Environmental Due Diligence Report

March 2020

Bangladesh: Rural Connectivity Improvement Project – Additional Financing

Prepared by the Local Government Engineering Department (LGED) for the Asian Development Bank.

CONTENTS

		Page
I.	**INTRODUCTION**	**1**
A.	Report Purpose and Rationale	1
B.	Scope of Environmental Due Diligence Report	1
C.	Project Background	1
D.	Project Scope and Location	2
E.	Implementation Progress of Civil Works as of February 2020	9
F.	Environmental Categorization, Assessment, and Reporting	9
G.	Institutional Setup and Responsibilities	10
II.	**COMPLIANCE WITH ENVIRONMENTAL SAFEGUARDS REQUIREMENTS AND IMPLEMENTATION**	**11**
A.	Compliance with National Environmental Laws	11
B.	Compliance with Requirements of ADB's Safeguard Policy Statement 2009	14
C.	Compliance with Loan Agreements	14
III.	**STATUS OF ENVIRONMENTAL MANAGEMENT PLAN IMPLEMENTATION AND MONITORING**	**17**
A.	Environmental Management Plan	17
B.	Environmental Impacts	17
C.	Complaints	17
IV.	**FINDINGS AND RECOMMENDATIONS**	**17**
A.	Compliance to Environmental Safeguard Requirements	17
B.	Compliance to Environmental Management Plan	17
C.	Recommendations	18

Appendix 1: List of Roads Proposed under the Additional Financing of RCIP
Appendix 2: Environmental Checklists

I. INTRODUCTION

A. Report Purpose and Rationale

1. This environmental due diligence (EDD) is prepared for the processing of additional financing for the ongoing Rural Connectivity Improvement Project (the current project). The current project will have the following outcome: transport efficiency and related employment generated in target areas increased. It has three outputs: (i) Output 1: rural road conditions between selected rural communities, productive agricultural areas, and socioeconomic centers improved; (ii) Output 2: capacity of rural infrastructure agency and road users in project areas enhanced; and (iii) Output 3: rural road master planning enhanced.[1]

2. The overall project is estimated to cost $449.25 million, including proposed additional financing of $163.95 million, of which Asian Development Bank (ADB) is providing $100.00 million from ADB's ordinary capital resources (concessional loan). The government will finance $63.95 million of the proposed additional financing.

3. Para 56. of ADB's Safeguard Policy Statement, 2009 (SPS) states that for projects proposed for additional financing, ADB will conduct safeguard reviews, including the borrower's safeguard documents. Due diligence and review will also comprise field visits as well as desk reviews. This EDD covers the assessment of the Loans 3731/32-BAN: Rural Connectivity Improvement Project and the proposed 47243-005- BAN: Rural Connectivity Improvement Project - Additional Financing (additional financing).

B. Scope of Environmental Due Diligence Report

4. This environmental due diligence (EDD) report assesses the environmental safeguards compliance of the RCIP with the loan agreements, environmental management plan (EMP), and the Government of Bangladesh's environmental policies, laws and regulations.

C. Project Background

5. Through a project design advance, ADB assisted the Local Government Engineering Department (LGED) to prepare the detailed design of a loan project amounting $300 million and covering 2,672 kilometers (km) of rural roads. The project amount was subsequently approved by ADB on 5 November 2018 for $200 million with a reduced scope of upgrading 1,700 km of rural roads: $100 million (Loan 3731) and a concessional loan of $100 million (Loan 3732). The loan agreements were signed on 13 January 2019 and declared effective on 13 February 2019. The project is to be implemented over 5 years. Both loans will close on 31 May 2024.

6. The current project (i) upgrades about 1,700 km of rural roads to all-weather standards with climate resilience and safety features in 34 districts in five divisions;[2] (ii) improves capacity of the rural infrastructure agency; and (iii) upgrades the national rural road master plan using a geographic information system.

7. The executing agency is LGED in the Local Government Division of the Ministry of Local Government, Rural Development and Cooperatives (MOLGRDC). A Dhaka-based project management unit within LGED supports project implementation, and there are five project

[1] ADB. 2018. *Report and Recommendation of the President to the Board of Directors: Proposed Loans and Technical Assistance Grant People's Republic of Bangladesh: Rural Connectivity Improvement Project.* Manila.

[2] Expanding rural roads to increase connectivity, providing greater access to social services and markets, and promoting agriculture sector are in the government's Seventh Five Year Plan: FY2016–FY2020.

implementation units at division level (Faridpur, Cumilla, Jashore, Rajshahi and Rangpur), 34 offices at district level, and 180 site offices at subdistrict level.

8. During the Inception Mission (11–18 March 2019) and Review Mission (30 September – 6 October 2019), LGED and the Ministry requested ADB to consider additional financing of $100 million for the balance of 930 kilometers of rural roads.[3]

9. The government kept the original loan amount of $300 million in their Development Project Proposal (DPP) approved on 8 October 2018, which is valid till 30 June 2023, anticipating that ADB would process the additional financing of $100 million in 2019 or 2020. The additional financing is included in ADB's country operations business plan for Bangladesh, 2020–2022.[4] Based on good implementation progress, additional financing by ADB of $100.00 million is anticipated to be provided in 2020 for the remaining roads.

D. Project Scope and Location

1. Rural Connectivity Improvement Project (Current Project)

10. The civil works of the ongoing project encompasses upgrading 214 rural roads (about 1,700 km) to all-weather standards with climate resilience and safety features in 34 districts in five divisions.

[3] This was originally 972 kilometers but as construction costs increased this was reduced to 930 kilometers. Routine maintenance budget for these roads is tied to the government's Development Project Proposal (DPP), hence they are currently not maintained, and their condition deteriorates further due to the intense monsoon rains of 2019.

[4] ADB. 2019. *Country Operations Business Plan: Bangladesh, 2020–2022*. Manila.

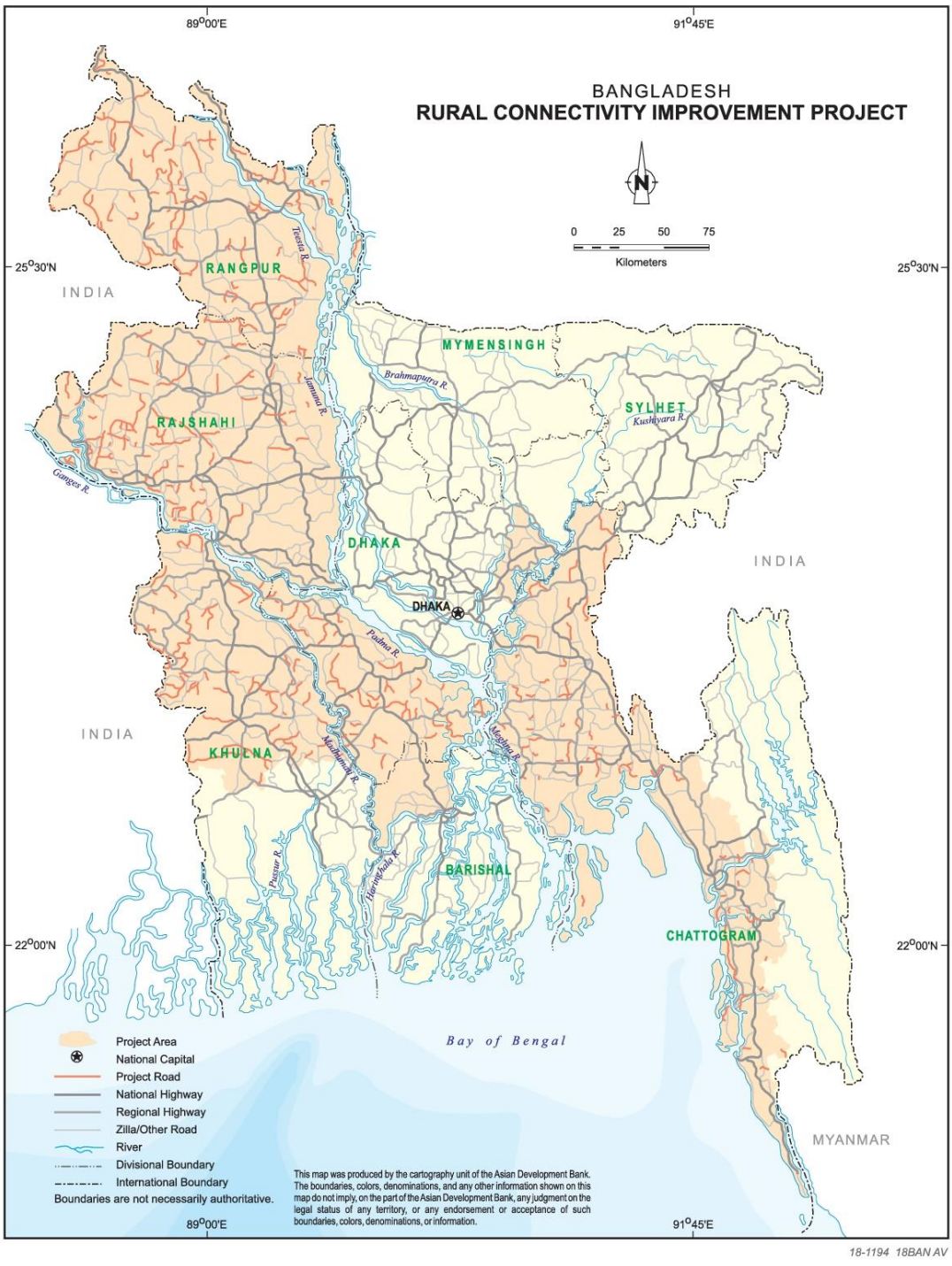

Figure 1: Project Locations of the Current Project

11. The division-wise road list along with the road length is shown in Table 1. Of the 5 divisions, in terms of length, Khulna has the most with 25% while the Dhaka has the least with 14%. In terms of district distribution, Rajshahi has the largest share with 135 km followed by

Jashore and Dinajpur with 95 and 81 km, respectively. These three districts combined accounts for almost 20% of the total project road length.

Table 1: List of Roads per Division

Sl. No.	Name of the District	Length of Road (km)		Sl. No.	Name of the District	Length of Road (km)
Dhaka Division				Rajshahi Division		
1.	Faridpur	59.521		21.	Bogura	53.024
2.	Gopalgonj	46.734		22.	Chapainawabganj	17.568
3.	Madaripur	64.246		23	Joypurhat	34.202
4.	Rajbari	24.466		24.	Naogaon	32.422
5.	Shariyatpur	47.955		25.	Natore	31.180
Sub-Total		242.922		26.	Rajshahi	135.954
				Sub-Total		304.35
Chattogram Division				Rangpur Division		
6	B Baria	70.453		27.	Dinajpur	80.691
7	Chandpur	40.139		28.	Gaibandha	51.845
8	Chattogram	46.070		29.	Kurigram	45.383
9	Cumilla	44.014		30.	Lalmonirhat	33.462
10	Coxsbazar	37.954		31.	Nilphamari	51.180
11	Feni	31.932		32.	Panchagarh	26.380
12	Laxmipur	37.565		33.	Rangpur	54.129
13	Noakhali	55.761		34.	Thakurgaon	36.255
Sub-Total		363.888		Sub-Total		379.025
Khulna Division						
14	Chuadanga	65.219				
15	Jashore	94.669				
16	Jhenaidah	65.075				
17	Kushtia	78.835				
18	Magura	53.838				
19	Meherpur	13.081				
20	Narail	50.499				
Sub-Total		421.216				
Grand Total						**1,711.708**

12. The current project has adopted key climate resilience road designs developed under the ADB-financed Bangladesh: Coastal Climate-Resilient Infrastructure Project implemented to pilot and demonstrate ways to mainstream climate resilience in development planning and management under the government's Strategic Program for Climate Resilience, prepared under the Pilot Program for Climate Resilience, under the Strategic Climate Fund within the Climate Investment Funds. This project, among others, attempts to mainstream climate resilient rural road connectivity in selected coastal areas of the country.

13. All upgrading works will be confined within the existing alignment and minimize if not totally avoid land acquisition. Key improvement features include: (i) upgrading of pavement from water bound macadam (WBM) to a more stronger and durable wet mix macadam (WMM) albeit at a higher cost; (ii) reconstruction of mostly earthen to hard shoulders on both sides of the road with minimum width of 1 m; (iii) crest width will be maintained at least 7.5 m and carriage width of 5.5 m; (iv) repair and upgrade protection works to include embankment toe protection, palisade, and palliwall or the installation of reinforced cement concrete blocks; (v) structure improvement in

terms of drainages structures such as box culverts, and U-drains; and (vi) side slope will be 1.5:1 will be maintained with the option of bioengineering to protect against erosion.

14. The road upgrading activities include planning, construction, and maintenance. Planning includes level survey, soils and materials survey, specification for coarse and fine aggregates, traffic survey, hydrologic survey, prescribed geometric standards, required construction equipment. Construction activities include preparation of earthwork, earth filling, sub and base preparation, earthen shoulder construction and surfacing. During road maintenance the activities will include routine maintenance of sealed road pavement, foot paths, kerbs and channels, storm drainage, and pavement markings. Associated facilities are limited to borrow area and WMM mix plants. No new borrow area will be establish by the project and will only source materials from permitted operators. Most of the WMM mix plants will be operated by the contractors, however, if they elect to use third-party suppliers, the operator will show proof of compliance to environmental and local government regulations. Figure 2 presents the typical road cross-section after upgrading works.

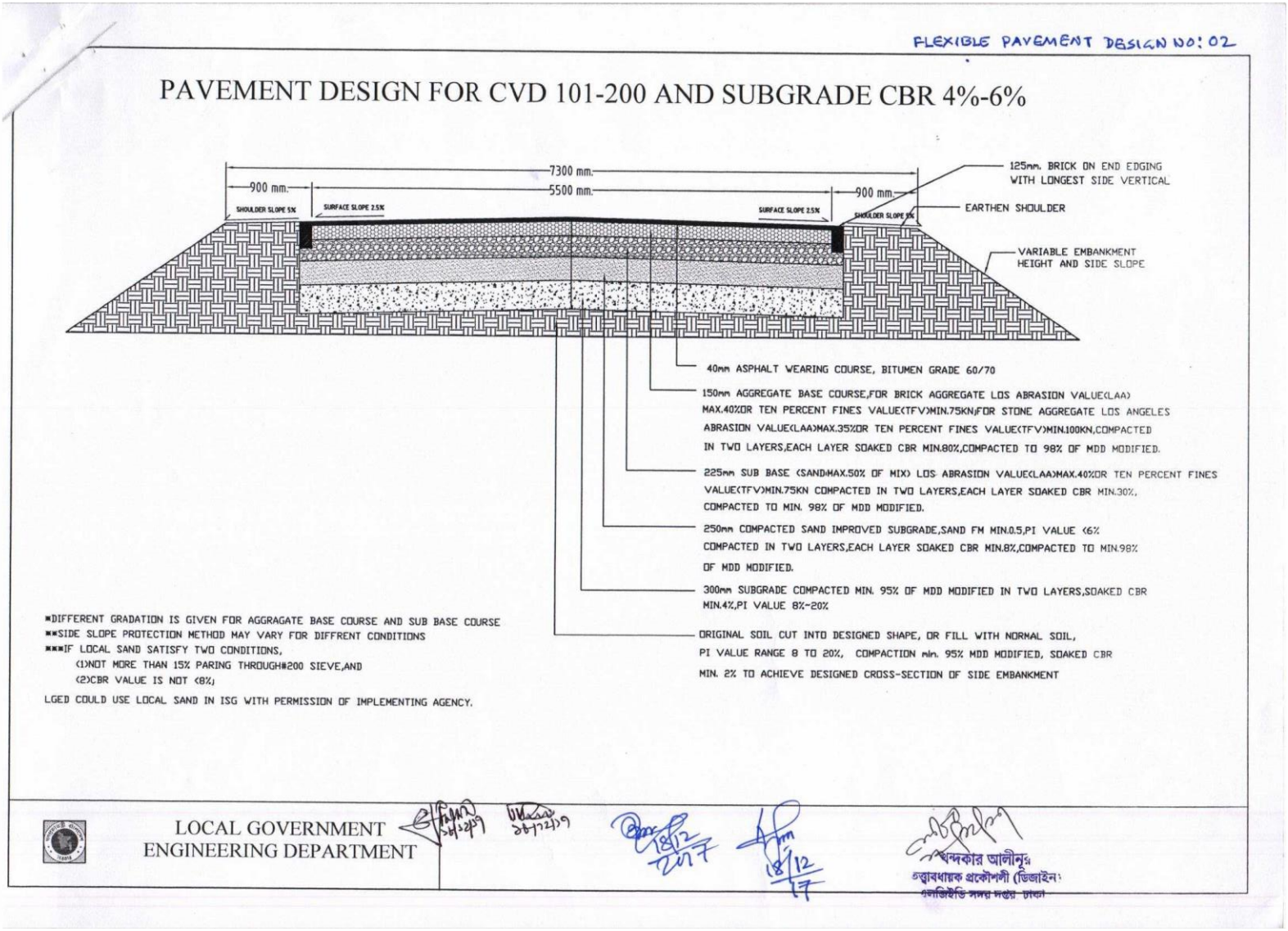

Figure 2: Typical road cross-section after upgrading works

2. Rural Connectivity Improvement Project - Additional Financing

15. The additional financing will increase the project's scope by upgrading an additional 930 km of rural roads that will be implemented under the same implementation arrangements as for the current project. A total number of 96 roads will be upgraded situated in total 16 districts. The impact and outcome of the overall project will remain unchanged from those of the current project. The proposed additional financing will scale up the current output 1 by including additional 930 kilometers of rural roads. The overall project scope is aligned with the government's priorities under the Seventh Five Year Plan, FY2016–FY2020[5] and ADB's country partnership strategy for Bangladesh, 2016–2020.[6]

16. The division-wise road list along with the road length is shown in Table 2. Of the 5 divisions, in terms of length, Rajshahi has the most with 30% while the Chattagram has the least with 9%. In terms of district distribution, Rajshahi has the largest share with 114 km followed by Dinajpur and Jashore with 110 km and 106 km, respectively. These three districts combined accounts for almost 35% of the total project road length for the additional financing.

Table 2: Division-wise Road List

Sl. No.	Name of the District	Length of Road (km)	Sl. No.	Name of the District	Length of Road (km)
Dhaka Division			**Rajshahi Division**		
1	Gopalganj	19.890	8	Rajshahi	114.302
2	Madaripur	69.291	9	Naogaon	70.777
3	Rajbari	44.264	10	Natore	47.280
Subtotal		**133.445**	11	Bogura	57.115
Chattagram Division			**Subtotal**		**288.108**
4	Cumilla	41.574	**Rangpur Division**		
5	Chattagram	42.236	12	Gaibandha	37.655
Subtotal		**83.81**	13	Dinajpur	109.879
Khulna Division			14	Thakurgaon	41.066
6	Jashore	106.431	15	Panchagarh	37.825
7	Chuadanga	42.481	16	Nilphamari	50.300
Subtotal		**147.912**	**Subtotal**		**276.725**
Grand Total					**930 km**

17. There are 51.5 million[7] people living in the 34 districts covered by the current project. The 96 rural roads proposed under the additional financing project are located in 16 of these 34 districts where 40.2 million people live. The list of the proposed rural under the additional financing project is in **Appendix 1**.

[5] Government of Bangladesh, Planning Commission. 2015. *The Seventh Five Year Plan: FY2016–FY2020*. Dhaka.
[6] ADB. 2016. *Country Partnership Strategy: Bangladesh, 2016–2020*. Manila.
[7] Government of Bangladesh, Bureau of Statistics. 2019. *Statistical Pocket Book of Bangladesh 2018.* Dhaka.

Figure 3: Project Locations of the Additional Financing Project

18. LGED prepared the detailed design of the project roads using project design advance facility[8]. The designs complied with the government's standards and specifications for improved project readiness of rural roads. Similarly to the ongoing project, the designs incorporate key climate-resilient rural road construction measures to ensure that road improvements systematically consider lessons from pilot projects on climate change adaptation.[9] All project roads passing near cyclone shelters will be upgraded to rigid pavement to provide reliable connections for the nearest residential areas.

E. Implementation Progress of Civil Works as of February 2020

19. The current project is now on full swing as around 35 packages out of 67 packages have the contractor up to February 2020. No major impact on environment have been found yet based on the first semi-annual Environmental Monitoring Report submitted in October 2019. The project's environment Category is B. The civil work components that are anticipated to have substantial interaction with the environment includes: road alignment and design, utility shifting, construction mobilization, and tree cutting and clearing during the pre-construction phase of the rural road upgrading. The PMU is the LGED-PMU and responsible for the overall compliance to the ADB's SPS and the all applicable laws and rules under the Ministry of Environment and Forest. As the project implementation support consultant (PISC) has not been recruited yet, the overall monitoring of the environment safeguard is being done by the PIU and PE with the help of representative from contractors. Environment management plan (EMP) is included in every bidding document. The implementation of the specific EMP is under process.

20. Project implementation activities started in early 2019 with the award of contracts, construction works duration is from by May 2019 to December 2022, and maintenance work will commence immediately after completion of the construction work of selected packages.

21. Under the current scope, 67 work packages[10] are being procured using the e-Government web portal method. The bidding documents for all packages were approved by ADB in 2018. The bidding documents for all packages were approved in 2018. As of February 2020, bids have been received for 60 packages of which 35 works contracts have been signed, 2 packages have been issued a notice of award, 7 packages are waiting for approval and 17 packages are being evaluated. The remaining 6 packages are at preparation or re-bidding stage. Works have started for 17 packages and mobilization is on-going for 18 other packages.

F. Environmental Categorization, Assessment, and Reporting

22. During project preparation, impacts from all 214 roads of the current project and all 96 roads of the additional financing were screened and assessed using an environmental checklist developed in similar ADB-financed projects in India, Sri Lanka, and Nepal and adapted to local conditions and road designs.[11] From these environmental checklists, a single initial environmental examination (IEE) report was prepared in line with ADB's SPS.

23. The current and the additional project will upgrade 310 existing roads with no anticipated change in the alignment, no by-passes, and no or minimal land acquisition mainly near bends or junctions in conformance with LGED's road safety guidelines. None of the rural roads to be

[8] Loan 6007-BAN.

[9] ADB. Bangladesh: Coastal Climate-Resilient Infrastructure Project.

[10] Civil works comprised originally 37 packages but to attract more prospective bidders' participation a few packages were divided into smaller packages.

[11] 34 sample environmental checklists from 34 project districts are appended to the disclosed IEE report.

upgraded under the overall project are located or near cultural heritage, protected areas including buffer zones, or special area for protecting biodiversity. No historical places or religious structures will be affected, no bridges will be improved and therefore no alteration of local hydrology is anticipated. Most of the negative impacts are coterminous with the construction stage, site-specific, limited within the construction corridor, and easily mitigated. The anticipated environmental impacts include the generation of dust, noise, exhausts from haul trucks and hot mix plants; waste from construction and worker camps; water contamination; and occupational health and safety hazards. Mitigation measures for all anticipated impacts have been developed and integrated into construction works by incorporating a standard EMP in the bidding documents and providing road-specific environmental management plans in the detailed project reports. Part of the processing of the current project, the initial environmental examination (IEE) report was disclosed on ADB's and LGED's websites in 2018. In compliance with ADB's SPS, the current project is classified as environment category B.[12]

24. Also, an integrated social and environmental grievance redress mechanism has been formed to continue receiving feedback and complaints from affected parties and addressing them during the construction and operation stages.

25. The environmental clearance certificate (ECC) and site clearance certificate (SCC) from the Department of Environment for all the 310 roads of the overall project has been renewed up to 20 May 2020 (annual renewal).

26. The additional financing will increase the project's scope by upgrading an additional 96 rural roads (930 km) under the same implementation arrangements as for the current project. Impacts from all 96 roads were previously screened and assessed using an environmental checklist adapted to local conditions and road designs, and included in the IEE report disclosed in 2018 (refer to paras. 22 and 23). Part of the processing of the additional financing, an IEE report has been produced and will be disclosed on ADB's and LGED's websites in March 2020.

G. Institutional Setup and Responsibilities

27. The Ministry of Local Government, Rural Development and Co-operatives (MOLGRDC) through LGED are the executing agency responsible for the overall compliance with ADB's SPS 2009 environmental requirements; government's environmental laws, regulations, and standards; and the EMP.

28. More specifically, the project management unit (PMU) of the current project under LGED is the key institution for the successful implementation of the entire project and is responsible for the overall compliance with ADB's SPS and all applicable laws and rules stated by the Ministry of Environment and Forest. The PMU will be assisted by the PISC, including specifically a Senior Safeguard Specialist (SSS) responsible for ensuring the project complies with ADB's social and environmental safeguard requirements, the EMP and the project administration manual. The PMU and SSS will coordinate with the five Environment Specialists at division level and the 34 District Engineers at district level.

29. Contractor is responsible for implementation of EMP during construction.

[12] ADB. Safeguard Categories.

II. COMPLIANCE WITH ENVIRONMENTAL SAFEGUARDS REQUIREMENTS AND IMPLEMENTATION

A. Compliance with National Environmental Laws

30. The Government of Bangladesh has several laws and regulations in place for protection and conservation of natural environment pertaining to road development. However, a limited number of environmental laws and regulations are specifically applicable to rural roads upgrading when the existing roads are outside environmentally protected areas including forest land, and construction activities are confined within the existing width and alignment, and with no or minor land acquisition limited to bends and junctions to comply with road safety standards characterizing the rural roads under the current project. The legislations and key features of applicability to the project are summarized in **Table 3**

Table 3: Key Environmental Legislations Applicable to RCIP

Act/Rule/Law/Ordinance	Responsible Agency/ Ministry/Authority	Key Features of Applicability	Project Compliance
Bangladesh Environmental Conservation Act, 1995 (ECA, 1995) and Environment Conservation Rules 1997 (ECR, 1997) the amendment years of Environmental Conservation Rules (2002, 2005, 2010 and 2017) and amendment years for ECA (2000, 2002 and 2010).	Ministry of Environment and Forest	Includes categorization of development projects into green, amber A, Amber B and red. Details procedures for securing environmental clearances for projects that are under red category. Also details procedures for obtaining site clearance for projects.	Complied
The National Water Policy, 1999	Ministry of Water Resources	Protection, restoration and enhancement of water resources; Protection of water quality, including strengthening regulations concerning agro-chemicals and industrial effluent; Sanitation and potable water; Fish and fisheries; and Participation of local communities in all water sector development.	Complied
Water Pollution Control Ordinance 1970	Ministry of Water Resources	Prevents water pollution	Complied
National Policy for Arsenic Mitigation, 2004	Department of Public Health Engineering	Provides a framework for provision of water supply for areas/aquifers with high arsenic levels. Roles of agencies are specified for development of water supply systems, certification of arsenic removal technology, and	Complied

Act/Rule/Law/Ordinance	Responsible Agency/ Ministry/Authority	Key Features of Applicability	Project Compliance
		disposal of treatment sludge. Also, arsenic-prone upazila are identified.	
Bangladesh Labour Law, 2006	Ministry of Labor	This Act pertains to the occupational rights and safety of factory workers and the provision of a comfortable working environment and reasonable working conditions.	Complied
Land Acquisition Act 1894, Acquisition and Requisition of Immovable Property Ordinance, 1982	Ministry of Land	Outlines procedures and rules for acquiring land and immovable property	Complied
Bangladesh Climate Change Strategy and Action Plan (2008)	MOEF	Establishment of six strategic pillars for action, including: (1) food security, social protection and health, (2) disaster management, (3) protective infrastructure, (4) research and knowledge management, (5) decreased carbon development, and (6) capacity building and institutional strengthening.	Complied
The Protection and Conservation of Fish Act, 1950 and The Protection and Conservation of Fish Rules, 1985	MOFL	Prohibits and regulates the construction of temporary or permanent of weirs, dams, bunds, embankment and other structures	Complied
Wetland Protection Act 2000	Ministry of Water Resources	Advocates protection against degradation and resuscitation of natural water-bodies such as lakes, ponds, beels, khals, tanks, etc. affected by man-made interventions or other causes. Prevents the filling of publicly-owned water bodies and depressions in urban areas for preservation of the natural aquifers and environment. Prevents unplanned construction on riverbanks and indiscriminate clearance of vegetation on newly accreted land.	Complied

Act/Rule/Law/Ordinance	Responsible Agency/ Ministry/Authority	Key Features of Applicability	Project Compliance
Embankment & drainage Act	MOWR	An Act to consolidate the law relating to embankments & drainage	Complied
Vehicle Act 1927 & Motor vehicle ordinance 1983	BRTA	Road/traffic safety Vehicular air & noise pollutions Fitness of vehicles& registration	Complied

MOEF= Ministry of Environment, Forest and Climate Change; MOFL= Ministry of Fisheries and Livestock
MOWR= Ministry of Water Resources; BRTA= Bangladesh Road Transport Authority

31. During construction, the project will conform to the occupational and health related rules outlined in **Table 4**.

Table 4: Labor Laws of Bangladesh

Title of Laws and Rules	Descriptions	Project Compliance
Social Security under the Act, 1923 and an amendment in 1980	According to the Act social impact assessment includes the processes of analyzing, monitoring and managing the intended and unintended social consequences, both positive and negative of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions.	Complied
Bangladesh Labor Law of 2006	- Compliance to the provisions on employment standards, occupational safety and health, welfare and social protection, labor relations and social dialogue, and enforcement - Prohibition of employment of children and adolescent	Complied
The Employer's Liability Act, 1938	The Act declares that the doctrine of common employment and of assumed risk shall not be raised as a defense in suits for damages in respect of employment injuries. Under the Maternity Benefit Act, 1939, the Maternity Benefit Act, 1950, the Mines Maternity Benefit Act, 1941, and finally the rules framed there under, female employees are entitled to various benefits for maternity, but in practice they enjoy leave of 6 weeks before and 6 weeks after delivery.	Complied
Public Health (Emergency Provisions) Ordinance, 1994	The ordinance calls for special provisions with regard to public health. Whereas an emergency has arisen, it is necessary to make special provision for preventing the spread of human disease, safeguarding public health and providing them adequate medical service and other services essential to the health of respective community and workers in particular during the construction related work.	Complied
The Employees State Insurance Act, 1948	It has to be noted that health, injury and sickness benefit should be paid to people, particularly respective workers at work place under the Act.	Complied

Title of Laws and Rules	Descriptions	Project Compliance
Bangladesh Factory Act, 1979	The Act requires every workplace including small or large scale construction where women are employed to have an arrangement of childcare services. Based on this Act and Labor Laws - medical facilities, first aid and accident and emergency arrangements are to be provided by the authority to the workers at workplaces.	Complied
Water Supply and Sewerage Authority Act, 1996	The Act specifies WASA's responsibility to develop and manage water supply and sewerage systems for the public health and environmental conservation.	Complied

WASA= Water Supply and Sewerage Authority

B. Compliance with Requirements of ADB's Safeguard Policy Statement 2009

32. The current project has been classified as environmental category B warranting the conduct of an IEE and its documentation. IEEs for the current project was disclosed in 2018. The current project is currently complying with ADB's SPS in terms of categorization; preparation, submission and disclosure of safeguard requirements; implementation of EMP and environmental monitoring plan (EMoP); and submission and disclosure of safeguard reports with ADB.

33. The additional financing also has been categorized as B for environment since the scope only includes upgrading of existing roads that do not pass through any environmentally sensitive areas.

C. Compliance with Loan Agreements

34. Schedule 4 of the Loan Agreement specifies environmental conditions that the Borrower must comply. The project's compliance with the environmental safeguard provisions are indicated in Table 5.

Table 5: Compliance with Loan Agreements

Para. No.	Description	Project Compliance
3	The Borrower shall ensure that LGED does not award any Works or Nonconsulting Services contracts which involves environmental impacts until: (a) the Department of Environment has granted the final approval of the IEE; and (b) the Borrower has incorporated the relevant provisions from the EMP into the Works contract.	 Being complied with. PMU has renewed and obtained the environmental clearance certificate valid until 26 May 2020. Being complied with. It is incorporated in the bid document.
8	In relation to the 5-year maintenance contract financed by the Loan or the Concessional Loan: The Borrower shall ensure or cause LGED to ensure that the preparation, design, construction, implementation, operation and decommissioning of the Project and all Project facilities comply with (a) all applicable laws and regulations	Being complied with. Maintenance work will be started after the completion construction of the selected packages.

Para. No.	Description	Project Compliance
	of the Borrower relating to environment, health and safety; (b) the Environmental Safeguards; and (c) all measures and requirements set forth in the IEE, the EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report	
10	The Borrower shall make available or cause LGED to make available necessary budgetary and human resources to fully implement the EMP.	Being complied with. Adequate budgetary and human resources are provided to fully implement the EMPs
11	The Borrower shall ensure or cause LGED to ensure that all bidding documents and contracts for Works contain provisions that require contractors to: (a) impacts on affected people during construction), and any corrective or preventative actions set forth in a Safeguards Monitoring Report; (b) make available a budget for all such environmental and social measures; (c) provide the Borrower with a written notice of any unanticipated environmental risks or impacts that were not considered in the IEE or the EMP or any resettlement or indigenous peoples risks or impacts that arise during construction, implementation or operation of the Project;	 Being complied with. No major impacts found yet. Being complied with. Budget for all environmental and social measures incorporated in the BOQ Being complied with.
	(d) adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction; and (e) reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.	Baseline survey is being done prior to start of the work. Being complied with. Civil works are not completed yet
12	The Borrower shall cause LGED to do the following: (a) submit semiannual Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission; (b) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were	 Being complied with. First EMR submitted on 10 Oct 2019. Social safeguards update incorporated in the quarterly progress report until the PISC is on board. Being complied with. No such risk and impact arisen.

Para. No.	Description	Project Compliance
	not considered in the IEE and the EMP, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan; and (c) report any actual or potential breach of compliance with the measures and requirements set forth in the EMP promptly after becoming aware of the breach.	Being complied with.
14	The Borrower shall ensure or cause LGED to ensure that the core labor standards and the Borrower's applicable laws and regulations are complied with during Project implementation. The Borrower shall ensure that LGED includes specific provisions in the bidding documents and contracts financed by ADB under the Project requiring that the contractors, among other things: (a) comply with the Borrower's applicable labor law and regulations and incorporate plicable workplace occupational safety norms; (b) do not use child labor; (c) do not discriminate workers in respect f employment and occupation; (d) do not use forced labor; (e) allow freedom of association and effectively recognize the right to collective bargaining; and (f) disseminate, or engage appropriate service providers to disseminate, information on the risks of sexually transmitted diseases, including HIV/AIDS, to the employees of contractors engaged under the Project and to members of the local communities surrounding the Project area, particularly women.	Being complied with.

III. STATUS OF ENVIRONMENTAL MANAGEMENT PLAN IMPLEMENTATION AND MONITORING

A. Environmental Management Plan

35. The environment checklists obtained from three contractors indicate that the site-specific relevant mitigation measures have been satisfactorily applied. The common mitigation measures applied pertinent to establishing offices, storages, campsites, and hot mix with minimum disturbance to human settlement and provisioning with water supply, sanitation, septic tank, and waste management. Mitigation measure have also been applied diligently for dust control and ensuring occupational health and safety. Considering that the project focuses on the upgrading existing roads, the need for mitigation measures for land clearance, tree felling, relocation or demolition of historical and cultural sites is minimum. The transportation of the construction material is through the existing road, hence reducing the need for a separate haul road. Traffic management and diversion signs have been deployed sufficiently.

36. The mitigation is sufficiently addressing anticipated and identified environmental impacts. However, the current EMP does not account for the environmental impact of use of brick chips aggregate as a major construction material to upgrade the roads. Sample environmental checklists are attached in Appendix 2.

B. Environmental Impacts

37. The short-term air quality deterioration and elevated level of noise due to movement of heavy vehicles, operation of construction plant, and construction activities are the temporary adverse impacts noted common throughout the sites. In some cases, temporary disturbance of waterway bed to cause increase suspended solids has been noted. Other impacts such as tree cutting and clearing, and compaction of soil are also not significant, as the project activities are undertaken to upgrade the existing roads. Sample environmental checklists are in Appendix 2.

C. Complaints

38. There are no complaints yet for the project.

IV. FINDINGS AND RECOMMENDATIONS

A. Compliance to Environmental Safeguard Requirements

39. The project is in full compliance with the environmental regulations of Bangladesh (the Bangladesh Environmental Conservation Act of 1995 and Bangladesh Environmental Conservation Rules of 1997). The environmental clearance certificate has been renewed as planned and is valid until 20 May 2020 (yearly renewal). All of the environmental safeguards covenants in the Loan Agreements are also being complied with. The project is also in compliance in terms of project screening and categorization, assessment, institutional arrangements for environmental safeguards.

B. Compliance to Environmental Management Plan

40. Compliance with the EMP is moderately satisfactory. Works have started for 34 packages. EMP requirements are included in all the 35 contracts signed to date. The contractors are required to appoint the Environmental Focal Points. However, all the contractors have not assigned an Environment Focal Person yet. The contractors are required to implement the monitoring

program, which requires monitoring of construction activities for their compliance with the environmental requirements as per relevant laws, policies and regulations, standards, specifications and EMP. The environmental checklist has only been received from three contractors to date.

41. The PISC recruitment has not been done yet so the overall monitoring of the compliance is being done by PE.

42. Particularly in some contracts there is few mitigation measures need to be improved. Those are:

(i) Regular air quality and noise monitoring, including instrumentation and data quality assurance
(ii) Appropriate use of health and safety equipment and protective gears, and monitoring and documentation of Occupational Safety and Health Hazards at Work and camp sites.
(iii) Regular spraying of water to minimize dust.
(iv) Continuous maintenance of sanitation and living conditions of camps.
(v) Consultation with community for proper consent during construction.

C. Recommendations

- *Training on EMP for contractors*

Appendix 1: List of Roads Proposed under the Additional Financing of RCIP

Sl. No.	District	Upazila	Name	Road Code	Effective Length (km)
1	Gopalganj	Kasiani	Nizam kandi-Gohala Road	335433011	3.055
2	Gopalganj	Muksudpur	Bonogram GC-Bhamondanga Bazar-Dignagar R&H	335582009	11.268
3	Gopalganj	Muksudpur	Gohala UP office (Monirkandi)-Jalirpar GC Road	335583010	5.221
4	Madaripur	Madaripur-S	Khagdi R&H-Char Muguria-Sreenadi Hat GC	354542001	17.25
5	Madaripur	Madaripur-S	NHW-Tribhagdi Hat GC.	354542003	5.031
6	Madaripur	Madaripur-S	Trivagdi GC-Mithapur Hat-Habiganj hat-Mollahat-Shekhpur RHD	354542005	9.049
7	Madaripur	Sadar	Madaripur Puran Bazar-Bangla Bazar-Hosnabad Bazar-Kalikapur UP Road.	354543005	6.3
8	Madaripur	Kalkini	Kalkini Upazila HQ to Khasherhat GC Road via Shomitirhat Bazar.	354402002	10.977
9	Madaripur	Kalkini	Khoajpur Takerhat R & H to Khasherhat GC Road via Laxmipur UP Office & Shurjamoni hat.	354402005	15.138
10	Madaripur	Kalkini	Khasherhat GC to Shariatpur R & H Road (Kalkini Part)	354402007	2.1
11	Madaripur	Shibchar	R&H Bypass road to Kathalbari ferry ghat via Kutubpur growth center & bangla bazar	354872005	8.28
12	Rajbari	Baliakandi	Baliakandi-Mrigi GC. Rd. Via Narua GC.	382072002	12.3
13	Rajbari	Baliakandi	Baliakanndi GC-Modhukhali RHW. via Maghchami. Road	382072003	4.535
14	Rajbari	Goalanda	Uttar Ujanchar at NHW-Khalil mondoler Hat G.C via Ujanchar G.C.	382292003	7.32
15	Rajbari	Kalukhali	Mrigi G.C-Sonapur G.C. Road	382772007	2.875
16	Rajbari	Kalukhali	Belgachi G.C.-Sonapur G.C. Road	382772009	3.355
17	Rajbari	Pangsha	Jasai UP-Joygram-Machpara UP. Road	382733015	4.279
18	Rajbari	Pangsha	Pangsa HQ-Mrigi G.C. Road	382732002	10.9
19	Cumilla	Titas	Raypur NHW-Batakandi GC road via Masimpur	419892001	10.914
20	Cumilla	Daudkandi	Roypur NHW - Batakandi G.C via Masimpur Road (Daudkandi part).	419362001	3.345
21	Cumilla	Debidwar	Jafargonj GC to Barashalghar RHD via Yousufpur UPC Road.	419402006	15.815
22	Cumilla	Titas	Batakandi GC-DaudkandiGC Via Mohanpur Launch Ghat road (Titas Upazila Portion)	419892002	11.5
23	Chattagram	Mirsharai	Zorargonj UP R & H to -Burburia ghat Bazar road Via Dhum UP, Bangla Bazar & Golokerhat	415532002	5.1
24	Chattagram	Mirsharai	Habilder Basa R&H to Santir Hat GC Road via Azamnagar (Karerhat UP- Santirhat GC)	415532013	8.65
25	Chattagram	Fatikchari	Dantmara U.P.HQ.to Balutila Bazar via Ziltoli bazar Road	415333002	13.16
26	Chattagram	Hathazari	Mekhol up to Gorduara UP Road (Sarang Road)	415373004	2.77
27	Chattagram	Raojan	Ramjan Ali Hat GC - Nayahat RHD via Andermanik Natun Bazar Road.	415742011	9.926

Sl. No.	District	Upazila	Name	Road Code	Effective Length (km)
28	Chattagram	Rangunia	Santirhat GC- Malirhat - Sahery Bazar GC Road (Baraulia Road) (Rangunia Part)	415702011	5.4
29	Jashore	Monirampur	Lawri (Madrasha) RHD-Khedapara GC Road	241612016	14.85
30	Jashore	Abhoynagar	Nowapara Upazila H/Q-Monirampur via Moshiahati,Nehalpur Road.	241042006	7.3
31	Jashore	Abhoynagar	Nowapara Upazila H/Q (Shankarpasha Bazar Ghat) - Narail-Fultala RHD at Sukpara more Road.	241042005	4.789
32	Jashore	Abhoynagar	Jashore Khulna RHD Bhangagate (Badamtala) - Amtala GC via Moricha, Nawly Bazar Road	241042007	20.909
33	Jashore	Jhikorgacha	Bakra GC- Baganchara GC via Sankarpur UPC	241232003	10.515
34	Jashore	Sarsha	Benapole - Baganchra GC via Goga UP H/Q Road	241902007	9.855
35	Jashore	Bagherpara	Khajura-Chaturbaria road.	241092013	8.275
36	Jashore	Bagherpara	Jashore-Narail RHD at Dhalgrammore to Narikelbaria via Dhalgram Bazar	241092003	19.01
37	Jashore	Monirampur	Nehalpur GC-Payria GC via Takerghat Road	241612006	3.727
38	Jashore	Keshobpur	Chuknagar-Katakhali Road	241382003	7.2
39	Chuadanga	Alamdanga	Alamdanga-Sorajgong G.C (Alamdanga Portion) [Alamdanga]	218072002	18
40	Chuadanga	Damurhuda	Memnagar RHD-Karpashdanga G.C via Buichitala	218312006	13.106
41	Chuadanga	Damurhuda	Damurhuda G.C-Bhogiratpur G.C	218312005	10.9
42	Rajshahi	Tanore	Tanore-Amnura via Mundumala Hat	181942003	16.991
43	Rajshahi	Paba	Mollikpur Bipass (Kukhundipur Bazar) - Parila UP Road	181723024	4.4
44	Rajshahi	Tanore	Talanda FRB to Nizampur via Dargadanga Hat,Billi Hat Road	181942007	17
45	Rajshahi	Tanore	Talanda to Keshor Hat (from Hatishail)Tanore Part	181942011	5.44
46	Rajshahi	Tanore	Tanore-Chowbaria road	181942002	10.14
47	Rajshahi	Tanore	Saranjai Pacca Road More - Mundumala Hat Via DebipurMore,Elamdohi hat and Prokash Nagar Hat.	181942014	17.221
48	Rajshahi	Tanore	Elamdohi Hat to Kalma Hat Via Valukakandor Hat.	181943005	2.3
49	Rajshahi	Tanore	Mundumala Hat (Start from Ayrarmore) to Hat bakoil (GCM) road ViaUchadanga Narayanpur (Tanore part).	181942005	13.85
50	Rajshahi	Mohonpur	Bazorpur Trimohini to Dhupaghata hat	181532001	4.5
51	Rajshahi	Bagmara	Bhawanigonj-Ahsangonj	181122001	4.2
52	Rajshahi	Bagmara	Bhabanigong-Kesorhat	181122003	13.3
53	Rajshahi	Bagmara	Bhobanigong-Hatgangopara (from Mathabhanga)	181122004	5
54	Naogaon	Atrai	Ahashanganj GC-Bandaikhara GC.	164032008	8.575
55	Naogaon	Manda	Nurullabad GPS R&H - Jothbazar - Bandaikhara GC Road.	164472012	8.405
56	Naogaon	Niamatpur	Chhatra GC - Shibpur GC.	164692004	12.3
57	Naogaon	Manda	Chowbaria GC - R&H Santa bridge More.	164472015	19

Sl. No.	District	Upazila	Name	Road Code	Effective Length (km)
58	Naogaon	Atrai	Kashiabari GC - Smaspara GC Via Islamgati hat	164032010	9.655
59	Naogaon	Atrai	Kashiabari GC - Kaliganj GC	164032006	11.882
60	Natore	Baraigram	Rajapur GC - Zonail GC Road	169152002	18.18
61	Natore	Gurudaspur	Nazirpur GC - Moukra GC Road	169412003	9
62	Natore	Lalpur	Bagatipara-Dayarampur-Abdulpur-Lalpur Road (Lalpur Part)	169442001	16.46
63	Natore	Lalpur	Lalpur-Bilmaria-Durduria Road	169442006	3.64
64	Bogura	Shajahanpur	Sonahata GC(Dhunot) - Tangramagur RHD via Amrul UP - Naimile	110962006	8.87
65	Bogura	Sonatola	Horikhali GC-Hatsharpur GC via Charpara hat (Sonatola)	110952006	10.01
66	Bogura	Bogura Sadar	Matidali NHW-Peergacha GCM (From RHD #331)	110202001	9.052
67	Bogura	Adamdighi	Nasratpur-Murail-Raykali-Beragram (Tilokpur) Road	110062006	6.61
68	Bogura	Kahaloo	Dupchachia-Namoja via Tindighi GC Road (Kahaloo)	110542005	11.75
69	Bogura	Kahaloo	Ranirhat-Durgapur Road.	110542001	10.675
70	Gaibandha	Sadullapur	Madargonj GC-Laxmipur G.C Road via Kantanagar.	132822013	10.443
71	Gaibandha	Sadullapur	Kunjo Mohipur Uttarpara - Pollasbari Border via Idulpur U.P office	132823019	5.37
72	Gaibandha	Sadar	Dariapur-Laxmipur	132242004	7.254
73	Gaibandha	Sundarganj	Sundargonj-Materhat G.C (FRA)	132912005	14.588
74	Dinajpur	Phulbari	Phulbari UZHQ-Madilahat GC Road.	127382001	10.5
75	Dinajpur	Parpatipur	Mominpur UP Office Jashai (Bot tree more) - Pan Bazar road via Jurai hat & faridpur hat.	127773001	8.96
76	Dinajpur	Phulbari	Madilahat GC (Chintamon Moor)-Ambarihat GC Road.	127382004	18.06
77	Dinajpur	Nawabgonj	Doudpur (Laugari) to Bajitpur R&H	127692005	7.2
78	Dinajpur	Nawabgonj	Doudpur GC-Bhaduria GC via Daria	127692006	13.2
79	Dinajpur	Parpatipur	Ambari GC - Jashai more RHD road	127772003	14.264
80	Dinajpur	Birgonj	Bottoli (NHW)-Goreya GC via Shibrampur UP Rd (Bir Muktijoddha Shahid Motilal Barman Road)	127122005	16.04
81	Dinajpur	Kaharol	Kaharol Upazila HQ-Boleyahat RHD Road	127562005	9.265
82	Dinajpur	Bochagonj	Setabgonj Sugar Mill-Meherpur Hat via Nawavita hat Road.	127212002	12.4
83	Thakurgaon	Baliadangi	Baliadangi-Lahiri G.C. Road	194082001	7.063
84	Thakurgaon	Baliadangi	Charol UP Office(Lahiri GC)-Dogachi hat via Patilabhasha Road	194083011	8.365
85	Thakurgaon	Haripur	Jadurani GC-Dangipara UP Office Road.	194513004	4.28
86	Thakurgaon	Thakurgaon-S	Thakurgaon-Farabari GC Road.	194942005	8.5
87	Thakurgaon	Pirganj	Pirganj-Nasibganj G.C Road	194822001	7.18
88	Thakurgaon	Ranisankail	Baliadangi GC - Dhirganj (Horipur) via Dharmogarh Check Post Road.	194862007	5.803
89	Panchagarh	Atwari	Fakirgonj hat GC - Shathkhamar R&H Road	177042001	17.575
90	Panchagarh	Tetulia	Tetulia Gobra Bridge - Shalbahan GC Road	177902005	9.7

Sl. No.	District	Upazila	Name	Road Code	Effective Length (km)
91	Panchagarh	Panchagarh-S	Panchagarh - Harivasha Road.	177732001	10.55
92	Nilphamari	Domar	Domar Bazar G.C-Basunia Hat GC.road	173152003	6.7
93	Nilphamari	Domar	Domar GC to Ambari Alsiar Bazar RHD road GC via Azizarerhat	173152008	13.46
94	Nilphamari	Domar	Boragarihat at RHD road to Baburhat GC via Motukpur UPC at Sayllar ghat (Domar Part)	173152009	4.25
95	Nilphamari	Nilphamari-S	Goregram U.P. to Bhabanigonj G.C via Majhpara Madrasha.	173643008	8.14
96	Nilphamari	Sayedpur	Taraganj G.C.-Porarhat G.C. Via Hazarihat G.C	173852001	17.75
Grand Total					**939.515**

Appendix 2: Environmental Checklists

Date: 26.02.2020

District: Gopalganj	Name of civil works package: CW-06/RCIP/GPJ. e-Tendersss
Road: Re-Habilitation Tilchora-Orakandi Road (Thakurbari)	Road length (km): 3.650 KM
Construction progress 30 % to date: 26/02/2020	Name of contractor: Sajjad Barkat Construction & Engineer Limited-Wahid Construction Ltd(JV)

Part 1. Checklist of Anticipated Environmental Impacts

Project Phase	Project Component	Environmental Components	Environmental Impacts	Has this environmental impact occurred?	
				Yes	No
Pre-Construction	Road Alignment and Design	Terrestrial Vegetation	Tree cutting		No
		Land and Buildings	Localized flooding from inadequate drainage		No
		Community Safety	Road crashes or accidents		No
	Construction and Camp Site Location	Land and Building	Disturbance of inhabited areas or nearby community		No
	Utility shifting	Public infrastructures	Disruption of utility services to local community (ex. communication and power)		No
		Aesthetic and visual	Diggings, shifting and reestablishment of poles impaired the view of community		No
Construction	Site Mobilization	Air quality	Construction of temporary facilities, hauling of equipment and materials may result to short term air quality deterioration	Yes	
		Surface water	Accidental spills of fuels and lubricants into nearby waterbody		No
		Groundwater quality	Accidental spills when transporting construction materials particularly fuels and lubricants could affect groundwater quality		No

Project Phase	Project Component	Environmental Components	Environmental Impacts	Has this environmental impact occurred?	
				Yes	No
		Sound environment	Mobilization of heavy equipment and machineries will increase noise level	Yes	
	Tree cutting and clearing	Terrestrial Vegetation	Loss of trees and vegetation		No
		Avifauna	Disturbance of potential avifaunal habitat		No
	Drainage works	Land and soil	Compaction of soil and impact on quarry haul roads due to movement or vehicles		No
		Surface water quality	Disturbance of waterway bed to cause increase suspended solids	Yes	
		Public Infrastructure	Damaged the road for local and regional population		No
	Road Construction	Air quality and GHG	Fugitive dust emission and fumes from construction vehicles		No
		Land and Soil	Slope failure and Soil erosion due to construction activities, earthwork, and cut and fill, stockpiles etc.		No
		Surface water quality and quantity	Sourcing of water during construction could compete with the local demand		No
		Terrestrial Vegetation	Loss of vegetation		No
		Domesticated animals	Accidents with domesticated animals		No
		Private land and Building	Damaged the private lands and buildings from vibration due to movement of heavy equipment		No
		Public Infrastructures	Soil compaction producing vibration can damage buildings and pipes		No
		Sound environment	Noise from construction vehicle, equipment and machinery can elevate ambient noise		No
		Community and occupational health and safety	Increase injuries and even human mortality		No
	Quarries and borrow sites	Air quality and GHG	Deterioration of air quality along haul road due to increases in dust	Yes	
		Land and soil	Loss of productive lands and topsoil		No
		Surface water quality	Deterioration of receiving water quality from surface runoff		No
		Sound Environment	Increase noise level in quarries from blasting, rock crushing, and hauling		No

Project Phase	Project Component	Environmental Components	Environmental Impacts	Has this environmental impact occurred?	
				Yes	No
		Community and occupational health and safety	Increase risk of accident from open borrow areas		No
	Construction Plant operation	Air Quality and GHG	Air quality deterioration from plant combustion and fugitive emissions	Yes	
		Surface water quality	Deterioration of receiving water quality from batching and cold mix plants effluents		No
		Groundwater quality	Deterioration of ground water quality		No
		Private lands and buildings	Damage to private lands and properties		No
		Sound Environment	Increase in noise level due to batching plant and hot mix plant operations		No

Questions:

Are there any other unanticipated environmental impacts experienced before and during construction not included in the table above? If so, what are these impacts? If none, don't answer questions 2, 3 and 4.

What are the possible causes of these other unanticipated environmental impacts?

Who and what are affected by these other unanticipated environmental impacts?

What has been done so far to mitigate these unanticipated environmental impacts?

Part 2. Checklist of Mitigation Measures

Project Activities	MITIGATION MEASURES	Measure implemented?		Short explanation why this was not done
		Yes	No	
Finalization of alignment	Avoided excessive cut and fill, and the roads are aligned to follow natural topography	Yes		
	Alignment selection followed the provisions of Environment Friendly Road Construction ("LGED's Road Design Standard 2005-Rural Road") and geological survey data at hilly areas.	Yes		
	Referred to hydrological data to finalize provision for culvert drainage structures that crosses ground and surface water flow at flood prone region/areas.	Yes		
	Avoided the forestlands for road construction.	Yes		
	Determined the legal status of forestland and initiate actions to seek permits for diversion of forestland for non-forest uses (road construction).		No	There is no Forest land along the Road Alignment.
	No cutting of trees prior to obtaining forest clearance.	Yes		
	Contacted the Department of National Park and Wildlife Conservation for seeking permits at places for migratory birds and details about non-breeding seasons.		No	No Need
	Avoided or minimized shifting of shrines/temples, disturbance to community ponds, and burial grounds.	Yes		
Land clearing operations	Road width requiring clearing was demarcated on ground.	Yes		
	Topsoil was collected, preserved, and reused as a base for turfing of embankment slopes or development of barren areas along roadside.	Yes		
	Small temples and shrines (if any) shifted to adjacent areas in consultation with local community leaders.		No	There is no Smal Temples and Shrines need to be Shipted
	Any material found and appeared to have historical and cultural importance brought to the notice of Department of Archaeology (DOA), Bangladesh, and instructions from them were followed.		No	There is no Hiustorical and Cultural importance place on road alignment.
	Public utilities (ex. power transmission cables, telephone cables, water/sewerage lines, drains, tube wells) were surveyed and relocated in consultation with the respective agencies/authorities.		No	There is no public utilities on road alignment

Project Activities	MITIGATION MEASURES	Measure implemented?		Short explanation why this was not done
		Yes	No	
	Established and maintained interaction with local community to ensure that no social resentment sets in due to operations.	Yes		
Establishment of temporary office and storage area	Temporary offices and storage areas for construction works are located away from human settlement areas (minimum 500 m) and forest areas (minimum 1 km).	Yes		
	Offices and storage areas located on barren lands away from human settlements and forests	Yes		
	Storage areas are paved (impermeable), and have separate storm water collection system with facility.	Yes		Paved but there is no separate stom water collection system.
	Temporary office and storage areas are provided with adequate water supply, sanitation, septic tank/soak pit	Yes		
Construction Campsites	Contractor complied with the Factories Act (1965) and amendment thereof	Yes		
	Construction campsites located at barren lands away from human settlements and forests.	Yes		
	Campsites are provided with adequate water supply, sanitation and all requisite infrastructure facilities	Yes		
	Campsites have septic tank/soak pit of adequate capacity.			
	Campsites are provided with kerosene/LPG to avoid dependence on firewood for cooking.	Yes		
Mobilization of construction materials - Stone aggregates, earth and construction water	Stone aggregates are sourced only from licensed existing quarries.	Yes		
	In case for new quarries, quarry license/permits are to be obtained from authorities.	Yes		
	Required permits are to be obtained and all conditions of permits are to be complied for stone crushing plants.		No	Crushed stone have been shorted
	Stone quarries and crushing units have pollution control system and occupational safety procedures/practices in place and regular inspection is performed.	Yes		
	Earth borrow areas have permits and all conditions of the permits are complied.	Yes		

Project Activities	MITIGATION MEASURES	Measure implemented?		Short explanation why this was not done
		Yes	No	
	Borrow areas are demarcated with signboards and restricted only for operators.	Yes		
	Permission of landowners for the conversion of agricultural lands for borrowing are obtained.	Yes		
	Borrow area complied with the Environmental Assessment Guidelines for LGED Projects-2008.	Yes		
Mobilization of construction materials - Stone aggregates, earth and construction water	Water for construction works is not drawn from sources, which used by local people.	Yes		
	Well owners are informed about the quantity and duration water use for construction.	Yes		
	For new tube wells, concurrence from the PIU achieved.	Yes		
	Water requirements are not drawn from single water source and no 2 water sources (in case of tube wells) is less than 500 m from each other.	Yes		
Transportation of construction materials	Only existing tracks or roads are used for hauling of materials	Yes		
	Topsoil of new haul roads used for turfing of embankment.	Yes		
	Dust suppression along transportation links by deploying water tankers.	Yes		
	Vehicles for material transportation are spillage proof.	Yes		
	Transportation links are inspected daily to clear accidental spillage, if any.	Yes		
Diversion of traffic	Appropriate traffic diversion schemes are implemented to avoid inconvenience	Yes		
	Traffic diversion signs are clearly visible even at night.	Yes		
	Diversion schemes.	Yes		
Cut and fill	Road alignment plan is based on the Road Design Standard 2005 (Rural Road) and Environmental Assessment Guidelines for LGED Projects-2008.	Yes		
	Top soil is reused for turfing of embankment slopes.	Yes		
	Topsoil is not allowed as filling material	Yes		

Project Activities	MITIGATION MEASURES	Measure implemented?		Short explanation why this was not done
		Yes	No	
Preparation of embankment and road base	Road Design Standard 2005 (Rural Road) and Environmental Assessment Guidelines for LGED Projects-2008 are used for countering soil erosion and slope protection.	Yes		
	Less erodible material are considered for embankment according to Technical Specifications for construction of Rural Roads, LGED.	Yes		
Cross Drainage Structures	Cross drainage structures is part of the road design.	Yes		
	Scheduled the construction works to dry season to avoid impacts on water quality of stream or river.	Yes		
	Any spillage of oil and lubricants are cleared.	Yes		
	Construction wastes are removed from work site.	Yes		
Tree Planting	Tree planting undertaken as per permit conditions		No	Tree plantation are not considered in schedule
	District Forest Officer are consulted for selection of species		No	Not Necessary
Hot Mix Plants and Laying of bitumen	Hot mix plants are at least 500 m away from human settlements	Yes		Carpeting work has not yet been started. It will be ensured.
	Consent to establish and consent to operate are obtained from State Pollution Control Board.	Yes		Carpeting work has not yet been started. It will be ensured.
	Hot mix plants are set up on barren or waste lands	Yes		Carpeting work has not yet been started. It will be ensured.
	Operational areas like storage, handling, loading, unloading areas have paved floorings and have separate storm water collection system.		No	There is no provision of Strom water Reservoir system.
	Storm water from storage area are not directly discharged into nearby water courses/drains.		No	There is no provision of Strom water Reservoir system.
	Hot mix pants provided with adequate water supply and sanitation.	Yes		Carpeting work has not yet been started. It will be ensured.
	Hot mix plants have control measures for dust, air, and noise.	Yes		Carpeting work has not yet been started. It will be ensured.
	All construction waste is disposed of at approved disposal sites.	Yes		

Project Activities	MITIGATION MEASURES	Measure implemented?		Short explanation why this was not done
		Yes	No	
Clean-up of construction work Sites and Disposal of waste	Contractors comply with the Spoil Mass Disposal Management Guideline including the preparation of Disposal Plan of DOE	Yes		
Equipment/ vehicles deployed for Construction works	All diesel-powered equipment and vehicles are maintained to minimize impacts on air quality and noise.	Yes		
	Vehicles and equipment are subjected to emission tests and have valid no pollution certificate	Yes		
	All routes for materials movement are inspected daily twice to clear off any accidental spills.	Yes		
Occupational Safety and Health Hazards at Work and camp sites	Contractors comply with the Bangladesh National Building Code (BNBC) and World Bank's Occupational Health and Safety Guidelines	Yes		
	All personnel at work sites are provided with protective gears	Yes		
	Children (less than 16 years) and pregnant women are not allowed to work	Yes		
	No personnel are working at site for more than 10 hours per day	Yes		
	Sprinkling of water at all construction areas.	Yes		
	Construction camps have health care facilities.	Yes		
	Construction personnel are subjected to routine vaccinations and other preventive/healthcare measures.	Yes		
	Construction areas and campsites have facilities for handling any emergency situation like fire, explosion, etc.	Yes		
	Personnel in charge of health and safety such are properly trained, have license and with sufficient experience.	Yes		
	Operational areas are controlled, and entry are allowed only with permission.	Yes		
	Construction camps have common entertainment facilities	Yes		

Questions

What is the budget of the contractor to implement the mitigation measures? Tk.= 3,00,000.00

Has the contractor used and prepared the Environmental Monitoring Plan attached to the bidding document? If no, provide reason/s why the contractor has not done so?

Yes, The Construction prepared the Environmental Monitoring Plan attached to the Bidding Document.

Does the contractor have an Environment, Health and Safety Officer? How often does this Officer work at this site during construction?

Yes, The Construction prepared the Environmental Health and Safety Officer. The Environmental Health and Safety Officer stay at site at working time.

In the LGED District Office, is there a responsible staff who monitors the implementation of mitigation measures? How often does the staff perform the monitoring?
Mr. Sarder Ikramul Kabir, Sr. Assistant Engineer, Office of The Executive Engineer, Gopalganj, monitors the Implementation of Mitigation Measures. The Officer visit the site twice a month.

Is there a functional Grievance Redress Mechanism (GRM) in place? What is the frequency of the meetings of the members of the GRM?

Yes, a committee has been formed comprising one representative from the Office of The Executive Engineer, Gopalganj, Upazila Engineer, Kasiani and One representative from contractor. The members of the GRM arrange meeting every quarter.

Part 3. Checklist of clearance and/or permit Requirements

Permits/clearances	Compliant?		Short explanation as to why this has not been obtained, when appropriate
	Yes	No	
Environmental clearance	Yes		As this is a existing Road Alignment. This is Improvement work.
Site clearance	Yes		
No Objection Clearance from the local authority or Union Parishad	Yes		
Tree cutting permit		No	There are no Tree on the road alignment.
Consent to establish for all mix and batching plants	Yes		
Consent to operate for all mix and batching plants	Yes		
Pollution under control for motor vehicles	Yes		
Construction material quarrying permit	Yes		
Borrow earth permission from the owner	Yes		

EnvironmentalChecklist
Date:

District:Rajbari	Name of civil works package: CW-01/RCIP/RJB
Road: Alipur UP-Bagmara Hat via Matipara Road	Road length (km): 0.00-0.7645
Construction progress (%) to date: 15%	Name of contractor: Mir Habibul Alam

Part 1. Checklist of Anticipated Environmental Impacts

ProjectPhase	ProjectComponent	EnvironmentalComponents	Environmental Impacts	Hasthis environmental impact occurred?	
				Yes	No
Pre-Construction	Road Alignment and Design	Terrestrial Vegetation	Tree cutting	✓	
		Land and Buildings	Localized flooding from inadequate drainage		✓
		Community Safety	Road crashes or accidents		✓
	Construction and Camp Site Location	Land and Building	Disturbance of inhabited areas or nearby community		✓
	Utility shifting	Public infrastructures	Disruption of utility services to local community (ex. communication and power)		✓
		Aesthetic and visual	Diggings, shifting and reestablishment of poles impaired the view of community		✓
Construction	Site Mobilization	Air quality	Construction of temporary facilities, hauling of equipment and materials may result to short term air quality deterioration		✓
		Surface water	Accidental spills of fuels and lubricants into nearby waterbody		✓
		Groundwater quality	Accidental spills when transporting construction materials particularly fuels and lubricants could affect groundwater quality		✓
		Sound environment	Mobilization of heavy equipment and machineries will increase noise level		✓
	Tree cutting and clearing	Terrestrial Vegetation	Loss of trees and vegetation	✓	
		Avifauna	Disturbance of potential avifaunal habitat		✓
	Drainage works	Land and soil	Compaction of soil and impact on quarry haul roads due to movement or vehicles		✓
		Surface water quality	Disturbance of waterway bed to cause increase suspended solids		✓
		Public Infrastructure	Damaged the road for local and regional population		✓
	Road Construction	Air quality and GHG	Fugitive dust emission and fumes from construction vehicles		✓
		Land and Soil	Slope failure and Soil erosion due to construction activities, earthwork, and cut and fill, stockpiles etc.		✓

ProjectPhase	ProjectComponent	EnvironmentalComponents	Environmental Impacts	Hasthis environmental impact occurred?	
				Yes	No
		Surface water quality and quantity	Sourcing of water during construction could compete with the local demand		✓
		Terrestrial Vegetation	Loss of vegetation		✓
		Domesticated animals	Accidents with domesticated animals		✓
		Private land and Building	Damaged the private lands and buildings from vibration due to movement of heavy equipment		✓
		Public Infrastructures	Soil compaction producing vibration can damage buildings and pipes		✓
		Sound environment	Noise from construction vehicle, equipment and machinery can elevate ambient noise		✓
		Community and occupational health and safety	Increase injuries and even human mortality		✓
	Quarries and borrow sites	Air quality and GHG	Deterioration of air quality along haul road due to increases in dust		✓
		Land and soil	Loss of productive lands and topsoil		✓
		Surface water quality	Deterioration of receiving water quality from surface runoff		✓
		Sound Environment	Increase noise level in quarries from blasting, rock crushing, and hauling		✓
		Community and occupational health and safety	Increase risk of accident from open borrow areas		✓
	Construction Plant operation	Air Quality and GHG	Air quality deterioration from plant combustion and fugitive emissions		✓
		Surface water quality	Deterioration of receiving water quality from batching and cold mix plants effluents		✓
		Groundwater quality	Deterioration of ground water quality		✓
		Private lands and buildings	Damage to private lands and properties		
		Sound Environment	Increase in noise level due to batching plant and hot mix plant operations		✓

Questions:

1. Are there any other unanticipated environmental impacts experienced before and during construction not included in the table above? If so, what are these impacts? If none, don't answer questions 2, 3 and 4.

There are none any other unanticipated environmental.

2. What are the possible causes of these other unanticipated environmental impacts?

N/A

3. Who and what are affected by these other unanticipated environmental impacts?

N/A

4. What has been done so far to mitigate these unanticipated environmental impacts?

N/A

Part 2. Checklist of Mitigation Measures

Project Activities	**MITIGATION MEASURES**	**Measure implemented?**		Short explanation why this was not done
		Yes	**No**	
Finalization of alignment	Avoided excessive cut and fill, and the roads are aligned to follow natural topography	✓		
	Alignment selection followedthe provisions of Environment Friendly Road Construction ("LGED's Road Design Standard 2005-Rural Road") and geological survey data at hilly areas.	✓		
	Referred to hydrological data to finalize provision for culvert drainage structures that crosses ground and surface water flow at flood prone region/areas.	✓		
	Avoided the forestlands for road construction.	✓		
	Determined the legal status of forestland and initiate actions to seek permits for diversion of forestland for non-forest uses (road construction).	✓		
	No cutting of trees prior to obtaining forest clearance.	✓		
	Contacted the Department of National Park and Wildlife Conservation for seeking permits at places for migratory birds and details about non-breeding seasons.	✓		
	Avoided or minimized shifting of shrines/temples, disturbance to community ponds, and burial grounds.	✓		
Land clearing operations	Road width requiring clearing was demarcated on ground.	✓		
	Topsoil was collected, preserved, and reused as a base for turfing of embankment slopes or development of barren areas along roadside.	✓		
	Small temples and shrines (if any) shifted to adjacent areas in consultation with local community leaders.	✓		
	Any material found and appeared to have historical and cultural importance brought to the notice of Department of Archaeology (DOA), Bangladesh, and instructions from them were followed.	✓		

Project Activities	MITIGATION MEASURES	Measure implemented?		Short explanation why this was not done
		Yes	No	
	Public utilities (ex. power transmission cables, telephone cables, water/sewerage lines, drains, tube wells)weresurveyed and relocated in consultation with the respective agencies/authorities.	✓		
	Established and maintained interaction with local community to ensure that no social resentment sets in due to operations.	✓		
Establishment of temporary office and storage area	Temporary offices and storage areas for construction works are located away from human settlement areas (minimum 500 m) and forest areas (minimum 1 km).	✓		
	Offices and storage areas located on barren lands away from human settlements and forests	✓		
	Storage areas are paved (impermeable), and have separate storm water collection system with facility.	✓		
	Temporary office and storage areasare provided with adequate water supply, sanitation, septic tank/soak pit	✓		
Construction Campsites	Contractor complied with the Factories Act (1965) and amendment thereof	✓		
	Construction campsites located at barren lands away from human settlements and forests.	✓		
	Campsites are provided with adequate water supply, sanitation and all requisite infrastructure facilities	✓		
	Campsites have septic tank/soak pit of adequate capacity.	✓		
	Campsitesare provided with kerosene/LPG to avoid dependence on firewood for cooking.	✓		
Mobilization of construction materials - Stone aggregates, earth and construction water	Stone aggregates are sourced only from licensed existing quarries.	✓		
	In case for new quarries, quarry license/permits are to be obtained from authorities.	✓		
	Required permits are to be obtained and all conditions of permits are to be complied for stone crushing plants.	✓		
	Stone quarries and crushing units have pollution control system and occupational safety procedures/practices in place and regular inspection isperformed.	✓		
	Earth borrow areas have permits and all conditions of the permits are complied.	✓		
	Borrow areas are demarcated with signboards and restricted only for operators.	✓		
	Permission of landowners for the conversion of agricultural lands for borrowing are obtained.	✓		
	Borrow area complied with the Environmental Assessment Guidelines for LGED Projects-2008.	✓		
Mobilization of construction materials - Stone aggregates,	Water for construction works is not drawn from sources, which used by local people.	✓		
	Well ownersare informed about the quantity and duration water use for construction.	✓		
	For new tube wells, concurrence from the PIU achieved.	✓		

Project Activities	MITIGATION MEASURES	Measure implemented?		Short explanation why this was not done
		Yes	No	
earth and construction water	Water requirements are not drawn from single water source and no 2water sources (in case of tube wells) is less than 500 m from each other.	✓		
Transportation of construction materials	Only existing tracks or roads are used for hauling of materials	✓		
	Topsoil of new haul roads used for turfing of embankment.	✓		
	Dust suppression along transportation links by deploying water tankers.	✓		
	Vehicles for material transportation are spillage proof.	✓		
	Transportation links are inspected daily to clear accidental spillage, if any.	✓		
Diversion of traffic	Appropriate traffic diversion schemes are implemented to avoid inconvenience	✓		
	Traffic diversion signs are clearly visible even at night.	✓		
	Diversion schemes.	✓		
Cut and fill	Road alignment plan is based on the Road Design Standard 2005 (Rural Road) and Environmental Assessment Guidelines for LGED Projects-2008.	✓		
	Top soil is reused for turfing of embankment slopes.	✓		
	Topsoil is not allowed as filling material	✓		
Preparation of embankment and road base	Road Design Standard 2005 (Rural Road) and Environmental Assessment Guidelines for LGED Projects-2008 are used for countering soil erosion and slope protection.	✓		
	Lesserodible material are considered for embankment according to Technical Specifications for construction of Rural Roads, LGED.	✓		
Cross Drainage Structures	Cross drainage structuresis part of the road design.	✓		
	Scheduled the construction works to dry season to avoid impacts on water quality of stream or river.	✓		
	Anyspillage of oil and lubricants are cleared.	✓		
	Construction wastes are removed from work site.	✓		
Tree Planting	Tree planting undertaken as per permit conditions	✓		
	District Forest Officer are consulted for selection of species	✓		
Hot Mix Plants and Laying of bitumen	Hot mix plants are at least 500 m away from human settlements	✓		
	Consent to establish and consent to operate are obtained from State Pollution Control Board.	✓		
	Hot mix plants are set up on barren or waste lands	✓		
	Operational areas like storage, handling, loading, unloading areas have paved floorings and have separate storm water collection system.	✓		

Project Activities	MITIGATION MEASURES	Measure implemented?		Short explanation why this was not done
		Yes	No	
	Storm water from storage area are not directly discharged into nearby water courses/drains.	✓		
	Hot mix pants provided with adequate water supply and sanitation.	✓		
	Hot mix plants have control measures for dust, air, and noise.	✓		
Clean-up of construction work Sites and Disposal of waste	All construction waste is disposed of at approved disposal sites.	✓		
	Contractors comply with the Spoil Mass Disposal Management Guideline including the preparation of Disposal Plan of DOE	✓		
Equipment/ vehicles deployed for Construction works	All diesel-powered equipment and vehicles are maintained to minimize impacts on air quality and noise.	✓		
	Vehicles and equipment are subjected to emission tests and have valid no pollution certificate	✓		
	Allroutes for materials movement are inspected daily twice to clear off any accidental spills.	✓		
Occupational Safety and Health Hazards at Work and camp sites	Contractors comply with the Bangladesh National Building Code (BNBC) and World Bank's Occupational Health and Safety Guidelines	✓		
	All personnel at work sites are provided with protective gears	✓		
	Children (less than 16 years) and pregnant women are not allowed to work	✓		
	No personnel are working at site for more than 10 hours per day	✓		
	Sprinkling of water at all construction areas.	✓		
	Construction camps have health care facilities.	✓		
	Construction personnel are subjected to routine vaccinations and other preventive/healthcare measures.	✓		
	Construction areas and campsites have facilities for handling any emergency situation like fire, explosion, etc.	✓		
	Personnel in charge of health and safety such are properly trained, have license and with sufficient experience.	✓		
	Operational areas are controlled and entry are allowed only with permission.	✓		
	Construction camps have common entertainment facilities	✓		

Questions

1. What is the budget of the contractor to implement the mitigation measures?

   ANS:4,60,867.537 /=

2. Has the contractor used and prepared the Environmental Monitoring Plan attached to the bidding document? If no, provide reason/s why the contractor has not done so?

   ANS:Yes,The Environmental monitoring plan has attached plan has attached to the bidding document.

3. Does the contractor have an Environment, Health and Safety Officer?How often does this Officer work at this site during construction?

   ANS:Yes,There is a focal person and he is always monitoring construction site.

4. In the LGED District Office, is there a responsible staff who monitors the implementation of mitigation measures? How often does the staff performthe monitoring?

   ANS:A Senior assistant engineer appointed by LGED district office of Rajbari and he is monitoring the construction.

5. Is there a functional Grievance Redress Mechanism (GRM) in place? What is the frequency of the meetingsof the members of the GRM?

Part 3. Checklist of clearance and/or permit requirementS

Permits/clearances	Compliant?		Short explanation as to why this has not been obtained, when appropriate
	Yes	No	
Environmental clearance	✓		
Site clearance	✓		
No Objection Clearance from the local authority or Union Parishad	✓		
Tree cutting permit	✓		
Consent to establish for all mix and batching plants	✓		
Consent to operate for all mix and batching plants	✓		
Pollution under control for motor vehicles	✓		
Construction material quarrying permit	✓		
Borrow earth permission from the owner	✓		