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Ministry of Local Government, Rural Development & Co-operatives
Local Government Division
Local Government Engineering Department (LGED)

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project

Improvement of Community Infrastructure, Growth Centers, others & Connecting Roads at Habiganj District




Environmental & Social Assessment and Management Report of Community Roads

Package Name: LGED/RIVER/HABI/21-22/GCCR-19

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ACRONYMS & ABBREVIATIONS

BBS	Bangladesh Bureau of Statistics
BDT	Bangladeshi Taka
BMD	Bangladesh Meteorological Department
BOQ	Bill of Quantity
DPHE	Department of Public Health Engineering
EA	Environmental & Social
ECR	Environmental Conservation Rules, 2023
E.I.C	Engineer in Charge
EMCRP	Emergency Multi-Sector Rohingya Crisis Response Project
E&S	Environmental and Social
ESCoP	Environmental and Social Codes of Practices
ESCP	Environmental Social Commitment Plan
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESSR	Environmental and Social Screening Report
ESSs	Environmental and Social Standards
FAO	Food and Agriculture Organization
GoB	Government of Bangladesh
GPS	Government Primary School
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
IEFs	Important Environmental Features
KM	Kilometer
KMPH	Kilometer Per Hour
LGED	Local Government Engineering Department
LMP	Labour Management Procedures
LS	Lump Sum
MDSP	Multipurpose Disaster Shelter Project
MoEFCC	Ministry of Environment, Forest and Climate Change
MM	Millimeter
MoLGRDC	Ministry of Local Government, Rural Development and Cooperatives
NPDM	National Plan for Disaster Management
PD	Project Director
PIU	Project Implementation Unit
PPE	Personal Protective Equipment
RIVER	Resilient Infrastructure for Adaptation and Vulnerability Reduction
RPF	Resettlement Policy Framework
SEP	Stakeholders Engagement Plan
SMC	School Management Committee
SOPs	Standard of Procedures
UNDP	United Nations Development Programme
WB	World Bank

Executive Summary

The Environmental & Social Assessment and Management Report (ESAMR) of Community Roads for Habiganj District has been prepared for the sub-project titled "Improvement of Community Infrastructure, Growth Centers, others roads & Connecting Roads at Habiganj District under the RIVER Project." The initiative is jointly financed by the World Bank and the Government of Bangladesh, and aims to strengthen climate-resilient infrastructure and enhance accessibility to essential community facilities in vulnerable flood-prone regions. The RIVER Project focuses on improving rural infrastructure and disaster preparedness in flood-affected districts of Bangladesh by developing safe evacuation routes, strengthening community connectivity, and ensuring reliable access to flood shelters during emergency situations.

Under this sub-project, five (5) community infrastructures connecting roads in Habiganj District will be improved to provide safe and sustainable access to nearby flood shelters and essential social infrastructure. The roads are located in three upazilas- Habiganj Sadar (3 roads with total length of 6.75 km), Baniachang (1 road with total length of 3.0 km), and Sayestaganj (1 road of 2.1 km length) Upazilas-which are characterized by rural settlements, agricultural landscapes, and periodic exposure to seasonal flooding.

These community roads play a crucial role in connecting local villages with educational institutions, health facilities, local markets, and most importantly flood shelters that serve as safe havens during natural disasters. Improving these roads will enhance mobility and ensure that communities can reach flood shelters quickly and safely during emergency events.

The Environmental and Social Assessment has been conducted by D&SC to evaluate potential environmental and social impacts associated with the proposed road improvement activities and to develop suitable mitigation and management strategies in compliance with national environmental regulations and the environmental and social standards of the World Bank. The assessment process included environmental and social screening, field reconnaissance surveys, stakeholder consultations, and the review of relevant secondary data and policy documents. The assessment team visited the proposed road alignments and surrounding areas to identify sensitive environmental and social features that may be affected during construction and operation phases.

The assessment study also reveals that the proposed road improvement works will largely be carried out within the existing Right of Way (ROW), thereby minimizing the need for land acquisition and significantly reducing potential resettlement issues. The existing roads are mainly earthen or partially paved rural roads that require improvement to ensure year-round accessibility, improved drainage, and enhanced structural stability. The project will involve activities such as road widening where necessary and contingent upon the available land within ROW, strengthening of road surfaces, improvement of drainage systems, slope protection, utility relocation, and installation of small culverts or cross-drainage structures where required. More specifically, the interventions as well as the overall physical features around the roads are given below:

(i) Ali Gang–Shimergoun via Kholilpur GPS Road (Road ID: 636445085)
The Ali Gang–Shimergoun via Kholilpur GPS Road, located in Fukra and Tegoria Unions under

Habiganj Sadar Upazila, extends for 2.80 km from Ch. 0+000 to Ch. 2+800. The road traverses Shikandarpur, Abdullahpur, and Shimergaon, providing important connectivity to nearby communities and the proposed Abdullapur Government Primary School cum flood shelter. The proposed intervention includes RCC pavement along the entire length, replacement and construction of culverts at Ch. 0+833, Ch. 1+624, and Ch. 2+381, and extensive palisading/CC block protection at vulnerable sections. The alignment passes through mixed land-use areas comprising bazaars, settlements, agricultural land, haor landscapes, river corridors, canals, ponds, fish ponds, ditches, mosques, madrasas, community facilities, and educational institutions. Notable roadside features include Aligonj Bazar, a community clinic, Abdullapur GPS, Sayedabad old and new GPSs, mosques, and several water bodies located close to the carriageway. Construction activities may generate dust, noise, localized soil disturbance, temporary traffic and pedestrian disruption, and risks to nearby residents, students, and worshippers.

(ii) Ratna Bazar-Muradpur UP Office Road via Sunampur and Dulalpur (Road ID: 636113014) This 3.00 km road, located in Shubidpur Union under Baniachong Upazila, connects Bolakipur, Noagaon, Sunampur, and Dulalpur. The proposed improvement consists of rehabilitation and bituminous carpeting from Ch. 0+120 to Ch. 3+120, together with slope protection, palisading, and strengthening of existing culverts at key drainage crossings. The alignment passes through predominantly agricultural landscapes interspersed with settlements, local bazaars, canals, ditches, ponds, and riverine areas. Important roadside features include Ratna Bazar, a mosque, cemetery, Sunampur Government Primary School, and numerous residential clusters. Several sections run adjacent to canals and low-lying lands, making the road vulnerable to erosion and seasonal inundation. Construction activities may result in dust and noise emissions, temporary access restrictions, disruption to local traffic and livelihoods, and risks of sediment runoff into adjacent water bodies.

(iii) Ashera-Raypur Road (Road ID: 636444001) The Ashera–Raypur Road, situated in Lukra Union under Habiganj Sadar Upazila, is 1.10 km long, extending from Ch. 0+000 to Ch. 1+100. The road serves the Ashera area and provides access to nearby communities and the proposed Roypur Government Primary School flood shelter. The proposed intervention includes bituminous carpeting over the full length, rehabilitation of the existing unpaved surface, improvement of an existing culvert at Ch. 0+188, and construction of U-drains at Ch. 0+790 and Ch. 1+100. The road passes entirely through agricultural land, with roadside ditches running along both sides throughout the alignment. Construction activities may cause localized soil disturbance, temporary drainage obstruction, dust generation, and short-term inconvenience to local residents and agricultural activities. There is also potential for sedimentation in adjacent ditches if earthworks are not properly managed.

(iv) Shahjibazar–Sadurbazar Road to Nurpur UP–Kesobpur Bazar (Road ID: 636443012) Located in Bramandora Union under Shayestaganj Upazila, this 2.10 km road extends from Ch. 0+000 to Ch. 2+100 and connects Bisaura, Nurpur, and Kesobpur. The proposed works include rehabilitation and bituminous carpeting over the entire length, together with palisading at vulnerable sections and ancillary drainage improvements. The alignment traverses a mix of

agricultural lands, settlements, canals, ponds, fish ponds, bazaars, and community facilities. Important roadside features include Kesobpur Old and New Government Primary Schools, Kesobpur Bazar, an Eidgah, and a mosque. Several culverts already exist along the route, facilitating cross-drainage. Construction activities may generate dust and noise, temporarily disrupt traffic and pedestrian movement, and pose safety risks near schools, bazaars, and religious institutions. Adjacent canals and ponds may also be vulnerable to sedimentation and accidental contamination.

(v) Titukhai-Chandpur-Mirzapur Road (Road ID: 636444043)

The Titukhai–Chandpur–Mirzapur Road, located in Richi Union under Habiganj Sadar Upazila, extends for 2.85 km from Ch. 0+000 to Ch. 2+850, connecting Titukhai, Chandpur, and Mirzapur. The proposed intervention includes RCC pavement from Ch. 0+000 to Ch. 0+340 and bituminous carpeting from Ch. 0+340 to Ch. 2+850. Additional works include construction of a U-drain at Ch. 1+426 and extensive palisading at multiple erosion-prone locations. The road passes through a diverse landscape comprising bazaars, settlements, agricultural lands, ponds, canals, and areas adjacent to river corridors. Key roadside features include Alom Bazar, a CNG stand, Mirzapur Government Primary School, Mirzapur High School, a clinic, mosque, madrasa, temple, Eidgah, cemetery, and Zia Adorsho Bazar. Construction activities may lead to dust and noise pollution, temporary traffic congestion, access disruption, and occupational and community health and safety risks. Potential impacts on nearby ponds, canals, and drainage channels include sedimentation and water contamination.

Despite the substantial socio-economic benefits the project will bring, certain disturbances such as air and noise pollution are anticipated due to vehicular movement, operation of construction machinery, and material transport, which may affect nearby residents, educational institutions, and health facilities. These activities may also cause temporary disruption to traffic flow and pedestrian movement, limiting access to homes, schools, and community services. Furthermore, the presence of a mobile workforce introduces potential risks related to Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH), which require careful management. All these impacts are very localized and mostly avoidable and do not pose any significant threat or harm to local inhabitants or biodiversity, if general good engineering and OHS practices are adopted. Therefore, the overall risk for this sub-project can be categorized as ‘Moderate’. No ethnic groups are found living within the catchment area and there is no risk of involuntary resettlement or loss of common property resources.

To address these potential impacts, a comprehensive Environmental and Social Management Plan (ESMP) has been developed as part of this report in **Annexure-1**. The ESMP outlines specific mitigation and management measures that must be implemented during project construction and operation phases. Key environmental mitigation measures include regular water spraying for dust suppression; proper maintenance of construction equipment to control noise and air emissions; and safe handling, storage, and disposal of construction materials, spoil, and wastes. Erosion and sediment control measures will be implemented, particularly near canals, ponds, culverts, bridge sites, and slope protection areas, to prevent embankment instability, sedimentation, and contamination of nearby water bodies and agricultural lands, while maintaining natural drainage

and stormwater flow. Disturbed areas will be reinstated upon completion of works, and any trees removed will be compensated through roadside plantation.

Comprehensive traffic and community safety measures, including warning signs, barricades, pedestrian crossings, and speed-calming devices, will be installed near schools, markets, mosques, graveyards, clinics, and settlement clusters. Special precautions will be taken during culvert, bridge, palisading, and slope protection works to ensure structural integrity and public safety. Contractors will also implement robust occupational health and safety measures, including provision of PPE, worker training, emergency preparedness, and strict site supervision throughout the construction period.

Stakeholder consultation was an integral component of the assessment process. Local community members, school authorities, religious leaders, local government representatives, and other relevant stakeholders were consulted during field visits to gather their views, concerns, and recommendations regarding the proposed road improvements. The majority of stakeholders expressed strong support for the project, highlighting that improved community roads will reduce travel time, facilitate access to markets and services, and significantly enhance evacuation and mobility during flood emergencies. Community members also emphasized the importance of proper drainage, road safety measures, and protection of roadside vegetation. Public consultation attendance sheets are in **Annexure 2.**

The sub-project is expected to deliver substantial long-term benefits by improving connectivity between rural communities, flood shelters, markets, schools, and health facilities, thereby enhancing disaster resilience, emergency preparedness, and overall rural mobility. Improved roads will support local economic development by facilitating the transport of agricultural produce and improving access to essential services. The project will also enhance safety, accessibility, and convenience for women, children, the elderly, and persons with disabilities. Effective implementation of the ESMP, supported by continuous monitoring and stakeholder engagement, will minimize environmental and social risks and ensure environmentally sustainable, socially inclusive, and resilient infrastructure development under the RIVER Project.

1. INTRODUCTION

1.1 Sub-Project Background

Bangladesh is widely recognized as one of the most disaster-prone countries in the world due to its geographic location, low-lying topography, and extensive river systems. Seasonal floods, riverbank erosion, and intense rainfall events frequently disrupt rural livelihoods and damage infrastructure, particularly in northern districts located near major transboundary rivers. In this context, improving resilient rural infrastructure and ensuring reliable access to emergency facilities such as flood shelters have become critical priorities for disaster risk reduction and sustainable development in the country.

To address these challenges, the Government of Bangladesh, with financial and technical assistance from the World Bank, has undertaken the RIVER Project, which aims to strengthen disaster resilience and improve rural infrastructure in flood-vulnerable regions. The project focuses on the construction and improvement of multipurpose flood shelters as well as the development of community infrastructure connecting roads to ensure safe and efficient access to these shelters during flood emergencies. These infrastructures not only function as evacuation centers during disasters but also serve as community facilities such as schools or community centers during normal periods.

The project area covers three upazilas of Habiganj District, namely Baniachong Upazila, Sayestaganj Upazila, and Habiganj Sadar Upazila. These upazilas are predominantly rural and depend heavily on agriculture and local trade for livelihoods. However, many villages within these areas experience difficulties in accessing reliable transportation infrastructure, especially during the monsoon season when roads often become submerged, damaged, or impassable due to floodwaters. As a result, communities frequently face challenges in reaching schools, healthcare centers, markets, and emergency shelters during extreme weather events.

The proposed sub-project therefore focuses on improving the condition and resilience of existing community roads that connect villages to nearby flood shelters. These roads generally exist in the form of earthen or partially paved rural roads, which often deteriorate due to seasonal flooding, poor drainage, and heavy usage. Through the planned improvement works, these roads will be upgraded to more durable and climate-resilient standards to ensure year-round accessibility and safe evacuation routes during disasters.

The improvement of community infrastructure connecting roads will play a significant role in strengthening disaster preparedness and response capacity in the project area. By ensuring reliable access to flood shelters, the sub-project will enable communities to evacuate more quickly and safely during flood events. At the same time, improved road connectivity will facilitate daily socio-economic activities such as transportation of agricultural goods, access to markets, educational institutions, healthcare services, and other public facilities.

In addition to enhancing disaster resilience, the development of these community roads is expected to contribute to broader rural development objectives. Improved road infrastructure will

support local economic growth, improve mobility for residents, and increase accessibility for women, children, elderly persons, and individuals with disabilities who rely on these routes for daily travel.

Considering that infrastructure development activities may create certain environmental and social impacts during construction and operation phases, this Environmental & Social Assessment and Management Report (ESAMR) has been prepared to assess potential risks and identify appropriate mitigation measures. The assessment ensures that the proposed road improvement works are implemented in an environmentally sustainable and socially responsible manner, in compliance with national environmental regulations and the environmental and social standards of the World Bank.

The findings and recommendations presented in this report will guide project authorities, contractors, and relevant stakeholders in implementing the sub-project while minimizing environmental disturbances, protecting local communities, and maximizing the long-term benefits of improved community infrastructure in Habiganj District.

1.2 Objective of the Sub-Project

The primary objective of the sub-project is to enhance the resilience, accessibility, and functionality of rural road networks that provide critical connectivity to nearby flood shelters and essential community facilities. The sub-project aims to ensure safe, reliable, and all-weather access for local communities, particularly during flood and emergency events, thereby supporting timely evacuation and reducing vulnerability to disasters. By upgrading existing road surfaces, improving drainage systems, and strengthening road structures within the existing Right of Way (ROW), the project seeks to minimize environmental and social disruptions while maximizing socio-economic benefits.

Key objectives also include facilitating the movement of people, goods, and agricultural produce, improving access to education, healthcare, and markets, and supporting the overall disaster preparedness and resilience of communities in flood-prone areas of **Habiganj District**. Ultimately, the sub-project contributes to both short-term safety and long-term sustainable development of rural infrastructure, ensuring that flood shelters remain accessible and that the livelihoods of local residents are protected and enhanced.

1.3 Scope of the Project

The scope of the project shall include the construction of multipurpose flood shelters and construction of related access roads, flood embankments, drainage channels (both natural and manmade). The proposed infrastructure shall be climate resilient, including cross-drainage culverts and rural bridges necessary for assured rural accessibility. Raising of selected community land above the high flood level and small-scale community infrastructure to protect land and property shall also be included.

1.4 Objectives of the Report

The main objective of this Environmental & Social Assessment and Management Report (ESAMR) is to provide a comprehensive evaluation of the potential environmental and social impacts associated with the improvement of community infrastructure connecting roads at Habiganj District under the RIVER Project and to propose appropriate mitigation and management measures. The report aims to ensure that the sub-project is planned and implemented in an environmentally sustainable and socially inclusive manner, minimizing adverse impacts on local communities, sensitive receptors, and natural resources while enhancing positive outcomes.

Specific objectives include identifying environmental features and social conditions along the road corridors, assessing risks related to construction and operational activities, recommending measures to mitigate potential impacts such as dust, noise, drainage disruption, tree removal, and traffic hazards, and providing guidelines for occupational health and safety, stakeholder engagement, and grievance redress mechanisms. Additionally, the report seeks to support compliance with national environmental and social regulations as well as the environmental and social standards of the World Bank, thereby facilitating responsible implementation of the sub-project while improving community connectivity to nearby flood shelters and essential facilities.

2.0 SUB-PROJECT LOCATION AND DESCRIPTION

This section provides a detailed description of the sub-project location, its physical and socio-economic context, and the nature of the proposed improvement works for the community infrastructure connecting roads in Habiganj District under the RIVER Project.

2.1 Sub-Project Location

The sub-project covers selected community roads located in Habiganj District, which is in the northern part of Bangladesh and is prone to seasonal flooding due to its low-lying topography and proximity to major rivers. The sub-project specifically targets four upazilas:

1. **Baniachong Upazila** – Characterized by flat agricultural terrain, this upazila experiences seasonal inundation. The connecting roads targeted under this sub-project are essential for linking villages with local markets, schools, health facilities, and nearby flood shelters.
2. **Sayestaganj Upazila** – The sub-project roads in this upazila pass through several small settlements and agricultural areas, often adjacent to flood shelters constructed under the RIVER Project. The roads are critical for emergency evacuation during flood events.
3. **Habiganj Sadar Upazila** – As the district headquarters, this upazila has a mix of semi-urban and rural areas. The connecting roads targeted here link local communities with flood shelters, health facilities, and administrative centers, enhancing both daily accessibility and emergency response capacity.

The selected roads for improvement are strategically located near flood shelters to ensure safe and timely access during floods and other natural disasters. Most of the roads traverse agricultural

lands, rural settlements, and areas with community facilities such as schools, mosques, and local markets. Map illustrating Community Roads of Habiganj District is attached in **Figure 2.1.**

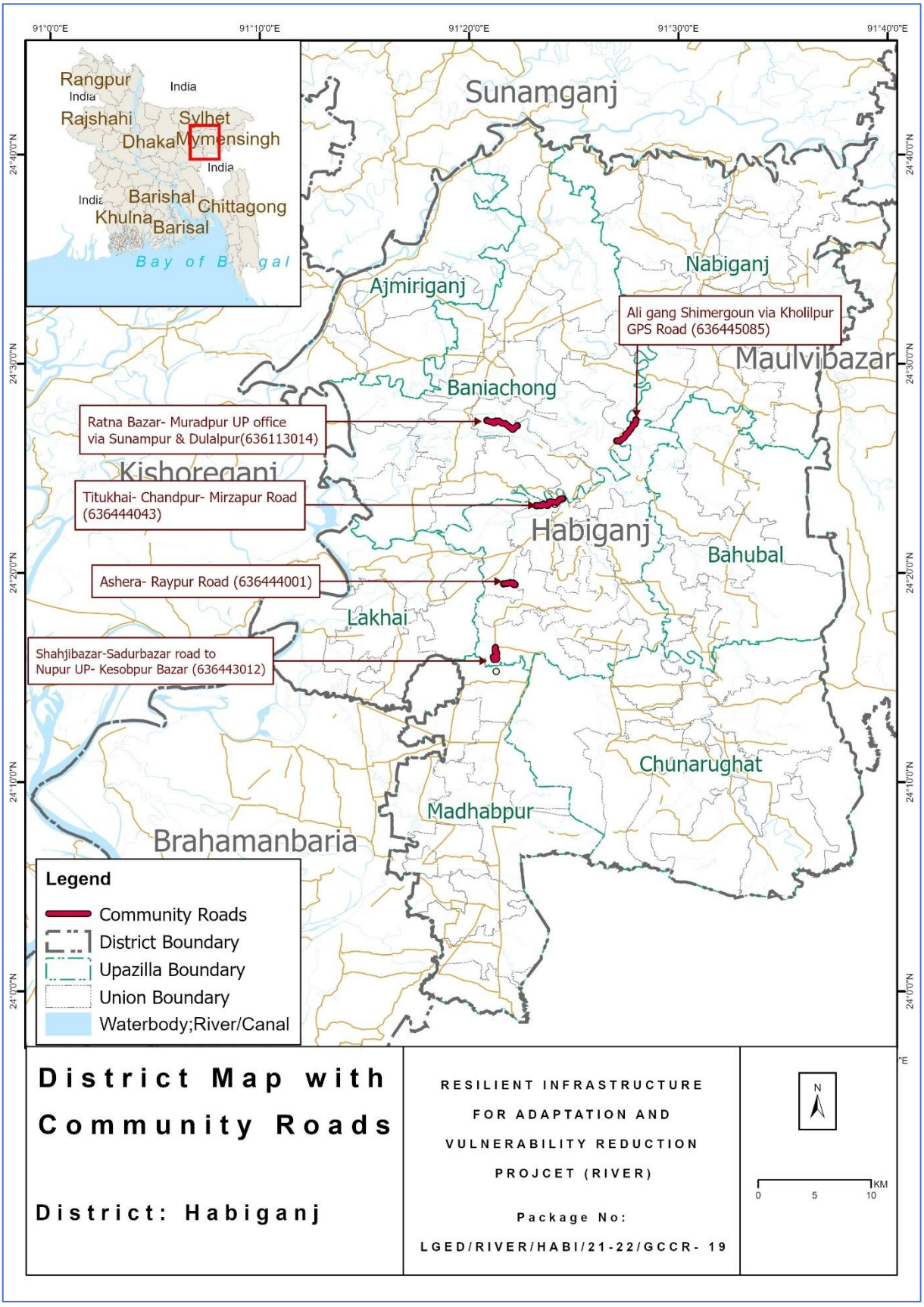


Figure 2.1: Map illustrating Community Roads of Habiganj District

2.2 Physical Features and Environment

The terrain across the project area is predominantly flat and low-lying, with several small rivers, canals, and drainage channels passing through the upazilas. During monsoon season, these areas are prone to waterlogging and localized flooding. The existing road infrastructure mainly consists of earthen or semi-paved roads with limited drainage facilities, making them vulnerable to damage and disruption during heavy rainfall. Roadside vegetation, including trees and shrubs, is present along many stretches, contributing to local ecology and providing shade to communities.

2.3 Socio-Economic Context

The project area is predominantly rural, with communities largely dependent on agriculture, fisheries, and small-scale trade for their livelihoods. Key social features along the proposed road corridors include:

- Local settlements and homesteads
- Agricultural fields and small marketplaces
- Educational institutions such as primary and secondary schools
- Religious institutions including mosques and madrassas
- Public infrastructure such as community centers and flood shelters

These roads are vital for socio-economic development, enabling residents to access essential services, markets, and emergency evacuation routes during floods. The proximity of flood shelters to these roads underscores their importance for disaster preparedness and response.

2.4 Sub-Project Description

The sub-project involves the improvement of existing community roads to enhance their structural stability, surface quality, and drainage capacity. Key components of the road improvement works include:

- Road Surface Improvement – Upgrading existing earthen or semi-paved roads with compacted soil, gravel, or pavement to ensure year-round usability.
- Road Widening and Shoulder Stabilization – Where necessary, the roads will be widened within the existing Right of Way (ROW) to facilitate safer two-way movement of vehicles and pedestrians.
- Drainage Enhancement – Construction or repair of side drains, culverts, and cross-drainage structures to prevent waterlogging and maintain road longevity.
- Slope Protection and Embankment Strengthening – Stabilization of embankments and road shoulders to reduce erosion and maintain structural integrity during floods.
- Traffic Safety Measures – Installation of signage, demarcation, and other traffic management interventions near schools, markets, and flood shelters to ensure safety during construction and operation.

The sub-project is designed to minimize environmental and social impacts by utilizing existing ROWs and avoiding unnecessary land acquisition. Construction activities will be planned to limit disruption to local communities and ensure continuous access to flood shelters.

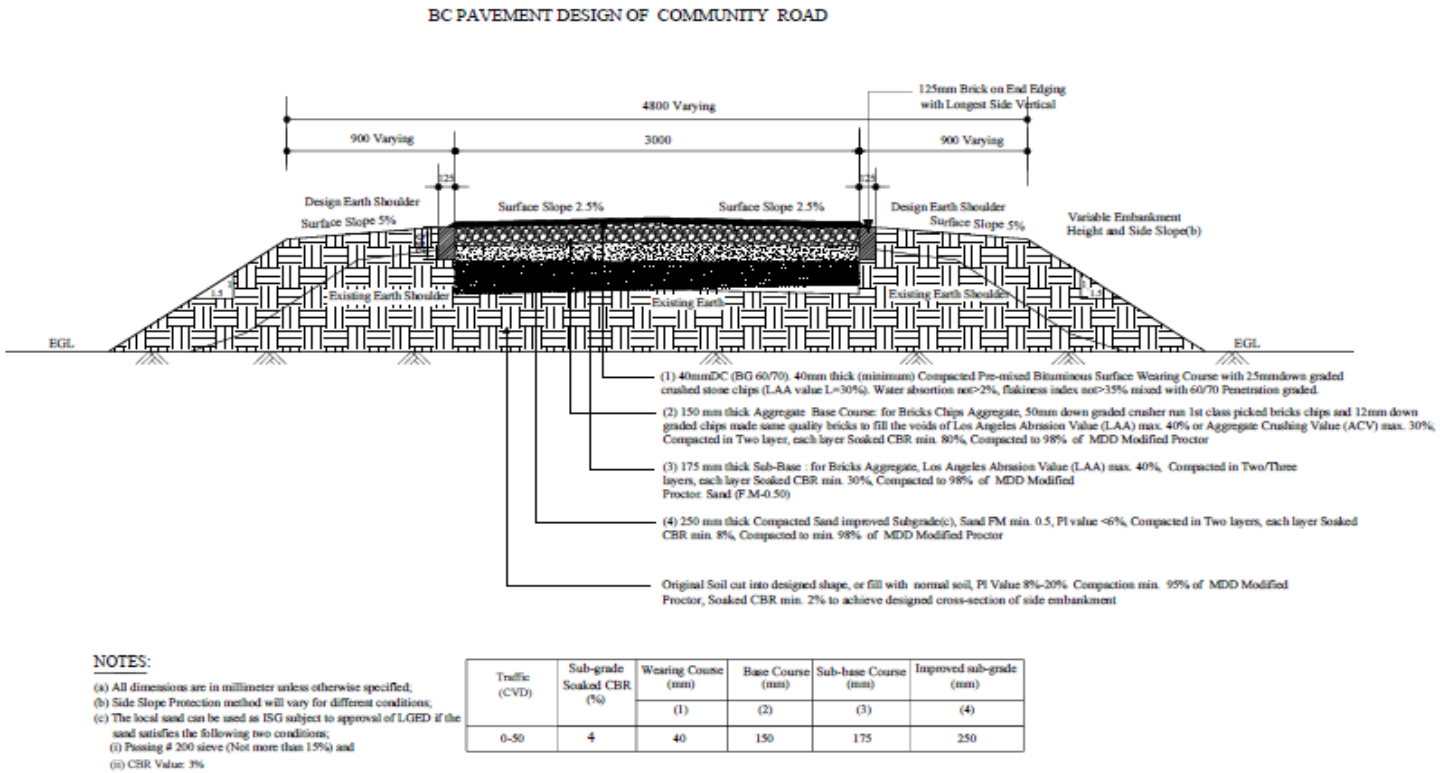


Figure: Typical Pavement Design of Community Roads

2.5 Elementary information of Community Road in Habiganj District

The community road package components in Habiganj District, located in the southern region of Sylhet Division, have been identified under the RIVER Project to improve rural connectivity and facilitate access to nearby flood shelters and community facilities. The proposed community roads fall within the project influence area of several flood shelter construction sites located in different upazilas such as Baniachong Upazila, Sayestaganj Upazila, and Habiganj Sadar Upazila. Each road component has been identified with specific GPS coordinates to define its alignment and location within the respective union parishads such as Fukra, Tegoria, Shubidpur, Lukra, Bramandora, Richi unions etc. These community

roads are strategically selected to connect surrounding rural settlements, growth centers and different service facilities with the nearest proposed flood shelter sites, ensuring safe evacuation and improved access during flood events. The project influence area generally includes roadside settlements, agricultural fields, local markets, and educational institutions situated along the alignment. The development and rehabilitation of these roads will significantly enhance disaster resilience, mobility, and socio-economic activities of the local population while ensuring better connectivity to emergency shelters and essential services. Acknowledging this matter, such details are accounted for as given below in **Table 2.1**.

Table 2.1: Basic Featured Information of community road components

Sl. No.	Name of Upazila	Union	Name of Proposed Community Road	GPS Coordinates	Total Length (Km)	Locations Under Project Influence Area	Nearby Proposed Flood Shelter	Distances from nearby Shelters
1.	Habiganj Sadar	Fukra, Tegoria	Ali gang Shimergoun via kholilpur GPS road (636445085)	**Starting Point** *24.43861111 N 91.45083333 E* ***Ending Point*** *24.45545556 N 91.46608611 E*	2.8	Shicanddarpur, Abdullahpur, Shimergaon	24 No. Abdullapur GPS	550m from proposed shelter 24 No. Abdullapur GPS
2.	Baniachong	Shubidpur	Ratna Bazar-Murad pur Up Office Road Via, Sunampur & Dulal pur (636113014)	**Starting Point** *24.45077222 N 91.37155 E* ***Ending Point*** *24.45488056 N 91.34745 E*	3.00	Bolakipur, Noagaon	Sunampur GPS	950m from proposed shelter Sunampur GPS
3.	Habiganj Sadar	Lukra	Ashera-Raypur Rd (636444001)	**Starting Point** *24.32479167 N 91.36083611 E*	1.1	Ashera	104 No. Roypur GPS	600m from proposed shelter 104 No. Roypur GPS

Sl. No.	Name of Upazila	Union	Name of Proposed Community Road	GPS Coordinates	Total Length (Km)	Locations Under Project Influence Area	Nearby Proposed Flood Shelter	Distances from nearby Shelters
				Ending Point *24.32418333 N* *91.36998889 E*				
4.	Sayestaganj	Bramandora	Shahjibazar-Sadurbazar road to Nurpur UP-Kesobpur Bazar (636443012)	**Starting Point** *24.27388889 N* *91.35416667 E* ***Ending Point*** *24.255 N* *91.355 E*	2.1	Bisaura	Keshabpur GPS	40m from proposed shelter Keshabpur GPS
5.	Habiganj Sadar	Richi	Titukhai-Chandpur-Mirzapur Road (636444043)	**Starting Point** *24.3925 N* *91.40777778 E* ***Ending Point*** *24.38722222 N* *91.38666667 E*	2.85	Titukhai, Mirzapur	5 No. Chandpur GPS and Shahapur GPS	3.5km from proposed shelter 5 No. Chandpur GPS and Shahapur GPS

[*Sources of data: Field survey, March 2026]

2.6 Environmental / Social Category of the Subproject

The overall anticipated adverse impacts of the subproject are minimal, localized, and site-specific in nature, and mostly avoidable or mitigable and do not pose any significant threat or harm to local inhabitants or biodiversity, if general good engineering and OHS practices are adopted. Moreover, the roads will be constructed within the existing ROW and no rehabilitation or acquisition of land is required or provisioned. Further, no ethnic groups are found living within the catchment area and there is no risk of involuntary resettlement or loss of common property resources. Therefore, considering all the anticipated impacts, existing social and environmental 3settings and scope of work, the overall risk for this sub-project can be categorized as 'Moderate'.

2.7 Baseline Conditions of the Community Road

The baseline assessment of the community roads under the sub-project in Habiganj District provides a detailed understanding of the existing physical and social conditions, which serves as the foundation for planning road improvements while minimizing environmental and social impacts. The targeted roads pass through the upazilas of Baniachong Upazila, Sayestaganj Upazila, and Habiganj Sadar.

Existing Pavement Condition and Chainage: Most of the existing roads are paved or semi-paved and exhibit varying levels of deterioration due to seasonal flooding, heavy monsoon rainfall, and limited maintenance. Potholes, rutting, and erosion along shoulders are commonly observed, particularly in low-lying sections and areas adjacent to drainage channels. Road surfaces along chainages near settlements and marketplaces are particularly affected by frequent pedestrian and vehicular use.

Existing Structures on the Road: The roads traverse areas with various existing structures, including small culverts, side drains, footbridges, local marketplaces, schools, mosques, and roadside residences. In some sections, informal drainage channels and agricultural access points intersect the road alignment. Tree covers and roadside vegetation are present along several stretches, contributing to local ecology.

Proposed Road Interventions: The sub-project proposes to upgrade the existing roads within the available Right of Way (ROW) to improve structural stability, all-weather accessibility, and flood resilience. Interventions include earthwork for raising low-lying sections, paving with compacted gravel or bituminous surfaces, slope stabilization, shoulder reinforcement, and improvement of roadside drainage to prevent waterlogging.

Proposed Structures: The project includes the construction of new small culverts, cross-drainage structures, and side drains at strategic locations to ensure uninterrupted water flow and prevent road flooding.

Safeguard Features: To ensure environmental and social sustainability, safeguard measures will be incorporated during construction and operation. Signage, speed control measures, and pedestrian pathways will be provided to enhance safety.

Overall, the baseline conditions highlight the need for targeted interventions to enhance road safety, connectivity, and resilience, while the proposed structural improvements and safeguard features are designed to address environmental and social risks, improve access to flood shelters, and support the sustainable development of the rural road network in Habiganj District. Road wise Baseline Conditions of the community Roads status are in **Table 2.2.**

Table 2.2 Status of Baseline Conditions of the Community Road

Sl. No.	Road Name	Road ID	Existing Pavement Condition with Chainage	Existing Structures on the road	Proposed Road Interventions	Safeguard Features
1.	Ali gang Shimergoun via kholilpur GPS road	636445085	Unpaved- 0+600 to 2+800 BC-0+00 to 0+600 (Damaged)	Culvert (3.1m × 5.2m)- 0+844, (2.9m × 3m)- 2+385 Bridge (2.98m × 76.5m)- 0+164-0+240.5 Palisading (45m)- 0+113-0+158 (Left Side), (18m)- 0+140-0+158 (Right Side)	RCC-0+00 to 2+800 Palisading/CC Block (544m)- 0+296 to 0+840 (Left Side) Culvert (1no. 3V 4m × 4m)- 0+833, (1no. 1V 3m × 3m)- 1+624, (1no. 2V 3.5m × 4m)- 2+381 Palisading (45m)- 0+113 to 0+158 (Left Side), (18m)- 0+140 to 0+158 (Right Side), (123m)- 1+060 to 1+149 (Left Side), (154m)- 1+695 to 1+849 (Right Side), (51m)- 1+911 to 1+960 (Right Side), (109m)- 2+272 to 2+381 (Left Side), (26m)- 2+417 to 2+443 (Right Side), (20m)- 2+612 to 2+632 (Left Side)	Not available in site
2	Ratna Bazar-Murad pur Up Office Road Via , Sunampur & Dulal pur	636113014	BC (Damaged)- 0+120 to 3+120	Culvert (10m × 4.6m)- 0+446, (19m × 4.6m)- 1+546, (3m × 2.8m)- 2+066, (3m × 6.7m)- 2+682 Palisading- 0+120 (Left Side), 0+710 (Both Side),	BC- 0+120 to 3+120 Palisading (52m)- 2+797 to 2+849 (Left Side), (250m)- 4+100 to 4+350 (Right Side) Slope Protection (10m)- 0+436 to 0+446 (Left Side),	Not available in site

Sl. No.	Road Name	Road ID	Existing Pavement Condition with Chainage	Existing Structures on the road	Proposed Road Interventions	Safeguard Features
				0+996 (Left Side), 2+566 (Left Side with CC Block), Slope Protection- 3+498 to 1+508 (Left Side)	(14m)- 0+456 to 0+470 (Right Side), (148m)- 0+965 to 1+113 (Left Side), (288m)- 1+132 to 1+420 (Left Side), (38m)- 1+508 to 1+546 (Left Side), (15m)- 1+565 to 1+580 (Right Side), (205m)- 1+790 to 1+995 (Left Side), (12m)- 2+079 to 2+091 (Left Side), (35m)- 2+495 to 2+530 (Left Side), (15m)- 2+551 to 2+566 (Left Side), (34m)- 2+616 to 2+650 (Left Side), (46m)- 3+050 to 3+096 (Left Side)	
3.	Ashera-Raypur Rd	636444001	Unpaved- 0+00 to 1+100	Culvert (3.2m × 2.4m)- 0+188, (3.1m × 3.6m)- 0+328	BC- 0+00 to 1+100 Culvert (3.2m × 2.4m)- 0+188 U Drain (0.9m × 1.2m)- 0+790, (0.9m × 1.2m)- 1+100	Not available in site
4.	Shahjibazar-Sadurbazar road to Nurpur UP-Kesobpur Bazar	636443012	BC- 0+00 to 2+100 (Damaged - 0+00 to 0+800)	Culvert (3.8m × 5.8m)- 0+076, (1.4m × 6.2m)- 0+185, (1.4m × 6.2m)- 0+266, (5.2m × 6m)- 0+348, (1.4m × 6.2m)- 0+495, (3.1m × 3.8m)- 1+210, (3.8m × 5.6m)- 1+768 U Drain (1.7m × 5m)- Ch. 103m	BC-0+00 to 2+100 Palisading (12m)- 0+004 (Left Side), (25m)- 0+080 to 0+105 (Both Side), (28m)- 1+740 (Right Side)	Not available in site

Sl. No.	Road Name	Road ID	Existing Pavement Condition with Chainage	Existing Structures on the road	Proposed Road Interventions	Safeguard Features
5.	Titukhai-Chandpur-Mirzapur Road	636444043	BC- 0+00 to 2+850 (Damaged- 0+00 to 0+340, 0+650 to 2+850)	U Drain (1.6m × 4.2m)- 1+426, (1m × 1m)- 1+508 Culvert (2.4m × 3.7m)- 1+711, (3m × 5m)- 2+501 Palisading (20m)- 1+034 to 1+054 (Right Side), (12m)- 1+320 to 1+332 (Left Side), (73m)- 1+430 to 1+503 (Left Side)	BC-0+340 to 2+850 RCC-0+00 to 0+340 U Drain (1.6m × 7m)- 1+426 Palisading (20m)- 0+850 to 0+870 (Right Side), (71m)- 0+990 to 1+061 (Left Side), (10m)- 1+020 to 1+030 (Right Side), (188m)- 1+132 to 1+320 (Left Side), (84m)- 1+332 to 1+416 (Left Side), (22m)- 1+430 to 1+452 (Right Side), (85m)- 1+722 to 1+807 (Both Side), (60m)- 2+070 to 2+130 (Right Side), (48m)- 2+220 to 2+268 (Left Side), (17m)- 2+833 to 2+850 (Right Side)	Not available in site

3.0 Environmental and Social Survey and Screening

3.1 Survey and Screening Methodology

An Environmental and Social Survey and Screening have been carried out within the Project Influence Area (PIA), defined as a 0.5 km buffer on both sides from the centerline of the proposed road alignment. The purpose of the survey was to identify baseline environmental and socio-economic conditions, as well as potential sensitive receptors that may be affected by project activities. The methodology generally involves a combination of desk review, field reconnaissance, and stakeholder consultation. Initially, relevant secondary information was reviewed to understand the baseline setting. This was followed by systematic field surveys along the road alignment within the 0.5 km PIA, where environmental features (water bodies, vegetation, wetlands, and flora and fauna, etc.) and social features (settlements, schools, mosques/temples, markets, health facilities, agricultural lands, and cultural properties) were identified and impacts from the implementation works were assessed. Structured observations, photographic documentation, and transect walks were used during the field investigation. In addition, consultations with local communities, local government representatives, and relevant stakeholders were conducted to gather information on livelihood activities, land use, community resources, and potential concerns regarding the proposed interventions. The collected information was then analyzed through a screening process to assess the likelihood and significance of environmental and social impacts during construction and operation phases. The outcome of the survey and screening helps determine the level of environmental and social assessment required and supports the preparation of appropriate mitigation measures and management plans to ensure environmentally sustainable and socially responsible road development in the area.

3.2 Important features/establishments around the PIA

The project influence area of the proposed community road sub-projects includes a variety of environmental, social, economic, and cultural features located along or near the existing road alignments. These features have been identified during field reconnaissance surveys and consultations with local communities to understand the baseline conditions and potential interactions between the proposed road maintenance activities and surrounding establishments. The community roads generally pass through rural settlements and agricultural landscapes within different unions and upazilas, where local infrastructure and community facilities are closely located near the roadside.

From an environmental perspective, the surrounding areas of the assessed community roads are predominantly characterized by agricultural landscapes, low-lying floodplains, scattered vegetation, and rural homestead gardens. Small ponds, irrigation canals, and natural drainage channels are also commonly found along or near the road alignments, which play a significant

role in local water management and fish cultivation. These natural and semi-natural environmental features contribute to the ecological balance of the area and therefore require careful consideration during construction activities to avoid unnecessary disturbance, sedimentation, or blockage of drainage paths.

The social features within the project influence area include rural households, schools, religious institutions, community centers, and public service facilities located close to the existing road corridors. Residential settlements are often situated along both sides of the roads, indicating that these roads serve as important local access routes for daily community activities. Educational institutions such as primary and secondary schools, madrasa buildings, and playgrounds may also be located within short distances from the road alignment. Religious establishments including mosques and community graveyards are common features in the project area and are often found near village centers along the road network. These social infrastructures are important gathering places for local residents and require careful consideration during construction activities to minimize disruption and maintain safe access.

In terms of economic features, the project influence area contains small local markets, roadside shops, agricultural storage areas, and facilities supporting rural livelihoods. Weekly rural markets (haats), small grocery shops, tea stalls, and agricultural input stores are frequently located at road intersections or village centers. These establishments depend heavily on the accessibility provided by community roads for transportation of goods and services. In addition, agricultural activities such as crop production, livestock rearing, and fish cultivation are key sources of livelihood for the surrounding communities. Improved road conditions are therefore expected to enhance local economic activities by facilitating easier transportation of agricultural products, improving market access, and reducing travel time for rural populations.

The cultural and community heritage features within the project influence area may include local mosques, Eidgah grounds, graveyards, Shaheed Minars, and other culturally significant landmarks. These sites hold social and cultural importance for local communities and are often located within close proximity to village roads. Any construction or maintenance work near such cultural features will require special attention to ensure that these sites are protected and that community access remains uninterrupted.

In addition to these environmental, social, economic, and cultural features, the project influence area may also include essential service infrastructure such as tube wells, rural electrification lines, irrigation pumps, drainage outlets, and small water supply systems. These utilities support the daily needs of the local communities and must be carefully protected during construction to prevent service disruptions. Where temporary disturbances are unavoidable, appropriate mitigation measures and coordination with local authorities will be necessary to restore services promptly.

Overall, the surrounding features and establishments within the project influence area reflect the typical rural landscape and socio-economic structure of Habiganj District. The identification and documentation of these features are essential for assessing potential environmental and social impacts associated with the community road improvement works. Detailed information on these environmental, social, economic, and cultural establishments identified during the field assessment has been systematically presented in **Table 3.1**, which provides a location-specific inventory of important features situated along or near the assessed road alignments. This inventory will help guide the implementation of appropriate mitigation measures and ensure that project activities are carried out in an environmentally and socially responsible manner.

Table 3.1: Important features under Project Influence Area

Division: Sylhet	**District: Habiganj**		**Upazila: Habiganj Sadar**
Name of the Road:	**Ali gang Shimergoun via kholilpur GPS road (636445085)**		
Total Road Length (Km)	2.8 km		
Chainage	**Orientation (Left/Right)**		**Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)**
00-300	L		Aligonj Bazar 2m, Mosque 2m, River, 15m, Settlement 30m
		R	Bazar 2m, River 20m, Settlement 40m
300-600	L		River 7m, Settlement 200m
		R	Settlement 20m, Agricultural Land 10m
600-900	L		Settlement 200m, Agricultural Land 100m, River 6m
		R	Settlement 20m, Agricultural Land 10m, Abdullahpur GPS (500m)
900-1200	L		Settlement 300m, Agricultural Land 200m, River 20m, Park 500m
		R	Settlement 30m, Agricultural land and Ditch 100m
1200-1500	L		River 50m, Settlement 3m, Community Clinic 8m
		R	Settlement 20m, Agricultural land and Ditch 100m, Fish pond 5m
1500-1800	L		Settlement 20m, River 300m, Small pond 5m
		R	Agricultural land and Ditch 100m, Mosque and Madrasha 4m
1800-2100	L		Settlement 30m, River 250m, Sayedabad Old GPS 3m, Pond 3m

		R	Agricultural Land and Haor 50m, Sayedabad New GPS 4m, Small pond 3m
2100-2400	L		Small pond 15m, River 150m, Agricultural Land 200m, Canal 130m
		R	Settlement 4m, Agricultural Land and Haor 100m
2400-2800	L		Agricultural Land 15m, Settlement 250m, Small pond 2m, Mosque 3m, Small pond 2.5m
		R	Settlement 4m, Agricultural Land and Haor 150m, Small pond 3m
Division: Sylhet	**District: Habiganj**		**Upazila: Baniachong**
Name of the Road:	**Ratna Bazar-Murad pur Up Office Road Via, Sunampur & Dulal pur (636113014)**		
Total Road Length (Km)	3.00 km		
Chainage	**Orientation (Left/Right)**		**Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)**
00-300	L		Ditch 10m, Agricultural Land 30m
		R	Ditch 10m, Bazar 20m, Agricultural Land 30m, Settlement 100m
300-600	L		Settlement 3m, Canal 10m, Agricultural Land 50m, Ditch 10m
		R	Ditch 5m, Settlement 3m, Canal 10m
600-900	L		Settlement 20m, Pond 5m, Agricultural Land 200m, Ditch 10m
		R	Settlement 150m, Pond 10m, Mosque 5m
900-1200	L		Agricultural Land 10m, Ditch 5m, Settlement 200m
		R	Cemetery 5m, Ditch 10m, Pond 20m, Settlement 10m
1200-1500	L		Agricultural Land 15m, Ditch 10m, Settlement 10m, Canal 10m
		R	Agricultural Land and Ditch 30m, Canal 20m
1500-1800	L		Agricultural Land 10m, Ditch 10m, Settlement 10m
		R	Agricultural Land 20m, Settlement 20m, Ditch 10m
1800-2100	L		Agricultural Land 20m, Canal 10m
		R	Agricultural Land 70m, Settlement 3m, Canal 50m, River 150m
2100-2400	L		Ditch 10m, Agricultural Land 50m

		R	River 100m, Settlement 3m
2400-2700	L		Ditch 20m, Settlement 10m
		R	Agricultural Land 50m, Ditch 20m
2700-3000	L		Agricultural Land 100m, Ditch 5m, Settlement 3m
		R	Ditch 10m, Settlement 3m, Pond 4m, GPS 150m, Cemetery 85m
Division: Sylhet	**District: Habiganj**		**Upazila: Habiganj Sadar**
Name of the Road:	**Ashera-Raypur Rd (636444001)**		
Total Road Length (km)	1.1 km		
Chainage	**Orientation (Left/Right)**		**Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)**
00-300	L		Ditch 5m, Agricultural Land 15m
		R	Ditch 5m, Agricultural Land 15m
300-600	L		Ditch 5m, Agricultural Land 15m
		R	Ditch 5m, Agricultural Land 20m
600-900	L		Ditch 5m, Agricultural Land 20m
		R	Ditch 5m, Agricultural Land 20m
900-1100	L		Ditch 5m, Agricultural Land 20m
		R	Ditch 5m, Agricultural Land 20m
Division: Sylhet	**District: Habiganj**		**Upazila: Sayestaganj**
Name of the Road:	**Shahjibazar-Sadurbazar road to Nurpur UP-Kesobpur Bazar (636443012)**		
Total Road Length (km)	2.1 km		
Chainage	**Orientation (Left/Right)**		**Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)**
00-300	L		Agricultural Land 5m, Settlement 150m
		R	Agricultural Land 6m, Small Canal 5m
300-600	L		Settlement 30m, Small Canal 3.5m
		R	Settlement 15m, Agricultural Land 15m
600-900	L		Pond 5m, Settlement 10m, Agricultural Land 6m

		R	Agricultural Land 5m, Fish Pond 15m, Settlement 6m
900-1200	L		Bazar 5m, Agricultural Land 600m
		R	Bazar 5m, Kesobpur Old GPS 100m
1200-1500	L		Settlement 20m, Agricultural Land 200m, New Kesobpur GPS 100m
		R	Settlement 5m, Small Canal 5m
1500-1800	L		Settlement 10m, Agricultural Land 10m
		R	Canal 15m, Settlement 20m, Agricultural Land 10m
1800-2100	L		Settlement 20m, Agricultural Land 25m, Kesobpur Bazar 5m
		R	Settlement 10m, Eidgah 5m, Mosque 20m, Bazar 5m
Division: Sylhet	**District: Habiganj**		**Upazila: Habiganj Sadar**
Name of the Road:	**Titukhai-Chandpur- Mirzapur Road (636444043)**		
Total Road Length (km)	2.85 km		
Chainage	**Orientation (Left/Right)**		**Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)**
00-300	L		River 600m, Alom Bazar 8m, CNG Stand 20m
		R	Settlement 150m, Alom Bazar 6m
300-600	L		River 500m
		R	Mosque 300m, Settlement 250m
600-900	L		Agricultural Land 6m, Settlement 10m
		R	Cemetery 15m, Mosque 300m, Agricultural Land 150m, Settlement 20m
900-1200	L		Agricultural Land 20m, Settlement 40m, Pond 15m, Clinic 50m
		R	Small pond 10m, Settlement 10m and 20m, Pond 5m
1200-1500	L		Pond 5m, Settlement 5m, 10m and 20m
		R	Agricultural Land 10m, Settlement 10m, Madrasha 4m
1500-1800	L		Agricultural Land 20m, Settlement 5m, Eidgah 6m, Small Bazar 5m
		R	Settlement 5m, Small Bazar 6m, Small Canal 5m
1800-2100	L		Agricultural Land 8m, Mirzapur GPS
		R	Agricultural Land 10m, Settlement 10m

2100-2400	L		Agricultural Land 10m, Pond 8m, Mirzapur Highschool 200m
		R	Temple 10m, Settlement 10m
2400-2850	L		Agricultural Land 20m, Settlement 8m, Zia Adorsho Bazar 4m, Cemetry 8m, Mosque 50m
		R	Settlement 10m, Zia Adorsho Bazar 4m, Small pond 5m

(*Data Source: Field Survey, March 2026)

4.0 Environmental and Social Impacts and Proposed Mitigation and Enhancement Measures

4.1 Environmental and Social Impacts for the Implementation of works

The proposed community road improvement in Habiganj District under the RIVER Project aim to rehabilitate and maintain existing rural road infrastructure to improve accessibility, disaster resilience, and socio-economic connectivity within the project influence area. Since the project interventions will mostly take place within the existing right-of-way of community roads, the anticipated environmental and social impacts are expected to be moderate, temporary, and site-specific in nature. However, certain environmental and social risks may arise during the construction and operational phases that require appropriate mitigation and enhancement measures to ensure sustainable project implementation.

Environmental and Social protection and enhancement will be an integral component of the sub-projects. Environmental and Social Mitigation and Enhancement Measures to address potential environmental and community impacts during construction and operation phase. These measures will be implemented in accordance with the Environmental and Social Management Framework (ESMF) of the RIVER Project. Key mitigation measures will include dust suppression through regular water spraying, proper management of construction waste, control of noise during construction activities, and prevention of water pollution from construction materials or machinery. Social mitigation measures will focus on minimizing disruption to local communities living along the road corridors. Construction activities will be carefully scheduled to avoid blocking community access routes for long periods. Temporary access arrangements will be maintained where construction works interfere with local movement. Safety awareness will be promoted among workers and community members to reduce occupational and public health risks. Local labor will be encouraged where possible, which may contribute to temporary employment opportunities for nearby residents. Site specific Environmental Impacts and Mitigation Measures are described in **Table 4.1.**

Table 4.1: Environmental and Social Impacts and Proposed Mitigation and Enhancement Measures for Community Road Improvement in Habiganj District

Sl. No.	Name of Community Road	Environmental and Social Impacts	Proposed Mitigation and Enhancement Measures
1	Ali gang Shimergoun via kholilpur GPS road	• Dust generation from earthworks, material transport, and road improvement may affect nearby settlements, agricultural land, ponds, and roadside ditches located close to the alignment. • Noise from construction machinery and vehicles may disturb nearby residents and community activities. • Temporary disruption of local movement and access for residents and pedestrians during rehabilitation works. • Existing ponds, ditches, and low-lying areas may experience temporary drainage disturbance or waterlogging if not properly managed. • Community and worker safety risks may arise due to construction traffic and equipment movement near settlements and community facilities.	• Apply regular water spraying on exposed surfaces, cover transported materials, control vehicle speed, and maintain machinery to reduce dust emissions. • Restrict noisy works to daytime where feasible and maintain equipment properly. • Maintain temporary access routes, install warning signs and barricades, and inform local residents in advance about construction schedules. • Protect existing drainage paths, ponds, and ditches and ensure uninterrupted water flow. • Provide personal protective equipment (PPE), install safety signage, and manage vehicle movement carefully within work zones.
2	Ratna Bazar-Murad pur Up Office Road Via, Sunampur & Dulal pur	• Dust and air pollution from construction activities may affect nearby agricultural land, ponds, canals, graveyards, mosques, and Eidgah areas. • Noise disturbance from equipment may impact nearby households and community activities. • Temporary disruption of pedestrian and vehicular movement during road and drainage works.	• Conduct regular water spraying, cover materials during transport, and control vehicle speeds near settlements. • Limit high-noise activities to daytime and maintain machinery properly. • Install traffic signs, barricades, and temporary diversions while ensuring pedestrian access. • Rehabilitate and maintain drainage systems, including canals, culverts, and ditches.

Sl. No.	Name of Community Road	Environmental and Social Impacts	Proposed Mitigation and Enhancement Measures
		• Blockage of canals, ditches, and cross-drainage systems may lead to localized waterlogging if not properly managed. • Construction near religious and community locations may cause temporary inconvenience.	• Avoid unnecessary disturbance near religious and community sites and coordinate activities with local stakeholders.
3	Ashera-Raypur Rd	• Noise and vibration from construction machinery may affect nearby houses, mosques, agricultural land, and connecting roads. • Temporary disruption of traffic and pedestrian movement along the corridor during construction. • Minor removal of roadside vegetation and bamboo bushes may occur within the existing right of way. • Risk of soil erosion, slope instability, or damage to adjacent low-lying land and water edges if construction is not properly managed. • Community safety risks due to movement of heavy vehicles near settlements and local access roads. • Temporary disruption to roadside economic activities such as shops and small businesses.	• Restrict construction activities to daytime where feasible and maintain machinery to minimize noise and vibration. • Install warning signs, barricades, and maintain temporary access for pedestrians and vehicles. • Minimize vegetation removal and undertake compensatory plantation where possible. • Use proper compaction, slope protection, and drainage measures to prevent erosion and instability. • Implement phased construction and consult local residents to reduce disruption to access and livelihoods.
4	Shahjibazar-Sadurbazar road to Nurpur UP-Kesobpur Bazar	• Dust from excavation, earthworks, and construction traffic may affect nearby homes, settlements, agricultural land, schools, markets, and roadside areas.	• Apply dust suppression measures such as water spraying, covering materials, and controlling vehicle speeds. • Restrict noisy activities to daytime and maintain equipment properly.

Sl. No.	Name of Community Road	Environmental and Social Impacts	Proposed Mitigation and Enhancement Measures
		• Noise from machinery may disturb residents and community facilities. • Temporary traffic congestion and reduced mobility during road repair and culvert improvement works. • Safety risks for local residents and school children due to movement of construction vehicles and equipment. • Temporary disruption to local businesses and roadside vendors.	• Implement traffic management using signage, flag personnel, barricades, and temporary diversions. • Install safety barriers and ensure safe movement of pedestrians and vehicles. • Maintain access to homes, shops, and local roads and coordinate activities with community representatives.
5	Titukhai-Chandpur-Mirzapur Road	• Dust generation from earthworks, transport, and road improvement may affect nearby settlements, markets, agricultural land, mosques, graveyards, schools, ponds, and households. • Temporary obstruction of pedestrian and local traffic may create inconvenience for residents, school children, and vendors. • Inadequate drainage management may lead to waterlogging due to nearby ponds, agricultural land, and drainage channels. • Construction waste may pollute surrounding land and drainage systems if not properly managed. • Temporary disturbance to local livelihoods including shops, markets, and farming activities.	• Control dust through regular water spraying, covering of materials, and speed management. • Maintain traffic flow through phased construction, temporary routes, and advance notice to communities. • Rehabilitate culverts and maintain proper drainage to ensure uninterrupted water flow. • Dispose of construction waste at designated sites and reuse materials where feasible. • Maintain access to markets and businesses and coordinate with affected people to minimize disruption.

5.0 Environmental and Social Management Plan (ESMP)

5.1 Purpose of the ESMP

The purpose of the Environmental and Social Management Plan (ESMP) for the sub-project "Improvement of Community Infrastructure, Growth Centers, others roads & Connecting Roads" is to provide a structured framework to identify, mitigate, and manage potential environmental and social impacts associated with the design, construction, and operation of the community roads. The ESMP ensures that all project activities comply with national environmental and social regulations as well as the environmental and social standards of the World Bank, promoting sustainable and socially inclusive infrastructure development.

Specifically, the ESMP aims to minimize adverse effects on local communities, settlements, flood shelters, agricultural lands, roadside vegetation, water bodies, and sensitive receptors such as schools and religious institutions. It outlines detailed mitigation measures for construction-related impacts such as dust, noise, traffic disruption, soil erosion, and safety hazards, and includes measures for operational sustainability and long-term maintenance of the roads. Furthermore, the ESMP establishes procedures for stakeholder engagement, grievance redress, occupational health and safety, and monitoring and reporting, ensuring that the project delivers its intended benefit which is enhanced connectivity, safer access to flood shelters, and improved resilience of rural communities while also safeguarding the environment and promoting social well-being.

5.2 Environmental and Social Management Plan (ESMP)

The Environmental and Social Management Plan (ESMP) for the sub-project under the RIVER Project provides a comprehensive framework for the systematic management of potential environmental and social impacts throughout the design, construction, and operational phases of the project. The ESMP is developed to ensure compliance with the national environmental and social regulations of Bangladesh as well as the Environmental and Social Standards (ESS) of the World Bank, thereby promoting sustainable, safe, and socially inclusive implementation of road improvement works.

The ESMP identifies key potential environmental impacts, including dust and air pollution, noise and vibration from construction equipment, soil erosion, sedimentation in nearby water bodies, removal of roadside vegetation, and temporary disruption of natural drainage patterns. It also addresses social impacts such as disturbance to local settlements, access restrictions for pedestrians and vehicles, occupational health and safety risks for workers, and potential conflicts with nearby institutions including schools, mosques, markets, and flood shelters.

To mitigate these impacts, the ESMP proposes detailed measures across multiple categories. Environmental mitigation measures include regular water spraying and dust control, proper

storage and disposal of construction materials and waste, restoration of disturbed areas, erosion control and slope protection, protection of existing trees with compensatory planting where removal is unavoidable, and careful management of drainage systems to prevent waterlogging and contamination. Social mitigation measures include implementing traffic management plans, ensuring safe pedestrian pathways, establishing buffer zones near sensitive receptors such as schools and religious institutions, scheduling construction activities to minimize community disruption, and maintaining clear communication with local residents regarding work schedules and potential impacts.

The ESMP also emphasizes occupational health and safety (OHS), including mandatory use of personal protective equipment (PPE), safety training for all construction personnel, emergency response procedures, and routine site inspections to ensure compliance with safety standards. In addition, it establishes community engagement and Grievance Redress Mechanisms (GRM) to ensure that local stakeholders have avenues to raise concerns, provide feedback, and participate in monitoring the implementation of mitigation measures. The activity wise anticipated environmental and social impacts and corresponding mitigation measures and Site-Specific Impacts and mitigation/management measures have been outlined in **Table 5.1.**

Furthermore, the ESMP outlines a monitoring and reporting framework to track the effectiveness of mitigation measures, identify unforeseen impacts, and facilitate adaptive management. Regular monitoring of air and water quality, noise levels, traffic safety, and compliance with environmental safeguards is recommended, along with periodic reporting to project authorities and relevant regulatory agencies. The plan also includes a schedule for maintenance and operational safeguards post-construction to ensure long-term functionality, safety, and environmental sustainability of the improved road network.

Overall, the ESMP serves as an essential tool to ensure that the sub-project not only enhances community connectivity and access to flood shelters but also minimizes environmental degradation, safeguards community health and safety, and strengthens the resilience of rural populations in Baniachong, Sayestaganj, and Habiganj Sadar Upazilas. By integrating environmental and social considerations into every stage of project implementation, the ESMP ensures that the benefits of improved road infrastructure are maximized while negative impacts are systematically prevented, mitigated, and managed.

Table 5.1: ESMP_ Pre-Construction phase, Construction Phase and Operation Phase

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Loss of land / and other physical assets	• No land acquisition is allowed in or nearby areas of the sub-project, or for any sub-project related activities. Therefore, no mitigation measures are suggested in this respect. • If and whenever any land/physical assets related grievances are raised at any point of the subproject implementation, project GRCs will take due course of actions to resolve the issues or grievances.	PIU	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Loss of livelihood	• Under this subproject, there is no scope of negative impact on the livelihoods of adjacent communities or people. • Contractors will be encouraged to engage local labors (both skilled and unskilled) as priority at their construction works, and women labor would get higher priority in recruitment.	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Stakeholders Engagement	• All of the project stakeholders should be consulted • Separate community level consultation meeting with the potential affected HHs • All the safeguard documents will be disclosed to all relevant stakeholders.	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• People living in nearby communities will be involved with the GRM system and representatively included in the project GRCs.		
Pre-Construction Stage	Loss of right to access	• Project to ensure thorough analysis of alternatives that access enjoyed by the community remains intact. • In case of unavoidable circumstances, alternative access will be provided.	PIU	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Transportation and Storage of Construction materials (disturbance to traffic system and pedestrians, potential accidents to workers/ local people, generating dust and noise)	• Transportation of construction materials to the site will be carried out by covering the materials as a whole. • Store the materials in designated places, with proper fencing and coverings.	Contractor	Environmental Consultant of PIU
Pre-Construction Stage	Sanitation and water supply	• Sanitation facilities (male and female toilets, wash-basins, etc.) for workers and constructor's officials/employees will be provided. • Potable water supply will be ensured for every workers/employees in the site. Water sample will be checked at local DPHE laboratory to ensure the portability, and water should be filtered through appropriate filtering system, before supplying to the consumers.	Contractor	Environmental Consultant of PIU
Pre-	Site Selection for workers	• Workers camp, site office and stack yard should be	Contractor	Environmental

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Construction Stage	camps, stack yards & implementing interventions: Generation of ESHS issues.	located at a site favorable for the workers and proposed by the contractor & approved by the Environmental Specialist of D&SC. • No trees, shrubs will be removed or vegetation stripped without prior permission of the Environmental Consultants. If any tree is required to remove for an unavoidable circumstance, 3 (three) numbers of trees will be planted for each tree removed and budgetary allocation for taking care of those trees for 12 months has to be ensured. • Construction of sanitary latrine with septic tank for both male and female workers and staffs; and ensure regular cleaning of those. • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site pre-approved by Environmental Specialist of D&SC. • Camp and working areas are to be kept clean and tidy at all times. • Stack materials will be covered with tarpaulins/ polythene in the yard and end parts of the reinforced steel bar/ iron rod will be properly		Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		covered with safety caps or clothes/jute sacks, etc. for avoiding any accidental events from those. • Hazardous materials, including oil, paints, etc. will be stored on a bunded area or wooden platform with polythene lying over it. • Proper fencing around the storage area and working site in order to get secured, to minimize the risk of crime and to be safe from access by students, children, animals, etc.		
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage; removal/relocation of utility services	• All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind or surface runoff. • Construction facilities including materials are to be placed at least 10m distance from any water body in order to minimize the impacts on water bodies and natural water flow. • Tubewell location wherever required to install, within the construction site is not near to any kinds of latrine and soaks well which could be contaminated by those. • After completing the development, the site shall be restored as before. • This site is in the local community, so continuous need-based discussion with the local community to avoid any conflicts will be taking place.	PIU & Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• Sub project intervention must avoid natural disturbance to existing slop and natural drainage. • Existing utility services must be relocated or adjusted where they obstruct the works or pose a risk of damage, in close cooperation with the appropriate authority. • The contractor must ensure sound environment for the local residents near the sub project site.		
Construction Activity	Noise from construction works	• Construction activities mostly shall finish at day time within 05:00 PM, and must confirm proper measures for avoiding any disturbance. • All Personal Protective Equipment (PPEs) must be available at sites before starting any kind of construction works. • Noise producing vehicles and equipment will be keep in maintenance regularly. • Since expensive engineering controls (e.g., acoustic curtains, noise barriers, etc.) may not be feasible in terms of availability and scope of the project works, noise reduction muffler or less expensive alternative options will be selected during the construction works.	Contractor	Environmental Consultant of PIU
Construction Activity	Dust	• Acceptable range of emission of CO, particulate matter [SPM (**Suspended particulate matter)**,	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		PM2.5, 10] and Hydrocarbons must be maintained through good construction work practices. • Dust generation must be limited as a result of clearing, leveling and site grading operations with using water florescent manually and through water pipes. • Dust generation due to vehicle movement on connecting road shall be controlled by watering the path at limited level. • Construction materials should be covered properly while carrying in vehicles to the site.		
Construction Activity	Safety Issues	• Unauthorized entry is completely prohibited in construction site and take necessary measures for preventing this problem (e.g., employing guards at site office and stack yards, and maintaining a visitor's log book at entrance) • Before works start Contractor must provide proper training and guidance on health and safety issues to the labors and associated staff. • Records of every training must be kept at site. • All kinds of Child labour are completely prohibited in every site. • Every construction materials storage site will be well fenced by Tin and safety caution tape.	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Construction Activity	Traffic Management	• Because of the sensitivity of the proposed project site in relation to traffic management, contractor must produce a detail Traffic Management Plan (TMP), incorporating all forms of alternative routes, schedule, work plan, emergency arrangement, etc. in the TMP. • Contractors will maintain proper route for traffic management which is to be consulted with and confirmed by the district Executive Engineer. • Local traffic police department should be contacted, if traffic problem becomes more complex.	Contractor	Environmental Consultant of PIU
Construction Activity	Conflicts with existing users due to the scarcity of resource base.	• Water sources (e.g., ground or surface water) for construction works will be determined in consultation with the local DPHE office, considering the availability of nearby resources and technical options, and potential risks of extracting water from the same sources used by other consumer groups especially during the critical period. • Water from any installed tubewell or an existing surface water bodies within the nearby places will be used for construction works, if the available water quality satisfies the required standards for construction works.	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• If ground or surface water is withdrawn for the use of construction works from outside of the other selected places, adequate approvals from the appropriate authority need to be taken before extraction or setting up bore wells. • Any type of consent letter or agreement for withdrawing water from either surface or underground sources will be kept on site. • Local community must be consulted before any construction works start.		
Construction Activity	Increase in road accidents	• Maintain safety measures during the movement of heavy machinery and equipment. • Proper signage to be displayed at major junctions; and road diversions and closures to be informed well in advance to the local community. • Vehicular movement to be controlled near sensitive locations (e.g., schools, colleges, hospitals, etc.) • Local community will be trained up on traffic management and awareness.	Contractor	Environmental Consultant of PIU
Construction Activity	Labor Base Camp: Conflicts with the local residents	• Awareness building session will be undertaken about prevention of child abuse, child marriage, GBV, sexual harassment, trafficking of women and children as well as illegal drug trade. Written records of this awareness building session shall be	Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		kept on site. • Work force should be prohibited from disturbing the flora, fauna including hunting of animals, wildlife hunting, poaching and tree felling. • Adequate facilities ensuring sanitation for labor camps will be put in place. • Treated water will be made available at site for drinking purpose. • Adequate accommodation arrangements for labor forces. • Labor code of conduct is to be disclosed through consultation.		
Construction Activity	Labour related issues and grievances	• A separate grievance mechanism for workers has to be established for the work package. • Complaints box (preferably for anonymous reporting) /grievance register will be provided to each construction sites; and will be checked and redressed in weekly manner. • Appropriate notification or training to the workers about the scope and procedure of the grievance system will be provided at the starting of the work. All new workers recruited at different times/phases will be oriented about the same.		
Construction Activity	Waste Management: Improper management and	Preparation of a waste management plan covering the following aspects:	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	handling of hazardous and non-hazardous waste during construction.	• Waste from the temporary accommodation facilities for labor • Waste from equipment maintenance/vehicles on-site. • The construction debris material generated from the erection of structures and demolition works (wherever applicable), and related construction activities will be collected and stored separately in a stack yard and sold to local recyclers. • Ring slab septic tank will be installed before starting construction works in order to provide a better sanitation facility to the workers and staffs. • Working areas are kept clean and tidy at all times. • Construction site is to be checked for spills of substances i.e. chemical, oil, etc. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site. • Hazardous waste viz. waste oil etc. will be collected and stored in the paved and bounded area and subsequently sold to authorized recyclers. • Refueling areas and other fluid transfer areas will be imperviously paved. • Workers will be trained on the correct transfer and handling of fuels and chemicals and the response		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		to spills (incl. equipment deployment) and the site will be provided with portable spill containment and cleanup equipment. • Applicability of the Hazardous Waste Management Rules.		
Construction Activity	Slipping of soil masses, dust deposition, draining or spillage of chemicals/contaminants, etc. to nearby water bodies	• Slope protection measures (proper compaction, palisading or protection walls, etc.) will be taken before starting work at any sensitive section of the road. • Dust suppression measures and material storage and handling procedure have to be undertaken with proper care and vigilance to avoid or minimize the impacts.	Contractor	Environmental and Social Development Consultant of PIU, PSC
Construction Activity	Health & Safety Risks: • The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, mobile plant and vehicles, and electrical shocks. • Exposure to health	• All construction equipment will be properly inspected timely. • The risk assessment will be prepared and communicated prior to the commencement of work for all types of work activities on site. • Provide walkways that are clearly designated as a walkway; all walkways shall be provided with good conditions underfoot; signposted and with adequate lighting. • Proper Signpost at any slippery areas will be ensured in construction site.	Contractor	Environmental Consultant as well as Social Development and Gender Specialists of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	events during construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis.	• Fire extinguishers will be located at identified fire points around the site. The extinguishers must be appropriate to the nature of the potential fire. • This sub project will have Proper communicative emergency response plan (ERP) with all parties, the ERP to consider such things as specific foreseeable emergency situations, organizational roles and authorities' responsibilities and expertise, emergency response and evacuation procedure and personnel will be trained and drilled to test and ensure the coherence with the plan. • All people of construction site will be concerned about the safety and maintenance of Electrical equipment; works will be carried out on live systems. • Provision to first aid box containing adhesive bandages, antibiotic ointment, antiseptic wipes, aspirin, non-latex gloves, scissors, thermometer, etc. in sub-project sites will be ensured. Proper Emergency evacuation response plan will exist in sub-project area. • All safety equipment will be available in sub-project site (safety, size, power, efficiency, ergonomics, cost, user acceptability etc.), the lowest vibration tools will be provided that are suitable and can do the works. • Awareness training will be given to all personnel involved during the construction phase in order to highlight the heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		stroke, and dehydration. Written records of this awareness training shall be kept on site. • Adequate quantities of drinking water will be available at all Sites, on different locations within the site. • Provision to maintain proper PPE wherever necessary and to ensure that there are satisfactory washing and changing facilities. • Provision to ensure all workers exposed to a risk are aware of the possible dangers and also given thorough training on how to protect themselves and there should be effective supervision to ensure that the correct methods are being used.		
Construction Activity	Pollution of water bodies	• Ensure monitoring of nearby surface and underground water bodies for signs of contamination. Parameters include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results are to be compared with Bangladesh Environmental Quality Standards of DoE. • The earthwork sites where exposed land surface is vulnerable to runoff shall be consolidated and/or covered (e.g., pond, canal, ditch's side will be protected by palisading, etc.) • The material stockpile sites shall be far away from surface water bodies and areas prone to surface	Contractor	Environmental Consultant of PIU/D&SC.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		run-off. Loose materials shall be bagged and covered. • Channels, earth bunds, netting, tarpaulin and or sand bag barriers shall be used on site to manage surface water runoff and minimize erosion. • The overall slope of the work areas and stack yards shall be kept to a minimum to reduce the erosive potential of surface water flows elsewhere. • All precautions to store chemicals/oil/fuel properly so that no chance of spill. • Workers must specify waste dump locations to avoid littering which in turn might negatively affect surface and ground water.		
Construction Activity	Demobilization of structures, facilities and equipment used during the project implementation period (including site clearance after the construction). The impacts are similar to those listed in construction stage: • Pollution from waste materials.	• Provision to proper measures of mitigation and monitoring to minimize or reduce the environmental and social impacts during demobilization, which are anticipated to be similar to those identified for the construction phase. Some of the measures include: (i)remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; (ii) ensure that all affected structures rehabilitated/compensated; (iii) the area that previously housed the construction camp	Contractor	Environmental Consultant of PIU/D&SC, district XEN.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	• Health & Safety risks to workers and local community.	is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. Disposal of faecal sludge from latrines is to be undertaken properly, if management on site becomes problematic; (iv) all imported materials are to be removed and the area shall be re-vegetated/re-grassed as per specification that forms part of this document. • The contractor must arrange the cancellation of all temporary services.		
Construction activity	Odours and pollution caused by leaking latrines and faecal sludge, and solid wastes impacting surrounding water bodies, flora and fauna	• Preventative maintenance schedule should be followed. • Solid organic wastes should be stored in bins and/ or skips and emptied regularly at a designated waste disposal area away from the camp site. If no designated site is available within the reach, a dug-hole at a nearby place can be used with periodic filling with soil layer for preventing pollution and generating nutrient rich compost soil over time.	Contractor	Environmental Consultant of PIU, Union Parishad Member
Pre-Construction and Construction	Rigorous Monitoring and Report Preparation and Submission	• The Contractor shall appoint (i) ES Manager (ii) Env. Officer, (iii) Social Officer (iv) Community Organizer and (v) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		engagement shall be borne from the Contractor's management budget. • Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU.		
Operation & Maintenance	Road Safety. Impacts include: • The increased vehicular movement and speed may trigger road safety issues like traffic accidents. The accidents may also be due to tiredness of drivers. • Widened road, lack of road safety signage or speed-breakers at crossings/strategic locations and sidewalks, and reckless driving may cause road accidents or traffic injuries.	Road safety issues can be minimized in following ways: • By enforcing speed limits and imposing penalties on the traffic violators will ensure the road safety. • Traffic signs will be provided to facilitate road users about speed limits, rest/parking areas, no-horn areas, etc. Warning messages will also be displayed at appropriate locations to aware drivers about likely accidents due to over speeding. • All the lanes, median, sharp bends will be reflectorized to facilitate travelers in the night time.	UE (Upazila Engineer)	District Executive Engineer, LGED
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	• Provision to maintain noise and vibration from the operation and maintenance of machinery and equipment by proper monitoring and measures.	UE	District XEN, LGED

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• Provision to take necessary lighting, caution for the works and necessary maintenance should be done in day light.		

5.3 Monitoring of ES Performance

Monitoring of Environmental and Social (ES) performance is a crucial component of the implementation of community road improvement activities under the RIVER Project to ensure that all environmental and social safeguard measures are effectively applied during construction and operation phases. A systematic monitoring framework to be established to assess compliance with the Environmental and Social Management Plan (ESMP), national environmental regulations of Bangladesh, and the safeguard requirements of the World Bank. The monitoring process will involve regular field inspections, supervision visits, and periodic reporting to evaluate the effectiveness of mitigation measures related to dust suppression, noise control, traffic management, occupational health and safety, waste management, protection of nearby water bodies, and conservation of roadside vegetation. Social aspects such as community safety, access to local settlements and institutions, prevention of labor influx issues, grievance redress mechanisms, and engagement with local stakeholders will also be closely monitored. Monitoring facilitates continuous tracking of compliance, assessment of performance, and early identification of potential environmental and social risks. The monitoring plan clearly specifies the parameters to be observed, along with the frequency, timing, responsible stakeholders, and verification mechanisms for each key environmental and social component. It combines site-level implementation by contractors with supervision from the Project Implementation Unit (PIU) and the Design and Supervision Consultant (D&SC).

Monitoring activities shall adopt both proactive (preventive) approaches such as routine inspections, audits, and stakeholder consultations along with reactive (corrective) measures based on incident reporting, grievance redress mechanisms, and non-compliance findings. The monitoring framework is aligned with national environmental regulations set by the Department of Environment (DoE), the World Bank Environmental and Social Framework (ESF), and the internal Environmental and Social Management Guidelines of the Local Government Engineering Department (LGED).

Table 5.2: Monitoring Framework for achieving overall ES Performance

Sl. No.	ES Aspect / Issue	Monitoring Parameters / Indicators	Frequency / Timing	Responsibility	Means of Verification / Monitoring Method
1.	Air Quality / Dust Emission	Dust generation from earthworks and vehicle movement; effectiveness of water spraying	Weekly during construction	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Site inspection, photographic records
2.	Noise Pollution	Noise disturbance near settlements, schools, and religious institutions	Weekly / During heavy construction	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Field observation, community feedback

Sl. No.	ES Aspect / Issue	Monitoring Parameters / Indicators	Frequency / Timing	Responsibility	Means of Verification / Monitoring Method
3.	Construction Waste Management	Segregation, collection, and proper disposal of construction debris	Weekly	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Site inspection, waste disposal records
4.	Soil Erosion and Land Degradation	Evidence of soil erosion, slope protection measures, roadside stabilization	Monthly and after heavy rainfall	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Field inspection
5.	Drainage and Water Flow	Functionality of roadside drains and culverts; prevention of waterlogging	Monthly	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Field verification
6.	Protection of Surface Water	Prevention of sediment, oil, or construction waste entering ponds, canals, or rivers	Bi-weekly	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Visual inspection, photo documentation
7.	Storage of Construction Materials	Proper storage of sand, soil, bitumen, and aggregates	Weekly	Contractor (Implementation); PIU/D&SC (verification)	Site inspection
8.	Fuel and Chemical Handling	Safe storage and handling of fuel, lubricants, and chemicals	Weekly	Contractor (Implementation); PIU/D&SC (verification)	Inspection checklist
9.	Occupational Health and Safety	Availability and use of PPE (helmet, gloves, boots, reflective jackets)	Weekly	Contractor (Safety Officer); PIU/D&SC (verification)	Safety checklist, field inspection
10.	Worker Safety Training	Records of safety briefings and toolbox meetings	Monthly	Contractor (Safety Officer); PIU/D&SC (verification)	Training records review
11.	Construction Site Safety	Warning signs, barricades, and safe access control at work sites	Weekly	Contractor (Safety Officer); PIU/D&SC (verification)	Field inspection
12.	Traffic Management	Presence of traffic signs, flagmen, and safe vehicle movement	Weekly	Contractor (Implementation); PIU/D&SC (verification)	Observation, traffic control records
13.	Community Health and Safety	Protection of pedestrians and local residents from construction hazards	Weekly	Contractor (Safety Officer); PIU/D&SC (verification)	Community consultation, site inspection

Sl. No.	ES Aspect / Issue	Monitoring Parameters / Indicators	Frequency / Timing	Responsibility	Means of Verification / Monitoring Method
14.	Access to Local Facilities	Uninterrupted access to homes, markets, schools, mosques, and agricultural land	Weekly	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Field observation
15.	Protection of Roadside Vegetation	Preservation of existing roadside trees and vegetation	Monthly	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Field verification
16.	Compensatory Tree Plantation	Plantation of trees where roadside trees are removed	Quarterly	Contractor (Implementation); PIU/D&SC (verification)	Plantation records, site inspection
17.	Borrow Area and Earth Source Management	Proper sourcing of earth materials without damaging agricultural land	Monthly	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Field verification
18.	Labor Management	Absence of child labor and forced labor; compliance with labor laws	Monthly	Contractor (Implementation); PIU/D&SC (verification)	Labor records review
19.	Worker Welfare Facilities	Availability of safe drinking water, sanitation, and rest areas for workers	Monthly	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Site inspection
20.	Gender and Social Inclusion	Participation of local community including women in consultations	Quarterly	Contractor (recording); PIU (review)	Consultation meeting records
21.	Grievance Redress Mechanism (GRM)	Number of grievances received and resolved within specified timeframe	Monthly	Contractor (recording); PIU (review)	GRM register review
22.	Community Consultation	Stakeholder engagement and awareness regarding construction activities	Quarterly	Contractor (recording); PIU (review)	Meeting minutes, attendance records
23.	Cultural and Religious Sites Protection	Protection of nearby mosques, graveyards, temples, or cultural structures	As required	Contractor (Implementation); PIU/D&SC (verification)	Field inspection
24.	Compliance with ESMP	Overall implementation status of mitigation measures described in ESMP	Monthly	Contractor (Implementation); PIU (verification)	Monitoring checklist, compliance report

Sl. No.	ES Aspect / Issue	Monitoring Parameters / Indicators	Frequency / Timing	Responsibility	Means of Verification / Monitoring Method
25.	Environmental and Social Reporting	Preparation and submission of ES monitoring reports	Monthly / Quarterly	Contractor (Implementation); PIU/D&SC (verification)	Monitoring reports

5.3 Capacity Development Measures

Effective management of Environmental, Social, and Gender issues in construction projects requires proactive capacity building for all actors involved including the Implementing Agency, Contractors, and Supervision Consultants. To ensure compliance with environmental and social standards, all project stakeholders must be adequately trained and informed about their responsibilities, mitigation measures, and reporting mechanisms. Capacity-building programs through formal trainings, on-site guidance, tool-box meetings, and awareness sessions help strengthen institutional capacity, improve coordination, and ensure that sustainability and gender equity principles are integrated into project planning, implementation, and monitoring.

The following table outlines the recommended capacity-building measures, target participants, training frequency, and key topics to be covered under an ESG management framework for building and road construction projects.

Table 5.3: Capacity-Building and Training Measures for ES Compliance and Management

Sl. No.	Key Actor / Target Group	Type of Training / Guidance	Objectives	Main Topics to be Covered	Frequency/ Timing	Responsible Entity
1	**LGED / Project Management Unit (PIU)**	Orientation on Environmental and Social Safeguards	To strengthen understanding of E&S policies, legal requirements, and roles in project implementation.	- National environmental & labor laws - World Bank E&S Framework - Grievance Redress Mechanism (GRM) - ESMP implementation & monitoring - Gender Issues in Infrastructure Development Project.	At project start and annually	Environmental & Social Specialists (PIU)/ D&S Consultant
2	**Supervision Consultants**	Training on E&S Supervision and Monitoring	To ensure that consultants effectively monitor contractors' compliance with E&S standards.	- ESMP & site-specific E&S checklists- Waste management & pollution control - Labor & working condition compliance - Occupational Health & Safety (OHS) - Gender-sensitive supervision - Incident reporting & corrective actions.	Before mobilization and quarterly refreshers	PIU with support from E&S Experts

Sl. No.	Key Actor / Target Group	Type of Training / Guidance	Objectives	Main Topics to be Covered	Frequency/ Timing	Responsible Entity
3	**Contractor's Management Staff**	Induction and Periodic E&S Management Training	To ensure site managers and engineers integrate E&S compliance in daily site operations.	- Contractor's ESMP & Method Statements - Environmental and Social Codes of Practices (ESCoPs) - OHS plan implementation - Labor rights and grievance mechanism - Community health & safety - Gender-based violence (GBV) and SEA/SH prevention	Prior to construction & bi-annually, if deemed required.	Supervision Consultant / PIU E&S Team
4	**Contractor's Workforce (Skilled & Unskilled Workers)**	Toolbox Meetings/ Awareness Sessions	To build awareness and behavioral change for safe, responsible, and inclusive site practices.	- Worksite safety protocols (PPE use, accident prevention) - Environmental cleanliness & waste segregation - Respectful workplace behavior & anti-harassment - Gender equality & inclusion - HIV/AIDS and communicable disease awareness	Weekly or bi-weekly at site	Contractor's E&S Officer / OHS Supervisor
5	**Community Representatives / Local Stakeholders**	Information & Awareness Session	To enhance local understanding of project impacts, grievance redress, and gender inclusion measures.	- Project scope & benefits - Potential impacts & mitigation measures - Community safety measures - GRM process - Gender & inclusion awareness	During pre-construction & as needed	PIU & Contractor's Community Engagement Officer
6	**Gender Focal Points (PIU, Contractor, Consultant)**	Gender and Social Inclusion (GESI) Training	To promote integration of gender considerations into project implementation.	- Gender Action Plan implementation - GBV/SEA/SH mitigation & referral pathways - Inclusive employment & equal pay - Women's participation in decision-making	At project start & mid-term	PIU Gender Specialist / External Expert

5.5 Tree Plantation Plan

The Government of Bangladesh has long promoted roadside plantation to improve environmental quality, restore ecological balance, and support rural livelihoods through timber, fuel, and other biological resources. Trees absorb carbon dioxide and release oxygen, reduce dust pollution, and provide habitat and economic value. To compensate for project-related tree loss, the Forest Department requires plantation at a 3:1 ratio (three trees planted for every tree felled).

Plantation will be carried out along roadside slopes, embankments, and other available spaces within and beyond the right-of-way, including suitable Upazila-owned land. Native fruit-bearing, flowering, medicinal, and ornamental species will be prioritized, selected in consultation with the Forest Department based on lost vegetation. Saplings (minimum 1 m height) will be protected and maintained through the defect liability period.

The initiative aims to restore biodiversity, enhance greenery, prevent erosion, improve aesthetics, and ensure long-term environmental sustainability while supporting local employment. However, a generic list of species to be used for the plantation is given below in Table 5, and it is to be noted that the tree species should be native to the project location.

According to the prevailing practice in Bangladesh, the FD has recommended to plant minimum three trees for each tree cut for the implementation of the proposed project.

Under the proposed tree plantation plan:

- Timber tree species will cover 40% of the total area,
- Fruit tree species will cover 30% of the total area,
- Medicinal tree species will cover 20% of the total area and
- Fuel tree species will cover the rest 10% of the total area.

Apart from roadsides, other places for planting trees shall be proposed at mosques, temples, madrasas, schools, colleges etc. Spacing between each plant shall be calculated according to the available space within the ROW. The tree plantation shall follow the following SOPs provided in **Table 5.4.**

Table 5.4: Standard of Procedures (SOPs) for Tree Plantation

Plant Selection / Height and Spacing	Planting and Fencing Details	Maintenance
• Most types of trees average height should be more than 1 meter	Preparation of plantation pits will involve excavation of pits measuring 600 mm × 600 mm × 450 mm. The excavated soil will be	• Watering: needs two times in a day; Prefer especially rainy

Plant Selection / Height and Spacing	Planting and Fencing Details	Maintenance
which equals more than 3ft. at the time of planting; • As all tree heights are not same, at the time of some specific tree plantation Upazila and Contractor should communicate with Consultant Team; • Tree plantation spacing should be 3m c/c from one tree to another tree	mixed with loamy silty soil and cow dung to create suitable planting media. Saplings will then be planted and securely supported using 1800 mm long Borrak bamboo stakes, tied with jute rope, including the provision of necessary tools and planting materials, all in accordance with the instructions of the E-I-C. In addition, protective tree guards will be provided using high-quality Muli bamboo, measuring approximately 1200 mm in height and 500 mm in diameter. The guards will be constructed using 2 mm thick bamboo splits arranged in a grid pattern with 75 mm × 75 mm square openings, reinforced with additional bamboo splits on both sides and secured with G.I. wire. Each tree guard will be firmly supported by three Borrak bamboo posts of 1800 mm length (63 mm diameter), with at least 600 mm embedded into the ground through proper excavation and backfilling. All works, including supply, preparation, installation, and finishing, will be completed as per the direction of the E-I-C.	season for tree plantation if it is in other season then proper watering is needed; • Needs weed out grass and other unnecessary vegetation • Need regular monitoring by Upazila

5.4 Cost of Environmental and Social Enhancement Works in BOQ

The estimated cost of environmental and social enhancement works has been incorporated into the Bill of Quantities (BOQ) for the sub-project covering five identified community roads across Baniachong, Sayestaganj, and Habiganj Sadar Upazilas. The detailed road wise estimate, with tentative cost for implementing the ESMP, is given in annexure 1. These costs are specifically allocated to implement mitigation measures and safeguard activities that address environmental and social risks during construction and operation phases. Key components included in the BOQ for ES enhancement works comprise dust suppression through regular water spraying,

The BOQ also includes provisions for occupational health and safety (OHS) equipment for workers PPE, First Aid Box, Labor shed, Environmental management, drinking water facility with water tests, Temporary latrine for both male and female as well as waste disposal systems has been accounted for. Ensuring sustainable labor performance in regards to environmental and social

considerations motivational training has been taken into account. By integrating these costs into the project BOQ, the sub-project ensures that environmental and social safeguards are systematically implemented without compromising project timelines or quality, while promoting sustainable, safe, and resilient road infrastructure that benefits local communities and maintains safe access to flood shelters.

6.0 PUBLIC CONSULTATION MEETING

6.1 Stakeholder Engagement

Stakeholder engagement is a critical component for ensuring that the perspectives, concerns, and suggestions of affected communities and relevant stakeholders are incorporated into project planning and implementation, a comprehensive series of stakeholder engagement and site-specific consultation meetings were conducted for all proposed shelter sites. These meetings were held from March 25-30, 2026. Public consultation meetings were conducted alongside covering of the five (5) identified community roads. Refer to **Annexure 2** for details of the attendance of the meeting. Participants included local residents, community leaders, school authorities, representatives of religious institutions, flood shelter managers, and local government officials. During these consultations, stakeholders were informed about the objectives, scope, and expected benefits of the road improvement works, including enhanced connectivity to flood shelters, improved mobility, and disaster preparedness. Discussions focused on potential environmental and social impacts such as temporary disruption to access, noise, dust, removal of roadside vegetation, and traffic safety during construction. Stakeholders were encouraged to provide feedback on site-specific concerns and suggest measures to minimize negative impacts.

Key outcomes from these consultations included requests for proper traffic management near schools and marketplaces, adequate drainage improvements to prevent waterlogging, compensation or replanting for affected trees, and timely communication regarding construction schedules. The feedback gathered has been integrated into the Environmental and Social Management Plan (ESMP) to ensure that mitigation measures are responsive to local needs, enhance community safety, and promote transparency and participation throughout the project cycle.

6.2 Methodology

Public consultation meetings were designed to ensure inclusive, transparent, and participatory engagement with local stakeholders. Site-specific consultation meetings were systematically conducted at all proposed flood shelter locations across Rangpur District to ensure inclusive participation and transparent stakeholder engagement in accordance with the Environmental and Social Framework (ESF) prescribed ES Assessment checklist and the project's safeguard

requirements. Prior to the consultations, stakeholders that include local residents, community leaders, school authorities, religious institution representatives, and local government officials, bazar management committee were informed about the purpose, scope, and potential impacts of the proposed road improvements. Meetings were conducted at accessible community locations, such as schools, union parishad offices, and community centers, to maximize participation. During the sessions, project plans and environmental and social considerations were presented using simple visual aids and local language explanations to facilitate understanding. Stakeholders were encouraged to express concerns, provide suggestions, and prioritize site-specific issues, particularly regarding traffic safety, drainage, tree protection, access to flood shelters, and construction-related disturbances. The feedback collected through these consultations was systematically documented, analyzed, and incorporated into the Environmental and Social Management Plan (ESMP) and project design to ensure that mitigation measures are practical, locally relevant, and responsive to the needs and expectations of the affected communities.

This consultative process played a critical role in identifying location-specific issues, such as access constraints, local waterlogging, land use sensitivity, or community preferences, and helped enhance project acceptance and ownership at the grassroots level. Refer to **Figure 6.1** for selected photographs of the participatory public consultation held at the sub-project sites and **Table 6.1** refers to Consultation meeting participants' summary for the sub-project.

Table 6.1: Consultation Meetings Summary

Sl. No.	*Name of Community Road*	*Date DD-MM-YYYY*	*Venue*	*Main Participant Groups*	*No. of Participants*
1.	Ali gang Shimergoun via kholilpur GPS road	26.03.2026	In Ali gang Bazar	The local individuals, elites, chairman and/or member of respective Union Parishad, farmer, businessmen, religious leaders, women, fishermen etc.	25
2.	Ratna Bazar-Murad pur Up Office Road Via, Sunampur & Dulal pur	30.03.2026	In Ratna Bazar		16
3.	Ashera-Raypur Rd	27.03.2026	In Rajpur Bazar		16
4.	Shahjibazar-Sadurbazar road to Nurpur UP-Kesobpur Bazar	27.03.2026	In Kesobpur Bazar		18
5.	Titukhai-Chandpur-Mirzapur Road	25.03.2026	In Alom Bazar		16

Figure 6.1: Public Consultation through FGD's and KII alongside the proposed road

6.3 Issues and Recommendations raised by the Participants in regards to component interventions

During the public consultation meetings conducted in the project influence areas of the proposed community road sub-projects in Habiganj District, local community members, representatives of local government institutions, teachers, farmers, and other stakeholders actively shared their views regarding the planned interventions under the project. Participants highlighted several key issues including poor road conditions during the rainy season, inadequate drainage facilities causing waterlogging, damaged culverts restricting natural water flow, and erosion of road embankments in certain vulnerable sections. Community members also expressed concerns about temporary disturbances during construction such as dust, noise, traffic obstruction, and safety risks for school children and pedestrians.

In response to these concerns, participants recommended ensuring proper rehabilitation of existing culverts and cross drains, construction of protective structures where erosion occurs, implementation of effective dust and noise control measures during construction, and installation of road safety signs near schools, markets, and densely populated areas. They also suggested maintaining uninterrupted access for local residents and agricultural transport during construction activities and giving priority to local labor employment where possible. Based on these discussions, participants recommended that the project should ensure proper rehabilitation and installation of culverts and cross-drainage structures to facilitate natural water flow and prevent water stagnation. They also suggested strengthening road embankments and constructing protection walls or palisading structures at vulnerable locations to reduce erosion and structural damage. Community members emphasized the need for road safety measures such as warning signs, speed breakers near educational institutions, and improved visibility at

road intersections. In addition, participants recommended minimizing construction disturbances, controlling dust and noise during construction activities, and ensuring that local access roads remain open during the implementation period. The issues and recommendations collected during these consultations have been summarized and documented in **Table 6.2**, which will guide the integration of appropriate environmental, social, and safety mitigation measures during project implementation.

Table 6.2: Issues and Recommendations raised by the Participants

Sl. No.	Name of community roads	Date and Site of Consultation	Issues raised and discussed	Recommendations and Comments
1.	Ali gang Shimergoun via kholilpur GPS road	2.03.2026 and In Alipur Mahatabpur	• The existing road condition is poor, becoming muddy and difficult to use during the rainy season. • Certain sections remain waterlogged due to inadequate drainage and low elevation. • Reliable access to flood shelters during emergencies is currently insufficient. • Improper disposal of construction waste may negatively affect nearby land and water bodies. • Agricultural lands and irrigation systems may be impacted. • There is a need to increase community awareness regarding project activities and safety.	• Upgrade the road surface and strengthen the base to ensure year-round usability. • Elevate low-lying sections and install proper side drains and cross-drainage structures. • Ensure continuous connectivity to flood shelters in the design. • Install traffic safety signs, speed control measures, and pedestrian facilities near settlements and schools. • Conduct awareness programs and maintain communication with local stakeholders. • Encourage the employment of local labor during construction.
2.	Ratna Bazar-Murad pur Up Office Road Via , Sunampur & Dulal pur	26.03.2026 and In Tangirhat GPS	• Dust generated during construction may affect nearby homes, schools, and markets. • Noise from construction activities may disturb nearby residential and institutional areas. • Traffic congestion and safety concerns may arise during construction. • Possible removal of roadside trees due to widening activities.	• Implement dust control measures such as water spraying and proper handling of materials. • Limit construction during sensitive periods and apply noise reduction measures. • Prepare and implement a traffic management plan with signs, barriers, and alternative routes. • Minimize tree removal and conduct compensatory plantation where necessary.

Sl. No.	Name of community roads	Date and Site of Consultation	Issues raised and discussed	Recommendations and Comments
			• Temporary disruption to access for households, shops, and agricultural lands. • Need for reliable access to flood shelters during emergencies. • Risk of erosion and damage to road shoulders during heavy rainfall.	• Ensure continued access for local communities and provide advance notice of construction activities. • Maintain connectivity to flood shelters. • Strengthen road shoulders and apply erosion protection measures. • Ensure proper drainage design and prevent blockage of irrigation channels.
3.	Ashera-Raypur Rd	25.03.2026 and In Chanpur Bazar	• Waterlogging occurs in several low-lying sections. • Narrow road width restricts two-way traffic movement. • Dust during construction may affect nearby residences and businesses. • Farmers rely on roadside access for transporting agricultural goods. • Some houses are located very close to the road alignment. • Accessibility to flood shelters is important during emergencies. • Community members requested road safety signage.	• Improve road pavement and compaction to ensure all-weather usability. • Construct adequate drainage systems and culverts to prevent waterlogging. • Consider minor widening within the available right of way to improve traffic flow. • Apply dust control measures through proper construction management. • Install traffic control measures, warning signs, and temporary safety barriers. • Ensure that access to agricultural land and transport routes remains uninterrupted.
4.	Shahjibazar-Sadurbazar road to Nurpur UP-Kesobpur Bazar	27.03.2026 and In Dhariapur Bazar	• Some sections of the road are too narrow for safe two-way traffic. • Dust during construction may affect nearby homes and shops. • Movement of construction vehicles may pose risks to pedestrians and school children.	• Consider minor widening within the right of way to improve safety and traffic flow. • Implement dust suppression measures and proper construction practices. • Install traffic control measures, warning signs, and temporary barriers.

Sl. No.	Name of community roads	Date and Site of Consultation	Issues raised and discussed	Recommendations and Comments
			• Roadside trees provide environmental and social benefits. • Farmers depend on road access for transporting agricultural produce. • Some houses are located very close to the road. • Improper disposal of construction waste may damage agricultural land. • Community members emphasized the need for safety signage.	• Ensure safe working distances and minimize disruption to local residents. • Maintain access to flood shelters as a priority. • Schedule construction during daytime and maintain equipment to reduce noise. • Dispose of waste materials properly at designated sites. • Install road safety signs and markings near settlements and intersections.
5.	Titukhai-Chandpur-Mirzapur Road	26.03.2026 and In Sai jura Bazar	• Waterlogging occurs in low-lying sections during the monsoon season. • Construction activities may pose risks to school students and pedestrians. • Dust generation may affect nearby households and shops. • Noise from machinery may disturb nearby residents and institutions. • Some roadside trees may need to be removed. • Temporary disruption to transportation and market access may occur.	• Develop proper drainage systems, including side drains and culverts, to prevent waterlogging. • Implement traffic safety measures such as signage, speed control, and safe pedestrian pathways. • Prepare a temporary traffic management plan to maintain access to local markets. • Install road safety signage, speed breakers, and road markings near market areas.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the environmental and social assessment conducted for Community Roads at Habiganj District under the RIVER Project, it can be concluded that the proposed improvement of five (5) community roads across Baniachong Upazila, Sayestaganj Upazila, and Habiganj Sadar Upazila in Habiganj District is environmentally and socially feasible, provided that the proposed mitigation and management measures are properly implemented. The improvement of this community roads will significantly enhance rural connectivity, improve year-round accessibility, and ensure safe and reliable access to nearby flood shelters, which is crucial during flood emergencies and other natural disasters. The project is expected to bring considerable socio-economic benefits to the local population by facilitating access to markets, schools, health facilities, and other essential services, while also supporting the transportation of agricultural products and strengthening local economic activities.

The assessment indicates that most of the proposed road improvement works will be carried out within the existing Right of Way (ROW), which minimizes the need for land acquisition and significantly reduces the risk of physical displacement or resettlement. However, some minor environmental and social impacts may arise during the construction phase, including temporary dust and noise pollution, disruption of local traffic and pedestrian movement, temporary obstruction of drainage channels, and short-term access limitations for nearby settlements, agricultural lands, and community institutions. In addition, occupational health and safety risks for construction workers and safety concerns for pedestrians, particularly near schools, markets, and flood shelters, may occur if adequate safety measures are not implemented.

To address these potential impacts, the Environmental and Social Management Plan (ESMP) has been prepared as an integral component of this report. The ESMP outlines practical mitigation and enhancement measures such as dust suppression through regular water spraying, proper management and disposal of construction waste, installation of adequate drainage structures to prevent waterlogging, slope stabilization to reduce erosion, and compensatory tree plantation for any unavoidable vegetation removal. Traffic management measures, including warning signs, barricades, and speed control near sensitive locations, should be implemented to ensure public safety during construction.

In addition, strict compliance with occupational health and safety (OHS) standards should be ensured at all construction sites. Contractors should provide appropriate personal protective equipment (PPE), conduct regular safety training for workers, and implement emergency response procedures to minimize workplace accidents. Environmental monitoring should also be conducted periodically to ensure that construction activities remain within acceptable environmental limits for air quality, noise levels, and waste management.

Stakeholder consultations conducted in the project areas indicate strong community support for the proposed road improvements, particularly due to the anticipated benefits in terms of improved mobility, enhanced disaster preparedness, and better access to essential services. Community members emphasized the importance of proper drainage systems, road safety measures, protection of roadside vegetation, and regular maintenance after completion of the works. These concerns have been incorporated into the ESMP to ensure that the project remains responsive to the needs and expectations of local stakeholders.

In conclusion, the improvement of community infrastructure connecting roads under the RIVER Project in Habiganj District represents a positive intervention that will contribute to sustainable rural infrastructure development and increased resilience of flood-prone communities. With the effective implementation of the recommended environmental and social mitigation measures, continuous monitoring, and active stakeholder engagement, the project will minimize potential adverse impacts while maximizing long-term benefits for the communities in Baniachong, Sayestaganj, and Habiganj Sadar Upazilas. It is therefore recommended that the project proceed with implementation while ensuring strict adherence to the Environmental and Social Management Plan (ESMP) and relevant regulatory and institutional requirements.

ANNEXURE 1:

ROAD WISE ENVIRONMENTAL AND SOCIAL FINDINGS UNDER HABIGANJ DISTRICT

ANNEXURE 1: ROAD WISE ENVIRONMENTAL AND SOCIAL FINDINGS UNDER HABIGANJ DISTRICT

Name of Sub-Project: Improvement of Community Road for **Ali gang Shimergoun via kholilpur GPS road, ID: 636445085**
Implementing Agency/Agencies: Local Government Engineering Department (LGED)

District: Habiganj **Upazila:** Habiganj Sadar **Union:** Fukra, Tegoria

Name of Community/Local Area: Shicanddarpur, Abdullahpur, Shimergaon.

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The proposed sub-project involves the improvement of the Ali Gang–Shimergoun via Kholilpur GPS Road, which consists of both damaged bituminous and unpaved sections. The existing pavement includes a damaged bituminous portion from chainage 0+000 to 0+600 and an unpaved section from 0+600 to 2+800. The proposed intervention includes RCC works along the entire stretch from 0+000 to 2+800 to enhance structural strength, durability, and all-weather accessibility. Existing structures along the road include a bridge measuring 2.98 m by 76.5 m located between chainages 0+164 and 0+240.5, as well as culverts at chainages 0+844 m measuring 3.1 m by 5.2 m and 2+385 m measuring 2.9 m by 3 m. Additional culverts include one 3-vent culvert measuring 4 m by 4 m at chainage 0+833, one single-vent culvert measuring 3 m by 3 m at chainage 1+624, and one 2-vent culvert measuring 3.5 m by 4 m at chainage 2+381. Existing palisading works are present at 0+113 to 0+158 on the left side and 0+140 to 0+158 on the right side, while extensive palisading and CC block works are proposed at multiple locations, including 0+296 to 0+840 on the left side, 1+060 to 1+149 on the left side, 1+695 to 1+849 on the right side, 1+911 to 1+960 on the right side, 2+272 to 2+381 on the left side, 2+417 to 2+443 on the right side, and 2+612 to 2+632 on the left side. These interventions will improve drainage, embankment protection, and overall road resilience. No safeguard features were observed on site. The project footprint will remain largely within the existing road alignment in order to minimize potential environmental and social impacts. Appropriate road safety measures and Environmental and Social Mitigation measures have been incorporated into the project design and cost estimates to ensure the safety, sustainability, and resilience of the sub-project.

Estimated footprint / land area for this sub-project is 8,960 sqm.

Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 00m to 2800m. Detail Environmental features within 100m of the both sides from the centre line were collected @300m longitudinal intervals. The findings of the survey for the aforementioned road can be seen in the table below:

Table: Detailed Chainage length of the Sub-Project

Chainage	(Left/Right)		Environmental and Social Impact
00-300	L		Aligong Bazar 2m, Mosque 2m, River, 15m, Settlement 30m
		R	Bazar 2m, River 20m, Settlement 40m
300-600	L		River 7m, Settlement 200m
		R	Settlement 20m, Agricultural Land 10m
600-900	L		Settlement 200m, Agricultural Land 100m, River 6m
		R	Settlement 20m, Agricultural Land 10m, Abdullahpur GPS (500m)
900-1200	L		Settlement 300m, Agricultural Land 200m, River 20m, Park 500m
		R	Settlement 30m, Agricultural land and Ditch 100m
1200-1500	L		River 50m, Settlement 3m, Community Clinic 8m
		R	Settlement 20m, Agricultural land and Ditch 100m, Fish Pond 5m
1500-1800	L		Settlement 20m, River 300m, Small pond 5m
		R	Agricultural land and Ditch 100m, Mosque and Madrasha 4m
1800-2100	L		Settlement 30m, River 250m, Sayedabad Old GPS 3m, Pond 3m
		R	Agricultural Land and Haor 50m, Sayedabad New GPS 4m, Small pond 3m
2100-2400	L		Small pond 15m, River 150m, Agricultural Land 200m, Canal 130m
		R	Settlement 4m, Agricultural Land and Haor 100m
2400-2800	L		Agricultural Land 15m, Settlement 250m, Small pond 2m, Mosque 3m, Small pond 2.5m
		R	Settlement 4m, Agricultural Land and Haor 150m, Small pond 3m

Starting Point of Ali gang Shimergoun via kholilpur GPS road

Overall Comments

D&SC conducted consultation meeting with community regarding the sub-project activities. Local people of the subproject area are very much optimistic about the success of the project and are also eager to participate in the project activities. The local individuals were participated in participatory public consultation meeting. Local communities have no objection to construction this sub-project. The community also appreciated the initiative for having easily accessible and passive their emergency situation. The proposed sub-project is not located within any remarkable environmentally sensitive area and will not cause any severe effect to the environmental setting of the area thus not going to create intimidation to important environmental features. No drainage congestion/water logging have been observed in the road area. But, some local trees like betel nut, rain tree etc., or additional vegetation may need to clear out due to construction activities, with appropriate offsetting measures to be taken. No agricultural productive soil will be used for the purpose. Earth will be compacted for stabilization. The inputs will be mainly at construction phase and limited within project boundary. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

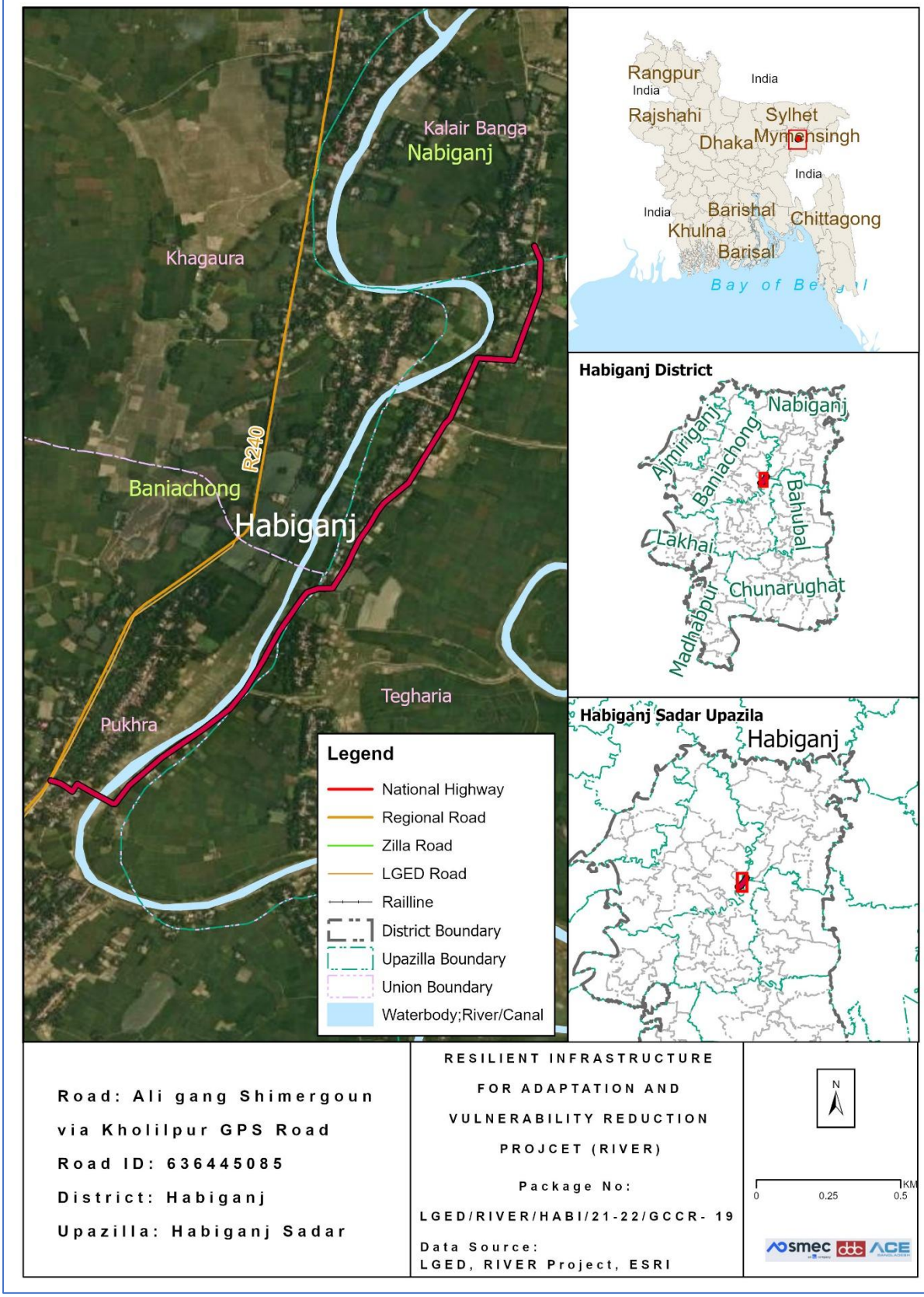
It has been revealed that this project's scope of works does not intend to overtake their area of lodgment and funding entity has no intention to do so. Moreover, other issue has also been brought to their attention that drainage system and cross drains, culverts have also been included into the evaluation of this project since runoff from higher grounds are also a concerning matter during rainy season. The proposed Sub-project area for the construction included flat areas and moderate hillock village road is not located within any identified environmentally sensitive area, and therefore, does not seem to cause any adverse impact on the important environmental features. No significant impact is expected on the ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects.

Types of waste to be generated during construction and operation phase:

During construction period solid waste will be generated due to construction activities. The types of wastes are brick pit, unused sand, wood, gravels, bitumen etc. Negligible amount of plastic, fuel etc. in equipment yards. Human wastes might be deposited in labor camp.

Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including elephant migration routes and remaining forests:

No historical or archaeological sites were identified within the direct influence area of the proposed sub-project. The alignment passes through a mixed landscape of settlements, agricultural land, water bodies, and community infrastructure. From Ch. 0+000 to 0+300, the left side includes Aligonj Bazar and a mosque within 2 m, a river at 15 m, and settlements at 30 m, while the right side includes a bazar at 2 m, a river at 20 m, and settlements at 40 m. Between Ch. 0+300 and 0+600, the left side includes a river at 7 m and settlements at 200 m, while the right side includes settlements at 20 m and agricultural land at 10 m. From Ch. 0+600 to 0+900, settlements and agricultural land are present along with a river at 6 m on the left, and settlements, agricultural land, and Abdullahpur GPS at approximately 500 m on the right. Between Ch. 0+900 and 1+200, the left side includes settlements, agricultural land, a river at 20 m, and a park at 500 m, while the right side includes settlements and agricultural land with ditches. From Ch. 1+200 to 1+500, a river at 50 m, settlements at 3 m, and a community clinic at 8 m are located on the left, while the right side includes settlements, agricultural land, ditches, and a fish pond at 5 m. From Ch. 1+500 to 1+800, settlements, a river at 300 m, and small ponds at 5 m are present on the left, while the right side includes agricultural land, ditches, and a mosque and madrasha at 4 m. Between Ch. 1+800 and 2+100, settlements, a river at 250 m, Sayedabad Old GPS at 3 m, and a pond at 3 m are located on the left, while the right side includes agricultural land, haor areas, Sayedabad New GPS at 4 m, and small ponds. From Ch. 2+100 to 2+400, the left side includes ponds, a river, agricultural land, and a canal, while the right side includes settlements and agricultural land with haor areas. Finally, from Ch. 2+400 to 2+800, agricultural land, settlements, ponds, and a mosque at 3 m are located on the left, while the right side includes settlements, agricultural land, and small ponds. These features represent important environmental, social, and community assets. However, as the sub-project activities will be confined within the existing alignment, no significant impacts are anticipated.



Location Map of the proposed Community Road

Completed environmental and social screening forms are given below:

Section A: Sub-Project Overview

Description of sub-project/component interventions:

The sub-project is classified as a **union road**. Based on the field survey, this sub-project involves the rehabilitation of damaged sections through **Reinforced Cement Concrete (RCC).** According to the project design, the road will be upgraded with **Reinforced Cement Concrete (RCC)** along the entire alignment from **Chainage 0 0m to Chainage 2800 m.**

Sub-project Location:

Important Features	
ID	636445085
District	Habiganj
Upazila	Habiganj Sadar
Union	Fukra, Tegoria
WARD	
Total Chainage	2800m
Proposed Chainage	2800m
Road Type	Union Road
Proposed Intervention Type	Reinforced Cement Concrete (RCC)
Road Starting Point Coordinates	Latitude: 24.43861111 N Longitude: 91.45083333 E
Road Ending Point Coordinates	Latitude: 24.45545556 N Longitude: 91.46608611 E

Land ownership

Land is owned by Government.

Expected construction period: 12 (twelve months approx.)

Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive environmental areas such as elephant corridors, water bodies, etc. and historical or socio cultural assets): Please also explain any analysis on alternative location was conducted:

i) The proposed Sub-project is located within Shicanddarpur, Abdullahpur, and Shimergaon villages
ii) No historical sites were found
iii) Not required to relocate local community.
iv) Some trees, vegetation and livelihood will be affected.
v) Very low chance of loss of agricultural land.
vi) Some Household Boundary made of bamboo and tin may need adjustments.

Section B: Environmental and Social Screening

***B.1*: Environmental and Social feature of sub-project location**

Description of cultural properties (if applicable, including distance from site):

Sensitive environmental, cultural, archaeological, religious sites near (within the catchment area) of site including elephant migration routes and remaining forests:

Several environmentally and socially sensitive establishments, including educational and religious institutions, are located within approximately 1 km of the project area. From Ch. 0+000 to 0+300, the left side includes Aligonj Bazar and a mosque within 2 m, a river at 15 m, and settlements at 30 m, while the right side includes a bazar at 2 m, a river at 20 m, and settlements at 40 m. Between Ch. 0+300 and 0+600, the left side includes a river at 7 m and settlements at 200 m, while the right side includes settlements at 20 m and agricultural land at 10 m. From Ch. 0+600 to 0+900, settlements and agricultural land are present along with a river at 6 m on the left, and settlements, agricultural land, and Abdullahpur GPS at approximately 500 m on the right. Between Ch. 0+900 and 1+200, the left side includes settlements, agricultural land, a river at 20 m, and a park at 500 m, while the right side includes settlements and agricultural land with ditches. From Ch. 1+200 to 1+500, a river at 50 m, settlements at 3 m, and a community clinic at 8 m are located on the left, while the right side includes settlements, agricultural land, ditches, and a fish pond at 5 m. From Ch. 1+500 to 1+800, settlements, a river at 300 m, and small ponds at 5 m are present on the left, while the right side includes agricultural land, ditches, and a mosque and madrasha at 4 m. Between Ch. 1+800 and 2+100, settlements, a river at 250 m, Sayedabad Old GPS at 3 m, and a pond at 3 m are located on the left, while the right side includes agricultural land, haor areas, Sayedabad New GPS at 4 m, and small ponds. From Ch. 2+100 to 2+400, the left side includes ponds, a river, agricultural land, and a canal, while the right side includes settlements and agricultural land with haor areas. Finally, from Ch. 2+400 to 2+800, agricultural land, settlements, ponds, and a mosque at 3 m are located on the left, while the right side includes settlements, agricultural land, and small ponds. These features represent important environmental, social, and community assets. However, as the sub-project activities will be confined within the existing alignment, no significant impacts are anticipated.

Location of environmental and Social important and sensitive areas:

There are no environmentally important or sensitive areas found in the areas, except some matured vegetation around the site. Several mosques, school and human settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary and necessary preventive and mitigation measures will be followed during the entire construction period.

Baseline air quality and noise levels:

Dust:

Ambient air quality data for the project area was not readily available; however, the overall air quality appears to be good due to the rural environment and the presence of surrounding vegetation and agricultural land. A small amount of dust is generated by the

movement of vehicles such as motorcycles, auto-rickshaws, tempos, trolleys, van-garis, and bicycles along the existing road surface, which contributes slightly to local air pollution.
Construction activities during the dry season and the transportation of large quantities of construction materials may create additional dust and increase the concentration of vehicle-related pollutants. This may temporarily affect people who live and work near the project site. However, these impacts are expected to be negative but short-term, site-specific within a relatively small area, and reversible or preventable through appropriate mitigation measures**.**

Noise:
The existing noise level in the project area is generally low. Noise mainly originates from the daily activities and movement of local residents and vehicles. During the construction period, noise levels may temporarily increase due to the operation and transportation of construction equipment and materials. However, these impacts will **be** temporary and limited to the construction period.

Baseline soil quality:
The sub-project area in Habiganj District is situated within the north-eastern floodplain zone of Bangladesh, where soil characteristics differ from the northern districts. The area is predominantly underlain by recent alluvial deposits associated with the Kushiara River and its tributaries. The soils are generally silty clay to clay in texture, with localized occurrences of silty loam in relatively elevated areas. These soils are seasonally influenced by flooding and prolonged water retention, resulting in moderate to high moisture content throughout much of the year. Due to their fine texture and water-holding capacity, the soils are suitable for paddy cultivation, which is the dominant agricultural practice in the region. In low-lying areas, particularly near haors and beels, the soils remain saturated for extended periods during the monsoon season, further shaping land use patterns and crop selection.

Baseline surface water and groundwater quality (FE, TDS, fecal coliform, pH):
Groundwater is the main source of potable water in the sub-project area of Habiganj District. People in the area primarily depend on shallow and intermediate-depth tube wells for their daily domestic water needs. Due to the floodplain and haor-based hydrogeological setting, the groundwater table generally remains at a relatively shallow depth, typically ranging from approximately 80 to 180 feet below ground level, with noticeable seasonal variation between monsoon and dry periods. Groundwater quality assessments indicate the presence of elevated iron concentrations in many tube wells, which may cause aesthetic issues such as discoloration, metallic taste, and staining if consumed without treatment. However, arsenic contamination in this region is generally low to negligible compared to other parts of Bangladesh. Therefore, appropriate public health measures, including installation of iron removal plants, periodic water quality testing, and community awareness programs, are essential to ensure safe drinking water. In some locations, deeper tube wells tapping relatively stable aquifers are used for drinking purposes to obtain comparatively better water quality.

Groundwater quality: pH-6.20 to 7.85, DO-3.10 to 6.90 mg/l, TDS-60.00 to 280 mg/l, EC-80 to 620 µS/cm, Fe-0.8 to 5.5 mg/l and As-trace to Nil (Field Study Report, January 2026).
Status of wildlife movement: The sub-project area in Habiganj District is characterized by a rich wetland-dependent biodiversity typical of the haor basin ecosystem. The area supports a variety of aquatic and semi-aquatic bird species commonly observed in seasonal wetlands, agricultural fields, and homestead vegetation. Frequently recorded species include pankouri (cormorant), dahuk (white-breasted waterhen), and various types of ducks and herons, which are adapted to the extensive waterlogged environment. These birds play an important role in maintaining ecological balance through fish predation, insect control, and nutrient cycling within wetland ecosystems. In addition, the presence of small wild mammals and reptiles, such as otter (Lutra spp.), mongoose, and different species of snakes, reflects the ecological characteristics of the haor region. These species contribute to controlling fish predators, rodents, and other small organisms, thereby supporting both natural ecosystems and local agricultural practices. The abundance of fish species in nearby beels and haors further highlights the productivity of the aquatic ecosystem. Overall, the composition of birds, mammals, and aquatic fauna in the area indicates a dynamic and water-dependent ecosystem, and the conservation of these habitats through sustainable wetland management, protection of natural water bodies, and environmentally responsible development is essential for maintaining biodiversity, ecological stability, and long-term environmental sustainability in the locality.
State of forestation: Patches of vegetation containing large and matured trees across the road side of the proposed subproject area are located within 200m radial distance.

B.2: Pre construction Phase

Information on Ancillary Facilities (e.g. status of access road or any other facility required for sub-project to be viable): Concerning ancillary facilities, the access road for the sub-project is proper in order for the equipment vehicles to arrive at the proposed location. Nonetheless, heavy four wheelers will not be a suitable option, this may cause more dust in the air also, the route has narrow curves.
Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction: Toilet and water supply facilities will be ensured by the contractor in the vicinity of the construction area for all the components of the sub-project, electric connection will be established with the accommodation facility due for the workforce.
Possible location of labor camps: Labor camp can be established along the road since there are available open private lands. However, this will have to be done with the consent of land owner under a mutual agreement, with the supervision of the Engineer in charge.

Requirement and type of raw materials (e.g. sand, stone, wood, etc.): i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates vi) steels vii) Bitumen are the most common type of road materials used in construction.
Identification of access road for transportation (Yes/No): Yes. The paved road can offer space adjacent labor camp to facilitate material unloading. However, considerations need to be taken account for avoiding disturbance at points where mosque, graveyard, primary school and high school is located. The pickup trucks as material transportation vehicles can enter the access road. Manual head load from unloading point to different locations can be done.
Location identification for raw material storage: Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with local committee.
Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.): Earth/ mud, plastics, brick chips, cement dusts, dust from bricks, steel wires, during construction which can be identified as solid wastes. Also, sludge will be produced from labor camp latrines and kitchen waste mostly composing of organic matters as fiber, starch, carbohydrates and proteins. 10% of the kitchen waste may be classified as plastics or non-biodegradables. Solid waste may amount to 20 kg daily and sludge may amount to 5 kg per day.

B.3: Construction Phase

Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.): Residual waste from the labor camps will be generated. Equipment maintenance/vehicles on-site and scrap material will occur during construction work which are mostly solid wastes. Leftover oils or spills from machinery can be a high probability generating liquid waste. Waste from civil works. And the quantity will be tentatively 350 kg.
Type and quantity of raw materials used (wood, bricks, cement, water, etc.): **Type:** i) Bricks, ii) Sand iii) cement iv) aggregates v) water vi) concretes vii) Bitumen are the most common type of road materials used in construction.
Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards: No such vegetation is present in the right of way. Specific soil amount is not needed for the project. The current condition explains that there is no aggregated soil on the right of way.
Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation) The possibility is Medium, for stagnant water bodies to occur. Because water usage will be higher during the construction period. By default, this area has no water logging troubles due to being natural channels. Moreover, no possibilities of stagnation of water in long run. So, local communities have stated that they do not have severe troubles with mosquitos or other disease vectors.

Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) No formal engineered drainage system has been identified along this road alignment; however, several natural drainage features are present in close proximity to the corridor. The alignment is strongly influenced by the adjacent river, which is located on the left and right sides at different sections, including 0–300 m, 300–600 m, 600–900 m, 900–1200 m, 1200–1500 m, 1500–1800 m, 1800–2100 m, and 2100–2400 m, at distances ranging from approximately 6 m to 300 m. Additional drainage-related features include agricultural land associated with haor areas and ditches on the right side at 900–1200 m and 1200–1500 m, a canal on the left side at 2100–2400 m at about 130 m, fish pond and small ponds at several locations, including 1200–1500 m, 1500–1800 m, 1800–2100 m, 2100–2400 m, and 2400–2800 m, generally within approximately 2 m to 15 m of the road centerline. These water bodies and low-lying areas play an important role in maintaining local drainage and hydrological balance. Although the proposed works will be confined to the existing alignment, temporary impacts may occur during construction; therefore, suitable cross-drainage and mitigation measures will be required to maintain uninterrupted water flow.
Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low. Under the improvement of this intervention, the effect of destruction or damage of lives, endangered species or ecosystem is very low. In the site area not observed such occurrence of lives that's life cycle and or movement areas disturbed (i.e. Insects - Ant, bees, earthworm, reptiles, birds etc.).
Activities that can lead to landslides, slumps, slips and other mass movements in road cuts: Scope of work leading to low scale effects of landslide. The impacts are negative but short-term and site-specific. It can be managed through mitigation measures.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description) Low, Potential erosion may occur when moderately to highly sloping terrains are disturbed for the improvement of sub-project. The impacts are negative but short term, site specific within a relatively small area and adjustable by mitigation measures.
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: No traffic movement impacts on light but low effects of noise and air pollution.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

B.4: Operation Phase

Activities leading to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles: No
Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description) No
Possibility of odor and water, soil quality impacts from SWM and FSM disposal system: (High/Medium/Low with description) No.
Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation) There is no possibility of stagnant water bodies remained for encouraging mosquito breeding and other disease vectors, during the operation phase.
Likely direct and indirect impacts on economic development in the project areas by the sub-project: Construction or implementation of a road project substantially contributes to the development of the project areas. It surely improves the communication network, reduces the transport time, increases the trade and business in/around the areas, and ensures access to better living conditions with amenities, better educational and job opportunities and health facilities. Thus, the direct and indirect impacts on economic development in the project areas would be enormous by this sub-project.
Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) No existing drainage channels or surface water bodies found in the project area; therefore, no such effect can be anticipated.
Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) There are no protected areas in or around project sites, and no known areas of ecological interest.
Activities leading to landslides, slumps, slips and other mass movements in road cuts: The entire sub-project component area is nearly flat, thus no such type of impacts is anticipated.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation) No
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: Improved road communication will definitely increase the traffic/ vehicular movement, which must increase the light and noise pollution, but air pollution effect will not be increased significantly, as the proposed BC road will reduce the pollution generated from

dust on the muddy road, especially during the dry season and if the vehicles are maintained in good conditions.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

Environmental and Social Management Plan (ESMP) of this Sub project (site specific)

ESMP for Proposed Community Road: Ali gang Shimergoun via kholilpur GPS road

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Stakeholders Engagement	• All of the project stakeholders should be consulted • Separate community level consultation meeting with the potential affected HHs • All the safeguard documents will be disclosed to all relevant stakeholders. • People living in nearby communities will be involved with the GRM system and representatively included in the project GRCs.	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Loss of right to access	• Project to ensure thorough analysis of alternatives that access enjoyed by the community remains intact. • In case of unavoidable circumstances, alternative access will be provided.	PIU	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Transportation and Storage of Construction materials (disturbance to traffic system and pedestrians, potential accidents to workers/	• Transportation of construction materials to the site will be carried out by covering the materials as a whole. • Store the materials in designated places, with proper fencing and coverings.	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	local people, generating dust and noise)			
Pre-Construction Stage	Sanitation and water supply	• Sanitation facilities (male and female toilets with septic tanks, wash-basins, etc.) for workers and constructor's officials/employees will be provided, and ensure regular cleaning of those. • Potable water supply will be ensured for every workers/employees in the site. Water sample will be checked at local DPHE laboratory to ensure the portability, and water should be filtered through appropriate filtering system, before supplying to the consumers.	Contractor	Environmental Consultant of PIU
Pre-Construction Stage	Site Selection for workers camps, stack yards & implementing interventions: Generation of ESHS issues.	• Workers camp, site office and stack yard should be located at a site favorable for the workers and proposed by the contractor & approved by the Environmental Specialist of D&SC. • No trees, shrubs will be removed or vegetation stripped without prior permission of the Environmental Consultants. If any tree is required to remove for an unavoidable circumstance, 3 (three) numbers of trees will be planted for each tree removed and budgetary allocation for taking care of those trees for 12 months has to be ensured. • Provision of waste bins/ cans, where appropriate,	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• Litter is to be collected daily. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site pre-approved by Environmental Specialist of D&SC. • Camp and working areas are to be kept clean and tidy at all times. • Stack materials will be covered with tarpaulins/ polythene in the yard and end parts of the reinforced steel bar/ iron rod will be properly covered with safety caps or clothes/jute sacks, etc. for avoiding any accidental events from those. • Hazardous materials, including oil, paints, etc. will be stored on a bunded area or wooden platform with polythene lying over it. • Proper fencing around the storage area and working site in order to get secured, to minimize the risk of crime and to be safe from access by students, children, animals, etc.		
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage	• All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind or surface runoff. • Construction facilities including materials are to be placed at least 10m distance from any water	PIU & Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		body in order to minimize the impacts on water bodies and natural water flow. • Tubewell location wherever required to install, within the construction site is not near to any kinds of latrine and soaks well which could be contaminated by those. • After completing the development, the site shall be restored as before. • This site is in the local community, so continuous need-based discussion with the local community to avoid any conflicts will be taking place. • Sub project intervention must avoid natural disturbance to existing slop and natural drainage.		
Construction Activity	Noise from construction works	• Construction activities mostly shall finish at day time within 05:00 PM, and must confirm proper measures for avoiding any disturbance. • All Personal Protective Equipment (PPEs) must be available at sites before starting any kind of construction works. • Noise producing vehicles and equipment will be keep in maintenance regularly. • Since expensive engineering controls (e.g., acoustic curtains, noise barriers, etc.) may not be feasible in terms of availability and scope of the	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		project works, noise reduction muffler or less expensive alternative options will be selected during the construction works.		
Construction Activity	Dust	• Acceptable range of emission of CO, particulate matter [SPM (**Suspended particulate matter)**, PM2.5, 10] and Hydrocarbons must be maintained through good construction work practices. • Dust generation must be limited as a result of clearing, leveling and site grading operations with using water florescent manually and through water pipes. • Dust generation due to vehicle movement on connecting road shall be controlled by watering the path at limited level. • Construction materials should be covered properly while carrying in vehicles to the site.	Contractor	Environmental Consultant of PIU
Construction Activity	Safety Issues	• Unauthorized entry is completely prohibited in construction site and take necessary measures for preventing this problem (e.g., employing guards at site office and stack yards, and maintaining a visitor's log book at entrance)	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• Before works start Contractor must provide proper training and guidance on health and safety issues to the labors and associated staff. • Records of every training must be kept at site. • All kinds of Child labour are completely prohibited in every site. • Every construction materials storage site will be well fenced by Tin and safety caution tape.		
Construction Activity	Traffic Management	• Because of the sensitivity of the proposed project site in relation to traffic management, contractor must produce a detail Traffic Management Plan (TMP), incorporating all forms of alternative routes, schedule, work plan, emergency arrangement, etc. in the TMP. • Contractors will maintain proper route for traffic management which is to be consulted with and confirmed by the district Executive Engineer. • Local traffic police department should be contacted, if traffic problem becomes more complex.	Contractor	Environmental Consultant of PIU
Construction Activity	Increase in road accidents	• Maintain safety measures during the movement of heavy machinery and equipment.	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• Proper signage to be displayed at major junctions; and road diversions and closures to be informed well in advance to the local community. • Vehicular movement to be controlled near sensitive locations (e.g., schools, colleges, hospitals, etc.) • Local community will be trained up on traffic management and awareness.		
Construction Activity	Labor Base Camp: Conflicts with the local residents	• Awareness building session will be undertaken about prevention of child abuse, child marriage, GBV, sexual harassment, trafficking of women and children as well as illegal drug trade. Written records of this awareness building session shall be kept on site. • Work force should be prohibited from disturbing the flora, fauna including hunting of animals, wildlife hunting, poaching and tree felling. • Adequate facilities ensuring sanitation for labor camps will be put in place. • Treated water will be made available at site for drinking purpose. • Adequate accommodation arrangements for labor forces. • Labor code of conduct is to be disclosed through	Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		consultation.		
Construction Activity	Labour related issues and grievances	• A separate grievance mechanism for workers has to be established for the work package. • Complaints box (preferably for anonymous reporting) /grievance register will be provided to each construction sites; and will be checked and redressed in weekly manner. • Appropriate notification or training to the workers about the scope and procedure of the grievance system will be provided at the starting of the work. All new workers recruited at different times/phases will be oriented about the same.		
Construction Activity	Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.	Preparation of a waste management plan covering the following aspects: • Waste from the temporary accommodation facilities for labor and equipment maintenance/vehicles on-site. • The construction debris material generated from the erection of structures and demolition works (wherever applicable), and related construction activities will be collected and stored separately in a stack yard and sold to local recyclers. • Hazardous waste viz. waste oil etc. will be collected and stored in the paved and bounded area and	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		subsequently sold to authorized recyclers. • Refueling areas and other fluid transfer areas will be imperviously paved. • Workers will be trained on the correct transfer and handling of fuels and chemicals and the response to spills (incl. equipment deployment) and the site will be provided with portable spill containment and cleanup equipment. • Applicability of the Hazardous Waste Management Rules.		
Construction Activity	Health & Safety Risks: • The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, mobile plant and vehicles, and electrical shocks. • Exposure to health	• All construction equipment will be properly inspected timely. • The risk assessment will be prepared and communicated prior to the commencement of work for all types of work activities on site. • Provide walkways that are clearly designated as a walkway; all walkways shall be provided with good conditions underfoot; signposted and with adequate lighting. • Proper Signpost at any slippery areas will be ensured in construction site. • Fire extinguishers will be located at identified fire points around the site. The extinguishers must be appropriate to the nature of the potential fire.	Contractor	Environmental Consultant as well as Social Development and Gender Specialists of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	events during construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis.	• Provision to first aid box containing adhesive bandages, antibiotic ointment, antiseptic wipes, aspirin, non-latex gloves, scissors, thermometer, etc. in sub-project sites will be ensured. Proper Emergency evacuation response plan will exist in sub-project area. • All safety equipment will be available in sub-project site (safety, size, power, efficiency, ergonomics, cost, user acceptability etc.), the lowest vibration tools will be provided that are suitable and can do the works. • Awareness training will be given to all personnel involved during the construction phase in order to highlight the heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration. Written records of this awareness training shall be kept on site. • Adequate quantities of drinking water will be available at all Sites, on different locations within the site. • Provision to maintain proper PPE wherever necessary and to ensure that there are satisfactory washing and changing facilities. • Provision to ensure all workers exposed to a risk are aware of the possible dangers and also given thorough training on how to protect themselves and there should be effective supervision to ensure that the correct methods are being used.		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Construction Activity	Pollution of water bodies	• Ensure monitoring of nearby surface and underground water bodies for signs of contamination. Parameters include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results are to be compared with Bangladesh Environmental Quality Standards of DoE. • The earthwork sites where exposed land surface is vulnerable to runoff shall be consolidated and/or covered (e.g., pond, canal, ditch's side will be protected by palisading, etc.) • The material stockpile sites shall be far away from surface water bodies and areas prone to surface run-off. Loose materials shall be bagged and covered. • Channels, earth bunds, netting, tarpaulin and or sand bag barriers shall be used on site to manage surface water runoff and minimize erosion. • The overall slope of the work areas and stack yards shall be kept to a minimum to reduce the erosive potential of surface water flows elsewhere. • Workers must specify waste dump locations to avoid littering which in turn might negatively affect surface and ground water.	Contractor	Environmental Consultant of PIU/D&SC.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Construction Activity	Demobilization of structures, facilities and equipment used during the project implementation period (including site clearance after the construction). The impacts are similar to those listed in construction stage: • Pollution from waste materials. • Health & Safety risks to workers and local community.	• Remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; • Ensure that all affected structures rehabilitated/compensated; • The area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. • Disposal of faecal sludge from latrines is to be undertaken properly, if management on site becomes problematic; • All imported materials are to be removed and the area shall be re-vegetated/re-grassed as per specification that forms part of this document. • The contractor must arrange the cancellation of all temporary services.	Contractor	Environmental Consultant of PIU/D&SC, district XEN.
Construction activity	Odours and pollution caused by leaking latrines and faecal sludge, and solid wastes impacting surrounding water bodies, flora and fauna	• Preventative maintenance schedule should be followed. • Solid organic wastes should be stored in bins and/ or skips and emptied regularly at a designated waste disposal area away from the camp site. If no designated site is available within the reach, a dug-hole at a nearby place can be used with periodic filling with soil layer for preventing	Contractor	Environmental Consultant of PIU, Union Parishad Member

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		pollution and generating nutrient rich compost soil over time.		
Pre-Construction and Construction	Rigorous Monitoring and Report Preparation and Submission	• The Contractor shall appoint (i) ES Manager (ii) Env. Officer, (iii) Social Officer (iv) Community Organizer and (v) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. • Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU.	Contractor	Environmental Consultant of PIU
Operation & Maintenance	Road Safety. Impacts include: • The increased vehicular movement and speed may trigger road safety issues like traffic accidents. The accidents may also be due to tiredness of drivers.	Road safety issues can be minimized in following ways: • By enforcing speed limits and imposing penalties on the traffic violators will ensure the road safety. • Traffic signs will be provided to facilitate road users about speed limits, rest/parking areas, no-horn areas, etc. Warning messages will also be displayed at appropriate locations to aware drivers about likely accidents due to over speeding. • All the lanes, median, sharp bends will be reflectorized to facilitate travelers in the night time.	UE (Upazila Engineer)	District Executive Engineer, LGED

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	• Widened road, lack of road safety signage or speed-breakers at crossings/strategic locations and sidewalks, and reckless driving may cause road accidents or traffic injuries.			
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	• Provision to maintain noise and vibration from the operation and maintenance of machinery and equipment by proper monitoring and measures. • Provision to take necessary lighting, caution for the works and necessary maintenance should be done in day light.	Upazila Engineer	District XEN, LGED

Cost of Environmental and Social Enhancement Works in BOQ

In consideration to the above-mentioned environmental impacts and their mitigation measures for this sub-project, the following items are included in the BOQ of this sub-project.

Cost of Environmental Enhancement Works in BOQ

Sl no.	Description of item	Quantity	Unit price	Total amount
1.	**Grass Turfing** Turfing on embankment top and slope & any critical place with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of E.I.C. (Payment to be made only when grass is fully grown)	3360 Sq.m	@38.15 Tk. Per sqm	128,184.00
2.	**Dust suppression measures** Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C	2800.0m	@ 2.56 BDT	7,168.00
3.	**Water Supply and Sanitation** Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-charge. Temporary Toilet: Construction of temporary toilets in work site/ rest area complete as per design and specifications and approved by the Engineer-in-Charge. There should be 1 camp in each site. In each camp, there should be 1 no of toilet for women and 1 no of toilet for men.	2 nos.	@12822.86 per toilet	25,645.72
4.	**First Aid Box** Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and site office, and erect conspicuous notice boards directing where these are situated and providing all requisite emergency medical first aid kits, including complying with the government medical or labour	1 no.	LS @5000 Tk. Per box	5,000.00

Sl no.	Description of item	Quantity	Unit price	Total amount
	requirements at all times, and provide, equip and maintain necessary dressing kits throughout the working period for attending minor injuries, etc. all complete as per requirement and full satisfaction of Engineer-in-charge.			
5.	**Drinking Water Facilities** Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge.	1 no.	LS @ Tk. 30,000	30,000.00
6.	**Traffic Management** Maintaining traffic management at worksite from time of commencement of contractor's activities to time of completion activities, including ensuring that the road is safe for users, providing a safe working area for those involved in work on trafficked network and minimizing any disruption to smooth flow of traffic (this includes providing necessary barricades, warning signs/lights, guide signs, flagmen, maintaining diversion roads by cutting, filling, constructing, etc. or by any other means) in accordance with the full satisfaction of the Engineering-in-charge.	1 no.	LS @ Tk. 15,000	15,000.00
7.	**Personal Protection Equipment for Workers** Providing and maintaining appropriate (safe design, fit and comfort) personal protection equipment (PPE) to ensure the highest possible protection for employees in establishing and maintaining a safe and healthful working environment at workplace, including demonstrating, providing training on proper understanding and development of skill in the use of PPE, including supplying (i) best quality safety jacket, (ii) suitable hand protection gloves, (iii) appropriate foot	LS	LS @ Tk 30,000	30,000.00

Sl no.	Description of item	Quantity	Unit price	Total amount
	protection shoes, (iv) best quality safety helmets, face shields, ear muffs etc. (v) suitable eye protection goggles			
8.	**Motivation training** Motivation training (twice: before and after construction start) of the Upazila Engineer 'sand Contractor's representatives on safety practice and as per direction of the E.I.C.	1 no.	LS @ Tk. 10,000	10,000.00
9.	**Waste disposal facility** Temporary camp site waste disposal facility improvement 2 nos. (1 no of organic waste and 1 no of inorganic waste disposal facility) and as per direction of E.I.C.	LS	@ Tk. 5000	5,000.00
10.	**Water Test (Drinking Water samples)** Water samples are to be collected periodically (half yearly) from the tube well at labor shed area for laboratory analysis of different parameters such as pH, arsenic, iron, chloride, hardness, total dissolved solids, nitrate, nitrite, coliform, electrical conductivity etc. all complete as per direction of E.I.C. (including the cost of actual fees for testing from reputed laboratory and report) as desired by E.I.C.	LS	@ Tk. 5000	5,000.00
11.	**Working labour shed:** Construction of Labor shed (Size: 30'x20') with C.I sheet Roofing, Tarza fencing and brick soling floor as per requirement and direction of the E-I-C.	1 no.	LS @ Tk. 30,000	30,000.00
12.	**Environmental and Social management** Environmental management costs of the Environment & Social/ Safeguard Personnel for Environmental and Social Management and Monitoring during construction and operation phase for their salary & transport (Net payment excluding Tax &VAT). And as per direction of the E.I.C. **[One person to be appointed for 5 roads]**	Each	@ Tk. 35000	35,000.00
	Total amount for this Road			**310,997.72**






Existing Surroundings of the Sub-Project

Name of Sub-Project: Improvement of Community Road for **Ratna Bazar-Murad pur Up Office Road Via, Sunampur & Dulal pur, ID: 636113014**

Implementing Agency/Agencies: Local Government Engineering Department (LGED)

District: Habiganj **Upazila**: Baniachong **Union**: Shubidpur

Name of Community/Local Area Bolakipur, Noagaon

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The proposed sub-project involves the improvement of the Ratna Bazar–Muradpur UP Office Road via Sunampur and Dulalpur, which is currently a damaged bituminous road from chainage 0+120 to 3+120. The proposed intervention includes bituminous carpeting along the entire stretch to restore pavement condition and ensure safe and reliable transportation. Existing structures include culverts at chainages 0+446 (10 m × 4.6 m), 1+546 (19 m × 4.6 m), 2+066 (3 m × 2.8 m), and 2+682 (3 m × 6.7 m). Existing palisading works are located at chainages 0+120 on the left side, 0+710 on both sides, 0+996 on the left side, and 2+566 on the left side with CC block. Existing slope protection is present between chainages 1+508 to 3+498 on the left side. Additional slope protection works are proposed at multiple locations, including 0+436 to 0+446 on the left side, 0+456 to 0+470 on the right side, 0+965 to 1+113 on the left side, 1+132 to 1+420 on the left side, 1+508 to 1+546 on the left side, 1+565 to 1+580 on the right side, 1+790 to 1+995 on the left side, 2+079 to 2+091 on the left side, 2+495 to 2+530 on the left side, 2+551 to 2+566 on the left side, 2+616 to 2+650 on the left side, and 3+050 to 3+096 on the left side. These interventions will enhance slope stability, drainage, and long-term road performance. No safeguard features were observed on site.

Estimated footprint / land area for this sub-project is 10,500 sqm.
Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 3000m. Detail Environmental features within 100m of the both sides from the centre line were collected @300m longitudinal intervals. The findings of the survey for the aforementioned road can be seen in the table below:

Table: Detailed Chainage length of the Sub-Project

Chainage	(Left/Right)		Environmental and Social Impact
00-300	L		Ditch 10m, Agricultural Land 30m
		R	Ditch 10m, Bazar 20m, Agricultural Land 30m, Settlement 100m
300-600	L		Settlement 3m, Canal 10m, Agricultural Land 50m, Ditch 10m
		R	Ditch 5m, Settlement 3m, Canal 10m
600-900	L		Settlement 20m, Pond 5m, Agricultural Land 200m, Ditch 10m
		R	Settlement 150m, Pond 10m, Mosque 5m

Chainage	(Left/Right)		Environmental and Social Impact
900-1200	L		Agricultural Land 10m, Ditch 5m, Settlement 200m
		R	Cemetery 5m, Ditch 10m, Pond 20m, Settlement 10m
1200-1500	L		Agricultural Land 15m, Ditch 10m, Settlement 10m, Canal 10m
		R	Agricultural Land and Ditch 30m, Canal 20m
1500-1800	L		Agricultural Land 10m, Ditch 10m, Settlement 10m
		R	Agricultural Land 20m, Settlement 20m, Ditch 10m
1800-2100	L		Agricultural Land 20m, Canal 10m
		R	Agricultural Land 70m, Settlement 3m, Canal 50m, River 150m
2100-2400	L		Ditch 10m, Agricultural Land 50m
		R	River 100m, Settlement 3m
2400-2700	L		Ditch 20m, Settlement 10m
		R	Agricultural Land 50m, Ditch 20m
2700-3120	L		Agricultural Land 100m, Ditch 5m, Settlement 3m
		R	Ditch 10m, Settlement 3m, Pond 4m, GPS 150m, Cemetery 85m

Starting Point of Ratna Bazar-Murad pur Up Office Road Via, Sunampur & Dulal pur

Overall Comments

D&SC conducted consultation meeting with community regarding the sub-project activities. Local people of the subproject area are very much optimistic about the success of the project and are also eager to participate in the project activities. The local individuals were participated in participatory public consultation meeting. Local communities have no

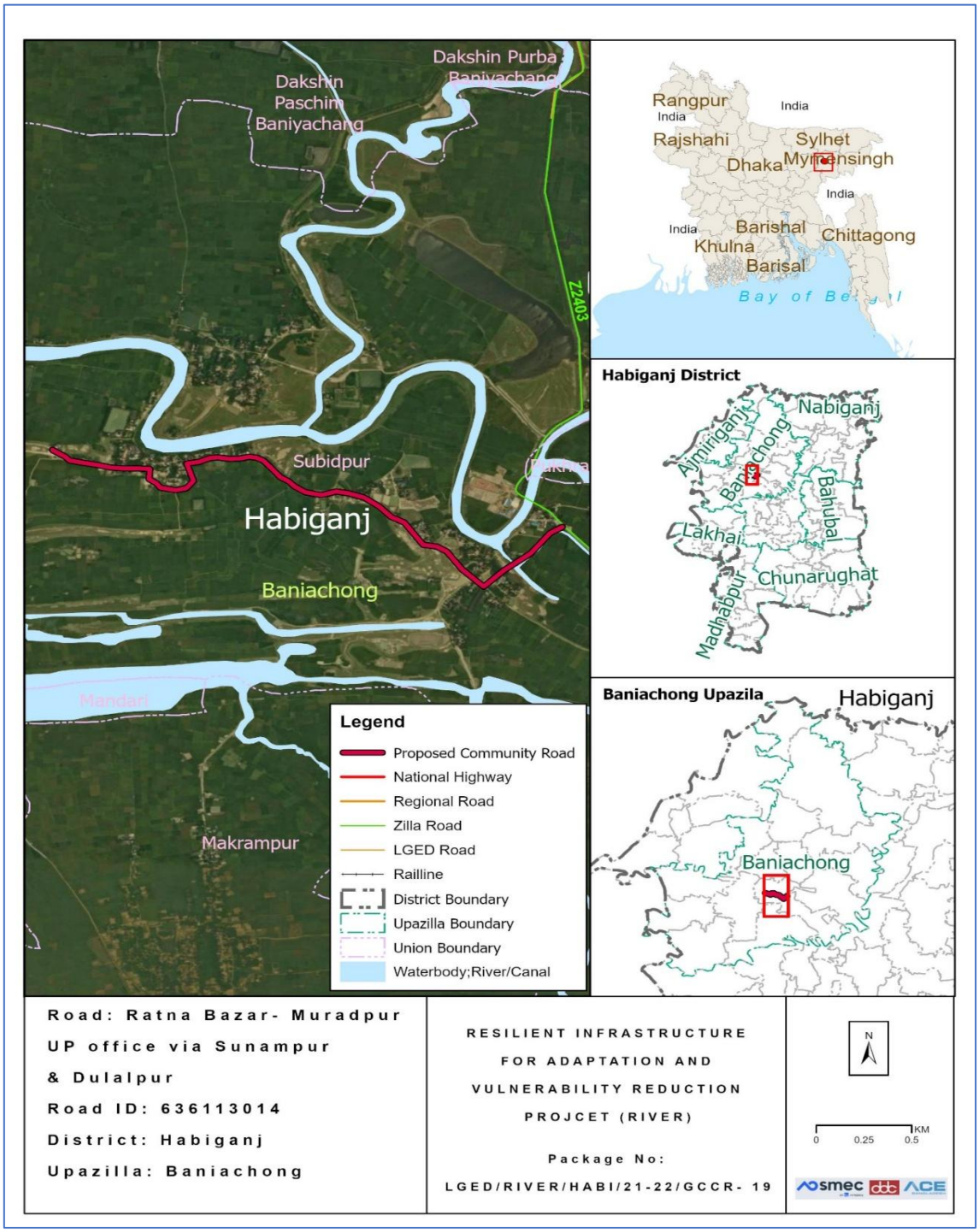
objection to construction this sub-project. The community also appreciated the initiative for having easily accessible and passive their emergency situation. The proposed sub-project (Road construction) is not located within any remarkable environmentally sensitive area and will not cause any severe affect to the environmental setting of the area thus not going to create intimidation to important environmental features. No drainage congestion/water logging have been observed in the road area. But, some local trees like betel nut, rain tree etc., or additional vegetation may need to clear out due to construction activities, with appropriate offsetting measures to be taken. No agricultural productive soil will be used for the purpose. Earth will be compacted for stabilization. The inputs will be mainly at construction phase and limited within project boundary. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

It has been revealed that this project's scope of works does not intend to overtake their area of lodgment and funding entity has no intention to do so. Moreover, other issue has also been brought to their attention that drainage system and cross drains, culverts have also been included into the evaluation of this project since runoff from higher grounds are also a concerning matter during rainy season. The proposed Sub-project area for the construction included flat areas and moderate hillock village road is not located within any identified environmentally sensitive area, and therefore, does not seem to cause any adverse impact on the important environmental features. No significant impact is expected on the ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects.

Types of waste to be generated during construction and operation phase:
During construction period solid waste will be generated due to construction activities. The types of wastes are brick pit, unused sand, wood, gravels, bitumen etc. Negligible amount of plastic, fuel etc. in equipment yards. Human wastes might be deposited in labor camp.

Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including elephant migration routes and remaining forests:
No historical or archaeological sites were identified within the project influence area. The alignment is characterized by agricultural land, settlements, water bodies, and community facilities. From Ch. 0+000 to 0+300, ditches at 10 m and agricultural land at 30 m are present on the left, while the right side includes a bazar at 20 m, agricultural land, and settlements at 100 m. Between Ch. 0+300 and 0+600, settlements, canals, agricultural land, and ditches are located on both sides. From Ch. 0+600 to 0+900, settlements, ponds, agricultural land, and ditches are present on the left, while the right side includes settlements, ponds, and a mosque at 5 m. Between Ch. 0+900 and 1+200, the left side includes agricultural land, ditches, and settlements, while the right side includes a cemetery at 5 m, ponds, and settlements. From Ch. 1+200 to 1+500, both sides include agricultural land, canals, and ditches. Between Ch. 1+500 and 1+800, agricultural land, ditches, and settlements are present on both sides. From Ch. 1+800 to 2+100, canals and agricultural land are present on the left, while the right side includes agricultural land, settlements, canals, and a river at 150 m. Between Ch. 2+100 and 2+400, the left side includes ditches and agricultural land, while the right side includes a river

at 100 m and settlements. From Ch. 2+400 to 2+700, ditches and settlements are present on the left, while the right side includes agricultural land and ditches. Finally, from Ch. 2+700 to 3+000, agricultural land, ditches, and settlements are present on both sides, along with a pond at 4 m, a GPS at 150 m, and a cemetery at 85 m on the right side. These features represent important environmental and social receptors, but no significant impacts are expected.



Location Map of the proposed Road

Completed environmental and social screening forms are given below:

Section A: Sub-Project Overview

Description of sub-project/component interventions:

The Sub-Project is categorized as a village road. Based on field survey, this sub-project involves Damaged Bituminous Carpeting. According to the design this sub-project will be developed with Bituminous Carpeting (BC) from Ch. 120 to Ch. 3120m.

Sub-project Location:

Important Features	
ID	636113014
District	Habiganj
Upazila	Baniachong
Union	Shubidpur
Total Chainage	3000m
Proposed Chainage	3000m
Road Type	Village Road
Proposed Intervention Type	Bituminous Carpeting (BC)
Road Starting Point Coordinates	Latitude: 24.45077222 N Longitude: 91.37155 E
Road Ending Point Coordinates	Latitude: 24.45488056 N Longitude: 91.34745 E

Land ownership

Land is owned by Government.

Expected construction period: 12 (twelve months approximately)

Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive environmental areas such as elephant corridors, water bodies, etc. and historical or socio-cultural assets): Please also explain any analysis on alternative location was conducted:

i) The proposed Sub-project is located within Bolakipur and Noagaon villages.
ii) No historical sites were found
iii) Not required to relocate local community.
iv) Some trees, vegetation and livelihood will be affected.
v) Very low chance of loss of agricultural land.
vi) Some Household Boundary made of bamboo and tin may need adjustments

Section B: Environmental and Social Screening

***B.1*: Environmental and Social feature of sub-project location**

Description of cultural properties (if applicable, including distance from site):

Sensitive environmental, cultural, archaeological, religious sites near (within the catchment area) of site including elephant migration routes and remaining forests:

Sensitive environmental, cultural, and religious features within 1 kilometer of the sub-project corridor include several community and environmental elements located along both sides of the alignment. From Ch. 0+120 to 0+300, ditches at 10 m and agricultural land at 30 m are present on the left, while the right side includes a bazar at 20 m, agricultural land, and settlements at 100 m. Between Ch. 0+300 and 0+600, settlements, canals, agricultural land, and ditches are located on both sides. From Ch. 0+600 to 0+900, settlements, ponds, agricultural land, and ditches are present on the left, while the right side includes settlements, ponds, and a mosque at 5 m. Between Ch. 0+900 and 1+200, the left side includes agricultural land, ditches, and settlements, while the right side includes a cemetery at 5 m, ponds, and settlements. From Ch. 1+200 to 1+500, both sides include agricultural land, canals, and ditches. Between Ch. 1+500 and 1+800, agricultural land, ditches, and settlements are present on both sides. From Ch. 1+800 to 2+100, canals and agricultural land are present on the left, while the right side includes agricultural land, settlements, canals, and a river at 150 m. Between Ch. 2+100 and 2+400, the left side includes ditches and agricultural land, while the right side includes a river at 100 m and settlements. From Ch. 2+400 to 2+700, ditches and settlements are present on the left, while the right side includes agricultural land and ditches. Finally, from Ch. 2+700 to 3+120, agricultural land, ditches, and settlements are present on both sides, along with a pond at 4 m, a GPS at 150 m, and a cemetery at 85 m on the right side. These features represent important environmental and social receptors, but no significant impacts are expected.

Location of environmental and Social important and sensitive areas:

There are no environmentally important or sensitive areas found in the areas, except some matured vegetation around the site. Several mosques, school and human settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary and necessary preventive and mitigation measures will be followed during the entire construction period.

Baseline air quality and noise levels:

Dust:

Ambient air quality data was not readily available, but quality is apparently good due to the appearance of rural vegetative settings around. Dust is slightly generated through movement of vehicles such as motor cycle, auto rickshaw, tempo, trolley etc. over the road surface which causes air pollution.

Conducting works at dry season and moving large quantity of materials may create dusts and increase in concentration of vehicle-related pollutants 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/ preventable by mitigation measures.

Noise:

Noise level also very low in the site area. Noise is originating from the commotion of locals. During construction period a rise in noise pollution may occur due to the transportation of equipment.

Baseline soil quality:

The sub-project area in Habiganj District is situated within the north-eastern floodplain zone of Bangladesh, where soil characteristics differ from the northern districts. The area is predominantly underlain by recent alluvial deposits associated with the Kushiara River and its tributaries. The soils are generally silty clay to clay in texture, with localized occurrences of silty loam in relatively elevated areas. These soils are seasonally influenced by flooding and prolonged water retention, resulting in moderate to high moisture content throughout much of the year. Due to their fine texture and water-holding capacity, the soils are suitable for paddy cultivation, which is the dominant agricultural practice in the region. In low-lying areas, particularly near haors and beels, the soils remain saturated for extended periods during the monsoon season, further shaping land use patterns and crop selection.

Baseline surface water and groundwater quality (FE, TDS, fecal coliform, pH):

Groundwater is the main source of potable water in the sub-project area of Habiganj District. People in the area primarily depend on shallow and intermediate-depth tube wells for their daily domestic water needs. Due to the floodplain and haor-based hydrogeological setting, the groundwater table generally remains at a relatively shallow depth, typically ranging from approximately 80 to 180 feet below ground level, with noticeable seasonal variation between monsoon and dry periods. Groundwater quality assessments indicate the presence of elevated iron concentrations in many tube wells, which may cause aesthetic issues such as discoloration, metallic taste, and staining if consumed without treatment. However, arsenic contamination in this region is generally low to negligible compared to other parts of Bangladesh. Therefore, appropriate public health measures, including installation of iron removal plants, periodic water quality testing, and community awareness programs, are essential to ensure safe drinking water. In some locations, deeper tube wells tapping relatively stable aquifers are used for drinking purposes to obtain comparatively better water quality.

Groundwater quality: pH-6.20 to 7.85, DO-3.10 to 6.90 mg/l, TDS-60.00 to 280 mg/l, EC-80 to 620 µS/cm, Fe-0.8 to 5.5 mg/l and As-trace to Nil (Field Study Report, March 2026).

Status of wildlife movement:

The sub-project area in Habiganj District is characterized by a rich wetland-dependent biodiversity typical of the haor basin ecosystem. The area supports a variety of aquatic and semi-aquatic bird species commonly observed in seasonal wetlands, agricultural fields, and homestead vegetation. Frequently recorded species include pankouri (cormorant), dahuk (white-breasted waterhen), and various types of ducks and herons, which are adapted to the extensive waterlogged environment. These birds play an important role in maintaining ecological balance through fish predation, insect control, and nutrient cycling within wetland ecosystems. In addition, the presence of small wild mammals and reptiles, such as otter (Lutra spp.), mongoose, and different species of snakes, reflects the ecological characteristics of the

haor region. These species contribute to controlling fish predators, rodents, and other small organisms, thereby supporting both natural ecosystems and local agricultural practices. The abundance of fish species in nearby beels and haors further highlights the productivity of the aquatic ecosystem. Overall, the composition of birds, mammals, and aquatic fauna in the area indicates a dynamic and water-dependent ecosystem, and the conservation of these habitats through sustainable wetland management, protection of natural water bodies, and environmentally responsible development is essential for maintaining biodiversity, ecological stability, and long-term environmental sustainability in the locality.
State of forestation: Patches of vegetation containing large and matured trees across the road side of the proposed subproject area are located within 200m radial distance.

B.2: Pre construction Phase

Information on Ancillary Facilities (e.g. status of access road or any other facility required for sub-project to be viable): Concerning ancillary facilities, the access road for the sub-project is proper in order for the equipment vehicles to arrive at the proposed location. Nonetheless, heavy four wheelers will not be a suitable option, this may cause more dust in the air also, the route has narrow curves.
Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction: Toilet and water supply facilities will be ensured by the contractor in the vicinity of the construction area for all the components of the sub-project, electric connection will be established with the accommodation facility due for the workforce.
Possible location of labor camps: Labor camp can be established along the road since there are available open private lands. However, this will have to be done with the consent of land owner under a mutual agreement, with the supervision of the Engineer in charge.
Requirement and type of raw materials (e.g. sand, stone, wood, etc.): i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates vi) steels vii) Bitumen are the most common type of road materials used in construction.
Identification of access road for transportation (Yes/No): Yes. The Paved Road can offer space adjacent labor camp to facilitate material unloading. However, considerations need to be taken account for avoiding disturbance at points where mosque, graveyard, primary school and high school is located. The pickup trucks as material transportation vehicles can enter the access road. Manual head load from unloading point to different locations can be done.
Location identification for raw material storage: Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with local committee.
Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.):

Earth/ mud, plastics, brick chips, cement dusts, dust from bricks, steel wires, during construction which can be identified as solid wastes. Also, sludge will be produced from labor camp latrines and kitchen waste mostly composing of organic matters as fiber, starch, carbohydrates and proteins. 10% of the kitchen waste may be classified as plastics or non-biodegradables. Solid waste may amount to 20 kg daily and sludge may amount to 5 kg per day.

B.3: Construction Phase

Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.): Residual waste from the labor camps will be generated. Equipment maintenance/vehicles on-site and scrap material will occur during construction work which are mostly solid wastes. Leftover oils or spills from machinery can be a high probability generating liquid waste. Waste from civil works. And the quantity will be tentatively 350 kg.
Type and quantity of raw materials used (wood, bricks, cement, water, etc.): **Type:** i) Bricks, ii) Sand iii) cement iv) aggregates v) water vi) concretes vii) Bitumen are the most common type of road materials used in construction.
Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards: No such vegetation is present in the right of way. Specific soil amount is not needed for the project. The current condition explains that there is no aggregated soil on the right of way.
Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation) The possibility is Medium, for stagnant water bodies to occur. Because water usage will be higher during the construction period. By default, this area has no water logging troubles due to being natural channels. Moreover, no possibilities of stagnation of water in long run. So, local communities have stated that they do not have severe troubles with mosquitos or other disease vectors.
Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) No existing drainage system has been identified along the alignment; however, numerous natural drainage features are distributed throughout the corridor. Ditches are present on both sides at several chainages, including 120–300 m, 300–600 m, 600–900 m, 900–1200 m, 1200–1500 m, 1500–1800 m, 2100–2400 m, 2400–2700 m, and 2700–3000 m, generally within about 5 m to 20 m of the centerline. Canals are also found at multiple locations, including 300–600 m on both sides at about 10 m, 1200–1500 m on the left side at about 10 m and on the right side at about 20 m, and 1800–2100 m on both sides at about 10 m on the left and 50 m on the right. Ponds are present at 600–900 m on both sides, at 900–1200 m on the right side, and at 2700–3000 m on the right side, within about 4 m to 20 m. In addition, a river is located on the right side at 1800–2100 m and 2100–2400 m at approximately 150 m and 100 m, respectively. These natural drainage features play a significant role in local water movement and retention. Since construction activities will be confined to the existing alignment, the impact is expected to be temporary, but appropriate

drainage management and mitigation measures will be required to prevent obstruction of natural flow paths.
Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low. Under the improvement of this intervention, the effect of destruction or damage of lives, endangered species or ecosystem is very low. In the site area not observed such occurrence of lives that's life cycle and or movement areas disturbed (i.e. Insects - Ant, bees, earthworm, reptiles, birds etc.).
Activities that can lead to landslides, slumps, slips and other mass movements in road cuts: Scope of work leading to low scale effects of landslide. The impacts are negative but short-term and site-specific. It can be managed through mitigation measures.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description) Low, Potential erosion may occur when moderately to highly sloping terrains are disturbed for the improvement of sub-project. The impacts are negative but short term, site specific within a relatively small area and adjustable by mitigation measures.
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: No traffic movement impacts on light but low effects of noise and air pollution.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

B.4: Operation Phase

Activities leading to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles: No
Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description) No
Possibility of odor and water, soil quality impacts from SWM and FSM disposal system: (High/Medium/Low with description) No.
Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation) There is no possibility of stagnant water bodies remained for encouraging mosquito breeding and other disease vectors, during the operation phase.
Likely direct and indirect impacts on economic development in the project areas by the sub-project:

Construction or implementation of a road project substantially contributes to the development of the project areas. It surely improves the communication network, reduces the transport time, increases the trade and business in/around the areas, and ensures access to better living conditions with amenities, better educational and job opportunities and health facilities. Thus, the direct and indirect impacts on economic development in the project areas would be enormous by this sub-project.
Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) No existing drainage channels or surface water bodies found in the project area, therefore, no such effect can be anticipated
Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) There are no protected areas in or around project sites, and no known areas of ecological interest.
Activities leading to landslides, slumps, slips and other mass movements in road cuts: The entire sub-project component area is nearly flat, thus no such type of impacts is anticipated.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation) No
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: Improved road communication will definitely increase the traffic/ vehicular movement, which must increase the light and noise pollution, but air pollution effect will not be increased significantly, as the proposed BC road will reduce the pollution generated from dust on the muddy road, especially during the dry season and if the vehicles are maintained in good conditions.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

Environmental and Social Management Plan (ESMP) of this Sub project (site specific)

ESMP for Proposed Community Road: Ratna Bazar–Muradpur UP Office Road via Sunampur and Dulalpur

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Stakeholders Engagement	• All of the project stakeholders should be consulted • Separate community level consultation meeting with the potential affected HHs • All the safeguard documents will be disclosed to all relevant stakeholders. • People living in nearby communities will be involved with the GRM system and representatively included in the project GRCs.	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Loss of right to access	• Project to ensure thorough analysis of alternatives that access enjoyed by the community remains intact. • In case of unavoidable circumstances, alternative access will be provided.	PIU	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Transportation and Storage of Construction materials (disturbance to traffic system and pedestrians, potential accidents to workers/ local people, generating dust and noise)	• Transportation of construction materials to the site will be carried out by covering the materials as a whole. • Store the materials in designated places, with proper fencing and coverings.	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Sanitation and water supply	• Sanitation facilities (male and female toilets with septic tanks, wash-basins, etc.) for workers and constructor's officials/employees will be provided, and ensure regular cleaning of those. • Potable water supply will be ensured for every workers/employees in the site. Water sample will be checked at local DPHE laboratory to ensure the portability, and water should be filtered through appropriate filtering system, before supplying to the consumers.	Contractor	Environmental Consultant of PIU
Pre-Construction Stage	Site Selection for workers camps, stack yards & implementing interventions: Generation of ESHS issues.	• Workers camp, site office and stack yard should be located at a site favorable for the workers and proposed by the contractor & approved by the Environmental Specialist of D&SC. • No trees, shrubs will be removed or vegetation stripped without prior permission of the Environmental Consultants. If any tree is required to remove for an unavoidable circumstance, 3 (three) numbers of trees will be planted for each tree removed and budgetary allocation for taking care of those trees for 12 months has to be ensured. • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site pre-approved by Environmental Specialist of D&SC.	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• Camp and working areas are to be kept clean and tidy at all times. • Stack materials will be covered with tarpaulins/ polythene in the yard and end parts of the reinforced steel bar/ iron rod will be properly covered with safety caps or clothes/jute sacks, etc. for avoiding any accidental events from those. • Hazardous materials, including oil, paints, etc. will be stored on a bunded area or wooden platform with polythene lying over it. • Proper fencing around the storage area and working site in order to get secured, to minimize the risk of crime and to be safe from access by students, children, animals, etc.		
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage	• All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind or surface runoff. • Construction facilities including materials are to be placed at least 10m distance from any water body in order to minimize the impacts on water bodies and natural water flow. • Tubewell location wherever required to install, within the construction site is not near to any kinds of latrine and soaks well which could be contaminated by those.	PIU & Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• After completing the development, the site shall be restored as before. • This site is in the local community, so continuous need-based discussion with the local community to avoid any conflicts will be taking place. • Sub project intervention must avoid natural disturbance to existing slop and natural drainage.		
Construction Activity	Noise from construction works	• Construction activities mostly shall finish at day time within 05:00 PM, and must confirm proper measures for avoiding any disturbance. • All Personal Protective Equipment (PPEs) must be available at sites before starting any kind of construction works. • Noise producing vehicles and equipment will be keep in maintenance regularly. • Since expensive engineering controls (e.g., acoustic curtains, noise barriers, etc.) may not be feasible in terms of availability and scope of the project works, noise reduction muffler or less expensive alternative options will be selected during the construction works.	Contractor	Environmental Consultant of PIU
Construction Activity	Dust	• Acceptable range of emission of CO, particulate matter [SPM (**Suspended particulate matter)**, PM2.5, 10] and Hydrocarbons must be maintained through good construction work practices.	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• Dust generation must be limited as a result of clearing, leveling and site grading operations with using water florescent manually and through water pipes. • Dust generation due to vehicle movement on connecting road shall be controlled by watering the path at limited level. • Construction materials should be covered properly while carrying in vehicles to the site.		
Construction Activity	Safety Issues	• Unauthorized entry is completely prohibited in construction site and take necessary measures for preventing this problem (e.g., employing guards at site office and stack yards, and maintaining a visitor's log book at entrance) • Before works start Contractor must provide proper training and guidance on health and safety issues to the labors and associated staff. • Records of every training must be kept at site. • All kinds of Child labour are completely prohibited in every site. • Every construction materials storage site will be well fenced by Tin and safety caution tape.	Contractor	Environmental Consultant of PIU
Construction Activity	Traffic Management	• Because of the sensitivity of the proposed project site in relation to traffic management, contractor must produce a detail Traffic Management Plan (TMP),	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		incorporating all forms of alternative routes, schedule, work plan, emergency arrangement, etc. in the TMP. • Contractors will maintain proper route for traffic management which is to be consulted with and confirmed by the district Executive Engineer. • Local traffic police department should be contacted, if traffic problem becomes more complex.		
Construction Activity	Increase in road accidents	• Maintain safety measures during the movement of heavy machinery and equipment. • Proper signage to be displayed at major junctions; and road diversions and closures to be informed well in advance to the local community. • Vehicular movement to be controlled near sensitive locations (e.g., schools, colleges, hospitals, etc.) • Local community will be trained up on traffic management and awareness.	Contractor	Environmental Consultant of PIU
Construction Activity	Labor Base Camp: Conflicts with the local residents	• Awareness building session will be undertaken about prevention of child abuse, child marriage, GBV, sexual harassment, trafficking of women and children as well as illegal drug trade. Written records of this awareness building session shall be kept on site. • Work force should be prohibited from disturbing the flora, fauna including hunting of animals, wildlife hunting, poaching and tree felling. • Adequate facilities ensuring sanitation for labor camps	Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		will be put in place. • Treated water will be made available at site for drinking purpose. • Adequate accommodation arrangements for labor forces. • Labor code of conduct is to be disclosed through consultation.		
Construction Activity	Labour related issues and grievances	• A separate grievance mechanism for workers has to be established for the work package. • Complaints box (preferably for anonymous reporting) /grievance register will be provided to each construction sites; and will be checked and redressed in weekly manner. • Appropriate notification or training to the workers about the scope and procedure of the grievance system will be provided at the starting of the work. All new workers recruited at different times/phases will be oriented about the same.		
Construction Activity	Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.	Preparation of a waste management plan covering the following aspects: • Waste from the temporary accommodation facilities for labor and equipment maintenance/vehicles on-site. • The construction debris material generated from the erection of structures and demolition works (wherever applicable), and related construction activities will be	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		collected and stored separately in a stack yard and sold to local recyclers. • Hazardous waste viz. waste oil etc. will be collected and stored in the paved and bounded area and subsequently sold to authorized recyclers. • Refueling areas and other fluid transfer areas will be imperviously paved. • Workers will be trained on the correct transfer and handling of fuels and chemicals and the response to spills (incl. equipment deployment) and the site will be provided with portable spill containment and cleanup equipment. • Applicability of the Hazardous Waste Management Rules.		
Construction Activity	Health & Safety Risks: • The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, mobile plant and vehicles, and electrical	• All construction equipment will be properly inspected timely. • The risk assessment will be prepared and communicated prior to the commencement of work for all types of work activities on site. • Provide walkways that are clearly designated as a walkway; all walkways shall be provided with good conditions underfoot; signposted and with adequate lighting. • Proper Signpost at any slippery areas will be ensured in construction site.	Contractor	Environmental Consultant as well as Social Development and Gender Specialists of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	shocks. • Exposure to health events during construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis.	• Fire extinguishers will be located at identified fire points around the site. The extinguishers must be appropriate to the nature of the potential fire. • Provision to first aid box containing adhesive bandages, antibiotic ointment, antiseptic wipes, aspirin, non-latex gloves, scissors, thermometer, etc. in sub-project sites will be ensured. Proper Emergency evacuation response plan will exist in sub-project area. • All safety equipment will be available in sub-project site (safety, size, power, efficiency, ergonomics, cost, user acceptability etc.), the lowest vibration tools will be provided that are suitable and can do the works. • Awareness training will be given to all personnel involved during the construction phase in order to highlight the heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration. Written records of this awareness training shall be kept on site. • Adequate quantities of drinking water will be available at all Sites, on different locations within the site. • Provision to maintain proper PPE wherever necessary and to ensure that there are satisfactory washing and changing facilities. • Provision to ensure all workers exposed to a risk are aware of the possible dangers and also given thorough training on how to protect themselves and there should be effective supervision to ensure that the		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		correct methods are being used.		
Construction Activity	Pollution of water bodies	• Ensure monitoring of nearby surface and underground water bodies for signs of contamination. Parameters include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results are to be compared with Bangladesh Environmental Quality Standards of DoE. • The earthwork sites where exposed land surface is vulnerable to runoff shall be consolidated and/or covered (e.g., pond, canal, ditch's side will be protected by palisading, etc.) • The material stockpile sites shall be far away from surface water bodies and areas prone to surface run-off. Loose materials shall be bagged and covered. • Channels, earth bunds, netting, tarpaulin and or sand bag barriers shall be used on site to manage surface water runoff and minimize erosion. • The overall slope of the work areas and stack yards shall be kept to a minimum to reduce the erosive potential of surface water flows elsewhere. • Workers must specify waste dump locations to avoid littering which in turn might negatively affect surface and ground water.	Contractor	Environmental Consultant of PIU/D&SC.
Construction Activity	Demobilization of structures, facilities and equipment used during	• Remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required;	Contractor	Environmental Consultant of PIU/D&SC, district

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	the project implementation period (including site clearance after the construction). The impacts are similar to those listed in construction stage: • Pollution from waste materials. • Health & Safety risks to workers and local community.	• Ensure that all affected structures rehabilitated/compensated; • The area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. • Disposal of faecal sludge from latrines is to be undertaken properly, if management on site becomes problematic; • All imported materials are to be removed and the area shall be re-vegetated/re-grassed as per specification that forms part of this document. • The contractor must arrange the cancellation of all temporary services.		XEN.
Construction activity	Odours and pollution caused by leaking latrines and faecal sludge, and solid wastes impacting surrounding water bodies, flora and fauna	• Preventative maintenance schedule should be followed. • Solid organic wastes should be stored in bins and/ or skips and emptied regularly at a designated waste disposal area away from the camp site. If no designated site is available within the reach, a dug-hole at a nearby place can be used with periodic filling with soil layer for preventing pollution and generating nutrient rich compost soil over time.	Contractor	Environmental Consultant of PIU, Union Parishad Member
Pre-Construction and	Rigorous Monitoring and Report Preparation and Submission	• The Contractor shall appoint (i) ES Manager (ii) Env. Officer, (iii) Social Officer (iv) Community Organizer and (v) H&S Officer for strict management and	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Construction		monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. • Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU.		
Operation & Maintenance	Road Safety. Impacts include: • The increased vehicular movement and speed may trigger road safety issues like traffic accidents. The accidents may also be due to tiredness of drivers. • Widened road, lack of road safety signage or speed-breakers at crossings/strategic locations and sidewalks, and reckless driving may cause road accidents or traffic injuries.	Road safety issues can be minimized in following ways: • By enforcing speed limits and imposing penalties on the traffic violators will ensure the road safety. • Traffic signs will be provided to facilitate road users about speed limits, rest/parking areas, no-horn areas, etc. Warning messages will also be displayed at appropriate locations to aware drivers about likely accidents due to over speeding.. • All the lanes, median, sharp bends will be reflectorized to facilitate travelers in the night time.	UE (Upazila Engineer)	District Executive Engineer, LGED

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	• Provision to maintain noise and vibration from the operation and maintenance of machinery and equipment by proper monitoring and measures. • Provision to take necessary lighting, caution for the works and necessary maintenance should be done in day light.	Upazila Engineer	District XEN, LGED

Cost of Environmental Enhancement Works in BOQ

In consideration to the above-mentioned environmental impacts and their mitigation measures for this sub-project, the following items are included in the BOQ of this sub-project.

Cost of Environmental Enhancement Works in BOQ

Sl no.	Description of item	Quantity	Unit price	Total amount
1.	**Grass Turfing** Turfing on embankment top and slope & any critical place with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of E.I.C. (Payment to be made only when grass is fully grown)	3600. Sq.m	@38.15 Tk. Per sqm	137,340.00
2.	**Dust suppression measures** Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C	3000	@ 2.56 BDT	7,680.00
3.	**Water Supply and Sanitation** Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-charge. Temporary Toilet: Construction of temporary toilets in work site/ rest area complete as per design and specifications and approved by the Engineer-in-Charge. There should be 1 camp in each site. In each camp, there should be 1 no of toilet for women and 1 no of toilet for men.	2 nos.	@12822.86 per toilet	25,645.72
4.	**First Aid Box** Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and site office, and erect conspicuous notice boards directing where these are situated and providing all requisite emergency medical first aid kits, including complying with the government medical or labour requirements at all times, and provide, equip and maintain	1 no.	LS @5000 Tk. Per box	5,000

Sl no.	Description of item	Quantity	Unit price	Total amount
	necessary dressing kits throughout the working period for attending minor injuries, etc. all complete as per requirement and full satisfaction of Engineer-in-charge.			
5.	**Drinking Water Facilities** Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge.	1 no.	LS @ Tk. 30,000	30,000
6.	**Traffic Management** Maintaining traffic management at worksite from time of commencement of contractor's activities to time of completion activities, including ensuring that the road is safe for users, providing a safe working area for those involved in work on trafficked network and minimizing any disruption to smooth flow of traffic (this includes providing necessary barricades, warning signs/lights, guide signs, flagmen, maintaining diversion roads by cutting, filling, constructing, etc. or by any other means) in accordance with the full satisfaction of the Engineering-in-charge.	1 no.	LS @ Tk. 15,000	15,000
7.	**Personal Protection Equipment for Workers** Providing and maintaining appropriate (safe design, fit and comfort) personal protection equipment (PPE) to ensure the highest possible protection for employees in establishing and maintaining a safe and healthful working environment at workplace, including demonstrating, providing training on proper understanding and development of skill in the use of PPE, including supplying (i) best quality safety jacket, (ii) suitable hand protection gloves, (iii) appropriate foot protection shoes, (iv) best quality safety helmets, face shields, ear muffs etc. (v) suitable eye protection goggles	LS	LS @ Tk 30,000	30,000

Sl no.	Description of item	Quantity	Unit price	Total amount
8.	**Motivation training** Motivation training (twice: before and after construction start) of the Upazila Engineer 'sand Contractor's representatives on safety practice and as per direction of the E.I.C.	1 no.	LS @ Tk. 10,000	10,000
9.	**Waste disposal facility** Temporary camp site waste disposal facility improvement 2 nos. (1 no of organic waste and 1 no of inorganic waste disposal facility) and as per direction of E.I.C.	LS	@ Tk. 5000	5,000
10.	**Water Test (Drinking Water samples)** Water samples are to be collected periodically (half yearly) from the tube well at labor shed area for laboratory analysis of different parameters such as pH, arsenic, iron, chloride, hardness, total dissolved solids, nitrate, nitrite, coliform, electrical conductivity etc. all complete as per direction of E.I.C. (including the cost of actual fees for testing from reputed laboratory and report) as desired by E.I.C.	LS	@ Tk. 5000	5,000
11.	**Working labour shed:** Construction of Labor shed (Size: 30'x20') with C.I sheet Roofing, Tarza fencing and brick soling floor as per requirement and direction of the E-I-C.	1 no.	LS @ Tk. 30,000	30,000
12.	**Environmental management** Environmental management costs of the Environment & Social/ Safeguard Personnel for Environmental and Social Management and Monitoring during construction and operation phase for their salary & transport (Net payment excluding Tax &VAT). And as per direction of the E.I.C. **[One person to be appointed for 5 roads]**	Each	@ Tk. 35000	35,000
Total amount for this Road				**335,665.72**






Figure: Existing Surroundings of the Sub-Project

Name of Sub-Project: Improvement of Community Road for **Ashera-Raypur Rd, ID: 636444001**

Implementing Agency/Agencies: Local Government Engineering Department (LGED)

District: Habiganj **Upazila:** Habiganj Sadar **Union:** Richi, Lukra

Name of Community/Local Area: Uttar Haldibari, Mojor Hhowpati, Dakkhin Sindurna

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.):
The proposed sub-project involves the improvement of the Ashera–Raypur Road, which is currently unpaved from chainage 0+000 to 1+100. The proposed intervention includes bituminous carpeting along the entire stretch to improve accessibility and ensure all-weather usability. Existing structures include culverts at chainages 0+188 (3.2 m × 2.4 m) and 0+328 (3.1 m × 3.6 m). Additional drainage facilities include U-drains at chainages 0+790 and 1+100, each measuring 0.9 m × 1.2 m. These improvements will enhance drainage performance and improve the structural condition of the road. No safeguard features were observed on site.

Estimated footprint / land area for this sub-project is 3,300 sqm.

Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 1100m. Detail Environmental features within 100m of the both sides from the center line were collected @300m longitudinal intervals. The findings of the survey for the aforementioned road can be seen in the table below:

Table: Detailed Chainage length of the Sub-Project

Chainage	(Left/Right)		Environmental and Social Impact
00-300	L		Ditch 5m, Agricultural Land 15m
		R	Ditch 5m, Agricultural Land 15m
300-600	L		Ditch 5m, Agricultural Land 15m
		R	Ditch 5m, Agricultural Land 20m
600-900	L		Ditch 5m, Agricultural Land 20m
		R	Ditch 5m, Agricultural Land 20m
900-1100	L		Ditch 5m, Agricultural Land 20m
		R	Ditch 5m, Agricultural Land 20m

Starting Point of Ashera-Raypur Road

Overall Comments

D&SC conducted consultation meeting with community regarding the sub-project activities. Local people of the subproject area are very much optimistic about the success of the project and are also eager to participate in the project activities. The local individuals were participated in participatory public consultation meeting. Local communities have no objection to construction this sub-project. The community also appreciated the initiative for having easily accessible and passive their emergency situation. The proposed sub-project is not located within any remarkable environmentally sensitive area and will not cause any severe effect to the environmental setting of the area thus not going to create intimidation to important environmental features. No drainage congestion/water logging have been observed in the road area. But, some local trees like Mehogoni, rain tree etc., or additional vegetation may need to clear out due to construction activities, with appropriate offsetting measures to be taken. No agricultural productive soil will be used for the purpose. Earth will be compacted for stabilization. The inputs will be mainly at construction phase and limited within project boundary. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

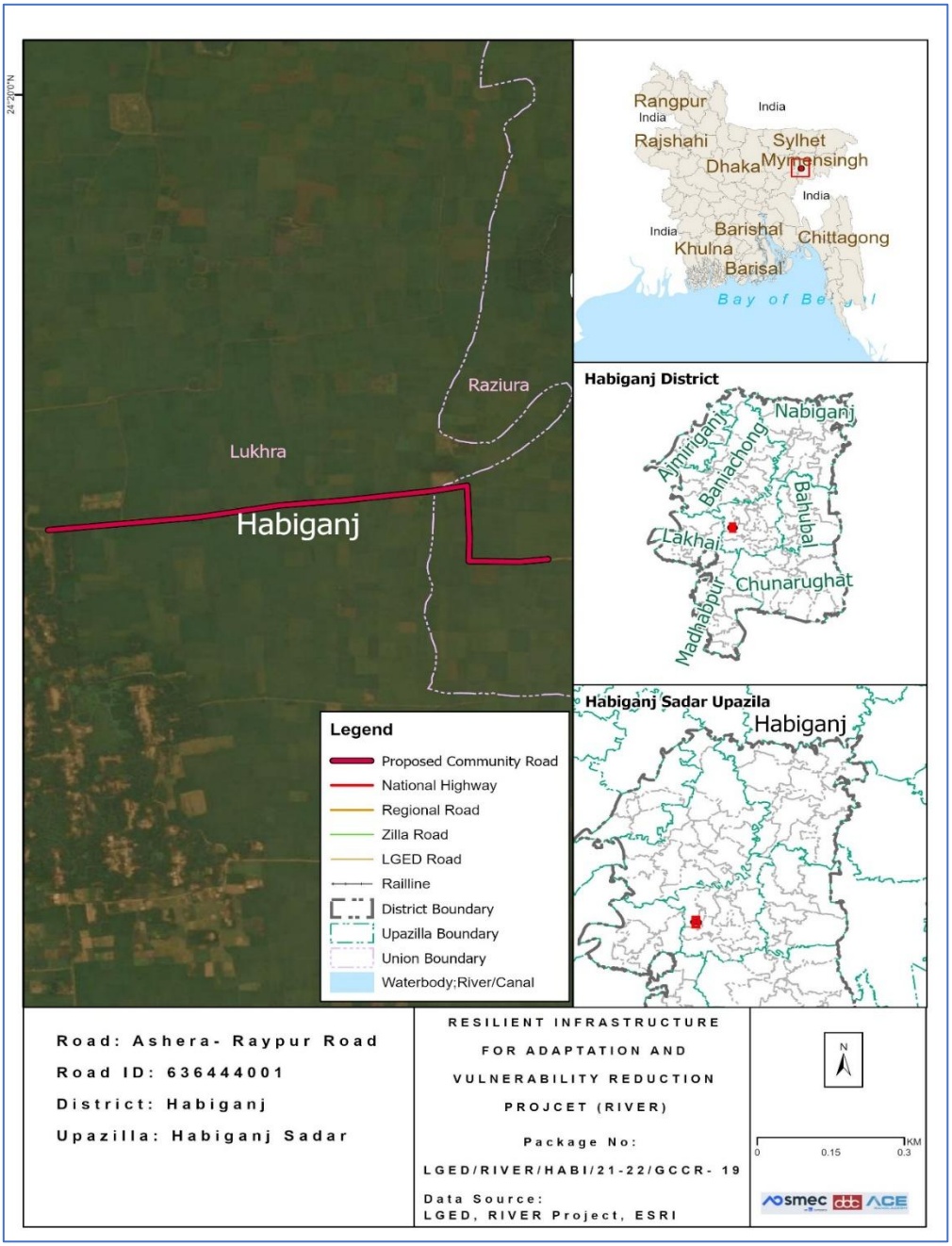
It has been revealed that this project's scope of works does not intend to overtake their area of lodgment and funding entity has no intention to do so. Moreover, other issue has also been brought to their attention that drainage system and cross drains, culverts have also been included into the evaluation of this project since runoff from higher grounds are also a concerning matter during rainy season. The proposed Sub-project area for the construction included flat areas and moderate hillock village road is not located within any identified environmentally sensitive area, and therefore, does not seem to cause any adverse impact on the important environmental features. No significant impact is expected on the ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects.

Types of waste to be generated during construction and operation phase:
During construction period solid waste will be generated due to construction activities. The

types of wastes are brick pit, unused sand, wood, gravels, bitumen etc. Negligible amount of plastic, fuel etc. in equipment yards. Human wastes might be deposited in labor camp.

Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including elephant migration routes and remaining forests:

No historical or archaeological sites were identified within the project area. The alignment is predominantly characterized by agricultural land and drainage features. From Ch. 0+000 to 1+100, both sides consistently include ditches at approximately 5 m and agricultural land at 15 m to 20 m. These features indicate a relatively simple rural environment with limited sensitive receptors. As construction will remain within the existing alignment, no significant impacts are anticipated.



Location Map of the proposed Road

Completed environmental and social screening forms are given below:

Section A: Sub-Project Overview

Description of sub-project/component interventions:
The Sub-Project is categorized as a union road. Based on field survey, this sub-project involves an unpaved/earthen setting. According to the design this sub-project will be developed with Bituminous Carpeting from Ch. 00 m and Ch. 1100 m.

Sub-project Location:

Important Features	
ID	636444001
District	Habiganj
Upazila	Habiganj Sadar
Union	Lukra
Total Chainage	1100m
Proposed Chainage	1100m
Road Type	Union Road
Proposed Intervention Type	Bituminous Carpeting (BC)
Road Starting Point Coordinates	Latitude: 24.32479167 N Longitude: 91.36083611 E
Road Ending Point Coordinates	Latitude: 24.32418333 N Longitude: 91.36998889 E

Land ownership
Land is owned by Government.

Expected construction period: 12 (twelve months approximately)

Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive environmental areas such as elephant corridors, water bodies, etc. and historical or socio-cultural assets): Please also explain any analysis on alternative location was conducted:

- The proposed Sub-project is located within the Ashera village.
- No historical sites were found
- Some trees, vegetation and livelihood will be affected.
- Very low chance of loss of agricultural land.
- Some Household Boundary made of bamboo and tin may need adjustments.

Section B: Environmental and Social Screening

***B.1*: Environmental and Social feature of sub-project location**

Description of cultural properties (if applicable, including distance from site):

Sensitive environmental, cultural, archaeological, religious sites near (within the catchment area) of site including elephant migration routes and remaining forests:

Several sensitive environmental, cultural, archaeological, or religious sites were observed within the vicinity of the sub-project area. From Ch. 0+000 to 1+100, both sides consistently include ditches at approximately 5 m and agricultural land at 15 m to 20 m. These features indicate a relatively simple rural environment with limited sensitive receptors. As construction will remain within the existing alignment, no significant impacts are anticipated.

Location of environmental and Social important and sensitive areas:

There are no environmentally important or sensitive areas found in the areas, except some matured vegetation around the site. Several mosques, school and human settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary and necessary preventive and mitigation measures will be followed during the entire construction period.

Baseline air quality and noise levels:

Dust:

Ambient air quality data was not readily available, but quality is apparently good due to the appearance of rural vegetative settings around. Dust is slightly generated through movement of vehicles such as motor cycle, auto rickshaw, tempo, trolley etc. over the road surface which causes air pollution.

Conducting works at dry season and moving large quantity of materials may create dusts and increase in concentration of vehicle-related pollutants 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/ preventable by mitigation measures.

Noise:

Noise level also very low in the site area. Noise is originating from the commotion of locals. During construction period a rise in noise pollution may occur due to the transportation of equipment.

Baseline soil quality:

The sub-project area in Habiganj District is situated within the north-eastern floodplain zone of Bangladesh, where soil characteristics differ from the northern districts. The area is predominantly underlain by recent alluvial deposits associated with the Kushiara River and its tributaries. The soils are generally silty clay to clay in texture, with localized occurrences of silty loam in relatively elevated areas. These soils are seasonally influenced by flooding and prolonged water retention, resulting in moderate to high moisture content throughout much of the year. Due to their fine texture and water-holding capacity, the soils are suitable for paddy cultivation, which is the dominant agricultural practice in the region. In low-lying areas, particularly near haors and beels, the soils remain saturated for

extended periods during the monsoon season, further shaping land use patterns and crop selection.

Baseline surface water and groundwater quality (FE, TDS, fecal coliform, pH):

Groundwater is the main source of potable water in the sub-project area of Habiganj District. People in the area primarily depend on shallow and intermediate-depth tube wells for their daily domestic water needs. Due to the floodplain and haor-based hydrogeological setting, the groundwater table generally remains at a relatively shallow depth, typically ranging from approximately 80 to 180 feet below ground level, with seasonal fluctuations during the monsoon and dry periods. Groundwater quality assessments indicate the presence of elevated iron concentrations in tube-well water, which may cause aesthetic issues such as discoloration, odor, and staining if consumed without treatment. However, arsenic contamination in this region is generally low to negligible compared to other parts of Bangladesh. Therefore, appropriate public health measures, including installation of iron removal systems, regular water quality monitoring, and community awareness programs, are essential to ensure safe drinking water. Local people also use comparatively deeper tube-well sources where available for drinking purposes, as these tend to provide more reliable water quality from deeper aquifer zones.

Groundwater quality: pH-5.17 to 8.51, DO-2.26 to 8.14 mg/l, TDS-23.40 to 320 mg/l, EC-25.7 to 681 µS/cm, Fe-0.5 to 7.0 mg/l and As-Nil (Field Study Report, March 2026).

Status of wildlife movement:

The sub-project area in Habiganj District is characterized by a rich wetland-dependent biodiversity typical of the haor basin ecosystem. The area supports a variety of aquatic and semi-aquatic bird species commonly observed in seasonal wetlands, agricultural fields, and homestead vegetation. Frequently recorded species include pankouri (cormorant), dahuk (white-breasted waterhen), and various types of ducks and herons, which are adapted to the extensive waterlogged environment. These birds play an important role in maintaining ecological balance through fish predation, insect control, and nutrient cycling within wetland ecosystems. In addition, the presence of small wild mammals and reptiles, such as otter (Lutra spp.), mongoose, and different species of snakes, reflects the ecological characteristics of the haor region. These species contribute to controlling fish predators, rodents, and other small organisms, thereby supporting both natural ecosystems and local agricultural practices. The abundance of fish species in nearby beels and haors further highlights the productivity of the aquatic ecosystem. Overall, the composition of birds, mammals, and aquatic fauna in the area indicates a dynamic and water-dependent ecosystem, and the conservation of these habitats through sustainable wetland management, protection of natural water bodies, and environmentally responsible development is essential for maintaining biodiversity, ecological stability, and long-term environmental sustainability in the locality.

State of forestation:

Patches of vegetation containing large and matured trees across the road side of the proposed subproject area are located within 200m radial distance.

B.2: Pre construction Phase

Information on Ancillary Facilities (e.g. status of access road or any other facility required for sub-project to be viable): Concerning ancillary facilities, the access road for the sub-project is proper in order for the equipment vehicles to arrive at the proposed location. Nonetheless, heavy four wheelers will not be a suitable option, this may cause more dust in the air also, the route has narrow curves.
Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction: Toilet and water supply facilities will be ensured by the contractor in the vicinity of the construction area for all the components of the sub-project, electric connection will be established with the accommodation facility due for the workforce.
Possible location of labor camps: Labor camp can be established along the road since there are available open private lands. However, this will have to be done with the consent of land owner under a mutual agreement, with the supervision of the Engineer in charge.
Requirement and type of raw materials (e.g. sand, stone, wood, etc.): i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates vi) steels vii) Bitumen are the most common type of road materials used in construction.
Identification of access road for transportation (Yes/No): Yes. The Paved Road can offer space adjacent labor camp to facilitate material unloading. However, considerations need to be taken account for avoiding disturbance at points where mosque, graveyard, primary school and high school is located. The pickup trucks as material transportation vehicles can enter the access road. Manual head load from unloading point to different locations can be done.
Location identification for raw material storage: Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with local committee.
Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.): Earth/ mud, plastics, brick chips, cement dusts, dust from bricks, steel wires, during construction which can be identified as solid wastes. Also, sludge will be produced from labor camp latrines and kitchen waste mostly composing of organic matters as fiber, starch, carbohydrates and proteins. 10% of the kitchen waste may be classified as plastics or non-biodegradables.

B.3: Construction Phase

Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.): Residual waste from the labor camps will be generated. Equipment maintenance/vehicles on-site and scrap material will occur during construction work which are mostly solid

wastes. Leftover oils or spills from machinery can be a high probability generating liquid waste. Waste from civil works. And the quantity will be tentatively 350 kg.
Type and quantity of raw materials used (wood, bricks, cement, water, etc.): **Type:** i) Bricks, ii) Sand iii) cement iv) aggregates v) water vi) concretes vii) Bitumen are the most common type of road materials used in construction.
Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards: No such vegetation is present in the right of way. Specific soil amount is not needed for the project. The current condition explains that there is no aggregated soil on the right of way.
Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation) The possibility is Medium, for stagnant water bodies to occur. Because water usage will be higher during the construction period. By default, this area has no water logging troubles due to being natural channels. Moreover, no possibilities of stagnation of water in long run. So, local communities have stated that they do not have severe troubles with mosquitos or other disease vectors.
Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) No formal drainage system exists along this road alignment. However, natural drainage is consistently maintained through roadside ditches located on both sides throughout the entire corridor. Ditches are present at chainages 0–300 m, 300–600 m, 600–900 m, and 900–1100 m, each generally within approximately 5 m of the road centerline. The adjacent agricultural land, located within about 15 m to 20 m on both sides, further supports natural infiltration and runoff. Although no ponds, canals, or rivers were identified along this alignment, the continuous presence of ditches indicates that local drainage depends on these natural channels. As the proposed works will be limited to the existing alignment, only temporary and localized impacts are anticipated, provided that proper precautions are taken during construction to avoid blocking the drainage paths.
Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low. Under the improvement of this intervention, the effect of destruction or damage of lives, endangered species or ecosystem is very low. In the site area not observed such occurrence of lives that's life cycle and or movement areas disturbed (i.e. Insects - Ant, bees, earthworm, reptiles, birds etc.).
Activities that can lead to landslides, slumps, slips and other mass movements in road cuts: Scope of work leading to low scale effects of landslide. The impacts are negative but short-term and site-specific. It can be managed through mitigation measures.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description)

Low, Potential erosion may occur when moderately to highly sloping terrains are disturbed for the improvement of sub-project. The impacts are negative but short term, site specific within a relatively small area and adjustable by mitigation measures.
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: No traffic movement impacts on light but low effects of noise and air pollution.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

B.4: Operation Phase

Activities leading to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles: No
Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description) No
Possibility of odor and water, soil quality impacts from SWM and FSM disposal system: (High/Medium/Low with description) No.
Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation) There is no possibility of stagnant water bodies remained for encouraging mosquito breeding and other disease vectors, during the operation phase.
Likely direct and indirect impacts on economic development in the project areas by the sub-project: Construction or implementation of a road project substantially contributes to the development of the project areas. It surely improves the communication network, reduces the transport time, increases the trade and business in/around the areas, and ensures access to better living conditions with amenities, better educational and job opportunities and health facilities. Thus, the direct and indirect impacts on economic development in the project areas would be enormous by this sub-project.
Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) No existing drainage channels or surface water bodies found in the project area; therefore, no such effect can be anticipated
Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) There are no protected areas in or around project sites, and no known areas of ecological interest.
Activities leading to landslides, slumps, slips and other mass movements in road cuts:

The entire sub-project component area is nearly flat; thus, no such type of impacts is anticipated.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation) No
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: Improved road communication will definitely increase the traffic/ vehicular movement, which must increase the light and noise pollution, but air pollution effect will not be increased significantly, as the proposed BC road will reduce the pollution generated from dust on the muddy road, especially during the dry season and if the vehicles are maintained in good conditions.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

Environmental and Social Management Plan (ESMP) of this Sub project (site specific)

ESMP for Proposed Community Road: Ashera–Raypur Road

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Stakeholders Engagement	• All of the project stakeholders should be consulted • Separate community level consultation meeting with the potential affected HHs • All the safeguard documents will be disclosed to all relevant stakeholders. • People living in nearby communities will be involved with the GRM system and representatively included in the project GRCs.	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Loss of right to access	• Project to ensure thorough analysis of alternatives that access enjoyed by the community remains intact. • In case of unavoidable circumstances, alternative access will be provided.	PIU	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Transportation and Storage of Construction materials (disturbance to traffic system and pedestrians, potential accidents to workers/ local people, generating dust and noise)	• Transportation of construction materials to the site will be carried out by covering the materials as a whole. • Store the materials in designated places, with proper fencing and coverings.	Contractor	Environmental Consultant of PIU
Pre-Construction	Sanitation and water supply	• Sanitation facilities (male and female toilets with septic tanks, wash-basins, etc.) for workers and constructor's	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Stage		officials/employees will be provided, and ensure regular cleaning of those. • Potable water supply will be ensured for every workers/employees in the site. Water sample will be checked at local DPHE laboratory to ensure the portability, and water should be filtered through appropriate filtering system, before supplying to the consumers.		
Pre-Construction Stage	Site Selection for workers camps, stack yards & implementing interventions: Generation of ESHS issues.	• Workers camp, site office and stack yard should be located at a site favorable for the workers and proposed by the contractor & approved by the Environmental Specialist of D&SC. • No trees, shrubs will be removed or vegetation stripped without prior permission of the Environmental Consultants. If any tree is required to remove for an unavoidable circumstance, 3 (three) numbers of trees will be planted for each tree removed and budgetary allocation for taking care of those trees for 12 months has to be ensured. • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site pre-approved by Environmental Specialist of D&SC. • Camp and working areas are to be kept clean and tidy at all times.	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• Stack materials will be covered with tarpaulins/ polythene in the yard and end parts of the reinforced steel bar/ iron rod will be properly covered with safety caps or clothes/jute sacks, etc. for avoiding any accidental events from those. • Hazardous materials, including oil, paints, etc. will be stored on a bunded area or wooden platform with polythene lying over it. • Proper fencing around the storage area and working site in order to get secured, to minimize the risk of crime and to be safe from access by students, children, animals, etc.		
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage	• All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind or surface runoff. • Construction facilities including materials are to be placed at least 10m distance from any water body in order to minimize the impacts on water bodies and natural water flow. • Tubewell location wherever required to install, within the construction site is not near to any kinds of latrine and soaks well which could be contaminated by those. • After completing the development, the site shall be restored as before.	PIU & Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• This site is in the local community, so continuous need-based discussion with the local community to avoid any conflicts will be taking place. • Sub project intervention must avoid natural disturbance to existing slop and natural drainage.		
Construction Activity	Noise from construction works	• Construction activities mostly shall finish at day time within 05:00 PM, and must confirm proper measures for avoiding any disturbance. • All Personal Protective Equipment (PPEs) must be available at sites before starting any kind of construction works. • Noise producing vehicles and equipment will be keep in maintenance regularly. • Since expensive engineering controls (e.g., acoustic curtains, noise barriers, etc.) may not be feasible in terms of availability and scope of the project works, noise reduction muffler or less expensive alternative options will be selected during the construction works.	Contractor	Environmental Consultant of PIU
Construction Activity	Dust	• Acceptable range of emission of CO, particulate matter [SPM (**Suspended particulate matter)**, PM2.5, 10] and Hydrocarbons must be maintained through good construction work practices. • Dust generation must be limited as a result of clearing, leveling and site grading operations with using water florescent manually and through water pipes.	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• Dust generation due to vehicle movement on connecting road shall be controlled by watering the path at limited level. • Construction materials should be covered properly while carrying in vehicles to the site.		
Construction Activity	Safety Issues	• Unauthorized entry is completely prohibited in construction site and take necessary measures for preventing this problem (e.g., employing guards at site office and stack yards, and maintaining a visitor's log book at entrance) • Before works start Contractor must provide proper training and guidance on health and safety issues to the labors and associated staff. • Records of every training must be kept at site. • All kinds of Child labour are completely prohibited in every site. • Every construction materials storage site will be well fenced by Tin and safety caution tape.	Contractor	Environmental Consultant of PIU
Construction Activity	Traffic Management	• Because of the sensitivity of the proposed project site in relation to traffic management, contractor must produce a detail Traffic Management Plan (TMP), incorporating all forms of alternative routes, schedule, work plan, emergency arrangement, etc. in the TMP.	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• Contractors will maintain proper route for traffic management which is to be consulted with and confirmed by the district Executive Engineer. • Local traffic police department should be contacted, if traffic problem becomes more complex.		
Construction Activity	Increase in road accidents	• Maintain safety measures during the movement of heavy machinery and equipment. • Proper signage to be displayed at major junctions; and road diversions and closures to be informed well in advance to the local community. • Vehicular movement to be controlled near sensitive locations (e.g., schools, colleges, hospitals, etc.) • Local community will be trained up on traffic management and awareness.	Contractor	Environmental Consultant of PIU
Construction Activity	Labor Base Camp: Conflicts with the local residents	• Awareness building session will be undertaken about prevention of child abuse, child marriage, GBV, sexual harassment, trafficking of women and children as well as illegal drug trade. Written records of this awareness building session shall be kept on site. • Work force should be prohibited from disturbing the flora, fauna including hunting of animals, wildlife hunting, poaching and tree felling. • Adequate facilities ensuring sanitation for labor camps will be put in place. • Treated water will be made available at site for drinking	Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		purpose. • Adequate accommodation arrangements for labor forces. • Labor code of conduct is to be disclosed through consultation.		
Construction Activity	Labour related issues and grievances	• A separate grievance mechanism for workers has to be established for the work package. • Complaints box (preferably for anonymous reporting) /grievance register will be provided to each construction sites; and will be checked and redressed in weekly manner. • Appropriate notification or training to the workers about the scope and procedure of the grievance system will be provided at the starting of the work. All new workers recruited at different times/phases will be oriented about the same.		
Construction Activity	Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.	Preparation of a waste management plan covering the following aspects: • Waste from the temporary accommodation facilities for labor and equipment maintenance/vehicles on-site. • The construction debris material generated from the erection of structures and demolition works (wherever applicable), and related construction activities will be collected and stored separately in a stack yard and sold to local recyclers.	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• Hazardous waste viz. waste oil etc. will be collected and stored in the paved and bounded area and subsequently sold to authorized recyclers. • Refueling areas and other fluid transfer areas will be imperviously paved. • Workers will be trained on the correct transfer and handling of fuels and chemicals and the response to spills (incl. equipment deployment) and the site will be provided with portable spill containment and cleanup equipment. • Applicability of the Hazardous Waste Management Rules.		
Construction Activity	Health & Safety Risks: • The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, mobile plant and vehicles, and electrical shocks. • Exposure to health events during	• All construction equipment will be properly inspected timely. • The risk assessment will be prepared and communicated prior to the commencement of work for all types of work activities on site. • Provide walkways that are clearly designated as a walkway; all walkways shall be provided with good conditions underfoot; signposted and with adequate lighting. • Proper Signpost at any slippery areas will be ensured in construction site. • Fire extinguishers will be located at identified fire points around the site. The extinguishers must be appropriate to the nature of the potential fire.	Contractor	Environmental Consultant as well as Social Development and Gender Specialists of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis.	• Provision to first aid box containing adhesive bandages, antibiotic ointment, antiseptic wipes, aspirin, non-latex gloves, scissors, thermometer, etc. in sub-project sites will be ensured. Proper Emergency evacuation response plan will exist in sub-project area. • All safety equipment will be available in sub-project site (safety, size, power, efficiency, ergonomics, cost, user acceptability etc.), the lowest vibration tools will be provided that are suitable and can do the works. • Awareness training will be given to all personnel involved during the construction phase in order to highlight the heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration. Written records of this awareness training shall be kept on site. • Adequate quantities of drinking water will be available at all Sites, on different locations within the site. • Provision to maintain proper PPE wherever necessary and to ensure that there are satisfactory washing and changing facilities. • Provision to ensure all workers exposed to a risk are aware of the possible dangers and also given thorough training on how to protect themselves and there should be effective supervision to ensure that the correct methods are being used.		
Construction Activity	Pollution of water bodies	• Ensure monitoring of nearby surface and underground water bodies for signs of contamination. Parameters	Contractor	Environmental Consultant of

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results are to be compared with Bangladesh Environmental Quality Standards of DoE. • The earthwork sites where exposed land surface is vulnerable to runoff shall be consolidated and/or covered (e.g., pond, canal, ditch's side will be protected by palisading, etc.) • The material stockpile sites shall be far away from surface water bodies and areas prone to surface run-off. Loose materials shall be bagged and covered. • Channels, earth bunds, netting, tarpaulin and or sand bag barriers shall be used on site to manage surface water runoff and minimize erosion. • The overall slope of the work areas and stack yards shall be kept to a minimum to reduce the erosive potential of surface water flows elsewhere. • Workers must specify waste dump locations to avoid littering which in turn might negatively affect surface and ground water.		PIU/D&SC.
Construction Activity	Demobilization of structures, facilities and equipment used during the project implementation period (including site clearance after the	• Remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; • Ensure that all affected structures rehabilitated/compensated; • The area that previously housed the construction camp	Contractor	Environmental Consultant of PIU/D&SC, district XEN.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	construction). The impacts are similar to those listed in construction stage: • Pollution from waste materials. • Health & Safety risks to workers and local community.	is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. • Disposal of faecal sludge from latrines is to be undertaken properly, if management on site becomes problematic; • All imported materials are to be removed and the area shall be re-vegetated/re-grassed as per specification that forms part of this document. • The contractor must arrange the cancellation of all temporary services.		
Construction activity	Odours and pollution caused by leaking latrines and faecal sludge, and solid wastes impacting surrounding water bodies, flora and fauna	• Preventative maintenance schedule should be followed. • Solid organic wastes should be stored in bins and/ or skips and emptied regularly at a designated waste disposal area away from the camp site. If no designated site is available within the reach, a dug-hole at a nearby place can be used with periodic filling with soil layer for preventing pollution and generating nutrient rich compost soil over time.	Contractor	Environmental Consultant of PIU, Union Parishad Member
Pre-Construction and Construction	Rigorous Monitoring and Report Preparation and Submission	• The Contractor shall appoint (i) ES Manager (ii) Env. Officer, (iii) Social Officer (iv) Community Organizer and (v) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget.	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU.		
Operation & Maintenance	Road Safety. Impacts include: • The increased vehicular movement and speed may trigger road safety issues like traffic accidents. The accidents may also be due to tiredness of drivers. • Widened road, lack of road safety signage or speed-breakers at crossings/strategic locations and sidewalks, and reckless driving may cause road accidents or traffic injuries.	Road safety issues can be minimized in following ways: • By enforcing speed limits and imposing penalties on the traffic violators will ensure the road safety. • Traffic signs will be provided to facilitate road users about speed limits, rest/parking areas, no-horn areas, etc. Warning messages will also be displayed at appropriate locations to aware drivers about likely accidents due to over speeding. • All the lanes, median, sharp bends will be reflectorized to facilitate travelers in the night time.	UE (Upazila Engineer)	District Executive Engineer, LGED
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	• Provision to maintain noise and vibration from the operation and maintenance of machinery and equipment by proper monitoring and measures. • Provision to take necessary lighting, caution for the works and necessary maintenance should be done in day light.	Upazila Engineer	District XEN, LGED

Cost of Environmental and Social Enhancement Works in BOQ

In consideration to the above-mentioned environmental impacts and their mitigation measures for this sub-project, the following items are included in the BOQ of this sub-project.

Cost of Environmental Enhancement Works in BOQ

Sl no.	Description of item	Quantity	Unit price	Total amount
1.	**Grass Turfing** Turfing on embankment top and slope & any critical place with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of E.I.C. (Payment to be made only when grass is fully grown)	1320 Sq.m	@38.15 Tk. Per sqm	50,358.00
2.	**Dust suppression measures** Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C	1100.0 m	@ 2.56 BDT	2,816.00
3.	**Water Supply and Sanitation** Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-charge. Temporary Toilet: Construction of temporary toilets in work site/ rest area complete as per design and specifications and approved by the Engineer-in-Charge. There should be 1 camp in each site. In each camp, there should be 1 no of toilet for women and 1 no of toilet for men.	2 nos.	@12822.86 per toilet	25,645.72
4.	**First Aid Box** Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and site office, and erect conspicuous notice boards directing where these are situated and providing all requisite emergency medical first aid kits, including complying with the government medical or labour requirements at all times, and provide, equip and maintain necessary dressing	1 no.	LS @5000 Tk. Per box	5,000.00

Sl no.	Description of item	Quantity	Unit price	Total amount
	kits throughout the working period for attending minor injuries, etc. all complete as per requirement and full satisfaction of Engineer-in-charge.			
5.	**Drinking Water Facilities** Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge.	1 no.	LS @ Tk. 30,000	30,000.00
6.	**Traffic Management** Maintaining traffic management at worksite from time of commencement of contractor's activities to time of completion activities, including ensuring that the road is safe for users, providing a safe working area for those involved in work on trafficked network and minimizing any disruption to smooth flow of traffic (this includes providing necessary barricades, warning signs/lights, guide signs, flagmen, maintaining diversion roads by cutting, filling, constructing, etc. or by any other means) in accordance with the full satisfaction of the Engineering-in-charge.	1 no.	LS @ Tk. 15,000	15,000.00
7.	**Personal Protection Equipment for Workers** Providing and maintaining appropriate (safe design, fit and comfort) personal protection equipment (PPE) to ensure the highest possible protection for employees in establishing and maintaining a safe and healthful working environment at workplace, including demonstrating, providing training on proper understanding and development of skill in the use of PPE, including supplying (i) best quality safety jacket, (ii) suitable hand protection gloves, (iii) appropriate foot protection shoes, (iv) best quality safety helmets, face shields, ear muffs etc. (v) suitable eye protection goggles	LS	LS @ Tk 30,000	30,000.00
8.	**Motivation training**	1 no.	LS @ Tk. 10,000	10,000.00

Sl no.	Description of item	Quantity	Unit price	Total amount
	Motivation training (twice: before and after construction start) of the Upazila Engineer 'sand Contractor's representatives on safety practice and as per direction of the E.I.C.			
9.	**Waste disposal facility** Temporary camp site waste disposal facility improvement 2 nos. (1 no of organic waste and 1 no of inorganic waste disposal facility) and as per direction of E.I.C.	LS	@ Tk. 5000	5,000.00
10.	**Water Test (Drinking Water samples)** Water samples are to be collected periodically (half yearly) from the tube well at labor shed area for laboratory analysis of different parameters such as pH, arsenic, iron, chloride, hardness, total dissolved solids, nitrate, nitrite, coliform, electrical conductivity etc. all complete as per direction of E.I.C. (including the cost of actual fees for testing from reputed laboratory and report) as desired by E.I.C.	LS	@ Tk. 5000	5,000.00
11.	**Working labour shed:** Construction of Labor shed (Size: 30'x20') with C.I sheet Roofing, Tarza fencing and brick soling floor as per requirement and direction of the E-I-C.	1 no.	LS @ Tk. 30,000	30,000.00
12.	**Environmental management** Environmental management costs of the Environment & Social/ Safeguard Personnel for Environmental and Social Management and Monitoring during construction and operation phase for their salary & transport (Net payment excluding Tax &VAT). And as per direction of the E.I.C. **[One person to be appointed for 5 roads]**	Each	@ Tk. 35000	35,000.00
	Subtotal Bill: Environmental and Social facilities			**243,819.72**

Figure: Existing Surroundings of the Sub-Project

Name of Sub-Project: Improvement of Community Road for **Shahjibazar-Sadurbazar road to Nurpur UP-Kesobpur Bazar, ID: 636443012**
Implementing Agency/Agencies: Local Government Engineering Department (LGED)

District: Habiganj **Upazila:** Sayestaganj **Union:** Bramandora

Name of Community/Local Area: Bisaura

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The proposed sub-project involves the improvement of the Shahjibazar–Sadurbazar Road to Nurpur UP–Kesobpur Bazar, which is an existing bituminous road from chainage 0+000 to 2+100 with damaged sections from 0+000 to 0+800. The proposed intervention includes bituminous carpeting along the full stretch to restore pavement condition and improve durability. Existing structures include multiple culverts located at chainages 0+076 (3.8 m × 5.8 m), 0+185 (1.4 m × 6.2 m), 0+266 (1.4 m × 6.2 m), 0+348 (5.2 m × 6 m), 0+495 (1.4 m × 6.2 m), 1+210 (3.1 m × 3.8 m), and 1+768 (3.8 m × 5.6 m). A U-drain measuring 1.7 m × 5 m is located at chainage 0+103. Proposed palisading works include sections at 0+004 on the left side, 0+080 to 0+105 on both sides, and 1+740 on the right side. These measures will improve drainage, protect the embankment, and enhance road safety. No safeguard features were observed on site.

Estimated footprint / land area for this sub-project is 6,720 sqm.

Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 00m to 2100m. Detail Environmental features within 100m of the both sides from the center line were collected @300m longitudinal intervals. The findings of the survey for the aforementioned road can be seen in the table below:

Table: Detailed Chainage length of the Sub-Project

Chainage	(Left/Right)		Environmental and Social Impact
00-300	L		Agricultural Land 5m, Settlement 150m
		R	Agricultural Land 6m, Small Canal 5m
300-600	L		Settlement 30m, Small Canal 3.5m
		R	Settlement 15m, Agricultural Land 15m
600-900	L		Pond 5m, Settlement 10m, Agricultural Land 6m
		R	Agricultural Land 5m, Fish Pond 15m, Settlement 6m
900-1200	L		Bazar 5m, Agricultural Land 600m
		R	Bazar 5m, Kesobpur Old GPS 100m

Chainage	(Left/Right)		Environmental and Social Impact
1200-1500	L		Settlement 20m, Agricultural Land 200m, New Kesobpur GPS 100m
		R	Settlement 5m, Small Canal 5m
1500-1800	L		Settlement 10m, Agricultural Land 10m
		R	Canal 15m, Settlement 20m, Agricultural Land 10m
1800-2100	L		Settlement 20m, Agricultural Land 25m, Kesobpur Bazar 5m
		R	Settlement 10m, Eidgah 5m, Mosque 20m, Bazar 5m

Starting Point of Shahjibazar-Sadurbazar road to Nurpur UP-Kesobpur Bazar Road

Overall Comments

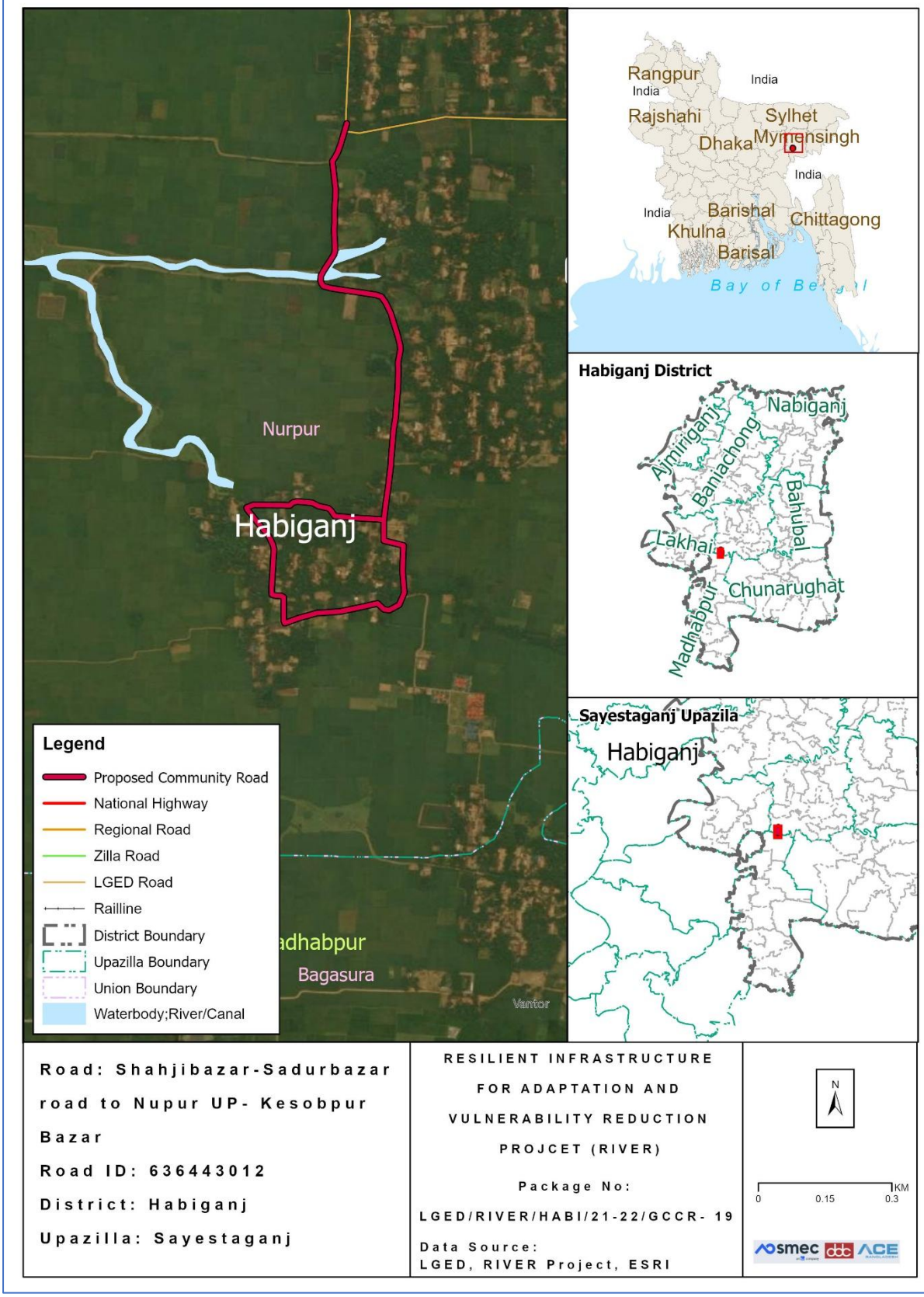
D&SC conducted consultation meeting with community regarding the sub-project activities. Local people of the subproject area are very much optimistic about the success of the project and are also eager to participate in the project activities. The local individuals were participated in participatory public consultation meeting. Local communities have no objection to construction this sub-project. The community also appreciated the initiative for having easily accessible and passive their emergency situation. The proposed sub-project (Road construction) is not located within any remarkable environmentally sensitive area and will not cause any severe effect to the environmental setting of the area thus not going to create intimidation to important environmental features. No drainage congestion/water logging have been observed in the road area. But, some local trees like betel nut, rain tree etc., or additional vegetation may need to clear out due to construction activities, with appropriate offsetting measures to be taken. No agricultural productive soil will be used for the purpose. Earth will be compacted for stabilization. The inputs will be mainly at

construction phase and limited within project boundary. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

It has been revealed that this project's scope of works does not intend to overtake their area of lodgment and funding entity has no intention to do so. Moreover, other issue has also been brought to their attention that drainage system and cross drains, culverts have also been included into the evaluation of this project since runoff from higher grounds are also a concerning matter during rainy season. The proposed Sub-project area for the construction included flat areas and moderate hillock village road is not located within any identified environmentally sensitive area, and therefore, does not seem to cause any adverse impact on the important environmental features. No significant impact is expected on the ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects.

Types of waste to be generated during construction and operation phase:
During construction period solid waste will be generated due to construction activities. The types of wastes are brick pit, unused sand, wood, gravels, bitumen etc. Negligible amount of plastic, fuel etc. in equipment yards. Human wastes might be deposited in labor camp.

Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including elephant migration routes and remaining forests:
No historical or archaeological sites were identified within the influence area. The alignment includes agricultural land, settlements, water bodies, and community facilities. From Ch. 0+000 to 0+300, agricultural land and settlements are present, along with a small canal on the right. Between Ch. 0+300 and 0+600, settlements and small canals are located on both sides. From Ch. 0+600 to 0+900, ponds, fish ponds, settlements, and agricultural land are present. Between Ch. 0+900 and 1+200, bazaars are located on both sides, along with Kesobpur Old GPS at approximately 100 m. From Ch. 1+200 to 1+500, settlements, agricultural land, and New Kesobpur GPS at 100 m are located on the left, while the right side includes settlements and canals. Between Ch. 1+500 and 1+800, canals, settlements, and agricultural land are present. From Ch. 1+800 to 2+100, settlements, agricultural land, Kesobpur Bazar, Eidgah at 5 m, and a mosque at 20 m are located. These features reflect strong socio-economic and religious importance, though impacts remain minimal.



Location Map of the proposed Road

Completed environmental and social screening forms are given below:

Section A: Sub-Project Overview

Description of sub-project/component interventions:

The sub-project is classified as a **village road**. Based on the field survey, this sub-project involves the rehabilitation of damaged sections through **Bituminous Carpeting (BC).** According to the project design, the road will be upgraded with **Bituminous Carpeting (BC)** along the entire alignment from **Chainage 0 m to Chainage 2100 m.**

Sub-project Location:

Important Features	
ID	636443012
District	Habiganj
Upazila	Sayestaganj
Union	Bramandora
WARD	
Total Chainage	2100m
Proposed Chainage	2100m
Road Type	Village Road
Proposed Intervention Type	Bituminous Carpeting (BC)
Road Starting Point Coordinates	Latitude: 24.27388889 N Longitude: 91.35416667 E
Road Ending Point Coordinates	Latitude: 24.255 N Longitude: 91.355 E

Land ownership

Land is owned by Government.

Expected construction period: 12 (twelve months approx.)

Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive environmental areas such as elephant corridors, water bodies, etc. and historical or socio-cultural assets): Please also explain any analysis on alternative location was conducted:

- The proposed Sub-project is located within Bisaura village.
- No historical sites were found
- Not required to relocate local community.
- Some trees, vegetation and livelihood will be affected.
- Very low chance of loss of agricultural land.
- Some Household Boundary made of bamboo and tin may need adjustments.

Section B: Environmental and Social Screening

***B.1*: Environmental and Social feature of sub-project location**

Description of cultural properties (if applicable, including distance from site):

Sensitive environmental, cultural, archaeological, religious sites near (within the catchment area) of site including elephant migration routes and remaining forests:

Several sensitive environmental, cultural, religious, and educational institutions are located within approximately 1 kilometer of the project site. From Ch. 0+000 to 0+300, agricultural land and settlements are present, along with a small canal on the right. Between Ch. 0+300 and 0+600, settlements and small canals are located on both sides. From Ch. 0+600 to 0+900, ponds, fish ponds, settlements, and agricultural land are present. Between Ch. 0+900 and 1+200, bazaars are located on both sides, along with Kesobpur Old GPS at approximately 100 m. From Ch. 1+200 to 1+500, settlements, agricultural land, and New Kesobpur GPS at 100 m are located on the left, while the right side includes settlements and canals. Between Ch. 1+500 and 1+800, canals, settlements, and agricultural land are present. From Ch. 1+800 to 2+100, settlements, agricultural land, Kesobpur Bazar, Eidgah at 5 m, and a mosque at 20 m are located. These features reflect strong socio-economic and religious importance, though impacts remain minimal.

Location of environmental and Social important and sensitive areas:

There are no environmentally important or sensitive areas found in the areas, except some matured vegetation around the site. Several mosques, school and human settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary and necessary preventive and mitigation measures will be followed during the entire construction period.

Baseline air quality and noise levels:

Dust:

Ambient air quality data for the project area was not readily available; however, the overall air quality appears to be good due to the rural environment and the presence of surrounding vegetation and agricultural land. A small amount of dust is generated by the movement of vehicles such as motorcycles, auto-rickshaws, tempos, trolleys, van-garis, and bicycles along the existing road surface, which contributes slightly to local air pollution.

Construction activities during the dry season and the transportation of large quantities of construction materials may create additional dust and increase the concentration of vehicle-related pollutants. This may temporarily affect people who live and work near the project site. However, these impacts are expected to be negative but short-term, site-specific within a relatively small area, and reversible or preventable through appropriate mitigation measures.

Noise:

The existing noise level in the project area is generally low. Noise mainly originates from the daily activities and movement of local residents and vehicles. During the construction period, noise levels may temporarily increase due to the operation and transportation of

construction equipment and materials. However, these impacts will be temporary and limited to the construction period.
Baseline soil quality: The sub-project area in Habiganj District is situated within the north-eastern floodplain zone of Bangladesh, where soil characteristics differ from the northern districts. The area is predominantly underlain by recent alluvial deposits associated with the Kushiara River and its tributaries. The soils are generally silty clay to clay in texture, with localized occurrences of silty loam in relatively elevated areas. These soils are seasonally influenced by flooding and prolonged water retention, resulting in moderate to high moisture content throughout much of the year. Due to their fine texture and water-holding capacity, the soils are suitable for paddy cultivation, which is the dominant agricultural practice in the region. In low-lying areas, particularly near haors and beels, the soils remain saturated for extended periods during the monsoon season, further shaping land use patterns and crop selection.
Baseline surface water and groundwater quality (FE, TDS, fecal coliform, pH): Groundwater is the main source of potable water in the sub-project area of Habiganj District. People in the area primarily depend on shallow and intermediate-depth tube wells for their daily domestic water needs. Due to the floodplain and haor-based hydrogeological setting, the groundwater table generally remains at a relatively shallow depth, typically ranging from approximately 80 to 180 feet below ground level, with seasonal fluctuations during the monsoon and dry periods. Groundwater quality assessments indicate the presence of elevated iron concentrations in tube-well water, which may cause aesthetic issues such as discoloration, odor, and staining if consumed without treatment. However, arsenic contamination in this region is generally low to negligible compared to other parts of Bangladesh. Therefore, appropriate public health measures, including installation of iron removal systems, regular water quality monitoring, and community awareness programs, are essential to ensure safe drinking water. Local people also use comparatively deeper tube-well sources where available for drinking purposes, as these tend to provide more reliable water quality from deeper aquifer zones. Groundwater quality: pH-5.17 to 8.51, DO-2.26 to 8.14 mg/l, TDS-23.40 to 320 mg/l, EC-25.7 to 681 µS/cm, Fe-0.5 to 7.0 mg/l and As-Nil (Field Study Report, March 2026).
Status of wildlife movement: The sub-project area in Habiganj District is characterized by a rich wetland-dependent biodiversity typical of the haor basin ecosystem. The area supports a variety of aquatic and semi-aquatic bird species commonly observed in seasonal wetlands, agricultural fields, and homestead vegetation. Frequently recorded species include pankouri (cormorant), dahuk (white-breasted waterhen), and various types of ducks and herons, which are adapted to the extensive waterlogged environment. These birds play an important role in maintaining ecological balance through fish predation, insect control, and nutrient cycling within wetland ecosystems. In addition, the presence of small wild mammals and reptiles, such as otter (Lutra spp.), mongoose, and different species of snakes, reflects the ecological

characteristics of the haor region. These species contribute to controlling fish predators, rodents, and other small organisms, thereby supporting both natural ecosystems and local agricultural practices. The abundance of fish species in nearby beels and haors further highlights the productivity of the aquatic ecosystem. Overall, the composition of birds, mammals, and aquatic fauna in the area indicates a dynamic and water-dependent ecosystem, and the conservation of these habitats through sustainable wetland management, protection of natural water bodies, and environmentally responsible development is essential for maintaining biodiversity, ecological stability, and long-term environmental sustainability in the locality.
State of forestation: Patches of vegetation containing large and matured trees across the road side of the proposed subproject area are located within 200m radial distance.

B.2: Pre construction Phase

Information on Ancillary Facilities (e.g. status of access road or any other facility required for sub-project to be viable): Concerning ancillary facilities, the access road for the sub-project is proper in order for the equipment vehicles to arrive at the proposed location. Nonetheless, heavy four wheelers will not be a suitable option, this may cause more dust in the air also, the route has narrow curves.
Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction: Toilet and water supply facilities will be ensured by the contractor in the vicinity of the construction area for all the components of the sub-project, electric connection will be established with the accommodation facility due for the workforce.
Possible location of labor camps: Labor camp can be established along the road since there are available open private lands. However, this will have to be done with the consent of land owner under a mutual agreement, with the supervision of the Engineer in charge.
Requirement and type of raw materials (e.g. sand, stone, wood, etc.): i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates vi) steels vii) Bitumen are the most common type of road materials used in construction.
Identification of access road for transportation (Yes/No): Yes. The paved road can offer space adjacent labor camp to facilitate material unloading. However, considerations need to be taken account for avoiding disturbance at points where mosque, graveyard, primary school and high school is located. The pickup trucks as material transportation vehicles can enter the access road. Manual head load from unloading point to different locations can be done.
Location identification for raw material storage: Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with local committee.

Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.): Earth/ mud, plastics, brick chips, cement dusts, dust from bricks, steel wires, during construction which can be identified as solid wastes. Also, sludge will be produced from labor camp latrines and kitchen waste mostly composing of organic matters as fiber, starch, carbohydrates and proteins. 10% of the kitchen waste may be classified as plastics or non-biodegradables. Solid waste may amount to 20 kg daily and sludge may amount to 5 kg per day.

B.3: Construction Phase

Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.): Residual waste from the labor camps will be generated. Equipment maintenance/vehicles on-site and scrap material will occur during construction work which are mostly solid wastes. Leftover oils or spills from machinery can be a high probability generating liquid waste. Waste from civil works. And the quantity will be tentatively 350 kg.
Type and quantity of raw materials used (wood, bricks, cement, water, etc.): **Type:** i) Bricks, ii) Sand iii) cement iv) aggregates v) water vi) concretes vii) Bitumen are the most common type of road materials used in construction.
Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards: No such vegetation is present in the right of way. Specific soil amount is not needed for the project. The current condition explains that there is no aggregated soil on the right of way.
Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation) The possibility is Medium, for stagnant water bodies to occur. Because water usage will be higher during the construction period. By default, this area has no water logging troubles due to being natural channels. Moreover, no possibilities of stagnation of water in long run. So, local communities have stated that they do not have severe troubles with mosquitos or other disease vectors.
Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) No formal engineered drainage system has been identified along this alignment; however, several natural drainage features are present close to the road corridor. Small canals are located at 0–300 m on the right side at about 5 m, at 300–600 m on the left side at about 3.5 m, and at 1200–1500 m on the right side at about 5 m, while an additional canal is present at 1500–1800 m on the right side at about 15 m. A pond is located on the left side at 600–900 m at about 5 m, and a fish pond is present on the right side of the same section at about 15 m. The surrounding agricultural land, located within about 5 m to 25 m at different sections, also contributes to natural surface drainage and infiltration. These features are important for maintaining local hydrological balance. Although the project activities will remain within the existing road alignment, temporary disturbances may occur

during construction, and appropriate mitigation measures will therefore be needed to maintain uninterrupted drainage.
Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low. Under the improvement of this intervention, the effect of destruction or damage of lives, endangered species or ecosystem is very low. In the site area not observed such occurrence of lives that's life cycle and or movement areas disturbed (i.e. Insects - Ant, bees, earthworm, reptiles, birds etc.).
Activities that can lead to landslides, slumps, slips and other mass movements in road cuts: Scope of work leading to low scale effects of landslide. The impacts are negative but short-term and site-specific. It can be managed through mitigation measures.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description) Low, Potential erosion may occur when moderately to highly sloping terrains are disturbed for the improvement of sub-project. The impacts are negative but short term, site specific within a relatively small area and adjustable by mitigation measures.
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: No traffic movement impacts on light but low effects of noise and air pollution.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

B.4: Operation Phase

Activities leading to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles: No
Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description) No
Possibility of odor and water, soil quality impacts from SWM and FSM disposal system: (High/Medium/Low with description) No.
Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation) There is no possibility of stagnant water bodies remained for encouraging mosquito breeding and other disease vectors, during the operation phase.
Likely direct and indirect impacts on economic development in the project areas by the sub-project:

Construction or implementation of a road project substantially contributes to the development of the project areas. It surely improves the communication network, reduces the transport time, increases the trade and business in/around the areas, and ensures access to better living conditions with amenities, better educational and job opportunities and health facilities. Thus, the direct and indirect impacts on economic development in the project areas would be enormous by this sub-project.
Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) No existing drainage channels or surface water bodies found in the project area, therefore, no such effect can be anticipated.
Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) There are no protected areas in or around project sites, and no known areas of ecological interest.
Activities leading to landslides, slumps, slips and other mass movements in road cuts: The entire sub-project component area is nearly flat, thus no such type of impacts is anticipated.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation) No
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: Improved road communication will definitely increase the traffic/ vehicular movement, which must increase the light and noise pollution, but air pollution effect will not be increased significantly, as the proposed BC road will reduce the pollution generated from dust on the muddy road, especially during the dry season and if the vehicles are maintained in good conditions.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

Environmental and Social Management Plan (ESMP) of this Sub project (site specific)

ESMP for Proposed Community Road: Shahjibazar–Sadurbazar Road to Nurpur UP–Kesobpur Bazar Road

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Stakeholders Engagement	• All of the project stakeholders should be consulted • Separate community level consultation meeting with the potential affected HHs • All the safeguard documents will be disclosed to all relevant stakeholders. • People living in nearby communities will be involved with the GRM system and representatively included in the project GRCs.	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Loss of right to access	• Project to ensure thorough analysis of alternatives that access enjoyed by the community remains intact. • In case of unavoidable circumstances, alternative access will be provided.	PIU	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Transportation and Storage of Construction materials (disturbance to traffic system and pedestrians, potential accidents to workers/	• Transportation of construction materials to the site will be carried out by covering the materials as a whole. • Store the materials in designated places, with proper fencing and coverings.	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	local people, generating dust and noise)			
Pre-Construction Stage	Sanitation and water supply	• Sanitation facilities (male and female toilets with septic tanks, wash-basins, etc.) for workers and constructor's officials/employees will be provided, and ensure regular cleaning of those. • Potable water supply will be ensured for every workers/employees in the site. Water sample will be checked at local DPHE laboratory to ensure the portability, and water should be filtered through appropriate filtering system, before supplying to the consumers.	Contractor	Environmental Consultant of PIU
Pre-Construction Stage	Site Selection for workers camps, stack yards & implementing interventions: Generation of ESHS issues.	• Workers camp, site office and stack yard should be located at a site favorable for the workers and proposed by the contractor & approved by the Environmental Specialist of D&SC. • No trees, shrubs will be removed or vegetation stripped without prior permission of the Environmental Consultants. If any tree is required to remove for an unavoidable circumstance, 3 (three) numbers of trees will be planted for each tree removed and budgetary allocation for taking care of those trees for 12 months has to be ensured. • Provision of waste bins/ cans, where appropriate,	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• Litter is to be collected daily. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site pre-approved by Environmental Specialist of D&SC. • Camp and working areas are to be kept clean and tidy at all times. • Stack materials will be covered with tarpaulins/ polythene in the yard and end parts of the reinforced steel bar/ iron rod will be properly covered with safety caps or clothes/jute sacks, etc. for avoiding any accidental events from those. • Hazardous materials, including oil, paints, etc. will be stored on a bunded area or wooden platform with polythene lying over it. • Proper fencing around the storage area and working site in order to get secured, to minimize the risk of crime and to be safe from access by students, children, animals, etc.		
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage	• All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind or surface runoff. • Construction facilities including materials are to be placed at least 10m distance from any water	PIU & Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		body in order to minimize the impacts on water bodies and natural water flow. • Tubewell location wherever required to install, within the construction site is not near to any kinds of latrine and soaks well which could be contaminated by those. • After completing the development, the site shall be restored as before. • This site is in the local community, so continuous need-based discussion with the local community to avoid any conflicts will be taking place. • Sub project intervention must avoid natural disturbance to existing slop and natural drainage.		
Construction Activity	Noise from construction works	• Construction activities mostly shall finish at day time within 05:00 PM, and must confirm proper measures for avoiding any disturbance. • All Personal Protective Equipment (PPEs) must be available at sites before starting any kind of construction works. • Noise producing vehicles and equipment will be keep in maintenance regularly. • Since expensive engineering controls (e.g., acoustic curtains, noise barriers, etc.) may not be feasible in terms of availability and scope of the	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		project works, noise reduction muffler or less expensive alternative options will be selected during the construction works.		
Construction Activity	Dust	• Acceptable range of emission of CO, particulate matter [SPM (**Suspended particulate matter)**, PM2.5, 10] and Hydrocarbons must be maintained through good construction work practices. • Dust generation must be limited as a result of clearing, leveling and site grading operations with using water florescent manually and through water pipes. • Dust generation due to vehicle movement on connecting road shall be controlled by watering the path at limited level. • Construction materials should be covered properly while carrying in vehicles to the site.	Contractor	Environmental Consultant of PIU
Construction Activity	Safety Issues	• Unauthorized entry is completely prohibited in construction site and take necessary measures for preventing this problem (e.g., employing guards at site office and stack yards, and maintaining a visitor's log book at entrance)	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• Before works start Contractor must provide proper training and guidance on health and safety issues to the labors and associated staff. • Records of every training must be kept at site. • All kinds of Child labour are completely prohibited in every site. • Every construction materials storage site will be well fenced by Tin and safety caution tape.		
Construction Activity	Traffic Management	• Because of the sensitivity of the proposed project site in relation to traffic management, contractor must produce a detail Traffic Management Plan (TMP), incorporating all forms of alternative routes, schedule, work plan, emergency arrangement, etc. in the TMP. • Contractors will maintain proper route for traffic management which is to be consulted with and confirmed by the district Executive Engineer. • Local traffic police department should be contacted, if traffic problem becomes more complex.	Contractor	Environmental Consultant of PIU
Construction Activity	Increase in road accidents	• Maintain safety measures during the movement of heavy machinery and equipment.	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• Proper signage to be displayed at major junctions; and road diversions and closures to be informed well in advance to the local community. • Vehicular movement to be controlled near sensitive locations (e.g., schools, colleges, hospitals, etc.) • Local community will be trained up on traffic management and awareness.		
Construction Activity	Labor Base Camp: Conflicts with the local residents	• Awareness building session will be undertaken about prevention of child abuse, child marriage, GBV, sexual harassment, trafficking of women and children as well as illegal drug trade. Written records of this awareness building session shall be kept on site. • Work force should be prohibited from disturbing the flora, fauna including hunting of animals, wildlife hunting, poaching and tree felling. • Adequate facilities ensuring sanitation for labor camps will be put in place. • Treated water will be made available at site for drinking purpose. • Adequate accommodation arrangements for labor forces. • Labor code of conduct is to be disclosed through	Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		consultation.		
Construction Activity	Labour related issues and grievances	• A separate grievance mechanism for workers has to be established for the work package. • Complaints box (preferably for anonymous reporting) /grievance register will be provided to each construction sites; and will be checked and redressed in weekly manner. • Appropriate notification or training to the workers about the scope and procedure of the grievance system will be provided at the starting of the work. All new workers recruited at different times/phases will be oriented about the same.		
Construction Activity	Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.	Preparation of a waste management plan covering the following aspects: • Waste from the temporary accommodation facilities for labor and equipment maintenance/vehicles on-site. • The construction debris material generated from the erection of structures and demolition works (wherever applicable), and related construction activities will be collected and stored separately in a stack yard and sold to local recyclers. • Hazardous waste viz. waste oil etc. will be collected and stored in the paved and bounded area and	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		subsequently sold to authorized recyclers. • Refueling areas and other fluid transfer areas will be imperviously paved. • Workers will be trained on the correct transfer and handling of fuels and chemicals and the response to spills (incl. equipment deployment) and the site will be provided with portable spill containment and cleanup equipment. • Applicability of the Hazardous Waste Management Rules.		
Construction Activity	Health & Safety Risks: • The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, mobile plant and vehicles, and electrical shocks. • Exposure to health	• All construction equipment will be properly inspected timely. • The risk assessment will be prepared and communicated prior to the commencement of work for all types of work activities on site. • Provide walkways that are clearly designated as a walkway; all walkways shall be provided with good conditions underfoot; signposted and with adequate lighting. • Proper Signpost at any slippery areas will be ensured in construction site. • Fire extinguishers will be located at identified fire points around the site. The extinguishers must be appropriate to the nature of the potential fire.	Contractor	Environmental Consultant as well as Social Development and Gender Specialists of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	events during construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis.	• Provision to first aid box containing adhesive bandages, antibiotic ointment, antiseptic wipes, aspirin, non-latex gloves, scissors, thermometer, etc. in sub-project sites will be ensured. Proper Emergency evacuation response plan will exist in sub-project area. • All safety equipment will be available in sub-project site (safety, size, power, efficiency, ergonomics, cost, user acceptability etc.), the lowest vibration tools will be provided that are suitable and can do the works. • Awareness training will be given to all personnel involved during the construction phase in order to highlight the heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration. Written records of this awareness training shall be kept on site. • Adequate quantities of drinking water will be available at all Sites, on different locations within the site. • Provision to maintain proper PPE wherever necessary and to ensure that there are satisfactory washing and changing facilities. • Provision to ensure all workers exposed to a risk are aware of the possible dangers and also given thorough training on how to protect themselves and there should be effective supervision to ensure that the correct methods are being used.		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Construction Activity	Pollution of water bodies	• Ensure monitoring of nearby surface and underground water bodies for signs of contamination. Parameters include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results are to be compared with Bangladesh Environmental Quality Standards of DoE. • The earthwork sites where exposed land surface is vulnerable to runoff shall be consolidated and/or covered (e.g., pond, canal, ditch's side will be protected by palisading, etc.) • The material stockpile sites shall be far away from surface water bodies and areas prone to surface run-off. Loose materials shall be bagged and covered. • Channels, earth bunds, netting, tarpaulin and or sand bag barriers shall be used on site to manage surface water runoff and minimize erosion. • The overall slope of the work areas and stack yards shall be kept to a minimum to reduce the erosive potential of surface water flows elsewhere. • Workers must specify waste dump locations to avoid littering which in turn might negatively affect surface and ground water.	Contractor	Environmental Consultant of PIU/D&SC.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Construction Activity	Demobilization of structures, facilities and equipment used during the project implementation period (including site clearance after the construction). The impacts are similar to those listed in construction stage: • Pollution from waste materials. • Health & Safety risks to workers and local community.	• Remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; • Ensure that all affected structures rehabilitated/compensated; • The area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. • Disposal of faecal sludge from latrines is to be undertaken properly, if management on site becomes problematic; • All imported materials are to be removed and the area shall be re-vegetated/re-grassed as per specification that forms part of this document. • The contractor must arrange the cancellation of all temporary services.	Contractor	Environmental Consultant of PIU/D&SC, district XEN.
Construction activity	Odours and pollution caused by leaking latrines and faecal sludge, and solid wastes impacting surrounding water bodies, flora and fauna	• Preventative maintenance schedule should be followed. • Solid organic wastes should be stored in bins and/ or skips and emptied regularly at a designated waste disposal area away from the camp site. If no designated site is available within the reach, a dug-hole at a nearby place can be used with periodic filling with soil layer for preventing	Contractor	Environmental Consultant of PIU, Union Parishad Member

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		pollution and generating nutrient rich compost soil over time.		
Pre-Construction and Construction	Rigorous Monitoring and Report Preparation and Submission	• The Contractor shall appoint (i) ES Manager (ii) Env. Officer, (iii) Social Officer (iv) Community Organizer and (v) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. • Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU.	Contractor	Environmental Consultant of PIU
Operation & Maintenance	Road Safety. Impacts include: • The increased vehicular movement and speed may trigger road safety issues like traffic accidents. The accidents may also be due to tiredness of drivers.	Road safety issues can be minimized in following ways: • By enforcing speed limits and imposing penalties on the traffic violators will ensure the road safety. • Traffic signs will be provided to facilitate road users about speed limits, rest/parking areas, no-horn areas, etc. Warning messages will also be displayed at appropriate locations to aware drivers about likely accidents due to over speeding. • All the lanes, median, sharp bends will be reflectorized to facilitate travelers in the night time.	UE (Upazila Engineer)	District Executive Engineer, LGED

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	• Widened road, lack of road safety signage or speed-breakers at crossings/strategic locations and sidewalks, and reckless driving may cause road accidents or traffic injuries.			
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	• Provision to maintain noise and vibration from the operation and maintenance of machinery and equipment by proper monitoring and measures. • Provision to take necessary lighting, caution for the works and necessary maintenance should be done in day light.	Upazila Engineer	District XEN, LGED

Cost of Environmental Enhancement Works in BOQ

In consideration to the above-mentioned environmental impacts and their mitigation measures for this sub-project, the following items are included in the BOQ of this sub-project.

Cost of Environmental Enhancement Works in BOQ

Sl no.	Description of item	Quantity	Unit price	Total amount
1.	**Grass Turfing** Turfing on embankment top and slope & any critical place with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of E.I.C. (Payment to be made only when grass is fully grown)	2520 Sq.m	@38.15 Tk. Per sqm	96,138.00
2.	**Dust suppression measures** Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C	2100.0m	@ 2.56 BDT	5,376.00
3.	**Water Supply and Sanitation** Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-charge. Temporary Toilet: Construction of temporary toilets in work site/ rest area complete as per design and specifications and approved by the Engineer-in-Charge. There should be 1 camp in each site. In each camp, there should be 1 no of toilet for women and 1 no of toilet for men.	2 nos.	@12822.86 per toilet	25,645.72
4.	**First Aid Box** Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and site office, and erect conspicuous notice boards directing where these are situated and providing all requisite emergency medical first aid kits, including complying with the government medical or labour requirements at all times, and provide, equip and maintain necessary dressing kits throughout the working period for attending minor injuries, etc. all complete as per requirement and full satisfaction of Engineer-in-charge.	1 no.	LS @5000 Tk. Per box	5,000.00

Sl no.	Description of item	Quantity	Unit price	Total amount
5.	**Drinking Water Facilities** Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge.	1 no.	LS @ Tk. 30,000	30,000.00
6.	**Traffic Management** Maintaining traffic management at worksite from time of commencement of contractor's activities to time of completion activities, including ensuring that the road is safe for users, providing a safe working area for those involved in work on trafficked network and minimizing any disruption to smooth flow of traffic (this includes providing necessary barricades, warning signs/lights, guide signs, flagmen, maintaining diversion roads by cutting, filling, constructing, etc. or by any other means) in accordance with the full satisfaction of the Engineering-in-charge.	1 no.	LS @ Tk. 15,000	15,000.00
7.	**Personal Protection Equipment for Workers** Providing and maintaining appropriate (safe design, fit and comfort) personal protection equipment (PPE) to ensure the highest possible protection for employees in establishing and maintaining a safe and healthful working environment at workplace, including demonstrating, providing training on proper understanding and development of skill in the use of PPE, including supplying (i) best quality safety jacket, (ii) suitable hand protection gloves, (iii) appropriate foot protection shoes, (iv) best quality safety helmets, face shields, ear muffs etc. (v) suitable eye protection goggles	LS	LS @ Tk 30,000	30,000.00
8.	**Motivation training** Motivation training (twice: before and after construction start) of the Upazila Engineer 'sand Contractor's representatives on safety practice and as per direction of the E.I.C.	1 no.	LS @ Tk. 10,000	10,000.00

Sl no.	Description of item	Quantity	Unit price	Total amount
9.	**Waste disposal facility** Temporary camp site waste disposal facility improvement 2 nos. (1 no of organic waste and 1 no of inorganic waste disposal facility) and as per direction of E.I.C.	LS	@ Tk. 5000	5,000.00
10.	**Water Test (Drinking Water samples)** Water samples are to be collected periodically (half yearly) from the tube well at labor shed area for laboratory analysis of different parameters such as pH, arsenic, iron, chloride, hardness, total dissolved solids, nitrate, nitrite, coliform, electrical conductivity etc. all complete as per direction of E.I.C. (including the cost of actual fees for testing from reputed laboratory and report) as desired by E.I.C.	LS	@ Tk. 5000	5,000.00
11.	**Working labour shed:** Construction of Labor shed (Size: 30'x20') with C.I sheet Roofing, Tarza fencing and brick soling floor as per requirement and direction of the E-I-C.	1 no.	LS @ Tk. 30,000	30,000.00
12.	**Environmental management** Environmental management costs of the Environment & Social/ Safeguard Personnel for Environmental and Social Management and Monitoring during construction and operation phase for their salary & transport (Net payment excluding Tax &VAT). And as per direction of the E.I.C. **[One person to be appointed for 5 roads]**	Each	@ Tk. 35000	35000.00
	Subtotal Bill: Environmental and Social facilities			**292,159.72**

Existing Surroundings of the Sub-Project

Name of Sub-Project: Improvement of Community Road for **Titukhai-Chandpur- Mirzapur Road, ID: 636444043**
Implementing Agency/Agencies: Local Government Engineering Department (LGED)

District: Habiganj **Upazila:** Habiganj Sadar **Union:** Richi

Name of Community/Local Area: Titukhai, Mirzapur

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The proposed sub-project involves the improvement of the Titukhai–Chandpur–Mirzapur Road, which is an existing bituminous road from chainage 0+000 to 2+850 with damaged sections from 0+000 to 0+340 and 0+650 to 2+850. The proposed intervention includes RCC works from chainage 0+000 to 0+340 and bituminous carpeting from 0+340 to 2+850. Existing drainage structures include U-drains at chainages 1+426 (1.6 m × 4.2 m) and 1+508 (1 m × 1 m), as well as culverts at chainages 1+711 (2.4 m × 3.7 m) and 2+501 (3 m × 5 m). An additional U-drain measuring 1.6 m × 7 m is proposed at chainage 1+426. Existing palisading works are present at 1+034 to 1+054 on the right side, 1+320 to 1+332 on the left side, and 1+430 to 1+503 on the left side. Additional palisading works are proposed at multiple locations, including 0+850 to 0+870 on the right side, 0+990 to 1+061 on the left side, 1+020 to 1+030 on the right side, 1+132 to 1+320 on the left side, 1+332 to 1+416 on the left side, 1+430 to 1+452 on the right side, 1+722 to 1+807 on both sides, 2+070 to 2+130 on the right side, 2+220 to 2+268 on the left side, and 2+833 to 2+850 on the right side. These interventions will enhance drainage, slope protection, and overall road resilience. No safeguard features were observed on site.

Estimated footprint / land area for this sub-project is 9,030 sqm.

Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 2850m. Detail Environmental features within 100m of the both sides from the center line were collected @300m longitudinal intervals. The findings of the survey for the aforementioned road can be seen in the table below:

Table: Detailed Chainage length of the Sub-Project

Chainage	(Left/Right)		Environment and Social Impact
00-300	L		River 600m, Alom Bazar 8m, CNG Stand 20m
		R	Settlement 150m, Alom Bazar 6m
300-600	L		River 500m
		R	Mosque 300m, Settlement 250m
600-900	L		Agricultural Land 6m, Settlement 10m
		R	Cemetery 15m, Mosque 300m, Agricultural Land 150m, Settlement 20m
900-1200	L		Agricultural Land 20m, Settlement 40m, Pond 15m, Clinic 50m

Chainage	(Left/Right)		Environment and Social Impact
		R	Small pond 10m, Settlement 10m and 20m, Pond 5m
1200-1500	L		Pond 5m, Settlement 5m, 10m and 20m
		R	Agricultural Land 10m, Settlement 10m, Madrasha 4m
1500-1800	L		Agricultural Land 20m, Settlement 5m, Eidgah 6m, Small Bazar 5m
		R	Settlement 5m, Small Bazar 6m, Small Canal 5m
1800-2100	L		Agricultural Land 8m, Mirzapur GPS
		R	Agricultural Land 10m, Settlement 10m
2100-2400	L		Agricultural Land 10m, Pond 8m, Mirzapur Highschool 200m
		R	Temple 10m, Settlement 10m
2400-2850	L		Agricultural Land 20m, Settlement 8m, Zia Adorsho Bazar 4m, Cemetry 8m, Mosque 50m
		R	Settlement 10m, Zia Adorsho Bazar 4m, Small pond 5m

Starting Point of Titukhai-Chandpur- Mirzapur Road

Overall Comments

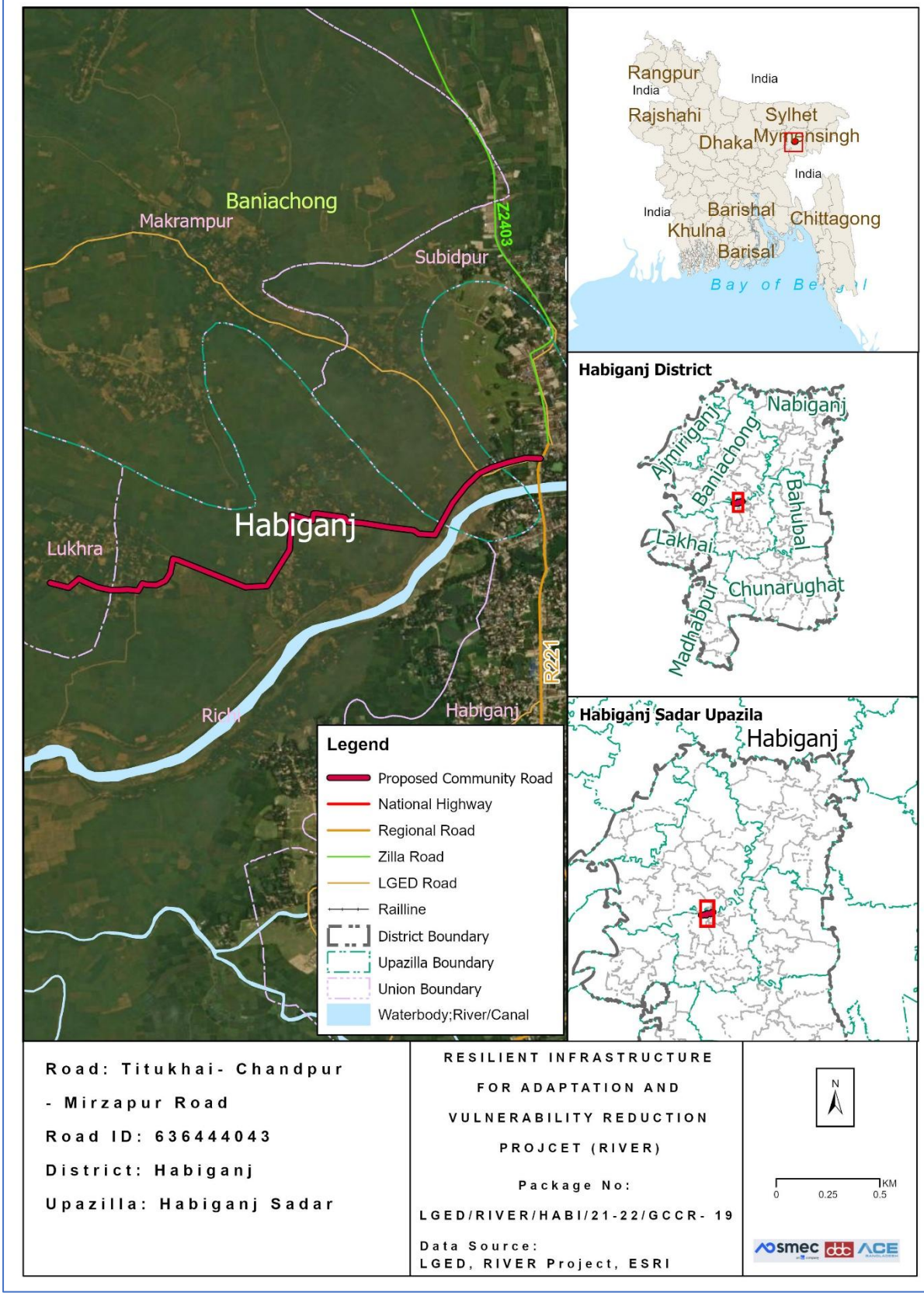
D&SC conducted consultation meeting with community regarding the sub-project activities. Local people of the subproject area are very much optimistic about the success of the project and are also eager to participate in the project activities. The local individuals were participated in participatory public consultation meeting. Local communities have no objection to construction this sub-project. The community also appreciated the initiative for having easily accessible and passive their emergency situation. The proposed sub-project (Road construction) is not located within any remarkable environmentally sensitive area and will not cause any severe affect to the environmental setting of the area thus not going to create intimidation to important environmental features. No drainage congestion/water logging have been observed in the road area. But, some local trees like betel nut, rain tree

etc., or additional vegetation may need to clear out due to construction activities, with appropriate offsetting measures to be taken. No agricultural productive soil will be used for the purpose. Earth will be compacted for stabilization. The inputs will be mainly at construction phase and limited within project boundary. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

It has been revealed that this project's scope of works does not intend to overtake their area of lodgment and funding entity has no intention to do so. Moreover, other issue has also been brought to their attention that drainage system and cross drains, culverts have also been included into the evaluation of this project since runoff from higher grounds are also a concerning matter during rainy season. The proposed Sub-project area for the construction included flat areas and moderate hillock village road is not located within any identified environmentally sensitive area, and therefore, does not seem to cause any adverse impact on the important environmental features. No significant impact is expected on the ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects.

Types of waste to be generated during construction and operation phase:
During construction period solid waste will be generated due to construction activities. The types of wastes are brick pit, unused sand, wood, gravels, bitumen etc. Negligible amount of plastic, fuel etc. in equipment yards. Human wastes might be deposited in labor camp.

Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including elephant migration routes and remaining forests:
No historical or archaeological sites were identified within the project influence area. The alignment includes rivers, settlements, agricultural land, and multiple community facilities. From Ch. 0+000 to 0+300, a river is located at approximately 600 m, along with Alom Bazar and a CNG stand on the left, and settlements and bazar on the right. Between Ch. 0+300 and 0+600, the river continues on the left, while the right side includes a mosque and settlements. From Ch. 0+600 to 0+900, agricultural land and settlements are present, while the right side includes a cemetery, mosque, and agricultural land. Between Ch. 0+900 and 1+200, the left side includes agricultural land, settlements, ponds, and a clinic, while the right side includes ponds and settlements. From Ch. 1+200 to 1+500, ponds and settlements are present on both sides. Between Ch. 1+500 and 1+800, agricultural land, settlements, Eidgah, and small bazaars are located, while the right side includes canals and settlements. From Ch. 1+800 to 2+100, agricultural land and Mirzapur GPS are located on the left, while the right side includes agricultural land and settlements. Between Ch. 2+100 and 2+400, agricultural land, ponds, and Mirzapur High School are located on the left, while the right side includes a temple and settlements. Finally, from Ch. 2+400 to 2+850, agricultural land, settlements, Zia Adorsho Bazar, cemetery, and mosque are present on the left, while the right side includes settlements, bazar, and ponds. These features highlight the environmental, educational, and socio-cultural importance of the area, though no significant impacts are expected due to alignment-based construction.



Location Map of the proposed Road

Completed environmental and social screening forms are given below:

Section A: Sub-Project Overview

Description of sub-project/component interventions:
The Sub-Project is categorized as a Union Road. Based on field survey, this sub-project has involved damaged Bituminous Carpeting (BC). According to the design this sub-project will be developed with Reinforced Cement Concrete (RCC) from Ch. 00 to Ch. 340m Bituminous Carpeting (BC) from Ch. 340 to Ch. 2850m.

Sub-project Location:

Important Features	
ID	636444043
District	Habiganj
Upazila	Habiganj Sadar
Union	Richi
Total Chainage	2850m
Proposed Chainage	2850m
Road Type	Union Road
Proposed Intervention Type	Bituminous Carpeting (BC) Reinforced Cement Concrete (RCC)
Road Starting Point Coordinates	Latitude: 24.3925 N Longitude: 91.40777778 E
Road Ending Point Coordinates	Latitude: 24.38722222 N Longitude: 91.38666667 E

Land ownership
Land is owned by Government.

Expected construction period: 12 (Twelve) months (Approx.)

Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive environmental areas such as elephant corridors, water bodies, etc. and historical or socio-cultural assets): Please also explain any analysis on alternative location was conducted:

- The proposed Sub-project is located within Titukhai and Mirzapur village.
- No historical sites were found
- Not required to relocate local community.
- Some trees, vegetation and livelihood will be affected.
- Very low chance of loss of agricultural land.
- Some Household Boundary made of bamboo and tin may need adjustments.

Section B: Environmental and Social Screening

***B.1*: Environmental and Social feature of sub-project location**

Description of cultural properties (if applicable, including distance from site):

Sensitive environmental, cultural, archaeological, religious sites near (within the catchment area) of site including elephant migration routes and remaining forests:

Several environmental features are located within approximately 100 meters of the project site. From Ch. 0+000 to 0+300, a river is located at approximately 600 m, along with Alom Bazar and a CNG stand on the left, and settlements and bazar on the right. Between Ch. 0+300 and 0+600, the river continues on the left, while the right side includes a mosque and settlements. From Ch. 0+600 to 0+900, agricultural land and settlements are present, while the right side includes a cemetery, mosque, and agricultural land. Between Ch. 0+900 and 1+200, the left side includes agricultural land, settlements, ponds, and a clinic, while the right side includes ponds and settlements. From Ch. 1+200 to 1+500, ponds and settlements are present on both sides. Between Ch. 1+500 and 1+800, agricultural land, settlements, Eidgah, and small bazaars are located, while the right side includes canals and settlements. From Ch. 1+800 to 2+100, agricultural land and Mirzapur GPS are located on the left, while the right side includes agricultural land and settlements. Between Ch. 2+100 and 2+400, agricultural land, ponds, and Mirzapur High School are located on the left, while the right side includes a temple and settlements. Finally, from Ch. 2+400 to 2+850, agricultural land, settlements, Zia Adorsho Bazar, cemetery, and mosque are present on the left, while the right side includes settlements, bazar, and ponds. These features highlight the environmental, educational, and socio-cultural importance of the area, though no significant impacts are expected due to alignment-based construction.

Location of environmental and Social important and sensitive areas:

There are no environmentally important or sensitive areas found in the areas, except some matured vegetation around the site. Several mosques, school and human settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary and necessary preventive and mitigation measures will be followed during the entire construction period.

Baseline air quality and noise levels:

Dust:

Ambient air quality data was not readily available, but quality is apparently good due to the appearance of rural vegetative settings around. Dust is slightly generated through movement of vehicles such as motor cycle, auto rickshaw, tempo, trolley etc. over the road surface which causes air pollution. Conducting works at dry season and moving large quantity of materials may create dusts and increase in concentration of vehicle-related pollutants 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/ preventable by mitigation measures.

Noise:

Noise level also very low in the site area. Noise is originating from the commotion of locals. During construction period a rise in noise pollution may occur due to the transportation of equipment.

Baseline soil quality:

The sub-project area in Habiganj District is situated within the north-eastern floodplain zone of Bangladesh, where soil characteristics differ from the northern districts. The area is predominantly underlain by recent alluvial deposits associated with the Kushiara River and its tributaries. The soils are generally silty clay to clay in texture, with localized occurrences of silty loam in relatively elevated areas. These soils are seasonally influenced by flooding and prolonged water retention, resulting in moderate to high moisture content throughout much of the year. Due to their fine texture and water-holding capacity, the soils are suitable for paddy cultivation, which is the dominant agricultural practice in the region. In low-lying areas, particularly near haors and beels, the soils remain saturated for extended periods during the monsoon season, further shaping land use patterns and crop selection.

Baseline surface water and groundwater quality (FE, TDS, fecal coliform, pH):

Groundwater is the main source of potable water in the sub-project area of Habiganj District. People in the area primarily depend on shallow and intermediate-depth tube wells for their daily domestic water needs. Due to the floodplain and haor-based hydrogeological setting, the groundwater table generally remains at a relatively shallow depth, typically ranging from approximately 80 to 180 feet below ground level, with noticeable seasonal variation between monsoon and dry periods. Groundwater quality assessments indicate the presence of elevated iron concentrations in many tube wells, which may cause aesthetic issues such as discoloration, metallic taste, and staining if consumed without treatment. However, arsenic contamination in this region is generally low to negligible compared to other parts of Bangladesh. Therefore, appropriate public health measures, including installation of iron removal plants, periodic water quality testing, and community awareness programs, are essential to ensure safe drinking water. In some locations, deeper tube wells tapping relatively stable aquifers are used for drinking purposes to obtain comparatively better water quality.

Groundwater quality: pH-6.20 to 7.85, DO-3.10 to 6.90 mg/l, TDS-60.00 to 280 mg/l, EC-80 to 620 µS/cm, Fe-0.8 to 5.5 mg/l and As-trace to Nil (Field Study Report, March 2026).

Status of wildlife movement:

The sub-project area in Habiganj District is characterized by a rich wetland-dependent biodiversity typical of the haor basin ecosystem. The area supports a variety of aquatic and semi-aquatic bird species commonly observed in seasonal wetlands, agricultural fields, and homestead vegetation. Frequently recorded species include pankouri (cormorant), dahuk (white-breasted waterhen), and various types of ducks and herons, which are adapted to the extensive waterlogged environment. These birds play an important role in maintaining ecological balance through fish predation, insect control, and nutrient cycling within wetland ecosystems. In addition, the presence of small wild mammals and reptiles, such as otter (Lutra spp.), mongoose, and different species of snakes, reflects the ecological

characteristics of the haor region. These species contribute to controlling fish predators, rodents, and other small organisms, thereby supporting both natural ecosystems and local agricultural practices. The abundance of fish species in nearby beels and haors further highlights the productivity of the aquatic ecosystem. Overall, the composition of birds, mammals, and aquatic fauna in the area indicates a dynamic and water-dependent ecosystem, and the conservation of these habitats through sustainable wetland management, protection of natural water bodies, and environmentally responsible development is essential for maintaining biodiversity, ecological stability, and long-term environmental sustainability in the locality.
State of forestation: Patches of vegetation containing large and matured trees across the road side of the proposed subproject area are located within 200m radial distance.

B.2: Pre construction Phase

Information on Ancillary Facilities (e.g. status of access road or any other facility required for sub-project to be viable): Concerning ancillary facilities, the access road for the sub-project is proper in order for the equipment vehicles to arrive at the proposed location. Nonetheless, heavy four wheelers will not be a suitable option, this may cause more dust in the air also, the route has narrow curves.
Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction: Toilet and water supply facilities will be ensured by the contractor in the vicinity of the construction area for all the components of the sub-project, electric connection will be established with the accommodation facility due for the workforce.
Possible location of labor camps: Labor camp can be established along the road since there are available open private lands. However, this will have to be done with the consent of land owner under a mutual agreement, with the supervision of the Engineer in charge.
Requirement and type of raw materials (e.g. sand, stone, wood, etc.): i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates vi) steels vii) Bitumen are the most common type of road materials used in construction.
Identification of access road for transportation (Yes/No): Yes. The paved road can offer space adjacent labor camp to facilitate material unloading. However, considerations need to be taken account for avoiding disturbance at points where mosque, graveyard, primary school and high school is located. The pickup trucks as material transportation vehicles can enter the access road. Manual head load from unloading point to different locations can be done.
Location identification for raw material storage: Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with local committee.

Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.): Earth/ mud, plastics, brick chips, cement dusts, dust from bricks, steel wires, during construction which can be identified as solid wastes. Also, sludge will be produced from labor camp latrines and kitchen waste mostly composing of organic matters as fiber, starch, carbohydrates and proteins. 10% of the kitchen waste may be classified as plastics or non-biodegradables. Solid waste may amount to 20 kg daily and sludge may amount to 5 kg per day.

B.3: Construction Phase

Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.): Residual waste from the labor camps will be generated. Equipment maintenance/vehicles on-site and scrap material will occur during construction work which are mostly solid wastes. Leftover oils or spills from machinery can be a high probability generating liquid waste. Waste from civil works. And the quantity will be tentatively 350 kg.
Type and quantity of raw materials used (wood, bricks, cement, water, etc.): **Type:** i) Bricks, ii) Sand iii) cement iv) aggregates v) water vi) concretes vii) Bitumen are the most common type of road materials used in construction.
Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards: No such vegetation is present in the right of way. Specific soil amount is not needed for the project. The current condition explains that there is no aggregated soil on the right of way.
Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation) The possibility is Medium, for stagnant water bodies to occur. Because water usage will be higher during the construction period. By default, this area has no water logging troubles due to being natural channels. Moreover, no possibilities of stagnation of water in long run. So, local communities have stated that they do not have severe troubles with mosquitos or other disease vectors.
Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) No formal drainage infrastructure exists along this road alignment; however, several natural drainage features are located near the corridor. A river is present on the left side at 0–300 m and 300–600 m at distances of approximately 600 m and 500 m, respectively. Ponds and small ponds are located at several chainages, including 900–1200 m on both sides, 1200–1500 m on the left side, 2100–2400 m on the left side, and 2400–2850 m on the right side, generally within about 5 m to 15 m from the centerline. In addition, a small canal is present on the right side at 1500–1800 m at about 5 m. The surrounding agricultural land along much of the alignment also supports infiltration and local runoff. These natural drainage features contribute to the hydrological function of the corridor. Since the proposed works will be implemented within the existing road alignment, no major long-

term drainage impact is expected; however, temporary construction-related disturbances may occur, and suitable drainage management measures will therefore be required.
Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low. Under the improvement of this intervention, the effect of destruction or damage of lives, endangered species or ecosystem is very low. In the site area not observed such occurrence of lives that's life cycle and or movement areas disturbed (i.e. Insects - Ant, bees, earthworm, reptiles, birds etc.).
Activities that can lead to landslides, slumps, slips and other mass movements in road cuts: Scope of work leading to low scale effects of landslide. The impacts are negative but short-term and site-specific. It can be managed through mitigation measures.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description) Low, Potential erosion may occur when moderately to highly sloping terrains are disturbed for the improvement of sub-project. The impacts are negative but short term, site specific within a relatively small area and adjustable by mitigation measures.
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: No traffic movement impacts on light but low effects of noise and air pollution.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

B.4: Operation Phase

Activities leading to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles: No
Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description) No
Possibility of odor and water, soil quality impacts from SWM and FSM disposal system: (High/Medium/Low with description) No.
Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation) There is no possibility of stagnant water bodies remained for encouraging mosquito breeding and other disease vectors, during the operation phase.
Likely direct and indirect impacts on economic development in the project areas by the sub-project: Construction or implementation of a road project substantially contributes to the development of the project areas. It surely improves the communication network, reduces

the transport time, increases the trade and business in/around the areas, and ensures access to better living conditions with amenities, better educational and job opportunities and health facilities. Thus, the direct and indirect impacts on economic development in the project areas would be enormous by this sub-project.
Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) No existing drainage channels or surface water bodies found in the project area, therefore, no such effect can be anticipated
Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) There are no protected areas in or around project sites, and no known areas of ecological interest.
Activities leading to landslides, slumps, slips and other mass movements in road cuts: The entire sub-project component area is nearly flat, thus no such type of impacts is anticipated.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation) No
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: Improved road communication will definitely increase the traffic/ vehicular movement, which must increase the light and noise pollution, but air pollution effect will not be increased significantly, as the proposed BC road will reduce the pollution generated from dust on the muddy road, especially during the dry season and if the vehicles are maintained in good conditions.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

Environmental and Social Management Plan (ESMP) of this Sub project (site specific)

ESMP for Proposed Community Road: Titukhai-Chandpur- Mirzapur Road

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Stakeholders Engagement	• All of the project stakeholders should be consulted • Separate community level consultation meeting with the potential affected HHs • All the safeguard documents will be disclosed to all relevant stakeholders. • People living in nearby communities will be involved with the GRM system and representatively included in the project GRCs.	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Loss of right to access	• Project to ensure thorough analysis of alternatives that access enjoyed by the community remains intact. • In case of unavoidable circumstances, alternative access will be provided.	PIU	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Transportation and Storage of Construction materials (disturbance to traffic system and pedestrians, potential accidents to workers/ local people, generating dust and noise)	• Transportation of construction materials to the site will be carried out by covering the materials as a whole. • Store the materials in designated places, with proper fencing and coverings.	Contractor	Environmental Consultant of PIU
Pre-Construction Stage	Sanitation and water supply	• Sanitation facilities (male and female toilets with septic tanks, wash-basins, etc.) for workers and constructor's	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		officials/employees will be provided, and ensure regular cleaning of those. • Potable water supply will be ensured for every workers/employees in the site. Water sample will be checked at local DPHE laboratory to ensure the portability, and water should be filtered through appropriate filtering system, before supplying to the consumers.		
Pre-Construction Stage	Site Selection for workers camps, stack yards & implementing interventions: Generation of ESHS issues.	• Workers camp, site office and stack yard should be located at a site favorable for the workers and proposed by the contractor & approved by the Environmental Specialist of D&SC. • No trees, shrubs will be removed or vegetation stripped without prior permission of the Environmental Consultants. If any tree is required to remove for an unavoidable circumstance, 3 (three) numbers of trees will be planted for each tree removed and budgetary allocation for taking care of those trees for 12 months has to be ensured. • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site pre-approved by Environmental Specialist of D&SC. • Camp and working areas are to be kept clean and tidy at all times.	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• Stack materials will be covered with tarpaulins/ polythene in the yard and end parts of the reinforced steel bar/ iron rod will be properly covered with safety caps or clothes/jute sacks, etc. for avoiding any accidental events from those. • Hazardous materials, including oil, paints, etc. will be stored on a bunded area or wooden platform with polythene lying over it. • Proper fencing around the storage area and working site in order to get secured, to minimize the risk of crime and to be safe from access by students, children, animals, etc.		
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage	• All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind or surface runoff. • Construction facilities including materials are to be placed at least 10m distance from any water body in order to minimize the impacts on water bodies and natural water flow. • Tubewell location wherever required to install, within the construction site is not near to any kinds of latrine and soaks well which could be contaminated by those. • After completing the development, the site shall be restored as before.	PIU & Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• This site is in the local community, so continuous need-based discussion with the local community to avoid any conflicts will be taking place. • Sub project intervention must avoid natural disturbance to existing slop and natural drainage.		
Construction Activity	Noise from construction works	• Construction activities mostly shall finish at day time within 05:00 PM, and must confirm proper measures for avoiding any disturbance. • All Personal Protective Equipment (PPEs) must be available at sites before starting any kind of construction works. • Noise producing vehicles and equipment will be keep in maintenance regularly. • Since expensive engineering controls (e.g., acoustic curtains, noise barriers, etc.) may not be feasible in terms of availability and scope of the project works, noise reduction muffler or less expensive alternative options will be selected during the construction works.	Contractor	Environmental Consultant of PIU
Construction Activity	Dust	• Acceptable range of emission of CO, particulate matter [SPM (**Suspended particulate matter)**, PM2.5, 10] and Hydrocarbons must be maintained through good construction work practices. • Dust generation must be limited as a result of clearing, leveling and site grading operations with	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		using water florescent manually and through water pipes. • Dust generation due to vehicle movement on connecting road shall be controlled by watering the path at limited level. • Construction materials should be covered properly while carrying in vehicles to the site.		
Construction Activity	Safety Issues	• Unauthorized entry is completely prohibited in construction site and take necessary measures for preventing this problem (e.g., employing guards at site office and stack yards, and maintaining a visitor's log book at entrance) • Before works start Contractor must provide proper training and guidance on health and safety issues to the labors and associated staff. • Records of every training must be kept at site. • All kinds of Child labour are completely prohibited in every site. • Every construction materials storage site will be well fenced by Tin and safety caution tape.	Contractor	Environmental Consultant of PIU
Construction Activity	Traffic Management	• Because of the sensitivity of the proposed project site in relation to traffic management, contractor must produce a detail Traffic Management Plan (TMP), incorporating all forms of alternative routes, schedule, work plan, emergency arrangement, etc. in the TMP.	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• Contractors will maintain proper route for traffic management which is to be consulted with and confirmed by the district Executive Engineer. • Local traffic police department should be contacted, if traffic problem becomes more complex.		
Construction Activity	Increase in road accidents	• Maintain safety measures during the movement of heavy machinery and equipment. • Proper signage to be displayed at major junctions; and road diversions and closures to be informed well in advance to the local community. • Vehicular movement to be controlled near sensitive locations (e.g., schools, colleges, hospitals, etc.) • Local community will be trained up on traffic management and awareness.	Contractor	Environmental Consultant of PIU
Construction Activity	Labor Base Camp: Conflicts with the local residents	• Awareness building session will be undertaken about prevention of child abuse, child marriage, GBV, sexual harassment, trafficking of women and children as well as illegal drug trade. Written records of this awareness building session shall be kept on site. • Work force should be prohibited from disturbing the flora, fauna including hunting of animals, wildlife hunting, poaching and tree felling. • Adequate facilities ensuring sanitation for labor camps will be put in place. • Treated water will be made available at site for	Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		drinking purpose. • Adequate accommodation arrangements for labor forces. • Labor code of conduct is to be disclosed through consultation.		
Construction Activity	Labour related issues and grievances	• A separate grievance mechanism for workers has to be established for the work package. • Complaints box (preferably for anonymous reporting) /grievance register will be provided to each construction sites; and will be checked and redressed in weekly manner. • Appropriate notification or training to the workers about the scope and procedure of the grievance system will be provided at the starting of the work. All new workers recruited at different times/phases will be oriented about the same.		
Construction Activity	Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.	Preparation of a waste management plan covering the following aspects: • Waste from the temporary accommodation facilities for labor and equipment maintenance/vehicles on-site. • The construction debris material generated from the erection of structures and demolition works (wherever applicable), and related construction activities will be collected and stored separately in a stack yard and sold to local recyclers.	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• Hazardous waste viz. waste oil etc. will be collected and stored in the paved and bounded area and subsequently sold to authorized recyclers. • Refueling areas and other fluid transfer areas will be imperviously paved. • Workers will be trained on the correct transfer and handling of fuels and chemicals and the response to spills (incl. equipment deployment) and the site will be provided with portable spill containment and cleanup equipment. • Applicability of the Hazardous Waste Management Rules.		
Construction Activity	Health & Safety Risks: • The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, mobile plant and vehicles, and electrical shocks. • Exposure to health	• All construction equipment will be properly inspected timely. • The risk assessment will be prepared and communicated prior to the commencement of work for all types of work activities on site. • Provide walkways that are clearly designated as a walkway; all walkways shall be provided with good conditions underfoot; signposted and with adequate lighting. • Proper Signpost at any slippery areas will be ensured in construction site. • Fire extinguishers will be located at identified fire points around the site. The extinguishers must be appropriate to the nature of the potential fire.	Contractor	Environmental Consultant as well as Social Development and Gender Specialists of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	events during construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis.	• Provision to first aid box containing adhesive bandages, antibiotic ointment, antiseptic wipes, aspirin, non-latex gloves, scissors, thermometer, etc. in sub-project sites will be ensured. Proper Emergency evacuation response plan will exist in sub-project area. • All safety equipment will be available in sub-project site (safety, size, power, efficiency, ergonomics, cost, user acceptability etc.), the lowest vibration tools will be provided that are suitable and can do the works. • Awareness training will be given to all personnel involved during the construction phase in order to highlight the heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration. Written records of this awareness training shall be kept on site. • Adequate quantities of drinking water will be available at all Sites, on different locations within the site. • Provision to maintain proper PPE wherever necessary and to ensure that there are satisfactory washing and changing facilities. • Provision to ensure all workers exposed to a risk are aware of the possible dangers and also given thorough training on how to protect themselves and there should be effective supervision to ensure that the correct methods are being used.		
Construction Activity	Pollution of water bodies	• Ensure monitoring of nearby surface and underground water bodies for signs of contamination.	Contractor	Environmental Consultant of

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		Parameters include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results are to be compared with Bangladesh Environmental Quality Standards of DoE. • The earthwork sites where exposed land surface is vulnerable to runoff shall be consolidated and/or covered (e.g., pond, canal, ditch's side will be protected by palisading, etc.) • The material stockpile sites shall be far away from surface water bodies and areas prone to surface run-off. Loose materials shall be bagged and covered. • Channels, earth bunds, netting, tarpaulin and or sand bag barriers shall be used on site to manage surface water runoff and minimize erosion. • The overall slope of the work areas and stack yards shall be kept to a minimum to reduce the erosive potential of surface water flows elsewhere. • Workers must specify waste dump locations to avoid littering which in turn might negatively affect surface and ground water.		PIU/D&SC.
Construction Activity	Demobilization of structures, facilities and equipment used during the project implementation period (including site clearance	• Remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; • Ensure that all affected structures rehabilitated/compensated; • The area that previously housed the construction camp	Contractor	Environmental Consultant of PIU/D&SC, district XEN.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	after the construction). The impacts are similar to those listed in construction stage: • Pollution from waste materials. • Health & Safety risks to workers and local community.	is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. • Disposal of faecal sludge from latrines is to be undertaken properly, if management on site becomes problematic; • All imported materials are to be removed and the area shall be re-vegetated/re-grassed as per specification that forms part of this document. • The contractor must arrange the cancellation of all temporary services.		
Construction activity	Odours and pollution caused by leaking latrines and faecal sludge, and solid wastes impacting surrounding water bodies, flora and fauna	• Preventative maintenance schedule should be followed. • Solid organic wastes should be stored in bins and/ or skips and emptied regularly at a designated waste disposal area away from the camp site. If no designated site is available within the reach, a dug-hole at a nearby place can be used with periodic filling with soil layer for preventing pollution and generating nutrient rich compost soil over time.	Contractor	Environmental Consultant of PIU, Union Parishad Member
Pre-Construction and Construction	Rigorous Monitoring and Report Preparation and Submission	• The Contractor shall appoint (i) ES Manager (ii) Env. Officer, (iii) Social Officer (iv) Community Organizer and (v) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget.	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU.		
Operation & Maintenance	Road Safety. Impacts include: • The increased vehicular movement and speed may trigger road safety issues like traffic accidents. The accidents may also be due to tiredness of drivers. • Widened road, lack of road safety signage or speed-breakers at crossings/strategic locations and sidewalks, and reckless driving may cause road accidents or traffic injuries.	Road safety issues can be minimized in following ways: • By enforcing speed limits and imposing penalties on the traffic violators will ensure the road safety. • Traffic signs will be provided to facilitate road users about speed limits, rest/parking areas, no-horn areas, etc. Warning messages will also be displayed at appropriate locations to aware drivers about likely accidents due to over speeding. • All the lanes, median, sharp bends will be reflectorized to facilitate travelers in the night time.	UE (Upazila Engineer)	District Executive Engineer, LGED
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	• Provision to maintain noise and vibration from the operation and maintenance of machinery and equipment by proper monitoring and measures. • Provision to take necessary lighting, caution for the	Upazila Engineer	District XEN, LGED

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		works and necessary maintenance should be done in day light.		

Cost of Environmental Enhancement Works in BOQ

In consideration to the above-mentioned environmental impacts and their mitigation measures for this sub-project, the following items are included in the BOQ of this sub-project.

Cost of Environmental Enhancement Works in BOQ

Sl no.	Description of item	Quantity	Unit price	Total amount
1.	**Grass Turfing** Turfing on embankment top and slope & any critical place with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of E.I.C. (Payment to be made only when grass is fully grown)	3420 Sqm	@38.15 Tk. Per sqm	130,473.00

Sl no.	Description of item	Quantity	Unit price	Total amount
2.	**Dust suppression measures** Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C	2850m	@ 2.56 BDT	7,296.00
3.	**Water Supply and Sanitation** Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-charge. Temporary Toilet: Construction of temporary toilets in work site/ rest area complete as per design and specifications and approved by the Engineer-in-Charge. There should be 1 camp in each site. In each camp, there should be 1 no of toilet for women and 1 no of toilet for men.	2 nos.	@12822.86 per toilet	25,645.72
4.	**First Aid Box** Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and site office, and erect conspicuous notice boards directing where these are situated and providing all requisite emergency medical first aid kits, including complying with the government medical or labour requirements at all times, and provide, equip and maintain necessary dressing kits throughout the working period for attending minor injuries, etc. all complete as per requirement and full satisfaction of Engineer-in-charge.	1 no.	LS @5000 Tk. Per box	5,000
5.	**Drinking Water Facilities** Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge.	1 no.	LS @ Tk. 30,000	30,000
6.	**Traffic Management** Maintaining traffic management at worksite from time of commencement of contractor's activities to time of completion activities, including ensuring that the road is safe for users,	1 no.	LS @ Tk. 15,000	15,000

Sl no.	Description of item	Quantity	Unit price	Total amount
	providing a safe working area for those involved in work on trafficked network and minimizing any disruption to smooth flow of traffic (this includes providing necessary barricades, warning signs/lights, guide signs, flagmen, maintaining diversion roads by cutting, filling, constructing, etc. or by any other means) in accordance with the full satisfaction of the Engineering-in-charge.			
7.	**Personal Protection Equipment for Workers** Providing and maintaining appropriate (safe design, fit and comfort) personal protection equipment (PPE) to ensure the highest possible protection for employees in establishing and maintaining a safe and healthful working environment at workplace, including demonstrating, providing training on proper understanding and development of skill in the use of PPE, including supplying (i) best quality safety jacket, (ii) suitable hand protection gloves, (iii) appropriate foot protection shoes, (iv) best quality safety helmets, face shields, ear muffs etc. (v) suitable eye protection goggles	LS	LS @ Tk 30,000	30,000
8.	**Motivation training** Motivation training (twice: before and after construction start) of the Upazila Engineer 'sand Contractor's representatives on safety practice and as per direction of the E.I.C.	1 no.	LS @ Tk. 10,000	10,000
9.	**Waste disposal facility** Temporary camp site waste disposal facility improvement 2 nos. (1 no of organic waste and 1 no of inorganic waste disposal facility) and as per direction of E.I.C.	LS	@ Tk. 5000	5,000
10.	**Water Test (Drinking Water samples)** Water samples are to be collected periodically (half yearly) from the tube well at labor shed area for laboratory analysis of different parameters such as pH, arsenic, iron, chloride, hardness, total dissolved solids, nitrate, nitrite, coliform, electrical conductivity etc. all complete as per direction of E.I.C. (including the cost of actual fees for testing from reputed laboratory and report) as desired by E.I.C.	LS	@ Tk. 5000	5,000
11.	**Working labour shed:** Construction of Labor shed (Size: 30'x20') with C.I sheet Roofing, Tarza fencing and brick soling floor as per requirement and direction of the E-I-C.	1 no.	LS @ Tk. 30,000	30,000

Sl no.	Description of item	Quantity	Unit price	Total amount
12.	**Environmental management** Environmental management costs of the Environment & Social/ Safeguard Personnel for Environmental and Social Management and Monitoring during construction and operation phase for their salary & transport (Net payment excluding Tax &VAT). And as per direction of the E.I.C. **[One person to be appointed for 5 roads]**	1 no.	@ Tk. 35000	35,000
	Subtotal Bill: Environmental facilities			**313,414.72**






Existing Surroundings of the Sub-Project

ANNEXURE 2:
ATTENDANCE OF CONSULTATION MEETING

ANNEXURE 2: ATTENDANCE OF CONSULTATION MEETING

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project

Local Government Engineering Department (LGED)

Public Consultation with Stakeholders

Name of Community Road: Aligonj Shimergoun via Kholilpur GPS Road **Date:** 26/03/2026

Road ID: 636445085

Place of Consultation: Ali Jong Bazar

Village: Sikondorpur **Ward No.:** 01 **Union:** 3 No. Tegoria **Upazila:** Habigonj Sadar

District: Habigonj

Public Consultation Participants List

Sl. No.	Name	Male/ Female	Age	Occupation	Village/Address	Mobile No.	Signature
01	Hamidur Haque	Male	50	Business	Sikondorpur (W-02)		
02	Jongir mia	Male	50	Farmer			
03	Bidhon Chondro das	Male	55	Business	Abdullapur (W-01)		
04	Awal mia	Male	50	Farmer	Dawatpur (W-01)		
05	Binoy kumar das	Male	50	Farmer	Abdullahpur (W-01)		
06	Subir Das	Male	42	Business	Abdullahpur (W-01)		
07	Suben das	Male	35	Farmer	Abdullahpur (W-01)		
08	Monik Das	Male	62	Business	Abdullahpur (W-01)		
09	Oviron Das	Male	60	Farmer	Abdullahpur (W-01)		
10	Absaruddin	Male	42	Farmer	Ramgonj (W-02)		
11	Giasuddin Sumon	Male	40	Business	Dawatpur (W-01)		
12	MD Salim mia	Male	55	Business	Dawatpur (W-01)		
13	Abdal mia	Male	55	Farmer	Dawatpur (W-01)		
14	Showel mia	Male	50	Business	Dawatpur (W-01)		
15	MD kuddus mia	Male	65	Business	Dawatpur (W-01)		
16	Talpan Dash	Male	55	Business	Abdullahpur word-1		
17	Suman Dash	Male	28	Business	Abdullahpur W-01		
18	Nishikonto	male	35	private job	Abdullahpur word-01		
19	Eaqub miah	Male	63	farmer	Syedabad word-01		
20	MD Shamim	Male	46	Driver	Sazadabad (W-01)		

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project

Local Government Engineering Department (LGED)

Public Consultation with Stakeholders

Name of Community Road: **Date:**

Road ID:

Place of Consultation:

Village: **Ward No.:** **Union:** **Upazila:**

District:

Public Consultation Participants List

Sl. No.	Name	Male/ Female	Age	Occupation	Village/Address	Mobile No.	Signature
21	Ayat Ali	Male	40	Farmer	Simergao (W.-01)		[illegible]
22	MD. Porosh Ali	Male	50	Farmer	Simergao (W.01)		[illegible]
23	Nur mia	Male	50	Farmer	Simergao (W.01)		[illegible]
24	Tota mia	Male	75	Farmer	Simergao (W.01)		[illegible]
25	Shahel mia	Male	40	Farmer	Simergao (W.01)		[illegible]

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project

Local Government Engineering Department (LGED)

Public Consultation with Stakeholders

Name of Community Road: Ratna Bazar - Murodpur up office sroad via surampur and dubalpur. **Date:** 30-03-26

Road ID: 636113014

Place of Consultation: Ratna Bazar.

Village: Balokipur **Ward No.:** 08 **Union:** 10 no Subidpur **Upazila:** Baniachong

District: Habigonj

Public Consultation Participants List

Sl. No.	Name	Male/ Female	Age	Occupation	Village/Address	Mobile No.	Signature
01	MD Jakaria	Male	30	Business	Balokipur W-08		
02	Saiful Islam	Male	35	Farmer	Balokipur W-08		
03	Tajul Islam	Male	35	Farmer	Balokipur (W-08)		
04	MD Groous	Male	25	Driver	Balokipur (W-08)		
05	Abdul mia	Male	40	Driver	Mondosu W-07		
06	MD. Tofawel	Male	35	Driver	Balokipur (W-07)		
07	Tajul Islam	Male	45	Business	Balokipur W-08		
08	Jomsheruddin	Male	42	Driver	nowagoan (W-08)		
09	Majnu mia	Male	45	Farmer	Balokipur (W-08)		
10	Ashik mia	Male	35	Driver	Mondone (W-07)		
11	MD Babul mia	Male	50	Business	Balokapur W-08		
12	Jamil Chawdury	Male	40	Farmer	Balokapur (W-08)		
13	Fajjun Rahaman	Male	55	Farmer	Balokipur (W-08)		
14	MD Samid Sordar	Male	37	Farmer	Nowagoan (W-09)		
15	Saikh Shoel mia	Male	38	Farmer	Nowagoan (W-09)		
16	Salman mallo	Male	25	Driver	Nowagoan W-09		

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project

Local Government Engineering Department (LGED)

Public Consultation with Stakeholders

Name of Community Road: Ashar – Rajpur Rd **Date:** 27-03-26

Road ID: 636444001

Place of Consultation: Rajpur Bazar

Village: Rajpur **Ward No.:** 06/01 **Union:** Rajar **Upazila:** Sadar

District: Habiganj

Public Consultation Participants List

Sl. No.	Name	Male/ Female	Age	Occupation	Village/Address	Mobile No.	Signature
01	Moskud Ali	Male	44	Construction work	Aashera Sandil (War-06)		[signature]
02	Tofazol mia	Male	18	Farmer	Ashera Sandil (W-06)		[signature]
03	Sukesh Shill	Male	55	Business	Aashera Sandil (W-06)		[signature]
04	Nurul Islam	Male	40	Employee	Aashera Sandil (W-06)		[signature]
05	Abdul Ahah	Male	38	Farmer	Aashera Sandial (W-06)		[signature]
06	MD Rahamat Ali	Male	45	Farmer	Ashera Sandial (W-06)		[signature]
07	MD Faisal mia	Male	20	Farmer	Rajpur (W-01)		[signature]
08	MD Akter	Male	35	Businessman	Rajpur (W-01)		[signature]
09	MD Mahbur	Male	45	Farmer	Rajpur (W-01)		[signature]
10	MD Lokman	Male	20	Student	Rajpur (W-01)		[signature]
11	Rakib Ali	Male	24	Farmer	Rajpur (W-01)		[signature]
12	Haider Ali	Male	50	Farmer	Rajpur (W-01)		[signature]
13	MD Mukkas mia	Male	25	Farmer	Rajpur W-01		[signature]
14	MD Idous mia	Male	40	Driver	Rajpur (W-01)		[signature]
15	Faruk mia	Male	40	Farmer	Rajpur (W-01)		[signature]
16	MD neamat Ali	Male	40	Farmer	Rajpur (W-01)		[signature]

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project

Local Government Engineering Department (LGED)

Public Consultation with Stakeholders

Name of Community Road: Shahjibazar-sadar bazar road to Nurpur up **Date:** 27/03/2026
Road ID: 636443012 Kesobpur Bazar
Place of Consultation: kesobpur Bazar
Village: kesobpur **Ward No.:** 09 **Union:** Bramondena **Upazila:** Sayestaganj
District: Habiganj

Public Consultation Participants List

Sl. No.	Name	Male/ Female	Age	Occupation	Village/Address	Mobile No.	Signature
01	Md. Kamalmiah	Male	48	Business	South Bisawra Word-09		
02	Md. Ayneul Hoq	Male	51	Business	kesobpur Word-09		
03	Md. Edon miah	Male	45	farmer	Bisawra Word-09		
04	Abdul Hai	Male	55	farmer	kesobpur Word-09		
05	Akkasmiah	Male	48	farmer	Bisawra Word-09		
06	Rashid miah	Male	70	farmer	Bisawra Word-09		
07	Giasuddin	Male	45	Business	Bisawra Word-09		
08	Md. Benumiah	Male	42	Electrition	kesobpur Word-9		
09	Md. Giasuddin	Male	45	Business	kesobpur Word-09		
10	Amin Hossain	Male	58	farmer	kesobpur Word-09		
11	Selim Miah	Male	40	farmer	Bisawra Word-9		
12	Shohag	Male	34	farmer	kesobpur Word-9		
13	Ashanful	Male	45	farmer	kesobpur Word-9		
14	Shasul Hoq	Male	52	farmer	Bisawra Word-9		
15	Razib miah	Male	30	farmer	Bisawra, Word-08		
16	Shahin mia	male	35	farmer	kesobpur Word-09		
17	Abul Barin	Male	38	farmer	kesobpur Word-09		
18	Salauddin	Male	35	farmer	kesobpur Word-09		

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project

Local Government Engineering Department (LGED)

Public Consultation with Stakeholders

Name of Community Road: Titulkhai - chandpur via mirzapur Road **Date:** 25/03/2026

Road ID: 636440043

Place of Consultation: Alam Bazar

Village: Mirzapur **Ward No.:** 02 **Union:** Richi **Upazila:** Habiganj sadar

District: Habiganj

Public Consultation Participants List

Sl. No.	Name	Male/ Female	Age	Occupation	Village/Address	Mobile No.	Signature
1.	Md. Sohid Mia	Male	32	Business	Nannatpur		মো: শহিদ মিয়া
2.	Javed Mia	male	21	Student	Titulkhai		Jabed
3.	Lokman Mia	male	26	Contr	Titulkhai		লোকমান মিয়া
4.	Iqbal	male	31	Business	Nannatpur		ইকবাল
5.	Mizanur Rahman	male	42	Driver	Titulkhai		মিজান
6.	Ayat Ali	male	55	Business	Titulkhai		আয়াত আলী
7.	Habibur Rahman	male	23	Business	Titulkhai		হবিবুর
8.	Md. Junayed Mia	male	26	Driver	Titkhai		জুনায়েদ
9.	Md. Anu Mia	male	40	Driver	Mirzapur		আনু
10.	Afzal Hossain	male	30	Business	Mirzapur		আফজাল
11.	Rubel Ahmed	male	37	Driver	Titulkhai		রুবেল
12.	Amin Ali	male	20	Contractor	Titulkhai		আমিন
13.	Md. Mojnu	male	28	Contractor	Titulkhai		মুজনু
14.	Kokton Mia	male	41	Driver	Titulkhai		কখতন
15.	Kazi Masum	male	38	Driver	Titulkhai		কাজী
16.	Ruhul Amin	male	35	Contractor	Titulkhai		রুহুল আমিন