Government of the People's Republic of Bangladesh
Ministry of Local Government, Rural Development and Cooperatives
Local Government Division

Improving Urban Governance and Infrastructure Program (IUGIP)

INITIAL ENVIRONMENTAL EXAMINATION

Sub-Project No: IUGIP/MATL/UT/02/2023

MATLAB POURASHAVA

May 2024

Updated by: MDS Consultants

Development Design Consultants Limited (DDC)

Resource Planning and Management Consultants (Pvt) Ltd. (RPMC)

Design Planning & Management Consultants Limited (DPM)

CURRENCY EQUIVALENTS
(As of 13th December, 2022)
Currency Unit = BDT
BDT 1.00 = $ 0.0097
$ 1.00 = BDT 105.4

ABBREVIATIONS

ADB	-	Asian Development Bank
AFD	-	Agence Francaise de Developpment
Ap	-	Affective Person
DoE	-	Department of environment
DLI	-	Disbursement Link Indicator
ECA	-	Environmental Conservation Act
ECC	-	Environmental Clearance Certificate
ECR	-	Environmental Conservation Rules
EIA	-	Environmental Impact Assessment
EMP	-	Environmental Management Plan
ESMF	-	Environmental and Social Management Framework
FD	-	Forest Department
GoB	-	Government of Bangladesh
GRC	-	Grievance Redressal Cell
GRM	-	Grievance Redress Mechanism
IEE	-	Initial Environmental Examination
IUGIP	-	Improving Urban Governance and Infrastructure Program
LCC	-	Location Clearance Certificate
LGED	-	Local Government Engineering Department
MDSC	-	Management Design and Supervision Consultant
MLGRDC	-	Ministry of Local Government, Rural Development, Cooperatives
O&M	-	Operation and Maintenance
PMU	-	Project Management Unit
PPTA	-	Project Preparatory Technical Assistance
PRSP	-	Poverty Reduction Strategy Paper
RBL	-	Result-Based Lending
RP	-	Resettlement Plan
SPS	-	Safeguard Policy Statement
ToR	-	Terms of Reference
UGIAP	-	Urban Governance Implementation Action Plan

GLOSSARY OF BANGLADESHI TERMS

Crore	-	10 million (= 100 lakh)
Ghat	-	boat landing station
Hartal	-	nationwide strike/demonstration called by opposition parties
Khal	-	drainage ditch/canal
Khas, khash	-	belongs to government (e.g., land)
Katcha	-	poor quality, poorly built
Lakh, lac	-	100,000
Madrasha	-	Islamic college
Mouza	-	government-recognized land area
Parishad	-	authority (Pourashava)
Pourashava	-	municipality
Pucca	-	good quality, well built, solid
Thana	-	police station
Upazila	-	sub district

WEIGHTS AND MEASURES

ha	-	hectare
km	-	kilometre
m	-	meter
mm	-	millimetre

NOTE{S}

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

(ii) —BDT refers to Bangladeshi Taka

PREFACE

The premises of this Initial Environmental Examination Report (IEE) are the MDS Consultant services presentation of an analysis of data and conclusions, together with its appendices.

While MDS Consultants have been deputed to assist the Pourashava / Executing Agency (EA) for the preparation of the IEE, the responsibility and ownership of the IEE rest with the EA.

The key elements of the IEE Report focus on: Assessment of Compliance Guidelines of Environment Safeguards according to ADB, AFD and GoB policy.

N.B This report was prepared by Project Readiness Services Consultants (PRSC) and it has been updated by MDS Consultants.

DISCLAIMER

This Initial Environmental Examination (IEE) Report of Matlab Pourashava, Under Project Readiness Services for Improving Urban Governance and Infrastructure Program (IUGIP) at (RBL). All the data used to prepare this Initial Environmental Examination (IEE) Report have been collected from the Pourashava Development Plan (PDP). Some of the information's have also been collected from the Pourashava personnel over telephone. Moreover, some information's have been collected by the respective experts of MDS consultant through intensive field visit which have been used in writing this report. If any information or data or any other things coincide with other project documents that are beyond our knowledge and fully coincidental event and we express apology for that.

Submitted by:

Local Government Engineering Department

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EXECUTIVE SUMMARY

1. The Government of Bangladesh (GoB) has undertaken the Improving Urban Governance and Infrastructure Program (IUGIP) with financial assistance from the Asian Development Bank (ADB) & Agence Francaise De-developpment (AFD). The Improving Urban Governance and Infrastructure Program (IUGIP) under the Result Based Lending (RBL) modality will improve infrastructure facilities such as drains, roads, streetlights, low-income neighborhoods improvement (footpaths, drains, streetlights, tube wells, dustbins and community toilets), market centers and parks in selected 63 main stream Pourashavas and 25 Pourashavas Operation and Maintenance (Out of 88 Pourashavas).
2. Environmental and Social management Framework (ESMF) was prepared and endorsed by both the funding agencies and GoB to be adopted for implementation of the IUGIP. The frameworks specified the screening procedures and the guidelines for identifying the APs, estimating the compensation and assistance to be paid for the losses, grievance redress mechanism, preparation of IEE and the institutional requirements for monitoring the implementation of environmental safeguard aspects of the project. The IEE for drains sub-project of Matlab Pourashava has been prepared following the PPTA and updated format.
3. **Environment Impacts and Risks**; Lessons drawn from five sample Pourashava program due diligence conducted during program safeguard systems assessment (PSSA) indicates that the RBL Program activities are unlikely to have in-significant adverse impacts. Potential impacts are mainly related to construction and are short-term, limited extent, localized and can be mitigated with good construction practices and measures. This is because the proposed RBL program activities are of small scale and located in and around urban areas. Program towns are characterized with centrally dense localities with narrow roads and medium to low dense outer areas. There are trees along the wider and outer roads, and water bodies (canals, rivers/streams, ponds and fishponds, etc.) that may be impacted. Groundwater, especially shallow waters, is contaminated with arsenic in several areas. Potential location/design impacts may arise from: tree cutting, disturbance to natural drainage, use of shallow groundwater as the water source, and potential groundwater contamination from seepage of toilets. Discharge of wastewater into storm water drains will degrade the water quality of receiving water bodies, affecting their usage, if any, and shall be prevented. Proper planning and design can avoid these impacts. Dismantling existing buildings/ market blocks to build new market centers shall ensure no damage to structures, if any, with heritage value. There is always a potential risk of dismantling asbestos-containing materials (ACMs) if such materials are present in existing buildings. Risk screening and measures need to be undertaken to mitigate risks if any. Any structures with religious activities shall be avoided or impact mitigated in prior consultation with affected communities.
4. Government of Bangladesh (GoB) law and ADB policy require that the environmental impacts of development projects be identified and assessed as part of the planning and design process, and that action be taken to reduce those impacts to acceptable levels. This is done through the screening/impact assessment process, which has become an integral part of all ADB lending operations, project development and implementation.
5. The objectives of the Drainage Improvement sub-project are to access and improve the urban environment through - Rehabilitation/Maintenance/Construction of drains of improvement on various locations in Matlab Pourashava area.

Policy, Legal and Administrative Framework

6. **Categorization:** Matlab Pourashava drains sub-project is classified as Environmental Category B as per ADB SPS as no in-significant impacts are envisioned. This initial environmental examination has been prepared in accordance with ADB SPS's requirements for environment category B projects and provides mitigation and monitoring measures to ensure no significant impacts because of the sub-project.

7. The project has been classified as environment 'Category B' by criteria in the Environment Policy of the ADB and Environmental Assessment Guidelines (November 2002) as applied by the ADB Urban Development Division, South Asia Department. Category B projects are "judged to have some adverse environmental impacts, but of lesser degree and/or significance than those for category A projects." As a result, "an initial environmental examination (IEE) is required to determine whether or not significant environmental impacts warranting an EIA are likely."
8. As per Government of Bangladesh Environment Conservation Act, 1995 and revised Environment Conservation Rules (ECR, 2023) section-1, the sub-projects of under IUGIP project are not applicable. However, Markets, parks, slaughter house, street lights, toilets and bus & truck terminals are in orange category which are included in this project. As a result, "an initial environmental examination (IEE) is required to determine.
9. The DoE has issued a letter for Improving Urban Governance and Infrastructure Program (IUGIP), vide letter 22.02.0000.018.72.029.23.177 dated 25.06.2023. (DoE approved of Letter Appendix-8)
10. The objectives of the sub-project are (i) the sub-project will facilitate the local people smooth communication and reduce water logging, traffic jam in proposed location.

Sub-project Description

11. The proposed drains sub-project package is IUGIP/MATL/UT/02/2023. Improvement of 8079m Roads in 8 locations, protection work 551m at Matlab Pourashava, Chandpur District.

Environmental Safeguard Policy Principal Triggered

12. The environmental and indigenous peoples' safeguards principles likely to be triggered due to the RBL program activities are given in Table 1. Summary of Government of Bangladesh environmental and safeguard regulatory framework and a comparative analysis with ADB policy principles is presented in national legislations.
13. **Indigenous Peoples Safeguards, ADB Safeguard Policy Statement, 2009. If incase**; The Indigenous Peoples safeguards are triggered if a project directly or indirectly affects the dignity, human rights, livelihood systems, or culture of Indigenous Peoples or affects the territories or natural or cultural resources that Indigenous Peoples own, use, occupy, or claim as an ancestral domain or asset. ADB SPS, 2009 uses the term Indigenous Peoples in a generic sense to refer to a distinct, vulnerable, social, and cultural group possessing the following characteristics in varying degrees:

    - self-identification as members of a distinct indigenous cultural group and recognition of this identity by others;
    - collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories;
    - customary cultural, economic, social, or political institutions that are separate from those of the dominant society and culture; and
    - a distinct language, often different from the official language of the country or region.

Table 1: Environment Safeguard Policy Principal Triggered

Principles*	Triggered by the RBL program	Descriptions
Environment safeguard		
Principle 1: project screening process	Yes	Potential environmental impacts of proposed RBL activities are likely to be minimal, Screening will be under taken to including following activities:(i) classified as Category B and requiring IEE study under ADB SPS, (ii) those classified as 'Not specified' category and no requiring IEE study under GoB revised ECR 2023. A screening form, combining both ADB and ECR requirements, will be introduced.
Principle 2: Conduct of environmental assessment	Yes	The environmental impacts of RBL activities during construction and operation needs to be assessed through conduct of environmental assessment. Per ADB SPS, some RBL activities fall under Orange-B category, requiring an IEE. As per ECR 2023, do not need IEE or EIA. A process/framework will be introduced that all RBL activities go through environmental assessment.
Principle 3: Examine alternatives to the project	Yes	RBL activities are simple and straight forward with minimal impacts. Examination of alternatives will further reduce the impacts in aspects like avoiding locations with trees, water bodies, arsenic contaminated water as water source, etc.,
Principle 4: Avoid, minimize, mitigate, and/or offset adverse impacts	Yes	Program activities will require mitigation measures to address environmental impacts. EMP will be required as part of the IEE. EMP will need to clarify implementation arrangements and costs.
Principle 5: Carry out meaningful consultation	Yes	Consultations will be required with the affected persons and stakeholders during the project preparation and implementation. Public feedback and grievance redress system is crucial for avoiding / reducing inconveniences and health and safety risks during construction.
Principle 6: Disclose a draft environmental assessment (including the EMP)	Yes	Disclosure of documents is required to update the affected people and stakeholders on the proposed RBL activities, likely impacts, and mitigation and monitoring measures, and implementation arrangements. IEEs, including EMPs, and monitoring reports during implementation will be disclosed.
Principle 7: Implement EMP and monitor its effectiveness	Yes	Implementation of EMPs and monitoring effectiveness, reporting and disclosure is needed. Contractors will implement the EMPs, and LGED will monitor report and disclose. Budget to implement EMP Will be included in the project cost.
Principle 8: Avoidance of critical habitats	No	The RBL program activities will be mostly confined to urban areas. No activities will be located in or near critical habitats**.**
Principle 9: Apply pollution prevention and control technologies and practices	Yes	Given the small-scale of construction activities, the potential for pollution is minimal, and is mostly confined to construction phase environment, health and safety impacts. RBL activities will need to be implemented applying government pollution control and EHS requirements, and World Bank Group's EHS guidelines. RBL activities unlikely to use or generate any notable hazardous materials or waste.
Principle 10: Workers' health and safety	Yes	RBL activities involve construction and operation of infrastructure. Health and safety risks are inherent to civil works, both to workers, and surrounding community, especially since the works will be conducted in public areas

Principles*	Triggered by the RBL program	Descriptions
Principle 11: Conserve physical cultural resources	Yes	RBL program activities will not be implemented in or close to archeologically, historically sensitive sites. There may however be local religious/cultural places within the town and along the roads where infrastructure will be located. Necessary measures avoid any impacts, including chance-find Procedures will be included in EMPs
Principle 1: Project screening for Indigenous Peoples impacts.	Yes	All components or activities will be screened to determine whether any Indigenous Peoples/ TMRES communities are present and affected by the RBL program.
Principle 2: Undertake a culturally appropriate and gender-sensitive social impact assessment	No	There have a small group of TMRES live in the Pourashava. There will be no environmental impact during construction by IUGIP.
Principle 3: Undertake meaningful consultations with affected Indigenous Peoples communities and establish a culturally appropriate and gender inclusive grievance mechanism	No	For any activity or component is undertaken in Pourashvas, where TMRESC (Indigenous Peoples) live in a cluster or small groups, consultations will be carried out to ensure that the RBL program benefits are accessible to Indigenous Peoples/ TMRES communities in a culturally appropriate manner.
Principle 4: Broad community support for project activities	No	The RBL program will not take up any activity, which may cause the commercial development of the cultural or natural resources or traditional or customary lands.
Principle 5: Avoid, to the maximum extent possible, any restricted access to and physical displacement from protected areas and natural resources.	No	The RBL program will exclude any such activity.
Principle 6: Preparation of IPP	No	No adverse impacts to Indigenous Peoples/TMRESC assess under the RBL program; only affected group are impact assessed on Indigenous Peoples/ TMRESC in the Pourashava. The TMRESC Plan will be prepared, which will include a specific action plan for consultation and participation of indigenous peoples.
Principle 7: Disclose a draft and final IPP in form and language(s) understandable to affected Indigenous Peoples communities	No	Any Resettlement and TMRESC Plan prepared will be disclosed on LGED website and to TMRESC in language understood by them.
Principle 8: Prepare an action plan for legal recognition of customary rights to lands and territories or ancestral domains.	No	The customary rights to lands and territories or ancestral domains will not be impacted under the program.
Principle 9: Monitor implementation of the IPP and disclosure of monitoring reports.	Yes	The monitoring of the Indigenous Peoples related actions and measures will be conducted during the implementation of the RBL program by LGED.

EIA = environmental impact assessment, IEE = initial environmental examination, EHS = environmental, health and safety, IPP = indigenous people's plan, LGED = Local Government Engineering Department, PSSA = program safeguard systems assessment, RBL = results-based lending, TMRESC = Tribes, Minor Races, Ethnic Sects and Communities. Source: Asian Development Bank, Safeguard Policy Statement, 2009.

14. There is no impact on indigenous people as there are no indigenous people around the project site.

15. **Institutional Capacity and Implementation Practices.** LGED, the executing agency/implementing agency for the RBL Program, has significant experience in

implementing multilateral funded projects. LGED has been implementing ADB & AFD funded Improving Urban Governance and Infrastructure Program (IUGIP) are under implementation. LGED demonstrated its capacity to prepare, implement, monitor, and report projects in compliance with the ADB SPS and GOB regulatory framework.[1] In its current set up, LGED established separate project management units (PMU) headed by project directors to implement IUGIP. Since the RBL program is continuation of IUGIP, the existing PMU of IUGIP will implement RBL Program. PMU is supported by project implementation units (PIUs), established in each Pourashava, and consultants. Contractors will be appointed to build the infrastructure. LGED's district level offices will also support PIUs. Safeguards Officer (Environment) in PMU, reporting to Deputy Project Director, leads the environmental safeguards tasks and ensures the compliance with ADB SPS and regulatory framework. This position is currently vacant, and a Senior Assistant Engineer is given additional charge to handle safeguards. In each PIU, an assistant engineer, on an additional charge, is responsible for safeguards.

16. Local Government Engineering Department (LGED) only the executing agency (EA). LGED is responsible for providing support and guidance to Pourashavas concerning performance criteria and Pourashava development planning. However, LGED is the main executing agency and responsible for the implementation activities by establishing a PMU. The participating Pourashavas are the implementing agencies, with a Project Implementation Unit (PIU) within the Pourashava existing structure. Consultant teams are responsible for (i) detailed engineering design, contract documents preparation and safeguards facilitation; (ii) project management and administration support; (iii) assistance in supervising construction; (iv) strengthening of local governance, conducting required studies & (v) awareness raising on behavioral change in water, sanitation & solid waste management activities.

17. **Description of the Environment:** Sub-project components are located in Matlab Pourashava urban area or in its immediate surroundings which were converted into urban land use for many years ago, and there is no natural habitat left at these sites. There are no protected areas, cultural heritage site, wetlands, mangroves, or estuaries in or near the sub-project location. There are no forest areas within or near Matlab Pourashava.

18. **Environmental Management:** An environmental management plan (EMP) is included as part of this IEE, which includes (i) mitigation measures for environmental impacts during implementation; (ii) an environmental monitoring program and the responsible entities for mitigating, monitoring, and reporting; (iii) Stakeholder, public consultation and information disclosure; and (iv) grievance redress mechanism. A number of impacts and their insignificance were reduced through mitigation measures in the preliminary design stage. The EMP will form part of the civil work bidding and contract documents.

19. Locations and sitting of the proposed infrastructures were considered to further reduce impacts. The concepts considered in design of the Matlab roads sub-project are: (i) locating facilities on government-owned land to avoid the need for land acquisition and relocation of people; (ii) prioritizing rehabilitation over new construction using public right of ways (ROWs), and taking all possible measures in design and selection of site or alignment to avoid resettlement impacts; (iii) avoiding where possible locations that will result in destruction/disturbance to historical and cultural places/values; (iv) avoiding tree-cutting where possible; (v) ensuring all planning and design interventions and decisions are made in consultation with local communities and reflecting inputs from public consultation and disclosure for site selection.

20. MDSC design team integrate a number of measures, both structural and non-structural, to mainstream climate resilience into the Matlab Pourashava roads sub-project, including: (i) structural protection of facilities of future floods; (ii) location of components where there is no risk of flooding or other hazards and promote more efficient use of Pourashava resources

[1] No Red category activities are eligible for funding in RBL

accordingly as per public demand. As a result, some measures have already been included in the sub-project designs. This means that the impacts and their significance have already been reduced.

21. Key construction phase impacts identified and addressed in the IEE include (i) air, noise and vibration impacts due to construction vehicles, equipment and machinery in the vicinity of construction site and inhabited sections; (ii) management of spoils due to excavation for distribution network and civil works; (iii) safety measures during construction; (iv) traffic diversions; (v) management of sites temporarily used for construction activities, including borrow areas, construction camps, etc. and rehabilitation of the sites after completion of temporary use; (vi) impacts on community health and safety hazards posed to the public, specifically in inhabited areas. The debris from the demolition of the existing drains at site will be used in the emergency repair, new construction and maintenance of drains in the Pourashava area.

22. In the operational phase, all facilities and infrastructure will operate with routine maintenance, which should not affect the environment. During the construction period environmental impacts will be minimize as the work following the EMP and take proper mitigation measures.

23. Mitigation measures have been developed to reduce all negative impacts to acceptable levels and will be assured through a program of environmental monitoring. The monitoring program will include observations on and off-site, document checks and interviews with workers and beneficiaries. The PMU will submit semi-annual monitoring reports to ADB which will include a detailed review of EMP implementation, including corrective actions taken.

24. **Consultation and Grievance Redress:** The stakeholders were involved in developing the IEE through discussions on-site and public consultation, after which views expressed were incorporated into the IEE and in the planning and development of the sub-project. The IEE will be made available at public locations in the Pourashava and will be disclosed to a wider audience via the ADB and LGED project websites. The consultation process will be continued and expanded during project implementation to ensure that stakeholders are fully engaged in the project and have the opportunity to participate in its development and implementation. A GRM is described within the IEE to ensure any public grievances are addressed quickly.

25. **Monitoring and Reporting:** The PMU, PIU (Matlab Pourashava), and (MDSC) will be responsible for safeguard monitoring. The MDSC will submit monthly monitoring reports to PMU, and the PMU will send semi-annual monitoring reports to ADB. ADB will post the semi-annual environmental monitoring reports on its website as part of its disclosure requirements.

Conclusion and Recommendations:

26. The citizens of Matlab Pourashava will be the major beneficiaries of this sub-project. Result Based Lending (RBL) activities will need to be implemented applying government pollution control and Effective Health & Safety (EHS) requirements GoB and ADB & AFD Group's EHS guidelines. People's connectivity problem will remove, money and time will be saved and so many works/businesses access will open locally and nationally, if the new drains are constructed there. The sub-project will facilitate the local people smooth communication and reduce water logging, traffic jam in proposed location. In addition to improved and maintained environmental conditions, the sub-project will also construct drains improvement infrastructure, proper drain slop maintain for outfall etc. Therefore, the proposed sub-project is unlikely to cause significant adverse impacts and net environmental benefits to citizens of Matlab Pourashava will be positive. The potential impacts that are associated with design, construction and operation can be mitigated to standard levels without difficulty through proper engineering design provided that the EMP is included in the contract document and

its provisions implemented and monitored to their full extent.

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

1. INTRODUCTION

1.1 Background

1. Bangladesh has a population of approximately 162 million and experienced rapid urbanization with the growth of many secondary towns over the last three decades. About 28 per cent of the total population now lives in urban areas where the population growth rate is much higher than the overall national growth rate. With the present high increase-trend in urban population, it is justifiably anticipated that by year-2020, such population will constitute nearly 40 percent of the national aggregate. One principal cause of such rapid growth is the presence of better opportunities spanning economic, communication, education, health and other social aspects in the urban areas.

2. Proposed Project Readiness Services of Result Based Lending (RBL) for Improving Urban Governance and Infrastructure Program (IUGIP) with financial assistance from the ADB & AFD are for Urban Development in 63 main stream Pourashavas. The selected Pourashavas are: 1) Bandarban 2) Brahmanbaria 3) Banshkhali 4) Chandanaish 5) Nazirhat 6) Raozan 7**)** Sandwip 8) Faridganj 9) Hajiganj **10) Matlab** South 11) Daganbhuiyan 12) Sonagazi 13) Khagrachhari 14) Raipur 15) Ramganj 16) Ramgoti 17) Chowmuhani 18) Basurhat 19) Rangamati 20) Bhanga 21) Boalmari 22) Kaliganj 23) Kaliakair 24) Tungipara 25) Bhairab 26) Hossainpur 27) Pakundia 28) Kalkini 29) Manikganj 30) Munshiganj 31) Mirkadim 32) Araihazar 33) Monohordy 34) Goalanda 35) Naria 36) Modhupur 37) Alamdanga 38) Keshabpur 39) Monirampur 40) Mohespur 41) Bheramara 42) Kumarkhali 43) Gangni 44) Gafargaon 45) Madan 46) Nokla 47) Shariakandi 48) Rohanpur 49) Shibganj 50) Nazipur 51) Santhia 52) Bagha 53) Bhabaniganj 54) Charghat 55) Keshorhat 56) Naohata 57) Sundarganj 58) Ulipur 59) Patgram 60) Chunarughat 61) Kulaura 62) Moulvibazar and 63) Chhatak .

3. 25 Pourashavas Operation and Maintenance (O & M) are selected Pourashavas as- 1) Barguna 2) Pirojpur, 3) Nabinagar, 4) Laksam 5) Laxmipur, 6) Gopalganj,7) Kishoreganj, 8) Rajbari, 9) Chuadanga 10) Benapole 11) Jashore, 12) Magura, 13) Meherpur, 14) Muktagacha 15) Netrakona, 16) Sherpur, 17) Chapai Nawabganj, 18) Joypurhat 19) Naogaon, 20) Bera 21) Ishwardi, 22) Shahjadpur, 23) Lalmonirhat, 24) Nilphamari 25) Panchagarh.

Figure1: Pourashavas under IUGIP

4. The Local Government Engineering Department (LGED) under the Local Government Division (LGD) of the Ministry of Local Government, Rural Development and Cooperatives (MLGRD&C), will be the executing agency for the project.

5. Infrastructure sub-projects proposed under IUGIP (RBL) encompass a variety of types of urban infrastructure and services including those shown in Table 1.

Table 1: Sub-projects Components of Proposed IUGIP (RBL)

Sector / sub projects	Activities	Components
Urban Transport & communication	Road way Provision	Bridge Replacement
		Drainage/Culverts
		Roadway Widening/Resurfacing
	Road way Drainage	Roadside Drains
Urban Drainage	Area drainage	Outfall
		Main Drain
		Secondary and Tertiary Drains
		Retention Pond
Public use facilities	Municipal facilities	Market/Community Centres
		Municipal and Kitchen Markets
		Improvement of Slaughter houses
		Bus and Truck Terminals
		Street lights
		Footpaths
Low Income Neighborhoods (LINs)	System improvement	Repair/Replacement of Lines
	Community Facility	Community Toilets
	Septic tank	Vacuum Units

6. The overall objectives of the project are to strengthen the selected Pourashavas to reduced urban poverty and improved living conditions through planned, inclusive and sustainable urbanization, better city governance, and improved infrastructure and service provisions. The outcome will be better municipal governance and service delivery improved.

1.2 Sub-project Scope

7. The proposed sub-project package is IUGIP/MATL/UT/02/2023. Improvement of 8079m roads in 8 locations, protection work 551m at Matlab Pourashava Chandpur District under the existing network. The proposed roads are very essential for the communication of local people.

1.3 Purpose of the report

8. The initial environmental examination aims to provide guidance on safeguard screening, assessment, institutional arrangement, and process to be followed for components of the project, where design takes place after board's approval. This IEE (i) assesses the capability of the project proponents to implement national laws and ADB's requirements, and identifies needs for capacity building; (ii) describes the project and its components; (iii) explains the general anticipated environmental impacts and mitigation measures for the sub-projects; (iv) specifies the requirements that will be followed in relation to screening and categorization, assessment, and planning, including arrangements for meaningful consultation with affected people and other stakeholders and information disclosure requirements; (v) specifies implementation procedures, institutional arrangements, and capacity development requirements; and (vi) specifies monitoring and reporting requirements. Moreover, this IEE is to ensure, in line with ADB ESMF, that the roads sub-project, in the entirety of its project cycle, will not deteriorate or interfere with the environmental sensitivity of the project area, but rather improve environmental quality.

1.4 Categorization

9. The government's overall urban program covers 335 Pourashavas and 12 city corporations to reduce urban poverty and improve living conditions. The results-based lending (RBL) program will cover 63 Pourashavas and is aligned with the government plan

and polices. It is also aligned with the country partnership strategy for Bangladesh, 2021–2025, which promotes a culture of responsiveness and accountability as part of good urban governance. The program is aligned with ADB's Strategy 2030, supporting key operational priorities related to addressing remaining poverty and reducing inequalities; accelerating progress in gender equality; tacking climate change, building climate and disaster resilience, and enhancing environmental sustainability; making cites more livable, and strengthening governance and institutional capacity. It will directly contribute to the government's international commitments.

10. Success and lessons drawn from UGIIP and other ADB's urban sector projects of Bangladesh to inform the RBL program design include (i) using governance performance as a basis for the allocation of investment was an effective approach; (ii) conducting institutional capacity and community awareness to strengthen the municipal governance and sustainable delivery of services; (iii) the demonstrated impacts of IUGIPs generate high demand among Pourashavas; and (iv) implementation of infrastructure component of the project, coupled with timely technical support and capacity building, is pivotal to ensuring project readiness and implementation progress in a highly challenging context- the LGED demonstrated this capacity.

11. The ADB has categorized Improving Urban Governance and Infrastructure Program as Category B and following its normal procedure has determined that an IEE will be conducted for each sub-project submission. The impacts of sub-projects will be assessed according to ADB requires the consideration of environmental issues in all aspects of the operations and the requirements for environmental assessment are described in ADB Safeguard Policy Statement (SPS), 2009.

12. An environmental assessment using ADB Rapid Environmental Assessment (REA) checklist for roads was conducted and results of the assessment show that the sub-project is unlikely to cause significant adverse impacts. Matlab Pourashava roads sub-project is classified as Environmental Category B as per ADB SPS as no in-significant impacts are envisioned. This initial environmental examination has been prepared in accordance with ADB SPS's requirements for environment category B projects and provides mitigation and monitoring measures to ensure no significant impacts because of the sub-project.

1.5 Scope of this report

13. This report fulfils the requirements of IEE under the provisions of the ECR. The IEE identifies potential environmental and social impacts and issues associated with undertaking the proposed sub-project. It provides an outline of the potential positive and negative impacts because of the Project and proposes suitable mitigation and management measures. The scope of this report and the subsequent IEE is specific to the sub-project. It does not provide any assessment for any other/future developments or activities at the location or anywhere else within Matlab town. Should any further development be planned as result of either this sub-project or other related work, additional planning and assessment to the requirements of the GOB must be carried out specifically in relation to that proposed development.

1.6 Approach and Methodology

14. The primary purpose of the IEE is to investigate and describe impacts of the proposed sub-project to the existing environmental elements. Specifically, the study aims to predict the potential impacts of the project activities and recommend mitigation and abatement measures for impacts (in the pre-construction, construction, after completion of works and operational stages of development) that are considered potentially adverse to the surrounding environment. In general, this IEE intends to:

    - Examine and describe the existing status of the various ecological, physical and human related components surrounding the project area;

- Predict the potential significant impacts of the project on the surrounding environment during the pre-construction, construction, after completion of works, operations and maintenance stages and recommend appropriate mitigation and abatement measures; and
- Identify residual impacts of the sub-project and recommend appropriate short-term and long-term management plans.

15. Data Sources of IEE the following documents were used as reference in the preparation of the IEE report:

- Primary data collected from extensive field visit in the Pourashava.
- Available technical reports, Pourashava Development Plan from Pourashava and various government agency of DAE, DPHE, BMD etc.
- Available laws, rules, regulations, acts, policies from Bangladesh Government websites
- Maps from open sources and various governmental and non-governmental websites
- Data from secondary literatures including books and relevant websites.

2. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

2.1 Regulatory requirements for the Project

16. This section of the IEE details the Administrative regulatory requirements toward protection and conservation of environment and various environmental resources and also toward protection of social and environment from adverse impact of projects and activities are associated with them have been enunciated by the GOB as well as the ADB & AFD Pertinent requirements.

17. The national environmental policies and laws and legal framework applicable to the proposed project have been identified. An overview of a few of the major national environmental laws and regulations that are relevant and may apply to the activities supported by the proposed project, and Asian Development Bank (ADB) safeguard policies are given below.

2.2 GOB Environmental Policy, Regulation and Guidelines

National Environmental Policy 2018

18. It is essential that proper environmental management and appropriate use of different components of environment is practiced in every region of the country and in every development project. Therefore, the National Environmental Policy 2018 has been developed addressing the sector-wise environmental policy among 24 sectors/fields.

National Environmental Policy 1992

19. The Bangladesh has adopted a National Environmental Policy (NEP) in 1992 aimed at sustainable development. The NEP sets out the basic framework for environmental action together with a set of broad sectorial guidelines for action. Major elements of the policy are as follows:

    - The country to strike a dynamic balance between population and resources while complying with the balance of ecosystems;
    - To contribute to sustainable and harmonious socio-economic development such that, both in rural and urban areas, and well-being in a sound and enjoyable environment; and
    - To protect, conserve and develop natural environment.

20. **Relevance to the sub-project -** With regard to the sub-project, the environmental policy aims at prevention of pollution and degradation of resources caused by the roads construction. The policy mentions that Initial Environmental Examination should be conducted before projects are undertaken.

National Environmental Conservation Act (ECA) 1995

21. The ECA is currently the main legislation relating to environment protection in Bangladesh. This Act is promulgated for environment conservation, environmental standards development and environment pollution control and abatement.

    The main objectives of ECA are:

    - Conservation and improvement of the environment; and
    - Control and mitigation of pollution of the environment.

22. The main focuses of the Act can be summarized as:

    - Declaration of ecologically critical areas and restriction on the operations and processes, which can or cannot be carried out/ initiated in the ecologically critical areas (ECA);
    - Regulations in respect of vehicles emitting smoke harmful for the environment;
    - Environmental clearance;

- Regulation of industries and other development activities' discharge permits;
- Promulgation of standards for quality of air, water, noise and soil for different areas for different purposes;
- Promulgation of a standard limit for discharging and emitting waste; and
- Formulation and declaration of environmental guidelines.

23. Project Management Unit (PMU) have been completed Environmental Clearance certificate from the DoE.

Environmental Conservation Act (Amendment 2000)

24. The Bangladesh Environment Conservation Act 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.

Environmental Conservation Act (Amendment 2002)

25. The 2002 Amendment of the ECA elaborates on the following parts of the Act:

- Restrictions on polluting automobiles;
- Restrictions on the 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.

Environmental Conservation Act (Amendment 2010)

26. This amendment of the act introduces new rules and restriction on:

- No individual or institution (Gov. or Semi Govt., / Non-Govt. / Self Governing) can cut any Hill and Hillock. In case of national interest; it can be done after getting clearance from respective the department
- Owner of the ship breaking yard will be bound to ensure proper management of their hazardous wastes to prevent environmental pollution and Health Risk
- No remarked water body cannot be filled up/changed; in case of national interest; it can be done after getting clearance from the respective department; and
- Emitter of any activities/incident will be bound to control emission of environmental pollutants that exceeds the existing emission standards.

27. **Relevance to the sub-project -** According to this law no industrial unit or project shall be established or undertaken without obtaining, in the manner prescribed by rules, an letter from the Director General.

Environmental Conservation Rules (ECA) 2023

28. These are the first set of rules, promulgated under the Environment Conservation Act of 1995 (so far there have been multiple amendments to this set of rules, recently gazetted ECR, 2023 supersedes all. The Environment Conservation Rules (ECR) has classified the projects into following four categories based on their site conditions and the impacts on the environment;

    (a) Green,

    (b) Yellow,

    (c) Orange and

    (d) Red.

    Various industries and projects falling under each category have been listed in Schedule-1 of ECR 2023.

29. According to the Rules, Environmental Clearance Certificate is issued to all existing and

proposed industrial units and projects, falling in the Green Category without undergoing EIA. However, for category Yellow, Orange and for red projects, require location clearance certificate and followed by issuing of Environmental Clearance upon the satisfactory submission of the required documents. Green listed industries are considered relatively pollution-free, and therefore do not require site clearance from the DoE. On the other hand, Red listed industries are those that can cause 'significant adverse' environmental impacts and are, therefore, required to submit an EIA report. These industrial projects may obtain an initial Site Clearance on the basis of an IEE based on the DoE's prescribed format, and subsequently submit an EIA report for obtaining Environmental Clearance.

30. Depending upon location, size, and severity of pollution loads, projects/activities have been classified in ECR 2023 into four categories: Green, Yellow, Orange, and Red respectively, to nil, minor, medium, and severe impacts on important environmental components (IECs).

31. **Relevance to the sub-project -** In accordance with the revised Environment Conservation Rules (ECR, 2023) section-1, the sub-projects of under IUGIP project are not applicable. However, Markets, parks, slaughter house, street lights, toilets and bus & truck terminals are in orange category which are included in this project. As a result, "an initial environmental examination (IEE) is required to determine. However, ADB SPS guidelines the sub-Project is classified as Orange-B Category, requiring an Initial Environmental Examination (IEE) to obtain clearance for construction.

Air Pollution Control Rules 2022

32. The government has published a new rule based on section 20 of The Bangladesh Environment Conservation Act, 1995. Aiming to protect environmental health. The main objectives of this rule are to prevent, control, and reduce air pollution. The government will appoint a Director General who will be responsible for managing and maintaining the environmental issue. The Air pollution (Control) Rules 2022 has specified several types of pollution such as pollution caused by factories, vehicles, construction, garbage, etc. According to the new rule, there will be a committee that will impose damages and punishment for such pollution. As stated by the rule, the government will give rewards to those who will protest against pollution and not cause any type of pollution.

Noise Pollution Control Rules 2006

33. According to the Environment Protection Act 1995, the government formulated the noise pollution Rules & Regulation in 2006. This regulation recommends to keep the sound level: at 50 dB in quieter areas from 6am until 9pm and at night 40 dB; similarly, in residential areas in the day at 55 dB and at night 45 dB;in mixed areas, 60 dB in the day time and at night 50 dB; in commercial areas in the day,70 dB and at night 60 dB; and, in industrial areas in the day, 80 dB and at night 70 dB.

Bangladesh Labour Act 2006 and Conservation Services Rules 2015

34. The Bangladesh Labour Act was promulgated in 2006. The legislation pertains to the occupational rights and safety of factory workers and the provision of a comfortable work environment and reasonable working conditions. The amendment in 2013 introduced a good number of important items like workers' welfare, rights and safety and industrial safety and expansion of the industry (particularly relevant for this project).

35. This Act applies to the proposed project as it will involve construction and erection of structures. The occupational health and safety of the workers is covered under this Act. It is mandatory for every factory to keep its workers abreast of work risk(s) through providing all workers with personal protection equipment.

36. In 2015, the Bangladesh government introduced the Bangladesh Labour Rules. Some of the relevant points of these Rules are health and fire safety. The Bangladesh Labour Act 2006 consolidated and repealed 25 previous labour-related laws including the Dock

Labourers Act, 1934, the Factories Act, 1965, among others.

2.3 Other Acts and Policies relevant to Environmental Safeguards of RBL Program

37. In addition to the Environmental Conservation Act and Rules, there are several other Acts, Rules and policies dealing especially with water supply, sanitation, noise, forests, wildlife, labour welfare and occupational health and safety.

38. The Ministry of Environment, Forests and Climate Change (MoEFCC) prepare the environmental policies. MoEFCC also has formulated regulation toward clearance of projects from environmental angles based on environmental impact assessment report. The Department of Environment (DoE) is responsible for environmental issues while forest issues are looked after Forest Department (FD). Over the years the MoEFCC has adopted number of legal instruments in the form Acts for the protection and conservation of the environment. Table 2 summarizes the Environmental Legislation applicable to the sub-project.

Table 2: Summary of Applicable Environmental Legislations

Sl. No.	Environmental Legislation / Act	Objective	Relevance to the Project	Responsible Institution
1	• National Environmental Policy, 1992 • National Environmental Policy, 2018	Ensure that development components do not pollute the environment or degrade resources. It sets out the basic framework for environmental action together with a set of broad sectoral action guidelines.	• Restriction on operations which cannot be initiated in ecological critical areas • Regulation on vehicles emitting smoke which is harmful to the environment • Follow standards on quality of air, water, noise and soil • Sets limits for discharging and emitting waste	Ministry of Environment and Forests, and Climate Change
2	Environmental Conservation Rules, 2023	Establishes a framework for environmental assessment in a comprehensive way	• Option to affected persons for grievances related to environment safeguards • Follow standards on quality of air, water, noise and soil	Department of Environment (DoE)
3	National Environmental Management Action Plan (NEMAP), 1995	An action plan to identify key environmental issues affecting Bangladesh, identifies actions for reducing the rate of environmental degradation and improve quality of life.	Sectoral agencies to coordinate with MoEFCC in preparing environmental guidelines	Ministry of Environment and Forests, and Climate Change
4	Environment Court Act, 2000 and subsequent amendments in 2003	Establishment of Environment Court for trial of an offence or for compensation under environmental law, such as environment pollution.	Option to affected persons for grievances related to environment safeguards.	Ministry of Environment and Forests, and Climate Change
5	The Forest Act (1927) and Forest (Amendment) Act (2000)	An act to control trespassing, illegal resource extraction and provide a framework for the forestry revenue collection system;	Requires clearances for any project within forest areas and clearances for any felling, extraction, and transport of forest produce.	Department of Forests
6	National Forest Policy (1994)	To conserve existing forests and bring about 20% of the country's land area under the Forestation Programme and increase	Incorporate tree planting in the subproject Clearance for any felling, extraction, and transport of forest produce	Department of Forests

Sl. No.	Environmental Legislation / Act	Objective	Relevance to the Project	Responsible Institution
		reserved forests by 10% per year until 2015		
7	The Bangladesh Wildlife (Conservation & Security) Act, 2012	To conserve and protect wildlife in Bangladesh including designation of protected areas. Protection of wildlife is provided with lists of species with four schedules: first, second, third and fourth schedule. The fourth schedule species have the highest level of protection.	Consultation and necessary permits required if the project would affect the wildlife in the project area.	Department of Forests
8	National Safe Drinking Water Supply and Sanitation Policy of 1998	Ensures access to safe water and sanitation services at an affordable cost	Pourashavas and water sanitation authorities will take actions to prevent wastage of water. They will take necessary steps to increase public awareness to prevent misuse of water Pourashavas shall be responsible for solid waste collection, disposal and their management	Ministry of Local Government, Rural Development, and Cooperatives
9	National Water Act 2013	Ensures Bangladesh water sources are free from any type of pollution. Pollution from water in urban outfalls and reservoirs, e.g., lakes, canals, ponds and ditches may result in amenity losses, fisheries depletion, health problems, fish, and aquatic species contamination.	Secure clearance certificate on water resource development subprojects	Ministry of Water Resources
10	Wetland Protection Act 2000	Advocates protection against degradation and resuscitation of natural water-bodies such as lakes, ponds, beels[2], khals, tanks, etc. affected by man-made interventions or other causes. Prevents the filling of publicly-owned water bodies and depressions in urban areas for preservation of the natural aquifers and environment. Prevents unplanned construction on riverbanks and indiscriminate clearance of vegetation on newly accreted land.	In case of impact on the natural water bodies within the project area	Ministry of Water Resources
11	Bangladesh Labor Law, 2006	It is a comprehensive law covering labour issues such as: conditions of service and employment, youth employment, benefits including maternal benefits, compensation for injuries, trade unions and industrial relations, disputes, participation of workers in company's profits, regulation of safety of dock workers, penalty procedures, administration and inspection.	Compliance to provisions on employment standards, occupational health and safety, welfare and social protection, labor relations and social dialogue, and enforcement. Prohibition of employment of children and adolescents.	Ministry of Labor and Employment

[2] A beel is a billabong or a lake-like wetland with static water (as opposed to moving water in rivers and canals - typically called khals), in the Ganges - Brahmaputra flood plains of the Eastern Indian states of West Bengal, and Assam and in the country of Bangladesh.

Sl. No.	Environmental Legislation / Act	Objective	Relevance to the Project	Responsible Institution
		This Act pertains to the occupational rights and safety of factory workers and the provision of a comfortable environment for working. It also includes rules on registration of labourers, misconduct rules, income and benefits, health and fire safety, factory plan		
12	Bangladesh Labor Rules, 2015	Includes rules on registration of laborers, misconduct rules, income and benefits, health and fire safety, factory plan	Contractors to implement occupational health and safety measures. Contractor will be liable for compensation for work-related injuries.	Department of Labor
13	The Pourashava Act 2009 / Ordinance issued for the amendment of local government (municipality) ordinance, 2009 and 2010; The Pourashava Ordinance, 1977; Municipal Administration Ordinance, 1960	Provides guidance for subproject integrated community and workers health and hygiene at the construction and operation and maintenance stages of the project	Coordinate with Pourashava committees on disaster management measures, water and sanitation and waste management	Local Authorities
14	Bangladesh Climate Change Strategy and Action Plan of 2009	Enhances the capacity of government ministries, civil society and private sector to meet the challenges of climate change	Integrate adaptation measures for infrastructures in consideration of extreme climatic events	Ministry of Environment, Forests and Climate Change
15	National Disaster Management Act of 2012	Establishes a framework for managing disasters in a comprehensive way.	Setting-up emergency response procedures	Ministry of Disaster and Relief

2.4 Applicable International Agreements

39. A side from the legal framework on environment, Bangladesh is also a party to several international conventions, treaties, and protocols related to environmental protection. The applicable international conventions, treaties, and protocols are described in Table 3.

Table 3: Relevant International Conventions, Treaties, and Protocols Signed by Bangladesh

Conventions	Years	Ratified/Accessed (AC)/Accepted (AT)/ Adaptation (AD)	Relevance
International Plant Protection Convention (Rome,) & Plant Protection Agreement for SE Asia and Pacific (1999 Revision)	1951	01.09.1978 04.12.1974 (AC) (Entry into Force)	Ensuring that the project work or construction materials do not introduce plant pests
Environmental Conservation Rules (ECR) 2023	2023	05.03.2023	To ensure sustainable development and prevent environmental degradation in Bangladesh by regulating the activities that may have adverse impacts on the environment and human health

Conventions	Years	Ratified/Accessed (AC)/Accepted (AT)/ Adaptation (AD)	Relevance
National Environmental Policy 2018	2018	01.06.2018	environment conservation, pollution control, biodiversity conservation, and mitigation of the adverse effect of climate change to ensure sustainable development
Convention on Wetlands of International Importance ("Ramsar Convention":1971)	1999	20.04.1992 (ratified)	Protection of significant wetland and prevention of draining or filling during construction
Convention on Biological Diversity, (Rio de Janeiro, 1992.)	1992	05.06.1992	Protection of biodiversity during construction and operation.
Convention on Persistent Organic Pollutants, Stockholm.	2001	In process	Restrict use of different chemicals containing POPs.
United Nations Framework Convention on Climate Change, (New York, 1992.)	1992	15.04.94	Reduction of emission of greenhouse gases.
Convention on Biological Diversity, (Rio De Janeiro, 1992.)	1992	03.05.94	Conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.
Kyoto protocol to the United Nations Framework Convention on Climate Change		21.8.2001 (AC) 11.12.1997 (AD)	Reduction of emission of greenhouse gases.
International Convention for Protection of Birds, Paris	1950	Signed	Protection of the birds in their wild state.
Convention Concerning the Prevention and Control of Occupational Hazards caused by Carcinogenic Substances and Agents, Geneva.	1974	Signed	To protect workers against hazards arising from occupational exposure to carcinogenic substances and agents.
Convention Concerning the Protection of Workers Against Occupational Hazards in the Working Environment due to Air Pollution, Noise and Vibration, Geneva	1977	Signed	Protection of workers' health against occupational hazards in the working environment due to air pollution, noise and vibration.
Convention Concerning Occupational Safety and Health and the Working Environment, Geneva.	1981	Signed	Ensuring occupational health and safety of workers in all branches of economic activity.
Vienna Convention for the Protection of the Ozone Layer, Vienna	1985	02.08.90 (AC) 31.10.90 (entry into force)	Preventing human activities that may have adverse effects on ozone layer.
Convention Concerning Occupational Health Services, Geneva.	1985		Convention Concerning Occupational Health Services, Geneva.
Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal.	1987	31.10.90 (Entry into force)	Reduction of the abundance of the substances that deplete the ozone layer in the atmosphere, and thereby protect the earth's fragile ozone Layer.
Convention Concerning Safety in the Use of Chemicals at Work, Geneva.	1990	Signed	Regulating the management of chemicals in the workplaces I order to protect workers from the harmful effects of these substances.

Conventions	Years	Ratified/Accessed (AC)/Accepted (AT)/ Adaptation (AD)	Relevance
London Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, London.		18.03.94 (AC) 16.06.94 (entry into force)	To strengthen the control procedure and extend the coverage of Montreal Protocol to new substances.
Preparedness, Response and Cooperation (London, 1990.) 30.11.90 United Nations Framework Convention on Climate Change, New York	09.06. 92	15.04.94	Achieving stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.
Convention on Biological Diversity, Rio De Janeiro	05.06. 92	03.05.94	Conservation of biological diversity (or biodiversity) and sustainable use of its components.
Agenda 21, UNCED, Rio de Janeiro	1992	Signed	Ensuring sustainable development.
Copenhagen Amendment to the Montreal protocol on Substances that Deplete the Ozone Layer, Copenhagen, 1992	1992	27.11.2000 (AT) 26.2.2001 (Entry into force)	Extending the coverage of Montreal Protocol to new substances
Montreal Amendment of the Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal	1990	27.7.2001 (Accepted) 26.10.2001 (Entry into force)	Controls in the trade of ozone depleting substances and the use of licensing procedures to control the import and export of new, recycled and reclaimed ozone depleting substances.

2.5 Environmental Categorization and Standards of Bangladesh

Environmental Category: DoE

40. For the purpose of issuance of Environmental Clearance Certificate, the industrial units and projects shall, in consideration of their site and impact on the environment, be classified into the following four categories: (a) Green (b) Yellow (c) Orange and (d) Red. The industries and projects included in the various categories are specified in sub-rule (1) have been described in Schedule-1. The ECA indicates that all industrial units or projects must obtain a Location Clearance Certificate (LCC) and Environmental Clearance Certificate (ECC) from the Department of Environment (DoE). No industrial unit/project shall be established or undertaken without obtaining environmental clearance from DoE in the manner prescribed by the rules.

41. **Category of RBL Program Activities per ECR, 2023;** The Government of Bangladesh as Revised Environment Conservation Rules (ECR, 2023) section-1, the sub-projects of under IUGIP project are not applicable. However, Markets, parks, slaughter house, street lights, toilets and bus & truck terminals are in orange category which are included in this project. As a result, “an initial environmental examination (IEE) is required to determine.

42. Matlab Pourashava roads sub-project is classified as Environmental Category B as per ADB SPS as no in-significant impacts are envisioned. This initial environmental examination has been prepared in accordance with ADB SPS’s. Table 4 describes DoE classification for roads sub-project.

Table 4: Category Proposed RBL Activities per ECR, 2023 (Section-1)

Sl no.	Sub-project/component	Classification per ECR 2023	Indicative ESMF classification	Required IEE	Remarks
1	Urban transport roads	Not applicable. [Not covered in Section-1 and ECC not required]	B	IEE Report	

43. The DoE has issued a letter for Improving Urban Governance and Infrastructure Program (IUGIP), vide letter vide letter 22.02.0000.018.72.029.23.177 dated 25.06.2023. (DoE approved of Letter Appendix -08).

Environmental Category: as per ADB's Safeguard Policy Statement 2009

44. The Safeguards Policy Statement (SPS 2009) of ADB provides guidance on the environment category of sub-projects based on the degree of anticipated environmental impacts. ADB environmental safeguards objectives are: (i) to ensure the environmental soundness and sustainability of sub-projects and (ii) to support the integration of environmental considerations into the sub-project decision-making process. ADB environmental safeguards are triggered if a project is likely to have potential environmental risks and impacts. The initial process of categorization involves filling out a sectoral Rapid Environmental Assessment (REA) checklist. A project is classified as one of the four environmental categories (A, B, C, or FI) based on the most environmentally sensitive component. Categories are as follows:

    Category A: Project that is likely to have significant adverse environmental impacts which are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works. An environmental impact assessment (EIA), including an environmental management plan (EMP), is required.

    Category B: Project with potential adverse environmental impacts that are less adverse than those of category A projects. These impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects. An initial environmental examination (IEE), including an EMP, is required.

    Category C: Project that is likely to have minimal or no adverse environmental impacts. An EIA or IEE is not required, although environmental implications need to be reviewed.

    Category FI: Project is classified as category FI if it involves the investment of ADB funds to, or through, a financial intermediary.

45. The sub-project has been categorized as B for environment under the ADB's Safeguards Policy Statement 2009 (SPS).

3. DESCRIPTION OF THE SUB-PROJECT

3.1 Sub-project Location and Surroundings

46. Matlab Pourashava is located in the southeast of Matlab Dakshin Upazila of Chandpur District in the division of Chattogram and lies between 23°20'45" north latitude and 90°53'17'' east longitude. This Pourashava was established on 27th March 1997 and upgraded to Class A Pourashava on 18th May 2017. Matlab Pourashava consists of 9 wards with an area about 41 sq. km. The Pourashava is bounded by Khadergaon Union and Upadi Uttor Union to the east of this Pourashava, Upadi Dakshin Union to the southeast, Ashikati Union of Chandpur Sadar Upazila to the south, Bishnupur Union of Chandpur Sadar Upazila and Farazikandi Union of Matlab Upazila to the north, Fatepur East Union of Matlab Upazila to the north and Matlab North to the northeast.

47. This report contains the Initial Environmental Examination (IEE) for the roads sub-project at Matlab Pourashava of Chandpur District, which is under the division of Chattogram (Figure 2). Sub-project components are located in Matlab area or in its immediate surroundings that were converted into urban use for many years ago, and there are no protected areas, wetlands, mangroves, or estuaries in or near the sub-project location. The Sub-project sites are located in existing right of way (RoWs) and Pourashava/ Government-owned land.

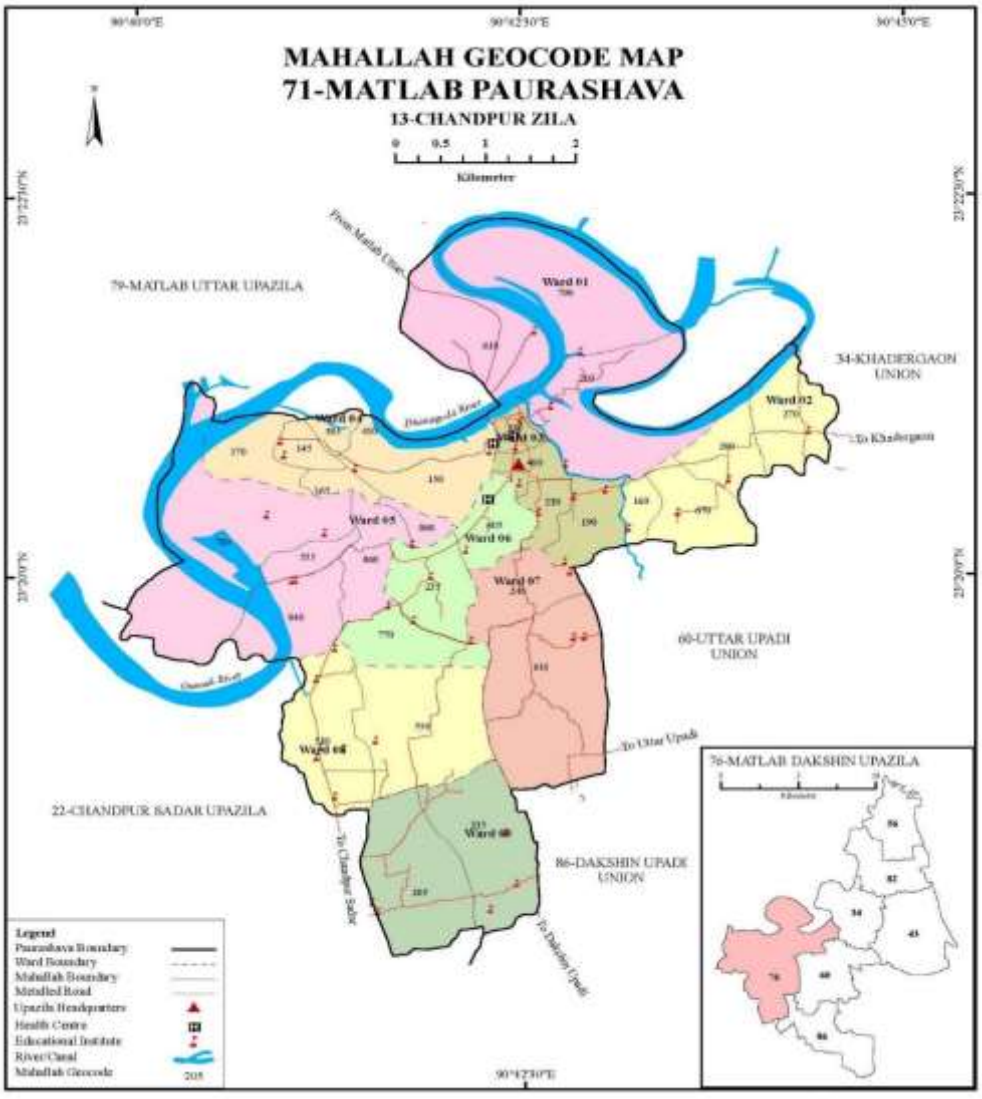


Figure 2: Matlab Pourashava Geo code Map

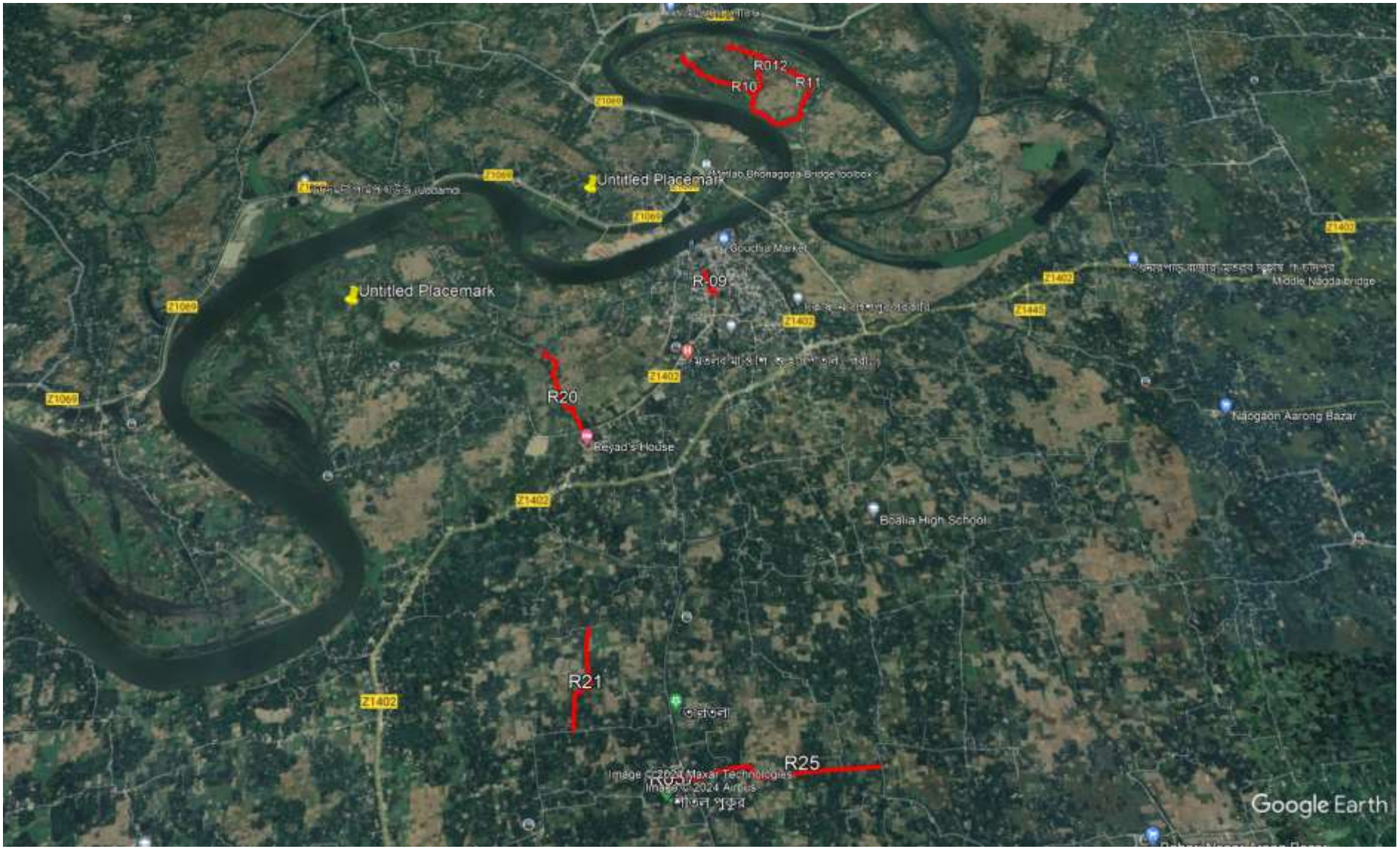


Figure 3: Location of Google Earth Map of Matlab Pourashava

3.2 Sub-project summary

48. The sub-project package IUGIP/MATL/UT/02/2023 construction/Improvement of 8079m Roads in 8 locations, Protection Work 551m at Matlab Pourashava, Chandpur District under the existing network. The construction of roads infrastructure schemes will be constructed under the IUGIP.

Table 5: Proposed roads sub-Project in Matlab Pourashava

FY	Pakg No	PDP SL	Scheme Name/ Name of works	Length (m)
2023-2024	IUGIP/MATL/UT/02/2023	**Name of Sub-project:**	**Name of Sub-Project: Construction/ Improvement of 8079m Roads in 8 locations, Protection Work 551m at Matlab Pourashava, Chandpur District.**	
		R-009	Improvement of road by RCC from Ghospara Shakib Diagnostic Center to Kochi Kacha School (Ch. 0.00m to 282m) at ward no - 03, Matlab Pourashava, Chandpur. Total Length = 282m.	282
		R-010	Improvement of road by Dense Bituminous Carpeting from Parvez Miazi Rice Mill to towards Nur Madina Jame Mosque (Ch. 0.00m to 1525m) including Protection work at Ch. 275m to Ch. 320m, R/S), (Ch. 350m to 400m, R/S) at ward no - 01, Matlab Pourashava, Chandpur. Total Length = 1525m.	1525
		R-011	Improvement of road by Dense Bituminous Carpeting from Baitul Aman Jame Mosque (Kazi Miazi) to Uttar Baishpur damaged bridge via H/O Gafur Khalifa (Ch. 0.00m to 940m) at ward no - 01, Matlab Pourashava, Chandpur. Total Length = 940m.	940
		R-012	Improvement of road by Dense Bituminous Carpeting from North Baispur Graveyard to Hamid Mirdha house via Secretary Abul Hossain house (Ch. 0.00m to1327m) at Matlab Pourashava, Ward no - 01, Chandpur. Total Length = 1327m.	1327
		R-020	Improvement of road by Dense Bituminous Carpeting from Bari Nagar to towards Algimukundi Bridge (Ch. 0.00m to 1300.00m) including Protection work at (Ch. 80m to 230m, R/S, Ch 1050-1100m Both side & Ch 1225m to 1300m) at ward no - 05, Matlab Pourashava, Chandpur. Total Length =1300m.	1300
		R-021	Improvement of road by Dense Bituminous Carpeting from Roic Miazi house to Middle Digoldi Nanto Gazi house (Ch. 500.00m to 1500m) including Protection Work at (Ch. 1400m to Ch. 1450m, L/S) at Matlab Pourashava, Ward no - 06, Chandpur. Total Length = 1000m.	1000
		R-025	Improvement of road by RCC from South Nalua Din Bandhu Chowdhury Bari Road (Ch. 0.00m to 625m) including Protection Work at (Ch. 60m to Ch. 85m, R/S) at Matlab Pourashava, Ward no - 07, Chandpur. Total Length = 625m.	625
		R-057	Improvement of road by Dense Bituminous Carpeting from Middle Digoldi Master Bazar to Mansur Ali Sarkar Bari (Ch. 0.00m to 1080m) including Protection Work at (Ch. 254m to Ch. 310m, L/S) at Matlab Pourashava, Ward no - 08, Chandpur. Total Length = 1080m.	1080
			Total Roads =	**8079**

3.3 Existing Condition and Need for the Sub-project

49. Matlab Pourashava is a class-A type Pourashava and one of the renowned Pourashavas in Bangladesh. Most of these roads have uneven-rough surface, damaged topping and pavement sides, narrow in width and without roadside footpath and thus incapable of accommodating road traffic. The road surfaces are worn out partly and, in some cases, entirely. Justifiably, they call for intervention varying from normal significant maintenance to large improvement/ reconstruction. Due to the presence of canals and ditches on the side of most of the roads, the road shoulders are badly damaged due to the flow of water in the canal. No people/ vehicles can move in this road due to water logging/ damaged condition in rainy season. Traffic congestion, delay, accidents, pedestrian and parking difficulties, air and noise pollution are among the problems. That's why Pourashava demanded the development of this roads through improvement of dense carpeting, RCC

road and partial beautification besides road. The Pourashava has a separate section named conservancy section to clean road, footpath, Market/Bazar, waste collection, management, dispose. It is a good practice of Matlab Pourashava cleaning the existing roads. The nearby urban residents in surrounding locality will be benefited from improvement of the proposed sub-project for creating better business and livelihood opportunities. No economic activities will be impeded resulting losses in income or asset during construction period. There is no need to be acquired any land for the construction as required land is available under the possession of the Pourashava Figure 4.

R-012: Improvement of road by Dense Bituminous Carpeting from North Baispur Graveyard to Hamid Mirdha house via Secretary Abul Hossain house (Ch. 0.00m to1327m) at Matlab Pourashava, Ward no - 01, Chandpur. Total Length = 1327m

Improvement of road by Dense Bituminous Carpeting from Bari Nagar to towards Algimukundi Bridge (Ch. 0.00m to 1300.00m) including Protection work at (Ch. 80m to 230m, R/S, Ch 1050-1100m Both side & Ch 1225m to 1300m) at ward no - 05, Matlab Pourashava, Chandpur. Total Length =1300m.

R-021: Improvement of road by Dense Bituminous Carpeting from Roic Miazi house to Middle Digoldi Nanto Gazi house (Ch. 500.00m to 1500m) including Protection Work at (Ch. 1400m to Ch. 1450m, L/S) at Matlab Pourashava, Ward no - 06, Chandpur. Total Length = 1000m..

R-025: Improvement of road by RCC from South Nalua Din Bandhu Chowdhury Bari road (Ch. 0.00m to 625m) including Protection Work at (Ch. 60m to Ch. 85m, R/S) at Matlab Pourashava, Ward no - 07, Chandpur. Total Length = 625m...

Figure 4: Existing conditions of Pourashava Roads

Roads Component

50. Figure 5 presents status of the proposed roads for improvement/ construction. To accommodate climate change related inundation and annual floods, each road was assessed against whether: (i) existing crest level is 600 millimeters (mm) above existing normal flood level; (ii) road embankments are protected against annual floods; and (iii) drainage is adequate to accommodate rainfall runoff from the road. The proposed roads are not situated at agricultural area and beside land is Pourashava fallow land.

R-009: Improvement of road by RCC from Ghospara Shakib Diagonstic Center to Kochi Kacha School (Ch. 0.00m to 282.00m) under Matlab Pourashava, Ward no-03, Dist: Chandpur

R-057: Improvement of road by Dense Bituminous Carpeting from Middle Digoldi Master Bazar to Mansur Ali Sarkar Bari (Ch. 0.00m to 1080m) including Protection Work at (Ch. 254m to Ch. 310m, L/S) at Matlab Pourashava, Ward no - 08, Chandpur. Total Length = 1080m.

Figure 5: Existing conditions of proposed Roads

Design Concept

51. The design considerations adopted for design were as follows: (i) LGED's Drain design manual and standards followed. In general, the following are the major features of the roads design guidelines: The proposed site is free from flood. However, there are provisions for roads to effectively drain out rain water and household from the secondary drain and discharge to the primary drainage system of the Pourashava. All the roads are considered to provide covers in front of the sensitive receptors or any other location where required. Figures 6 shows the typical sections of different types of drain of the sub-project.

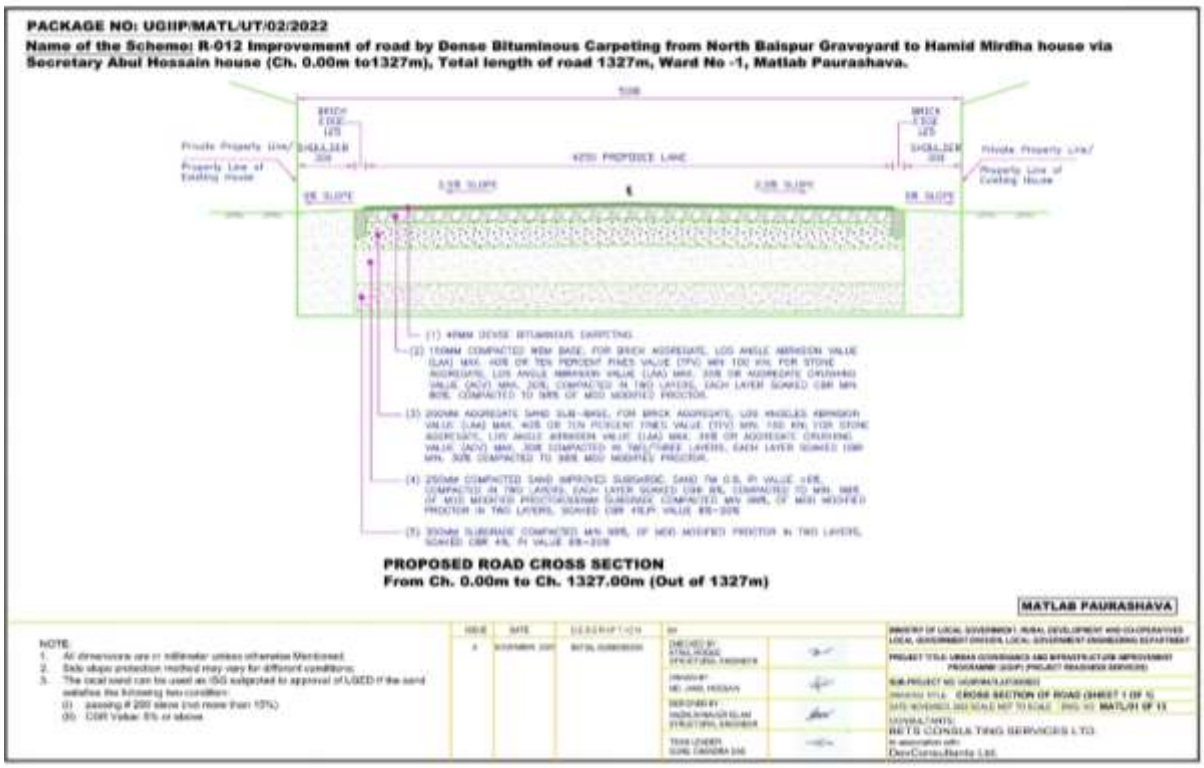


Figure 6: Cross-Section of Road in the Matlab Pourashava

3.4 Implementation Schedule

52. Substantial time is required spanning the continuum of sub-project preparation, approval, survey, design & estimate, contract award and contract execution. Efforts needs to be made to meticulously follow the schedule should a timely implementation of work is aimed at.

Usually, the construction work season in Bangladesh runs from October through May (eight months). Construction works are sometimes impeded for the following reasons.

- Early floods in April/May,
- Late floods in September/October,
- Natural calamities (cyclone/tornado, excessive floods) occur in April/May and October/November.

53. Normally, the best construction period is only for 6 months a year (October to March). The construction period is sometimes squeezed to 4 months due to natural calamities.

54. However, sometimes, based on time constraint or exigency, construction work may even need to be carried out in the monsoon. Besides, whenever possible, simultaneousness of activities can be ascertained and cashed in on and consequently, quantum of work can be maximized through efficient planning and adoption of best available practice.

55. Summing up, over on 12-months period, implementation schedules are advisable to take between July 2024 and June 2025. A tentative time-schedule for implementation (only as indication) is shown Table 6.

Table 6: Sub-project Implementation Schedule

Period	From January 2024 to June 2025																												
	2024												2025												2026				
Items of Work	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5
Assessment of the Sub-project Supported by MDSC Team in field visit																													
Preparation and approval of Sub-project																													
Compliance of Sub-project and Approval																													
Tendering of Sub-project																													
Evaluation of Sub-project and work order																													
Execution of Physical work																													
Final Inspection and certificate																													

4. DESCRIPTION OF THE ENVIRONMENT

4.1 Methodology used for the sub-project study

56. Data for this study has been primarily collected through comprehensive literature survey, discussion with stakeholder agencies, and field data provided by the Pourashava. The literature survey broadly covered the following:

Secondary Data

i. sub-project details, reports, maps, and other documents available with the ADB, MDS consultants, LGED, and Pourashava;
ii. relevant acts and extraordinary gazettes, and guidelines issued by Government of Bangladesh agencies; and
iii. literature on land use, soil, geology, hydrology, climate, socioeconomic profiles, and environmental planning documents collected from Government of Bangladesh agencies and websites.

Primary Data

57. Therefore, several visits to the sub-project sites were made by the persons of Pourashava engineering section and supplied to MDSC to assess the existing environment (physical, biological, and socioeconomic) and gather information with regard to the proposed sites and scale of the proposed sub-project. Demographic information, archaeological and religious places, densely populated pockets, and settlements were gathering from PDP and other documents.

Data Analysis and Interpretation

58. The data collected was analyzed and interpretations made to assess the physical, biological, and socioeconomic features of the project area. The relevant information is presented in the succeeding paragraphs. The IEE including specific description of the environment and corridor of impact has been updated as necessary based on the final detailed design.

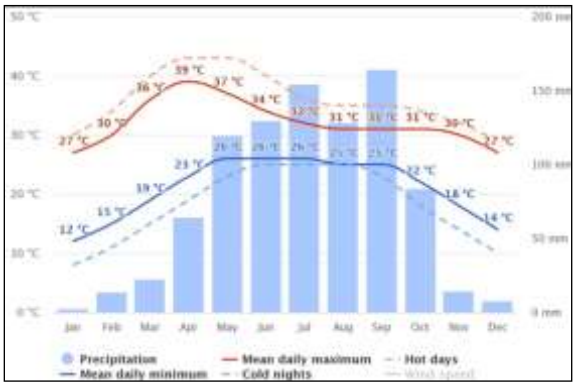
4.2 Physical Characteristics

Topography, Geology and Soil

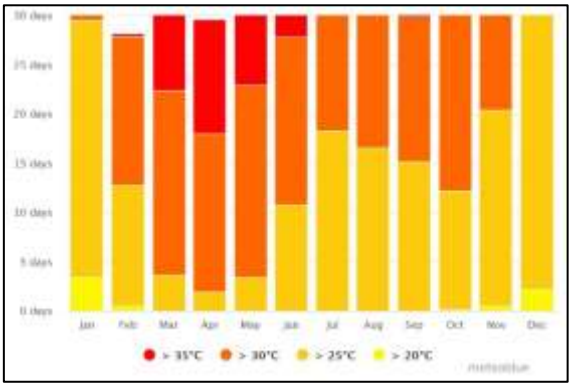
59. The Tippera Hills of India that spurs project into, the east of the Noakhali district is of upper primary (Pleistocene) formation and generally of a dull reddish color. Unconsolidated sediments underlie the rest of the district. They are mainly recent and sub recent in age. A major part of the river flood plain sediment was deposited by the old Brahmaputra River that changed its course to the west of the Madhupur Tract. The rest of the sediments were laid down principally by the Meghna River and by minor rivers draining from the Tippera Hills. Silt and clay sized particles predominate in most sediment. The southern part of the district, where the Matlab lies (Figure IV.1), has recent tidal sediments that are mainly silty in nature. Almost all soils have young alluvial sediments of recent origin. The soil consists admixture of sand and clay in varying proportions. They occupy very gently undulating topography consisting of broad low flood plain ridges and shallow basins. Most ridge soils are silty, which occur clays in the basins. The soils are seasonally flooded, mainly by rain water, but all, except a few basins, soils become dry during the summer.

60. Lying south of the Tropic of Cancer, the study area enjoys typical tropical monsoon climate with a very high humidity throughout the year. It is distinguished by its heavy rainfall and even temperature. The mean minimum temperature in January is 12.88°C while the mean maximum is 25.72°C. The mean maximum and mean minimum temperature of the season are 29.78°C and 21.38°C respectively. May is the hottest month with its 29.05°C mean monthly temperature. In March, the summer begins and continues until May. The humidity is very high throughout the year, never falling below 70 per cent. Taking the district as a

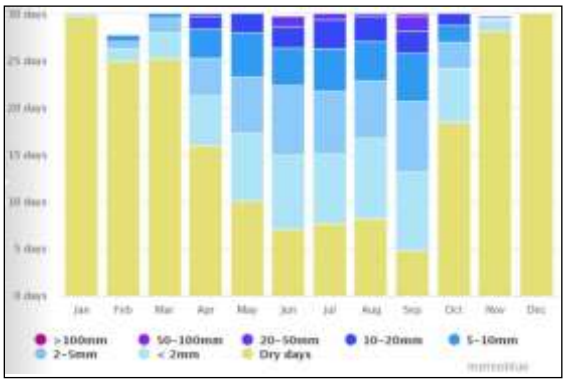
whole, the annual percentage of humidity is 83.4. With the break of monsoon in June, the rainy season commences and continues till the end of September or beginning of October. The wind system completely changes its direction during the season. The north-east trade winds disappear and the south-west Monsoon winds start blowing. The south-west Monsoon winds, when crossing the Bay of Bengal pick up moisture from the sea and give heavy rainfall in the district. Figure 7 shows the monthly average highest and lowest temperature in Matlab.



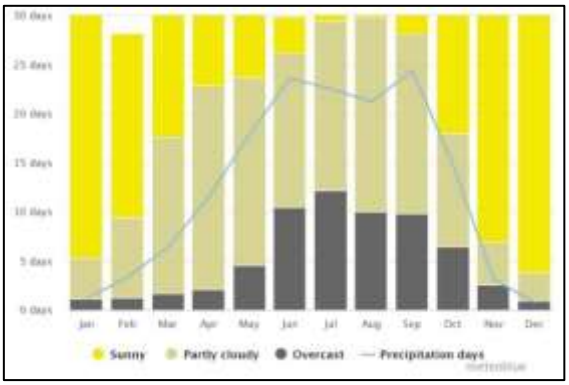
Average Temperatures and Precipitation



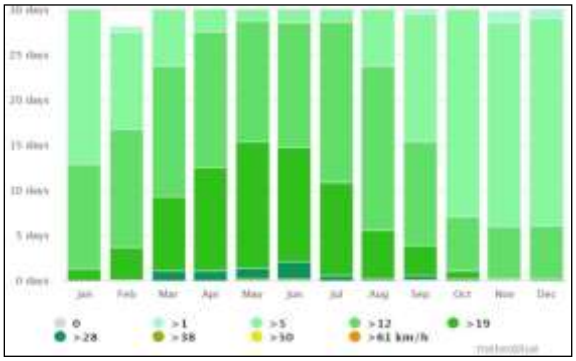
Precipitation Amounts



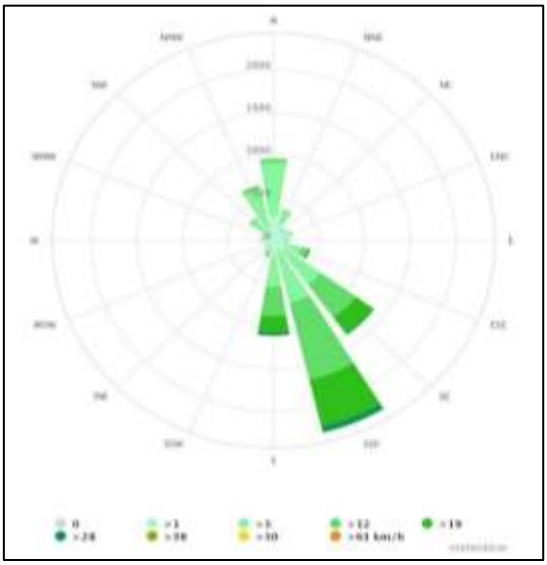
Cloudy, Sunny, and Precipitation Days



Maximum Temperatures



Wind Speed



Wind rose

Source: www.meteoblue.com

Figure 7: Historical Climatic Record at Matlab Region

Surface Water and Ground Water

61. There is a river named as Dhonagoda River in Matlab Pourashava and only a few canals named as Jom Jom Khal, Nabkalas Khal are round, which act as natural drainage channels that area also used as irrigation canals by farmers. There are important canals which passes the major roads of the town from entry to the periphery of the Pourashava and which connect with Lower Meghna River and finally connected with Bay of Bengal. Matlab Pourashava has large number of water body (total 2239 numbers of ponds and ditches covering an area of 547 acres), khals (a total of 75.21 km) for natural drainage system for the retention and draining of storm and household water. But unplanned spatial development activities. These unplanned development activities are creating obstacles to natural drainage, reducing retention basins and reducing drainage capacity. Poor drainage capacities of the existing khals and water bodies cause long-lasting flood duration in inland areas and intensify the flood damage and creates ecological imbalance situation. Large tanks and ponds, Dighi, lakes etc. serve as immediate retention areas for storm water. These structures are both, man-made and natural; and these may be privately owned or publicly owned. These structures function as drainage relief and source of water for emergency use, fisheries, duck rearing, environment and nature preservation.

62. Ground water level in Matlab Pourashava is found between 40 ft to 50 ft during dry season and between 30 ft to 35 ft during wet season. Ground water contains Iron and Arsenic (Source: DPHE, Matlab, 2009). One of Pourashava sources reported that, nearly 100% of the tube wells are arsenic contaminated and the provision of deep tube well is not possible because of the presence of salinity in the ground water. Water in most shallow aquifer is arsenic and all are contaminated with iron, not suitable for drinking purposes. Ground water is being polluted by pesticide leaching from crop field

Air Quality & Dust

63. Air pollution is the introduction of chemicals, particulate matter, or biological materials that cause harm or discomfort to humans or other living organisms, or damages the natural environment, into the atmosphere. Other than normal, there are no undue air emission sources at the construction site except for limited vehicular emissions from inter-Pourashava traffic that are occasional. Operations of shallow engine driven vehicles that are unfriendly to the environment are responsible for air pollution. Those vehicles use diesel as fuel. Diesel particulate matter (DPM) includes diesel soot and aerosols such as ash particulates, metallic abrasion particles, sulfates, and silicates. The small size inhaled particles may easily penetrate deep into the lungs with acute short-term symptoms such as headache, dizziness, light-headedness, nausea, coughing, difficult or labored breathing, tightness of chest, and irritation of the eyes and nose and throat. Long-term exposures can lead to chronic, more serious health problems such as cardiovascular disease, cardiopulmonary disease, and lung cancer. As Matlab Pourashava is one of the most developed areas, many activities are performed inside the Paura area. In the peak period it is very busy. The bazaar and the market place remain very coward. Lots of motorized transports, like buses, CNGs, tempos are moving here and there. These vehicles are polluting the air largely. Therefore, within the Pourashava area there are three brickfields those create air pollution. In some places poultry/livestock farming is observed. They also cause air pollution. Air pollution also occurs by the odor from the open municipal garbage. There are dustbins in the Pourashava but people are not aware to dispose their solid garbage in to those dustbins rather than open ground. As a result, open garbage disposal is common and it creates serious odor which ultimately affects the surrounding air. This has an impact on agriculture, forestry and natural ecosystems. Ambient air quality data was not available. Here quality of air appears to be clean but due to poor condition of road surface, dust is generated, especially during the movement of vehicles that causes air pollution. As such only the fuel operated vehicles and non-point sources such as open burning is the main source of air pollution. From the public consultation, it is reported from the local people that main air pollution occurs in the residential area is form the household

west dump here and there. Lack of proper solid west dumping facilities is the main source of air pollution and bad smell. Above all, the Pourashava is almost free from air pollution. Other than normal, there are no undue air emission sources at the construction site except for limited vehicular emissions from inter-Pourashava traffic that are occasional. The results will be provided in the updated IEE and all other measurements during implementation will be reported as part of EMP implementation.

Bangladesh National Ambient Air Quality Standard comparing the WHO Guideline standard:

	CO	NO_2	SO_2	PM_{10}	$PM_{2.5}$	Temp
	PPM	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	°C
GoB Air Quality Standards	5 (8 hour)	40 (Annual)	80 (24 hour)	150 (24 hour) 50 (Annual)	65 (24 hour) 35 (Annual)	**NSE
WHO Air Quality Standards	-	40	20	20	10	

*Note: * Air Pollution Control Rules (APCR), 2022, Department of Environment (DoE)*

Noise Level

64. Noise pollution is basically consisting of unpleasant displeasing human, animal or machine created sound that disrupts the activity or balance of human or animal life. A common form of noise pollution is from transportation, principally motor vehicles. Other sources are car alarms, office equipment, factory machinery, construction work, audio entertainment systems, loudspeakers and noisy people. The results will be provided in the updated IEE and all other measurements during implementation will be reported as part of EMP implementation.

65. Noise levels should not exceed the national standards for noise or WHO noise level guidelines, whichever is more stringent, or result in increase in background noise level of 3 decibels at the nearest receptor location off-site. The comparative illustration of national standards versus WHO guidelines is in Table here of;

Bangladesh Noise Level Measurement Standard:

Category of areas	Standard determined at day (in DB)	Standard determined at night (in DB)
Silent Zone	50	40
Residential Area	55	45
Mixed Area. (Mainly residential also used for commercial and Industrial purposes)	60	50
Commercial Area	70	60
Industrial Area	75	70

66. The baseline noise level will be measured by the sub-project contractors prior to commencement of work. The results will be provided in the updated IEE and all other measurements during implementation will be reported as part of EMP implementation.

4.3 Biological Characteristics

Ecological Resources

67. The ecological setting is mostly with wetland, homestead and roadside vegetation, etc. Homestead vegetation has a positive effect on improvement of soil moisture through the shading and mulching process. Trees growing at homesteads also provide easy access to fuel wood, fodder and other products. There is also no presence of any eco-fragile zone/protected area/Ramsar site or any other ecologically important wetland/nesting-breeding ground. There is no record of any rare/endemic species or sighting of migratory species from the proposed site and study area. Two major types of fauna viz. terrestrial and aquatic fauna have been identified in and around the area.

Flora and Fauna

68. Sub-project components are located in Matlab urban area or in its immediate surroundings

that were converted into urban use for years ago, and there is no natural habitat left at these sites. The common varieties of trees that are found in the project area are Mango (Mangifera indica), Jackfruits tree (Artocarpus heterophyllus), kalojam (Syzygium cumini), betelnut pulm (Areca catechu), coconut palm (cocos nucifera), guava (Psidium guajava), jambura (Citrus decumana), mandar (Erythrina veriegata), kadam (Anthocephalus cadamba), sheel koroy (Albizzia procera), sajna (Moringa obifera), dalim (Punica granatum), palash (Butea monosperna), tetul (Tamaraindus indica), neem (Azadirachta indica), hijol (Barringtonia acutangula), banyan (Ficus bengalensis), ashatha (Ficus religlosa), raintree (Samanca saman), pitraj (Aphanamixls polystachia), simul (Bobbax ceiba), krishnachura (Delonix regia), debdaru (Polyalathia longifolia) etc. No endangered/protected species of either flora or fauna are found in the Pourashava or its immediate surroundings.

69. Wildlife that fully depends on the terrestrial land throughout their whole life for shelter, food, nesting, breeding, and producing offspring is called terrestrial fauna. The main types of terrestrial fauna are amphibian, reptile, bird and mammal. Fish diversity in rivers and streams is decreasing due to heavy pollution in the aquatic bodies from industrial effluent. Beside domesticated mammals like cow, buffalo, goat, dog, cat etc., the recorded mammalian species from the project and its surrounding are Indian pipistrelle (Pipistrellus coromandra), tickell's bat (hesperotenus tickIli), jackal or shial (Asiatic jackal), benji (Herpestes auropunctatus), dura kathbirali (Funambulus pennanti), rat (Bandicata bengalensis) house mouse (Mus musculus), metho indur (Mus booduga), ud biral (Aonyxe cincrea) etc. The common birds of the area include doel (Copsychus saularis), bhat shalik (Acredotheres tristis), tila ghugu (Streptopelia chinensis), tia (Psillacula Krameri), babui (ploceus philippinus), sparrow or charui (Domesticus), house crow (Corvus splendens), machhranga (Alcedo atthis), cuckoo (Cuculus microplerus), kali pencha (Glaucidium radiatum), choto fingey (Dicrurus macrocercus), haldey pakhi (Oriolus xanthornus), laxmi pencha (Tyto alba), water rail (Rallus aquaticus), kath thokra (Picus myrmecophoneus) etc. Some known reptiles of this area are ganges soft shell (Trionyse gangeticus), common roofed turtle (Kachuga tecta), yellow turtle (Morenia petersi), shanda (Gekko gecko), house lizard (hemidactylus brooki), ghargini shap (Lycodon jara), rat snake (Ptyas nigromarginatus) paina shap (Enhydris enhydris), banded krait (Bungarus fasciatus) and common cobra (Naja). Cmmon amphibians include bull frog (Rana tigrina), skipper frog (Rana cyanophlyctis), cricket frog (Rana limnocharis) and common toad (Bufo melanostictus). The common fishes that are usually found here are hilsha (Hilsa ilisa), ruhi (Labeo ruhita), mrigel (Cirrhinus mrigala), katla (Catla catla), kalbaush (Labeo calbasu), chital (Notopterus chitala), pabda (Ompok pabda), pangas (Pangasius pangasius), shing (Heteropneustes fassilis), magur (Clarias batrachus), koi (anabas testudineus), boal (Wallago attu), gazar (Channa marulius), shoil (Channa striaxtus), tengra (Mystus vittatus), shar punti (Puntius sarana) etc

4.4 Socioeconomic Characteristics

70. Matlab Municipality has a total population of 70,840. Among them 34,730 are male and 36,110 are female. Total families are 12,050. Population density is 1728 (per square kilometer). The total number of voters is 33,761 (Male-15,976 and Female-17,785). Annual population growth rate is 1.25% (2011). The decadal (1991-2001) urban population growth rate of Matlab Pourashava is 13.38% and annual growth rate is 1.99% (BBS 2001), which is greater than national average. In the year 2031, the population of Matlab Pourashava will rise to 100615 persons as projection shows. The population density in the Pourashava will be 13 persons per acre in 2031..

71. According to 2011 census the literacy rate of Matlab municipality is 63%. Literacy rate in the town have been found 92.21% among 6+ years of population, but over 35.92% of the households have education up to primary level and 0.40% has education from graduation and above level. It indicates high rate of drop outs at the lower tier of education. Poverty seems to be the main reason for high level of drop outs at the lower level.

Economic Development

72. The current economic picture of the Pourashava is not very bright in respect of economy. Virtually no manufacturing establishment has been found in the town that can contribute either employment or cause production leading to expansion of the non-basic sector of the economy. Poverty haunts over one third of its population and service sector activities is far less than momentum. There is extremely low level of investment, no basic industry that could boost local economy and employment. Investment is pulled by nearby larger growth centers like, Noakhali, Lakshmipur and Feni district towns and Chandpur trading center. Among the male income earners about 2.81% are farmers, while 2.12% is agricultural laborer's and 58.25% of the Pourashava area is under agriculture. Major portion of the people engaged on business (23.08% among the male members) for their livelihood. Among the male member 10.89% are engaged in public and private sector services and 2.95% is labors. And rest 62% is not engaged in formal earning activities with 27.69% of Housewives, 29.05% students and 5.26% unemployed. One of the most important income sources is foreign remittance. That's why many of the people have higher purchasing capacity. The commercial activities in the Pourashava are dominated by retail business. There are six Pourashavas operated bazaars where Matlab bazar is the largest bazar. The retailers mostly collect their goods from Chandpur which is the largest wholesale market in the region. Because of higher level of affordability of a section of the local people, the general shop retailers keep almost all kinds of consumer's goods in their shops. That hat / bazar is taking place in the core part of the Pourashava along the main road. People also purchase their daily necessities from Matlab bazar, Mushir hat bazar and Borodia bazar etc. The hat/bazars are prominent due to availability of agro-product and fish to meet the daily needs of the people. The Pourashava has 2263 commercial structure. Commercial area occupies 39.52 acres of land sharing 0.51% of the Pourashava area. Major land uses under this category are retail shops/stores and wholesale shopping areas, financial institution like bank, insurance etc., hotel and restaurant and all categories of ribbon commercial developments along the major roads. Most of the commercial activities are agglomerated in Ward No. 03 (43.05%), ward No. 06 (19.20%) and ward no. 09 (12.42%), which is mainly Matlab Bazar area and its surroundings. Commercial activities in other wards have been found significant in percentage. The scenario proves the area as a small urban-commercial center that dominates the surrounding Upazila and Zila with its traded goods.

Tribal Communities

73. There are no indigenous or tribal people settlement in the proposed sub-project areas. Therefore, there is no need to take any kind of protective measures for indigenous peoples' safeguard.

Historical, Cultural and Archaeological Characteristics

74. The current name of Matlab was Jagnatganj. Total 125 monks established this market in 1626 AD. At that time there were numerous banyan trees in the eastern part of Matlab Bazar. Many people used to come and go to hang out at this place. Shops are built around and transformed into a market. In later stages the market came to be known as Bairagi Hat. The market expanded further west south with the arrival of Matlabe Khan. Due to which the market later came to be popularly known as Matlabe Khar Hat. Later in 1858 AD, Matlabe Khanar Hat emerged as Matlabganj Thana. Matleb Khan Matlabganj Police Station is gradually becoming one of the Police Stations in Bangladesh. There are no historical, cultural and archaeological infrastructure in or near the sub-project area which might be impacted due to the construction activities.

5. ASSESSMENT OF POTENTIAL ENVIRONMENTAL AND MITIGATION MEASURES

75. Issues for consideration have been raised by the following means: (i) input from interested and affected parties; (ii) desktop research of information relevant to the proposed sub-project; (iii) site visits; and (iv) evaluation of proposed design scope as per MDSC study and potential impacts.

76. The corridors of impact considered include: (i) existing alignment and width of roads to be rehabilitated; and (ii) existing ROWs. No additional land is required beyond the ROWs. Categorization of the sub-project and formulation of mitigation measures have been guided by REA checklist for drain improvement and ADB SPS, 2009.

5.1 Impact Assessment Methodology

Planning and Design Phase

77. Planning principles and detail design considerations have been reviewed and incorporated into the site planning process. Location for the sub-project components will be on properties held by the Pourashava. Access to the sub-project site is through public existing roads.

Sub-project Selection Criteria

78. The project environmental assessment and review framework specifies environmental criteria to avoid or minimize adverse impacts during the identification and finalization of road & drain improvement sub-project. Table 7 summarizes site and design considerations as per final design.

Table 7: Actions to Mitigate Climate Change Impacts and Improve Climate Resilience

Sl. No.	Climate Change Effect	Mitigation Measures
A.	**Climate change effect**	
1.	Increased rainfall quantity and runoff Increased frequency of storms	▪ Improve O & M, organizational capacity, resource allocation, etc. ▪ Work with relevant stakeholders to manage water use and flood discharges more effectively ▪ Improve collection and disposal of waste ▪ Control encroachments ▪ Improve public behaviour through active and prolonged information, education, and communication campaigns to reduce uncontrolled solid waste disposal, encroachments, damage to infrastructure, unregulated development in key areas, etc., supported by enforcement. ▪ Guide wall to protect erosion and sliding for roads with adjacent water bodies/ponds
B.	**Impact Factor**	
1.	Construction materials' quality	▪ Choose most durable materials possible, even if higher cost, e.g., concrete, bricks. ▪ Monitor and control construction quality
2.	Rising temperatures	▪ Execute works during most favourable times of year and day. ▪ Monitor and control preparing, placing, and curing concrete and mortar, to ensure placement, etc., during most favourable times. ▪ Use plain high-quality un-rendered brick work and high-quality cement mortar in preference to rendered low-grade bricks ▪ Use sulphate resisting cement in vulnerable locations (higher heat gain during curing) or cement containing fly ash (less heat gain, so preferred).
3.	Run-off	▪ Use U and trapezoidal section side roads with small low-flow section for low flows ▪ Line side roads to achieve higher discharge without increasing risk of scour, etc. ▪ Considering the effect of climate change the sustainability of sub-project have been increased by 10%. Sizes of infrastructure, where required, have been made large enough to facilitate normal plus additional flow of household, storm water from an increased rainfall due to climate change.

Land Acquisition and Resettlement

79. The proposed sub-project to be constructed in Pourashava owned land and through the existing roads. There are no encroachers or residential/ commercial structures in the proposed area as per the study of social and resettlement team. In addition, there is no squatters will be disturbed due to the proposed sub-project as per the social and resettlement assessment. Hence, no negative impacts are envisaged due to the sub-project.

80. The concepts considered in design of the roads sub-project are: (i) prioritizing rehabilitation/ maintenance over new construction; (ii) locating facilities on government/ Pourashava-owned land to avoid the need for land acquisition; (iii) taking all possible measures in design and selection of sites to avoid resettlement impacts; (iv) avoiding where possible locations that will result in destruction/disturbance to historical and cultural places/values; (v) avoiding tree-cutting where possible; (vi) ensuring all planning and design interventions and decisions are made in consultation with local communities and reflecting inputs from public consultation and disclosure for site selection.

Landscape and Existing Utilities

81. The proposed roads are within the existing network. The proposed sub-project will be also constructed/rehabilitation/maintenance within existing network. Therefore, investigation before construction and formulation of plan of restoration of existing utilities within shortest time is recommended. The plan must be formulated with coordination with PIU, contractor and the field level construction supervisor. The plan must be shared with the PIU/ MDSC and approved by them.

5.2 EMP Implementation Training

82. Conducting special briefing and/or on-site training for the contractors and workers on the environmental requirement of the project to understand the requirement of the project and implementation of mitigation measures. Often lack of proper training to implement the EMP stipulated in the 'Bid Document' leads to mismanaged environmental safeguards. Therefore, EMP training for the contractors, workers and implementing agency is necessary before construction goes on-board. A training (10-15 minutes) needs to be arranged before construction starts with all involved parties: contractor, workers and representatives from Implementing Agency to implement the EMP and therefore is necessary.

Construction Phase

83. In the case of this sub-project (i) most of the individual elements are relatively small and involve straight forward construction, so impacts will be mainly localized and not greatly significant; (ii) most of the predicted impacts are associated with the construction process and are produced because that process is invasive, involving excavation and earth movements; and (iii) being located in the built-up area of the Pourashava, will not cause direct impact on biodiversity values.

84. Although construction of these project components involves quite simple techniques of civil work, the invasive nature of excavation and the sub-project sites in built-up areas of Matlab Pourashava where there are a variety of human activities, will result to temporary impacts to the environment and sensitive receptors such as residents, businesses and the community in general. These anticipated impacts are short-term, site-specific and within a relatively small area. There are no impacts that are significant or complex in nature, or that need an in-depth study to assess the impact. Thus, Matlab Pourashava roads improvement sub-project is unlikely to cause significant adverse impacts.

85. There is sufficient space for a staging area, construction equipment and stockpiling of materials. However, the contractor will need to remove all construction and demolition wastes on a daily basis. The debris accumulated from the demolition of the existing old

structure at site will be stored in a safe place in the Pourashava own compound.

Worker Camps

86. To accommodate the needs of the workforce, the contractor should provide suitable housing, adequate supplies of potable water, and toilet and bathing facilities within the housing area. Onsite facilities for preparing food need to be provided, or food service contracted. The contractor should provide means for disposing of wastewater from toilets, baths and food preparation areas either through a septic tank or through sock well or holding tank with removal by vacuum truck. Solid waste should be collected at waste bins and disposed of properly offsite. The labor camp should be located at a distance from any nearby community and workers transported daily to the construction sites. Temporary lodging for workers should not be set up along the alignments where piping is being installed. The labor camp should be set up at a selected and approved location for the duration of the contract, and located such that it does not interfere with or cause a nuisance for the local community. Complete closure of the camp is required at the end of the work, including removal of any underground tanks and above-ground structures.

Site and Route Maintenance

87. The contractor should plan haul routes to avoid congested areas and narrow roads, and schedule transportation to avoid peak traffic periods. Speed limits and other traffic rules need to be strictly enforced among drivers. Traffic detours need to be identified and marked in the event they are necessary to maintain traffic flow through the construction zone. Flagmen need to be posted at the start and finish of construction areas as necessary to direct the movement of traffic. Movable sanitary facilities should be provided at the site and kept clean, free of odors and usable. No materials should be stored onsite for longer than a day before their use. Excess materials should be removed after a segment is complete. The contractor should avoid trenching where damage might occur to buildings, and provide shoring and backfill with sand/cement admixture to prevent caving. The contractor should avoid stockpiling earth and construction materials in areas subject to flooding and flowing water. Loss of fuel oil, engine oil and other types of pollutants to the soil or to drainage courses will not be tolerated.

Topography, Geology and Soils

88. Significant amount of gravel, sand, and cement will be required for this sub-project. 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.

89. 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 sub-project) must comply with environmental requirements, as applicable. No activity will be allowed until formal agreement is signed between PIU, landowner and contractor.

Surface Water Quality

90. Temporary trenching and excavation, run-off from stockpiled materials, and contamination from fuels and lubricants may result to silt-laden runoff during rainfall that may cause siltation and reduction in the quality of adjacent bodies of water. There are few small ponds/ditches near the drain ROW and surface water pollution is expected due to the construction activities. Therefore, the expected impacts are minor negative and short term, site-specific within a relatively small area and reversible by mitigation measures.

    - Prepare and implement a spoils management plan (see Appendix 07 for outline).
    - Prioritize re-use of excess spoils and materials in construction activities. If spoils will be disposed, consult with Matlab 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.

Groundwater Quality

91. Increased demand of groundwater is anticipated during the construction phase for construction activities and domestic purposes. Uncontrolled extraction of water may also affect availability of waters to locals. In addition to that, construction waste, if left unattended will result in forming leachate which will percolate through the soil strata and will reach underground water table and hence, will end up contaminating it. Mitigation measures will include

    - Pumping of groundwater should be from deep aquifers of more than 30m to supply arsenic free water. Safe and sustainable discharges are to be ascertained prior to selection of pumps.
    - Tube wells will be installed with due regard for the surface environment, protection of groundwater from surface contaminants, and protection of aquifer cross contamination.
    - All tube wells, test holes, monitoring wells that are no longer in use or needed shall be properly decommissioned.
    - Protect groundwater supplies of adjacent lands.

Air Quality & Dust

92. Conducting works at dry season and moving large quantity of materials may create dusts and increase in concentration of vehicle-related pollutants (such as COx, SOx, PMs, NOx, and HCs) which will affect people who live and work near the sites. Different activities regarding the machinery movement and other works generate dust and impair the air quality. The impacts are negative but short-term, site- specific within a relatively small area and reversible by mitigation measures.

    - Damp down exposed soil and any sand stockpiled on site by spraying with water when necessary, 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.
    - Short-term 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 sub-project).

- Water will be sprayed to control the dust, which is the main way to suppress dust in the working site.
- Debris materials should be transported through truck covered by tarpaulin.
- Apply water every 4 hours to the area within 30m of structures being demolished, to reduce vehicle track out.
- Apply water to disturbed soils after demolition is completed or at the end of each day of clean up
- Prohibit demolition activities when wind speeds exceed 30 kph.
- Limit on-site vehicle speeds (on unpaved roads) to 20 kph.
- Provide jute made cloth around the structures to be demolished.
- Monitor air quality.

Acoustic Environment

93. Construction activities will be far from settlements, far from 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. However, the proposed sub-project situated out of core area and impact is short-term, site-specific and within a relatively small area. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.

- 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 Matlab 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 85 decibels (dBA) when measured at a distance of 10m 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

94. 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.

- Prepare a debris disposal plan.
- Remove all construction and demolition wastes on a daily basis.
- Coordinate with Matlab local authority for beneficial uses of excess excavated soils or immediately dispose to designated areas. Avoid stockpiling of any excess spoils.
- All vehicles delivering fine materials to the site and carrying debris for disposal shall be covered to avoid spillage. 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.

Biodiversity

95. Activities are being located in the built-up area of Matlab Pourashava. There are no protected areas in or around sub-project sites, and no known areas of ecological interest. Preliminary design shows there are no trees at the sites that need to be removed.

- 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.
- 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 sub-project vicinity.
- Prohibit employees from poaching wildlife and cutting of trees for firewood.
- Implement compensatory plantation for trees lost at a rate of 2 trees for every tree cut. Maintain the saplings for the duration of contract.

Traffic Congestion

96. Hauling of construction materials and operation of equipment on-site can cause traffic problems. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.

- Follow the traffic management plan given in Appendix 5 of this report.
- Plan transportation routes so that heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites.
- Maintain safe passage for vehicles and pedestrians throughout the construction period.
- Schedule truck deliveries of construction materials during periods of low traffic volume.
- Erect and maintain barricades, including signs, markings, flags and flagmen informing diversions and alternative routes when required.
- Notify affected sensitive receptors by providing sign boards informing nature and duration of construction activities and contact numbers for concerns/complaints.
- Leave spaces for access between mounds of soil.
- 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 client age.
- Ensure any damage to properties and utilities will be restored or compensated to pre-work conditions.

Socio-economic Status

97. Work force will be required during the 12-month construction stage. This can result to generation of contractual employment and increase in local revenue. Thus, potential impact is positive and long-term.

- Employ at least 50% of labor 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.
- Secure construction materials from local market.

Existing Amenities for Community Welfare

98. Although construction of sub-project components involves quite simple techniques of civil work, the invasive nature of excavation and the sub-project sites being in existing networks of Matlab Pourashava where there are a variety of human activities, will result to impacts to the sensitive receptors such as residents, businesses and the community in general. Road widening may also damage existing infrastructure (such as trees and electricity poles, etc.) located alongside the roads. The impacts are minimal but short-term, site-specific within a relatively small area and reversible by mitigation measures.

- Obtain details from Pourashava nature and location of all existing infrastructure, and plan excavation carefully to avoid any such sites to maximum extent possible;
- Integrate construction of the various infrastructure sub-projects to be conducted in Matlab (roads 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.
- 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.
- Ensure any damage to properties and utilities will be restored or compensated to pre-work conditions.

Community Health and Safety

99. The public should be barred from construction areas, and excavations should be barricaded and marked. Paths of access and passage for vehicles and pedestrians should be clearly marked through the work zone. The contractor should minimize use of heavy equipment in congested areas, conduct activities during daylight hours, and apply water to suppress dust as needed. In heavily trafficked areas such as markets, the contractor should increase the work force to complete construction quickly, reduce dust by removal of excess earth, and avoid obstructing the paths of travel for pedestrians and vehicles. The contractor should minimize downtime of existing water supply, limit shutdowns to less than four hours, and notify the public in advance to store water as necessary.

100. Construction works will impede the access of residents and business in limited cases. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.

- Contractor's activities and movement of staff will be restricted to designated construction areas.
- Consult with Matlab local authority on the designated areas for stockpiling of soils, gravel and other construction materials.
- If the contractor chooses to locate the work camp/storage area on private land, he must get prior permission from the environment specialist and landowner.
- Use small mechanical excavators to attain faster trenching progress. Crusher will be used for stone and concrete breaking.
- Under no circumstances may open areas or the surrounding bushes be used as a toilet facility.
- Recycling and the provision of separate waste receptacles for different types of waste shall be encouraged.
- 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: (i) 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 facilities); (iv) no fires permitted on site except if needed for the construction works; (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.

- 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 environmental management specialist's attention immediately; and (iv) taking remedial action as per environment specialist's instruction.
- The contractor shall immediately take the necessary remedial action on any compliant/grievance received by him and forward the details of the grievance along with the action taken to the environment specialist within 48 hours of receipt of such compliant/grievance.

Occupational Health and Safety

101. The Contractor should have a basic safety and health plan in place for workers, in which workers are required to wear personal protective gear suitable to the type of work being performed and a worker is suitably trained (or experienced) in the work he/she is assigned to do. Emergency care should be available on call. The Contractor should maintain a record of accidents, which should be reviewed on occasion with the supervising engineer. The contractor should maintain a high standard of safety in the performance of work. Workers need to be informed of potential risks associated with activities conducted in the vicinity of moving equipment, and workers should not be allowed to enter deep trenches unless they are properly shored.

102. There is invariably a safety risk when construction works such as excavation and earthmoving are conducted in urban areas. Workers need to be mindful of the occupational hazards which can arise from working height and excavation works. Potential impacts are negative and long term but reversible by mitigation measures.

- Comply with requirements of Government of Bangladesh labor law of 2006 & rules 2015 and all applicable laws and standards on workers' health and safety (H&S).
- Ensure that all site personnel have a basic level of environmental awareness training.
- Procedure and implement a site H&S plan which include measures as: (i) excluding the public from worksites; (ii) ensuring all workers are provided with and required to use personal protective equipment (reflectorized vests, footwear, gloves, goggles and masks) at all times; (iii) providing (H&S) training for all site personnel; (iv) documenting procedures to be followed for all site activities; and (v) maintaining accident reports and records.
- Arrange for readily available first aid unit including an adequate supply of sterilized dressing materials and appliances.
- Maintain necessary living accommodation and ancillary facilities in functional and hygienic manner in work camps. Ensure (i) uncontaminated water for drinking, cooking and washing, (ii) clean eating areas where workers are not exposed to hazardous or noxious substances; and (iii) sanitation facilities are available at all times.
- Provide medical insurance coverage for workers;
- Provide H&S orientation training to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection and preventing injuring to fellow workers;

- Provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present. Ensure also that visitor/s do not enter hazard areas unescorted;
- Ensure moving equipment is outfitted with audible back-up alarms;
- Mark and provide signboards for hazardous areas such as energized electrical devices and lines, service rooms housing high voltage equipment and areas for storage and disposal. Signage shall be in accordance with international standards and be well known to and easily understood by workers, visitors and the general public as appropriate; and
- Disallow worker exposure to noise level greater than 85 dBA for duration of more than 8 hours per day without hearing protection. The use of hearing protection shall be enforced actively.

5.3 Operation & Maintenance Phase

103. In the operations and maintenance (O & M) phase, the road and drain system will operate with routine maintenance, which should not affect the environment. The infrastructures will need to be repaired from time to time, but environmental impacts will be much less than those of the construction period as the work will be infrequent, affecting small areas only. O & M will be the responsibility of Matlab Pourashava local authority, which will be given training by this sub-project.

104. Routine repairs and maintenance works will be very small in scale, to conducted manually by small teams of men and works will be very short in duration thus will not cause significant physical impacts.

Surface/Waste Water Quality

105. The surface water bodies may get flooded and polluted due to uncontrolled release of contaminated storm-water/road runoff from drains surfaces. The pollutants associated with the water body include, P^H, DO, TDS etc. On the other hand, the surface water quality at the drain's outfall location of all the existing drains within this Pourashava might be impacted if maintenance of drains will not be taken regularly. Water quality of the canals is not good as per visual observations but no solid waste was observed. Also, it was noticed that no illegal connection is permitted by the municipality and it should be followed in the future. The Pourashava have to clean the drains regularly and have to ensure that no other source of water except rainfall and household water to the drains. In addition to the maintenance, the waste water quality has to be tested regularly from the outfall location and have to take mitigation measures accordingly if there any ascendance of national standard.

Air Quality

106. Air emissions of common air contaminants and fugitive dust may be elevated in proximity to active work sites may include gaseous for disinfection processes. Develop and implement a prevention program that includes identification of potential hazards, written operating procedures, training, maintenance, and accident investigation procedures.

Acoustic Environment

107. Temporary increase in noise level and vibrations is expected. The impacts are minor negative and long-term, site-specific within a relatively small area reversible by mitigation measures. Plan activities in consultation with Matlab local authority so that activities with the greatest potential to generate noise are conducted during periods of the day that will result in least disturbance.

Biodiversity

108. All activities will be in the built-up area of Matlab Pourashava. There are no protected

areas in or around sub-project site and no known areas of ecological interest. No trees, shrubs, or groundcover may be removed or vegetation stripped without the prior permission. The planted trees will be nurtured by the road slope Pourashava O & M budget.

Solid Waste

109. The main causes of non-functionality of the existing drainage system are clogging the drains by the solid waste and inadequate design in some cases. Solid waste generated from the sub-project activities may contribute to the risk of clogging of drains. However, proper solid waste management facilities should be provided in the sub-project areas. Awareness raising camps and demonstration including the house owners regarding the waste management and their roles in keeping the Paura drains clean through daily activities. Paura authority should also remove the waste materials from drain side within the shortest time and periodic monitoring by the designated person of Pourashava.

Table 8: Scheme specific impacts & mitigations

PDP No.	Name of schemes	Length (m)	Existing Conditions & Impacts	Mitigations
R-009	Improvement of road by RCC from Ghospara Shakib Diagnostic Center to Kochi Kacha School (Ch. 0.00m to 282m) at ward no - 03, Matlab Pourashava, Chandpur. Total Length = 282m.	282	• Existing damaged Road is in very poor condition • Water logging occurred during rainy season • Sensitive receptors like mosque and madrasha were identified during the environmental survey. • The scheme is mostly in residential area.	• General mitigation and monitoring actions will be followed • Install road sign both side of the road locations • Barriers should be given at sensitive location. • Roadside tree plantation may reduce noise & dust impacts during operation.
R-010	Improvement of road by Dense Bituminous Carpeting from Parvez Miazi Rice Mill to towards Nur Madina Jame Mosque (Ch. 0.00m to 1525m) including Protection work at Ch. 275m to Ch. 320m, R/S), (Ch. 350m to 400m, R/S) at ward no - 01, Matlab Pourashava, Chandpur. Total Length = 1525m.	1525	• The scheme is mostly in residential area. • No impact on trees, temporary/ permanent structures • Water logging occurred during rainy season • Sensitive receptors like mosque, school and madrasha were identified during the environmental survey.	• General mitigation and monitoring actions will be followed • Install road sign beside road locations. • Barriers should be given at receptor locations. • Spraying of water on the roadways and other dusty surfaces should be done during the dry season. • No impact on biodiversity.
R-011	Improvement of road by Dense Bituminous Carpeting from Baitul Aman Jame Mosque (Kazi Miazi) to Uttar Baishpur damaged bridge via H/O Gafur Khalifa (Ch. 0.00m to 940m) at ward no - 01, Matlab Pourashava, Chandpur. Total Length = 940m.	940	• Existing damaged Road is in very poor condition • Water logging occurred during rainy season • Sensitive receptors, were identified during the environmental survey. • The road is mostly in residential area.	• Install road sign both side of the road locations • Barriers should be given at sensitive location. • Appropriate noise reduction measure suggested. • No impact on trees, temporary/ permanent structures

PDP No.	Name of schemes	Length (m)	Existing Conditions & Impacts	Mitigations
R-012	Improvement of road by Dense Bituminous Carpeting from North Baispur Graveyard to Hamid Mirdha house via Secretary Abul Hossain house (Ch. 0.00m to1327m) at Matlab Pourashava, Ward no - 01, Chandpur. Total Length = 1327m.	1327	• No impact on trees, temporary/ permanent structures • Water logging occurred during rainy season at Bazar • Sensitive receptors like school and mosque were identified during the environmental survey • No impact on biodiversity. • The road is in residential area.	• General mitigation and monitoring actions will be followed • Install warning sign and caution tape • Barriers should be given at receptor locations. • Spraying of water on the roadways and other dusty surfaces should be done during the dry season.
R-020	Improvement of road by Dense Bituminous Carpeting from Bari Nagar to towards Algimukundi Bridge (Ch. 0.00m to 1300.00m) including Protection work at (Ch. 80m to 230m, R/S, Ch 1050-1100m Both side & Ch 1225m to 1300m) at ward no - 05, Matlab Pourashava, Chandpur. Total Length =1300m.	1300	• Existing damaged Road is in very poor condition • Inundation occurs during flood. • Water logging occurred during rainy season • Sensitive receptors, were identified during the environmental survey. • The road is in residential area. • Soil erosion occurs near road slope.	• General mitigation and monitoring actions will be followed • Install road sign both side of the road locations. • Barriers should be given at sensitive location. • Appropriate noise reduction measure suggested. • Road side tree plantation may reduce soil erosion.
R-021	Improvement of road by Dense Bituminous Carpeting from Roic Miazi house to Middle Digoldi Nanto Gazi house (Ch. 500.00m to 1500m) including Protection Work at (Ch. 1400m to Ch. 1450m, L/S) at Matlab Pourashava, Ward no - 06, Chandpur. Total Length = 1000m.	1000	• Existing damaged Road is in very poor condition • Inundation occurs during flood. • Water logging occurred during rainy season • Sensitive receptors, were identified during the environmental survey. • The road is in residential area. • Soil erosion occurs near road slope.	• General mitigation and monitoring actions will be followed • Install road sign both side of the road locations. • Barriers should be given at sensitive location. • Appropriate noise reduction measure suggested. • Road side tree plantation may reduce soil erosion.
R-025	Improvement of road by RCC from South Nalua Din Bandhu Chowdhury Bari Road (Ch. 0.00m to 625m) including Protection Work at (Ch. 60m to Ch. 85m, R/S) at Matlab Pourashava, Ward no - 07, Chandpur. Total Length = 625m.	625	• Existing damaged Road is in very poor condition • Inundation occurs during flood. • Water logging occurred during rainy season • Sensitive receptors, were identified during the environmental survey. • The road is in residential area. • Soil erosion occurs near road slope.	• General mitigation and monitoring actions will be followed • Install road sign both side of the road locations. • Barriers should be given at sensitive location. • Appropriate noise reduction measure suggested. • Road side tree plantation may reduce soil erosion.

PDP No.	Name of schemes	Length (m)	Existing Conditions & Impacts	Mitigations
R-057	Improvement of road by Dense Bituminous Carpeting from Middle Digoldi Master Bazar to Mansur Ali Sarkar Bari (Ch. 0.00m to 1080m) including Protection Work at (Ch. 254m to Ch. 310m, L/S) at Matlab Pourashava, Ward no - 08, Chandpur. Total Length = 1080m.	1080	• Existing damaged Road is in very poor condition • Inundation occurs during flood. • Water logging occurred during rainy season • Sensitive receptors, were identified during the environmental survey. • The road is in residential area. • Soil erosion occurs near road slope.	• General mitigation and monitoring actions will be followed • Install road sign both side of the road locations. • Barriers should be given at sensitive location. • Appropriate noise reduction measure suggested. • Road side tree plantation may reduce soil erosion.

Cumulative Impact Assessment

110. The cumulative impact assessment examined the interaction between the sub-project's residual effects (i.e., those effects that remain after mitigation measures have been applied) and those associated with other past, existing and reasonably foreseeable future sub-projects or activities. The interaction of residual effects associated with multiple projects and/or activities can result in cumulative impacts, both positive and negative. The project's potential cumulative effects were considered with respect to valued components in environmental and socioeconomic categories, in four areas:

i. of any potential residual project effects that may occur incrementally over time;
ii. consideration of other known relevant projects or activities within the specified study area boundaries, even if not directly related to the project;
iii. potential overlapping impacts that may occur due to other developments, even if not directly related to the proposed sub-project; and
iv. future developments that are reasonably foreseeable and sufficiently certain to proceed.

111. Location and sitting of the proposed infrastructures were considered to reduce impacts. Detailed designs integrate a number of measures, both structural and non-structural, to mainstream climate resilience into the Matlab roads sub-project, including (i) designed to the current best practice standard codes; (ii) built that the floods do not damage them; and (iii) side drains are to be kept free from wastes and siltation.

Surface Water Quality

112. Surface water quality will not be impacted like present trend due to improved road and drainage system. Illegal or unwanted connections to the improved drains will be controlled and entrance of solid wastes will be prohibited by providing nets at required intervals.

5.4 Socioeconomic and Socio-community

113. Concerns on existing provisions for pedestrians and other forms of transport will occur spatially during construction and O & M activities. Since the sub-project will be improvement of existing infrastructures, it will not conflict with existing or planned land use. However, following improvement in infrastructures and services, added residential developments, commercial, and business facilities and increased densities are expected to develop and enhance Matlab Pourashava. This can be considered a long-term cumulative benefit of the sub-project.

114. Upon completion of the sub-project, the socio-community will be the major beneficiaries. With the improved traffic management, they will be provided with reliable and climate-resilient road & drain. In addition to improved environmental conditions, the sub-project will reduce occurrence of air borne-related diseases and exposure to climate extremes. People would spend less on healthcare and lose fewer working days due to

illness, so their economic status should also improve, as well as their overall health. Beyond reducing the water-borne and water-washed diseases, providing better access to improved municipal services confers many other diverse benefits ranging from the easily identifiable and quantifiable (costs avoided, time saved) to the more intangible and difficult to measure (convenience, well-being). One set of the benefits related to health impacts that are relatively easy to quantify, are the cost-offsets (costs avoided due to less illness). Cost savings in health care are mainly due to the reduced number of treatments of air borne diseases cases. In addition, patients will avoid costs incurred by seeking treatment, including expenditures on care, drugs and transport and the opportunity costs of time spent on seeking care. Another set of benefits related to less illness are the avoided days lost, with respect to formal or informal employment, other productive activities in the household or school attendance. These are considered a long-term cumulative benefit.

Induced Traffic and Vehicle Emissions

115. The project is likely to induce additional vehicle ownership and related emissions. This is inevitable with a road designed and maintenance to improve the economic situation of the region, and therefore its use is a measure of its success. Given the nature of the road, and lack of infrastructure development, the additional vehicle emissions induced by the project are not considered to be locally significant; however, they will contribute to global emissions.

Analysis of Alternatives

116. Analysis of alternatives has been carried out for 'with' and 'without' the project, location selection, project implementation scheduling and materials usage in the detailed design and construction/Improvement of 8079m Roads in 8 locations, protection work 551m at Matlab Pourashava, Chandpur District.

Material Usage and Sustainability Considerations

117. Under the circumstances, this subproject has been proposed as comprising different infrastructure development under different components. The sub-project components aim at upgrading and expansion of urban services, including (i) one connecting road from Pourashava to the national highway and other neighboring industrial & commercially important places for better transportation; (ii) two roads with flood management schemes. The proposals are entirely concerned with activities that address the most acute needs for better urban services for inhabitants of the Pourashava. Different infrastructure development components under the sub-project proposed for development are consistent. Rehabilitation, construction, expansion of the basic infrastructures to improve transportation facilities, removing waterlogging and drainage congestions, increasing pure water supply and improving sanitation system, planned solid waste management etc. to improve the environment and sustain an ecological balance and quality of livelihood. Hence project scenario is highly desirable. While the 'with sub-project scenario' may have negative environmental impacts from construction activities, the environmental impacts are projected to be temporary and short-term in nature. The impacts during construction and operation phase are not irreversible and can be readily mitigated.

118. Vulnerabilities of Pourashavas to climate risks include (i) low-lying topography subject to flooding and waterlogging; (ii) changes in the landscape due to construction and urban expansion, with reduced capacity to buffer impacts from floods and landslides; (iii) poor awareness of vulnerable populations; and (iv) weak institutional capacities and strategic planning of Pourashavas in managing climate risks. Overall, Pourashavas need to address climate risks better through improved planning, zoning, and sustaining climate-resilient and gender responsive infrastructure and services.

119. It is clear from the above that without project scenario is undesirable and the location of Sub-project has been strategically selected with only short-term and reversible environmental impacts. To make the project outcome and outputs sustainable, necessary measures have been included in the project design.

6. INFORMATION DISCLOSURE, CONSULTATION AND PARTICIPATION

120. The development and construction of any project will impact on the surrounding human and physical environment and will have beneficial or adverse effects. It is therefore essential that the community can fully understand the project, have the opportunity to express their views and to become directly involved in the project's overall decision-making process.

121. Public authority developers must take account of the community's views and include any useful suggestions to improve the sub-project. This may include suggestions to help further develop environmental protection measures thereby reducing environmental pollution, reducing the loss of environmental resources and improve the project's environmental and social benefits, thus helping achieve more sustainable development.

122. In accordance with the requirements of the ADB as defined in the SPS 2009, the ''borrower will carry out meaningful consultation with affected people and other concerned stakeholders, including civil society, and facilitate their informed participation'' The following activities have therefore been carried out in his project in accordance with the ADB requirements.

6.1 Purpose of Public Participation

123. The public participation process included (i) identifying interested and affected parties (stakeholders); (ii) informing and providing the stakeholders with sufficient background and technical information regarding the proposed development; (iii) creating opportunities and mechanisms whereby they can participate and raise their viewpoints (issues, comments, and concerns) with regard to the proposed development; (iv) giving the stakeholders feedback on process findings and recommendations; and (v) ensuring compliance to process requirements with regards to the environmental and related legislation.

124. MDSC safeguard team conducted public consultations from 23th October 2022. The objective of the meetings was to appraise the stakeholders about environmental and social impacts of the proposed sub-project and safeguards to mitigate the same. A questionnaire was designed and environmental information was collected. Key respondents included project-affected persons, who may suffer temporary access disruptions during construction activities from the sub-project area and daily commuters consulted randomly. Issues discussed and feedbacks received are given in Table 9. The photographs and the list of participants along with details of date, time, and location is given in Appendix 6 respectively. The environmental concerns and suggestions made by the participants were listed, and discussed, and suggestions accordingly incorporated in the EMP. These include speedy construction works to ensure low impacts to community during road closures and local employment.

125. The Project has already organized consultation training program for all staff working in IUGIP, consultants and Pourashava staff on safeguard policies. The aim of the consultation programme was to inform all stakeholders about the importance of the safeguard policies and their implementation at the design construction and operation stage. Field consultations were conducted with local people. Consultations by the PIU supported by the Environmental Specialist and the PMU include the following:

- Focus-group discussions (FGDs) and Workshop with affected persons and other stakeholders (including women's groups, NGOs and CBOs) to hear their views and concerns, were conducted and concerns were addressed in sub-project design.
- Structured consultation meetings with the institutional stakeholders (government bodies and NGOs) to discuss and approve key aspects of the sub-project.

Table 9: Outcome of the Public Consultation

Sl. No.	Key Issues/Demands	Perception of Community	Action to be Taken
1	Awareness of the project including coverage area	Yes, they are aware of the project that will be improved.	No need to take action.
2	In what way they may associate with the sub-project	They will give all types of cooperation for implementation of the sub-project	More consultation before start of the sub-project.
3	Presence of any forest, wildlife or any sensitive/ unique environmental components nearby the project area	Not anticipated	No need to take action.
4	Presence of historical/cultural/ Religious sites nearby	Not anticipated	No need to take action.
5	Unfavorable climatic condition	During the rainy season, the town become flooded if heavy rainfall occurs within short duration.	Design the drain adequately.
6	Occurrence of flood	The city often inundated due to heavy rainfall for short duration. No major flood occurred recently.	Design the drain adequately.
7	Drainage and sewerage problem facing	The town has proper master drains covering most portion of the city to carry waste water. Therefore, no major problem with water logging in normal condition.	Design the drain adequately.
8	Availability of labour during construction time	Yes, Local labour is available.	No need to take action.
9	Dust and noise pollution disturbances during construction work	Yes, they know the impact will be short-term & negligible.	EMP will be prepared to minimize the impact.
10	Setting up construction camp site within the villages/project locality	Yes, no construction camp is required for this sub-project.	No camp or storage site within locality
11	Safety of residents during construction phase and plying of vehicle for construction activities	Yes, they are aware of the safety issues	Awareness programs will be taken before start of the construction work.

6.2 Summary of Consultation

126. If any important road of any area in development everything of that area will develop very soon. It's helpful to all classes of people who live at that area. All the local community people of that area will able to go their business, school, college and hospital within shortest time. It is helpful for extension of business which may help to earn so many foreign currencies. By earning lot of foreign currency our economic problem eradicates very soon. Pregnant woman and any ill person can go to any hospital within a small time. The employers of any government or non-government institution and the workers of that institution can go their work place very soon. The farmers can go to nearest town with their agricultural production within very short time and sale that product at high price. Police administration can take immediate action against any offender, such as Murderer, Eve-teaser, etc.

6.3 Consultation During Construction Phase

127. Public meetings with affected communities to discuss and plan work programs and allow issues to be raised and addressed once construction has started. Smaller-scale meetings to discuss and plan construction work with individual communities to reduce disturbance and other impacts and provide a mechanism through which stakeholders can participate in sub-project monitoring and evaluation.

6.4 Sub-project Disclosure

128. For the benefit of the community, the summary of the IEE will be discussed with the

local people prior to the construction and consultations during construction period for their information of the sub-project activities. It will be ensured that the hard copies of IEE are kept at places which are conveniently accessible to people, as a means to disclose the document and at the same time creating wider public awareness. An electronic version of the IEE will be placed in the official website of executing and implementing agencies and the ADB website after approval of the IEE by ADB. In addition to the above the below actions also could be taken as disclosure of the information.

- Public information campaigns (via newspaper, flyers, banners, and poster) to explain the sub-project to the wider city population and prepare them for disruption they may experience once the construction programme is underway;
- Public disclosure meetings at key sub-project stages to inform the public of progress, future plans and to provide copies of summary documents in local language;
- Formal disclosure of completed sub-project reports by making copies available at convenient locations in the study areas and informing the public of their availability, and
- Providing a mechanism through which comments can be made.

129. A project-specific grievance redress mechanism (GRM) will be established to receive, evaluate, and facilitate the resolution of AP's concerns, complaints, and grievances about the social and environmental performance at the level of the project. The GRM will aim to provide a time-bound and transparent mechanism to voice and resolve social and environmental concerns linked to the project.

7. GRIEVANCE REDRESS MECHANISAM (GRM)

7.1 Common GRM

130. A common GRM will be in place for social, environmental, or any other grievances related to the project; the resettlement plans (RPs) and IEEs will follow the GRM described below, which is developed in consultation with key stakeholders. The GRM will provide an accessible and trusted platform for receiving and facilitating resolution of affected persons' grievances related to the project. The multi-tier GRM for the project is outlined below, each tier having time-bound schedules and with responsible persons identified to address grievances and seek appropriate persons' advice at each stage, as required.

131. Pourashava-wide public awareness campaigns will ensure that awareness on grievance redress procedures is generated through the campaign. The project implementation unit (PIU) and governance improvement and capacity development consultants (GICDC) will conduct Pourashava-wide awareness campaigns to ensure that poor and vulnerable households are made aware of grievance redress procedures and entitlements and will work with the PMU and management, design and supervision consultants (MDSC) to help ensure that their grievances are addressed.

132. Affected persons (APs) will have the flexibility of conveying grievances/suggestions by dropping grievance redress/suggestion forms in complaints/suggestion boxes that have already been installed by project Pourashavas or through telephone hotlines at accessible locations, by e-mail, by post, or by writing in a complaint register in Pourashava offices. Careful documentation of the name of the complainant, date of receipt of the complaint, address/contact details of the person, location of the problem area, and how the problem was resolved will be undertaken. The project management office (PMU) safeguard officer will have the overall responsibility for timely grievance redress on environmental and social safeguards issues and for registration of grievances, related disclosure, and communication with the aggrieved party through the PIU designated safeguard focal person.

7.2 General

133. The objective the grievance redress mechanism (GRM) is to resolve complaints as quickly as possible and at the local level through a process of conciliation; and, if that is not possible, to provide clear and transparent procedures for appeal. A well-defined grievance redress and resolution mechanism will be established to resolve grievances and complaints in a timely and satisfactory manner. All affected persons will be made fully aware of their rights, and the detailed grievance redress procedures will be publicized through an effective public information campaign

7.3 Grievance Redress Process

134. In case of grievances that are immediate & urgent in the perception of the complainant, the contractor & MDSC on-site personnel will provide most easily accessible/first level of contact for quick resolution of grievances. Contact phone numbers & names of the concerned PIU safeguard focal person & contractors; will be posted at all construction sites at visible locations.

a. 1st Level Grievance

135. The phone number of the PIU office should be made available at the construction site signboards. The contractors and PIU safeguard focal person can immediately resolve on-site in consultation with each other, and will be required to do so within 7 days of receipt of a complaint/grievance.

b. 2nd Level Grievance

136. All grievances that cannot be redressed within 7 days at field/ward level will be reviewed by the grievance redress cell (GRC) headed by Panel Mayor of the Pourashava

with support from PIU designated safeguard focal person and MDSC regional environment and resettlement specialists. GRC will attempt to resolve them within 15 days The PIU designated safeguard focal person will be responsible to see through the process of redress of each grievance.

c. 3rd Level Grievance

137. The PIU designated safeguard focal person will refer any unresolved or major issues to the PMU safeguard officer and MDSC environmental and resettlement specialists. The PMU in consultation with these officers/specialists will resolve them within 30 days.

138. Despite the project GRM, an aggrieved person shall have access to the country's legal system at any stage and accessing the country's legal system can run parallel to accessing the GRM and is not dependent on the negative outcome of the GRM.

139. In the event that the established GRM is not in a position to resolve the issue, the affected person also can use the ADB Accountability Mechanism (AM) through directly contacting (in writing) the Complaint Receiving Officer (CRO) at ADB headquarters or the ADB Bangladesh Resident Mission (BRM). The complaint can be submitted in any of the official languages of ADB's DMCs. The ADB Accountability Mechanism information will be included in the PIU to be distributed to the affected communities, as part of the project GRM.

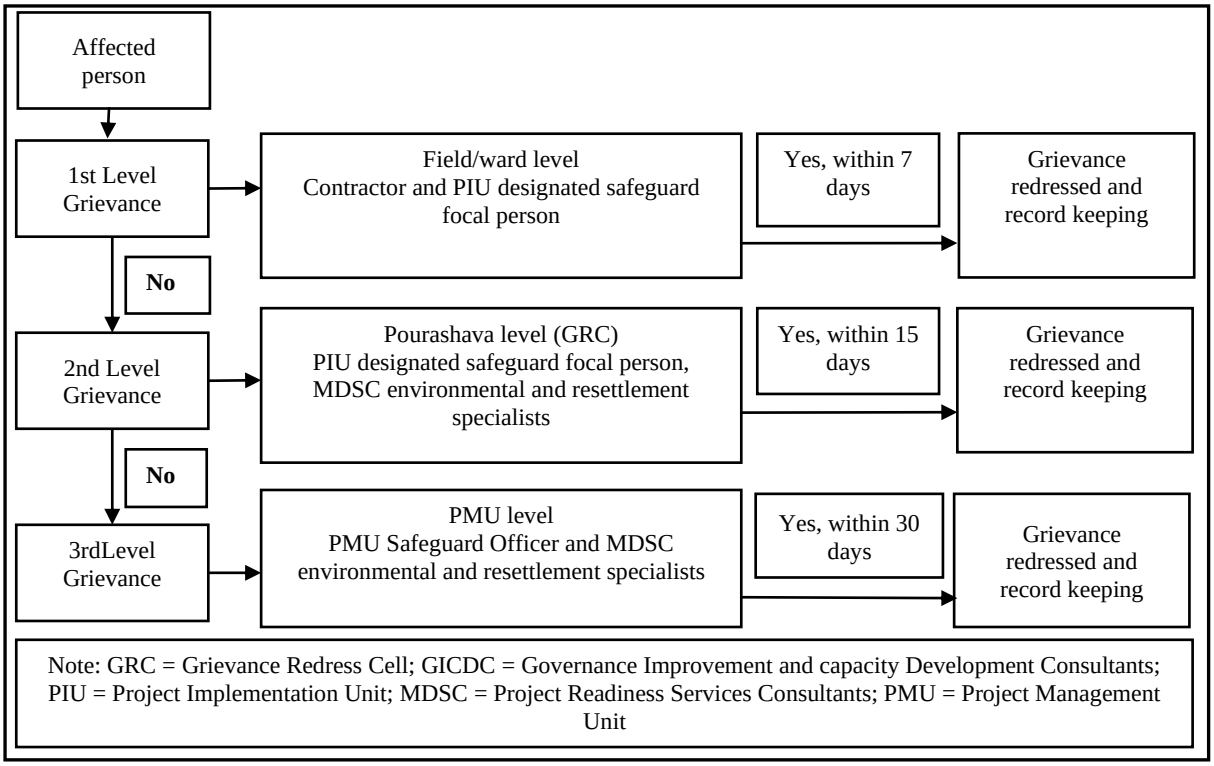


Figure 8 : Project Grievance Redress Mechanism

7.4 Recordkeeping

140. Records 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 outcome will be kept by PIU. The number of grievances recorded and resolved and the outcomes will be displayed/disclosed in the PMU office, Pourashava office, and on the web, as well as reported in monitoring reports submitted to ADB on a semi-annual basis.

7.5 Periodic Review

141. The PMU safeguard officer will periodically review the functioning of the GRM in each Pourashava and record information on the effectiveness of the mechanism, especially on the project's ability to prevent and address grievances.

7.6 Costs

142. All costs involved in resolving the complaints (meetings, consultations, communication, information dissemination) will be borne by the concerned PIU at Pourashava-level; while costs related to escalated grievances will be met by the PMU. Cost estimates for grievance redress related to both for social and environmental issues are included in resettlement cost estimates.

8. ENVIRONMENTAL MANAGEMENT PLAN (EMP)

8.1 Objectives of the EMP

143. The purpose of the environmental management plan (EMP) is to ensure that the activities are undertaken in a responsible, non-detrimental manner with the objectives of: (i) providing a proactive, feasible, and practical working tool to enable the measurement and monitoring of environmental performance on-site; (ii) guiding and controlling the implementation of findings and recommendations of the environmental assessment conducted for the project; (iii) detailing specific actions deemed necessary to assist in mitigating the environmental impact of the sub-project; and (iv) ensuring that safety recommendations are complied with.

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

145. For civil works, the contractor will be required to (i) establish an operational system for managing environmental impacts (ii) carry out all of the monitoring and mitigation measures set forth in the EMP; and (iii) implement any corrective or preventative actions set out in safeguards monitoring reports that the employer will prepare from time to time to monitor implementation of this IEE and EMP. The contractor shall allocate a budget for compliance with these EMP measures, requirements and actions.

8.2 EMP – Mitigation Measures

146. Mitigation measures for each of the impacts listed in the Table 10 in accordance with the chapter VIII. Responsible institutions/departments for the implementation and supervision of each of the environmental issues have also been illustrated. Mitigation measures have been suggested based on the knowledge of the Environmental Specialist, suggestions of the stakeholders collected during public consultation, and opinions from other relevant specialists.

147. The mitigation measures will be considered successful when comply with the Environmental Quality Standards (EQS), policies, legal requirements set by DoE and other relevant GoB organizations. In absence of DoE's own EQS, other relevant international or other recognized organization's quality standard will have to be followed.

Table 10: Environmental Management Plan – Mitigative Measures

Ref. No.	Issues & Impacts	Mitigation Measures	Responsible for	
			Implementation	Supervision
1.0 Pre-construction Phase				
1.1	**Obtaining of SCC/NOCs** Failure to obtain necessary consents, permits, SCC/NOCs as prescribed in environmental legislation framework (Chapter II) can result in design revisions and/or stoppage of the Works.	▪ The proposed road and drain will be constructed in Pourashava own land and existing road and drain networks, that's why all necessary consents, permits, clearance, etc. not required to be obtain before start of civil works (ensured from DDR report). ▪ DoE will issue the ECC upon approval of the IEE/EIA study (including associated EMP). The ECC allows project construction to commence, and contains specific approvals requirements for matters such as pollution control and environmental monitoring. ▪ **Note;** The DoE has issued a letter for Improving Urban Governance and Infrastructure Program (IUGIP).	PIU/Contactor	PMU/MDSC
1.2	**Updating of EMP based on necessary** Specific impacts will be identified as per design updating and construction works	▪ Update IEE and EMP as per necessary of detail design and construction works ▪ Ensure updated EMP is provided to contractors	PMU/ MDSC	MDSC
1.3	**Existing Utilities** Disruption of services (short term).	▪ Drawing from the consultant's visit, there was no utility or services found. Therefore, disruption in services is not expected. ▪ There is no vegetation alongside the existing Right Off Ways and proposed site. In addition, there is no water body nearby. No impact is expected on flora and fauna. ▪ 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. ▪ 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.	Contractor	MDSC/PIU
	Preparation & mobilization of field office	▪ A detailed plan and drawing of the semi-pucca site office (Area: 50 sq. m) with the arrangement of sufficient natural light, fan, toilet, safe drinking water, hit protecting ceiling, damp proofing equipment, and so on will be developed & submitted to the Pourashava before beginning the construction work.	Contractor	MDSC/PIU
1.4	**Construction Camps Location, & Stock Yards** Temporary disruption to traffic flow and sensitive receptors; Water body may be disturbed	▪ Camp for the workers will provide properly. Adequate disposal of sanitary waste will be considered in order to follow best waste management practices. Basic hygiene and cleanliness in the worker cam. In particular, usable toilet facilities separate Male & Female, Kitchen waste collection & dumping will be exist & well-maintained with basic provision of soak pits & septic tanks. Safe drinking water will be provided to the workers. Fire extinguisher would be provided, First Aid Box with Doctor's Name, Mobile number & necessary emergency Ambulance number. ▪ Determine locations prior to award of construction contracts. ▪ Avoid nearby water body, educational institutes and agricultural land	Contactor	MDSC/PIU
1.5	**Sources of Materials**	▪ Prepare list of approved quarry sites and sources of materials	Contactor	MDSC/PIU

Ref. No.	Issues & Impacts	Mitigation Measures	Responsible for	
			Implementation	Supervision
	Temporary extraction of materials can disrupt natural land contours Air pollution and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution.	▪ Select authorized supplier ▪ Well-defined area for storage with suitable containment, proper labelling of different items, and determines locations prior to award of contract will be ensured.		
1.6	**EMP Implementation Training** Potential insignificant impact mitigation training to the environment, contactor representative/workers, Pourashava officials	▪ Training will be required to undergo EMP implementation including waste management, Standard operating procedures (SOP) for construction works; health and safety (H&S), core labor laws, applicable environmental laws, etc	Contractor	PMU/PIU
2.0 Construction Phase				
2.1	**Topography, Landforms, Geology** In-significant amount of gravel, sand, bitumen and cement will be required for this sub-project. 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.	▪ 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 sub-project) must comply with environmental requirements, as applicable. No activity will be allowed until formal agreement is signed between PIU, landowner and contractor. ▪ Save topsoil removed at the start of the project and use it to reclaim disturbed areas upon completion of construction activities. ▪ Apply protective covering on disturbed soils as quickly as possible. ▪ Clean and maintain catch basins and drainage ditches regularly. ▪ Re-establish the original grade and drainage pattern to the extent practicable. ▪ Obtain borrow material from authorized and permitted sites.	Contractor	MDSC/PIU
2.2	**Soil Quality** ▪ Leakages of oil and chemical materials from construction activity ▪ Inappropriate disposal of waste ▪ Exhaust gas and dust from vehicles	▪ Storage of oil and chemical materials in an appropriate storage site and method to prevent permeation into the ground. ▪ Prohibit illegal dumping ▪ Soil quality monitoring	Contractor	MDSC/PIU
2.3	**Surface/Waste Water Quality** Trenching and excavation, run-off from stockpiled materials, and contamination from fuels and lubricants may result to silt-laden runoff during rainfall which may cause reduction in the quality of adjacent bodies of water/Surface water pollution is expected but	▪ Prepare and implement a waste management plan (see Appendix 2 for outline). ▪ Prioritize re-use of excess waste and materials in construction activities. If waste will be disposed, consult with Pourashava local authority on designated disposal areas. ▪ All earthworks must be conducted during dry season to the maximum extent possible to avoid the difficult working conditions that prevail during monsoon season such as problems from runoff. ▪ Water quality will be tested pre-during-post construction by contactor. ▪ Location for stockyards for construction materials shall be identified far away from watercourses.	Contractor	MDSC/PIU

Ref. No.	Issues & Impacts	Mitigation Measures	Responsible for	
			Implementation	Supervision
	minor negative and short term, site-specific within a relatively small area and reversible by mitigation measures.	▪ Place storage areas for fuels and lubricants away from any drainage leading to water bodies. ▪ Take precautions to minimize the wastage of water in the construction activities. ▪ Take all precautions to prevent entering of wastewater into nearby watercourses. 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. ▪ Ensure no construction materials like earth, stone, or appendage are disposed of in a manner that may block the flow of water		
2.4	**Groundwater Quality** The potential exists for drinking water sources to be contaminated by the seepage of wastes from workers camps through the soil profile into the GW aquifer minimal (particularly if wells access the shallow aquifer).	▪ Workforce camps will be located away from water resources. All practical measures such as provision of septic tanks, color bin, garbage bags, and other sanitation facilities will be implemented at the construction camps to prevent the wastewater and solid wastes from entering well and groundwater recharge areas. ▪ Wells used for drinking will be tested quarterly to ensure portability.	Contractor	MDSC/PIU
2.5	**Air quality** 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.	▪ Water spraying to control dust as per necessary; ▪ 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. ▪ Air Damp down exposed soil and any sand stockpiled on site by spraying with water when necessary, during dry weather will be accelerated; ▪ Use barriers to cover BC road, CC road implementation and demolition infrastructure will be ensured. ▪ And hot-mix plants, batching plants and crushers 350.00m will be situated far from residence. quality will be tested pre-during-post construction by contactor	Contractor	MDSC/PIU
2.6	**Noise & Vibration** Temporary increase in noise level and vibrations may be caused by excavation equipment, transportation of equipment, construction materials and construction activity. However, the proposed sub-project will be existing location and impact is short-term, site-specific and within a relatively small area. The impacts are negative but	▪ Plan activities in consultation with Pourashava 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 avoided. ▪ Utilize modern vehicles and machinery with the requisite adaptations to limit noise and exhaust emissions, ▪ 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 85 decibels (dBA) when measured at a distance of 10 m or more from the vehicle/s.	Contractor	MDSC/PIU

Ref. No.	Issues & Impacts	Mitigation Measures	Responsible for	
			Implementation	Supervision
	short-term, site-specific within a relatively small area and reversible by mitigation measures.	▪ 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. ▪ Noise level will be tested pre-during-post construction by contactor ▪ Use of ear plugs / muffs by all construction workers during operation of heavy equipment/ machinery will be ensured. ▪ Wherever feasible, noise absorption padding / enclosures will be used surrounding the noise-generating machinery.		
2.7	**Waste Pollution** ▪ Construction waste from construction work ▪ Domestic waste from workers ▪ Hazardous waste	▪ Follow the 'Waste Management Plan' in Appendix 2. ▪ Conduct separate waste collection and promote recycling and reuse. ▪ Appropriate disposal of non-recyclable waste according to rules ▪ Hazardous waste should be treated under the related regulation	Contractor	MDSC/PIU
2.8	**Aesthetics** The construction activities do some 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.	▪ Remove all construction and demolition wastes on a daily basis. ▪ Coordinate with Pourashava 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 construction site, unutilized materials and debris either through filling up of pits/wasteland or at pre-designated disposal locations. ▪ Clean the construction side road/drain regularly. ▪ 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 at night. ▪ The site must be kept clean to minimize the visual impact of the site.	Contractor	MDSC/PIU
2.9	**Biodiversity** Activities being located in the built-up area of Pourashava. There are no protected areas in or around existing sub-project sites, and no known areas of ecological interest. There are no trees at the site that need to be removed.	▪ No trees, shrubs, or groundcover may be removed or vegetation stripped without the prior permission of the environment specialist. ▪ If during construction period cutting of trees will be required, compensatory plantation for trees lost at a rate of 2 trees for every tree cut. ▪ 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.	Contractor	MDSC/PIU

Ref. No.	Issues & Impacts	Mitigation Measures	Responsible for	
			Implementation	Supervision
		▪ Prohibit employees from poaching wildlife and cutting of trees for firewood		
2.10	**Traffic Congestion** Hauling of construction materials and operation of equipment on-site can cause traffic problems. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	▪ Maintain safe passage for vehicles and pedestrians throughout the construction period. ▪ Schedule truck deliveries of construction materials during periods of low traffic volume. ▪ Erect and maintain barricades, including signs, markings, flags and flagmen informing diversions and alternative routes when required. ▪ Notify affected sensitive receptors by providing sign boards informing nature and duration of construction activities and contact numbers for concerns/complaints. ▪ Provide walkways and metal sheets where required to maintain access across for people and vehicles. ▪ 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, ▪ Ensure any damage to properties and utilities will be restored or compensated to pre-work conditions. ▪ Protection of traffic at all times along the existing sub-project, necessary barricades, warning lights & guide signs etc. will be ensured.	Contractor	MDSC/PIU
2.11	**Socio-economic status** Sub-project components will be located in Pourashava land and there is no requirement for land acquisition or any resettlements. Manpower will be required during the construction stage.	▪ Employ at least 50% of labor 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. ▪ To ensure engage women employee as per gender action plan ▪ To ensure first priority engage disable labour as per gender action plan	Contractor	MDSC/PIU
2.12	**Community Health and Safety** Short-term 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. Poor safety signage and lack of barriers at work site and trenches will create hazard to pedestrians and children.	▪ Provide safety signage at construction sites visible to public ▪ Provide safety barriers near any trenches, and cover trenches with planks during non-work hours. ▪ Consult with Pourashava local authority on the designated areas for stockpiling of, soils, gravel, and other construction materials. ▪ If the contractor chooses to locate the work camp/storage area on private land, he must get prior permission from the environment specialist and Pourashava. ▪ Recycling and the provision of separate waste receptacles for different types of waste shall be encouraged. ▪ 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 environmental specialist's attention immediately; and (iv) taking remedial action as per environment specialist's instruction. ▪ 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 environmental specialist within 48 hours of receipt of such complaint/grievance.	Contractor	MDSC/PIU

Ref. No.	Issues & Impacts	Mitigation Measures	Responsible for	
			Implementation	Supervision
		▪ Safety signage at all sites visible to public will be provided. ▪ Safety barriers near any trenches, and cover trenches with planks during non-work hours will be provided. ▪ 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. ▪ Properties and utilities will be restored or compensated to pre-work conditions if any damage occurred. ▪ Extensive barricades of the construction zone will be provided so that pedestrians do not come into direct contact with the machines, tools, material and other accessories; ▪ Provision of barricading will be done so that these do not create traffic safety problems. Supplementary aids / tools such as signboards, reflectors and night lighting will be used to avoid possible accidents.		
2.13	**Workers Health and Safety** There is invariably a safety risk when construction works such as excavation, sand filling, carrying of mixture materials, Shuttering, steel/wood work and earthmoving are conducted in urban areas. Workers need to be mindful of the occupational hazards which can arise from working in height and excavation works. Potential impacts are negative and major but reversible by mitigation measures.	▪ Comply with requirements of Government of Bangladesh Labor Law of 2006 & 2015 and all applicable laws and standards on workers H&S. ▪ Ensure that all site personnel have a basic level of environmental awareness training. If necessary, the environmental management specialist and/or a translator shall be called to the sites to further explain aspects of environmental or social behaviour that are unclear. ▪ Produce and implement a site health and safety (H&S) plan which include measures as: (i) excluding the public from worksites; (ii) ensuring all workers are provided with and required to use personal protective equipment (reflectorized vests, footwear, gloves, goggles and masks) at working times; (iii) providing (H&S) training for construction site personnel; (iv) documenting procedures to be followed for all site activities; and (v) maintaining accident reports and records. ▪ Arrange for readily available first aid unit including an adequate supply of sterilized dressing materials. ▪ Maintain necessary living accommodation and ancillary facilities in functional and hygienic manner in work camps. Ensure (i) uncontaminated water for drinking, cooking and washing, (ii) clean eating areas where workers are not exposed to hazardous or noxious substances; (iii) providing fire extinguisher at construction site and (iv) sanitation facilities are available at all times. ▪ Provide medical insurance coverage for workers; ▪ Provide H&S orientation training to all workers to ensure that they are apprised of the basic site rules of work at the site, PPE, and preventing injuring to fellow workers; ▪ Disallow worker exposure to noise level greater than 85 dBA for duration of more than 8 hours per day without hearing protection. The use of hearing protection shall be enforced actively. ▪ Provision of personal protection equipment (PPE) such as helmets, safety shoes & glass, gloves, and face masks, safety sign for the workers; provision of first aid box with basic apparatus will be available. (Bangladesh Labour Law of 2006, Bangladesh labor service rules 2015 and all applicable laws and standards on workers H & S.),	Contractor	MDSC/PIU

Ref. No.	Issues & Impacts	Mitigation Measures	Responsible for	
			Implementation	Supervision
		▪ Tube well is the source of drinking water in this area. Thus, Tube well water will be provided to labors for drinking & other purposes. Water quality is good in this area, water quality will be monitor when necessary.		
2.14	COVID- 19 Health & Safety impact short-term for construction camp and implementation side	▪ Adequate safety measures e.g., mask, googols, face shield, hand gloves, hand sanitizer etc. to be used. ▪ Social distance (>3ft) is ensured for the worker safety. ▪ Adjustments to work practices, to reduce the number of workers and increase social distancing. ▪ Train workers on hygiene and other preventative measures and implement a communication strategy for regular updates on COVID-19 related issues and the status of affected workers. ▪ Treatment of workers who are or should be self-isolating and/or are displaying symptoms. ▪ Hand wash continues for 20 seconds before starting the work schedule.	Contractor	MDSC/PIU
2.15	**Post-construction Clean-up** Damage due to debris, spoils, excess construction materials	▪ Remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; and. ▪ All disrupted utilities restored ▪ All affected structures rehabilitated/ compensated ▪ The construction camp is to be checked for spills of substances such as used container/water bottles, 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 the 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/PIU to report in writing that worksites and camps have been vacated and restored to pre-project conditions before acceptance of work. ▪ During excavating / cleaning work of the safety measures will be taken by the construction crew wearing protective clothing, shoes, gloves and face masks. Collected earth and sand will be covered during transportation. ▪ Compensatory tree plantation in the ratio of 2 trees planted for each tree that had to be cut due to construction ▪ Any tree saved from cutting will be barricaded and protected.	Contractor	MDSC/PIU
	Debris management	▪ Well-defined onsite area for storing of any debris generated; transporting debris with proper coverage; Disposal in an approved dump yard / landfill will be ensured. ▪ Transporting with adequate safety precautions, (e.g., not to use undersized trucks) as well as adequate covering of trucks that are used to transport material to and from the construction site will be maintained properly. ▪ Preparation of spoils management plan and traffic management plan will strongly be maintained.	Contractor	MDSC/PIU

Ref. No.	Issues & Impacts	Mitigation Measures	Responsible for	
			Implementation	Supervision
	Public awareness campaign	▪ Public awareness events will be held before and during construction work. This awareness campaign may be done through miking, deployment of the watchmen, sticking/hanging posters, banners and sign board (size: 1.2mx0.9m Plane CI Sheet) near the construction site.	Contractor	MDSC/PMU
2.16	**Submission of EMP Implementation Report** Unsatisfactory compliance to EMP	▪ Appointment of supervisor/Manager to ensure EMP implementation ▪ Timely submission of Progress report/environmental monitoring reports including pictures	Contractor	MDSC/PIU
3.0 Operation Phase				
3.1	**Air Quality** ▪ Exhaust gas from vehicles used for mobilization of equipment and workers ▪ Dust from roads and drains	▪ Provisions of Pourashava budget for operation & maintenance of the road; ▪ Awareness raising camps and demonstration including the transport owners and drivers; ▪ Watering the roads during dry season; ▪ Periodic monitoring;	Pourashava	Pourashava
3.2	**Noise Level** ▪ Noise caused by vehicles moving along the road carrying passengers and goods.	▪ Provisions of Pourashava budget for operation & maintenance; ▪ Awareness raising camps and demonstration including the transport owners and drivers; ▪ Prohibit the use of hydraulic horns; ▪ Use of signs at sensitive locations; ▪ Periodic monitoring;	Pourashava	Pourashava
3.3	**Surface/Waste Water Quality** ▪ Surface water runoff to nearby lands ▪ Ponds along the road ▪ Waste water to the khal	▪ Provisions of Pourashava budget for operation & maintenance of roads; ▪ Water quality test from the drain outfall once in a year take mitigation measures accordingly. ▪ If the water quality of the river will be deteriorated then check the roads within the sub-project at first and others drain accordingly. ▪ Awareness raising camps and demonstration including the house owners; ▪ Cleaning the roads regularly; ▪ Prohibit the illegal connections to the drains; ▪ Periodic monitoring;	Pourashava	Pourashava
3.4	**Waste Management** Clogging of drains.	▪ Provisions of Pourashava budget for operation & maintenance of roads; ▪ Awareness raising camps and demonstration including the house owners; ▪ Do not throw plastic materials in to the roads; ▪ Remove the waste materials from drain side within the shortest time; ▪ Periodic monitoring;	Pourashava	Pourashava
3.5	**Road Accident** Increase of road accident due to additional traffics	▪ Provide road safety signs and speed bumps/speed breaker at the densely populated/accident prone area such as school, college, commercial area etc. ▪ Provide training to community people to aware about road safety	Pourashava	Pourashava

8.3 Environmental Monitoring Plan

148. The monitoring plan is one of the important tools of the implementing the mitigation plan for the proposed road/drain sub-project. The Monitoring plan provides guidance regarding environmental issues/parameters, location, frequency and means of monitoring.

149. The aim of environmental monitoring during the pre-construction, construction and operation phases of the sub-project road/drain is to compare the monitored data against the baseline condition collected during the study period (particularly during the detailed design stage) to assess the effectiveness of the mitigation measures and the protection of environmental components (e.g., air, water, soil, noise etc.) based on the national environmental standards (e.g., ECR 2023). Since the project is likely to have impact on various components of the environment, a comprehensive monitoring plan covering soil erosion, drainage congestion, tree plantation, air quality, water quality, noise, wildlife movement, workers' and community health and safety and so on need to be developed.

150. An Environmental Monitoring Plan (EMoP) has been prepared Table 11 along with this IEE for the execution as a means to mitigate or minimize the adverse impacts associated with construction and operational activities of the project on the natural and social environments.

151. The objective of environmental monitoring during the construction and operation phases is to compare the monitored data against the baseline condition collected during the study period to assess the effectiveness of the mitigation measures and the protection of the ambient environment based on national standards. The main objectives of the pre-construction, construction and operation phase monitoring plans will be to:

i. Monitor the actual impact of the works on physical, biological and socioeconomic receptors within the project corridor for indicating the adequacy of the IEE;
ii. Recommend mitigation measures for any unexpected impact or where the impact level exceeds that anticipated in the IEE;
iii. Ensure compliance with legal and community obligations including safety on construction sites;
iv. Monitor the rehabilitation of borrow areas and the restoration of construction campsites as described in the EMP;
v. Ensure the safe disposal of excess construction materials.
vi. Appraise the adequacy of the IEE with respect to the project's predicted long-term impacts on the corridor's physical, biological and socio-economic environment;
vii. Evaluate the effectiveness of the mitigation measures proposed in the EMP and recommend improvements, if and when necessary;
viii. Compile periodic accident data to support analyses that will help minimize future risks; and
ix. Monitor the survival rate of avenue plantations.

Table 11: Environmental Management Plan - Monitoring Actions

Ref. No.	Environmental Issues	Significant Impact	Purpose of the Monitoring	Monitoring Method			Responsibility	
				Method of Collecting and Reporting Data	Location	Duration and Frequency	Implementation	Supervision
1.0 Pre-construction Phase								
1.1	**Obtaining of NOCs by Pourashava**	Failure to obtain necessary consents, permits, NOC's can result in design revisions and/or stoppage of the works.	Compliance to GoB and ADB policies	Obtaining certificates	Pourashava	Prior to contractor mobilization	PMU/PIU	PMU/MDSC
1.2	**Updating of EMP**	Specific impacts will be identified as per design updating and construction works	Ensuring the compliance with construction schedule	Preparation of report	PMU	During the pre-construction period	MDSC	PMU
1.3	**Existing Utilities**	Disruption of services (short term).	Implementation of EMP	Obtain record of implantation	In the work site	Prior to contractor mobilization	Contractor	PIU/MDSC
1.4	**Construction Camps, & Stock Yards**	Disruption to traffic flow and sensitive receptors Water body and agricultural land may be disturbed	Implementation of EMP	Obtaining approval from MDSC/PIU	In the work site	Prior to contractor mobilization	Contractor	PIU/MDSC
1.5	**Sources of Materials**	Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution.	Compliance with GoB laws and Implementation of EMP	Obtaining approval from MDSC/PIU	Pourashava	During the pre-construction period	Contractor	PIU/MDSC
1.6	**EMP Implementation Training**	Irreversible impact to the environment, contactor representative/workers, Pourashava officials	Implementation of EMP	Obtain record of training	PMU/PIU	Prior to contractor mobilization	MDSC	PMU
2.0 Construction Phase								

Ref. No.	Environmental Issues	Significant Impact	Purpose of the Monitoring	Monitoring Method			Responsibility	
				Method of Collecting and Reporting Data	Location	Duration and Frequency	Implementation	Supervision
2.1	**Topography, Landforms, Geology**	Significant amount of gravel, sand, rod, and cement will be required for this sub-project. 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.	▪ Restoration of changes due to construction activities ▪ Visual amenity	▪ Visual inspection & consultation with local people	▪ In the work site	During construction period	Contractor	MDSC/PIU
2.2	**Soil Quality**	Significant amount of soil will be required for this sub-project. 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.	▪ Restoration of changes due to construction activities ▪ Visual amenity	▪ Soil quality test report ▪ Parameters for testing are Organic Matter, Zn, Sulphur, Lead and Nitrate	▪ Drain sub-project ▪ Labour Camp or Road-MP-R-10	▪ Three times pre-construction and during construction and after completion	Contractor	MDSC/PIU
2.3	**Surface/Waste water Quality**	Trenching and excavation, run-off from stockpiled materials, and contamination from fuels and lubricants may result to silt-laden runoff during rainfall which may cause reduction in the quality of adjacent bodies of water. Surface water pollution is expected but minor negative and short term, site-specific within a relatively small area and reversible by mitigation measures.	Evaluation of effect of the mitigation measure towards water pollution	▪ Visual inspection & consultation with local people ▪ Water quality test report ▪ Surface/Waste water parameters: DO, TDS, TSS, COD, and BOD	▪ In the work site	▪ During construction period (not applicable)	Contractor	MDSC/PIU

Ref. No.	Environmental Issues	Significant Impact	Purpose of the Monitoring	Monitoring Method			Responsibility	
				Method of Collecting and Reporting Data	Location	Duration and Frequency	Implementation	Supervision
2.4	**Groundwater Quality**	The potential exists for drinking water sources to be contaminated by the seepage of wastes from workers camps through the soil profile into the GW aquifer (particularly if wells access the shallow aquifer).	Evaluation of effect of the mitigation measure towards water pollution	▪ Record of water borne diseases ▪ Water quality test report ▪ Groundwater parameters: pH, Fe, EC, As, TC, FC, Cl, and Manganese	▪ Groundwater from construction camp	▪ Three times pre-construction and during construction and after completion	Contractor	MDSC/PIU
2.5	**Air quality**	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.	Evaluation of effect of the mitigation measure towards air pollution	▪ Visual inspection & consultation with local people ▪ Air quality test report ▪ Parameters are PM_{10}, $PM_{2.5}$, SOx, NOx, CO and O3	▪ In the work site ▪ Road-MP-R-10	▪ Three times pre-construction and during construction and after completion	Contractor	MDSC/PIU
2.6	**Noise & Vibration**	Temporary increase in noise level and vibrations may be caused by excavation equipment, transportation of equipment, construction materials and construction activity. However, the proposed sub-project will be existing location and impact is short-term, site-specific and within a relatively small area. The impacts are negative but short-term, site-specific	Evaluation of effect of the mitigation measure towards noise pollution	▪ Visual inspection & consultation with local people ▪ Noise level test report ▪ LAeq (Day & Night)	▪ In the work site ▪ Road- MP-R-10	▪ Three times pre-construction and during construction and after completion	Contractor	MDSC/PIU

Ref. No.	Environmental Issues	Significant Impact	Purpose of the Monitoring	Monitoring Method			Responsibility	
				Method of Collecting and Reporting Data	Location	Duration and Frequency	Implementation	Supervision
		within a relatively small area and reversible by mitigation measures.						
2.7	**Waste Pollution**	▪ Construction waste from construction work ▪ Domestic waste from workers ▪ Hazardous waste	Evaluation of effect of the mitigation measure for waste	Record of kinds and quantity of waste, and the disposal method	▪ Along the roads ▪ Worker's camp	During construction period	Contractor	MDSC/PIU
2.8	**Aesthetics**	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.	Evaluation of effect of the mitigation measure	Visual inspection & consultation with local people	In the work site	During construction period	Contractor	MDSC/PIU
2.9	**Biodiversity**	Activities being located in the built-up area of Pourashava. There are no protected areas in or around existing sub-project sites, and no known areas of ecological interest. There are no trees at the site that need to be removed.	▪ 350 trees plantation along Road-MP-R-012, MP-R-021, MP-R-10 and MP-R-057. ▪ Confirm that this planting plan is following during the construction period. ▪ Also confirm that grass turfing and drainage system instalment is preventing surface runoff and erosion.	▪ Visual inspection ▪ Record of plant survival percentage	In the work site and nearby homestead vegetation	During construction period	Contractor	MDSC/PIU

Ref. No.	Environmental Issues	Significant Impact	Purpose of the Monitoring	Monitoring Method			Responsibility	
				Method of Collecting and Reporting Data	Location	Duration and Frequency	Implementation	Supervision
2.10	**Traffic Congestion**	Hauling of construction materials and operation of equipment on-site can cause traffic problems. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	Evaluation of effect of construction schedule	▪ Visual inspection & consultation with local people ▪ Record of accidents ▪ Record of numbers construction vehicles	In the work site	During construction period	Contractor	MDSC/PIU
2.11	**Socio-economic status**	Sub-project components will be located in Pourashava land and there is no requirement for land acquisition or any resettlements. Manpower will be required during the construction stage. This can result to generation of contractual employment and increase in local revenue. Thus, potential impact is positive and long-term.	Evaluation of effect of construction schedule	Consultation with local people	In the project area	During construction period	Contractor	MDSC/PIU
2.12	**Community health and safety**	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. Poor safety signage and lack of barriers at work site and trenches will create hazard to pedestrians and children.	Evaluation of effect of the work safety plan	▪ Visual inspection & consultation with local people ▪ Record of accidents	In the project area	During construction period	Contractor	MDSC/PIU

Ref. No.	Environmental Issues	Significant Impact	Purpose of the Monitoring	Monitoring Method			Responsibility	
				Method of Collecting and Reporting Data	Location	Duration and Frequency	Implementation	Supervision
2.13	**Worker's health and safety**	There is invariably a safety risk when construction works such as excavation, sand filling, carrying of mixture materials, Shuttering, steel/wood work and earthmoving are conducted in urban areas. Workers need to be mindful of the occupational hazards which can arise from working in height and excavation works. Potential impacts are negative and major but reversible by mitigation measures.	Evaluation of effect of the work safety plan	▪ Visual inspection & consultation with worker ▪ Record of accidents	In the work site	During construction period	Contractor	MDSC/PIU
2.14	**Post-construction clean-up**	Damage due to debris, spoils, excess construction materials	Evaluation the implementation of EMP	▪ Visual inspection & consultation with local people ▪ Reporting	In the work site	At the end of construction period along with the EMP implementation report	Contractor	MDSC/PIU
2.15	**Submission of EMP implementation report**	Unsatisfactory compliance to EMP	Evaluation the implementation of EMP	Record of report submission	MDSC/PMU	At the end of construction period	Contractor	MDSC/PIU
3.0 Operation Phase								
3.1	**Air Quality**	Movement of vehicle will create air quality	Visual inspection, and consultation with local people	▪ O&M budget for periodic monitoring	Pourashava area	During operation period	Pourashava	Pourashava
3.2	**Noise Level**	Movement of vehicle will create noise level	Monitoring, and consultation with local people	▪ O&M budget for periodic monitoring	Pourashava area	During operation period	Pourashava	Pourashava
3.3	**Surface/Waste Water Quality**	The surface water might be contaminated due to waste water carrying by the roads	▪ Visual inspection and consultation with worker	▪ O&M budget for periodic monitoring	Pourashava area	During operation period	Pourashava	Pourashava

Ref. No.	Environmental Issues	Significant Impact	Purpose of the Monitoring	Monitoring Method			Responsibility	
				Method of Collecting and Reporting Data	Location	Duration and Frequency	Implementation	Supervision
			▪ Waste water quality test					
3.4	**Health & Safety**	Worker involved in cleaning and maintaining the drains and roads may get sick if not trained and provided the PPE adequately	Visual inspection and consultation with worker	▪ O&M budget for periodic monitoring	Pourashava area	During operation period	Pourashava	Pourashava
3.5	**Waste Management**	Worker involved in waste management and maintaining the sub-project may get sick if not trained/awareness adequately	Visual inspection and consultation with worker	▪ O&M budget for periodic monitoring	Pourashava area	During operation period	Pourashava	Pourashava
3.6	**Road Accident**	Increase of road accident due to additional traffics	Visual inspection, record of accidents and consultation with local people	▪ O&M budget for periodic monitoring	Pourashava area	During operation period	Pourashava	Pourashava

8.4 Institutional Capacity Development Program

152. The MDSC environmental specialists are responsible for trainings on environmental awareness and management in accordance with both ADB and government requirements. Specific modules customized for the available skill set will be devised after assessing the capabilities of the target participants and the requirements of the project. Typical modules would be as follows: (i) sensitization; (ii) introduction to environment and environmental considerations in water supply and waste water projects; (iii) review of IEEs and integration into the project detailed design; (iv) improved coordination within nodal departments; and (v) monitoring and reporting system. The contractors will be required to conduct environmental awareness and orientation of workers prior to deployment to work sites. The proposed training project along with the frequency of sessions is presented in Table 12.

Table 12: Training Program for Environmental Management

Items	Pre-construction/prior to construction	Construction	
Training Title	Orientation workshop	Orientation program/ workshop for contractors and supervisory staffs	Experiences and best practices sharing
Purpose	• To aware the participants of the environmental safeguard requirements of ADB, AFD and GOB and how the project will meet these requirements • Training Program for Environmental Management	• To build the capacity of the staffs for effective implementation of the designed EMPs aimed at meeting the environmental safeguard compliance of ADB, AFD and GoB • To aware the contractor's representative/workers about road safety	To share the experiences and best practices aimed at learning lessons and improving implementation of EMP
Contents	*Module 1: Orientation* • ADB Safeguards Policy Statement • Government of Bangladesh Environmental Laws and Regulations *Module 2: Environmental Assessment Process* • ADB environmental process, identification of impacts and mitigation measures, formulation of an environmental management plan (EMP), implementation, and monitoring requirements • Review of environmental assessment report to comply with ADB requirements • Incorporation of EMP into the design & contracts	• Roles and responsibilities of officials/ contractors/ consultants towards protection of environment • Environmental issues during construction • Implementation of EMP • Monitoring of EMP implementation • Reporting requirements	Experiences on EMP implementation – issues and challenges Best practices followed
Duration	1 day	1 day	1 day on a regular period to be determined by PMU, PIUs, and MDSC
Participants	LGED, PMU, and PMU staffs (technical and environmental) involved in the project implementation	PMU/ PIUs Contractors	PMU /PIUs Contractors

Institutional Arrangement

153. The Local Government Engineering Department (LGED) under the Local Government

Division (LGD) of the Ministry of Local Government, Rural Development and Cooperatives (MLGRD&C) and having extensive experience in managing urban and road and drain sub-projects financed by ADB & AFD are the executing agencies of the project. The participating Pourashavas are the implementing agencies.

Project Management Unit (PMU)

154. A PMU has been established for the overall management of the project. The PMU is headed by Project Director (PD) supported by officials including two project managers in charge of (i) municipal infrastructure and governance improvement and capacity development (ii) water supply and sanitation. The PMU will receive support from environmental specialist and resettlement specialist on the MDSC team. Key tasks and responsibilities of the Sr. Assistant Engineer, PMU Safeguard (Environment) officer are as follows:

- Confirm existing IEEs/EMPs are updated based on detailed designs, and that new IEEs/EMPs are prepared in accordance with the ESMF and sub-project selection criteria related to safeguards;
- Confirm whether IEEs/EMPs are included in bidding documents and civil works contracts;
- provide oversight on environmental management aspects of subprojects and ensure EMPs are implemented by project implementation unit (PIU) and contractors;
- Site specific EMP would be submitted by the contractor before start of the work" as a contract clause by PMU
- Establish a system to monitor environmental safeguards of the project, including monitoring the indicators set out in the monitoring plan of the EMP;
- Facilitate and confirm overall compliance with all government rules and regulations regarding site and environmental clearances, as well as any other environmental requirements (e.g., location clearance certificates, environmental clearance certificates, etc.), as relevant;
- Supervise and provide guidance to the PIUs to properly carry out the environmental monitoring and assessments as per the ESMF;
- Review, monitor, and evaluate the effectiveness with which the EMPs are implemented and recommend necessary corrective actions to be taken as necessary;
- Consolidate monthly environmental monitoring reports from PIUs and submit semi-annual monitoring reports to ADB;
- Ensure timely disclosure of final IEEs/EMPs in locations and form accessible to the public; and
- Address any grievances brought about through the grievance redress mechanism in a timely manner.

Project Implementation Unit (PIU)

155. The participating Pourashavas have established PIUs within the Pourashava structure. The PIUs will (i) be responsible for land acquisition; (ii) take necessary action for obtaining the proposed land free from encroachments, squatters, mobile vendors and hawkers if any; (iii) plan, implement and monitor public relations activities, gender mainstreaming initiatives and community participation activities at Pourashava level; (iv) disseminate information related to the project to the public and media; (v) ensure compliance with loan covenants concerning safeguards measures; and (vi) facilitate implementation of safeguards plans. The PIUs will each designate a Safeguard Officer and will receive assistance from the assigned MDSC regional environmental specialist to:

- Update IEEs/EMPs during implementation stage and prepare new IEEs/EMPs in accordance with the ESMF;
- Conduct environmental compliance audit of existing facilities as per Item of ADB SPS, 2009;
- Include IEEs/EMPs in bidding documents and civil works contracts;

- Comply with all government rules and regulations;
- Take necessary action for obtaining the proposed land free from encroachments, squatters, mobile vendors and hawkers if any;
- Oversee implementation of EMPs including environmental monitoring by contractors;
- Take corrective actions when necessary to ensure no environmental impacts;
- Submit monthly environmental monitoring reports to PMU,
- Conduct continuous public consultation and awareness;
- Address any grievances brought about through the Grievance Redress Mechanism in a timely manner as per the IEEs; and
- Organize an induction course for the training of contractors preparing them on EMP implementation, environmental monitoring requirements related to mitigation measures; and taking immediate actions to remedy unexpected adverse impacts or ineffective mitigation measures found during the course of implementation.

8.5 Management Design and Supervision Consultants (MDSC)

156. MDSC has been engaged to work closely with and advise the PMU, to be involved in project supervision including monitoring during construction phase. The MDSC has one Environmental Specialist and four Jr. Environmental Specialists as well as one Resettlement Specialist and four Jr. Resettlement Specialists. The MDSC Environmental Specialist will, but not limited to:

- Work under the general supervision of the team leader;
- Review the environmental guidelines and requirement of the government of Bangladesh and ADB SPS, 2009, environmental sub-project selection guidelines and ESMF;
- Guide the implementation of future sub-projects;
- Provide technical support to the PMU and PIUs including review and update of ESMF and guidelines for specific type of sub-projects and assist in preparing terms of reference for environmental assessment;
- Assist and guide the MDSC regional environmental specialists to provide support to environmental management functions including updating sub-project IEEs in respect to EMP;
- Assist in preparing IEEs and in monitoring impact and mitigation measures associated with subprojects;
- Assist PIUs and MDSC regional environmental specialists working in the steps for preparing the EIA/IEE, capacity building and training, preparation of guidelines and procedure and sub-project specific guidance;
- Provide support and guidance to PIUs in undertaking environmental monitoring
- Support PMU in submitting semi-annual environmental monitoring reports to ADB;
- Facilitate in grievance redress and corrective actions;
- Train PIU officials regarding environmental requirement and issues; and
- Perform any other task assigned by the team leader, deputy team leader & the PD.

157. The MDSC environmental specialists will, but not limited to:

- Work under the supervision and guidance of the team leader and MDSC Environmental Specialist;
- Assist PIUs in preparing and updating IEEs including EMPs in accordance with the ESMF and assist in monitoring impact and mitigation measures associated with sub-projects including implementation of EMPs by contractors;
- Assist in preparation of IEEs and in the environmental review of sub-project consisting of screening at Pourashava level by PIU through a committee formed with municipal mayor as chairman & representatives from DoE, LGED & relevant district office as members;
- Assist PIUs in the steps for preparing EIA/IEE, capacity building and training, preparation of guidelines and procedure and sub-project specific guidance;

- Support PIU in environmental monitoring and submit monitoring reports to PMU as inputs into the semi-annual monitoring report submitted to ADB;
- Undertake mitigation measures and other specific measures in the construction contract;
- Facilitate in grievance redress and corrective actions;
- Follow sub-project selection guidelines and ESMF to ensure compliance with the environmental guidelines and requirement of the Government of Bangladesh and ADB SPS, 2009;
- Support PMU safeguard officer and MDSC environment specialist by providing data, information and all other requested assistance;
- Train PIU officials regarding environmental issues
- Perform any other task assigned by MDSC environment specialist, team leader and the project director.

Table 13: Institutional Roles and Responsibilities

PMU	PIU	ADB
Pre-Construction Stage		
Environmental Officer of the PMU, with assistance from the Environmental Specialist(s) of the MDSC to conduct Rapid Environmental Assessment (REA) for each subproject using checklists available on ADB's website. Based on the REA, categorize the project based on ADB's SPS. Submit all categorization forms to ADB.	MDSC will assist the PIU and update existing IEE for all Category B subprojects, which will include an EMP. PIU with assistance from the Environmental Officer of the PMU and the Environmental Specialist of the MDSC to update IEE and incorporate findings into project designs and IEE.	ADB to review the REA checklists and reconfirm the categorization.
PMU based on review, will approve the IEE and send to ADB for review and clearance before contract award. The IEE also made available on request. Ensure EMP is part of contract documents for category A and B projects. If the sub-component is of 'C' category, the MDSC to provide generic mitigation measures, if any, to be implemented. For Category C subprojects, no IEE/EIA is required, only a review of the environmental implications.	After the approval of IEE by PMU and clearance by ADB, PIU with the assistance of MDSC to disclose the IEE and EMP to public information as required by ADB's SPS. MDSC, on behalf of the PIU, to incorporate mitigation measures in project design, specified in IEE and incorporate environmental mitigation & monitoring measures that need to be incorporated into contract document.	ADB will review and grant clearance of IEE/EMPs for subprojects before award of contracts.
Environmental Officer of PMU to provide guidance to the PIU to ensure conformance of all subprojects to the regulatory compliance to the Government, with regard to environment. This shall include guidance in preparation of the documents as required under the ECR, submission of application forms, and liaison with agencies towards obtaining clearances from the DOE. Environmental officer of PMCU shall notify the ADB on the obtaining of clearances, including the conditions specified if any in the clearances, and integration of these into the contracts/EMP.	ECR stipulates that for (i) green, (ii) yellow, (iii) orange, and (iv) red category projects, obtaining of environmental clearance certificate from DOE is a prerequisite. The Environmental Support staff of the PIU with assistance from MDSC Environmental Specialists shall compile the necessary information required for submission of application forms for clearances, obtaining NOC from local authorities etc. Until the obtaining of clearance certificate from DOE, the Environmental Support Staff will interact with the DOE on a regular basis and provide necessary documentation/ clarifications as required.	ADB to ensure that the clearance requirements are included in the contract provisions/EMP.
Construction Stage		

PMU to review the PIU monthly monitoring reports to ensure that the all-mitigation measures are implemented. PMU to consolidate the monthly reports and submit quarterly reports to ADB for review. Corrective actions to be taken.	Contractors to conduct environmental monitoring and implement EMPs. PIU with support of the Environmental Specialist(s) of MDSC to (i) review and approve the contractors' implementation plan for the environmental provisions in the EMP, and (ii) monitor the implementation of mitigation measures by contractor. The MDSC with PIU to prepare monthly progress reports including a section on implementation of the mitigation measures and submit to PMU for review. PMCU to submit semi-annual monitoring report to ADB.	ADB to review the reports and provide necessary advice/guidance needed to the MDSC.
Operation Stage		
The executing and implementing agencies to conduct monitoring, as specified in the environmental monitoring plan of EMP. The DOE to monitor the performance, if required and as specified in monitoring plan of EMP.	Pourashava	Pourashava-

8.6 Contracts and Contractors documents

158. EMPs are to be included in bidding and contract documents and verified by the PIUs and PMU. The contractor will be required to designate an environmental supervisor to (i) coordinate with MDSC on updating the IEE/EMP based on detailed designs, and (ii) ensure implementation of EMP during civil works. Contractors are to carry out all environmental mitigation and monitoring plans outlined in their contract Table 11.

8.7 Governance Improvement and Capacity Development Consultants (GICDC)

159. The PMU and PIUs will require support on a range of activities related to governance improvement and capacity development of Pourashavas. The GICDC will support PMU and PIUs in implementing urban government improvement action plan (UGIAP) by providing capacity development, community mobilization and other facilitation services. There are 4 GICDC regional officer working with the project and their posting place is in the LGED head office. The are 2 Local Capacity Development Associates (Community Mobilization and Municipal Finance) in each project Pourashava. The regional coordinators are assisting the Pourashavas and the LCDAs in the activities related to community participation and inclusive development. The community mobilizers have been posted at the Pourashava and (i) are working maintaining close liaison with the mayor, councilors, Pourashava staffs and communities, (ii) providing assistance and support to PIU regarding planning and implementation of citizen awareness and participation activities, urban planning, equity and inclusiveness of women and urban poor. The GICDC also have a training specialist who is responsible for identifying and coordinating capacity building activities at Pourashava level Figure 9.

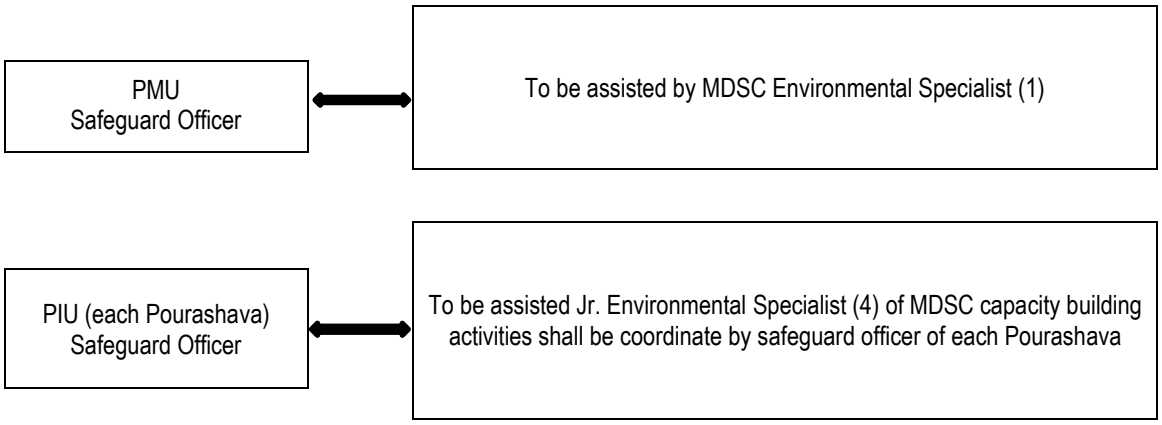


Figure 9: Safeguards Implementation Arrangement

160. Costs required for implementing the EMP will cover the following activities:

(i) Updating IEE, preparing and submitting reports and public consultation and disclosure;
(ii) Application for environmental clearances; and
(iii) Implementation of EMP, environmental monitoring program and long-term surveys.

161. The infrastructure involved in each scheme is generally straightforward and will take between three and nine months to build. Environmental monitoring during construction will also be straightforward and will involve periodic site observations and interviews with workers and others, plus checks of reports and other documents. This will be conducted by MDSC environmental specialist assisted by the PMU environment officer (Sr. Assistant Engineer). Therefore, no separate budget required for MDSC environment management specialist.

162. The operation phase mitigation measures are again of good operating practices, which will be the responsibility of Matlab Pourashava. All monitoring during the operation and maintenance phase will be conducted by LGED therefore, there are no additional costs.

8.8 Budget for EMP

163. Most of the mitigation measures require the contractors/project authority to adopt good site practice, which should be part of their normal procedures already, so there are unlikely to be major costs associated with compliance.

164. Mitigation that is the responsibility of PIU and contractors will be provided as part of their management of the sub-project. The cost estimation for Environmental Mitigation Measures and Monitoring is given in the Table 14. The total mitigation and monitoring cost for the project is calculated as BDT 7,27,500.00 in addition to compliance to the LGED items code EMP-1.54(a-i) or 27, 28 and 29 of GCC of tender documents and IEE to the entire satisfaction of E-I-C.

Table 14: EMP in Bidding Document

EMP Task No.	Mitigation and Monitoring Items	Unit	Cost/Unit	Total Unit	Total Cost
1.0	**Pre-construction Period**				
1.1	Obtaining of SSC/NOCs	Included in Project Preparation Cost			0
1.2	Updating of EMP	Included in Project Preparation Cost			
1.3	Existing Utilities	Included in Engineering Cost			
1.4	Construction Camps, & Stock Yards	Included in Engineering Cost			
1.5	Sources of Materials	Included in Engineering Cost			
1.6	EMP Implementation Training	No.	30000	1	30000
1.7	Environmental Quality Test-Baseline				
	Air Quality Test (MP-R-10)	No.	35000	1	35000
	Noise Level Measurement (MP-R-10)	No.	5000	1	5000
	Soil Quality Test (MP-R-10)	No.	25000	1	25000
	Groundwater Quality Test (Camp Site)	No.	10000	1	10000
2.0	**Construction Period**				
2.1	Topography, Landforms, and Geology	Monitoring by Contractor			0
2.2	Soil Quality	No.	25000	2	50000
2.3	Groundwater Quality	No.	10000	2	20000
2.4	Air Quality	No.	35000	2	70000
2.5	Noise & Vibration	No.	5000	2	10000
2.6	Waste Pollution	Monitoring by Contractor			0
2.7	Aesthetics				
2.8	Biodiversity	Monitoring by Contractor			0
2.9	Traffic Congestion	Monitoring by Contractor			0
2.10	Socio-economic Status	Monitoring by Contractor			0
2.11	Community Health and Safety	Lump-sum			100000
2.12	Workers Health and Safety	Lump-sum			150000
2.13	Post-construction Clean-up	Lump-sum			20000
2.14	Submission of EMP Implementation Report	No.	10000	1	10000
	Other Expenses during Construction Period				
	Tree Plantation (Road-MP-R-012, MP-R-021, MP-R-10and MP-R-057)	No.	350	550	192500
3.0	**Operation Period**				
3.1	Air Quality	Pourashava O&M Budget			0
3.2	Noise Level	Pourashava O&M Budget			0
3.3	Surface/Waste Water Quality	Pourashava O&M Budget			0
3.4	Health & Safety	Pourashava O&M Budget			0
3.5	Waste Management	Pourashava O&M Budget			0
3.6	Road Accident	Pourashava O&M Budget			0
	Grand Total:				**727500**

Note: Cost of the EMP items should be as fixed budget

8.9 Monitoring and Reporting

165. PMU will monitor and measure the progress of EMP implementation. The monitoring activities will correspond with the project's risks and impacts, and will be identified in the IEE for the sub-project components. In addition to recording information on the work and deviation of work components from original scope PMU, PIUs, and MDSC will undertake

site inspections and document review to verify compliance with the EMP and progress toward the final outcome. Corrective actions to be taken quickly and reported in monitoring reports.

166. Contractor shall submit monthly Environmental Monitoring Report covering the mitigation measures listed in this EMP for all the sub-project components to the MDSC for approval.

167. MDSC will submit monthly monitoring and implementation reports to PMU, who will take follow-up actions, if necessary. PMU will submit semi-annual monitoring reports to ADB. The suggested monitoring report format is in ADB. Sub-project budgets will reflect the costs of monitoring and reporting requirements. For projects likely to have significant adverse environmental impacts during operation, reporting will continue at the minimum on an annual basis. Monitoring reports will be posted in a location accessible to the public.

168. LGED will document monitoring results, identify the necessary corrective actions, reflect them in a corrective action plan and for each quarter, will study the compliance with the action plan developed in the previous quarter. Compliance with loan covenants will be screened by ADB.

169. ADB will review project performance against the commitments as agreed in the legal documents. The extent of ADB monitoring and supervision activities will be commensurate with the project's risks and impacts. Monitoring and supervising of social and environmental safeguards will be integrated into the project performance management system. ADB will monitor projects on an ongoing basis until a project completion report is issued. ADB will carry out the following monitoring actions to supervise project implementation:

i. conduct periodic site visits for projects with adverse environmental or social impacts;
ii. conduct supervision missions with detailed review by ADB safeguard specialists/officers or consultants for projects with significant adverse social or environmental impacts;
iii. review the periodic monitoring reports submitted by EAs to ensure that adverse impacts and risks are mitigated, as planned and as agreed with ADB;
iv. work with EAs to rectify to the extent possible any failures to comply with their safeguard commitments, as covenanted in the legal agreements, and exercise remedies to re-establish compliance as appropriate; and
v. Prepare a project completion report that assesses whether the objective and desired outcomes of the safeguard plans have been achieved, taking into account the baseline conditions and the results of monitoring.

170. The process described in this document has assessed the environmental impacts of all elements of Matlab Pourashava roads sub-project. All potential impacts were identified in relation to design and location, construction, and operation phases.

9. CONCLUTION AND RECOMENDATIONS

171. Planning principles and design considerations have been reviewed and incorporated into the site planning process whenever possible. Preliminary designs integrate a number of measures, both structural and non-structural, to mainstream climate resilience into the sub-project. Thus, environmental impacts as being due to the project design or location were not significant.

172. Most of the individual elements of the sub-project are relatively small and involve straightforward construction and operation, so impacts will be mainly localized and not greatly significant. Most of the predicted impacts are associated with the construction process, and are produced because that process is invasive, involving trenching and other excavation. However, the routine nature of the impacts means that most can be easily mitigated. In the operational phase, all facilities and infrastructure will operate with routine maintenance, which should not affect the environment. Facilities will need to be repaired from time to time, but environmental impacts will be much less than those of the construction period as the work will be infrequent, affecting small areas only.

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

174. The stakeholders were involved in developing the IEE through discussions on-site and public consultation, after which views expressed were incorporated into the IEE and in the planning and development of the sub-project. The IEE will be made available at public locations in the city and will be disclosed to a wider audience via the ADB and LGED websites. The consultation process will be continued and expanded during project implementation to ensure that stakeholders are fully engaged in the project and have the opportunity to participate in its development and implementation. A grievance redress mechanism is described within the IEE to ensure any public grievances are addressed quickly.

175. The PMU and MDSC will be responsible for monitoring. The MDSC will submit monthly monitoring reports to PMU, and the PMU will send semi-annual monitoring reports to ADB. ADB will post the environmental monitoring reports on its website.

176. The EMP will assist the PMU, MDSC, and contractors in mitigating the environmental impacts and guide them in the environmentally sound execution of the proposed sub-project. The EMP will also ensure efficient lines of communication between the implementing agency, project management unit, and contractors. A copy of the EMP shall be kept on-site during the construction period at all times. The EMP shall be made binding on all contractors operating on the site and will be included in the contractual clauses. Non-compliance with/or any deviation from the conditions set out in this document shall constitute a failure in compliance.

177. The citizens of Matlab Pourashava will be the major beneficiaries of this sub-project. The improved roads will provide a more efficient and effective transport route, which should improve the overall economy by reducing time spent idle in traffic by delivery vehicles, employees and customers.

178. Therefore, the proposed sub-project is unlikely to cause significant adverse impacts and net environmental benefits to citizens of Matlab Pourashava will be positive. The potential impacts that are associated with design, construction, and operation can be mitigated to standard levels without difficulty through proper engineering design and the incorporation or application of recommended mitigation measures and procedures.

179. Based on the findings of the IEE, there are no significant impacts and the classification of the sub-project as Category “B” is confirmed. No further special study or detailed environmental impact assessment (EIA) needs to be undertaken to comply with ADB. All required issues have been assessed to the best of our knowledge and no further studies are required to comply with ADB procedures or the laws of GoB.

APPENDICES

Appendix 1: Environmental Screening Checklist and Categorization Form

Eligibility & Categorization Form;

Country/ Project No./ Project Title		Improving Urban Governance and Infrastructure Program (IUGIP)
Subproject title		Urban transport road improvement RBL sub-project
Project Executing Agency		LGED, Dhaka
Project Implementing Agency		Matlab Pourashava
Modality		RBL progress
Is Project eligible for funding under the RBL Program? [√] Yes [ ] No *(Ref DOE of ECR 2023)*		
Environment Impact categorization [√] New [ ] Re categorization – Previous Category [ ]		
[ ] **Category A** (Cat A - Not eligible for funding under the RBL)		
[√] **Category B** [ ] **Category C**		
(Ref Checklist- Rapid Environmental Assessment (REA) checklists)		
Prepared by: Md. Habibur Rahman, Jr. Environmental Specialist		
Environmental Specialist (Name, title, signature): Date;		
For Project Executing Agency / PMU (Name, title, signature):		

Checklist 1 - Project Exclusion Screening Checklist for Environmental Safeguards

The following checklist shall be completed before inclusion of any activity/subproject in the RBL program. If Answer to any of the mentioned criteria is 'Yes' then such activity/subproject will not be eligible and shall be excluded from the RBL program.

	Questions	Response		Remarks /Clarifications
		Yes	No	
1.	**Type and Nature of Subproject**			
1.1	Proposed activity / subproject classified under the Red Category per ECR 2023?		√	Complied the ECR 2023 for classification
1.2	Proposed activity / subproject includes components involving prohibited investment activities per ADB SPS?		√	Complied REA for prohibited list
2.	**Location of Proposed Subproject**		√	
2.1	Proposed activity/subproject located in ecologically sensitive areas such as protected areas (national parks, wildlife sanctuaries), notified wetlands or wetlands of significant value, critical habitats?		√	
2.2	Proposed activity/subproject located in world heritage sites, and/or within 250 m from the core zone of outer boundary of the world heritage area		√	
2.3	Proposed activity located within monuments/sites protected by Department of Archeology, Government of Bangladesh?		√	
3.	**Potential impacts**			
3.1	Proposed activity/subproject may significantly impact mangroves, wetlands, estuaries, buffer zones of protected Areas etc?		√	
3.2	Proposed activity/subproject may potentially lead to encroachment/damage of physical cultural resources with significant value and/or places recognized by government agencies (e.g., Department of Archeology), which may include places of worship, cultural heritage sites, graves/cemeteries, historical monuments, etc.		√	
3.3	Proposed activity/subproject likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented, and may affect an area larger than the sites or facilities subject to physical works (i.e., category A projects as per ADB SPS 2009)		√	

REA check list

♦This checklist is to be prepared to support the environmental classification of a project. It is to be attached to the environmental categorization form that is to be prepared and submitted to the LEGD / MDS Consultant				
♦This checklist is to be completed with the assistance of an Environment Specialist in a Regional Department.				
♦ Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. use the "remarks" section to discuss any anticipated mitigation measures.				
Name of Pourashava: Matlab				
Project Title	Improving Urban Governance and Infrastructure Program (IUGIP)			
Proposed sub-project scheme:	Improvement of 8079m Roads in 8 locations, protection work 551m at Matlab Pourashava, Chandpur District			
Screening Questions		**Yes**	**No**	**Remarks**
A. Project Siting Is the project area adjacent to or within any of the following environmentally sensitive areas?			√	There are no buildings of archaeological and cultural heritage importance close to the sub-project.
• Cultural heritage site			√	There is no protected area at the proposed site
• Protected Area			√	There is no wetland area at the proposed site
• Wetland			√	Not Applicable
• Mangrove			√	Not Applicable
• Estuarine			√	Not Applicable
• Buffer zone of protected area			√	There is no special protected area for biodiversity within 5km aerial distance
• Special area for protecting biodiversity			√	There are no buildings of archaeological and cultural heritage importance close to the sub-project.
B. Potential Environmental Impacts Will the Project cause				
▪ encroachment on historical/cultural areas; disfiguration of landscape by road embankments, cuts, fills, and quarries?			√	
▪ encroachment on precious ecology (e.g. sensitive or protected areas)?			√	
▪ alteration of surface water hydrology of waterways crossed by roads, resulting in increased sediment in streams affected by increased soil erosion at construction site?			√	
▪ deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?			√	Construction contractors will be required to provide sanitation facilities and ensure proper waste management at all times. **Hence this is not applicable, local people's will be construction site work**
▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation during project construction and operation?			√	The environmental impact related to the construction will be minor in nature and mostly limited to the duration of
▪ noise and vibration due to blasting and other civil works?		√		
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples, or other vulnerable groups?			√	
▪ other social concerns relating to inconveniences in living conditions in the project areas that may trigger cases of upper respiratory problems			√	
▪ hazardous driving conditions where construction interferes with pre-				
▪ poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases (such as STI's and HIV/AIDS) from workers to local populations?			√	
▪ creation of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents?			√	
▪ accident risks associated with increased vehicular traffic, leading to accidental spills of toxic materials?			√	
▪ increased noise and air pollution resulting from traffic volume?		√		Short time at during construction period

▪ increased risk of water pollution from oil, grease and fuel spills, and other materials from vehicles using the road?		√	
▪ social conflicts if workers from other regions or countries are hired?		√	
▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?		√	
▪ risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?		√	The environmental impacts related to the construction of the project will be minor in nature and mostly limited to the duration of construction
▪ community safety risks due to both accidental and natural causes, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning.		√	

Appendix 2: Waste Management Plan (Construction Period)

1. GENERAL

Considerable quantities of wastes (general & construction) will be generated due to the 1-year construction of the sub-project components. Two types of wastes will be generated during construction:

a. General Waste:

– Organic waste (foods, fruits, tree leaves etc.); and
– Inorganic (such as papers, plastic and glass bottles & containers, polythene etc.); and

b. Construction Waste:

– Construction wastes are: construction materials such as sand, piece of rocks, bricks, rods, bamboo, wood, geotextiles, remaining concrete & bentonite waste.

2. OBJECTIVES

The main objective of the WMP is to organize disposal of all wastes generated during construction in an environmentally acceptable manner specially consider the following:

- Health hazards of the project personnel as well as community people should not be occurred;
- Manage the wastes in such a way that environment (specially air, soil, water etc.,) will not be polluted;
- Odor means bad smell should not be generated;
- Always friendly environment at the construction sites and construction camps;
- Any waste should not be disposed into the river and any water bodies to avoid water pollution;
- Any waste should not be burnt; and
- Any waste should not be placed in earth holes/chambers.

3. POTENTIAL ENVIRONMENTAL IMPACTS

Major potential environmental impacts due to the lack of waste management are:

- All types of environmental pollutions such as air, soils, water (surface & ground) pollutions;
- Generation of odor;
- Increase of flies, mosquitoes, insects etc.,
- Health hazards; and

- Environmental nuisance at the project sites

4. STRATEGIES TO ADOPT

The following strategies need to be adopted for appropriate soil waste collection system to be functioned properly:

a. Setting waste collection bins (not permanent structure, movable high-quality movable plastic bins; See Figure 1) in strategic points of the construction camp and work sites.
b. Introduce solid waste bins for organic and non-organic waste.
c. Coordinate with the municipalities waste collection system so that the waste can be collected at midnight when the road transports are minimum.
d. Wash liquids needs to be drained out though the functioning drains. The liquid waste needs to be treated with bleaching power every evening before draining so that the waste water cannot create nuisance and local pollution.
e. The other strategies that might be adopted are explained in later paragraphs.

Figure 1: High quality plastic bins for solid waste collection

Table 1: Mitigation Measures for Sector-wise Waste

Aspect	Waste Type	Mitigation Measures	Proposed Reuse/Recycling/ Disposal
site clearing/disposal of debris	• Vegetation (logs, mulched timber, weeds) • Demolition of existing building	• Due care should be taken during site clearance and disposal of debris during demolition of existing building. • The waste should be stored at site ensuring that existing water bodies, road and drains within or adjacent to the site are kept safe and free and no blocking of drains • Prior clearance will be taken from concerned Govt. Authorities or landowner	Recycling/Disposal whereas applicable or where suitable and approved by PIU
Construction site waste	• Plastics, Concrete and • Timber/Steel formwork • Packaging Materials, papers	• The waste should be stored at PIU suggested location ensuring that existing water bodies, road and drains within or adjacent to the site are kept safe and free and no blocking of drains	Recycling/Disposal/ Re-use

	• Empty containers and other drums • Metals and electrical cabling	• Construction waste will be connected to dispose in Pourashava existing/proposed waste management system	
Construction camp	• Waste generated by food, papers, weir, wood, polythene and empty packets • Labor camp waste generated by workers	• It will be made mandatory for waste to be segregated right at the source of waste generation • The waste should be stored at construction camp in separate dustbin • labor camp waste will be connected to dispose in Pourashava existing/proposed waste management system	Re-use/ Recycling/Disposal whereas applicable
Traffic movement with waste	• Waste generated from construction site/labor camp	• Ensure covered the waste during Traffic movement • Adequate traffic control signals and barriers should be used in case traffic is to be diverted during debris disposal. All efforts should be made to ensure avoidance of traffic jam, which otherwise results in air pollution, noise pollution and public unrest.	Disposal

5. METHOD OF DISPOSAL OF WASTES

The Contractor will collect the general wastes in separate waste bin at sources (means organic waste in one bin & inorganic waste in another bin) and dumped at the designated waste disposal site. The contractor will construct concrete waste disposal site; means concrete floor and wall and covered by shed to avoid, air, bad smell, soil and ground water pollutions. Based on the quantity of general waste (organic & inorganic waste), the following two chambers (rooms) of the concrete disposal site will be constructed by Contractor:

Just after filling one chamber (say after 6 months) by organic waste through pocket gate, it should be covered by earth (soils) properly & keeps it for about 6 months for converting organic fertilizer for the agricultural lands. After filling 1st chamber by organic waste, disposing of waste will be started for 2nd chamber.

The inorganic waste will be collected in the waste collection bins. Just after filling, these inorganic wastes can be given to the vender free of cost.

The Contractor will collect construction waste as mentioned above separately and dump in to the designated room at the construction camp. Just after filling the room, Contractor will sale these waste to the vender for re-cyclic.

The Contractor will maintain log book for the measurement of quantity of the wastes (especially hazardous wastes) disposed every day.

6. INSTITUTIONAL ARRANGEMENT

Contractor is mainly responsible for design, construction, maintenance as well as environmental monitoring for the disposal of waste. Environmental Specialist of the MDSC is responsible for monitoring of the disposal. The PIU of the Municipality will setup a 'Waste Management Committee' with the representatives of the MDSC and contractor to effectively disposing the wastes and distribution of organic fertilizer to the farmers and inorganic wastes to the venders. The committee is also responsible for monitoring procedure for the collection and carrying of wastes without causing any environmental hazards.

Appendix 3: Site & Design Considerations to Meet ESMF Environmental Criteria

Environmental Guidelines for Subproject site selection, planning and design		Remarks
1. Overall selection guidelines - applicable to all subprojects		
(i) Comply with all requirements of relevant national and local laws, rules, and guidelines, including obtaining environmental clearance certificate (ECC) from DOE for all subprojects classified as red / orange / green per Bangladesh Environmental Conservation Act, 1995		-
(ii) Comply with all requirements of ADB SPS 2009 and follow procedures set in this environmental assessment and review framework (ESMF)		-
(iii) Ensure that subproject design should reflect inputs from public consultation		
(iv) Avoid locations in forests, mangrove areas, estuaries, buffer zones of protected areas	(i) Check and confirm the eligibility through exclusion criteria before proceeding further on such sensitive sites (ii) if eligible, and unavoidable: - Approval from concerned authority -Alternative site analysis to justify site selection -confirm via detailed baseline and impact assessment that the project will not lead to significant impacts on respective areas -EMP to include measures to avoid, minimize, mitigate impacts, and monitoring actions to confirm mitigation	
(v) Avoid locations within 100 m of protected monuments/sites protected by department of archeology, government of Bangladesh (vi) Avoid locations within 1 km of UNESCO notified protected monuments / world heritage sites 10.	If unavoidable - conduct site screening by heritage expert, and conduct heritage assessment study if warranted; integrate recommendations into design, construction, and operation -ensure that no damage / disruption to such places/monuments -obtain necessary clearance and permissions -EMP to include measures to avoid destruction / disturbance of such places -Provide "chance find" procedures in the EMP that include a pre-approved management and conservation approach for materials that may be discovered during project implementation.	
(vii) Avoid tree-cutting where possible. Retain mature roadside trees which are important/valuable or historically significant. If any trees will have to be removed, plant two new trees for every one that is lost. (viii) Preference shall be given to planting indigenous or local tree species.	For any tree to be cut, consider replacement of 2:1.	
(ix) Ensure all planning and design interventions and decisions are made in consultation with local communities and include women. Reflect inputs from public consultation and disclosure for site selection.	All consultations should be documented, and concerns expressed by public addressed in IEEs.	
(x) Synchronize all road improvement and pipe laying works (to extent possible) to minimize disturbance and optimize use of resources (e.g., water pipes laid prior to road improvements).	Coordinate planning of works with *Pourashava.*	
(xi) If subproject includes existing facilities[52] to be rehabilitated or expanded and/or associated	For non-compliances, provide corrective action for each area of concern including cost and schedule to be included in the subproject EMP.	
(xii) Locate all new facilities/buildings at sites where there is low risk of flooding or other hazards that might impair functioning of or present a risk of damage to water treatment plants, tanks/reservoirs, or their environs.	Flood statistics data of the project area needs to be reviewed. Location restriction may be reviewed depending on site availability, and flood or other hazards control planning.	

Environmental Guidelines for Subproject site selection, planning and design	Remarks
3. Urban roads	
(i) Include the provision of new or improved storm water drainage to remove the increased runoff caused by increasing the road surface area	
(ii) Shall not lead to alteration of surface water hydrology of waterways crossed by roads; ensure appropriate cross drainage structures	
(iii) Ensure that drainage system including cross drainage works are designed adequately considering the raised road levels that may create barrier effect	
(iv) Include tree planting preferably with indigenous or local tree species and duly considering road safety issues, alongside roads to provide a natural barrier to noise and visual impacts and include additional physical barriers where required	

Appendix 4: Health Safety Manual of Construction Workers

Parameters/issues	Workplace Hazards	Suggested PPE
Eye and Face protection	Flying particles, molten metal, liquid fuel, gases or vapors, light radiation.	Safety glasses with side-shields, protective shades, etc.
Head Protection	Falling objects, inadequate height clearance, and overhead power cords.	Helmets with top and side impact protection.
Hearing protection	Noise, ultra-sound.	Hearing protectors (ear plugs of ear muffs.)
Foot Protection	Falling or rolling objects, pointed objects. Corrosive or hot liquids.	Safety shoes and boots for protection against moving & falling objects, liquids and fuels.
Hand Protection	Hazardous materials, cuts or lacerations, vibrations, extreme temperatures.	Gloves made of rubber or synthetic materials (Neoprene), leather, steel, insulating materials, etc.
Respiratory Protection	Dust, vapors.	Facemasks with appropriate filters for dust removal and air purification spray, mists, vapors and gases). Single or multi-gas personal monitors, if available.
	Oxygen deficiency	Portable or supplied air (fixed lines.) on site rescue equipment.
Body/leg Protection	Extreme temperatures, hazardous materials, biological agents, cutting and laceration.	Insulating clothing, body suits, aprons etc. of appropriate materials.

Appendix 5: Sample Traffic Management Plan

A. Principles

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

- The safety of pedestrians, bicyclists, and motorists travelling through the Construction zone;
- Protection of work crews from hazards associated with moving traffic;
- Mitigation of the adverse impact on road capacity and delays to the road users;
- Maintenance of access to adjoining properties; and
- Addressing issues that may delay the project.

B. Operating Policies for TMP

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

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

Figure A2 to Figure A3 illustrates the operating policy for TMP for the construction of water pipes and the sewers along various types of roads.

C. Analyse the impact due to street closure

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

(i) Approval from the ULB/CMC/Public Works Department (PWD) to use the local streets as detours;
(ii) Consultation with businesses, community members, traffic police, PWD, etc, regarding the mitigation measures necessary at the detours where the road is diverted during the construction;
(iii) Determining of the maximum number of days allowed for road closure, and 3 incorporations of such provisions into the contract documents;
(iv) Determining if additional traffic control or temporary improvements are needed along the detour route;
(v) Considering how access will be provided to the worksite;
(vi) Contacting emergency service, school officials, and transit authorities to determine if there are impacts to their operations; and
(vii) Developing a notification program to the public so that the closure is not a surprise. As part of this program, the public should be advised of alternate routes that commuters can take or will have to take as result of the traffic diversion.

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

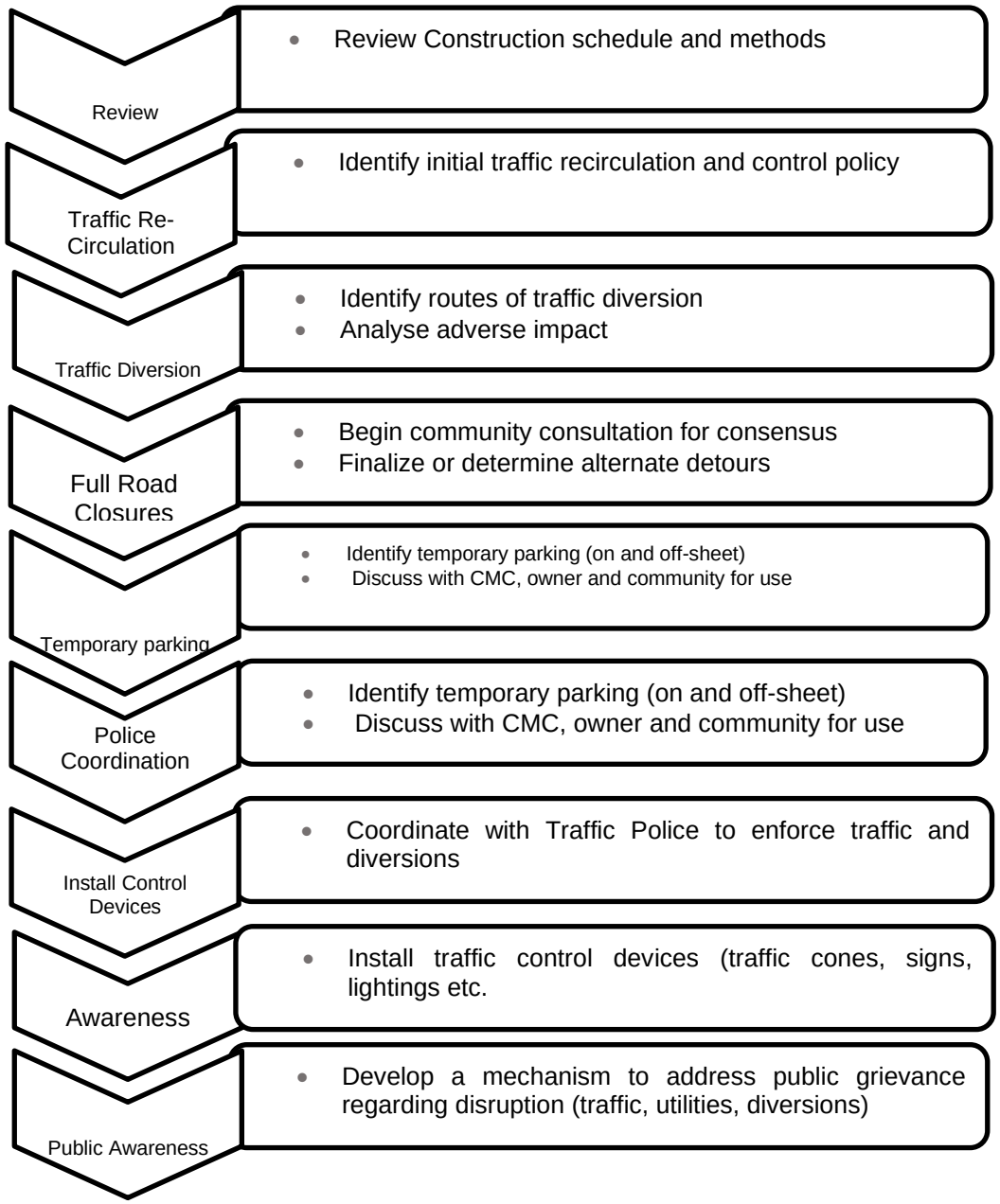


Figure A1: Policy Steps for the TMP

D. Public awareness and notifications

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

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

when the road blocks or traffic diversions take place at the particular streets. The reason for this is to allow sufficient time for the public and residents to understand the changes to their travel plans. The project will notify the public about the road blocks and traffic diversion through public notices ward level meetings and city level meeting with the elected representatives.

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

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

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

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

(iv) Explain why the brochure was prepared, along with a brief description of the project;
(v) Advise the public to expect the unexpected;
(vi) Educate the public about the various traffic control devices and safety measures adopted at the work zones;
(vii) Educate the public about the safe road user behaviour to emulate at the work zones;
(viii) Tell the public how to stay informed or where to inquire about road safety issues at the work zones (name, telephone, mobile number of the contact person; and
(ix) Indicate the office hours of relevant offices.

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

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

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

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

Figure A4 to Figure A5 illustrates a typical set-up for installing traffic control devices at the work zone of the area, depending on the location of work on the road way, and road geometrics:

- Work on shoulder or parking lane
- Shoulder or parking lane closed on divided road
- Work in Travel Lane
- Lane closure on road with low volume
- Lane closure on a two-line road with low volume (with yield sign)
- Lane closure on a two-line road with low volume (one flagger operation)
- Lane closure on a two-lane road (two flagger operation)
- Lane closure on a four-lane undivided Road
- Lane closure on divided roadway
- Half road closure on multi-lane roadway
- Street closure with detour

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

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

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

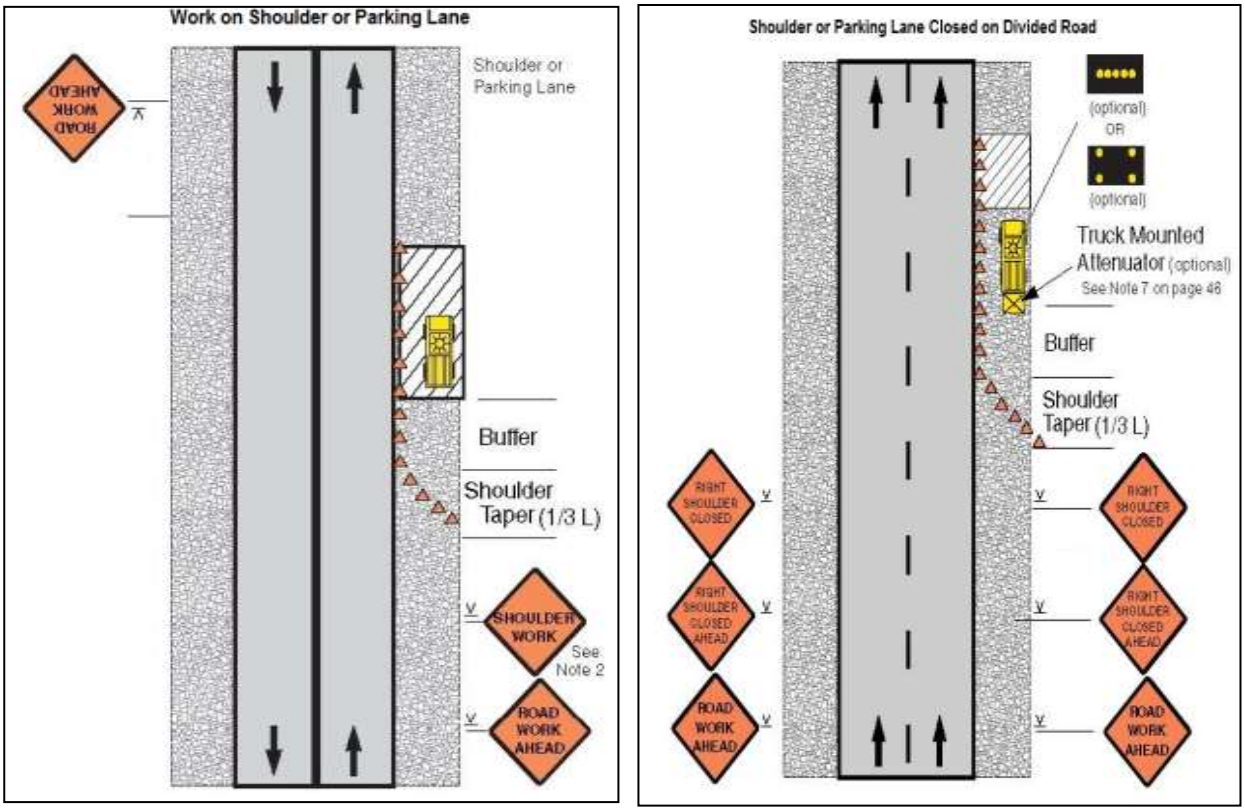


Figure A2 & A3: Work on shoulder or parking lane and shoulder or parking lane closed on divided road

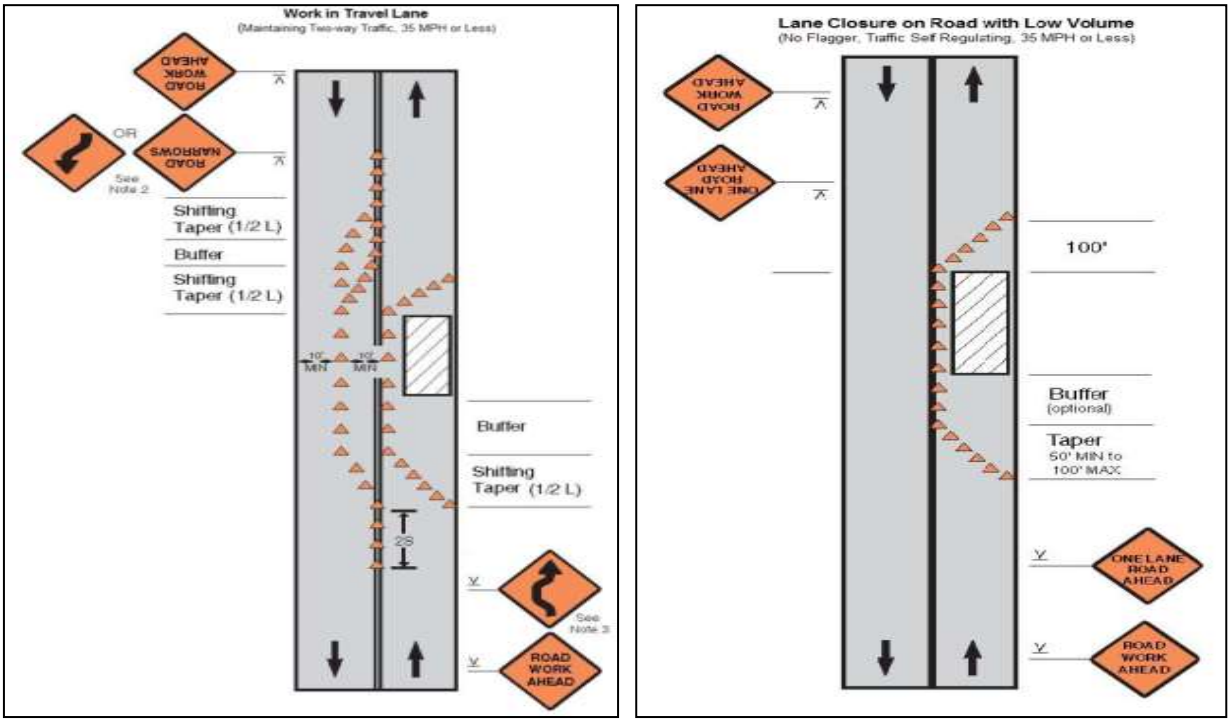


Figure A4 & A5: Work in Travel lane & Lane closure on road with low volume

Appendix 6: Participants List of Consultation Meetings date and ward

Photographs of Focus Group Discussion (FGD) for the sub-project of Pourashava are given below

Focus Group Discussion (FGD) with local at Ward No 01 of Matlab Pourashava

Focus Group Discussion (FGD) with local at Ward No 07 of Matlab Pourashava

Participants List of Focus Group Discussion (FGD) at Ward No 01 of Matlab Pourashava.

Local Government Engineering Department (LGED)
Urban Governance and Infrastructure Improvement Programme (Project Readiness Services)

Paurashava: Matlab Paurashava Date: 19-10-2022
Location: Bayispur 108 No East Primary school
Ward No. 01

Attendance Sheet

Sl No	Name of Participant	Mobile No	Signature	Remarks
1.	মোঃ শিরাজুল ইসলাম কাউন্সিলর	01925247211		
2.	মোঃ মোফাজ্জুল হোসেন ব্যবসায়ী	01817-352393		
3.	মোঃ রিপন প্রঃ শিক্ষক	01918955[illegible]		
4.	মোঃ জসীম, ড্রাইভার	01893785991		
5.	মোঃ কাজী সাইদুর রহমান কৃষি	01[illegible]		
6.	আবুল খায়ের ব্যবসায়ী	01857753099		
7.	মোঃ আনোয়ার হোসেন চাকুরীজীবি	01316953127		
8.	মোঃ ইব্রাহিম কাজী ব্যবসায়ী	01811558764		
9.	বি. এম. কামরুল আহসান ব্যবসায়ী	01400857501		
10.	মোঃ তাজাম্মুল মিয়াজী ব্যবসায়ী	01000368481		
11.	মোঃ সাইফুল মিয়াজী চাকুরীজীবি	01834001605		
12.	মোঃ মোস্তফা হোসেন খন্দকার	01784406101		
13.	মোঃ আবুতাহের সুবিন ব্যবসায়ী	01822101950		

Local Government Engineering Department (LGED)

Urban Governance and Infrastructure Improvement Programme (Project Readiness Services)

Paurashava: Matlab paurashava Date: 19.10.2022

Location: 108 No. East Bayjidpur Govt. Primary School.

Ward No. 01

Attendance Sheet

Sl No	Name of Participant	Mobile No	Signature	Remarks
14.	আরমান প্রধান	01635517990		
15.	অনিন	01961672400		
16.	[illegible]	01612520017		
	[illegible]			
	[illegible]			
17.	মনিরা আক্তার সহ: শিক্ষক	01648643627	মনিরা	
18.	কাহনাজ আক্তার সহ: শিক্ষক	01814747034	কাহনাজ	
19.	প্রতিমা রানী কোবী সহ: শিক্ষক	01961888979	প্রতিমা	
20.	ফেরদৌসী আক্তার সহ: শিক্ষক	01913570955	ফেরদৌসী	
21.	রীনা পারভীন সহ: শিক্ষক	01945222525	রীনা	
22.	বকুল রানী সরকার অস্থায়ী শিক্ষক	01719083943	বকুল	
23.	রুমি আক্তার সহ: শিক্ষক	01851877254	রুমি	
24.				

Participants List of Focus Group Discussion (FGD) at Ward No 07 of Matlab Pourashava

Local Government Engineering Department (LGED)

Urban Governance and Infrastructure Improvement Programme (Project Readiness Services)

Paurashava: Matlab paurashava Date: 19-10-2022

Location: Ward Councilor office

Ward No. 07

Attendance Sheet

Sl No	Name of Participant	Mobile No	Signature	Remarks
1	[illegible]	01813733055	[signature]	
2	[illegible]	01715-987479	[signature]	
3	[illegible]	01822184981	[signature]	
4	[illegible]	01857033841	[signature]	
5	[illegible]	01818851609	[signature]	
6	[illegible]	01772886961	[signature]	
7	[illegible]	01306-576816	[signature]	
8	[illegible]	01617877950	[signature]	
9	[illegible]	01877127444	[signature]	
10	[illegible]	01739075265	[signature]	
11	[illegible]	01823853245	[signature]	
12	[illegible]	01837182753	[signature]	

Appendix 7: SOP for Oil & Chemical Handling

1. Aim and Scope

The objective of this SOP is to specify detailed rules, times and responsibilities related to the use, storage and handling of oils and chemicals (hereunder referred to as “chemicals”) within working areas by the Contractor.

This document is to be given by the PIU Responsible person to the Contractor when the contract becomes effective. The Responsible Engineer shall ensure that the Contractor has clearly understood these good practices for chemical handling and shall abide by them.

2. Responsibilities

- Contractor personnel responsible for the task
- Coordinate and ensures that the Contractor is working in accordance with this SOP
- Ensures that personnel assigned to handle and transport chemicals are properly trained and equipped to handle chemicals safely, and prepared to contain and clean accidental spills
- Ensures that chemicals are labelled and placed in designated location according to this SOP
- Provides Safety Data Sheet of the chemicals to be used to the responsible person
- Carry out handling of chemicals from one location to another
- Responsible for regular checks required in the implementation of this SOP

3. Operative Rules

The responsible person of Contractor is to ensure that the SOP is following as per the requirement. This procedure also defines the training requirements, handling methods and precautions to be taken during transportation of chemicals from one site to another, in order to minimize any hazards these chemicals might pose to human beings as well as to the environment.

3.1 Chemicals handling planning

- The person planning the transfer of chemicals must be informed of quantities to be transferred, the type of packaging and the scheduled locations when assessing the methods and means necessary for the handling.
- The person in charge of the transfer and/or handling of chemicals must:
  - Clearly identify the chemical and be aware of the hazards involved.
  - Ensure that the chemicals being sanctioned for transfer are stored and stacked in a correct and safe manner as detailed in the subsequent clauses of this SOP to avoid accidental spills and possible injuries.
- The Contractor must provide his personnel with the Personal Protective Equipment (PPE), adequate means of transportation and spill control materials.

3.2 General safety requirements

When a hazardous chemical is handled, the following recommendations should be observed:

- The Contractor must ensure that his personnel are trained in chemical handling and spill management.
- The Contractor must ensure that adequate manpower is assigned to the task in order to carry out the job safely.
- The Contractor has to ensure that the competent personnel are provided with the appropriate PPE.
- Adequate materials should be readily available for spill management and the action to be taken in case of Oil and/or Chemical Spills should include:
  - Use of appropriate PPE
  - Ensure that the necessary spill kit material is handy and used Isolate source
  - Inform responsible person so he can inform the required personnel so that the spill can be contained with minor consequences.

- Contain spill as far as possible, especially if it can go into the road or drains
- Inform the responsible person if the spill is in the road and can cause a hazard to traffic such that he can place warning signs and advice Police to assist controlling traffic, if necessary
- Recover spill using suitable means:
  (i) Bucket & shovel / dustpan work well on smooth floors
  (ii) Absorbent pads which can each absorb (approx.) 1 litre
  (iii) Sand or other oil absorbing particulates
- Recovered chemical and absorbent material is to be dealt with as "hazardous waste".

3.3 Chemicals Usage

When using chemicals on work premises, the Contractor has to ensure that the following rules/recommendations apply:

- Wherever possible, chemicals and their compounds used shall be free from Mercury, Chromium and Zinc.
- Use CFC and HCFC-free sprays and products.
- All chemicals used are to be accompanied by the "Safety Data Sheet (SDS)".
- Wherever possible, the use of toxic and very toxic substances as well as carcinogenic substances shall be avoided.
- The Contractor should ensure that any chemicals used within work premises are not stored in a damaged container/drum and that they are labelled properly.

3.4 Labelling and identifying chemicals

The Contractor should ensure that:

- In case the container or packaging needs to be changed or substances are to be transferred to a smaller container for safer handling, the Contractor must fix a label to the new container. It must be ensured that the label is firmly affixed to the container or alternatively, the name of the hazardous chemical, as indicated in the original label, is to be clearly written directly onto the new container. Apart from the chemical name, the common name of the chemical is also to be written on the container to ensure that the container's content is easily understood by the personnel who will be using it. Moreover, each container should depict pictograms to indicate constituent chemical properties.
- When reusing a container, it must be ensured that the original label on the old container is removed to eliminate any possibility of incorrect use of the chemical.
- When identifying containers, cans, etc. of chemicals, it must be ensured that a permanent marker is used and text is written clearly (preferably in block letters) and in an adequate font size to allow for easy identification.

3.5 Handling chemicals

All Contractor personnel handling chemicals should adhere to the following rules and recommendations:

- Handler/end user should be trained in chemical handling prior any handling
- Use of PPE is mandatory
- The specific SDS of the chemicals are always to be consulted prior to the handling of a chemical
- Chemical SDSs for each chemical being used, and safety and environmental information shall be available on site where the chemicals are being used
- Mixing or pouring of chemicals should be performed on waterproof surfaces to prevent soil contamination
- Handling of hazardous chemicals (transportation, change of containers, etc.) should always be kept to a minimum
- Chemical containers are not to be left open and are always to be kept closed when not in use

- Mixing of hazardous chemicals should be avoided since mixing of incompatible chemicals can induce emissions of toxic gases and other dangerous reactions
- The right amount of product is to be used (check product instructions to dilute chemicals)
- Hazardous chemicals are never to be left unattended

3.6 Storage of chemicals

If any chemicals are to be stored on work premises for the duration of works, the Contractor must ensure that the following rules are put into practice:

- It should be verified that all legal limits related to chemical storage are being met.
- Storage areas for the chemicals are to be defined.
- All dangerous chemicals must be located in the appropriate storage area unless currently in use.
- Storage areas should always be bunded and covered to avoid leaching of pollutants through rainwater.
- The capacity of the chemical storage basin or containment should always be the greater
- Any spill occurring within the bunded storage area shall be isolated from the drainage and sewage systems.
- It must be ensured that the capacity and characteristics of storage areas, shelves and any other device used to store chemicals are adequate for the specific operation.
- Good housekeeping must be ensured in storage areas
- Chemicals cannot be stored and/or located in areas such as passageways, vehicles, and so on.
- It must be ensured that incompatible chemicals are segregated within the storage areas.
- Chemical products must be stored according to their compatibility. Acids are to be stored away from bases (such as Alkalis). Flammable products are to be stored away from all other products and especially away from potential fire hazards.
- Storage areas for explosives shall be designed in such a way as to prevent hits, falls or any other potential cause of explosion and to protect the surroundings against explosions.
- Chemicals should ideally not be stored under direct sunlight, in warm areas or near heat sources.
- When storing chemicals, the label and SDS are to be consulted for correct storage of each substance.
- Certain chemicals or substances have to be stored in well-ventilated areas or at a specific humidity and temperature.
- It must be ensured that all containers such as drums and their lids are in good condition, are safe to use and there is no possibility for spills or leakages.

3.7 Control and monitoring activities

The Contractor has the responsibility to:

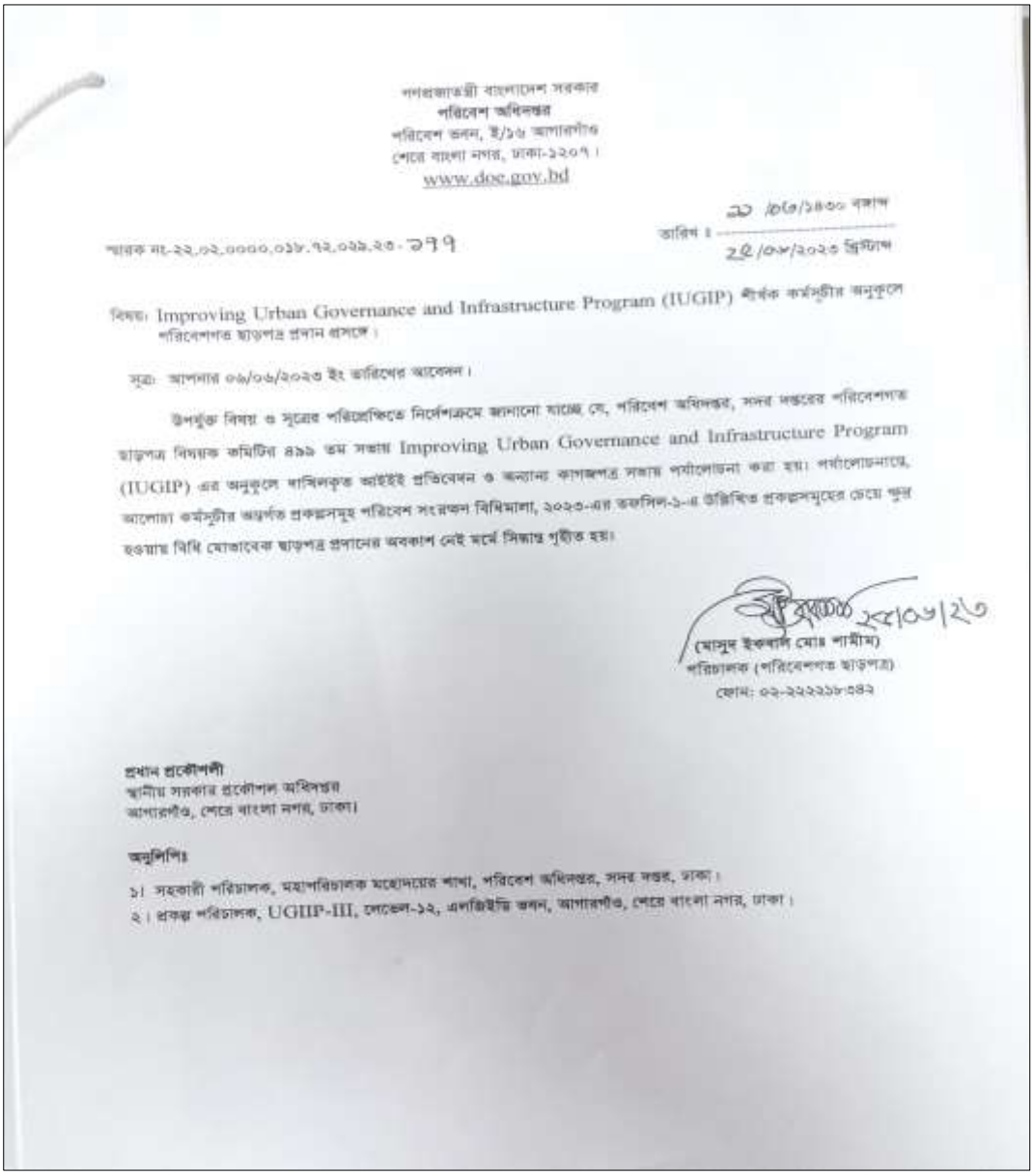
- Check periodically for correct identification, handling, use and storage of process chemicals at point-of-use;
- Check periodically that all waterproof areas where chemicals are located are in good
- condition and that there are no surface irregularities or cracks. This is especially important for storage of large containers;
- Check periodically for spills and leaks;
- Check periodically on the correct use of products by his personnel and give adequate training if deemed necessary.
- Visual checks shall suffice.

3.8 Abnormal conditions and emergency situations

In case of an accident or emergency such as spills, dangerous chemical reactions, etc., the Contractor shall ensure that the following recommendations are followed:

- Necessary safety protection devices (gloves, glasses, etc.) are to be worn
- The hazardous chemical causing the problem is to be identified
- If the level of risk is acceptable, all valves are to be isolated and taps turned off in order to stop the spill from spreading further out in the accident area as well as to contain the spill as much as possible and stop it from reaching unprotected areas, such as areas which are not waterproof, sewage discharges, etc.;
- The Responsible Person is to be informed so as to intervene;
- The accident area is to be cordoned off;
- Access to the area is only to be allowed when the spill has been contained, cleaned and the area is risk free.
- In case of damage to a container, this is to be replaced and it must be ensured that the container is clearly and correctly identifiable and disposed of in the appropriate manner.
- Proper absorbent materials should always be readily available for use close to all chemical storage and handling areas.

Appendix 8: Approved DoE Letter for IUGIP



গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
পরিবেশ অধিদপ্তর
পরিবেশ ভবন, ই/১৬ আগারগাঁও
শেরে বাংলা নগর, ঢাকা-১২০৭।
www.doe.gov.bd

স্মারক নং-২২.০২.০০০০.০১৮.৭২.০২৯.২৩-৩৭৭

তারিখ : ১৯/০৫/১৪৩০ বঙ্গাব্দ
২৫/০৮/২০২৩ খ্রিস্টাব্দ

বিষয়: Improving Urban Governance and Infrastructure Program (IUGIP) শীর্ষক কর্মসূচীর অনুকূলে পরিবেশগত ছাড়পত্র প্রদান প্রসঙ্গে।

সূত্র: আপনার ০৯/০৬/২০২৩ ইং তারিখের আবেদন।

উপর্যুক্ত বিষয় ও সূত্রের পরিপ্রেক্ষিতে নির্দেশক্রমে জানানো যাচ্ছে যে, পরিবেশ অধিদপ্তর, সদর দপ্তরের পরিবেশগত ছাড়পত্র বিষয়ক কমিটির ৪৯৯ তম সভায় Improving Urban Governance and Infrastructure Program (IUGIP) এর অনুকূলে দাখিলকৃত আইইই প্রতিবেদন ও অন্যান্য কাগজপত্র সভায় পর্যালোচনা করা হয়। পর্যালোচনান্তে, আলোচ্য কর্মসূচীর অন্তর্গত প্রকল্পসমূহ পরিবেশ সংরক্ষণ বিধিমালা, ২০২৩-এর তফসিল-১-এ উল্লিখিত প্রকল্পসমূহের চেয়ে ক্ষুদ্র হওয়ায় বিধি মোতাবেক ছাড়পত্র প্রদানের অবকাশ নেই মর্মে সিদ্ধান্ত গৃহীত হয়।

২৫/০৮/২৩

(মোসুদ ইকবাল মোঃ শামীম)
পরিচালক (পরিবেশগত ছাড়পত্র)
ফোন: ০২-২২২২১৮৩৪২

প্রধান প্রকৌশলী
স্থানীয় সরকার প্রকৌশল অধিদপ্তর
আগারগাঁও, শেরে বাংলা নগর, ঢাকা।

অনুলিপিঃ
১। সহকারী পরিচালক, মহাপরিচালক মহোদয়ের শাখা, পরিবেশ অধিদপ্তর, সদর দপ্তর, ঢাকা।
২। প্রকল্প পরিচালক, UGIIP-III, লেভেল-১২, এলজিইডি ভবন, আগারগাঁও, শেরে বাংলা নগর, ঢাকা।