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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 Centre, others roads & Connecting
Roads & Landing Stage at Faridpur District**



**Environmental & Social Assessment and Management Report of
Community Roads**

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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, 1997
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
UNDP	United Nations Development Programme
WB	World Bank

Executive Summary

The Environmental & Social Assessment and Management Report (ESAMR) of Community Roads for Faridpur District has been prepared for the sub-project titled “Improvement of Community Infrastructure, Growth Centre, others roads & Connecting Roads & Landing Stage at Faridpur 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, six (6) community infrastructures connecting roads in Faridpur District will be improved to provide safe and sustainable access to nearby flood shelters and essential social infrastructure. The roads are located in five upazilas - Madhukhali (1 road with active length of 3.890km), Saltha (2 roads with total length of 6.910 km), Sadarpur (1 road with length of 1.290km), Bhanga (1 road with length of 3.985km), and Boalmari (1 road with active length of 2.538km) Upazila-which are characterized by rural settlements, agricultural landscapes, and periodic exposure to seasonal flooding.

A short profile of the roads to be implemented					
Sl. No.	Name of Upazila	Name of Proposed Community Road (Road ID)	Total Length (Km)	Avg. width (m)	Distances from nearby Shelters
1.	Madhukhali	Modhukhali RHD – Bhimpur GC via Makrail Bazar (Road ID: 329562009)	3.890	3.7	5.0 km
2.	Saltha	Sonapur RHD (St Borokhardia Bridge)-Kalinagar GC (End at Dohornagar GPS) Road Via Bolakir Kheya ghat, Sadhuhati Village (Road ID: 329852024)	5.800	3.7	3.0 km
3.		Saltha Sonapur RHD – Jogardia Dorga (UZR) Road via Ranggarkandi GPS (Road ID: 329854130)	1.110	3.0	2.0 km
4.	Sadarpur	Baliahati GC-Char Nasirour UP Office-Arialkha Ferry Ghat Bazar via Char Manair UP Office Road (Road ID: 329843005)	1.290	3.0	8.0 km
5.	Bhanga	Azimnagar UP- Azimnagar Bazar Road (Road ID: 329103009)	3.985	3.7	1.0 km
6.	Boalmari	Gunbaha UP office to Modhumati river via Chandani bazar (Road ID: 329183017)	2.538	3.7	0.5 km

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.

Overall, the activities under this works package involve rehabilitation and improvement of community roads through bituminous surfacing, localized structural works (including bridges/culverts), slope protection, utility relocation, and roadside plantation. More specifically, the interventions as well as the overall physical features around the roads are given below:

- (i) For the road from **Modhukhali RHD to Bhimpur GC via Makrail Bazar (Road ID: 329562009)**, bituminous carpeting will be carried out along the entire stretch from **chainage 2+800 to 6+690**, where the existing pavement is damaged and broken. This road passes through homestead areas, agricultural lands, five ponds on both sides, roadside shops, bazars, girls' madrasa and mosques. Along with the general road improvement works, Road safety measures, including signage will be installed near the girls' madrasa at **Ch. 3+010** and the mosque at **Ch. 4+750**. Additionally, slope protection works, including **approximately 195 m** of palisading on both sides of the road at various chainages, will be implemented to stabilize the road embankment and prevent erosion.
- (ii) **Sonapur RHD (St Borokhardia Bridge) to Kalinagar GC (End at Dohornagar GPS) Road Via Bolakir Kheya ghat, Sadhuhati Village (Road ID: 329852024)**, passes through paddy lands, houses, bamboo tree gardens, a hospital, two government primary schools, bazars, mosque, roadside shops and a Grameen telecommunication tower is also located along the road. The road also crosses the Kumar River via an existing bridge. Along with the proposed bituminous carpeting from **chainage 0+000 to 5+800**, road signage will be installed near sensitive locations, including the Hospital at **Ch. 0+170**, the existing Kumar bridge at **Ch. 2+600**, the government primary school at **Ch. 2+620**, and South Boro Khardia Mosque at **Ch. 3+050**.
- (iii) Bituminous carpeting will be implemented from **chainage 0+000 to 1+110** on the road, which stretches from **Saltha Sonapur RHD – Jogardia Dorga (UZR) Road via Ranggarkandi GPS (Road ID: 329854130)** passes through paddy fields and residential areas, with adjacent features including two mosques, Ranggardia Government Primary School, one madrasa, a banana garden, two ponds, and four ditches located on both sides of the road. Road safety measures, including signage will be installed near the Mosque at Ch. 0+500, Alia Madrasa at **Ch. 0+900**, and Ranggardia Government Primary School at **Ch. 1+100**.
- (iv) For the road from **Baliahati GC to Char Nasirour UP Office-Arial kha Ferry Ghat Bazar via Char Manair UP Office Road (Road ID: 329843005)**, bituminous carpeting will be implemented along the entire stretch from **chainage 0+000 to 1+290**, and the road passes through different establishment and physical features on both sides, such as Houses, agricultural lands, graveyards, poultry farm, Gozaria Primary School, madrasa and a mosque. The starting point of the road is located at the Arial Kha River. Along

with the general road improvement works, Road safety features, including signage will be installed at the madrasa at **Ch. 0+200**, the Gozaria Primary School at **Ch. 0+500**, and the mosque at **Ch. 0+700**. In addition, **about 175 m** of palisading will be installed along both sides of the road at selected chainages as part of slope protection works to enhance embankment stability and control erosion.

- (v) The proposed works for the road section from **Azimnagar UP to Azimnagar Bazar Road (Road ID: 329103009)** include the provision of bituminous carpeting over the **chainage from 0+000 to 3+985**. The road passes through different socio-environmental features and establishments, such as stretches of human settlements and agricultural lands, roadside shops, mosques, shimul bazar, Kali Mondir, graveyard, eight ponds and seven ditches on both sides, and a government primary school. In order to ensure road safety and mitigate potential hazards, appropriate traffic safety measures shall be implemented at the Kali Mondir at **Ch. 0+220**, at mosques (**Ch. 1+100, Ch. 1+300**) and the government primary school at **Ch. 2+300**. Slope protection measures will also be undertaken, comprising **approximately 1,019 m** of palisading along both sides of the road at different chainages to ensure embankment stability and minimize erosion.
- (vi) For the road from **Gunbaha UP office to Modhumati river via Chandani bazar (Road ID: 329183017)**, bituminous carpeting will be carried out from **chainage 0+000 to 2+538**. The road passes through different socio-environmental features and establishments, such as stretches of households, agricultural lands, Omor Nagar Madrasa, one graveyard, Beer Muktijoddha Engineering College, a Kindergarten, one Mosque, and two ditches located on both sides of the road. Besides the road improvement works, road safety signage will be installed near the Beer Muktijoddha Engineering College at **Ch. 0+700**, the Kindergarten at **Ch. 0+900**, and the Morail Mor at **Ch. 1+300**. Additionally, slope protection works, including **approximately 171 m** of palisading on both sides of the road at various chainages, will be implemented to stabilize the road embankment and prevent erosion.

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, and installation of small culverts or cross-drainage structures where required. However, the scope of works, including specific safety and environmental measures along with potential impacts that may arise from the proposed interventions, are tabulated hereunder:

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Sl. No.	Name of Proposed Community Road	Pavement Condition with Chainage	Proposed Physical Interventions	Specific HSE measures	Key Potential Impacts
1.	Modhukhali RHD – Bhimpur GC via Makrail Bazar (329562009)	Damaged/broken Paved- BC (2+800 to 6+690)	Bituminous Carpeting (BC)- 2+800 to 6+690 Slope protection incl. palisading approx. 195m at different chainages	Road signage for girls' madrasa at Ch. 3+010 and the mosque at Ch. 4+750.	Air, water and soil pollution from Construction works; temporary obstacles in pedestrians' movement, OHS and SEA/SH issues among workers and locals, tree plantation.
2	Sonapur RHD (St Borokhardia Bridge)- Kalinagar GC (End at Dohornagar GPS) Road Via Bolakir Kheya ghat, Sadhuhati Village (329852024)	Damaged/broken Paved- BC (0+000 to 0+170); HBB (0+170 to 5+800)	Bituminous Carpeting (BC)-0+000 to 5+800	Road signage for the Hospital at Ch. 0+170, the existing Kumar bridge at Ch. 2+600, the government primary school at Ch. 2+620, and South Boro Khardia Mosque at Ch. 3+050.	Air, water and soil pollution from Construction works; temporary obstacles in pedestrians' movement, OHS and SEA/SH issues among workers and locals, tree plantation.
3.	Saltha Sonapur RHD – Jogardia Dorga (UZR) Road via Ranggarkandi GPS (329854130)	Damaged/broken Paved- Brick Flat Soiling (0+000 to 0+540); Earthen (0+540 to 1+110)	Bituminous Carpeting (BC)-0+000 to 1+110	Road signage for the Mosque at Ch. 0+500, Alia Madrasa at Ch. 0+900, and Ranggardia Government Primary School at Ch. 1+100.	
4.	Baliahati GC- Char Nasirour UP Office- Arialkha Ferry Ghat Bazar via Char Manair UP Office Road (329843005)	Damaged/broken Paved- HBB (0+000 to 1+290)	Bituminous Carpeting (BC)- (0+000 to 1+290) Slope protection incl. palisading approx. 175m at different chainages	Road Signage for the madrasa at Ch. 0+200, the Gozaria Primary School at Ch. 0+500, and the mosque at Ch. 0+700.	
5.	Azimnagar UP- Azimnagar Bazar Road (329103009)	Damaged/broken Paved- BC (0+000 to 3+985)	Bituminous Carpeting (BC)- 0+000 to 3+985)	Road Signage for the Kali Mondir at Ch. 0+220, at mosques (Ch. 1+100, Ch.	Air, water and soil pollution from Construction works; temporary setback in

Sl. No.	Name of Proposed Community Road	Pavement Condition with Chainage	Proposed Physical Interventions	Specific HSE measures	Key Potential Impacts
			Slope protection incl. palisading approx. 1019m at different chainages	1+300) and the government primary school at Ch. 2+300.	pedestrians' movement, OHS issues of workers, SEA/SH issues among the workers/locals.
6.	Gunbaha UP office to Modhumati river via Chandani bazar (329183017)	Damaged/broken Paved- HBB (0+000 to 2+538)	Bituminous Carpeting (BC)- (0+000 to 2+538) Slope protection incl. palisading approx. 171m at different chainages	Road Signage for the Beer Muktijoddha Engineering College at Ch. 0+700, the Kindergarten at Ch. 0+900, and the Morail Mor at Ch. 1+300.	Air, water and soil pollution from Construction works; temporary obstacles in pedestrians' movement, OHS and SEA/SH issues among workers and locals, tree plantation.

Despite the substantial socio-economic benefits the project will bring, certain construction-phase activities, such as earthworks, excavation, and material handling, are likely to cause localized soil disturbance, potential erosion, and impacts on roadside vegetation. In addition, construction near water bodies poses a risk of water contamination due to sediment runoff, improper waste disposal, or accidental spillage of construction materials. 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. In areas with dense human settlements or educational institutions, there is an increased risk of accidents, as well as occupational health and safety (OHS) concerns for workers and the public. Furthermore, the presence of a mobile workforce introduces potential risks related to Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH), which require careful management. Additional impacts include temporary social inconvenience, restricted access to local infrastructure, and safety hazards associated with open excavations, movement of heavy vehicles, and ongoing construction operations. 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 to control dust, proper maintenance of construction equipment to minimize noise and emissions, safe disposal and management of construction wastes, and restoration of disturbed areas following construction activities. Where roadside trees need to be removed, compensatory plantation programs will be undertaken to restore local vegetation and maintain ecological balance. Traffic management options, including signage, barricading, and designated detours, will be enforced to ensure safe movement of vehicles and pedestrians. In addition, drainage systems will be carefully designed and maintained to prevent waterlogging and ensure the natural flow of stormwater. Construction activities near water bodies and agricultural lands will be conducted with special precautions to prevent contamination and protect local livelihoods dependent on farming and fisheries. Contractors will also be required to ensure proper occupational health and safety measures for workers, including the use of personal protective equipment (PPE), training on workplace safety, and emergency preparedness.

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 project is expected to generate significant positive impacts in the long term. Improved community roads will strengthen connectivity between rural communities and flood shelters, thereby enhancing disaster resilience and emergency preparedness. Better road infrastructure will also support local economic development by facilitating the transportation of agricultural products, improving access to educational and health services, and enhancing overall rural mobility. In addition, the project will contribute to improved safety and accessibility for women, children, elderly people, and persons with disabilities who rely on these roads for daily activities.

The implementation of the ESMP, along with continuous monitoring and stakeholder engagement, will ensure that environmental and social risks are minimized while maximizing the long-term benefits of the project for local communities. The report therefore provides a comprehensive framework to guide environmentally responsible and socially inclusive implementation of community road improvement works 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 five upazilas of Faridpur District, namely Madhukhali Upazila, Saltha Upazila, Sadarpur Upazila, Bhanga Upazila, and Boalmari 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 Faridpur 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 **Faridpur 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 Faridpur 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 Faridpur District under the RIVER Project.

2.1 Sub-Project Location

The sub-project covers selected community roads located in Faridpur District, which is in the south-central 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 five upazilas:

1. **Madhukhali Upazila** – A predominantly rural area characterized by fertile agricultural land, scattered settlements, and local marketplaces. The upazila is intersected by rivers and low-lying floodplains, making it vulnerable to seasonal flooding. The community road network plays a critical role in maintaining connectivity among villages and providing access to markets, essential services, and designated flood shelters, particularly during monsoon periods.
2. **Saltha Upazila** – A predominantly rural area with agricultural land, scattered settlements, and small marketplaces. The upazila lies in a low-lying floodplain, making it prone to seasonal flooding and waterlogging. Local roads are vital for maintaining connectivity and access to essential services and flood shelters, especially during the monsoon season.
3. **Sadarpur Upazila** – A rural area characterized by agricultural land, riverine landscapes, and dispersed settlements. Due to its proximity to major rivers, it is prone to seasonal flooding. The local road network is essential for connecting communities to markets, services, and flood shelters.

4. **Bhanga Upazila** – A semi-urban and rural area with growing commercial activity, supported by its strategic transport connectivity. The upazila includes agricultural lands and settlements, and its road network plays a key role in facilitating regional movement and access to essential services.
5. **Boalmari Upazila** – A predominantly rural area with fertile agricultural land, scattered villages, and local marketplaces. The area experiences seasonal flooding in low-lying zones, and community roads are important for maintaining connectivity to services and shelters during adverse conditions.

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 Faridpur District is attached in **Figure 2.1**.

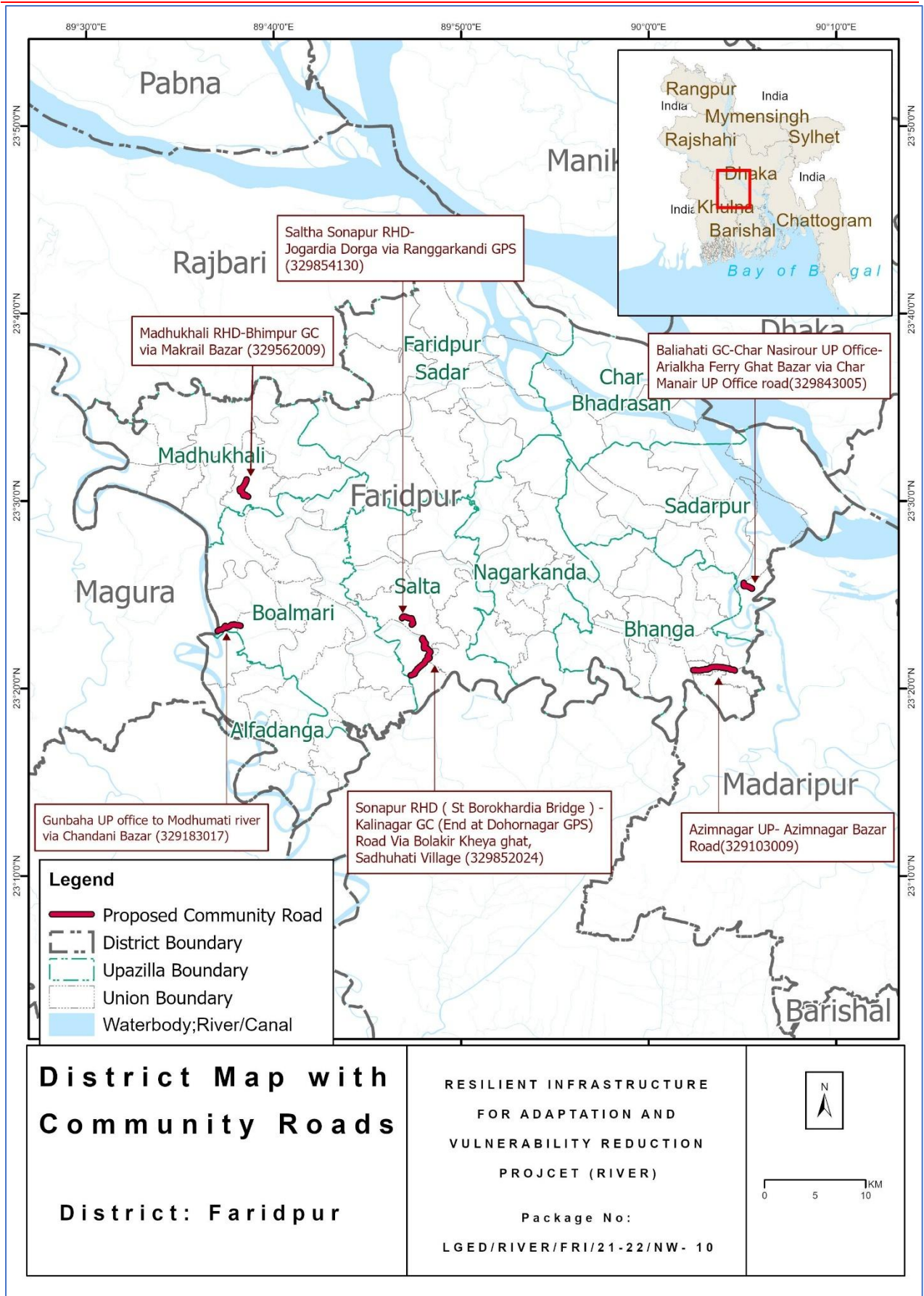


Figure 2.1: Map illustrating Community Roads of Faridpur District

2.2 Physical Features and Environment

The terrain across the project area is predominantly flat and low-lying, with numerous rivers, canals, and drainage channels flowing across the upazilas. During the monsoon season, many areas experience waterlogging and localized flooding. The existing road infrastructure is mainly earthen and semi-paved, with limited drainage facilities, making roads vulnerable to damage during heavy rainfall. Roadside vegetation, including trees and shrubs, is commonly found along road corridors, supporting local ecology and providing shade for nearby communities.

2.3 Socio-Economic Context

The project area is predominantly rural, with communities largely dependent on agriculture 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.

2.5 Elementary information of Community Road in Faridpur District

The community road package components in Faridpur District, located in the south-central region of Dhaka 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 Madhukhali Upazila, Saltha Upazila, Sadarpur Upazila, Bhanga Upazila and Boalmari Upazila. Each road component has been identified with specific GPS coordinates to define its alignment and location within the respective union parishads such as Azimnagar, Mayna, Kamoldia, Charmanair, Bhawal and Janandi 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.	Madhukhali	Kamoldia	Modhukhali RHD – Bhimpur GC via Makrail Bazar (Road ID: 329562009)	<p>Starting Point Latitude: 23.519201 N Longitude: 89.642693 E</p> <p>Ending Point Latitude: 23.503709 N Longitude: 89.643944 E</p>	3.890	Makrail	77 No. Kadirpara GPS	5km from Proposed Flood Shelter

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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
2.	Saltha	Janandi	Sonapur RHD (St Borokhardia Bridge)-Kalinagar GC (End at Dohornagar GPS) Road Via Bolakir Kheya ghat, Sadhuhati Village (Road ID: 329852024)	<p><u>Starting Point</u> Latitude: 23.378186 N Longitude: 89.799271 E</p> <p><u>Ending Point</u> Latitude: 23.345076 N Longitude: 89.788448 E</p>	5.000	Sonapur, Boro Khardia, Baro Khardia (South), Jadu Mandi	Majherdia GPS	3km from Proposed Flood Shelter
3	Saltha	Sonapur	Saltha Sonapur RHD – Jogardia Dorga (UZR) Road via Ranggarkandi GPS (Road ID: 329854130)	<p><u>Starting Point</u> Latitude: 23.390147 N Longitude: 89.789435 E</p> <p><u>Ending Point</u> Latitude: 23.395126 N Longitude: 89.780416 E</p>	1.110	Sonapur	Majherdia GPS	2km from Proposed Flood Shelter
4.	Sadarpur	Charmanair	Baliahati GC-Char Nasirour UP Office-Arialkha Ferry Ghat Bazar via Char Manair UP Office	<p><u>Starting Point</u> Latitude: 23.427350 N Longitude: 90.084493 E</p>	1.290	Charmanair	75 No. Bisshyo Zaker Manjil GPS	8km from Proposed Flood Shelter

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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
			Road (Road ID: 329843005)	<u>Ending Point</u> Latitude: 23.407637 N Longitude: 90.944174 E				
5.	Bhanga	Azimnagar	Azimnagar UP- Azimnagar Bazar Road (Road ID: 329103009)	<u>Starting Point</u> Latitude: 23.349721 N Longitude: 90.039564 E <u>Ending Point</u> Latitude: 23.349347 N Longitude: 90.076567 E	3.985	Azimnagar	34 No. Brahmanpara GPS	1km from Proposed Flood Shelter
6.	Boalmari	Moyna	Gunbaha UP office to Modhumati river via Chandani bazar (Road ID: 329183017)	<u>Starting Point</u> Latitude: 23.389076 N Longitude: 89.637262 E <u>Ending Point</u> Latitude: 23.384548 N Longitude: 89.616964 E	2.538	Gunbaha, Moyna, Morail	60 No. Nader Chand GPS	500m from Proposed Flood Shelter

[*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 settings 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 Faridpur 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 Madhukhali, Saltha, Sadarpur, Bhanga and Boalmari.

Existing Pavement Condition and Chainage: Most of the existing roads are earthen, 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, palisading and side drains at strategic locations to ensure uninterrupted water flow, prevent erosion, 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 Faridpur District. Road-wise Baseline Conditions of the community Roads status are presented in **Table 2.2**. A typical pavement design for Community Road is provided hereunder.

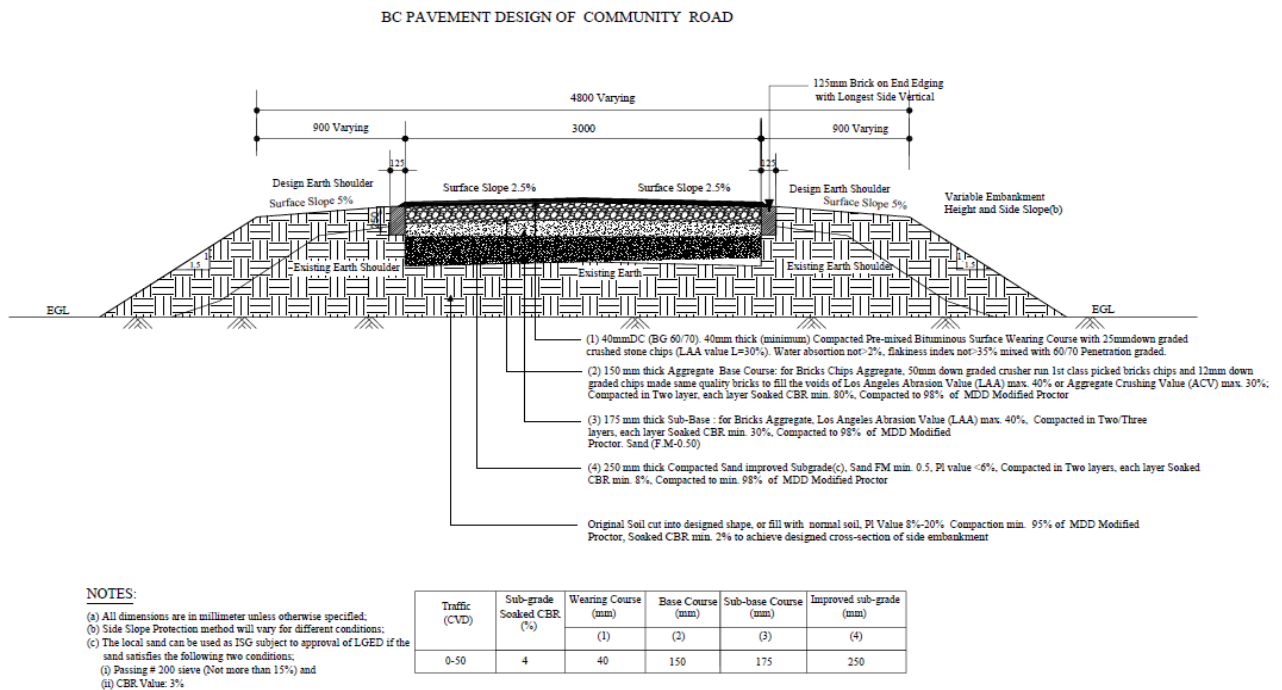


Figure 2.2 BC Pavement Design for typical Community Road

Table 2.2 Status of Baseline Conditions of the Community Road and Proposed Interventions

Sl. No.	Road Name (Road Type)	Road ID	Total Road Length (km)	Pavement Condition with Chainage	Existing Structures on the road	Safeguard Features	Proposed Road Interventions
1.	Modhukhali RHD – Bhimpur GC via Makrail Bazar (UZR)	329562009	3.890	Damaged/broken Paved- BC (2+800 to 6+690)	Palisading (22m)- Ch. 4150m to Ch. 4172m; Box-culvert (4m × 6m)- Ch. 5623m to Ch. 5627m	Not available in site	Slope protection including palisading (31m)- Ch. 3975m to Ch. 4006m L/S, (22m)- Ch. 4200m to Ch. 4222m L/S, (25m)- Ch. 4240m to Ch. 4270m R/S, (40m)- Ch. 4380m to Ch. 4420m R/S, (40m)- Ch. 4410m to Ch. 4450m L/S, (17m)- Ch. 4729m to Ch. 4746m R/S, (10m)- Ch. 4964m to Ch. 4974m L/S, (10m)- Ch. 5044m to Ch. 5054m L/S
2	Sonapur RHD (St Borokhardia Bridge)-Kalinagar GC (End at Dohornagar GPS) Road Via Bolakir Kheya ghat, Sadhuhati Village (UZR)	329852024	5.800	Damaged/broken Paved- BC (0+000 to 0+170); HBB (0+170 to 5+800)	Bridge (9m × 89m)- Ch. 9m; U-Drain (1m × 1m)- Ch. 2099m; 2-Vent Culvert (5m × 5m)- Ch. 2946m to Ch. 2956m; U-Drain (1m × 1m)- Ch. 4030m;	Not available in site	Slope protection including palisading (10m)- Ch. 900m to Ch. 910m L/S, (20m)- Ch. 1290m to Ch. 1310m R/S

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Sl. No.	Road Name (Road Type)	Road ID	Total Road Length (km)	Pavement Condition with Chainage	Existing Structures on the road	Safeguard Features	Proposed Road Interventions
					U-Drain (1m × 1m)- Ch. 4509m		
3	Saltha Sonapur RHD – Jogardia Dorga (UZR) Road via Ranggarkandi GPS (Village-A)	329854130	1.110	Damaged/broken Paved- Brick Flat Soiling (0+000 to 0+540); Earthen (0+540 to 1+110)	-	Not available in site	U-Drain (0.6m × 0.6m)-Ch. 175m; Slope protection including palisading (50m)- Ch. 350m R/S, (5m)- Ch. 430m R/S; Toe Wall (19m)- Ch. 511m R/S; U-Drain (0.6m × 0.6m)-Ch. 538m; Toe Wall (09m)-Ch. 861m L/S
4	Baliahati GC-Char Nasirour UP Office-Arialkha Ferry Ghat Bazar via Char Manair UP Office Road (UNR)	329843005	1.290	Damaged/broken Paved- HBB (0+000 to 1+290)	Palisading (7m)- Ch. 160m to Ch. 167m R/S; Box-culvert (2m × 2m)- Ch. 167m to Ch. 168.2m; Palisading (8m)- Ch. 210m to 218m L/S; Box-culvert (3m × 3m)- Ch. 1027m to Ch. 1030m	Not available in site	Slope protection including palisading (11m)- Ch. 157m to Ch. 168m R/S, (12m)- Ch. 172m to Ch. 184m L/S, (20m)- Ch. 203m to Ch. 223m L/S, (20m)- Ch. 311m to Ch. 331m R/S, (10m)- Ch. 370m to Ch. 380m R/S, (16m)- Ch. 468m to Ch. 484m R/S, (16m)- Ch. 685m to Ch. 701m R/S, (30m)- Ch. 900m to Ch. 930m R/S, (12m)-Ch. 1016m to 1028m L/S, (16m)-Ch. 1054m to 1070m R/S.
5	Azimnagar UP-Azimnagar Bazar Road (UNR)	329103009	3.985	Damaged/broken Paved- BC (0+000 to 3+985)	Palisading (20m)- Ch. 100m to 120m R/S, (31m)-Ch. 212m to 243m R/S, (25m)-Ch. 358m to	Not available in site	Slope protection including palisading (20m)- Ch. 15m to Ch. 35m L/S, (25m)- Ch. 30m to Ch. 55m R/S, (30m)-

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Sl. No.	Road Name (Road Type)	Road ID	Total Road Length (km)	Pavement Condition with Chainage	Existing Structures on the road	Safeguard Features	Proposed Road Interventions
					<p>Ch. 383m R/S, (28m)-Ch. 397m to 425m R/S, (16m)- Ch. 774m to 790m R/S, (45m)- Ch. 1174m to Ch. 1219m R/S, (28m)-Ch. 1502m to Ch. 1530m L/S, (9m)- Ch. 2743m to Ch. 2752m L/S, (46m)- Ch. 2760m to 2806m L/S, (25m)- Ch. 1730m to Ch. 1755m R/S;</p> <p>Bridge (18m × 3.8m)- Ch. 1797m to Ch. 1815m</p>		<p>Ch. 90m to Ch. 120m R/S, (47m)-Ch. 336 m to Ch. 383m R/S, (28m)- Ch. 397m to 425m R/S, (17m)-Ch. 448m to 465m R/S, (20m)- Ch. 465m to Ch. 485m L/S, (15m)-Ch. 495m to 510m R/S, (25m)-Ch. 765m to 790m R/S, (71m)-Ch. 908m to 979m R/S, (50m)-Ch. 970m to 1020m L/S, (48m)- Ch. 1178m to 1219m R/S, (37m)-Ch. 1182m to 1219m L/S, (43m)-Ch. 1227m to 1270m L/S, (163m)-Ch. 1430m to 1593m L/S, (50m)-Ch. 1480m to 1530m L/S, (43m)-Ch. 1562m to 1605m L/S, (15m)-Ch. 1675m to 1690m R/S, (25m)-Ch. 1930m to Ch. 1955m L/S, (35m)-Ch. 1965m to Ch. 2000m L/S, (43m)-Ch. 2480m to 2523m L/S, (74m)-Ch. 2630m to 2704m L/S, (40m)-Ch. 3580m to Ch. 3620m L/S, (55m)-Ch. 3625m to 3680m R/S.</p>

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Sl. No.	Road Name (Road Type)	Road ID	Total Road Length (km)	Pavement Condition with Chainage	Existing Structures on the road	Safeguard Features	Proposed Road Interventions
6	Gunbaha UP office to Modhumati river via Chandani bazar (UNR)	329183017	2.538	Damaged/broken Paved- HBB (0+000 to 2+538)	<p>Bridge (30m × 5.5m)- Ch. 230m to Ch. 250m;</p> <p>U-Drain (7m × 1.8m)- Ch. 533m to 535m;</p> <p>Palisading (18m)-Ch. 1600m to Ch. 1618m L/S;</p> <p>Ring Culvert (5m × 6m)- Ch. 1909m to Ch. 1996m;</p> <p>Box Culvert (9.15m × 3.68m)- Ch. 2223m to Ch. 2233m</p>	Not available in site	<p>Slope protection including palisading (125m)- Ch. 565m to Ch. 690m R/S, (32m)- Ch. 1510m to Ch. 1542m R/S</p> <p>Slab Culvert (7m × 1m)-Ch. 1909m to Ch. 1910m</p> <p>Slope protection including palisading (14m)- Ch. 1980m to Ch. 1998m L/S</p>

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 settings. 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, educational institutions, 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 Faridpur 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: Dhaka	District: Faridpur	Upazila: Madhukhali	
Name of the Road:	Modhukhali RHD – Bhimpur GC via Makrail Bazar (Road ID: 329562009)		
Total Road Length (Km)	3.890 km		
Chainage	Orientation (Left/Right)		Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)
2800-3100	L		Girls' Madrasa
		R	Ohidsek House
3100-3400	L		Pond
		R	Paddy Land
3400-3700	L		Paddy Land
		R	Pond
3700-4000	L		Paddy Land
		R	Shop
4000-4300	L		Pond
		R	Houses
4300-4600	L		Pond
		R	Pond
4600-4900	L		Shop
		R	Madrasa
4900-5200	L		Siddik Bazar
		R	Siddik Bazar

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Division: Dhaka			District: Faridpur			Upazila: Saltha		
Name of the Road:			Sonapur RHD (St Borokhardia Bridge)-Kalinagar GC (End at Dohornagar GPS) Road Via Bolakir Kheya ghat, Sadhuhati Village (Road ID: 329852024)					
Total Road Length (Km)			5.800 km					
Chainage			Orientation (Left/Right)			Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)		
00-300			L			Bazar Khardia (Ch. 170m), FWC Hospital		
			R			Khardia Bazar (Ch. 170m)		
300-600			L			Boro Khardia GPS		
			R			Shop, House		
600-900			L			Karim House		
			R			Uttam House		
900-1200			L			Bamboo Garden		
			R			Selim House		
1200-2000			L			Mehogani Tree		
			R			Paddy Land, House		
2000-3000			L			Kumar Nodi (Ch. 2600m), Kumar Bridge (Ch. 2780m)		
			R			South Baro Khardia GPS (Ch. 2620m), South Baro Khardia Mosque (Ch. 3050m)		
3000-4000			L			Multi Shop (Ch. 3165m), Firoj Shop (Ch. 3860m)		
			R			Awal Molla House, Paddy Land		
4000-5800			L			Jobbar Molla House, Bamboo Garden		
			R			Grameen Tower (Ch. 4890m), House, Monzur Shik House (Ch. 5800m)		
Division: Dhaka			District: Faridpur			Upazila: Saltha		
Name of the Road:			Saltha Sonapur RHD – Jogardia Dorga (UZR) Road via Ranggarkandi GPS (Road ID: 329854130)					
Total Road Length (Km)			1.110 km					
Chainage			Orientation (Left/Right)			Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)		

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00-300	L		Paddy Land
		R	Paddy Land
300-600	L		Paddy Land, Houses
		R	Paddy Land, Ditch, Mosque, Banana Tree Graden
600-900	L		Houses, Ditch
		R	Houses, Ditch
900-1110	L		Houses, Alia Madrasa, Mosque, Ditch, Pond
		R	Ranggardia GPS, Houses, Ditch, Pond
Division: Dhaka	District: Faridpur		Upazila: Sadarpur
Name of the Road:	Baliahati GC-Char Nasirour UP Office-Arialkha Ferry Ghat Bazar via Char Manair UP Office Road (Road ID: 329843005)		
Total Road Length (Km)	1.290 km		
Chainage	Orientation (Left/Right)		Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)
00-300	L		(Starting Point from Arial Kha River), Mosque, Houses, Cultivated Land, Pond
		R	(Starting Point from Arial Kha River), Madrasa, Graveyard, Cultivated Land
300-600	L		Barek Talukdar House, Cultivated Land
		R	Houses
600-900	L		Gozaria, Cultivated land, Poultry Farm, Houses
		R	Gozaria Primary School, Mosque, Cultivated Land
900-1150	L		Houses, Cultivated Land
		R	Cultivated Land, Graveyard
1150-1290	L		Houses, Dudumia Chowdhury House, Cultivated Land
		R	Arial Kha River, Houses
Division: Dhaka	District: Faridpur		Upazila: Bhanga
Name of the Road:	Azimnagar UP- Azimnagar Bazar Road (Road ID: 329103009)		
Total Road Length (Km)	3.985 km		

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Chainage	Orientation (Left/Right)		Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)
	L	R	
00-300	L		Kali Mondir, Graveyard, Shop, Houses
		R	Shop, Ditch, Houses, Pond
300-600	L		Pond, Ditch, Houses, Cultivated Land
		R	Pond, Ditch, Houses, Cultivated Land
600-900	L		Houses, Ditch, Cultivated Land
		R	Houses, Cultivated Land
900-1200	L		Ditch, Cultivated Land
		R	Ditch, Houses, Cultivated Land, Pond, Mosque
1200-1500	L		Ditch, Houses, Cultivated Land, Pond
		R	Mosque, Houses, Cultivated Land
1500-1800	L		Pukurpar, GPS, Chairman House
		R	Channel, Houses
1800-2100	L		Shop, Paddy Land, Pond
		R	Paddy Land, Houses, Shop, Madrasa
2100-2400	L		Paddy Land, Pond, Channel
		R	Shimul Bazar, Primary School
3000-4000	L		UP, Paddy Land
		R	Pond, Bazar, Shimul Bazar
Division: Dhaka	District: Faridpur		Upazila: Boalmari
Name of the Road:	Gunbaha UP office to Modhumati river via Chandani bazar (Road ID: 329183017)		
Total Road Length (Km)	2.538 km		
Chainage	Orientation (Left/Right)		Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)
	L	R	
00-300	L		Omar Nagar Madrasa, Graveyard, Houses, Cultivated Land
		R	Houses, Cultivated Land
300-600	L		Cultivated Land

		R	Pond, Cultivated Land
600-900	L		Bir Muktijoddha Engineering College, Shona Ullah, Kindergarten, Cultivated Land
		R	Cultivated Land
900-1200	L		Houses, Ditch, Cultivated Land
		R	Cultivated Land, Houses, Ditch
1200-1500	L		Morail Mosque, Morail Shek Bari Mor, Houses, Ditch
		R	Morail Mor, Houses,
1500-1800	L		Cultivated Land, Houses, Ditch
		R	Cultivated Land
1800-2100	L		Cultivated Land, Houses, Ditch
		R	Houses, Ditch
2100-2538	L		Cultivated Land, Houses, Ditch
		R	Cultivated Land, Houses, Ditch

(*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 Faridpur 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 Faridpur District

Sl. No.	Name of Community Road	Environmental and Social Impacts	Proposed Mitigation and Enhancement Measures
1	Modhukhali RHD – Bhimpur GC via Makrail Bazar	<ul style="list-style-type: none"> • Dust generation and air pollution during earthworks, transportation of construction materials, and road surface improvement which may affect nearby settlements and the area around mosques and schools. • Noise disturbance from construction machinery and vehicles, particularly affecting nearby residents and religious activities at the mosque. • Temporary disruption of local movement and access for residents, pedestrians, and local vehicles during road rehabilitation activities. • Occupational and community safety risks due to movement of construction vehicles and operation of equipment along the road corridor. 	<ul style="list-style-type: none"> • Regular water spraying on exposed soil and road surfaces, covering of construction materials during transport, limiting vehicle speed, and maintaining machinery to control dust emissions. • Restrict construction work during sensitive hours (especially prayer times), maintain equipment to reduce noise, and avoid unnecessary honking or heavy machinery operation near the mosque area. • Maintain temporary access pathways, install warning signs and barricades, implement a basic traffic management plan, and inform local residents in advance about construction schedules. • Provide personal protective equipment (PPE) to workers, install safety signage and barricades, conduct safety briefings for workers, and ensure safe movement of construction vehicles within the work zone.
2	Sonapur RHD (St Borokhardia Bridge)-Kalinagar GC (End at Dohornagar GPS) Road Via Bolakir Kheya ghat, Sadhuhati	<ul style="list-style-type: none"> • Dust generation and air pollution from earthworks, transportation of materials, and road surface preparation which may affect nearby settlements and the area around mosques and schools. 	<ul style="list-style-type: none"> • Regular water spraying on exposed surfaces, covering of construction materials during transport, maintaining vehicles and limiting speed near settlements.

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Sl. No.	Name of Community Road	Environmental and Social Impacts	Proposed Mitigation and Enhancement Measures
	Village	<ul style="list-style-type: none"> Noise disturbance from construction equipment and vehicles, particularly affecting nearby households, schools, and local religious establishments. Temporary disruption of local movement and access for residents, pedestrians, and local vehicles during road rehabilitation activities. 	<ul style="list-style-type: none"> Restrict high-noise activities to daytime hours, maintain machinery properly, and avoid construction work during prayer times or school hours where feasible. Install temporary traffic management signs, maintain alternate access routes, and ensure safe pedestrian passage during construction.
3	Saltha Sonapur RHD – Jogardia Dorga (UZR) Road via Ranggarkandi GPS	<ul style="list-style-type: none"> Dust generation and air pollution during earthworks, transportation of construction materials, and road surface improvement which may affect nearby settlements and the area around mosques and schools. Noise disturbance from construction machinery and vehicles, particularly affecting nearby residents and religious activities at the mosque. Temporary disruption of local movement and access for residents, pedestrians, and local vehicles during road rehabilitation activities. Occupational and community safety risks due to movement of construction vehicles and operation of equipment along the road corridor. 	<ul style="list-style-type: none"> Regular water spraying on exposed soil and road surfaces, covering of construction materials during transport, limiting vehicle speed, and maintaining machinery to control dust emissions. Restrict construction work during sensitive hours (especially prayer times), maintain equipment to reduce noise, and avoid unnecessary honking or heavy machinery operation near the mosque area. Maintain temporary access pathways, install warning signs and barricades, implement a basic traffic management plan, and inform local residents in advance about construction schedules. Provide personal protective equipment (PPE) to workers, install safety signage and barricades, conduct safety briefings for

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Sl. No.	Name of Community Road	Environmental and Social Impacts	Proposed Mitigation and Enhancement Measures
4	Baliahati GC-Char Nasirour UP Office-Arialkha Ferry Ghat Bazar via Char Manair UP Office Road	<ul style="list-style-type: none"> • Dust generation and air pollution during earthworks, transportation of construction materials, and road surface improvement which may affect nearby settlements and the area around mosques and schools. • Noise disturbance from construction machinery and vehicles, particularly affecting nearby residents and religious activities at the mosque. • Temporary disruption of local movement and access for residents, pedestrians, and local vehicles during road rehabilitation activities. • Occupational and community safety risks due to movement of construction vehicles and operation of equipment along the road corridor. 	<p>workers, and ensure safe movement of construction vehicles within the work zone.</p> <ul style="list-style-type: none"> • Regular water spraying on exposed soil and road surfaces, covering of construction materials during transport, limiting vehicle speed, and maintaining machinery to control dust emissions. • Restrict construction work during sensitive hours (especially prayer times), maintain equipment to reduce noise, and avoid unnecessary honking or heavy machinery operation near the mosque area. • Maintain temporary access pathways, install warning signs and barricades, implement a basic traffic management plan, and inform local residents in advance about construction schedules. • Provide personal protective equipment (PPE) to workers, install safety signage and barricades, conduct safety briefings for workers, and ensure safe movement of construction vehicles within the work zone.
5	Azimnagar UP- Azimnagar Bazar Road	<ul style="list-style-type: none"> • Dust generation and air pollution from earthworks, transportation of materials, and road surface preparation which may affect nearby ponds, settlements and the area around mosques and schools. 	<ul style="list-style-type: none"> • Regular water spraying on exposed surfaces, covering of construction materials during transport, maintaining vehicles and limiting speed near settlements.

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Sl. No.	Name of Community Road	Environmental and Social Impacts	Proposed Mitigation and Enhancement Measures
		<ul style="list-style-type: none"> Noise disturbance from construction equipment and vehicles, particularly affecting nearby households, schools, and local religious establishments. Temporary disruption of local movement and access for residents, pedestrians, and local vehicles during road rehabilitation activities. 	<ul style="list-style-type: none"> Restrict high-noise activities to daytime hours, maintain machinery properly, and avoid construction work during prayer times or school hours where feasible. Install temporary traffic management signs, maintain alternate access routes, and ensure safe pedestrian passage during construction.
6	Gunbaha UP office to Modhumati river via Chandani bazar	<ul style="list-style-type: none"> Dust generation and air pollution from earthworks, transportation of materials, and road surface preparation which may affect nearby ponds, settlements and the area around mosques and schools. Noise disturbance from construction equipment and vehicles, particularly affecting nearby households, schools, and local religious establishments. Temporary disruption to local traffic and pedestrian movement during culvert repair, earthworks, and road surface improvement. Potential drainage blockage and localized waterlogging due to damaged culverts or improper construction practices. 	<ul style="list-style-type: none"> Regular water spraying on exposed surfaces, covering of construction materials during transport, maintaining vehicles and limiting speed near settlements. Restrict high-noise activities to daytime hours, maintain machinery properly, and avoid construction work during prayer times or school hours where feasible. Install temporary traffic management signs, maintain alternate access routes, and ensure safe pedestrian passage during construction. Rehabilitate and maintain existing culverts and cross-drainage structures, ensure proper alignment of drainage channels, and keep drainage paths clear during construction.

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 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 benefits 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 Madhukhali, Saltha, Sadarpur, Bhanga and Boalmari 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, Construction 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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

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		<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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.	<p>located at a site favorable for the workers and proposed by the contractor & approved by the Environmental Specialist of D&SC.</p> <ul style="list-style-type: none"> • 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
		<p>covered with safety caps or clothes/jute sacks, etc. for avoiding any accidental events from those.</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind of 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

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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
		<p>PM2.5, 10] and Hydrocarbons must be maintained through good construction work practices.</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> • 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
		<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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
		<p>kept on site.</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> • 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
		<p>to spills (incl. equipment deployment) and the site will be provided with portable spill containment and cleanup equipment.</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<p>Health & Safety Risks:</p> <ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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
	<p>events during construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis.</p>	<ul style="list-style-type: none"> • 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
		<p>stroke, and dehydration. Written records of this awareness training shall be kept on site.</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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
		<p>run-off. Loose materials shall be bagged and covered.</p> <ul style="list-style-type: none"> • 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	<p>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:</p> <ul style="list-style-type: none"> • Pollution from waste materials. 	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> Health & Safety risks to workers and local community. 	<p>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.</p> <ul style="list-style-type: none"> The contractor must arrange the cancellation of all temporary services. 		
Construction activity	Odors and pollution caused by leaking latrines and faecal sludge, and solid wastes impacting surrounding water bodies, flora and fauna	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>engagement shall be borne from the Contractor's management budget.</p> <ul style="list-style-type: none"> 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	<p>Road Safety. Impacts include:</p> <ul style="list-style-type: none"> 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. 	<p>Road safety issues can be minimized in following ways:</p> <ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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
		<ul style="list-style-type: none"> 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 and Dust Control	Particulate matter, visible dust at site, dust suppression measures	Weekly during excavation, earthwork, demolition	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Visual inspection, photo documentation
2	Noise and Vibration	Noise level (dB) near sensitive receptors; vibration during pile driving/demolition	Weekly or during pile driving; daily for high-impact works	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Noise meter readings, community feedback
3	Water Quality and Drainage	Turbidity, pH, oil/grease presence in runoff; drainage flow condition	Monthly during rainy season; after major rainfall	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Water sampling, field observation
4	Soil Erosion and Sedimentation	Silt traps, slope stabilization, drainage cleanliness	Weekly during earthworks and monsoon	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Visual inspection, photographs
5	Waste Management (Sewage and Solid wastes)	Sanitary Latrines, Segregation, storage, disposal of solid and hazardous waste; reuse of materials	Weekly	Contractor (monitoring & Implementation); PIU/D&SC (verification)	No. of latrines, waste bins, disposal receipts, site inspection
6	Excavation of road or underground	Dust suppression, debris containment, PPE use, safety barrier, debris reuse/disposal	Daily during excavation	Contractor (Safety Officer); PIU/D&SC verification	OHS checklist, photo record, waste log
7	Pile Driving (SOP)	Noise/vibration limits, use of vibration damping, safety cordons, PPE compliance	Daily during piling operations	Contractor (Engineer); PIU/D&SC (Verification)	Noise/vibration records, site inspection
8	Temporary Schooling facilities	School structure with toilets as per design	Before Construction	Contractor (Engineer); PIU/D&SC (Verification)	Visual Inspection; Interview of Students, teachers
9	Material Sourcing	Quality and source check for sand, brick, aggregate, timber suppliers	Per delivery	Contractor; verified by PIU	Delivery challan, supplier permit

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Sl. No.	ES Aspect / Issue	Monitoring Parameters / Indicators	Frequency / Timing	Responsibility	Means of Verification / Monitoring Method
10	Material Storage and Fencing	Storehouse, Coverage over materials, Spillage protection of hazardous materials, worksite and inner fencing	Before Construction and maintaining all through. Daily checking of spillage.	Contractor (Implementation); PIU/D&SC (verification)	Inspection, Incidents reporting, GRM logbook
11	Tree Cutting and Compensatory Plantation	Tree removal count, plantation ratio (3:1), species survival rate	Before construction; quarterly during plantation period	Contractor (Implementation); PIU/D&SC (verification)	Tree register, survival verification report
12	Occupational Health and Safety (OHS)	PPE use, toolbox talks, safety signage, first-aid, accident record	Daily site check; monthly reporting	Contractor (Safety Officer); PIU/D&SC (verification)	Safety checklist, accident log, training record
13	Community Health and Safety	Access control, fencing, signage, traffic management, GRM complaints	Weekly	Contractor (Implementation); PIU/D&SC (verification)	Visual inspection, TMP, GRM log
14	Labour and Working Conditions	Wage payment, working hours, absence of child/forced labour, sanitation, accommodation	Monthly	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Worker interview, payroll record, inspection
15	Local Labor Engagement	No. of local, female and physically challenged labors engaged	Monthly	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Labor logbook, Payroll record, inspection
16	Gender and GBV/SEA Risk Management	Code of Conduct signed, GBV training conducted, availability of female grievance	Quarterly	Contractor; D&SC Gender Consultant	Training records, attendance list, GRM log
17	Cultural and Religious Sensitivity	Consultation records with mosque/madrassa committees; work-hour adjustments	As required	Contractor (Implementation); PIU/D&SC (verification)	Meeting minutes, site observation
18	Land Use and Ownership	Land ownership verification, voluntary donation documentation	Before construction	PIU/D&SC Social Specialist	Legal documents, meeting records
19	Stakeholder Engagement and Disclosure	Number of consultations held; disclosure signage posted; feedback addressed	Quarterly	Contractor (Implementation); PIU/D&SC (verification)	Consultation minutes, disclosure photos

Sl. No.	ES Aspect / Issue	Monitoring Parameters / Indicators	Frequency / Timing	Responsibility	Means of Verification / Monitoring Method
20	Grievance Redress Mechanism (GRM)	Number of complaints received/resolved; resolution time	Monthly	Contractor (recording); PIU (review)	GRM register, resolution summary
21	Biodiversity Protection	Protection of nearby beels/canals; no dumping of waste or fill	Weekly	Contractor (Implementation); PIU/D&SC (verification)	Site observation, photographic evidence
22	Emergency Preparedness and Fire Safety	Fire extinguisher, lightning protection, evacuation signage	Monthly	Contractor; PIU	Site inspection, safety drill record
23	Post-Construction Site Restoration	Debris clearance, landscaping, reinstatement of access roads	After construction completion	Contractor; PIU/D&SC verification	Site handover inspection, photos
24	Training and Capacity Building	Number of trainings on ES, OHS, GBV, emergency response	Quarterly	PIU/D&SC; Contractor	Attendance, training reports
25	Compliance Reporting	Submission of monthly ESMP implementation reports to PIU/D&SC	Monthly	Contractor (Implementation); PIU (verification)	Report submission record

5.4 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
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 behavioural 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 &	Weekly or bi-weekly at site	Contractor's E&S Officer / OHS Supervisor

Sl. No.	Key Actor / Target Group	Type of Training / Guidance	Objectives	Main Topics to be Covered	Frequency/ Timing	Responsible Entity
				inclusion- HIV/AIDS and communicable disease awareness		
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 5.5**, and it is to be noted that the tree species should be native to the project location.

Table 5.3: The List of Selected Species for Tree Plantation

SL No.	Local Name	English Name	Scientific Name
Timber Tree			
1	Debdaru	Indian Mast Tree	<i>Polyalthia longifolia</i>
2	Gurjan	Gurjun	<i>Dipterocarpus turbinatus</i>
3	Silkoroi	White Siris	<i>Albizia procera</i>
4	Segun	Teak	<i>Tectona grandis</i>
5	Akashmoni	Earleaf Acacia	<i>Acacia auricoliformis</i>
6	Katbadam	Bengal almond	<i>Terminalia calappa</i>
7	Jarul	Giant Crape-myrtle	<i>Lagerstroemia speciosa</i>
	Punal	Asian indigo	<i>Callophyllum inophyllum</i>
8	Mahogany	Mahogany	<i>Swietenia mahagoni</i>
9	Epil-Ipil	White Lead Tree	<i>Leucaena leucocephala</i>
Fruit Tree			
10	Am	Mango	<i>Mangifera indica</i>
11	Kathal	Jackfruit	<i>Artocarpus heterophyllus</i>
12	Peyara	Guava	<i>Psidium guajava</i>
13	Jam	Black Berry	<i>Syzygium cumini</i>
14	Khejur	Date Palm	<i>Phoenix sylvestris</i>
15	Tal	Palm	<i>Borossus flabelliformis</i>
16	Amra	Hogplum	<i>Spondias pinnata</i>
17	Narikel	Coconut	<i>Cocos nucifera</i>
18	Chalta	Elephant Apple	<i>Dillenia indica</i>
19	Kul/Boroi	Jujube	<i>Ziziphus mauritiana</i>

SL No.	Local Name	English Name	Scientific Name
20	Lichu	Lychee	<i>Litchi chinesis</i>
21	Tetul	Tamarind	<i>Temarindus indica</i>
22	Jambura	Pumelo	<i>Citrus grandis</i>
23	Bel	Wood Apple	<i>Aegle marmelos</i>
24	Kodbel	Wood Apple	<i>Limonia acidissima</i>
25	Jolpai	Olive	<i>Elaeocarpus floribundus</i>
Medicinal Tree			
26	Neem	Indian lilac	<i>Azarlira chlaindica</i>
27	Arjun	Arjun	<i>Terminalia arjuna</i>
28	Amlaki	Indian gooseberry	<i>Phyllanthus emblica</i>
29	Horitoki	Chebolic Myrobalan	<i>Terminalia chebula</i>
30	Bohera	Beleric Myrobalan	<i>Terminalia belliricha</i>
31	Akando	White Aak Plant	<i>Calotropis gigantea</i>
Fuel Tree			
32	Shimul	Silk Cotton Tree	<i>Bombox ceiba</i>
33	Gab	Malabar ebony	<i>Diospyros spp.</i>
34	Kadam	Burflower Tree	<i>Anthocephalus chinensis</i>
35	Jhau	Tamarisk	<i>Tamarix dioica</i>
36	Pituli	Patchouli	<i>Trewta nudiflora</i>

According to the prevailing practice in Bangladesh, the Forest Department 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.

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 5.6.

Table 5.6: SOP for Tree Plantation at road side

Plant Selection	Height and Spacing	Planting and Fencing Details	Maintenance
• Most types of trees average height should be more than 1 meter which equals more than 3ft. at the time of planting;		Preparation of plantation pits will involve excavation of pits measuring 600 mm × 600 mm × 450 mm. The excavated soil will be mixed with loamy silty soil and cow dung to create suitable planting media. Saplings will then be planted and	• Watering: needs two times in a day; Prefer specially rainy season for tree plantation if it is in other season then

Plant Selection	Height and Spacing	Planting and Fencing Details	Maintenance
<ul style="list-style-type: none"> 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 	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.	proper watering is needed; <ul style="list-style-type: none"> Needs weed out grass and other unnecessary vegetation Need regular monitoring by the Contractor till the end of defect liability period and later the Office of the Upazila Engineer. 	

5.6 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 two identified community roads across Madhukhali, Saltha, Sadarpur, Bhanga, and Boalmari 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, tree plantation, 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 on March 30-31, 2026 & April 21, 2026. Public consultation meetings were conducted in the alongside covering of the Two (2) 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 Faridpur 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.	Modhukhali RHD – Bhimpur GC via Makrail Bazar	30.03.2026	Mokrail Bazar	Service holder, Women, Shopkeeper, Technician, Student, Farmer etc.	11
2.	Sonapur RHD (St Borokhardia Bridge)- Kalinagar GC (End at Dohornagar GPS) Road Via Bolakir Kheya ghat, Sadhuhati Village	31.03.2026	Shonapur Mor	Contractor, Student, Businessmen, Farmer, Service holder etc.	09
3	Saltha Sonapur RHD – Jogardia Dorga (UZR) Road via Ranggarkandi GPS	21.04.2026	Moddho Para	The local individuals, farmer, Businessmen etc.	08
4	Baliahati GC-Char Nasirour UP Office- Arialkha Ferry Ghat	31.03.2026	Club Bazar	Businessmen, Contractor, Farmer, Student etc.	10

Sl. No.	Name of Community Road	Date DD-MM-YYYY	Venue	Main Participant Groups	No. of Participants
	Bazar via Char Manair UP Office Road				
5	Azimnagar UP- Azimnagar Bazar Road	30.03.2026	Mollah Bari Mor	Farmer, Van Driver, Businessmen, Shopkeeper etc.	10
6	Gunbaha UP office to Modhumati river via Chandani bazar	30.03.2026	Morail Masjid Mor	Teacher, Farmer, Shopkeeper, Driver etc.	10



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 Faridpur 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. During the consultation, participants highlighted several critical issues affecting the project area. These included poor road

conditions, particularly during the monsoon season, inadequate drainage systems resulting in waterlogging, damaged culverts obstructing natural water flow, and erosion of road embankments in vulnerable sections. Community members also expressed concerns regarding potential temporary disturbances during the construction phase, such as dust emissions, increased noise levels, traffic congestion, and safety risks for school children and pedestrians.

In response, participants suggested a range of practical mitigation measures. These included the proper repair and installation of culverts and cross-drainage structures to maintain natural water flow and prevent water stagnation. They also stressed the importance of reinforcing road embankments and constructing protective measures such as retaining walls or palisading in erosion-prone areas to improve structural stability. Additionally, participants recommended implementing effective dust and noise control measures during construction, along with appropriate road safety interventions, including warning signage, speed breakers near schools, and improved visibility at intersections.

Ensuring continuous access for local residents and agricultural transport during construction was identified as a key priority. Moreover, the community emphasized the importance of engaging local labor to maximize socio-economic benefits. Overall, the consultation findings highlight the need to incorporate community-driven recommendations into project planning and implementation to minimize environmental and social impacts while enhancing infrastructure resilience and public safety. 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.	Modhukhali RHD – Bhimpur GC via Makrail Bazar (Road ID: 329562009)	30/03/2026 and In Mokrail Bazar	<ul style="list-style-type: none"> Existing road surfaces are damaged and become muddy and difficult to use during the rainy season. Some road sections remain submerged due to poor drainage and low elevation. Need to ensure safe and quick access to flood shelters during emergencies. Construction waste may be dumped improperly and affect nearby land or water bodies. Potential impact on nearby agricultural lands and irrigation channels. Need for community awareness regarding project activities and safety measures. 	<ul style="list-style-type: none"> Improve road pavement and strengthen the road base to ensure all-weather accessibility. Raise the road level where necessary and construct adequate side drains and cross-drainage structures. Design road improvements to ensure uninterrupted connectivity to nearby flood shelters. Install road safety signs, speed control measures, and pedestrian-friendly features near schools and settlements. Conduct community awareness programs and maintain regular communication with local stakeholders. Encourage contractors to prioritize hiring local workers where possible.
2.	Sonapur RHD (St Borokhardia Bridge)-Kalinagar GC (End at Dohornagar GPS) Road Via Bolakir Kheya ghat, Sadhuhati Village (Road ID: 329852024)	31/03/2026 and In Shonapur Mor	<ul style="list-style-type: none"> Dust pollution during construction may affect nearby houses, schools, and markets. Noise and disturbance may occur near schools, mosques, and residential areas. Traffic congestion and safety risks may occur during construction activities. Concerns about removal of roadside trees during road widening. 	<ul style="list-style-type: none"> Regular water spraying and proper management of construction materials to minimize dust generation. Restrict heavy construction activities during sensitive hours and maintain noise control measures. Prepare and implement a traffic management plan including warning signs, barriers, and designated detours. Avoid unnecessary tree cutting; where unavoidable, implement compensatory plantation programs.

Sl. No.	Name of community roads	Date and Site of Consultation	Issues raised and discussed	Recommendations and Comments
			<ul style="list-style-type: none"> • Temporary disruption to access of local houses, shops, and agricultural lands during construction. • Need to ensure safe and quick access to flood shelters during emergencies. • Risk of erosion and damage to road shoulders during heavy rainfall. 	<ul style="list-style-type: none"> • Maintain temporary access routes and inform the community in advance about construction schedules. • Design road improvements to ensure uninterrupted connectivity to nearby flood shelters. • Strengthen road shoulders and provide slope protection and erosion control measures. • Install road safety signs, speed control measures, and pedestrian-friendly features near schools and settlements. • Ensure proper drainage design and avoid blockage of irrigation channels during construction.
3	Saltha Sonapur RHD – Jogardia Dorga (UZR) Road via Ranggarkandi GPS (Road ID: 329854130)	21/04/2026 and In Moddho Para	<ul style="list-style-type: none"> • Waterlogging occurs in some low-lying sections of the road. • Road width is narrow in certain segments which creates difficulty for two-way traffic. • Dust pollution during construction may affect nearby households and shops. • Farmers depend on roadside access to transport agricultural products to local markets. • Some households are located very close to the road alignment. 	<ul style="list-style-type: none"> • The road surface should be improved with proper pavement and compaction to ensure all-weather accessibility. • Adequate roadside drainage and culverts should be constructed to facilitate smooth water flow and prevent waterlogging. • Minor widening should be considered within the available Right of Way (ROW) to improve traffic movement and safety. • Regular water spraying and proper construction management should be implemented to minimize dust generation.

Sl. No.	Name of community roads	Date and Site of Consultation	Issues raised and discussed	Recommendations and Comments
			<ul style="list-style-type: none"> Flood shelter accessibility is important during flood emergencies. Community members requested installation of safety signage. 	<ul style="list-style-type: none"> Traffic management measures, warning signs, and temporary safety barriers should be installed during construction. Construction activities should be planned to avoid blocking access to agricultural lands and transport routes.
4	Baliahati GC-Char Nasirour UP Office-Arialkha Ferry Ghat Bazar via Char Manair UP Office Road (Road ID: 329843005)	31/03/2026 and In Club Bazar	<ul style="list-style-type: none"> Road width is narrow in certain segments which creates difficulty for two-way traffic. Dust pollution during construction may affect nearby households and shops. Movement of construction vehicles may create safety risks for pedestrians and school children. Roadside trees provide shade and environmental benefits for the community. Farmers depend on roadside access to transport agricultural products to local markets. Some households are located very close to the road alignment. Improper disposal of construction waste may affect nearby agricultural land. Community members requested installation of safety signage. 	<ul style="list-style-type: none"> Minor widening should be considered within the available Right of Way (ROW) to improve traffic movement and safety. Regular water spraying and proper construction management should be implemented to minimize dust generation. Traffic management measures, warning signs, and temporary safety barriers should be installed during construction. Contractors should maintain safe working distances and ensure minimal disturbance to local residents. The road improvement should prioritize ensuring safe and quick access to the nearby flood shelter. Construction work should be scheduled during daytime and equipment should be properly maintained to reduce noise. Waste materials should be properly managed and disposed of at designated locations.

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
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Sl. No.	Name of community roads	Date and Site of Consultation	Issues raised and discussed	Recommendations and Comments
				<ul style="list-style-type: none"> Road safety signs and markings should be installed near settlements, intersections, and flood shelters.
5	Azimnagar UP-Azimnagar Bazar Road (Road ID: 329103009)	30/03/2026 and In Mollah Bari Mor	<ul style="list-style-type: none"> Waterlogging occurs in several low-lying sections of the road during monsoon. Movement of school students and pedestrians may be at risk during construction activities. Dust generation during construction may affect nearby houses and roadside shops. Noise from construction machinery may disturb nearby residents and institutions. Some roadside trees may need to be removed during road widening. Temporary disruption to local transportation and market access may occur during construction. 	<ul style="list-style-type: none"> Adequate side drains and cross-drainage structures (culverts) should be constructed or improved to ensure proper drainage. Contractors should implement traffic safety measures, including warning signage, speed control, and safe pedestrian passage near schools and settlements. A temporary traffic management plan should be prepared to ensure continued movement of local transport and access to markets such as Kabarstan Hat and Sarker Hat. Installation of road safety signage, speed breakers, and road markings near market areas is recommended.
6	Gunbaha UP office to Modhumati river via Chandani bazar (Road ID: 329183017)	30/03/2026 and In Morail Mosjid Mor	<ul style="list-style-type: none"> Noise from construction machinery may disturb nearby residents and institutions. Some roadside trees may need to be removed during road widening. Safety concerns near local markets due to increased traffic after road improvement. Risk of improper disposal of construction waste near agricultural lands. 	<ul style="list-style-type: none"> The road should be properly improved and strengthened with suitable pavement to ensure all-weather accessibility for local residents and vehicles. Contractors should implement traffic safety measures, including warning signage, speed control, and safe pedestrian passage near schools and settlements. Regular water spraying and proper construction material management

Sl. No.	Name of community roads	Date and Site of Consultation	Issues raised and discussed	Recommendations and Comments
			<ul style="list-style-type: none"> Community members emphasized the importance of quick access to flood shelters during emergencies. 	<ul style="list-style-type: none"> should be carried out to minimize dust pollution. Construction work should be scheduled during daytime and machinery should be properly maintained to reduce noise levels. Tree cutting should be minimized, and compensatory tree plantation should be undertaken along suitable roadside locations. The road design should ensure uninterrupted connectivity to nearby flood shelters and maintain the road at an appropriate elevation to remain usable during floods.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the environmental and social assessment conducted for Community Roads at Faridpur District under the RIVER Project, it can be concluded that the proposed improvement of six (6) community roads across Madhukhali, Saltha, Sadarpur, Bhanga and Boalmari Upazilas in Faridpur 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 Faridpur 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 Madhukhali, Saltha, Sadarpur, Bhanga and Boalmari 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 FARIDPUR
DISTRICT

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

Name of Sub-Project: Improvement of Community Road for **Modhukhali RHD – Bhimpur GC via Makrail Bazar; Road ID: 329562009**

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

District: Faridpur

Upazila: Madhukhali

Union: Kamoldia

Name of Community/Local Area: Makrail

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The proposed sub-project involves the improvement of an existing upazila road through the application of Bituminous Carpeting (BC). The project also includes the rehabilitation, replacement, and construction of drainage structures along the road alignment to ensure proper drainage of floodwater and maintain natural water flow. The primary objective of the sub-project is to enhance road durability, ensure safe and reliable transportation, and improve connectivity for surrounding rural communities. The improvement works will include site preparation, earthworks, subgrade and base preparation, followed by bituminous surfacing. All activities will be carried out predominantly within the existing road corridor to minimize environmental and social impacts while ensuring all-weather accessibility. As part of the slope protection works, palisading totaling 195 m in length will be constructed on both sides of the road at different chainages. The palisading is proposed to protect the road embankment from erosion caused by seasonal flooding and surface runoff, stabilize the road edges, and prevent slope failure in low-lying and waterlogged sections. It will also help maintain the structural integrity of the road and ensure uninterrupted natural water flow along the corridor. Construction activities will require materials such as sand, aggregates, cement, bitumen, bricks, steel, and water, which will be sourced from approved local suppliers in compliance with relevant environmental and procurement guidelines. The project footprint will remain largely confined within the existing alignment to reduce land acquisition and associated impacts. Furthermore, appropriate road safety provisions and Environmental and Social Mitigation measures have been incorporated into the project design and cost estimates to ensure environmental sustainability, community safety, and long-term resilience of the sub-project.

Estimated footprint / land area for this sub-project is 14,393 sqm.

Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 00m to 3890m. 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
	L	R	
2800-3100	L		Girls' Madrasa
		R	Ohidsek House
3100-3400	L		Pond
		R	Paddy Land
3400-3700	L		Paddy Land
		R	Pond
3700-4000	L		Paddy Land
		R	Shop
4000-4300	L		Pond
		R	Houses
4300-4600	L		Pond
		R	Pond
4600-4900	L		Shop
		R	Madrasa
4900-5200	L		Siddik Bazar
		R	Siddik Bazar



Starting Point of Modhukhali RHD – Bhimpur GC via Makrail Bazar

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.

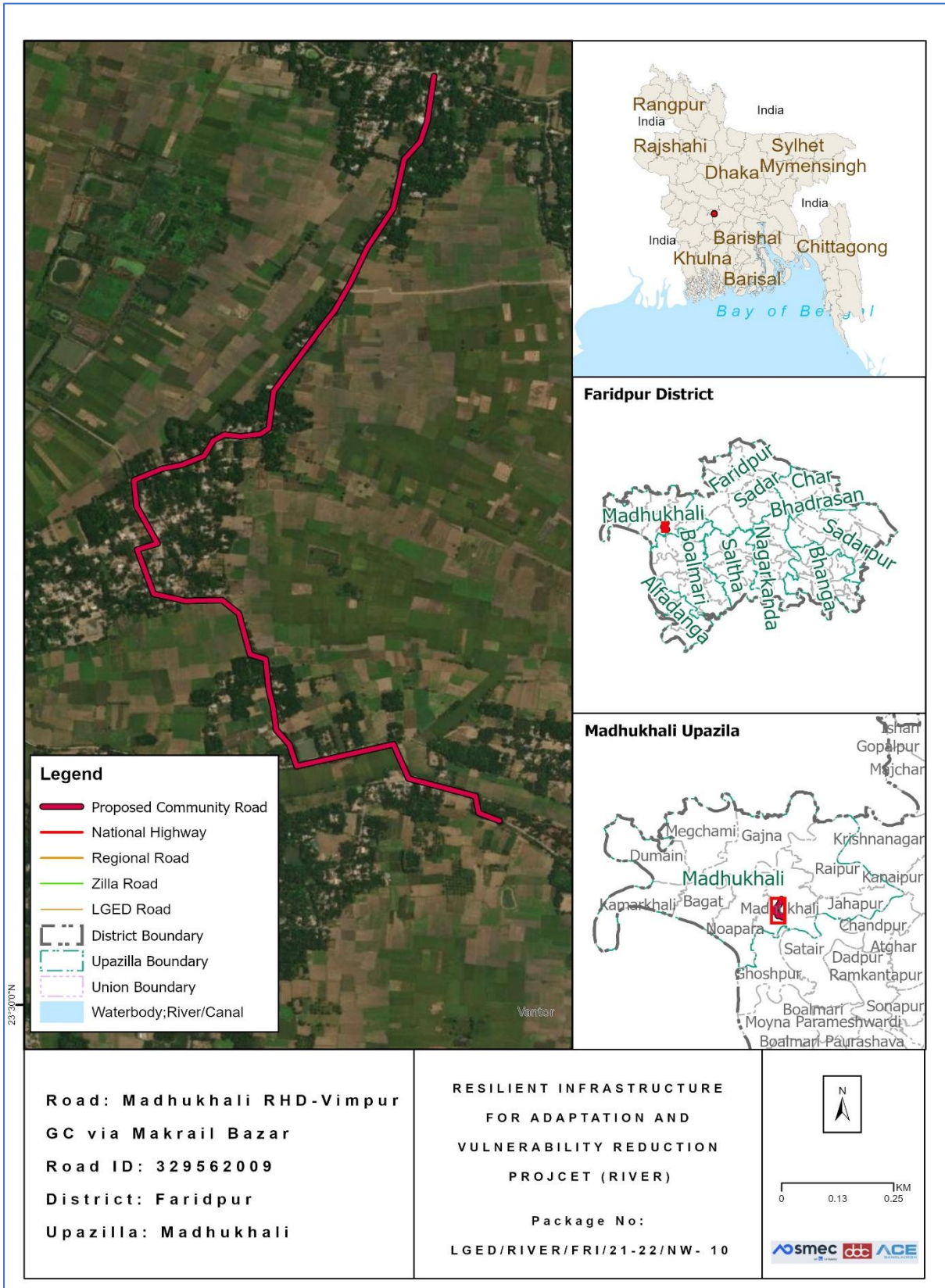
Types of waste to be generated during construction and operation phase:

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 3km) of site including elephant migration routes and remaining forests:

No historical or archaeological sites were identified within the direct area of influence of the proposed sub-project in Faridpur District. The project is located along the road alignment from Modhukhali to Bhimpur GC via Makrail Bazar, passing through Makrail village under Kamoldia Union in Madhukhali Upazila. Several environmentally and socially sensitive receptors are situated within approximately 3 km of the project area. On the left side of the alignment, these include a girls' madrasa, ponds, agricultural (paddy) land, and roadside shops. On the right side, key features include residential houses, ponds, paddy fields, and small commercial establishments. These receptors—such as homesteads, farmlands, water bodies, and religious/educational institutions—are integral to local livelihoods as well as the social and cultural fabric of the community. However, since the proposed sub-project activities will be largely confined within the existing road alignment, no significant adverse impacts on these surrounding receptors are anticipated. Nevertheless, appropriate mitigation measures and

environmental management practices will be implemented during the construction phase to ensure adequate protection of these sensitive environmental and social components.



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 categorized as a upazila road. Based on field survey, this sub-project involves of Bituminous Carpeting (BC). According to the design this sub-project will be developed with Bituminous Carpeting (BC) from Ch. 00 to Ch. 3890m.

Sub-project Location:

Important Features	
ID	329562009
District	Faridpur
Upazila	Madhukhali
Union	Kamoldia
WARD	-
Total Chainage	3890m
Proposed Chainage	3890m
Road Type	Bituminous Carpeting (BC)
Proposed Intervention Type	Bituminous Carpeting (BC)
Road Starting Point Coordinates	Latitude: 23.519201 N Longitude: 89.642693 E
Road Ending Point Coordinates	Latitude: 23.503709 N Longitude: 89.643944 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 Makrail within one kilometer.
- 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 receptors are situated within approximately 3 km of the project area. On the left side of the alignment, these include a girls' madrasa, ponds, agricultural (paddy) land, and roadside shops. On the right side, key features include residential houses, ponds, paddy fields, and small commercial establishments. These receptors—such as homesteads, farmlands, water bodies, and religious/educational institutions—are integral to local livelihoods as well as the social and cultural fabric of the community. However, since the proposed sub-project activities will be largely confined within the existing road alignment, no significant adverse impacts on these surrounding receptors are anticipated. Nevertheless, appropriate mitigation measures and environmental management practices will be implemented during the construction phase to ensure adequate protection of these sensitive environmental and social components.

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 Faridpur District is mainly composed of fertile alluvial soils, ranging from silty loam to clay loam, formed by riverine sediment deposition, particularly from the Padma River. These soils are influenced by seasonal flooding, resulting in high moisture retention and occasional waterlogging. Despite this, they are highly suitable for agriculture, especially for boro rice cultivation, along with other crops such as jute and vegetables.

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

Groundwater serves as an important source of potable water in the sub-project area, although surface water is also widely used across the district. Local communities primarily rely on shallow and deep tube wells for drinking and domestic purposes, particularly during the dry season. The groundwater table is generally shallow and varies seasonally, rising significantly during the monsoon due to flooding conditions. Groundwater quality is mostly within acceptable limits; however, elevated iron concentrations and low levels of arsenic may be present in some locations, posing potential concerns without proper treatment. Therefore, appropriate public health measures such as installation of iron removal plants, periodic water quality monitoring, and community awareness initiatives are essential to ensure safe drinking water. In addition, the use of deep tube wells that extract water from confined aquifers is recommended to improve water quality and ensure a more reliable and safe water supply for the local population.

Groundwater quality: pH-6.2 to 7.8, DO-3.0 to 6.5 mg/l, TDS-50 to 400 mg/l, EC-80 to 750 $\mu\text{s}/\text{cm}$, Fe-0.8 to 5.5 mg/l and As-Low (Field Study Report, March 2026)

Status of wildlife movement:

The sub-project area in Faridpur District is characterized by a rich floodplain and wetland ecosystem that supports diverse biodiversity typical of south-central Bangladesh. Seasonal water bodies, canals, and low-lying agricultural lands create suitable habitats for a wide range of aquatic and terrestrial fauna. The area supports numerous indigenous fish species, which are crucial for local livelihoods and nutrition. Common species include rui (*Labeo rohita*), katla (*Catla catla*), mrigel (*Cirrhinus cirrhosus*), boal (*Wallago attu*), tengra (*Mystus vittatus*), koi (*Anabas testudineus*), and shing (*Heteropneustes fossilis*). These species contribute significantly to household income, food security, and the local economy. The wetlands and surrounding vegetation also provide habitat for various resident and migratory bird species. Frequently observed birds include local duck species, white egret (*Egretta garzetta*), pond heron (*Ardeola grayii*), kingfisher (*Alcedo atthis*), and cormorant (*Phalacrocorax niger*). These birds play an important ecological role by maintaining the balance of aquatic life and controlling insect populations. In addition, the terrestrial ecosystem supports small mammals and reptiles such as jungle cat (*Felis chaus*), Bengal fox (*Vulpes bengalensis*), mongoose (*Herpestes edwardsii*), and various snake species. Their presence indicates a functioning rural ecosystem where natural food chains and ecological

processes are still active. Overall, the fauna of Faridpur District plays a vital role in maintaining ecological balance, supporting biodiversity, regulating pests, and sustaining the environmental health of the area.

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 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 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 project alignment. However, several natural drainage features, including ponds, ditches, rivers, and palisades, are present along the route.

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 are found in the project area. However, there are large patches of wetlands are present inside the project influence area.

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: Modhukhali RHD – Bhimpur GC via Makrail Bazar

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Loss of land / and other physical assets	<ul style="list-style-type: none"> 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	Stakeholders Engagement	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
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)	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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-Construction Stage	Site Selection for workers camps, stackyards & implementing interventions: Generation of ESHS issues.	<ul style="list-style-type: none"> • 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 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>allocation for taking care of those trees for 12 months has to be ensured.</p> <ul style="list-style-type: none"> • 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 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. 		

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage; removal/relocation of utility services	<ul style="list-style-type: none"> • All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind of 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. • 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. 	PIU & Contractor	Environmental Consultant of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Construction Activity	Noise from construction works	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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. 	Contractor	Environmental Consultant of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Construction materials should be covered properly while carrying in vehicles to the site. 		
Construction Activity	Safety Issues	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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. 	Contractor	Environmental Consultant of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Local traffic police department should be contacted, if traffic problem becomes more complex. 		
Construction Activity	Increase in road accidents	<ul style="list-style-type: none"> • 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	Labour related issues and grievances	<ul style="list-style-type: none"> • 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. 		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Construction Activity	Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.	<ul style="list-style-type: none"> • Preparation of a waste management plan covering the following aspects: • 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. 	Contractor	Environmental Consultant of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • 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	<p>Health & Safety Risks:</p> <ul style="list-style-type: none"> • 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 construction activities such as manual handling and 	<ul style="list-style-type: none"> • 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. • This sub project will have Proper communicative emergency response plan (ERP) with all parties, the ERP to consider such things 	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
	<p>musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis.</p>	<p>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.</p> <ul style="list-style-type: none"> • 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 stroke, and dehydration. 		

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>Written records of this awareness training shall be kept on site.</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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. 	Contractor	Environmental Consultant of PIU/D&SC.

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		<ul style="list-style-type: none"> • 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	<p>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:</p> <ul style="list-style-type: none"> • Pollution from waste materials. 	<ul style="list-style-type: none"> • 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 is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. 	Contractor	Environmental Consultant of PIU/D&SC, district XEN.

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<ul style="list-style-type: none"> Health & Safety risks to workers and local community. 	<p>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.</p> <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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 	Contractor	Environmental Consultant of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		reporting standard set by the ES Consultants of D&SC/PIU.		
Operation & Maintenance	<p>Road Safety. Impacts include:</p> <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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. 	Upazila Engineer (UE)	District Executive Engineer, LGED
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	<ul style="list-style-type: none"> 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 	UE	District Executive Engineer, LGED

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		the works and necessary maintenance should be done in day light.		
Operation & Maintenance	Pollution of water bodies	<ul style="list-style-type: none"> Third party monitoring should be ensured for nearby surface and underground water bodies for signs of contamination. Parameter include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results to be compared with Bangladesh Environmental Quality Standards of DoE 	PIU	PSC / UP representative

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.	<p><u>Grass Turfing</u></p> <p>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)</p>	4668 Sqm	@38.15 Tk. Per sqm	178,084.20
2.	<p><u>Dust suppression measures</u></p> <p>Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C</p>	3890m	@ 2.56 BDT	9,958.40

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Sl no.	Description of item	Quantity	Unit price	Total amount
3.	<p><u>Water Supply and Sanitation</u></p> <p>Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-charge.</p> <p>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.</p>	2 nos.	@12822.86 per toilet	25,645.72
4.	<p><u>First Aid Box</u></p> <p>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.</p>	1 no.	LS @5000 Tk. Per box	5,000.00
5.	<p><u>Drinking Water Facilities</u></p> <p>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.</p>	1 no.	LS @ Tk. 30,000	30,000.00

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Sl no.	Description of item	Quantity	Unit price	Total amount
6.	<p><u>Traffic Management</u></p> <p>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.</p>	1 no.	LS @ Tk. 15,000	15,000.00
7.	<p><u>Personal Protection Equipment for Workers</u></p> <p>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</p>	LS	LS @ Tk 30,000	30,000.00
8.	<p><u>Motivation training</u></p> <p>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.</p>	1 no.	LS @ Tk. 10,000	10,000.00
9.	<p><u>Waste disposal facility</u></p> <p>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.</p>	LS	@ Tk. 5000	5,000.00

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SI no.	Description of item	Quantity	Unit price	Total amount
10.	<p><u>Water Test (Drinking Water samples)</u></p> <p>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.</p>	LS	@ Tk. 5000	5,000.00
11.	<p><u>Working labour shed:</u></p> <p>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.</p>	1 no.	LS @ Tk. 30,000	30,000.00
12.	<p><u>Environmental and Social management</u></p> <p>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 6 roads]</p>	Each	@ Tk. 35000	35,000.00
Total amount for this Road				378,688.32



Existing Surroundings of the Sub-Project

Name of Sub-Project: Improvement of Community Road for **Sonapur RHD (St Borokhardia Bridge)-Kalinagar GC (End at Dohornagar GPS) Road Via Bolakir Kheya ghat, Sadhuhati Village; Road ID: 329852024**

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

District: Faridpur

Upazila: Saltha

Union: Janandi

Name of Community/Local Area: Sonapur, Boro Khardia, Baro Khardia (South), Jadu Mandi

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The proposed sub-project involves the improvement of an existing union road through the application of Bituminous Carpeting (BC). The project also includes the rehabilitation, replacement, and construction of drainage structures along the road alignment to ensure proper drainage of floodwater and maintain natural water flow. The primary objective of the sub-project is to enhance road durability, ensure safe and reliable transportation, and improve connectivity for surrounding rural communities. The improvement works will include site preparation, earthworks, subgrade and base preparation, followed by bituminous surfacing. All activities will be carried out predominantly within the existing road corridor to minimize environmental and social impacts while ensuring all-weather accessibility. As part of the slope protection works, palisading totaling 50 m in length will be constructed on both sides of the road at different chainages. The palisading is proposed to protect the road embankment from erosion caused by seasonal flooding and surface runoff, stabilize the road edges, and prevent slope failure in low-lying and waterlogged sections. It will also help maintain the structural integrity of the road and ensure uninterrupted natural water flow along the corridor. Construction activities will require materials such as sand, aggregates, cement, bitumen, bricks, steel, and water, which will be sourced from approved local suppliers in compliance with relevant environmental and procurement guidelines. The project footprint will remain largely confined within the existing alignment to reduce land acquisition and associated impacts. Furthermore, appropriate road safety provisions and Environmental and Social Mitigation measures have been incorporated into the project design and cost estimates to ensure environmental sustainability, community safety, and long-term resilience of the sub-project.

Estimated footprint / land area for this sub-project is 21,460sqm.

Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 00m to 5800m. 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
	L	R	
00-300	L		Bazar Khardia (170m), FWC Hospital
		R	Khardia Bazar (170m)
300-600	L		Boro Khardia GPS
		R	Shop, House
600-900	L		Karim House
		R	Uttam House
900-1200	L		Bamboo Garden
		R	Selim House
1200-2000	L		Mehogani Tree
		R	Paddy Land, House
2000-3000	L		Kumar Nodi (2600m), Kumar Bridge (2780m)
		R	South Baro Khardia GPS (2620m), South Baro Khardia Mosque (3050m)
3000-4000	L		Multi Shop (3165m), Firoj Shop (3860m)
		R	Awal Molla House, Paddy Land
4000-5800	L		Jobbar Molla House, Bamboo Garden
		R	Grameen Tower (4890m), House, Monzur Shik House (5800m)



Starting Point of Sonapur RHD (St Borokhardia Bridge) - Kalinagar GC (End at Dohornagar GPS) Road Via Bolakir Kheya ghat, Sadhuhati Village

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.

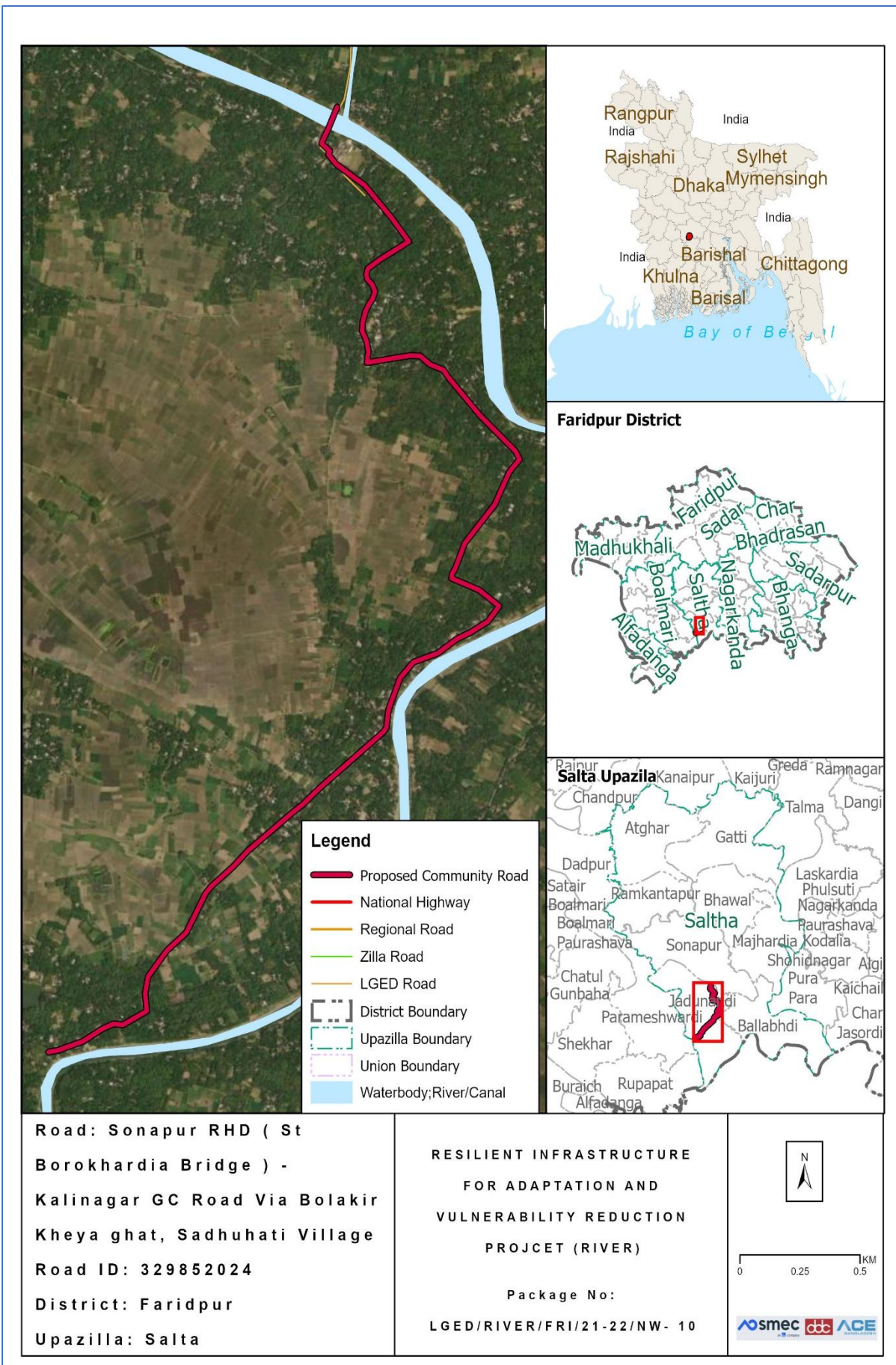
Types of waste to be generated during construction and operation phase:

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 3km) of site including elephant migration routes and remaining forests:

No historical or archaeological sites were identified within the direct area of influence of the proposed sub-project in Faridpur District. The project is located along the road alignment from Sonapur RHD (St Borokhardia Bridge) to Kalinagar GC (End at Dohornagar GPS) Road Via Bolakir Kheya ghat, Sadhuhati Village, passing through Sonapur, Boro Khardia, Baro Khardia (South), Jadu Mandi villages under Janandi Union in Saltha Upazila. Several environmentally and socially sensitive receptors are situated within approximately 3 km of the project area. On the left side of the alignment, these include Khardia Bazar, Boro Khardia GPS, residential

houses include Karim house, and several roadside shops. On the right side, key features include residential houses include Uttam House, Selim House, Bamboo Garden, Mehogani Trees, and small commercial establishments. These receptors—such as homesteads, farmlands, water bodies, and educational institutions—are integral to local livelihoods as well as the social and cultural fabric of the community. However, since the proposed sub-project activities will be largely confined within the existing road alignment, no significant adverse impacts on these surrounding receptors are anticipated. Nevertheless, appropriate mitigation measures and environmental management practices will be implemented during the construction phase to ensure adequate protection of these sensitive environmental and social components.



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 categorized as a upazila road. Based on field survey, this sub-project involves of Bituminous Carpeting (BC) and HBB Road. According to the design this sub-project will be developed with Bituminous Carpeting (BC) from Ch. 00 to Ch. 5800m.

Sub-project Location:

Important Features	
ID	329852024
District	Faridpur
Upazila	Saltha
Union	Janandi
Total Chainage	5800m
Proposed Chainage	5800m
Road Type	Bituminous Carpeting (BC) and HBB Road
Proposed Intervention Type	Bituminous Carpeting (BC)
Road Starting Point Coordinates	Latitude: 23.378186 N Longitude: 89.799271 E
Road Ending Point Coordinates	Latitude: 23.345076 N Longitude: 89.788448 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 Sonapur, Boro Khardia, Baro Khardia (South), Jadu Mandi within one kilometer.
- 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

Several environmentally and socially sensitive receptors are situated within approximately 3 km of the project area. On the left side of the alignment, these include Khardia Bazar, Boro Khardia GPS, residential houses include Karim house, and several roadside shops. On the right side, key features include residential houses include Uttam House, Selim House, Bamboo garden, Mehogani Trees, and small commercial establishments. These receptors—such as homesteads, farmlands, water bodies, and educational institutions—are integral to local livelihoods as well as the social and cultural fabric of the community. However, since the proposed sub-project activities will be largely confined within the existing road alignment, no significant adverse impacts on these surrounding receptors are anticipated. Nevertheless, appropriate mitigation measures and environmental management practices will be implemented during the construction phase to ensure adequate protection of these sensitive environmental and social components.

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 Faridpur District is mainly composed of fertile alluvial soils, ranging from silty loam to clay loam, formed by riverine sediment deposition, particularly from the Padma River. These soils are influenced by seasonal flooding, resulting in high moisture retention and occasional waterlogging. Despite this, they are highly suitable for agriculture, especially for boro rice cultivation, along with other crops such as jute and vegetables.

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

Groundwater serves as an important source of potable water in the sub-project area, although surface water is also widely used across the district. Local communities primarily rely on shallow and deep tube wells for drinking and domestic purposes, particularly during the dry season. The groundwater table is generally shallow and varies seasonally, rising significantly during the monsoon due to flooding conditions. Groundwater quality is mostly within acceptable limits; however, elevated iron concentrations and low levels of arsenic may be present in some locations, posing potential concerns without proper treatment. Therefore, appropriate public health measures such as installation of iron removal plants, periodic water quality monitoring, and community awareness initiatives are essential to ensure safe drinking water. In addition, the use of deep tube wells that extract water from confined aquifers is recommended to improve water quality and ensure a more reliable and safe water supply for the local population.

Groundwater quality: pH-6.2 to 7.8, DO-3.0 to 6.5 mg/l, TDS-50 to 400 mg/l, EC-80 to 750 μ s/cm, Fe-0.8 to 5.5 mg/l and As-Low (Field Study Report, March 2026)

Status of wildlife movement:

The sub-project area in Faridpur District is characterized by a rich floodplain and wetland ecosystem that supports diverse biodiversity typical of south-central Bangladesh. Seasonal water bodies, canals, and low-lying agricultural lands create suitable habitats for a wide range of aquatic and terrestrial fauna. The area supports numerous indigenous fish species, which are crucial for local livelihoods and nutrition. Common species include rui (*Labeo rohita*), katla (*Catla catla*), mrigel (*Cirrhinus cirrhosus*), boal (*Wallago attu*), tengra (*Mystus vittatus*), koi (*Anabas testudineus*), and shing (*Heteropneustes fossilis*). These species contribute significantly to household income, food security, and the local economy. The wetlands and surrounding vegetation also provide habitat for various resident and migratory bird species. Frequently observed birds include local duck species, white egret (*Egretta garzetta*), pond heron (*Ardeola grayii*), kingfisher (*Alcedo atthis*), and cormorant (*Phalacrocorax niger*). These birds play an important ecological role by maintaining the balance of aquatic life and controlling insect populations. In addition, the terrestrial ecosystem supports small mammals and reptiles such as jungle cat (*Felis chaus*), Bengal fox (*Vulpes bengalensis*), mongoose (*Herpestes edwardsii*), and various snake species. Their presence indicates a functioning rural ecosystem where natural food chains and ecological processes are still active. Overall, the fauna of Faridpur District plays a vital role in maintaining ecological balance, supporting biodiversity, regulating pests, and sustaining the environmental health of the area.

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 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 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 project alignment. However, several natural drainage features, including ponds, ditches, rivers, and palisades, are present along the route.

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 are found in the project area. However, there are large patches of wetlands are present inside the project influence area.

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: Sonapur RHD (St Borokhardia Bridge)-Kalinagar GC (End at Dohornagar GPS) Road Via Bolakir Kheya ghat, Sadhuhati Village

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Loss of livelihood	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
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)	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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-Construction Stage	Site Selection for workers camps, stack yards & implementing interventions: Generation of ESHS issues.	<ul style="list-style-type: none"> • 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 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>allocation for taking care of those trees for 12 months has to be ensured.</p> <ul style="list-style-type: none"> • 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 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. 		

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Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage; removal/relocation of utility services	<ul style="list-style-type: none"> • All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind of 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. • 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. 	PIU & Contractor	Environmental Consultant of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Construction Activity	Noise from construction works	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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. 	Contractor	Environmental Consultant of PIU

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		<ul style="list-style-type: none"> Construction materials should be covered properly while carrying in vehicles to the site. 		
Construction Activity	Safety Issues	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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. 	Contractor	Environmental Consultant of PIU

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		<ul style="list-style-type: none"> Local traffic police department should be contacted, if traffic problem becomes more complex. 		
Construction Activity	Conflicts with existing users due to the scarcity of resource base.	<ul style="list-style-type: none"> 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. 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. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Construction Activity	Increase in road accidents	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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. 	Contractor	Social Development Specialist and Gender Specialist of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Labor code of conduct is to be disclosed through consultation. 		
Construction Activity	Labour related issues and grievances	<ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> • Preparation of a waste management plan covering the following aspects: • 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. 	Contractor	Environmental Consultant of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • 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 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	<ul style="list-style-type: none"> • Slope protection measures (proper compaction, palisading or protection walls, etc.) will be taken 	Contractor	Environmental and Social Development Consultant of PIU,

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	chemicals/contaminants, etc. to nearby water bodies	<p>before starting work at any sensitive section of the road.</p> <ul style="list-style-type: none"> Dust suppression measures and material storage and handling procedure have to be undertaken with proper care and vigilance to avoid or minimize the impacts. 		PSC
Construction Activity	<p>Health & Safety Risks:</p> <ul style="list-style-type: none"> 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 construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary 	<ul style="list-style-type: none"> 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. 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 	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
	<p>or permanent hearing loss, heat stress, and dermatitis.</p>	<p>response and evacuation procedure and personnel will be trained and drilled to test and ensure the coherence with the plan.</p> <ul style="list-style-type: none"> • 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 stroke, and dehydration. Written records of this awareness training shall be kept on site. 		

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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 	Contractor	Environmental Consultant of PIU/D&SC.

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>manage surface water runoff and minimize erosion.</p> <ul style="list-style-type: none"> • 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	<p>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:</p> <ul style="list-style-type: none"> • Pollution from waste materials. • Health & Safety risks to workers 	<ul style="list-style-type: none"> • 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 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 	Contractor	Environmental Consultant of PIU/D&SC, district XEN.

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	and local community.	<p>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.</p> <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Operation & Maintenance	<p>Road Safety. Impacts include:</p> <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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. 	Upazila Engineer (UE)	District Executive Engineer, LGED
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	<ul style="list-style-type: none"> 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. 	UE	District Executive Engineer, LGED

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Operation & Maintenance	Pollution of water bodies	<ul style="list-style-type: none"> Third party monitoring should be ensured for nearby surface and underground water bodies for signs of contamination. Parameter include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results to be compared with Bangladesh Environmental Quality Standards of DoE 	PIU	PSC / UP representative

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.	<p>Grass Turfing</p> <p>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)</p>	6960 Sqm	@38.15 Tk. Per sqm	265,524.00
2.	<p>Dust suppression measures</p> <p>Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C</p>	5800m	@ 2.56 BDT	14,848.00
3.	<p>Water Supply and Sanitation</p> <p>Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-</p>	2 nos.	@12822.86 per toilet	25,645.72

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Sl. no.	Description of item	Quantity	Unit price	Total amount
	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.			
4.	<u>First Aid Box</u> 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
5.	<u>Drinking Water Facilities</u> 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

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Sl. no.	Description of item	Quantity	Unit price	Total amount
6.	<p><u>Traffic Management</u></p> <p>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.</p>	1 no.	LS @ Tk. 15,000	15,000.00
7.	<p><u>Personal Protection Equipment for Workers</u></p> <p>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</p>	LS	LS @ Tk 30,000	30,000.00
8.	<p><u>Motivation training</u></p> <p>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.</p>	1 no.	LS @ Tk. 10,000	10,000.00
9.	<p><u>Waste disposal facility</u></p> <p>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.</p>	LS	@ Tk. 5000	5,000.00

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Sl. no.	Description of item	Quantity	Unit price	Total amount
10.	<p><u>Water Test (Drinking Water samples)</u></p> <p>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.</p>	LS	@ Tk. 5000	5,000.00
11.	<p><u>Working labor shed:</u></p> <p>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.</p>	1 no.	LS @ Tk. 30,000	30,000.00
12.	<p><u>Environmental and Social management</u></p> <p>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 6 roads]</p>	Each	@ Tk. 35000	35,000.00
Total amount for this Road				471,017.72



Existing Surroundings of the Sub-Project

Name of Sub-Project: Improvement of Community Road for **Saltha Sonapur RHD – Jogardia Dorga (UZR) Road via Ranggarkandi GPS; Road ID: 329854130**

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

District: Faridpur

Upazila: Saltha

Union: Sonapur

Name of Community/Local Area: Sonapur

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The proposed sub-project involves the improvement of an existing village road through the application of Bituminous Carpeting (BC). The project also includes the rehabilitation, replacement, and construction of drainage structures along the road alignment to ensure proper drainage of floodwater and maintain natural water flow. The primary objective of the sub-project is to enhance road durability, ensure safe and reliable transportation, and improve connectivity for surrounding rural communities. The improvement works will include site preparation, earthworks, subgrade and base preparation, followed by bituminous surfacing. All activities will be carried out predominantly within the existing road corridor to minimize environmental and social impacts while ensuring all-weather accessibility. As part of the proposed drainage improvement works, two (2) U-drains, each measuring 0.6 m × 0.6 m, will be constructed at Chainage (Ch.) 175 m and 538 m. In addition, two (2) toe walls will be constructed—19 m on the right side (R/S) and 9 m on the left side (L/S)—at Chainage 511 m and 861 m, respectively. Furthermore, palisading works with a total length of 55 m will be carried out on the right side (R/S) between Chainage 350 m and 430 m. The palisading is proposed to protect the road embankment from erosion caused by seasonal flooding and surface runoff, stabilize the road edges, and prevent slope failure in low-lying and waterlogged sections. It will also help maintain the structural integrity of the road and ensure uninterrupted natural water flow along the corridor. Construction activities will require materials such as sand, aggregates, cement, bitumen, bricks, steel, and water, which will be sourced from approved local suppliers in compliance with relevant environmental and procurement guidelines. The project footprint will remain largely confined within the existing alignment to reduce land acquisition and associated impacts. Furthermore, appropriate road safety provisions and Environmental and Social Mitigation measures have been incorporated into the project design and cost estimates to ensure environmental sustainability, community safety, and long-term resilience of the sub-project.

Estimated footprint / land area for this sub-project is 3330 sqm.

Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 00m to 1110m. 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
	L	R	
00-300	L		Paddy Land
		R	Paddy Land
300-600	L		Paddy Land, Houses
		R	Paddy Land, Ditch, Mosque, Banana Tree Graden
600-900	L		Houses, Ditch
		R	Houses, Ditch
900-1110	L		Houses, Alia Madrasa, Mosque, Ditch, Pond
		R	Ranggardia GPS, Houses, Ditch, Pond



Starting Point of Saltha Sonapur RHD – Jogardia Dorga (UZR) Road via Ranggarkandi GPS

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.

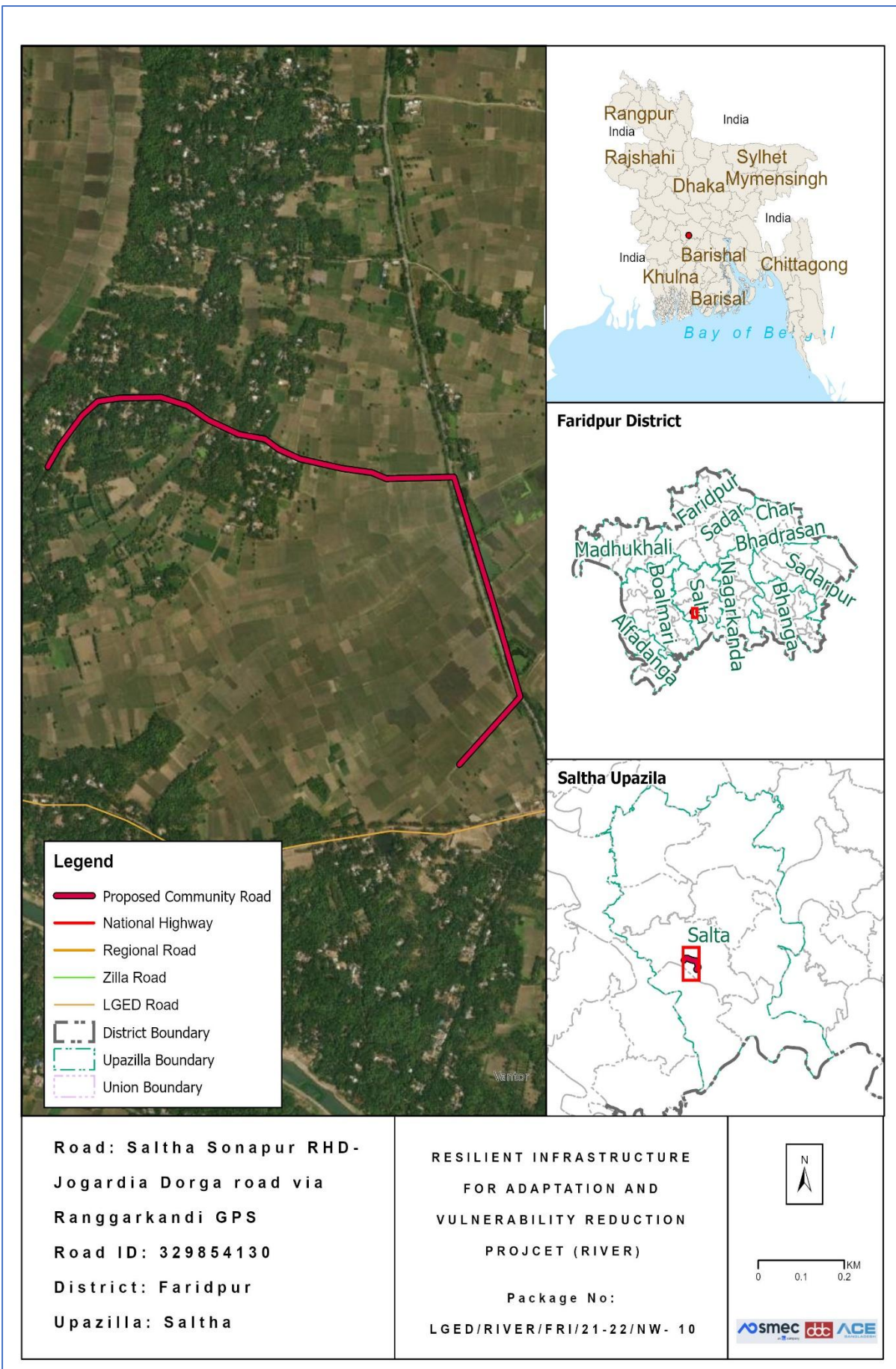
It has been revealed that this project's scope of works does not intend to overtake their area of lodgment and funding entity has no intention to do so. Moreover, other issue has also been brought to their attention that drainage system and cross drains, culverts have also been included into the evaluation 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 area of influence of the proposed sub-project in Faridpur District. The project is located along the road alignment from Saltha Sonapur RHD to Jogardia Dorga (UZR) Road via Ranggarkandi GPS, passing through Sonapur village under Sonapur Union in Saltha Upazila. Several environmentally and socially sensitive receptors are situated within approximately 1 km of the project area. On the left side of the alignment, these include Paddy Land, Houses, Ditch and trees. On the right side, key features include residential houses, Madrasa, Mosque, Banana tree garden, ponds, and Ranggardia GPS. These receptors—such as homesteads, farmlands, water bodies, and religious/educational institutions—are integral to local livelihoods as well as the social and cultural fabric of the community. However, since the proposed sub-project activities will be largely confined within the existing road alignment, no significant adverse impacts on these surrounding receptors are anticipated. Nevertheless, appropriate mitigation measures and environmental management practices will be implemented during the construction phase to ensure adequate protection of these sensitive environmental and social components.



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 categorized as a village road. Based on field survey, this sub-project involves of Flat Soiling and Earthen Road. According to the design this sub-project will be developed with Bituminous Carpeting (BC) from Ch. 00 to Ch. 1110m.

Sub-project Location:

Important Features	
ID	329854130
District	Faridpur
Upazila	Saltha
Union	Sonapur
WARD	-
Total Chainage	1110m
Proposed Chainage	1110m
Road Type	Flat Soiling and Earthen Road
Proposed Intervention Type	Bituminous Carpeting (BC)
Road Starting Point Coordinates	Latitude: 23.390147 N Longitude: 89.789435 E
Road Ending Point Coordinates	Latitude: 23.395126 N Longitude: 89.780416 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 Sonapur within one kilometer.
- 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 receptors are situated within approximately 1 km of the project area. On the left side of the alignment, these include Paddy Land, Houses, Ditch and trees. On the right side, key features include residential houses, Madrasa, Mosque, Banana tree garden, ponds, and Ranggardia GPS. These receptors—such as homesteads, farmlands, water bodies, and religious/educational institutions—are integral to local livelihoods as well as the social and cultural fabric of the community. However, since the proposed sub-project activities will be largely confined within the existing road alignment, no significant adverse impacts on these surrounding receptors are anticipated. Nevertheless, appropriate mitigation measures and environmental management practices will be implemented during the construction phase to ensure adequate protection of these sensitive environmental and social components.

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 Faridpur District is mainly composed of fertile alluvial soils, ranging from silty loam to clay loam, formed by riverine sediment deposition, particularly from the Padma River. These soils are influenced by seasonal flooding, resulting in high moisture retention and occasional waterlogging. Despite this, they are highly suitable for agriculture, especially for boro rice cultivation, along with other crops such as jute and vegetables.

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

Groundwater serves as an important source of potable water in the sub-project area, although surface water is also widely used across the district. Local communities primarily rely on shallow and deep tube wells for drinking and domestic purposes, particularly during the dry season. The groundwater table is generally shallow and varies seasonally, rising significantly during the monsoon due to flooding conditions. Groundwater quality is mostly within acceptable limits; however, elevated iron concentrations and low levels of arsenic may be present in some locations, posing potential concerns without proper treatment. Therefore, appropriate public health measures such as installation of iron removal plants, periodic water quality monitoring, and community awareness initiatives are essential to ensure safe drinking water. In addition, the use of deep tube wells that extract water from confined aquifers is recommended to improve water quality and ensure a more reliable and safe water supply for the local population.

Groundwater quality: pH-6.2 to 7.8, DO-3.0 to 6.5 mg/l, TDS-50 to 400 mg/l, EC-80 to 750 μ s/cm, Fe-0.8 to 5.5 mg/l and As-Low (Field Study Report, March 2026)

Status of wildlife movement:

The sub-project area in Faridpur District is characterized by a rich floodplain and wetland ecosystem that supports diverse biodiversity typical of south-central Bangladesh. Seasonal water bodies, canals, and low-lying agricultural lands create suitable habitats for a wide range of aquatic and terrestrial fauna. The area supports numerous indigenous fish species, which are crucial for local livelihoods and nutrition. Common species include rui (*Labeo rohita*), katla (*Catla catla*), mrigel (*Cirrhinus cirrhosus*), boal (*Wallago attu*), tengra (*Mystus vittatus*), koi (*Anabas testudineus*), and shing (*Heteropneustes fossilis*). These species contribute significantly to household income, food security, and the local economy. The wetlands and surrounding vegetation also provide habitat for various resident and migratory bird species. Frequently observed birds include local duck species, white egret (*Egretta garzetta*), pond heron (*Ardeola grayii*), kingfisher (*Alcedo atthis*), and cormorant (*Phalacrocorax niger*). These birds play an important ecological role by maintaining the balance of aquatic life and controlling insect populations. In addition, the terrestrial

ecosystem supports small mammals and reptiles such as jungle cat (*Felis chaus*), Bengal fox (*Vulpes bengalensis*), mongoose (*Herpestes edwardsii*), and various snake species. Their presence indicates a functioning rural ecosystem where natural food chains and ecological processes are still active. Overall, the fauna of Faridpur District plays a vital role in maintaining ecological balance, supporting biodiversity, regulating pests, and sustaining the environmental health of the area.

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 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 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 project alignment. However, several natural drainage features, including ponds, ditches, rivers, and palisades, are present along the route.

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 are found in the project area. However, there are large patches of wetlands are present inside the project influence area.

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: Saltha Sonapur RHD – Jogardia Dorga (UZR) Road via Ranggarkandi GPS

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Loss of livelihood	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	Transportation and Storage of Construction materials (disturbance to traffic system and pedestrians, potential accidents to workers/ local people, generating	<ul style="list-style-type: none"> 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

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	dust and noise)			
Pre-Construction Stage	Sanitation and water supply	<ul style="list-style-type: none"> • 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-Construction Stage	Site Selection for workers camps, stack yards & implementing interventions: Generation of ESHS issues.	<ul style="list-style-type: none"> • 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. • 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, 	Contractor	Environmental Consultant of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • 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; removal/relocation of utility services	<ul style="list-style-type: none"> • All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind of 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. 	PIU & Contractor	Environmental Consultant of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • 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. • 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	Dust	<ul style="list-style-type: none"> • 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 	Contractor	Environmental Consultant of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>with using water florescent manually and through water pipes.</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • 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	Conflicts with existing users due to the scarcity of resource base.	<ul style="list-style-type: none"> • 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. • 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. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • 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	Labor Base Camp: Conflicts with the local residents	<ul style="list-style-type: none"> • 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 consultation. 	Contractor	Social Development Specialist and Gender Specialist of PIU
Construction Activity	Labour related issues and grievances	<ul style="list-style-type: none"> • 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 		

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>to each construction sites; and will be checked and redressed in weekly manner.</p> <ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> • Preparation of a waste management plan covering the following aspects: • 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. 	Contractor	Environmental Consultant of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • 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 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	<ul style="list-style-type: none"> • 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

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Construction Activity	<p>Health & Safety Risks:</p> <ul style="list-style-type: none"> • 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 construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis. 	<ul style="list-style-type: none"> • 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. • 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 	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
		<p>equipment; works will be carried out on live systems.</p> <ul style="list-style-type: none"> • 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. 		

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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. 	Contractor	Environmental Consultant of PIU/D&SC.

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • 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	<p>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:</p> <ul style="list-style-type: none"> • Pollution from waste materials. • Health & Safety risks to workers and local community. 	<ul style="list-style-type: none"> • 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 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. 	Contractor	Environmental Consultant of PIU/D&SC, district XEN.

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Construction activity	Odours and pollution caused by leaking latrines and faecal sludge, and solid wastes impacting surrounding water bodies, flora and fauna	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> The increased vehicular movement and speed may trigger road safety issues like 	<ul style="list-style-type: none"> 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. 	Upazila Engineer (UE)	District Executive Engineer, LGED

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>traffic accidents. The accidents may also be due to tiredness of drivers.</p> <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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. 		
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	<ul style="list-style-type: none"> 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. 	UE	District Executive Engineer, LGED
Operation & Maintenance	Pollution of water bodies	<ul style="list-style-type: none"> Third party monitoring should be ensured for nearby surface and underground water bodies for signs of contamination. Parameter include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results to be compared with Bangladesh Environmental Quality Standards of DoE 	PIU	PSC / UP representative

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

SI no.	Description of item	Quantity	Unit price	Total amount
1.	<p><u>Grass Turfing</u></p> <p>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)</p>	1332 Sqm	@38.15 Tk. Per sqm	50,815.80
2.	<p><u>Dust suppression measures</u></p> <p>Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C</p>	1110m	@ 2.56 BDT	2,841.60
3.	<p><u>Water Supply and Sanitation</u></p> <p>Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-charge.</p> <p>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.</p>	2 nos.	@12822.86 per toilet	25,645.72
4.	<p><u>First Aid Box</u></p> <p>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</p>	1 no.	LS @5000 Tk. Per box	5,000.00

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SI no.	Description of item	Quantity	Unit price	Total amount
	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.			
5.	<p><u>Drinking Water Facilities</u></p> <p>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.</p>	1 no.	LS @ Tk. 30,000	30,000.00
6.	<p><u>Traffic Management</u></p> <p>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.</p>	1 no.	LS @ Tk. 15,000	15,000.00
7.	<p><u>Personal Protection Equipment for Workers</u></p> <p>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</p>	LS	LS @ Tk. 30,000	30,000.00

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SI no.	Description of item	Quantity	Unit price	Total amount
	gloves, (iii) appropriate foot protection shoes, (iv) best quality safety helmets, face shields, ear muffs etc. (v) suitable eye protection goggles			
8.	<u>Motivation training</u> 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.	<u>Waste disposal facility</u> 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.	<u>Water Test (Drinking Water samples)</u> 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.	<u>Working labour shed:</u> 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.	<u>Environmental and Social management</u> 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 6 roads]	Each	@ Tk. 35000	35,000.00
	Total amount for this Road			244,303.12



Existing Surroundings of the Sub-Project

Name of Sub-Project: Improvement of Community Road for **Baliahati GC-Char Nasirour UP Office-Arialkha Ferry Ghat Bazar via Char Manair UP Office Road; Road ID: 329843005**

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

District: Faridpur

Upazila: Sadarpur

Union: Charmanair

Name of Community/Local Area: Charmanair

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The proposed sub-project involves the improvement of an existing union road through the application of Bituminous Carpeting (BC). The project also includes the rehabilitation, replacement, and construction of drainage structures along the road alignment to ensure proper drainage of floodwater and maintain natural water flow. The primary objective of the sub-project is to enhance road durability, ensure safe and reliable transportation, and improve connectivity for surrounding rural communities. The improvement works will include site preparation, earthworks, subgrade and base preparation, followed by bituminous surfacing. All activities will be carried out predominantly within the existing road corridor to minimize environmental and social impacts while ensuring all-weather accessibility. As part of the slope protection works, palisading totaling 175 m in length will be constructed on both sides of the road at different chainages. The palisading is proposed to protect the road embankment from erosion caused by seasonal flooding and surface runoff, stabilize the road edges, and prevent slope failure in low-lying and waterlogged sections. It will also help maintain the structural integrity of the road and ensure uninterrupted natural water flow along the corridor. Construction activities will require materials such as sand, aggregates, cement, bitumen, bricks, steel, and water, which will be sourced from approved local suppliers in compliance with relevant environmental and procurement guidelines. The project footprint will remain largely confined within the existing alignment to reduce land acquisition and associated impacts. Furthermore, appropriate road safety provisions and Environmental and Social Mitigation measures have been incorporated into the project design and cost estimates to ensure environmental sustainability, community safety, and long-term resilience of the sub-project.

Estimated footprint / land area for this sub-project is 3870 sqm.

Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 00m to 1290m. 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		(Starting Point from Arial Kha River), Mosque, Houses, Cultivated Land, Pond
		R	(Starting Point from Arial Kha River), Madrasa, Graveyard, Cultivated Land
300-600	L		Barek Talukdar House, Cultivated Land
		R	Houses
600-900	L		Gozaria, Cultivated land, Poultry Farm, Houses
		R	Gozaria Primary School, Mosque, Cultivated Land
900-1150	L		Houses, Cultivated Land
		R	Cultivated Land, Graveyard
1150-1290	L		Houses, Dudumia Chowdhury House, Cultivated Land
		R	Arial Kha River, Houses



Starting Point of Baliahati GC-Char Nasirour UP Office-Arialkha Ferry Ghat Bazar via Char Manair UP Office 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.

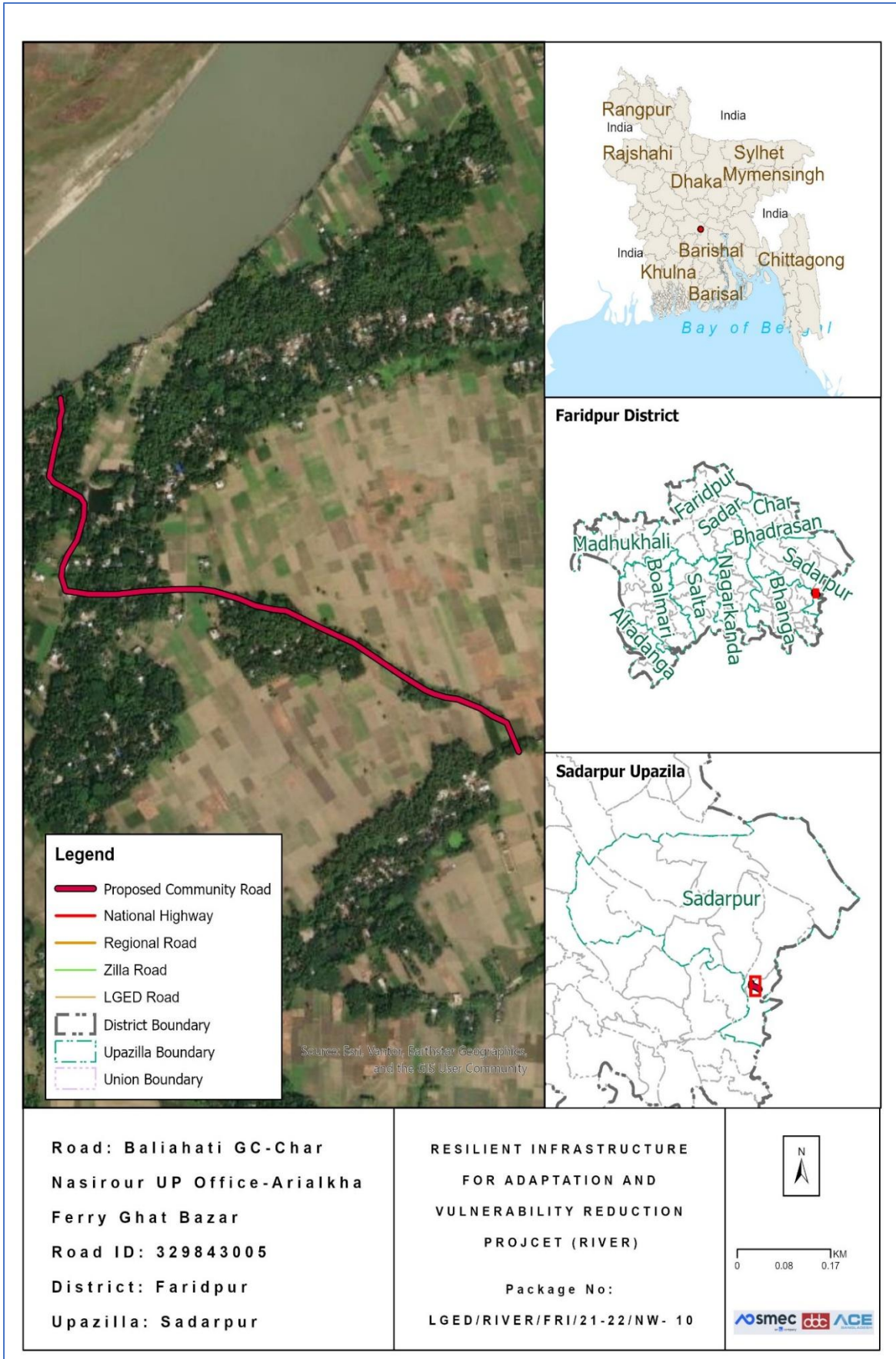
Types of waste to be generated during construction and operation phase:

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 area of influence of the proposed sub-project in Faridpur District. The project is located along the road alignment from Baliahati GC to Char Nasirour UP Office-Arialkha Ferry Ghat Bazar via Char Manair UP Office Road, passing through Charmanair village under Charmanair Union in Sadarpur Upazila. Several environmentally and socially sensitive receptors are situated within approximately 1km of the project area. On the left side of the alignment, these include Arial Kha River, Mosque, Houses, Agricultural land, Pond, Poultry Farm, and Barek Talukdar House. On the right side, key features include Madrasa, Graveyard, Agricultural land, Gozaria Primary School, Mosque and roadside shops. These receptors—such as homesteads, farmlands, water bodies, and religious/educational institutions—are integral to local livelihoods as well as the social and cultural fabric of the community. However, since the proposed sub-project activities will be largely confined within the existing road alignment, no significant adverse impacts on these surrounding receptors are anticipated. Nevertheless, appropriate mitigation measures and

environmental management practices will be implemented during the construction phase to ensure adequate protection of these sensitive environmental and social components.



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 categorized as a union road. Based on field survey, this sub-project involves of HBB Road. According to the design this sub-project will be developed with Bituminous Carpeting (BC) from Ch. 00 to Ch. 1290m.

Sub-project Location:

Important Features	
ID	329843005
District	Faridpur
Upazila	Sadarpur
Union	Charmanair
WARD	-
Total Chainage	1290m
Proposed Chainage	1290m
Road Type	HBB Road
Proposed Intervention Type	Bituminous Carpeting (BC)
Road Starting Point Coordinates	Latitude: 23.427350 N Longitude: 90.084493 E
Road Ending Point Coordinates	Latitude: 23.407637 N Longitude: 90.944174 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 Charmanair within one kilometer.
- 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

Several environmentally and socially sensitive receptors are situated within approximately 1 m of the project area. On the left side of the alignment, these include Arial Kha River, Mosque, Houses, Agricultural land, Pond, Poultry Farm, and Barek Talukdar House. On the right side, key features include Madrasa, Graveyard, Agricultural land, Gozaria Primary School, Mosque and roadside shops. These receptors—such as homesteads, farmlands, water bodies, and religious/educational institutions—are integral to local livelihoods as well as the social and cultural fabric of the community. However, since the proposed sub-project activities will be largely confined within the existing road alignment, no significant adverse impacts on these surrounding receptors are anticipated. Nevertheless, appropriate mitigation measures and environmental management practices will be implemented during the construction phase to ensure adequate protection of these sensitive environmental and social components.

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 Faridpur District is mainly composed of fertile alluvial soils, ranging from silty loam to clay loam, formed by riverine sediment deposition, particularly from the Padma River. These soils are influenced by seasonal flooding, resulting in high moisture retention and occasional waterlogging. Despite this, they are highly suitable for agriculture, especially for boro rice cultivation, along with other crops such as jute and vegetables.

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

Groundwater serves as an important source of potable water in the sub-project area, although surface water is also widely used across the district. Local communities primarily rely on shallow and deep tube wells for drinking and domestic purposes, particularly during the dry season. The groundwater table is generally shallow and varies seasonally, rising significantly during the monsoon due to flooding conditions. Groundwater quality is mostly within acceptable limits; however, elevated iron concentrations and low levels of arsenic may be present in some locations, posing potential concerns without proper treatment. Therefore, appropriate public health measures such as installation of iron removal plants, periodic water quality monitoring, and community awareness initiatives are essential to ensure safe drinking water. In addition, the use of deep tube wells that extract water from confined aquifers is recommended to improve water quality and ensure a more reliable and safe water supply for the local population.

Groundwater quality: pH-6.2 to 7.8, DO-3.0 to 6.5 mg/l, TDS-50 to 400 mg/l, EC-80 to 750 $\mu\text{s}/\text{cm}$, Fe-0.8 to 5.5 mg/l and As-Low (Field Study Report, March 2026)

Status of wildlife movement:

The sub-project area in Faridpur District is characterized by a rich floodplain and wetland ecosystem that supports diverse biodiversity typical of south-central Bangladesh. Seasonal water bodies, canals, and low-lying agricultural lands create suitable habitats for a wide range of aquatic and terrestrial fauna. The area supports numerous indigenous fish species, which are crucial for local livelihoods and nutrition. Common species include rui (*Labeo rohita*), katla (*Catla catla*), mrigel (*Cirrhinus cirrhosus*), boal (*Wallago attu*), tengra (*Mystus vittatus*), koi (*Anabas testudineus*), and shing (*Heteropneustes fossilis*). These species contribute significantly to household income, food security, and the local economy. The wetlands and surrounding vegetation also provide habitat for various resident and migratory bird species. Frequently observed birds include local duck species, white egret (*Egretta garzetta*), pond heron (*Ardeola grayii*), kingfisher (*Alcedo atthis*), and cormorant (*Phalacrocorax niger*). These birds play an important ecological role by maintaining the balance of aquatic life and controlling insect populations. In addition, the terrestrial ecosystem supports small mammals and reptiles such as jungle cat (*Felis chaus*), Bengal fox (*Vulpes bengalensis*), mongoose (*Herpestes edwardsii*), and various snake species. Their presence indicates a functioning rural ecosystem where natural food chains and ecological

processes are still active. Overall, the fauna of Faridpur District plays a vital role in maintaining ecological balance, supporting biodiversity, regulating pests, and sustaining the environmental health of the area.

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 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 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 project alignment. However, several natural drainage features, including ponds, ditches, rivers, and palisades, are present along the route.

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 are found in the project area. However, there are large patches of wetlands are present inside the project influence area.

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: Baliahati GC-Char Nasirour UP Office-Arialkha Ferry Ghat Bazar via Char Manair UP Office Road

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Stakeholders Engagement	<ul style="list-style-type: none"> 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	Transportation and Storage of Construction materials (disturbance to traffic system and pedestrians, potential accidents to workers/ local people, generating dust and noise)	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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 	Contractor	Environmental Consultant of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>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.</p>		
Pre-Construction Stage	<p>Site Selection for workers camps, stack yards & implementing interventions: Generation of ESHS issues.</p>	<ul style="list-style-type: none"> • 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. • 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. 	Contractor	Environmental Consultant of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • 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. 		
Construction Activity	Noise from construction works	<ul style="list-style-type: none"> • 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 kept 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 	Contractor	Environmental Consultant of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		less expensive alternative options will be selected during the construction works.		
Construction Activity	Dust	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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. 	Contractor	Environmental Consultant of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Every construction materials storage site will be well fenced by Tin and safety caution tape. 		
Construction Activity	Traffic Management	<ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> • 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 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>available water quality satisfies the required standards for construction works.</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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. 	Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>Written records of this awareness building session shall be kept on site.</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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. 		

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Construction Activity	Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.	<ul style="list-style-type: none"> • Preparation of a waste management plan covering the following aspects: • 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. 	Contractor	Environmental Consultant of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • 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	Slipping of soil masses, dust deposition, draining or spillage of chemicals/contaminants, etc. to nearby water bodies	<ul style="list-style-type: none"> • 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	<p>Health & Safety Risks:</p> <ul style="list-style-type: none"> • The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, 	<ul style="list-style-type: none"> • 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. 	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
	<p>mobile plant and vehicles, and electrical shocks.</p> <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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. 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, 		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>ergonomics, cost, user acceptability etc.), the lowest vibration tools will be provided that are suitable and can do the works.</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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. 	Contractor	Environmental Consultant of PIU/D&SC.

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • 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. • 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	<ul style="list-style-type: none"> • 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 	Contractor	Environmental Consultant of PIU/D&SC, district XEN.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>after the construction). The impacts are similar to those listed in construction stage:</p> <ul style="list-style-type: none"> • Pollution from waste materials. • Health & Safety risks to workers and local community. 	<p>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 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.</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction and Construction	Rigorous Monitoring and Report Preparation and Submission	<ul style="list-style-type: none"> • 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	<p>Road Safety. Impacts include:</p> <ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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. 	Upazila Engineer (UE)	District Executive Engineer, LGED

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	sidewalks, and reckless driving may cause road accidents or traffic injuries.			
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	<ul style="list-style-type: none"> • 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. 	UE	District Executive Engineer, LGED
Operation & Maintenance	Pollution of water bodies	<ul style="list-style-type: none"> • Third party monitoring should be ensured for nearby surface and underground water bodies for signs of contamination. Parameter include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results to be compared with Bangladesh Environmental Quality Standards of DoE 	PIU	PSC / UP representative

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

SI no.	Description of item	Quantity	Unit price	Total amount
1.	<p><u>Grass Turfing</u></p> <p>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)</p>	1548 Sqm	@38.15 Tk. Per sqm	59,056.2
2.	<p><u>Dust suppression measures</u></p> <p>Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C</p>	1290m	@ 2.56 BDT	3,302.4
3.	<p><u>Water Supply and Sanitation</u></p> <p>Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-charge.</p> <p>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.</p>	2 nos.	@12822.86 per toilet	25,645.72
4.	<p><u>First Aid Box</u></p> <p>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</p>	1 no.	LS @5000 Tk. Per box	5,000.00

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SI no.	Description of item	Quantity	Unit price	Total amount
	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.			
5.	<p><u>Drinking Water Facilities</u></p> <p>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.</p>	1 no.	LS @ Tk. 30,000	30,000.00
6.	<p><u>Traffic Management</u></p> <p>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.</p>	1 no.	LS @ Tk. 15,000	15,000.00
7.	<p><u>Personal Protection Equipment for Workers</u></p> <p>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</p>	LS	LS @ Tk. 30,000	30,000.00

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Sl no.	Description of item	Quantity	Unit price	Total amount
	hand protection gloves, (iii) appropriate foot protection shoes, (iv) best quality safety helmets, face shields, ear muffs etc. (v) suitable eye protection goggles			
8.	<u>Motivation training</u> 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.	<u>Waste disposal facility</u> 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.	<u>Water Test (Drinking Water samples)</u> 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.	<u>Working labour shed:</u> 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.	<u>Environmental and Social management</u> 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 6 roads]	Each	@ Tk. 35000	35,000.00
	Total amount for this Road			253,004.32



Existing Surroundings of the Sub-Project

Name of Sub-Project: Improvement of Community Road for **Azimnagar UP- Azimnagar Bazar Road; Road ID: 329103009**

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

District: Faridpur

Upazila: Bhanga

Union: Azimnagar

Name of Community/Local Area: Azimnagar

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The proposed sub-project involves the improvement of an existing union road through the application of Bituminous Carpeting (BC). The project also includes the rehabilitation, replacement, and construction of drainage structures along the road alignment to ensure proper drainage of floodwater and maintain natural water flow. The primary objective of the sub-project is to enhance road durability, ensure safe and reliable transportation, and improve connectivity for surrounding rural communities. The improvement works will include site preparation, earthworks, subgrade and base preparation, followed by bituminous surfacing. All activities will be carried out predominantly within the existing road corridor to minimize environmental and social impacts while ensuring all-weather accessibility. As part of the slope protection works, palisading totaling 1019 m in length will be constructed on both sides of the road at different chainages. The palisading is proposed to protect the road embankment from erosion caused by seasonal flooding and surface runoff, stabilize the road edges, and prevent slope failure in low-lying and waterlogged sections. It will also help maintain the structural integrity of the road and ensure uninterrupted natural water flow along the corridor. Construction activities will require materials such as sand, aggregates, cement, bitumen, bricks, steel, and water, which will be sourced from approved local suppliers in compliance with relevant environmental and procurement guidelines. The project footprint will remain largely confined within the existing alignment to reduce land acquisition and associated impacts. Furthermore, appropriate road safety provisions and Environmental and Social Mitigation measures have been incorporated into the project design and cost estimates to ensure environmental sustainability, community safety, and long-term resilience of the sub-project.

Estimated footprint / land area for this sub-project is 14,744.5 sqm.

Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 00m to 3985m. 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
	L	R	
00-300	L		Kali Mondir, Graveyard, Shop, Houses
		R	Shop, Ditch, Houses, Pond
300-600	L		Pond, Ditch, Houses, Cultivated Land
		R	Pond, Ditch, Houses, Cultivated Land
600-900	L		Houses, Ditch, Cultivated Land
		R	Houses, Cultivated Land
900-1200	L		Ditch, Cultivated Land
		R	Ditch, Houses, Cultivated Land, Pond, Mosque
1200-1500	L		Ditch, Houses, Cultivated Land, Pond
		R	Mosque, Houses, Cultivated Land
1500-1800	L		Pukurpar, GPS, Chairman House
		R	Channel, Houses
1800-2100	L		Shop, Paddy Land, Pond
		R	Paddy Land, Houses, Shop, Madrasa
2100-2400	L		Paddy Land, Pond, Channel
		R	Shimul Bazar, Primary School
3000-4000	L		UP, Paddy Land, Pond, Bazar, Shimul Bazar
		R	UP, Paddy Land, Pond, Bazar, Shimul Bazar



Starting Point of Baliahati GC-Char Nasirour UP Office-Arialkha Ferry Ghat Bazar via Char Manair UP Office 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.

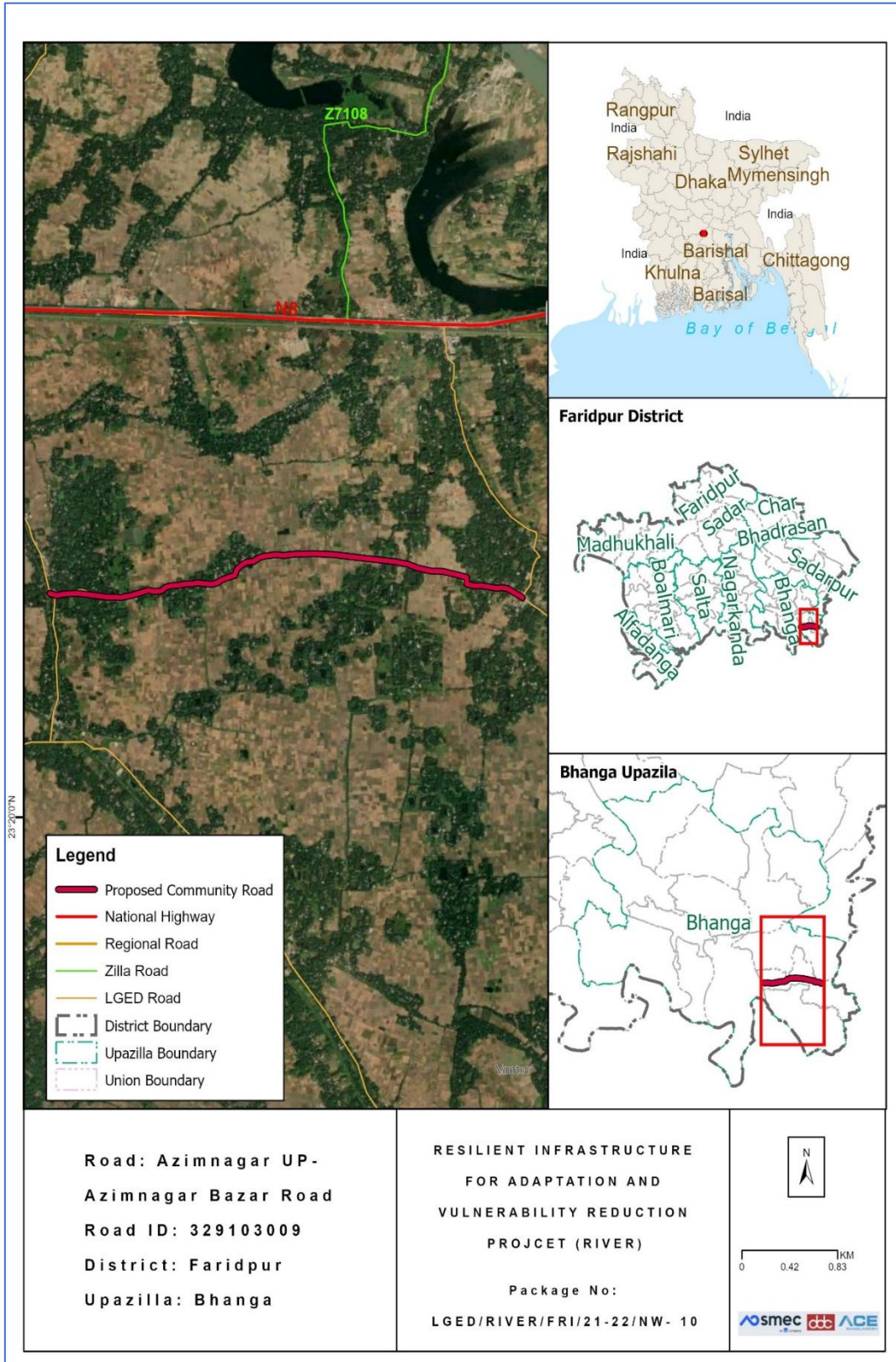
Types of waste to be generated during construction and operation phase:

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 area of influence of the proposed sub-project in Faridpur District. The project is located along the road alignment from Azimnagar UP to Azimnagar Bazar Road, passing through Azimnagar village under Azimnagar Union in Bhanga Upazila. Several environmentally and socially sensitive receptors are situated within approximately 1 km of the project area. On the left side of the alignment, these include Kali Mondir, Graveyard, Houses, Ditches, and Agricultural lands. On the right side, key features include residential houses, ponds, paddy fields, and roadside shops. These receptors—such as homesteads, farmlands, water bodies, and religious/educational institutions—are integral

to local livelihoods as well as the social and cultural fabric of the community. However, since the proposed sub-project activities will be largely confined within the existing road alignment, no significant adverse impacts on these surrounding receptors are anticipated. Nevertheless, appropriate mitigation measures and environmental management practices will be implemented during the construction phase to ensure adequate protection of these sensitive environmental and social components.



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 categorized as a union road. Based on field survey, this sub-project involves of Bituminous Carpeting (BC). According to the design this sub-project will be developed with Bituminous Carpeting (BC) from Ch. 00 to Ch. 3985m.

Sub-project Location:

Important Features	
ID	329103009
District	Faridpur
Upazila	Bhanga
Union	Azimnagar
WARD	-
Total Chainage	3985m
Proposed Chainage	3985m
Road Type	Bituminous Carpeting (BC)
Proposed Intervention Type	Bituminous Carpeting (BC)
Road Starting Point Coordinates	Latitude: 23.349721 N Longitude: 90.039564 E
Road Ending Point Coordinates	Latitude: 23.349347 N Longitude: 90.076567 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 Azimnagar within one kilometer.
- 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 receptors are situated within approximately 1 km of the project area. On the left side of the alignment, these include Kali Mondir, Graveyard, Houses, Ditches, and Agricultural lands. On the right side, key features include residential houses, ponds, paddy fields, and roadside shops. These receptors—such as homesteads, farmlands, water bodies, and religious/educational institutions—are integral to local livelihoods as well as the social and cultural fabric of the community. However, since the proposed sub-project activities will be largely confined within the existing road alignment, no significant adverse impacts on these surrounding receptors are anticipated. Nevertheless, appropriate mitigation measures and environmental management practices will be implemented during the construction phase to ensure adequate protection of these sensitive environmental and social components.

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 Faridpur District is mainly composed of fertile alluvial soils, ranging from silty loam to clay loam, formed by riverine sediment deposition, particularly from the Padma River. These soils are influenced by seasonal flooding, resulting in high moisture retention and occasional waterlogging. Despite this, they are highly suitable for agriculture, especially for boro rice cultivation, along with other crops such as jute and vegetables.

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

Groundwater serves as an important source of potable water in the sub-project area, although surface water is also widely used across the district. Local communities primarily rely on shallow and deep tube wells for drinking and domestic purposes, particularly during the dry season. The groundwater table is generally shallow and varies seasonally, rising significantly during the monsoon due to flooding conditions. Groundwater quality is mostly within acceptable limits; however, elevated iron concentrations and low levels of arsenic may be present in some locations, posing potential concerns without proper treatment. Therefore, appropriate public health measures such as installation of iron removal plants, periodic water quality monitoring, and community awareness initiatives are essential to ensure safe drinking water. In addition, the use of deep tube wells that extract water from confined aquifers is recommended to improve water quality and ensure a more reliable and safe water supply for the local population.

Groundwater quality: pH-6.2 to 7.8, DO-3.0 to 6.5 mg/l, TDS-50 to 400 mg/l, EC-80 to 750 μ s/cm, Fe-0.8 to 5.5 mg/l and As-Low (Field Study Report, March 2026)

Status of wildlife movement:

The sub-project area in Faridpur District is characterized by a rich floodplain and wetland ecosystem that supports diverse biodiversity typical of south-central Bangladesh. Seasonal water bodies, canals, and low-lying agricultural lands create suitable habitats for a wide range of aquatic and terrestrial fauna. The area supports numerous indigenous fish species, which are crucial for local livelihoods and nutrition. Common species include rui (*Labeo rohita*), katla (*Catla catla*), mrigel (*Cirrhinus cirrhosus*), boal (*Wallago attu*), tengra (*Mystus vittatus*), koi (*Anabas testudineus*), and shing (*Heteropneustes fossilis*). These species contribute significantly to household income, food security, and the local economy. The wetlands and surrounding vegetation also provide habitat for various resident and migratory bird species. Frequently observed birds include local duck species, white egret (*Egretta garzetta*), pond heron (*Ardeola grayii*), kingfisher (*Alcedo atthis*), and cormorant (*Phalacrocorax niger*). These birds play an important ecological role by maintaining the balance of aquatic life and controlling insect populations. In addition, the terrestrial ecosystem supports small mammals and reptiles such as jungle cat (*Felis chaus*), Bengal fox (*Vulpes bengalensis*), mongoose (*Herpestes edwardsii*), and various snake species. Their

presence indicates a functioning rural ecosystem where natural food chains and ecological processes are still active. Overall, the fauna of Faridpur District plays a vital role in maintaining ecological balance, supporting biodiversity, regulating pests, and sustaining the environmental health of the area.

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 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 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 project alignment. However, several natural drainage features, including ponds, ditches, rivers, and palisades, are present along the route.

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.

<p>Likely direct and indirect impacts on economic development in the project areas by the sub-project:</p> <p>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.</p>
<p>Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)</p> <p>No existing drainage channels or surface water bodies are found in the project area. However, there are large patches of wetlands are present inside the project influence area.</p>
<p>Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)</p> <p>There are no protected areas in or around project sites, and no known areas of ecological interest.</p>
<p>Activities leading to landslides, slumps, slips and other mass movements in road cuts:</p> <p>The entire sub-project component area is nearly flat, thus no such type of impacts is anticipated.</p>
<p>Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation)</p> <p>No</p>
<p>Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:</p> <p>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.</p>

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: Azimnagar UP- Azimnagar Bazar Road

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Loss of livelihood	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
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)	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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-Construction Stage	Site Selection for workers camps, stack yards & implementing interventions: Generation of ESHS issues.	<ul style="list-style-type: none"> • 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 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>allocation for taking care of those trees for 12 months has to be ensured.</p> <ul style="list-style-type: none"> • 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 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. 		

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Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage; removal/relocation of utility services	<ul style="list-style-type: none"> • All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind of 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. • 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. 	PIU & Contractor	Environmental Consultant of PIU
Construction Activity	Noise from construction works	<ul style="list-style-type: none"> • Construction activities mostly shall finish at day time within 05:00 PM, and must confirm proper measures for avoiding any disturbance. 	Contractor	Environmental Consultant of PIU

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		<ul style="list-style-type: none"> • All Personal Protective Equipment (PPEs) must be available at sites before starting any kind of construction works. • Noise producing vehicles and equipment will be kept 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. 		
Construction Activity	Dust	<ul style="list-style-type: none"> • 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 fountains 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	<ul style="list-style-type: none"> • Unauthorized entry is completely prohibited in construction site and take necessary measures 	Contractor	Environmental Consultant of PIU

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		<p>for preventing this problem (e.g., employing guards at site office and stack yards, and maintaining a visitor's log book at entrance)</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> • 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 	PIU & Contractor	Social Development Specialist and Gender Specialist

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>and technical options, and potential risks of extracting water from the same sources used by other consumer groups especially during the critical period.</p> <ul style="list-style-type: none"> • 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. • 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. 		of PIU
Construction Activity	Increase in road accidents	<ul style="list-style-type: none"> • 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.) 	Contractor	Environmental Consultant of PIU

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		<ul style="list-style-type: none"> Local community will be trained up on traffic management and awareness. 		
Construction Activity	Labor Base Camp: Conflicts with the local residents	<ul style="list-style-type: none"> 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 consultation. 	Contractor	Social Development Specialist and Gender Specialist of PIU
Construction Activity	Labour related issues and grievances	<ul style="list-style-type: none"> 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 		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>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.</p>		
Construction Activity	<p>Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.</p>	<ul style="list-style-type: none"> • Preparation of a waste management plan covering the following aspects: • 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. 	Contractor	Environmental Consultant of PIU

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		<ul style="list-style-type: none"> • 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	Slipping of soil masses, dust deposition, draining or spillage of chemicals/contaminants, etc. to nearby water bodies	<ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • The potential for exposure to safety events such as tripping, working at height activities, fire 	<ul style="list-style-type: none"> • 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. 	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
	<p>from hot works, smoking, failure in electrical installation, mobile plant and vehicles, and electrical shocks.</p> <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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. 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 		

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>Emergency evacuation response plan will exist in sub-project area.</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Ensure monitoring of nearby surface and underground water bodies for signs of 	Contractor	Environmental Consultant of

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		<p>contamination. Parameters include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results are to be compared with Bangladesh Environmental Quality Standards of DoE.</p> <ul style="list-style-type: none"> • 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. • 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. 		PIU/D&SC.
Construction Activity	Demobilization of structures, facilities and equipment used during	<ul style="list-style-type: none"> • Provision to proper measures of mitigation and monitoring to minimize or reduce the environmental and social impacts during 	Contractor	Environmental Consultant of PIU/D&SC, district

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>the project implementation period (including site clearance after the construction). The impacts are similar to those listed in construction stage:</p> <ul style="list-style-type: none"> • Pollution from waste materials. • Health & Safety risks to workers and local community. 	<p>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 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.</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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 	Contractor	Environmental Consultant of PIU, Union Parishad Member

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		preventing pollution and generating nutrient rich compost soil over time.		
Pre-Construction and Construction	Rigorous Monitoring and Report Preparation and Submission	<ul style="list-style-type: none"> • 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	<p>Road Safety. Impacts include:</p> <ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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. 	Upazila Engineer (UE)	District Executive Engineer, LGED

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	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.	<ul style="list-style-type: none"> 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. 	UE	District Executive Engineer, LGED
Operation & Maintenance	Pollution of water bodies	<ul style="list-style-type: none"> Third party monitoring should be ensured for nearby surface and underground water bodies for signs of contamination. Parameter include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results to be compared with Bangladesh Environmental Quality Standards of DoE 	PIU	PSC / UP representative

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.	<p><u>Grass Turfing</u></p> <p>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)</p>	4782 Sqm	@38.15 Tk. Per sqm	182,433.3
2.	<p><u>Dust suppression measures</u></p> <p>Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C</p>	3985m	@ 2.56 BDT	10,201.60
3.	<p><u>Water Supply and Sanitation</u></p> <p>Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-charge.</p> <p>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.</p>	2 nos.	@12822.86 per toilet	25,645.72
4.	<p><u>First Aid Box</u></p> <p>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</p>	1 no.	LS @5000 Tk. Per box	5,000.00

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SI no.	Description of item	Quantity	Unit price	Total amount
	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.			
5.	<p><u>Drinking Water Facilities</u></p> <p>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.</p>	1 no.	LS @ Tk. 30,000	30,000.00
6.	<p><u>Traffic Management</u></p> <p>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.</p>	1 no.	LS @ Tk. 15,000	15,000.00
7.	<p><u>Personal Protection Equipment for Workers</u></p> <p>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,</p>	LS	LS @ Tk 30,000	30,000.00

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SI no.	Description of item	Quantity	Unit price	Total amount
	ear muffs etc. (v) suitable eye protection goggles			
8.	<p><u>Motivation training</u></p> <p>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.</p>	1 no.	LS @ Tk. 10,000	10,000.00
9.	<p><u>Waste disposal facility</u></p> <p>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.</p>	LS	@ Tk. 5000	5,000.00
10.	<p><u>Water Test (Drinking Water samples)</u></p> <p>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.</p>	LS	@ Tk. 5000	5,000.00
11.	<p><u>Working labour shed:</u></p> <p>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.</p>	1 no.	LS @ Tk. 30,000	30,000.00
12.	<p><u>Environmental and Social management</u></p> <p>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 6 roads]</p>	Each	@ Tk. 35000	35,000.00
Total amount for this Road				383,280.62



Existing Surroundings of the Sub-Project

Name of Sub-Project: Improvement of Community Road for **Gunbaha UP office to Modhumati river via Chandani bazar; Road ID: 329183017**

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

District: Faridpur

Upazila: Boalmari

Union: Moyna

Name of Community/Local Area: Gunbaha, Moyna, Morail

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The proposed sub-project involves the improvement of an existing union road through the application of Bituminous Carpeting (BC). The project also includes the rehabilitation, replacement, and construction of drainage structures along the road alignment to ensure proper drainage of floodwater and maintain natural water flow. The primary objective of the sub-project is to enhance road durability, ensure safe and reliable transportation, and improve connectivity for surrounding rural communities. The improvement works will include site preparation, earthworks, subgrade and base preparation, followed by bituminous surfacing. All activities will be carried out predominantly within the existing road corridor to minimize environmental and social impacts while ensuring all-weather accessibility. As part of the drainage improvement measures, a damaged slab culvert of 7 m × 1 m at Chainage (Ch.) 1909 m will be rehabilitated. Additionally, palisading works totaling 171 m in length will be constructed between Ch. 565 m and Ch. 1998 m. The palisading is proposed to protect the road embankment from erosion caused by seasonal flooding and surface runoff, stabilize the road edges, and prevent slope failure in low-lying and waterlogged sections. It will also help maintain the structural integrity of the road and ensure uninterrupted natural water flow along the corridor. Construction activities will require materials such as sand, aggregates, cement, bitumen, bricks, steel, and water, which will be sourced from approved local suppliers in compliance with relevant environmental and procurement guidelines. The project footprint will remain largely confined within the existing alignment to reduce land acquisition and associated impacts. Furthermore, appropriate road safety provisions and Environmental and Social Mitigation measures have been incorporated into the project design and cost estimates to ensure environmental sustainability, community safety, and long-term resilience of the sub-project.

Estimated footprint / land area for this sub-project is 9,390.6 sqm.

Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 00m to 2538m. 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		Omar Nagar Madrasa, Graveyard, Houses, Cultivated Land
		R	Houses, Cultivated Land
300-600	L		Cultivated Land
		R	Pond, Cultivated Land
600-900	L		Bir Muktijoddha Engineering College, Shona Ullah, Kindergarten, Cultivated Land
		R	Cultivated Land
900-1200	L		Houses, Ditch, Cultivated Land
		R	Cultivated Land, Houses, Ditch
1200-1500	L		Morail Mosque, Morail Shek Bari Mor, Houses, Ditch
		R	Morail Mor, Houses,
1500-1800	L		Cultivated Land, Houses, Ditch
		R	Cultivated Land
1800-2100	L		Cultivated Land, Houses, Ditch
		R	Houses, Ditch
2100-2538	L		Cultivated Land, Houses, Ditch
		R	Cultivated Land, Houses, Ditch



Starting Point of Gunbaha UP office to Modhumati river via Chandani bazar

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.

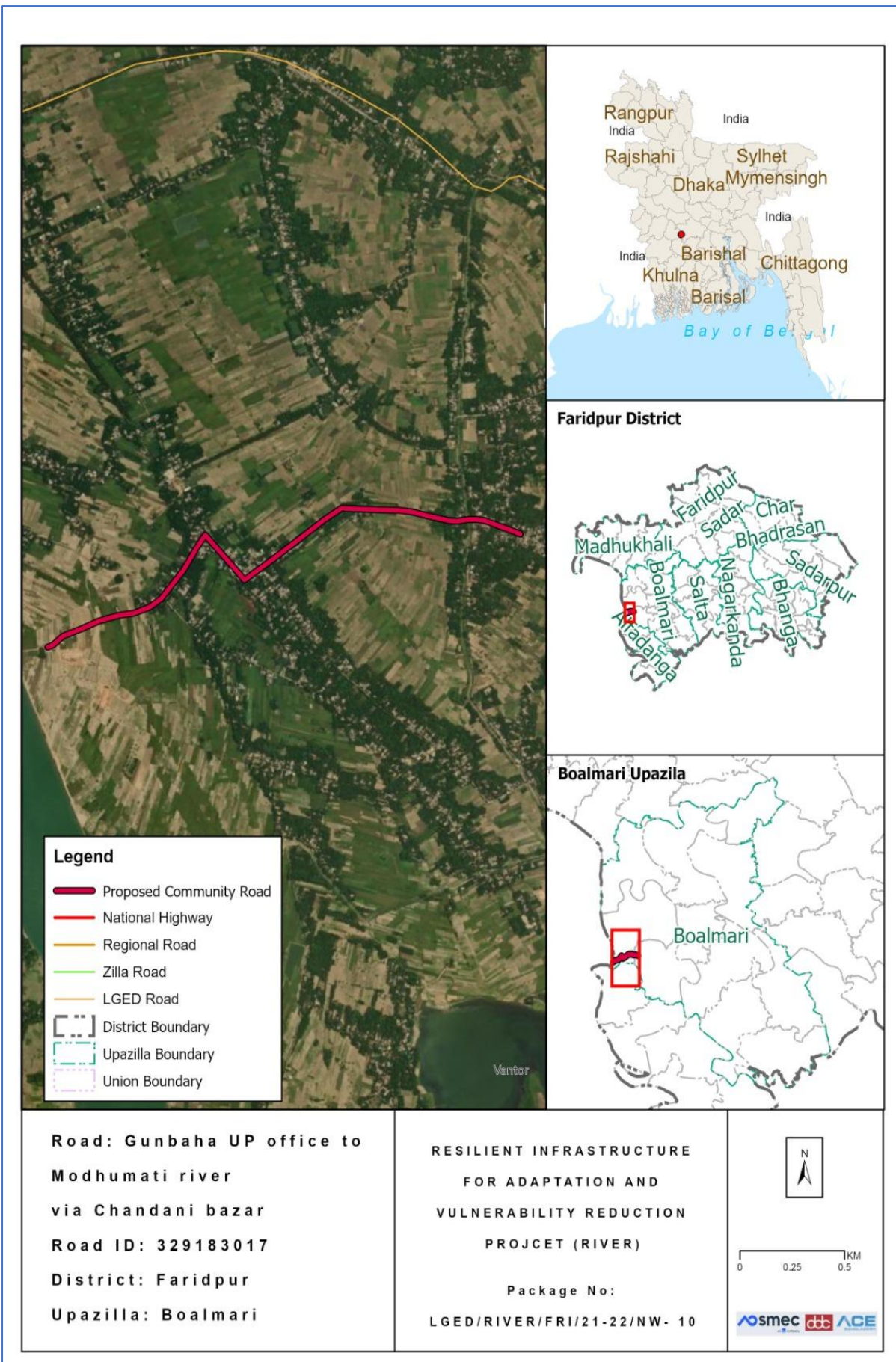
Types of waste to be generated during construction and operation phase:

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 area of influence of the proposed sub-project in Faridpur District. The project is located along the road alignment from Gunbaha UP office to Modhumati river via Chandani bazar, passing through Gunbaha, Moyna, Morail villages under Moyna Union in Boalmari Upazila. Several environmentally and socially sensitive receptors are situated within approximately 1 km of the project area. On the left side of the alignment, these include Omar Nagar madrasa, graveyard, houses, agricultural (paddy) land, Boro Muktijodha Engineering College, ponds, and roadside shops. On the right side,

key features include residential houses, ponds, paddy fields, and small commercial establishments. These receptors—such as homesteads, farmlands, water bodies, and religious/educational institutions—are integral to local livelihoods as well as the social and cultural fabric of the community. However, since the proposed sub-project activities will be largely confined within the existing road alignment, no significant adverse impacts on these surrounding receptors are anticipated. Nevertheless, appropriate mitigation measures and environmental management practices will be implemented during the construction phase to ensure adequate protection of these sensitive environmental and social components.



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 categorized as a union road. Based on field survey, this sub-project involves of HBB Road. According to the design this sub-project will be developed with Bituminous Carpeting (BC) from Ch. 00 to Ch. 2538m.

Sub-project Location:

Important Features	
ID	329183017
District	Faridpur
Upazila	Boalmari
Union	Moyna
Total Chainage	2538 m
Proposed Chainage	2538 m
Road Type	HBB Road
Proposed Intervention Type	Bituminous Concrete (BC)
Road Starting Point Coordinates	Latitude: 23.389076 N Longitude: 89.637262 E
Road Ending Point Coordinates	Latitude: 23.384548 N Longitude: 89.616964 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 Gunbaha, Moyna, Morail within one kilometer.
- 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

Several environmentally and socially sensitive receptors are situated within approximately 1 km of the project area. On the left side of the alignment, these include Omar Nagar madrasa, graveyard, houses, agricultural (paddy) land, Boro Muktijoddha Engineering College, ponds, and roadside shops. On the right side, key features include residential houses, ponds, paddy fields, and small commercial establishments. These receptors—such as homesteads, farmlands, water bodies, and religious/educational institutions—are integral to local livelihoods as well as the social and cultural fabric of the community. However, since the proposed sub-project activities will be largely confined within the existing road alignment, no significant adverse impacts on these surrounding receptors are anticipated. Nevertheless, appropriate mitigation measures and environmental management practices will be implemented during the construction phase to ensure adequate protection of these sensitive environmental and social components.

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 Faridpur District is mainly composed of fertile alluvial soils, ranging from silty loam to clay loam, formed by riverine sediment deposition, particularly from the Padma River. These soils are influenced by seasonal flooding, resulting in high moisture retention and occasional waterlogging. Despite this, they are highly suitable for agriculture, especially for boro rice cultivation, along with other crops such as jute and vegetables.

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

Groundwater serves as an important source of potable water in the sub-project area, although surface water is also widely used across the district. Local communities primarily rely on shallow and deep tube wells for drinking and domestic purposes, particularly during the dry season. The groundwater table is generally shallow and varies seasonally, rising significantly during the monsoon due to flooding conditions. Groundwater quality is mostly within acceptable limits; however, elevated iron concentrations and low levels of arsenic may be present in some locations, posing potential concerns without proper treatment. Therefore, appropriate public health measures such as installation of iron removal plants, periodic water quality monitoring, and community awareness initiatives are essential to ensure safe drinking water. In addition, the use of deep tube wells that extract water from confined aquifers is recommended to improve water quality and ensure a more reliable and safe water supply for the local population.

Groundwater quality: pH-6.2 to 7.8, DO-3.0 to 6.5 mg/l, TDS-50 to 400 mg/l, EC-80 to 750 µs/cm, Fe-0.8 to 5.5 mg/l and As-Low (Field Study Report, March 2026)

Status of wildlife movement:

The sub-project area in Faridpur District is characterized by a rich floodplain and wetland ecosystem that supports diverse biodiversity typical of south-central Bangladesh. Seasonal water bodies, canals, and low-lying agricultural lands create suitable habitats for a wide range of aquatic and terrestrial fauna. The area supports numerous indigenous fish species, which are crucial for local livelihoods and nutrition. Common species include rui (*Labeo rohita*), katla (*Catla catla*), mrigel (*Cirrhinus cirrhosus*), boal (*Wallago attu*), tengra (*Mystus vittatus*), koi (*Anabas testudineus*), and shing (*Heteropneustes fossilis*). These species contribute significantly to household income, food security, and the local economy. The wetlands and surrounding vegetation also provide habitat for various resident and migratory bird species. Frequently observed birds include local duck species, white egret (*Egretta garzetta*), pond heron (*Ardeola grayii*), kingfisher (*Alcedo atthis*), and cormorant (*Phalacrocorax niger*). These birds play an important ecological role by maintaining the balance of aquatic life and controlling insect populations. In addition, the terrestrial ecosystem supports small mammals and reptiles such as jungle cat (*Felis chaus*), Bengal fox (*Vulpes bengalensis*), mongoose (*Herpestes edwardsii*), and various snake species. Their presence indicates a functioning rural ecosystem where natural food chains and ecological processes are still active. Overall, the fauna of Faridpur District plays a vital role in

maintaining ecological balance, supporting biodiversity, regulating pests, and sustaining the environmental health of the area.

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 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 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 project alignment. However, several natural drainage features, including ponds, ditches, rivers, and palisades, are present along the route.

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 are found in the project area. However, there are large patches of wetlands are present inside the project influence area.

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: Gunbaha UP office to Modhumati river via Chandani bazar

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Stakeholders Engagement	<ul style="list-style-type: none"> 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	Transportation and Storage of Construction materials (disturbance to traffic system and pedestrians, potential accidents to workers/local people, generating dust and noise)	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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 	Contractor	Environmental Consultant of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>ensure the portability, and water should be filtered through appropriate filtering system, before supplying to the consumers.</p>		
Pre-Construction Stage	<p>Site Selection for workers camps, stack yards & implementing interventions: Generation of ESHS issues.</p>	<ul style="list-style-type: none"> • 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. • 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. 	Contractor	Environmental Consultant of PIU

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • 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; removal/relocation of utility services	<ul style="list-style-type: none"> • All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind of 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

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • 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. • 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	Dust	<ul style="list-style-type: none"> • 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

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Construction Activity	Safety Issues	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Construction Activity	Conflicts with existing users due to the scarcity of resource base.	<ul style="list-style-type: none"> • 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. • 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. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Construction Activity	Labor Base Camp: Conflicts with the local residents	<ul style="list-style-type: none"> • 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. 	Contractor	Social Development Specialist and Gender Specialist of PIU

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report of the Community Roads for Faridpur District

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>Written records of this awareness building session shall be kept on site.</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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. 		

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Construction Activity	Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.	<ul style="list-style-type: none"> • Preparation of a waste management plan covering the following aspects: • 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. 	Contractor	Environmental Consultant of PIU

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		<ul style="list-style-type: none"> • 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	Slipping of soil masses, dust deposition, draining or spillage of chemicals/contaminants, etc. to nearby water bodies	<ul style="list-style-type: none"> • 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	<p>Health & Safety Risks:</p> <ul style="list-style-type: none"> • The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, 	<ul style="list-style-type: none"> • 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. 	Contractor	Environmental Consultant as well as Social Development and Gender Specialists of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>mobile plant and vehicles, and electrical shocks.</p> <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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. 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, 		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>ergonomics, cost, user acceptability etc.), the lowest vibration tools will be provided that are suitable and can do the works.</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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. 	Contractor	Environmental Consultant of PIU/D&SC.

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • 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. • 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	<ul style="list-style-type: none"> • 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 	Contractor	Environmental Consultant of PIU/D&SC, district XEN.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>after the construction). The impacts are similar to those listed in construction stage:</p> <ul style="list-style-type: none"> • Pollution from waste materials. • Health & Safety risks to workers and local community. 	<p>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 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.</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction and Construction	Rigorous Monitoring and Report Preparation and Submission	<ul style="list-style-type: none"> • 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	<p>Road Safety. Impacts include:</p> <ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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. 	Upazila Engineer (UE)	District Executive Engineer, LGED

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	sidewalks, and reckless driving may cause road accidents or traffic injuries.			
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	<ul style="list-style-type: none"> • 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. 	UE	District Executive Engineer, LGED
Operation & Maintenance	Pollution of water bodies	<ul style="list-style-type: none"> • Third party monitoring should be ensured for nearby surface and underground water bodies for signs of contamination. Parameter include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results to be compared with Bangladesh Environmental Quality Standards of DoE 	PIU	PSC / UP representative

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.	<p><u>Grass Turfing</u></p> <p>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)</p>	3045.6 Sqm	@38.15 Tk. Per sqm	116,189.64
2.	<p><u>Dust suppression measures</u></p> <p>Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C</p>	2538m	@ 2.56 BDT	6,497.28
3.	<p><u>Water Supply and Sanitation</u></p> <p>Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-charge.</p> <p>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.</p>	2 nos.	@12822.86 per toilet	25,645.72
4.	<p><u>First Aid Box</u></p> <p>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</p>	1 no.	LS @5000 Tk. Per box	5,000.00

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Sl. no.	Description of item	Quantity	Unit price	Total amount
	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.			
5.	<p><u>Drinking Water Facilities</u></p> <p>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.</p>	1 no.	LS @ Tk. 30,000	30,000.00
6.	<p><u>Traffic Management</u></p> <p>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.</p>	1 no.	LS @ Tk. 15,000	15,000.00
7.	<p><u>Personal Protection Equipment for Workers</u></p> <p>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</p>	LS	LS @ Tk 30,000	30,000.00

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Sl. no.	Description of item	Quantity	Unit price	Total amount
	hand protection gloves, (iii) appropriate foot protection shoes, (iv) best quality safety helmets, face shields, ear muffs etc. (v) suitable eye protection goggles			
8.	<u>Motivation training</u> 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.	<u>Waste disposal facility</u> 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.	<u>Water Test (Drinking Water samples)</u> 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.	<u>Working labour shed:</u> 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.	<u>Environmental and Social management</u> 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. <u>[One person to be appointed for 6 roads].</u>	Each	@ Tk. 35000	35,000.00
	Total amount for this Road			313,332.64



Existing Surroundings of the Sub-Project

**ANNEXURE 2:
ATTENDANCE OF CONSULTATION MEETING**

