Project Readiness Financing Project Administration Manual

Project Number: 56002-001 Loan Number: {PRFXXX} October 2022

India: Agartala Municipal Infrastructure Development Project

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Project Administration Manual for Project Readiness Financing Facility: Purpose and Process

The project administration manual (PAM) for the project readiness financing (PRF) facility is an abridged version of the regular PAM of the Asian Development Bank (ADB) and describes the essential administrative and management requirements to implement the PRF facility following the policies and procedures of the government and ADB. The PAM should include references to all available templates and instructions either by linking to relevant URLs or directly incorporating them in the PAM.

The executing agency-the Government of Tripura (GOT) acting through the Urban Development Department (UDD) and the implementing agency- the Agartala Municipal Corporation (AMC) are wholly responsible for the implementation of ADB-financed PRF activities, as agreed between the borrower, the GOT acting through UDD, and ADB, and following the policies and procedures of the government and ADB. ADB staff is responsible for supporting implementation, including compliance by the UDD of Government of Tripura, of their obligations and responsibilities for PRF project implementation following ADB's policies and procedures.

In the event of any discrepancy or contradiction between the PAM and the PRF loan agreement, the provisions of the PRF loan agreement will prevail.

After ADB's approval of the PRF proposal, 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 this PAM.

ABBREVIATIONS

ADB	_	Asian Development Bank
AMC	_	Agartala Municipal Corporation
APFS	_	audited project financial statement
DEA	_	Department of Economic Affairs
DPR	_	detailed project report
FMA	_	financial management assessment
GOI	_	Government of India
GOT	_	Government of Tripura
PAM	_	project administration manual
PFS	_	project financial statement
PMU	_	project management unit
PDMC	-	project design and management consultants
PRF	—	project readiness financing
SOE	—	statement of expenditure
UDD	-	Urban Development Department
TOR	_	terms of reference

I. IMPLEMENTATION PLAN

A. Overall Implementation Plan

1. Table 1 presents the overall implementation plan for the project readiness financing (PRF) project and records key implementation, including project management activities (on quarterly basis), which will be updated annually and submitted to ADB with updated contract and disbursement projections for the following year.

	Ad	vance Act	ion	PRF		Р	RF			Р	RF		PRF
		2022		2023)23			20	2024		2025	
Activities	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
PRF Approval													
A. Implementation													
Consultant Selection (Firm)													
Advertisement													
Selection													
Contract Award													
Consultant Selection (Individual)													
Advertisement													
Selection													
Contract Award													
Feasibility studies and detailed engineering designs													
Feasibility studies													
Detailed engineering designs													
Institutional capacity building													
Preparation for Documents for Ensuing Loan													
B. Management Activities													
PRF negotiations													
ADB Board Approval													
PRF Signing													
PRF effectiveness													
Submission of QPRs													
Submission of APFS/AEFS													
Projected date of ensuing loan													

Table 1: Implementation Plan over PRF Project Tenure

ADB = Asian Development Bank, AEFS = annual entity financial statement, APFS = audited project financial statement, PRF = project readiness financing, Q = quarter, QPR = quarterly progress report.

Source: Asian Development Bank.

II. PROJECT MANAGEMENT ARRANGEMENTS

A. Project Implementation Organizations: Roles and Responsibilities

Table 2: Roles	Table 2: Roles and Responsibilities of Key Stakeholders						
PRF Project Implementation/	Management Roles and Responsibilities						
Organizations							
A. Executing Agency: Government of Tripura (GOT) acting through Urban Development Department (UDD)	Establish an empowered committee under the chairmanship of administrative head of UDD; with representations from Finance, and Planning & Coordination departments to monitor and oversee the implementation of the project.						
·	Ensure coordination with Department of Economic Affairs, Ministry of Finance, Government of India (GOI) for project related activities and to ensure adequate allocation of annual budget to the project.						
	Be the focal point at execution level for communication with all stakeholders, including ADB, facilitation coordination for all stakeholder consultations, and be the signatory to all key documents including withdrawal applications and audit reports for submission to the GOT and the GOI on PRF activities.						
·	Liaise with ADB to address any issues during detailed engineering design/procurement/institutional development works of consulting firm under PRF activities.						
	Ensure that AMC timely submits quarterly progress reports and annual project financial statement to ADB.						
·	Conduct review, obtain necessary government approvals for sub- projects and approve detailed engineering designs/any other design works and resource/effort/cost estimates, including detailed project reports (DPRs).						
B. Implementing Agency:							
Agartala Municipal	Appoint a Project Director dedicated for the PRF and establish a project management unit at the AMC, which is adequately staffed and acceptable to ADB.						
	Facilitate improved project readiness by preparing (through a consulting firm and individual consultants), detailed engineering designs, DPRs for subprojects, procurement, safeguards, and other documentations required to access financing from ADB.						
·	Prepare through consulting firm and recommend to the UDD for approval of detailed engineering designs/any other design works, DPRs, procurement and safeguards documentation, and institutional strengthening and capacity building requirements and programs on training/workshops/ seminars/ conferences etc., including necessary coordination with all stakeholders.						
	Process bills for consulting services contracts, and handle the disbursement request to ADB and related tasks. Conduct periodic review of the work progress under PRF project and submit agreed progress/ project reports to the steering committee, GOT, GOI, and ADB.						
·	Maintain separate project records, prepare project financial statements in accordance with financial reporting framework which shall be audited by an independent auditor using relevant audit standard framework as application and submitted the						

PRF Project Implementation/ Organizations	Management Roles and Responsibilities
	audited project financial statements to ADB within six months of close of revenant fiscal year.
	Submit annual audited entity financial statements to ADB within 1 month of approval by the relevant authority at AMC not later than 12 months from close of relevant fiscal year.
•	Take appropriate steps to maintain financial management rating "on-track" at all times during execution of the PRF.
•	Disclosure of information related to the project to the public through government website(s). Facilitate in ensuring compliance with conditions of loan agreement under PRF, GOI, GOT, and ADB guidelines, procedures, and policies.
	Ensure compliance with ADB Safeguard Policy Statement 2009, the environmental and social due diligence frameworks and reports indigenous people's frameworks, etc. as required, for each of the proposed subprojects.
C. Asian Development . Bank	Coordinate with the UDD and AMC on procurement processing for consultants' selection under PRF.
•	Provide guidance to the UDD and AMC on PRF implementation.
•	Monitoring and review of overall implementation of the PRF project in consultation with the UDD and AMC including the following: (i) project implementation schedule, (ii) progress with procurement and disbursement, (iii) monitor effectiveness of safeguard procedures and ensure full social and environmental safeguards compliance, (iv) timeliness of budgetary allocation and counterpart funding, (v) PRF project expenditure, (vi) review compliance with particular loan covenants, and (vii) monitor conformity with ADB anti-corruption policies.
•	Conduct periodic review of the PRF and disclose related information as per ADB's Access to Information Policy.

ADB = Asian Development Bank, PRF = project readiness financing. Source: Asian Development Bank.

B. Key Persons Involved in Implementation

2. The key persons involved in the implementation of PRF are as follows:

Executing Agency

Government of Tripura acting	Officer's Name: Kiran Gitte
through Urban Development	Position: Secretary, UDD
Department (UDD)	Telephone No.: +91-381-2415058
	E-mail address: splsecyudd@gmail.com
Implementing Agency	
Agartala Municipal Corporation	Officer's Name: Dr. Shailesh K Yadav
(AMC)	Position: Municipal Commissioner, AMC
	Telephone No.: +91-381-2385646
	E-mail address: amc.tripura@gmail.com
	Office Address: City Centre, Agartala, Tripura 799001

Asian Development Bank	Asian	Develo	pment	Bank
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Indian Resident Mission	Staff Name: Takeo Konishi Position: Country Director Telephone No.: +91-11-2410-7200 E-mail address: <u>tkonishi@adb.org</u>
Mission Leader	Staff Name: Ashok Srivastava Position: Senior Project Officer (Urban) Telephone No: 91-11-2410-7200 E-mail address: <u>asrivastava@adb.org</u>

C. Project Organization Structure





ADB = Asian Development Bank. Source: Asian Development Bank.

III. COSTS AND FINANCING

A. Key Assumptions

3. The project is estimated to cost \$3.75 million. The government has requested a regular loan of \$3.0 million from ADB's ordinary capital resources to help finance project preparation and design activities. The State of Tripura will finance the equivalent of \$0.75 million for taxes and duties, PMU operating costs and interest during implementation. Taxes and duties are estimated to be \$0.48 million and will be financed from GOT by cash contribution. ADB will finance the expenditures in relation to consulting services, capacity building, and consultant operating costs. Project costs may be revised during midterm review missions.

4. The loan will have a 15-year term, including a grace period of 3 years; an interest rate determined in accordance with ADB's Flexible Loan Product and other terms and conditions set forth in the draft Loan Agreement and Project Agreement. The method of repayment will be a straight-line amortization.

5. The PRF loan will be used for preparing an ensuing project in the urban sector. The PRF loan will be refinanced under the ensuing loan. The refinancing date is the expected date of effectiveness of the ensuing Loan Agreement and Project Agreement and will generally be adjusted to coincide with the actual effectiveness date of the ensuing Loan Agreement and Project Agreement.

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

- (i) Exchange rate: ₹79.34 = \$1.00 (as of 13 September 2022).
- (ii) Price contingencies are based on expected cumulative inflation over the implementation period are as follows:

Item	2022	2023	2024	Annual Average
Foreign rate of price inflation	1.7%	3.4%	5.2%	1.7%
Domestic rate of price inflation	5.8%	10.8%	15.3%	5.1%

Table 3: Escalation Rates for Price Contingency Calculation

(iii) In-kind contributions cannot be easily measured and have not been quantified.

B. Allocation and Withdrawal of Loan Proceeds

7. The PRF will finance procurement of consulting services only (towards recruitment of a consulting firm, and individual consultants), including allocations for workshops and training, studies, field surveys, contingencies, and other reimbursable expenses. Local indirect taxes and duties will be financed from the government resources.

Number	Category	Total Amount Allocated for ADB Financing (\$)	Basis for Withdrawal from the Loan Account
1.	Consulting Services	3,000,000	97.4% of total expenditure ¹
	Total	3,000,000	

Table 4: Allocation and Withdrawal of PRF Loan Proceeds

ADB = Asian Development Bank, PRF = project readiness financing. Note: 1. Excluding taxes and duties imposed within the territory of Borrower. Source: Asian Development Bank.

C. Detailed Cost Estimates by Expenditure Category and Financier

Table 5: Detailed Cost Estimates by Expenditure Category and Financier

		(\$ mill	ion)'				
		ADB	OCR	G	ЮТ	Tota	Cost ²
			% of		% of		Taxes and
Item		Amount	Category ³	Amount	Category	Amount	Duties
Α.	Consulting Services						
1	Feasibility study, detailed engineering designs, and due diligence of priority subprojects completed	2.01	82.44%	0.43	17.56%	2.44	0.37
2	Institutional capacity strengthened	0.59	82.44%	0.13	17.56%	0.72	0.11
	Subtotal (A)	2.60	82.44%	0.55	17.56%	3.15	0.48
В.	Contingencies ⁴	0.40	82.44%	0.09	17.56%	0.49	-
C.	Financing Charges⁵	-	0.0%	0.11	100.0%	0.11	-
Tota	l Project Cost (A+B+C)	3.00	80.00%	0.75	20.00%	3.75	0.48
% To	otal Project Cost		80%		20%	10	0%

ADB = Asian Development Bank, GOT = Government of Tripura, OCR = ordinary capital resources.

Notes:

1. Numbers may not sum precisely because of rounding.

2. Includes taxes and duties of \$0.48 million to be financed from government resources by cash contribution.

3. ADB's effective share for consultancy services is 97.4% net of tax.

4. Physical contingencies computed at 10% for consulting services. Price contingencies computed in the range of 1.7%–1.8% on foreign exchange costs and in the range of 4.0%–5.0% on local currency costs; and includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

 Includes Interest during implementation for the ordinary capital resources (OCR) loan, computed at the 3-year United States dollar fixed swap rate plus an effective contractual spread of 0.50% and surcharge on funding cost margin of 0.16%%. Commitment charges are not applicable on the loan.
 Source: Asian Development Bank.

D. **Detailed Cost Estimates by Year**

	Table 6: Detailed Cost Estimates by Year (\$ million) ¹							
ltem		Total	2022	2023	2024			
Α.	Consulting Services ²							
1	Feasibility study, detailed engineering designs, and due diligence of priority subprojects completed	2.44	0.20	1.10	1.15			
2	Institutional capacity strengthened	0.72	0.04	0.39	0.29			
	Total Base Cost	3.15	0.23	1.49	1.43			
В.	Contingencies ³	0.49	0.03	0.22	0.23			
C.	Financing Charges⁴	0.11	0.00	0.03	0.08			
	Total Project Cost (A+B+C)	3.75	0.27	1.74	1.74			
	% Total Project Cost	100.0%	7.1%	46.4%	46.5%			

Notes:

1. Numbers may not sum precisely because of rounding.

2. Includes taxes and duties of \$0.48 million to be financed from government resources by cash contribution.

3. Physical contingencies computed at 10% for consulting services. Price contingencies computed in the range of 1.7%-1.8% on foreign exchange costs and in the range of 4.0%-5.0% on local currency costs; and includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

4. Includes Interest during implementation for the ordinary capital resources (OCR) loan, computed at the 3-year United States dollar fixed swap rate plus an effective contractual spread of 0.50% and surcharge on funding cost margin of 0.16%. Commitment charges are not applicable on the loan.

Source: Asian Development Bank.

E. Contract and Disbursement S-Curve

	Contract Awards (in \$millior				on)	n) Disbursements (in \$million))
Year	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
2022	-	-		2.00	2.00	-	-	-	0.22	0.22
2023	0.20	0.20	0.20	0.40	1.00	0.19	0.33	0.45	0.45	1.42
2024	-	-	-	-	-	0.56	0.45	0.35	-	1.36
	Total Contract Awards			3.00	То	tal Disbu	rsements	5	3.00	

Fable 7: Contract Awards and Disburser	nent ¹
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Q = quarter.

Notes:

1. Numbers may not sum precisely because of rounding.

Source: Asian Development Bank.



Figure 2: S-Curve

IV. FINANCIAL MANAGEMENT

A. Financial Management Assessment

8. The financial management assessment (FMA) was conducted in March 2022 for the proposed Project Readiness Financing in accordance with ADB's Guidelines for Financial Management Assessment, and related technical guidance notes.¹ The FMA considered the financial management capacity of the implementing agency (IA) Agartala Municipal Corporation (AMC) operating under UDD, GOT. The FMA focused on fund flows, staffing, accounting policies and procedures, internal controls, financial reporting and monitoring and internal, external audit and information systems. The purpose of this assessment was to identify relevant fiduciary risks,

¹ ADB.2015. *Financial Management Assessment: Financial Management Technical Guidance Note.* Manila.

if any and addressing them through suitable measures to ensure adequate financial management arrangements are in place during the proposed PRF implementation period.

9. The assessed pre-mitigation financial management risk is *substantial* mainly because of the following: (i) AMC has no prior experience in implementing ADB-financed projects; (ii) annual financial statement of AMC have not been finalized after FY2015–2016; (iii) weakness in internal control identified by internal auditor; (iv) infrequent internal audit practices (once in a three year period); and (v) accounts are maintained manually since accounting software crashed in 2016, which is yet to replaced. These risks will be mitigated for the purposes of PRF through (i) recruiting a financial management expert to support the PRF on ADB's FM requirement, (ii) procuring an accounting software for AMC to record transactions, and (iii) providing continuous training on ADB's financial management requirements and disbursement procedures. To support the preparation of ensuing project, AMC needs to ensure that annual financial statements are completed and audited prior to loan negotiation of the ensuing loan.

10. The summary of financial management and internal control risks and proposed mitigating measures is presented in Table 8 below. UDD/ AMC shall implement the project, following applicable policies and procedures of the GOT and ADB.

	Risk			Timeframe
Nature of	Asses		Mitigation Measures or	and
Risk	sment	Risk Description	Action Plan	Responsibility
Inherent Risks				
Country specific risks (state level)	Μ	Comptroller and Auditor General of India in the State Finances Audit Report for year ended 31 March 2019 has highlighted inadequacy in internal control and monitoring mechanism.	Mechanisms to create realistic budgetary assumption based on needs of the departments and their capacity to utilize the allocated resources should be in place for ADB Project.	Annually (UDD/ AMC/ PMU)
Entity-specific risks	S	AMC has no prior experience in implementing any externally-aided projects.	Set-up an arrangement to manage PRF funds through a PMU, with qualified staff from AMC, experienced FM expert, develop a chart of accounts for the PRF project, procuring an accounting software like, Tally, for recording transactions and audit for the PRF Project.	Annually (AMC)
Project specific risks	S	Existing staff deputed on the project are not adequately familiar in ADB FM and disbursement procedures, which may lead to a poor rating on financial management during implementation period.	A professional FM expert will be engaged to supplement the existing finance team. ADB will provide regular training (capacity building programs) for finance staff on ADB disbursement procedures, guidelines, and requirements covering FM reporting aspects.	Within 3 months of PRF loan effectiveness (AMC)

Table 8: Financial Management and Internal Control Risk Assessment and Mitigation Plan

	Risk			Timeframe
Nature of Risk	Asses sment	Risk Description	Mitigation Measures or Action Plan	and Responsibility
Overall Inherent Risk	S			
Funds flow	М	GOT releases the ADB PRF loan and its counterpart fund together to AMC through UDD by budgetary allocation. PMU at AMC will manage and disburse the project funds to the consultants. Delays in releasing funding from GOT, may affect the overall timelines of the project.	 Only reimbursement procedure will be used under the ADB loan. Annual budgetary provisions with separate budget line for the PRF and initial budget allocation to be approved by GOT will be required for seamless flow of funds into the PRF project. 	Annually (UDD/ AMC/ PMU) Before loan effectiveness
Staffing and capacity	Μ	Absence of dedicated financial management staff at PMU may lead to a sub-optimal or neglect of financial management function resulting in delays and non- compliance in ADB's financial management reporting.	 A senior level government official having finance background and experience will be assigned at the PMU with overall responsibility to oversee financial management function. The senior official at the PMU will be further supplemented with a professional FM expert from PRF loan to support the senior government official on ADB's FM requirements (maintain separate project records, prepare PFS, auditing etc.) 	Before PRF Ioan signing (UDD/ AMC) Before PRF Ioan signing (AMC)
Accounting policies and procedures	М	The existing capacity of AMC may be inadequate to ensure that separate books and records are maintained for all expenditures incurred on the project and necessary financial reports are prepared as required by ADB and submitted on time. The financial statements of AMC have been prepared in accordance	 FM expert shall support the project in framing of detailed accounting policies and procedures for the PRF project. ADB shall review the draft APFS for the first reporting period and shall provide necessary guidance and support to enable project to comply ADB's financial reporting requirement. In view of several issues on financial management at 	Before finalization of first APFS for the PRF loan (AMC/ PMU/ ADB)

Nature of	Risk Asses	Risk Description	Mitigation Measures or	Timeframe and Responsibility
	SITCH	with accountings standards applicable for local bodies in India.	 AMC for simplicity in preparation of project financial statement cash basis method of accounting is recommended. To help the AMC in ensuing project, a procedures manual on project specific actions for guidance to FM staff that will be developed. This will include specific section on accounting policies and procedures and a chart of account for the ensuing project. 	By end of the PRF loan (AMC/ PMU)
Internal audit	Μ	There are delays in internal audit at AMC. Last internal audit was carried out in September 2021 for the period covering 1 October 2017 to 31 December 2019. Delay of internal audit may hamper monitoring effective internal control. PRF being smaller in size, delays in Internal Audit is not a serious concern. However, Internal Audit for the ensuing project could prove critical. Bank reconciliation have not been prepared on a monthly basis which has been highlighted by the internal auditor.	The scope of internal auditor of AMC shall also include internal audit of PRF project, and which shall be carried out at least bi-annually for effective monitoring of internal control (Appendix 3).	Continuous (AMC/ PMU)
External audit	Н	There have been significant delays in finalization of annual financial statements of AMC. This is resulting in significant delays in completion of audit report. Audit for FY 2017 to FY 2021 is yet to be completed.	• Audit of annual financial statements of AMC to be completed for FY 2017 to FY 2021.	By 1 year after PRF effectiveness (AMC)

	Risk			Timeframe
Nature of	Asses		Mitigation Measures or	and
Risk	sment	Risk Description	Action Plan	Responsibility
		There are several audit qualification in audit report of AMC for the FY 2014, 2015 and 2016 related to non- adjustment of loan and advances, non- availability of detailed list of sundry debtors.		
Project audit	S	Timely submission of APFS. Audit quality of the auditor carrying out audit of project financial statement.	 Correspond with State Accountant General office for inclusion of ADB project into their annual audit plan. In case delays from State Accountant General (Audit) office is anticipated, engage a private empanelled chartered accountant firm who is independent to audit the project accounts using TOR in Appendix 4, after obtaining a prior no objection clearance from ADB. 	Finalize auditor within 60 days of effectiveness of the PRF loan (AMC/ PMU)
			• With FM consultant support and capacity of the PMU enhanced, annual draft PFS will be prepared and made available for auditor within 3 months after the end of the fiscal year so that final audit report is submitted to ADB within 6 months of the close of fiscal year.	PMU to share first completed draft PFS with ADB 15 days prior to final submission
			• To engage reputable audit firms for issuing good quality audit reports including a management letter- PMU to ensure sufficient budgetary allocations are available. The external audit will be conducted based on the agreed terms of reference between ADB and CAG of India.	Continuous (AMC/ PMU)

Nature of	Risk		Mitiantina Managara an	Timeframe
Nature of Risk	Asses sment	Risk Description	Mitigation Measures or Action Plan	and Responsibility
Reporting and Monitoring	S	There is only annual reporting process in the form of annual financial statements which has been significantly delayed for the past five	 Separate project records are maintained and updated with accounting transactions on immediate basis. 	Continuous (AMC/ PMU)
		2021since Financial statements of AMC have not been finalized and audited.	 AMC ensure submission of PFS to the selected auditor within 3 months of the end of the fiscal year and the APFS will be submitted to ADB within 6 months from the end of the fiscal year. The APFS will ensure compliance with TOR agreed with CAG of India. 	Continuous (AMC/ PMU)
			• Financial information to be included in the quarterly progress reports to be submitted to ADB within 45 days after the end of the quarter. The format of the QPRs will be agreed between ADB and AMC which is provided in Annexure 5.	Within 45 days after end of each quarter (AMC/ PMU)
Information systems	S	Accounts are maintained manually in Microsoft Excel. Accounting software used by AMC crashed in 2016 and it is yet to be repaired. In the absence of automated systems– completeness, accuracy and reliability of financial information and their reporting is impaired	To overcome manual processing of accounts, the PRF project will adopt accounting software like, Tally, to meet its day-to-day business data processing needs and to support and record accounting information related to project transactions.	Within 3 months of effectiveness of PRF Ioan (AMC)
		Further this may cause significant delays in the preparation of desired project financial statements. Risk of loss of data integrity is also high.	 Adjustment in the accounting software to be carried will be made to ensure expenditure categories used in the financial reports are consistent with expenditure category used in PAM. 	basis during PRF project period (AMC/ PMU)
		AMC has no set mechanisms for periodic reporting and reconciliation, therefore	Establish mechanisms in accounting software to reconcile project accounts	On continuous basis during PRF project

Nature of Risk	Risk Asses sment	Risk Description	Mitigation Measures or Action Plan	Timeframe and Responsibility
		data completeness, accuracy and integrity cannot be ensured in the entirety.	with ADB disbursement records.	period (AMC/ PMU)
Overall Control Risk	S			
Overall Risk	S			

ADB = Asian Development Bank, AMC = Agartala Municipal Corporation, APFS = audited project financial statement, CAG = Comptroller and Auditor General, FM = financial management, GOT = Government of Tripura, H = high, M = moderate, PAM = project administration manual, PFS = project financial statement, PMU = project management unit, PRF = project readiness financing, S = substantial, TOR = terms of reference, UDD = Urban Development Department. Source: Asian Development Bank.

B. Disbursement

12. The AMC will disburse the project readiness financing loan proceeds following the ADB *Loan Disbursement Handbook* (2017, as amended from time to time), and detailed arrangements agreed between the government and ADB. Online training for project staff on disbursement policies and procedures is available.² Project staff is encouraged to avail of this training to help ensure efficient disbursement and fiduciary control. The fund flow procedure is illustrated in Figure 3 below.

13. **Statement of expenditure (SOE) procedure.** Given the *substantial* risks on FM, the PRF will generally follow reimbursement method of disbursements using full documentation method. Upon improvement of the PMU (AMC) FM capacity and ADB confirming it through a change in implementation arrangements, the project may use statement of expenditure (SOE) procedures, requiring no submission of supporting documents to claim disbursements from ADB.³ In case SOE procedure for reimbursement of eligible expenditures are used, SOE ceiling of US\$100,000 shall be used on individual payments without taking into account ADB's share of expenditure. The amount paid should not be split to enable the claims to circumvent the SOE ceiling. Supporting documents and records for the expenditures claimed under the SOE procedures (if used) should be maintained and made readily available for review by ADB's disbursement and review missions or upon ADB's request for submission of supporting documents on a sampling basis and for carrying out independent audits by independent project auditors. Reimbursement and liquidation of individual payments in excess of the SOE ceiling should be supported by full documentation when submitting the withdrawal application to ADB.

14. ADB's advance fund procedure or direct payment procedures are not envisaged unless financial resources are found inadequate to meet project expenditure needs. These procedures are subject to approval by the borrower.

² Disbursement eLearning. <u>http://wpqr4.adb.org/disbursement_elearning</u>.

³ ADB may approve the SOE procedure based on an assessment of adequate administrative and accounting capacity of AMC taking into account quality submission of withdrawal applications and appropriate auditing arrangements as stipulated in ADB project agreement. Technical inputs will be sought from INRM Disbursement and FM units on the disbursement and financial management areas, respectively. Use of advance fund procedure will be subject to the PMU's confirmed FM capacity to manage the funds.

15. The project management unit (PMU) will be established at AMC, led by a Project Director who will be the authorized signatory for withdrawal applications at project level. The PMU will also include qualified accountants who will be responsible for: (i) collecting supporting documents; (ii) preparing the withdrawal applications for signature by the Project Director; and (iii) uploading the draft withdrawal applications on ADB's Client Portal for Disbursements–CPD⁴ system to Aid Accounts and Audit Division–AAAD⁵ for finalization and approval.





CAAA = Controller of Aid Accounts and Audit.

16. Before submitting the first withdrawal application, the government through office of AAAD should submit to ADB sufficient evidence of the authority of the person who will sign the withdrawal applications on behalf of the government, together with the authenticated specimen

⁴ ADB's Client Portal for Disbursements system facilitates online submission of withdrawal applications to ADB, resulting in faster disbursement. The forms to be completed by the borrower are available at ADB. <u>Guide to the Client</u> <u>Portal for Disbursements</u>.

⁵ Aid Accounts & Audit Division, Department of Economic Affairs, is headed by Controller of Aid Accounts and Audit (CAAA), Ministry of Finance, Government of India.

signatures of each authorized person. The minimum value per withdrawal application is stipulated in ADB's *Loan Disbursement Handbook*. Individual payments below such amount should be paid by the AMC; and subsequently claimed from 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 system is for submission of withdrawal applications to ADB and will be considered mandatory.

17. No further disbursements will be made from the PRF account upon refinancing under an ensuing loan. The PRF loan amount and accrued financing charges are paid out under the PRF cost category of the ensuing loan that will refinance the PRF loan. Provided the following costs are eligible expenditures, the ensuing loan will finance (i) costs incurred under PRF that have not yet been paid from the PRF account by the refinancing date, (ii) costs for activities initiated under PRF and continuing beyond the refinancing date, and (iii) costs incurred during PRF implementation but ineligible under PRF.

C. Accounting

18. AMC will maintain separate PRF project accounts and records by funding source and application with details of expenditures incurred on the PRF project. Accounts in government organizations generally can be prepared by following either cash or accrual basis of accounting as per accepted accounting principles and standards applicable. ADB expects audited financial statements prepared in accordance with International Public Sector Accounting Standard– IPSAS or accounting standards prescribed by nationally constituted professional accounting organization.⁶

19. For PRF project, it is recommended to follow cash basis method of accounting and the project financial statement (PFS) be prepared using template of cash-based project financial statements provided in the standardized terms of reference (TOR) for the audit of ADB-assisted projects, agreed with the Comptroller and Auditor General (CAG) of India, DEA, and ADB. The auditor will use the audit report suggested template Annexure-13 of the TOR. Accordingly, the expected disclosures in the project financial statements will include at least the following:

- (i) Statement of cash receipts (by financing source) and payments (by expenditure category) for the current reporting period, past reporting period, and cumulative to date;
- (ii) SOE by category and financier for the year/ period end.
- (iii) 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 ADB, and the amounts paid by ADB as follows: (a) withdrawal application number; (b) the amount claimed and currency; (c) date submitted; and (d) disbursement method and the amount disbursed by ADB.
- (iv) Notes on PFS disclosing significant accounting policies followed at the project including other relevant explanatory notes and explanations as appropriate.
- (v) Statement of disbursements claimed under SOE procedures during reporting period by giving reference to withdrawal application numbers, if used.

⁶ India's professional accounting organization, Institute of Chartered Accountants of India provides guidance on preparation of financial statements under both cash based and accrual based accounting system for urban local bodies.

- (vi) A 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) Management assertion letter from project management issued to the auditor.

D. Auditing and Public Disclosure

20. Auditor for the PFS shall be an independent auditor, which can be either from audit-office of Accountant General–A&E, Tripura or any private independent chartered accountant having certificate of practice and registered with the Institute of Chartered Accountants of India. Scope of audit shall be strictly in accordance with TOR document, as amended from time to time. Audit report issued shall be as per audit-report template provided in Annexure-13 of the TOR as a guidance. To facilitate timely-audit, PMU shall ensure draft PFS be ready within 30 days of close of the fiscal year during project implementation. In case delays are anticipated to commence audit by the government auditor, PMU may engage reputable private independent chartered accountants. The auditor's opinion report in English with audited project financial statements (APFS) along with management letter on internal control deficiencies, if any, shall be submitted to ADB within 6 months of close of fiscal year. Where no management letter is issued by the project auditor, a statement in-lieu in auditor's letterhead stating there are no internal control issues observed for the year under audit, is mandatory.

21. The audit report for the project financial statements will include a management letter and auditor's opinions, which cover (i) whether the project financial statements present an accurate and fair view or are presented fairly, in all material respects, following the applicable financial reporting standards, (ii) whether the proceeds of the loan were used only for the purpose of the project, and (iii) whether the borrower or executing agency complied with the financial covenants contained in the legal agreements. There are no financial covenants in the form of financial ratios specified for the project.

22. Apart from APFS, IA is required to submit audited entity financial statements (AEFS) prepared in accordance with financial reporting standards acceptable to ADB, have the financial statements audited annually by independent statutory auditors whose qualifications, experience, TOR, usage of auditing and accounting standard framework are acceptable to ADB. AMC will submit the AEFS together with the auditor's report and management letter (if any), in English, to ADB within 6 months of close of fiscal year.

23. UDD, GOT shall enable ADB, upon ADB's request, to discuss the financial statements for the project and or of the entity financial statements of AMC where they relate to the project with their auditors appointed by the state or PMU, and shall authorize and require any representative of such auditors to participate in any such discussions requested by ADB. This is provided that such discussions shall be conducted on in presence of an authorized officer of the state having sufficient understanding on audit and accounting related matters, unless the state shall otherwise agree.

24. UDD, GOT will monitor compliance with financial reporting and auditing requirements during review missions and normal program supervision and will follow up regularly with all concerned, including the external auditor.

25. ADB has made the GOT, UDD, AMC aware on ADB's approach to delayed submission of APFS and AEFS and the requirements for satisfactory and acceptable quality of the audited

project financial statements.⁷ 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 financial accounts to confirm that its policies and procedures were followed when the share of ADB's financing was used.

26. ADB's Access to Information Policy 2018 will guide the public disclosure of the APFS. ADB shall disclose the annual project audit report including opinions and related APFS (without management letter) within 14 days of the date of ADB's confirmation of their acceptability by posting them on ADB website. Audit reports of AMC entity financial statements will not be disclosed.⁸

V. PROCUREMENT AND CONSULTING SERVICES

27. The procurement risk is classified as 'moderate' as there is no pilot testing activity being financed under this PRF loan. However, as part of the procurement arrangement assessment exercise, the agency's preliminary procurement assessment was conducted in March 2022. Based on the assessment findings, it has been observed that AMC has no prior experience of working for multilateral development banks–MDBs, and also has limited experience of

⁷ ADB's approach and procedures regarding delayed submission of audited project financial statements:

⁽i) When ADB does not receive the audited project financial statements 1 week after due date, ADB will write to the executing agency with a copy to the borrower's representative, that 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 (i) requests for new contract awards, replenishments to the advance fund, the processing of new reimbursement claims, and the issuance of new commitment letters; (ii) the extension of the loan closing date; and (iii) the submission of new loan proposals for approval by the ADB Board of Directors or Management.

⁽ii) When ADB does not receive the audited project financial statements 3 months after the due date, ADB will write to the executing agency with a copy to the borrower's representative, that APFS was not submitted 3 months after the due date and alert them that non-compliance within the next 3 months may constrain ADB to withhold (i) requests for new contract awards, replenishments to the advance fund, the processing of new reimbursement claims, and the issuance of new commitment letters; (ii) the extension of the loan closing date; and (iii) the submission of new loan proposals for approval by the ADB Board of Directors or Management. The notice will include a statement that if the APFS is not submitted within the next 9 months, ADB will be constrained to suspend the loan.

⁽iii) When ADB does not receive the audited project financial statements after 6 months after the due date, ADB Notify CTL to withhold, with immediate effect, advances and replenishments to the advance fund, the processing of new reimbursement claims, and the issuance of new commitment letters. Withhold, with immediate effect, approval of new contract awards. Notify the noncompliant executing and implementing agencies of the action taken. Notify the borrower's representative (usually the ministry of finance) that noncompliance within the next 6 months may result in loan suspension. 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.

⁽iv) When ADB does not receive the audited project financial statements after 6-12 months of the due date, ADB shall discuss the noncompliance with the higher authorities in the executing and/or implementing agency and the ministry of finance. Follow up regularly, including missions as required, to achieve compliance. Such follow-ups should be suitably documented.

⁽v) When ADB does not receive the audited project financial statements after 12 months after the due date, ADB shall In consultation with OGC, determine whether the loan is to be suspended in accordance with the provisions of PAI 4.02 and advise the director general. The director general, after reviewing the pertinent justifications, may recommend the cancellation or suspension for approval by the vice-president. Notify the borrower's representative (usually the ministry of finance) of ADB's actions. Inform PPFD, OGC, and CTL (and SDPF, if the project is cofinanced) of the decision.

⁽vi) Defaults in timely submission of AEFS will adversely affect the project rating.

⁸ Such information generally falls under public communications policy exceptions to disclosure (ADB. 2011. *Public Communications Policy 2011: Disclosure and Exchange of Information*. Manila [para. 97(iv–v]).

procurement of services and will require support from Tripura Urban Planning and Development Authority (TUDA) under UDD, GOT for recruitment of consultant under proposed PRF, which has experience of recruitment of consultants in accordance with ADB's Procurement Policy, 2017 and Procurement Regulations, 2017 (as amended from time to time). Upon approval of advance contracting under the proposed PRF by ADB, the AMC has initiated recruitment of consultant under proposed PRF. The consultants recruited under PRF will further support the AMC and enhance their procurement capacity to meet ADB's procurement requirements.9 If required, ADB will consider providing training for procurement capacity building to AMC staff. Before the start of any procurement, ADB and the government will review the public procurement laws of the central and state governments to ensure consistency with ADB's Procurement Policy (2017, as amended from time to time). In the event of discrepancy, ADB Procurement Policy and Regulations shall prevail.

A. Advance Contracting and Retroactive Financing

28. All advance contracting will follow ADB Procurement Policy, 2017 and Procurement Regulations, 2017 (as amended from time to time) and its associated staff instructions. The issuance of consulting services recruitment notice under advance contracting will be subject to ADB approval. ADB has advised the borrower, the UDD, GOT and AMC that approval of advance contracting does not commit ADB to finance the PRF.

29. **Advance contracting.** Advance contracting is requested for procurement of consulting services. The various steps would include preparation of RFP and technical and financial evaluation of consulting firm as the project design and management consultant (PDMC), and of five (5) individual consultants.

30. **Retroactive financing.** Withdrawals from the loan account may be made to finance eligible expenditures incurred under the PRF before the effective date, but not earlier than 12 months before the date of the loan agreement for this PRF, in connection with items to be retroactively financed, subject to a maximum amount equivalent to 20% of the loan amount.

B. Procurement of Consulting Services

31. A consulting firm and five (5) individual consultants will be recruited under the PRF. AMC is in the process of selecting the consulting firm for the PDMC following the ADB Procurement Regulations for Goods, Works and Consulting Services (2017, as amended from time to time) and its associated staff instructions. The PDMC consulting firm will be procured on quality- and cost-based selection method with quality-cost ratio of 80:20, to ensure high quality of technical outputs under PRF.

C. Procurement of Goods and Civil Works

32. Procurement of goods and civil works/ pilot-testing is not envisaged under the proposed PRF.

⁹ ADB Procurement Policy–Goods, Works, Nonconsulting and Consulting Services (2017, as amended from time to time); Procurement Regulations for ADB Borrowers–Goods, Works, Nonconsulting and Consulting Services (2017, as amended from time to time); accompanying Guidance Note(s) on Procurement (June 2018, as amended from time to time); latest applicable standard bidding document(s)–SBD(s); etc.

D. Procurement Plan

33. The procurement plan is at Appendix 1.

E. Consultant's Terms of Reference

34. The TOR for expected outputs of the consulting services package (PDMC consulting firm) recruited by the implementing agency has been agreed with ADB. PDMC will prepare feasibility studies and detailed project reports; undertaking project procurement risk assessment and strategic procurement planning study with preparation of procurement plan, contract management plans; safeguards and gender documents; bidding documents, etc.; carry-out institutional strengthening and capacity building activities along with preparation of digital strategy/ e-Governance solutions, etc.; and also support improving the readiness for the ensuing project in line with ADB guidelines. The duration of the assignment for the PDMC consulting firm would be 18 months with 148 person-months inputs of national key experts and 359 person-months inputs of national support staff. The PDMC is expected to be mobilized by October 2022 (will be further confirmed during contract negotiation process). Individual experts under the PRF will be deployed to support the PMU in technical, procurement, financial, and safeguards aspects. The terms of reference for all consulting services are at Appendix 2.

VI. SAFEGUARDS

35. The geography of State of Tripura is characterized as a mix of plains, mountainous terrain and forest zones, and it is likely that some sections of the selected projects may be in the vicinity of restricted/ forest areas. However, the project will avoid subprojects in, or close to, national parks, wildlife sanctuaries, or any other environmentally sensitive areas. The environmental impacts under the selected subprojects may not be major and are expected to be minimized to an acceptable level through mitigation measures. The safeguard category of ensuing project is expected to be B for environment, which will be firmed-up during PRF implementation.

36. The safeguard category of ensuing project is expected to be B for involuntary resettlement, (to be firmed-up during PRF implementation), as the sub-projects are less likely to require requiring significant resettlement and land acquisition. Resettlement plans will be prepared by the consulting firm and will be in line with engineering designs prepared under the PRF project. The Indigenous People's category is expected to be C as sub-projects are likely in urban/ peri-urban area so no impact on Indigenous Peoples is envisaged (to be firmed-up during PRF implementation). A grievance redress mechanism would be established at the PMU for complaints arising due to PRF activities if any.

37. **Gender Equality and Social Inclusion (GESI).** GESI issues and corresponding actions will be identified during PRF implementation and will be included in the ensuing project, Gender categorization of the ensuing project will be proposed by the gender specialists during project due diligence and project preparation, when information on the exact nature and extent of sub projects/works and proposed actions/measures is available.

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

VII. PERFORMANCE MONITORING

A. Monitoring

39. **Project readiness financing project performance monitoring.** The UDD will monitor PRF project performance semiannually and provide consolidated reports to ADB. These reports will include: (i) each activity's progress measured against the implementation schedule; (ii) key implementation issues and solutions; (iii) an updated implementation plan. To ensure PRF project continue to be both viable and sustainable, the UDD should adequately review PRF project financial statements and the associated auditor's report. In the event that an ensuring loan is not approved, the UDD will submit a project completion report to represent the performance of completed PRF, to ADB within 6 months after physical completion of the PRF project.¹⁰

40. **Compliance monitoring.** The UDD will monitor compliance of loan covenants, including that relating to policy, legal, financial, economic, environmental, and others and ensure compliance with loan covenants and assurances. All non-compliance issues, if any, will be updated in quarterly progress reports together with remedial actions. ADB review missions will also monitor the status of compliance with loan covenants and raise the noncompliance issues with the UDD and agree on remedial action.

B. Reporting

41. The UDD will provide ADB with:

- (i) quarterly progress reports on the PRF project in a format consistent with ADB's project performance reporting system;
- (ii) reports prepared by the consultants under the PRF project;
- (iii) consolidated annual reports, including (a) progress achieved by output measured against the performance targets, (b) key implementation issues and solutions, and (c) an updated implementation plan for the next 12 months;¹¹ and
- (iv) PRF project accounts, and auditors' report thereon.

VIII. ANTICORRUPTION POLICY

42. The Government of India, the GOT, the UDD and the AMC are advised of ADB's Anticorruption Policy (1998, as amended to date). Consistent with its commitment to good governance, accountability, and transparency, implementation of the project shall adhere to ADB's Anticorruption Policy. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the PRF project following ADB's Integrity Principles and Guidelines.¹² In this regard, investigation of government officials, if any, would be requested by ADB to be undertaken by the government. All contracts financed by ADB will include provisions specifying ADB's right to audit and examine the records and accounts of the executing agency and all PRF project contractors, suppliers, consultants, and other service providers. This includes the examination of project outputs, assets, and all other information that may be considered relevant for audit or inspection by ADB regardless of project completion, termination, or cancellation. Firms or individuals on ADB's anticorruption debarment list are ineligible to

¹⁰ ADB. 2018. Project Completion Report for Sovereign Operations. *Project Administration Instructions*. PAI 6.07A. Manila.

¹¹ The regional departments will present the performance of the completed PRF in the project completion report of the ensuing loan.

¹² ADB. 2015. Integrity Principles and Guidelines (2015). Manila.

participate in activities that are financed, supported, or administered by ADB; and may not be awarded any contracts under the PRF project.¹³ To support these efforts, relevant provisions of ADB's Anticorruption Policy are included in the project readiness loan agreement and any bidding documents under the PRF project.

IX. ACCOUNTABILITY MECHANISM

43. People who are, or may in the future be, adversely affected by the PRF 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 PRF projects can voice and seek a resolution for 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.¹⁴

X. RECORD OF CHANGES TO THE PROJECT ADMINISTRATION MANUAL

44. All revisions and/or updates during implementation of project readiness loan should be retained in this section to provide a chronological history of changes to implemented arrangements recorded in the project administration manual, including a revision to contract awards and disbursement S-curves.

¹³ ADB. Anticorruption and Integrity.

¹⁴ ADB. Accountability Mechanism.

PROCUREMENT PLAN

Basic	: Data					
Project Name: Agartala Municipal Infrastructure Development Project						
Project Number: 56002-001	Approval Number:					
Country: India	Executing Agency: Government of Tripura acting through its Urban Development Department					
Project Procurement Classification: Moderate	Implementing Agency: Agartala Municipal Corporation					
Project Procurement Risk:						
Project Financing Amount: US\$ 3,750,000	Project Closing Date: 31 March 2025					
ADB Financing: US\$ 3,000,000						
CoFinancing (ADB Administered):						
Non-ADB Financing: US\$ 750,000						
Date of First Procurement Plan: 16 Mar 2022	Date of this Procurement Plan: 16 Mar 2022					
Procurement Plan Duration (in months): 18	Advance Contracting: Yes e-GP: No					

A. Methods, Review and Procurement Plan

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

Consulting Services						
Method	Comments					
Quality- and Cost-Based Selection for Consulting Firm	Prior review (FTP 80:20)					
Competitive for Individual Consultant Selection	Prior review					

B. Lists of Active Procurement Packages (Contracts)

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

Goods and Works							
Package Number	General Descript ion	Estimated Value (in US\$)	Procure ment Method	Revie w	Bidding Procedur e	Advertisement Date (quarter/year)	Commen ts

Consulting Services								
Package Number	General Description	Estimated Value (in US\$)	Selection Method	Review	Type of Proposal	Advertisement Date (quarter/year)	Comments	
PRF-TRI/AMC/ PDMC-01	PDMC consulting firm	2,310,000	QCBS	Prior	FTP	Q1 / 2022	Type: Firm Assignment: National Quality-Cost Ratio: 80:20 Advance Contracting: Yes	
PRF-TRI/AMC/ IC- 01	Urban Development Expert (Project Manager)	131,000	Individual Consultant Selection	Prior		Q3 / 2022	Type: Individual Assignment: National Expertise: Urban Development	

						Advance Contracting: Yes
PRF-TRI/AMC/IC-02	Procurement and Contract	71,000	Individual Consultant	Prior	Q4 / 2022	Type: Individual
	Expert		Selection			Assignment: National
						Expertise: Procurement
						Advance Contracting: Yes
PRF-TRI/AMC/IC-03	Environment Safeguards Expert	52,000	Individual Consultant Selection	Prior	Q1 / 2023	Type: Individual
						Assignment: National
						Expertise: Environment Safeguards
						Advance Contracting: Yes
PRF-TRI/AMC/IC-04	Social Safeguards Expert	52,000	Individual Consultant Selection	Prior	Q1 / 2023	Type: Individual
						Assignment: National
						Expertise: Social Safeguards
						Advance Contracting: Yes
PRF-TRI/AMC/IC-05	Financial Management Expert	88,500	Individual Consultant Selection	Prior	Q3 / 2022	Type: Individual
						Assignment: National
						Expertise: Financial Management
						Advance Contracting: Yes

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

The following table lists goods, works, and consulting services contracts for which 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 duration).

Goods and Works

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Comments

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Consulting Services								
Package Number	General Description	Estimated Value (in US\$)	Selection Method	Review	Type of Proposal	Comments		

TERMS OF REFERENCE OF CONSULTING SERVICES Project Design and Management Consultant (PDMC)

I. PURPOSE AND OBJECTIVES

1. The Government of India's (GOI) national program "Smart Cities Mission (SCM)" was launched in 2015 in collaboration with respective states as a vehicle to drive economic growth and improve the quality of life of people by enabling local area development; harnessing technology; and area- based development to improve livability and promote new developments to accommodate the expanding population in urban areas.¹⁵ Agartala is one of the 100 cities chosen by the government under the SCM.¹⁶Various project components were identified as part of Smart City Plan (area-based development and pan city project) for Agartala city under the SCM. While some of the projects identified in the Smart City Plan will be financed under the SCM; the Government of Tripura (GOT) also envisages some key urban development project components to be implemented through multilateral development financing so as to implement the entire Smart City Plan for Agartala city.

The Urban Development Department (UDD), GOT is the nodal agency acting through 2. Agartala Municipal Corporation (AMC), which is responsible for the development and maintenance of urban infrastructure (water supply, urban roads/drains and bridges, streetlights, sewerage and solid waste management) in Agartala city, considering pan city and/or zonal requirements (four development zones of north, central, south, and east). Since 2009, several development projects have been and are being undertaken in Agartala through GOI programs (Atal Mission for Rejuvenation and Urban Transformation–AMRUT, and SCM as stated in para. 1) and the Asian Development Bank (ADB)-assisted projects.¹⁷ Another ADB-assisted Agartala City Urban Development Project-ACUDP) loan is under implementation. However, the city still requires investments in infrastructure to ensure comprehensive coverage and to bring the services to national standards. The broad sectors identified by AMC for additional integrated development interventions are: (i) water supply, (ii) storm water drainage, (iii) urban roads/ footpaths/ street lighting/ foot-over-bridge, and (iv) parks and open spaces along with water bodies, leading to overall improvement of urban environment and making Agartala city more livable.

3. In view of the above, the GOT, has applied for financial assistance through the Department of Economic Affairs, Ministry of Finance (hereinafter referred as the Borrower) under the project readiness financing (PRF) facility from the ADB in the form of a loan investment for "India: Agartala Municipal Infrastructure Development Project" (PRF Project) to improve readiness and prepare future investment-ready project/ subprojects. These terms of reference for consulting services under the PRF loan would facilitate project preparatory activities for additional projects in Agartala. The main outcome under the PRF would be:

- (i) improved readiness of future prioritized projects/ subprojects under AMC area, leading to increased external/donor investments in infrastructure projects in Agartala; and
- (ii) convergence, faster and more efficient development of infrastructure projects, better management of infrastructure assets, and strengthened capacity of urban development agencies, while adopting a digital strategy/ e-Governance solutions for municipal services in Agartala.

4. The key objectives towards preparation of integrated and investment-ready infrastructure projects through PRF are:

(i) review existing prioritization of subprojects, investment and action plans;

¹⁵ Government of India. 2015. <u>Smart Cities: Mission Statement & Guidelines</u>. New Delhi. Under Section 5, Strategy, area-based development refers to the transformation of existing areas into better planned ones, thereby improving livability of whole city.

¹⁶ Government of India, Ministry of Housing and Urban Affairs (MOHUA). 2015. *Fast Track Ranking*. Delhi.

¹⁷ ADB. 2009. India: North Eastern Region Capital Cities Development Investment Program Tranche 1, Tranche 2, and <u>Tranche 3</u>. Manila.

28 Appendix 2

- (ii) facilitate improved project readiness, through feasibility studies, detailed project reports (DPRs), and other project preparation activities; and
- (iii) Strengthen institutional capacity of relevant GOT agencies, to plan, develop, implement, and manage projects and sustainability of investments in Agartala city.

5. The consultants recruited under the PRF, in close coordination with UDD, GOT and AMC, and ADB, will support delivery of following PRF loan outputs:

- (a) Output 1: Feasibility studies, detailed engineering designs, and due diligence of identified subprojects completed. Output 1 will be achieved by performing a preliminary analysis of the North East Economic Corridor (NEEC) report and the urban strategy being prepared, leading to identification of potential subprojects consistent with the strategy and NEEC. Specific deliverables consist of:
 - (i) feasibility studies;
 - (ii) detailed project reports (DPR) for identified subprojects;
 - due diligence of the DPRs covering technical, economic and financial analysis, environmental and social safeguards, gender equality and social inclusion (GESI) analysis and planning, climate risk assessment including preparation of climate and disaster resilience framework for enhanced climate and disaster resilience;
 - (iv) coronavirus disease (COVID-19) impact on project preparation, implementation, and cost; and
 - a project strategic procurement planning, including contract management plans, preparation of procurement related documents and support to the bidding process and the ensuing loan processing activities.¹⁸
- (b) **Output 2: Institutional capacity strengthened.** Output 2 will be achieved by:
 - (i) capacity increase on financial management, procurement, climate change, safeguards GESI, operation and management, and sustainability, through training, workshops and seminars;
 - (ii) strengthening AMC's governance and systems;
 - (iii) preparing a GIS-based municipal resource mobilization roadmap to be implemented during the ensuing project; and
 - (iv) preparing a digital strategy/ e-Governance solutions for municipal services in line with National Urban Digital Mission.¹⁹

II. BACKGROUND AND RATIONALE

6. Agartala, the capital and largest city of the state of Tripura, is the second largest city and municipal body in the northeastern states and one of the fastest developing cities in India. A population growth of 2.94% per annum during 2001–2017 has resulted in 581,960 inhabitants and a population density of 10,119 people per square kilometer (km²) in 2018. Situated only 2 kilometers (km) from the Bangladesh border and on the Bangladesh-Bhutan-India-Nepal economic corridor, Agartala could take advantage of future infrastructure developments with increase in cross-border trade and commerce. However, the city witnesses limited economic growth due to poor infrastructure and degraded livability. Key problems facing Agartala include (i) limited urban mobility arising from inadequate road network, parking system, traffic management, and encroachment of footpaths that lead to an increase in traffic congestion and accidents; (ii) flooding due to absence of proper storm water drainage system; (iii) inadequate coverage of water supply service and poor management, and metering system; and (iv) deficient wastewater network with many sewer lines open to water bodies polluting the environment. Further, the Northeast Economic Corridor (NEEC) study report of the ADB has identified and

¹⁸ The DPR will (i) comply with the national standards and codes, (ii) incorporate good practices, (iii) include detailed designs, cost estimates, and detailed construction working drawings, and (iv) necessary documentation in formats acceptable to ADB.

¹⁹ <u>National Urban Digital Mission</u>. Government of India.

recommended Agartala as one of the key growth centers, while identifying key infrastructure gaps to supplement growth by reducing spatial and socioeconomic imbalances.²⁰

The NEEC Report has advises a spatial development framework that recognizes 7. Agartala's vital role in the northeastern region for generating regional prosperity and economic growth both as an urban and border centre. As per its regional setting-Agartala functions as a tourist gateway/ destination. As a growth centre, the city needs (i) integration within AMC's Agartala Master Plan, and (ii) strengthened linkages with other urban centers within the Greater Agartala Planning Area. ADB is engaged with the s through (i) PRF for the ensuing Tripura Urban and Tourism Development Project, (ii) Infrastructure Development of Industrial Estates in Tripura (under processing), and (iii) the Tripura Road sector study, which will contribute to a proposed road sector PRF to help develop urban-tourism-transport-industry service links in Tripura and address the connectivity gaps, including last-mile connectivity. In addition, ADB Knowledge Support Technical Assistance will provide consultants for preparing urban strategy and investment planning, and institutional capacity development report. Referring to the NEEC, the PRF will support the GOT with holistic planning and development of priority municipal infrastructure investments in Agartala with innovative and finance plus elements. The PRF will support the GOT in preparing a future investment-ready project.

8. The PRF is consistent with ADB's country partnership strategy for India, 2018–2022.²¹ It is closely aligned with the following operational priorities of ADB's Strategy 2030: addressing remaining poverty and reducing inequalities; tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability; making cities more livable; and strengthening governance and institutional capacity.²² The PRF will contribute to the operational priorities by designing climate resilient urban infrastructure (water supply, storm water drainage, urban roads/ footpaths/ street lighting/ foot-over-bridge, parks and open spaces, etc.) for Agartala city to acceptable standards and coverage, including access to poor and vulnerable; strengthening institutional capacity and improving resource mobilization of AMC; enhancing technical, procurement, and financial capacities of agencies for preparing and undertaking the ensuing project; and supporting ongoing and proposed sector and institutional reforms. During the PRF implementation, climate change mitigation and adaptation components will be incorporated into the ensuing project design to ensure alignment with the Paris Agreement.

9. This PRF for the UDD, GOT and AMC would be supported and implemented through the procurement of a proposed consulting services package, herein after referred to as "project design and management consultant (PDMC)" that would be financed under the PRF loan during the estimated two (2) years of duration for PRF in 2022–2024. The duration of assignment for the PDMC would be 18 months. The PDMC consulting firm is tentatively expected to be mobilized from September 2022, and will be further confirmed during contract negotiation process. The PDMC consulting firm is to be recruited to support the AMC in delivering the above-stated outputs under the PRF and the consulting services–towards integrated urban sector development in Agartala city. Figure 1 illustrates the indicative flow chart of the work process for the PDMC assignment.

10. For the proposed PDMC consulting services package, a qualified and experienced national consulting firm is proposed to be procured on quality- and cost-based selection (QCBS) method with quality-cost ratio of 80:20, to ensure high quality of technical outputs by following the ADB Procurement Policy: Goods, Works, Non-consulting and Consulting Services (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers: Goods, Works, Non-consulting and Consulting Services (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers: Goods, Works, Non-consulting and Consulting Services (2017, as amended from time to time); and the ADB Guidance Note on Procurement–Consulting Services Administered by ADB Borrowers (June 2018, as amended from time to time).

²⁰ The final report of the Northeast Economic Corridor Study has been submitted to the Government of India.

²¹ ADB. 2017. <u>Country Partnership Strategy: India, 2018–2022—Accelerating Inclusive Economic Transformation</u>. Manila.

²² ADB. 2018. <u>Strategy 2030: Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific.</u> Manila.

11. The PDMC will work in close coordination with the designated personnel of the following stakeholders for the consulting activities/tasks under this PRF assignment:

- executing agency (EA)–UDD, GOT, and implementing agency (IA)–AMC;
- a project management unit (PMU) is established under AMC, with Municipal Commissioner, AMC as the Project Director; including any consultation with Agartala Smart City Limited–ASCL under SCM Project, any designated sector or subsector-specific Project Working Groups/ Committees formed under UDD, GOT, etc. or PMU-AMC;
- other stakeholder authorities such as Tripura Urban Planning and Development Authority–TUDA under UDD, Public Works Department [PWD wings on Water Resources (WR), Drinking Water & Sanitation (DWS), and Roads & Buildings (R&B)], Public Health Engineering Department–PHED, etc., West Tripura district administration, and nearby urban local bodies (ULBs)/ Village Panchayats (VPs), as applicable;
- any existing consultants, proposed/procurement-in-pipeline consulting firm(s) and/or individual consultants as sector experts, appointed by the state separately, related to the integrated urban sector works either through government funds or under the PRF;
- central agencies–North Eastern Council (NEC), Ministry of Development of North Eastern Region (MDONER), Ministry of Housing and Urban Affairs (MOHUA), etc., of GOI, as applicable; and
- Asian Development Bank (ADB) designated staff and TA consultants/TA consulting firm at Project Development Unit, India Resident Mission.





* Updated with site-specific health and safety COVID-19 plan (HS COVID-19 Plan). ** Addendum wording for HS COVID-19 Plan.

ADB = Asian Development Bank, ACUDP = Agartala City Urban Development Project, AMC = Agartala Municipal Corporation, CDP = city development plan, DDR = due diligence report, DMF = design and monitoring framework, DPR = detailed project report, EIA = environmental impact assessment, EMP = environmental management plan, FIDIC = International Federation of Consulting Engineers, GESI AP = gender equality and social inclusion action plan, GIS = geographic information system, GOI = Government of India, GOT = Government of Tripura, HSMP = health and safety management plan, IEE = initial environmental examination, IPP = indigenous peoples plan, KSTA = knowledge support technical assistance, MDB = multilateral development bank, NEC = North Eastern Council, NEEC = North East Economic Corridor, PDMC = project design and management consultant, ROW =

right of way, RP = resettlement plan, SASEC = South Asia Subregional Economic Cooperation, SBD= standard bidding document, TRTA = Transaction Technical Assistance.

Sectoral Project Components for PDMC assignment

- 12. The sectoral project components identified for coverage are:
 - (i) Water for all: Safe, continuous and pressurised and metered drinking water supply services, including study for source augmentation alternatives or ascertaining surface water resource alternatives for assured water supply with suitable concepts explored with detailed engineering design for the preferred alternative and/or concept undertaken, e.g., through dam-related structures, damreservoir/ raw water pipeline-related work, river intake work, etc.;
 - (ii) Urban roads/ footpaths/ street lighting/ foot-over-bridge integrated with storm water drainage: These integrated works would include:
 - improving transport connectivity in Agartala city and upgrading internal allweather roads within the municipal planning area, including utility shifting/replacement/rehabilitation/up gradation;
 - removing the traffic bottlenecks, junction/ intersection improvements, traffic management, signs and signage/pavement markings, and management of parking places;
 - roadside covered drains/ storm sewers; integrated with water bodies and any flood protection works, etc.; integration with any green infrastructure principle-based features such as, retention ponds as natural filtration sinks, roadside bio swales, flow-through planters, etc.;
 - upgrading streetscape design, that makes provision for pedestrian pathway/ footpath/ foot-over-bridge, road/street furniture, landscaping and plantation, smart street lighting/ landscape lighting (including expansion and up gradation of street lighting), parking, loading and unloading areas, etc., including those interventions that facilitate any improvements at border trade centre functions in Agartala city; and
 - (iii) Parks and open spaces along with water bodies. This would cover aspects of linking, beautification, and management of urban water bodies as green and blue corridor continuum with the intent of development of linked open space systems/ innovative use of urban open spaces with harmony of green-blue environment linkages, leading to improvements in overall public realm and urban environment in Agartala, towards enhanced liveability.

III. SCOPE OF SERVICES

13. The PDMC consulting firm recruited under the PRF would support the EA–UDD, GOT, and IA–AMC, to implement and manage the PRF loan for Agartala Municipal Infrastructure Development Project. The scope of services of the PDMC assignment will include the delivery of PRF objectives and outputs outlined above, including the review of the existing and ongoing works. Under the above-stated scope, the detailed tasks of PDMC consulting firm include, but would not be limited to the following:

Project Preparation and Design Tasks

(i) undertake overall project management activities, including identifying stakeholders and conducting all stakeholder consultations (at state-/regional-/central agencies-
level, including any of their existing/proposed consulting firms/individual consultants; ADB-level, including ADB TA consultants/TA consulting firm; and with public-at-large/project affected persons/ excluded and vulnerable groups, etc.) to understand various perspectives and generate preliminary planning and design inputs/ validate draft proposed interventions and/or planning and design outputs; and undertake overall project management activities under PRF through a management information system developed/ managed at PMU-AMC (established at IA-level), covering project performance monitoring system and financial management system aspects;²³

- (ii) review and validate the infrastructure gaps, exclusionary screening/ prioritization of subprojects (including for any updating in investment plan and action plan, and any phasing of deliverables on iterative basis during PRF implementation), proof of concept/ site plans, development of key indicators, etc., prior to undertaking detailed engineering design stage of work (confirm availability of land with cleartitle, site or right-of-way/ ensure all no-objection and necessary clearances obtained for encumbrances free prioritized subproject sites available), prepare the revised list of prioritized subprojects with draft phasing of deliverables (feasibility studies/ DPRs/ bid documents, etc.), and thereafter finalize the list of prioritized subprojects based on result of feasibility studies along with revised phasing of deliverables (DPRs/ bid documents, etc.), while facilitating UDD, GOT and AMC to ensure synergies/ convergence of projects identified for funding under the proposed external-aided project with the existing central sector/ centrally sponsored schemes under implementation in the state, and ensure that there should not be any financial liability on the central government towards recurring expenditure after the completion of the project;
- (iii) update/ prepare(as applicable) geographic information system (a mapping/database software), i.e., GIS-based base maps for prioritized subprojects/ work components (site locations/ alignments), including any updating of existing GIS-based base maps of Agartala city or if existing maps are not available, undertake digitization of cadastral sheets and any existing city-level/ area-level maps and/or land parcel/ plot layout map(s), undertake geo-referencing of cadastral sheets overlayed with open-source imagery of appropriate resolution and/or scaled mapping output(s) of a physical/ topographical survey for the site location(s)/ alignment(s) of prioritized subprojects to prepare GIS-based base maps (as required);²⁴
- (iv) wherever required, prepare/update inventory and geo-referencing using GISbased mapping of all utilities roadside or otherwise as per applicable sector-/

²³ The intent of stakeholder consultations is to gather unique perspectives and values of each stakeholder group, which would help planners, designers, and managers, to create city investments that are more relevant, in demand, and transformative, and contribute towards making cities more livable and resilient, with implementation over short-term/ medium-term/ long-term development strategies. It also provides opportunity to communicate early, garner public support through trust- and consensus-building, and often to avoid project delays. Ultimately, it would contribute to enhanced community awareness to maximize project impact, and to secure strong commitment from–municipal governments to reform, users to pay for quality services to be delivered and sustained. Further for open access to infrastructure services, this is best achieved through meaningful consultation and inclusive decision-making with affected communities throughout the project life-cycle, with a view to securing non-discriminatory access to users.

²⁴ Towards the GIS-based base map preparation activities, the AMC in consultation with TUDA under UDD would strive to provide any available information of Agartala city (on GIS-mapping/ database/ differential global positioning system–DGPS survey/ etc.) of the ongoing GIS-based Master Plan exercise under GOI's AMRUT Scheme, as an input to the PDMC assignment.

subsector-specific context of the consulting assignment, e.g., networks/ assets ofwater supply systems, storm water drainage systems and any flood protection works, electrical poles/cables/transformers, street-/ landscape- or pedestrian uselighting, etc.; and prepare recommendations and detailed designs for utility placement either through unified ducting or separate dry and wet utilities' ducting options, as feasible, and whether affecting or affected by the subproject work components under proposed investments in the ensuing project(s), along with necessary cost estimates for prioritized subproject sites;

- (v) if any, additional areas are to be covered in the GIS-based base maps, adopt digitization of any existing city-level/ area-level maps and/or land parcel/ plot layout map(s), undertake geo-referencing of cadastral sheets overlayed with open-source imagery of appropriate resolution and/or scaled mapping output(s) of a physical/ topographical survey for the site location(s)/ alignment(s) of prioritized subprojects, to prepare/ update such GIS-based base maps;
- (vi) undertaking necessary feasibility studies, identify multiple options, and undertake investigations, surveys and detailed engineering designs including cost estimation and prepare detailed project reports for the identified subprojects and selected solution options for enhancing the water supply capacity, quality, service delivery and sustainability in Agartala city. The identified solution options shall necessarily include, enhancing and sustaining the existing ground water supplies duly ensuring quality, and improved operations and maintenance regimes coupled by augmenting the source by transfer of surface waters from the proposed water resources enhancement proposals prepared by the GOT. The solutions shall also include maximizing the utilization of flood waters currently causing recurring water logging in the city and draining downstream. The solution shall comply to the principles of integrated urban water management (IUWM) duly taking into account the local rainfall and runoff patterns, percolation characteristics, ground water quality for different chemical constituents and continuous pressurized supply of water to customers through metered property service connections;
- (vii) conducting financial and economic analysis of historic and current capital expenditure, O&M expenditure, revenue billing, collection, tariff regimes and prepare a proforma financial analysis covering the proposed capital investments, increased O&M costs and assess the progressive tariff and subsidy requirements for ensuring full O&M cost recovery;
- (viii) conduct feasibility studies/ prepare conceptual design (including any revisions), etc. (as appropriate) for prioritized potential subprojects, prior to preparation of DPRs for finalized list of prioritized subprojects, including identification of any data gaps from any existing information made available by the GOT through PMU-AMC, including TUDA/ PWD (WR/ DWS/ R&B)/ PHED, any other concerned stakeholder agencies, information arranged through ADB, etc., and undertake efforts to acquire data to bridge any such data gap through undertaking necessary surveys, investigations and studies, if any, that is required for satisfactory completion of project preparatory and design activities under PRF, and which would be useful for subsequent implementation through the ensuing loan(s)/project(s);²⁵

²⁵ ADB has undertaken a separate North East Economic Corridor (NEEC) Study that would be made available to the consulting firm. Any data gaps, if observed by the PMU-AMC etc., and PDMC, which is required to undertake the PRF Project (apart from any existing government vision, policy and/or strategy papers, master plan, city development plan, sector plans, study reports, etc., with regards to integrated urban sectors as available), the PDMC consulting firm's scope of services includes any such necessary efforts to be duly made to facilitate satisfactory completion of the PDMC assignment and PRF Project.

- (ix) undertake climate research on technologies, innovative solutions and national/international good practices, etc., and a rapid climate risk assessment using the preliminary climate (and disaster) risk screening checklist for prioritized subprojects to establish the climate resiliency of the prioritized subproject investment plans and feasibility studies, particularly site selection and designs; and as required based on risk-level assessed, undertake detailed climate risk and adaptation assessment or CRA (formerly climate risk and vulnerability assessment or CRVA), prepare climate resilience framework with risk avoidance/ minimization and climate mitigation and/or adaptation measures for adoption in detailed engineering designs/ climate proofing projects(including climate proofing of any existing infrastructure) towards building climate and disaster resilience, and report compliance of climate resilience measures in such designs, through "disastersecure engineering," "structural norms/ non-structural measures," etc.. incorporated at subproject/ project-level.26 Review for future proofing of investments against vulnerability risks from climate change and communicable disease/ epidemics like, COVID-19 pandemic, wherein (a) the Consultants shall make a high-level review of the proposed investments and recommend resilience measures against vulnerability from climate risks/ climate change impacts and disaster risks, and communicable disease/ epidemic or pandemic; and (b) such review shall essentially include the disruptions and resultant loss of business from risks of climate change like, continuous droughts, rapid floods, extremely high temperature, and long lockdown and social distancing needs arising from pandemic, improved emergency services and healthcare infrastructure/ medical facility linkages to meet eventualities of pandemics, monitoring systems for surveillance of people and business affected by pandemics, and temporary compensation measures for loss of revenue. Collect and review data of genderdifferentiated climate change and disaster impacts, when arriving at climate resilient framework, while ensuring that infrastructure should also be resilient against human made risks. As part of climate resilience framework for ease of reference management-level reference, provide a summary of the impact assessment of COVID-19on project preparation, cost, and implementation of the priority subprojects;²⁷
- (x) review, and ensure that all the available surveys and data collected are correct (amend, if required) and meets the national/international good practices of methods of surveying and data collection;
- (xi) undertake field surveys (site reconnaissance surveys, topographical surveys, geotechnical investigations, including any hydrological/ hydraulic and geological surveys as felt required, and any other engineering/demand/socio-economic/inventory of loss/willingness-to-pay surveys, etc.) and studies to establish a firm basis for design and planning of subproject components. The PDMC may need to hire surveyors based on the nature and scale of surveys that will be required. PDMC shall take prior approval of the terms of reference (TOR) and budget for surveys/investigations/ studies, whether conducted in-house or through third party for this PDMC assignment under PRF, while ensuring that

²⁶ ADB. 2014. Climate Risk Management in ADB Projects. Manila; ADB. 2020. Principles of Climate Risk Management for Climate Proofing Projects. ADB Sustainable Development Working Paper Series No. 69, July 2020. Manila; etc.

²⁷ ADB. 2016. Guidelines for Climate Proofing Investment in the Water Sector: Water Supply and Sanitation. Manila; ADB. 2015. Economic Analysis of Climate-Proofing Investment Projects. Manila; ADB. 2011. Guidelines for Climate Proofing Investment in the Transport Sector: Road Infrastructure Projects. Manila; etc.

necessary stakeholder consultations are conducted to facilitate smooth undertaking of all field surveys;

- (xii) undertake due diligence w.r.t. the detailed engineering design/any other design work recommended for finalized list of prioritized subprojects;²⁸
- strengthen/integrate any existing concepts, detailed engineering designs/any other (xiii) designs and DPRs developed by the Client/concerned stakeholder authorities for any earlier identified subprojects under integrated infrastructure development sectors, to ensure the designs are prepared according to the national standards/international standards or good practices (whether the design prepared is at the stage of concept-and/or at DPR stage), including service delivery towards meeting national benchmarks/service-level agreements (SLAs), and duly incorporating the aspects or factors of resilience to climate risks/ climate change impacts and disaster risks (as per national standards/international standards or good practices, including ADB's South Asia Department framework and practice, etc.), including impact assessment of COVID-19 pandemic on project preparation, cost, and implementation of the priority subprojects.29 Also, follow provisions made in the PRF project administration manual (PAM), and in any other governing/guidance documents of ADB, including those approved by ADB for the PRF Project;
- (xiv) for the finalized list of prioritized subprojects:
 - finalize the detailed engineering designs/any other design works, technical specifications, item rate analyses, detailed schedule of quantities and cost estimates in the DPRs that meet all the prescribed national standards/international good practices, including service delivery towards meeting national benchmarks/SLAs, and duly incorporate any recommended risk avoidance/minimization measures, and adaptation and/or mitigation measures to address factors for resilience to climate risks/ climate change impacts and disaster risks, not only for new infrastructure to be built, but also for enhancing resilience of or "climate proofing" the existing infrastructure, while ensuring outcomes for the project and key performance indicators get included in the DPR to ensure effective and efficient service delivery, and sustainability of assets; and
 - in addition, the detailed engineering designs/any other design works should be prepared: (i) using integrated urban planning approach that adopts smart growth planning principles, considers aspects of diversity-equityinclusion and is complemented by gender mainstreaming in planning and decision-making/ gender equality and social inclusion (GESI) aspects/ GESI-responsive design features in integrated urban sector, while keeping

²⁸ Due diligence will cover economic, financial, social and environmental safeguards, technical, etc., aspects of the prioritized subprojects for ensuing loan(s)/project(s). Further, it includesproviding support to strengthen/ integrate existing DPRs prepared by the government, when finalizing the comprehensive DPRs. It will also cover assessment of climate risk and adaptation and design compliances for climate and disaster resilience with overall climate resilience framework preparation.

²⁹ For example, may refer for integrated/ holistic planning to the Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines, 2014, Ministry of Urban Development (MOUD), Government of India (GOI); Handbook of Service Level Benchmarking, 2008, MOUD, GOI; Codes/ Manuals/ Guidelines/ Advisory Notes (as applicable) of Bureau of Indian Standards (BIS) and its National Building Code (NBC), Indian Roads Congress (IRC), and Central Public Health and Environmental Engineering Organisation (CPHEEO) under MOUD, GOI; Atal Mission for Rejuvenation and Urban Transformation (AMRUT) Guidelines, June 2015, MOUD, GOI, etc. [Note: Erstwhile MOUD is now known as Ministry of Housing and Urban Affairs (MOHUA)]; ADB. 2014. *Climate Risk Management in ADB Projects*. Manila; etc.

in mind the future needs, potential impacts of such proposed investments in physical development terms-both on the direction of urban growth of a town/city and on the surrounding land use(s) of subproject sites in terms of "environmental protection-economic development-equity and social justice," viable new technologies-for enhancing efficiency of service delivery and effective coverage;³⁰ (ii) adopting nature-based solutions or low-impact development/green infrastructure principles integrated with or without waste to energy recovery systems for any planning and design work outputs compatible with natural ecosystems/ bio-diversity, such as bio-digesters/ bio-swales or bio-retention ponds, constructed wetlands, etc., including any urban water body conservation/ beautification as part of innovative use of urban open spaces and to facilitate ground water recharge, etc., as feasible towards eco-system based adaptation and facilitating in generation of green jobs;³¹ and (iii) ensuring universal access towards achieving a barrier-free built-environment, gender-sensitive urban design promoted by crime prevention through environmental design-CPTED, etc., while adopting planning and implementation of vision zero strategy for progressive improvement in safety of physical access and commuting on urban roads, etc., which would apart from saved lives due to increased road safety, facilitate in achieving better economic use of development resources and enhanced human productivity as well; and

- prepare comprehensive DPRs, strengthen/ integrate existing DPR work components as part of comprehensive DPRs, and bid documents complete in all respects with bid-level working drawings, and detailed construction working drawings to arrive at investment ready subprojects;
- (xv) assist in investment planning, financial due diligence and financial management planning; and PRF implementation planning along with project performance monitoring system, including prioritizing and phasing investments finally based on

³⁰ ADB. 2021. Creating Livable Asian Cities. Manila. [Women's participation in governance, politics, and decision-making helps improve the equitable and inclusive allocation and targeting of resources, and drives urban resilience. Promoting gender mainstreaming to improve gender equality, therefore, should be an important goal for urban planners, i.e., in integrated urban sector. Mainstreaming gender into urban planning and decision-making means ensuring that the different needs and interests of all groups are taken into account in all aspects of planning and development of a city by both public and private sectors. These groups include men and women, boys and girls, young and elderly, differently-abled people, and people of different sexual orientation and gender identities.]; and ADB. 2018. Strategy 2030: Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific. Manila, along with the accompanying Operational Plans for Priority (2019) strategized therein.

³¹ ADB. 2021. Creating Livable Asian Cities. Manila. [Nature-based solutions (NBS) can improve land use, enhance biodiversity; improve, air, water, and micro-climate; reduce noise; and help build resilience to flooding and other natural hazards. They generally enhance resilience and contribute to public health. NBS are usually implemented in tandem with conventional infrastructure and are used to enhance them. These solutions are known as hybrid solutions. Adopting the total asset management approach can provide a pathway for integrating these aspects into city development strategies and asset management plans, adding to the resilience of the city's infrastructure and its population. Green infrastructure uses natural processes and elements such as, combination of vegetation, soils, gravel, and rocks to manage water, temperature, and air quality to create healthier, resilient, and aesthetical urban environments for the well-being of populations.] Green jobs include jobs that reduce waste and pollution, and benefit the environment, while paying decent wages and benefits that can support a family; and green jobs are normally considered in the industry of waste recycling or recovery/ composting with or without waste-to-energy recovery systems, landfills/ incineration/ plasma gasification or vitrification plant integrated with waste-to-energy recovery systems, wastewater/ septage management based on bio treatment principles of bioremediation and/or phytoremediation integrated with or without waste-to-energy recovery systems, storm water management based on natural filtration principles, public transit, green building industry, industry for renewable energy and energy efficiency, etc.

the progress on reforms implementation in relevant institutions w.r.t. the prioritized subprojects identified for ensuing infrastructure investment project(s) in a sequential manner;

- (xvi) undertake due diligences of economic and financial analysis of subprojects/projects, and provide a comparison with the economic internal rate of return (EIRR) and financial internal rate of return (FIRR) done at the time of appraisal, including any impacts of midstream changes during the PRF period for reviewing/ updating financial analysis and evaluation/ financial management assessment, including preparation of a project Financial Management Manual (including procedures manual on project specific actions to be developed for implementation by the EA in the ensuing project) for the ensuing project and assess capacity of the EA/ IA's IT systems for accounting and reporting of project activities; while ensuring that financial analysis be consistent with ADB technical guidance note on Financial Analysis and Evaluation, and be consistent with project and entity financial analysis, with due consideration to project and entity risks. For financial management assessment, identify the risks and actions proposed in the earlier financial analysis and evaluation/ financial management assessment, and then review if the EA/ IA has implemented the actions to ascertain the responsiveness of the EA/ IA and accordingly update;³²
- (xvii) prepare and submit bid-level working drawings for use at bidding process stage of work; and detailed construction working drawings before the end of PRF period and prior to any commencement of construction works of the ensuing loan/ project;

Project Safeguards and Gender Perspective Related Tasks

- (xviii) undertake necessary surveys and investigations for social, poverty and gender analyses, assessment of gender equality and social inclusion (GESI aspects, and design of GESI action plan (GESI AP) required for project preparation and design activities, duly including in its advice/ recommendations for the potential elderly, women, children, differently-abled, and transgender facilities–EWCDT, and other gender and socially inclusive approaches that can be incorporated in the design of the ensuing project; including initial poverty and social analysis/ summary poverty reduction and social strategy (SPRSS), resettlement plan (RP) documentation and related due diligence reports (DDRs)/ Indigenous Peoples plan (IPP), due diligence reports prior to commencement of construction works, etc., for the proposed investments, as per state/national/international/ donor agency requirements;³³ and in case of livelihood impacts, the resettlement plan will include initiatives to conduct a needs assessment for livelihood regeneration measures;³⁴
- (xix) prepare comprehensive environmental management plan (EMP, including health and safety management plan–HSMP³⁵), initial environmental examination (IEE)/

³² ADB. 2019. Financial Analysis and Evaluation: Technical Guidance Note. Manila; ADB. 2017. Guidelines for the Economic Analysis of Projects. Manila; ADB. 2015. Financial Management Assessment: Financial Management Technical Guidance Note. Manila; ADB. 2014. Preparing and Presenting Cost Estimates for Projects and Programs Financed by the ADB: Financial Management Technical Guidance Note. Manila; ADB. 2008. Financial Due Diligence: A Methodology Note. Manila; etc.

³³ ADB. 2012. Handbook on Poverty and Social Analysis: A Working Document. Manila; ADB. 2012. Guidelines for Gender Mainstreaming Categories of ADB Projects. Manila; etc.

³⁴ ADB. 2009. Safeguard Policy Statement (Policy Paper, June 2009). Manila; and ADB. 1998. Gender and Development: OUR FRAMEWORK Policies and Strategies. Manila.

³⁵ HSMP is to be considered/ updated as site-specific health and safety management plan (SSHSMP), which takes into account corona virus disease (COVID-19) related health and safety risks (i.e., with HS COVID-19 Plan) should be

environmental impact assessment (EIA);fostering innovation and technology use in planning and design for integrated urban development, including potential resource reuse; and/or other such documentation as may be required to access ADB/ donor funding³⁶, duly incorporating national standards/ benchmarks, and/or international standards and good practices in planning and design, as feasible, for a subproject context;³⁷

- (xx) Measures will be included in the contracting documents to encourage hiring of local population during implementation. In consultation with various stakeholders, support Client in setting-up of a communication strategy and a grievance redress mechanism (GRM) at EA-/ IA-level to redress all concerns related to the PRF, and which could be continued for the ensuing loan/project;³⁸
- establish an effective monitoring and reporting system based on sex-(xxi) disaggregated data (including beneficiary data, and which comply with privacy considerations) to be recorded as collected through public consultations and obtained from Client implementation team, field staff, contractors and other stakeholder authorities, on people who participated in training, including on trainers who will provide effective-behavioural change communication training and awareness to build women's resilience to climate change and disaster impacts and environmental degradation through greater access to technology and innovation/ diversified livelihoods/ finance or micro-finance or other financial safety nets/ dedicated crisis-responding social assistance systems, etc., on women and/or people from marginalised/ excluded and vulnerable groups employed-in or job-/ entrepreneurship-/ business-opportunities (including, green jobs/ green businesses. food-for-work opportunities, etc.) for them in integrated urban sector, including skill development for semi-skilled/ skilled job types, upskilling, and business skills, on spatial planning-relevant infrastructure-public space improvements made/ benefits extended to women/ children/ elderly/ differentlyabled, etc. for access to infrastructure and services/ safe mobility/ accessible child and elderly care services, etc., through GESI AP implementation progress during

developed in accordance with the Borrower's policy, legislation and regulatory requirements onCOVID-19 prevention and control, and should be approved by the Employer prior to mobilization of site work, with information to ADB. In the absence thereof, the HS COVID-19 Plan should be updated in accordance with international good practice guidelines [ADB Sustainable Development and Climate Change Department (SDCC)Good Practice Advisory Note: *Protecting the Safety and Wellbeing of Workers and Communities from COVID-19 Risks in ADB-funded Projects*, 21 July 2020, as amended from time to time].

³⁶ All reports shall be prepared in ADB accepted formats and shall comply with the ADB approval requirements.

³⁷ The intent is to arrive at innovative interventions/ solutions through a comprehensive DPR that adopts (i) smart growth principles complemented by diversity-equity-inclusion and gender mainstreaming in planning, while considering gender equality and social inclusion (GESI) aspects/ GESI-responsive design features; and (ii) are–environment-friendly (adopts in design–low impact development/ green infrastructure/ resource conservation principles etc.), accessible (adopts in design–universal access/ barrier free-friendly built-environment concepts/ planning and implementation of vision zero strategy, etc.), climate resilient (including climate proofing of existing infrastructure), economically viable/ financially sound and ensures operational sustainability of assets as envisaged considering subproject life-cycle period, etc.

³⁸ Grievance is defined as any comments/suggestions, non-contentious questions/clarifications regarding the project, issues/concerns that resulted to non-performance of obligations of any of the parties involved in project processes including safeguards. The grievance redress mechanism (GRM) is anchored on the five principles of: (i) transparency; (ii) social inclusiveness; (iii) being simple and accessible; (iv) having anonymity and security; and (v) institutional capacity building to guide in facilitating and resolving concerns and grievances. PDMC to facilitate the PMU to issue notifications to establish respective grievance redressal committees (GRCs) at various levels [city-level/ PMU-AMC level/ UDD or state-level) with details of composition, process of grievance redress to be followed, and time limit for grievance redress at each level.

the PRF implementation and also during ensuing project(s) implementation (as per indicators and targets set at outcome and output levels in DMF prepared) so as to be informed with result achievement-levels against measured baseline data in the project completion report(s) as well, whenever due;

Procurement Related Tasks

- (xxii) undertake (a) project procurement risk/ capacity assessment; and (b) a strategic procurement planning (SPP) study, conduct SPP Workshop and discuss/ assess contract management support required and prepare Contract Management Plan(s) during pre-contract award stage for finalized subproject contract packages for the ensuing project (proportional to complexity, risk, and value of the contract; and due consideration to whether large subprojects have an individual Contract Management Plan and/or one Contract Management Plan can cover a group of similar contract packages of a similar size for smaller contract packages, etc.), arrive at procurement strategy in SPP Study, and submit SPP Study Report and resultant Procurement Plan prepared in consultation with the Client and ADB. The Procurement Plan prepared in ADB format (including any subsequent review/ updation of the same, as felt required during PRF implementation) for the identified subproject contract packages as prioritized for implementation by Client would illustrate appropriate details of suitable contract modalities, such as contract package name/ description/ estimated value, procurement method, review mechanism [prior review/post review (sampling)], bidding procedure, etc., and would be developed based on the procurement strategy arrived at in SPP Study, different contracting options that recommend most appropriate contracting modality(ies) in structured consultation with the Client and ADB, duly based on the scope of work components for each subproject, and taking into account the institutional capacities of PMU-AMC, and concerned stakeholder authorities to undertake procurement of investment-ready subprojects;
- prepare draft bid documents for the contract packages identified in the (xxiii) Procurement Plan prepared for ensuing project as per latest appropriate standard bidding document (SBD with required addendum wording for with site-specific health and safety COVID-19 plan or HS COVID-19 Plan)and related user guide, and finalize the bid documents as per comments received. Support the Client in procurement processing and procurement management, including but not limited to support in the preparation/ any elaboration of the technical and price bid evaluation reports, of contracts for selection of Contractors for subproject contract packages. This support would also include facilitating Client towards the prior review process of ADB on the draft bidding documents or proposal, together with a description of the advertising procedures to be followed for the bidding and the draft Invitation for Bid-IFB for each type of contract (works, goods and plant, nonconsulting and consulting services) and/or towards the post review (sampling) process of ADB, as stipulated in the Procurement Plan, i.e., complete support from IFB to the contract signing stage for each awarded contract package. Ensure bid documents/ contracts to comply with measures as set out in the IEE/ EIA (as applicable), EMP, and RP/DDR (to the extent they may cause impacts to affected people) as well as corrective action plans;
- (xxiv) ensure that draft/finalized bid documents shall include technical specifications, bidlevel working drawings (watermarked "for tender purpose only"), bill of quantities (BOQs), comprehensive EMP[including HSMP updated as site-specific health and safety management plan (SSHSMP) with HS COVID-19 Plan]or any other documents required by the ADB, including performance targets specified as per

subproject component's sectoral national standards/benchmarks and/or international standards/ good practices context applicability and as decided by the government or AMC;

- (xxv) assist Client for administrative/management approvals (such as management or administrative approvals/technical sanctions)through empowered committee (EC) for overall PRF Project monitoring and approvals under UDD/PMU-AMC, etc., as applicable, for starting the procurement process. All procurement under the PRF will follow ADB Procurement Policy: Goods, Works, Non-consulting and Consulting Services (2017, as amended from time to time); Procurement Regulations for ADB Borrowers: Goods, Works, Non-consulting and Consulting Services (2017, as amended from time to time); and the accompanying ADB Guidance Notes on Procurement (June 2018, as amended from time to time); and latest appropriate SBD (with required addendum wording for HS COVID-19 Plan)and related user guide, and RFQ/ SRFP issued by ADB for each type of contract (works, goods and plant, and non-consulting/ consulting services), as applicable;
- (xxvi) develop/adopt a quality management system towards implementation of PRF Project and prepare a detailed quality assurance plan (QAP)/quality management plan (QMP) for all field studies, including all necessary surveys/investigations, studies, analyses, design and documentation activities, etc., and such draft detailed QAP/QMP document must be discussed and finalized with Client/concerned stakeholder authorities immediately upon the award of the Contract and submit it as part of the inception report; and prepare/review over time for any modification, a quality assurance and quality control (QAQC) manual under PRF Project for adoption during subproject contract execution in the ensuing loan/ project;

Institutional Capacity Development Related Tasks

(xxvii) towards institutional capacity development:

- based on the institutional strengthening/ capacity building measures identified in the (i) strategy for institutional and financial strengthening report and (ii) institutional review and capacity development plan, conduct necessary/ priority program sessions on training/ workshops/ seminars/ conferences, etc., in coordination with EA/ IA, including initiating/ continued implementation of reforms and undertaking any on-the job training sessions;
- develop comprehensive feedback mechanism for training participants, as well as end-user experience, to be recorded, monitored, appraised and evaluated; including development of knowledge materials and knowledge database/ repository for the integrated urban development in Agartala city;
- facilitate any ongoing efforts to establish institutional mechanism in place and processes for investment ready infrastructure projects;
- review status of e-Governance reforms initiative and availability of municipal services online in Agartala city, and prepare a digital strategy/ e-Governance solutions for municipal services in line with National Urban Digital Mission, along with preparation of a road map for e-Governance implementation for the AMC services;
- assess/ review the need about any specialized exposure visits to representative State(s)/ Institutions that may offer sharing of good practices

on managing municipal infrastructure and services, and any-related specialized technical training/ workshops to be arranged/ conducted/ facilitated to the stakeholder authorities of UDD and AMC/ PMU-AMC etc., in alignment with central-/ state-level Training Calendar/ ADB Training Calendar, etc.;

- prepare a GIS-based municipal resource mobilization roadmap to be implemented during the ensuing project to ensure effective, efficient and economical use of resources addressing to advance infrastructure governance/ financial sustainability of cities through appropriate recommendations for municipal expenditure and revenue management (i.e., considerations for allocation efficiencies, technical approaches, fiscal strategies, revenue impact, planning and design effectiveness, instrument opportunities, value capture financing–VCF, etc.), and in improving service delivery potentially towards meeting national infrastructure development sector benchmarks/ SLAs—that contribute towards increased service coverage/ accessibility, supported by performance appraisal and evaluation towards proper upstream planning/ project formulation or structuring to improve efficiency and sustainability of investments, considering the impact of COVID-19 pandemic;³⁹ and
- ensure achieving the strategic/operational objectives and key resultsmeasured through service level national infrastructure development sector benchmarks/standards and key performance indicators during the ensuing loan/project implementation;
- (xxviii) explore synergy of these additional projects in Agartala city with integrated command and control centre–ICCC under SCM with existing or proposed disaster management plan(s), supported by information technology–IT-enabled/ information and communication technology–ICT-based solutions—for effective communication and access to emergency rescue and relief services (including, medical facilities/ health-care services, testing centers or laboratories, containment-/ quarantine-/ isolation-facilities, etc.)/ town or municipal infrastructure monitoring-utilization-management during any disaster or pandemic (such as, COVID-19) etc.;
- (xxix) prepare a Project Performance Monitoring System (PPMS to be established within four-months of consulting firm's mobilization) at PMU-AMC for Benefit Monitoring and Evaluation (BME) on a project by basis that shall include baseline data and targets/ performance measures/ performance indicators agreed upon with the Client. This BME shall provide descriptions and procedures for BME data to be collected before, during and after project implementation:

³⁹ ADB. 2021. Creating Livable Asian Cities. Manila. [Ch.4, Financial Innovation.]; and ADB. 2021. Supporting Quality Infrastructure in Developing Asia. Manila. [Efficiency, accessibility, and sustainability are key in operationalizing quality infrastructure investment–QII. Efficiency requires a project selection process maximizing social and economic benefits. Infrastructure governance covers the entire life-cycle of assets, but the most resource-intensive activities are typically planning and decision-making. If not properly anticipated in project design, social and environmental issues can cause infrastructure-related conflict, often resulting in substantial delays and costs. Quality infrastructure requires expertise and knowledge in a range of areas across the institution to address complex and cross-cutting governance and development challenges, and to develop integrated solutions. Technology can also improve infrastructure governance. The adoption of innovative technology could close the financing gap, and promote sustainable and inclusive growth. When spending more on infrastructure, also need to consider how to spend smarter and better to obtain the most value for money. QII will not only help in "building back better" after COVID-19, but also contribute to achieving economic efficiencies, closing the infrastructure gap, and promoting sustainable growth.]

- the Consultant shall include a separate chapter on PPMS in the main volume of feasibility studies and DPRs or shall submit a separate report on PPMS at respective stages outlining the collection of required base line data (before and after implementation of project) like, inventory and conditions of physical infrastructure, socio-economic data (e.g. poverty, education, health services, employment, connectivity, trade/ business, transportation, agriculture, industry, etc.), environmental condition data, etc., as necessary;
- all the above-mentioned baseline data have to be collected before (existing conditions) by the PDMC at project preparation and design stage; and after implementation of project (improved conditions) for each subproject by the construction supervision consultants; and
- considering all the aspects as mentioned above, the Consultants have to prepare a comprehensive PPMS report to be utilized by the Client for Project Performance Monitoring and Evaluation purposes;
- (xxx) set-up a financial management system (FMS), integrated with PPMS, and build institutional capacity based on Financial Management Manual prepared for the ensuing project and based on the assessed capacity gaps of the EA/ IA's IT systems for accounting and reporting of project activities;
- (xxxi) Facilitate Client in documentation management and retaining all documentation with respect to each contract where prior review/post review (sampling) is required [to be maintained by the Client for at least one (1)-year after the PRF closing date]. This documentation generally includes the bid proposals, the original signed contract, the evaluation report (including the analysis of the respective bids or proposals), and recommendations for award, for examination by ADB or by its consultants;
- (xxxii) facilitate Client in the ensuing loan/project processing stage of work by undertaking financial management assessment, due diligences of economic and financial analyses, project financial management manual, project procurement risk/ capacity assessment, environmental assessment and review framework, initial poverty and social analysis/SPRSS assessment, RP documentation and related DDRs/ IPP, GESI AP, and assessment for resilience to climate risks/ climate change impacts and disaster risks, including developing a DMF and undertaking baseline data measurement, as per relevant ADB–guidelines/accepted formats and meeting ADB approval requirements, and including prioritizing and phasing investments in the Agartala city for ensuing infrastructure investment project;
- (xxxiii) facilitate Client in preparing terms of reference for third party supervision and quality audit consultant–SQAC; and
- (xxxiv) provide any other specialist services requested by Client during the PRF period at mutually agreed conditions, which may be required in implementation of cross-sector infrastructure development projects.

<u>Note:</u> All project documents prepared by the Consultant shall be in the prescribed ADB formats, and meeting ADB approval requirements.

14. The PDMC consulting firm will establish its office in Agartala to execute and manage the said consulting services contract, by carrying out all the activities/ tasks of the consulting team for the PDMC assignment from this office in the field at Agartala. However, the mobilization of the required staff of PDMC consulting firm will be discussed and agreed upon at the stage of contract

negotiation process, and would require approval of the Client before actual mobilization. In addition:

- (i) Due to the outbreak of COVID-19, the commencement and completion dates and other implementation arrangements for this assignment are to be considered as indicative only. The final dates and implementation arrangements will be agreed with the first-ranked firm at contract negotiations taking into consideration the prevailing situation with COVID-19 at that time.
- (ii) The consultant should follow Health and Safety Measures as below (equally applicable for non-consulting services):
 - For their own health and safety, the consultant(s) should follow the regulations and guidance on COVID-19 health and safety prevention and controls issued by the Client's government, or international good practices in the absence of national provisions.
 - The Client/ Firm must, where possible, replace field inputs requiring travel and attendance of meetings with video and teleconferencing. Consultants who are required to visit the project site should be briefed on the approved site-specific health and safety management plan (which should be updated to include COVID-19 specific elements) prior to entering the site and comply with the provisions of it.
 - The consultant is responsible for their own health and safety in relation to the consulting services assignment and shall comply with the country specific requirements and regulations in relation to COVID-19.

15. The PDMC shall execute the consulting assignment by following broad chronological order as below:

- (i) first (a) identify the infrastructure gaps, review of exclusionary screening/ prioritization of subprojects (*including for any updation in investment plan and action plan, and any phasing of deliverables on iterative basis during PRF implementation*), proof of concept/ site plans, development of key indicators, etc., prior to undertaking detailed engineering design stage of work (confirm availability of land with clear–title, site or right-of-way/ ensure all no-objection and necessary clearances obtained for encumbrances free prioritized subproject sites available); and (b) prepare the revised list of prioritized subprojects with draft phasing of deliverables (feasibility studies/ DPRs/ bid documents, etc.), including subproject work components in consultation with the Client and present the same for facilitating decision-making by the government or AMC;
- (ii) for prioritized potential subprojects, undertake:(a) the feasibility studies/conceptual design (including any revisions), etc. (as appropriate), and thereafter finalize the list of prioritized subprojects based on result of feasibility studies along with revised phasing of deliverables (DPRs/ bid documents, etc.); and (b) detailed engineering design stage of work, to prepare comprehensive DPR along with the respective bid document, complete in all respects, with procurement processing and procurement management support duly provided before the completion of PRF period; and
- (iii) while, the consulting work of necessary tasks/ activities for institutional capacity development, overall project management services for the PDMC assignment, facilitating PMU-AMC for the ensuing loan/project processing, etc., would continue concurrently from the beginning during the period of assignment under the PRF.

16. While undertaking the specific tasks for "detailed engineering design" stage of work under the PRF Project, the PDMC firm shall *inter alia*, consider the following aspects of municipal infrastructure:

A. Urban Infrastructure (Water Supply System, and Stormwater Drainage System, integrated with Parks and Open Spaces along with Water Bodies)

The objective is to improve water supply, and stormwater drainage system-related services in Agartala city, and parks and open spaces along with water bodies in an integrated manner through prioritized subprojects covered under the PRF, in order to meet both the additional gap of present and future demand requirements remaining to be addressed post-synergy/ convergence of all existing government schemes and ongoing externally-aided projects, duly considering impacts of pandemics such as COVID-19 and resultant need for robust planning for deep uncertainty for following infrastructure services: (i) water supply services, within the context of delivering continuous pressurized and sustainable water supply services that ensure inclusive access, i.e. water for all, including study for source augmentation alternatives or ascertaining surface water resource alternatives for assured water supply with suitable concepts explored with detailed engineering design for the preferred alternative and/or concept undertaken, e.g., through dam-related structures, dam-reservoir/ raw water pipeline-related work, river intake work, etc.; (ii) stormwater drainage system(with flood protection works, where applicable); with these services extended to full coverage of remaining gap of resident population, along with improvement of parks and open spaces with beautification of water bodies resulting in an improved public realm and overall urban living environment. This is envisaged to entail:

- (a) the improvement, rehabilitation of existing facilities and/or construction of new facilities to ensure the adequacy of water supply and other services commensurate with the projected demand requirements from existing and potential customers, including the poorer section of the community currently not serviced in integrated urban sector;
- (b) the organizational improvement and restructuring of management and organization structure for optimal efficiency in delivering the services to all existing and potential consumers in the most cost-effective manner;
- (c) the maximum possible outsourcing of operations and maintenance services to efficiently deliver the improvements in (a) and (b) above; and
- (d) the PRF Project will contribute to environmentally balanced and sustainable urban development in Agartala city, in line with the balanced regional economic development and sustainability mandate. The development model shall integrate and take account of the natural resources and terrain with urban planning/ infrastructure planning, design and construction, and service requirements. The underlying principles shall include:
 - i. water-sensitive urban design (WSUD), so that the urban infrastructure is planned, designed and constructed with the water cycle of the urban catchment/watershed in mind, to help sustainable management of the water environment;
 - ii. north eastern regional perspective, so that the planning and development of Agartala city/ surrounding urban centres is integrated with its local,

regional and economic growth in international border trade, and the shared use of its resources and infrastructure services;

- iii. integrated urban water management or IUWM;
- iv. low-impact development/green infrastructure principles, as feasible; and
- v. factors or measures for resilience to climate risks/ climate change impacts and disaster risks embedded in design, towards building climate and disaster resilience, including understandings obtained through wastewaterbased epidemiology–WBE and to meet provisions for adequate or potentially higher- water, sanitation and health–WASH requirements to be addressed during pandemics, whether as centralized or decentralised solutions (as appropriate) for investment that address "new normal" or be integral to "next normal" conditions.

The specific tasks contained in the detailed scope of work are intended to serve as minimum requirements for the Consultant to undertake the project study/review and design work for the assignment. Additional tasks that add to a greater understanding of key issues may be addressed, as appropriate. To implement the objectives of the proposed assignment under the PRF towards project preparation for ensuing loan/ project, the work of "detailed engineering design" stage for prioritized subprojects/ work components under integrated municipal infrastructure development in Agartala city, should be organized under the following tasks:

Task-1: Survey of Project Town–Agartala City

(a) **Defining the Boundary of Planning Area.** In consultation with the AMC and UDD/ TUDA, the PDMC will identify the geographic boundary of the municipal administration area (AMC Area/ Agartala Master Plan Area), including the potential future growth area and the drainage outfall area outside the municipal boundary to be covered in the project. Towards developing a holistic understanding of the PRF project requirements, the Consultant shall also discuss with the AMC and UDD/ TUDA, the Greater Agartala Planning Area context. The municipal boundary area (along with that of development authority boundary, if any), taluk and district should be geo-coded. Any landuse map/ GIS-based maps available with PMU-AMC (made available in consultation with UDD/ TUDA) will form the baseline for the PDMC's integrated planning purposes for Agartala city.

All the existing infrastructure details shall be surveyed, all key attributes like location, capacity, approximate age collected and geo-coded, digitized, and incorporated on the surveyed topographic maps (existing topographic maps for the town and/or topographic maps prepared for the selected subprojects in the city by PDMC). The output shall be in AutoCAD 2022 formats, which shall be compatible for export into any reputed GIS software platforms like Arc GIS, QGIS or What3words or equivalent.

- (b) **Collect present infrastructure and service data.** Conduct a reconnaissance survey; articulate and accurately identify conditions in the existing water supply, and stormwater drainage system-related services will provide an effective base from which to define the direction for overall improvements; and evaluate alternative development scenarios. The following surveys will help to identify the infrastructure augmentation and service delivery enhancement needs of residents of respective prioritized subproject coverage areas, as applicable:
 - i. review of existing plans and demographic data for integrated

understanding of problems confronted in Agartala city: The Consultant should refer/ obtain and review the existing plans as available related to: (i) land use planning; (ii) water supply; (iii) wastewater/septage management; (iii) stormwater drainage (including any flood protection works); (iv) solid waste management; and (v) parks and open spaces along with water bodies-related improvements; and/or any deficiencies in such infrastructure and services that affect the urban environment through polluted conditions and overall contributes to degraded livability.

- ii. data on socio-economic characteristics, property ownership, growth character, special characteristics like, international border trade, connectivity, power availability, natural gas availability, etc.;
- iii. infrastructure inventory: The Consultant will prepare a detailed inventory of existing urban infrastructure as per PRF project components. This shall include details of:

Water Supply System

- water resources available (surface water resource alternatives for assured water supply through dam-related structures, damreservoir/ raw water pipeline-related work, river intake work, etc./ ground water resources with aquifer levels and/or ground water table, etc.), source augmentation needs, raw and treated water quality, treatment plants, iron removal plants, storage(overhead/ underground) and pumping systems, metering, and inventory of loss;
- water network details with approximate age profile, type and class of pipes laid;
- service connections and service levels;
- maintenance data like replacement of impellers, pumps, motors, valves, pipe lengths, leak repairs on transmission and distribution networks for two financial years prior to study;
- current O&M organization, staffing, maintenance data for at least two (2)-calendar years;
- financial data comprising of annual capital and O&M budgets, current expenditure trend, prevailing tariffs, revenue billing and collection details;
- list of ongoing capital and maintenance works (plan and non-plan) including latest progress status; and
- any other available information relevant to the study shall be compiled from primary and secondary sources and site visits. Any inconsistency or deficiency in the information shall be noted.

Stormwater Drainage System

- details of existing collection network, outfalls and pumping systems, if any;
- details of existing holding tanks/retention ponds/reservoirs, etc., either local community owned or government owned belonging to irrigation department/district administration/municipal body, including any flood protection works alongside roads/ habitation

areas;

- survey and identify possible locations for construction of underground holding tanks for retaining the flood waters for use as raw water source for augmenting the drinking water resources and to reduce dependence on ground water. Prepare feasibility reports for possible sub-projects with necessary financial and economic analysis. This shall be followed by preparation of detailed project reports for the selected options including storage, extraction, water treatment and distributing through a feeder main network to the existing overhead service reservoirs;
- service levels as available in regard to coverage during past two(2)calendar years; including details of water logging frequency and incidents during the past decade, i.e., (10)-calendar years or longer duration, as feasible based on data available, or at least during the past two(2)-calendar years;
- current maintenance organization, staffing, maintenance data for at least two (2)-calendar years;
- any prevailing policies or practices in adoption, both for public or private/with any incentives like, on mandating or encouraging integrated onsite storm water drainage management/water conservation though rainwater harvesting tanks (at surface/ underground/above ground), adoption of low-impact development/ green infrastructure principles in design, integrated roadside storm water drainage systems (conventional/environment-friendly) of adequate capacities, etc.;
- financial data comprising of annual capital and O&M budgets, current expenditure trend, prevailing taxes either as part of any property tax or cess, etc., as the case may be for storm water drainage management, including revenue billing and collection details;
- list of ongoing capital and maintenance works (plan and non-plan); and
- any other available information relevant to the study shall be compiled from primary and secondary sources and site visits. Any inconsistency or deficiency in the information shall be noted.

Parks and Open Spaces, along with Water Bodies

- details of number and area of parks and open spaces, including water bodies (flowing in nature or still/ enclosed ones) with any existing/ proposed riverfront development stretches
- existing status of accessibility, connectivity with walking, cycling, and public transport/ transit routes, including facilities/ features/ fixtures that ensure access to all, and audit of existing usage to identify any barriers or deterrents to effective use (policy/ regulatory/ ownership/ any others that can be specified) to ascertain necessary and suitable recommendations for effective utilization of resources
- are they representing varied character and functionality to meet identified needs of public open spaces, safe and secure, etc; else

potential design interventions, such as, crime prevention through environmental design–CPTED based on 'eyes on the street' principle, etc., may be considered to be adopted?

- orientation and wind direction patterns prevalent in existing/ proposed sites, and existing/ vegetation and planting requirements to address any surrounding land use concerns or to make the land used compatible to ensure clean and hygienic urban living environment
- existing status of built-facility coverage (area and percentage of respective total area of each such open spaces and recreational facilities) and type of such facility, e.g., parking, toilets, cafés, for administrative use, etc.⁴⁰
- status of provision of seating and resting spots, shelter and shade, wayfinding, etc., as part of landscape condition in these spaces
- usage condition of these parks and open spaces, along with quality of water in water bodies, in general, and where these are accessed for recreational purposes; and state of bio-diversity value
- state of harmony of green-blue environment linkages (including any existing grey environment linkages); and also, is there any green corridor continuum that exists in road streetscape and connects these parks and open spaces, along with water bodies
- potential for flexible use of the space for all ages and for a variety of activities; and potential for shared uses for effective space utilization, and space and revenue management from use of such natural-/ built-resources
- any other available information relevant to the study shall be compiled from primary and secondary sources and site visits. Any inconsistency or deficiency in the information shall be noted.
- (c) **Review and finalization of strategy planning/ subproject prioritization inputs.** Based on the above data collection, and urban strategy (separately prepared and made available)–the Consultant will review the same, and support in infrastructure improvement plans to align with finalized urban strategy. Further, based on the prioritization framework/ subproject selection criteria/ pre-feasibility studies/ arrived draft shortlist of prioritized subprojects/ work components–the Consultant will review and finalize the shortlist prior to undertaking the detailed engineering design stage of work of feasibility studies/ preparation of the DPRs/ preparation of bid documents, etc.
- (d) **Confirming critical topographical survey data for prioritized/ selected subprojects.** The GIS-based base maps made available by Client/ prepared and updated by the Consultant would cover the municipal area of Agartala with georeferenced coordinates and ground elevations. However, the PDMC shall undertake validation/verification of all critical elevations adopted in the hydraulic design of relevant infrastructure components. The Consultant shall also undertake

⁴⁰ When sufficiently well-designed and well-equipped as to become a destination – larger public spaces of parks and open spaces, along with water body frontages may be appropriate to support with facilities such as, parking with bicycle racks/ stands, toilets, cafés and local vending areas, book/ magazine kiosks, walking/ bicycle trails, resting spots, etc., to encourage people to spend more time in the open spaces.

topographical and block levelling surveys of all urban infrastructure components under prioritized subprojects covering: (i) water supply facilities, such as water source, intake/ diversion weir, transmission mains and distribution networks, water treatment plants, pumping stations, balancing reservoirs, etc.; and (ii) existing storm water drainage facilities, identifying black spots with frequent water logging incidents including outfall arrangements, and flood protection areas; which may fall outside the municipal boundary and may not have been covered by the existing GIS-based base maps. Such coverage shall be ensured in the base maps prepared/ updated by the PDMC for respective prioritized subprojects/ subproject work components in Agartala city.

The PDMC is to become familiar with the hydraulic drainage model it intends to use for its data requirements. The hydraulic model will require the physical features of the project towns to be documented in a manner suitable to the models. A comprehensive detailed field survey tied to a common benchmark is required. This includes a cadastral map of each project town and/or subproject site location/ alignment with enough spot levels to be able to draw contour lines at 5 m intervals across the project town and/or 1 m intervals along prioritized subproject site location/ alignment, as applicable.

Maps and benchmarks of the study area are to be collected from the Survey of India (SOI map of 1:50,000 scale). Where available, existing aerial survey/ satellite imagery are also to be collected from appropriate sources. Local planning area maps are to be collected from PMU-AMC along with any relevant data from project town's municipal authorities and from agencies like, PWD (WS/ DWS), PHED, etc., as the case may be. A reconnaissance survey is to be undertaken to verify the collected data and to confirm the topographic details. Total Station Survey is to be used to capture surface levels and the physical details of structures in the affected areas of subproject site location(s)/ alignment(s) within the project town. The data is to be collected and digitized into the Consultant's own ArcGIS or QGIS or What3words or equivalent. The data is to be verified by field survey/ ground truthing survey resulting in a cadastral and/or topographic map/plan of project town and/or prioritized subproject site location/ alignment. All structures likely to impact on the water supply, and storm water drainage, including any flood protection works, under the prioritized subprojects are to be identified.

A final set of maps/plans must be prepared displaying the above information, including surveyed surface levels, the proposed water supply system, and storm water drainage, and landslip protection works, and solid waste management systems, and all zonal service areas. The maps to the scale of 1:1000 should contain surface level contours at 5 m intervals across the project town and/or maps to the scale of 1:200 should contain surface level contours 1 m intervals along prioritized subproject site location/ alignment, as applicable.

(e) Geo-Technical Surveys/ Investigations. The Consultant shall organize and undertake standard geo-technical surveys to investigate and determine the soil strata, foundation requirements, sub-surface water levels, trench cutting requirements, etc., for the prioritized subprojects/ work components; and the number of samples shall be in accordance to relevant Indian national standards. For the purpose of bidding, the number of locations for geo-technical surveys shall be a minimum of fifteen (10)-sites per project town and shall cover, the water pipeline/ treatment plant sites, pumping stations, reservoirs, etc., and at least 5sites per project town for covering the transmission and distribution systems, and drainage. (f) **Geographic Information System.** The PDMC shall ensure that the outputs shall be in AutoCAD 2022 formats, which shall be compatible for export into any reputed GIS software platforms like ArcGIS, QGIS or What3words or equivalent.

Task-2: Water Supply Improvements

- (a) **Planning and Design Scope.** Considerable effort is expected to be expended in developing town-specific, water supply improvement plans based on any existing water supply master plans that, when designed and constructed, will lead to the sustained delivery of continuous pressurized water services that meet social and environmental expectations. This part of scope of study will be undertaken in several stages, and as far as is practical, these stages are expected to run in parallel:
 - Stage-1 of Source Identification Report: The content of Source Identification Report shall consist of the guidelines provided at Section 3.2 of CPHEEO Manual;⁴¹
 - Stage-2 of Pre-Feasibility Report: The content of Pre-Feasibility Report shall confirm to the guidelines provided in Section 3.3 of CPHEEO Manual; and
 - Stage-3 of Feasibility Report prior to Detailed Project Report: The content of Feasibility Report shall consist of the guidelines provided at Section 3.4 of CPHEEO Manual.

The study is to place emphasis on the practical operation of the planned water supply system. It is not enough to plan conventional normative piped water network systems, which often result in substantial variations during implementation due to topographical needs, onsite obstructions, land availability and restricted work sites and geo-technical issues. Practical influences include the hydraulic requirements, the topography, the town layouts, road networks, the density of property development, the location of the water extraction point, intake/ diversion weirs, water treatment plant, reservoirs, etc., and maintainability of the assets. Factors such as population size, topography, groundwater level as well as the locations of pumping stations and the treatment plant must be considered. In addition to capacity augmentation of drinking water infrastructure facilities, there is a significant need for investments in retrofitting the existing infrastructure to cover the backlog maintenance. The study is expected to address each of these and how they impacted the design and operation of the planned water system.

These terms of reference for water supply subsector include a planning methodology, which is to be followed by the PDMC. The degree of success of the planned water system will reflect the experience and the detailed attention that is to be carefully applied to each aspect of the system, as outlined in these terms of reference. The Consultant shall employ a concerted effort to develop an integrated water management solution, which is resilient to climate changes and delivers services in an optimum manner to provide an effective, efficient, and sustainable service in such north eastern region's small-sized cities or towns/border centres.

The technical specifications for undertaking the planning and design for water supply systems shall confirm to the Indian national standards and are summarized

⁴¹ Section numbers refer to respective sections in the CPHEEO Manual on Water Supply and Treatment, 1990.

in Annexure 1 for any reference purposes.

- (b) **Water Supply Infrastructure Design.** Prepare the design of the selected water supply work component of prioritized subprojects in Agartala city, including dam-related structures, dam-reservoir/ raw water pipeline-related work, river intakes, intake/ diversion weirs, desilting tanks, transmission and distribution systems (new/ replacement), water treatment plants, pumping stations, reservoirs (overhead/ underground), water supply zones, water meters/ metering, etc.⁴² As part of this, the Consultant will:
 - i. review the current design/service parameters, suggest any changes it considers appropriate, and conduct hydraulic analyses of proposed system designs, to determine their compliance with the agreed parameters;
 - ii. undertake the assessment of water needs, available resources, and the capacity of existing systems, and advise on any improvements necessary to achieve and sustain the agreed design and service standards. This may include source and system augmentation, rehabilitation and extension, etc.;
 - iii. identify suitable water sources (surface water including study for source augmentation alternatives or ascertaining surface water resource alternatives for assured water supply with suitable concepts explored with detailed engineering design for the preferred alternative and/or concept, e.g., through dam-related structure, dam-reservoir/ raw water pipeline-related work, river intake work, etc.; and/or groundwater, if inevitable), confirm quality and quantity of water available, including any need of integration with dam-related structures/ raw water main pipeline and machinery, to exploit the source;
 - iv. design of intakes and/or infiltration galleries to maximize their efficiency, and minimize the effects of siltation, climate change impacts and their maintenance requirements;
 - v. design the water treatment systems duly evaluating latest technologies most appropriate for the local needs, institutional capacity, environment, sustainability, and operation and maintenance capacities, etc.;
 - vi. design water transmission main, including pipe trenching, laying, thrust blocks, pressure testing, access for cleaning/repair (including air/scour, flow control, pressure regulating valves), pumping, power supply, water quality monitoring;
 - vii. design the water distribution systems including pipe trenching, laying, pressure testing, access for cleaning/repair (including air/scour valves), pumping, power supply, water quality monitoring, fire-fighting capacity, household/communal water points or stand posts, household collection and storage capacity;
 - viii. design various instrumentation systems for effective and efficient supervisory control, data acquisition–SCADA and monitoring of asset and operational performance, service delivery monitoring and sustainable maintenance management (footnote 40);
 - ix. plan for road cutting and restoration (making good the same at each road crust-layer levels with proper compaction, and maintaining the same road

⁴² Advisories issued by CPHEEO, MOHUA, GOI (e.g., Advisory on Pipe Materials for Transmission of Water, June 2020; Advisory on Water Meters, Instrumentation & SCADA, June 2020); etc.

surface level as before, as a good practice) and managing the excavated soils and all related social and environmental safeguards, and shifting of utilities, removal of construction debris, and permits for undertaking various works;

- x. prepare the detailed engineering designs, bid-level working drawings, and detailed construction working drawings for the proposed works;
- xi. assess requirements for effective, efficient, and sustainable operations and maintenance of the assets created (preventive and routine maintenance), including all commercial service requirements like, meter reading, billing, revenue collection, customer contact management, etc., with all necessary needs of staffing, transport, administration, consumables, etc., complete in all respects;
- xii. while designing and adopting particular technology, consideration should be given for the life-cycle costs of the proposed systems/ retrofitting potential of existing systems, the financial and technical capacities of the respective local bodies to operate and maintain proposed system;
- xiii. incorporate successful regional, national and international experiences in water supply systems and strategies in comparable situations (from technical perspective, the State of Tripura is located in the Himalayan region/ northeastern region of India), especially in the field of water demand management to optimize the system, water resource(s) and equitable water use;
- xiv. prepare the required technical specifications, bills of quantities (BOQs), cost estimates, and bid documents (complete in all respects, following ADB accepted formats and meeting ADB approval requirements);
- xv. be available for technical support to Client and PWD (WR/ DWS)/ PHED to undertake field visits, etc., during implementation, if required.
- xvi. as required, assist Client in bid process management, including evaluation of bids;
- xvii. provide on-the-job training and mentoring to the designated AMC/ PWD (WR/ DWS)/ PHED Engineers on the design and procurement of water supply subproject component, use of relevant software, suitable technologies, etc.; and
- xviii. conduct any other tasks needed for successful completion of the water supply subsector's consulting services' objectives.
- (c) **Hydraulic Modelling.** The PDMC shall undertake hydraulic modelling of the water pumping transmission, pumping, storage (overhead/ underground), and distribution network. The purpose of the hydraulic modelling is to determine the required diameters of water pipelines for the design flows, and to also determine the performance of the pipes laid at peak flows. The performance of entire pumping, storage, and distribution system shall be demonstrated on an extended period simulation for at least 72 hours of continuous flow regime.

[Note: Maps and plans are expected to be produced along with the reports for all sectoral/ subsector outputs under the PDMC assignment. Among other things these maps (standalone layers and composite layered/ overlaid outputs) and plans must be produced from the Consultant's own ArcGIS or QGIS or What3words or equivalent and must show the longitudinal sections of all transmission and

distribution pipelines, layouts of treatment plants and zone wise distribution systems etc., complete in all respects. These GIS-maps and database output editable files prepared/ updated by the Consultant will be transferred to the Client's own GIS-mapping and database system as part of the PDMC assignment.]

Task-3: Improving Overall Drainage Systems

(a) Planning and Design Scope. This part of study requires the calculation of the hydraulic loads followed by the hydraulic designs of the flooding and drainage systems for the prioritized subprojects in the project for Agartala city. PDMC would prepare the storm water drainage plan and detailed engineering design for identified storm water drainage, including any flood protection work components in the DPRs (including strengthening any existing DPRs) in necessary integration with the urban roads component of each subproject for roadside storm water drainage systems (including any integration with water bodies) and flood protection works, as part of support for the preparation of comprehensive DPRs, bid documents along with the necessary specifications and terms and conditions (technical/commercial) and bid-level working drawings for tender purposes, and for procurement processing support. Subsequently, the detailed construction working drawings would be prepared before the end of the assignment.

The respective flood control and drainage systems are to encompass the entire areas of the prioritized subproject coverage. Flood control options within the city are to be examined while drainage waters are to be removed to outside of the city/ town limits to suitable disposal points. Ponding of water within the city/ town is to be avoided. While the study is focussed on the city/ town, where appropriate the drainage catchments upstream of the city/ town may also need to be included in the calculation of flood flows.

The flood control and drainage studies first require the calculation of the hydraulic load using rainfall runoff computational techniques. This is followed by the hydraulic design of the drainage systems, again using computational techniques. Flood control systems means developing options to create floodway within the city/ town to channel flood waters though the city/ town, while minimizing flood damage and the hazard to life. The flood waters may arrive at the city/ town from upstream catchments and/or be generated from within the city/ town (depending upon the times of concentration). Structures such as flood storages and retarding basins are only to be considered as a last resort and the main intent is to concentrate and remove flood waters by providing unimpeded routes.

Conventional drainage systems are also to be proposed in keeping with Indian national standards and guidelines. Drainage solutions are required which (i) eliminate pondage even during short rainfall durations and low intensities; (ii) are robust and will continue to function under a range of conditions and loadings; (iii) are easy and affordable to maintain; and finally (iv) add to the amenity of a city/ town. The potential reuse of the drainage water is outside of the scope of this project. However, the adoption of international good practices, like low impact development/green infrastructure principles that also contribute towards water conservation/groundwater recharge, etc., shall be duly explored, and based on the input data obtained from topographical and geo-technical surveys/ hydrologic and hydraulic modelling/ rainfall data, etc., the necessary interventions shall be planned and designed for such environmental-friendly storm water drainage solutions, as feasible.

The study stage of work requires the diligent and expert assessment of the existing

conditions and possible solutions for drainage system and landslip protection works. The hydrologic and hydraulic modelling required must be undertaken by people with considerable experience in these two disciplines, and the modelling must be overlaid with knowledge of local ambient conditions. For example, existing drainage systems are used as rubbish dumps and while not desirable, this practice needs to be at least partially accommodated within the recommended solution in the shorter term, but needs to be remediated over the longer terms through necessary infrastructural provisions/awareness and incentive programs, etc. Recognition also needs to be given to the siltation of drainage systems that occurs over time and ongoing maintenance requirements. Similarly, based on inputs of topographical survey for slope conditions (including inputs recorded on site vegetation/ tree cover)and geo-technical investigations/ any geological surveys overlaid with hydrologic modelling for soil and surface/sub-surface water flow conditions, rainfall intensity/ seasonal fluctuations, percolation rate-assess possible solutions for flood protection works that involve engineering and bioengineering techniques.

Finally, the study also requires the identification of possible environmental and social impacts and associated mitigation measures of the proposed solutions. Typical technical specifications for planning and design of storm water drainage systems are provided at Annexure 2 for any reference purposes.

- (b) Discussion Paper. A number of references have been cited above. These references contain various planning and design criteria and evaluation options. A discussion paper is to be prepared which summarizes these references and the alternatives available and recommend a detailed solution methodology. The approach outlined in terms of reference is to form the base of the recommended solution methodology.
- (c) **Planning and Investigations.** The Consultant is to become familiar with the recommended hydrologic model and hydraulic model and their respective data requirements and options. Both models require the physical features of the city/ town to be documented in a manner suitable to the models. In the case of the hydraulic model a comprehensive detailed field survey tied to a common benchmark is required. This includes roadside gutters, drainage channels, floodways (often roads), bridges and culverts, surface water holding structures (such as retarding basins) and barriers (such as levees and walls), and creeks /rivers/other water bodies.

A reconnaissance survey is to be undertaken to verify the collected data and to confirm drainage details. Total Station Survey is to be used to capture surface levels and the physical details of structure which influence the flow of water through the respective towns. Details of any existing underground drainage system are to be collected from the AMC/district administration.

The data is to be collected and digitized into a GIS-mapping database. The data is to be verified by field survey resulting in a cadastral and/or topographic map/ plan of project city/ town and/or prioritized subproject site location/ alignment. All structures which impede the passage of surface flows or areas where the passages of surface flows are choked resulting in impoundments are to be identified. Using this data, the existing drainage system and the surface levels are to be used to prepare a plan showing the flow of flood waters and drainage waters and an outline of the flooding and drainage pattern for the project town. Each

project town is to be broken up into a number of sub-catchments as appropriate with the main drainage system forming the backbone to which all the subcatchments drain. The data may be held in suitable spatial mapping software including a GIS system such as, Consultant's own ArcGIS or QGIS or What3words or equivalent and layers from drawing software such as Auto-CAD.

A final set of plans to the scale of 1:1000 must be prepared displaying the above information including surveyed surface levels, the drainage system, likely overland flow paths, and sub-catchments. The maps should contain surface level contours at 5 m intervals across the project town and/or at 1 m intervals along the prioritized subproject site location/ alignment.

- (d) Concept Design. The Consultant is to prepare a concept design for the flood control and a city's/ town's drainage. The following options must be examined: Flood Control
 - i. The diversion of flood water around the town.
 - ii. The diversion of flood waters to nearby lakes, rivers and low-lying areas.
 - iii. The directing of floodwaters through the town along preferred floodways.
 - iv. The creation of floodways through the towns.
 - v. The regrading of roads and streets to enhance their hydraulic carrying capacity.
 - vi. Maximizing the use and enhancing the hydraulic capacity of existing drainage channels.
 - vii. The removal of floodway chokes.
 - viii. The use of existing open space to slow the velocity of the flood waters.
 - ix. The protection of vulnerable areas such as residential areas and economic weaker section–EWS/below poverty line–BPL areas.
 - x. Protection of the sewerage system to minimize flood water contamination. Drainage
 - xi. The installation of an underground drainage system (options to be examined are the 1 in 1-year and 1 in 2-year events).
 - xii. The capture of surface runoff and its direction to the underground drainage network.
 - xiii. The use of underground storage to retard the captured runoff at strategic locations.
 - xiv. The gradient of the pipes to ensuring scouring velocity is maintained at all locations and small paper and plastic rubbish will also be flushed through.
 - xv. Secure access to the underground drainage system for maintenance purposes (all access chambers are to have lock down covers).
 - xvi. Trade off the whole of life-cycle cost of pumping with the depth of the pipelines (subject to maximum depth).
 - xvii. Maximum retention time in a wet well of four hours.
 - xviii. The water table level and the likely ingress of groundwater.

The concept plan is to be prepared and presented in the form of a report, plans and a PowerPoint slide deck to the Client. A one-day workshop on the concept plan is to be organized with key stakeholders and the plan presented for each prioritized subproject town. The workshop is to permit discussion on key aspects of the plan and the feedback is to be documented for subsequent inclusion in the plan, where appropriate.

- (e) **Preliminary Design.** Following the approval of the concept plan a more detailed preliminary design is to be produced. The preliminary design should include a hydraulic design of the flood control system and the drainage systems using data from the rainfall runoff assessments and modelling. The preliminary design should include plans showing the proposed flood control and drainage works, longitudinal sections of the flood ways and drainage pipelines, details of surface and underground structures, details of proposed modifications to existing infrastructure including roadways, details of flood diversion works, flood control works or flood retarding works, details of drainage water capture, etc. The design criteria and design rainfall events should also be included. The preliminary design should permit the construction and operations and maintenance costs to be estimated to +/-15%.
- (f) **Performance Measures.** The three performance measures are:
 - i. Percentage of the city/ town (by area) serviced by the drainage system: 100%;
 - ii. Number of reported drainage water ponding each year: 0; and
 - iii. The number of man-made flood choke points leading to an increase in flood levels: 0.

Task-4: Safeguard and GESI Action Plan

- (a) Environmental and Social Safeguards. Prepare environmental and social safeguard documents in accordance with ADB's Safeguard Policy Statement (SPS, 2009) and the country's legal requirements. Assess government policies, experiences, institutions, and the legal framework for environmental assessment, involuntary resettlement and Indigenous Peoples to address any gaps with ADB's SPS. First update, as needed (a) environmental assessment and review framework; (b) resettlement framework; and (c) Indigenous Peoples planning framework, if applicable, developed specifically for the project; and then (d) IEE/ EIA; (e) land acquisition and resettlement plan/only RP documentation and related DDRs, and/or (f) IPP documentation, as appropriate for each subproject. The aspects (c) and (f) may be combined with aspects (b) and (e) respectively, if potential impacts on Indigenous Peoples are confined to impacts related to land acquisition and resettlement. All safeguard documents are to be conducted in meaningful consultation with project affected persons and communities, and documented as part of the safeguard documents.
- (b) **Stakeholder Consultation.** The PDMC to conduct stakeholder consultations, including with local community(ies),and participatory planning exercises needs to be incorporated into the design of the subprojects. All proposed project design features, both hard and soft components, should be made in consultation with relevant stakeholders, including (but not limited to) the PMU-AMC, PWD (WR/ DWS/ R&B), nearby ULBs/ VPs, etc., and adequate consultation with local beneficiaries and nongovernment organizations may be undertaken, when deemed appropriate.
- (c) **Gender and Social Development.** The consultants will undertake/ update social and poverty analysis or assessments, and conduct gender analysis/ assess GESI aspects/ GESI-responsive design features and design of GESI AP, including

(i) identification of key issues to be addressed by the project, design and preparation of a town-specific GESI AP consistent with the project-level GESI AP; (ii) duly including in its advice/ recommendations, the potential elderly, women, children, differently-abled, and transgender facilities–EWCDT, and other gender and socially inclusive approaches that can be incorporated in the design of the ensuing project; and (iii) identification of resource needs for its implementation. Due diligence reports or DDRs need to be prepared. In this regard, one of the key tasks of the GESI expert is to collect and compile sex-disaggregated (baseline) data. At due diligence, the results of the GESI analysis will be used to inform the gender categorization, and the actions to be taken which will be embodied later into a gender or GESI action plan.

Task-5: Subproject Viability, Resiliency, Design and Monitoring Framework

(a) Economic and Financial Analysis, and Climate Resilience.

i. **City Investment Plan.** Review the current investment regime and propose a realistic investment program for the next ten (10) years [for required raw and treated water production, transmission, and distribution; and stormwater drainage system (including any flood protection work) integrated with urban roads component] taking into account the agreed projected demand assessment. This should include improvements (e.g., reduction of non-revenue water–NRW) to the system to increase existing supply capability, prior to major capital works to increase production capacity; and centralized or decentralized integrated roadside storm water drainage system, including any protection works.

> The PDMC should investigate and propose realistic financing plan by leveraging possible sources of finance including future loan funding from ADB. In particular, the Consultant should consider the potential to meet the O&M costs from internal cash generation from service revenues. As a policy, it shall be assumed that the cost of all property connections to achieve full coverage shall be capitalized and financed under Project CAPEX.

Accounting:

- Analyze the financial reports of current operations by UDD, AMC, etc.;
- Identify and quantify all creditor liabilities, including debt;
- Document the inventory of physical assets and their value; and
- Compile a staff profile of current O&M staff.
- ii. **Economic Analysis.**⁴³ Recommend to (in line with the principle of sustainable commercial operations) a pricing policy for water supply services. This would be done in conjunction with and in justification of the assessment of projected water demand. In particular, the PDMC would consider how these policies affect the poorer sections of the community currently not receiving service and recommend measures to enhance the quality and quantity of service to them.

The Consultant shall review the current tariff level and tariff structure for water supply, and recommend a basic tariff structure; recommend an

⁴³ADB. 1999. Guidelines for the Economic Analysis of Water Supply Projects. Manila.

implementation schedule for cost recovery strategy; recommend a subsidy mechanism (if applicable); and recommended tariff level and financing mechanism. Similarly, undertake economic analysis for other above-stated infrastructure services in the project.

iii. **Financial Analysis.** Develop a long-term financial model for the water supply services. In particular, this would include the financing of and projected revenue from the proposed investment program.

This would include the utilization and estimation of forecast parameters (NRW, staffing numbers and ratio, organization structure and resources, unit operating costs, accounts receivables, etc.) using well run water supply and storm water drainage operations as the benchmark. The PDMC would present a fully developed financial model and forecast for the agreed city investment plan, to demonstrate the economic and financial viability of the recommended option (adopt latest ADB Guidelines). Similarly, undertake financial analysis for other above-stated infrastructure services in Project.

Climate Change and Disaster Resilience. The proposed infrastructure iv. investments will incorporate rapid economic, environmental, social and climate change diagnostics for a city/ town, considering the factors for resilience to climate risks/ climate change impacts and disaster risks. This is envisaged to include, but not be limited to, the PDMC undertaking analyses of (i) the socio-economic context, including the city's/ town's geography, demography, urbanization processes and evolution, and existing master plans/development plans; (ii) primary economic growth drivers, including dominant economic activities and their evolution, the city's/ town's contribution to regional and national economic growth, including regional cross-border spill over effects, the business environment, and its overall competitiveness; (iii) competitiveness enablers of a city/ town, including municipal management (institutions, policies/regulations, level of losses and enforcement), urban/regional planning, neighbourhood development, economic development/trade infrastructure. land management, transportation facilitation systems/connectivity mile (including last connectivity), urban infrastructure/utility service provision, open spaces, environmental resources/ historic preservation, and quality of urban spaces/public realm; (iv) identification and initial analysis of climate risks/ climate change impacts and disaster risks on existing assets, future growth areas, and vulnerable communities with specific focus on those poor; and (v) identification and initial analysis of risk avoidance/ minimization and adaptation and/or mitigation measures required, including climate proofing of existing infrastructure in infrastructure development sectors and service delivery. This study phase will result in undertaking climate risk and adaptation assessment or CRA (formerly climate risk and vulnerability assessment or CRVA) by the Consultant that will summarize the results of the initial assessment, prior to arriving at a suitable Climate Resilience Framework for continued adoption in planning, infrastructure design, construction, operation and maintenance, etc. at subproject/ project-level,

in the following manner:44

- To establish the climate and disaster resilience of the infrastructure improvement plans, and feasibility studies of each identified subproject, particularly site selection and designs, a rapid climate risk assessment will be undertaken using the preliminary climate (and disaster) risk screening checklist.
- Based on the outcome of the checklist assessment ('medium' or 'high' risk), an initial climate change assessment (CCA) will be prepared during the subproject preparation stage.
- Results and findings from the initial CCA will then be the basis of proposed climate change adaptation and/or mitigation plans, whose costs will determine the subproject's climate financing contribution.
- The initial CCA will undergo further modification, based on a more detailed CRA (*formerly CRVA*), i.e., further assessments and measures will be conducted to strengthen resilience against natural hazards and climate change impacts, and to fully capture climate financing.

[Note: The climate and disaster resilience work components of the PDMC assignment will ensure that the PRF project demonstrates compliance with the Paris Agreement Alignment (PAA), and climate finance tracking requirements. As the climate resilient and low carbon municipal infrastructure are one of overarching objectives of the project, the PDMC work outputs shall demonstrate how the climate change mitigation and adaptation components will be incorporated into the future project design, in compliance with the PAA requirement (BB1 and BB2). As this is a PRF project, it would be necessary that the PDMC work outputs/ reports would indicate how the detailed engineering design stage related DPR will ensure PAA, so as to support the EA/ IA and ADB through this PRF project contribution in facilitating the ADB commitment to fully align new sovereign projects by 1 July 2023, and 75% of ADB projects will contain climate components. Hence, the PRF project timeline is directly concerned towards meeting such commitments.

Following BB2 requirement and climate change adaptation finance tracking methodology, the project outputs/ activities should be directly connected/ linked with the CRA/ CRVA results. It is explicitly emphasized by the EA/ IA to the PDMC that climate change adaptation and mitigation aspects will be integrated from the early stage of project development including the scoping, and detailed engineering design, across all project preparation process and steps, beyond the climate change report, towards support for ensuing loan preparation/ processing.

Further, technical due-diligence would include determining the possibility of the ensuing subprojects having any climate change mitigation activity, which can contribute to the reduction of greenhouse gas emissions, if any. For both climate adaptation and mitigation activities, climate finance should also be determined and included in the CRA report and in the summary CCA report, as necessary.]

⁴⁴ ADB. 2014. Climate Risk Management in ADB Projects. Manila; ADB. 2020. Principles of Climate Risk Management for Climate Proofing Projects. Manila (ADB Sustainable Development Working Paper Series No. 69, July 2020.); etc.

- (b) **Detailed Project Report.** Consequent to approval of feasibility report/conceptual design report, the PDMC shall prepare a comprehensive detailed project report (DPR) for the city/ town. The DPR is to contain the following, but not limited to:
 - i. **Executive Summary.** Summary of the salient features (water supply system, and drainage features that influence storm water drainage system, including any flood protection work of the city/ town, the recommended solutions, any significant planning and design/implementation impediments, the cost, and any significant environmental and/or social issues.
 - ii. *Introduction.* The background to the project, the study methodology, the study criteria and parameter values, and a map of the study area showing relevant study features.
 - iii. **Study Area.** Features of the study area influencing the recommended solution, decisions and trade-offs made, possible planning and design/implementation impediments, and social and environmental areas of significance. A map showing the proposed infrastructure distribution zones overlaid on a map of the city/ town, including land use and habitation areas is to be included.
 - Existing Situation. A description of (i) existing water sources and water iv. supply system, problems being experienced (including prevailing service levels), and information on existing O&M organization, financial condition, cost-recovery mechanism, etc.; (ii) existing wastewater/septage management facilities, problems being experienced (including city-/townwide or local/ concerned settlement or neighbourhood level), and information on current disposal arrangements/sites, locations of the discharge of domestic or non-domestic wastewater, including commercial/industrial discharges are to be identified, especially those polluting water bodies and urban living environment; (iii) existing drainage and storm water management, problems being experienced (including town-wide or local flooding and ponding), and information on any historical flooding or drainage events, including locations of the discharge of domestic or non-domestic wastewater/commercial and industrial discharges are to be identified; (iv) solid waste management (city-/ townwide through collection, transfer and transportation, waste diversion/ resource recovery, treatment and disposal); and (v) parks and open spaces along with water bodies; complete in all respects, and these must be included in the field reconnaissance, including integration within road rightof-way/any roadside utility provisions.
 - v. **Proposed Project and Detailed Design.** The project design shall include (i) source sustainability study, method of extraction along with related development of dam-related structures and dam-reservoir/ raw water pipeline work etc. as ascertained in study, design of intakes, pumping systems, treatment process and all related general layout, and process and instrumentation design, hydraulic design, hydraulic flow diagrams, hydraulic model for pumping, storage, raw water and treated water transmission and distribution systems for water supply services; (ii) a list of the rainfall data and its source and intensity-duration-frequency or IDF curves highlighting the design values, the flows for different rainfall events

and the design values, proposed drainage patterns in plan form plus longitudinal cross-sections showing levels for sub-catchments and for the main drainage system, the features and measures of the roadside overland and underground proposed drainage systems, and locations where the flow/depth design criteria is exceeded for different rainfall events, including potential integration with water bodies; and (iii) parks and open spaces along with integration, beautification, or improvement of water bodies and water quality conditions; including the necessary integration within road right-of-way/any roadside utility provisions.

- Environmental, Social, and Gender Issues. As required IEE/ EIA, RP vi. and related DDRs/ IPP (as applicable), and a separate social impact assessment with gender analysis/ assessment of GESI aspects/ GESIresponsive design features and GESI AP, (i) highlighting any areas of significance, which may require resolution before the project proceeds to the next stage; and (ii) duly including in its advice/ recommendations, the potential elderly, women, children, differently-abled, and transgender facilities-EWCDT, other gender and socially and inclusive approaches have been incorporated in the design of the ensuing project.
- vii. **Cost Estimation and Implementation Schedule.** The estimated capital and annual operating cost of the recommended solution is to be provided. Quality infrastructure investment should attain value for money, and remain affordable with respect to life-cycle costs, by taking into account the total cost over its life cycle (planning, design, finance, construction, O&M, and possible disposal), compared to the value of the asset, as well as its economic, environmental and social benefits.⁴⁵ A contingency of (i) 10% should be added to each estimate for water supply system; and (ii) 30% should be added to each estimate for stormwater drainage system. A detailed implementation schedule showing dependencies should be included.
- viii. **Recommendations.** Any recommendations regarding the detailed design, construction or operations and maintenance of the recommended solution, especially those relating to physical (including climate resilience), environmental and/or social issues.
- ix. Appendixes.
 - Appendix A Design Criteria
 - Appendix B Drawings
 - Appendix C All relevant technical and survey data.
- (c) **Design and Monitoring Framework.** As part of facilitating Client for the ensuing loan/project processing, the Consultants will develop a DMF at project-level outlining the impact, outcome, outputs, assumptions, risks and key activities with clear links to performance targets and indicators for each subproject, including support for baseline measurement.

Task-6: Final Report on Comprehensive DPR

Consolidating all the reports, the Consultant shall prepare the final report with an executive

⁴⁵ Infrastructure should be inclusive, enabling the economic participation and social inclusion of all. Economic and social impacts should be considered as an important component when assessing the quality of infrastructure investment, and should be managed systematically throughout the project life-cycle.

summary, implementation plan, and respective financial operating plans. The draft final report shall be delivered within 24-weeks (maximum typical duration available), and the final report after incorporating final comments from Client shall be submitted by end of 26th-week (maximum typical duration available), since commencement of each comprehensive DPR as per phasing of deliverables. The comprehensive DPR would cover the municipal infrastructure sectoral component, as applicable, and duly integrated with urban roads sectoral component, for each prioritized subproject in Agartala city.

The PDMC consulting firm shall submit a soft copy in editable format and 5 hard copies of each of the above reports. The Consultant should submit electronic copies of all database files developed as part of the project, including mapping and drawing files (SHP and DWG formats), data tables (XLSX) in editable format. It is to be noted that all original design files for hydraulic models, mathematical analysis, Auto-CAD and GIS-baseline maps (complete layers/ database)/ plans/ drawings, shall be submitted in original formats in editable form and not in PDF. These final GIS-maps and database output editable files prepared/ updated by the Consultant will be transferred to the Client's own GIS-mapping and database system as part of the PDMC assignment.

Task-7: Preparation of Bid Documents and Procurement Processing Support. Apartment from overall procurement risk/ capacity assessment and strategic procurement planning, the PDMC would support the PMU-AMC in preparation of bid documents (suitably as civil works, goods/ plants/ equipment, and any non-consulting/ consulting services contracts) for the above-stated urban infrastructure components, and undertaking procurement processing and procurement/ contract management for the prioritized subprojects in Agartala city.

B. Urban Roads

Engineering Studies and Detailed Design of Urban Roads

The engineering studies and detailed design is divided into three parts:

- (i) initial screening/ pre-feasibility study of the tentative list of candidate roads/ footpaths, and culverts/ bridges (including foot-over-bridge) and structures, as applicable;
- (ii) feasibility studies of the shortlisted road alignments for final selection; and
- (iii) detailed design for selected road/ footpath, culvert/ bridge (including foot-overbridge) and structure subproject components, as applicable.

The viability of the project shall be established taking into account the requirements with regard to rehabilitation, upgrading and improvement based on road/ highway design along with footpath, pavement design, culvert/bridge design (including foot-over-bridge), protection works and other improvement and safety measures, as necessary, quantities of various items of works and cost estimates vis-à-vis the economic analysis within the given time frame. The DPR would inter-alia include detailed road/ highway design along with footpath, design of pavement and overlay, integrated drainage studies and design (including integration with any separate drainage studies), design of any flood protection works, design of any slope stabilization/ landslip protection works (if required), design of culvert/bridges (including foot-over-bridge) and cross drainage structures, road safety audits, quantities of various items, bid-level working drawings, detailed construction working drawings, detailed cost estimates, economic and financial viability analyses, environmental and social feasibility, social and environmental action plans as appropriate

and documents required for bidding for the project as per ADB Guidelines and latest appropriate SBDs (with required addendum wording for HS COVID-19 Plan); and refer related user guide, and RFQ/SRFP for further clarity on preparation and evaluation of bid/ proposal document). Factors for resilience to climate risks/ climate change impacts and disaster risks such as, risk minimization/avoidance, adaptation and/or mitigation measures will be taken into consideration in the design of resilient all-weather roads and culverts/bridges, including climate proofing of existing roads/ transport infrastructure, as applicable (as per national/international standards and/or good practices, including ADB's South Asia framework and practice), including impact assessment of COVID-19 pandemic on project preparation, cost, and implementation of the priority subprojects.

The Consultants shall ensure detailed project preparation and design activities incorporating aspects of planning for universal access, value engineering, quality audit and safety audit requirement in design and implementation, including planning and implementation of vision zero strategy, gender-sensitive urban design by promoting crime prevention through environmental design–CPTED, etc. The stakeholder consultations shall also be duly strengthened adopting the aspects of diversity-equity-inclusion in arriving at/finalizing inputs to be considered for design and implementation. The sensitivity of project components would largely depend on location (e.g., rainfall, topography/gradient, soil conditions/ sub-surface drainage conditions, site vegetation, etc.), traffic volume and storm water drainage volume, system design and specifications, materials (including reuse of cleaned milled materials from existing road surfaces), safety plans and procedures, maintenance regime, and investments.

The Consultants will particularly take the following into account to design climate- and disaster-resilient all-weather roads and culverts/bridges and structures, as applicable:

- i. Sites should be carefully selected with reference to existing local hazard maps or actual surveys.
- ii. Factors for resilience to climate risks/ climate change impacts and disaster risks such as, risk minimization/avoidance, adaptation and/or mitigation measures will be taken into consideration in the design of climate- and disaster-resilient all-weather roads integrated with culverts/ bridges and other structures, through structural norms/non-structural measures.
- iii. The urban roads' subproject components will be designed and executed as seismic resistant structure in accordance with relevant national standards, as applicable.
- iv. The design and construction standards will be raised to appropriate level. The revised high flood levels of the rivers or the natural streams or drainage channels shall be considered, while designing facilities, as applicable. Geotechnical studies shall be undertaken, including for any flood protection works, etc.
- v. Detailed engineering design for roads and culverts/bridges and structures will address any shortages of good quality construction material and potential for reuse of cleaned material.
- vi. Climate financing. i.e., climate mitigation and climate adaptation cost will be estimated.

Task-I: Initial screening of the tentative list of candidate Urban Roads' subproject components

The Consultant will undertake a review and screening of the tentative list of candidate urban roads/ footpath/ foot-over-bridge etc., prepared by Client. The review and screening will be carried out through (i) review of all available reports and published information about the tentative list of candidate urban roads with any integrated culvert/bridge and structure subproject components, as felt required and the project influence area, including review of information in any existing master plan/ city development plan, transport master plan/comprehensive mobility plan, etc., prepared in the State and any existing DPRs for detailed design/implementation-level integration purposes with the urban roads' subproject components; (ii) reconnaissance survey in the field; and (iii) discussions with the officials of Client and concerned stakeholder authorities. The Consultant may devise a selection criterion to facilitate the preparation of a shortlist of candidate road and culvert/bridge and structure subproject components in consultation with Client and concerned stakeholder authorities. Urban roads' subproject components in, or close to, national parks, wildlife sanctuaries, or any other environmentally sensitive areas should be avoided. Urban roads' subproject components passing through populated areas requiring significant resettlement and land acquisition should also be avoided. Based on the review and initial screening, the Consultant will finalize a shortlist of candidate urban roads, footpaths, and culvert/bridge or structure subproject components in consultation with Client and concerned stakeholder authorities for taking up any feasibility study for the final selection of the urban roads. Prepare draft bid documents for any non-consulting/ consulting services, as felt required (e.g., request for quotation-RFQ for surveys/ investigations, etc.; request for proposal-RFP for supporting studies, etc.), and finalize them in consultation with Client and concerned stakeholder authorities (including following ADB accepted formats and meeting ADB prior approval requirements for draft bid documents, as applicable), and provide procurement processing and procurement/ contract management support.

Task-II: Feasibility Study for Shortlisted candidate Urban Roads' subproject components

If required, the Consultant will undertake a feasibility study for the shortlisted candidate urban road, footpath and culvert/bridge and structure subproject components, as applicable, for the final selection of the urban roads' subproject components.

The scope of services of any such feasibility study shall cover, but be not limited to, the following major tasks:

- i. review of all available reports and published information about the project road including requirements to address climate risks/ climate change impacts and disaster risks, and the project influence area;
- ii. detailed reconnaissance surveys and preliminary topographic surveys;
- iii. road inventory and condition surveys;
- iv. inventory of culverts/bridges and structures;
- v. preliminary material and geotechnical investigation;
- vi. identification of possible improvements in the existing alignment;
- vii. preliminary traffic studies including traffic surveys and demand forecasting;
- viii. preliminary environmental and social impact analyses;
- ix. preliminary proposals and design for up gradation of roads integrated with culverts/bridges and other structures;

- x. strip plan indicating the scheme for carriageway widening, location of all existing utility services (both over- and underground) and the scheme for their relocation/rehabilitation/up gradation, trees to be felled and planted, and land acquisition/resettlement requirements, and duly illustrating their existing streetscape elements;
- xi. subproject component/project costing;
- xii. economic and financial analyses;
- xiii. criteria for selection of roads and pavement features for DPR; and
- xiv. reports, documents and drawings.

The Consultants are to follow the relevant portions of this TOR for the Task-II Feasibility Study corresponding to the scope of services. Further, the EA/ IA emphasize that beyond the 'classic' urban road upgrades and traffic management improvements, the feasibility study clearly includes considerations for non-motorized transport facilities (pedestrian facilities, bicycle, quality public space, traffic calming zones, pedestrianization etc.), public transport (junction geometry, bus stops, accessibility), inclusive design (should ideally be included in the design standards), parking strategy (on-street and off-street) and urban road safety (audit and design). These dimensions would then subsequently be factored in the project design. The detailed scope of services and the methodology for achieving the detailed design objectives are described in Task-III below.

Task-III: Detailed design for selected Urban Roads' subproject components

The following sections describe the scope of services to be undertaken for the detailed design of the urban roads' subproject components.

The scope of services for detailed design shall cover, but not be limited to, the following major tasks:

- (i) review of all available reports and published information about the candidate urban road, footpath, and culvert/bridge and structure subproject components, as applicable, and the project influence area;
- (ii) documentation on environmental, poverty and social impacts, including those related to cultural properties, Indigenous People natural habitats, involuntary resettlement, etc.;
- (iii) undertake public consultation, including consultation with Communities located along the road, NGOs working in the area, other stakeholders and relevant government departments at different stages of assignment;
- (iv) undertake detailed reconnaissance;
- (v) identify possible improvements in the existing alignment;
- (vi) review/conduct traffic studies including traffic surveys and axle load survey and demand forecasting, and pedestrian pathway audit;
- (vii) undertake inventory and condition surveys for road, culvert/bridge, cross-drainage structures and storm water drainage provisions;
- (viii) carryout detailed topographical surveys using Total Station, GPS, etc.;
- (ix) undertake pavement investigations;
- (x) study sub-grade characteristics and strength: investigation of required sub-grade and sub-soil characteristics and strength for road and embankment/ any flood protection works design, and sub-soil investigation;

- (xi) identify sources of construction materials, including any potential reuse of cleanedup existing milled/ recovered material; and locations for disposal of excess excavated earth/debris generated from existing materials scrapped/excavated that cannot be reused, and needs to be discarded and disposed-off properly in an environment-friendly manner;
- (xii) adopt approach of inclusive planning for universal access, and conduct road safety audit to identity areas of major concern, including black spots, any blind spots/traffic congestion stretches, and measures to be taken for improving detailed engineering design with respect to road safety, including safety of variety of nonmotorized transport mode and their usage along with pedestrian circulation areas or movement pathways;
- (xiii) prepare preliminary proposal for rehabilitation/widening, including shoulder composition, and cross-section details illustrating the proposed streetscape;
- (xiv) undertake detailed design for rehabilitation/up gradation and widening of roads, including design for roads, footpaths, and culverts/bridges and structures to address requirement for potential disaster risks (seismic and other parameters like, cross-drainage requirements/ flood-prone areas, etc.); to be resilient to climate risks/ climate change impacts, with climate proofing of existing urban roads/ transport infrastructure; and to be available for all-weather operations;
- ensure design of complete drainage system and disposal point for storm water is integrated with the road, footpath, culvert/bridge and other structures, and any water bodies;
- (xvi) identify the type and the design of intersections (including any railway crossings);
- (xvii) carryout value engineering analysis, and subproject component/project costing duly incorporating cost of climate financing, i.e., address or consider factors for resilience to climate risks/ climate change impacts and disaster risks;
- (xviii) undertake economic and financial analyses;
- (xix) prepare strip plan indicating the scheme for carriageway widening, location of all existing utility services (both over- and underground) and the scheme for their relocation/rehabilitation/up gradation, trees to be felled and planted, and any land acquisition/resettlement requirements, and illustrating their proposed streetscape elements [e.g., street lighting, comprehensive range of sians or signages/pavement markings, junction/ intersection improvements, pedestrian pathway/ footpath/ foot-over-bridge, road/street furniture, bus stop/transit shelter, etc.];
- (xx) prepare DPR with detailed cost estimate, rate analysis (including analysis of rate method to be adopted for non-schedule items, and detailed bill of quantities, including safeguards monitoring and management cost estimate;
- (xxi) prepare draft bid documents for execution of civil works (including, any goods/ equipment, etc.), and finalize them in consultation with Client and concerned stakeholder authorities (including following ADB accepted formats and meeting ADB prior approval requirements for draft bid documents, as applicable), and provide procurement processing and procurement/ contract management support;
- (xxii) where required, prepare resettlement plans and related due diligence reports (DDRs) for the project affected people as per ADB–guidelines/accepted formats and Government of India Resettlement and Rehabilitation (R&R) Policy, and

assess the land acquisition requirements; and undertake, as applicable, Indigenous Peoples Plan documentation and related DDRs; and

(xxiii) prepare initial environmental examination–IEE/environmental impact assessment–EIA (as applicable), and comprehensive environmental management plan–EMP [including health and safety management plan (HSMP) updated as sitespecific health and safety management plan (SSHSMP) with HS COVID-19 Plan].

While carrying out the field studies and investigations for planning and design, the information available in any existing master plan/ city development plan/comprehensive mobility plan, etc., being implemented or proposed for implementation in near future by various stakeholders like, the UDD/ PMU-AMC/ PWD (WR/ DWS/ R&B)/ PHED, nearby ULBs/ VPs, etc., shall be taken into account, including for any integration with such implementation elements. Such aspects, including the impacts on account of transportation-land use relationship shall be clearly brought out in the reports and drawings, to facilitate any further review and decision-making at the government level.

The details of the tasks to be undertaken are described in following paragraphs.

Standards and Codes of Practices

All activities related to field studies, design and documentation shall be done as per the latest guidelines/ toolkits/ circulars/ advisories of Ministry of Road Transport and Highways-MORTH, and MOHUA (erstwhile Ministry of Urban Development-MOUD), GOI; relevant publications of the Indian Roads Congress-IRC, Bureau of Indian Standards-BIS and its National Building Code of India (NBC 2016/ SP7:2016); etc., as applicable. For aspects not covered by IRC/ BIS, international standards such as, British and American Standards, and international good practices may be adopted. The consultants upon award of the contract may reflect the same in the consulting firm's inception report to be submitted post-mobilization. For cost estimation purposes, the consultant will adopt-the Schedule of Rates of Tripura PWD (R&B) along with rate analysis method and applicable cost index for different locations; the Central Public Works Department Specifications with Delhi Schedule of Rates along with rate analysis method; any other government or semi-government organization's schedule of rates along with rate analysis method as adopted by PWD (R&B) and/or as acceptable to the PMU-AMC; and market-based rates-in that order, especially for any items not available in the Schedule of Rates of Tripura PWD (R&B).

<u>Note:</u> The Consultant shall ensure that the references made to all the relevant national standards/ codes/ manuals/ guidelines and international standards/ codes/ manuals/ guidelines, etc., where applicable, is made to their latest application versions (i.e., as amended from time to time).

Quality Assurance Plan (QAP)

The Consultants shall have detailed Quality Assurance Plan (QAP) for all field studies including topographic surveys, traffic surveys, engineering surveys and investigations, analyses, design, and documentation activities. The draft detailed QAP document must be discussed and finalized with Client and concerned stakeholder authorities immediately upon the award of the Contract, and shall be submitted as part of the inception report.

Traffic Survey
The Consultants shall undertake necessary surveys for classified traffic volume count, origin-destination and commodity movement, characteristics axle loading, characteristics intersection volume count, speed-delay characteristics, pedestrian/animal crossing as per relevant IRC codes. The Consultants shall, immediately upon award of the work, submit to Client, proposals regarding the total number as well as the locations of the traffic survey stations as part of at each stage. Suitable maps and charts should accompany the proposals clearly indicating the rationale for selecting the location of survey stations. The methodology of collection and analysis of data, number and location of traffic survey stations shall be finalized in consultation with Client and concerned stakeholder authorities. In addition, undertake pedestrian pathway audit to plan for and strengthen/ rehabilitate pedestrian pathway or footpath/ foot-over-bridge, etc.

Traffic Demand Estimates

The Consultants shall make traffic demand estimates and establish possible traffic growth rates in respect of all categories of vehicles, taking into account the past trends, annual population and real per capita growth rate, elasticity of transport demand in relation to income and estimated annual production increase. The methodology for traffic demand estimates shall be finalized by the Consultants in consultation with Client and concerned stakeholder authorities, including considering the due integration with transport-land use planning proposals (e.g., traffic impact analysis of any proposed surrounding greenfield or brownfield/ densification development projects, etc.) and forecast figures of projected population/employment/traffic generation as per any master plan/ city development plan exercise by government for AMC/nearby ULBs and/or as per any regional planning proposals for urban areas managed by nearby ULBs and rural areas managed by district authorities/VPs, as applicable. Overall traffic forecast, thus made shall form the basis for the design of each pavement type (including pedestrian pathway/ footpath, foot-overbridge, bicycle lane, and other facilities/ancillary works.

Further considering the COVID-19 impact, demand for urban public transit during the pandemic has been suppressed and expected to remain below pre-COVID-19 levels, if work-from-home and e-Learning are sustained. The two key challenges would be tackling capacity challenges on public transport. Additional efforts would be required to reassure public transport users of safety precautions and demonstrate that public transport is clean and safe. Physically active transport, such as walking and cycling, is also a key strategy. Aside from promoting well-being and health, walking and cycling are far more environment-friendly options, contributing to enhanced air quality, lower CO₂emissions, and liveability of cities. Physically active transport modes tend to offer a higher switching opportunity during change conditions such as the pandemic, as they provide a cost-effective alternative to meet safe distancing requirements and relieve the burden on public transport.⁴⁶

Engineering Surveys and Investigations

Reconnaissance and Alignment

The Consultants shall make an in-depth study of the available right-of-way (ROW), topographic maps, and other available relevant information collected by them concerning the existing alignment. The Consultants in coordination with the Client will arrange the required maps and the information needed by them from the potential sources, including

⁴⁶ ADB. 2021. Creating Livable Asian Cities. Manila.

any existing GIS-mapping database available with the government (including any updating of mapping database, as required w.r.t. proposed priortized subprojects later). The detailed ground reconnaissance may be taken up immediately after the study of maps and other data. The primary tasks to be accomplished during the reconnaissance surveys include:

- (i) topographical features of the area;
- (ii) typical physical features along the existing alignment within and outside ROW, i.e., land use pattern;
- (iii) scheme for the widening of the existing road;
- (iv) realignment requirements;
- (v) preliminary identification of improvement requirements including treatments and measures needed for the cross-roads;
- (vi) traffic pattern and preliminary identification of traffic homogenous links;
- (vii) sections through congested areas;
- (viii) inventory of major road infrastructure aspects, including land width, terrain, pavement type, carriageway type, culverts/bridges and structures (type, size and location), intersections (type, cross-road category, location), stormwater drains/ sewers, pedestrian pathway/ footpath/ foot-over-bridge, bicycle lane, street lighting, urban areas (location, extent), geologically sensitive areas, environmental features (including integration with surrounding open spaces that may generate traffic demand based on type of open spaces and their intended usage, existing streetscape planting/trees and any existence of linked open space systems/ green corridor continuum, etc.);
- (ix) critical areas requiring detailed investigations;
- (x) requirements for carrying out supplementary investigations;
- (xi) soil (textural classifications/infiltration capacities) and surface/sub-surface drainage conditions; and
- (xii) type and extent of existing utility services along the alignment (within ROW).

The data derived from the reconnaissance surveys will be utilized for planning and programming the detailed surveys and investigations. All field studies including the traffic surveys should be taken up on the basis of information derived from the reconnaissance surveys.

Topographic Surveys

The basic objective of the preliminary topographic survey would be to capture the essential ground features along the alignment in order to consider improvements and for working out improvements, rehabilitation and upgrading costs. The detailed topographic surveys should be taken up after the completion of reconnaissance surveys. The field surveys shall be carried out using high precision instruments, i.e., Total Station, GPS, Auto level, LIDAR, etc., as per good practices.

Details of Utility Services and Other Physical Features

The Consultants shall collect details of all important physical features along the alignment. These features affect the project proposals and should normally include buildings and structures, monuments, burial grounds, cremation grounds, places of worship, railway lines, stream/river/canal, water mains, storm water drains/ sewers, gas/oil pipelines, crossings, trees, plantations, utility services such as, electric and telephone lines (O/H & U/G) and poles, optical fibre cables (OFC), etc. The survey would cover the entire rightof-way of the road on the adequate allowance for possible shifting of the central lines at some of the intersection locations. The information collected during reconnaissance and field surveys shall be shown on a strip plan so that the proposed improvements can be appreciated and, utility removals of each type and tree cutting, etc., assessed and suitable actions can be initiated. Separate strip plan for each of the services involved shall be prepared for submission to the concerned agency.

Road Inventory Surveys with Pavement Features

Detailed road inventory surveys shall be carried out to collect details of all existing road and pavement features along the existing road sections. This includes roadside pedestrian pathway/ footpath/ foot-over-bridge, bicycle lane, etc.

Pavement Investigation

Pavement Composition

The data concerning the pavement composition may be already available with the Client on its own or through concerned stakeholder authorities. However, the Consultants shall make trial pits to ascertain the pavement composition.

Road and Pavement Condition Surveys

Field studies shall be carried out to collect road and pavement surface conditions. The data should generally cover: (i) pavement condition (surface distress type and extent); (ii) shoulder or pedestrian pathway/ footpath/ foot-over-bridge condition and/or bicycle lane; (iii) embankment condition; and (iv) drainage condition. The objective of the road and pavement condition surveys shall be to identify defects and sections with similar characteristics. All defects shall be systematically referenced, recorded and quantified for the purpose of determining the mode of rehabilitation. The pavement condition surveys shall be carried out using visual means supplemented by actual measurements and in accordance with the widely accepted methodology adapted to meet the study requirements. The shoulder or pedestrian pathway/ footpath/ foot-over-bridgeand/or bicycle lane and embankment conditions shall be evaluated by visual means and the existence of distress modes (cuts, rust/ erosion marks, failure, drops/ depression) and extent (none, moderate, frequent and very frequent) of such distress manifestations would be recorded. For sections with severe distresses, additional investigations as appropriate shall be carried out to determine the cause of such distresses. The data obtained from the condition surveys should be analysed and the road segments of more or less equal performance may be identified using the criteria given in IRC: 81-1997.

Pavement Roughness and Structural Strength

The roughness surveys, where required, shall be carried out using Bump Integrator or similar instrument. The methodology for the surveys shall be as per the widely used standard practices and would be finalized in consultation with Client/concerned stakeholder authorities.

The structural strength surveys for existing pavements, where required, should be carried out using Benkelman Beam Deflection technique in accordance with the CGRA procedure given in IRC:81-1997 ("Guidelines for Strengthening of Flexible Road Pavements Using

Benkelman Beam Deflection Technique"). Axle Load surveys as per relevant IRC codes to be carried out.

Sub grade Characteristics and Strength

Based on the data derived from condition (surface condition, roughness) and structural strength surveys, the project road section should be divided into segments homogenous with respect to pavement condition and strength. The type of testing, frequency of test and the methodology should be finalized in consultation with the Client/ concerned stakeholder authorities.

Investigations for Culverts/Bridges and Structures

Inventory and Condition Survey of Culverts/Bridges and Structures

The Consultants shall make an inventory of all the structures (culverts, bridges, including foot-over-bridges, etc., as applicable) along the urban roads/ footpaths under the PRF. The Consultants shall inspect the existing structures and shall prepare a report about their condition.

Hydraulic and Hydrological Investigations

The Consultants shall collect information on high flood level (HFL), low water levels (LWL), discharge velocity, etc., from available past records, local inquiries and visible signs, if any, on the structural components and embankments. Local inquiries shall also be made with regard to the road sections getting overtopped during heavy rains. The Consultants shall make a desk study of available data on topography, storm duration, rainfall statistics, top soil characteristics, vegetation cover, etc., so as to assess the catchment areas and hydraulic parameters for all existing and proposed drainage provisions. The findings of the desk study would be further supplemented and augmented by a reconnaissance along the area. All-important hydrological features shall be noted during this field reconnaissance. Wherever required, for culverts/bridges and cross drainage structures having inadequate waterway, history of overtopping/flooding and are proposed for reconstruction, the detailed hydrological and hydraulic studies shall be carried out.

Geo-technical Investigations and Sub-Soil Exploration

The Consultants shall carry out requisite geotechnical investigations and subsurface explorations for any proposed new culverts/bridges and/or culverts/bridges proposed for reconstruction etc., along high embankments and any other location as necessary for proper design of the works and conduct all relevant laboratory and field tests on soil and rock samples. The scheme for the boring's locations and the depth of boring shall be prepared by the Consultants and finalized in consultation with Client/concerned stakeholder authorities. The sub-soil exploration and testing should be carried out through the Geo-technical Consultants empanelled by the MORTH. The soil testing reports shall be in the format prescribed in relevant IRC Codes.

Material Investigations

The Consultants shall identify sources (including use of fly ash/slag), quarry sites and borrow areas, undertake field and laboratory testing of the materials to determine their suitability for various components of the work and establish quality and quantity of various construction materials (including any potential of reuse of cleaned milled/ recovered material) and recommend their use on the basis of techno-economic principles. The Consultants shall prepare mass haul diagram for haulage purposes giving quarry charts

indicating the location of selected borrow areas, quarries and the respective estimated quantities. It is to be ensured that no material shall be used from the right-of-way except by way of levelling the ground as required from the construction point of view, or for landscaping and planting of trees etc., or from the cutting of existing ground for obtaining the required formation levels.

Environmental restrictions, if any, and feasibility of availability of these sites to prospective civil works contractors, should be duly taken into account while selecting new quarry locations. The Consultants shall make suitable recommendations regarding making good the Borrow and Quarry Areas after the exploitation of materials for construction of works. The Material Investigation aspect shall include preparation and testing of bituminous mixes for various layers and concrete mixes of different design mix grades using suitable materials (binders, aggregates, sand filler, etc.) as identified during Material Investigation to conform to latest MORTH specification.

Road Safety Audit

Road safety audit shall be carried out for each candidate urban roads subproject component to identity areas of major concern, including black spots, any blind spots/ traffic congestion stretches, and measures to be taken for improving detailed engineering design with respect to road safety. The audit should be in line with the ADB's Road Safety Audit for Road Projects: An Operational Toolkit (2003) and other references or publications reflecting international good practices. The road safety audit includes pedestrian or pathway safety audit to be conducted. The data on accident statistics should be compiled and reported showing accident type and frequency so that black spots are identified along the project road section. The possible causes (such as poor geometric features, pavement condition, lack of-footpath/foot-over-bridge/ access to safe pathways or bicycle lanes, refuge areas/other intersection features for safety, etc.) of accidents or accident-prone areas should be investigated into and suitable cost-effective remedial measures suggested for incorporation in design and implementation. In this context, the international good practice of planning and implementation of "Vision Zero" strategy that reflects "Safe System" approach (originated in Sweden in 1990s) on road safety may be adopted for progressive improvement in safety of physical access and commuting on urban roads.⁴⁷Apart from saved lives due to increased road safety, this would also facilitate in achieving better economic use of development resources and enhanced human productivity as well.

Detailed Design of Road and Pavements, Culverts/Bridges, and Structures General

The Consultants shall carry out detailed designs duly considering the comprehensive requirements from the urban roads infrastructure sector perspective that will include the following, but not limited to:

⁴⁷ ADB. 2021. Creating Livable Asian Cities. Manila. ["Vision Zero" which envisages a road system where there are no deaths or serious injuries. The principles underpinning the safe system approach acknowledge that people make mistakes. The blame for crash fatalities and injuries is shifted from road user behavior to a shared responsibility wherein the various elements of the road network should be fair to users who are always susceptible to making mistakes and prone to errors. Road safety should perhaps be better termed mobility safety as crash risks permeate across all modes including pedestrian and non-motorized transport. The concept of safer people zones in urban areas should be a priority and is an important concept toward achieving a better living environment.]

- safe geometric design of road/highway segments, and design safer at-grade junctions or intersections/any grade-separated intersections, with appropriate level of service;
- design of pavement for the widening and rehabilitation for the existing road, paved shoulders, carriageway improvements, medians/refuge areas, verges (as applicable);
- (iii) design of culverts/bridges (including foot-over-bridge), and structures etc.;
- (iv) alignment plans, longitudinal sections, and cross-sections (including those that illustrate the complete streetscape features);
- designs for road/street furniture, road safety, traffic control/ traffic calming/ traffic and transportation management features with necessary signs/ signages, and pavement markings, pedestrian pathway/ footpath/ foot-over-bridge, and other roadside environment-friendly streetscape elements;
- designs and drawings for service road (if applicable), tree planting/guide- or barrier-railing/fencing, traffic calming measures with necessary signs/ signages, street lighting, landscaping, etc., at locations where necessary/required in the streetscape;
- (vii) integrated and resilient road and storm water drainage design adopting low-impact development/green infrastructure principles, as feasible, including showing location of turnouts, out falling structures;
- (viii) rehabilitation and repair plan with culverts/bridges and structures-related design and drawings;
- (ix) design traffic amenities (Parking Areas, Weighing Station and Shelter/Rest Areas, etc.);
- (x) design of other features to ensure overall that access, mobility, and safety is improved, without further increasing any congestion on the urban roads; and
- (xi) Bid-level working drawings, and detailed construction working drawings for all prioritized subproject work components.

Design Standards

The Consultants shall evolve 'Design Standards' and material specifications as part of the project study/ review, primarily based on IRC publications, MORTH/ MOHUA issued circulars/ guidelines/ toolkits/ advisories and relevant recommendations of the international standards. The 'Design Standards' evolved for the project shall cover all aspects of detailed design, including the design of—geometric elements, pavement, culverts/bridges and structures, pedestrian pathway or footpath/ foot-over-bridge, traffic safety and materials (including any potential of reuse of cleaned milled/ recovered material, if meeting applicable quality standards and specifications), etc.

Geometric Design

The detailed design for geometric elements shall cover, but not be limited to (i) horizontal alignment; (ii) longitudinal profile; (iii) cross-sectional elements; (iv) junctions/ intersections; and service roads (if applicable). The Consultants shall make detailed analysis of traffic flow and level of service for the existing road and workout the traffic flow capacity for the improved project road. The analysis should clearly establish the widening requirements with respect to the different horizon periods taking into account special problems such as, road segments with isolated steep gradients or steep bends.

In the case of closely spaced crossroads, the Consultant shall examine different options to reduce conflicts and furnish appropriate proposals for this purpose keeping in view the cost of improvement, impact on traffic movement and accessibility to cross roads. The drawings and cost estimate should include the provisions for realignments of the existing cross roads to allow such arrangements. The Consultant shall also prepare details for intersections taking into account the site conditions, turning movement characteristics, level of service, overall economy, and operational safety (including adequate streetlighting at junctions/ intersections, e.g., use of solar high-mast lights, etc.).

Pavement Design

The detailed design of pavement shall involve (i) strengthening of existing road pavement and design of the new pavement for the widening/additional lane(s), if the findings of the traffic studies and life-cycle costing analysis confirm the requirement for widening or reconstruction of the road; (ii) design of shoulders and/ or pedestrian pathway/ footpaths/ foot-over-bridge, and/or bicycle lane that are connected with approach roads. The design of pavement shall primarily be based on IRC publications. However, the Consultants shall use the recommendations given in widely used international practices. The design of pavement shall be rigorous and shall make use of the latest national and international standards and/or good practices. The design alternatives and the most appropriate design option suited to the conditions of State of Tripura shall be established on life-cycle costing and techno-economic consideration.

For the design of pavement, each set of design input shall be decided on the basis of rigorous testing and evaluation of its suitability and relevance in respect of in-service performance of the pavement. The design methodology shall accompany the design proposals and shall clearly bring out the basic assumptions, values of the various design inputs, rationale behind the selection of the design inputs and the criteria for checking and control during the implementation of works. In other words, the design of pavement structure should take due account of the type, characteristics of materials used in the respective courses, variability of their properties and also the reliability of traffic predictions. Furthermore, the methodology adopted for the design of pavement shall be complete with flow charts indicating the various steps in the design process, their interaction with one another and the input parameter required at each step.

For the design of overlays for the existing pavement, the strengthening requirement shall duly take into account the strength of the existing pavement vis-à-vis the remaining life. The overlay thickness requirements shall be worked out for each road segment homogenous with respect to condition, strength and sub-grade characteristics. Appropriate and most suited techniques of pavement design and rehabilitation should be duly considered. As an international good practice for design and construction: (i) the designed finished pavement level shall always be retained as prior to any resurfacing intervention(by milling existing layers, including reuse of cleaned materials post-such milling) so as to remain at prior level *flush with the roadside gutter edge*, unless deemed to be in need of change on critical review, at such a time of intervention; and (ii) ensure prior to road construction/ reconstruction scheduled activity that all the laying/ construction activity of various utility services located within the right-of-way of the urban roads like, *wet utilities* of gas pipeline, cabling for electrical and communication networks, whether laid separately or as part of a unified utility duct, as best feasible is first completed (this is

also important prior to any bituminous top layered resurfacing activity is undertaken to achieve the designed finished pavement level).

The pavement design task shall also cover working out the maintenance and strengthening requirements and periodicity and timing of such treatments. The maintenance requirements would be identified and evaluated for a period of 5 years after rehabilitation, together with the bill of quantities and the cost estimates.

Design of Embankments

The embankments design should provide for maximum utilization of locally available materials consistent with economy. The levels shall ensure that factors for resilience to climate risks/ climate change impact impacts and disaster risks are duly incorporated in design as risk avoidance/ minimization, and adaptation and/or mitigation measures, and climate proofing of existing infrastructure.

Design of Culverts/ Bridges and Structures

The Consultant shall prepare General Arrangement Drawing (GAD) and Alignment Plan showing the salient features of the new culverts/bridges (including foot-over bridge) and structures, as applicable, and proposed to be constructed/reconstructed along the urban road/ footpath sections covered under the study and selected for the detailed engineering design stage work. These salient features such as, alignment, overall length, span arrangement, cross section, deck level, founding level, type of culverts/bridge components (superstructure, substructure, foundations, bearings, expansion joint, return walls, etc.), as applicable, shall be finalized based upon any hydrological/hydraulic and geotechnical studies, cost-effectiveness and ease of construction. The GAD shall be supplemented by preliminary designs. In respect of span arrangement and type of culvert/bridge (including foot-over-bridge), a few design alternatives with cost-benefit implications should be considered and the best alternative adopted. The Consultants shall also carry out the design and make suitable recommendations for protection works for culverts/bridges and drainage structures (as specifically applicable for urban roads), wherever it is felt required/found inadequate. The Consultants will prepare and submit related bid-level working drawings to support bidding process, and detailed construction working drawings as part of readiness of the ensuing project to the Client through these project preparatory activities under PRF implementation.

Subsequent to the approval of the subproject, the Consultant shall undertake detailed design for all components of the culverts/bridges and structures. The Consultant shall undertake detailed design for suitable/ technologically specialized protection works, including any roadside river/stream training works, wherever required.

Suitable repair/rehabilitation measures shall be suggested in respect of the existing structures as per IRC-SP:40 along with their specifications, drawings and cost estimate in the form of a report. The rehabilitation or reconstruction of the structures shall be suggested based on broad guidelines for rehabilitation and strengthening of existing bridges contained in IRC-SP:35 and IRC-SP:40.

Integrated Storm water Drainage System

The requirement of urban roadside storm water drainage system (open drains or preferably covered drains/storm sewers, etc.) and the integration of the same with proposed cross-drainage system and/or existing water retention ponds, and other urban

water bodies, etc., including any integration with flood protection works shall be worked out for the road sections under PRF Project. In addition to the roadside drainage system, the Consultants shall design the special drainage provisions for sections with superelevated carriageways, high embankments and for road segments passing through cuts. The drainage provisions shall also be worked out for road segments passing through periurban areas/ rural settlements, as applicable in the project context. Where feasible, the storm water management through adoption of natural filtration principles and low-impact development/green infrastructure principles, as feasible, should be considered for design interventions. The designed drainage system should show locations of turnouts/outfall points with details of outfall structures fitting into natural contours, any integration with retention ponds, and other water bodies, etc.

Traffic Safety Features, Road/Street Furniture and Road/ Pavement Markings

The Consultants shall design for urban roads, the suitable traffic safety features and road/street furniture including junction/ intersection improvements, traffic signals, signs (regulatory/warning signs and directional/guide/informational/monument or site-signage), pavement markings (traffic lane, bicycle lane, traffic island, crosswalks, bus bay/bus box, kerbs, etc.), overhead sign boards, crash barriers, additional fence over underpass lanes carrying significant traffic in case of over bridges/flyovers and over streams located at significant depths from road level in case of large culverts/bridges towards restricting any over-toppling/fall below, bollards, separator/guide railings, delineators, mid- or side-fence/ railings, etc., at regular intervals for pedestrian commute. This includes other road/street furniture in pedestrian zones beyond kerb-side edges (e.g., rest benches, waste bins, bicycle racks, pathway/ landscape-lighting, etc.). The safety and security features of the road infrastructure integrated with its urban/peri-urban areas or surroundings should also be designed considering innovative/ good practice principles, e.g., complete streets, universal access design, planning and implementation of vision zero strategy, exploring retrofitting right-of-way spaces by any road diet interventions, gender-sensitive urban design promoted by crime prevention through environmental design-CPTED, etc., as feasible. The locations of these features shall be given in the reports and also shown in the drawings.

Miscellaneous Works

The Consultants shall suggest suitable sites for bus parking, enroute lay-byes in general and truck lay-byes in particular, parking areas and rest areas, and prepare suitable separate designs in this regard. The common facilities like petrol pump/gas filling station, vehicle parking, tyre repair, first-aid medical facilities, police post, café/restaurant, etc., should be included in the general layout in due integration with existing land use proposals in master plan or other proposals from city development plan, any comprehensive mobility plan/ integrated sector planning/local area planning/site planning perspective for implementation in future.

The Consultants shall prepare detailed traffic management plan (TMP) for the traffic management and safety, to be followed subsequently during the construction period.

Estimation of Quantities and Subproject Component/ Project Costs

The Consultants shall prepare detailed estimates for quantities (considering designs and mass haul diagram) and subproject component/project cost for the entire project (civil works/goods, etc., contract package-wise), including the cost of environmental and social

safeguards management proposed based on MORTH's Standard Data Book and market rate for the inputs or the local Schedule of Rates (applicable in State of Tripura for locations corresponding to respective Circle/Jurisdiction of concerned stakeholder authorities, such as, PWD (R&B), etc.), duly accounting the climate financing costs to cover costs for climate change mitigation and/or adaptation measures, including climate proofing of existing infrastructure, to be considered in detailed engineering design. The estimation of quantities and costs would have to be worked out separately for each civil works/goods, etc., subproject contract package, considering design life-cycle cost approach.

The Consultants shall make detailed analysis for computing the unit rates for the different items of works. The unit rate analysis shall duly take into account the various inputs and their basic rates, suggested location of plants and respective lead distances for mechanized construction. The unit rate for each item of works shall be worked out in terms of manpower, machinery and materials. The cost estimates shall be benchmarked with contracts with similar conditions in order to get a more realistic cost estimate.

Economic and Financial Analysis

The subproject(s) will have clear economic rationale. The economic rationale includes an analysis of the market for the subproject's output and assesses its demand. The problem to be addressed by subproject components should be defined, together with identification of options for technical solutions.

The subproject(s) will be cost effective. This usually involves a review of technical options available to address the identified problem and selecting the least cost option. Alternatively, economic efficiency may be demonstrated by the calculation of economic internal rate of return (EIRR) based on "with and without" subproject basis which will be equal to or higher than 9% (adopt latest ADB Guidelines). Similarly, financial internal rate of return (FIRR) needs to be arrived at (adopt latest ADB Guidelines). The EIRR and FIRR would be monitored and compared from the time of appraisal to the time when assessment of achievements is made subsequently during-/ post-project implementation.

Poverty, Social and Gender

The Consultants will conduct poverty, social, and gender assessment for formulating and incorporating necessary components in the project design. Consultants will prepare the initial poverty and social assessment/ SPRSS, and gender analysis/ GESI aspects/ GESI-responsive design features (integrated with climate resilience aspects) based on ADB's Technical Note on Social Analysis for Transport Projects (2008); Handbook on Poverty and Social Analysis: A Working Document (2012); Gender Toolkit: Transport (2013); Guidelines for Climate Proofing Investment in the Transport Sector: Road Infrastructure Projects (2011); etc. The assessment will cover issues related to participation, integrated diseases or STI (including HIV), human trafficking, and other social risks. The assessment will recommend actions, mitigation plans, adaptation and/or other measures, as necessary; duly including in its advice/ recommendations, the potential elderly, women, children, differently-abled, and transgender facilities–EWCDT, and other gender and socially inclusive approaches that have been incorporated in the design of the ensuing project.

Safeguards – Environmental

The Consultants will collect environmental data, assess environmental impacts and propose mitigation measures in compliance with ADB's Safeguard Policy Statement (2009), and government guidelines, regulations, and policies. Urban roads subproject components in, or close to, national parks, wildlife sanctuaries, or any other environmentally sensitive areas shall be avoided. Consultants will prepare initial environmental examination–IEE/ environmental impact assessment–EIA, including comprehensive environmental management plans–EMPs, as applicable, for the urban roads' subproject component integrated with footpaths/ street lighting and culverts/bridges and other structures.

The Consultants will furnish any relevant information required for obtaining clearance from various state and central government agencies such as:

- (i) If required, to assist Client and concerned stakeholder authorities in the submission of application and required documents for the Clearance of Reserved Forests to the Forest Departments, where necessary.
- (ii) If required, to assist Client and concerned stakeholder authorities in the submission of forms and documents for obtaining Environmental Clearance for the subproject/project, where necessary.
- (iii) Assistance to Client and concerned stakeholder authorities in submission for any other clearance requirements with respect to the environmental components relevant to the PRF.

Safeguards – Social

Social and environmental impacts will be assessed and mitigation measures proposed in compliance with ADB's Safeguard Policy Statement (2009), and government guidelines, regulations, and policies. Consultants will prepare relevant social safeguard planning documents which may include resettlement framework, resettlement plan (RP), land acquisition and resettlement related due diligence report (DDR), and Indigenous Peoples plan documentation, as applicable.

Procurement

While the city/ town sizes in Tripura being a north-eastern State is small in area and population, the urban road segments are also likely to be of over relatively small stretches. The Contractors may face challenging site conditions and difficulties in sourcing and transporting construction materials, and will have limited working season to execute the works. As such, civil works/goods contracts under these urban roads 'subproject components may attract only small- to medium-sized contractors from within the State and the nearby States. In the context of comprehensive DPRs along with bid documents to be prepared for prioritized subprojects, the Consultants will undertake assessment of the availability of suitable contractors and the contract packages will be formulated suitably. All these aspects of market analysis/ operating environment/ options analysis, etc., will need to be dully assessed in the Strategic Procurement Planning (SPP) Study Report and discussed in the related SPP Workshops. The Consultant's expert in the field of procurement will be required to have specific experience in: (i) addressing the procurement risks and challenges under similar conditions, including identifying any potential of reuse of cleaned milled/ recovered material and their specifications that meet

quality standards; and (ii) have practical experiences in raising and attracting interests of qualified contractors for procurement under the Project, for example through road-show(s) and/or business opportunity seminar(s). The Consultants will provide procurement processing and procurement management support to the Client in bid evaluation and the award of civil works/goods contracts, and any consulting/ non-consulting services, and build the capacity of PMU-AM concerned stakeholder authorities on procurement in urban roads sector, as per the interventions recommended in the SPP Study Report.

IV. OUTPUT AND REPORTING REQUIREMENTS

17. The assignment period for PDMC consulting services as stated above is 18 months. The PDMC firm is tentatively expected to be mobilized by September 2022. The PDMC firm's inputs under the PRF will be discussed during the consulting services' inception phase after its mobilization. It is proposed that the PDMC will review and finalize a list of prioritized subprojects and distribute them under different status levels of any complexities related to, for example, its techno-economic due diligence, safeguard requirements (environment and social) and GESIresponsive aspects, design readiness, etc., and be mutually agreed with the Client. The consulting firm would then arrive at an appropriate phasing of DPR/ bid document deliverables for prioritized subprojects in consultation with the Client, grouped in two-phases (Phase 1 and Phase 2 deliverables, with their commencement dates), and an onward scheduling for procurement of subproject contract packages in the Procurement Plan based on the outcome/ procurement strategy arrived at under SPP Study Report. These priority list subprojects can then in a phased manner move to the stage of bidding process, upon completion of the phased priority list subprojects' detailed engineering design, and allied activities of necessary supporting documentation and bid documents-set complete in all respects, as required. The bidding process for such subprojects' contract packages to commence latest by the second quarter of 2023 or earlier, for start of issuance of IFBs.

18. Under the PRF, the PDMC is envisaged to prepare one comprehensive DPR per subsector-specific prioritized subproject (as decided by the government or AMC) duly considering the required coverage/projected demand (and/or gap to be addressed) within the relevant AMC Notified Planning Area/Greater Agartala Planning Area boundaries, as decided by the government or AMC under integrated urban development requirement for Agartala. In addition, the PDMC consulting firm by the end of PRF period should target support for completion of all the IFBs issued for prioritized subprojects' related contract packages, and at least 50% of these contracts be ready for award to facilitate the PMU-AMC to indicate adequate project readiness, towards undertaking preparation/onward processing for the ensuing loan/project.

19. The indicative stage-wise workflow is given in Table 1 (*not in any strict hierarchical order and subject to further modifications*):

S. No.	Stage of Work/Deliverable Type	Responsibility
1.	Review and validation of infrastructure gaps, exclusionary screening/ prioritization of subprojects (<i>including for any</i> <i>updating in investment plan and action plan, and any</i> <i>phasing of deliverables on iterative basis during PRF</i> <i>implementation</i>), proof of concept/ site plans, development of key indicators, etc., prior to undertaking detailed engineering design stage of work	Facilitation: UDD through PMU- AMC/ Stakeholder Authority/ District Authority; and ADB Primary task: PDMC

Table 1: Indicative Stage-wise Workflow

S. No.	Stage of Work/Deliverable Type	Responsibility
2.	Reconnaissance survey, availability of land with clear-title, site/right-of-way, and all no-objection and necessary clearances for each subproject(including those from the Department of Water Resources, Government of Tripura where required, from the environmental conservation/ any downstream impacts/ environmental safeguards compliance, etc., perspectives to protect water resources)	Facilitation: PMU- AMC/Stakeholder Authority Primary task: PDMC
3.	Prepare a revised list of prioritized subprojects, along with Phasing of Feasibility Studies/DPRs and Bid Documents based on above information [<i>Post-the outcome of feasibility studies and later, if and</i> <i>when required, the list of prioritized subprojects can be re-</i> <i>prioritized/ finalized for onward applicable tasks.</i>]	Facilitation: PMU-AMC Stakeholder Authority/ ADB Primary task: PDMC
4.	Undertaking a rapid climate risk assessment using the preliminary climate (and disaster) risk screening checklist, and as required based on risk-level assessed, undertaking detailed climate risk and adaptation assessment or CRA adopting ADB's CRA (<i>formerly CRVA</i>) Tool, and preparation of Climate Resilience Framework for onward guidance and to address climate risks/ climate change impacts and disaster risk resilience related aspects in detailed planning and infrastructure design (which would be useful during subsequent implementation, operation and maintenance processes as well), including recommended risk avoidance/minimization measures, adaptation and/or mitigation measures, etc., while duly mandating that "disaster-secure engineering," "structural norms/ non-structural measures," etc., for risk reduction are built into plans/designs from the very beginning for these PRF subprojects/projects, including any "climate proofing" of existing infrastructure towards building climate and disaster resilience; and reporting compliance of climate resilience measures in such designs, etc., incorporated at subproject/project-level	Facilitation: PMU-AMC/ Stakeholder Authority/ ADB Primary task: PDMC
5.	Undertake Strategic Procurement Planning (SPP) Study, conduct SPP Workshop and discuss/ assess contract management support required and prepare Contract Management Plan(s) during pre-contract award stage for finalized subproject contract packages for the ensuing project (proportional to complexity, risk, and value of the contract; and due consideration to whether large subprojects have an individual Contract Management Plan and/or one Contract Management Plan can cover a group of similar contract packages of a similar size for smaller contract packages, etc.), arrive at Procurement Strategy in SPP Study, and submit SPP Study Report and resultant Procurement Plan prepared in consultation with the Client and ADB [<i>Review/ update Procurement Plan, as felt required during</i> <i>PRF implementation.</i>]	SPP Study Report review and approval: ADB Facilitation: PMU-AMC/ Stakeholder Authority/ ADB Primary task: PDMC

S. No.	Stage of Work/Deliverable Type	Responsibility
6	Review and updation of any delineation of subproject site boundary/any alignments and layouts/ utility mapping on GIS-based base maps; and undertaking topographical, geotechnical, hydrological and geological surveys (as felt required), and any other engineering/ socio-economic/ demand surveys, inventory of loss/ willingness-to-pay surveys, etc.	Facilitation: PMU-AMC Survey task: PDMC
7.	 Preparation of feasibility report/concept design (including any revisions), etc., as appropriate for each subproject* a. Feasibility study report/ conceptual design(including any revisions), etc., complete with draft due diligences documentation of economic and financial analyses, subproject categorization from environment, involuntary resettlement, and indigenous peoples impact perspectives, along with respective screening checklists for each categorization (e.g., rapid environment assessment–REA checklist, etc.), IEE, etc. b. Broad cost estimate c. Administrative Approval for Commencement of DPR preparation based on the feasibility report/conceptual design, etc., with complete supporting analyses and document set, along with broad cost estimate 	Approval: PMU-AMC Facilitation: PMU-AMC/ Stakeholder Authority Feasibility report/Conceptual design, etc. preparation task: PDMC Administrative Approval: EC (as per sanctioned powers/ financial limit) Maximum time period for the Administrative Approval: One- month
8.	 a. Preparation of Comprehensive DPR for each prioritized subproject work components, as applicable Detailed Engineering Design Detailed Cost Estimate Drawings: bid-level working drawings first; and detailed construction working drawings later prior to completion of PDMC assignment Draft DPR, and Final DPR 	Facilitation: PMU-AMC/ Stakeholder Authority Comprehensive DPR preparation task: PDMC
	b. Technical Sanction of Final DPR	Technical Sanction: Authority designated by UDD, GOT/ PMU- AMC Facilitation: PMU-AMC/ Stakeholder Authority and PDMC Maximum time period for the Technical Sanction: One-month
	 c. All other supporting documents as part of complete document-set of Comprehensive DPR (updated, including for due diligences, where required, and complete in all respects) Economic and financial analyses, subproject categorization from environment, involuntary resettlement, and indigenous peoples impact perspectives, along with respective screening checklists for each categorization (e.g., rapid environment assessment–REA checklist, etc.) 	Prior review and approval of supporting documents on due diligences for each subproject: ADB Facilitation: PMU-AMC/ Stakeholder Authority Public consultation, baseline measurement, any surveys/

S. No.	Stage of Work/Deliverable Type	Responsibility
	 Bid documents complete in all respects, as applicable, with comprehensive EMP (including HSMP**), IEE/EIA, RP and related DDRs/ IPP, GESI AP, etc., as part of a complete DPR document set indicating investment readiness for each subproject 	investigations, and documentation task: PDMC
	d. Acceptance of Comprehensive DPR (including detailed estimated costs) for commencing the procurement process	Approval: PMU-AMC Facilitation: PMU-AMC/ Stakeholder Authority Follow-up, technical clarification and support task: PDMC
9.	Procurement processing and procurement management support for each subproject a. Invitation for Bid b. Pre-bid meeting/queries/response preparation c. Bid openings (technical/price) d. Bid evaluation (technical/price) e. Bid evaluation reports (technical/price) f. Bid/ Performance Security validation g. Contract document set preparation for signing h. Any other procurement process documentation/draft and final correspondences support	Final Procurement No-Objection for Contract Package: ADB Bid Evaluation and Recommendation/ Approval: TERC constituted by PMU- AMC/EC Facilitation: PMU-AMC/ ADB (TA Consultants and TA Consulting Firm as Observers, if sought) Primary Support: PDMC
10.	Review of Institutional Capacity Development Plan with Programs identified for training along with Training Calendar, and training modules (<i>separately prepared as a</i> <i>coordinated work of individual consultants under KSTA</i> <i>resources and TRTA consultants under ACUDP project</i> <i>loan</i>) and finalize the same; support ongoing/ initiate proposed institutional strengthening and capacity building process, undertake technical capacity building activities/ on-the-job training sessions, and development of comprehensive feedback mechanism for training participants, as well as end-user experience, to be recorded, monitored, appraised and evaluated; including development of knowledge materials and knowledge database/ repository; and preparation of digital strategy/ e- Governance solutions for municipal services in line with National Urban Digital Mission, along with preparation of a road map for e-Governance implementation for the AMC services as part of implementation of e-Governance reforms in AMC (<i>in coordination with ongoing support of</i> <i>TRTA consultants under ACUDP project loan in</i> <i>implementation of reforms in AMC</i>)	Staff Nomination and Facilitation: UDD, GOT and PMU-AMC/ Stakeholder Authority/ ADB (Guidance and/or Output Review by Staff/ TA Consultants and TA Consulting Firm as Observers, if sought) Primary task: PDMC
11.	Overall project management during the consulting assignment	Monitoring and Approval: EC Facilitation: PMU-AMC/ Stakeholder Authority Primary task: PDMC

S. No.	Stage of Work/Deliverable Type	Responsibility
12.	Facilitation to Client in the ensuing loan/project processing stage of work by undertaking financial management assessment, due diligences of economic and financial analyses, project financial management manual, project procurement risk/ capacity assessment, environmental assessment and review framework, initial poverty and social analysis/SPRSS assessment, Resettlement Plan and related due diligence reports/ Indigenous Peoples Plan, GESI AP, and assessment for resilience to climate risks/ climate change impacts and disaster risks, etc., including developing a DMF, as per relevant ADB– guidelines/accepted formats and meeting ADB approval requirements, including prioritizing and phasing investments in the Agartala city for ensuing infrastructure investment project	Monitoring and Approval: EC Facilitation: UDD, GOT and PMU-AMC/ ADB (Guidance and/or Output Review by Staff/TA Consultants and TA Consulting Firm as Observers, if sought) Primary task: PDMC

* These stages of study work for prioritized subprojects in this consulting assignment pertain to feasibility studies/conceptual design, any infrastructure improvement plan, etc., as appropriate.

** Updated as site-specific health and safety management plan (SSHSMP) with site-specific health and safety COVID-19 plan (HS COVID-19 Plan).

ACUDP = Agartala City Urban Development Project, ADB = Asian Development Bank, AMC = Agartala Municipal Corporation, CRA = climate risk and adaptation assessment, CRVA = climate risk and vulnerability assessment, DDR = due diligence report, DMF = design and monitoring framework, DPR = detailed project report, EC = Empowered Committee, EIA = environmental impact assessment, EMP = environmental management plan, GESI AP = gender and social inclusion action plan, GOT = Government of Tripura, HSMP = health and safety management plan, IEE = initial environmental examination, IPP = Indigenous Peoples plan, KSTA = knowledge and support technical assistance, O&M = operation and maintenance, PDMC = project design and management consultant, PMU = project management unit, RP = resettlement plan, SPRSS = summary poverty reduction and social strategy, TA = technical assistance, TAC = tender approval committee, TERC = tender evaluation and recommendation committee, TRTA = transaction technical assistance.

20. The PDMC consulting firm will report to the Project Director, PMU-AMC. For day-to-day basis of reporting and coordination purposes, the PDMC team would report to Deputy Project Director under PMU-AMC, and/or any other designated representative from Client for execution of the consulting assignment. The Team Leader/Deputy Team Leader is responsible for delivery of all the work outputs and corresponding reports. The PDMC is required to submit following reports, as applicable, considering identified/ reviewed/ prioritized subprojects and/or subproject work components under integrated urban development of Agartala city, to the Project Director, PMU-AMC. All reports should be submitted as required below (Table 2), in an electronic and hard copy format.

Category	Milestones/Deliverables (Type of Report)	Timing	No. of Copies*
A. Project Management Services	PDMC Mobilization	Within 1-month of commencement of the consulting services	1
	Inception Report(including QAP/QMP)	By the end of 1-month of commencement of the consulting services	5
	Project Performance Monitoring System (PPMS), Financial	Established within 3-months of commencement of the	-

Table 2: Details of Milestones/ Deliverables: Reports/ Timing

	Milestones/Deliverables		No. of
Category	(Type of Report)	Timing	Copies*
	Management System (FMS), and other measures for the PRF	consulting services	
	Monthly Progress	Every month	5
	Quarterly Progress	Report every quarter/ annually	5
	Annual Report	(including as applicable, the GESI AP report, and update on safeguard monitoring as per monitoring reports with any updates on site-specific health and safety management plan covering HS COVID-19 Plan)	5
	Final Report of PDMC Assignment with services and tasks undertaken/status of task accomplishment/learning for improvement/way forward	1-month prior to the completion of the PDMC assignment	5
	Non-Report Type Item: Handover of Procured Furniture and Furnishings, Computers/Equipment (along with data processing capacity through any licensed software/ hardware), Specialised Software/ Hardware (GIS Software and GPS Instruments), Accessories, Unused consumables, etc., along with their original relevant document sets (e.g., related procurement processing documents, warranty, insurance, O&M manuals, etc.), as applicable	Before completion of the PDMC assignment [Note: Such handover to be completed along with the submission of 5 (five)-signed Transmittal copies for record/ communication purposes for each Item-Set handed over to PMU-AMC.]	5
B. Planning and Detailed Engineering	I. Secondary Data Collection/ Reconnaissance Survey/ Preliminary Study	Immediate after commencement of the consulting services	
Design (with Detailed Project Reports– DPRs) and Procurement Processing Assistance for each Subproject	Infrastructure Assessment and Investment Plan (Review Report): Review of infrastructure gaps, and Exclusionary Screening/ Prioritization of Subprojects (including for any updating in investment plan and action plan, and any phasing of deliverables on iterative basis during PRF implementation), proof of concept/ site plans, development of key indicators, etc., and the List of Prioritized Subprojects and Phasing of Deliverables, including List of Feasibility Reports is finalised	Within 6-weeks of commencement of the consulting services	5

Category	Milestones/Deliverables (Type of Report)	Timing	No. of Copies*
	Review and updated GIS-based Base Maps of the Study Area	Within 6-weeks of commencement of the consulting services	3
	Preliminary Report on infrastructure inventory and current status based on reconnaissance survey and secondary data collection, for:	Within 6-weeks of commencement of the consulting services	3
	 water supply system roads along with stormwater drainage system and any integration with water bodies 		
	 parks and open spaces along with water bodies 		
	Rapid climate risk assessment using the preliminary climate (and disaster) risk screening checklist, and as required detailed Climate Risk and Adaptation Assessment (CRA) and Climate Resilience Framework with adaptation and/or mitigation measures to adopted at subproject/project-level	Initial due diligence by the end of Feasibility Studies/ Firmed- up during Phase-I DPRs [<i>Comprehensive Design</i> <i>Review Report to be submitted</i> <i>as stated, on periodic basis at</i> <i>sub-project/ project-level, as</i> <i>applicable</i>]	5
	Strategic Procurement Planning (SPP) Study, SPP Workshop, Procurement Strategy, and SPP Study Report; resultant Procurement Plan (prepare/review/update); and Contract Management Plan(s)	SPP Study, SPP Workshop, Procurement Strategy, and SPP Study Report, along with contract management support required, and resultant Procurement Plan (first version): SPP Study to begin in-parallel to inception activities, and all SPP Study tasks/ documents as stated- above be completed within 8- monthsof commencement of the consulting services. Procurement Plan to be thereafter reviewed/ updated at appropriate timing in consultation with PMU-AMC on a continuous basis of information made available w.r.t. the firmed-up/ approved DPR(s), etc. Contract Management Plan(s):At appropriate timing in consultation with PMU-AMC on a continuous basis as DPR(s) get firmed-up/ approved, and completed latest before the end of PDMC assignment	5

Category	Milestones/Deliverables (Type of Report)	Timing	No. of Copies*
	II. Preparation of Comprehensive DPR of <u>each</u> Sector-/ Subsector- Specific Prioritized Subproject with subproject work components as applicable	Concurrent activities would commence in consultation with PMU-AMCfrom7th-week onwards of commencement of the consulting services. [Maximum typical duration available for each DPR completion is 14-weeks from its scheduled commencement as per Phasing till Final DPR stage of work.]	
	a. Detailed Surveys(Primary and Engineering Surveys like, socio- economic/ demand surveys, inventory of loss/ willingness-to-pay surveys, topographical survey, etc.) and Detailed Investigations at Feasibility Study/ DPR-level	2-weeks for each subproject	5
	b. Infrastructure Design		
	Identification and Confirmation Report of Conceptualization of Requirements (water supply source, and storm water drainage system; identified road alignment/right-of-way/culvert/ foot- over-bridge, etc., in need of widening/ strengthening/reconstruction; and identified parks and open spaces along with water bodies for improvement and beautification and integration with stormwater drainage system)	2-weeks for each subproject	5
	Feasibility Report/ Conceptual Design (including, any revisions), etc., with draft due diligences documentation undertaken**	4-weeks for each subproject [For all prioritized subprojects to complete latest by 4 months from commencement of the consulting services]	5
	Draft DPR	18-weeks (<i>cumulative duration</i> = 6 + 12 weeks) [For all prioritized subprojects to complete latest by 9 months from commencement of the consulting services]	5
	Final DPR	20-weeks (<i>cumulative duration</i> = 8 + 14 weeks) [For all prioritized subprojects to complete latest by 12 months from commencement of the	5

	Milestones/Deliverables		No. of
Category	(Type of Report)	Timing	Copies*
		consulting services]	
	c. Safeguard Documentation (as applicable) [Duly updated from Feasibility Report- to DPR-level of work]	[Cumulative duration continued for each subproject]	
	Initial Environmental Examination Report covering project proposals (In case, if Environmental Impact Assessment is applicable, higher duration would be required)	18-weeks	5
	Involuntary Settlement and Resettlement Plans	18-weeks	5
	Indigenous Peoples Plan	18-weeks	5
	GESI AP	18-weeks	5
	Due Diligence Report	18-weeks	5
	Design and Monitoring Frameworkrelated work w.r.t. each subproject and consolidation at project-level	Continuous [in consultation with PMU-AMC]	5
	d. Procurement Support		
	Draft Bid Document	20-weeks [For all prioritized subprojects to complete latest by 12 months from commencement of the consulting services]	3
	Final Bid Document [^]	22-weeks [For all prioritized subprojects to complete latest by 15 months from commencement of the consulting services]	3
	Draft Final Report of each Subproject, with Implementation Plan and Financial Operating Plan	24-weeks	5
	Final Report of each Subproject, with Implementation Plan and Financial Operating Plan	26-weeks [after incorporating final comments from PMU-AMC]	5
	Pre-Bid Process Support	At appropriate timing in	-
	Bid Evaluation Reports (Technical and Financial)	consultation with PMU-AMC on sequential basis once the procurement of first subproject	5
	Draft Letter of Acceptance	bid is ready to commence	1
	Other Technical Documents		
	QAQC Manual	Within 15 months of consulting	5

Category	Milestones/Deliverables (Type of Report)	Timina	No. of Copies*
	O&M Manual	firm mobilization in consultation with PMU-AMC	5
	Detailed construction working drawings	Before the end of procurement processing support for each subproject/contract, and completed latest before the end of PDMC assignment	5
	Comprehensive Design Review Report on compliance of aspects of Climate and Disaster Resilience incorporated in detailed engineering design and DPR	Quarterly (from third quarter onwards and complete by fifth quarter)	5
C. Institutional Capacity Strengthening	Review Report of Institutional Capacity Development Plan with Programs identified for training along with Training Calendar, and training modules (separately prepared as a coordinated work of individual consultants under KSTA resources and TRTA consultants under ACUDP project loan) and finalize the same; and identified technical capacity building requirements for on-the-job training	Within 3-months of commencement of the consulting services	5
	Support ongoing/ initiate proposed institutional strengthening and capacity building process, undertake technical capacity building activities/ on-the-job training sessions, and development of comprehensive feedback mechanism for training participants as well as end-user experience, to be continued under this PRF Project	At appropriate timing, in consultation with PMU-AMC	-
	Report on Digital strategy/ e- Governance solutions for municipal services in line with National Urban Digital Mission, along with preparation of a Road Map for e-Governance Implementation for the AMC services as part of implementation of e-Governance reforms in AMC (<i>in</i> <i>coordination with ongoing support of</i> <i>TRTA consultants under ACUDP</i> <i>project loan in implementation of</i> <i>reforms in AMC</i>)	Within 7-months of consulting firm mobilization in consultation with PMU-AMC, or latest by commencement of ensuing loan/ project processing stage of work during PRF implementation	-
	Training Implementation and Evaluation Report, including	Within 1-month after conducting respective training	5

Category	Milestones/Deliverables (Type of Report)	Timing	No. of Copies*
	compilation of Presented Documents/Proceedings etc., including development of knowledge materials and knowledge database/ repository	sessions Post-development, the knowledge database/ repository to be maintained on continuous basis till the end of PDMC assignment	
	Project Financial Management Manual	Within 9-months of consulting firm mobilization in consultation with PMU-AMC, or latest by commencement of ensuing loan/ project processing stage of work during PRF implementation	5

ACUDP = Agartala City Urban Development Project, AMC = Agartala Municipal Corporation, COVID-19 = corona virus disease, DPR = detailed project report, GESI AP = gender equality and social inclusion action plan, GIS = geographic information system, HS = health and safety, O&M = operation and maintenance, PDMC = project design and management consultant, PMU = project management unit, PRF = project readiness financing, QAP = quality assurance plan, QAQC = quality assurance and quality control, QMP = quality management plan, TRTA = transaction technical assistance.

* The consulting firm is required to submit soft copy of all the reports in editable formats.

**These stages of study work for prioritized subprojects in this consulting assignment pertain to feasibility studies/conceptual design, any infrastructure improvement plan, etc., as appropriate.

^ Inclusive of bid-level working drawings as well.

21. Few key milestones are summarized below (Table 3) for delivery of outputs. In conjunction with these timeframes, the acceptance of each monthly invoice by the Client will depend on the Client's acceptance of the quality of outputs or deliverables produced for which the consultant's time-inputs are attributed to in the respective monthly timesheet.

Table 3: Key Milestones Schedule

S. No.	Key Milestones	Reference description	Due Date*
1	Inception Report	For overall PRF Project	1
2	Infrastructure Assessment and Investment Plan (Review Report): Review of infrastructure gaps, and Exclusionary Screening/ Prioritization of Subprojects (including for any updation in investment plan and action plan, and any phasing of deliverables on iterative basis during PRF implementation), proof of concept/ site plans, development of key indicators, etc., and the List of Prioritized Subprojects and Phasing of Deliverables, including List of Feasibility Reports is finalised ^a	Under Output 1, review and finalization of Prioritization of Subprojects and Phasing of Deliverables arrived at to commence sequentially the onward work of Feasibility Study/ DPR-level Work/ Bid Documents preparation	2
3	Review Report of Institutional Capacity Development Plan with Programs	For Output 2, with Programs identified for training as per finalized Training Calendar and Training Modules, and identified	3

S. No.	Key Milestones	Reference description	Due Date*
		technical capacity building requirements for on-the-job training	
4	Feasibility Reports	For Output 1, to be completed for all prioritized subprojects with draft due diligences documentation undertaken and Feasibility Reports/ Conceptual Designs (including any revisions), any Infrastructure Improvement Plans, etc., prepared, and to facilitate any revision in the list of prioritized subprojects for onward DPR preparation based on outcome of feasibility studies undertaken	4
5	Workshop1forPhasingofDeliverables:ReviewOperatingEnvironment and Market Analysis underStrategicProcurementPlanning(SPP)Studyb	For Output 1, based on Market Analysis and including in conjunction with the outcome of Feasibility Reports, revise and finalise the List of DPRs to be prepared along with onward Phasing of Deliverables	4
6	Climate Resilience Framework: Rapid climate risk assessment using the preliminary climate (and disaster) risk screening checklist, and as required detailed Climate Risk and Adaptation Assessment (CRA) and Climate Resilience Framework	For Output 1, initial climate resilience due diligence by the end of Feasibility Studies/ Firmed-up during Phased DPRs (first phase)	6
7	Report on Digital Strategy/ e- Governance solutions and Road Map for e-Governance Implementation	For Output 2, the report on digital strategy/ e-Governance solutions for municipal services is prepared in line with National Urban Digital Mission, along with preparation of a Road Map for e- Governance implementation for the AMC services as part of implementation of e- Governance reforms in AMC	7
8	Workshop 2 - SPP Study Report: Procurement Strategy, and SPP Report; and resultant Procurement Plan	For Output 1, including identification of contract management plan(s) required for prioritized subprojects	8
9	Draft DPR	For Output 1, Phased DPRs amongst prioritized subprojects, with updated due diligences documentation	9
10	Final DPR	For Output 1, Phased DPRs amongst prioritized subprojects, including bid-level working drawings, and after incorporating the comments on Draft DPRs	12
11	Final Bid Document	For Output 1, Phased DPRs amongst prioritized subprojects, including bid-level working drawings, and after incorporating the comments on Draft DPRs	15

S. No.	Key Milestones	Reference description	Due Date*
12	Detailed Construction Working Drawings - Final Version	For Output 1, detailed construction working drawings (final version) to be handed over before the completion of PDMC assignment	17
13	All other documentation	All documentation such as, PPMS/ FMS for project monitoring and progress reporting (including status of implementation of e- Governance reforms) comprehensive design review report, procurement processing support, contract management plans final report, ensuing loan processing support, etc.	17

DPR = detailed project report, FMS = financial management system, PDMC = project design and management consultant, PPMS = project performance monitoring system, PRF = project readiness financing.

* Due date in months from commencement of consulting services. The Client will make best efforts to provide comments on the submitted documents within appropriate time.

- ^a The final value and number of Feasibility Reports will be finalised at this key milestone stage by the EA/ IA. The milestone payment related to Feasibility Reports at S. No. 4 (Table 3) will be paid on pro-rata basis of total project cost resulting from Feasibility Reports. For example, say 20 Feasibility Reports to be prepared resulting into total project cost of INR 1000 crores. Therefore, the payment due at the milestones for one Feasibility Report (say for project cost of INR 100 crore) will be calculated in the ratio of 100/1000.
- ^b The final value and number of DPRs will be finalised at this key milestone stage by the EA/ IA, in conjunction with the outcome of Feasibility Reports. The milestone payment related to DPRs/ Bid Documents/ Detailed Construction Working Drawings at S. No. 9, 10, 11 and 12 (Table 3) will be paid on pro-rata basis of total project cost resulting from DPRs. For example, say 10 DPRs to be prepared resulting into total project cost of INR 500 crores. Therefore, the payment due at the milestones for one DPR (say for project cost of INR 100 crore) will be calculated in the ratio of 100/500.
- 22. The inception report shall cover the following major aspects:
 - (i) project appreciation;
 - detailed approach and methodology to meet the requirements of the TOR; including scheduling of various sub-activities to be carried out for completion of various stages of the work; stating out clearly their approach and methodology for project preparation and design activities after due inspection of the potential subproject and collection/collation of necessary information;
 - (iii) summarise clearly wherever deviating from TOR and/or technical proposal with reasons and seeking for approvals;
 - (iv) task assignment and personnel deployment schedule to achieve key milestones/ deliverables should be discussed and approved by the Client;
 - (v) work programme/ plan;
 - (vi) proforma for data collection/respective surveys, as applicable; and
 - (vii) draft design standards/ good practices, etc., as applicable.

23. The personnel deployment schedule accepted at inception report stage would be updated at key milestones of feasibility reports, DPRs, and bid documents, discussed and approved by the Client.

V. EXPERTS REQUIRED

24. For the PDMC consulting services under integrated urban sector, a total of 507 personmonths, including 148 person-months of national key experts and 359 person-months of national support staff, would be required to be mobilized by the consulting firm as minimum inputs during the assignment under PRF loan for infrastructure development in AMC Area. The team composition of PDMC covering key experts and support staff, and their minimum person-month inputs is in Table 4.

			Input	
S.	Forward an	Destrictions	(Person-	Input
ΝΟ. Δ	Expertise National Key Experts	Positions	Months)	Requirements
1	Lirban Development Expert (Team Leader)	1	18	Full-Time
2	Storm water Drainage Expert (Deputy Team Leader)	1	15	Intermittent
3	Transport/ Pavement Engineer	1	12	Intermittent
4	Transport Planner	1	3	Intermittent
5	Water Supply Expert	1	12	Intermittent
6	Water Supply Operations & Maintenance Expert	1	4	Intermittent
7	Electrical Expert (Power Systems/ Street Lighting)	1	6	Intermittent
8	Hydrology Expert	1	4	Intermittent
9	Landscape Architect	1	8	Intermittent
10	Climate and Disaster Resilience Expert	1	4	Intermittent
11	Skill and Capacity Development Expert	1	6	Intermittent
12	Procurement Expert	1	12	Intermittent
13	Environment Safeguards Expert	1	12	Intermittent
14	Social Safeguards Expert	1	12	Intermittent
15	Gender and Social Inclusion (GESI) Expert	1	4	Intermittent
16	Financial Management Expert	1	8	Intermittent
17	Economist	1	8	Intermittent
	Sub-Total	17	148	
В.	National Support Staff ^a			
1	Design Engineer(s)-Stormwater Drainage	2	30	Intermittent
2	Design Engineer-Water Supply	1	12	Intermittent
3	Design Engineer-Urban Infrastructure Buildings, Water Bodies, Parks and Open Spaces	1	12	Intermittent
4	Design Engineer(s)-Urban Roads/ Pavement	2	30	Intermittent
5	Landscape Architect Support	1	12	Intermittent
6	Geo-Technical Engineer	1	8	Intermittent
7	Structural Engineer	1	6	Intermittent
8	Electro-Mechanical Engineer (Water Systems/ Street Lighting)	1	15	Intermittent
9	Socio-Economic Surveyor	1	8	Intermittent
10	Geographic Information System (GIS) Analyst	1	8	Intermittent

 Table 4: Team Composition for PDMC Consulting Firm

			Input	
S. No.	Expertise	Positions	(Person- Months)	Input Requirements
11	GIS Operator	1	8	Intermittent
12	Quantity Surveyor(s) (Urban Infrastructure-Water Supply/ Drainage/ Electro-Mechanical, Transportation, and Other Related Infrastructure)	2	30	Intermittent
13	Office Manager-cum-Accountant	1	18	Full-Time
14	ACAD Draughtsman(s)	3	54	Full-Time
15	Data Processing and Reprographic Operator(s)	3	54	Full-Time
16	Office Assistant(s)	3	54	Full-Time
	Sub-Total	25	359	
	Grand Total	42	507	

ACAD = computer-aided design and drawing software (by Autodesk). ^aThese experts will not be rated. Their deployment, however, will be subject to the Client's prior approval.

Table 5: Qualifications and Responsibilities of Key Experts

Α.	National Key Experts	
1.	Urban Development Expert (Team Leader)	
Qualifications: Preferably a Master's degree in Urban Planning/Urban Engineering/Develor Studies/Civil Engineering/Public Health Engineering/ Management or equivalent, over a degree of Bachelor's from a recognized University in Civil Engineering or equivalent.		
Experience: Preferably 15 years' general experience as an Urban Development Expert; ar years' specific experience (including 8 years as Team Leader/Deputy Team Leader) in plan and design works on major integrated urban planning and development/urban infrastrud development projects. Work experience in externally-aided/multilateral development bank (I projects in integrated urban sector, is desirable. The candidate must have demonstrated abilitiead teams composed of national/international consultants, and create a strong work relationship with the Client. Excellent communication (written and oral) skills in English and s inter-personal skills will be considered an asset.		
	Responsibilities: The expert will have overall responsibility for the organization, conduct and delivery of the consultancy services and reporting to the Client. The national Team Leader we head the Consultants' Design team and will work directly to manage the project and will maintal liaison with the Client (PMU-AMC established at IA-level, as acting on behalf of EA–UDD, GOT and concerned district authorities and nearby ULBs/VPs, NEC/MDONER/MOHUA, etc., as for required. Guide the Deputy Team Leader on overall managing the PDMC assignment as a clead. Responsibilities as a Team Leader will include, but is not limited to the following:	
	• lead/review the overall design and management activities, including PRF implementation monitoring and reporting under the PDMC assessment from start to the end, including review of any existing information on state-/region-/sector-level vision, policy and/or strategy papers, master plan, city development plan, sector plans, etc., and	
	 support to strengthen the existing and ongoing work of urban infrastructure vision/improvement plans and preparation of urban strategy and city investment plan along with prioritization framework and subproject selection criteria, identification/review and prioritization of subprojects based on pre-feasibility studies and above-stated vision/plans/framework/criteria, prior to–undertaking feasibility studies/conceptual design (including any revisions), etc. (as appropriate); 	

Α.	National Key Experts
	 develop the list of priority subproject packages based on feasibility studies and in consultation with the Client, and complete those designs on priority-wise in order to reach the bidding stage; and
	 facilitate in project procurement risk/ capacity assessment, strategic procurement planning study [conducting SPP Workshop, including contract management support requirement assessed and preparation of Contract Management Plan(s) during pre-contract award stage], to identify contract packaging with suitable contract modalities, and based on procurement strategy arrived in SPP study, preparation of Procurement Plan in consultation with Client and ADB (including any subsequent review/ updation of Procurement Plan, as felt required during PRF implementation), and bid documents; and supporting the bidding process until contract award;
	 assume full responsibility for the consulting team and its performance of services under the consultancy contract for innovation in design, including rapid climate risk assessment/ detailed climate risk and adaptation assessment or CRA (<i>formerly climate risk and vulnerability assessment or CRVA</i>) and the climate resilience frame work and measures prepared to be adopted in detailed engineering designs, etc., at subproject/project-level, including impact assessment of corona virus disease (COVID-19) on project preparation, cost, and implementation of the priority sub projects; while duly following provisions made in the PRF project administration manual (PAM), and in any other governing/guidance documents of ADB, including those approved by ADB for the PRF Project;
	 oversee the review of institutional capacity building requirements, e-Governance reforms, and ongoing reforms initiatives-related interventions on tariff-/ fare-/ user fee- or user charges- policy or structure, any incentives/ subsidies/ concessions, and own source revenue generation/cost recovery mechanisms, municipal governance structure/governance performance requirements, etc., and formulate necessary recommendations in consultation and with support of other Sector Experts and Skill and Capacity Development Expert, and guide the Client in implementing such recommendations and reform interventions (initiation and such capacity development training continued as per Training Calendar, along with on- the-job training sessions), including adoption of national benchmarks/SLAs based-service delivery systems;
	 ensure that the consulting team undertakes the design activity in timely manner and undertake comprehensive review of the designs/ specifications/ drawings, including the DPRs, especially ensuring that water supply, and storm water drainage interventions incorporate the concepts/ good practices of integrated water resource management (IWRM), integrated urban water management (IUWM), water sensitive urban design (WSUD), etc.;
	• work as coordinator for managing the comprehensive planning and design efforts that are based on prescribed national standards/international good practices, ADB requirements, and are inclusive, climate resilient, have high disaster risk resilience, and sustainable in nature (as per national standards/international standards and/or good practices, including ADB's South Asia Department framework and practice, etc.); while, ensuring as Team Leader that design outputs achieved duly considered the aspects of diversity-equity-inclusion along with integration of existing/proposed master planning interventions of land use mix/economic-mix/housing mix with social justice, and duly illustrate a synergy and harmony through continuum of green–blue environment linkages;
	 assist Client as part of reform process in making efforts to transfer the Fund, Function and Functionaries to the Municipal Corporation in accordance with the provisions of the 74th Constitutional Amendment Act of 1992;
	support Client and stakeholder authorities to incorporate in infrastructure/service design the adoption of value capture financing–VCF tools to generate revenue to fund future development

Α.	National Key Experts
	proposals in a substantial manner, i.e., encouraging/supporting in building their capacities towards ensuring business models that are sustainable, and are adopted for such design;
	• ensure that the consulting team provides procurement processing support with documentation/ reports following ADB accepted formats and meeting ADB requirements;
	 in coordination with the Social Safeguards Expert, support Client in setting-up of a Communication Strategy and Grievance Redress Mechanism at city-level/ PMU-AMC or IA- level/ UDD or state-level, and facilitate its proper functioning/implementation, including towards maintaining an appropriate database;
	 set-up/facilitate development of a PPMS at PMU-AMC integrated with a FMS in consultation with other Sector Experts, and ensure preparation of detailed and quantitative progress reports, that would also support the Contractor's requests for progress payments;
	 keep the Client informed of technical issues and progress of all works both by informal and formal meetings and correspondence, including internal review/submitting of quarterly progress reports and semi-annual/annual safeguards monitoring reports (with any updates on site-specific health and safety management plan covering HS COVID-19 Plan), etc., for submission to the Client/ and by Client to ADB, and assist in any project issues/consultations needed, which the Client may require to be addressed/undertaken;
	 ensure that PDMC consulting team facilitates the Client in the ensuing loan/project processing stage of work by undertaking financial management assessment, due diligences of economic and financial analyses, project financial management manual, project procurement risk/ capacity assessment, environmental assessment and review framework, initial poverty and social analysis/ summary poverty reduction and social strategy(SPRSS) assessment, RP and related due diligence reports/ IPP, GESI AP, and assessment for climate change and disaster risk resilience, including developing a design and monitoring framework (DMF), as per relevant ADB–guidelines/accepted formats and meeting ADB approval requirements;
	 contribute to programs on training/workshops/seminars/conferences, etc., based on sectoral expertise of the consultant, and impart training;
	 provide inputs to/ review periodic and annual reports, as required; and
	any other tasks/ duties assigned by the Client under PRF implementation.
2.	Stormwater Drainage Expert (Deputy Team Leader)
	Qualifications: Preferably a Master's degree in Civil Engineering/Structural Engineering/ Environmental Engineering/ Public Health Engineering/Hydrological Engineering/ Water Resources Engineering or equivalent; over a basic Bachelor's degree from a recognized University in Civil Engineering or equivalent.
	Experience: Preferably 12 years of general experience; and 10 years of specific experience as Storm water Drainage Expert in undertaking planning and detailed engineering design for major storm water drainage projects with proven experience in roadside or otherwise storm water infrastructure drains/networks' designs, integration with retention ponds, landslip protection works, etc. Knowledge of climate resilient interventions such as, planning and design of based on low-impact development that adopts natural filtration/green infrastructure principles compatible with natural ecosystems/ bio-diversity such as, bio-swales, retention ponds, constructed wetlands, etc., will be an added advantage. Work experience in planning and design, and implementation of externally-aided/MDB projects in integrated urban sector is desirable.
	Responsibilities: In consultation with the national Team Leader/Deputy Team Leader, the national Climate and Disaster Resilience Expert, and other Sector Experts, the consultant will be responsible for and contribute to the planning and designs of urban development projects related to integrated roadside/ any local area or site-storm water drainage and flood protection work, and other climate resilient storm water management systems. Co-lead the consulting team for the

A. National Key Experts

overall detailed engineering design/any other design work component under the project. Tasks of the consultant would be following, but not limited to:

- review of any existing information on state-/region-/sector-level vision, policy and/or strategy
 papers, master plan, city development, sector plan, etc., and support to strengthen the urban
 infrastructure vision/ improvement plans and preparation of urban strategy and city investment
 plan along with prioritization framework and subproject selection criteria, identification/review
 and prioritization of subprojects based on pre-feasibility studies and above
 vision/plans/framework/criteria, prior to-undertaking feasibility studies/conceptual design
 (including any revisions), etc. (as appropriate), and preparation of comprehensive DPRs and
 bid documents, including:
 - support to strengthen/integrate existing DPRs or work components prepared separately by the government, as part of preparation of comprehensive DPRs; and
 - at the study stage, subproject components should cover storm water drainage system integrated with the urban roads component with roadside storm water drainage and flood protection work; and recommend any changes/modifications for improvement, if required, while keeping in mind the feasibility of any possibilities/potential use for innovative and climate resilient interventions based on low-impact development that adopt natural filtration/green infrastructure principles compatible with natural ecosystems/ bio-diversity such as, bio-swales, retention ponds, constructed wetlands, etc., including any urban water body conservation/ beautification as part of innovative use of urban open spaces and to facilitate ground water recharge;
- as a co-lead, assume responsibility for the consulting team and its performance of services under the consultancy contract for innovation in design, including rapid climate risk assessment/ detailed climate risk and adaptation assessment or CRA (*formerly climate risk and vulnerability assessment or CRVA*) and climate resilience framework and measures prepared for adoption in detailed engineering designs, etc., at subproject/ project-level; while duly following provisions made in the PRF PAM, and in any other governing/ guidance documents of ADB, including those approved by ADB for the PRF Project;
- support in supervising topographic surveys, review the results of the topographical surveys, geo-technical surveys/ investigations, hydrological and geological studies (as felt required), and integrate these considerations in the design. Based on preliminary surveys, investigations and validated data contribute to the planning and design activities related to integrated storm water drainage and landslip protection works, where applicable;
- while finalizing the detailed engineering designs, specifications and drawings, keep in consideration factors for resilience to for climate risks/ climate change impacts and disaster risks (as per national standards/international standards and/or good practices, including ADB's South Asia Department framework and practice, etc.), rapid climate risk assessment/ detailed climate risk and adaptation assessment or CRA (*formerly climate risk and vulnerability assessment or CRVA*) and climate resilience framework, including impact of COVID-19 pandemic, and measures prepared to be adopted in detailed engineering designs, etc., at subproject/project-level;
- responsible for the preparation of detailed engineering designs, bid-level working/ detailed construction working drawings, including engineering cost estimates and item-rate analysis, and specifications of the finalized subprojects' comprehensive DPRs and incorporate in bid documents (as applicable) for storm water drainage components, in an integrated, inclusive and sustainable manner, and with climate resilient nature of design in mind; including providing guidance to/collaborating with Design Engineers and other Support Staff in achieving desirable detailed engineering design outputs;
- facilitate in review of institutional capacity building requirements, e-Governance reforms, and ongoing reforms initiatives-related interventions on tariff-/ user fee- or user charges-policy or

Α.	National Key Experts
	structure, any incentives/ subsidies/ concessions, and own source revenue generation/cost recovery mechanisms, municipal governance structure/governance performance requirements, etc., and formulate necessary recommendations in consultation and with support of other Sector Experts and Skill and Capacity Development Expert, and guide the Client in implementing such recommendations and reform interventions (initiation and such capacity development training continued as per Training Calendar, along with on-the-job training sessions), including adoption of national benchmarks/SLAs based-service delivery systems;
	 assist Client as part of reform process in making efforts to transfer the Fund, Function and Functionaries to the Municipal Corporation in accordance with the provisions of the 74th Constitutional Amendment Act of 1992;
	 support Client and stakeholder authorities to incorporate in infrastructure/service design the adoption of value capture financing–VCF tools to generate revenue to fund future development proposals in a substantial manner, i.e., encouraging/supporting in building their capacities towards ensuring business models that are sustainable, and are adopted for such design;
	 co-lead to ensure that PDMC consulting team facilitates the Client in the ensuing loan/ project processing stage of work by undertaking financial management assessment, due diligences of economic and financial analyses, project financial management manual, procurement risk/ capacity assessment, environmental assessment and review framework, initial poverty and social analysis/ SPRSS assessment, due diligence for indigenous peoples, GESI AP, and assessment for climate change and disaster risk resilience, including developing a DMF, as per relevant ADB–guidelines/accepted formats and meeting ADB approval requirements;
	 contribute to programs on training/workshops/seminars/conferences, etc., based on sectoral expertise of the consultant, and impart training;
	 provide inputs to/ review periodic and annual reports, as required; and
	 any other tasks/ duties assigned by the national Team Leader and/or the Client under PRF implementation.
3.	 any other tasks/ duties assigned by the national Team Leader and/or the Client under PRF implementation. Transport/ Pavement Engineer
3.	 any other tasks/ duties assigned by the national Team Leader and/or the Client under PRF implementation. Transport/ Pavement Engineer Qualifications: Preferably a Master's degree in Transportation Engineering/ Transport Planning/ Pavement Engineering/ Civil Engineering/Architectural Engineering or equivalent; over a basic degree of Bachelor's from a recognized University in Civil Engineering/Architectural Engineering/Architectural Engineering or equivalent.
3.	 any other tasks/ duties assigned by the national Team Leader and/or the Client under PRF implementation. Transport/ Pavement Engineer Qualifications: Preferably a Master's degree in Transportation Engineering/ Transport Planning/ Pavement Engineering/ Civil Engineering/Architectural Engineering or equivalent; over a basic degree of Bachelor's from a recognized University in Civil Engineering/Architecture/ Architectural Engineering or equivalent. Experience: Preferably 12 years of general experience; and 10 years of specific experience as Transport/ Pavement Engineer in integrated urban roads, and urban/ road safety and security related infrastructure projects with proven credentials in integrated urban/transport infrastructure development, especially for planning and design of urban roads with roadside storm water drainage/ cross-drainage system and flood protection work. Work experience in planning and design, and implementation of externally-aided/MDB projects in integrated urban sector is desirable.
3.	 any other tasks/ duties assigned by the national Team Leader and/or the Client under PRF implementation. Transport/ Pavement Engineer Qualifications: Preferably a Master's degree in Transportation Engineering/ Transport Planning/ Pavement Engineering/ Civil Engineering/Architectural Engineering or equivalent; over a basic degree of Bachelor's from a recognized University in Civil Engineering/Architecture/ Architectural Engineering or equivalent. Experience: Preferably 12 years of general experience; and 10 years of specific experience as Transport/ Pavement Engineer in integrated urban roads, and urban/ road safety and security related infrastructure projects with proven credentials in integrated urban/transport infrastructure development, especially for planning and design of urban roads with roadside storm water drainage/ cross-drainage system and flood protection work. Work experience in planning and design, and implementation of externally-aided/MDB projects in integrated urban sector is desirable. Responsibilities: In consultation with the national Team Leader, the national Climate and Disaster Resilience Expert and other Sector Experts, the consultant will be responsible for and contribute to the planning and designs of urban roads, integrated with storm water drainage and flood protection work, pedestrian pathway/ footpath/ foot-over-bridge, utility ducting, street lighting, other streetscape elements, etc. Tasks of the consultant would be following, but not limited to:

Α.	National Key Experts
	and above-stated vision/ plans/ framework/ criteria, prior to-undertaking feasibility studies/ conceptual design (including any revisions), etc. (as appropriate), and preparation of comprehensive DPRs and bid documents;
	 assist in undertaking necessary engineering and demand surveys at the study stage for subproject components for the integrated traffic and transportation infrastructure/urban transport elements (motorized and/or non-motorized)/urban infrastructure sectors, including traffic impact analysis of any proposed surrounding green field or brown field/ densification development projects, and recommend changes/modifications for improvement in urban roads capacity, road junctions/ intersection, streetscape elements with integrated storm water drainage, etc., as required;
	 design of integrated traffic and transportation infrastructure/urban transport elements, such as roads/streets, road junctions/ intersections, signalling system, bus stops/bus bays, landscape-/street-lighting, pedestrian paths/trails, integrated landscaping and traffic calming features, street signs and all pavement markings including bus box; integration with bridges/flyovers/foot-over-bridges/ primary drains/ culverts/ tunnel or underpass or subway/ separate or unified utility ducting, etc.; alternatives of urban transport (motorized and/or non- motorized transport with horizontal and vertical element interfaces), including any potential for use of high occupancy vehicles/dedicated lanes, etc., as felt required;
	• prepare/review detailed engineering designs, engineering cost estimate and item-rate analysis, specifications and drawings of the same in the subprojects' comprehensive DPRs and incorporate in bid documents (as applicable), duly: (i) considering the conventional engineering concepts of cost-effective and efficient design, safe geometric design, road safety/traffic control features, security infrastructure, integrated storm water drainage design (including any drainage rehabilitation and repair plan/details) and flood protection work, existing/proposed traffic plans and amenities; and (ii) incorporating/encouraging use of inclusive planning for universal access, and innovative design principles and climate resilient factors [as per rapid climate risk assessment/ detailed CRA (<i>formerly CRVA</i>) and climate resilience framework, including impact of COVID-19pandemic, and measures prepared to be adopted in detailed engineering designs, etc., at subproject/project-level], such as gendersensitive urban design by promoting crime prevention through environmental design or CPTED that adopts clear sightlines for achieving eyes-on-the street principle, green infrastructure/low-impact development principles, linked open space systems/ integrated green corridor continuum with green–blue environment linkages, complete streets, planning and implementation of vision zero strategy for progressive improvement in safety of physical access and commuting on urban roads, etc.; and provide guidance to/collaborate with Design Engineers and Other Support Staff in achieving desirable detailed engineering design outputs;
	 assess traffic demand, and prepare an executable traffic management plan (TMP) during the design stage, and as a test-case execute it for any prioritized subprojects that involves integrated urban sector, for any learnings, and modify the TMP accordingly, for any future use by Client and concerned stakeholder authorities during the ensuing loan(s)/project(s) implementation subsequently;
	 strengthen the designs, when required in close coordination with the Client and other stakeholder authorities; and provide recommendations/prepare plans to guide and ensure that the safety and security features in traffic and transportation infrastructure/urban transport components designed herein are retained during any amendment/updation process of master plan/city development plan/ regional plan/mobility plan in future, unless deemed in need of change on critical review at such a time;
	• facilitate in review of the institutional capacity building requirements, e-Governance reforms, and ongoing reforms initiatives-related interventions on tariff-/ fare-policy or structure, any incentives/ subsidies/ concessions, and own source revenue generation/cost recovery mechanisms, municipal governance, structure/governance, performance, requirements, etc.

Α.	National Key Experts
	and formulate necessary recommendations in consultation and with support of other Sector Experts and Skill and Capacity Development Expert, and guide the Client in implementing such recommendations and reform interventions (initiation and such capacity development training continued as per Training Calendar, along with on-the-job training sessions), including adoption of national benchmarks/SLAs based-service delivery systems;
	 support Client and stakeholder authorities to incorporate in infrastructure/service design the adoption of value capture financing–VCF tools to generate revenue to fund future development proposals in a substantial manner, i.e., encouraging/supporting in building their capacities towards ensuring business models that are sustainable, and are adopted for such design;
	 contribute to programs on training/workshops/seminars/conferences, etc., based on sectoral expertise of the consultant, and impart training;
	 provide inputs to/ review periodic and annual reports, as required; and
	 any other tasks/ duties assigned by the national Team Leader and/or the Client under PRF implementation.
4.	Transport Planner
	Qualifications: Preferably a Master's degree in Transport Planning/ Urban Planning or equivalent; over a basic degree of Bachelor's from a recognized University in Engineering/ Statistics/ Architecture/ Physical Planning or equivalent.
	Experience: Preferably 12 years of general experience; and 10 years of specific experience as Transport Planner in integrated urban roads, and urban/ road safety and security related infrastructure projects with proven credentials in integrated urban/ transport infrastructure development, especially for detailed transport planning (including necessary traffic and transport surveys, planning and design norms and standards, etc.) of urban roads capacities and spatial requirements, with due consideration to integration with roadside stormwater drainage/ cross-drainage system and flood protection work. Work experience in detailed transport planning and design of spatial requirements of transport infrastructure, and implementation of externally-aided/ MDB projects in integrated urban. transport sectors is desirable.
	 Responsibilities: In consultation with the national Team Leader, the national Climate and Disaster Resilience Expert and other Sector Experts, the consultant will be responsible for and contribute to the detailed transport planning and designs for urban roads capacities and spatial requirements, with due consideration to integration with roadside stormwater drainage/ cross-drainage system and flood protection work, pedestrian pathway/ footpath/ foot-over-bridge, utility ducting, street lighting, other streetscape elements that due address measures for traffic calming, universal access design, planning and implementation of vision zero strategy, etc. Tasks of the consultant would be following, but not limited to: review existing information on state-/region-/sector-level vision, policy and/or strategy papers, master plan, city development plan, sector plans, etc., and support to strengthen the existing and ongoing work of urban infrastructure vision/ improvement plans and preparation of urban strategy and city investment plan along with prioritization framework and subproject selection criteria, identification/ review and prioritization of subprojects based on pre-feasibility studies and above-stated vision/ plans/ framework/ criteria, prior to-undertaking transport planning/ feasibility studies, conceptual design (including any revisions), etc. (as appropriate), and preparation of comprehensive DPRs and bid documents; assist in undertaking necessary planning/ demand surveys and engineering surveys at the study stage for subproject components for the integrated traffic and transportation infrastructure/ urban transport elements (motorized and/or non-motorized)/ urban
	intrastructure sectors, including traffic impact analysis of any proposed surrounding green field or brown field/ densification development projects, and recommend changes/modifications for improvement in urban roads capacity, road junctions/ intersection, streetscape elements with integrated stormwater drainage, etc., as required;

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- spatial design perspective (incl. norms and standards) of integrated traffic and transportation
 infrastructure/ urban transport elements, such as roads/ streets, road junctions/ intersections,
 signalling system, bus stops/ bus bays, landscape-/ street-lighting, pedestrian paths/ trails,
 integrated landscaping and traffic calming features, street signs and all pavement markings
 including bus box; integration with bridges/ flyovers/ foot-over-bridges/ primary drains/ culverts/
 tunnel or underpass or subway/ separate or unified utility ducting, etc.; alternatives of urban
 transport (motorized and/or non-motorized transport with horizontal and vertical element
 interfaces), including any potential for use of high occupancy vehicles/ dedicated lanes, etc.,
 as felt required;
- provide guidance on detailed engineering designs, engineering cost estimate and item-rate analysis, specifications and drawings of the same in the subprojects' comprehensive DPRs and incorporate in bid documents (as applicable), duly: (i) considering the conventional engineering concepts of cost-effective and efficient design, safe geometric design, road safety/ traffic control features, security infrastructure, integrated stormwater drainage design (including any drainage rehabilitation and repair plan/details) and flood protection work, existing/ proposed traffic plans and amenities; and (ii) incorporating/ encouraging use of inclusive planning for universal access, and innovative design principles and climate resilient factors [as per rapid climate risk assessment/ detailed CRA (formerly CRVA) and climate resilience framework, including impact of COVID-19 pandemic, and measures prepared to be adopted in detailed engineering designs, etc., at subproject/ project-level], such as gendersensitive urban design by promoting crime prevention through environmental design or CPTED that adopts clear sightlines for achieving eyes-on-the street principle, green infrastructure/ lowimpact development principles, linked open space systems/ integrated green corridor continuum with green-blue environment linkages, complete streets, planning and implementation of vision zero strategy for progressive improvement in safety of physical access and commuting on urban roads, etc.; and provide guidance to/collaborate with Design Engineers and Other Support Staff in achieving desirable detailed engineering design outputs;
- assess traffic demand, and prepare an executable traffic management plan (TMP) during the design stage, and as a test-case execute it for any prioritized subprojects that involves integrated urban/ transport sector, for any learnings, and modify the TMP accordingly, for any future use by Client and concerned stakeholder authorities during the ensuing loan(s)/ project(s) implementation subsequently;
- strengthen any existing transport planning and designs, when required in close coordination
 with the Client and other stakeholder authorities; and provide recommendations/ prepare plans
 to guide and ensure that the safety and security features in traffic and transportation
 infrastructure/ urban transport components designed herein are retained during any
 amendment/ updation process of master plan/city development plan/ regional plan/ mobility
 plan in future, unless deemed in need of change on critical review at such a time;
- facilitate from transport planning perspective in review of the institutional capacity building requirements, e-Governance reforms, and ongoing reforms initiatives-related interventions on tariff-/ fare-policy or structure, any incentives/ subsidies/ concessions, and own source revenue generation/ cost recovery mechanisms, municipal governance structure/ governance performance requirements, etc., and formulate necessary recommendations in consultation and with support of other Sector Experts and Skill and Capacity Development Expert, and guide the Client in implementing such recommendations and reform interventions (initiation and such capacity development training continued as per Training Calendar, along with onthe-job training sessions), including adoption of national benchmarks/ SLAs based-service delivery systems;
- support Client and stakeholder authorities to incorporate in infrastructure/ service design the adoption of value capture financing–VCF tools to generate revenue to fund future development

Α.	National Key Experts
	proposals in a substantial manner, i.e., encouraging/ supporting in building their capacities towards ensuring business models that are sustainable, and are adopted for such design;
	 contribute to programs on training/ workshops/ seminars/ conferences, etc., based on sectoral expertise of the consultant, and impart training;
	 provide inputs to/ review periodic and annual reports, as required; and
	 any other tasks/ duties assigned by the national Team Leader and/or the Client under PRF implementation.
5.	Water Supply Expert
	Qualifications: Preferably a Master's degree in Environmental Engineering/ Public Health Engineering/ Hydrological Engineering/ Water Resources Engineering/ Civil Engineering/ Structural Engineering or equivalent; over a basic Bachelor's degree from a recognized University in Civil Engineering or equivalent.
	Experience: Preferably 12 years of general experience; and 10 years of specific experience as Water Supply Expert in undertaking planning and detailed engineering design work for major water supply networks infrastructure projects with proven experience in urban development, complete water supply (both ground and surface water) and treatment, and related infrastructure designs. Work experience in planning and design, and implementation of externally-aided/MDB projects in integrated urban sector is desirable.
	Responsibilities: In consultation with the national Team Leader/ Deputy Team Leader and other Sector Experts, and Climate and Disaster Resilience Expert, the consultant will be responsible for and contribute to the planning and designs of municipal infrastructure development subprojects related to water supply networks (both ground and surface water), treatment plants, and related structures. Tasks of the consultant would be following, but not limited to:
	 review of any existing information of state-/region-/sector-level vision, policy and/or strategy papers, master plan, city development plan, sector plans, etc., and support to strengthen the urban infrastructure vision/ improvement plans and preparation of urban strategy and city investment plan along with prioritization framework and subproject selection criteria, identification/review and prioritization of subprojects based on pre-feasibility studies and above vision/plans/framework/criteria, prior to-undertaking feasibility studies/conceptual design (including any revisions), etc. (as appropriate),and preparation of comprehensive DPRs and bid documents; and at the study stage, the subproject component may cover intakes, intake/ diversion weir/ check dam/ any dam-related work or transmission connectivity, desilting tanks, water supply transmission/ distribution networks (new/ replacement), water treatment plants, pumping stations, reservoirs, metering, etc., including potential water conservation measures at different levels of water usage/land use intensities; and recommend any changes/modifications for improvement, if required;
	• support in supervising topographic surveys, review the results of the topographical surveys, geo-technical investigations, hydrological and geological studies (as felt required), and integrate these considerations in the design. Based on preliminary surveys, investigations and validated data contribute to the planning and design activities related to water supply networks (both ground and surface water), water treatment plants, pumping stations, potential for water conservation and groundwater recharge, etc.;
	• support to strengthen any existing plans for prioritized subprojects, and finalize the subproject components (e.g., water supply networks, overhead or ground reservoirs, high service reservoirs, main water sources, intake/ diversion weirs, desilting tanks, transmission mains (raw water and treated water) and water distribution networks (new/ replacement), water treatment plant with components tanks for coagulation-flocculation-aeration, sedimentation, filtration, disinfection and storage, water under drainage system, pumping station, water conservation measures, etc.);

Α.	National Key Experts
	 while finalizing the detailed engineering designs, specifications and drawings, keep in consideration, all the national standards/ international good practices, and factors for resilience to climate risks/ climate change impacts and disaster risks (as per national standards/international standards and/or good practices, including ADB's South Asia Department framework and practice, impact of COVID-19 pandemic, etc.), with due consideration to concepts of IWRM, IUWM, WSUD, etc.;
	 prepare, review, validate and finalize ground and surface water modelling of project area, as felt required;
	 responsible for the preparation of detailed engineering designs, bid-level working/ detailed construction working drawings, including engineering cost estimates and item-rate analysis, and specifications of the finalized water supply subproject components in comprehensive DPRs and incorporated in bid documents (as applicable), in an integrated, inclusive and sustainable manner, and with climate resilient nature of design in mind; including providing guidance to/collaborating with Design Engineers and other Support Staff in achieving desirable detailed engineering design outputs;
	 facilitate in review of institutional capacity building requirements, e-Governance reforms, and ongoing reforms initiatives-related interventions on tariff-/ user fee- or user charges-policy or structure, any incentives/ subsidies/ concessions, and own source revenue generation/cost recovery mechanisms, municipal governance structure/governance performance requirements, etc., and formulate necessary recommendations in consultation and with support of other Sector Experts and Skill and Capacity Development Expert, and guide the Client in implementing such recommendations and reform interventions (initiation and such capacity development training continued as per Training Calendar, along with on-the-job training sessions), including adoption of national benchmarks/SLAs based-service delivery systems;
	• assist Client as part of reform process in making efforts to transfer the Fund, Function and Functionaries to the Municipal Corporation in accordance with the provisions of the 74th Constitutional Amendment Act of 1992;
	• support Client and stakeholder authorities to incorporate in infrastructure/service design the adoption of value capture financing–VCF tools to generate revenue to fund future development proposals in a substantial manner, i.e., encouraging/supporting in building their capacities towards ensuring business models that are sustainable, and are adopted for such design;
	 contribute to programs on training/workshops/seminars/conferences, etc., based on sectoral expertise of the consultant, and impart training;
	 provide inputs to/ review periodic and annual reports, as required; and
	 any other tasks/ duties assigned by the national Team Leader and/or the Client under PRF implementation.
6.	Water Supply Operations & Maintenance Expert
	Qualifications: Preferably a Master's degree in Civil or Mechanical or Electrical Engineering or equivalent; over a basic Bachelor's degree from a recognized University in Engineering or equivalent.
	Experience: At least 12 years of general experience; and 7 years of specific experience in water supply operations & maintenance comprising of both production and distribution networks. Work experience in preparation of service improvement planning and water loss reduction and implementation of externally-aided/MDB projects in integrated urban sector is desirable.
	Responsibilities: In consultation with the national Team Leader/ Water Supply Expert and other Sector Experts, and Climate and Disaster Resilience Expert, the consultant will be responsible for following:

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	 review of existing water production pumping and distribution networks;
	• establishing current service levels and performance efficiency for each of the surface and ground water based water supply facilities;
	• identifying the system deficiencies, gaps in coverage and age profiling of existing assets;
	• preparation of service improvement plans to be implemented in phased manner that is the service area covered by the recent new infrastructure assets implemented under ADB financial assistance followed by the remaining networks;
	• the output from the service improvements includes achieving regulatory quality of drinking water at tap, non-revenue water losses reduced to less than 20% and customers delivered with continuous (24x7) pressurised safe water supply;
	 evaluate the existing customer contact management system and revenue billing and collection system and propose improvements and capacity enhancement measures for improving the commercial services and cost recovery;
	• develop appropriate O&M organisation structure, evaluate the availability of existing O&M staff and prepare the requirements for strengthening the O&M organisation and capacity and skills enhancement plan; and
	• in the event, GOT and AMC decides to outsource the O&M services, the consultant shall prepare the technical scope of the contract, obligations of all parties, performance standards/ governance performance requirements, payment schedules and employer requirements.
7.	Electrical Expert (Power Systems/ Street Lighting)
	Qualifications: Preferably a Master's degree in Electrical Engineering/ Electrical Power Systems Engineering/ Electrical & Electronics Engineering or equivalent; over a basic degree of Bachelor's from a recognized University in Electrical Engineering/ Electrical & Electronics Engineering or equivalent.
	Experience: Preferably 12 years of general experience; and 10 years of specific experience as Electrical & Energy Specialist or Electrical Power Systems/ Street Lighting Expert in integrated urban/ transport/ industrial sectors, with proven credentials in planning, design and rehabilitation of major power utilities projects and localised external power infrastructure connected to the transmission grid through distribution infrastructure of HT or LT lines or underground cabling/ substation, etc, including municipal electrical connectivity infrastructure, street lighting, lighting for safety & security of roadside areas/ surroundings, etc. Work experience in planning and design, and implementation of externally-aided/MDB projects in integrated urban sector is desirable.
	Responsibilities: Responsibilities: In consultation with the national Team Leader/ Deputy Team Leader, the national Climate and Disaster Resilience Expert, and other Sector Experts, the consultant will be responsible for and contribute to the design of electrical power systems under PRF Project as felt required supporting integrated urban development in Agartala city. Tasks of the consultant would be following, but not limited to:
	 identify the industrial electrical powers systems gap requirements, review of exclusionary screening/ prioritization of subprojects (including for any updating in investment plan and action plan, and any phasing of deliverables on iterative basis during PRF implementation), proof of concept/ site plans, development of key indicators, etc., prior to undertaking detailed engineering design stage of work (confirm availability of land with clear–title, site or right-of-way/ ensure all no-objection and necessary clearances obtained for encumbrances free prioritized subproject sites available); and at the review stage, the subproject components should cover review of energy efficiency audit reports, any renewable energy use, localised external power infrastructure connected to the transmission grid through distribution infrastructure of HT or LT lines or underground cabling/ sub-station, etc., including municipal electrical connectivity infrastructure, street lighting/ parking area lighting/ landscape lighting, lighting for safety & security of roadside areas/ surroundings, administrative-level
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	requirements for electrical and control elements connected with integrated command and control centre (ICCC of Agartala City), etc.; and recommend any changes/modifications for improvement, if required;
	 support in supervising topographic surveys (network alignment/ site layout-level), review the results of the topographical surveys, geo-technical surveys/ investigations, and integrate these considerations in the design. Based on preliminary surveys, investigations and validated data contribute to the planning and design activities related to integrated urban roads, roadside storm water drainage, and an integrated storm water management system connected with water bodies, where applicable;
	 assist in undertaking necessary engineering and power demand surveys for subproject components, and as required, new or rehabilitation siting of localised external power infrastructure connected to the transmission grid through distribution infrastructure of HT or LT lines or underground cabling/ sub-station, etc, including municipal electrical connectivity infrastructure, lighting for safety & security of roadside areas/ surroundings, any renewable energy facility, etc.; and recommend changes/modifications for demand side management or augmentation of electrical load capacities and other improvements, as required;
	 responsible for feasibility studies and prepare/review detailed engineering designs, engineering cost estimate and item-rate analysis, specifications and drawings of the same in the subprojects' comprehensive DPRs and incorporate in bid documents (as applicable), duly incorporating innovative design principles for energy efficiency/ potential for renewable energy use, etc., and climate resilient factors [as per rapid climate risk assessment/ detailed CRA (formerly CRVA) and climate resilience framework, including impact assessment of COVID- 19 pandemic, and measures prepared to be adopted in detailed engineering designs, etc., at subproject/project-level]; and provide guidance to/collaborate with Design Engineers and Other Support Staff in achieving desirable detailed engineering design outputs, while ensuring that outcomes for the project and key performance indicators get included in the DPR to ensure effective and efficient service delivery, and sustainability of assets;
	 facilitate in review of institutional capacity building requirements, e-Governance reforms, and ongoing reforms initiatives-related interventions on tariff-/ unit fare-policy or structure, any incentives/ subsidies/ concessions, and own source revenue generation/cost recovery mechanisms (including any net metering based on renewable energy sources), municipal governance structure/governance performance requirements, etc., and formulate necessary recommendations in consultation and with support of other Sector Experts and Skill and Capacity Development Expert, and guide the Client in implementing such recommendations and reform interventions (initiation and such capacity development training continued as per Training Calendar, along with on-the-job training sessions), including adoption of national benchmarks/SLAs based-service delivery systems;
	 support Client and stakeholder authorities to incorporate in infrastructure/service design the adoption of value capture financing–VCF tools to generate revenue to fund future development proposals in a substantial manner, i.e., encouraging/supporting in building their capacities towards ensuring business models that are sustainable, and are adopted for such design;
	 contribute to institutional capacity development strengthening through technical capacity building/ on-the-job training sessions, based on sectoral expertise of the consultant and impart training;
	 provide inputs to periodic and annual reports, as required; and
	 any other tasks/ duties assigned by the national Team Leader and/or the Client under PRF implementation.
8.	Hydrology Expert

Qualifications: Preferably a Master's degree in Water Resources Engineering/ Hydrology/ Geo-Hydrology or equivalent; over a basic degree of Bachelor's from a recognized University in Civil Engineering or equivalent.

Experience: Preferably with 12 years of general experience and 10 years of specific experience in carrying out hydrological studies/ investigations/ analyses of water sources (surface water, groundwater based on aquifers/ groundwater table level, dam-reservoir source), water supply storage and distribution structures, including diversion structures for irrigation, etc., and water availability and drainage (including integration with water bodies)-/ groundwater recharge-patterns w.r.t. watershed management, along with exploration, quantification and estimation of ground water potential and usage. Previous work experience in planning/ design/ implementation of hydrological studies/ interventions in externally-aided/ MDB projects is desirable.

Responsibilities: Under the supervision of the Team Leader/Deputy Team Leader, and in consultation with Climate and Disaster Resilience Expert and other Sector Experts, he/she will be responsible for the following tasks, but not limited to:

- document and review all available reports/ data on water resource assessments made in the watershed to source the surface water supply/ other sources, including dam-reservoir source, if required for water supply to Agartala city, including verification of whether a rain-gauge network has sufficient spatial coverage that all groundwater monitoring stations are adequately covered in the Greater Agartala Planning Area from watershed management perspective;
- identify the data gaps, collect additional data and carry out hydrological studies/ investigations/ data synthesis and analyses for assessing river flows and other water body or groundwater levels for seasonal variability in Greater Agartala Planning Area, including to protect economic functions from flooding/ drought, to maintain ecologically-sound water system, and in part to support water use functions for core downstream investment subprojects on water supply for Agartala city;
- carry out rainfall and river flow analysis required to forecast disasters triggered by natural hazards for incorporating climate change mitigation and/or adaptation measures to be adopted in the Greater Agartala Planning Area (to be followed consequently in the planning and design of subprojects for coping with the floods and droughts);
- review or propose strategy/ mechanism to carry out river flow-based reservoir operations in order to manage water supply allocations for urban services and regional uses, especially during drought in Greater Agartala Planning Area;
- supervise relevant surveys/ investigations and provided design guidance to National Support Staff of Design Engineers/ Geo-technical Engineer/ Structural Engineer etc., and be responsible for overall hydrological design for structures/ pipelines etc., to be adopted for downstream subproject proposals with preliminary/ block-cost estimates, feasibility studies, detailed engineering design, detailed cost estimation, and suggesting/ providing necessary technical specifications for incorporation in bidding documents;
- contribute to technical capacity building/ on-the-job training tasks on sectoral expertise; and
- any other tasks/ duties assigned by the national Team Leader/ Deputy Team Leader and/or the Client under PRF implementation.

9. Landscape Architect

Qualifications: Preferably a Master's degree in Landscape Architecture/ Architecture/ Urban Design/Architectural Engineering or equivalent; over a basic degree of Bachelor's in Architecture/Architectural Engineering/ Physical Planning or equivalent.

Experience: Preferably 12 years' general experience; and 10 years of specific experience as Designer/Design Reviewer of Site Planning and Structures with proven credentials in integrated urban infrastructure planning and design, and related architectural designs/layouts of integrated site complexes, structures, public urban spaces/plazas, retrofitting right-of-way spaces based on

innovative principles, e.g., complete streets and streetscape designs and related architectural/structural/finishing elements, parking areas, parks and open spaces along with water bodies and related community facilities, etc. Work experience in design and implementation of externally-aided/MDB projects in integrated urban sector is desirable.

Preferably 12 years' general experience; and 10 years of specific experience as Landscape Architect/ Urban Designer/ Horticulture Design Reviewer of Site Planning and Structures under Landscape Planning and Design Works with proven credentials in integrated urban/ transport/ tourism/ industrial sector related landscape planning and design, and related architectural designs/layouts of integrated site complexes, structures, public open spaces/plazas, parking areas, community facilities, etc., including retrofitting right-of-way spaces based on innovative principles (e.g., complete streets-based streetscape designs), adaptive reuse of older urban open-or built-use spaces/ urban grey field or brown field areas, etc. Work experience in design and implementation of externally-aided/MDB projects in integrated urban/ transport/ tourism/ industrial sectors are desirable.

Responsibilities: Under the supervision of the Team Leader/Deputy Team Leader, and in consultation with the national Climate and Disaster Resilience Expert and other Sector Experts, the national Landscape Architect will be responsible for the following tasks, but not limited to:

- planning and design, including review of any existing specific plans for landscaping/ horticulture (i.e. type, size, shape and number of plants in the streetscape design [including innovative green infrastructure/low-impact development features like flow-through planters/bio swales/bio-retention or detention ponds, etc.], built-up and open spaces, parks, parking areas, community facility, etc.), landscape-/street-lighting, sculpted elements, integrated open air/covered recreational and resting spaces, adopt concept of crime prevention through environmental design or CPTED, integrate streetscape designs with design of surrounding urban- or built-form, consider diversity-equity-inclusion along with integration of existing/proposed master planning interventions of land use mix/economic-mix/housing mix with social justice for communities in surrounding urban areas, including adaptive reuse of older open- or built-use spaces; and recommend any changes/modifications for improvement, if required;
- ensure/attempt that landscaping designs and design elements prepared under the project represent the local character/ native species of vegetation and planting/ a sense of place, through desirable achievement of public realm, also based on vernacular architecture and inherent/potential diversity of uses;
- responsible for the feasibility studies and preparation of detailed architectural layouts and engineering designs (in consultation with water, roads/ pavement, and storm water drainage, Design Engineers and other Support Staff), bid-level working/detailed construction working drawings, including engineering cost estimates and item-rate analysis, and specifications of the finalized integrated urban infrastructure-related landscaping designs (hard and soft cape components) for open- or built-use spaces, streetscape and parking areas (including street and site signage/ signs with suggested guideline to be adopted by urban infrastructure stakeholder authorities), parks/ community facilities in surrounding urban areas, etc., as felt required, in the subprojects' comprehensive DPRs incorporating in planning and design the responsive elements of gender equality and social inclusion with potential interventions for elderly, women, children, differently-abled, and transgender–EWCDT facilities; including providing guidance to/collaborating with Design Engineers and other Support Staff in achieving desirable detailed engineering design outputs, while ensuring that outcomes for the project and key performance indicators get included in the DPR to ensure effective and efficient service delivery, and sustenance of landscaped assets;
- design especially on cost-effective basis and duly considering the climate resilience factors for the planning and structural elements as per CRA (*formerly CRVA*) and climate resilience framework and measures prepared for adoption in detailed engineering design etc., at

Α.	National Key Experts
	subproject/project-level, including preparing detailed landscaping/ structural working or good for construction drawings for integrated urban infrastructure-related open- or built-use spaces-related landscaping designs, streetscape and parking areas-related landscaping designs, parks/ community facilities landscaping in surrounding urban areas, etc., as felt required, with due consideration to synergy with or harmony of green corridor continuum, water conservation concepts, including integration with water bodies for restoring green-blue environment linkages, etc.;
	 contribute to institutional capacity development strengthening through technical capacity building/ on-the-job training sessions, based on sectoral expertise of the consultant and impart training;
	 provide inputs to periodic and annual reports, as required; and
	 any other tasks/ duties assigned by the national Team Leader and/or the Client under PRF implementation.
10.	Climate and Disaster Resilience Expert
	Qualifications: Preferably a Master's degree in Civil Engineering/Structural Engineering/ Environmental Planning/Environmental Engineering/ Environmental Conservation/ Environmental Science/ Climate Change/Architectural Engineering with a specialization in Structural Engineering or equivalent; over a basic Bachelor's degree from a recognized University in Civil Engineering/ Architecture/ Architectural Engineering/ Environmental Science or equivalent.
	Experience: Preferably 12 years of general experience; and 10 years of specific experience in planning and design of climate resilient buildings and site complexes, and urban infrastructure and services, such as water supply and sanitation, roads/ transport, power and other utilities, and related infrastructure sectors' structural design, that assessed climate risks/ climate change impacts and disaster risks, and related vulnerability of development zones and infrastructure, and duly incorporated "climate-resilient design"/ "disaster-secure engineering" and "structural norms/ non-structural measures" for risk reduction, including design considerations for any "climate proofing" of existing infrastructure is mandatory. Work experience in planning and design, and implementation of externally-aided/MDB projects in integrated urban sector is desirable.
	Responsibilities: Under the supervision of the national Team Leader/Deputy Team Leader and in consultation with other Sector Experts, the national Climate and Disaster Resilience Expert shall co-lead the entire consulting team with regards to setting-up priorities, direction, and to ensure all proposals are evaluated for building climate and disaster resilience, and promoting sustainability. The national Climate and Disaster Resilience Expert would undertake the following tasks, but not limited to:
	 undertake rapid climate risk assessment using the preliminary climate (and disaster) risk screening checklist for each prioritized subproject to establish the climate resiliency of the prioritized subprojects' infrastructure improvement plans and feasibility studies, particularly site selection and designs. Based on the outcome of the checklist assessment ('medium' or 'high' risk), prepare an initial climate change assessment (CCA) during the subproject preparation stage. Results and findings from the initial CCA will then be the basis of proposed climate change adaptation and/or mitigation plans, whose costs will determine the subproject's climate financing contribution. The initial CCA will undergo further modification, based on a more detailed climate risk and adaptation assessment or CRA undertaken by adopting ADB's CRA (formerly climate risk and vulnerability assessment or CRVA) Tool, including impact assessment of COVID-19 pandemic on project preparation, cost, and implementation of the priority subprojects; [Note: The national Climate and Disaster Resilience Expert of the PDMC should ensure that the PRF project demonstrates compliance with the Paris Agreement Alignment (PAA), and climate finance tracking requirements. As the climate resilient and low carbon municipal infrastructure assesses of the subproject of the province of the tracking requirements. As the climate resilient and low carbon municipal infrastructure of the subprovince of the subprovince

Α.	National Key Experts
	demonstrate how the climate change mitigation and adaptation components will be incorporated into the future and/or ensuing project design, in compliance with the PAA requirement (BB1 and BB2). As this is a PRF project, it would be necessary that the PDMC work outputs/ reports would indicate how the detailed engineering design stage related DPR will ensure PAA, so as to support the EA/ IA and ADB through this PRF project contribution in facilitating the ADB commitment to fully align new sovereign projects by 1 July 2023, and 75% of ADB projects will contain climate components. Hence, the PRF project timeline is directly concerned towards meeting such commitments.
	Following BB2 requirement and climate change adaptation finance tracking methodology, the project outputs/ activities should be directly connected/ linked with the CRA/ CRVA results. It is explicitly emphasized by the EA/ IA to the PDMC that climate change adaptation and mitigation aspects will be integrated from the early stage of project development including the scoping, and detailed engineering design, across all project preparation process and steps, beyond the climate change report, towards support for ensuing loan preparation/ processing.
	Further, technical due-diligence would include determining the possibility of the ensuing subprojects having any climate change mitigation activity, which can contribute to the reduction of greenhouse gas emissions, if any. For both climate adaptation and mitigation activities, climate finance should also be determined and included in the CRA report and in the summary CCA report, as necessary.]
	 undertake research on new technologies in water supply, stormwater drainage, roads/ transport, and other project components that focus on climate resilience innovations for Agartala city, taking in consideration any existing information on state-/region-/sector-level vision, policy and/or strategy papers, master plan, city development plan, sector plans, etc., already undertaken by the government, ADB, etc.;
	 facilitate discussions on the new technologies with state and central agencies, and sensitize the government to the benefit of adopting viable climate proofing/resilience technologies, including support to strengthen urban infrastructure vision/ improvement plans;
	 prepare climate resilience framework for onward guidance and to address climate risks/ climate change impacts and disaster risks aspects in detailed planning and infrastructure design (which would be useful during subsequent implementation, operation and maintenance processes as well), include the applicable new technologies in the "List of Good Practices" sheet to be considered for planning and design purposes, design viable climate and disaster resilience measures–such as risk avoidance/ minimization measures, adaptation, and/or mitigation measures, etc.;
	• as a lead on building climate and disaster resilience, assume responsibility for the consulting team and its performance of services under the consultancy contract to ensure that climate and disaster resilience measures are integrated into the planning and detailed engineering designs to achieve (as per national standards/ international standards and/or good practices, including ADB's South Asia Department framework and practice, etc.), and demonstrates resilience as per rapid climate risk assessment/ detailed CRA (<i>formerly CRVA</i>) and the climate resilience framework and measures prepared, i.e., ensure mandatorily that "disaster-secure engineering," "structural norms/ non-structural measures," etc., for risk reduction are built-in the plans/designs, including design considerations for any "climate proofing" of existing infrastructure, from the very beginning at subproject/project-level towards supporting climate-disaster-and-urban resilience; while duly following provisions made in the PRF PAM, and in any other governing/guidance documents of ADB, including those approved by ADB for the PRF project;
	 collect data of gender-differentiated climate change and disaster impacts in collaboration with Gender Equality and Social Inclusion (GESI) Expert, identify marginalised/ excluded groups, most vulnerable communities and areas; identify and create an awareness of climate risks/ climate change impacts and disaster risks on existing communities and future growth areas;

А.	National Key Experts
	and proactively document and address vulnerabilities to climate risks/ climate change impacts and disaster risks in the climate resilience framework, while ensuring that infrastructure should also be resilient against human made risks under integrated urban sector-project formulation and preparedness assessments, and for project development/ implementation;
	 provide guidance to the design team members for various sectors, to consider necessary parameters in planning and detailed engineering designs/any other design work, from the context of building climate and disaster resilience;
	• co-lead the team of consultants to collaborate for the integration of the climate resilient measures into the main designs, in an inclusive and sustainable manner, with due consideration to concepts of IWRM, IUWM, WSUD, etc.;
	 review the material strength adopted in the design of all the structures;
	• review the design to ensure that the planning, and detailed structural analyses and design are in accordance with the prescribed national codes and standards/international codes and standards;
	 check that the seismic design parameters adopted for the design are in accordance with the latest provisions of the National Building Code of India, considering the locational context of northeastern region being part of Himalayan Region;
	• review civil work-related structural drawings and design calculation/compute models of all the structures to ensure that the structural design prepared are in accordance with provisions of the national/international guidelines and safety standards;
	 review the construction specifications pertaining to the construction of all reinforced above- ground/ concealed structures;
	• review the inspection and testing plans that would subsequently be implemented during constructions of structures;
	 prepare a comprehensive design review report to confirm compliance of climate resilience measures in planning and detailed engineering designs, and as required, clearly identify the modifications to be incorporated by the design team, in the detailed designs, specifications, and bid-level working/ detailed construction working drawings with regards to compliance to factors for resilience to climate risks/ climate change impacts and disaster risks aspects. The design review report includes the list of applicable innovations and new technologies that will be further integrated into the planning and relevant detailed engineering designs. Encourage and guide other Sector Experts, and Design Engineers and Other Support Staff technically involved in planning and detailed engineering design to ensure effective and efficient incorporation of climate and disaster resilient design interventions, at best as a timely and prior effort in the first place;
	• prepare a consolidated draft final design review report to be internally reviewed first by the Team Leader/Deputy Team Leader, and then submitted to Client, and ADB. Incorporate comments for finalization of the report, and submit it for final internal review, prior to the final report being submitted for knowledge sharing and reference purposes to Client, ADB and other stakeholder authorities;
	• facilitate the Client in the ensuing loan/project processing stage of work by undertaking due diligence assessment for building climate and disaster resilience (as per national standards/ international standards and/or good practices, including ADB's South Asia Department framework and practice, etc.), following ADB accepted formats and meeting ADB approval requirements; and
	contribute to programs on training/workshops/seminars/conferences, etc., based on sectoral expertise of the consultant, and impart training and sensitize stakeholders towards climate risks/ climate change impacts and disaster risks and the need for necessary risk avoidance/ minimization, and adoption of adaptation and/or mitigation measures during the planning and

Α.	National Key Experts
	design formulation stage, project development/ implementation stage, and monitoring/ operation and maintenance stage for sustainability of assets.
11.	Skill and Capacity Development Expert
	Qualifications: Preferably a Master's degree in the area of Social Science/ Development Studies/ Public Policy (Urban/ Municipal Affairs)/ Urban Economics/ Business Management/ Urban Planning or related disciplines; over a Bachelor's degree from a recognized University in Social Science/ Economics/ Engineering/ Physical Planning or equivalent.
	Experience: Preferably 12 years' of general experience and 10 years of specific experience as Skills/ Capacity Development Expert in integrated urban/ tourism/ transport/ industrial or similar major infrastructure sectors, with demonstrated experience in preparation and implementation of comprehensive skills/ capacity development plans, preparing/ reviewing training calendar, and imparting training is required. Strong analytical and strategic thinking skills are required. Excellent oral and written communication skills in English are required. Work experience in skills/ capacity development in integrated urban/ tourism/ transport/ industrial or similar major infrastructure sectorsfor planning, design, and implementation of externally-aided/MDB projects is desirable.
	Responsibilities: Under the supervision of the national Team Leader/ Deputy Team Leader, and in consultation with other Sector Experts, the Skills and Capacity development Expert will undertake the following tasks, but not limited to:
	 work with UDD, GOT and PMU-AMC to undertake any study/ research/ review of skill and capacity development requirements based on existing or ongoing draft Institutional Capacity Development Plan, and Training Calendar prepared to support PRF, with regards to study of skill classification and job roles across the institutions to arrive at a comprehensive skill development plan and aligned with digital strategy/ e-Governance solutions envisaged for municipal services in line with National Urban Digital Mission and related state-level partnerships on such digital strategy/ e-Governance solutions;
	 map and analyse/ review the skills gaps based on demand assessment with respect to business induced scenario, assess current availability of skilled staff/ labour engaged across the institutions (baseline data), and prepare an action plan to meet skills gap/ training needs assessment, and quantify the requirements for skilled persons for-institutional staff, workers, especially women (quantify gaps for different job roles to the extent possible, based on data availability);
	• review skill development ecosystem, which shall include the availability of training institutes, trainers, courses aligned with NSQF/ NCVT/ SCVT etc. standards; and infrastructure gap analysis should cover the status of current skill training programs at the district level, national or international good practices, recommendations and roadmap for implementation;
	 undertake stakeholder consultations (with UDD, GOT/ AMC/ ASCL/ NEC/ MDONER, training providers, urban development domain experts/ practitioners; and ADB; and collate feedback on key issues affecting skilling ecosystem;
	• prepare/ review existing and ongoing preparation of Training Modules and Training Calendar to support PRF, and finalize training program sessions, training materials/ knowledge dissemination, organize training sessions or contribute to programs on training/workshops/seminars/conferences, etc., based on sectoral expertise of the consultant, and impart training (initiation and continued capacity building activities) to enhance participants knowledge on urban policy generation and review, good practices in integrated urban sector, reforms applicability for improved capacity benefits in the context of fuelling economic growth and managing urban transformation in Agartala city and/or Greater Agartala Planning Area as decided by the government;

Α.	National Key Experts
	 document and disseminate training feedback received, analyse, and improvements suggested/ made;
	 map/ review mapping of existing wages earned and suggestions of enhancement due to implementation of proposed interventions of skills and capacity development;
	 coordinate with other Sector Experts of PDMC in document preparation on project readiness for ensuing project;
	 facilitate UDD, GOT and PMU-AMC in ensuing loan processing;
	 provide inputs to/ review periodic and annual reports, as required; and
	 any other tasks/ duties assigned by the national Team Leader/ Deputy Team Leader and/or the Client under PRF implementation.
12.	Procurement Expert
	Qualifications: Preferably a Master's degree in Civil Engineering/Mechanical Engineering /Electrical Engineering/Law/Contracts Procurement and Management or equivalent; over a basic Bachelor's degree from a recognized University with a major in Civil Engineering/Architectural Engineering/Mechanical Engineering/Electrical Engineering/Law/Purchasing, Contracts, and Business Management or equivalent.
	Experience: Preferably 12 years' general experience; and 10 years' specific experience in procurement and contract management for major civil works and goods projects, and consulting services, with proven credentials in procurement management. Knowledge of ADB Procurement Policy, Regulations, Standard Bidding Documents (SBDs with required addendum wording for site-specific health and safety or HS COVID-19 Plan) and User Guides, Request for Quotation (RFQ)/ Standard Request for Proposal (SRFP), and Guidelines/ Guidance Notes issued by ADB, including those under the ADB's New Procurement Framework of 2017, such as Guidance Notes on Strategic Procurement Planning and Other Subjects, is an advantage. Work experience in procurement planning, and project design and implementation of externally-aided/MDB projects in integrated urban sector is desirable.
	Responsibilities: Under the supervision of the national Team Leader/Deputy Team Leader, and in consultation with other Sector Experts, the Procurement Expert will undertake the following tasks, but not limited to:
	 undertake strategic procurement planning (SPP) study, related due diligence data collection/ collation, conduct SPP Workshop and discuss/ assess contract management support requirement and prepare draft Contract Management Plan(s) during pre-contract award stage for finalized subproject contract packages for the ensuing project (proportional to complexity, risk, and value of the contract; and due consideration to whether large subprojects have an individual Contract Management Plan and/or one Contract Management Plan can cover a group of similar contract packages of a similar size for smaller contract packages, etc.), arrive at Procurement Strategy in SPP Study, and prepare SPP Study Report in consultation with Client, to be submitted to ADB for review and approval;
	 based on SPP study outcome/ procurement strategy arrived at, prepare Procurement Plan in consultation with Client and ADB (including any subsequent review/updating, as felt required during PRF implementation) for the identified subproject contract packages with appropriate details of suitable contract modalities, such as contract package name/ description/ estimated value, procurement method, review mechanism[prior review/post review (sampling)], bidding procedure, etc., and coordinate the preparation of procurement documents, such as invitation for bids–IFBs, bid documents, expression of interests, request for proposals/ quotations, etc., for procurement of finalized subproject contract packages (goods, plants and equipment/civil works) and any consulting/ non-consulting services, related to integrated urban sector's work components;

Α.	National Key Experts
	 prepare bid documents in close coordination with the Client's Procurement Officer/ Expert for the procurement of works, goods and plant, and any consulting/ consulting services, and make sure that such documents are in accordance with ADB Guidance Notes on Procurement (June 2018, as amended from time to time) and FIDIC-MDB June 2010 harmonised construction contract document, and as per latest appropriate SBD (with required addendum wording for HS COVID-19 Plan) and related user guide, and RFQ/ SRFP issued by ADB, while duly following provisions made in the PRF PAM, and in any other governing/guidance documents of ADB, including those approved by ADB for the PRF Project. Ensure bid documents/ contracts to comply with measures as set out in the IEE/ EIA (as applicable), comprehensive EMP, and RP (to the extent they may cause impacts to affected people) as well as corrective action plans;
	 assist Client to carry out procurement progress reporting and annual review of the Procurement Plan with appropriate details of contract packaging, such as contract package name/ description/ estimated value, procurement/ selection method, review mechanism [prior review/post review (sampling)], bidding procedure, expected advertisement timeline, etc.;
	 assist Client's Procurement Officer/ Expert and the tender or bid evaluation and recommendation committee in the coordination for the bidding process for the procurement of works, goods and plant, and any consulting/ non-consulting services;
	 support Client for (i) the preparation and publication of invitations for bids, (ii) answers to bidders' queries, (iii) bid openings and evaluation of tenders, and (iv) preparation of bid evaluation reports; and similarly support the procurement process for any consulting/ non- consulting services;
	 assist in coordination for organizing SPP Workshop and related Workshop Proceedings with Participant's documentation and inputs/ suggestions received, and bidder's site visits (if applicable);
	 assist to procure any office-vehicles, supplies and equipment;
	 work together with the Client and other stakeholder authorities to coordinate the processes of obtaining no-objection from the ADB, during the bid evaluation and for bid evaluation reports;
	 manage all procurement processes, documentation/ reports, claims, etc., and facilitate Client in proper procurement record keeping;
	 ensure implementation of applicable rules and procedures as per ADB and/or local guidelines on procurement;
	 work together with the Project Director, PMU-AMC for the preparation of the necessary documentation for contract signing, and contractor and/or consultant/ non consulting services vendor mobilization;
	 provide inputs/ review on procurement status/any issues to periodic and annual reports, as required;
	 facilitate Client in the ensuing loan/project processing stage of work by undertaking project procurement risk/ capacity assessment, and suitable contract packaging in Procurement Plan as per revised ADB Procurement Policy (2017, as amended from time to time) and Procurement Regulations (2017, as amended from time to time), relevant ADB– guidelines/accepted formats and meeting ADB approval requirements;
	• contribute to programs on training/workshops/seminars/conferences, etc., based on sectoral expertise of the consultant, and impart training; and
	 any other related task assigned by the national Team Leader/Deputy Team Leader, and/or the Client under PRF implementation.
13.	Environment Safeguards Expert

Qualifications: Preferably a Master's degree in Environmental Science/ Environmental Planning/Environmental Engineering/Civil Engineering or equivalent; over a basic degree of Bachelor's from a recognized University in Natural or Environmental Science/ Environmental Engineering/Physical Planning/Architecture/Architectural Engineering/Civil Engineering or equivalent.

Experience: Preferably 12 years of general experience; and 10 years of specific experience in planning, designing, implementation, and monitoring of comprehensive environmental management plan (EMP, including health and safety management plan updated as site-specific health and safety management plan updated during COVID-19 pandemic), initial environmental examination (IEE)/ environmental impact assessment (EIA), and other categorization/ readiness checklists. Knowledge of ADB Safeguard Policy Statement 2009/environmental policy and frameworks, and experience with the application of ADB environmental guidelines is an added advantage. Excellent verbal and written communication skills in English are desirable. Work experience in planning and design, and implementation of safeguard elements in externally-aided/MDB projects in integrated urban sector is desirable.

Responsibilities: Under the supervision of the national Team Leader/Deputy Team Leader, and in consultation with the national Climate and Disaster Resilience Expert and other Sector Experts, the Environment Safeguards Expert will undertake the following tasks, but not limited to:

 prepare/review/update the IEE/EIA (as applicable) and comprehensive EMP (including health and safety management plan–HSMP*), and provide the necessary inputs for the implementation of the comprehensive EMP using the compliance monitoring checklist included in the IEE/EIA;

[* Updated as site specific health and safety management plan (SSHSMP) with site-specific health and safety COVID-19 plan (HS COVID-19 Plan).]

- provide inputs to Client to establish the baseline measurement, and to supervise the precommissioning baseline monitoring following the mitigation and monitoring guidelines provided in the IEE/EIA;
- organize analysis of water, air and soils as specified in the comprehensive EMP;
- monitor and report on effectiveness of management of any waste/debris generated from existing infrastructure/utilities being removed/rehabilitated, paying attention to the handling of removed debris until disposal or recycling, and landscaping;
- propose/elaborate reporting formats to be further used by Client to make sure that results of
 monitoring are reported in quarterly, semi-annual, and annual reports, and later in the project
 completion report to represent the performance of competed PRF, for submission to Client
 and ADB, as required, while duly ensuring that these follow ADB accepted formats/templates;
- provide inputs to Client in dealing with Contractors for the implementation of the comprehensive EMP/supervise the compliance of the Contractor in implementing the environmental mitigation measures;
- provide guidance in the implementation and monitoring of the comprehensive EMP, including ensuring any mitigation measures as recommended are implemented during the preconstruction period. This also includes to conduct the EIA, where required, and approval from relevant authorities, and monitoring reports;
- assist Client in dealing with the concerned Roads/Police Department for the preparation of traffic emergency plans and temporary diversion of traffic during construction, with minimal inconvenience to public and environmental impacts;
- prepare a methodology and a checklist review for supervision of the comprehensive EMP implementation completion and relevant report to be prepared by Contractors and assist Client and other concerned authorities to timely obtain such reports;

Α.	National Key Experts
	 provide inputs and methodology to Client and other concerned authorities: (i) prepare and maintain a grievance redressal mechanism, (ii) establish a grievance redressal committee (GRC), and (iii) carry out monitoring on effectiveness, and make sure that GRC will have strong female representation, and the grievance redressal process is implemented effectively, according to the plan and schedule in the IEE/EIA;
	 undertake/assist in additional studies including topographical surveys, geo-technical investigations, and socio-economic/inventory of loss/willingness-to-pay surveys, and environmental and social safeguards surveys, etc., as the needs arise, duly incorporating considerations for gender equality and social inclusiveness/ GESI-responsive elements;
	 consolidate/prepare for assistance to Client in quarterly progress and semi-annual/annual environmental monitoring(with monitoring reports, covering any updates on site-specific health and safety management plan covering HS COVID-19 Plan);
	 facilitate Client in the ensuing loan/project processing stage of work by undertaking environmental assessment and review framework, and all due diligence documentation, as per ADB Safeguard Policy Statement (June 2009, as amended from time to time), following ADB accepted formats and meeting ADB approval requirements;
	 contribute to programs on training/workshops/seminars/conferences, etc., based on sectoral expertise of the consultant, and impart training; and
	 any other related task assigned by the national Team Leader/Deputy Team Leader, and/or the Client under PRF implementation.
14.	Social Safeguards Expert
	Qualifications: Preferably a Master's degree in Social Science/Sociology/Anthropology or equivalent; over a basic degree of Bachelor's degree from a recognized University with a major in Social Science/Sociology/Anthropology or equivalent.
	Experience: Preferably 12 years' general experience; and 10 years' specific experience as a Social Safeguards Expert on similar major infrastructure projects, and in land acquisition and involuntary resettlement, resettlement planning, and Indigenous Peoples plan documentation and related due diligence reports, health and safety management plan, is required. Possess up-to-date knowledge of laws and regulations of India on land acquisition and compensation, rehabilitation and related activities. Knowledge of ADB Safeguard Policy Statement 2009, and necessary safeguard document preparation and monitoring for compliance is an added advantage. Excellent verbal and written communication skills in English are desirable. Work experience in planning and design, and implementation of safeguard elements in externally-aided/MDB projects in integrated urban sector is desirable.
	Responsibilities: Under the supervision of the national Team Leader/Deputy Team Leader, and in consultation with the national Climate and Disaster Resilience Expert and other Sector Experts, the Social Safeguards Expert will undertake the following tasks, but not limited to:
	 undertake/participate in stakeholder consultations during identification/review/prioritization of subprojects, undertake/review SPRSS assessment, assist in planning and conducting socio- economic surveys, prepare/ update/ include health and safety management plan–HSMP*as part of comprehensive EMP in the bid documents, and where required prepare resettlement plan (RP)documentation and related due diligence reports (DDRs)/ Indigenous Peoples plan (IPP), and undertake its monitoring for compliance;
	[* Updated as site-specific health and safety management plan (SSHSMP) with site-specific health and safety management COVID-19 plan (HS COVID-19 Plan).]
	 work with the Client to establish baseline measurement duly incorporating considerations for gender equality and social inclusiveness/ GESI-responsive elements, and a system to monitor

Α.	National Key Experts
	social safeguards of the project and prepare indicators for monitoring important parameters of safeguards;
	 take proactive action to anticipate the potential resettlement requirements of the project to avoid delays in implementation;
	where required, update all the RP related data and DDRs/ IPP, activities and reports;
	 develop the RP documentation and related DDRs/ IPP for all applicable subprojects, related to all sectors wherein resettlement or land or any other asset of the general public is being acquired for the project. The ADB safeguard policies and guidelines/ ADB accepted formats will be followed in addition to the local laws related to resettlement and land acquisition. The consultant will also prepare safeguards-due diligence reports (DDRs) for all subprojects' contract packages prior-to construction stage;
	 preparation of database of all the affected households/ trade establishment units, etc., and their eligibility and entitlement based on the final RP and related DDR;
	 assist in disbursement of compensation and assistance and ensure that affected persons are compensated as per the RP and related DDR prior to commencement of civil works in relevant subprojects/ project;
	 review, monitor and evaluate the effectiveness with which the RP and related DDRs/ IPP is implemented, and recommend necessary corrective actions to be taken; and advise on corrective measures where necessary, to Client and ADB;
	 prepare procedures to document and record the grievances and sensitize the Client and other concerned authorities, on the Communication Strategy and Grievance Redress Mechanism, which includes the notification, arranging the grievance redressal committee (GRC) meetings and recording the grievance in a database;
	assist Client in monitoring the implementation of land acquisition in the subproject/ project;
	 design a RP and related DDR/ IPP monitoring report template and develop monitoring indicators;
	 consolidate/ prepare for assistance to Client in quarterly progress and semi-annual/ annual social monitoring (with monitoring reports, covering any updates on site-specific health and safety management plan covering HS COVID-19 Plan), and DDRs of contract packages;
	 facilitate Client in the ensuing loan/ project processing stage of work by undertaking initial poverty and social analysis/ SPRSS assessment, and RP and related DDRs/ IPP, as per ADB Safeguard Policy Statement (June 2009, as amended from time to time), following ADB accepted formats and meeting ADB approval requirements;
	 contribute to programs on training/ workshops/ seminars/ conferences, etc., based on sectoral expertise of the consultant, and impart training; and
	 any other related task assigned by the Team Leader/ Deputy Team Leader, and/or the Client under PRF implementation.
15.	Gender Equality and Social Inclusion (GESI) Expert
	Qualifications: Preferably a Master's degree in Sociology/ Social Science/ Anthropology/ Gender or Development Studies/ Economics or equivalent; over a basic Bachelor's degree from a recognized University in Sociology/ Social Science/ Anthropology/ Gender or Development Studies/ Economics or equivalent.
	Experience: Preferably 12 years' general experience; and 10 years' specific experience of working as Gender Expert or Gender Equality and Social Inclusion (GESI) Expert, and training and capacity building in social safeguards and gender mainstreaming/ GESI aspects/ GESI-responsive design features related project elements in sectors of integrated urban sector development, such as water supply and sanitation, urban roads/ transport, etc. Preferably direct experience in non-government organizations, government agencies and research institutes, with

direct involvement in the development and implementation of gender mainstreaming in planning and decision-making/ GESI aspects/ GESI-responsive design features in development projects, including design of gender action plan (GAP)/ GESI action plan (GESI AP) is required. Knowledge of ADB Policy on Gender and Development, 1998 is an added advantage. Excellent verbal and written communication skills in English are desirable. Work experience in planning and design, and implementation of safeguard elements and gender mainstreaming features in externallyaided/MDB projects in integrated urban sector is desirable.

Responsibilities: Under the supervision of the national Team Leader/Deputy Team Leader, and in consultation with the national Climate and Disaster Resilience Expert and other Sector Experts, the GESI Expert will undertake the following tasks, but not limited to:

- assist Client and other stakeholder authorities in identifying scope for gender sensitization/ gender mainstreaming in planning and decision-making, and assist in implementation and monitoring of gender action frameworks;
- conduct a gender analysis along with facilitating data collection of gender-differentiated climate change and disaster impacts, and assess key gender and social inclusion (GESI) related issues, and potential actions to be taken under the ensuing project; and identify GESI-responsive design features of subprojects and ensure project components are designed to be gender sensitive, apart from being inclusive, sustainable, and resilient in design considering the need to building climate and disaster resilience in the urban communities; duly including in its advice/ recommendations, the potential elderly, women, children, differently-abled, and transgender facilities–EWCDT, and other gender and socially inclusive approaches that can be incorporated in the design of the ensuing project. In this regard, one of the key tasks of the GESI expert is to collect and compile sex-disaggregated (baseline) data. At due diligence, the results of the GESI analysis will be used to inform the gender categorization, and the actions to be taken which will be embodied later into a gender or GESI action plan;
- design and prepare/review GESI action plan (GESI AP), initial poverty and social analysis/social poverty reduction and sector strategy, and other social development documents;
- orient Client and other stakeholder authorities in assuring clear understanding of project schedule and respective roles and responsibilities in GESI AP implementation and other social development activities;
- establish an effective monitoring and reporting system based on sex-disaggregated data (including beneficiary data, and which comply with privacy considerations) to be recorded as collected through public consultations and obtained from Client implementation team, field staff, contractors and other stakeholder authorities, on people who participated in training, including on trainers who will provide effective-behavioural change communication training and awareness to build women's resilience to climate change and disaster impacts and environmental degradation through greater access to technology and innovation/ diversified livelihoods/ finance or micro-finance or other financial safety nets/ dedicated crisis-responding social assistance systems, etc., on women and/or people from marginalised/ excluded and vulnerable groups employed-in or job-/ entrepreneurship-/ business-opportunities (including, green jobs/ green businesses, food-for-work opportunities, etc.) for them in integrated urban sector, including skill development for semi-skilled/ skilled job types, up skilling, and business skills, on spatial planning-relevant infrastructure-public space improvements made/ benefits extended to women/ children/ elderly/ differently-abled, etc. for access to infrastructure and services/ safe mobility/ accessible child and elderly care services, etc., through GESI AP implementation progress during the PRF implementation and also during ensuing project(s) implementation (as per indicators and targets set at outcome and output levels in design and monitoring framework prepared) so as to be informed with result achievement-levels against measured baseline data in the project completion report as well, whenever due;

Α.	National Key Experts
	 training of Client and other stakeholder authorities' Staff, and other Consultants/ Deputed Staff on gender areas/ GESI aspects on continuous basis and prepare training/ information, education, and communication–IEC material in English/ local language;
	• implement and monitor the GESI AP with support of Client and other stakeholder authorities;
	 ensure that the GESI AP report is included in the quarterly reports to Client/ by the Client to ADB;
	 facilitate Client in the ensuing loan/ project processing stage of work by conducting gender- or GESI-analysis/ assessments and design of GESI AP, GESI-responsive design features, etc., as per ADB Policy on Gender and Development, 1998 (as amended from time to time)–related guidelines/accepted formats and meeting ADB approval requirements;
	 contribute to programs on training/workshops/seminars/conferences, etc., based on sectoral expertise of the consultant, and impart training; and
	 any other related task assigned by the Team Leader/Deputy Team Leader, and/or the Client under PRF implementation.
16.	Financial Management Expert
	Qualifications: Preferably a Chartered Accountant or having a Master's degree in Finance/ Accounting/Business Management/Economics/Cost Accountant or equivalent; over a basic Bachelor's degree from a recognized University with a major in Business Management/Finance/Accounting/Economics or equivalent. Qualification preferably be from a professional accounting body (PAO) recognized by the international federation of accountants (IFAC) (e.g., CA/CPA/ACCA) or equivalent.
	Experience: Preferably 12 years of general experience in public sector project finance and accounting with professional practice experience focusing financial reporting in India. Knowledge of financial management systems, financial/cash flow modelling and risk analysis, experience in undertaking financial analysis of public/private sector infrastructure organizations, and accounting principles/processes/ procedures mandated by Government of India (e.g., General Finance Rules, 2017, as amended from time to time) is required. Preferably 8–10 years of specific experience in financial analysis, and tariff setting/regulation of integrated urban or municipal infrastructure sectors and services is an asset. Must be familiar with relevant reporting standards framework including accounting standards prevalent in India (e.g., IND-AS, Accounting Standards issued by ICAI and Government Accounting Standards) or having working knowledge on International Financial Reporting Standards (IFRS) or International Public Sector Accounting Standards (IPSAS).Be able to demonstrate experience in auditing financial statements for projects and entities comparable in type, nature and complexity; and have the necessary capabilities to complete tasks and manage audit team queries on time. Diverse exposure into industries sectors such as public sector/ private sector operations, regulatory/ no regulatory financial institutions, municipal/ utility set-up manufacturing, on related financial accounting or auditing assignments within computerized environment will help in streamlining the present manual set up of the Client and is desirable. Should have sound and proven formal communication skills (both verbal and written), be excellent in written and fluent over spoken English, and to act as a team player is essential. Work experience in planning and design, and implementation of externally-aided/MDB projects in integrated urban sector is desirable.
	Responsibilities: Under the supervision of the national Team Leader/Deputy Team Leader, and in consultation with the Economist, and other Sector Experts, the Financial Management Expert will undertake the following tasks (adopting latest ADB Guidelines), but not limited to:
	 conduct in-depth due diligence of financial analysis of subproject/project investments (starting with subprojects and leading to project-level financial analysis that meets requirements as per ADB Guidelines/ Technical Guidance Notes (as amended from time to time), including for facilitating during PRF period on project processing of the ensuing loan/project); and provide

National Key Experts Α. a comparison with the FIRR done at the time of PRF/the ensuing loan appraisal, including any impacts of midstream changes during the PRF period; support Client to review tariff and consumers affordability implications, based on secondary data of current revenue billing and collection details, cost recovery mechanisms, prevailing tariff-/ fare-/ user fee or user charges policy or structure, any incentives/ subsidies/ concessions, ongoing capital and maintenance works (plan and non-plan), etc.; and data obtained from primary surveys (e.g. socio-economic/inventory of loss/willingness-to-pay surveys, etc.) to make appropriate recommendations for any updation of ongoing municipal reforms from institutional or municipal governance and financial sustainability perspectives to support Client and relevant stakeholder agencies, resulting in appropriate/implementable own source revenue generation and cost recovery strategies, recommended tariff-/ fare-/ user fee or user charges-level mechanism based on 'user pays' principle and financing mechanism, incentives/ subsidies (if any)/concessionaire, governance performance requirements, etc.; support Client and stakeholder authorities to incorporate in infrastructure/service design the • adoption of value capture financing-VCF tools to generate revenue to fund future development proposals in a substantial manner, i.e., encouraging/supporting in building their capacities towards ensuring business models that are sustainable, and are adopted for such design; undertake/ review financial analysis and evaluation (FAE)/ financial management assessment (FMA) of the EA/ IA consistent with project and entity risks, including design of project fund flow mechanism at year 1 of the PRF as per ADB's Guidelines/ Technical Guidance Notes (as amended from time to time); or if the undertaking of FAE/ FMA and design of project fund flow mechanism at year 1 of the PRF is already completed, carry out a review for any update in the design of project fund flow mechanism and FAE/ FMA of the EA/ IA under PRF annually at year 2/ any year 3 of the PRF or facilitate Client in consultation with PMU Financial Management Expert/Financial Management Expert (TA Consultant)/ ADB Staff in carrying out such a review and update, as felt required. This would include facilitating revision of PRF PAM on account of any such update; prepare/review the detailed engineering cost estimates for identified/ prioritized subprojects, • including preparing cost estimation for sizing of the ensuing loan(s) for city-level/ project-level investment planning; support Client and stakeholder authorities to prepare withdrawal applications and supporting documents for timely disbursements; work closely with Client's Accounts Officer(s)/Accountant(s), and also guide Accountant under the consulting services to manage project accounts to facilitate timely submission of withdrawal applications and timely disbursements; identify, procure, develop, and set up a FMS, including integration with PPMS in consultation with the Team Leader, and project financial information and accounting system to be used during the implementation of the PRF, and further transferred to Client to be useful for the subsequent or ensuing loan/project implementation; prepare a project Financial Management Manual for the ensuing project and assess capacity of the EA/ IA's IT systems for accounting and reporting of project activities, and support in building capacity as per identified project and entity risks, and based on assessed capacity gaps; elaborate and propose procedures for setting-up and maintaining consolidated/ separate project accounts throughout the implementation of PRF, and which could be useful for the ensuing loan/project implementation, while duly ensuring that these follow guidelines/

accepted formats of ADB and/or government, as required;

Α.	National Key Experts
	 provide assistance to Client for the preparation of the first annual work plan and budget and for the subsequent years under PRF period, as well as in updating of detailed cash flow projections and its periodical reviews;
	 provide assistance to prepare draft loan withdrawal applications for the payment of eligible costs under PRF and other disbursement related documents;
	 assist Client in preparing terms of reference for auditing all project account(s) under PRF, recruit project auditor, and following up on the comments/recommendations of the auditor;
	 assist Client in preparing the PRF-related financial progress reports as required by government/ADB; provide required inputs and information necessary for the preparation of periodical progress reports and project completion report to represent the performance of completed PRF;
	 provide advice on capacity building needs of Client and other stakeholder authorities' staff, review financial management capacity building programs proposed by the suppliers of the FMS software, and provide assistance during the delivery of training sessions;
	 liaise with the Accounts Officer(s)/Accountant(s) selected for the delivery of training in financial management under the Capacity Building Program, including as per the Financial Management Manual prepared, and provide relevant inputs and material for training preparation as required;
	 assist Client and other stakeholder authorities to maintain regular book keeping and accounting, and facilitate PMU-AMC under UDD, GOT in managing the advance fund procedure/advance account;
	 provide input to Client on carrying out review and consolidating monthly financial statements and requests for any payment by contractors and service providers, and assist Client in the process of approval for payment release;
	 provide inputs to monthly, quarterly, semi-annual and annual reports as needed, and support Client in timely submission of annual project financial statements, towards compliance with loan conditions/covenants under PRF Project;
	 facilitate Client in the ensuing loan/project processing stage of work by undertaking/ reviewing/ updating FAE/ FMA and any project fund flow mechanism update, and in due diligence of financial analyses to be consistent with ADB technical guidance note on FAE and to be consistent with project and entity risks, as per relevant ADB–guidelines/accepted formats and meeting ADB approval requirements;
	 contribute to programs on training/workshops/seminars/conferences, etc., based on sectoral expertise of the consultant, and impart training;
	 provide inputs to/ review periodic and annual reports, as required; and
	 any other tasks/ duties assigned by the national Team Leader/ Deputy Team Leader and/or the Client under PRF implementation.
17.	Economist
	Qualifications: Preferably a Master's degree in Economics/Urban Economics/Transport Economics/Business Management/Finance or equivalent; over a basic Bachelor's degree from a recognized University with a major in Economics/Business Management/Finance or equivalent.
	Experience: Preferably 12 years of general experience in subproject/project-level economic analysis and review in public sector infrastructure projects. Knowledge of functioning of integrated urban infrastructural economics, economic growth modelling and risk analysis; experience in undertaking economic analysis of public/private sector infrastructure organizations, and economic viability/viability gap funding for infrastructure investment planning is required. Preferably 8-10 years of specific experience in economic analysis, sensitivity analysis, and tariff setting/regulation of integrated municipal/ transport infrastructure sectors and services is an asset. Work experience

in planning and design, and implementation of externally-aided/MDB projects in integrated urban sector is desirable.

Responsibilities: Under the supervision of the national Team Leader/Deputy Team Leader, and in consultation with the national Climate and Disaster Resilience Expert, the Municipal Reforms/Institutional Governance Expert, the Financial Management Expert, and other Sector Experts, the Economist will undertake the following tasks (adopting latest ADB Guidelines), but not limited to:

- conduct in-depth due diligence of economic analysis of subproject/project investments (starting with subprojects and leading to project-level economic analysis that meets requirements as per ADB Guidelines for Economic Analysis of Projects, 2017 (as amended from time to time), including for facilitating during PRF period on project processing of the ensuing loan/project); and provide a comparison with the EIRR done at the time of PRF/the ensuing loan appraisal, including any impacts of midstream changes during the PRF period;
- should take into account relevant environmental and non-environmental factors in analysis, analyse and estimate the economic justification using avoided costs/consumer surplus, access to service and enhanced quantity/quality of service resulting in hygiene and health benefits, etc., as applicable, as the measure of benefits, and in line with the principle of sustainable commercial operations;
- discuss with the Client various issues associated with demand curve estimation and the inclusion of externalities in the analysis, as applicable;
- examine the robustness of conclusions with an appropriate sensitivity analysis (switching values), as applicable;
- prepare estimates of the aggregate costs and economic benefits of the subproject/project (including calculating monetary value of climate change impacts [e.g., physical impacts-a property or town area that will be flooded, likely to be affected by landslides/ as landslip areas, likely pollution impacts, etc./ other impacts] using a current price data, consideration of global/national carbon benefits, etc., as applicable for study by choosing a range of climate change scenarios on which to base the economic assessment study);
- assist in planning and conducting socio-economic surveys; and suggest parameters for economic monitoring, including baseline measurement, to be incorporated in the FMS set-up integrated with PPMS, to be used during the implementation of the Project and further transferred to Client;
- support Client to review tariff and consumers affordability implications, based on secondary data of current revenue billing and collection details, cost recovery mechanisms, prevailing tariff-/ fare-/ user fee or user charges-/ tipping fee-policy or structure/incentives/ subsidies/ concessions, ongoing capital and maintenance works (plan and non-plan), etc.; and data obtained from primary surveys (e.g., socio-economic/inventory of loss/willingness-to-pay surveys, etc.) to make appropriate recommendations for any updation of ongoing municipal reforms from institutional or municipal governance and economic perspectives to support Client and relevant stakeholder agencies, resulting in appropriate/implementable own source revenue generation and cost recovery strategies, recommended tariff-/ fare-/ user fee or user charges-level mechanism based on user pays principle and financing mechanism, incentives/ subsidies (if any)/concessionaire (if feasible), governance performance requirements, etc.;
- support Client and stakeholder authorities to incorporate in infrastructure/service design the
 adoption of value capture financing–VCF tools to generate revenue to fund future development
 proposals in a substantial manner, i.e., encouraging/supporting in building their capacities
 towards ensuring business models that are sustainable, and are adopted for such design;

Α.	National Key Experts
	 provide assistance to Client for the preparation of the first annual work plan and budget and for the subsequent Project's years as well as in any periodical reviews of detailed cash flow projections;
	 assist Client in preparing terms of reference for auditing all project accounts, recruit project auditor, and following up on the comments/recommendations of the auditor;
	 assist Client in preparing the Project financial progress reports as required by ADB; provide required inputs and information necessary for the preparation of periodical progress reports and project completion report to represent the performance of completed PRF;
	 provide advice on capacity building needs of Client and other stakeholder authorities' staff, review any economic prudence and financial management capacity building programs proposed by the suppliers of the FMS software, and provide assistance during the delivery of training sessions;
	 liaise with the Project Director, PMU-AMC, and other staff selected for the delivery of training in economic prudence and financial management under the Capacity Building Program and provide relevant inputs and material for training preparation as required;
	 provide inputs to monthly, quarterly, semi-annual and annual reports as needed, and support Client in baseline monitoring and timely compliance with any applicable loan covenants;
	 facilitate Client in the ensuing loan/project processing stage of work by undertaking due diligence of economic analyses and reviews, as per relevant ADB-guidelines/accepted formats and meeting ADB approval requirements;
	 contribute to programs on training/workshops/seminars/conferences, etc., based on sectoral expertise of the consultant, and impart training; and
	 any other tasks/ duties assigned by the national Team Leader/ Deputy Team Leader and/or the Client under PRF implementation.

S. No.	Positions of National Support Staff	Qualification Requirements	Experience
1.	Design Engineer(s)- Stormwater Drainage – 2 No's	B.Sc, B.E., or B. Tech. from a recognized University in Public Health Engineering/ Environment Engineering/ Civil Engineering/ Architectural Engineering or equivalent	5–7 years
2.	Design Engineer- Water Supply	B.Sc, B.E., or B. Tech. from a recognized University in Public Health Engineering/ Environment Engineering/ Civil Engineering/ Architectural Engineering or equivalent	5–7years
3.	Design Engineer- Urban Infrastructure Buildings, Water Bodies, Parks and Open Spaces	Bachelor's degree from a recognized University in Civil Engineering/ Environmental Engineering/ Public Health Engineering/ Architecture/ Architectural Engineering or equivalent	5–7 years
4.	Design Engineer(s)- Urban Roads/ Pavement– 2 No's	Bachelor's degree from a recognized University in Civil Engineering/Transportation Engineering/Architectural Engineering or equivalent	5–7 years

Table 6: Support Staff Positions–Qualifications and Experience Requirements^a

S. No.	Positions of National Support Staff	Qualification Requirements	Experience
5.	Landscape Architect Support	Preferably a Master's degree in Landscape Architecture/ Architectural Design/ Urban Design or equivalent; over a basic degree of Bachelor's from a recognized University in Architecture/Architectural Engineering or equivalent	5–7 years
6.	Geotechnical Engineer	Master's degree in Geotechnical Engineering/ Engineering Geology or equivalent; over a basic Bachelor's degree from a recognized University in Geotechnical Engineering/ Engineering Geology or equivalent	8–10 years of professional experience in the relevant field (geotechnical investigations, testing etc.)
7.	Structural Engineer	Preferably a Master's degree in Structural Engineering/Civil Engineering/ Architectural Engineering or equivalent; over a basic degree of Bachelor's from a recognized University in Civil Engineering/ Mechanical Engineering/ Architecture/ Architectural Engineering or equivalent.	8–10 years(Shall be conversant with use of latest structural design software tools, and undertaking designs of structural elements in integrated urban sector)
8.	Electro-Mechanical Engineer (Water Systems/ Street Lighting)	BSc, B.E., or B. Tech. from a recognized University in Mechanical Engineering/ Electrical Engineering or equivalent	10 years (Pumping Machinery) Preferably 5 years (Water Pumping Systems)
9.	Socio-Economic Surveyor	Preferably a Master's degree in Social Science/ Urban Planning or equivalent; over a basic degree of BSc, BA, B.E. or B.Tech. from a recognized University in Social Science/ Physical Planning/ Civil Engineering or equivalent	 10 years (Socio-economic survey/demand surveys/ inventory of loss survey/willingness-to-pay surveys, etc.) Preferably 5 years (GIS- based urban surveys, including experience in Mobile based Apps, collecting field data, geo coding population demographics for integrated urban sector projects)
10.	Geographic Information System (GIS) Analyst	Preferably a Master's degree in GIS & RS/ Geography/ Geology/ Geophysics/ Geo- informatics or equivalent; with a basic degree of BA/ BSc, B.E., or B. Tech. from a recognized University in Civil Engineering/ Architectural Engineering/ Computer Engineering/ Geography/ GIS & RS/ Geology/ Geophysics or equivalent	8–10 years
11.	GIS Operator	BA/ BSc, B.E., or B. Tech. from a recognized University in Civil Engineering/	5–7 years

S. No.	Positions of National Support Staff	Qualification Requirements	Experience
		Architectural Engineering/ Geography/ GIS &RS/ Geology/ Geophysics/ Computer-Aided Design or equivalent	
12.	Quantity Surveyor(s) – 2 No's	B.E. from a recognized University or Diploma in Civil Engineering/ Architectural Engineering/ Mechanical Engineering/ Electrical Engineering/ Quantity Surveying or equivalent	5 years (B.E.) 10 years (Diploma) [Urban Infrastructure- Water Supply/ Drainage/Electro- Mechanical, Transportation, and Other Related Infrastructure]
13.	Office Manager-cum- Accountant	BA/ BSc/ B. Com/ BBA/ CA or equivalent	5–7 years
14.	ACAD Draughtsman – 3 No's	Diploma in Civil Engineering/ Architectural Engineering/ Computer Science/ Computer-Aided Design or equivalent	5–7 years (Experience of working on GIS software like, Arcinfo, Geomatica, etc., is desirable)
15.	Data Processing and Reprographic Operator(s) – 3 No's	Diploma/ ITI Certificate in Computer Typing/ Stenography or equivalent	3–5 years
16.	Office Assistant(s) – 3 No's	BA/ BSc/ B. Com/ Diploma or any other Graduate equivalent	3–5 years

ACAD = computer-aided design and drawing software (by Autodesk).

^a These experts will not be rated. Their deployment, however, will be subject to the Client's prior approval w.r.t. meeting the above-stated qualification and experience requirements.

VI. OTHER RELEVANT INFORMATION

A. General Requirements

25. The consulting firm will provide for the duration of the proposed consulting services work under integrated urban development for Agartala city, the full person-months' time input as set out in their technical proposal. The PDMC will be attached to and be based with its office within the premises of PMU-AMC in the capital city Agartala, from where the consultants will carry out their duties. The Consultants will work alongside the Client's Staff, Client-designated Working Groups/ Committees, concerned district authorities and other stakeholder authorities, other stateappointed Consultants, and central agencies like, NEC/ MDONER/ MOHUA, etc., to have frequent interactions to understand project requirements that would facilitate undertaking proposed consulting services work and which would be useful for subsequent project implementation through the ensuing loan(s)/project(s). The PDMC will also assist and carry out on-the-job training as a routine part of their activities as well as part of the identified institutional strengthening and capacity building programs based on the PDMC review of the institutional structure and organizational/human resource capacities. In addition, for the purpose of effective and efficient execution of the PRF, and as felt required by the Client, the PDMC consulting firm should closely interact with the designated ADB staff and TA consultants/TA consulting firm.

26. It is expected that the consulting firm/consultant experts will have as many as possible of the following credentials:

- relevant general management or technical education and background;
- a thorough understanding of the systems, procedures guiding the implementation, management, and administration of loan projects supported by the ADB, following ADB accepted formats and meeting ADB approval requirements;
- practical working experience in the management and administration of projects supported by the ADB, at the field level and its project management and administration;
- a thorough working experience of the management and administration of externally-aided or multilateral development bank projects in India;
- have a demonstrated ability to work closely and effectively together with counterpart Staff of EA/ IA, and public sector organizations in South Asia; and
- have overall extensive in-country experience (including experience in the north eastern region from geographical experience perspective, considering it as a hilly region that is also part of the larger Himalayan region) in undertaking tasks for project formulation/ planning, integrated urban planning/regional planning/ transport planning/ infrastructure planning and strategy development, prefeasibility/ feasibility studies along with prioritization framework and matrix/ subproject selection criteria preparation and prioritization of subprojects, investment plans/ action plans, detailed engineering design, procurement processing and procurement management, institutional reviews and institutionaland/or municipal governance-strengthening (along with governance performance requirements)/municipal reforms (administrative/ technical/ financial sustainability/ personnel/ O&M-related/ e-Governance etc.)/capacity building activities (including technical capacity building and on-the-job training sessions), and exposure to understanding of project implementation, including construction supervision and contract management/ project management—to undertake appropriate preparation of planning/ design solutions, to realistically assess project procurement requirements and prepare contract management plans under the PRF Project.

27. The PDMC in consultation with Client shall also coordinate and collect data from line departments, to meet necessary data inputs for undertaking tasks under the scope of services of proposed consulting services package.

28. All project documentation for the PRF Project will be in the English language, with translation into local languages as required. In particular all training manuals, etc., will be both in English and local languages; while, for on-the-job training, the use of the English language is preferred.

- 29. The PDMC consulting firm shall be responsible to:
 - procure items of furnishing/ refurbishment of office space with furniture, computers, data processing capacity (any licensed software/ hardware), printing equipment, presentation equipment, other equipment, etc., in consultation with and prior approval of the Employer and which are felt necessary/ considering judicious use requirement of the Employer (both during the and post-completion of consulting assignment), for setting-up and maintenance of its office at Agartala. These being

property of the Employer, PDMC must handover the same in acceptable condition to the satisfaction of PMU-AMC on completion of the consulting assignment. The costs of any such computers/ equipment would be inclusive of insurance over the assignment period.

[Note: While, all regular design and drawing software, and related-hardware cost is considered to be included in firm's consultancy fee; the output and deliverables in required file formats being property of the Client, PDMC shall handover the same in updated/ working condition to the satisfaction of PMU-AMC on completion of the consulting assignment.];

- arrange for all transportation and travelling required for study of Agartala city (not only in AMC or Agartala Master Plan area but throughout the Greater Agartala Planning Area–for better understanding and comprehension of PRF Project requirements and potential solutions that may have any cross-jurisdictional/ cross spatial implications, including any identified/ proposed surface water sources outside of Agartala city) in the State of Tripura, and to other cities outside the State for any review meetings/training/workshops/ seminars/ conferences, etc., and the travel costs should be inclusive of travel insurance cost, which shall take into account possible travel-related risk due to COVID-19 pandemic;
- prepare/ arrange for collecting/ collating/ validating data and information; and any surveys/ investigations, studies/ reports etc.; as judicious inputs—to arrive at desirable outputs and outcomes under the consulting services; and
- prepare/arrange for any training material, printouts, knowledge products/ database repository, etc., required for undertaking the consulting services, and maintaining them on a continuous basis till the end of the PDMC assignment.

B. Government Inputs

30. The state's executing agency–UDD, GOT, and implementing agency–AMC, with PMU-AMC constituted with members from AMC/ outsourced, will provide suitable and adequate strength of dedicated counterpart staff deployed to work in the PMU-AMC as indicated below (Table 7). The government will also make available to the selected Consultant, the support facilities physically located in the PMU-AMC premises for their office at Agartala, including all relevant and available study reports/ master plan/ city development plan/ sector plans/ survey reports/ topographical survey maps/ technical investigation reports, etc., any policy papers/ strategy papers/ guidelines/ schedule of rates with rate analyses methods and other related documents, maps/ GIS-database(s), photographs, etc. The actual disposition and number of counterpart staff will be determined together at the time of contract negotiation process with the PDMC consulting firm.

S. No.	Positions	Designation
1.	Project Director	Municipal Commissioner, AMC
2.	Additional Project Director	SE, AMC
3.	Deputy Project Director	EE, PD, AMC

Table 7: Counterpart Staffing for PMU-AMC under Agartala Municipal Corporation PRF⁴⁸

⁴⁸ UDD, GOT, Notification No. F.774/EE/PD/AMC/2022, dated 02/02/2022, Agartala. The Consultant should refer to any amendment made over time to PMU set-up notification by the EA, for effective realization of consultations and support to be sought from various stakeholders designated as counterpart staff.

S. No.	Positions	Designation
4.	Accounts Officer	AO, AMC
5.	IT Assistant - 1 No.	Will be outsourced
6.	Technical Assistant, Civil - 2 No's	From existing resource of AMC
7.	Office Assistant - 1 No.	Will be outsourced

AMC = Agartala Municipal Corporation, AO = Accounts Officer, EE = Executive Engineer, IT = information technology, PD = Planning Division, PMU = project management unit, PRF = project readiness financing, SE = Superintending Engineer.

31. **Information to facilitate Proposal preparation**. The Client in consultation with the concerned district authorities, and other stakeholder authorities, as felt required, will make best efforts in providing all relevant and available reports, master plan/city development plan/sector plans, maps, documents, etc., to facilitate the consulting firm for making a proposal.

33. PMU-AMC shall provide appropriate unfurnished office space in Agartala for establishing the PDMC consulting firm's office at Agartala, so as to carry out all the activities/ tasks by the consulting team for the PDMC assignment from this office in the field at Agartala. While, the office space would be provided without any rentals; the water charges, electricity bills, etc., are to be borne by PDMC.

TERMS OF REFERENCE (TOR) Consulting Services (Individual Experts)

1. URBAN DEVELOPMENT EXPERT (PROJECT MANAGER)

Minimum Educational Qualification: Master's degree in Urban Planning/ Town Planning/ Urban Design/ Civil Engineering/ Environmental Engineering/ Business Administration or equivalent; over a Bachelor's degree in Engineering/ Architecture/ Architectural Engineering/ Physical Planning or equivalent.

Professional Experience: Shall have at least 15 years of general experience and 10 years of specific experience in project preparation/ planning/ implementation of urban/ regional/ transport/ environment planning and/or urban design projects related to preparation and management of city/ town master plan(s), city development plan(s), city investment plans, urban roads (including facilities for pedestrianization and other non-motorized transport modes), urban services (water supply, sanitation, stormwater drainage, etc.), renewal and rehabilitation, urban regeneration/ revitalization/ rejuvenation, and relevant smart city urban projects. Exposure in procurement and contract management of integrated infrastructure projects is an added advantage.

Work experience of five years with any of the following project or project authority is desirable: UN umbrella organisation; externally aided project by multilateral development banks (ADB, The World Bank, NDB, etc.)/ bilateral agencies (JICA, DFID, GIZ, etc.); in integrated urban sector. Demonstrated knowledge of the current procurement policy/ regulations/ procedures of ADB would be preferred.

Three years of work experience in North East Region or similar hill states or geographic locations in the Himalayan Region (e.g., Uttarakhand, Himachal Pradesh, UT of Jammu & Kashmir, UT of Ladakh, etc.) in India is an added advantage.

SCOPE OF WORK

The **Urban Development Expert (Project Manager)** will support/assist/facilitate the EA/ IA in coordination and conceptualization of the requirements for integrated urban sector components with respect to project management support in the PMU-AMC, including facilitation for review of urban strategy for Agartala city, prioritization of subprojects/ subproject work components, and investment plan and action plan. The consultant will also be responsible for validation of technical documents/ reports produced by the PDMC consulting firm, support in PDMC contract management, compliance of PRF loan covenants, procurement processing-related activities, support in PRF Project progress monitoring and overall PRF implementation, loan processing support, etc.

DETAILED TASKS AND EXPECTED OUTPUTS

Under the supervision of Additional Project Director, and in consultation with the Project Director/, and in coordination with the Deputy Project Director/ Nodal Officer and the other national individual consultants, the expert will support/ assist/ facilitate the EA/ IA and PMU-AMC in:

 the overall objective of the PRF and assist the EA/ IA in achieving those objectives by providing inputs in all project management activities;

- conceptualization of requirements for integrated urban sector components in the PMU-AMC, including facilitation for review of urban strategy for Agartala city, prioritization of subprojects/ subproject work components, and city investment plan and action plan;
- bridging technical consensus and supplementing project related decision-making for this integrated urban sector AMIDP PRF amongst the key stakeholders including inter-departmental liaising, coordination and resolution;
- ensuring cooperation and consultations on project related nuances for the integrated urban sector AMIDP PRF amongst officials/ staff/ designates from UDD/ AMC, Agartala Smart City Limited (ASCL)/ PMU for Agartala City Urban Development Project (ACUDP)/ TRTA Consultants under ACUDP, PWD (WR/ DWS Wings), other line departments, local authorities, other nearby urban local bodies (ULBs)/ village councils (VCs), other PDMC firms/ national individual consultants in Tripura (including those supporting ongoing PRFs), NEC, MDONER, MOHUA, ADB/ TA Team, statutory body(ies), voluntary organisations, and any other stakeholder;
- ensuring specific integrated urban sector AMIDP PRF related compliance of loan covenants, from loan agreement and project agreement, project administration manual, safeguard framework(s), etc.;
- ensuring satisfactory attainment of the desired integrated urban sector AMIDP PRF outlined outputs within set time frame(s) and report accordingly the status/ progress and performance;
- ensuring attainment of service level performance and coverage for drinking water, urban roads/ footpaths/ street lighting/ foot-over-bridge integrated with storm water drainage, parks and open spaces along with water bodies, etc., while preparing the city investment plan and action plan, feasibility studies and DPRs;
- overall, ensuring adequate expertise deployments, monitoring activities/ tasks, and auditing/ validating technical outputs of the PDMC firm under PRF regarding its deliverables against the scope of work or any other agreed activity assigned to it thereof;
- overview preparation and (re)validation of technical documents/ reports produced by the PDMC firm and/or any other designated agency, it shall cover pre-feasibility reports, proof of concepts, concept designs/ plans, appraisal reports, feasibility reports, detailed project reports with cost estimates, specifications, drawings, etc.; extend relevant technical support (e.g., review of cost norms or cost estimation based on State SORs/ methods for rate analysis/ market rates, etc.; support in identification of construction materials and potential availability of material sources, etc.), for prioritized subprojects;
- supervise/ coordinate/ facilitate strategic procurement planning (SPP) process, and review the output(s) of the PDMC firm under PRF on SPP Study (wherein SPP Workshop is conducted, with discussion on/ assessment of contract management support required), procurement strategy and SPP Study Report prepared; Contract Management Plan(s) prepared during pre-contract award stage for finalized subproject contract packages for the ensuing project (proportional to complexity, risk, and value of the contract);
- supervise procurement support to EA/ IA in contract management of services of PDMC firm, survey agencies, equipment suppliers or vendors, contractors for subproject contract packages, etc., as applicable, including contract administration activities like, performance management, payment verification for claim

processing, change management (i.e., need for contract variations/ review of contract variations, change impacts on quality/ cost/ time, etc.), claim and dispute management, contract closing, etc.;

- support EA/ IA in reviewing and finalizing the procurement plan prepared by the PDMC firm for all goods, works and services to be taken up during the ensuing project/ prioritized subprojects, including periodic updation of procurement plan;
- support EA/ IA in reviewing and finalizing the bid documents, complete in all respects of supporting documentation/ attachments;
- support EA/ IA in review of bid evaluation reports (technical/ financial) and related transactions till contract award;
- supervise/ follow-up on procurement evaluation and/or approval, and collaborate with Nodal Officer to facilitate the PMU-AMC in addressing/ learning from review comments/ recommendations received from ADB on procurement processing;
- commissioning, proof checking, monitoring and auditing quality of outputs of field/ sectoral surveys, investigations, studies, scientific analyses, polls, etc., proposed by the PDMC firm for ensuing project/ prioritized subprojects;
- case-by-case, reviewing and validating final engineering/ architectural designs, drawings, specifications, bill of quantities, rate analysis, cost norms, adoption of SORs, design standards/ best practice compliances, sustainable approaches, economic/ financial analyses, etc., proposed by the PDMC firm and/or any other designated agency;
- supervising and continually monitoring the progress of the PRF Project, and overseeing preparation and updation of information in the design and monitoring framework (DMF) including baseline measurement, data collection (including sexdisaggregated data for baseline and onward monitoring), collation and analyses for the ensuing project/ subprojects;
- authorizing and monitoring the output reporting requirements, earmarked deliverables, key milestones, project time-keeping and expertise deployments of the PDMC firm, and facilitating PMU-AMC through verification of PDMC invoice claim processing on time efforts made and quality of outputs/ deliverables received;
- progress monitoring (monthly/ quarterly/ semi-annual/ annual, as applicable), including status of service level benchmark monitoring during PRF implementation;
- disbursing training, capacity and knowledge development of Staff in EA/ IA and PMU-AMC in the integrated urban planning and development sectoral subject matter;
- ensuring, on behalf of the government for the PDMC firm, provision of support facilities, access to documents/ database or knowledge repositories/ statutory documents, cooperation amongst stakeholders/ government departments;
- updating information specific to review of urban strategy for Agartala city state's in the context of State's urban sector review with ADB/ TAs/ TA consulting firm/ resource person(s);
- advising in filtering ensuing project/ prioritized subprojects based on the integrated urban sector priorities, readiness, financing potentiality, etc.;
- overseeing/ preparation and validation of draft TOR and EOI for selection of Third-Party Quality Audit Consultant and/or Implementation Supervision Consultant firm(s) for the ensuing project; and
- any other task as assigned by the PMU-AMC from time to time under the PRF, including during the ensuing loan processing.

2. **PROCUREMENT AND CONTRACT MANAGEMENT EXPERT**

Minimum Educational Qualification: Preferably a Master's degree in Civil Engineering/ Mechanical Engineering/ Electrical Engineering/ Law/ Contracts Procurement and Management or equivalent; over a basic Bachelor's degree from a recognized University with a major in Civil Engineering/ Architectural Engineering/ Mechanical Engineering/ Electrical Engineering/ Law/ Purchasing, Contracts, and Business Management or equivalent.

Professional Experience: Shall have 15 years' general experience and 10 years' specific experience in procurement and contract management for major civil works and goods projects, and consulting services, with proven credentials in procurement management in public sector. Knowledge of ADB Procurement Policy, Regulations, Standard Bidding Documents (SBDs with required addendum wording for site-specific health and safety or HS COVID-19 Plan) and User Guides, Request for Quotation (RFQ)/ Standard Request for Proposal (SRFP), and Guidelines/ Guidance Notes issued by ADB, including those under the ADB's New Procurement Framework of 2017, such as Guidance Notes on Strategic Procurement Planning and Other Subjects, including training/ capacity building experience in procurement processes and procurement and contract management, and FIDIC experience, is desirable.

Work experience of five years with any of the following project or project authority is desirable: UN umbrella organisation; externally aided project by multilateral development banks (ADB, The World Bank, NDB, etc.)/ bilateral agencies (JICA, DFID, GIZ, etc.); in integrated urban sector. Demonstrated knowledge of full compliance to the current procurement policy/ regulations/ procedures of ADB, and familiarity with procurement related issues would be preferred.

Three years of work experience in North East Region or similar hill states or geographic locations in the Himalayan Region (e.g., Uttarakhand, Himachal Pradesh, UT of Jammu & Kashmir, UT of Ladakh, etc.) in India is an added advantage.

SCOPE OF WORK

The **Procurement and Contract Management Expert** will support/ assist/ facilitate the EA/ IA and PMU-AMC in procurement processes, and procurement and contract management, and in strengthening their procurement related institutional capacities through PRF implementation. This is to ensure that (i) all funds are used for the intended purpose, (ii) full compliance with ADB's Procurement Policy and the Procurement Regulations for ADB Borrowers, 2017 (as amended from time to time), Project Administration Manual, minutes of the loan negotiations, etc., (iii) procurement processing-related activities by the PDMC firm are reviewed/ appropriately finalized, and support in PRF Project progress monitoring and overall PRF implementation, compliance of PRF loan covenants, loan processing support, etc. is provided.

DETAILED TASKS AND EXPECTED OUTPUTS

Under the supervision of Additional Project Director, and in consultation with the Project Director/, and in coordination with the Deputy Project Director/ Nodal Officer and the other

national individual consultants, the expert will support/ assist/ facilitate the EA/ IA and PMU-AMC in:

- provide handholding support and training to the EA/ IA in procurement processes/ procedure and contract management, in due consultation with Agartala Smart City Limited (ASCL)/ PMU for Agartala City Urban Development Project (ACUDP)/ TRTA Consultants under ACUDP, other PDMC firms/ national individual consultants in Tripura (including those supporting ongoing PRFs), and ADB/ TA Team;
- support PMU-AMC in improving contract management and contractors and consultants' performance evaluation systems;
- conduct periodic analysis of the execution of the contract and disbursement projections and provide analysis of any significant variances between planned vs actual expenditures;
- coordinate/ facilitate strategic procurement planning (SPP) process, and review the output(s) of the PDMC firm under PRF on SPP Study (wherein SPP Workshop is conducted, with discussion on/ assessment of contract management support required), procurement strategy and SPP Study Report prepared; Contract Management Plan(s) prepared during pre-contract award stage for finalized subproject contract packages for the ensuing project (proportional to complexity, risk, and value of the contract);
- provide procurement support to EA/ IA in contract management of services of PDMC firm, survey agencies, equipment suppliers or vendors, etc., as applicable, including contract administration activities like, performance management, payment verification for claim processing, change management (i.e., need for contract variations/ review of contract variations, change impacts on quality/ cost/ time, etc.), claim and dispute management, contract closing, etc.;
- support the EA/ IA in approving procurement plan, its updating over time; conduct an analysis of the financial execution of the approved procurement plan and budget, disbursement projections as well as financial vs physical progress; and analyze and document any significant variations;
- support EA/ IA in reviewing and finalizing the bid documents, complete in all respects of supporting documentation/ attachments;
- support EA/ IA in review of bid evaluation reports (technical/ financial) and related transactions till contract award;
- support/ follow-up on procurement evaluation and/or approval, and collaborate with Nodal Officer to facilitate the PMU-AMC in addressing/ learning from review comments/ recommendations received from ADB on procurement processing;
- assist the PMU-AMC in preparing contract management information and analysis to be included in the quarterly progress reports (QPRs) in an agreed format to be submitted to ADB, including PMU-AMC/ State level monitoring through monthly project reports (MPRs);
- provide support/ advice to PMU-AMC in managing eventual contractor's claims for subproject contract packages, taking due consideration to contractual clauses, finalization of draft contract management plan(s), etc.;
- provide support to EA/ IA and ADB team during Project Review Missions through meaningful participation in discussions regarding procurement and contract management related matters for timely inputs to the aide-memoire to be prepared by ADB;

- coordinate with Urban Development Expert (Project Manager) in delivering/ review of any project activities/ outputs related to procurement and contract management, as and when required; and
- any other task as assigned by the PMU-AMC from time to time under the PRF, including during the ensuing loan processing.

3. ENVIRONMENT SAFEGUARDS EXPERT

Minimum Educational Qualification: Preferably a Master's degree in Environmental Science/ Environmental Planning/ Environmental Engineering/ Civil Engineering or equivalent; over a basic degree of Bachelor's from a recognized University in Natural or Environmental Science/ Environmental Engineering/ Physical Planning/ Architecture/ Architectural Engineering/ Civil Engineering or equivalent.

Professional Experience: Shall have 15 years of general experience; and 10 years of specific experience in planning, designing, implementation, and monitoring of comprehensive environmental management plan (EMP, including health and safety management plan updated as site-specific health and safety management plan updated during COVID-19 pandemic), initial environmental examination (IEE)/ environmental impact assessment (EIA), and other categorization/ readiness checklists, etc.

Work experience of five years with any of the following project or project authority is desirable: UN umbrella organisation; externally aided project by multilateral development banks (ADB, The World Bank, NDB, etc.)/ bilateral agencies (JICA, DFID, GIZ, etc.); in integrated urban sector. Knowledge of ADB Safeguard Policy Statement 2009/ environmental policy and frameworks, and experience with the application of ADB environmental guidelines is an added advantage. Excellent verbal and written communication skills in English are desirable.

Three years of work experience in North East Region or similar hill states or geographic locations in the Himalayan Region (e.g., Uttarakhand, Himachal Pradesh, UT of Jammu & Kashmir, UT of Ladakh, etc.) in India is an added advantage.

SCOPE OF WORK

The **Environment Safeguards Expert** will support/ assist/ facilitate the EA/ IA and PMU-AMC in coordination and reporting of environmental safeguards activities, including stakeholder consultations, and supervise, facilitate and review PDMC consulting firm's outputs from environmental safeguards perspective on integrated urban sector subprojects. The consultant will also be responsible for validation of environmental safeguards documents/ monitoring reports produced by the PDMC firm, progress monitoring, project related compliance from PRF loan covenants, loan processing support, etc.

DETAILED TASKS AND EXPECTED OUTPUTS

Under the supervision of Additional Project Director, and in consultation with the Project Director/, and in coordination with the Deputy Project Director/ Nodal Officer and the other

national individual consultants, the expert will support/ assist/ facilitate the EA/ IA and PMU-AMC in:

- stakeholder consultations, and supervise, facilitate and review PDMC firm's outputs to the EA/ IA from environmental safeguards perspective on integrated urban sector subprojects, viz. environmental screening/ categorization/ assessment checklists, IEE/ EIA documentation, inputs for implementation of the comprehensive EMP using the compliance monitoring checklist included in the IEE/ EIA, SPRSS assessment, comprehensive EMP [including HSMP updated as site-specific health and safety management plan (SSHSMP) with site-specific health and safety COVID-19 plan (HS COVID-19 Plan)] in the bidding documents in ADB accepted formats/ templates, and its monitoring status for compliance under PRF Project, in due consultation with Agartala Smart City Limited (ASCL)/ PMU for Agartala City Urban Development Project (ACUDP)/ TRTA Consultants under ACUDP, other PDMC firms/ national individual consultants in Tripura (including those supporting ongoing PRFs), and ADB/ TA Team;
- facilitate to arrive at/ update an initial readiness status when reviewing prioritization of subprojects/ work components for Agartala city/ in nearby urban areas, based on initial information available for necessary facts like, water resource/ forest land/ State PCB and all other environmental norms etc., related no-objection certificates (NOCs) and/or any environmental clearances etc.
- facilitate to establish the baseline measurement [towards finalizing design and monitoring framework (DMF) for the ensuing project(s)] duly incorporating considerations to monitor environmental safeguards of the project, and review and finalize indicators for monitoring important parameters of environmental safeguards, and to supervise the pre-commissioning baseline monitoring process following the mitigation and monitoring guidelines provided in the IEE/ EIA;
- coordinate and organize analysis of water, air and soils as specified in the comprehensive EMP, and review the analysis reports;
- supervise and review the monitoring report on effectiveness of management of any waste/ debris generated from existing infrastructure/ utilities being removed/ rehabilitated, paying attention to the handling of removed debris until disposal or recycling, and landscaping/ beautification;
- review and finalize reporting formats to be further used by PMU-AMC for environmental safeguards monitoring, and supervise monitoring and make sure that results of progress monitoring are reported (monthly/ quarterly/ semi-annual/ annual, as applicable); and later in the project completion report of the EA to represent the performance of competed PRF for submission to ADB, as required, while duly ensuring that these follow ADB accepted formats/ templates;
- ensuring specific integrated urban sector PRF related compliance of loan covenants, from loan agreement and project agreement, project administration manual, environmental safeguard framework(s), etc.;
- guide the implementation and monitoring of the comprehensive EMP, including ensuring any mitigation measures as recommended are implemented during the pre-construction period. This also includes to review any EIA conducted, where required, and facilitation during approval from relevant authorities;
- coordinate and facilitate the PMU-AMC in dealing with the concerned Roads/ Police Department for the preparation of traffic emergency plans and temporary diversion of traffic to be planned for adoption during construction, with minimal inconvenience to public and impacts;

- review inputs and methodology provided by the PDMC firm to PMU-AMC for:

 preparing and maintaining a grievance redressal mechanism, (ii) establishing a grievance redressal committee (GRC), and (iii) carrying-out monitoring on effectiveness, to ensure that GRC will have strong female representation, and the grievance redressal process is implemented effectively, according to the plan and schedule in the IEE/ EIA;
- review and finalize procedures to document and record the grievances and sensitize the authorities, on the communication strategy and grievance redress mechanism, which includes the notification, arranging the GRC meetings and recording/ maintaining the grievance in a database;
- facilitate the PMU-AMC in any additional studies, including topographical surveys, geo-technical investigations, and demand/socio-economic/willingness-to-pay surveys etc., and any environmental/ social safeguards surveys, etc., as the needs arise; duly ensuring that not only sustainability, facility inclusiveness, affordability, and gender equality and social inclusiveness responsive elements to develop urban services management (where applicable) have been incorporated, but also ensuring that climate and disaster resilience aspects with risk avoidance/ minimization, adaptation and/or mitigation measures have been duly incorporated in the planning and detailed engineering designs for integrated urban sector subprojects by the PDMC firm, along with climate financing contribution under PRF Project;
- coordinate structured program sessions for capacity building through training/ workshops/ seminars/ conferences, etc., facilitate in training activities, and impart training in environmental safeguard aspects for integrated urban sector in PMU-AMC;
- facilitate in preparation and validation of draft TOR and EOI for selection of Third-Party Quality Audit Consultant and/or Implementation Supervision Consultant firm(s) for the ensuing project(s);
- coordinate with Urban Development Expert (Project Manager) in delivering/ review of any project activities/ outputs, as and when required; and
- any other task as assigned by the PMU-AMC from time to time under the PRF, including during the ensuing loan processing.

4. SOCIAL SAFEGUARDS EXPERT

Minimum Educational Qualification: Master's degree in Social Science/ Sociology/ Anthropology/ Gender or Development Studies or equivalent; over a Bachelor's degree in Social Science/ Sociology/ Anthropology or equivalent.

Professional Experience: Shall have 15 years of general experience and 10 years of specific experience as social safeguards/ resettlement expert with exposure in gender analysis/ sensitization/ mainstreaming/ gender equality and social inclusion (GESI) aspects in development of integrated urban sector or similar major infrastructure projects in–project formulation, planning, designing, implementation, management, and monitoring-appraisal-evaluation of social safeguard framework, social categorization and other checklists, summary poverty reduction and social strategy (SPRSS), health and safety management plan (HSMP)/ site-specific health and safety management plan (SSHSMP) with site-specific health and safety COVID-19 plan (HS COVID-19 Plan), land acquisition and resettlement plan (RP) and related due diligence reports (DDRs),

Indigenous Peoples plan (IPP), gender action plan (GAP)/ GESI action plan (GESI AP), etc.

Work experience of five years with any of the following project or project authority shall be preferred: UN umbrella organisation; externally aided project by multilateral development banks (ADB, The World Bank, NDB, etc.)/ bilateral agencies (JICA, DFID, GIZ, etc.); in integrated urban sector. Knowledge of ADB Safeguard Policy Statement 2009 (as amended from time to time), experience with the application of ADB safeguard policy/ assessments/ frameworks, social guidelines, and necessary social safeguard document preparation and monitoring for compliance is desirable. Shall possess up-to-date knowledge of laws and regulations of India on land acquisition and compensation, resettlement and rehabilitation, and related activities. Excellent verbal and written communication skills in English are desirable.

Three years of work experience in North East Region or similar hill states or geographic locations in the Himalayan Region (e.g., Uttarakhand, Himachal Pradesh, UT of Jammu & Kashmir, UT of Ladakh, etc.) in India is an added advantage.

SCOPE OF WORK

The **Social Safeguards Expert** will support/ assist/ facilitate the EA/ IA and PMU-AMC in coordination and reporting of social safeguards activities, including gender equality and social inclusiveness approaches, covering: stakeholder consultations, and supervise, facilitate and review PDMC consulting firm's outputs from social safeguards perspective on integrated urban sector subprojects. The consultant will also be responsible for validation of social safeguards and gender documents/ monitoring reports produced by the PDMC firm, progress monitoring, project related compliance from PRF loan covenants, loan processing support, etc.

DETAILED TASKS AND EXPECTED OUTPUTS

Under the supervision of Additional Project Director, and in consultation with the Project Director/, and in coordination with the Deputy Project Director/ Nodal Officer and the other national individual consultants, the expert will support/ assist/ facilitate the EA/ IA and PMU-AMC in:

- stakeholder consultations, and supervise, facilitate and review PDMC firm's outputs to the EA/ IA from social safeguards perspective on integrated urban sector subprojects, viz. social screening/ categorization/ assessment checklists, SPRSS assessment, contribute to comprehensive EMP [including HSMP updated as site-specific health and safety management plan (SSHSMP) with site-specific health and safety COVID-19 plan (HS COVID-19 Plan)] in the bidding documents, and where required RP and related DDRs/ IPP, etc., in ADB accepted formats/ templates, and its monitoring status for compliance under PRF Project, in due consultation with Agartala Smart City Limited (ASCL)/ PMU for Agartala City Urban Development Project (ACUDP)/ TRTA Consultants under ACUDP, other PDMC firms/ national individual consultants in Tripura (including those supporting ongoing PRFs), and ADB/ TA Team;
- facilitate to arrive at/ update an initial readiness status when reviewing prioritization of subprojects/ work components for Agartala city/ in nearby urban areas, based on initial information available for necessary facts like, land ownership status to

ascertain clear land title, any further requirements for land etc. related no-objection certificates (NOCs), any resettlement/ rehabilitation requirements, etc.

- facilitate to establish the baseline measurement [towards finalizing design and monitoring framework (DMF) for the ensuing project(s)] duly incorporating considerations for gender equality and social inclusiveness responsive elements, a system to monitor social safeguards of the project, and review and finalize indicators for monitoring important parameters of social safeguards/ gender equality and social inclusion (GESI) aspects;
- facilitate to take proactive action to anticipate the potential resettlement requirements of the project to avoid delays in implementation; review and finalization of database of all the affected households and their eligibility and entitlement based on the final RP; and facilitate in disbursement of compensation and assistance and ensure that affected persons are compensated as per the RP prior to commencement of civil works in relevant section;
- review and finalize RP and related DDRs/ IPP monitoring report template and develop monitoring indicators, and monitor and evaluate the effectiveness with which the RP/ IPP is implemented, and recommend necessary corrective actions to be taken; and facilitate PMU-AMC to take corrective measures, where necessary;
- review and finalize reporting formats to be further used by PMU-AMC for social safeguards monitoring, GESI indicators, and supervise monitoring and make sure that results of progress monitoring are reported (monthly/ quarterly/ semi-annual/ annual, as applicable), including the implementation of any land acquisition in the project; and later in the project completion report of the EA to represent the performance of competed PRF for submission to ADB, as required, while duly ensuring that these follow ADB accepted formats/ templates;
- ensuring specific integrated urban sector PRF related compliance of loan covenants, from loan agreement and project agreement, project administration manual, safeguard framework(s), etc.;
- assist the PMU-AMC in review and finalization of gender analysis and assessment of GESI aspects (including potential actions for EWCDT–elderly, women, children, differently-abled, and transgender facilities), and design of gender action plan (GAP)/ GESI action plan (GESI AP) and to comply with the GAP/ GESI AP attached to the project for women from most marginalized groups of society or specific actions for individual subprojects, relevant policies of the Government of India/ state government, and facilitate inclusion of gender mainstreaming in the review of state policies and strategies for integrated urban sector;
- support in capacity building for gender mainstreaming activities under the project at each level; review and monitor–GAP/ GESI AP implementation progress, collected data disaggregated by sex, and finalize/ submit update on progress and achievements;
- coordinate and facilitate the PMU-AMC in dealing with the concerned Roads/ Police Department for the preparation of traffic emergency plans and temporary diversion of traffic to be planned for adoption during construction, with minimal inconvenience to public and impacts;
- review inputs and methodology provided by the PDMC firm to PMU-AMC for: (i) preparing and maintaining a grievance redressal mechanism, (ii) establishing a grievance redressal committee (GRC), and (iii) carrying-out monitoring on

effectiveness, to ensure that GRC will have strong female representation, and the grievance redressal process is implemented effectively;

- review and finalize procedures to document and record the grievances and sensitize the authorities, on the communication strategy and grievance redress mechanism, which includes the notification, arranging the GRC meetings and recording/ maintaining the grievance in a database;
- facilitate the PMU-AMC in any additional studies, including topographical surveys, geo-technical investigations, and demand/socio-economic/willingness-to-pay surveys etc., and any environmental/ social safeguards surveys, etc., as the needs arise; duly ensuring that not only sustainability, facility inclusiveness, affordability, and gender equality and social inclusiveness responsive elements to develop urban services management (where applicable) have been incorporated, but also ensuring that climate and disaster resilience aspects with risk avoidance/ minimization, adaptation and/or mitigation measures have been duly incorporated in the planning and detailed engineering designs for integrated urban sector subprojects by the PDMC firm under PRF Project;
- coordinate structured program sessions for capacity building through training/ workshops/ seminars/ conferences, etc., facilitate in training activities, and impart training in social safeguard and GESI aspects for integrated urban sector in PMU-AMC;
- facilitate in preparation and validation of draft TOR and EOI for selection of Third-Party Quality Audit Consultant and/or Implementation Supervision Consultant firm(s) for the ensuing project(s);
- coordinate with Urban Development Expert (Project Manager) in delivering/ review of any project activities/ outputs, as and when required; and
- any other task as assigned by the PMU-AMC from time to time under the PRF, including during the ensuing loan processing.

5. FINANCIAL MANAGEMENT EXPERT

Minimum Educational Qualification: Must be a graduate from recognised universities of India and chartered accountant duly qualified from a professional accounting body (PAO) recognized by the international federation of accountants (IFAC) (e.g., CA/CPA/ACCA).

Professional Experience: Possess 10 years of professional practice experience focusing financial reporting in India with at least 8 years of specific experience in dealing with accounting matters. A strong exposure on relevant reporting standards framework including accounting standards prevalent in India (e.g., IND-AS, Accounting Standards issued by ICAI and Government accounting Standards) or having working knowledge on International Financial Reporting Standards (IFRS) or International Public Sector Accounting Standards (IPSAS) would be essential.

To be able to deal with complex situations on accounting and financial reporting matters the candidate ideally should have been trained and or associated with a well-established reputed firm of chartered accountants in India or abroad in capacity of a senior role for considerable period of time.

Diverse exposure into industries' sectors such as public sector/ private sector operations, regulatory/ nonregulatory financial institutions, manufacturing, utility set-ups, on related

financial accounting or auditing assignments within computerized environment will help in streamlining the present manual set up of EA and would be highly desirable.

Sound and proven formal communication skills (Verbal and Written both).

Should be excellent in written and fluent over spoken English and working knowledge on Hindi, and also preferably proficient in dealing with Bengali transcripts.

To act as a team player is essential and prior work experience in design and implementation of external-aided/ MDB projects in integrated urban infrastructure sectors is desirable.

SCOPE OF WORK

The **Financial Management Expert** will support/ assist/ facilitate the EA/ IA and PMU-AMC in establishing robust financial management system, preparing disbursement schedules and annual work plan, finalise project cost estimates, perform overall financial due diligence to include financial analysis, and financial management assessment. The consultant will also be responsible and supervise, facilitate and review of PDMC consulting firm's outputs; and support in annual project financial statements/ audited entity financial statements, billing withdrawal applications, loan related compliance of PRF loan covenants, etc.

DETAILED TASKS AND EXPECTED OUTPUTS

Under the supervision of Additional Project Director, and in consultation with the Project Director/, and in coordination with the Deputy Project Director/ Nodal Officer and the other national individual consultants, and in consultation with ADB/ TA Team as felt required, the expert will support/assist/ facilitate the EA/ IA and PMU-AMC, in due consultation with Agartala Smart City Limited (ASCL)/ PMU for Agartala City Urban Development Project (ACUDP)/ TRTA Consultants under ACUDP, other PDMC firms/ national individual consultants in Tripura (including those supporting ongoing PRFs), and ADB/ TA Team, in the following tasks/ activities/ work outputs:

- Support project management unit (PMU) in compliance of applicable loan covenants related to financial management compliances of ADB.
- Should able to perform financial due diligence in accordance with ADB FM guidelines with respect to priority subprojects.
- Determine to assess, schedule to build capacity building (CB) programs and able to implement CB activities from the perspective of institutional strengthening and development on FM. This being a continuous activity, at regular interval review capacity of existing FM function at both state level and at AMC, i.e., ULB level. Deficiencies to be pointed out to the attention of ADB project lead immediately.
- At AMC, i.e., ULB level, time to time review the FM status to cover aspects on robust accounting and reporting requirements.
- Provide inputs for preparing disbursement schedules based on actual work done duly mapped with overall budgets and work plan of the PMU.
- The candidate must follow guidelines relevant to FM function mentioned in project administration manual (PAM) at all times.

- Provide assistance to PMU/PIUs for the preparation of the first annual work plan and budget and for the subsequent years under PRF period, as applicable.
- Provide assistance to prepare loan withdrawal applications through client portal for disbursements (CPD) for reimbursement of eligible costs under the PRF.
- Propose procedures for setting-up and maintaining consolidated project accounts throughout the implementation of PRF, and which could be useful for the ensuing loan/project implementation, while duly ensuring that these follow guidelines/ accepted formats of ADB and/or government, as required.
- Suggest and set-up of a feasible robust financial management system (FMS) to including project financial information and accounting system to be used during the implementation of the PRF that is immediately implementable into the PRF and could be further integrated into the ensuing loan subsequently. Suggested system should enable in producing internal financial reporting system on a quarterly basis at the PIUs which will eventually support in preparation of an annual consolidated project financial statement.
- Any challenges to ensure compliance with ADB's project agreement section 2.09 on basic requirements like separate project records and to maintain regular book-keeping and accounting of the PRF by PMU/PIUs will be brought to the attention of ADB officials immediately. Support PMU in compliance for audit of annual financial statements of AMC to be completed for FY 2017 to FY 2021.
- Provide inputs and suggest PMU/PIUs in completing consolidated project financial statements (APFS) and arrange to submit the same to ADB through PMU/PIUs within covenanted time-period. Bottlenecks or delays anticipated during preparation process of PFS if any will be brought to the attention of ADB project officer immediately by keeping EA/PMU/PIU duly informed.
- Support PMU/PIU by designing adequate TOR towards selection and identification of independent auditor in situations where engagement of independent private chartered accountants is envisaged.
- Provide early/ advance alerts by review of entity financial statements in case relevant auditing and or accounting standard norms are not followed in audit reports and financial statements of the entity financial statements.
- Provide support in advanced project readiness actions by providing inputs to ADB in financing proposals, project concept note, development of project FM components in coordination with the other consultants, government counterparts with respect to financial management areas.
- Preparation of project cost estimates, perform overall due diligence to include financial analysis, financial management assessment of the executing agency (EA)/PMU/PIU, sensitivity analysis, if necessary, with respect to for ensuing loan(s) in accordance with ADB procedures, including review of project activities/ outputs in this regard (e.g., financial management manual, etc.) prepared by the PDMC firm.
- From FM perspective and in consultation with concerned project staff at PMU/PIU including ADB project officer to suggest and propose feasible measures on operations and maintenance of subprojects from a long-term sustainability point of view.
- Provide required inputs and information necessary for the preparation of periodical progress reports and project completion report to represent the performance of completed PRF.
- Assist PMU/PIUs in preparing the PRF-related financial progress reports as required by government and ADB in consultation with ADB project-officer.
- Provide advice on capacity building needs of PMU/PIUs and contribute to programs on training/ workshops/ seminars/ conferences, etc. based on sectoral expertise of the consultant, and impart training.
- To support the AMC (in ensuing project) in developing a procedures manual for guidance to AMC FM staff on project specific actions. This will include specific section on accounting policies and procedures and a chart of account for the ensuing project.
- Institutional analysis and activities to strengthen AMC accounting/reporting systems and practices.
- Support in procuring/implementing an accounting software for AMC and train all AMC accounting staff.
- Internal control gap analysis and activities to strengthen the internal audit unit and function.
- Prepare an Action plan for addressing persistent audit qualifications of AMC.
- Provide inputs in preparation of project completion reports with respect to FM areas when necessary.

TERMS OF REFERENCE FOR INTERNAL AUDITOR

A. Qualification

- 1. The firm shall be a firm of Chartered Accountants (CA) fulfilling the following eligibility criteria:
 - (i) It shall be a firm of Chartered Accountants registered with the Institute of Chartered Accountants of India (ICAI).
 - (ii) The firm to be selected must be independent as per guidelines of ICAI applicable for audit assignments who are not already engaged by state governments departmental functions on retainership or for rendering any other services to either the PRF project or any other projects under implementation by UDD/AMC directly or indirectly. Prior to engagement a declaration from all the partners on independence will be obtained.
 - (iii) The firm must be reputed and is in continuous practice for at least ten (10) years in India and having at least two (2) CAs as partners. It should be in the audit profession and have carried out internal audit services in at least two (2) similar Internal audit assignments with central government / State Government / external aided projects in India in last 10 years. The firm must have at-least five (5) or more qualified staff strength apart from partners and having a average annual in last three financial years minimum INR2.0 million.
 - (iv) The CA firm carrying on its business and profession have its registered-head office anywhere in India but must have a branch office in any of the northeastern states of India.
 - (v) Preference will be given to firms who have internal audit assignments experience on the projects financed by multilateral development banks like, The World Bank, ADB, etc.

B. Objective

2. The firm engaged shall provide outsourced internal audit services to AMC for PRF project. The purpose of the engagement is to provide professional support in establishing additional level of internal control environment and through oversight over the accounting, and financial management procedures at the ADB-funded project. The internal auditors shall be appointed by the AMC, and shall report directly to the Project Director. The internal auditors so appointed are expected to have/establish a strong and capable internal audit unit in AMC by the approval of the ensuing project ready to perform the internal audit function and responsibilities. The firm is expected to maintain, their independence throughout the engagement, and shall not provide any additional services to AMC, which may impair their independence. The auditor will be given access to all project documents including the loan agreements, correspondence, financial records and financial manuals, notices from the Project Management Unit and any other information associated with the project as deemed necessary by the auditor.

C. Scope of the Assignment

3. The internal audit should be carried out in accordance with standards and the guiding principles of the Institute of Internal Auditors; will follow a risk-based approach; and will include such tests and controls, as the Internal Auditor considers necessary under the circumstances. The internal audit report shall highlight clearly the overall internal control environment affecting the project with clear recommendations for improvement and corresponding status of previous report recommendations. The internal auditor must familiarize itself with the procedures laid down

in ADB loan/project agreement, Project Administration Manual and ADB loan disbursement handbook.

4. An annual audit plan should be prepared, based on a risk assessment, and submitted to the UDD/AMC for their concurrence. Specific areas of coverage of the internal audit could include the following:

- (i) An assessment of the adequacy of the project financial management systems, including internal controls, adequacy and effectiveness of accounting, financial and operational control, level of compliance with general financial rules and treasury rules of the state government. Identify areas of significant inefficiencies and high risk in existing systems and suggest necessary remedial measures.
- (ii) The broad internal control environment should be substantiated by key transactional areas affecting financial accounting and project operations having weakness that require attention. Identification of key areas affecting overall internal control environment must include budgeting procedures, procurement system, fund flow mechanism and overall financial accounting that affects ADB's financial reporting. Other areas identified by internal auditor is subject to its discretion and judgement.
- (iii) The semi-annual internal audit reports must be consolidated with an annual summary by 10 September every year which must include an internal audit conclusion whether internal controls ought to have been in place in the project are indeed present and operational.
- (iv) An assessment of compliance with provisions of financing agreements (ADB Loan Agreement and Project Agreement) especially those relating to accounting and financial matters.
- (v) That all external funds received under the project have been used in accordance with the financing agreement, with due attention to economy and efficiency and only for the purposes for which the financing was provided; that consultancy services or any other categories, if any, financed have been procured in accordance with the financing agreements and procurement guidelines of the bank.
- (vi) The budgets are allocated to subprojects in a timely manner and expenditure is as per approved budget and proper budget controls are in place.
- (vii) That all necessary supporting documents, contracts, and accounts have been: (a) kept in respect of all project expenditures reported by the PMU in compliance to the ADB loan disbursement handbook; (b) systematically filed in a secure location; (c) clear linkages exist between accounting records and accounts books and the monthly/quarterly financial reports submitted by such implementing units to PMU; and (d) Status of reconciliation of the accounts maintained by the Accountant General–A&E as applicable.
- (viii) Follow-up on the status of past audit observations and recommendations to ensure timely implementation.

5. In addition, the internal audit firm will prepare an Internal Audit Manual for use by AMC, and provide training workshops to the senior management of AMC, and relevant accounting staff, to explain the scope and objectives of internal audit function.

6. The internal auditor will prepare semi-annual reports and share it with the project management for their comments before finalization. The report is to include at least the following parts: (a) executive summary; (b) audit observations; (c) implications of the observations; (d) suggested recommendations; (e) management's comments/agreed actions; and (f) status of actions on the previous recommendations with a detailed table provided as an annex. In addition to the consolidated internal audit report for external project auditor. All audit reports together final

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consolidated internal audit report must be submitted to the Project Director no later than 30 days after the end of each period.

D. Selection process and duration

7. Government of Tripura will ensure sufficient budgetary allocations in case circumstances necessitate engagement of a private CA firm. Engagement can be performed by following usual procurement guidelines prevailing at Government of Tripura. For engagement of good quality reputed audit firms, in case ADB loan funds or any other resources are assessed to be used for payment of audit fees, engagement of firm can be done by following ADB procurement guidelines. Should this option be exercised, engagement period may cover 2–3 years with careful planning by the AMC/UDD and PMU from the perspective of optimum utilization of services and time-lines required to engage using ADB procurement guidelines. The internal audit firm will be engaged for an initial period of 13 months (____2022–___2023) and depending upon the performance the contract, may be renewed for further period/(s) i.e. until the completion of project. The audit period would cover systems in place commencing from the first disbursement, i.e., ____2022.

OUTLINE TERMS OF REFERENCE FOR INDEPENDENT AUDITOR FOR ADB ASSISTED EXTERNALLY ASSISTED PROJECTS (EAP)

Auditor Qualification (in case a private audit firm who is qualified to practice in India for carrying out statutory audits duly registered with Institute of Chartered Accountants of India is engaged). This is subject to obtaining a No-Objection from ADB financial management team prior to engagement of the firm.

1. The desired auditor must be either an individual who is having a valid certificate of practice (COP) issued and registered under the Institute of Chartered Accountants of India (ICAI) or a reputed firm of chartered accountants who shall be: (i) objective and independent; (ii) be able to demonstrate similar experiences in auditing or accounting of financial statements for projects and entities comparable in type, nature and complexity; (iii) all partners must be a chartered accountant; (iv) signing partner must have completed at-least 40 years of age with minimum 15 years of post-qualification experience in field of attesting financial statements; (v) the signing partner including his team members will be willing to act as a team player and will be open to always obtain instructions from project authorities and ADB officials; (vi) must possess good communication skills, which is subject to evaluation through a quality expression of interest application submission; and (vii) firms where partners having reputed national or international audit exposure including accounting experiences will be given preference.

2. The firm to be selected must be independent as per guidelines of ICAI applicable for audit assignments who are not already engaged by state governments departmental functions on retainership or for rendering any other services to either the PRF project or any other projects under implementation by UDD/ AMC/ PMU directly or indirectly. Prior to engagement a declaration from all the partners on independence will be obtained.

E. Scope of the Assignment

3. An audit report of PRF project including a management letter. For detailed scope of audit deliverables, refer terms of reference (TOR) document with templates on cash accounting method agreed with Comptroller and Auditor General (CAG) of India office and department of economic affairs (DEA). The detailed TOR can either be obtained from ADB project team or downloaded directly from DEA website.⁴⁹ The templates provided are suggestive and can be tailored to suite PRF project reporting needs with minor adjustments for reporting crucial matters. Substantial modification of audit report and other reporting forms as per prescribed templates will be not allowed. Private auditors must issue a management letter using the suggested template as attached/ (or annexure).

F. Selection Process

4. Government of Tripura will ensure sufficient budgetary allocations in case circumstances necessitate engagement of a private CA firm. Engagement can be performed by following usual procurement guidelines prevailing at Government of Tripura. For engagement of good quality reputed audit firms, in case ADB loan funds or any other resources are assessed to be used for payment of audit fees, engagement of firm can be done by following ADB procurement guidelines. Should this option be exercised, engagement period may cover 2–3 years with careful planning by the AMC/UDD and PMU from the perspective of optimum utilization of services and timelines required to engage using ADB procurement guidelines.

⁴⁹ www.dea.gov.in/sites/default/files/16-Audit-TOR_0.pdf

QUARTERLY PROGRESS REPORT (QPR) FORMAT

Loan: ____-IND Agartala Municipal Infrastructure Development Project [ADB Assisted - PRF Loan]

PRF Project Quarterly Progress Report (QPR-x) (_____ 20xx)

Name of Executing Agency/ Implementing Agency

Contents

Chapter 1	Project at A Glance				
Chapter 2	Status of the Executing Agency and Consultant(s) Staffing				
Chapter 3	Status of Input(s) (Procurement and Consultant Recruitment)				
Chapter 4	Progress on Project Output(s)				
Chapter 5	Status of Last Action Plan				
	(Previous ADB Review Mission/TPRM / last Progress Report)				
Chapter 6	Status of Major Loan Covenants				
Chapter 7	Key Implementation Challenges and Proposed Actions				
Chapter 8	Financial Management				
Attachment	1: Status of Ongoing Contract Packages				
Attachment	2: Status of Consultants Staffing				
Attachment	3: Consultants' Performance Evaluation Report				
Attachment	Attachment 4: Detailed reconciliation (by Withdrawal application) of project records and ADB				
disbursement records (LFIS/ GFIS) for the fiscal year to date and cumulative					
Attachment 5: Status of Financial Management action plan (completed/ ongoing)					
Attachment	6: Status of past audit observations (resolved/ pending)				

CHAPTER 1 PROJECT AT A GLANCE

Brief project description to be filled by project team (one-time entry; to be updated only in case of change).

1. LOAN MILESTONE

Milestone	Approval	Signing	Effective	Orig. Closing	Rev. Closing
Dates					
Extensions (Nos)				Time Remaining	

2. LOAN UTILIZATION STATUS (\$ MILLION)

				Unutilize d Ioan		Undisb. Contract	Overall
		Allocation	Contracts	balance	Disbursed	balance	Undisbursed
Cat.	Description	(a)	(b)	(c) =(a-b)	(d)	(e)=(b-d)	(f)=(a-d)

3. POTENTIAL LOAN SAVINGS (IF ANY) AND LIKELY CANCELLATION DATE.

4. STATUS OF COUNTERPART FUNDS (\$ MILLION)

Required Counterpart Expenditure by the Executing Agency	Budgeted by State Govt. in Current Financial Year	Actual Amount Released	Shortfall /Excess
1.Non-reimbursables Activities fully funded			
by the executing agency (LA/R&R etc.)			
2. Reimbursable			
(from loan)			

5. STATUS OF CONTRACT AWARDS AND DISBURSEMENTS (\$ MILLION) IN CY XXXX

Indicator	Quarter	I	II	III	IV	Total
Contract	Target					
Award	Achieved					
	Balance					
Disbursement	Target					
	Achieved					
	Balance					

[Targets - for the ADB PRF 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; and]

6. STATUS OF PROJECT REPORTS* TO BE SUBMITTED TO ADB

Type of Reports	Frequency	Due Date	Status
Quarterly Progress Reports			
Consolidated Annual Reports			
Audited Project Accounts - APFS			
Audited Project Accounts - AEFS			

* As stated in project administration manual.

AEFS = audited entity financial statement, APFS = audited project financial statement.

CHAPTER 2 STAFFING

A. STATUS OF PMU/ PIU STAFFING

(a) PMU Staffing

1 a	Is the Project Director (PD) currently posted?	Yes/ No	Nature of PD posting	Part Time/Full Time
1 b	Current PD is posted since when?	хх		
2 a	No. of PMU staff as agreed with ADB or as per	ХХ	Actual no. of PMU staff in place at present.	
	Org. Structure in PAM.		Full Time	
			Additional Charge	
2 b	Details of PMU Positions which are currently vacant.*	•		
3 a	Are PIUs required to be established in the Project?	Yes/ No	Are PIUs fully staffed	
3 b	No. of PIUs required as agreed with ADB in Org. Structure in PAM	xx	Actual no. of PIUs	

* Includes individual consultants under PRF.

ADB = Asian Development Bank, PAM = project administration manual, PIU = project implementation unit, PMU = project management unit, PRF = project readiness financing.

(b) PIU Staffing

1 a	Is the Additional Project Director (APD) currently posted?	Yes/ No	Nature of APD posting	Part Time/Full Time
1 b	Current APD is posted since when?	XX		
2 a	No. of PIU staff as agreed with ADB or as per Org. Structure in PAM.	XX	Actual no. of PIU staff in place at present. Full Time Additional Charge	
2 b	Details of PIU Positions which are currently vacant.*	•		

* Includes individual consultants under PRF.

ADB = Asian Development Bank, PAM = project administration manual, PIU = project implementation unit, PRF = project readiness financing.

B. MOBILIZATION STATUS OF CONSULTANT'S STAFFING (KEY EXPERT POSITIONS) AND THEIR PERFORMANCE

(Please provide your overall feedback in narrative statement e.g. key issues overall performance etc. and attach staffing status and Consultant's Performance Evaluation Report (PER): Attachment 2 & 3)

CHAPTER 3 STATUS OF PROCUREMENT AND CONTRACT MANAGEMENT

A. Prioritized Subprojects

(a) List of Names of Prioritized Subprojects

Project Town/ Destination	Longlist of Subprojects	Shortlist of Subprojects	Prioritized Subprojects	Remarks
		• •		
Total	No's	No's	No's	

(b) Status of Prioritized Subprojects

Project Town/ Destination	Name of Prioritized Subproject	Feasibility Study Report	DPR	Due Diligence Documentation	Bid Document

B. Status of Contracts Awarded

Cost Category under which Procurement is carried out	ADB Financing	Cumulative Contract Awards	Uncontracted Loan Balance	Cumulative Disbursements
Consultants	\$ million	\$ million (xx Pkgs awarded)	\$ million	\$ million
Civil Works	\$ million	\$ million (xx Pkgs awarded)	\$ million	\$ million
Equipment	\$ million	\$ million (xx Pkgs awarded)	\$ million	\$ million
Total	\$ million	\$ million	\$ million	\$ million

(Please attach Contract Monitoring Sheet indicating status of each of the awarded contracts in Attachment 1)

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C. Status of Remaining Procurement

		Remaining Contract Packages						
S. No	Componen t	No. of Pkgs with Cost	Brief Scope	Current Stage	Target Date of Award			
1	Consultants	xx (\$million)			MM/YYYY			
2	Civil Works	xx (\$ million)	km of road rehabilitation/ house service connections in xx towns	 IFB to be issued Under Tech Evaluation Under Fin. Evaluation Under Contract Negotiation Under Contract Signing 	MM/YYYY			
3	Equipment	xx (\$million)			MM/YYYY			
	Total xx Packages	\$xx million			(Target date of the latest procuremen t)			

D. Status of Other PRF Activities/ Outputs/ Consultant's Reports*

S. No.	Activity/ Output Description	Intended Milestone/ Any Revised Timeline	Actual Achievement	Remarks
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

* As stated in terms of reference.

CHAPTER 4 PROGRESS ON PROJECT OUTPUTS (AS IN PAM)

		Prog	ress			
	Monitoring		Current			
Output	Indicators/ Targets	Last Quarter	Quarter	Remarks		

Detailed status of ongoing contracts is in Attachment 1.

CHAPTER 5 STATUS OF ACTION PLAN

(Please include issues previously discussed during previous ADB Review Missions/ TPRM/ Progress Report and their compliance/ status)

SN	Issues/ Action Plan	Responsibility	Time Frame	Status

S.		Compliance	
No.	Covenants	(Y/ N)*	Remarks
Α	Loan Agreement		
1			
2			
3			
4			
5			
6			
В	Project Agreement		
1			
2			
3			
4			
5			
6			

CHAPTER 6 COMPLIANCE WITH MAJOR COVENANTS

*In case of any exceptions, deviations, non-adherence identified, please provide details as an "Annexure" to the Quarterly Project Report highlighting the shortcomings and proposed time-bound corrective action plans to achieve compliance.

CHAPTER 7 (KEY IMPLEMENTATION ISSUES/ CHALLENGES AFFECTING PROJECT PROGRESS AND PRPOSED ACTIONS)

S. No	Maior Issues*	Actions	Responsibility	Time Frame
1	Planning and Design Issues (Change in design/ scope/ implementation arrangement/ cost overrun/ staffing)	Recent		
2	Procurement Issues (Contract packaging/ material sources/ availability of contractors/ skill sets/ contract management issues etc.)			
3.	Safeguard issues during Planning and Design (Land acquisition / Resettlement /tree cutting/ etc.)			
4.	Other Issues during PRF Implementation			

*In case issue identified, please provide details e.g. details of change in design/ implementation arrangements, pending safeguards actions, encumbrance free sites to be handed over to the contractor (numbers/kilometer) with targeted date by which the same could be handed over to the contractor; If all Drawings/Design are not issued/approved, name of such Drawings/Design and targeted date by which the same could be handed over to the contractor; Decision pending with employer and consultants (such decision could be approval of, variations, extra item rate, etc.)

CHAPTER 8 (FINANCIAL MANAGEMENT AND RECONCILIATION WITH ADB DISBURSMENT RECORDS)

A. Reconciliation of Project records and ADB's disbursement records.

1. [Include here a summary reconciliation of project records and ADB disbursement records (LFIS) for the reporting period and cumulative from project inception to end of the reporting period.

2. Explain reasons for discrepancies and outline follow-up actions required (if any). Attach a detailed reconciliation by withdrawal application as per <u>Attachment 4].</u>

B. Status of the project's Financial management arrangements

- 3. Here include the following:
 - (i) Describe any problems in the existing financial management arrangements and /or flow of funds and any significant changes occurred during the reporting period (e.g., financial management staff turnover, implementation of new financial systems, emerging financial management related risks etc..).
 - (ii) Summarize the status of each agreed action in the financial management action plan outlined in the PAM. Attach a detailed log as per Attachment 5].
 - (iii) Outline the status of recommendations and immediate actions provided by ADB as part of the APFS/AEFS review (if any) and financial management related recommendations agreed during ADB review missions (if any).
 - (iv) Summarize the status of Status of past audit observations (if any). Attach a detailed log as per Attachment 6.

Attachments:

Attachment 4. Detailed reconciliation (by Withdrawal application) of project records and ADB disbursement records (LFIS/GFIS) for the fiscal year to date and cumulative.

w	Per project records/APFS (Amount recorded in the project Financial statements as reimbursement, direct payment, etc)				Per ABD disbursement records LFIS/GFIS (actual Paid)					
Withdrawal application No (WA)	Disburseme nt method (reimbursem ent, direct payment, etc)	Time period covered in the WA	Date	In local currency (as recorded in project records/ financial statements)	exchan ge rate	USD equival ent (A)	Value date	In USD (B)	Difference (A-B)	Reason for differenc e (i.e. timing forex. Pending rejected)
1		1-31.3.2020		XX		XX		XX		
2				XX		XX		XX		
3				XX		XX		XX		
etc										
Total in Fiscal year				VV		VV		VV		
to date			77		XX		XX			
date				XX		XX		XX		

	Attachment 5: Status of Financial Management Action Plan											
Key Risk	Risk Mitigating Activity	Timeline	Responsible Entity	Current status (implemented/Pending)	Remarks (including planned actions and timeline in case of noncompliance)							

Attachment 6: Status of external audit observations – Cumulative from inception to end of reporting period											
Recommenda tion/ audit observation	External audit recommend ation	Date of the recommenda tion	Planned action to address the recommenda tion	Respon sibility	Current Status of the planned action (pending /resolved)	Remarks					

	1. Stat	ement of Receipts	and Paymen	ts for the year end	ed DD/MM/Y	YYY		
	Notes	Current y	ear	Previous y	vear	Cumulative (inception to the current ye	Cumulative (from inception to the end of current year)	
Cash receipts		Cash Receipts/Paym ents controlled by the entity	Direct/thi rd party payment s	Cash Receipts/Paym ents controlled by the entity	Direct/ third party paymen ts	Cash Receipts/Paym ents controlled by the entity	Direct/ third party paymen ts	
ADB loan (loan number)	3.1							
ADB grant (grant number	3.2							
ADB Additional loan (loan number)	3.3							
ADB additional Grant (grant number)	3.4							
Government of Bhutan	3.5							
etc								
Total receipts								
Payments	4							
Expenditure category 1	4.1							
Expenditure category 2	4.2							
Expenditure category 3	4.3							
Expenditure category 4								
etc								
Total payments								
Cash balance at the beginning of the vear	6.1							
Cash balance at the end of the year	6.2							
Project Director: [Signature]				Finance Manager:	[signature]			

Annex XX. Indicative Project Financial statements

2. Statement of Budget vs. Actual for the year ended DD/MM/YYYY										
	Notes*	For the	ne curre Inded 20	nt year)xx	For the F	Prior yea 20xx	ar ended	Cum inceptic cu	ulative (on to the rrent yea	from end of ar)
Expenditure Categories		Budg eted	Actu al	Varian ce	Budget ed	Actu al	Varian ce	Project Budget ed as per the PAM	Actu al	Varian ce
Expenditure category 1	5.1									
Expenditure category 2	5.2									

2	2. Statement of Budget vs. Actual for the year ended DD/MM/YYYY									
	Notes*	For the	ne curre Inded 20	nt year)xx	t year For the Prior year ended 20xx		ar ended	Cumulative (from inception to the end of current year)		
Expenditure Categories		Budg eted	Actu al	Varian ce	Budget ed	Actu al	Varian ce	Project Budget ed as per the PAM	Actu al	Varian ce
Expenditure category 3	5.3									
Expenditure category 4										
Etc.										
Total Payments										
Total Project Cost										
* Any significant variand	ces are to	be expla	ined in t	he notes						
Project Director: [Signature]				Finance Manager: [signature]						

3. Statement of Disbursement By Financing Source for the year ended DD/MM/YYYY									
Statement of Disbursement	Notes	Current Year	Prior Year	Cumulative Project to Date					
ADB grant - Funds claimed during the year	7.1								
Reimbursement ³									
Imprest Fund ³									
Direct Payment									
Subtotal									
ADB Loan - Funds claimed during the year	7.2								
Reimbursement ³									
Imprest Fund ³									
Direct Payment									
Subtotal									
ADB additional Loan - Funds claimed during the year	7.3								
Reimbursement ³									
Imprest Fund ³									

3. Statement of Disbursement By Financing Source for the year ended DD/MM/YYYY					
Statement of Disbursement	Notes	Current Year	Prior Year	Cumulative Project to Date	
Direct Payment					
Subtotal					
ADB additional Grant Funds claimed during the year	7.4				
Reimbursement ³					
Imprest Fund ³					
Direct Payment					
Subtotal					
*list of WAs/claims submitted to be disclosed in the notes					
Project Director: [Signature]				Finance Manager: [signature]	

4. Statement of Imprest/ Advance account for the year/ period ended DD/MM/YYYY (for each advance account separately)

Account details: XXXX			
	Notes	Current Year	Prior Year
Balance brought forward from previous period			
Add: Advance ¹ Replenishment received during the year/period ¹ Interest Earned			
Deduct: Payments made during the year/period Replenishment /Liquidation ¹ Expenditure yet to be claimed Amount refunded during the year/period			
Closing Balance (B)			
As per bank statement (copy attached)			
Draiget Director: [Signature]		Einanco Manag	or: [cianoturo]

Project Director: [Signature]

Finance Manager: [signature]

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED [YEAR END DATE]

1.Project Information

1.1 Key highlights:

Project title Funded by: Management: Executing Agency Implementing agencies Start Date: Closing date: Project Duration: Funding Sources/modality/amount

1.2 Impact and Outcome

2. Summary of Significant Accounting policies.

- 2.1 Basis of preparation
- 2.2. Cash Basis of accounting
- 2.3. Recognition of Receipts and payments
- 2.4. Third party payments
- 2.5. Presentation currency
- 2.6 Foreign Currency Translation
- 2.7. Changes in Accounting policies
- 2.8 Reporting period
- 2.9 Comparatives

3. Funds received

3.1 -3.4 Funds received from ADB /List of WAs by financing source

3.5 Funds received from the Government3.6. funds received from Otheretc..

4. Payments

List of Payments from the advance account/sub-advance account. List of third-party payments/direct payments.

5. Variances

List and explain any significant variances between budget and actual expenditures

6. Opening and closing balances

List details of the opening balances List details of the closing balances

7. Disbursements/Withdrawal Applications

Include detailed list of WAs claimed from ADB with the following breakdown : i) funding source (ADB loan, ADB grant, ADB additional loan, ADB additional grant), ii)) WA number, iii) time period in which expenditures were incurred iv) the amount claimed and currency, v) date submitted, vi) disbursement method, vii) the amount disbursed by ADB and vii) used exchange rate.

8. Special notes for the FY

Disclose a break down Interest Expenses/ Financial Charges incurred as part of the project for the current year, past year and cumulatively.