTEIP/PIR/RD/01, CTEIP/PIR/RD/02, CTEIP/AMT/RD/01 & CTEIP/AMT/RD/02

5.2: Environmental Management Plan: Roads Monitoring Report

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No)		Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP =	**Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 -4); Excellent (5)**			**Y**	**N**			**Yet to Start (YTS);**
		21	- Monitor water quality according to the environmental management plan.				Y		3		only done for CTEIP/MAT/RD/01 & CTEIP/GAL/RD/01

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No) Y	Status of EMP (Yes / No) N	Status of EMP Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 -4); Excellent (5)								**Yet to Start (YTS);**
2.1.3	Air Quality:	22	- Damp down exposed soil and any sand stockpiled on site by spraying with water during dry weather;	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	Y		3		only done for CTEIP/MAT/RD/01 & CTEIP/GAL/RD/01
	Conducting works at dry season and moving large quantity of materials may create dusts and increase in concentration of vehicle-related pollutants (such as carbon monoxide, sulphur oxides, particulate matter, nitrous oxides, and hydrocarbons) which will affect people who live and work near the sites. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	**23**	- Use tarpaulins to cover soils, sand and other loose material when transported by trucks.		• Location of stockpiles;		Y		3		
		24	- Unpaved surfaces used for haulage of materials within settlements shall be maintained dust-free.		• Numbers of complaints from sensitive receptors;		Y		3		
		25	- Arrangements to control dust through provision of windscreens, water sprinklers, and dust extraction systems shall be provided at all hot-mix plants, batching plants and crushers (if these establishments are being set up exclusively for the subproject).		• Heavy equipment and Heavy equipment and pollution control devices;		Y		2		Practice to start
		26	- Monitor air quality.		• Certification that vehicles are compliant with air quality standards;		Y		3		only done for CTEIP/MAT/RD/01 & CTEIP/GAL/RD/01
					• Maintain records.						
2.1.4	Acoustic Environment: Construction activities will be on settlements, in and near schools, and areas with small-scale businesses. Temporary increase in noise level and vibrations may be caused by excavation equipment, and the transportation of equipment, materials, and people. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	27	- Involve the community in planning the work program so that any particularly noisy or otherwise invasive activities can be scheduled to avoid sensitive times.	Contractor	Monthly visual Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	Y		3		
		28	- Plan activities in consultation with Local Authority so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least		• Numbers of complaints from sensitive receptors;		Y		4		
		29	- Use of high noise generating equipment shall be stopped during night time.		• Use of silencers in noise producing equipment;		Y		4		
		30	- Horns should not be used unless it is necessary to warn other road users or animals of the vehicle's approach;		• Use of sound barriers;		Y		2		
		31	- Utilize modern vehicles and machinery with the requisite adaptations to limit noise and exhaust emissions, and ensure that these are maintained to manufacturers' specifications at all times.		• Equivalent allowable day and night time noise levels maintained;		Y		3		
		32	- All vehicles and equipment used in construction shall be fitted with exhaust silencers. Use silent-type generators (if required).		• Maintain records.		Y		3		
		33	- Monitor noise levels. Maintain maximum sound levels not exceeding 80 decibels (dBA) when measured at a distance of 10 m or more from the vehicle/s.				Y		3		only done for CTEIP/MAT/RD/01 & CTEIP/GAL/RD/01
		34	- If it is not practicable to reduce noise levels to or below noise exposure limits, the contractor must post warning signs in the noise hazard areas. Workers in a posted noise hazard area must wear hearing protection.				Y		3		only done for CTEIP/MAT/RD/01 & CTEIP/GAL/RD/01

Contract Packages: CTEIP/MAT/RD/01, CTEIP/GAL/RD/01, CTEIP/GAL/RD/02, CTEIP/PIR/RD/01, CTEIP/PIR/RD/02, CTEIP/AMT/RD/01 & CTEIP/AMT/RD/02

5.2: Environmental Management Plan: Roads Monitoring Report

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No)		Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP =	**Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 -4); Excellent (5)**			**Y**	**N**			**Yet to Start (YTS);**
		35	- Identify any buildings at risk from vibration damage and avoiding any use of pneumatic drills or heavy vehicles in the vicinity. Complete work in these areas quickly.								Not Applicable

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No)		Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 -4); Excellent (5)				**Y**	**N**			**Yet to Start (YTS);**
2.1.5	Aesthetics:	**36**	- Prepare the Debris Disposal Plan	Contractor/ District Authority	Monthly visual Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost		N	2		To be instigated
	The construction activities do not anticipate any cutting of trees but will produce excess excavated earth (spoils), excess construction materials, and solid waste such as removed concrete, wood, packaging materials, empty containers, spoils, oils, lubricants, and other similar items. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	37	- Remove all construction and demolition wastes on a daily basis.		• Numbers of complaints from sensitive receptors;			N	2		To be instigated
		38	- Coordinate with Local Authority for beneficial uses of excess excavated soils or immediately dispose to designated areas Avoid stockpiling of any excess spoils		• Work site clear of, hazardous waste, oil/fuel, ;		Y		2		
		39	- Suitably dispose of collected materials from drainages, unutilized materials and debris either through filling up of pits/wasteland or at pre-designated disposal locations.		• Work site clear of any wastes collected materials from drainages, unutilized materials, debris;						Not Applicable
		40	- All vehicles delivering fine materials to the site and carrying waste debris for disposal shall be covered to avoid spillage of materials. All existing roads used by vehicles of the contractor, shall be kept clear of all dust/mud or other extraneous materials dropped by such vehicles.		• Transport routes to and fro site, within site, cleared of any dust/mud;		Y		2		
		41	- Lighting on construction sites shall be pointed downwards and away from oncoming traffic and nearby houses.		• Maintain records.		Y		2		Not fully applied
		42	- In areas where the visual environment is particularly important or privacy concerns for surrounding buildings exist, the site may require screening. This could be in the form of shade cloth, temporary walls, or other suitable materials prior to the beginning of construction								Not Applicable
		43	- - The site must be kept clean to minimize the visual impact of the site. Manage solid waste according to the following preference hierarchy: reuse, recycling and disposal to designated areas.				Y		3		
2.2	Biological Characteristics										
2.2.1	Biodiversity:	44	- Check if tree-cutting will be required during detailed design stage. No trees, shrubs, or groundcover may be removed or vegetation stripped without the prior permission of the environment management specialist.	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	Y		3		
	Activities being located in the built-up area of Pourashava. There are no protected areas in or around subproject sites, and no known areas of ecological interest. There are no trees at the site that need to be removed.	**45**	- If during detailed design cutting of trees will be required, compensatory plantation for trees lost at a rate of 10 trees for every tree cut, in addition to tree plantation as specified in the design, will be implemented by the contractor, who will also maintain the saplings for the duration of his contract.		OR		Y		3		
		46	- All efforts shall be made to preserve trees by evaluation of minor design adjustments/ alternatives (as applicable) to save trees.		More frequently as the need arises:		Y		4		
		47	- Special attention shall be given for protecting giant trees and locally-important trees (with religious importance) during implementation.		• PMU and PIU to report in writing the number of trees cut and planted;		Y		4		
		48	- Prevent workers or any other person from removing and damaging any flora (plant/vegetation) and fauna (animal) including fishing in any water body in the subproject vicinity.		• If tree cutting required, to be determined during Design stage;		Y		3		

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No)		Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP =	**Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 -4); Excellent (5)**			**Y**	**N**			**Yet to Start (YTS);**
		49	- Prohibit employees from poaching wildlife and cutting of trees for firewood.		• Numbers of complaints from sensitive receptors on disturbance of vegetation, poaching, fishing etc.		Y		3		

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No)		Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = **Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 -4); Excellent (5)**				**Y**	**N**			**Yet to Start (YTS);**
2.3	Socioeconomic Characteristics										
2.3.1	Existing provisions for pedestrians and other forms of transport:	**51**	- Plan transportation routes so that heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites.	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	Y		3		
	Road closure is not anticipated. Hauling of construction materials and operation of equipment on- site may cause traffic problems. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures	52	- Maintain safe passage for vehicles and pedestrians throughout the construction period.		OR		Y		4		
		53	- Schedule truck deliveries of construction materials during periods of low traffic volume.		More frequently as the need arises:		Y		3		
		54	- Erect and maintain barricades, including signs, markings, flags and flagmen informing diversions and alternative routes when required.		• Traffic route during construction works including number of permanent signages barricades and flagmen on worksite as per Traffic Management Plan;			N	1		To be followed
		55	- Notify affected sensitive receptors by providing sign boards informing nature and duration of construction activities and contact numbers for concerns/complaints.		• Numbers of complaints from sensitive receptors;		Y		2		
		56	- Leave spaces for access between mounds of soil.		• Number of signages placed at project location;		Y		3		
		57	- Provide walkways and metal sheets where required to maintain access across for people and vehicles.		• Number of walkways signages, and metal sheets placed at project at project location.		Y		2		
		58	- Increase workforce in front of critical areas such as institutions, place of worship, business establishment, hospitals, and schools.				Y		2		
		59	- Consult businesses and institutions regarding operating hours and factoring this in work schedules. Ensure there is provision of alternate access to businesses and institutions during construction activities, so that there is no closure of these shops or any loss of clientele				Y		3		
		60	- Ensure any damage to properties and utilities will be restored or compensated to pre-work conditions.								YTS
		61	- Coordinate with local authorities and prepare prior approved Traffic Management Plan (TMP), refer to TMP guidelines given in					N	1		To be followed
2.3.2	Socio-economic status:	62	Employ at least 50% of labour force from communities in the vicinity of the site. This will have the added benefit of avoiding social problems that sometimes occur when workers are imported into host communities, and avoiding environmental and social problems from workers housed in poorly serviced camp accommodation.	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	Y		3		
	Subproject components will be located in government land and existing school compounds thus there is no requirement for land acquisition or any resettlements. Manpower will be required during the 24-months construction stage. This can result to generation of contractual				OR						
		63	Secure construction materials from local market.		More frequently as the need arises:		Y		3		
					• Employment records;						
		64	Enforcement Gender protocol according to the Gender Action Plan.		• Records of sources of materials;		Y		2		

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No) Y	Status of EMP (Yes / No) N	Status of EMP Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 -4); Excellent (5)								**Yet to Start (YTS);**
	employment and increase in local revenue.				• Records of compliance to Bangladesh Labour law and other applicable standards;						
					• Utilities contingency plan;						
					• Numbers of complaints from sensitive receptors.						
2.3.3	Other existing amenities for community welfare:	65	- Obtain details from Pourashava nature and location of all existing infrastructure, and plan excavation carefully to avoid any such sites to maximum extent possible;	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost					Not Applicable
	Although construction of subproject components involves quite simple techniques of civil work, the invasive nature of excavation and the subproject sites being in built-up areas of the Pourashava where there are a variety of human activities, will result in impacts to the sensitive receptors such as residents, businesses, and the community in general.	**66**	- Integrate construction of the various infrastructure subprojects to be conducted in the Pourashava (roads, water supply, etc.) so that different infrastructure is located on opposite sides of the road where feasible and roads and inhabitants are not subjected to repeated disturbance by construction in the same area at different times for different purposes.		OR		Y		3		
	Excavation may also damage existing infrastructure (such as water distribution pipes, electricity pylons, etc) located alongside the roads. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	67	- Consult with local community to inform them of the nature, duration and likely effects of the construction work, and to identify any local concerns so that these can be addressed.		More frequently as the need arises:		Y		3		
		68	- Existing infrastructure (such as water distribution pipes, electricity pylons, etc.) shall be relocated before construction starts at the subproject sites.		• Utilities contingency plan;						Not Applicable
		69	- Prior permission shall be obtained from respective local authority for use of water for construction. Use of water for construction works shall not disturb local water users.		• Numbers of complaints from sensitive receptors.		Y		3		
		70	- If construction work is expected to disrupt users of community water bodies, notice to the affected community shall be served 7 days in advance and again 1 day prior to start of construction.								Not Applicable
		71	- Ensure any damage to properties and utilities will be restored or compensated to pre-work conditions.								YTS
2.3.4	Community Health and Safety:	**72**	- Contractor's activities and movement of staff will be restricted to designated construction areas.	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	Y		3		
	Construction works will impede the access of residents and businesses in limited cases. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	73	- Locations of hot-mix plants, batching plants and crushers (if these establishments are being set up exclusively for the subproject) shall be shall be located at least 100 m away from the nearest dwelling preferably in the downwind direction.		OR		Y		3		
		74	- Consult with the Local Authority on the designated areas for stockpiling of, soils, gravel, and other construction materials.		More frequently as the need arises:		Y		3		
		75	- If the contractor chooses to locate the work camp/storage area on private land, he must get prior permission from the environment management specialist and landowner.		• Number of permanent signages, barricades and flagmen on worksite as per Traffic Management Plan;						Not Applicable

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			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 -4); Excellent (5)								**Yet to Start (YTS);**
		76	- Use small mechanical excavators to attain faster excavation progress. For rock and concrete breaking, use non-explosive blasting chemicals, silent rock cracking chemicals, and concrete breaking chemicals.		• Numbers of complaints from sensitive receptors;						Not Applicable
		77	- Under no circumstances may open areas or the surrounding bushes be used as a toilet facility.		• Number of walkways signages, and metal sheets placed at project at project location;		Y		4		
		78	- Recycling and the provision of separate waste receptacles for different types of waste shall be encouraged.		• Agreement between landowner and contractors in case of using private lands as work camps, storage areas etc.		Y		2		To be improved
			- A general regard for the social and ecological well-being of the site and adjacent areas is expected of the site staff. Workers need to be made aware of the following general rules:								
		79	- no alcohol/drugs on site; (ii) prevent excessive noise; (iii) construction staff are to make use of the facilities provided for them, as opposed to ad hoc alternatives (e.g. fires for cooking, the use of surrounding bushes as a toilet facility); (iv) no fires permitted on site except if needed for the construction works;				Y		4		
		80	- (v) trespassing on private/commercial properties adjoining the site is forbidden; (vi) other than pre-approved security staff, no workers shall be permitted to live on the construction site; and (vii) no worker may be forced to do work that is potentially dangerous or that he/she is not trained to do.				Y		3		
		81	- Interested and affected parties need to be made aware of the existence of the complaints book and the methods of communication available to them. The contractor must address queries and complaints by: (i) documenting details of such communications; (ii) submitting these for inclusion in complaints register; (iii) bringing issues to the environment management specialist's attention immediately; and (iv) taking remedial action as per environment management specialist's instruction				Y		2		To be improved
		82	- The contractor shall immediately take the necessary remedial action on any complaint/grievance received by him and forward the details of the grievance along with the action taken to the environment management specialist within 48 hours of receipt of such complaint/grievance.					N	2		Yet to be followed
2.3.5	Worker's health and safety:	**83 to 93**	For social monitoring references 83 to 93: Refer to the Social Safeguards Monitoring Report.	Contractor	DAILY INSPECTION BY CONTRACTOR'S SUPERVISOR						Refer to the Social Safeguards Monitoring Report.
2.4	Historical, Cultural and Archaeological										
2.4.1	Physical and cultural heritage:	94	- All fossils, coins, articles of value of antiquity, structures and other remains of archaeological interest discovered on the site shall be the property of the government.	Contractor	Monthly Inspection by PIU and PMSC:	Mitigation measures: Contract Cost					YTS
	Construction works will not be in built-up areas of the Pourashava but risk for chance finds maybe low.	95	- Prevent workers or any other persons from removing and damaging any fossils, coins, articles of value of antiquity, structures and other remains of archaeological interest.		• Records of chance finds.						YTS
		96	- Stop work immediately to allow further investigation if any finds								YTS

Contract Packages: CTEIP/MAT/RD/01, CTEIP/GAL/RD/01, CTEIP/GAL/RD/02, CTEIP/PIR/RD/01, CTEIP/PIR/RD/02, CTEIP/AMT/RD/01 & CTEIP/AMT/RD/02

5.2: Environmental Management Plan: Roads Monitoring Report

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No) Y	Status of EMP (Yes / No) N	Status of EMP Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 -4); Excellent (5)								**Yet to Start (YTS);**
3	Others										
3.1	Submission of EMP implementation Report	97	- Appointment of Supervisor to ensure EMP implementation;	Contractor	Monthly monitoring report to be submitted by PIU and PMSC	Mitigation measures: Contract Cost	Y		2		To be improved
	Unsatisfactory compliance to EMP	98	- Timely submission of monitoring reports including pictures.		PMU to submit semi-annual monitoring report to ADB:		Y		2		To be followed
					• Availability and competency of appointed Supervisor;						
					• Monthly Report.						

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No) Y	Status of EMP (Yes / No) N	Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 -4); Excellent (5)								**Yet to Start (YTS);**
4	Post Construction Activities										
4.1	Post-construction clean-up:	99	- Remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required;	Contractor	**Prior to turn-over of completed Works to the Pourashava**:	Mitigation measures: Contract Cost					Not Applicable
	Damage due to debris, spoils, excess construction materials.	100	- All excavated roads shall be reinstated to original condition;		• PMU/PMSC report in writing that (i) worksite is restored to original conditions; (ii) camp has been vacated and restored to pre-project conditions; (iii) all construction related structures not relevant to O&M are removed and (iv) worksite cleanup is satisfactory.						Not Applicable
		101	- All disrupted utilities restored;								Not Applicable
		102	- All affected structures rehabilitated/compensated;								Not Applicable
		103	- The area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up;								YTS
		104	- All hardened surfaces within the construction camp area shall be ripped;								Not Applicable
		105	- All imported materials removed and the area shall be top soiled and regressed using guidelines set out in the re-vegetation specification that forms part of this document;								YTS
		106	- The contractor must arrange the cancellation of all temporary services;								YTS
		107	- Request PMU/PMSC to report in writing that worksites and camps have been vacated and restored to pre-project conditions before acceptance of work.								YTS
5	Operation and Maintenance Phase										
5.1	Physical Characteristics										
5.1.1	Acoustic environment:	108	- Plan activities in consultation with the Local Authority so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least	Contractor and Pourashava	**During repair works**:	Included in O&M Costs					YTS
	Temporary increase in noise level and vibrations. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	109	- Identify any buildings at risk from vibration damage and avoiding any use of pneumatic drills or heavy vehicles in the vicinity. Complete work in these areas quickly.		• No complaints from sensitive receptors.						YTS
5.2	Socioeconomic Characteristics										
5.2.1	Workers health and safety:	110 to 112	For social monitoring references 110 to 112: Refer to the Social Safeguards Monitoring Report.	Pourashava	**During repair works**:						Refer to the Social Safeguards Monitoring Report.
	Overall EMP Compliance Rating:								199		
	Remarks:		**Key Non-Compliance Record:**		Notes: YTS/Not Applicable				27		
					Numerator Value				71		
					Overall Score					**2.8**	**Partial Satisfactory**
			98 Total Environmental monitoring parameters:		**Non Compliance Recorded**				**5**		

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No) Y	N	Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 -4); Excellent (5)								**Yet to Start (YTS);**
1	During Pre-Construction Phase										
1.1	Landscape:	1	• Development of the designs for the shelter must be compatible with the surrounding environment.	Executive agency/ Consultant/	During Design Stage:	Consultancy Cost and EMP	y		3		
	Adverse effects on aesthetics				Incorporated design considerations						
1.2	Consents; NOC's:	2	• Obtain all necessary consents, clearances, permits, NOC's prior	PMU/PIU, DDS Designer, PMSC	During Design Stage:	No costs required as mitigated measures put in place during Design phase	Y		3		
	Failure to obtain necessary consents, permits, NOC's can result in design revisions and/or stoppage of the Works	3	• Acknowledge in writing and provide report on compliance all obtained on consents, clearances, permits, NOC's;		Incorporated design considerations						Not Applicable
		4	• Include in detailed design drawings and documents all conditions and provisions if necessary.								Not Applicable
1.3	Existing utilities::	5	• Identify and include locations and operators of theses utilities in detailed design documents to prevent unnecessary disruption of services during construction activities;	PMU/PIU, DDS Designer, PMSC	During Design Stage:	No costs required as mitigated measures put in place during Design phase					
	Disruption of services	6	• Require construction contractors to prepare contingency plan to include actions to be done in case of unintentional interruption of services;		• List of affected utilities and operators in Bid Document;						Not Applicable
		7	• Require construction contractors to prepare spoils management plan:		• Required contingency plans for service interruption;		Y		3		
			i) Spoils Information:		• Follow Spoils Management Plan.		Y		3		
			Materials Type; Potential Contamination; Expected Volume and Sources; Spoil Classification								
			ii) Spoils Management:								
			Transportation of Spoil; Storage of Spoil; Contamination of Spoil; Approved Reuse and/or Disposal Sites								
			iii) Records of Reuse and/or Disposal								
1.4	Construction work camps,:	8	• Determine locations prior to award of construction contracts;	PMU/PIU, DDS Designer, PMSC	During Design Stage:	No costs required as mitigated measures put in place during Design phase	y		3		
	Hot mix plants, stockpile areas, storage disposal areas: Disruption to traffic flow and sensitive receptors				• List of selected sites;						
					• Indentified sources of materials;						
					• Written consent by landowners for disposal to agricultural land.						
1.5	Sources of Materials:	9	• Prepare list of approved quarry sites and sources of materials.	PMU/PIU, DDS Designer, PMSC	During Design Stage:	No costs required as mitigated measures put in place during Design phase	Y		3		
	Extraction of material can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage, patterns, ponding and water logging and water pollution				• List of approved quarries and sources of materials;						
					• Bid document to include appropriate clauses;						
					• Bid document to include clause for verification of suitable sources						
1.6	EMP Implementation Training: Negative irreversible impact to the environment, workers and community	10	• Project manager and all key workers will be required to undergo EMP implementation including spoils management, Standard operating procedures (SOP) for construction works; health and safety (H&S), core labour laws, and applicable environmental laws.	Contractor with assistance of PIU, ICCDC and PMSC	During Design Stage and during mobilization of workers to site:	Costs: PMU/PIU Contractor	Y		2		Partially done but needed more training
					• Safeguard compliance protocols in place;						
					• Prove of training completion at sites;						
					• Posting of EMP at work sites.						

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No) Y	N	Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 -4); Excellent (5)								**Yet to Start (YTS);**
2	During Construction Phase										
2.1	Physical Characteristics										
2.1.1	Topography, landforms geology and soils:	11	Utilize readily available sources of materials. If contractor procures materials from existing burrow pits and quarries, ensure these conform to all relevant regulatory requirements.	Executive agency/ consultant/	Monthly by PIU:	Mitigation measures: Contract Cost	y		4		
	Significant amount of gravel, sand, and cement will be required for this subproject. Extraction of construction materials may cause localized changes in topography and landforms. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.			Contractor	• Records of sources of materials.						
		12	Borrow areas and quarries (If these are being opened up exclusively for the subproject) must comply with environmental requirements, as applicable. No activity will be allowed until formal agreement is signed between PIU, landowner and contractor.				Y		3		
2.1.2	Water Quality:	13	- Prepare and implement a spoils management plan;	Contractor	Monthly by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	Y		3		only done for CTEIP/MAT/RD/01 & CTEIP/GAL/RD/01
	Excavation, run-off from stockpiled materials, and chemical contamination from fuels and lubricants may result to silt-laden runoff during rainfall which may cause siltation and reduction in the quality of adjacent bodies of water. The impacts are negative but short term, site-specific within a relatively small area and reversible by mitigation measures.	14	- Prioritize re-use of excess spoils and materials in construction activities. If spoils will be disposed, consult with Local Authority on designated disposal areas.		• Areas for stockpiles, storage of fuels and lubricants and waste materials;		Y		3		
		15	- All earthworks must to be conducted during dry season to maximum extent possible to avoid the difficult working conditions that prevail during monsoon season such as problems from runoff.		• Numbers of silt traps installed along trenches leading to water bodies;		Y		3		
		16	- Location for stockyards for construction materials shall be identified at least 300m away from watercourses. Place storage areas for fuels and lubricants away from any drainage leading to water bodies.		• Records of surface water quality inspection;		Y		3		
		17	- Take all precautions to minimize the wastage of water in the construction activities.		• Effectiveness of water management measures with no visible degradation due to construction activities.		Y		4		
		18	- Take all precautions to prevent entering of wastewater into streams, watercourses, or irrigation system. Install temporary silt traps or sedimentation basins along the drainage leading to the water bodies				Y		3		
		19	- Ensure diverting storm water flow during construction shall not lead to inundation and other nuisances in low lying areas.				Y		4		
		20	- While working across or close to any water body, the flow of water must not be obstructed. Ensure no construction materials like earth, stone, or appendage are disposed of in a manner that may block the flow of water of any watercourse and cross drainage				Y		3		

Contract Packages: CTEIP/GAL/DR/01, CTEIP/PIR/DR/01 and CTEIP/AMT/DR/01

5.3: Environmental Management Plan: Drainage Components Monitoring Report

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No)		Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP =	**Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 -4); Excellent (5)**			**Y**	**N**			**Yet to Start (YTS);**
		21	- Monitor water quality according to the environmental management plan.				Y		3		only done for CTEIP/MAT/RD/01 & CTEIP/GAL/RD/01

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No)		Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 -4); Excellent (5)				**Y**	**N**			**Yet to Start (YTS);**
2.1.3	Air Quality:	22	- Damp down exposed soil and any sand stockpiled on site by spraying with water during dry weather;	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	Y		3		only done for CTEIP/MAT/RD/01 & CTEIP/GAL/RD/01
	Conducting works at dry season and moving large quantity of materials may create dusts and increase in concentration of vehicle-related pollutants (such as carbon monoxide, sulphur oxides, particulate matter, nitrous oxides, and hydrocarbons) which will affect people who live and work near the sites. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	**23**	- Use tarpaulins to cover soils, sand and other loose material when transported by trucks.		• Location of stockpiles;		Y		3		
		24	- Unpaved surfaces used for haulage of materials within settlements shall be maintained dust-free.		• Numbers of complaints from sensitive receptors;		Y		3		
		25	- Arrangements to control dust through provision of windscreens, water sprinklers, and dust extraction systems shall be provided at all hot-mix plants, batching plants and crushers (if these establishments are being set up exclusively for the subproject).		• Heavy equipment and Heavy equipment and pollution control devices;		Y		2		Practice to start
		26	- Monitor air quality.		• Certification that vehicles are compliant with air quality standards;		Y		3		only done for CTEIP/MAT/RD/01 & CTEIP/GAL/RD/01
					• Maintain records.						
2.1.4	Acoustic Environment: Construction activities will be on settlements, in and near schools, and areas with small-scale businesses. Temporary increase in noise level and vibrations may be caused by excavation equipment, and the transportation of equipment, materials, and people. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	27	- Involve the community in planning the work program so that any particularly noisy or otherwise invasive activities can be scheduled to avoid sensitive times.	Contractor	Monthly visual Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	Y		3		
		28	- Plan activities in consultation with Local Authority so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least		• Numbers of complaints from sensitive receptors;		Y		4		
		29	- Use of high noise generating equipment shall be stopped during night time.		• Use of silencers in noise producing equipment;		Y		4		
		30	- Horns should not be used unless it is necessary to warn other road users or animals of the vehicle's approach;		• Use of sound barriers;		Y		2		
		31	- Utilize modern vehicles and machinery with the requisite adaptations to limit noise and exhaust emissions, and ensure that these are maintained to manufacturers' specifications at all times.		• Equivalent allowable day and night time noise levels maintained;		Y		3		
		32	- All vehicles and equipment used in construction shall be fitted with exhaust silencers. Use silent-type generators (if required).		• Maintain records.		Y		3		
		33	- Monitor noise levels. Maintain maximum sound levels not exceeding 80 decibels (dBA) when measured at a distance of 10 m or more from the vehicle/s.				Y		3		only done for CTEIP/MAT/RD/01 & CTEIP/GAL/RD/01
		34	- If it is not practicable to reduce noise levels to or below noise exposure limits, the contractor must post warning signs in the noise hazard areas. Workers in a posted noise hazard area must wear hearing protection.				Y		3		only done for CTEIP/MAT/RD/01 & CTEIP/GAL/RD/01

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No)		Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP =	**Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 -4); Excellent (5)**			**Y**	**N**			**Yet to Start (YTS);**
		35	- Identify any buildings at risk from vibration damage and avoiding any use of pneumatic drills or heavy vehicles in the vicinity. Complete work in these areas quickly.								Not Applicable

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No)		Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 -4); Excellent (5)				**Y**	**N**			**Yet to Start (YTS);**
2.1.5	Aesthetics:	**36**	- Prepare the Debris Disposal Plan	Contractor/ District Authority	Monthly visual Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost		N	2		To be instigated
	The construction activities do not anticipate any cutting of trees but will produce excess excavated earth (spoils), excess construction materials, and solid waste such as removed concrete, wood, packaging materials, empty containers, spoils, oils, lubricants, and other similar items. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	37	- Remove all construction and demolition wastes on a daily basis.		• Numbers of complaints from sensitive receptors;			N	2		To be instigated
		38	- Coordinate with Local Authority for beneficial uses of excess excavated soils or immediately dispose to designated areas Avoid stockpiling of any excess spoils		• Work site clear of, hazardous waste, oil/fuel, ;		Y		2		
		39	- Suitably dispose of collected materials from drainages, unutilized materials and debris either through filling up of pits/wasteland or at pre-designated disposal locations.		• Work site clear of any wastes collected materials from drainages, unutilized materials, debris;						Not Applicable
		40	- All vehicles delivering fine materials to the site and carrying waste debris for disposal shall be covered to avoid spillage of materials. All existing roads used by vehicles of the contractor, shall be kept clear of all dust/mud or other extraneous materials dropped by such vehicles.		• Transport routes to and fro site, within site, cleared of any dust/mud;		Y		2		
		41	- Lighting on construction sites shall be pointed downwards and away from oncoming traffic and nearby houses.		• Maintain records.		Y		2		Not fully applied
		42	- In areas where the visual environment is particularly important or privacy concerns for surrounding buildings exist, the site may require screening. This could be in the form of shade cloth, temporary walls, or other suitable materials prior to the beginning of construction								Not Applicable
		43	- - The site must be kept clean to minimize the visual impact of the site. Manage solid waste according to the following preference hierarchy: reuse, recycling and disposal to designated areas.				Y		3		
2.2	Biological Characteristics										
2.2.1	Biodiversity:	44	- Check if tree-cutting will be required during detailed design stage. No trees, shrubs, or groundcover may be removed or vegetation stripped without the prior permission of the environment management specialist.	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	Y		3		
	Activities being located in the built-up area of Pourashava. There are no protected areas in or around subproject sites, and no known areas of ecological interest. There are no trees at the site that need to be removed.	**45**	- If during detailed design cutting of trees will be required, compensatory plantation for trees lost at a rate of 10 trees for every tree cut, in addition to tree plantation as specified in the design, will be implemented by the contractor, who will also maintain the saplings for the duration of his contract.		OR		Y		3		
		46	- All efforts shall be made to preserve trees by evaluation of minor design adjustments/ alternatives (as applicable) to save trees.		More frequently as the need arises:		Y		4		
		47	- Special attention shall be given for protecting giant trees and locally-important trees (with religious importance) during implementation.		• PMU and PIU to report in writing the number of trees cut and planted;		Y		4		
		48	- Prevent workers or any other person from removing and damaging any flora (plant/vegetation) and fauna (animal) including fishing in any water body in the subproject vicinity.		• If tree cutting required, to be determined during Design stage;		Y		3		
		49	- Prohibit employees from poaching wildlife and cutting of trees for firewood.		• Numbers of complaints from sensitive receptors on disturbance of vegetation, poaching, fishing etc.		Y		3		

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No)		Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = **Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 -4); Excellent (5)**				**Y**	**N**			**Yet to Start (YTS);**
2.3	Socioeconomic Characteristics										
2.3.1	Existing provisions for pedestrians and other forms of transport:	**51**	- Plan transportation routes so that heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites.	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	Y		3		
	Road closure is not anticipated. Hauling of construction materials and operation of equipment on- site may cause traffic problems. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures	52	- Maintain safe passage for vehicles and pedestrians throughout the construction period.		OR		Y		4		
		53	- Schedule truck deliveries of construction materials during periods of low traffic volume.		More frequently as the need arises:		Y		3		
		54	- Erect and maintain barricades, including signs, markings, flags and flagmen informing diversions and alternative routes when required.		• Traffic route during construction works including number of permanent signages barricades and flagmen on worksite as per Traffic Management Plan;			N	1		To be followed
		55	- Notify affected sensitive receptors by providing sign boards informing nature and duration of construction activities and contact numbers for concerns/complaints.		• Numbers of complaints from sensitive receptors;		Y		2		
		56	- Leave spaces for access between mounds of soil.		• Number of signages placed at project location;		Y		3		
		57	- Provide walkways and metal sheets where required to maintain access across for people and vehicles.		• Number of walkways signages, and metal sheets placed at project at project location.		Y		2		
		58	- Increase workforce in front of critical areas such as institutions, place of worship, business establishment, hospitals, and schools.				Y		2		
		59	- Consult businesses and institutions regarding operating hours and factoring this in work schedules. Ensure there is provision of alternate access to businesses and institutions during construction activities, so that there is no closure of these shops or any loss of clientele.				Y		3		
		60	- Ensure any damage to properties and utilities will be restored or compensated to pre-work conditions.								YTS
		61	- Coordinate with local authorities and prepare prior approved Traffic Management Plan (TMP), refer to TMP guidelines given in					N	1		To be followed
2.3.2	Socio-economic status:	62	Employ at least 50% of labour force from communities in the vicinity of the site. This will have the added benefit of avoiding social problems that sometimes occur when workers are imported into host communities, and avoiding environmental and social problems from workers housed in poorly serviced camp accommodation.	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	Y		3		
	Subproject components will be located in government land and existing school compounds thus there is no requirement for land acquisition or any resettlements. Manpower will be required during the 24-months construction stage. This can result to generation of contractual				OR						
		63	Secure construction materials from local market.		More frequently as the need arises:		Y		3		
					• Employment records;						
		64	Enforcement Gender protocol according to the Gender Action Plan.		• Records of sources of materials;		Y		2		

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			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 -4); Excellent (5)								**Yet to Start (YTS);**
	employment and increase in local revenue.				• Records of compliance to Bangladesh Labour law and other applicable standards;						
					• Utilities contingency plan;						
					• Numbers of complaints from sensitive receptors.						
2.3.3	Other existing amenities for community welfare:	65	- Obtain details from Pourashava nature and location of all existing infrastructure, and plan excavation carefully to avoid any such sites to maximum extent possible;	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost					Not Applicable
	Although construction of subproject components involves quite simple techniques of civil work, the invasive nature of excavation and the subproject sites being in built-up areas of the Pourashava where there are a variety of human activities, will result in impacts to the sensitive receptors such as residents, businesses, and the community in general.	**66**	- Integrate construction of the various infrastructure subprojects to be conducted in the Pourashava (roads, water supply, etc.) so that different infrastructure is located on opposite sides of the road where feasible and roads and inhabitants are not subjected to repeated disturbance by construction in the same area at different times for different purposes.		OR		Y		3		
	Excavation may also damage existing infrastructure (such as water distribution pipes, electricity pylons, etc) located alongside the roads. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	67	- Consult with local community to inform them of the nature, duration and likely effects of the construction work, and to identify any local concerns so that these can be addressed.		More frequently as the need arises:		Y		3		
		68	- Existing infrastructure (such as water distribution pipes, electricity pylons, etc.) shall be relocated before construction starts at the subproject sites.		• Utilities contingency plan;						Not Applicable
		69	- Prior permission shall be obtained from respective local authority for use of water for construction. Use of water for construction works shall not disturb local water users.		• Numbers of complaints from sensitive receptors.		Y		3		
		70	- If construction work is expected to disrupt users of community water bodies, notice to the affected community shall be served 7 days in advance and again 1 day prior to start of construction.								Not Applicable
		71	- Ensure any damage to properties and utilities will be restored or compensated to pre-work conditions.								YTS
2.3.4	Community Health and Safety:	**72**	- Contractor's activities and movement of staff will be restricted to designated construction areas.	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	Y		3		
	Construction works will impede the access of residents and businesses in limited cases. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	73	- Locations of hot-mix plants, batching plants and crushers (if these establishments are being set up exclusively for the subproject) shall be shall be located at least 100 m away from the nearest dwelling preferably in the downwind direction.		OR		Y		3		
		74	- Consult with the Local Authority on the designated areas for stockpiling of, soils, gravel, and other construction materials.		More frequently as the need arises:		Y		3		
		75	- If the contractor chooses to locate the work camp/storage area on private land, he must get prior permission from the environment management specialist and landowner.		• Number of permanent signages, barricades and flagmen on worksite as per Traffic Management Plan;						Not Applicable

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No)		Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 -4); Excellent (5)				**Y**	**N**			**Yet to Start (YTS);**
		76	- Use small mechanical excavators to attain faster excavation progress. For rock and concrete breaking, use non-explosive blasting chemicals, silent rock cracking chemicals, and concrete breaking chemicals.		• Numbers of complaints from sensitive receptors;						Not Applicable
		77	- Under no circumstances may open areas or the surrounding bushes be used as a toilet facility.		• Number of walkways signages, and metal sheets placed at project at project location;		Y		4		
		78	- Recycling and the provision of separate waste receptacles for different types of waste shall be encouraged.		• Agreement between landowner and contractors in case of using private lands as work camps, storage areas etc.		Y		2		To be improved
			- A general regard for the social and ecological well-being of the site and adjacent areas is expected of the site staff. Workers need to be made aware of the following general rules:								
		79	- no alcohol/drugs on site; (ii) prevent excessive noise; (iii) construction staff are to make use of the facilities provided for them, as opposed to ad hoc alternatives (e.g. fires for cooking, the use of surrounding bushes as a toilet facility); (iv) no fires permitted on site except if needed for the construction works;				Y		4		
		80	- (v) trespassing on private/commercial properties adjoining the site is forbidden; (vi) other than pre-approved security staff, no workers shall be permitted to live on the construction site; and (vii) no worker may be forced to do work that is potentially dangerous or that he/she is not trained to do.				Y		3		
		81	- Interested and affected parties need to be made aware of the existence of the complaints book and the methods of communication available to them. The contractor must address queries and complaints by: (i) documenting details of such communications; (ii) submitting these for inclusion in complaints register; (iii) bringing issues to the environment management specialist's attention immediately; and (iv) taking remedial action as per environment management specialist's instruction				Y		2		To be improved
		82	- The contractor shall immediately take the necessary remedial action on any complaint/grievance received by him and forward the details of the grievance along with the action taken to the environment management specialist within 48 hours of receipt of such complaint/grievance.					N	2		Yet to be followed
2.3.5	Worker's health and safety:	**83 to 93**	For social monitoring references 83 to 93: Refer to the Social Safeguards Monitoring Report.	Contractor	DAILY INSPECTION BY CONTRACTOR'S SUPERVISOR						Refer to the Social Safeguards Monitoring Report.
2.4	Historical, Cultural and Archaeological										
2.4.1	Physical and cultural heritage:	94	- All fossils, coins, articles of value of antiquity, structures and other remains of archaeological interest discovered on the site shall be the property of the government.	Contractor	Monthly Inspection by PIU and PMSC:	Mitigation measures: Contract Cost					YTS
	Construction works will not be in built-up areas of the Pourashava but risk for chance finds maybe low.	95	- Prevent workers or any other persons from removing and damaging any fossils, coins, articles of value of antiquity, structures and other remains of archaeological interest.		• Records of chance finds.						YTS
		96	- Stop work immediately to allow further investigation if any finds								YTS
3	Others										

Contract Packages: CTEIP/GAL/DR/01, CTEIP/PIR/DR/01 and CTEIP/AMT/DR/01

5.3: Environmental Management Plan: Drainage Components Monitoring Report

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No) Y	N	Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 -4); Excellent (5)								**Yet to Start (YTS);**
3.1	Submission of EMP implementation Report	97	- Appointment of Supervisor to ensure EMP implementation;	Contractor	Monthly monitoring report to be submitted by PIU and PMSC	Mitigation measures: Contract Cost	Y		2		To be improved
	Unsatisfactory compliance to EMP	98	- Timely submission of monitoring reports including pictures.		PMU to submit semi-annual monitoring report to ADB:		Y		2		To be followed
					• Availability and competency of appointed Supervisor;						
					• Monthly Report.						

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No) Y	N	Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 -4); Excellent (5)								**Yet to Start (YTS);**
4	Post Construction Activities										
4.1	Post-construction clean-up:	99	- Remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required;	Contractor	**Prior to turn-over of completed Works to the Pourashava**:	Mitigation measures: Contract Cost					Not Applicable
	Damage due to debris, spoils, excess construction materials.	100	- All excavated roads shall be reinstated to original condition;		• PMU/PMSC report in writing that (i) worksite is restored to original conditions; (ii) camp has been vacated and restored to pre-project conditions; (iii) all construction related structures not relevant to O&M are removed and (iv) worksite cleanup is satisfactory.						Not Applicable
		101	- All disrupted utilities restored;								Not Applicable
		102	- All affected structures rehabilitated/compensated;								Not Applicable
		103	- The area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up;								YTS
		104	- All hardened surfaces within the construction camp area shall be ripped;								Not Applicable
		105	- All imported materials removed and the area shall be top soiled and regressed using guidelines set out in the re-vegetation specification that forms part of this document;								YTS
		106	- The contractor must arrange the cancellation of all temporary services;								YTS
		107	- Request PMU/PMSC to report in writing that worksites and camps have been vacated and restored to pre-project conditions before acceptance of work.								YTS
5	Operation and Maintenance Phase										
5.1	Physical Characteristics										
5.1.1	Acoustic environment:	108	- Plan activities in consultation with the Local Authority so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least	Contractor and Pourashava	**During repair works**:	Included in O&M Costs					YTS
	Temporary increase in noise level and vibrations. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	109	- Identify any buildings at risk from vibration damage and avoiding any use of pneumatic drills or heavy vehicles in the vicinity. Complete work in these areas quickly.		• No complaints from sensitive receptors.						YTS
5.2	Socioeconomic Characteristics										
5.2.1	Workers health and safety:	110 to 112	For social monitoring references 110 to 112: Refer to the Social Safeguards Monitoring Report.	Pourashava	**During repair works**:						Refer to the Social Safeguards Monitoring Report.
	Overall EMP Compliance Rating:								199		
	Remarks:		**Key Non-Compliance Record:**		Notes: YTS/Not Applicable				27		
					Numerator Value				71		
					Overall Score					**2.8**	**Partial Satisfactory**
			98 Total Environmental monitoring parameters:		**Non Compliance Recorded**				**5**		

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No) Y	N	Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 - 4); Excellent (5)								**Yet to Start (YTS);**
1	During Pre-Construction Phase										
1.1	Landscape:	1	• Development of the designs for the shelter must be compatible with the surrounding environment.	Executive agency/ Consultant/	During Design Stage:	Consultancy Cost and EMP	y		3		
	Adverse effects on aesthetics				Incorporated design considerations						
1.2	Consents: NOC's:	2	• Obtain all necessary consents, clearances, permits, NOC's prior to start of the Works;	PMU/PIU, DDS Designer, PMSC	During Design Stage:	No costs required as mitigated measures put in place during Design phase	Y		3		
	Failure to obtain necessary consents, permits, NOC's can result in design revisions and/or stoppage of the Works	3	• Acknowledge in writing and provide report on compliance all obtained on consents, clearances, permits, NOC's;		Incorporated design considerations						Not Applicable
		4	• Include in detailed design drawings and documents all conditions and provisions if necessary.								Not Applicable
1.3	Existing utilities::	5	• Identify and include locations and operators of theses utilities in detailed design documents to prevent	PMU/PIU, DDS Designer, PMSC	During Design Stage:	No costs required as mitigated measures put in place during Design phase					
	Disruption of services	6	• Require construction contractors to prepare contingency plan to include actions to be done in case of unintentional interruption of services;		• List of affected utilities and operators in Bid Document;						Not Applicable
		7	• Require construction contractors to prepare spoils management plan:		• Required contingency plans for service interruption;		Y		3		
			i) Spoils Information:		• Follow Spoils Management Plan.		Y		3		
			Materials Type; Potential Contamination; Expected Volume and Sources; Spoil Classification								
			ii) Spoils Management:								
			Transportation of Spoil; Storage of Spoil; Contamination of Spoil; Approved Reuse and/or Disposal Sites								
			iii) Records of Reuse and/or Disposal								
1.4	Construction work camps,:	8	• Determine locations prior to award of construction contracts;	PMU/PIU, DDS Designer, PMSC	During Design Stage:	No costs required as mitigated measures put in place during Design phase	y		3		
	Hot mix plants, stockpile areas, storage disposal areas: Disruption to traffic flow and sensitive receptors				• List of selected sites;						
					• Indentified sources of materials;						
					• Written consent by landowners for disposal to agricultural land.						
1.5	Sources of Materials:	9	• Prepare list of approved quarry sites and sources of materials.	PMU/PIU, DDS Designer, PMSC	During Design Stage:	No costs required as mitigated measures put in place during Design phase					Not Applicable
	Extraction of material can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage, patterns, ponding and water logging and water pollution				• List of approved quarries and sources of materials;						
					• Bid document to include appropriate clauses;						
					• Bid document to include clause for verification of suitable sources						
1.6	EMP Implementation Training: Negative irreversible impact to the environment, workers and community	10	• Project manager and all key workers will be required to undergo EMP implementation including spoils management, Standard operating procedures (SOP) for construction works; health and safety (H&S), core labour laws, and applicable environmental laws.	Contractor with assistance of PIU, ICCDC and PMSC	During Design Stage and during mobilization of workers to site:	Costs: PMU/PIU Contractor	y		3		Partially done but needed more training
					• Safeguard compliance protocols in place;						
					• Prove of training completion at sites;						
					• Posting of EMP at work sites.						
2	During Construction Phase										

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No) Y	Status of EMP (Yes / No) N	Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 - 4); Excellent (5)								**Yet to Start (YTS);**
2.1	Physical Characteristics										
2.1.1	Topography, landforms geology and soils:	11	Utilize readily available sources of materials. If contractor procures materials from existing burrow pits and quarries, ensure these conform to all relevant regulatory requirements.	Executive agency/ consultant/	Monthly by PIU:	Mitigation measures: Contract Cost	y		4		
	Significant amount of gravel, sand, and cement will be required for this subproject. Extraction of construction materials may cause localized changes in topography and landforms. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.			contractor	• Records of sources of materials.						
		12	Borrow areas and quarries (If these are being opened up exclusively for the subproject) must comply with environmental requirements, as applicable. No activity will be allowed until formal agreement is signed between PIU, landowner and contractor.								Not Applicable
2.1.2	Water Quality:	13	- Prepare and implement a spoils management plan;	Contractor	Monthly by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	y		3		
	Excavation, run-off from stockpiled materials, and chemical contamination from fuels and lubricants may result to silt-laden runoff during rainfall which may cause siltation and reduction in the quality of adjacent bodies of water. The impacts are	14	- Prioritize re-use of excess spoils and materials in construction activities. If spoils will be disposed, consult with Local Authority on designated disposal areas.		• Areas for stockpiles, storage of fuels and lubricants and waste materials;		y		3		
		15	- All earthworks must to be conducted during dry season to maximum extent possible to avoid the difficult working conditions that prevail during monsoon season such as problems from runoff.		• Numbers of silt traps installed along trenches leading to water bodies;		Y		3		
		16	- Location for stockyards for construction materials shall be identified at least 300m away from watercourses. Place storage areas for fuels and lubricants away from any drainage leading to water bodies.		• Records of surface water quality inspection;		Y		3		
		17	- Take all precautions to minimize the wastage of water in the construction activities.		• Effectiveness of water management measures with no visible degradation due to construction activities.		Y		3		
		18	- Take all precautions to prevent entering of wastewater into streams, watercourses, or irrigation system. Install temporary silt traps or sedimentation basins along the drainage leading to the water bodies.				Y		3		
		19	- Ensure diverting storm water flow during construction shall not lead to inundation and other nuisances in low lying areas.				Y		4		
		20	- While working across or close to any water body, the flow of water must not be obstructed. Ensure no construction materials like earth, stone, or appendage are disposed of in a manner that may block the flow of water of any watercourse and cross drainage channels.				Y		3		
		21	- Monitor water quality according to the environmental management plan.				Y		5		Done for 04 active contract packages and Testing to be start for another active contract package
2.1.3	Air Quality:	22	- Damp down exposed soil and any sand stockpiled on site by spraying with water during dry weather;	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	y		5		Done for 04 active contract packages and Testing to be start for another active contract

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No)		Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 - 4); Excellent (5)				**Y**	**N**			**Yet to Start (YTS);**
	Conducting works at dry season and moving large quantity of materials may create dusts and increase in concentration of vehicle-related pollutants (such as carbon monoxide, sulphur oxides, particulate matter, nitrous oxides, and hydrocarbons) which will affect people who live and work near the sites. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	**23**	- Use tarpaulins to cover soils, sand and other loose material when transported by trucks.		• Location of stockpiles;		y		3		
		24	- Unpaved surfaces used for haulage of materials within settlements shall be maintained dust-free.		• Numbers of complaints from sensitive receptors;		Y		3		
		25	- Arrangements to control dust through provision of windscreens, water sprinklers, and dust extraction systems shall be provided at all hot-mix plants, batching plants and crushers (if these establishments are being set up exclusively for the subproject).		• Heavy equipment and Heavy equipment and pollution control devices;		Y		3		started but needs further improvement
		26	- Monitor air quality.		• Certification that vehicles are compliant with air quality standards;		Y		5		Done for 04 active contract packages and Testing to be start for another active contract package
					• Maintain records.						
2.1.4	Acoustic Environment: Construction activities will be on settlements, in and near schools, and areas with small-scale businesses. Temporary increase in noise level and vibrations may be caused by excavation equipment, and the transportation of equipment, materials, and people. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	27	- Involve the community in planning the work program so that any particularly noisy or otherwise invasive activities can be scheduled to avoid sensitive times.	Contractor	Monthly visual Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	Y		3		
		28	- Plan activities in consultation with Local Authority so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance.		• Numbers of complaints from sensitive receptors;		Y		3		
		29	- Use of high noise generating equipment shall be stopped during night time.		• Use of silencers in noise producing equipment;		Y		3		
		30	- Horns should not be used unless it is necessary to warn other road users or animals of the vehicle's approach:		• Use of sound barriers;		y		3		
		31	- Utilize modern vehicles and machinery with the requisite adaptations to limit noise and exhaust emissions, and ensure that these are maintained to manufacturers' specifications at all times.		• Equivalent allowable day and night time noise levels maintained;		Y		3		
		32	- All vehicles and equipment used in construction shall be fitted with exhaust silencers. Use silent-type generators (if required).		• Maintain records.		Y		2		Poor records taken
		33	- Monitor noise levels. Maintain maximum sound levels not exceeding 80 decibels (dBA) when measured at a distance of 10 m or more from the vehicle/s.				Y		5		
		34	- If it is not practicable to reduce noise levels to or below noise exposure limits, the contractor must post warning signs in the noise hazard areas. Workers in a posted noise hazard area must wear hearing protection.				y		3		
		35	- Identify any buildings at risk from vibration damage and avoiding any use of pneumatic drills or heavy vehicles in the vicinity. Complete work in these areas quickly.				Y		3		
2.1.5	Aesthetics:	**36**	- Prepare the Debris Disposal Plan	Contractor/ District Authority	Monthly visual Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost		N	2		To be instigated
	The construction activities do not anticipate any cutting of trees but will produce excess excavated earth (spoils), excess construction materials, and solid waste such as removed concrete, wood, packaging materials, empty containers, spoils, oils, lubricants, and other similar items. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	37	- Remove all construction and demolition wastes on a daily basis.		• Numbers of complaints from sensitive receptors;		Y		2		
		38	- Coordinate with Local Authority for beneficial uses of excess excavated soils or immediately dispose to designated areas Avoid stockpiling of any excess spoils		• Work site clear of, hazardous waste, oil/fuel, ;		Y		2		
		39	- Suitably dispose of collected materials from drainages, unutilized materials and debris either through filling up of pits/wasteland or at pre-designated disposal locations.		• Work site clear of any wastes collected materials from drainages, unutilized materials, debris;						Not Applicable
		40	- All vehicles delivering fine materials to the site and carrying waste debris for disposal shall be covered to avoid spillage of materials. All existing roads used by vehicles of the contractor, shall be kept clear of all dust/mud or other extraneous materials dropped by such vehicles.		• Transport routes to and fro site, within site, cleared of any dust/mud;		Y		2		

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			Status of EMP = **Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 - 4); Excellent (5)**				**Y**	**N**			**Yet to Start (YTS);**
		41	- Lighting on construction sites shall be pointed downwards and away from oncoming traffic and nearby houses.		• Maintain records.		Y		2		Not fully applied
		42	- In areas where the visual environment is particularly important or privacy concerns for surrounding buildings exist, the site may require screening. This could be in the form of shade cloth, temporary walls, or other suitable materials prior to the beginning of construction.								Not Applicable
		43	- - The site must be kept clean to minimize the visual impact of the site. Manage solid waste according to the following preference hierarchy: reuse, recycling and disposal to designated areas.				Y		2		Not fully complied

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			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 - 4); Excellent (5)								**Yet to Start (YTS);**
2.2	Biological Characteristics										
2.2.1	Biodiversity:	44	- Check if tree-cutting will be required during detailed design stage. No trees, shrubs, or groundcover may be removed or vegetation stripped without the prior permission of the environment management specialist.	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost					Not Applicable
	Activities being located in the built-up area of Pourashava. There are no protected areas in or around subproject sites, and no known areas of ecological interest. There are no trees at the site that need to be removed.	**45**	- If during detailed design cutting of trees will be required, compensatory plantation for trees lost at a rate of 10 trees for every tree cut, in addition to tree plantation as specified in the design, will be implemented by the contractor, who will also maintain the saplings for the duration of his contract.		OR						Not Applicable
		46	- All efforts shall be made to preserve trees by evaluation of minor design adjustments/ alternatives (as applicable) to save trees.		More frequently as the need arises:						Not Applicable
		47	- Special attention shall be given for protecting giant trees and locally-important trees (with religious importance) during implementation.		• PMU and PIU to report in writing the number of trees cut and planted;						Not Applicable
		48	- Prevent workers or any other person from removing and damaging any flora (plant/vegetation) and fauna (animal) including fishing in any water body in the subproject vicinity.		• If tree cutting required, to be determined during Design stage;						Not Applicable
		49	- Prohibit employees from poaching wildlife and cutting of trees for firewood.		• Numbers of complaints from sensitive receptors on disturbance of vegetation, poaching, fishing etc.						Not Applicable
2.3	Socioeconomic Characteristics										
2.3.1	Existing provisions for pedestrians and other forms of transport:	**51**	- Plan transportation routes so that heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites.	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	Y		3		
	Road closure is not anticipated. Hauling of construction materials and operation of equipment on- site may cause traffic problems. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	52	- Maintain safe passage for vehicles and pedestrians throughout the construction period.		OR		Y		3		
		53	- Schedule truck deliveries of construction materials during periods of low traffic volume.		More frequently as the need arises:		Y		3		
		54	- Erect and maintain barricades, including signs, markings, flags and flagmen informing diversions and alternative routes when required.		• Traffic route during construction works including number of permanent signages barricades and flagmen on worksite as per Traffic Management Plan;						Not Applicable
		55	- Notify affected sensitive receptors by providing sign boards informing nature and duration of construction activities and contact numbers for concerns/complaints.		• Numbers of complaints from sensitive receptors;		Y		4		
		56	- Leave spaces for access between mounds of soil.		• Number of signages placed at project location;		Y		3		
		57	- Provide walkways and metal sheets where required to maintain access across for people and vehicles.		• Number of walkways signages, and metal sheets placed at project at project location.						Not Applicable
		58	- Increase workforce in front of critical areas such as institutions, place of worship, business establishment, hospitals, and schools.				Y		2		
		59	- Consult businesses and institutions regarding operating hours and factoring this in work schedules. Ensure there is provision of alternate access to businesses and institutions during construction activities, so that there is no closure of these shops or any loss of clientele.				Y		3		
		60	- Ensure any damage to properties and utilities will be restored or compensated to pre-work conditions.								Not Applicable
		61	- Coordinate with local authorities and prepare prior approved Traffic Management Plan (TMP), refer to TMP guidelines given in Annexure I.								Not Applicable
2.3.2	Socio-economic status:	62	Employ at least 50% of labour force from communities in the vicinity of the site. This will have the added benefit of avoiding social problems that sometimes occur when workers are imported into host communities, and avoiding environmental and social problems from workers housed in poorly serviced camp accommodation.	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	Y		3		
	Subproject components will be located in				OR						

Ref. No.	Field: Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No) Y	Status of EMP (Yes / No) N	Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 - 4); Excellent (5)								**Yet to Start (YTS);**
	government land and existing school compounds thus there is no requirement for land acquisition or any resettlements. Manpower will be required during the 24-months construction stage. This can result to generation of contractual employment and increase in local revenue.	63	Secure construction materials from local market.		More frequently as the need arises:		Y		3		
					• Employment records;						
		64	Enforcement Gender protocol according to the Gender Action Plan.		• Records of sources of materials;		y		3		
					• Records of compliance to Bangladesh Labour law and other applicable standards;						
					• Utilities contingency plan;						
					• Numbers of complaints from sensitive receptors.						
2.3.3	Other existing amenities for community welfare:	65	- Obtain details from Pourashava nature and location of all existing infrastructure, and plan excavation carefully to avoid any such sites to maximum extent possible;	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost					Not Applicable
	Although construction of subproject components involves quite simple techniques of civil work, the invasive nature of excavation and the subproject sites being in built-up areas of the Pourashava where there are a variety of human activities, will result in impacts to the sensitive receptors such as residents, businesses, and the community in general.	**66**	- Integrate construction of the various infrastructure subprojects to be conducted in the Pourashava (roads, water supply, etc.) so that different infrastructure is located on opposite sides of the road where feasible and roads and inhabitants are not subjected to repeated disturbance by construction in the same area at different times for different purposes.		OR						Not Applicable
	Excavation may also damage existing infrastructure (such as water distribution pipes, electricity pylons, etc) located alongside the roads. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	67	- Consult with local community to inform them of the nature, duration and likely effects of the construction work, and to identify any local concerns so that these can be addressed.		More frequently as the need arises:		Y		3		
		68	- Existing infrastructure (such as water distribution pipes, electricity pylons, etc.) shall be relocated before construction starts at the subproject sites.		• Utilities contingency plan;						Not Applicable
		69	- Prior permission shall be obtained from respective local authority for use of water for construction. Use of water for construction works shall not disturb local water users.		• Numbers of complaints from sensitive receptors.		Y		3		
		70	- If construction work is expected to disrupt users of community water bodies, notice to the affected community shall be served 7 days in advance and again 1 day prior to start of construction.								Not Applicable
		71	- Ensure any damage to properties and utilities will be restored or compensated to pre-work conditions.								Not Applicable
2.3.4	Community Health and Safety:	**72**	- Contractor's activities and movement of staff will be restricted to designated construction areas.	Contractor	Monthly Inspection by PIU and PMSC (frequency and sampling sites to be finalized during design stage and agreed during construction stage):	Mitigation measures: Contract Cost	Y		3		
	Construction works will impede the access of residents and businesses in limited cases. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	73	- Locations of hot-mix plants, batching plants and crushers (if these establishments are being set up exclusively for the subproject) shall be shall be located at least 100 m away from the nearest dwelling preferably in the downwind direction.		OR		Y		3		
		74	- Consult with the Local Authority on the designated areas for stockpiling of, soils, gravel, and other construction materials.		More frequently as the need arises:						Not Applicable
		75	- If the contractor chooses to locate the work camp/storage area on private land, he must get prior permission from the environment management specialist and landowner.		• Number of permanent signages, barricades and flagmen on worksite as per Traffic Management Plan;						Not Applicable
		76	- Use small mechanical excavators to attain faster excavation progress. For rock and concrete breaking, use non-explosive blasting chemicals, silent rock cracking chemicals, and concrete breaking chemicals.[1]		• Numbers of complaints from sensitive receptors;						Not Applicable
		77	- Under no circumstances may open areas or the surrounding bushes be used as a toilet facility.		• Number of walkways signages, and metal sheets placed at project at project location;		Y		4		

Ref. No.	Field: / Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: / Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No) Y	Status of EMP (Yes / No) N	Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 - 4); Excellent (5)								**Yet to Start (YTS);**
		78	- Recycling and the provision of separate waste receptacles for different types of waste shall be encouraged.		• Agreement between landowner and contractors in case of using private lands as work camps, storage areas etc.		Y		2		To be improved
			- A general regard for the social and ecological well-being of the site and adjacent areas is expected of the site staff. Workers need to be made aware of the following general rules:								
		79	- no alcohol/drugs on site; (ii) prevent excessive noise; (iii) construction staff are to make use of the facilities provided for them, as opposed to ad hoc alternatives (e.g. fires for cooking, the use of surrounding bushes as a toilet facility); (iv) no fires permitted on site except if needed for the construction works;				Y		4		
		80	- (v) trespassing on private/commercial properties adjoining the site is forbidden; (vi) other than pre-approved security staff, no workers shall be permitted to live on the construction site; and (vii) no worker may be forced to do work that is potentially dangerous or that he/she is not trained to do.				Y		3		
		81	- Interested and affected parties need to be made aware of the existence of the complaints book and the methods of communication available to them. The contractor must address queries and complaints by: (i) documenting details of such communications; (ii) submitting these for inclusion in complaints register; (iii) bringing issues to the environment management specialist's attention immediately; and (iv) taking remedial action as per environment management specialist's instruction.					N	2		
		82	- The contractor shall immediately take the necessary remedial action on any complaint/grievance received by him and forward the details of the grievance along with the action taken to the environment management specialist within 48 hours of receipt of such complaint/grievance.					N	2		
2.3.5	Worker's health and safety:	**83 to 93**	For social monitoring references 83 to 93: Refer to the Social Safeguards Monitoring Report.	Contractor	DAILY INSPECTION BY CONTRACTOR'S SUPERVISOR						Refer to the Social Safeguards Monitoring Report.
2.4	Historical, Cultural and Archaeological Characteristics										
2.4.1	Physical and cultural heritage:	94	- All fossils, coins, articles of value of antiquity, structures and other remains of archaeological interest discovered on the site shall be the property of the government.	Contractor	Monthly Inspection by PIU and PMSC:	Mitigation measures: Contract Cost					YTS
	Construction works will not be in built-up areas of the Pourashava but risk for chance finds maybe low.	95	- Prevent workers or any other persons from removing and damaging any fossils, coins, articles of value of antiquity, structures and other remains of archaeological interest.		• Records of chance finds.						YTS
		96	- Stop work immediately to allow further investigation if any finds are suspected.								YTS
3	Others										
3.1	Submission of EMP implementation Report	97	- Appointment of Supervisor to ensure EMP implementation;	Contractor	Monthly monitoring report to be submitted by PIU and PMSC	Mitigation measures: Contract Cost	Y		3		
	Unsatisfactory compliance to EMP	98	- Timely submission of monitoring reports including pictures.		PMU to submit semi-annual monitoring report to ADB:		Y		3		
					• Availability and competency of appointed Supervisor;						
					• Monthly Report.						

Ref. No.	Field: / Impacts	Reference	Mitigation Measures	Implementing Agency/ Responsibility	Monitoring Frequency: / Monitoring Indicators	Cost (TK)	Status of EMP (Yes / No) Y	Status of EMP (Yes / No) N	Progress Grading	EMP Score	Remarks / Additional Corrective Measures Required
			Status of EMP = Poor (0); Below Satisfactory (1); Partially Satisfactory (2); Satisfactory (3 - 4); Excellent (5)								**Yet to Start (YTS);**
4	Post Construction Activities										
4.1	Post-construction clean-up:	99	- Remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required;	Contractor	**Prior to turn-over of completed Works to the Pourashava**:	Mitigation measures: Contract Cost					Not Applicable
	Damage due to debris, spoils, excess construction materials.	100	- All excavated roads shall be reinstated to original condition;		• PMU/PMSC report in writing that (i) worksite is restored to original conditions; (ii) camp has been vacated and restored to pre-project conditions; (iii) all construction related structures not relevant to O&M are removed and (iv) worksite cleanup is satisfactory.						Not Applicable
		101	- All disrupted utilities restored;								Not Applicable
		102	- All affected structures rehabilitated/compensated;								Not Applicable
		103	- The area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up;								YTS
		104	- All hardened surfaces within the construction camp area shall be ripped;								Not Applicable
		105	- All imported materials removed and the area shall be top soiled and regressed using guidelines set out in the re-vegetation specification that forms part of this document;								YTS
		106	- The contractor must arrange the cancellation of all temporary services;								YTS
		107	- Request PMU/PMSC to report in writing that worksites and camps have been vacated and restored to pre-project conditions before acceptance of work.								YTS
5	Operation and Maintenance Phase										
5.1	Physical Characteristics										
5.1.1	Acoustic environment:	108	- Plan activities in consultation with the Local Authority so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance.	Contractor and Pourashava	**During repair works**:	Included in O&M Costs					YTS
	Temporary increase in noise level and vibrations. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	109	- Identify any buildings at risk from vibration damage and avoiding any use of pneumatic drills or heavy vehicles in the vicinity. Complete work in these areas quickly.		• No complaints from sensitive receptors.						YTS
5.2	Socioeconomic Characteristics										
5.2.1	Workers health and safety:	110 to 112	For social monitoring references 110 to 112: Refer to the Social Safeguards Monitoring Report.	Pourashava	**During repair works**:						Refer to the Social Safeguards Monitoring Report.
	Overall EMP Compliance Rating:				Total Score				176		
	Remarks:		**Key Non-Compliance Record:**		Notes: YTS/Not Applicable				39		
					Numerator Value				59		
					Overall Score					**3.0**	**Satisfactory**
			98 Total Environmental monitoring parameters:		**Non Compliance Recorded**				**3**		