

Project Administration Manual

Project Number: 53335-001
Loan Number: LXXXX
November 2022

India: Assam South Asia Subregional
Economic Cooperation Corridor Connectivity
Improvement Project

ABBREVIATIONS

| | | |
|----------|---|---|
| ADB | – | Asian Development Bank |
| APFS | – | audited project financial statements |
| ASRB | – | Assam State Road Board |
| CAG | – | Comptroller and Auditor General |
| COVID-19 | – | coronavirus disease 2019 |
| CPD | – | Client Portal for Disbursements |
| CSC | – | construction supervision consultant |
| DEA | – | Department of Economic Affairs |
| EMOP | – | environmental monitoring plan |
| EMP | – | environmental management plan |
| GESI | – | gender equality and social inclusion |
| GOA | – | Government of Assam |
| GRC | – | grievance redress committee |
| GRM | – | grievance redress mechanism |
| IEE | – | initial environmental examination |
| IPP | – | indigenous peoples plan |
| km | – | kilometer |
| LFIS | – | Loan and Grant Financial Information Services |
| MDR | – | major district road |
| PAM | – | project administration manual |
| PMU | – | project management unit |
| PIU | – | project implementation unit |
| PWRD | – | Public Works (Roads) Department |
| SASEC | – | South Asia Subregional Economic Cooperation |
| SH | – | state highway |
| SOE | – | statement of expenditure |
| TOR | – | terms of reference |

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Project Administration Manual Purpose and Process

The project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with the policies and procedures of the government and Asian Development Bank (ADB). The PAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the PAM.

The Public Works (Roads) Department (PWRD) of the Government of Assam is wholly responsible for the implementation of ADB-financed projects, as agreed jointly between the borrower and ADB, and in accordance with the policies and procedures of the government and ADB. ADB staff is responsible for supporting implementation including compliance by the PWRD of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

At loan negotiations, the borrower and ADB shall agree to the PAM and ensure consistency with the loan agreement. Such agreement shall be reflected in the minutes of the loan negotiations. In the event of any discrepancy or contradiction between the PAM and the loan agreement, the provisions of the loan agreement shall prevail.

After ADB Board approval of the project's report and recommendations of the President (RRP), changes in implementation arrangements are subject to agreement and approval pursuant to relevant government and ADB administrative procedures (including the Project Administration Instructions) and upon such approval, they will be subsequently incorporated in the PAM.

I. PROJECT DESCRIPTION

1. The Assam South Asia Subregional Economic Cooperation Corridor (SASEC) Connectivity Improvement Project will upgrade about 312.5 kilometers (km) of state highways and major district roads (MDRs) in Assam, including six road sections in the western, central, and southern regions. Reduced travel time and vehicle operating costs, and the operation of public transport services, will improve the mobility and accessibility of people in the less developed areas of Assam; and provide a vital link to markets, jobs, social services, and education and health facilities. Improved connectivity from the Assam hinterland to SASEC corridors is expected to spur growth in the entire state. The project will also strengthen the institutional capacity of the Public Works (Roads) Department (PWRD) in climate and disaster resilience, road asset management, and safeguards; and conduct road safety improvement works and a road safety awareness program.

2. **Impact and outcome.** The project is aligned with the following impact: sustainable and inclusive growth in Assam achieved (Assam Vision 2030). The project will have the following outcome: connectivity to SASEC corridors in the western, central, and southern regions of Assam improved.¹ The percentages of the multidimensionally poor population in these areas are high. The project will improve the mobility of people and goods in these less developed areas, which will help enhance the availability of skilled labor, job opportunities in district centers and school completion rate. The mobilization and use of human resources in the district centers are also expected to have ripple effects in the development of technology, innovation, and knowledge, to foster industrialization. Transport infrastructure will expand the demand–supply chain of goods and services, and strengthen the statewide economic activities and regional connectivity and development.

3. **Output 1: State highways and major district roads improved.** The project will upgrade about 312.5 km of state highways and MDRs from single or intermediate lane to two lanes—including six road sections in the western, central, and southern regions of Assam—to improve the mobility and accessibility of local people along the project roads.² The project road sections have been selected among the priority roads of the Asom Mala program to improve connectivity with the SASEC corridors and promote economic activities in the less developed areas. The project roads connect such areas to the agricultural markets, tourism sites, industrial agglomeration areas, and cross-border trade centers with the core and branch road network. ADB will finance civil works for the project roads, with due consideration to road safety, climate change resilience (CCR), disaster risk reduction (DRR), wildlife and habitat conservation, gender equality and social inclusion (GESI), and environment and social safeguards. The civil works include (i) pedestrian and public transport facilities to improve safety, mobility, and access to the district centers for older persons, women, children, and disadvantaged people;³ (ii) elevation of highway surface levels in flood-prone areas and landslide prevention works in hilly and mountainous areas; (iii) small-scale community infrastructure at vulnerable indigenous people villages;⁴ and (iv) viaduct structures to avoid human–elephant conflict in the elephant habitats, in addition to

¹ The design and monitoring framework is in [Appendix 1](#).

² Key Features of the Project Roads (accessible from the list of linked documents in [Appendix 2](#)). Road A03: Chapaguri–Amtaka–Bhutan Border (40.776 km); Road A04: Jogighopa–Bongaigaon (36.791 km); Road A21: Hamren–Howraghat Tiniali (75.403 km); Road A23: Haflong Tiniali–Lower Haflong (90.900 km); Road A25: Borkhola–Kalain (21.387 km); and Road A26: Bhanga–Hailakandi–Dwarbond (47.387 km).

³ Pedestrian crossings with signals, elevated sidewalks, humps and rumble strips on roads, wide shoulders, bus bays, and bus stops with public toilet facilities.

⁴ Slope protection-cum-water supply facilities, quality educational facilities, health and sanitation facilities, and tourism facilities.

standard road improvement works. Five-year performance-based road maintenance is included in the civil works contracts.

4. Output 2: Institutional capacity of Assam Public Works (Roads) Department in climate and disaster resilience, road asset management, and safeguards strengthened.

The project will support the PWRD's institutional development, with a focus on (i) introduction of climate and disaster resilience concept in roads, (ii) road asset management, and (iii) institutional reform for safeguard operations. First, the project will introduce new climate- and disaster-resilient structures to the project roads, evaluate their performance, and standardize the technical specifications on the structures. Second, the project will assist the PWRD in adopting a climate and disaster resilience module to RAMS, and help the PWRD institutionalize (i) annual updates of the road asset data set, (ii) optimization of the road sector budget allocation for road construction and maintenance, and (iii) change from annual road maintenance contracts to multiyear contracts in coordination with the GOA's Finance Department and PWRD regional offices. Third, the project will help the PWRD strengthen safeguard operations by institutionalizing permanent safeguard cells with experienced and skilled staff of the project management unit (PMU) who will be involved in (i) environmental assessment, monitoring, and risk management; (ii) land acquisition and resettlement of project-affected persons; (iii) actions for indigenous people; and (iv) GESI design preparation and actions, in line with the project's initial environmental examination, resettlement plans, indigenous peoples plan (IPP), and GESI action plan.

5. Output 3: Road safety measures on state highways and major district roads in the project districts enhanced. The project will (i) undertake a road safety audit study on state highways and MDRs in the project districts and prepare GESI-responsive designs of retrofitted road safety structures and facilities; (ii) provide road safety education to two-wheeler riders, schoolteachers and pupils, and community road users, considering that women's road accident fatalities are likely to increase as a result of improved mobility; and (iii) install retrofitted road safety structures and facilities on at least 300 km of the state highways and MDRs.⁵ ADB is coordinating with the Ministry of Road Transport and Highways through a state road safety incentive program, which focuses on institutional aspects, accident response and monitoring systems, vehicle fitness, and awareness campaigns. This program supports seven selected states including Assam, which has established a state level road safety council and road safety plan. Output 3 will be a valuable complement to the government program.

⁵ Pedestrian crossings, elevated sidewalks and footpaths, rumble strips, bus stops, traffic signs, pavement markings, solar streetlights, traverse bar markings, metal beam crash barriers, and road studs. There are currently nine road sections identified for road safety improvement under output 3. The estimated quantities are in the Project Administration Manual (accessible from the list of linked documents in [Appendix 2](#)).

II. IMPLEMENTATION PLANS

A. Project Readiness Activities

Table 1: Project Readiness Activities

| Indicative Activities | 2021 | 2022 | | | | | | | | | | | | 2023 | | Responsible Individual/Unit/Agency/ Government |
|--|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|--|
| | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | |
| Concept clearance | | | | | | | | | | | | | | | | ADB |
| Advance contracting actions for consultant selection | | | | | | | | | | | | | | | | PWRD |
| Advance contracting actions for road improvement works | | | | | | | | | | | | | | | | PWRD |
| Safeguard plans preparation | | | | | | | | | | | | | | | | ADB, PWRD |
| Land acquisition and resettlement activities | | | | | | | | | | | | | | | | PWRD |
| Loan fact-finding mission | | | | | | | | | | | | | | | | ADB, DEA, PWRD |
| ADB management review | | | | | | | | | | | | | | | | ADB |
| Loan negotiations | | | | | | | | | | | | | | | | ADB, DEA, PWRD |
| ADB Board approval | | | | | | | | | | | | | | | | ADB |
| Loan signing | | | | | | | | | | | | | | | | ADB, DEA |
| Loan effectiveness | | | | | | | | | | | | | | | | ADB, DEA |
| Retroactive financing | | | | | | | | | | | | | | | | ADB, PWRD |

ADB = Asian Development Bank, DEA = Department of Economic Affairs, PWRD = Public Works (Roads) Department.

Source: Asian Development Bank.

| Project Implementation Period | | 2022 | | | | 2023 | | | | 2024 | | | | 2025 | | | | 2026 | | | | 2027 | | | | 2028 | | | |
|--|---------|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| Activity | Quarter | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| D. Project Management | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. Establishment of PMU and appointment of PMU staff | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. Environment management plan key activities | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. Land acquisition and resettlement monitoring | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4. Indigenous people assistance activities | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5. Gender equality and social inclusion action plan key activities | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6. Financial management and internal audit support services (intermittent) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7. Communication strategy key activities | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8. Regular and midterm review | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9. Project completion report | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

: Project processing period: Activity implementation period: Potential extension period of activity

MDR = major district road, PMU = project management unit, PWRD = Public Works (Roads) Department, RAMS = road asset management system, RP = resettlement plan, SH = state highway.

Source: Asian Development Bank.

III. PROJECT MANAGEMENT ARRANGEMENTS

A. Project Implementation Organizations: Roles and Responsibilities

Table 3: Roles and Responsibilities

| Project Implementation Organizations | Management Roles and Responsibilities |
|---|---|
| Oversight Body Special Commissioner and Special Secretary, PWRD | <ul style="list-style-type: none"> • Overall coordination and supervision of project implementation activities • Coordination with Finance Department, Transport Department, Forest Department, and Agriculture Department of the Government of Assam |
| Executing Agency Project management unit, PWRD | <ul style="list-style-type: none"> • Day-to-day supervision of project implementation activities • Procurement and administration of civil works contracts • Procurement and administration of goods and nonconsulting services contracts • Recruitment and administration of consulting services • Quality assurance of works and services of consultants and counterpart staff • Preparation and submission of withdrawal applications • Maintenance of project accounts and loan financial records, and submission of the audited annual report and financial statements • Preparation of regular progress reports and monitoring reports • Submission of semiannual monitoring reports on environment • Submission of semiannual monitoring reports on resettlement plans and IPP implementation • Implementation of the financial management action plan • Implementation of gender equality and social inclusion action plan • Keeping supporting documents for project financial statements and project accounts • Preparation of regular progress reports, monitoring reports, and a project completion report, and their timely submission to ADB • Compliance with safeguards requirements, including ensuring full implementation of the resettlement plans and IPP provisions • Involving beneficiaries, affected persons, and their representatives in all stages of project development and implementation, and information disclosure • Compliance with loan covenants (road safety, social and environmental safeguards, financial, economic, others) • Project sustainability at post implementation stage |
| Project implementation units, PWRD | <ul style="list-style-type: none"> • Implementation at the field under the direction of the project management unit • Implementation of the preconstruction activities involving land acquisition, utility shifting, and tree cutting in coordination with their respective districts |

| Project Implementation Organizations | Management Roles and Responsibilities |
|--------------------------------------|--|
| | <ul style="list-style-type: none"> • Coordination with district administration and local communities for support in the smooth implementation of the project |
| ADB | <ul style="list-style-type: none"> • Monitoring and review of overall project implementation in consultation with the executing agency, including, but not limited to, progress toward the achievement of project outputs, progress of contract awards and disbursements, procurement and performance audits, and compliance with loan covenants • Posting on the ADB website of updated project data sheets and safeguards documents as per the disclosure provision of the ADB Safeguard Policy Statement (2009) and Access to Information Policy • Ensuring compliance with loan covenants (road safety, social and environmental safeguards, financial, economic, and others) • Timely processing of withdrawal applications and release of eligible funds |

ADB = Asian Development Bank, IPP = indigenous peoples plan, PWRD = Public Works (Roads) Department.
Source: Asian Development Bank.

B. Key Persons Involved in Implementation

Executing Agency

Public Works (Roads)
Department

| | |
|----------------|--|
| Officer's name | Mr. Anbamuthan M.P. |
| Position | Project Director/Assistant Secretary |
| Telephone | +91 88263 46765 |
| Email address | as-ce.arnip@assam.gov.in |
| Office address | Fatasil, Ambari, Guwahati, 781025 India |

Asian Development Bank

Transport and Communications
Division, South Asia Department
(SATC)

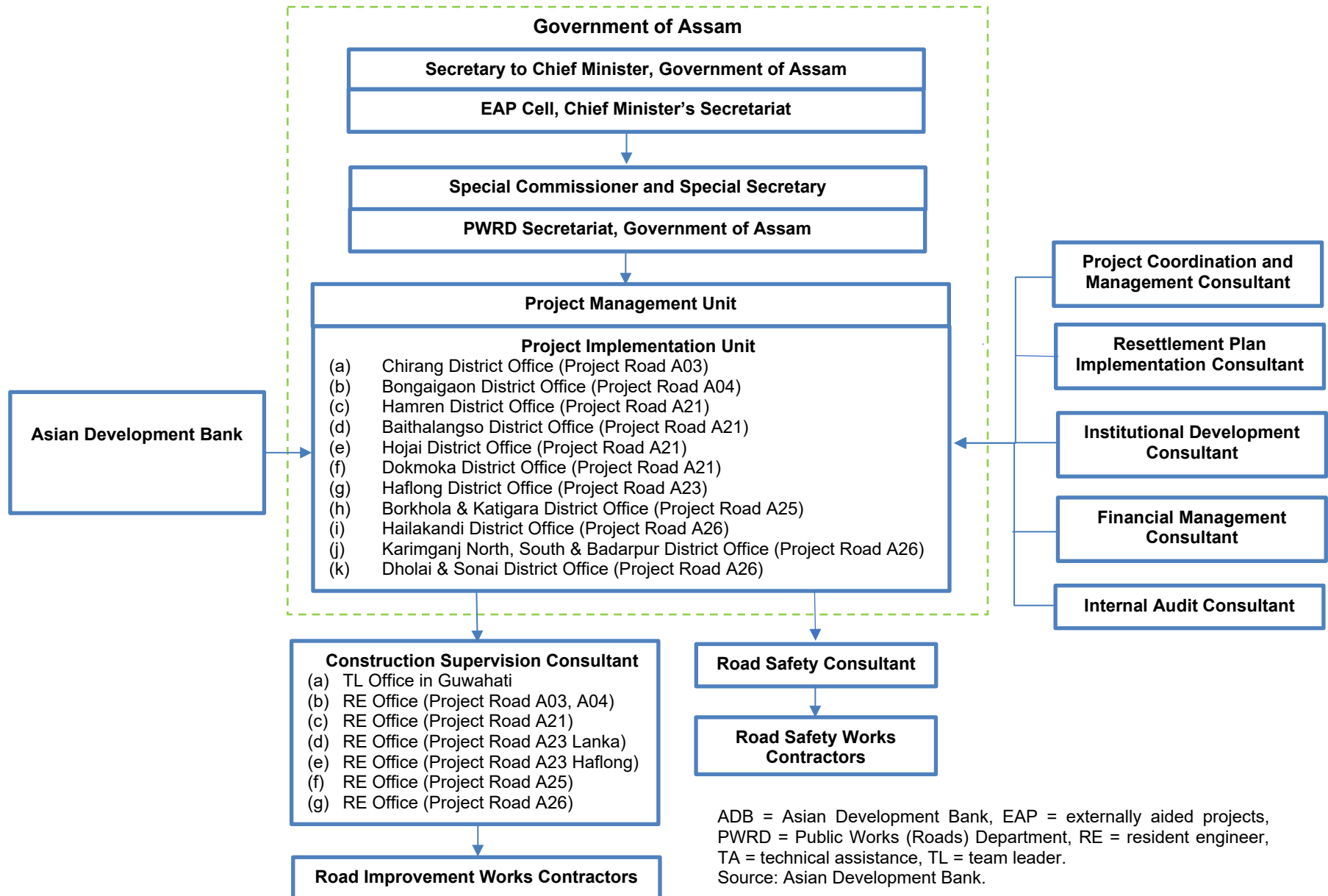
| | |
|---------------|--|
| Staff name | Mr. Kanzo Nakai |
| Position | Officer-in-Charge |
| Telephone | +63 2 8682 6260 |
| Email address | knakai@adb.org |

Mission Leader

| | |
|---------------|--|
| Staff Name | Mr. Yasushi Tanaka |
| Position | Principal Transport Specialist |
| Telephone | +63 2 8632 5657 |
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C. Project Organization Structure

Figure 1: Project Organization Structure



IV. COSTS AND FINANCING

6. The project is estimated to cost \$500.0 million (Table 4), including taxes and duties, recurrent cost, physical and price contingencies, and interest charges during implementation. The major expenditure items that constitute the project part are works to improve the project roads and land acquisition and resettlement. ADB finances a loan of \$300.0 million from ordinary capital resources. The Government of Assam finances \$200.0 million from the government fund.

7. ADB finances (i) the works for road improvement and road safety; (ii) the goods for Information and communication technology equipment, road safety equipment, and road safety patrol vehicles; (iii) consulting services for construction supervision, resettlement plan implementation, institutional development, road safety, financial management, and internal audit; (iv) nonconsulting services for external training of project management unit (PMU) staff; and (v) PMU operation cost from the ADB loan. The Government of Assam finances (i) preconstruction activities including land acquisition and resettlement, utility shifting, tree-cutting, and afforestation program; (ii) the works for road improvement, road safety, and slope protection-cum-water supply facilities; (iii) PMU operation cost; and (iv) financing charge during project implementation.

A. Cost Estimates Preparation and Revisions

8. The cost estimates were prepared by the PWRD. The project cost will be updated during the project implementation based on changing quantities and application of the price escalation clause in the civil works contracts and time-based consulting service contracts.

B. Key Assumptions

9. The following key assumptions underpin the cost estimates and financing plan:

- (i) Exchange rate: ₹75.9682 = \$1.00 (as of 21 March 2022).
- (ii) Physical contingency amount is estimated as 5% of the civil works and construction supervision consulting services.
- (iii) Price contingency amount is determined based on the PWRD's estimate.

C. Detailed Cost Estimates by Expenditure Category

Table 4: Detailed Cost Estimates by Expenditure Category

| | Amount (\$ million) | % of Total Base Cost |
|---|------------------------|-------------------------|
| A. Investment Costs | | |
| 1. Preconstruction activities ^a | 93.83 | 22.59% |
| 2. Civil works | 302.40 | 72.80% |
| 3. Goods | 1.53 | 0.37% |
| 4. Consultants | | |
| a. Construction supervision | 10.02 | 2.41% |
| b. Resettlement plan implementation | 0.97 | 0.23% |
| c. Institutional capacity development | 2.84 | 0.68% |
| d. Road safety | 1.33 | 0.32% |
| e. Financial management | 0.08 | 0.02% |
| f. Internal audit | 0.06 | 0.01% |
| 5. Nonconsulting services | 0.50 | 0.12% |
| Subtotal (A) | 413.56 | 99.56% |
| B. Recurrent Costs | | |
| 1. PMU operation | 1.85 | 0.44% |
| Subtotal (B) | 1.85 | 0.44% |
| Total Base Cost (A+B) | 415.41 | 100.00% |
| C. Contingencies | | |
| 1. Physical | 15.69 | 3.78% |
| 2. Price | 33.41 | 8.04% |
| Subtotal (C) | 49.10 | 11.82% |
| D. Financial Charges During Implementation | | |
| 1. Interest during construction | 34.42 | 8.29% |
| 2. Commitment charges | 1.08 | 0.26% |
| Subtotal (D) | 35.50 | 8.55% |
| Total Project Cost (A+B+C+D) | 500.00 | 120.37% |

PMU = project management unit.

Notes: Numbers may not sum precisely because of rounding.

^a Preconstruction activities include land acquisition and resettlement, utility shifting works, tree-cutting operation, and afforestation.

Sources: Asian Development Bank and Public Works (Roads) Department.

D. Allocation and Withdrawal of Loan Proceeds

Table 5: Allocation and Withdrawal of Loan Proceeds

| CATEGORY | | | ADB FINANCING |
|----------|------------------------|--|---|
| Number | Item | Total Amount Allocated for ADB Financing (\$) | Basis for Withdrawal from the Loan Account |
| 1 | Works | 241,920,000 | 80% of total expenditure claimed* |
| 2 | Goods | 1,530,000 | 100% of total expenditure claimed* |
| 3 | Services | 15,300,000 | 100% of total expenditure claimed* |
| 4 | Nonconsulting services | 500,000 | 80% of total expenditure claimed* |
| 5 | Project management | 1,480,000 | 80% of total expenditure claimed* |
| 6 | Unallocated** | 39,270,000 | |
| | Total | 300,000,000 | |

ADB = Asian Development Bank.

* Inclusive of taxes and duties.

** physical and price contingencies.

Source: Asian Development Bank.

E. Detailed Cost Estimates by Financier

Table 6: Detailed Cost Estimates by Financier

| Item | ADB | | Government | | Total Cost | |
|---|------------------------|-----------------------|------------------------|-----------------------|------------------------|-------------------------------------|
| | Amount (\$ million) | % of Cost Category | Amount (\$ million) | % of Cost Category | Amount (\$ million) | Taxes and Duties (\$ million) |
| | A | A/C | B | B/C | C | D |
| A. Investment Costs | | | | | | |
| 1. Preconstruction activities | 0.00 | 0.00% | 93.83 | 100.00% | 93.83 | 0.00 |
| 2. Civil works | 241.92 | 80.00% | 60.48 | 20.00% | 302.40 | 34.79 |
| 3. Goods | 1.53 | 100.00% | 0.00 | 0.00% | 1.53 | 0.18 |
| 4. Consultants | | | | | | |
| a. Construction supervision | 10.02 | 100.00% | 0.00 | 0.00% | 10.02 | 1.53 |
| b. Resettlement plan implementation | 0.97 | 100.00% | 0.00 | 0.00% | 0.97 | 0.15 |
| c. Institutional capacity development | 2.84 | 100.00% | 0.00 | 0.00% | 2.84 | 0.43 |
| d. Road safety | 1.33 | 100.00% | 0.00 | 0.00% | 1.33 | 0.20 |
| e. Financial management | 0.08 | 100.00% | 0.00 | 0.00% | 0.08 | 0.01 |
| f. Internal audit | 0.06 | 100.00% | 0.00 | 0.00% | 0.06 | 0.01 |
| 5. Nonconsulting services | 0.50 | 100.00% | 0.00 | 0.00% | 0.50 | 0.06 |
| Subtotal (A) | 259.25 | 62.69% | 154.31 | 37.31% | 413.56 | 37.36 |
| B. Recurrent Costs | | | | | | |
| 1. PMU operation | 1.48 | 80.00% | 0.37 | 20.00% | 1.85 | 0.11 |
| Subtotal (B) | 1.48 | 80.00% | 0.37 | 20.00% | 1.85 | 0.11 |
| Total Base Cost | 260.73 | 62.76% | 154.68 | 37.24% | 415.41 | 37.47 |
| C. Contingencies | 39.27 | 80.00% | 9.82 | 20.00% | 49.09 | 5.71 |
| D. Financial Charges During Implementation | 0.00 | 0.00% | 35.50 | 100.00% | 35.50 | 0.00 |
| Total Project Cost (A+B+C+D) | 300.00 | 60.00% | 200.00 | 40.00% | 500.00 | 43.18 |
| % Total Project Cost | | 60.00% | | 40.00% | | |

ADB = Asian Development Bank, PMU = project management unit.

Note: Numbers may not sum precisely because of rounding.

Sources: Asian Development Bank and Public Works (Roads) Department.

F. Detailed Cost Estimates by Outputs

Table 7: Detailed Cost Estimates by Outputs
(\$ million)

| Item | Total Cost | SHs and MDRs Improved | | Institutional Capacity of Assam PWRD Strengthened | | Road Safety Measures on SHs and MDRs in the Project Districts Enhanced | |
|---|---------------|-----------------------|--------------------|---|--------------------|--|--------------------|
| | | Amount | % of Cost Category | Amount | % of Cost Category | Amount | % of Cost Category |
| | | | | | | | |
| A. Investment Costs | | | | | | | |
| 1. Preconstruction activities | 93.83 | 93.83 | 100.0 | 0.00 | 0.0 | 0.00 | 0.0 |
| 2. Civil works | 302.40 | 290.87 | 96.2 | 0.00 | 0.0 | 11.53 | 3.8 |
| 3. Goods | 1.53 | 0.00 | 0.0 | 1.53 | 100.0 | 0.00 | 0.0 |
| 4. Consultants | | | | | | | |
| a. Construction supervision | 10.02 | 10.02 | 100.0 | 0.00 | 0.0 | 0.00 | 0.0 |
| b. Resettlement plan implementation | 0.97 | 0.97 | 100.0 | 0.00 | 0.0 | 0.00 | 0.0 |
| c. Institutional capacity development | 2.84 | 0.00 | 0.0 | 2.84 | 100.0 | 0.00 | 0.0 |
| d. Road safety | 1.33 | 0.00 | 0.0 | 0.00 | 0.0 | 1.33 | 100.0 |
| e. Financial management | 0.08 | 0.03 | 33.3 | 0.03 | 33.3 | 0.03 | 33.3 |
| f. Internal audit | 0.06 | 0.02 | 33.3 | 0.02 | 33.3 | 0.02 | 33.3 |
| 5. Nonconsulting services | 0.50 | 0.00 | 0.0 | 0.50 | 100.0 | 0.00 | 0.0 |
| Subtotal (A) | 413.56 | 395.74 | 95.7 | 4.92 | 1.2 | 12.91 | 3.1 |
| B. Recurrent Costs | | | | | | | |
| 1. PMU operation | 1.85 | 0.62 | 33.3 | 0.62 | 33.3 | 0.62 | 33.3 |
| Subtotal (B) | 1.85 | 0.62 | 33.3 | 0.62 | 33.3 | 0.62 | 33.3 |
| Total Base Cost | 415.41 | 396.36 | 95.4 | 5.54 | 1.3 | 13.53 | 3.3 |
| C. Contingencies | | | | | | | |
| 1. Physical ^a | 15.69 | 15.05 | 95.9 | 0.00 | 0.0 | 0.64 | 4.1 |
| 2. Price ^b | 33.41 | 31.91 | 95.5 | 0.43 | 1.3 | 1.07 | 3.2 |
| Subtotal(C) | 49.10 | 46.96 | 95.6 | 0.43 | 0.9 | 1.71 | 3.5 |
| D. Financial Charges During Implementation | | | | | | | |
| 1. Interest during construction | 34.42 | 32.89 | 95.6 | 0.44 | 1.3 | 1.09 | 3.2 |
| 2. Commitment charges | 1.08 | 1.03 | 95.4 | 0.01 | 0.9 | 0.03 | 2.8 |
| Subtotal (D) | 35.50 | 33.92 | 95.5 | 0.45 | 1.3 | 1.12 | 3.2 |
| Total Project Cost (A+B+C+D) | 500.00 | 477.24 | 95.4 | 6.42 | 1.3 | 16.36 | 3.3 |

MDR = major district highway, PMU = project management unit, PWRD = Public Works (Roads) Department, SH = state highway.

Note: Numbers may not sum precisely because of rounding.

^a Computed as 5% of the base cost for civil works, construction supervision consulting services, and road safety consulting services.

^b Estimated by PWRD.

Sources: Asian Development Bank and Public Works (Roads) Department.

G. Detailed Cost Estimates by Year

Table 8: Detailed Cost Estimates by Year
(\$ million)

| Item | Total Cost | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
|---|---------------|--------------|--------------|--------------|---------------|---------------|--------------|--------------|
| A. Investment Costs | | | | | | | | |
| 1. Preconstruction activities | 93.83 | 46.92 | 37.53 | 9.38 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2. Civil works | 302.40 | 29.09 | 21.82 | 59.33 | 95.33 | 96.84 | 0.00 | 0.00 |
| 3. Goods | 1.50 | 0.00 | 0.46 | 0.46 | 0.31 | 0.31 | 0.00 | 0.00 |
| 4. Consultants | | | | | | | | |
| a. Construction supervision | 10.02 | 1.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 0.00 |
| b. Resettlement plan implementation | 0.97 | 0.09 | 0.35 | 0.35 | 0.18 | 0.00 | 0.00 | 0.00 |
| c. Institutional capacity development | 2.84 | 0.00 | 0.85 | 0.85 | 0.57 | 0.57 | 0.00 | 0.00 |
| d. Road safety | 1.33 | 0.00 | 0.27 | 0.40 | 0.40 | 0.27 | 0.00 | 0.00 |
| e. Financial management | 0.08 | 0.00 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.00 |
| f. Internal audit | 0.06 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 |
| 5. Nonconsulting services | 0.50 | 0.00 | 0.25 | 0.00 | 0.25 | 0.00 | 0.00 | 0.00 |
| Subtotal (A) | 413.56 | 77.09 | 63.55 | 72.80 | 99.06 | 100.01 | 1.03 | 0.00 |
| B. Recurrent Costs | | | | | | | | |
| 1. PMU operation | 1.85 | 0.14 | 0.29 | 0.29 | 0.29 | 0.29 | 0.29 | 0.28 |
| Subtotal (B) | 1.85 | 0.14 | 0.29 | 0.29 | 0.29 | 0.29 | 0.29 | 0.28 |
| Total Base Cost | 415.41 | 77.23 | 63.84 | 73.09 | 99.35 | 100.30 | 1.32 | 0.28 |
| C. Contingencies | 49.10 | 0.00 | 0.00 | 0.00 | 0.00 | 11.18 | 19.64 | 18.27 |
| D. Financial Charges During Implementation | 35.50 | 0.00 | 1.35 | 3.00 | 4.87 | 7.04 | 8.31 | 10.94 |
| Total Project Cost (A+B+C+D) | 500.00 | 77.23 | 65.19 | 76.08 | 104.21 | 118.52 | 29.26 | 29.50 |
| % Total Project Cost | 100% | 15.4% | 13.0% | 15.2% | 20.8% | 23.7% | 5.9% | 5.9% |

PMU = project management unit.

Note: Numbers may not sum precisely because of rounding.

Source: Asian Development Bank and Public Works (Roads) Department.

H. Contract and Disbursement S-Curve

Table 9: Contract and Disbursement Projections for OCR Loan
(\$ million)

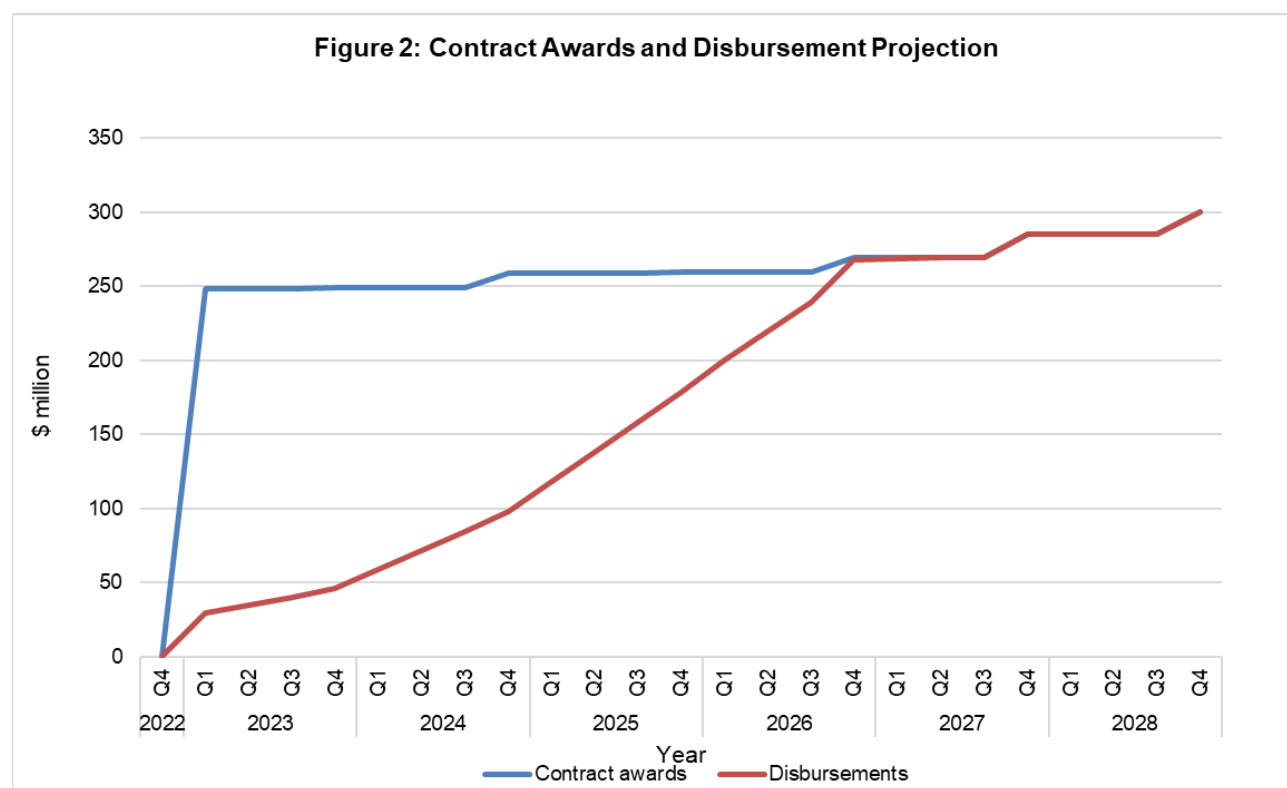
| Contract Award Projection | Q1 | Q2 | Q3 | Q4 | Total |
|----------------------------------|-----------|-----------|-----------|-----------|--------------|
| 2023 | 248.00 | 0.00 | 0.00 | 1.05 | 249.05 |
| 2024 | 0.00 | 0.00 | 0.00 | 9.91 | 9.91 |
| 2025 | 0.00 | 0.00 | 0.00 | 0.78 | 0.78 |
| 2026 | 0.00 | 0.00 | 0.00 | 9.48 | 9.48 |
| 2027 | 0.00 | 0.00 | 0.00 | 15.94 | 15.94 |
| 2028 | 0.00 | 0.00 | 0.00 | 14.84 | 14.84 |

| Disbursement Projection | Q1 | Q2 | Q3 | Q4 | Total |
|--------------------------------|-----------|-----------|-----------|-----------|--------------|
| 2023 | 29.77 | 5.30 | 5.30 | 5.30 | 46.36 |
| 2024 | 12.60 | 12.60 | 12.60 | 13.98 | 51.78 |
| 2025 | 19.96 | 19.96 | 19.87 | 20.43 | 80.22 |
| 2026 | 21.59 | 19.75 | 19.61 | 28.87 | 89.82 |
| 2027 | 0.56 | 0.56 | 0.06 | 15.80 | 16.98 |
| 2028 | 0.06 | 0.06 | 0.06 | 14.66 | 14.84 |

OCR = ordinary capital resources, Q = quarter.

Note: Numbers may not sum precisely because of rounding.

Source: Asian Development Bank.

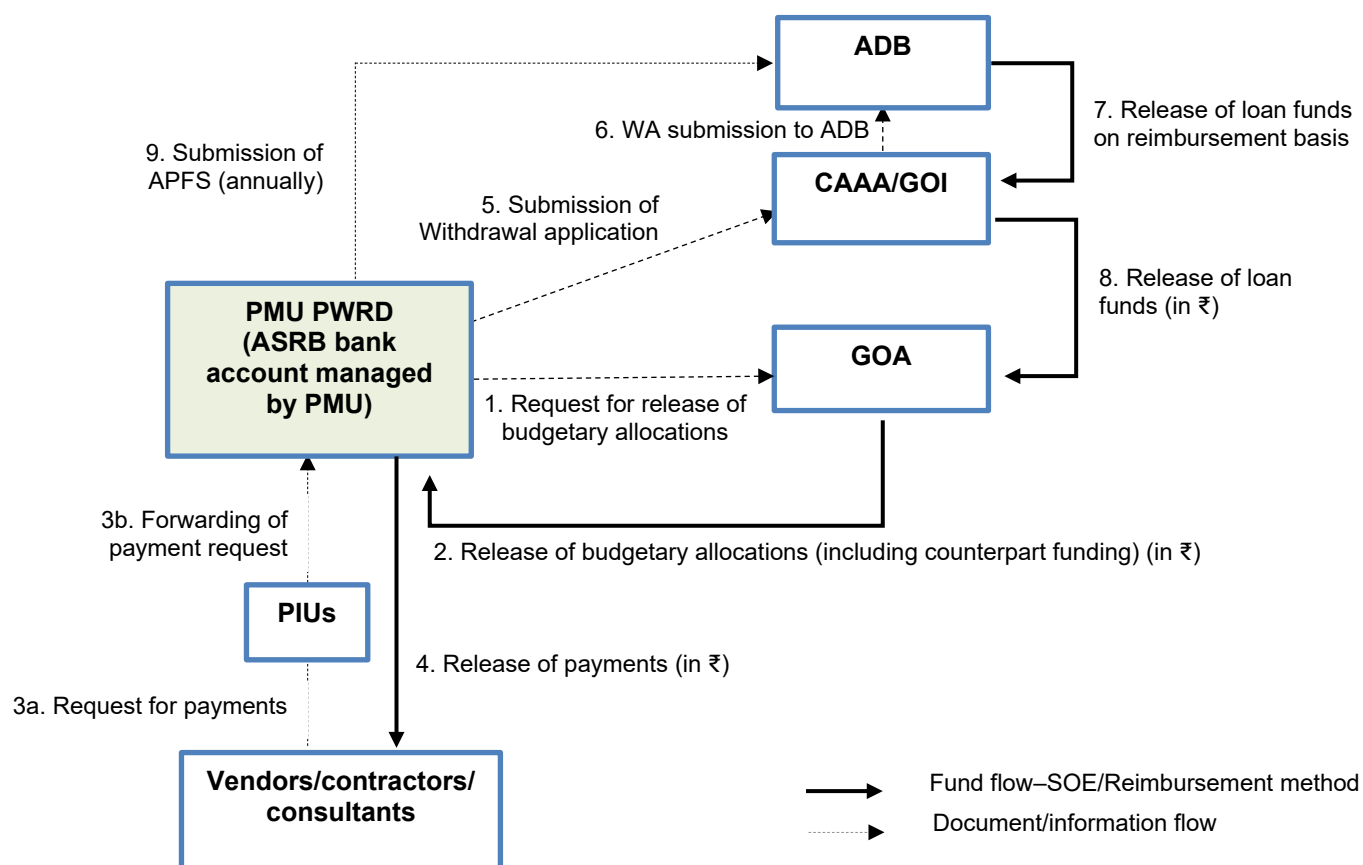


Q = quarter.

Source: Asian Development Bank estimates.

I. Fund Flow Diagram

Figure 3: Fund Flow Diagram



ADB = Asian Development Bank, APFS = audited project financial statements, ASRB = Assam State Road Board, CAAA = controller of aid accounts and audit agency, GOA = Government of Assam, GOI = Government of India, PIU = project implementation unit, PMU = project monitoring unit, PWRD = Public Works (Roads) Department, SOE = statement of expenditures, WA = withdrawal application.

Note: Numbers represent the order of the sequence of events.

Source: Asian Development Bank.

V. FINANCIAL MANAGEMENT

A. Financial Management Assessment

10. The financial management assessment was completed in July 2022 in accordance with ADB's Guidelines for the Financial Management and Analysis of Projects and the Financial Due Diligence: A Methodology Note.⁶ The assessment considered the financial management capacity of (i) the Assam PWRD (the executing agency); (ii) the Assam State Road Board (ASRB), a registered society formed under the PWRD through which project fund flow will be implemented; (iii) the PMU; and (iv) fund flow arrangements, staffing, accounting and financial reporting systems, financial information systems, and internal and external auditing arrangements. Based on the assessment, it was concluded that the PWRD has adequate financial management capacity to (i) record the required financial transactions, (ii) provide reliable annual financial statements and audit reports, (iii) safeguard the financial assets, and (iv) administer the statement of expenditure (SOE) procedure in accordance with ADB's disbursement procedures. The key financial management risks identified are (i) lack of experience of the PMU in implementing ADB-funded projects (although the PWRD has significant experience), (ii) delays in submission of audited project financial statements (APFS) of existing projects, (iii) absence of the internal audit function, and (iv) updates required for the project financial management manual. It is concluded that the overall pre-mitigation financial management risk of the PWRD is *substantial*. The PWRD has agreed a comprehensive financial management action plan is required to address the identified weaknesses. The key mitigation measures agreed with the PWRD include (i) training of the PWRD accounting staff and hiring of a chartered accountant firm to support the PMU accounting staff, (ii) submission of APFS on timely basis, (iii) hiring of a chartered accountant firm for conducting internal audits of the project, and (iv) preparation and implementation of an accounting and financial management manual. The risk management assessment is in Table 9 and the financial management action plan is provided in Table 10.

Table 10: Financial Management and Internal Control Risk Assessment

| Risk Description | Risk Assessment | Risk Mitigation Measures |
|---|-----------------|------------------------------------|
| Inherent Risk | | |
| 1. Country specific risks Strong public financial management is one of the key elements of the Government of India's strategy for strengthening governance, optimizing outputs from public resources, and ensuring inclusive and broad-based development. The 2010 Public Financial Management Performance Assessment Report for India identified that the public financial management system is well structured but unevenly implemented. The 2018–2022 country partnership strategy for India of the Asian Development Bank (ADB) notes that public financial management at the state needs to be improved to facilitate the | Moderate | No specific measures are required. |

⁶ ADB. 2019. [Financial Analysis and Evaluation](#). Manila; and ADB. 2015. [Financial Management Assessment](#). Manila.

| Risk Description | Risk Assessment | Risk Mitigation Measures |
|--|--------------------|--|
| strategic pillar of providing inclusive network infrastructure and services. | | |
| <p>2. Entity specific risks The project management unit (PMU) does not have direct experience in implementing ADB projects and is not conversant with disbursement and procurement processes and procedures of ADB.</p> <p>In the previous ADB-funded multitranche financing facility (MFF) for the North Eastern State Roads Investment Program (NESRIP) implemented by the PWRD, there have been some delays of up to 2.2 months in the submission of audited project financial statements (APFS) and qualified audit opinions.⁷</p> | Substantial | <p>The Assam Public Works (Roads) Department (PWRD) has extensive experience in implementing projects funded by development partners including ADB, the New Development Bank (NDB), and the World Bank. Organizing knowledge sharing with the PMU will mitigate this risk to a large extent.</p> <p>Generally, project accounts are audited in a timely manner. Separate bank accounts and accounting for projects ensure that project funds are ring-fenced and used only for the intended purpose. Delays in submission of the latest project financials were attributable to COVID-19 related challenges.</p> <p>Trainings of finance staff in the PMU with respect to ADB's financial management, disbursement, and procurement requirements will be provided at project inception as well as on an annual basis. The PWRD will engage a chartered accountant firm to assist the PMU in the timely preparation and submission of the APFS.</p> |
| <p>3. Project-specific risks Geographical spread of the project may pose operational and monitoring challenges.</p> | Moderate | <p>The PWRD has established an adequate project implementation structure comprising the PMU headed by the Chief Engineer and 11 project implementation units (PIU) across the project implementation locations. The project financial management will be managed centrally through the PMU. Appropriate financial management staff for project implementation is already in place. The PWRD will ensure retention of qualified and experienced staff for project implementation.</p> |
| Overall Inherent Risk | Substantial | |
| Control Risk | | |
| <p>1. Fund flow Timely release of counterpart and ADB funds to the project may not take place.</p> | Moderate | <p>There have been delays in release of funds under the ADB-funded NESRIP project. However, NESRIP was implemented through the Ministry of Development of North Eastern Region (MDONER) and project funds were routed through the state treasury, resulting in a complex process and delays. For this project, the funds will flow to the project</p> |

⁷ The executing agency for the NESRIP was the Ministry of Development of North Eastern Region (MDONER), and the implementing agencies were the Governments of Assam, Manipur, Meghalaya, Mizoram, Sikkim, and Tripura. This implementation structure of NESRIP delayed APFS submission. The implementation structure of this project is completely different. The PMU for this project was not involved in NESRIP.

| Risk Description | Risk Assessment | Risk Mitigation Measures |
|--|-----------------|---|
| | | <p>directly from the state government to a project-specific bank account under a non-lapsable budget mechanism. Project funds will be deposited by the Government of Assam (GOA) in the project savings bank account, maintained under the Assam State Road Board (ASRB). The Chief Engineer, PWRD (Externally Aided Project [EAP]), acting as the Project Director (PD), will be the drawing and disbursement officer (DDO) and will authorize payments under the project from the project bank account. All payments and accounting and auditing activities will be carried out centrally and only through this single dedicated bank, with no sub-accounts for the project. The PWRD is following similar fund-flow arrangements for the government-funded Pradhan Mantri Gram Sarak Yojana (PMGSY) and NDB-funded project, which result in efficient fund availability and payments.</p> <p>The project will receive funds through state budgetary allocations in advance in a dedicated project bank account. The GOA will provide assurance for adequate budgetary allocation and timely release of project funds. Below is a summary of budget allocations for the project:</p> <ul style="list-style-type: none"> • FY2022: Budget allocation ₹1,300,000,000, funds released ₹895,000,000, unutilized balance as at 31 March 2022 (non-lapsable) ₹150,000,000. • FY2023: Budget allocation ₹450,000,000 (in addition to ₹150,000,000 unutilized from FY2022). |
| <p>2. Staffing The PMU staff should include dedicated and qualified finance and accounting staff with accounting experience. These personnel should be retained in the PMU to the longest extent possible. The PMU is common for all externally funded projects. Availability of qualified staff for the project may face critical constraints.</p> | Substantial | <p>The PMU's accounts function comprises two deputy accounts officers (DAO), supported by a senior assistant. These officials are from the Assam Works Accounts cadre group under the Finance Department of the GOA and have experience in projects funded by ADB, NDB, and the World Bank. The PWRD will limit changes to PMU staff throughout project implementation, and will provide orientation programs to new staff in case of changes/transfers. The PWRD will ensure that the staff strength is enhanced in case there are multiple projects being implemented through the common PMU.</p> <p>In addition, the PMU will hire a chartered accountant firm to supplement the PMU staff.</p> |

| Risk Description | Risk Assessment | Risk Mitigation Measures |
|---|-----------------|--|
| | | The firm will be responsible for providing support in project accounting, financial reporting, preparation of project-specific policies and procedures, and capacity building of the PMU staff. |
| 3. Accounting policies and procedures Appropriate accounting policies and procedures, including robust chart of accounts, might not be in place. | Substantial | <p>A project financial management manual was prepared under the World Bank-funded project, which will be further enhanced to include project-specific financial management requirements of ADB and other funded projects of development partners.</p> <p>The PWRD will update the existing chart of accounts to facilitate preparation of separate project financial statements in accordance with ADB's requirements.</p> |
| 4. Payments There may be delays in releasing the payments to the contractors. | Moderate | <p>All the payments will be managed centrally through a dedicated project bank account. The PMU is following similar arrangements under existing projects and there have been no significant delays in payments to contractors. There were some delays in payments to contractors under the World Bank-funded project in the last year of project implementation. However, these were non-recurrent and the PWRD has assured releasing payments on timely basis.</p> <p>Information from measurement surveys is recorded online. Project supervision consultants prepare monthly statements of works based on measurement surveys and issue payment certificates to the office of the executive engineer at the concerned division office. After necessary scrutiny and verification, the payment certificates are manually forwarded to the office of the Chief Engineer for release of payment. The ASRB should consider automation of payment information flow between the PIU and the contractors.</p> |
| 5. Fixed asset management Roads and bridges being constructed are the primary assets owned and/or operated by the PMU. After construction, these roads and bridges are handed back to the concerned PWRD divisions. There is no exhaustive procedure on recording of assets during project implementation and handing over to the PWRD. | Moderate | The PMU will maintain an asset register for all the project assets. The asset register will include the particulars, area, dimensions, location, cost, and useful life of each project asset for effective control and oversight. Detailed policy, procedures, and template for the asset register will be included in the updated project financial management manual. |
| 6. Internal audit There is no internal audit function at the PMU/PWRD. | Substantial | The PMU will appoint a professional internal audit firm. The appointed firm will conduct the internal audit of the project and its |

| Risk Description | Risk Assessment | Risk Mitigation Measures |
|---|------------------------|---|
| | | accounting procedures on regular basis. The internal audit firm will submit semiannual internal audit reports to the Chief Engineer, PWRD (EAP). |
| 7. External audit The audits of project financial statements might not be completed on timely basis. | Moderate | The PMU will prepare separate project financial statements for the project following the reporting templates agreed between ADB, the Comptroller and Auditor General (CAG), and the Department of Economic Affairs (DEA). The PWRD will cause the project financial statements to be audited separately by the Auditor General (Assam) or by a CAG-empaneled chartered accountant firm, based on the audit terms of reference (TOR) agreed between ADB, CAG, and the DEA within the prescribed timelines. |
| 8. Reporting and monitoring Appropriate financial information might not be included in the progress reports. | Moderate | The PMU will include comprehensive information on physical and financial progress in quarterly progress reports to be submitted to ADB. |
| 9. Information systems Project accounts are recorded and maintained in a commercially available accounting and financial management software-Tally enterprise resource planning (ERP) in the PMU. | Moderate | A chartered accountant firm has already been appointed by the PMU for maintaining the financial management system. The chartered accountant firm to be hired under the project will manage the accounting system for the project. |
| Overall Control Risk | Substantial | |
| Overall (Combined) Risk | Substantial | |

Source: Asian Development Bank.

Table 11: Financial Management Action Plan

| No. | Risk Area | Action | Responsibility | Time line |
|------------|---------------------------------|--|-----------------------|---|
| 1. | Staffing capacity building | Provide training to the PWRD staff on ADB's financial management requirements, disbursement procedures, and auditing. Prepare a training plan for the finance and accounting staff in the PMU. | ADB PWRD | Within six months of loan effectiveness By 31 January 2023 |
| 2. | Financial management consultant | Appoint a chartered accountant firm to assist the PMU in the financial management of the project. The outlined TORs of the chartered accountant firm are attached in Appendix F-5. | PWRD | By 31 January 2023 |
| 3. | Financial management manual | Update the project financial management manual to address ADB (and other development partners) financial management and reporting requirements, including policy and procedures on fixed assets management, update of chart of | PWRD/PMU | By 31 March 2023 |

| No. | Risk Area | Action | Responsibility | Time line |
|-----|-------------------------|--|----------------|---|
| | | <p>accounts to properly record project funds in accordance with source of funding, progress reporting, etc.</p> <p>Maintain an asset register for all the project assets. The asset register will also include particulars of roads and bridges, area, dimension, location, cost, and life, for effective control and supervision.</p> | | Throughout the project implementation period |
| 4. | Timely release of funds | ADB disbursement will follow the ADB reimbursement procedure. Timely availability of funds will be ensured with proper annual budgeting for implementing the proposed fund flow arrangements. The PWRD will be responsible for submitting detailed budget proposals based on the project workplan on annual basis. The PWRD and GOA will ensure adequate budgetary allocations and timely release of funds for the project on annual basis. | GOA, PWRD | Throughout the project period |
| 5. | Internal audit | <p>A chartered accountant firm, independent of any firm and/or individuals responsible for accounting and confirming of the project, will be engaged to conduct internal audits and reporting to the Chief Engineer PWRD (EAP) within 45 days after the end of the reporting period. The internal audit to be performed in accordance with the TOR is attached in Appendix F-6.</p> <p>ADB will conduct training session for the PWRD's accounting staff to help them streamline the internal audit function and design a more independent reporting structure for the function.</p> | PWRD/PMU | <p>Hiring of internal audit firm by 31 March 2023</p> <p>Conduct internal audit on semiannual basis throughout the project period</p> |
| 6. | Audit and/or reporting | <p>Submit audited project financial statements audited annually by an Auditor General (Assam) or a CAG-empaneled chartered accounting firm, within 6 months from the end of the relevant financial year. The APFS will be prepared in accordance with the Audit Terms of References for audit of ADB-assisted projects, agreed with the CAG, the DEA, and ADB.</p> <p>Respond and address comments of the auditors in reasonable time. Keep a track record of all the audit observations, resolved and pending.</p> | PWRD/PMU | Throughout the project implementation period |

| No. | Risk Area | Action | Responsibility | Time line |
|-----|-----------|---|----------------|--|
| 7. | Reporting | Submit quarterly progress reports to ADB. Reports will include comprehensive information on the physical and financial progress of the project. A template for reporting financial information in the quarterly progress reports is included in Appendix D. | PWRD/PMU | Throughout the project implementation period |

ADB = Asian Development Bank, CAG = Comptroller and Auditor General, DEA = Department of Economic Affairs, EAP = externally assisted project, GOA = Government of Assam, PMU = project management unit, PWRD = Public Works (Roads) Department, TOR = terms of reference.

Source: Asian Development Bank.

B. Disbursement

1. Disbursement Arrangements for ADB Funds

11. The loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2017, as amended from time to time),⁸ and detailed arrangements agreed upon between the government and ADB. Online training for project staff on disbursement policies and procedures is available.⁹ Project staff are encouraged to avail of this training to help ensure efficient disbursement and fiduciary control. ADB's reimbursement method will be used where available. The PWRD will be responsible for (i) preparing disbursement projections, (ii) requesting budgetary allocations for counterpart funds, (iii) collecting supporting documents, and (iv) preparing withdrawal applications.

12. **Statement of expenditure procedure.**¹⁰ The statement of expenditure (SOE) procedure may be used for reimbursement of eligible expenditures. The ceiling of the SOE procedure is \$200,000. Supporting documents and records for the expenditures claimed under the SOE should be maintained and made readily available for review by ADB's disbursement and review missions, upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit.

13. Before the submission of the first withdrawal application, the borrower should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the government, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application is stipulated in the *Loan Disbursement Handbook* (2017, as amended from time to time). Individual payments below such amount should be paid by the PWRD and subsequently claimed to ADB through reimbursement, unless otherwise accepted by ADB. The borrower should ensure sufficient category and contract balances before requesting disbursements. Use of ADB's Client Portal for Disbursements (CPD) system is mandatory for submission of withdrawal applications to ADB.¹¹

⁸ The handbook is available electronically from the ADB website. <http://www.adb.org/documents/loan-disbursement-handbook>.

⁹ Disbursement eLearning. http://wpqr4.adb.org/disbursement_elearning.

¹⁰ Statement of expenditure forms are available in Appendix 7B and 7D of ADB's *Loan Disbursement Handbook* (2017, as amended from time to time).

¹¹ The CPD facilitates online submission of withdrawal applications to ADB, resulting in faster disbursement. The forms to be completed by the borrower are available online at <https://www.adb.org/documents/client-portal-disbursements-guide>.

2. Disbursement Arrangements for Counterpart Fund

14. The PWRD will prepare annual project budgets (including counterpart funding) based on the previous year's expenditure and budgeted figures and works planned during the ensuing year. The annual budget will be approved by the PWRD and sent to the Finance Department, Government of Assam. After necessary due diligence, allocation for the PWRD will be provided in the state government budget. The Chief Engineer (EAP) will release payment (together for the loan component and counterpart funding) from the project bank account to the beneficiaries after verification of the payment certificates, in accordance with the contractual terms.

C. Financial Management Arrangements

15. **Financial management capacity enhancement plan.** To ensure sufficient knowledge about ADB's financial management requirements, including procedures and related systems, the PWRD will ensure that each financial and accounts resource assigned to the project undertakes the following actions within the first 3 months of their assignment to the project:

- (i) Familiarize with the anticorruption policy and whistleblowing mechanisms of the national government and ADB.
- (ii) Obtain copies and develop understanding of project legal agreements including the financial covenants, relevant sections of this project administration manual, and the ADB *Loan Disbursement Handbook*.
- (iii) Obtain user and/or reader rights (as required) to ADB's systems including the CPD and the Loan Financial information System.
- (iv) Familiarize with ADB's reporting requirements including the agreed format for project financial statements and audit terms of references for the audit of ADB-assisted projects, agreed with the CAG, the DEA, and ADB.

16. In addition, the PWRD should on a yearly basis liaise with ADB to take advantage of other financial management resources and training events organized by ADB, especially in the first 2 years of project implementation.

17. **Accounting and financial reporting.** The PWRD will maintain, or cause to be maintained, separate books and records by funding source for all expenditures incurred on the project following cash-based accounting principles and practices prescribed by the Government of India's accounting laws and regulations.¹² The PWRD will prepare project financial statements in accordance with the government's accounting laws and regulations that are consistent with international accounting principles and practices. Project financial statements shall include at a minimum a statement of receipts and payments with accompanying notes and schedules. The PWRD will prepare project financial statements in accordance with government regulations and following the financial statements template provided in the Standardized Terms of Reference for audit of ADB-assisted projects, agreed with the CAG of India, the DEA, and ADB. Accordingly, the expected disclosures in the project financial statements should include the following:

- (i) Statement of cash receipts (by financing source: ADB loan and GOA) and payments (by expenditure category) for the current reporting period, past reporting period, and cumulative to date.
- (ii) Statement of expenditure by category and financier for the year and/or period end.
- (iii) Statement of advance sub-account.

¹² Government laws and regulations and following Indian Generally Accepted Accounting Principles.

- (iv) Statement of disbursement, disclosing all funds claimed from ADB by disbursement method, total expenditure claimed for the current reporting period, past reporting period, and cumulative to date. The notes of the financial statements should include a detailed list of all withdrawal applications submitted to, and the amounts paid by ADB as follows: (a) withdrawal application number; (b) the amount claimed and currency; (c) time period in which expenditures were incurred; (d) date submitted; (e) disbursement method; and (f) the amount disbursed by ADB.
- (v) Disbursement claimed under SOE procedure for the reporting period.
- (vi) Statement of appropriation vs. actual expenditures. Any significant variances must be duly explained.
- (vii) Expenditure by output/components for the current reporting period, past reporting period, and cumulative to date.
- (viii) Notes to the financial statements disclosing the used accounting standards and policies and other relevant information and explanations.

18. The expenditure categories and outputs used in the financial reports will be aligned with the expenditure categories of the project administration manual (PAM).

19. **Financial information in quarterly progress reports.** To provide timely information on the project's financial progress and the status of financial management to the project management, the PWRD will ensure that the detailed financial information is included in the quarterly progress reports (QPR) to be submitted to ADB within 45 days after the end of the quarter. The information will include at least the following:

- (i) Cumulative contract awards financed by the ADB loan, and counterpart funds (commitment of funds to date), and comparison with time-bound projections (compare actual contract awards with the contract award curve included in the PAM). Any significant variances between planned and actual contract awards are to be explained.
- (ii) Cumulative disbursements from the ADB loan, and counterpart funds (expenditure to date), and comparison with time-bound projections. Any significant variances between planned and actual disbursements are to be explained.
- (iii) Re-estimated costs to completion, need for reallocation within ADB loan, and whether an overall project cost overrun is likely.
- (iv) Reconciliation of project records and ADB disbursement records for the ADB loan for the financial year to date and cumulative from project inception to the end of the reporting period. Any discrepancies and outlined follow-up actions required are to be explained.
- (v) Variance analysis including budget vs. actual expenditures and physical vs. financial progress, with significant deviations explained.
- (vi) Summary of the status of financial covenants (if any) as outlined in the legal agreement.
- (vii) Summary of the status of financial management in the project including (a) any problems in the existing financial management arrangements and /or flow of funds, and (b) any significant changes that occurred during the reporting period (e.g. financial management staff turnover, implementation of new financial systems, emerging financial management related risks, etc.).
- (viii) Summary of the status of (a) the financial management action plan outlined in the PAM, (b) recommendations and actions raised by ADB as part of the audited

- project financial statements (APFS) review (if any), and (c) financial management related recommendations agreed during ADB review missions (if any).
- (ix) Summary of the status of past audit observations (resolved and/or pending).

20. Detailed financial reports may be included as an annex to the progress report as agreed with ADB. The sample template for the financial information to be included in the quarterly progress report is included as Appendix B.

21. To ensure the correctness and completeness of the project's disbursement records, the PWRD will conduct quarterly reconciliation of the project accounts, and ADB's disbursement data available in the Loan Financial Information System (LFIS). Any discrepancies and/or reconciliation items will be promptly followed up on to ensure these are resolved in a prompt manner. The differences between amounts claimed and the amounts disbursed will be disclosed and explained in the withdrawal application register, in the quarterly progress reports, and in the notes of the project financial statements.

D. Auditing and Public Disclosure

22. The PWRD will cause the detailed project financial statements to be audited by an independent auditor¹³ acceptable to ADB and in accordance with the International Standards on Auditing (ISA) or national equivalents¹⁴ and the audit TORs agreed between ADB, CAG, and DEA. The audited project financial statements together with the auditor's opinion will be presented by the PWRD in the English language to ADB within 6 months from the end of the fiscal year.

23. The audit report for the project financial statements will include a management letter and auditor's opinions that will cover (i) whether the project financial statements present an accurate and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting standards; (ii) whether the proceeds of the loan were used only for the purpose(s) of the project; and (iii) whether the borrower or executing agency was in compliance with the financial covenants contained in the legal agreements (where applicable). The annual project financial statements should include withdrawal application-wise reconciliation between amounts reported in the project financial statements and disbursement amounts appearing in the LFIS of ADB. The LFIS can be accessed online and ADB will provide access to project staff on request. The audit report must also be accompanied by a management letter containing audit observations and recommendations for improvements in internal control and other matters coming to the attention of the auditor during the audit examination. The management letter should also include management's response to the audit observations. From the second year onward, the management letter must also include a follow-up on previous years of audit observations. In case the auditor does not issue a management letter, the auditor must issue a written confirmation that no internal control issues were identified as part of the audit.

24. Compliance with financial reporting and auditing requirements will be monitored by review missions and during normal program supervision, and followed up regularly with all concerned, including the external auditor.

25. The government and the PWRD have been made aware of ADB's approach to delayed submission, and the requirements for satisfactory and acceptable quality of the audited project

¹³ CAG through Accountant General (Assam) or a chartered accountant firm empaneled by CAG.

¹⁴ Audit standards promulgated by the CAG or the Institute of Chartered Accountants of India (ICAI).

financial statements.¹⁵ ADB reserves the right to require a change in the auditor (in a manner consistent with the Constitution of the borrower), or for additional support to be provided to the auditor, if the audits required are not conducted in a manner satisfactory to ADB, or if the audits are substantially delayed. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

26. Public disclosure of the audited project financial statements, including the auditor's opinion on the project financial statements, will be guided by ADB's Access to Information Policy 2018.¹⁶ After the review, ADB will disclose the audited project financial statements and the opinion of the auditors on the project financial statements no later than 14 days of ADB's confirmation of their acceptability by posting them on ADB's website. The management letter, additional auditor's opinions, and audited entity financial statements will not be disclosed.¹⁷

VI. PROCUREMENT AND CONSULTING SERVICES

A. Advance Contracting and Retroactive Financing

27. All advance contracting and retroactive financing will be undertaken in conformity with the ADB Procurement Policy (2017, as amended from time to time) and the Procurement Regulations for ADB Borrowers (2017, as amended from time to time). The issuance of request for proposals and invitations to bid under advance contracting and retroactive financing will be subject to ADB approval. The borrower, PWRD, has been advised that approval of advance contracting and retroactive financing does not commit ADB to finance the project.

28. **Advance contracting.** Advance action is utilized for procurement of works and consulting services. The steps to be concluded in advance are (i) bidding process of works including preparation of the bidding documents, call for bidding, and evaluation of bids; and (ii) recruitment of consultants including request for expression of interest, shortlisting, issuance of request for proposal to the shortlisted consultants, and evaluation of proposals.

29. **Retroactive financing.** ADB will retroactively finance up to \$60.0 million, the equivalent of 20% of the total ADB loan for the project part, incurred before loan effectiveness, but not more than 12 months before the signing of the loan agreement, for eligible expenditures of works,

¹⁵ ADB's approach and procedures regarding delayed submission of audited project financial statements (APFS):

(i) When the APFS is not received by the due date, ADB will notify the noncompliant executing and implementing agencies, with a copy to the borrower's representative (usually the Ministry of Finance), that the APFS was not submitted by the due date. The notice will include a statement that the APFS should be submitted within 6 months of the due date, failing which ADB will be constrained to withhold (a) requests for new contract awards, replenishments to the advance fund, the processing of new reimbursement claims, and the issuance of new commitment letters; (b) the extension of the loan closing date; and (c) the submission of new loan proposals for approval by the ADB Board of Directors or Management.

(ii) When the APFS is not received within 6 months after the due date, ADB will withhold advances and replenishments to the advance fund, the processing of new reimbursement claims, the issuance of new commitment letters, and approval of new contract awards. ADB will notify the borrower's representative (usually the Ministry of Finance) that noncompliance within the next 6 months may result in loan suspension, and delay the negotiation or Board presentation of new loans where the defaulting executing and/or implementing agency is a participant and deny extensions of the closing date for the defaulting executing and/or implementing agency.

(iii) When the APFS is not received within 12 months after the due date, ADB may cancel or suspend the loan.

¹⁶ Access to Information Policy: <https://www.adb.org/documents/access-information-policy>.

¹⁷ This type of information would generally fall under public communications policy exceptions to disclosure. ADB. 2018. *Access to Information Policy*. Paragraph 17.2(iv) and/or 17.2(v).

goods, and consulting services contracts.

B. Procurement of Goods, Works, and Consulting Services

30. All procurement of goods and works will be undertaken in accordance with the ADB Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time).

31. **Value for money.** The strategic procurement planning and project procurement risk assessment were completed in March 2022, in accordance with ADB's Procurement Policy and Regulations. Optimization for value for money is being sought through the strategic procurement planning and risk-managed approach, considering the project's needs and objectives, as follows:

- (i) Contract packages are being procured using the e-procurement system, promoting efficiency, transparency, and lower procurement transaction costs.
- (ii) Procurement is being done through open competitive bidding, with international advertisement, for major contract packages.
- (iii) Civil works packages have been sized to make them attractive to domestic as well as international bidders, enhancing likelihood of highly competitive bidding.
- (iv) Multiple contracts bidding is being done for civil works package, applying aggregated evaluation criteria to seek competitive bid prices and to ensure successful bidders' capability and resources to perform the contracts.
- (v) Following the standard practice in India, single-stage two-envelope procedure is used for procurement of works.
- (vi) All the contracts are being procured following prior review procedure to ensure compliance and to avoid any risks of noncompliance in the procurement process.
- (vii) Civil works have been designed by the PWRD. For additional works related to climate change adoption and disaster prevention, contractors are required to design and construct—which is expected to provide flexibility for innovation and to result in more competitive bid pricing.
- (viii) To highlight the necessity of COVID-19-related health and safety compliance requirements, these requirements are included in the bidding document as well as in the contract conditions.

32. The PWRD uses ADB's standard bidding documents for goods and works. The National Informatic Center-based electronic procurement system—which has been assessed by ADB—will be used in procuring contracts under the project. Open competitive bidding procedures will be used for all goods and works. Bidding for the road improvement works will be internationally advertised. Bidding for construction of slope protection-cum-water supply facilities and road safety works, and goods for information and communication technology equipment, road safety equipment, and road safety patrol vehicles will be nationally advertised. Request for quotations will be used for procurement of goods and works worth less than \$100,000.

33. The works for the road improvement will have a hybrid contract of the construction part and the 5-year performance-based road maintenance part. The maintenance part is not included in the project scope. The first year of the performance-based road maintenance part is the defect notification period of the construction part.

34. An 18-month procurement plan indicating threshold and review procedures, goods, works, and consulting service contract packages and national competitive bidding guidelines is in section C below.

35. All consultants will be recruited according to ADB's Procurement Policy (2017, as amended from time to time) and the Procurement Regulations for ADB Borrowers (2017, as amended from time to time).¹⁸ The terms of reference for all consulting services are detailed in section D below.

36. The PWRD will recruit two international firms as the construction supervision consultant (CSC) and the institutional development consultant (IDC) and four national firms as the resettlement plan implementation consultant (RPIC), the road safety consultant (RSC), financial management consultant (FMC), and internal audit consultant (IAC) by using the ADB ordinary capital resources loan. The time inputs of the consulting services are estimated at 84 person-months for international experts and 4,171 person-months for national experts. The CSC, RPIC, and RSC will be engaged using the quality- and cost-based selection (QCBS) method with a standard quality–cost ratio of 80:20. The IDC will be engaged using the quality-based selection (QBS) method. The FMC and IAC will be engaged using the consultants' qualification selection (CQS) method.

C. Procurement Plan

37. An 18-month procurement plan is in Appendix E.

D. Consultant's Terms of Reference

38. The outlined terms of reference (TOR) for the consulting services are provided in the following appendixes:

- (i) TOR for Construction Supervision Consulting Services: Appendix F-1
- (ii) TOR for Resettlement Plan Implementation Consulting Services: Appendix F-2
- (iii) TOR for Institutional Development Consulting Services: Appendix F-3
- (iv) TOR for Road Safety Consulting Services: Appendix F-4
- (v) TOR for Financial Management Consulting Services: Appendix F-5
- (vi) TOR for Internal Audit Consulting Services: Appendix F-6

VII. SAFEGUARDS

39. **Prohibited investment activities.** Pursuant to ADB's Safeguard Policy Statement (2009), ADB funds may not be applied to the activities described in the ADB Prohibited Investment Activities List set forth at Appendix 5 of the Safeguard Policy Statement (2009).

A. Environment

40. The project will upgrade state highways and major district roads to two-lane standard mostly within existing right-of-way. There are bypasses proposed to avoid densely populated, built-up portions, and realignments to improve road geometry, but these are mainly located within agricultural or barren land. None of the project roads are located within any notified protected area or eco-sensitive zones that would require environmental or wildlife clearance under environmental impact assessment (EIA) notification. However, three roads require forest

¹⁸ Checklists for actions required to contract consultants by method are available in the *e-Handbook on Project Implementation*. <http://www.adb.org/documents/handbooks/project-implementation/>.

diversion. Asian elephant movement has been reported at Komorakata Reserve Forest along A21 at two crossing points identified by the Range Forest Officer. Elevated corridors have been designed along these points to reduce human–elephant conflict and to ensure safe passage of these big mammals. Three other roads are in key biodiversity areas (KBA): (i) A04 is located adjacent to the Tamaranga–Dalani–Bhairab Complex, (ii) A23 terminates at Jatinga and just before Barail Range, and (iii) A26 passes near Son and Bawwa beels and through the Inner line Reserve Forest on one end. None of these KBAs qualified as critical habitat per assessment following the International Finance Corporation’s Performance Standard 6 and its accompanying Guidance Note. However, the golden langur (*Trachypithecus geei*), an endangered primate, endemic to Assam and Bhutan, is a critical habitat qualifying species because of its limited distribution range and considering the two closely located corridors of A03 and A04 falling within it. Road alignments here also mostly follow the existing roads with only minor geometric improvements that are proposed along mainly agricultural lands. Mitigation measures to ensure no negative impacts on these areas occur because of the project have been included in the environment management plans (EMP). Awareness campaigns will also include material on these species and KBAs. PWRD ensures that (a) a detailed site-specific biodiversity action plan is prepared for each project road which delivers no net loss to biodiversity and includes required offsets, based on an assessment of the key biodiversity areas, reserved forests, wildlife crossing points, and protected areas identified in the IEE and the action plan is cleared by ADB prior to commencement of the related Works; (b) no works commences in a key biodiversity area, reserved forest, or identified wildlife crossing point until the respective site-specific biodiversity action plan is incorporated into the related EMP and works contract (as required); and (c) any works within a key biodiversity area, reserved forest, or identified wildlife crossing point are undertaken in accordance with the respective site-specific biodiversity action plan. A biodiversity expert is also included in the construction supervision consultant (CSC) services to guide and refine the implementation of mitigation measures and to monitor their effectiveness.

41. Project impacts are expected to be typical of road construction and largely limited within the subprojects’ footprints. These include dust, noise, and air quality impacts, and occupational and community health and safety, and possible wildlife risks as mentioned above. A consolidated initial environmental examination (IEE) has been prepared assessing all five corridors with contract package-specific environmental management plans, which were reviewed and approved by ADB to be attached to bid documents. Meaningful consultations were held with affected communities and key stakeholders (e.g., forestry officers), and concerns and inputs raised have been considered in the final alignment and road designs. Consultation will continue throughout project implementation. Concerns will be addressed through the project’s grievance redress mechanism notified by the state government. Implementation will be monitored by the PWRD through its dedicated PIUs and will be supported by the CSC. Semiannual monitoring reports will be prepared by the PWRD and submitted to ADB for disclosure, both on the ADB and PWRD websites. Reports will also be disclosed to affected persons, as necessary. Annual monitoring will be done during operation until the project completion report is prepared by ADB.

42. **Project management unit, Public Works (Road) Department.** Overall environment safeguards implementation and compliance will be monitored by the PMU through its environmental safeguards focal person. The Project Director will ensure that adequate staffing and financial resources are available to successfully implement the EMP and environmental monitoring plans (EMOP). The PMU will conduct site visits at a minimum of every 2 months to monitor the progress of works. The PMU will review the consolidated quarterly reports for inclusion in the quarterly progress report, and the semiannual environment safeguards monitoring reports for submission to ADB for disclosure.

43. **Project implementation units.** The PIUs will monitor day-to-day project implementation at the district. Depending on the scope of the subproject in their district, each PIU will have one notified staff to oversee environmental safeguards matters. The PIU environmental safeguards staff will monitor project implementation and will ensure compliance with environmental management plan measures and verify reports prepared by the CSC environmental specialist. Necessary support to secure environmental permits and clearances will also be provided by the PIU to contractors.

44. **Construction supervision consultant.** The construction supervision consultant (CSC) will have three environmental specialists to monitor the EMP and EMOP compliance by the contractor. Monthly progress reports on EMP and EMOP implementation submitted by the contractors will be reviewed and approved by the CSC for review by PIUs and subsequent submission to the PMU. Based on the monthly progress reports and site inspections, the CSC will prepare quarterly monitoring reports for review and approval by the PIU. The quarterly reports will be further compiled by the project implementation consultant into semiannual monitoring reports for review and approval by the PMU and subsequent submission to ADB.

45. **Contractor.** The contractor will prepare and implement the contractor's environmental management plan and EMOP based on the package-specific EMP and EMOP attached to the bidding documents. Qualified environmental health and safety experts will be recruited by the contractor prior to commencement of any civil works and kept throughout the construction period. These personnel will be present in all construction and campsites and ensure proper day-to-day implementation of the EMP. The EMOP will include data collection on air, water, noise, and vibration following protocols as provided in the IEE, to be done by approved laboratories and/or testing centers and verified by the CSC. Monthly and quarterly environmental monitoring reports will be prepared for review and approval by the PIC. The contractor will also coordinate closely with the PIC on climate and disaster risk adaptation measures.

B. Involuntary Resettlement

46. The project minimizes involuntary resettlement impacts by constructing bypasses and realignments in congested areas and by revisiting the proposed right-of-way at some sections of the project roads. Still, about 375.3 hectares of private land and 77.72 hectares of government lands will be required for the six project roads, and about 6,987 households or 35,030 individuals will be affected by land acquisition and resettlement.¹⁹ Among them, there will be significant impact on around 3,414 households (totaling around 15,875 individuals), which is around 48.86% of the total. The significant impact comprises physical displacement of 769 households, economic displacement of 2,559 households, and both physical and economical displacement of 86 households. The PWRD has prepared six resettlement plans following the relevant acts and policy, and ADB's Safeguard Policy Statement (2009).²⁰ The resettlement plans outline the entitlements, summary of public consultations and information disclosure, grievance redress mechanism, and institutional arrangements to ensure orderly implementation. The resettlement plans were prepared based on preliminary resettlement surveys, social assessments, and consultations, and will be updated based on the information gathered during the award inquiry

¹⁹ The numbers of households and individuals are tentative and dynamic by nature; the final numbers will be determined during the award inquiry. The data include households of indigenous peoples.

²⁰ Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act (2013); Direct Purchase Policy of Assam, 2021; Assam Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Rules, 2015; and Resettlement Policy Framework (Addendum) for Assam State Roads Project, February 2018.

phase.²¹ All involuntary resettlement impacts were adequately assessed, and all stakeholders, including affected individuals, were meaningfully consulted. The PWRD is found to have the capacity and the commitment to ensure that land acquisition and resettlement activities are carried out adequately and in accordance with all applicable requirements. Any land acquisition will be independently monitored by an external monitor engaged by the PWRD to validate the implementation of the resettlement plans in accordance with ADB's Safeguard Policy Statement.

C. Indigenous Peoples

47. Around 336.49 hectares of land are owned by tribal communities for the three project roads.²² About 29% (2,041 households) of the project-affected households are tribal households. The major scheduled tribes impacted in the Dima Hasao autonomous district are Dimasas, Khasi-pnars, Khelmas, and Vaipheis. The scheduled tribes in the Karbi Anglong autonomous district are Karbis, Kuki-Chin, and Rengmas, whereas in Chirang, they are mostly the Bodo tribe. An adequate assessment has been done in terms of physical impacts, economic impacts, and cultural impacts, including on the land tenure system. There will be no impact on their cultural or social issues. The impacted people will remain in the same village with the same community. An indigenous peoples plan (IPP) has been prepared including the following development activities: (i) improvement of quality educational facilities in each of the project roads; (ii) provision of community toilets in marketplaces; (iii) water supply to the tribal villages; and (iv) restoration of heritage and development of tourism at Gunjum, Dima Hasao. Disclosure of the IPP on the ADB and PWRD websites and hard copies will be made available in local administration offices in the local language and in English. Institutional capacity building of the PWRD is required for the implementation of the IPP. The resettlement plan implementation consultant will support the IPP implementation as well.

D. Grievance Redress Mechanism

48. The Government of Assam has notified the composition of the grievance redressal committees (GRC) at two levels for the project and other externally aided projects under the PWRD vide Notification DA5R.125/2020/8. Grievances related to the implementation of the project, particularly regarding the environmental management plan, will be acknowledged, evaluated, and responded in a timely manner through the project's grievance redress mechanism (GRM). Response will include corrective actions proposed using easily understandable and transparent processes that are gender responsive, culturally appropriate, and readily accessible to all segments of the affected people. Records of grievances received, corrective actions taken, and their outcomes will be properly maintained through a logbook and, if possible, an electronic database, and form part of the environmental monitoring report to ADB.

49. The GRC will provide an opportunity to affected persons to have their grievances redressed. Depending on the nature and significance of the grievances or complaints, the GRM will comprise procedures to address grievances at the project site, PIU level, or PMU level. Most serious complaints that cannot be addressed at the PIU level will be forwarded to the PMU.

50. Site-level grievance redressal will be primarily handled by the CSC as the mediating party between the contractor and the aggrieved. It is anticipated that most site-level concerns will be

²¹ The information gathered will be finalized in line with the national procedure for land acquisition.

²² The Chapagudi–Amteka road (A03) falls under the Boro Territorial Council of the Chirang district, the Hamren–Howaraghat Tiniali road (A21) falls under the Karbi Anglong Autonomous Hill Council, and the Halflong Tiniali–Lower Halflong road (A23) falls under the Noth Cachhar Hill Council.

easily addressed. All grievances will be logged, and the registry will be maintained at the contractor's office. Monthly grievance reports will be submitted to the CSC as part of monthly progress monitoring. Response time is set at maximum 7 days but would vary depending on the complexity of the grievance reported and the people involved (i.e., many would likely be on the spot response or resolution). It is anticipated that most grievances can be resolved within 24 hours. For grievances that are not readily resolved and involve multiple parties, and require a more technical or specialized assessment and response, the PIU-level GRC will be convened. Grievances that are not acknowledged within 7 days at the PIU can be elevated to the PMU-level GRC. Maximum period for grievance resolution is 30 days for both PIU and PMU levels, in keeping with the Right to Information Act.

51. The GRCs are composed of the following:

PMU Level GRC

| | |
|--|------------------|
| • Chief Engineer (EAP), PWRD Assam | Chairperson |
| • Nodal Officer, Asom Mala/EAP | Member Secretary |
| • PMU Officer, Land Acquisition and Resettlement | Member |
| • PMU Officer, Environment | Member |
| • Local representatives (elected representatives from Panchayat/Zila Parishad/District Council) | Member |
| • PIU representative | Member |
| • Representative from Indigenous People's Community | Member |
| • Representative Forest Department (for grievances related to forest, if any) | Member |
| • Representative from Pollution Control Board (for environmental issues, pollution concerns, if any) | Member |
| • Representative from Disaster Management and Revenue Department (for land acquisition related grievances, if any) | Member |

PIU Level GRC

| | |
|--|------------------|
| • Executive Engineer of concerned division, PWRD | Chairperson |
| • Assistant Executive Engineer (T/C) designated as Resettlement Officer, PIU | Member Secretary |
| • Local representatives (elected representatives from Panchayat/Zila Parishad/District Council) | Member |
| • Women representative from relevant agency | Member |
| • Representative from Vulnerable Affected Persons | Member |
| • Representative from Indigenous People's Community for IP related grievances, if any | Member |
| • Representative of the concerned Deputy Commissioner's Office (for land acquisition related grievances, if any) | Member |
| • Representative from Pollution Control Board (for environmental issues, pollution concerns, if any) | Member |
| • Representative from Disaster Management and Revenue Department (for land acquisition related grievances, if any) | Member |

52. During the preparation of the IEE, or at the latest during the preconstruction stage, the local communities in the project area will be informed by the PIU on the grievance redress

procedure and the contact persons for lodging complaints. Provisions shall also be made for lodging complaints at the respective PIU and PMU offices. Contractors, PIU, and the PWRD will maintain logbooks and/or a database of grievances and will report on formal and informal complaints and feedback received as part of regular safeguards reporting. In case any complaints by the affected person remain unaddressed or addressed unsatisfactorily, he/she is free to access the country's legal system at any time and at any stage although the project's grievance redress mechanism is the preferred route.

53. If the established GRM is not able to resolve a grievance, the affected person can also use the ADB Accountability Mechanism by directly contacting (in writing) the Complaint Receiving Officer at the ADB Headquarters. Before submitting a complaint to the Accountability Mechanism, it is necessary that affected persons make a good faith effort to solve the problem by working with the concerned ADB operations department and/or the resident mission. Only after doing that, and if they are still dissatisfied, will the Accountability Mechanism consider the complaint eligible for review. The complaint can be submitted in any of the official languages of ADB's developing member countries. The ADB Accountability Mechanism information will be included in the project-relevant information to be distributed to the affected communities, as part of the project's grievance redress mechanism.

VIII. GENDER AND SOCIAL DIMENSIONS

54. The project is categorized *effective gender mainstreaming* based on the Guidelines for Gender Mainstreaming Categories of ADB Projects (2012). The key gender issues identified in the project areas include (i) limited mobility and connectivity to nearby markets, villages, urban centers, education institutions, and government service center; (ii) lack of employment and livelihood opportunities because of natural resource constraints; and (iii) limited availability of skilled labor and opportunities for capacity building. The project builds road structures for pedestrians, such as crossings with signals and elevated sidewalks, and public transportation facilities on the project roads, so that women and girls can travel to and from district centers and can walk along the roads safely. Since frequency of public transportation is less in the rural areas, travelers have to wait for long hours. The project will install toilet facilities at major bus stops. The gender equality and social inclusion (GESI) action plan is in Table 12.

55. The PMU will be responsible for implementation and monitoring of the GESI action plan. To oversee and monitor the GESI implementation, a gender focal point will be nominated in the PMU. The project will include and publish gender-specific information and sex-disaggregated data, as relevant. The budget for GESI implementation has been absorbed in cost items for civil works and resettlement implementation.

56. **HIV and human trafficking.** The PMU shall ensure that community awareness campaigns about sexually transmitted infection (STI), including AIDS and human trafficking prevention, will be carried out along the project roads in coordination with existing local programs. Moreover, the PMU shall ensure that the works contracts under the project incorporate provisions that require contractors to (i) carry out STI and/or AIDS awareness programs for labor, and (ii) disseminate information at worksites on the risks of STI and AIDS as part of health and safety measures for those employed during construction. Such contracts will also include clauses for termination in case of any breach of the stated provisions by the contractors. The CSC will monitor the implementation.

57. **Labor standards.** The Government of Assam and the PWRD shall ensure that the works contracts under the project follow all applicable labor laws of the Government of India and the Government of Assam and that these further include provisions to the effect that contractors will follow and implement all statutory provisions on labor (including not employing or using children as labor, equal pay for equal work), health, safety, welfare, sanitation, and working conditions. Such contracts will also include clauses for termination in case of any breach of the stated provisions by the contractors. The CSC will monitor the implementation. The CSC will also monitor and report the implementation in the semiannual social monitoring reports.

Table 12: Gender Equality and Social Inclusion Action Plan

| Activities | Indicators/Targets | Responsibility | Time Schedule |
|--|--|------------------------------------|---------------|
| I. Output 1: State highways and major district roads improved | | | |
| 1.1 Consider specific needs and safety of elderly, women, children, and disadvantaged users ^a in the road design and facilities | a. Pedestrian and public transportation structures are built to enable elderly, women, children, and disadvantaged people to use the 312.5 km project roads safely ^b The following are installed: <ul style="list-style-type: none"> • 10 pedestrian crossings • 30 km elevated sidewalks • 70 well-lit bus stops • 2,000 solar streetlights in major junctions and bus passenger shelters • 25 proper signages for important institutions and social receptors b. 20 well-lit and accessible toilets with separate entrance for women installed at major bus waiting areas ^c | PMU, CSC, civil works contractors | 1–5 years |
| 1.2 Support women's participation in road construction works | a. All civil works contractor staff confirmed to have undertaken awareness training on sexual violence and harassment prevention ^d b. Adequate facilities for women in construction sites established in all camps (estimated 20 sites) ^e | PMU, CSC, civil works contractors | 1–5 years |
| 1.3 Prevent negative social impacts | a. At least 1,000 persons (of whom 40% are women and girls) from schools and communities reported increased awareness on gender-based violence, sexual harassment, human trafficking, child labor, sexually transmitted infection (including AIDS), COVID-19 health issues, and availability of health services | RPIC, CSC, civil works contractors | 1–5 years |
| II. Output 2: Institutional capacity of Assam PWRD in climate and disaster resilience, road asset management, and safeguards strengthened | | | |
| 2.1 Increase women's representation in PWRD and in knowledge enhancement trainings | a. At least one woman participates and/or leads in each of the following: (i) environmental safeguard cell, (ii) social safeguard cell, (iii) grievance redressal committee, and (iv) internal complaints committee to be established in the PWRD (Baseline: Nil) | PMU | Continuous |
| | b. At least 175 (including 15 women) of PWRD staff participated in trainings on climate and disaster resilience, road asset management, GESI, and safeguards | PMU, RPIC | Continuous |
| III. Output 3: Road safety measures on state highways and major district roads in the project districts enhanced | | | |

| Activities | Indicators/Targets | Responsibility | Time Schedule |
|--|---|-----------------------------------|--|
| 3.1 Install retrofitted road safety facilities for elderly, women, children, and disadvantaged users | a. Retrofitted road safety facilities installed on about 310 km of state highways and major district roads in the project districts ^f to enable elderly, women, children, and disadvantaged people to use these roads safely (specific enhancement figures and location will be determined later in the project phase): <ul style="list-style-type: none"> • pedestrian crossings • elevated sidewalks and footpaths • well-lit bus stops • solar streetlights | PMU, RSC, civil works contractors | 3–5 years |
| 3.2 Ensure women's participation in road safety improvement program | a. Road users from at least 100 two-wheel riders participate in the road safety improvement program, as follows: (i) 30% students and teachers, of whom 50% are women ^g and (ii) 10 of district communities, of whom 50% are women, reported increased awareness on road safety guidelines and measures | PMU, RSC | 2–6 years |
| Project Management Activity | | | |
| Enhancement of GESI indicators monitoring in the PWRD | Timely reporting of GESI Action Plan implementation: (i) quarterly progress reports, and (ii) combined report at completion along with all supporting materials for each GESI action plan targets delivered | PMU, ICDC | Every year during the project implementation period ^h |

COVID-19 = coronavirus disease 2019, CSC = construction supervision consultant, GESI = gender equality and social inclusion, ICDC = institutional capacity development consultant, km = kilometer, PMU = project management unit, PWRD = Public Works (Roads) Department, RPIC = resettlement plan implementation consultant, RSC = road safety consultant.

^a Disadvantaged user includes persons with disability, project-affected people, and people who are multidimensionally poor.

^b A03: Chapaguri–Amteka–Bhutan Border (40.776 km), A04: Jogighopa–Bongaigaon (36.791 km), A21: Hamren–Hawraghat Tiniali (75.403 km), A23: Haflong Tiniali–Lower Haflong (90.900 km), A25: Borkhola–Kalain (21.387 km), and A26: Bhanga–Hailakandi–Dwarbond (47.387 km).

^c Since the frequency of public transport is less in hill station roads, travellers have to wait long hours.

^d The prohibition of sexual harassment of women at workplace under ACT 2013, Sections 4 and 19.

^e Separate toilets, creche facilities, accommodation, and rest areas for women, wherever needed.

^f State Highways 20 and 40, and Major District Roads 1, 3, 4, 5, 6, 8, and 14 in the project districts.

^g These students and teachers are from 10 nearby schools and are major users of the road. The 30% target for participation of students and teachers is determined, assuming that about one-third of students and teachers can stay at school after the regular class. The 50% target for participation of women is based on the male–female ratio.

^h The awareness of gender-based violence, human trafficking, child labor, and bonded labor issues will be tested at the end of training every year during the project implementation period.

Source: Asian Development Bank.

IX. PERFORMANCE MONITORING, EVALUATION, REPORTING, AND COMMUNICATION

A. Project Design and Monitoring Framework

58. The design and monitoring framework for the project is in Appendix A.

B. Monitoring

59. **Project performance monitoring.** The achievement of the project performance targets will be assessed against the output and outcome indicators as stipulated in the design and monitoring framework. The PWRD will establish and implement a project performance management system within 3 months of loan effectiveness, in form and substance acceptable to ADB for use throughout the project period. The PWRD will establish disaggregated baseline data for performance indicators to be used for monitoring the achievement of project implementation within 3 months of loan effectiveness. The PWRD will also conduct annual evaluation surveys for each project road, in accordance with the project performance management system, to evaluate the scope, implementation arrangements, progress, and achievement of project objectives. ADB will review the project performance during implementation and after the project completion through regular review missions, a midterm review mission, and a project completion review mission.

60. **Compliance monitoring.** Compliance with covenants will be monitored through ADB's project administration missions—including (i) the project inception mission to discuss and confirm the timetable for compliance with the loan covenants; (ii) the project review missions to review the borrower's compliance with particular loan covenants and, where there is any noncompliance or delay, discuss proposed remedial measures with the government; and (iii) the midterm review mission, if necessary, to review covenants to assess whether they are still relevant or need to be changed, or waived because of changing circumstances.

61. **Safeguards monitoring.** Implementation of the environmental management plan, resettlement plans, and indigenous peoples plan will be monitored internally by the designated PMU officers and ADB safeguards staff. ADB's monitoring and supervision activities are carried out until a project completion report is issued.

62. **Environmental safeguards monitoring.** Monthly and quarterly environmental monitoring reports will be submitted by the contractors to the construction supervision consultant for their review and approval. Based on the reports prepared by the contractors, the construction supervision consultant will prepare consolidated semiannual environmental monitoring reports for submission to the PMU and for further submission to ADB for disclosure on the ADB website no later than 3 months after the end of the monitoring period.

63. **Social safeguards monitoring.** Resettlement plans and IPP implementation for the project by the resettlement implementation consultant will be closely monitored by the PMU. Keeping in view the significance of resettlement impacts of the project, the monitoring mechanism for the same will have both internal monitoring by the PMU and external monitoring by an independent external monitoring consultant. The resettlement implementation consultant responsible for implementation of the resettlement plans and IPP will prepare monthly progress reports on resettlement and IPP activities and submit these to the project director of the PMU. The PMU will submit semiannual social monitoring reports to ADB. The external monitoring expert responsible for monitoring of the resettlement plans and IPP implementation will (i) submit a

semiannual review report to the PWRD and ADB to determine whether resettlement and IPP goals have been achieved, more importantly whether livelihoods and living standards have been restored and/or enhanced; (ii) formulate corrective actions, if any; and (iii) suggest suitable recommendations for improvement, if any, and for further submission to ADB for disclosure on the ADB website.

64. **Gender and social dimensions monitoring.** The PMU will monitor implementation of the GESI action plan. The PMU's gender focal point will be appointed to facilitate the implementation of the GESI action plan. Progress in the achievement of the indicators set out in the GESI action plan will be reflected in the quarterly progress reports to be submitted to ADB by the PMU.

C. Evaluation

65. The project inception mission is fielded soon after the legal agreements for the project are declared effective; thereafter, regular reviews follow at least annually. As necessary, special loan administration missions and a midterm review mission are fielded, under which any changes in scope or implementation arrangement may be required to ensure achievement of project objectives. The PWRD monitors project implementation in accordance with the schedule and time-bound milestones and keeps ADB informed of any significant deviations that may result in the milestones not being met. Within 6 months of physical completion of the project part, the PWRD will submit a project completion report to ADB.²³

D. Reporting

66. The PWRD will provide ADB with (i) semiannual environmental monitoring reports and semiannual social monitoring reports; (ii) quarterly progress reports in a format consistent with ADB's project performance reporting system; (iii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions, (c) updated procurement plan, and (d) updated implementation plan for the next 12 months; and (iv) a project completion report within 6 months of physical completion of the project (Table 13). To ensure that projects will continue to be both viable and sustainable, project accounts and the executing agency audited financial statement together with the associated auditor's report, should be adequately reviewed.

Table 13: Project Monitoring and Evaluation Reports

| Type of Report | Content | Frequency | Timing of Submission | Responsibility |
|---------------------------------|--|--------------|---|----------------|
| Environmental monitoring report | Progress on civil works, implementation of the EMP and EMOP, and findings from monitoring activities | Semiannually | 31 January and 31 July during the civil works | PWRD |
| | | Annually | 31 July after the civil works completion until the Project Completion Report is | PWRD |

²³ Project completion report format is available at <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>.

| Type of Report | Content | Frequency | Timing of Submission | Responsibility |
|---|--|--------------|---|-------------------------------|
| | | | prepared by ADB | |
| Social monitoring report | Progress on civil works, implementation of the resettlement plans and IPP, and findings from monitoring activities | Semiannually | 31 January and 31 July | PWRD |
| External resettlement monitoring report | Progress on LAR activities, indicators, variations if any with explanation and outcome, affected person's satisfaction with process, compliance with ADB's SPS, corrective actions recommended | Semiannually | 30 April and 31 October | External resettlement monitor |
| Resettlement completion report | Overall narrative of the LAR process, outputs and outcomes of indicators from baseline, key variations/changes, lessons learned | Once | Within 6 months of LAR completion | PWRD |
| Resettlement evaluation report | Overall assessment of the LAR process, compliance with ADB's SPS, indicators achievement when compared to baseline, lessons learned | Once | Within 6 months of LAR completion | External resettlement monitor |
| Quarterly progress report | Progress on land acquisition and resettlement and civil works for road improvement and road safety, contract award and disbursement for each contract package, project financial information, implementation of the financial management action plan, and gender equality and social inclusion action plan, and compliance with the loan covenants | Quarterly | 31 January, 30 April, 31 July, and 31 October | PWRD |
| Consolidated annual report | To include (i) progress achieved by output as measured through the indicator's performance targets, (ii) key implementation issues and solutions, (iii) updated procurement plan, and (iv) updated implementation plan for the next 12 months | Annual | 31 January | PWRD |

| Type of Report | Content | Frequency | Timing of Submission | Responsibility |
|-------------------------------------|--|-------------------------------|---|----------------|
| Audited project financial statement | Project financial reports prepared and audited in accordance with following the Accounting Standard in India and International Accounting Standards | Annual | 31 January | PWRD |
| Project completion report | Concise description and assessment of the project from identification to completion. To be submitted within 6 months of physical completion of the project | Once after project completion | Within 1 year of the project completion | PWRD |

ADB = Asian Development Bank, EMOP = environmental monitoring plan, EMP = environmental management plan, IPP = indigenous peoples plan, LAR = land acquisition and resettlement, PWRD = Public Works (Roads) Department, SPS = Safeguard Policy Statement.

Source: Asian Development Bank.

E. Stakeholder Communication Strategy

67. Various information is provided to the public regarding the project, including scope, general progress status, beneficiaries, invitation for bids, and consultant recruitment notices. A website and communication platform are developed for the project. These contain information about the project design, its environmental and social impacts, the progress of civil works, and the implementation of the environmental management plan. The communication strategy with various stakeholders will follow the public consultations and disclosure process under the environmental safeguards. Stakeholder engagement will continue during project preparation and implementation. The PWRD is committed to ensure all public consultations and information disclosure are undertaken meaningfully.

Table 14: Documents for Disclosure

| Project Documents | Means of Communication | Responsible Party | Frequency/Timing | Audiences |
|-----------------------------------|-----------------------------|-------------------|--|---|
| Project data sheet | ADB website | ADB | Initial PDS no later than 30 calendar days from concept approval, quarterly afterwards | General public |
| Design and monitoring framework | ADB website | ADB | Draft DMF after fact-finding mission | General public |
| Initial environmental examination | ADB website PWRD website | ADB, PWRD | Before ADB management review meeting; re-disclose as updated | General public, project-affected people in particular |
| Resettlement plans | ADB website PWRD website | ADB, PWRD | Before ADB management review meeting; re-disclose as updated | General public, project-affected people in particular |
| Indigenous peoples plan | ADB website PWRD website | ADB, PWRD | Before ADB management review meeting; re-disclose as updated | General public, project-affected people in particular |

| Project Documents | Means of Communication | Responsible Party | Frequency/Timing | Audiences |
|--|-------------------------------|--------------------------|--|---|
| Report and recommendation of the President | ADB website | ADB | No later than 14 days from Board approval of the project | General public |
| Legal agreements | ADB website | ADB | No later than 14 days from Board approval of the project | General public |
| Project administration manual | ADB website | ADB | No later than 14 days from Board approval of the project | General public |
| Environmental monitoring reports | ADB website PWRD website | ADB, PWRD | Semiannually | General public, project-affected people in particular |
| Social monitoring reports | ADB website PWRD website | ADB, PWRD | Semiannually | General public, project-affected people in particular |
| Audited project financial statements | ADB website PWRD website | ADB, PWRD | Annually | General public |
| Major change in scope, if any | ADB website | ADB | Within 2 weeks of approval of the change | General public |

ADB = Asian Development Bank, DMF = design and monitoring framework, PDS = project data sheet, PWRD = Public Works (Roads) Department.

Source: Asian Development Bank.

X. ANTICORRUPTION POLICY

68. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the project.²⁴ All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all project contractors, suppliers, consultants, and other service providers. Individuals and/or entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the project.²⁵

69. To support these efforts, relevant provisions of ADB's Anticorruption Policy are included in the loan agreement and/or regulations and the bidding documents for the project. In particular, all contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the PWRD, PMU, and all contractors, suppliers, consultants, and other service providers as they relate to the project. Further details on how the borrower and ADB discussed and addressed anticorruption policy issues may be provided here including a description of key anticorruption risks and the specific mitigation measures the project will implement. These mitigation measures are identified in a governance risk assessment conducted as part of the program preparation per the Second Governance and Anticorruption Action Plan.²⁶

²⁴ Anticorruption Policy: <https://www.adb.org/documents/anticorruption-policy>.

²⁵ ADB's Office of Anticorruption and Integrity website: <https://www.adb.org/site/integrity/main>.

²⁶ Governance and Anticorruption Action Plan II Guidelines. <https://www.adb.org/documents/second-governance-and-anticorruption-action-plan-gacap-ii>. See also *Sourcebook: Diagnostics to Assist Preparation of Governance Risk Assessments*. <https://www.adb.org/sites/default/files/institutional-document/157127/diagnostics-assist-preparation-gras.pdf>.

XI. ACCOUNTABILITY MECHANISM

70. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make an effort in good faith to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.²⁷

XII. RECORD OF CHANGES TO THE PROJECT ADMINISTRATION MANUAL

71. All revisions and/or updates during implementation should be retained in this section to provide a chronological history of changes to implemented arrangements recorded in the PAM, including revision to contract awards and disbursement s-curves.

²⁷ Accountability Mechanism. <http://www.adb.org/Accountability-Mechanism/default.asp>.

DESIGN AND MONITORING FRAMEWORK

| Impact the Project is Aligned with Sustainable and inclusive growth in Assam achieved (Government of Assam's Vision 2030) ^a | | | |
|---|--|---|--|
| Results Chain | Performance Indicators | Data Sources and Reporting Mechanisms | Risks and Critical Assumptions |
| Outcome Connectivity to South Asia Subregional Economic Cooperation corridors in the western, central, and southern regions of Assam improved | By 2029 a. Average daily vehicle-km of the project roads in the first full year of operation increased to 760,000 (2019 baseline: 585,000 vehicle-km) (OP 5.1) b. Annual trade value with Bangladesh through the Sutarkandi–Sheola border and the Golakganj–Sonahat border increased by 10% (2020 baseline: \$36.6 million at the Sutarkandi–Sheola border and \$1.1 million at the Golakganj–Sonahat border) (OP 7.1) c. Average travel time on project roads reduced by 20% (2019 baselines: 83 minutes for A03, 58 minutes for A04, 283 minutes for A21, 172 minutes for A23, 52 minutes for A25, and 90 minutes for A26) ^b (OP 5.1) d. Operation of public transportation with at least three services a day expanded to the entire length of the project roads (2021 baseline: 30% of the project roads) (OP 5.1.1) e. Traffic accident mortality rate in the project districts decreased by 5% (2019 baseline: 10 deaths per 100,000 persons) (OP 5.1) | a. Traffic volume survey by Assam PWRD b. Annual report of the Trade Statistics of India c. Travel time survey by Assam PWRD d. Public transportation survey by Assam PWRD e. Traffic accident survey by Assam PWRD and the road accident report by the Ministry of Road Transport and Highways | A: The Government of Assam continuously allocates sufficient budget for road operation and maintenance. |
| Outputs 1. State highways and MDRs improved 2. Institutional capacity of Assam PWRD in climate and disaster resilience, road asset management, and safeguards strengthened | By 2028 1a. At least 312.5 km of state highways and MDRs with single or intermediate lane widened to two lanes with climate and disaster resilience, biodiversity, and gender responsive designs ^c (2022 baseline: 0) (OP 1.3.1, OP 2.4.1, OP 3.2.5, OP 5.1.1, OP 7.1.1) 2a. At least two new road structures for climate change adaptation and disaster risk reduction implemented on the project roads ^d (2022 baseline: not applicable) (OP 3.2.5) 2b. Road asset management system of PWRD upgraded with a climate change and disaster risk | 1a. Project management consultant's final report 2a. Institutional capacity building consultant's final report 2b. Institutional capacity building consultant's final report | R: Extreme weather and climate events beyond projection could adversely affect the construction and completion of project roads. R: Delays in the release of government counterpart fund may affect project implementation. |

| | | | |
|---|--|---|--|
| 3. Road safety measures on state highways and MDRs in the project districts enhanced ^f | <p>management module (2022 baseline: not applicable) (OP 5.1.1)</p> <p>2c. An environmental safeguard cell, and a social safeguard cell established in Assam PWRD^e (2022 baseline: not established)</p> <p>2d. At least 175 staff (including 15 women) of PWRD reported increased knowledge on climate and disaster resilience, road asset management, GESI, and safeguards (2022 baseline: 0) (OP 6.1.1)</p> <p>3a. At least 300 km of state highways and MDRs in project districts retrofitted with GESI-responsive road safety facilities based on road safety audits^g (2022 baseline: not applicable) (OP 2.4.1)</p> <p>3b. Road users from at least 100 two-wheel riders, 30% schoolteachers and pupils from 10 schools (50% women), and 300 members from at least 10 district communities (50% women) reported increased awareness on road safety guidelines^h (2022 baseline: not applicable)</p> | <p>2c. Assam PWRD report on organization</p> <p>2d. Institutional capacity building consultant's final report</p> <p>3a. Road safety consultant's final report</p> <p>3b. Road safety consultant's final report</p> | |
|---|--|---|--|

Key Activities with Milestones

1. State highways and major district roads improved

- 1.1 Selection of resettlement plan implementation consultant completed by Q4 2022
- 1.2 Resettlement plan implementation consulting services completed by Q2 2025
- 1.3 Land acquisition and resettlement completed by Q2 2025
- 1.4 Selection of external resettlement monitoring consultant completed by Q2 2023
- 1.5 External resettlement monitoring consulting services completed by Q3 2025
- 1.6 Selection of construction supervision consultant completed by Q3 2022
- 1.7 Construction supervision consulting services completed by Q3 2027
- 1.8 Procurement for road improvement works completed by Q3 2022
- 1.9 Road improvement works completed by Q1 2027
- 1.10 Performance-based maintenance contract started by Q4 2025 and to be continues in 5 years

2. Institutional capacity of Assam PWRD in climate and disaster resilience, road asset management, and safeguards strengthened

- 2.1 Selection of institutional capacity development consultant completed by Q4 2022
- 2.2 Institutional capacity development consulting services completed by Q4 2026
- 2.3 Selection of new construction practices for climate and disaster resilience completed by Q4 2023
- 2.4 Implementation of the selected construction practices completed by Q4 2025
- 2.5 Assessment on performance of the selected construction practices completed by Q4 2027
- 2.6 Upgrading of RAMS with a climate change and disaster risk management module by Q4 2024
- 2.7 Utilization of upgraded RAMS for road maintenance planning started by Q1 2025
- 2.8 Training of PWRD staff on climate and disaster resilience, road asset management, GESI and safeguards from Q1 2023 to Q4 2027.
- 2.9 Establishment of permanent safeguard cells in PWRD completed by Q2 2027

3. Road safety measures on state highways and MDRs in the project districts enhanced

- 3.1 Selection of road safety consultant completed by Q4 2022
- 3.2 Road safety consulting services completed by Q2 2026

- 3.3 Road safety audit and selection of road safety works completed by Q4 2023
- 3.4 Procurement for road safety works completed by Q3 2024
- 3.5 Installation of retrofitted road safety structures and facilities completed by Q1 2026
- 3.6 Road safety awareness in project districts started by Q1 2024

Project Management Activities

Comply with environment management plan key activities
 Monitor land acquisition and resettlement and indigenous people development plan
 Implement financial management action plan
 Implement GESI action plan
 Conduct communication strategy key activities
 Reporting on safeguard, project progress and completion, and audited project financial statements
 Undertake regular and midterm review

Inputs

ADB: \$300,000,000 (ordinary capital resources loan)
 Government: \$200,000,000

A = assumption, GESI = gender equality and social inclusion, km = kilometer, MDR = major district road, PWRD = Public Works (Roads) Department, Q = quarter, R = risk, RAMS = road asset management system.

^a Government of Assam. 2016. *Assam 2030, Our Dream, Our Commitment*. Guwahati.

^b Baseline from detailed project reports prepared by PWRD consultants.

^c Roads include A03: Chapaguri–Amteka–Bhutan Border (40.776 km), A04: Jogighopa–Bongaigaon (36.791 km), A21: Hamren–Howraghat Tiniali (75.403 km), A23: Haflong Tiniali–Lower Haflong (90.900 km), A25: Borkhola–Kalain (21.387 km), and A26: Bhanga–Hailakandi–Dwarbond (47.387 km). Gender responsive designs include pedestrian crossing with signals, elevated sidewalks, humps on roads, wide shoulders, bus bays and stops, public toilets, and streetlights are built for the elderly, women, children, and disadvantaged pedestrians.

^d Possible new construction structures include composite reinforced soil system, horizontal drainage boring, shotcrete, rock fall fence, anchoring, and concrete block frame for slope protection works. These will be determined based on soil conditions, right-of-way availability and contractor's capacity during civil works.

^e The environmental safeguard cell is responsible for environmental assessment, monitoring, and risk management. The social safeguard cell is responsible for land acquisition and resettlement of project-affected persons, actions for indigenous people, and GESI designs preparation and actions. At least one environmental specialist and at least one social cum gender specialist working at the project management unit for more than 3 years will be appointed as key and core positions of the environmental safeguard cell and the social safeguard cell.

^f Bongaigaon, Cachar, Chirang, Dima Hasao, Hailakandi, Hojai, Karbi Anglong, Karinaganj, and West Karbi Anglong Districts.

^g Road safety facilities include pedestrian crossings, elevated sidewalks, footpaths, rumble strips, bus stops, traffic signs, pavement markings, solar streetlights, traverse bar markings, metal beam crash barriers, and road studs.

^h These schoolteachers and pupils are from 10 nearby schools and are major users of the road. The 30% target for participation of schoolteachers and pupils are determined, assuming that about one-third of schoolteachers and pupils can stay at school after the regular class. The 50% target for participation of women is based on the male–female ratio.

Contribution to Strategy 2030 Operational Priorities:

Expected values and methodological details for all OP indicators to which this operation will contribute results are detailed in Contribution to Strategy 2030 Operational Priorities (accessible from the list of linked documents in Appendix 2).

Source: Asian Development Bank.

KEY FEATURES OF THE PROJECT ROADS

| Road Number | Road Section | Length (km) and Terrain | Traffic Volume (vehicles/day) | District Poverty Ratio ^a (%) | Estimated EIRR (%) | Key Features |
|-------------|--------------------------------|---------------------------|-------------------------------|---|--------------------|---|
| A03 | Chapaguri–Amteka–Bhutan Border | 40.776 Plain | 2,335 | Chirang: 36.2 | 13.0 | <ul style="list-style-type: none"> The road connects SASEC Corridor 3 and the Bhutan border. Once a connection road is built on the Bhutan side, the road section will become a subregional transport route together with A04. Heavy traffic from the mining areas congest the road. Pavement to support heavy traffic needs to be constructed. The road connects to Dwijing tourist hotspots and festival. There is no public transportation service along the road. |
| A04 | Jogighopa–Bongaigaon | 36.791 Plain | 2,455 | Bongaigaon: 33.8 | 10.8 | <ul style="list-style-type: none"> The road connects SASEC Corridor 3 and the Bhutan border. Once a connection road is built on the Bhutan side, the road section will become a subregional transport route together with A03. A multimodal logistics park is to be developed by the Government of India at Jogighopa to connect the road, rail, and the inland waterway transportation system of Brahmaputra River. The road is located adjacent to the key biodiversity area, Tamaranga–Dalani–Bhairab Complex. There is no public transportation service along the road. |
| A21 | Hamren–Hawraghat Tiniali | 75.403 Plain, mountainous | 383–9,321 | Karbi Anglong: 37.7 | 21.0 | <ul style="list-style-type: none"> The road runs through the less developed area of Assam and connects with SASEC Corridor 3 and other national highways. The road improvement enhances interdistrict connectivity to district centers and onward interstate connectivity between the east area of Assam and Meghalaya. Scheduled tribes live along the road in the mountainous area. |

| Road Number | Road Section | Length (km) and Terrain | Traffic Volume (vehicles/day) | District Poverty Ratio ^a (%) | Estimated EIRR (%) | Key Features |
|-------------|---|---------------------------------|-------------------------------|---|--------------------|--|
| | | | | | | <ul style="list-style-type: none"> Asian elephant movement has been reported at Komorakata Reserve Forest along the road. Elevated road structures are designed along the elephant crossing points to avoid human–elephant conflict. Public transportation services (2 services a day) are operated by the autonomous council. |
| A23 | Haflong Tiniali– Lower Haflong | 90.900 Hilly, mountainous | 237–1,647 | Dima Hasao: 31.2 | 15.7 | <ul style="list-style-type: none"> The road runs through a landlocked area and connects the landlocked area with SASEC Corridors 3 and 5. The road improvement provides basic transportation facilities to the economically backward people in the district and enhances connectivity with other areas. The national highway connecting the north and south of Assam is often closed due to landslides after rainfall during the monsoon seasons. The road will become an alternate cargo transportation route. Climate change and disaster resilient designs need to be adopted. Scheduled tribes live along the road. The road will increase tourism potential by improvement of access to Jatinga. The road A23 terminates at the key biodiversity area, Barail Range. Public transportation services (5 services a day) are operated by the autonomous council. |
| A25 | Borkhola– Kalain | 21.387 Plain, hilly | 2006 | Cachar: 42.37 | 12.4 | <ul style="list-style-type: none"> The road is a bypass of SASEC Corridor 5 around the Silchar city area with high traffic volume. Construction of a multimodal logistics park is planned at Silchar. The road improvement will enhance access to the park. The adjacent national highways are often closed due to landslides after rainfall during the monsoon seasons. The road will become an alternate cargo transportation route. Climate change and disaster resilient designs need to be adopted. There is no public transportation service along the road. |

| Road Number | Road Section | Length (km) and Terrain | Traffic Volume (vehicles/day) | District Poverty Ratio ^a (%) | Estimated EIRR (%) | Key Features |
|-------------|----------------------------|--------------------------|-------------------------------|---|--------------------|--|
| A26 | Bhanga–Hailakandi–Dwarbond | 47.400 Plain, rolling | 706–3,294 | Karimganj: 46.02 Hailakandi: 51.07 | 11.8 | <ul style="list-style-type: none"> • The road connects the district center with SASEC Corridor 5 and the Bangladesh border at Sutarkandi. • Road upgradation is required to meet the existing traffic demand. • Construction of a multimodal logistics park is planned at Silchar to facilitate transshipment among road, rail, and inland waterway system. The road improvement will enhance access to the park. • The road improvement will enhance interstate connectivity with Meghalaya, Mizoram, and Tripura, and international connectivity with Bangladesh. • The road passes near the key biodiversity area, Son and Bawwa beels. • There is no public transportation service along the road. |

EIRR = economic internal rate of return, km = kilometer, SASEC = South Asia Subregional Economic Cooperation.

^a Percentage of population who are multidimensionally poor in each district. NITI Aayog. 2021. India National Multidimensional Poverty Index Baseline Report, New Delhi.

Sources: Asian Development Bank and Public Works (Roads) Department.

ESTIMATED QUANTITIES OF RETROFITTED ROAD SAFETY STRUCTURES AND FACILITIES

| Project Road | Length (km) | Pedestrian Crossings (number) | Elevated Sidewalks/ Footpaths (km) | Rumble Strips (number) | Bus Stops (number) | Traffic Signs (number) | Pavement Markings (square meter) | Solar Streetlights (number) | Traverse Bar Markings (number) | Metal Beam Crash Barriers (meter) | Road Studs (number) |
|--------------|--------------|-------------------------------|------------------------------------|------------------------|--------------------|------------------------|----------------------------------|-----------------------------|--------------------------------|-----------------------------------|---------------------|
| SH20 | 26.0 | 7 | 5.20 | 43 | 10 | 235 | 8,580 | 34 | 26 | 2,115 | 706 |
| SH40 | 15.5 | 5 | 3.10 | 26 | 6 | 140 | 5,115 | 20 | 16 | 1,261 | 421 |
| MDR1 | 15.8 | 5 | 3.16 | 26 | 6 | 143 | 5,214 | 21 | 16 | 1,285 | 429 |
| MDR3 | 89.3 | 26 | 12.50 | 148 | 38 | 808 | 29,469 | 116 | 89 | 7,264 | 2,425 |
| MDR4 | 19.1 | 6 | 3.82 | 32 | 8 | 173 | 6,303 | 25 | 19 | 1,554 | 519 |
| MDR5 | 13.0 | 4 | 2.60 | 21 | 4 | 118 | 4,290 | 17 | 13 | 1,058 | 353 |
| MDR6 | 24.2 | 7 | 4.84 | 40 | 10 | 219 | 7,986 | 31 | 24 | 1,969 | 657 |
| MDR8 | 91.0 | 27 | 15.00 | 150 | 36 | 823 | 30,030 | 119 | 91 | 7,403 | 2,470 |
| MDR14 | 15.9 | 5 | 3.18 | 26 | 6 | 144 | 5,247 | 21 | 16 | 1,293 | 432 |
| Total | 309.8 | 92 | 53.40 | 512 | 124 | 2,803 | 102,234 | 404 | 310 | 25,202 | 8,412 |

km = kilometer, MDR = major district road, SH = state highways.

SH20: Haflong Tiniali Garampani Umrangso Dehangi Haflong Jatinga (National Highway 54 Extension) Road

SH40: Bhagabazar (National Highway 54) Kulichera Kalahowar Sherkhan Road

MDR1: Dhaligaon New Bongaigaon Basugaon Road

MDR3: Ulubari Borobazar Rangijhora Kalamati Road, Samarikona Gaglacherra Bilaipur Phaisen Road, and Bichithur Ulukunchi Road

MDR4: Bijnigaon Bhetagaon Panbari Road

MDR5: Howraghat Dokmoka Road

MDR6: Pailapool Rajabazar Harinagar Kumarcherra Road

MDR8: Diphu Dilai Sariahjan road, and Bhanga (National Highway 44) Bhairab Nagar R.K.Nagar Anipur Kanaibazar (Achimganj) (National Highway 44) Road

MDR14: Karimganj Bagarsangan Lakhibazar Suterkandi Road

Source: Asian Development Bank.

TEMPLATE FOR REPORTING FINANCIAL INFORMATION IN THE QUARTERLY PROGRESS REPORTS

General Instructions

1. The financial information in the format outlined below are to be included in the quarterly progress reports (QPR) to be submitted to the Asian Development Bank (ADB) within 45 days after each quarter. In case of delays or incomplete information, ADB will submit a reminder to the executing and/or implementing agency. Repeated delays or incomplete information may have a negative impact on the project performance ratings and may be discussed during review missions.

Section A. Utilization of Funds (ADB Loan, and Counterpart Funds)

2. In this section include the following information:

- (i) overall status of project financing including the adequacy and timeliness of counterpart funds;
- (ii) cumulative contract awards financed by the ADB loan, and counterpart funds (commitment of funds to date), and comparison with time-bound projections (targets – for the ADB financing, compare the actual contract awards with the contract award curve included in the project administration manual [PAM]). Include an analysis of significant variances between planned and actual contract awards. Provide contract-wise details as per Annex 2;
- (iii) cumulative disbursements from the ADB loan, and counterpart funds (expenditure to date), and comparison with time-bound projections (targets – for the ADB financing, compare the actual disbursement with the disbursement projections as per the S-curve included in the PAM). Include an analysis of significant variances between planned and actual disbursements;
- (iv) reconciliation of project records and ADB disbursement records (Loan Financial Information System [LFIS]/Grant Financial Information System [GFIS]) for the reporting period and cumulative from project inception to end of the reporting period. Explain reasons for discrepancies and outline follow-up actions required (if any). Attach a detailed reconciliation by withdrawal application as per Annex 1; and
- (v) re-estimated costs to completion (if required), need for reallocation within ADB loan categories, and whether an overall project cost overrun is likely.

Section B. Financial Management

3. In this section include the following information:

- (ii) summary of the financial management arrangements in the project including (a) any problems in the existing financial management arrangements and/or flow of funds; and (b) any significant changes that occurred during the reporting period (e.g., financial management staff turnover, implementation of new financial systems, emerging financial management related risks. Etc.);
- (iii) summary of the status of each agreed action in the financial management action plan outlined in the project administration manual (PAM). Attach a detailed log as per Annex 4;

- (iv) outline the status of recommendations and immediate actions provided by ADB as part of the audited project financial statement (APFS)/audited entity financial statement (AEFS) review (if any) and financial management related recommendations agreed during ADB review missions (if any). Attach a detailed log as per Annex 5; and
- (v) summarize the status of status of past audit observations (if any). Attach a detailed log as per Annex 3.

Annexes:

1. Statement of cash receipts (by financing source) and payments (by expenditure category for the reporting period, year to date, and cumulative
2. ADB loan/grant disbursement report including a detailed reconciliation (by withdrawal application) of project records and ADB disbursement records (LFIS) for the fiscal year to date and cumulative
3. Contract register/List of signed contracts
4. Status of past audit observations (resolved/pending)
5. Status of financial management action plan (complied/ongoing)
6. Status of financial management related actions agreed during ADB review missions (if any)

Annex 1: Statement of Cash Receipts and Payments by Category

| | Reporting Period (Quarterly/Semiannually) | Year to Date | Cumulative | Hard Commitments (contracts signed not paid) |
|---|--|---------------------|-------------------|---|
| | In the currency of the financial statements | | | |
| Cash receipts | | | | |
| ADB Loan (No. XX): Advance/Replenishments | | | | |
| ADB Loan (No. XX): Direct Payments | | | | |
| ADB Loan (No. YY): Advance/Replenishment | | | | |
| ADB Loan (No. YY): Direct Payments | | | | |
| ADF Grant: Advance/Replenishments | | | | |
| ADF Grant: Direct Payments | | | | |
| Etc. | | | | |
| Government | | | | |
| Total | | | | |
| Payments* | | | | |
| Civil works | | | | |
| Consultancy services | | | | |
| Project administration | | | | |
| Etc. | | | | |
| Total expenditures | | | | |
| Opening cash balance | | | | |
| Closing cash balance | | | | |

*The expenditure categories should be the same expenditure categories as outlined in the project administration manual.

**Annex 2: Disbursement Report for the Fiscal Year to Date and Cumulative
including Detailed Reconciliation (by Withdrawal Application) of Project Records and ADB Disbursement Records
(LGFIS) – separate reports to be generated for each financing source (e.g., ADB loan, ADB grant, etc. as applicable)**

| Statement of Disbursement by ADB Financing Source for the year ended DD/MM/YYYY | | | | |
|---|-------|------------------|---------------------|----------------------------|
| Statement of Disbursement | Notes | Reporting Period | Fiscal Year to Date | Cumulative Project to Date |
| ADB loan/grant–Funds claimed during the year | A | | | |
| Reimbursement | | | | |
| Advance Fund | | | | |
| Direct Payment | | | | |
| Subtotal | | | | |
| | | | | |
| Expenditure incurred not yet claimed | B | | | |
| | | | | |
| Subtotal | | | | |

Note A: Detailed Reconciliation (by Withdrawal Application) of Project Records and ADB Disbursement Records (LFIS) for the Fiscal Year to Date and Cumulative – separate reports to be generated for each financing source (e.g., ADB loan, ADB grant, etc. as applicable)

| Withdrawal Application Details | | | Per project records/APFS (Amount recorded in the project financial statements as reimbursement, direct payment, etc.) | | | | Per ADB disbursement records LFIS/GFIS (actual paid) | | | Remarks |
|--|---|-------------------------------------|--|---|------------------|--------------------------|---|---------------|---------------------|---|
| Withdrawal Application No. (WA) | Disbursement Method (reimbursement, direct payment, etc.) | Time Period Covered in the WA | Date | In Local Currency (as recorded in project records/financial statements) | Exchange Rate | USD Equivalent (A) | Value Date | In USD (B) | Difference (A-B) | Reason for difference (i.e., timing forex, pending/ rejected) |
| 1 | | 1-31.3.2020 | | | | | | | | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| etc. | | | | | | | | | | |
| Total – Fiscal Year to Date | | | | | | | | | | |
| Total Cumulative | | | | | | | | | | |

Note B: Provide a breakdown of expenditures incurred but not yet claimed from ADB including the eligible portion for ADB.

Annex 3: Status of Signed Contracts Cumulative to Date

| Contract Information | | | | | | | | | | | |
|-------------------------------|-----------------------------|-----------------------|---------------------|----------------------------------|---------------------|-----------------------------|---|------------------------------------|---------------------------------|---------------------------|--|
| Description* | Contract Description | Contract Start | Contract End | Supplier/ Contractor Name | Contract No. | Total Contract Value | Total Contract Amount Invoiced to Date | Total Disbursed on Contract | Total Undisbursed Amount | Responsible Entity | Financing Source (ADB loan, etc.) |
| 1. Civil works | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| 2. Equipment/ supplies | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| 3. Consulting services | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| Total | | | | | | | | | | | |

*Classified as per expenditure categories outlined in the project administration manual.

Annex 4: Status of External Audit Observations – Cumulative from Inception to End of Reporting Period

| Responsible Entity | External Audit Recommendation | Date of the Recommendation | Planned Actions to Address the Recommendation | Responsibility | Current Status of the Planned Action (pending/resolved) | Remarks |
|--------------------|-------------------------------|----------------------------|---|----------------|--|---------|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Annex 5: Status of Financial Management Action Plan

| Key Risk | Risk Mitigating Activity | Time line | Responsible Entity | Current Status (implemented/pending) | Remarks (including an action plan in case of noncompliance) |
|----------|--------------------------|-----------|--------------------|---|--|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Annex 6: Status of Financial Management Related Actions Agreed during ADB Review Missions or Tripartite Portfolio Review Meetings

| Date of the Review Mission | Agreed Actions | Time line | Responsible Entity | Current Status (implemented/pending) | Remarks |
|----------------------------|----------------|-----------|--------------------|---|---------|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

PROCUREMENT PLAN

Basic Data

| | | |
|---|--|-----------------|
| Project Name: Assam South Asia Subregional Economic Cooperation Corridor Connectivity Improvement Project | | |
| Project Number: 53335-001 | Approval Number: | |
| Country: India | Executing Agencies: Public Works (Roads) Department, Government of Assam | |
| Procurement Risk: Moderate to High | Implementing Agency: Public Works (Roads) Department, Government of Assam | |
| Project Financing Amount: \$500,000,000 ADB Financing: \$300,000,000 Cofinancing: \$0 Non-ADB Financing: \$200,000,000 | Project Closing Date: 30 December 2028 | |
| Date of First Procurement Plan: 25 October 2022 | Date of this Procurement Plan: 25 October 2022 | |
| Procurement Plan Duration: 18 months | Advance Contracting: Yes | eGP: Yes |

A. Methods, Review, and Procurement Plan

1. Except as the Asian Development Bank (ADB) may otherwise agree, the following methods shall apply to procurement of goods, works, and nonconsulting and consulting services.

| Procurement of Goods, Works, and Nonconsulting Services | |
|---|---|
| Method | Comments |
| Open Competitive Bidding for Works | Internationally or nationally advertised. Prior review for all packages |
| Request for Quotations | Below \$100,000 |

| Consulting Services | |
|--|--|
| Method | Comments |
| Quality- and Cost-Based Selection for Consulting Firm | 80:20 Prior review for all packages except institutional development consulting services package |
| Quality-Based Selection for Consulting Firm | Prior review for institutional development consulting services package |
| Consultants' Qualification Selection for Consulting Firm | Below \$200,000 |

B. List of Active Procurement Packages (Contracts)

2. The following table lists goods, works, and nonconsulting and consulting service contracts for which the procurement activity is either ongoing or expected to commence within the procurement plan's duration.

Goods, Works, and Nonconsulting Services

| Package Number | General Description | Estimated Value ^a (\$) | Procurement Method | Review | Bidding Procedure | Advertisement Date | Comments |
|----------------|--|-----------------------------------|--------------------|--------|-------------------|--------------------|---|
| A/RI-1 | Improvement, upgradation, and 5-year performance-based maintenance works of Road A03: Chapaguri–Amteka–Bhutan Border (Length: 40.776 km) | 30.70 million | OCB | Prior | 1S2E | Q1/2022 | Advertisement: International Prequalification of Bidders: No Domestic Preference Applicable: No |

| Package Number | General Description | Estimated Value ^a (\$) | Procurement Method | Review | Bidding Procedure | Advertisement Date | Comments |
|----------------|--|-----------------------------------|--------------------|--------|-------------------|--------------------|---|
| A/RI-2 | Improvement, upgradation, and 5-year performance-based maintenance works of Road A04: Jogighopa–Bongaigaon (Length: 36.791 km) | 34.60 million | OCB | Prior | 1S2E | Q1/2022 | Bidding Documents: ADB SBD Works modified to include detailed design Advance contracting: Yes Use e-GP: Yes |
| A/RI-3 | Improvement, upgradation, and 5-year performance-based maintenance works of Road A21: Hamren–Howraghat Tiniali (Hamren to Kumurakata FV) (Length: 29.700 km) | 27.13 million | OCB | Prior | 1S2E | Q2/2022 | |
| A/RI-4 | Improvement, upgradation, and 5-year performance-based maintenance works of Road A21: Hamren–Howraghat Tiniali (Kumurakata FV to Jamuna River district boundary) (Length: 18.900 km) | 38.17 million | OCB | Prior | 1S2E | Q2/2022 | |
| A/RI-5 | Improvement, upgradation, and 5-year performance-based maintenance works of Road A21: Hamren–Howraghat Tiniali (Jamuna River district boundary to Howraghat Tiniali) (Length: 26.803 km) | 19.21 million | OCB | Prior | 1S2E | Q2/2022 | |
| A/RI-6 | Improvement, upgradation, and 5-year performance-based maintenance works of Road A23: Haflong Tiniali–Lower Haflong (Haflong Tiniali to Nasingwari) (Length: 31.000 km) | 27.35 million | OCB | Prior | 1S2E | Q2/2022 | |
| A/RI-7 | Improvement, upgradation, and 5-year performance-based maintenance works of Road A23: Haflong Tiniali–Lower Haflong (Nasingwari to Thanalambra) (Length: 30.000 km) | 29.21 million | OCB | Prior | 1S2E | Q2/2022 | |
| A/RI-8 | Improvement, upgradation, and 5-year performance-based maintenance works of Road A23: Haflong Tiniali–Lower Haflong | 30.83 million | OCB | Prior | 1S2E | Q1/2023 | |

| Package Number | General Description | Estimated Value ^a (\$) | Procurement Method | Review | Bidding Procedure | Advertisement Date | Comments |
|----------------|--|-----------------------------------|--------------------|--------|-------------------|--------------------|--|
| | (Thanalambra to Lower Haflong) (Length: 29.900 km) | | | | | | |
| A/RI-9 | Improvement, upgradation, and 5-year performance-based maintenance works of Road A25: Borkhola–Kalain (Length: 21.387 km) | 15.30 million | OCB | Prior | 1S2E | Q1/2022 | |
| A/RI-10 | Improvement, upgradation, and 5-year performance-based maintenance works of Road A26: Bhanga–Sessabari (Length: 23.600 km) | 17.63 million | OCB | Prior | 1S2E | Q1/2022 | |
| A/RI-11 | Improvement, upgradation, and 5-year performance-based maintenance works of Road A26: Sessabari–Dwarbond (Length: 23.800 km) | 20.75 million | OCB | Prior | 1S2E | Q1/2022 | |
| M/OF-1 | PMU office building renovation, upgradation, and refurbishment | \$0.18 million | OCB | Prior | 1S1E | Q1/2023 | Advertisement: National Prequalification of Bidders: No Domestic preference: No Advance contracting: No Bid documents: Procurement of small works e-GP: Yes |
| M/OF-2 | PMU office furniture, equipment, and consumables 1 | 0.08 million | RFQ | Prior | n/a | Q4/2022 | Advertisement: n/a Prequalification of Bidders: No Domestic preference: No Advance contracting: Yes Bid documents: n/a e-GP: Yes (GEM) |
| M/LT-1 | Land transportation services in 2022–2023 | 0.08 million | RFQ | Prior | n/a | Q4/2022 | Advertisement: n/a Prequalification of Bidders: No Domestic preference: No Advance contracting: Yes Bid documents: n/a e-GP: No |

1S2E = single-stage two-envelope, GEM = Government e-Marketplace, n/a = not applicable, OCB = open competitive bidding, Q = quarter, RFQ = request for quotations, SBD = standard bidding document.

^a The estimated value includes taxes and duties, but does not include contingencies. The estimated values for the civil works packages do not include the maintenance works. The exchange rate is \$1 = ₹75.9682.

Consulting Services

| Package Number | General Description | Estimated Value ^a (\$) | Selection Method | Review | Type of Proposal | Advertisement Date | Comments ⁷ |
|----------------|---|-----------------------------------|------------------|--------|------------------|--------------------|--|
| A/CS-1 | Construction supervision consulting services for road improvement works in A03, A04, A21, A23, A25, and A26 | 10.02 million | QCBS | Prior | FTP | Q1/2022 | Type: Firm Quality–Cost Ratio: 80:20 Assignment: International Advance contracting: Yes Use e-GP: No |
| A/CS-2 | Resettlement plan implementation consulting services | 0.97 million | QCBS | Prior | FTP | Q2/2022 | Type: Firm Quality–Cost Ratio: 80:20 Assignment: National Advance contracting: Yes Use e-GP: No |
| B/CS-1 | Consulting services for institutional development of the PWRD | 2.84 million | QBS | Prior | FTP | Q4/2022 | Type: Firm Assignment: International Advance contracting: Yes Use e-GP: No |
| C/CS-1 | Consultancy services for road safety improvement of secondary roads in project districts | 1.33 million | QCBS | Prior | FTP | Q4/2022 | Type: Firm Quality–Cost Ratio: 80:20 Assignment: National Advance contracting: Yes Use e-GP: No |
| M/CS-1 | Financial management consulting services | 0.08 million | CQS | Prior | BTP | Q4/2022 | Type: Firm Quality–Cost Ratio: n/a Assignment: National Advance contracting: Yes Use e-GP: No |
| M/CS-2 | Internal audit consulting services | 0.06 million | CQS | Prior | BTP | Q4/2022 | Type: Firm Quality–Cost Ratio: n/a Assignment: National Advance contracting: Yes Use e-GP: No |

BTP = Biodata technical proposal, CQS = consultants' qualification selection, FTP = full technical proposal, n/a = not applicable, PWRD = Public Works (Roads) Department, Q = quarter, QBS = quality-based selection, QCBS = quality- and cost-based selection.

^a The estimated value includes taxes and duties, but does not include contingencies. The exchange rate is \$1 = ₹75.9682.

C. List of Indicative Packages (Contracts) Required under the Project

3. The following table lists goods, works, and nonconsulting and consulting service contracts for which the procurement activity is expected to commence beyond the procurement plan duration and over the life of the project (i.e., those expected beyond the current procurement plan's duration).

Goods, Works and Nonconsulting Services

| Package Number | General Description | Estimated Value ^a (\$) | Procurement Method | Review | Bidding Procedure | Comments |
|----------------|---|-----------------------------------|--------------------|--------------------|-------------------|---|
| B/GS-1 | Information and communication technology equipment for PWRD offices (desktop computers, laptops, photocopiers, peripherals) | 0.26 million | OCB | Prior | 1S2E | Advertisement: National Prequalification of Bidders: No Domestic preference: No Advance contracting: No Bid documents: Procurement of Goods e-GP: Yes (GEM) |
| B/TE-1 | Piloting technology equipment (automatic traffic counter and classifiers, variable message signs, and pelican signal controllers) | 0.35 million | OCB | Prior | 1S2E | |
| B/TE-2 | Piloting technology equipment (bridge flooding sensors, mobile bridge inspection units, and medium speed weigh-in-motions) | 0.37 million | OCB | Prior | 1S2E | |
| B/RS-1 | Piloting road safety equipment | 0.15 million | OCB | Prior | 1S2E | |
| B/VE-1 | Patrolling vehicles | 0.40 million | OCB | Prior | 1S2E | |
| B/ET-1 | External trainings and study tours of the PWRD staff in 2023 | 0.10 million | RFQ | Prior | n/a | Advertisement: n/a Prequalification of Bidders: No Domestic Preference Applicable: No Bidding Documents: n/a Advance contracting: No Use e-GP: No |
| B/ET-2 | External trainings and study tours of the PWRD staff in 2024 | 0.10 million | RFQ | Prior | n/a | |
| B/ET-3 | External trainings and study tours of the PWRD staff in 2025 | 0.10 million | RFQ | Prior | n/a | |
| B/ET-4 | External trainings and study tours of the PWRD staff in 2026 | 0.10 million | RFQ | Prior | n/a | |
| B/ET-5 | External trainings and study tours of the PWRD staff in 2027 | 0.10 million | RFQ | Prior | n/a | |
| C/RS-1 | Road safety works in Bongaigaon and Chirang District | 2.19 million | OCB | Prior ^b | 1S2E | Advertisement: National Prequalification of Bidders: No Domestic Preference Applicable: No Bidding Documents: ADB SBD works Advance contracting: No Use e-GP: Yes |
| C/RS-2 | Road safety works in NC Hills and Karbi Anglong District | 5.34 million | OCB | Prior ^b | 1S2E | |
| C/RS-3 | Road safety works in Cachar, Hailakandi, and Karimganj District | 3.99 million | OCB | Prior ^b | 1S2E | |
| M/OF-3 | PMU office furniture, equipment, and consumables 2 | 0.08 million | RFQ | Prior | n/a | Advertisement: n/a Prequalification of Bidders: No Domestic preference: No Advance contracting: No Bid documents: n/a e-GP: Yes (GEM) |
| M/LT-2 | Land transportation services in 2024–2025 | 0.08 million | RFQ | Prior | n/a | Advertisement: n/a Prequalification of Bidders: No Domestic preference: No Advance contracting: Yes Bid documents: n/a e-GP: Yes (GEM) |
| M/LT-3 | Land transportation services in 2026–2027 | 0.05 million | RFQ | Prior | n/a | |

1S2E = single-stage two-envelop, GEM = Government e-Marketplace, n/a = not applicable, OCB = open competitive bidding, PMU = project management unit, PWRD = Public Works (Roads) Department, RFQ = request for quotation, SBD = standard bidding document.

^a The estimated value includes taxes and duties, but does not include contingencies. The exchange rate is \$1 = ₹75.9682.

^b It will be switched to post review (sampling), subject to performance of Public Works (Roads) Department.

Consulting Services

| Package Number | General Description | Estimated Value ^a (\$) | Selection Method | Review | Type of Proposal | Comments |
|----------------|----------------------------|-----------------------------------|------------------|--------|------------------|--|
| M/CS-3 | Project management support | 0.50 million | Individual | Prior | n/a | Type: Individual Quality-Cost Ratio: n/a Assignment: National Advance contracting: No Use e-GP: No |

^a The estimated value includes taxes and duties, but does not include contingencies. The exchange rate is \$1 = ₹75.9682.

D. List of Awarded and Completed Contracts

4. The following table lists the awarded contracts and completed contracts for goods, works, and nonconsulting and consulting services.

Goods, Works, and Nonconsulting Services

| Package Number | General Description | Contract Value | Date of ADB Approval of Contract Award | Date of Completion | Comments |
|----------------|---------------------|----------------|--|--------------------|----------|
| | | | | | |
| | | | | | |

TERMS OF REFERENCE FOR CONSTRUCTION SUPERVISION CONSULTING SERVICES

A. Background

1. The Public Works (Roads) Department (PWRD) of the Government of Assam has initiated the Assam South Asia Subregional Economic Cooperation (SASEC) Corridor Connectivity Improvement Project for the improvement and upgradation of state highways (SH) and major district roads (MDR), with the assistance of the Asian Development Bank (ADB) under the government's flagship program, Asom Mala. Most road pavements in the SH and MDR network are structurally weak and have poor riding quality that require reconstruction, geometric improvement, and widening. The project includes improvement and widening works for about 312 kilometers (km) of roads.

2. The detailed project reports were prepared by engaging consultants. The reports include detailed engineering designs, environmental management plans, social management plans, land acquisition plans, cost estimate for the works, etc. The reports have been reviewed by the Program Coordination and Management Consultant (PCMC) engaged by the employer for the overall Asom Mala program. The road construction works will typically include improvement of horizontal and vertical alignments to meet geometric standards laid down by the Indian Roads Congress, widening of the roads to two lanes, construction/reconstruction of pavements, construction of new cross-drainage structures and reinforced cement concrete (RCC) bridges, construction of lined drains with or without footpath in built-up areas, road safety engineering measures, and climate resilient and nature-based solutions. The bidding documents were prepared for open competitive bidding (OCB) based on the bill of quantities derived from the detailed engineering designs for item rate contracts. The conditions of contract are from the FIDIC Multilateral Development Bank Harmonized Edition, June 2010.

3. The works are to be carried out per the Specifications for Road and Bridge Works issued by the Ministry of Road Transport and Highways (MORTH). The works are to be implemented by the PWRD, which manages the entire state road network including the rural roads. The PWRD intends to engage a construction supervision consultant (CSC) to supervise the road and bridge construction works for achieving the objectives discussed below.

B. Objectives

4. The main objective of the consultancy services is to ensure effective delivery of the road and bridge works according to the prescribed designs and construction specifications and quality standards, avoiding time and cost overruns as well as disputes and underperformance, and providing professional advice and support to the employer on contract management issues. In summary, the consultancy aims for the following:

- (i) to ensure timely completion of road and bridge works and avoid cost overrun;
- (ii) to professionally manage the contracts to ensure high quality of works complying with the drawings, technical specifications, and conditions of the contracts; and
- (iii) to infuse the latest construction technology, contract management, and highway best practices in the Assam PWRD.

C. Tasks

5. The PWRD will implement the works contracts as the "Employer." The project management unit (PMU) headed by the Chief Engineer (Externally Aided Projects [EAP]), PWRD will manage the overall implementation of the project on behalf of the PWRD. The PWRD division

offices headed by the Executive Engineers (EE) will act as the employer's representative in the field. The Office of the Chief Engineer (EAP), PWRD will serve as the project management unit (PMU) and the concerned PWRD division office will serve as the project implementation unit (PIU). The PCMC engaged by the PWRD for Asom Mala shall assist and support the PMU in implementing the project. They will monitor the outputs and review the reports of the CSC as part of the PMU functions.

6. The Team Leader of the CSC will administer the works contracts as the "Engineer" and supervise the execution of the works. The Resident Engineers and other team members will act as the Engineer's representative. The Team Leader shall be responsible for all actions taken by the team of professionals deployed for the assignment.

7. The scope of services shall include administering the works contracts and supervising the road and bridge works to achieve the objectives in para. 4 above. The tasks of the consultant shall include, but not be limited to, the following:

- (i) Act as the "Engineer" and administer the road improvement and upgradation works contracts.
- (ii) Assist the employer in managing implementation of the civil works contracts.
- (iii) Ensure works are executed as per the Technical Specifications and Conditions of Contract.
- (iv) Review the securities submitted by the contractor and ensure that they are in acceptable formats and valid for the period stipulated in the contract.
- (v) Ensure submission of insurances by the contractor as per the requirements of the contracts.
- (vi) Review compliance with the documentation and advance action requirements, including securing all statutory clearances and permits or handing over of site, and advise on issuing the notice to set the commencement date.
- (vii) Ensure that the contractor submits revised work/construction program on time. Scrutinize and approve revised work/construction programs of contractors, after necessary modifications as required, and ensure that the contractor complies with the program. It must be ensured that the work program is resource based.
- (viii) Ensure that the contractor submits construction methodology on time. Scrutinize and approve the construction methodology submitted by the contractor for carrying out the works and ensure that it meets the technical specifications; work program; environmental management plan; and safety of works, personnel, and general public.
- (ix) Issue Quality Assurance Plan (QAP) and Quality Assurance Manual (QAM), approved by the employer, to the contractor and ensure that the formats and provisions in it are strictly followed by the contractor.
- (x) Monitor deployment of key personnel as per the works contracts and approved work programs and issue necessary instructions for corrective actions to be taken by the contractor.
- (xi) Ensure that the contractor's mobilization of plants and equipment are as per the specifications in the contract as well as the approved work program. The consultant shall ensure that necessary permits for setting up of plant and machineries are renewed as required in a timely manner.
- (xii) Check the designs, drawings, bill of quantities provisions and specifications with respect to actual site conditions (by undertaking actual field visits) and make modifications, if required or deemed appropriate. Any major modification, which

- leads to variations more than the limit as contained in the applicable clause, shall be made only after approval of the employer.
- (xiii) Pursuant to the checklist above, the CSC shall undertake the required realignment, redesign/modification, any additional design of bridge/structure required for proper execution of the works and its related approvals from concerned authorities without any extra cost, including remuneration of personnel, equipment, surveying, software, and office supplies, etc.
 - (xiv) Issue "good for construction" (GFC) drawings and provide additional detailed drawings wherever required for all works including road works, bridge works, cross-drainages, longitudinal drainages, junctions, road signs and markings, safety measures, kilometer stones, protection works, etc., based on the contractor's survey and setting out.
 - (xv) Supervise the installation of temporary benchmark (TBM) pillars, traversing and leveling of TBM pillars, taking of Original Ground Levels (OGL) by the contractor as part of the initial survey. Calibration of TBM pillars and OGLs shall be cross-checked and signed by the Executive Engineer of the concerned PIU.
 - (xvi) Supervise the staking out of the proposed center line of the road by the contractor.
 - (xvii) Approve the horizontal and vertical alignment design of the roads based on the initial survey carried out by the contractor. This work will include amending the bidding plan and profile drawings, if required, and issuing the GFC drawings.
 - (xviii) Review the bridge designs and ensure that the designs are structurally safe and economical. Modify the bridge design and drawings based on the review or because of change in founding level as a result of the change in the founding strata or because of site conditions at the time of execution.
 - (xix) Scrutinize and approve the contractor's shop drawings based on initial survey and setting out as required under the contract.
 - (xx) Carry out detailed checking and verification of the setting-out data for the work including lines, levels, and layout to ensure conformity with the GFC/working drawings.
 - (xxi) Conduct the road safety audit during construction and pre-opening of the road for traffic.
 - (xxii) Carry out supervision of all works as per approved method statements and technical specifications of various items of work.
 - (xxiii) Examine the contractor's preparation and the completed portion of work as per "requests for inspection" (RFI) and promptly advise the contractor.
 - (xxiv) Undertake joint measurement of quantities and maintain levels of completed works done by the contractor in part or whole as applicable. Record measurements of completed works in the official online Measurement Book (MB) of the PWRD.
 - (xxv) The CSC shall use software approved by the Indian Roads Congress (IRC)/Ministry of Road Transport and Highways (MORTH) for working out the quantities of area or volume, and get approval of such software/computer program from the employer prior to its use. Standard mode of measurement as given under MORTH specifications shall not be deviated. Site measurements will be jointly signed by the representatives of the consultant and the contractor. Scanned copy of the same will be uploaded along with the recorded measurements in the e-MB in the PWRD e-portal.
 - (xxvi) (a) The Team Leader shall process interim and final payment certificates based on the monthly statement of works submitted by contractors in accordance with the conditions of the contract for payment by the

employer. Interim monthly payments shall be based on interim payment certificates processed by the consultant on the basis of statement of works filed by the contractor. The consultant shall ensure that all applicable deductions are made as per the contract provisions before recommending the interim payment certificate. The consultant will ensure that at no stage shall overpayment be made to the contractor. The consultant will operate in a way that no claim shall be made by the contractors on account of delays in processing of interim payments, recommending ineligible payments, not proposing eligible recoveries/deductions. He/she also needs to be proactive in handling various correspondences from and to the contractors, keeping the employer free from any liabilities and claims.

- (b) In processing contractual certificates, the Team Leader shall certify that he/she has checked at least 10% of the measurements and quality control tests. The Resident Engineer shall check and certify 50% of the measurements and quality control tests. The Assistant Resident Engineer shall check and certify 100% of the measurements and quality control tests. The Team Leader shall intimate the details of these check tests to the employer's representatives before undertaking them, so that the employer can associate, if it wishes to do so. The consultant or any of his/her concerned experts shall do repeat tests or measurements, if directed by the employer. In case of any conflict, the consultant may do test check in the presence of the employer, limited to 5% of total measurement/quality control tests.
- (c) In the event of contractual dispute which may result in legal action, adjudication, or arbitration between the contractor and the client, the consultants will, on the instructions from the client, collate and prepare factual documentation describing the circumstances of the dispute. If required, the consultants will attend hearings and provide all legal and other support to the client.
- (xxvii) Examine the requests for advances based on provisions stipulated in the contract and monitor their utilization.
- (xxviii) Monitor closely the progress of works and mobilization of the contractor on the site, including equipment and key personnel, so that the works are executed as per the approved timelines in the approved work program, and advise the contractor about corrective measures.
- (xxix) Monitor achievement of milestones by the contractor and impose liquidated damages for non-achievement of milestones as per the stipulations in the contract. Revise milestones and seek revised work program from the contractors as required during execution.
- (xxx) Carry out regular inspection of the contractor's equipment, plant, and machinery to ensure that these are operating efficiently and that they do not pose any threat to safety of the workers.
- (xxxi) Witness sampling and testing carried out by the staff of the contractor and undertake additional audit tests as necessary to ensure the quality of works and promptly inform the contractor of the results.
- (xxxii) Review the test results/certificates of all construction materials and sources of materials and undertake additional tests, if necessary, in discussion with the employer, to ensure quality of works.
- (xxxiii) Review and approve all mix designs required to be submitted by the contractors before execution of the works.

- (xxxiv) Prepare updated and additional drawings as required during the contract period and supply these to the contractor in time.
- (xxxv) Maintain a permanent record of all tests carried out for monitoring the quality of works.
- (xxxvi) Maintain a permanent record of all measurements for the work quantities and all payment certificates issued.
- (xxxvii) Prepare financial statements of works under the contracts.
- (xxxviii) Maintain a diary for day-to-day recording of all relevant events of the works in the format approved by the employer.
- (xxxix) Ensure the submission of the work zone safety plan and its compliance by the contractor.
- (xl) Review and formally approve the work zone safety plan submitted by the contractor. This shall include environmental, health, and safety of the construction workers at the active construction site. It shall also include safety of traffic and pedestrians during construction in the work zone.
- (xli) Review and approve "as-built" drawings prepared by the contractor. Assist the PMU and field units to include key data from the "as-built" drawings in the geographic information system (GIS) database of the asset management system.
- (xlii) Issue certificate of completion of works upon request from contractors after ensuring that no works are remaining to be executed.
- (xlili) Inspect the completed works during the defect liability/notification period and ensure that any defects noticed are rectified promptly by the contractor.
- (xliv) Assist the employer with respect to contractor's claims and other matters.
- (xlv) Assist the employer in all aspects including preparing replies with respect to right to information for arbitration, the appeal of arbitration or litigation related to the works, as and when required.
- (xlvi) Ensure that the contractor implements the environmental management plan (EMP) as per the contract.
- (xlvii) Oversee and review environmental monitoring data furnished by the contractor for the works contracts during and after construction.
- (xlviii) Prepare quarterly and annual environmental safeguard reports based on the EMP monitoring as per the format agreed with the employer.
- (xlix) Monitor the status of the contractor's compliance with HIV/AIDS provisions in the works contracts.
- (l) Assist the employer in reporting the achievements of the results framework of the project.
- (li) Prepare monthly reports fully describing the progress of works including implementation of environmental management plan and the services rendered by the consultant during the month under review, indicating also the problem areas and action(s) required to overcome them.
- (lii) Monitor the contractors' implementation arrangements in all matters concerning safety, appropriate personal protective equipment (PPE), and care of the work, including labor welfare.
- (liii) Provide services of any other specialist (not listed in the contract), as may be required and authorized by the employer, at the rate available in the construction supervision contract or as mutually agreed upon.
- (liv) Conduct management meetings to review the plans for the remaining work and to deal with matters regarding early warning.
- (lv) Ensure that the contractor's Environment, Social, Health and Safety (ESHS) performance is in accordance with good international industry practice and delivers

the contractor's ESHS obligations. The ESHS related services include, but are not limited to, the following:

- (a) review and approve the contractor's Environment and Social Management Plan (C-ESMP), including all updates and revisions (not less than once every 6 months);
 - (b) review and approve ESHS provisions of method statements, implementation plans, gender-based violence (GBV)/strategic environmental assessment (SEA) prevention and response action plan, drawings, proposals, schedules, and all relevant contractor's documents;
 - (c) review and consider the ESHS risks and impacts of any design change proposals and advise if there are implications for compliance with the environmental and social impact assessment (ESIA), ESMP, consent/permits, and other relevant project requirements;
 - (d) undertake audits, supervisions, and/or inspections of any sites where the contractor is undertaking activities related to the works to verify the contractor's compliance with ESHS requirements including its GBV/SEA obligations, with and without the contractor and/or client relevant representatives, as necessary, but not less than once per month;
 - (e) undertake audits and inspections of contractor's accident logs, community liaison records, monitoring findings, and other ESHS related documentation, as necessary, to confirm the contractor's compliance with ESHS requirements;
 - (f) agree on remedial action/s and their timeframe for implementation in the event of a noncompliance with the contractor's ESHS obligations;
 - (g) ensure appropriate representation at relevant meetings, including site meetings and progress meetings, to discuss and agree on appropriate actions to ensure compliance with ESHS obligations;
 - (h) check that the contractor's actual reporting (content and timeliness) is in accordance with the contractor's contractual obligations;
 - (i) review and critique, in a timely manner, the contractor's ESHS documentation (including regular reports and incident reports) regarding the accuracy and efficacy of the documentation;
 - (j) undertake liaison, from time to time and as necessary, with project stakeholders to identify and discuss any actual or potential ESHS issues;
 - (k) establish and maintain a grievance redress mechanism including types of grievances to be recorded and how to protect confidentiality, e.g., of those reporting allegations of GBV/SEA; and
 - (l) ensure any GBV/SEA instances and complaints that come to the attention of the consultant are registered in the grievance redress mechanism.
- (Ivi) The consultant shall pay special attention to capacity building and transfer of technology including handholding support to contractors and the PWRD staff through the following:
- (a) regular training sessions for PWRD engineers in construction supervision, contract management, and other related subjects (using its key personnel and invited experts);
 - (b) regular trainings workshops and field demonstrations for construction operations for contractor's staff;

- (c) study tours/workshops/internal exposures for the PWD (a provisional sum of ₹5 million is available under the contract—to be used with the permission of the employer); and
 - (d) the PWD may deputize some of its staff to the CSC team for counterpart training.
- (lvii) The consultant shall be responsible for all communications to contractors and information management, including keeping records of all communications and contract related information. It shall include the following:
- (a) prepare and use standard formats and templates for project communications;
 - (b) ensure effective communication with the contractor, avoiding any liability of delay on the part of the employer;
 - (c) establish and use a computerized documentation control system to record/receive/issue/approve/reject/monitor requests for inspection (RFI) and all contractual correspondences. The system should have real time interface with the client and the contractor; and
 - (d) handover to the employer of all the project records that include correspondences, memos, minutes of meetings, and other documents describing the project in an organized manner, sorted on month-wise, upon completion of the assignment, in hard copy and soft copy.
- (lviii) The consultant's task shall include risk management, including the following:
- (a) identify the risks that may affect contract implementation including time and cost overruns, and financial, legal, or other liabilities; and
 - (b) keep the employer fully informed about the risks, suggest and implement the remedial measures required to avoid and mitigate the risks to minimize their adverse impacts.

D. Consultant's Inputs

8. The assignment will be carried out over a period of 48 months. The assignment will be implemented by a consulting firm. It is anticipated that 84 person-months of inputs by international consultants and 3,091 person-months by national consultants will be required. The required experts, relevant experience and qualification, and their person-month inputs are shown in Table F-1.1.

Table F-1.1: Key Experts and Qualification Requirements

| No. | Title | Relevant Experience and Qualification | Position | Person-Months |
|-----------------------------------|-------------------------------------|---|----------|---------------|
| Key Expert (International) | | | | |
| I.a-1 | Team Leader/Senior Highway Engineer | <ul style="list-style-type: none"> Bachelor's degree in civil engineering, preferably postgraduate degree in highway engineering, transportation engineering, soil and foundation engineering, geotechnical engineering, and membership in professional institutions Total professional experience: At least 25 years with strong international experience, including senior position (team leader or deputy team leader) for preferably 5 years for highway projects in developed countries Project-related experience: Desirably 8 years as highway engineer in two highway construction projects of similar nature of preferably 50 km length | 1 | 48 |

| No. | Title | Relevant Experience and Qualification | Position | Person-Months |
|------------------------------|-----------------------------------|--|----------|---------------|
| | | <ul style="list-style-type: none"> Familiarity with international and Indian Standards, and MORTH specifications for design of highways including related software (MX-Road, AutoCAD 3-D Civil, etc.) Preferential experience: supervising two highway works with FIDIC Conditions of Contract, implementing at least one project aided by multilateral development banks | | |
| I.a-2 | Senior Quality Control Engineer | <ul style="list-style-type: none"> Bachelor's degree in civil engineering, preferably postgraduate degree in civil engineering or its related fields, and membership in professional institutions Total professional experience: At least 15 years Project-related experience: At least 8 years as materials engineer and with experience in various testing procedures, designs of various mixes like GSB, WMM, bituminous mixes, concrete mixes, etc., under two highway projects of similar nature having length of 50 km Preferential experience: Use of local materials, cement treated base and sub base in at least one highway project | 1 | 36 |
| Subtotal | | | 2 | 84 |
| Key Expert (National) | | | | |
| I.a-3 | Senior Quantity Surveyor | <ul style="list-style-type: none"> Bachelor's degree in civil engineering Total professional experience: At least 15 years Project-related experience: At least 8 years as senior quantity surveyor, preferably in five projects of similar nature having hands-on experience in using quantity estimation software used widely in NH works Preferential experience: Hands-on use of industry standard packaged software for quantity calculation for earthworks and other pavement layers in four highway projects | 1 | 39 |
| I.a-4 | Senior Contract Specialist | <ul style="list-style-type: none"> Bachelor's degree in civil engineering Total professional experience: At least 15 years Project-related experience: At least 8 years as contract specialist out of which preferably 5 years on externally aided NH projects, experience in leading one arbitration/dispute resolution case, experience in dealing with contractor's claims, experience in contract management of at least five large NH projects, and thorough experience with FIDIC Conditions of Contract, particularly the Pink Book Preferential experience: Dealing with court cases | 1 | 36 |
| I.a-5 | Senior Bridge/Structural Engineer | <ul style="list-style-type: none"> Postgraduate degree in structural engineering Total professional experience: At least 20 years Project-related experience: At least 10 years of supervision of bridge construction for preferably 10 bridges work each of a length over 60 m Preferential experience: Design of five major bridges preferably | 1 | 12 |
| I.a-6 | Bridge Design Engineer | <ul style="list-style-type: none"> Postgraduate degree in structural engineering Total professional experience: At least 15 years | 1 | 12 |

| No. | Title | Relevant Experience and Qualification | Position | Person-Months |
|--------|-------------------------|---|----------|---------------|
| | | <ul style="list-style-type: none"> Project-related experience: At least 10 years as bridge design engineer with 10 bridges/ROBs work each of length of over 100 m Preferential experience: Field supervision of five major bridges preferably | | |
| I.a-7 | Pavement Specialist | <ul style="list-style-type: none"> Postgraduate degree in highway engineering or its related fields, and membership in professional institutions Total professional experience: At least 20 years in the field of highway engineering Project-related experience: At least 8 years as pavement engineer and with experience of various designs and construction procedures for flexible and rigid pavements (at least five highway projects of similar nature of 50 km and above length), and pavement design using innovative technology in at least two projects Preferential experience: Use of latest pavement construction technology and pavement deterioration performance evaluation studies for two projects | 1 | 4 |
| I.a-8 | Highway Design Engineer | <ul style="list-style-type: none"> Review highway design as per design standards and site conditions. Review and update the design as per report in consultation with the employer if needed. Issue "Good for Construction" plan and profile drawings. Carry out intermittent site visits during construction to assist site staff responsible for managing the construction. Coordinate on design changes with the employer, contractor, and contract specialist | 1 | 12 |
| I.a-9 | Environmental Expert | <ul style="list-style-type: none"> Bachelor's degree in environmental engineering or postgraduate degree in environmental science or other related fields, and membership in professional institutions Total professional experience: At least 10 years Project-related experience: At least 5 years as environmental specialist or environmental engineer in large highway or road construction projects in preferably four projects Required to be conversant with the requirements of the international funding agencies for environmental, social, health and safety policies, and safeguards Preferential experience: At least 5 years in working on externally aided infrastructure projects, experience in imparting training on ESHS | 3 | 66 |
| 1.a-10 | Biodiversity Expert | <ul style="list-style-type: none"> Master's degree in environmental science, biology, ecology, and related fields Total professional experience: At least 10 years Project-related experience: At least 5 years of working experience in biodiversity conservation activities Preferential experience: Experience in wetland management activities, linear projects in environmentally sensitive areas | 1 | 6 |

| No. | Title | Relevant Experience and Qualification | Position | Person-Months |
|-----------------|--|---|-----------|---------------|
| I.a-11 | Climate Change and Disaster Risk Reduction Design Specialist | <ul style="list-style-type: none"> • Bachelor's degree in environmental/civil engineering or postgraduate degree in environmental science, climate change, disaster risk management, or other related fields, and membership in professional institutions • Total professional experience: At least 18 years • Project-related experience: At least 5 years as design engineer working on climate change, disaster risk reduction aspects of infrastructure projects • Preferential experience: At least 5 years in working on externally aided projects | 1 | 6 |
| I.a-12 | Slope Protection Specialist | <ul style="list-style-type: none"> • Bachelor's degree in civil engineering, preferably postgraduate degree in geotechnical engineering, geology, geological science or its related disciplines • Total professional experience: At least 15 years • Project-related experience: At least 10 years in geotechnical investigations and design/implementation/supervision of hill slope and embankment slope on highway contracts, and at least two contracts of similar nature for NH/SH/MDR • Preferential experience: Experience in supervision of externally aided projects in mountainous/hilly terrain | 1 | 6 |
| I.a-13 | Road Safety Engineer | <ul style="list-style-type: none"> • Bachelor's degree in civil engineering, preferably postgraduate degree in civil engineering, or transportation/highway engineering, and membership in professional institutions like IRF • Total professional experience: At least 12 years on highway project specialization with road safety works design and construction • Project-related experience: At least 6 years as road safety engineer in construction/supervision/design of road projects (four contracts of similar nature and value) • Preferential qualification: Certified road safety auditor with experience in conducting two highway road safety audit projects preferably | 1 | 12 |
| I.b-1 | Resident Engineer | <ul style="list-style-type: none"> • Bachelor's degree in civil engineering, preferably postgraduate degree in civil engineering or its related disciplines, and membership in professional institutions • Total professional experience: At least 20 years • Project-related experience: At least 10 years as assistant resident engineer or at least 7 years as resident engineer or project manager in supervision or contract administration of highway or road or bridge construction contracts (at least three contracts of similar nature of 30 km road works involving multi-laning or multiple bridges of cumulative length of at least 100 m but having one major bridge (above 60 m) in a single road project contract) administered for NH or SH • Preferential qualification: Hands-on experience on quality control tests, taking measurement of works using level measurements, etc. | 6 | 216 |
| Subtotal | | | 19 | 427 |

| No. | Title | Relevant Experience and Qualification | Position | Person-Months |
|----------------------------------|--|---|----------|---------------|
| Non-Key Expert (National) | | | | |
| II-1 | Assistant Resident Engineer (Roads) | <ul style="list-style-type: none"> • Bachelor's degree in civil engineering, preferably postgraduate degree in civil engineering or its related disciplines, and membership in professional institutions • Total professional experience: At least 12 years • Project-related experience: At least 5 years as assistant resident engineer/deputy project manager or 10 years as field engineer in supervision or contract administration of highway or road/bridge construction contracts (two contracts of similar nature of 30 km road works involving multi-laning or multiple bridges of cumulative length of at least 75 m but having one bridge (above 40 m), in a single road project contract) administered for NH/SH • Preferential experience: Hands-on experience on quality control tests, taking measurement of works using level measurements, etc. | 11 | 528 |
| II-2 | Assistant Resident Engineer (Bridges/Structures) | <ul style="list-style-type: none"> • Same as above | 8 | 192 |
| II-3 | Quantity Surveyor | <ul style="list-style-type: none"> • Bachelor's degree in civil engineering, preferably postgraduate degree in civil engineering or its related fields • Total professional experience: At least 10 years • Project-related experience: At least 5 years as quantity surveyor/assistant quantity surveyor (preferably two projects of similar nature) • Preferential experience: Hands-on experience in using quantity estimation software in two highway projects (NH/SH) | 11 | 429 |
| II-4 | Material cum Quality Control Engineer | <ul style="list-style-type: none"> • Bachelor's degree in civil engineering, preferably Postgraduate degree in civil engineering or its related fields • Total professional experience: 15 years • Project-related experience: 8 years as materials engineer/assistant materials engineer and with experience in three highway projects (NH/SH) of various testing procedures, designs of various mixes like GSB, WMM, bituminous mixes, concrete mixes, etc., and hands-on experience in quality control is preferable along with above | 11 | 396 |
| II-5 | Field Engineer – Roads | <ul style="list-style-type: none"> • Diploma in civil engineering, preferably bachelor's degree in civil engineering or its related fields • Total professional experience: At least 5 years • Project-related experience: At least 2 years in relevant area, roads of operation in any construction supervision of road projects (NH/SH) | 11 | 396 |
| II-6 | Field Engineer – Bridges | <ul style="list-style-type: none"> • Diploma in civil engineering, preferably bachelor's degree in civil engineering or its related fields • Total professional experience: At least 5 years • Project-related experience: At least 2 years in relevant area, bridges of operation in any construction supervision of road projects (NH/SH) | 8 | 288 |

| No. | Title | Relevant Experience and Qualification | Position | Person-Months |
|-----------------|-------------------------|---|-----------|---------------|
| II-7 | Field Engineer – Survey | <ul style="list-style-type: none"> Diploma in civil engineering, preferably bachelor's degree in civil engineering or its related fields Total professional experience: At least 5 years Project-related experience: At least 2 years in relevant area, surveys of operation in any construction supervision of road projects (NH/SH) | 11 | 396 |
| II-8 | Drafter (Road) | <ul style="list-style-type: none"> ITI/Certified AutoCAD/Diploma in civil engineering Total professional experience: At least 5 years Project-related experience: At least 3 years hands-on experience in computer-aided drafting of road and bridge drawings for major highway project drawings using Autocad | 1 | 24 |
| II-9 | Drafter (Bridge) | <ul style="list-style-type: none"> Same as above | 1 | 6 |
| II-10 | Electrical Engineer | <ul style="list-style-type: none"> Bachelor's degree in electrical engineering Total professional experience: At least 15 years Project-related experience: At least 8 years in construction supervision/design of electrical infrastructure projects, preferably in one highway project Experience in working with government agencies: At least 8 years | 1 | 9 |
| Subtotal | | | 74 | 2,664 |
| Total | | | 95 | 3,175 |

ESHS = environmental, social, health and safety, GSB = granular sub base, IRF = International Road Federation, km = kilometer, m = meter, MDR = major district road, MORTH = Ministry of Road Transport and Highways, NH = national highway, ROB = road over bridge, SH = state highway, WMM = wet mix macadam.

E. Reporting Requirements

9. The consultant shall prepare and submit the reports listed in Table F-1.2, in duplicate and also in soft copy in editable mode. The consultant shall also prepare and submit any other report as may be reasonably required or presentations as and when required by the employer or PCMC in connection with the assignment. The consultant shall record minutes of meetings relating to the assignment held from time to time in the format agreed with the employer.

Table F-1.2: Reports for Submission

| Sl. No. | Report | Frequency | Due Date | No. of Copies |
|---------|--------------------------|-------------------------|--|---------------|
| 1. | Inception Report | One time | Within 30 days after commencement of services | 2 |
| 2. | Monthly Progress Reports | Monthly (for 48 months) | By 5th day of the month following the reporting month | 2 |
| 3. | Design Review Report | One time | 1. Initial Design Review Report within 30 days of commencement of services 2. Detailed Design Review Report to be submitted progressively one week preceding the section of work to be taken up by the contractor as per the construction program | 2 |
| 4. | Construction Supervision | One time | Within 30 days after commencement of services | 2 |

| Sl. No. | Report | Frequency | Due Date | No. of Copies |
|---------|---|-----------|---|---------------|
| | Manual | | | |
| 5. | Quality Assurance (QA) Documents | One time | Within 30 days after commencement of services | 2 |
| 6. | Final Report (assignment completion report) | One time | Within 30 days of completion of services | 2 |

TERMS OF REFERENCE FOR RESETTLEMENT PLAN IMPLEMENTATION CONSULTING SERVICES

F. Background

1. The Government of India on behalf of the Government of Assam (GOA) has applied for financing from the Asian Development Bank (ADB) for the Assam South Asia Subregional Economic Cooperation Corridor Connectivity Improvement Project. The project includes road improvement and upgradation of about 312.5 kilometers (km) of state highways (SH) and major district roads (MDR). The project will be implemented by the Public Works (Roads) Department (PWRD). A project management unit (PMU) in Guwahati headed by the Chief Engineer (Externally Assisted Project [EAP]), PWRD will lead the project implementation. A project coordination and management consultant (PCMC) has been assisting the PMU in planning, execution, and monitoring the project. The detailed project reports (DPR) of roads have been prepared by the DPR consultants. There will be a construction supervision consultant (CSC) who will act as the engineer for the civil works contracts with contractors. The PWRD divisions at district level will act as the project implementation unit (PIU).

2. The detailed social impact assessment (SIA) has been prepared based on an enumeration of displaced families and socioeconomic data and information on impacted displaced families generated through sample surveys. The resettlement plans of each of the road sections and the indigenous peoples plan (IPP) of the project have been prepared based on the findings of the SIA and on the direct purchase policy of the state, relevant national and state acts, rules, policies, and guidelines, and the ADB Safeguard Policy Statement (2009). The resettlement plan outlines the objectives, policy principles, and procedures for land purchase, land acquisition, compensation, mitigation measures, and other assistance for displaced persons²⁸ or displaced families, including the mitigation measures of the non-titled displaced persons. The resettlement plans will ascertain the cost of resettlement and formulate a resettlement and rehabilitation plan for implementation for each road project falling under involuntary resettlement. The IPP will ascertain the cost of the indigenous development plan for mitigating impacts of the project on indigenous peoples.

3. The PWRD intends to engage a consulting firm, cooperative, or nongovernment organization for supporting the PWRD in implementing the resettlement plans and indigenous peoples plan for which the terms of reference have been made.

G. Objectives of the Assignment

4. The objectives of the assignment are the following:

- (i) to implement the resettlement plans and indigenous peoples plan effectively for persons affected because of road improvement and widening works under the project;
- (ii) to conduct meaningful consultations and verification surveys, and to create people's participation in the project; and

²⁸ In the context of involuntary resettlement, displaced persons are those who are physically displaced (relocation, loss of residential land, or loss of shelter) and/or economically displaced (loss of land, assets, access to assets, income sources, or means of livelihood) because of (i) involuntary acquisition of land, or (ii) involuntary restrictions on land use or on access to legally designated parks and protected areas. It covers them whether such losses and involuntary restrictions are full or partial, permanent, or temporary.

- (iii) to update the respective resettlement plans and/or indigenous peoples plan, if required, in line with the act, rules, and policies of the state and central governments as well as guidelines of ADB.

H. Scope of Services/Tasks of the Consultant

5. The tasks of the consultant shall inter alia include the following:

- (i) Assistance, documentation, and due diligence during direct purchase of land through negotiated settlement under the direct purchase policy of the state
- (ii) Resettlement of non-titled displaced persons for land acquisition through the Assam Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Rules 2015, by
 - (a) conducting detailed verification survey of physically and economically displaced persons and identifying vulnerable households affected by the project;
 - (b) preparing the list of the actual affected persons and updating the Resettlement Plan Database;
 - (c) facilitating the process of direct purchase, land acquisition, disbursement of compensation to the displaced persons, coordinating with the revenue department, and informing the displaced persons of the compensation disbursement process and time line;
 - (d) assisting displaced persons in opening joint bank accounts, if required, explaining the implications, rules, and obligations of a joint account and how they can access the resources they are entitled to; and
 - (e) identifying the training needs of the displaced persons and recommending suitable training programs for income restoration
- (iii) Resettlement and indigenous peoples planning and implementation by
 - (a) supporting the PIU in direct purchase and land acquisition, updating and implementing resettlement plans, ensuring smooth transition (during the partial or full relocation of the displaced persons), implementing the IPP, and helping the displaced persons to take salvaged materials and to shift from the affected structure, if required;
 - (b) conducting meaningful consultation and ensuring disclosure of resettlement plans in an accessible manner to the affected persons;
 - (c) establishing a grievance redress mechanism;
 - (d) keeping detailed records of progress and establishing monitoring and reporting systems of resettlement;
 - (e) acting as the information source for community interaction with the project, and liaising between the community, contractors, CSC, PMU, PIU, PCMC, and other relevant stakeholders, if any, during the execution of the works; and
 - (f) providing advice and other support to the PIU as required

6. Responsibilities for implementation of the resettlement plans and indigenous peoples plan

- (i) The consultant shall verify information in the resettlement plans and indigenous peoples plan and update the resettlement plans and/or indigenous peoples plan, if required.

- (ii) Verify and, if required, append actual losses of the non-titled displaced persons and validate data provided in the resettlement plan and make suitable changes with supporting documentary evidence, if required.
- (iii) Prepare micro plans of the non-titled displaced families, update, and submit these to the PIU and PMU, if required.
- (iv) The consultant shall establish rapport with displaced persons and also with indigenous peoples, consult and provide information to them about the respective entitlements as proposed under the resettlement plans and IPP.
- (v) All meetings and decisions taken in the meeting regarding resettlement plan implementation and IPP implementation and other social issues of the project shall be documented.
- (vi) During the verification of the eligible displaced persons, the consultant shall ensure that all the displaced families are contacted and consulted either in groups or individually. The consultant shall specially ensure consultation with displaced women, indigenous peoples, tribal populations, and other vulnerable groups from the displaced families, especially women-headed households and affected tribal households.
- (vii) Participatory methods should be adopted in assessing the needs of the displaced persons, especially with regard to the vulnerable groups. The methods of contact may include gram sabhas, village meetings, gender participation through group interactions, and individual meetings and interactions.
- (viii) The consultant shall explain to the displaced persons the provisions of the policy and the entitlements under the resettlement plan. This shall include communication to the roadside squatters and encroachers and the respective village/community, if required, about the need for their cooperation, the timeframe for their removal, and their entitlements.
- (ix) The consultant shall disseminate information to the displaced persons on the possible consequences of the project on the communities' livelihood systems and the options available, so that they do not remain ignorant.
- (x) The consultant will monitor to restrict involvement of child labor in the civil construction work in each package.
- (xi) The consultant shall assist the project authorities in ensuring a smooth transition (during the part or full relocation of the displaced persons), helping the displaced persons to take salvaged materials and to shift.
- (xii) In close consultation with the displaced persons, the consultant shall inform the PIU/PMU/contractor(s)/CSC/Engineer about the shifting dates agreed with the displaced persons in writing and facilitate feasible arrangements required by the displaced persons with respect to their entitlements.
- (xiii) The consultant shall assist the displaced families in opening joint bank accounts, if required, explaining the implications, rules and obligations of a joint account, and how they can access the resources they are entitled to.
- (xiv) The consultant should assist the displaced families for electronic transfer of compensation/assistance.
- (xv) The consultant shall facilitate the displaced persons in finding suitable livelihood restoration options and help them in regaining their loss of livelihoods.

7. Accompanying and representing the displaced persons at the grievance redress committee (GRC) meetings

- (i) The consultant shall nominate suitable person(s) (from their staff) with dedicated mobile number(s) in suitable smart phone(s) to be member(s) of the GRCs.

- (ii) The consultant shall make the displaced persons aware of the existence and functioning of GRCs.
 - (iii) The consultant shall help the displaced persons in filling the grievance application and also in clearing their doubts about the procedure as well as the context of the GRC award.
 - (iv) The consultant, on behalf of the PIU, shall record the grievances, investigate their authenticity, and bring these to the notice of the GRCs within the stipulated time of receipt of the grievances from the displaced persons. The GRCs shall submit a draft resolution with respect to the particular grievance of the displaced persons, suggesting multiple solutions, if possible, and deliberate on the same in the GRC meeting.
 - (v) Accompany the displaced persons to the GRC meeting on the decided date, help them express their grievance in a formal manner, if requested by the GRC, and inform the displaced persons of the decisions taken by the GRC within the stipulated time of receiving a decision from the GRC.
- 8. Carrying out public consultation
 - (i) In addition to counseling and providing information to displaced persons, the consultant will carry out frequent and periodic meaningful consultation, gender consultation and tribal consultation (if any), with displaced persons and other stakeholders in all affected habitations/hamlets/villages of the road stretches.
 - (ii) The consultant will organize meaningful awareness campaign on road safety in all major habitations/hamlets/villages of the road stretches.
 - (iii) The consultant, along with the PIU, will also organize meaningful HIV/AIDS awareness campaign in all major habitations/hamlets/villages of the road stretches.
- 9. Assisting the project implementation unit with the project's social responsibilities
 - (i) The consultant, along with the PIU, has to pursue and expedite the direct purchase of land and land acquisition procedure, if any, with the district administration and Revenue Department, if required.
 - (ii) The consultant shall support and assist the PIU in implementing the project in the field and in all other project-related activities on social aspects, HIV/AIDS awareness, including collaboration with the line agencies.
- 10. Monitoring and reporting
 - (i) The resettlement plan includes provision for monitoring by the consultant and quarterly and midterm monitoring and evaluation by an independent external agency. The consultant involved in the implementation of the resettlement plan will be required to supply all relevant information and documents to the PMU, PCMC, and external monitoring consultants, if any.
- 11. Administrative responsibilities of the resettlement plan implementation agency (RIA)
 - (i) Site offices shall be established by the consultant near each of the road corridors of the Assam Road Network Improvement Project (ARNIP) where the displaced persons of the respective roads can have easy access. The Team Leader's office/main office may be at Guwahati or double up with any of the site offices. The

consultant may propose different locations in the project region as they deem best fit for delivering the assignment, but the same has to be consistent with the financial proposal.

- (ii) Establish proper office with adequate office infrastructure, e.g., office furniture, computers, printers, scanners, internet connectivity, etc. so that the work will not be hampered.
- (iii) Ensure there should be at least one female in the main office (preferably as key personnel) as well as at least one female in each of the site offices.
- (iv) Work in close coordination with and facilitate instructions from the Social Specialist of the PCMC and/or PMU.
- (v) Support the PIU in the implementation of resettlement plans and IPP.
- (vi) Closely coordinate and cooperate with the construction supervision consultant, civil work contractors, and other relevant stakeholders in favor of the project.
- (vii) Assist the PIU to prepare/update all relevant information, data, and reports as per the instruction and guidance from the PMU and PCMC and provide all data and reports to the PMU and PCMC per their requirement.
- (viii) Coordinate with different levels of the GRCs in redressing grievances.
- (ix) Conduct all public meetings and information campaigns and provide full information to the stakeholders and affected community.

I. Inputs of Experts

12. The composition and inputs of professionals as per the employer's requirements are given in Table F-2.1. The services of the consultant will continue for 30 months (main office), and 16 months in each of the six site offices.

Table F-2.1: Indicative Expert Input Requirement

| Sl. No. | Position | Total Inputs in Person-Month |
|--------------------------------------|---|------------------------------|
| A. | Key Experts (National) | |
| 1. | Team Leader cum Resettlement Expert | 30 |
| 2. | Social cum Gender Specialist (preferably female) | 30 |
| 3. | Community Mobilizer at Site Offices (1 person for each of the six site offices x 16 months) | 96 |
| Subtotal of Key Professionals | | 156 |
| B. | Non-Key Experts | |
| 1. | Office Manager cum Documentation Assistant at main office (1 person for entire period) | 30 |
| 2. | Office Manager cum Documentation Assistant at Site Offices (1 person for each of the six site offices x 16 months) | 96 |
| 3. | Social Surveyor at Site Offices (2 persons for each of the six site offices x 16 months) | 192 |
| Subtotal of Non-Key Experts | | 318 |

13. The responsibilities of the key personnel are summarized below.

Table F-2.2: Responsibilities of the Key Experts

| Sl. | Designation | Responsibilities |
|-----|-------------------------------------|---|
| 1. | Team Leader cum Resettlement Expert | <ul style="list-style-type: none"> Overall responsibility for all the work of implementing the resettlement plan |

| Sl. | Designation | Responsibilities |
|-----|------------------------------|--|
| | | <ul style="list-style-type: none"> • Close coordination with the Social Specialist of the PCMC and PMU, Asom Mala • Overall coordination with the PMU, PIU, and district administration and other departments • Attend and be present in all meetings with the PMU and PCMC • Provide training and guidance and coordinate with the team on resettlement plan and IPP implementation • Preparation and submission of deliverables in time • Updating of resettlement plan, if required • Assist the PIU in resettlement plan and IPP implementation, GRC, etc. • Overall coordination for organizing meetings, participation in all requisite meetings, etc. |
| 2. | Social cum Gender Specialist | <ul style="list-style-type: none"> • Assist the Team Leader of the resettlement plan implementation agency in all implementation aspects • Assessment of women issues and devising programs for women • Designing and implementing community outreach and awareness programs • Needs assessment for preparing mitigation programs for women and other marginalized sectors • Coordination of HIV/AIDS awareness programs • Education of displaced persons on entitlements and requirements for relocation • Preparation of income restoration plans • Coordination of participatory exercises • Preparation of reports |
| 3. | Community Mobilizer | <ul style="list-style-type: none"> • First-level field coordination officer for resettlement plan and IPP implementation • Assist the PIUs in direct purchase of land, land acquisition, if any • Coordination of field verification, socioeconomic surveys, land measurements, and updating of land records • Education of displaced persons on entitlements and requirements for relocation • Preparation of income restoration plans • Coordination of participatory exercises • Coordination of asset valuation • Negotiation of consent awards and new land for relocation • Coordination of resolving land disputes, if any • Identification and coordination of relocation of individual properties and common property resources • Field coordination • On-site verification • Socioeconomic survey • Micro plan preparation |

GRC = grievance redress committee, IPP = indigenous peoples plan, PCMC = program coordination and management consultant, PIU = project implementation unit, PMU = project management unit.

J. Qualification Requirements for the Key Experts

Table F-2.3: Qualification Requirements

| Sl. | Designation | Qualification | Experience | Remarks |
|-----|--------------------|---------------|------------|---------|
| | Key Experts | | | |

| Sl. | Designation | Qualification | Experience | Remarks |
|------------------------|--|--|---|---|
| 1. | Team Leader cum Resettlement Expert | Postgraduate degree in social course such as social work/ sociology/political science/ economics/socioeconomics/ public administration/ anthropology/philosophy/gender studies/rural development, etc. or equivalent | 10 years of experience in resettlement plan and indigenous peoples plan (IPP) implementation in at least three projects assisted by a multilateral development bank (MDB) | 1 person fulltime for entire duration of assignment |
| 2. | Social cum Gender Specialist | Postgraduate degree in social course such as social work/ sociology/political science/ economics/socioeconomics/ public administration/ anthropology/philosophy/gender studies/rural development, etc. or equivalent Or graduate of any discipline with postgraduate degree in gender studies or equivalent | 5 years of experience in resettlement plan and IPP implementation and/or gender study experience in at least one project assisted by an MDB or the National Bank for Agriculture and Rural Development (NABARD) | 1 person fulltime for entire duration of assignment |
| 3. | Community Mobilizer | Graduate | Experience in resettlement plan and IPP implementation and/or gender study experience in at least one project assisted by MDB/NABARD | At least one person for each road corridor of the assignment |
| Non-Key Experts | | | | |
| 4. | Documentation Assistant cum Office Manager | Preferably graduate of any discipline | Preferably 3 years of experience | 1 person each in main office and all site offices |
| 5. | Social Surveyors | Preferably graduate of any discipline | Preferably 1–3 years of experience | At least two persons for each road corridor of the assignment |

K. Reporting Requirements and Time Schedule for Deliverables

14. The consultant will prepare and submit the (i) qualitative reports as listed in Table F-2.4 or any other report as required by the PCMC or employer, (ii) presentations as and when required, and (iii) minutes of meetings held from time to time in the format prepared by the consultant and approved by the employer (except for the inception report).

Table F-2.4: Reports for Submission

| Sl. | Report | Frequency | Due Date | Hard Copy Submission |
|-----|------------------|-----------|---|-------------------------|
| 1. | Inception Report | One time | Within 30 days after commencement of services | All PIUs, PMU, and PCMC |

| Sl. | Report | Frequency | Due Date | Hard Copy Submission |
|-----|---|----------------------------|--|--|
| 2. | Monthly Progress Reports for each road corridor | Monthly | By 5th day of the month following the reporting month | Respective PIU, respective Authority Engineer/CSC |
| 3. | Assignment Completion Report | One time for each corridor | Within 30 days after completion of services for the corridor | Respective PIU, respective Authority Engineer/CSC, PMU, PCMC |
| 4. | Final Report (Assignment Completion Report) | One time | Within 30 days of completion of total services | All PIUs, PMU, and PCMC |

CSC = construction supervision consultant, PCMC = program coordination and management consultant, PIU = project implementation unit, PMU project management unit.

15. Proper documentation will be done with photographs, documents, photocopies, etc., along with the soft copies of the documents and files used and prepared for the assignment. All reports will be in the English language but supporting documents may be in local languages, for which summaries and outcomes will be provided in English. A hard copy of the report along with the soft copies in emails in PDF format will be submitted to the agencies/authorities as mentioned in Table 4. Soft copies of reports in MS Word, compiled as well as raw data in MS Excel format and in other formats, as required, have to be submitted to the respective PIU, PMU, and PCMC.

16. The following documents will be submitted by the consultant:

(i) **Inception report**

The Inception Report detailing plan of action, staff deployment, time schedule, and methodology will be submitted within 30 days of the commencement of the assignment.

(ii) **Monthly progress report**

The monthly progress report (MPR) on activities carried out during the month and proposed for the next months for each of the road corridors will be submitted simultaneously on the 5th day of every month. The MPR will contain data on personnel mobilization, input and output indicators, work charts as against the schedule time frame of resettlement plan and IPP implementation, consultation and counseling processes, process of identification of the resettlement sites, description of imparted or facilitated training programs, progress achieved in land acquisition as per entitlements, etc.

(iii) **Record of meetings**

The minutes of meetings of the grievance redress committee and Gram Sabhas, and meetings between the PIU and displaced persons, etc. will be documented and submitted to the PIU on monthly basis and to the PMU and PCMC on quarterly basis.

(iv) **Record of grievances**

The resettlement plan implementation agency (RIA) will record and document all grievances and the process of redress and submit these to the PIU and with soft copies to the PMU and PCMC on monthly basis.

(v) **Submissions of micro plans**

The RIA will submit and update changes, if any, that occur on relevant plans and the micro plans, if required, with the status of disbursement and payment of compensation, on monthly basis to the PIU, and with soft copies to the PMU and PCMC.

(vi) **Assignment completion report**

The assignment completion report on the resettlement plan and IPP implementation for each road corridor will be prepared at the end of the assignment of that particular corridor, summarizing the actions taken, methods, and personnel mobilized in the assignment, including the summary of support and/or assistance given to the displaced persons and overall physical progress along with the key activities performed under the resettlement plan and IPP implementation. The assignment completion report will be submitted to the respective PIU, PMU, and PCMC.

(vii) **Final completion report**

The completion report of resettlement plan and IPP implementation will be prepared at the end of the contract period summarizing the actions taken during the project, the methods and personnel mobilized in the assignment, as well as summary of support/assistance given to the displaced persons and overall physical progress along with the key activities performed under resettlement action plan implementation. The final completion report will be submitted to the PIU, PMU, and PCMC.

L. Client's Input and Counterpart Personnel

17. Services, facilities, and property to be made available to the consultant by the client:
 - (i) The PIU will act as the client in the district and the PMU will act as the client in the state level.
 - (ii) The client will provide all relevant reports and documents including the resettlement plan and indigenous peoples plan.
 - (iii) The client will provide all administrative support, permissions, and certifications for carrying out the assignment.
 - (iv) The client will provide contact details of all relevant key persons of all institutional stakeholders of the PMU, PIU, PCMC, Authority Engineer, construction supervision consultant, contractor, etc.
 - (v) The client will provide all the comments/suggestions from ADB on resettlement and rehabilitation, indigenous peoples plan, gender equality and social inclusion, etc.
18. Professional and support counterpart personnel to be assigned by the client to the consultant's team:
 - (i) The Social Specialist of the PCMC/PMU will directly coordinate, guide, and assist the consultant's team.
 - (ii) The Environmental Specialist and other staffs of the PCMC/PMU will assist the consultant's team as and when necessary.

TERMS OF REFERENCE FOR INSTITUTIONAL DEVELOPMENT CONSULTING SERVICES

A. Background

1. Established in 1880, the Public Works (Roads) Department (PWRD) is one of the oldest and largest departments of the Government of Assam. The mandate of the PWRD is to develop and maintain the state road infrastructure that includes the state highways, major district roads, rural roads, and urban roads.

2. Assam has a large state road network of 52,895 kilometers (km) managed by the PWRD. This road network presently includes 6,648 km of state highways and major district roads, 44,553 km of rural roads, and 1,694 km of urban roads. National highways of 3,826 km are developed and maintained by the Government of India. The portfolio of projects implemented by the PWRD for managing the road network includes projects funded from the state's own budgetary resources, centrally funded projects, externally aided projects, etc. The flagship programs include the national government's rural roads program, Pradhan Mantri Gram Sadak Yojana, and the state program, Asom Mala, for improvement of state highways and major district roads.

3. The PWRD operates with about 1,845 engineering staff positions, starting from the Special Commissioner and Special Secretary to the Assam PWRD, who is the administrative head of the department, to the junior engineers. There are three Chief Engineers who are the technical heads of the department. There are nine zonal offices headed by the Additional Chief Engineer, 18 Circle offices headed by the Superintending Engineers, and 68 division offices headed by the Executive Engineers. The division offices are the main project implementing units in the districts and field. The divisions have their own subdivisions that function like site offices for supervision of works and maintenance of roads.

4. The roads and highways subsector under the transport sector has undergone tremendous changes, significantly contributing to infrastructure development in the country in the last 2 decades. The effect of change is becoming progressively visible in the northeastern states of the country that have been lagging behind the mainland in terms of development. Assam, which is the gateway to the northeast, has to catch up with the mainland and accelerate the development of its highway infrastructure, which is fundamental to supporting economic growth, creating jobs, and connecting people to essential services such as health care and education.

5. The PWRD as an institution has to be strengthened and made future-ready to efficiently deliver the state road infrastructure projects. In this regard, the Assam South Asia Subregional Economic Cooperation Corridor Connectivity Improvement Project will have to deliver on a fast-track mode within budgeted amounts that meet standards, specifications, and safety requirements. Maintenance also needs to be given priority to prolong the life of road assets and to attain full returns on capital investments. The PWRD has to internalize the new functional areas in the road sector, strengthen its planning function, and implement projects on mission mode—with clearly defined objectives, scope of works, timelines, and measurable outcomes.

6. The PWRD intends to engage a consultant to transform the department into a high performing modern road agency to achieve its objectives. These terms of reference have been made to engage the consultant for this work.

B. Objectives

7. The objectives of the assignment are the following:
 - (i) Strengthen the PWRD's organizational structure to deliver projects efficiently and to build competence in new and emerging functional areas for making it a high performing organization.
 - (ii) Improve business processes and infuse better sector practices in the PWRD for better management of the state road network.
 - (iii) Infuse new technology in highway construction.

C. Scope of Services

8. The scope of services shall include the tasks needed to be carried out by the consultant toward achieving the objectives. The tasks shall include, but not be limited to, the following:

TASK 1: Strengthening organizational setup and capacity building in new functional areas

9. The workload of the PWRD has increased manifold in the last 2 decades. In addition to the increase of volume of road works, contracts, and budget handled by the department, the construction industry has also undergone enormous changes in project preparation, size and types of contracts, procurement, construction methodology, maintenance operations, and asset management practices, etc. However, there has been no proportionate increase in staffing or building of competence in the new areas.

10. Environmental management and climate change resilience have evolved as key integral areas in road development projects. Country regulations have become more stringent to ensure the implementation of these provisions, especially in the past 3 decades of undertaking externally aided projects. Furthermore, increasing awareness among stakeholders on environmental protection and climate resilience calls for focused attention. Floods are a recurrent phenomenon in the state that breach road embankments and cause extensive damage to the road network every year, requiring large amounts of funds to restore transport and communication lines. All these need to be handled competently by the department.

11. Similarly, land acquisition and social management have also evolved as another important area in road development projects. Land acquisition is required to improve road geometry to bring them to proper geometric standards and for widening to augment their capacity to handle the fast increase in traffic volume. Land for the projects need to be acquired and handed over to contractors at the start of the contracts. Projects are often delayed because of delay in land acquisition. Project-affected persons have to be compensated as per the applicable government regulations and policies.

12. The contracting industry is becoming more professional with bigger contract sizes and stringent conditions of contracts, which further require building skill and competence in resolution of disputes and effectively attending to court cases.

13. The age-old practice of maintaining roads through departmental gang labor is getting phased out and recruitments have been stopped for more than 25 years. The productivity of existing laborers is low and maintenance works are being increasingly outsourced to contractors. However, the construction industry is still strongly oriented toward new construction and periodic and special repairs rather than routine maintenance. A modern asset management approach,

mindset, and practice, with a network based approach and proper data collection, will need to be instilled in the department.

14. To deliver the large number of works contracts of the department on time without cost overrun and meeting quality standards, the management of projects throughout their life cycle, starting from detailed project report submission to contract closure and reporting, has to be automated through online information technology (IT) processes. This process has to move toward the concept of paperless office.

15. The requirements as stated above to strengthen the organizational setup and capacity building in new functional areas are not exhaustive and will require further additions. The consultant shall explore further requirements and implement those measures based on the study of five road agencies with a modern setup in India and abroad to suggest suitable additions for dealing with the subject comprehensively. To strengthen the organizational setup and capacity building in new functional areas, the consultant shall undertake the following:

1. Cadre review for strengthening engineering staff

16. The consultant shall undertake a cadre review of the engineering staff of the PWRD and recommend the best suited and practicable cadre strength and positions for smoothly addressing the future needs of the department. The consultant shall include proposals for creation of horizontal and vertical positions at any level of the department. The review shall include the following studies and the output should be detailed and comprehensive:

- (i) Study the short-term, medium-term, and long-term plans of the PWRD, whether formal or informal and anticipated, which shall be implemented by the department in the coming years.
- (ii) Assess the volume and type of capital construction contracts as well as different projects from various sources of funding to be implemented by the department in the coming years.
- (iii) Assess the maintenance requirements and the works required to be undertaken by the department, taking into consideration the existing road asset management system and practices for rural roads for the proper maintenance of the state roads to the desired level.
- (iv) Study the emerging trends in the road construction industry which the department needs to adopt to cater to future needs.
- (v) Study the present staffing of engineers, number and type of offices, branches, and other business units in the department to check their adequacy in addressing the above.
- (vi) Study the technical staffing in the Central Public Works Department (CPWD) and their cadre review procedures as well as staffing in at least five other competent state Public Works Department organizations in the country.

2. Establishing the Environmental and Climate Change Management Cell

17. The consultant shall study the requirements and recommend setting up of a best suited, competent, and dedicated Environmental and Climate Change Management Cell in the PWRD. The cell could be centrally established in the office of the Chief Engineer (Roads,) PWRD so that it can cater to all projects and the road network. The cell can be expanded vertically to division level as per necessity. The consultant shall perform the following:

- (i) Identify the requirements of all statutory and regulatory compliances for environment management and climate change in all stages of project design, preconstruction, construction, and operation.
- (ii) Review policies, including legal and regulatory provisions, as well as conventions and international commitments to which India is a signatory and the safeguards requirements of multilateral funding agencies.
- (iii) Review the actions and time generally taken by the department for obtaining statutory environmental clearances and forest and wildlife clearances for initiating, designing, and implementation of the projects.
- (iv) Identify the industry best practices on environmental issues for road projects through case studies in India and abroad. Assess the gaps with respect to current practices in the department.
- (v) Broadly identify and assess the likely climate hazards and threats, impacts on project, spatial distribution of the impacts, and likely damage.
- (vi) Provide a comprehensive system for managing annual flood damage and implementing the flood damage repair (FDR) works. This It shall include developing an online application module in the department's existing GIS-based online road asset management system and e-portal.
- (vii) Provide a broad framework and a standard operating procedure (SOP) for undertaking climate change related studies in the project along with the climate risk and adaptation assessment (CRA), climate change adaptation (CCA), and other climate related documents for guidance to PWRD, and design guidelines and/or incentives to estimate and report embodied carbon during the construction process.
- (viii) Assess the staff required for the Environmental and Climate Change Management Cell. Examine the requirement of a separate cadre, induction of staff, and their promotional avenues for the cell.
- (ix) Recommend the development of an application in the existing GIS-based road asset management system of the department for the subject to be used by the cell.
- (x) Develop an SOP for addressing the environmental management and climate change issues and their implementation along with a procedure for periodic monitoring and reporting of the compliances/non-compliances.
- (xi) Provide training to the staff in the unit to make them fully competent and motivated to carry forward the environmental management and climate change resilience activities.
- (xii) Provide special emphasis on achieving the applicable UN Sustainable Development Goals (SDG) in carrying out the task under the assignment. An appropriate framework shall be worked out for the cell to undertake annual appraisal on the achievement of the SDGs.
- (xiii) Recommend a framework for monitoring, implementation, and reporting of the environmental management plan (EMP) measures in projects.
- (xiv) Recommend the qualifications and expertise of staff to be deployed in the cell and the necessary measures to sustain/retain them. Examine the requirement of a separate cadre for the staff, their induction in the department, and their promotional avenues.

3. Establishing the Land Acquisition and Social Management Cell

18. Similar to the above cell, the consultant shall study the requirements and recommend setting up a best suited and competent Land Acquisition and Social Management Cell. The cell could be centrally established in the office of the Chief Engineer, PWRD so that it can cater to all

projects and the road network. It can be expanded vertically to the division level as per necessity. The consultant shall perform the following:

- (i) Review government acts, policies, and guidelines pertaining to land acquisition and social aspects applicable to implementation of projects. The government's recent direct purchase policy shall also be reviewed.
- (ii) Review the existing/current entitlement matrix, resettlement framework, social impact assessment, resettlement plan, and policies.
- (iii) Study issues related to vulnerable groups and women toward ensuring gender equality and social inclusion.
- (iv) Assess the staff required for the cell to deal with land acquisition and social assessments including gender and social inclusion as well as indigenous peoples plans for implementation of projects.
- (v) Recommend the adoption of suitable measures to disclose resettlement plans and timely disbursement of compensation and assistance to the affected persons.
- (vi) Provide training to the staff in the cell to make them fully competent and motivated to carry forward land acquisition and social management activities.
- (vii) Prepare project-related information brochures, press briefings, communications materials and interdepartmental writeups, and status of progress.
- (viii) Provide standardized sample reports for reporting progress and activities to be performed by the cell and the staff in it.
- (ix) Examine the requirement of a separate cadre for the staff, their induction in the department, and their promotional avenues.

4. Establishing the Dispute Resolution and Legal Cell

19. The consultant shall study the requirement and recommend setting up a best suited and competent Dispute Resolution and Legal Cell in the office of the Chief Engineer (Roads) so that it can centrally cater to all projects and legal issues of the department. It can be expanded vertically to the division level as per necessity. The consultant shall perform the following:

- (i) Review current practices adopted for resolving disputes/grievances/court cases and study sample issues/grievances/court cases encountered to date.
- (ii) Assess the current dispute redressal mechanism and arbitration process as per the provisions of the latest amendment of the Arbitration and Conciliation Act 1996 and revise them, if necessary, to suit the current needs.
- (iii) Recommend the qualifications and expertise of staff to be deployed in the cell and the necessary measures to sustain them. Examine the requirement of a separate cadre for the staff, their induction in the department, and their promotional avenues.
- (iv) Identify training needs and develop and prepare training modules for the cell. Provide training to the staff in the cell to make them fully competent and motivated to carry forward dispute resolution and legal activities in the department.
- (v) Provide standardized sample reports for reporting progress and activities to be performed by the cell and the staff in it.

5. Strengthening the Information Technology Cell

20. The consultant shall study the recently converted permanent Information and Technology (IT) Cell in the office of the Chief Engineer (Roads), which used to be the Statistics and Metric Cell. The consultant shall perform the following:

- (i) Review the newly formed IT Cell and assess the adequacy of the staff. Review the IT road map and the IT activities planned to be undertaken by the department.
- (ii) Update the IT roadmap and identify the activities required to be undertaken in-house and the activities needed to be outsourced for sustaining the system.
- (iii) Identify the existing underutilized applications and ensure their operationalization. Provide technical assistance to the system integrator/consultant engaged for upgradation of the existing application if engaged during of this assignment.
- (iv) Review measures for further automation of departmental processes to make them more efficient and to strengthen e-governance in the department.
- (v) Recommend the qualifications and expertise of staff to be deployed in the cell and the necessary measures to sustain them.
- (vi) Identify training needs and develop training modules for the staff in the cell. Provide training to the staff to make them fully competent in transforming the department into paperless mode.
- (vii) Provide standardized sample reports for reporting progress and activities performed by the cell and the staff in it.

6. Strengthening the Road Asset Management Cell

21. The consultant shall study the newly set-up Road Asset Management Cell (RAMC) in the office of the Chief Engineer (Roads), which was converted from the Research Development and Quality Promotion (RDQP) Cell. The consultant shall perform the following:

- (i) Review the newly converted cell and assess the adequacy of the staffing with respect to its expected functions and suggest additional staffing to strengthen it.
- (ii) Review the functions of the cell and suggest measures to make the road asset management system (RAMS) a core process within the department and an integral part of the regular business process of the department.
- (iii) Identify training needs and develop training modules for the cell. Provide training to the staff to make them fully competent to sustain the road asset management system for annual road data collection, developing annual plans, budgeting, and maintenance.
- (iv) Provide standardized sample reports for reporting progress and activities to be performed by the cell.

TASK 2: Process improvement and benchmarking

- (i) Review the strategies, mandate, and identify the key performance indicators (KPI) for meeting Assam Vision 2030.
- (ii) Conduct focus group discussions among competent department officials to gain deeper insight into problematic processes, systems, and policies that are hindering the department in delivering outputs efficiently.
- (iii) Study the policies, staffing, processes, and technologies adopted by organizations within the country such as the CPWD, NHAI, NHIDCL, state road development corporations, Border Roads Organisation, and three other state public works departments for benchmarking and re-engineering, particularly the following:
 - (a) Processes requiring improvement
 - (b) Delegation of financial powers and decentralization of approvals
 - (c) Manuals to be issued or followed by the department
 - (d) Policy framework needed to be adopted by the department

- (e) Business plans needed to be developed and followed by the department
- (iv) Study the best practices followed by the US Federal Highway Administration or any leading internationally reputable road agency for introduction in the PWRD.
- (v) Recommend measures to adopt “value for money” in detailed project report preparation and implementation of road improvement works.
- (vi) Recommend benchmark stepwise time taken for each activity of the process, i.e., turnaround time (TAT), including a detailed analysis of critical processes such as project approval, contractor registration, contractor payment process (including time taken in different districts and under different schemes), request for the inspection process, etc.
- (vii) Recommend adequate delegation of financial powers and approvals within these organizations that can be replicated in the PWRD.
- (viii) Suggest implementable solutions to develop the PWRD into a top class road agency, which is efficient, capable of managing the road network and implementing projects with optimum utilization of funds, receptive to new technology, and a high performing modern road agency.

TASK 3: Strengthening road maintenance

22. Appropriate and timely maintenance of roads is required to fully realize the capital investment in road construction and to manage and keep the road network in acceptable condition. The consultant is expected to undertake the following activities for streamlining road maintenance:

- (i) Review the maintenance planning scenario in the PWRD and the policies adopted for maintenance.
- (ii) Review the budgetary provisions and allocation and processes for expenditure approvals, payment period, availability of in-house resources such as staffing, equipment, etc. to undertake maintenance activities.
- (iii) Assess the local contracting industry and challenges in taking up maintenance contracts proactively.
- (iv) Study the centralized repository of information and the road asset management system and recommend improvement measures to improve road maintenance.
- (v) Identify the requirement of separate budgetary provision for maintenance of state highways and major district roads. The budget provision shall be examined for recommending segregation of periodic, routine, special repairs, and accidental maintenance.
- (vi) Recommend mechanisms for ensuring timely and proper maintenance and to also institutionalize long-term performance-based maintenance contracts.
- (vii) Identify measures to increase the maintenance budget and to complement it with non-budgetary sources of funds. Review the budgetary head of accounts and recommend the reforms needed to channel the maintenance funding appropriately and integrate it with the road asset management system outputs.
- (viii) Recommend measures to assign maintenance to the Road Asset Management Cell so that implementation of maintenance is done dedicatedly as per plan.
- (ix) Recommend measures to infuse road maintenance as an integral part of the life cycle management of roads so that outputs from the road asset management system are properly utilized for maintaining the secondary road network.

TASK 4: Road financing plan

23. The PWRD has adopted a Road Network Master Plan (RNMP) for the state road network with a 20-year horizon. The RNMP was prepared to consider different aspects of road connectivity, accessibility and mobility requirements, including enhancement of road network requirements in the next 20 years to support economic growth and all-rounded development of the state. Extensive data, sectoral plans, and project reports have been collected and analyzed to ascertain the growth of population, urbanization, employment, etc. toward determining the travel demand. The adoption of the plan is expected to support the development of all sectors including transport, industry and commerce, tourism, agriculture, mining, etc. It is calculated that a total of about ₹3,240,000,000 will be required in the next 20 years for road network improvement. These improvements are segregated into 5-year short-term, 10-year medium-term, and 20-year long-term plans based on defined priorities. To implement the recommendations of the RNMP, the PWRD expects the consultant to undertake the following:

- (i) Study the RNMP and investment requirements for the next 20-year horizon.
- (ii) Undertake financial appraisal of investment proposals and assess the suitability of tolling and public-private partnerships (PPP), keeping in view the latest updates from the Government of Assam.
- (iii) Review the policies, guidelines, rules, and regulations for implementation of various modes of construction such as PPP, toll, hybrid-annuity model, etc.
- (iv) Assess various options for borrowing from the market, i.e., commercial banks, bond/capital market, without sovereign or government guarantee.
- (v) Identify stretches/proposals that can be implemented through various modes such as PPP, toll, bonds, external funding from banks, state's own resources, etc.
- (vi) Recommend various PPP options and determine the optimal PPP model, taking into account the traffic level, suitability for tolling, and availability of viability gap funding from the central and state governments.
- (vii) Prepare a detailed financing strategy and plan for the road development program, clearly delineating the alternate sources and uses of funds, including private financing, domestic borrowing, and multilateral financing.
- (viii) Identify suitable nonsovereign debt instruments from local financial institutions and other domestic capital markets for road infrastructure development.

TASK 5: Contractor appraisal system

24. The performance of any road agency is critically associated with the performance of contractors who actually execute the works in the field. Therefore, performance of the contractor through defined/established evaluation criteria is essential to monitor their performance. The consultant shall perform the following:

- (i) Review the current grading and registration system.
- (ii) Study the best practices prevailing in road organizations such as the National Highways Authority of India (NHAI), Border Roads Organization (BRO), and state road agencies.
- (iii) Develop the Contractor Performance Evaluation Framework (CPEF) for ongoing and proposed projects within the defect notifications period by blending best practices of international, national, and state road agencies with the existing practices of the PWRD. The framework shall broadly involve parameters such as contract timelines, quality of work, project management and performance, health and safety, project clearances, etc.

- (iv) Identify the monitoring framework and institutional setup for enabling a contractor appraisal system.
- (v) Recommend measures to modify the current grading system of contractors to a dynamic performance-based system. The measures shall include a functional and system requirement study for upgrading the online contractor registration system to a performance and appraisal based registration system.
- (vi) Recommend measures to extend the contractor appraisal and registration system to consultants providing services to the department.
- (vii) Train and build the capacity of PWRD engineers to evaluate the performance of the contractors.
- (viii) Sensitize contractors on the agreed evaluation framework.

TASK 6: Update of Public Works Department Code

25. The Public Works Department (PWD) Code was last updated in 1942. Since then, there have been several amendments in financial rules but the code has not been updated. The department has prepared a draft revision of the code, but which is too descriptive and needs to be made precise and shortened. The consultant shall undertake the following tasks and submit a revised updated version for adoption by the PWRD after approval of the stakeholder departments and the government:

- (i) Review the revised draft PWD Code minutely.
- (ii) Study the latest CPWD, NHAI manuals, and PWD codes/manuals of other states and accordingly provide recommendations to the PWRD whether to update the code or to develop manuals.
- (iii) Identify and include new subject matters that are important and required, but are not included in the code such as works zone safety, quality management, public-private partnership, procurement, environment and social management, IT-based processes, road asset management system, etc.
- (iv) Incorporate financial reforms and changes in functions, operations, and management of the road sector that have taken place since the last update.
- (v) Incorporate as necessary the current complaint handling and dispute resolution process and the respective provisions.
- (vi) Consult with Government of Assam stakeholders especially Finance Department officials during the Code review, incorporate the latest developments, recommend the provisions to split the PWD Code into separate manuals for works, accounts, administration, etc., and update it concisely to ensure effective implementation.

D. Duration and Location of the Services

26. The institutional development consultancy services shall be completed over 48 months, with the phasing of mobilization of personnel and other inputs over that period as per the agreed work program. The services shall include delivery of all tasks and operationalizing the recommended measures.

E. Proposed Key Personnel

27. The consultant shall mobilize and maintain a team of suitably qualified and experienced key personnel to undertake the assignment and provide an appropriate complement of supporting administrative/office operations staff. The expected key personnel are shown in Table F-3.1 with an estimate of the likely person-months inputs for each position.

Table F-3.1: Key Personnel

| Key Personnel Title | Tasks in which Expert Input Is Required | Inputs* (person-months) |
|---|--|------------------------------------|
| Institutional Development Specialist – Team Leader | All tasks | 36 |
| Public Works Domain Specialist – Deputy Team Leader | All tasks | 24 |
| Senior Highways Engineer (Planning and Management) | All tasks | 24 |
| Financial Planning and Management Specialist | 1, 2, 3, 4, 6 | 6 |
| Transport/Highway Economist | 3, 4 | 9 |
| Performance Management (including Monitoring and Evaluation) Specialist | 1, 2, 3, 5, 6 | 6 |
| Change Management (Training and Support) Specialist | 1, 2, 3, 5, 6 | 6 |
| Climate Change Specialist | 1, 2, 3, 5, 6 | 3 |
| Information Technology (IT) Specialist (Business Analyst) | 1, 2, 3, 4 | 3 |
| Environment Management Specialist | 1, 2, 3, 6 | 3 |
| Social Management Specialist | 1, 2, 3, 6 | 3 |
| Quality Control (Civil Works) Specialist | 1, 2, 3, 5, 6 | 3 |
| Legal (Legislative/Statutory/Administrative) Specialist | 1, 2, 3 | 3 |
| Human Resource Management Specialist cum Trainer | 1, 2, 3, 5, 6 | 6 |
| Estimated Total Key Personnel Inputs Over Assignment Period | | 135 |
| * These estimated person-month inputs are indicative only. Bidders will need to make their estimation of the nature and quantum of inputs required to perform these services. | | |

28. It is anticipated that, overall, the consultant would be expected to provide approximately 284 person-months of key personnel inputs over the 48 months of the assignment. However, these estimates of key personnel inputs are only indicative and interested consultants shall make their estimations in this regard in their proposals.

F. Qualification and Experience Requirements for Key Personnel

Table F-3.2: Qualification and Experience Requirements

| Position | Minimum Qualifications | Minimum Years of Professional Experience | Specific Required Expertise |
|--|--|---|--|
| Institutional Development Specialist – Team Leader | Graduate degree in engineering with master's degree level qualification in management and/or business administration. Additional specialization in business process reform and/or organizational development is desirable. | 20 | <ul style="list-style-type: none"> Experience as analyst and adviser on development/enhancement of business structures, functions, processes, and resources in public and private sector entities in the road sector Extensive knowledge and experience in capability/performance assessment and in the institutional development and reorganization/restructuring plans in the public sector context in India. Proven capacity for effective innovation and results in organizational development assignments Demonstrated team leadership in at least two Institutional development projects Preference will be given to those who have experience working in externally |

| Position | Minimum Qualifications | Minimum Years of Professional Experience | Specific Required Expertise |
|---|--|--|---|
| | | | aided projects and/or working in northeast India. |
| Public Works Domain Specialist (Public Works Department) and Deputy Team Leader | Graduate degree in engineering, with additional higher level qualifications and/or professional accreditations relevant to Public Works Department (PWD) functions are also desirable. | 15 | <ul style="list-style-type: none"> • Extensive experience serving in senior roles in India's road agency at state and/or national levels, preferably in organizations having a blend of technical, administrative, operational, and service responsibilities such as Public Works Departments • Experience and skill in policy, codes, administrative, budgetary functions, and other processes in the public sector in India, particularly those that influence the development and implementation of infrastructure projects and works • Effective oral and written communication skills (fluency in both English and local vernaculars preferred) |
| Senior Highways Engineer (Planning and Management) | Graduate degree in civil engineering with postgraduate specialization in highway engineering | 15 | <ul style="list-style-type: none"> • Extensive professional experience and skill in infrastructure planning and development for major road networks and associated transport infrastructure • Sound experience in establishing a medium- to long-term master plan in public sector environments for road network development and management • Proven skills in technical and professional capacity building in the context of the road sector. Completed at least two major comparable assignments in highway engineering with extensive responsibilities in planning and operations |
| Financial Planning and Management Specialist | Graduate degree in accounting and/or finance, management, business administration (or the equivalent) | 15 | <ul style="list-style-type: none"> • Extensive experience and skills in the finance aspects of infrastructure works and maintenance planning and management, particularly in the public sector "utility and services" contexts such as Public Works Departments in India • Extensive experience in financial modeling and budget development, and experience in applying this to longer term road sector planning. Proven skill in advising on agency-level financial management strategy and "process issues" • Completion of at least two comparable major assignments |
| Transport/Highway Economist | Graduate degree in accounting and/or finance, management, business administration (or the equivalent) | 20 | <ul style="list-style-type: none"> • Extensive experience in highway financing and public-private partnership projects for infrastructure works and maintenance funding. Sound knowledge of typical road funding at the state level in India |
| Performance Management and Monitoring and Evaluation | Graduate degree in management and/or economics, business, engineering, with additional | 10 | <ul style="list-style-type: none"> • Extensive experience and skills in developing and applying computerized monitoring and reporting systems to planning, project, and program |

| Position | Minimum Qualifications | Minimum Years of Professional Experience | Specific Required Expertise |
|---|--|--|---|
| Specialist | specialist qualifications relevant to performance monitoring and evaluation | | <p>management, preferably in public sector contexts</p> <ul style="list-style-type: none"> • Extensive experience in project-based monitoring of progress, performance, and results, and appraisal/evaluation of outputs and outcomes • Expertise in the development of operational frameworks for IT-supported monitoring and evaluation (M&E) processes, with multilevel reporting capacity and integrated with corporate MIS systems, to support technical, operational, and administrative end users • Completion of at least two comparable major assignments |
| Change-Management (Training and Support) Specialist | Graduate degree in management, education, business administration or engineering (any discipline), with additional qualifications in human resources, social sciences, and/or psychology | 10 | <ul style="list-style-type: none"> • Extensive experience in applying modern management, human resources, social sciences, and/or (applied) psychology concepts and techniques to “change management” plans and activities in organizations to support major business, operational, and/or workplace changes • Extensive experience also in applying contemporary HRM/HRD and training techniques and practices to enhance the implementation process and outcomes of structural, business, and/or workplace changes aimed at sustained improvements in services, performance, and capacity • Effective oral and written communications and presentational skills are essential. Effective interpersonal, process facilitation, and conflict mitigation skills, very desirable • Sound knowledge of the Indian public sector framework and the typical workplace norms and dynamics therein at the state and substate levels, highly desirable • Completion of at least one major comparable assignment in India |
| Climate Change and Disaster Risk Specialist Expert | Master’s degree in climate sciences and/or meteorology, environmental engineering, and related fields | 15 | <ul style="list-style-type: none"> • Experience in development projects and designing adaptation measures with at least 10 years of specialized experience in preparing climate risk assessments and designing adaptation measures for roads • Experience of at least two projects with multilateral development banks is preferred. |
| Information and Communication Technology (ICT) Specialist | Graduate degree in computer science engineering/master of computer application (MCA), and specialist in GIS will be preferable. | 12 | <ul style="list-style-type: none"> • Detailed interaction with officials of the PWRD to study, and have an ability to identify and mitigate the gap to take the processes online. Experience with procurement of ICT equipment and other goods and services |

| Position | Minimum Qualifications | Minimum Years of Professional Experience | Specific Required Expertise |
|---|--|--|--|
| | | | <ul style="list-style-type: none"> • Demonstrated high level administrative skills including ability to work independently and in teams to produce high quality work with minimal supervision • Previous experience with working in public sector organizations will be an added advantage. |
| Environment Management Specialist | Graduate degree in environment, environmental science and/or environmental engineering, with professional specialization in the field of environment management | 15 | <ul style="list-style-type: none"> • Extensive experience and skills in assessing and preparing management plans for environmental aspects of civil works projects, at both preconstruction and implementation stages • Sound experience in the carriage of environment (impact screening and mitigation) responsibilities for major road development and/or maintenance projects. Proven skills in advising on strategy, developing policy and processes, and building staff capacity for environment management responsibilities in infrastructure works in India • Effective interpersonal and communication skills, with fluency in both English and local vernaculars preferred • Completion of two similar major assignments, preferably in India |
| Social (Impact) Management Specialist | Graduate degree from a leading institute/university in social sciences (sociology/social work/social planning, etc.) with additional specialist training and/or qualifications relevant to social impact assessment and management | 10 | <ul style="list-style-type: none"> • Extensive experience and proven skills in planning and conducting social impact assessments and mitigation action plans of major infrastructure projects, including in resettlement and rehabilitation (R&R) aspects • At least 5 years of experience in advising on departmental/agency development of policy, processes, and capacity for social management and R&R responsibilities in major civil engineering projects, particularly in the roads sector • Sound knowledge of Government of India and World Bank policies, guidelines, and "best practices" in the social management and R&R fields • Experience in analysis of land records, in participatory consultation for R&R activities, and the monitoring of land acquisition for works projects • Sound communication and interpersonal skills, preferably in both English and local vernaculars • Completion of two similar major assignments, preferably in India |
| Quality Control/ Assurance (Civil Works) Specialist | Graduate degree in engineering with specialization in civil engineering, with added professional qualifications relevant to (civil works) | 12 | <ul style="list-style-type: none"> • Extensive international-standard experience at senior levels in quality control and quality assurance for civil works (construction and/or maintenance) operations, preferably in the roads sector |

| Position | Minimum Qualifications | Minimum Years of Professional Experience | Specific Required Expertise |
|--|---|--|---|
| | quality control/assurance and/or (civil works) materials testing | | <ul style="list-style-type: none"> Expert knowledge and wide experience in advising on and implementing modern quality control and quality assurance concepts, standards, methods, and technology Extensive experience in policy development and capacity building for works QC and QA processes in public sector entities at HQ and field levels. Effective communication and interpersonal skills Completion of at least two major similar assignments |
| Legal Specialist | Graduate degree in law, with postgraduate specialization(s) in administrative law and/or legislative drafting | 15 | <ul style="list-style-type: none"> Extensive experience as a legal practitioner in public, administrative, and contract law Sound knowledge and experience of India's legal framework and processes, particularly as this relates to changes in public legislation, statutes, and rules affecting functions, responsibilities, and powers of public sector entities Proven skills in legal drafting concerning the preparation of new bills, legislative amendments, regulations, rules, statutory notices, and/or government orders and announcements |
| Human Resource Management Specialist cum Trainer | MBA in human resources management or equivalent | 12 | <ul style="list-style-type: none"> Experience of formulating HR management plans, HR manuals, training modules, etc. Knowledge of Acts and Rules of the country governing HR management in public sector organizations, government departments, etc. Experience in conducting training for contractors, departmental staffs, preferably in works departments |

G. Deliverable Reports and Time line

29. In addition to the task-related deliverables outlined above under the respective task headings, the following standard reports are to be delivered by the consultant during the consultancy services (Table F-3.3).

Table F-3.3: Reports for Submission

| No. | Description | No. of Copies | Cumulative Months from Commencement | Payment |
|-----|---|---------------|-------------------------------------|---------|
| D1 | Inception Report | 3 | 1 | 10% |
| D2 | Institutional Reorganization Report – Draft | 5 | 18 | 10% |
| D3 | Institutional Reorganization Report – Final | 5 | 24 | 10% |
| D4 | Benchmarking Report | 3 | 12 | 10% |
| D5 | Report on Strengthening Road Maintenance | 3 | 9 | 5% |

| No. | Description | No. of Copies | Cumulative Months from Commencement | Payment |
|------------|--|----------------------|--|----------------|
| D6 | Report on Road Financing Plan | 3 | 9 | 5% |
| D7 | Report on Contractor Appraisal System and Draft Terms of Reference | 3 | 12 | 10% |
| D8 | Updated PWRD Code – Draft | 3 | 6 | 10% |
| D9 | Updated PWRD Code – Final | 5 | 12 | 10% |
| D10 | Quarterly Progress Reports | 3 | Each quarter | 10% |
| D11 | Assignment Completion Report – On fully operationalizing all the tasks | 5 | 36 | 10% |

PWRD = Public Works (Roads) Department.

H. Responsibilities of the Client

30. The client will provide the consultant the documents and materials relevant to the assignment available with it.

31. The client will assist in arranging meetings with stakeholders as necessary.

TERM OF REFERENCE FOR ROAD SAFETY CONSULTING SERVICES

A. Introduction

1. The Public Works Roads Department (PWRD) of the Government of Assam is responsible for 52,845 kilometers (km) of the state road network, comprising 2,403 km of state highways, 4,195 km of major district roads, 44,553 km of rural roads, and 1,694 km of urban roads. In addition, Assam has 3,825 km of national highways under the responsibility of the Ministry of Road Transport and Highway (MORTH) of the central government. The PWRD is developing second generation highway corridors under its flagship program, Asom Mala, and road safety is a key priority under the program because Assam's share in road accidents is higher than the national average. In 2019, about 8.1 persons were killed per 10,000 vehicles in Assam as compared to the national average of 5.1. The severity index (number of persons killed per 100 accidents) for the state has gone up from 36.3 in 2005 to 38.4 in 2019, way above the national average of 33.7. The main reasons for road accidents are attributable to the increase of two-wheelers and lack of adequate road safety engineering measures. The impact is further aggravated not only by overspeeding but also by the lack of road safety awareness, education, and enforcement; limited institutional capacities; and involvement of multiple agencies.

2. The Government of Assam is strongly committed to road safety. It adopted an Assam Road Safety Action Plan (RSAP) in 2015 based on the "Safe System Approach" and restructured the road safety council in 2017 to make it more effective. The PWRD has assigned officers to implement road safety. The road safety audit of project corridors has revealed many safety hazards such as (i) untreated junctions; (ii) inadequate sight distance and blind curves; (ii) missing wayside facilities such as bus stops; (iii) lack of pedestrian crossings and footpaths in built-up areas; (iv) missing road signs, lane markings, and protection structures; and (v) obstructions in the proximity of the carriageway. Two-wheelers and slow-moving vehicles constitute about 40% of the current traffic on the project roads and their safety is a key issue.

3. The PWRD is currently preparing the \$375 million Assam Road Network Improvement Project (ARNIP) funded by the Asian Development Bank (ADB) to support the Government of Assam's flagship umbrella program, Asom Mala, for the improvement and upgradation of state highways and major district roads. The project's objectives are to enhance (i) road connectivity, climate resilience, and road safety in the project districts of Assam, and (ii) the institutional capacity of the PWRD. The project includes the (i) improvement of 313 km of strategic corridors under Asom Mala using climate resilient and safety complied design; (ii) retrofitting road safety in about 300 km identified state highways and major district roads in project districts; (iii) development of a PWRD-wide road safety action; (iv) demonstration of multi-agency interventions and road safety awareness programs in two identified corridors; (v) integrating road safety in the existing road asset management system (RAMS) of the PWRD; and (vi) training and capacity building of the PWRD engineers in road safety.

4. Through these terms of reference, the PWRD seeks to engage a highly qualified and experienced consultant conversant with the latest international knowledge and practical solutions on road safety engineering issues in developing countries to support road safety related subcomponents under ARNIP and to mainstream road safety in Asom Mala. The consultant is required to use the latest documents of the Indian Roads Congress (IRC) as well as the latest developments and best practices available on road safety.

B. Objectives of the Assignment

5. The main objective of this assignment is to provide high-level technical assistance to the PWRD to implement the road safety related activities under ARNIP through the following:

- (i) identification of road safety deficiencies on the secondary road network for retrofitting and practicable treatments on existing roads;
- (ii) retrofitting of road safety engineering measures in 300 km of existing state highways and major district roads that lack safety measures. This will include preparation of road safety improvement schemes and supporting their implementation; and
- (iii) incorporation of road safety information in departments under the road asset management system, multi-agency interventions for a road safety demonstration corridor, and building road safety engineering capacities of the PWRD engineers.

C. Scope of the Services

6. The tasks shall include, but not be limited to, the following:

TASK 1: Road safety audit (RSA). The outcome of the audit shall be the identification of road safety deficiencies and formulation of practicable recommendations for retrofitting countermeasures on existing roads.

- (i) The RSA shall be undertaken to the extent required in close coordination with the concerned PWRD project implementation unit (PIU) staff (a) to minimize the risk of accidents likely to occur/occurring on the selected road and to minimize their severity; and (b) to increase awareness about safety from the engineering perspective in managing the road network.
- (ii) The RSA shall be conducted as per the applicable IRC manuals and the Ministry of Road Transport and Highways guidelines.
- (iii) The audit shall, inter alia, examine accident statistics, map them by approximate location, identify causative factors, and prioritize corrective measures. The consultant shall collect road accident data from the concerned police stations as required. In carrying out the task, the consultant should have a targeted thematic implementation and guidelines for safety and traffic management infrastructure, including the following:
 - (a) Pedestrian crossings
 - (b) Active traffic calming and speed control measures
 - (c) Roadside hazards
 - (d) Traffic signals, signages, and pavement markings
 - (e) Street lighting and night time visibility
 - (f) Guardrails and crash barriers
 - (g) Delineators and object hazard markers
 - (h) Safety provisions for school zones, public places, and built-up areas
 - (i) Intersections and interchanges
 - (j) Segregation of mixed traffic including motorcycle lane, bicycle lane, and footpath
- (iv) The consultant shall identify specific potential hazardous locations such as sharp curves, junctions, hairpin bends, high embankments, bridge approaches, unshielded water bodies adjacent to a road, roadside hazards, schools/institutions,

- markets, bus stops, railway crossings, etc.
- (v) The consultant shall identify the need for additional parking lane, keeping in view congested sections, overpasses, road markings, road signs, studs, night safety, traffic capacity of the road and its condition and other important features, and identify deficiencies leading to road safety risks.
- (vi) The RSA data so collected shall be analyzed in detail to arrive at the road safety countermeasures required. Public consultations shall be conducted for collecting safety issues that the nearby communities are facing.
- (vii) The consultant shall organize one-day workshops to share the RSA findings with PWRD engineers on identified road safety issues and recommendations, one at Guwahati and two in PWRD Circle offices. The venue will be arranged by the client.

TASK 2: Preparation of detailed project reports for retrofitting road safety engineering measures

- (i) Prepare road safety improvement schemes including detailed engineering designs based on surveys and investigations, good-for-construction drawings, technical specifications, and cost estimates as per the IRC manuals for project preparation or equivalent standards. The schemes are to be prepared by optimizing the use of available land minimizing additional land requirements.
- (ii) Assist the PWRD in preparing suitable contract packages containing these schemes including the bid documents to procure the civil works. The works shall generally be completed within 9 months and include a defects liability period.
- (iii) For implementation support, undertake road technical examination services at least once in 2 weeks to check the quality of execution and quality control tests to be undertaken by the contractor as per the contract and specifications. The services shall include regular monthly meetings during execution of the civil works to ensure that the road safety improvement schemes are translated on the ground as per the designs. The services shall also include minor design changes as may be required during execution of the civil works. The outputs shall be submitted to the concerned PIUs for approval of requests for inspection (RFI), to be enclosed with payment certificates to be submitted to the project management unit (PMU) for payment of the contractor.

TASK 3: Multi-agency interventions for road safety management for demonstration corridors. Design multi-agency interventions for efficient road safety management on one corridor taken up for improvement and upgradation under the project, defining how the PWRD, traffic police, transport, health, education, local administration as well as local bodies and other stakeholders could work as an efficient and integrated team for road safety management of Asom Mala corridors. The proposed corridor is A04 in Bongaigaon district. This will include traffic enforcement, post-crash care, establishing crash database, road user and community education and awareness programs, identification of hazardous locations and missing or additional road safety engineering measures, avoiding encroachment on the right-of-way and haphazard parking on the roadway, and other issues that are required to be addressed to ensure adequate road safety management on Asom Mala corridors. This task will also include introducing the use of road safety related equipment including speed guns, breath analyzer, video cameras, highway patrol vehicles, and accident rescue equipment to be procured by the employer. It should recommend a model replicable to other project roads if the PWRD decides to implement it. The consultant shall support the PWRD in establishing and operationalizing the system.

TASK 4: Incorporating road safety information in the road asset management system (RAMS). The consultant shall upload the road safety information for all the roads under this assignment in the road safety module of the online GIS-based RAMS. The consultant shall also suggest improvements in the data collection formats and the module, where required, for further improvement of the application.

TASK 5: Training and capacity building. The consultant shall deliver three batches of one-day trainings, covering each batch of 25 PWRD engineers. The consultant shall be provided with key persons from the consultant's team. The consultant shall prepare the training course contents and provide kits to each participant. The costs of venue and food for the participants shall be borne by the consultant. Costs of travel and lodging of participants need not be borne by the consultant.

TASK 6: Other tasks. The consultant shall provide the necessary support and prepare reports for the PWRD to strengthen its participation in the Road Safety Council and the Supreme Court Committee on Road Safety. The consultant shall undertake a road safety awareness campaign for frequent and vulnerable road users of the project roads.

TASK 7: Assessments. Undertake quarterly assessment through the Senior Highway cum Road Safety Engineer on the impacts and effectiveness of the road safety improvement schemes until 3 years after completion of the works. This assessment is to be undertaken through road users/stakeholders' opinion surveys and analysis of crash data collected post construction.

D. Services and Facilities Provided by the Client

7. The PWRD will provide all the data/information/reports related to this assignment available to it. The consultant shall process them as necessary. The PWRD will introduce the Executive Engineer to head the concerned PIUs/division offices and issue necessary instructions for working closely with the consultant, and provide assistance for stakeholders consultations and coordination with other road safety stakeholders such as the Transport Department, police, district administration, etc.

E. Duration of Assignment

8. The duration of the assignment shall be 2 years for completion of the road safety works. It shall also include another 3 years for quarterly assessments on the impacts and effectiveness of the completed road safety improvement schemes.

F. Review

9. The services of the consultant would be monitored on monthly basis by the PMU, PWRD. The consultant shall comply with the suggestions and instructions of the PMU, PWRD.

G. Reports

10. The consultant shall submit a concise monthly progress report to the employer within the first week of the succeeding months. The consultant shall support the PWRD in preparing reports as and when required by the Road Safety Council and the Supreme Court Committee on road safety. The reports are expected to be required quarterly. Reports shall be submitted in duplicate in hard copies and soft copies in editable mode such as MS Word, Excel, AutoCAD, etc., as well as in PDF.

H. Deliverables, Time, and Payment Schedule (to be modified based on the tasks)

11. The monthly progress reports and the deliverables submitted by the consultant shall be reviewed by the PMU (Table F-4.1). Payment against deliverables will be considered only after their acceptance by the employer.

Table F-4.1: Reports for Submission

| Deliverable No. | Description of Deliverables | No. of Copies | Cumulative Months from Commencement | Payment |
|-----------------|--|---------------|-------------------------------------|----------------------|
| D1 | Inception report | 3 | 1 | 10% |
| D2 | Road safety audit report | 5 | 5 | 10% |
| D5 | Detailed project reports and bidding documents for the road safety works packages including traffic management and safety plans | 3 | 7 | 15% |
| D6 | Report on completed road safety training | 1 | 12 | 5% |
| D7 | Report on multi-agency interventions for efficient road safety management on two corridors | | 15 | 5% |
| D 7 | Report on road examination services undertaken for the road safety works <ul style="list-style-type: none"> • 1st quarter • 2nd quarter • 3rd quarter/completion of works • End of defect liability period of all packages | | 15 18 21 33 | 5% 5% 5% 6% |
| D8 | Quarterly assessment report (12 reports) | 5 | 30 | 24% |
| D9 | Assignment completion period | 5 | 36 | 10% |

I. Key Professionals

12. Following is the list of minimum requirements of key professionals for the assignment as determined by the employer (Table F-4.2). However, the consultant may propose additional key professionals as they deem best fit for delivering the assignment, but the same has to be consistent with the financial proposal. The consultant shall propose support staff as per the requirement for the assignment.

Table F-4.2: Key Personnel

| Sl. No. | Position | No. | Anticipated Inputs (person-months) |
|---------|---|----------|------------------------------------|
| 1. | Team Leader cum Road Safety Expert | 1 | 24 |
| 2. | Senior Highway cum Road Safety Engineer | 1 | 60 |
| 3. | Highway Design Engineer | 1 | 9 |
| 4. | Traffic Engineer | 1 | 9 |
| 5. | Quantity Surveyor | 1 | 12 |
| 6. | Material cum Quality Control Engineer | 2 | 18 |
| 7. | Social Specialist | 1 | 3 |
| | Total | 8 | 135 |

13. The following shall be the minimum qualifications and experience of the key professionals

whose curriculum vitae would be evaluated (Table F-4.3).

Table F-4.3: Qualification and Experience Requirements

| Position | Minimum Qualifications and Experience |
|---|--|
| Team Leader cum Road Safety Expert | <ul style="list-style-type: none"> • Postgraduate degree in traffic/transportation/highway/road safety/highway engineering • Minimum of 20 years of general experience in the road sector • Must be a certified road safety auditor and should have preferably attended a road safety audit course at MORTH approved institutions or other similar accredited institutions overseas or undertaken formal road safety engineering training from accredited institutions • Experience in minimum of five projects on road safety audit or as road safety engineer in minimum of three road projects of 2/4/6 lane or elevated roads • Experience in pedestrian safety and traffic calming and thorough understanding of national/international guidelines • Experience in designing and implementing training on road safety will be added advantage • Knowledge and exposure on national/international code of practice on road safety audit reflected in his/her CV • Experience in work zone safety audit assignments or in traffic/transport planning is desirable • Experience in liaising with other interdisciplinary technical specialists in addressing safety issues on infrastructure projects • Experience in construction supervision of minimum of five highway projects (2/4/6 lane or elevated roads) is highly preferable. |
| Senior Highway cum Road Safety Engineer | <ul style="list-style-type: none"> • Graduate degree in civil engineering, preferably with postgraduate degree in traffic/transportation/highway/road safety/related fields • Minimum of 15 years of engineering experience in the road sector • Must be a certified road safety auditor and should have preferably attended road safety audit course at MORTH approved institutions or other similar accredited institutions overseas • Experience in a minimum of three projects on road safety audit in senior position or as road safety expert in a minimum of three road projects with 2/4/6 lane or elevated roads • Developed and implemented systems for preparation of cost estimates and tender documents for road safety designs • Experience in pedestrian safety and traffic calming, traffic signage and markings, traffic signals, roundabouts, variable message signing, pedestrian facilities, management, and accommodations in construction areas, non-motorized transport facilities, traffic signal design and coordination, and thorough understanding of national/international guidelines • Experience in designing and implementing training on road safety will be added advantage. • Knowledge and exposure on national/international code of practice on road safety audit through his/her CV • Experience in work zone safety audit assignments or in traffic/transport planning is desirable. • Experience in construction supervision of a minimum of three highway projects (2/4/6 lane or elevated roads) is preferable. |
| Highway Design Engineer | <ul style="list-style-type: none"> • Graduate degree in civil engineering • Minimum of 8 years of experience in the highway sector. At least 5 years of hands-on experience in highway design using MXROAD or Civil3D or industry standard software including experience in design road intersections, traffic management plans, traffic calming • Experience in designing a minimum of three highway projects/major urban road projects for detailed project report preparation |
| Traffic Engineer | <ul style="list-style-type: none"> • Graduate degree in civil engineering, with preferably postgraduate degree in traffic/transportation/highway/road safety/related fields • Minimum of 12 years of general experience in the transport sector |

| | |
|---------------------------------------|--|
| | <ul style="list-style-type: none"> • Experience required in traffic surveys including classified volume counts, turning movements, pedestrian surveys, etc., analysis, traffic calming, accident analysis, junction design, and other safety features, etc. • Experience in a minimum of three highway projects/major urban road projects as traffic engineer/road safety engineer in highway/urban roads project detailed project report/supervision • Preferably undergone a minimum of 2 weeks road safety audit course at IAHE/CRRRI/IIT/NIT and preferably a certified road safety auditor |
| Quantity Surveyor | <ul style="list-style-type: none"> • Graduate degree in civil engineering • Minimum of 12 years of experience in the highway sector • Minimum of 8 years of experience in quantity surveying and topographic surveys for at least two highway projects. Should be well versed with industry standard quantity calculation tools like Road Estimator, etc. • Must have thorough understanding of MORTH Data Book and specifications, market surveys, measurements, rate analysis, preparations of bills, schedules of quantities, contract documents, etc. |
| Material cum Quality Control Engineer | <ul style="list-style-type: none"> • Graduate degree in civil engineering, preferably with postgraduate diploma/degree in related fields • 12 years of experience in highway sector • 5 years of experience as materials engineer and QA/QC engineer in highway construction projects • Experience in a minimum of three highway projects as materials/pavement engineer in highway projects for construction supervision • Conversant with the requirements of construction works and QA/QC procedures |
| Social Specialist | <ul style="list-style-type: none"> • Graduate degree in sociology or any field, preferably with postgraduate diploma/degree in related fields • 8 years of experience in highway sector • 3 years experience in resettlement and rehabilitation (R&R)/Social Development Specialist dealing with land acquisition and/or R&R in highway or construction projects • Conversant with the requirements of the international funding agencies for social safeguards, and familiar with preparation and implementation of R&R |

Table F-4.4: State Highways and Major District Roads Proposed for Road Safety Improvement

| Sl. | District Name | Road Name | Road Category & No. | Start Location | End Location | Road Length (km) | Condition |
|--------------------------|---------------|--|---------------------|--------------------------|----------------------|------------------|-----------|
| 1 | Bongaigaon | Dhaligaon New Bongaigaon Basugaon Road | MDR-1 | Dhaligaon | Basugaon | 15.8 | Poor |
| 2 | Chirang | Bijnigaon Bhetagaon Panbari Road | MDR-4 | Bijni Bandhab HS Tiniali | Pakbari | 19.1 | Poor |
| 3 | Chirang | Ulubari Borobazar Rangijhora Kalamati Road | MDR-3 | Ulubari | Rangijhora | 24.0 | Poor |
| 4 | Cachar | Pailapool Rajabazar Harinagar Kumarcherra Road | MDR-6 | Pailapool | Kumarcherra | 24.2 | Fair |
| 5 | Cachar | Bhagabazar (NH 54) Kulichera Kalahowar Sherkhana Road | SH-40 | Bhagabazar (NH 54) | Mizoram State Border | 15.5 | Fair |
| 6 | Hailakandi | Samarikona Gaglacherra Bilaipur Phaisen Road | MDR-3 | Samarikona (SH 39) | Mizoram State Border | 39.9 | Poor |
| 7 | Karbi Anglong | Bichithur Ulukunchi Road | MDR-3 | Bichithur | Ulukunchi | 25.4 | Poor |
| 8 | Karbi Anglong | Diphu Dilai Sariahjan road | MDR-8 | Birla, Diphu | Sariahjan | 42.7 | Fair |
| 9 | Karbi Anglong | Howraghat Dokmoka Road | MDR-5 | Howraghat | Dokmoka | 13.0 | Poor |
| 10 | Karimganj | Bhanga (NH 44) Bhairab Nagar R.K. Nagar Anipur Kanaibazar (Achimganj) (NH 44) Road | MDR-8 | Baribgool Tiniali | Kanibazar (NH 44) | 48.3 | Fair |
| 11 | Karimganj | Karimganj Bagarsangan Lakhibazar Suterkandi Road | MDR-14 | Lakhi Bazar (NH 37) | Suterkandi | 15.9 | Poor |
| 12 | N.C. Hills | Haflong Tiniali Garampani Umrangso Dehangi Haflong Jatinga (NH 54 Extn) Road | SH-20 | Khandong | Boro Langlai | 26.0 | Poor |
| Total Length (km) | | | | | | 309.8 | |

km = kilometer, MDR = major district road, NH = national highway, SH = state highway.

TERM OF REFERENCE FOR FINANCIAL MANAGEMENT CONSULTING SERVICES

A. Objective and Purpose of the Assignment

1. An individual consultant will be engaged to enhance the capacity of the Public Works (Roads) Department (PWRD) of the Government of Assam on financial management under the Assam South Asia Subregional Economic Cooperation Corridor Connectivity Improvement Project.
2. The Asian Development Bank (ADB) has increased emphasis on full compliance with the financial management requirement in recent years, in view of its importance in ensuring efficient use of allocated financial resources, including ADB's financial assistance, thus improving efficiency of the overall project implementation. In this regard, ADB and the PWRD agreed that the PWRD will engage a chartered accountant firm to support capacity enhancement for project financial management.

B. Scope of Work

3. Under the direct supervision of the PWRD's Chief Engineer (Externally Aided Project [EAP]), the firm will be responsible for supporting the project management unit (PMU) in the (i) preparation of timely and accurate financial reports including audited project financial statements (APFS) and the project financial management manual, and (ii) capacity building of the PMU staff.
4. During the assignment, special attention shall be paid to the following:
 - (i) All project funds will be used following the conditions of the relevant financing agreement, with due attention to economy and efficiency, and only for the purposes for which the financing was provided.
 - (ii) Counterpart funds that have been provided will be used following the conditions of the relevant financing agreement, with due attention to economy and efficiency, and only for the purposes for which the financing was provided.
 - (iii) All necessary supporting documents as required by ADB's *Loan Disbursement Handbook* (2017, as amended from time to time), records, and accounts will be kept in respect of all project ventures, including expenditures reported via statements of expenditures, if applicable. Clear linkages should exist between the books of account and reports presented to ADB.
 - (iv) Project accounts will be prepared following consistently applied standards, as applicable in India and acceptable to ADB, and give a true and fair view of the financial situation of the project and of resources and expenditures for the year ended on that date.

C. Detailed Tasks and/or Expected Outputs

5. The firm will carry out the following tasks to assist the PMU in financial management:
 - (i) Provide support to the project's financial staff to ensure they are aware of their duties and the relevant sections of project documents, including the (a) loan and project agreements, (b) project administration manual, (c) ADB's *Loan Disbursement Handbook* (2017, as amended from time to time), and (d) anticorruption policy and whistleblowing mechanisms of the national government and ADB.

- (ii) Support the PMU to ensure an effective internal control system on the following: (a) all payments are duly prepared, reviewed, authorized, and recorded in the accounting system correctly and in a timely manner; and (b) all expenditure items meet the eligibility criteria as defined in the ADB financing agreement, and are supported by adequate documentation (invoice, contracts, evidence of payments, etc.) as outlined in ADB's *Loan Disbursement Handbook* as well as the applicable government rules and regulations.
- (iii) Support the PMU in maintaining a well-organized and up-to-date filing system for all accounting and financial records.
- (iv) Support the PMU in maintaining an up-to-date fixed asset register and ensure an annual inventory of equipment, supplies, and materials procured under the project is conducted and documented in a timely fashion.
- (v) Conduct a periodic verification of completeness of transactions recorded in the accounts.
- (vi) Conduct quarterly bank reconciliations for all accounts including advance account, counterpart account, project accounts, and petty cash. List and analyze all the reconciliation items, if any.
- (vii) Conduct a quarterly analysis of account balances in the general ledger and verification of trial balance, and advise the PMU on necessary corrections and adjusting entries (omissions, coding errors, double-counting, etc.), as required.
- (viii) Conduct periodic analysis on outstanding advances.
- (ix) Conduct an analysis of the financial execution of the approved budget (budget-to-actual by activity) and explain any significant variations in financial reports or the notes of the financial statements.
- (x) Conduct quarterly reconciliation of the project disbursement records and ADB's disbursement data available in the Loan Financial Information System (LFIS) to ensure the correctness and completeness of the project records. Follow up on any discrepancies to ensure these are resolved in a prompt manner.
- (xi) Follow up on the implementation of audit recommendations as well as ADB's recommended actions to improve the quality of the audited financial statements to ensure these are implemented in a timely fashion. Develop time-bound action plans as necessary.
- (xii) Assist the project in reporting on any capitalization of interest during construction, if applicable, regarding financing of interest, commitment charges, or other charges that may be charged by ADB from the loan during project implementation. In this regard, liaise with the relevant national authority and the Ministry of Finance for the relevant financial information.
- (xiii) Support the PMU in preparing quarterly and annual financial statements/reports in the format following ADB requirements in a timely manner. Ensure timely submission of the reports including the APFS to the relevant stakeholders as well as ADB, as required.
- (xiv) Assist in the annual audit process and facilitate this so that the project auditors have access to all necessary files and provide assistance to produce financial statements to the external auditor, including (a) receipt and payment statements, (b) reconciliation statements, (c) budget versus actual expenditures analysis statements, and (d) notes to the financial statements.
- (xv) Assist the PMU in preparing withdrawal applications and in the collection and filing of all supporting documentation following ADB's *Loan Disbursement Handbook*.
- (xvi) Support the project in the follow-up of internal and external audit recommendations to further improve the internal controls of the project.
- (xvii) Assist the project in implementing financial recommendations as agreed between

- the project and ADB during review missions.
- (xviii) Prepare the project financial management manual and provide trainings to the finance and accounts staff of the PMU on the manual. The project financial management manual prepared under the World Bank-funded project will be used as a basis and necessary updates will be incorporated.

D. Minimum Qualification Requirements

6. The firm shall meet the following minimum requirements:
- (i) Must be a qualified chartered accountant firm registered with the Institute of Chartered Accountants of India, and included in the list of empaneled firms with the Comptroller and Auditor General (CAG) of India
 - (ii) Project-related experience:
 - (a) More than 10 years of practical experience in the field of financing system and accounting and/or auditing in India
 - (b) Knowledge of computer-based budgeting and accounting packages and direct work experience with an infrastructure implementation project is an advantage.
 - (c) Must be familiar with the financial rules and regulations of the Government of India and Government of Assam
 - (d) Experience in working with international organizations is preferred.

TERMS OF REFERENCE FOR INTERNAL AUDIT CONSULTING SERVICES

A. Objective

1. The objectives of the internal audit are to (i) review the adequacy of the project financial management arrangements, and (ii) provide the project management with timely information on financial management aspects of the project to enable appropriate corrective and follow-up actions. The Internal Auditor shall be responsible for internal checks and controls to ensure the credibility and efficacy of the systems and procedures for project management aimed at transparency and compliance with the relevant guidelines and rules.

B. Scope of Work

2. The internal audit will be carried out for a full financial year on semiannual basis following the relevant national standards of auditing and will include such tests and controls as the auditor considers necessary under the circumstances. When conducting internal audit, special attention should be paid to the following:

- (i) Ensure that the accounting and financial management systems remain reliable and effective in design and assess the extent to which they are being followed.
- (ii) Review the efficacy, adequacy, and application of accounting, financial, and operating controls and thereby ensure the accuracy of the books of accounts.
- (iii) Verify that the system of internal checks is effective in design and operation to ensure the prevention of and early detection of defalcations, frauds, misappropriations, and misapplications.
- (iv) Identify areas of significant inefficiencies in the existing systems and suggest necessary remedial measures.
- (v) Confirm the existence of financial propriety in all decisions and verify compliance to government and statutory requirements as well as requirements of the Asian Development Bank (ADB), where applicable.
- (vi) Confirm that the agreed procurement procedures and arrangements have been followed for works, goods, and services.
- (vii) Check that all expenditures incurred have the necessary supporting documents and have been incurred following the rules of the Government of India and Government of Assam and the relevant financing agreement with ADB.
- (viii) Maintain adequate records regarding the assets created and assets acquired by the project, including details of cost, identification, and location of assets.
- (ix) Carry out physical verification of assets with due diligence.
- (x) Review the reliability and integrity of financial and operating information and the means used to identify, measure, classify, and report such information.
- (xi) Review and appraise the economy and efficiency with which resources are employed.
- (xii) Review operations or programs to ascertain whether results are consistent with established objectives and goals and whether the operations or programs are being carried out as planned.
- (xiii) Conduct an audit of management information system applications to ascertain reasonable assurance.
- (xiv) Ascertain that the internal control system including financial and operational controls, accounting system, and reporting structure is adequate and effective.
- (xv) Suggest ways and means for mitigation of risks associated with the existing procedures and systems.
- (xvi) Monitor compliance with the best practices of corporate governance and identification

- of significant deviations thereof.
- (xvii) Ascertain the integrity and reliability of financial and other information provided to the management and stakeholders, including that used in decision-making.
- (xviii) Identify financial control and process weaknesses, and make recommendations for improvement.
- (xix) Comment on the effectiveness of the mechanisms available in the project management unit (PMU) and project management offices for ensuring compliance with observations of the earlier audit reports. The Internal Auditor shall report on the corrective action taken on the observations of the earlier audit reports and also list the serious observations made by the external auditors that have not yet been complied with.
- (xx) Ensure capacity building of internal auditors of the Public Works (Roads) Department (PWRD), including but not limited to informal on-the-job trainings, formal trainings, development of procedures and guidelines, development of templates for recording internal audit work, and preparing reports.

3. The internal audit will be conducted on semiannual basis and the report should be submitted to the Chief Engineer (Externally Aided Project [EAP]) within 60 days of the end of each semiannual period. The Internal Auditor should verify that the project is effectively and efficiently in compliance with agreed reporting protocols with ADB. The Internal Auditor shall serve as a focal person for the project's auditing activities and shall develop all the auditing policies/systems and their implementation thereof related to the ADB project's finances, which shall serve as the basis for all managerial decisions aside from the effective financial management of funds. This shall require close coordination and communication with the project management unit (PMU) and the PWRD, representatives from the primary stakeholder, external consultants, and field staff, when appropriate. The internal audit report should be structured in a manner to provide the following: (i) audit observations, (ii) implications of the observations, (iii) suggested recommendations, (iv) management's comments/agreed actions, and (v) status of action taken on the previous recommendations.

C. Minimum Qualification Requirements

4. The consultant shall meet the following minimum requirements:

- (i) Must be a qualified chartered accountant firm registered with the Institute of Chartered Accountants of India and included in the list of empaneled firms with the Comptroller and Auditor General (CAG) of India
- (ii) Should have preferably a minimum of 10 years of progressive experience related to auditing in public/private firms, preferably in the development sector
- (iii) Experience in preparing accounting and audit statements/reports for large projects, preferably in foreign and/or donor-funded projects. Experience in internal audits of large infrastructure funded by multilateral development banks will be preferred.
- (iv) Excellent command of MS Office and relevant accounting software