

**TERMS OF REFERENCE
FOR
PROJECT MANAGEMENT, DESIGN & SUPERVISION CONSULTANT
KOLKATA URBAN RESILIENCE IMPROVEMENT PROJECT (KURIP)**

A. Background to the Project

1. The City of Kolkata popularly known as The City of Joy is going to further develop the environment ensuring a healthy life for the people of Kolkata. The area of Kolkata is about 200 sq.km. and the population - 4.5 million in addition to the floating population of 15 million coming from other parts of the state for their livelihood. The City is more than 300 years old and its sewerage and drainage system is no less than 140 years old. Average population density within erstwhile KMC area is about 25,000 person/sq. km. It is 120 km distant from the Bay of Bengal and stands on the bank of the River Hooghly (Ganga). This is an endeavor to develop a world standard living for the people of Kolkata through a planned improvement of the environment.
2. The proposed Kolkata Urban Resilience Improvement Project (KURIP) is a follow-up project to the completed project of Kolkata Environmental Improvement Project (KEIP) with a value of \$366 Million was completed in the year 2012, and the ongoing Multi tranche financing facility named Kolkata Environmental Improvement Investment Program (KEIIP), with a value of \$585 Million. The financing partner of KEIP and ongoing KEIIP is Asian Development Bank (ADB). The upcoming project is a continuation endeavor of ADB's support to improve the livability and quality of life of the urban people in the jurisdiction of the Kolkata Municipal Corporation area.

In September 2022, Department of Economic Affairs, Government of India based on the request of the Government of West Bengal, on the submission of Urban Development and Municipal Affairs (UD& MA) Department posed the KURIP seeking ADB's financing support.

The Project will provide for expansion of sewerage and drainage facilities and infrastructure in new added areas and improve the coverage, ensure climate resilience, and operational sustainability of KMC's Sewerage & Drainage services, apart from developing a new solid waste management facility for the people of Kolkata Municipal Corporation.

3. The Project value is \$ 285 Million comprising of proposed ADB financing of \$200 million as Loan and \$85 Million contribution from GoWB & KMC.
4. Kolkata Municipal Corporation now intends to engage a consulting firm, as a Project Management, Design and Supervision Consultant (PMDSC) in accordance with the Quality-and-Cost-Based Selection (QCBS, 90:10) under time based contract as set out in ADB Procurement Policy 2017 and Procurement Regulations for ADB Borrowers 2017 (as amended from time to time) for the KURIP.

B. Objective of the Assignment

1. The consultant will provide professional services for preparation of the detailed engineering design, drawings, cost estimates, bidding documents, environmental and social safeguards and other pre-construction activities; provide construction supervision services and contract management support and provide project management and institutional support for the duration of the assignment.

2. The Project Management, Design and Supervision Consultant shall provide their good services in all respects for the Project Management Unit (PMU) of KURIP to ensure timely and satisfactory completion of the identified sub-projects under the proposed Kolkata Urban Resilience Improvement Project (KURIP) in a fruitful manner considering compliance to all the formalities of the Loan as well as Contract Agreement for the works and other categories. The project is financed by the Asian Development Bank (ADB).
3. The Kolkata Urban Resilience Improvement Project (KURIP) shall achieve the following Project outputs:

Output 1: Urban Infrastructure and Systems Strengthened:

The project will support disaster resilient sanitation, drainage, water supply and SWM infrastructure and systems. For sanitation and drainage, the project will cover un-serviced areas of Kolkata and will include Laying of Trunk Sewers as well as Construction of new Pumping Stations in newly developed areas including Sewage Treatment Plants & rehabilitation of Pumping Stations. For Municipal SWM, it will also include Development of new Solid Waste Treatment facility and may include construction of biomethanation treatment facilities. Structural interventions will be determined through due diligence as per ADB guidelines.

The strengthened urban infrastructure and systems will provide better services to all the people while women, children, the un-privileged and the disadvantaged will be specially benefitted from the improved urban sanitation, health and hygiene.

Output 2: Enabling Environment for Sustainable and Resilient Urban Services Strengthened:

This output will build upon efforts delivered under KEIIP to enhance KMC's operational capacity and resilience of urban services through special initiatives like (i) Strengthening KMC's capacity for GESI responsive multi-hazard risk management planning for new and existing urban assets,(ii) Strengthening the financial sustainability of urban services, (iii) improvement of the behavioral practices by encouraging adopting good practices surrounding sanitation & SWM, (iv) Inclusion of climate resilience planning for KMC and in the Kolkata Urban Infrastructure Investment Plan, (v) Digitization to strengthen resilience of urban services, including strengthening of the existing flood forecasting and early warning system, (vi) Provision of training and nurturing the need and support system to women self-help groups (SHGs) based on training needs assessment to become waste entrepreneurs,(vii) Training and skill building given to informal waste pickers in partnership with authorized training facilitators, and (viii) Awareness generation amongst school students on flood hazards, preparedness and emergency evacuation procedures.

C. Scope of Services, Tasks and Expected Deliverables

1. A summary details of identified sub-projects proposed to be taken up under the KURIP are listed in Table 1.

Table 1: Indicative List of Sub-Projects

Sl. No.	Sub-Projects
1	Development of trunk S&D Network & Construction of pumping stations in Suti Sub- Basin in part of Ward 127
2	Development of trunk S&D Network & Construction of pumping stations in Kalagachia Sub- Basin (Part of Ward 125 & 126)

Sl. No.	Sub-Projects
3	Development of trunk S&D Network in Bakrahat Road Catchment, & Hanspukur Catchment in part of Ward 125 & 144)
4	Development of trunk S&D Network in Kabar Danga PS Catchment and Construction of PS in part of Ward 142 & 143)
5	Development of trunk S&D Network in 22 Bighas PS catchment and Construction of pumping station in Borough XVI (Part of Ward 142 & 143)
6	Development of trunk S&D Network in Julpia Road PS catchment and Construction of pumping station in Borough XVI (Part of Ward 142)
7	Development of trunk S&D Network in Chowbhaga (East), Chowbhaga (West) and Nonadanga including Construction of 2 PSs in Borough XII (Part of Ward 108)
8	Development of trunk S&D Network in Hossainpur & Anandapur PS in Borough XII (part of Ward 108)
9	Development of trunk S&D Network in Nayabad, Ajaynagar, Panchsayar & Baishnabghata and Augmentation of one existing PS in Borough XII (part of Ward 109 & 110)
10	Revamping of existing Canal pumping stations at Chowbhaga and S&D pumping station PS 2 near Santoshpur Jora Bridge in TP basin
11	Design, Build, Construction of Baghajatin STP including Operation and Maintenance
12	Development of 300 TPD Municipal Solid Waste Treatment Facility (MSWTF) at Rasapunja to be determined in consultation with UDMA, Govt of West Bengal

All identified sub-projects under SI-1 to SI-10 (related to sewerage & drainage works), shall be bid out as ad-measurement works, where the Consultant will act as Engineer to the works (and as such shall be responsible for undertaking all necessary survey, investigation for preparation of designs, drawings, cost estimate and preparation of bidding documents). If necessary and depending on the outcome of the currently ongoing options analysis as part of the Employer's Strategic Procurement Planning (SPP) due diligence, the ten nos. ad-measurement packages indicated above may increase or decrease in number. The overall objective of the consulting services is to act in principle as the Engineer to the contracts. The Consultant shall serve as Employer's Representative for the Design-Build and Design-Build-Operate contracts and shall be responsible for undertaking preliminary designs, to facilitate preparation of bidding documents, review of the Contractor's submittals and supervise the execution of the contracts.

The scope of services is briefly outlined in Table 2, and detailed in subsequent sections.

Table 2: Outline Scope of Services

Sl. No	Task and Responsibilities
1	Task 1: Survey-Investigation and Design and Pre-Construction Activities
1.1	Survey and Investigation

Sl. No	Task and Responsibilities
1.2	Engineering Design, Drawings and Cost Estimates including preparation of Detailed Project Report (DPR)
1.3	Safeguard due diligence including document preparation for all aspects
2	Task 2: Procurement and Contract Award
2.1	Preparation of Bid Documents
2.2	Assistance in Bidding, Bid Evaluation and Award of Contract
3	Task 3: Construction Supervision and Reporting
3.1	Preparation of detailed design & construction drawings for ad-measurement contracts and review of submittals from the Contractor for contracts
3.2	Construction Supervision and Contract Management
3.3	Safeguard Implementation, monitoring and reporting
3.4	Quality Control and Assurance
3.5	Inception Report
3.6	Preparation of Monthly & Quarterly Progress Report
3.7	Project Completion Report
4	Task 4: Project Management and Performance Monitoring and Reporting
4.1	Project Management and Performance monitoring
4.2	Financial management
4.3	GIS data management of assets
4.4	Engagement of Third Party for Inspection, Quality and Safety Audit
4.5	Digitization of documents
4.6	Documentation and Data handover (e-data)

D. Detailed Scope of Work

1. The scope of PMDSC under various activities will include but not necessarily be limited to the following:

Task 1. Survey-Investigation, Design and Pre-Construction Activities

Sub-Task 1.1: Survey and Investigation

- (i) The Consultant will (i) Identify the requirements of surveys, studies and investigations in order to prepare detail designs (and facilitate preparation of bid documents, for design-build contract), (ii) Undertake all the required engineering surveys and investigations (such as total station survey, geo-technical investigation, identification of underground utilities and their mapping, etc.) through approved agency, (iii) Conduct baseline survey, socio-economic studies for data collection as required for the Project Performance Monitoring System (PPMS), (iv) Duly supervise all the survey, investigation activities including reviewing and validating the data, reports and outputs.

Surveys, studies and investigations shall be reimbursed through Provisional Sum (PS). The Consultant shall seek necessary approval of the Employer prior to undertaking the studies, surveys and investigation activities.

Sub-Task: 1.2: Engineering Design, Drawings and Cost Estimates

- (i) Prepare (review and update / validate, if required) the detailed designs of the agreed technical options, technical specifications, cost estimates, and bid documents for sub-projects which should be in accordance with the ADB procurement guidelines and standard bidding document.
- (ii) The Consultant shall undertake detailed design and drawings of the proposed sub-projects which are to be implemented, based on primary survey and investigation, including but not limited to:
 - (i) Hydraulic design for the sewerage and drainage networks, sewerage and drainage pumping stations, (ii) All related Civil, Structural, Electrical and Mechanical designs including proposed Instrumentation and SCADA system for monitoring of the proposed system, (iii) Preparation of the Detailed Project Report with cost estimates as a pre-requisite to the preparation of bidding documents. The Consultant shall take into consideration climate and disaster risks when preparing designs, which may involve consultation with experts engaged by ADB or others.
- (iii) For, Design-Build-Operate and or turnkey contracts, the Consultant shall carryout preliminary design, including sizing of treatment units, hydraulic and process designs, related electrical, mechanical designs and drawings, piping and Instrumentation drawings, which adequately facilitates for bidding purpose.
- (iv) The Consultant shall prepare detailed cost estimates for each sub-project, considering prevalent schedule of rates, market rates, as applicable and to ensure that the Engineer's estimate reflect the cost of the sub-project suitably.
- (v) Provide inputs including preparation of Detailed Project Reports for advance preparations of subproject for subsequent interventions, if any .

Sub-Task: 1.3 Safeguard Due Diligence including Document Preparation

The Consultant shall assess land requirements for each identified sub-project based on the detailed design of the project component and thereupon assist PMU in the (a) Preparation of Resettlement Plans/RIPP/DDR in accordance with ADB SPS, (b) Assist PMU in the conduct of meaningful public consultations and ensure that resettlement issues raised are considered and incorporated in Resettlement Plan/RIPP and DDRs, (c) Identify/validate Involuntary Resettlement and Indigenous Peoples impacts upon design validation and conduct socio-economic and asset and livelihood loss survey(prior to commencement of the civil works, where such impacts are assessed), (d) Ensure a robust Grievance Redressal Mechanism (GRM) is in place and functional.

- (i) The Consultant shall assess each site's environmental aspects based on the detailed design of the project component, and thereupon assist PMU in the (a) preparation of Initial Environmental Examination (IEE) reports including Environmental Management Plans (EMPs) based on final detailed design and in accordance with ADB SPS and relevant national laws, rules and regulations, (b) Conduct meaningful consultations and ensure concerns raised are incorporated in the design and updated/final IEE reports, (c) Ensure relevant provisions (including staffing) from the IEE reports and EMPs are incorporated and costed in the bid and contract documents, (d) Undertake baselines surveys and ensure the contractors comply with Environmental Management Plans, and Initial Environmental Examination.

Task 2. Procurement and Contract Award

Sub-Task 2.1: Preparation of Bid Documents

- (i) Support preparation of bid documents required for all the procurement packages in accordance with ADB's procurement guidelines.
- (ii) Ensure preparation of technical requirements complies with "Good International practices" and aligns with the procurement guidelines. Review the bid documents prepared and update those, as necessary.

Sub-Task 2.2: Assistance in Bidding, Bid Evaluation and Award of Contract

- (i) Support PMU in issuance of bid invitation, assist PMU in site visits and Prebid meeting, issuance of addendums/corrigendum; assist in issuing clarification to the bidders' queries.
- (ii) Support PMU in receiving of Bids and evaluation of Bids (technical and financial), preparation of bid evaluation reports for obtaining no objection from ADB, award of contract, contract negotiations and contract award, preparation of contract agreement & signing.
- (iii) Assist PMU in coordinating pre-commencement engagements between the KMC and contractors.

Task 3. Construction Supervision and Reporting

Sub-Task-3.1: Construction Supervision and Contract Management

- (i) The Consultant will be responsible for overall construction-supervision of the sub-projects on a daily basis. The responsibilities shall include, but not limited to: (a) Checking the line level, layout of the construction to ensure conformity with the contract, (b) Address all revisions and detailed drawings required during execution of contract, (c) Proof checking and issuance for execution of contractors' design and drawings for lump sum turnkey contracts, (d) Assess the adequacy of the contractors' inputs in material, labor and construction methodology and provide advisories when required (e) Preparation of planned maintenance procedure, checking installation and commissioning.
- (ii) The Consultant will record the work measurement, certify the contractor's claim and assist in contract monitoring and in preparation of the "As Built" drawings, assist in issue of completion certificates. The Consultant should establish efficient procedures for verifying contractor's performance and reporting progress and problems in a timely manner, including quality control reports, quantity survey records, contractor's claims and invoices; and prepare payment certificates.
- (iii) The Consultant will assist PMU in resolution of various other contractual issues and overall contract management, examine contractors' claims for time extension, variations, additional compensation etc. and recommend appropriate decisions following the conditions of the Contract.
- (iv) The consultant should hold progress review meetings with the contractors as per mutually agreed frequency, to discuss progress and problems on the Contracts and take Minutes of Meetings. The Consultant have to fulfil the roles and responsibility of the Engineer or Employer's Representative to the Contracts, as required.
- (v) The Consultant will overall be responsible for ensuring that the Contractor's work is in strict compliance with the safety requirements, and also Operational Health and Safety (OHS) measures are adequately taken care off. The Consultant will regularly supervise the conditions of contractor's labor camp to ensure safe, hygienic and humane living conditions that adhere to Health protocols, as issued from time to time.
- (vi) The Consultant shall also provide necessary support and assistance in seeking approvals for and on behalf of the Employer from the concerned authorities as required from time to time to facilitate the smooth progress of works. They shall also accompany the Client in meetings with the various Government officials, Authorities, local representatives and utility service providers as and when necessary.
- (vii) The Consultant shall monitor all the contracts and report on the status, including procurement, contract management, work plan and milestones achievement, logistics and material movement, status of contractor bills and payments, key constraints and mitigation measures.
- (viii) Review and validate "As Built" drawings, GIS database and document submittals of the contractor as per Contract and guide the contractor for the preparation & submission of Operation & Maintenance manual.

Sub-Task-3.2: Safeguard Implementation, Monitoring and Reporting

- (i) The Consultant shall undertake site specific Initial Environmental Examination (IEE) and review and update the IEE; carry out disclosure as necessary during implementation, based on final designs, construction drawings; Provide support to PMU in preparation of Environmental Monitoring Reports for submission to ADB following the outline indicated in the IEE report or any outline as may be suggested by ADB during the implementation phase. The Consultant shall support PMU in liaising with relevant national and local/municipal government agencies, and utility operators to obtain statutory clearances, permits and/or approvals required per ADB SPS and national/local environmental laws, rules and regulations. The Consultant shall assist PMU in the continuing conduct of meaningful consultations and ensure concerns raised are acted upon, and resolution/s of which will be reported to ADB through the environmental monitoring reports to be prepared by the Consultant. The Consultant shall assist PMU on a day-to-day basis in monitoring implementation of EMPs at all work sites, including all potential safeguard issues identified in the safeguard documentation mentioned above.
- (ii) The Consultant shall ensure all conditions in the RPs/RIPPs and DDRs are implemented and/or complied with prior to execution of project works. The Consultant shall assist PMU in project implementation by ensuring compliance with ADB SPS and all government rules and regulations. Assist PMU in disclosure of approved social safeguard documents including Resettlement Plan / RIPP and Due Diligence Reports. The Consultant shall assist PMU in social safeguard compliance monitoring, documentation and reporting including preparation of social safeguards monitoring reports for submission to ADB as per reporting outline suggested by ADB.
- (iii) The Consultant shall assist PMU in implementing the Grievance Redressal Mechanism and ensure members of the Grievance Redressal Committee have the necessary capacity to resolve the related issues/concerns, follow up with contractors for taking appropriate action on grievances; keep record of all grievances received, including contact details of complainant, date the complaint was received, nature of grievance, agreed corrective actions and the date these were effected and final outcome; monitor and provide status in the quarterly progress report mentioning number of grievances received during the reporting period and details of grievances which are yet to be redressed in totality and action taken/ planned.

Sub-Task 3.3: Quality Control and Assurance

- (i) The Consultant will monitor the Contractors' Quality Assurance and Quality Control (QA & QC) activities and ensure proper quality assurance system including verification of source of material and certification.
- (ii) The Consultant shall carry out necessary quality control activities and certify that the quality of works conforms to the specifications and drawings.
- (iii) The Consultant shall review all quality assurance plans, for Electrical, Mechanical equipment, Instruments etc. and undertake inspection at site / factory / works, as maybe required of the sub-projects by the Employer.

Task 4. Project Management and Performance Monitoring

Sub-Task 4.1: Project Management and Performance Monitoring

- (i) The Consultant will develop and operationalize a web-based Project Performance Management System (PPMS) to monitor the progress of all project related activities. The PPMS will (i) Capture all stages (from design to construction) of subproject implementation, (ii) Procurement, annual contract award and disbursement targets, (iii) Analyze the physical and financial progress of contracts against the work plans and related S-curves during construction; (iv) Benefit monitoring and progress on DMF achievements, risks, assumptions, projected/planned achievement and other aspects; (iv) Technical and financial progress, etc., (v) Administrative aspects such as submission of audited

financial statements, disbursement claims processing, compliance with loan covenants, project and contract risk assessment and mitigation and (vi) Safeguard and statutory compliance.

Consultant need to face the performance audit during their tenure of contract.

- (ii) The Consultant will assist the PMU in preparing annual work plan, detailed implementation schedule and budget using computer based program management tools. Support the PMU in developing mechanisms for accurately estimating the annual contract award and disbursement targets.
- (iii) The Consultant shall ensure monitoring compliance with Environmental and Social Management Plans, Occupational Health and Safety Plans, Involuntary Resettlement and support PMU in documenting and reporting in the web-based management information system.
- (iv) The Consultant shall track contractors' performance and ensure implementing corrective actions, recommend ways to accelerate project implementation, assess reasons for delays, if any, and identify measures for improvement;
- (v) The Consultant will generate all the periodic progress report in a time bound manner like Inception Report, Monthly Progress Reports, Quarterly Progress Report and at the completion of the Project, the Consultant will prepare the Project Completion Report in the format as provided by the Client/ADB.

Sub-Task 4.2: Financial Management

- (i) The Consultant shall support the PMU in preparing annual budget estimates, maintaining proper budgetary controls mechanisms and analyzing financial vs physical progress along with the documentation of signification variations.
- (ii) The Consultant shall support preparation of Economic and Financial analysis for sub-projects.
- (iii) Assist the Client in the balance sheet analysis as well as financial resource analysis for the purpose of fulfillment of qualification criteria regarding financial matters as per bidding document.
- (iv) The consultant shall monitor and supervise in the preparation of projections for contract awards, disbursements and advise the Employer as per overall scope of work
- (v) The consultant shall draft various rules and regulations, which may be introduced upon completion of sewerage assets and Solid Waste assets, based on the actual cases found in India and other countries.
- (vi) Assist the Client in the tax matters.

Sub-Task 4.3: GIS Data Management of Assets

- (i) The Consultant shall ensure mapping of infrastructure assets, based on works executed in the field. The Consultant shall monitor and map the pipeline network as laid and map the same to ensure concurrent updation of assets. The Consultant shall ensure common framework / data models for all sub-projects to collect the data, review and update the same, periodically and ensure they are consistent with the prevalent data models used by the Employer.
- (ii) Detailed topographic / contour survey for sewerage and drainage infrastructure shall be undertaken, in a manner which is compatible to GIS. The Consultant shall ensure that all hydraulic models are exported in a GIS platform and ensure inter-operability to allow for data to be imported back.

Sub-Task 4.4: Engagement of Third Party for Inspection, Quality and Safety Audit

- (i) The Consultant will be responsible for selection, management of Third Party Inspection Agency, including developing the scope of services and cost estimates and ensure bidding in line with ADB procurement guidelines in close co-ordination with the Project Authority. The final approval of the selection of the TPI shall be taken from the Project Authority. The scope of Third Party shall include

but not limited to inspection at site / factory / works, third party quality inspection and certification including Quality and Safety Audit.

- (ii) The Consultant shall have the overall responsibility of (a) Third Party Inspecting Agency (TPIA) and (b) Third Party Quality and Safety Audit (TPQ&SA) which they have to commission.
- (iii) The Third Party Inspecting Agency (TPIA) and Third Party Quality and Safety Audit (TPQ&SA) will oversee and ensure issuance of certificate / Report by Third Party Inspecting Agency (TPIA) under supervision and control of PMDSC as required at critical stages of identified sub-project.
- (iv) The costs for TPIA and TPQ&SA will be borne / reimbursed through "Provisional Sum" component of the Consultancy contract. The Consultant shall be responsible for managing the contract for Third Party.

Sub-Task 4.5: Document and Data Handover

- (i) All documents and data generated under this assignment shall be well organized and submitted to PMU as a package before the assignment will be considered complete. All files should be in editable format (Word, Excel, AutoCAD, shape-files etc.) in addition to PDF. Contents should be clearly labeled and well-organized. The document package should include, inter alia:
 - o Raw survey and investigation data, geo-technical investigation reports and similar information
 - o All design reports, drawings and cost estimates, in editable Word/Excel/AutoCAD and PDF format
 - o As-Built drawings, in AutoCAD and GIS formats
 - o Hydraulic models used in detail designs (Excel, EPA-SWMM or appropriate)
 - o Official letters and instructions issued to contractors
 - o Environmental and social management documents
 - o Raw data collected as part of the PPMS
 - o Data on resettlement compensation payments
 - o Consolidated Progress reports (Monthly, Quarterly etc.)
 - o A map atlas with all investments and other relevant information
 - o Project Completion Reports
 - o Scanned data of all document of PMDSC need to be handed over to the Project Authority

E. Deliverables

The specific deliverables under this contract are as shown below:

1. Preparation of Inception Report, monthly, quarterly progress reports, as listed out in the reporting requirements.
2. Preparation and submission of Detailed Project Reports and detailed engineering designs for all the subprojects.
3. Preparation and submission of the semiannual safeguard monitoring report in line with the requirement of ADB for disclosure.
4. Preparation of bidding documents for the packages of works, goods and or Design-Build Contract, Design-Build-Operate Contract etc.
5. Preparation of Bid Evaluation Report.
6. Preparation of Contract Negotiation Minutes.
7. Preparation of Minutes of Meeting for Monthly Progress Review Meeting.
8. Preparation of Annual Contract Award and Disbursement Estimate.

9. Supervision of all Contract packages for smooth completion of packages within the stipulated time of completion and within the contract value.
10. Supervision of Third Party inspection for Third Party Inspection Agency and Third Party Quality and Safety Audit.
11. Development of website and ensure project updates are reflected, including updation of project performance monitoring system.
12. Briefing notes to the Project Director on project related issues.
13. Draft final report and final report on Project completion, including system commissioning reports / performance reports, for all sub-projects as applicable.
14. Transfer of knowledge in training and induction of PMU staff on Procurement, Safeguards, Project Management etc. for institutional memory.

F. Equipment

Provisional Sum shall also be utilized for procurement of hardware like work stations, computers, plotters & printers and also software necessary for designing the plants.

G. Team Composition & Qualification Requirements for the Key Experts

1. The Consultant shall provide an expert team of professionals for the assignment. The CV of Key Experts (A) will be evaluated in the Consultant's technical proposal. For the required non-key staff (B), the Consultant should submit proposal to the Employer before their deployment, though they will not be scored as part of the evaluation. Hence, engagement and deployment for mobilization of key and non-key staff will be approved by the Client.
2. The consulting firm and its technical experts shall be registered with the relevant accredited professional registration bodies in their country of origin (e.g. engineering, planning, and environmental assessment).

Table 3: Indicative Team Composition and Inputs (KURIP)

Sl. No	KEY EXPERT	TYPE	Input (person-months)
1	Team Leader cum Sewerage and Drainage Specialist	National	40
2	Deputy Team Leader cum Contract Management Specialist	National	40
3	Sewerage and Drainage Network Specialist	National	45
4	Waste Water Treatment Specialist	National	8
5	Solid Waste Management Specialist	National	12
6	Structural Engineering Specialist	National	20
7	Sr. Design Specialist (Electro-Mechanical)	National	18
8	Construction Manager (Electro-Mechanical)	National	30
9	Procurement Specialist	National	24
10	Construction Manager (Civil) (7 Nos)	National	280
11	Quantity Surveyor Specialist	National	30
12	Geo-technical Specialist	National	12
13	Social Gender and Re-settlement Specialist	National	30

TERMS OF REFERENCE FOR PROJECT MANAGEMENT, DESIGN
& SUPERVISION CONSULTANT, KURIP

Sl. No	KEY EXPERT	TYPE	Input (person-months)
14	Public Communication Strategy and Media Specialist	National	12
15	HSE Specialist	National	30
16	GIS Specialist	National	10
17	Utility Finance Specialist	National	18
18	Legal Advisor	National	12
19	Financial Advisor	National	30
	Sub Total (A)		701
SL No	NON-KEY EXPERTS	TYPE	INPUTS
1	Support Engineers: Construction - Supervision (Civil): 20 Nos	National	800
2	Support Engineers: Construction (Electro-Mechanical) 2 Nos	National	108
3	Support Engineer: Design (6 Nos)	National	324
4	Support Engineer: Electrical (1 Nos)	National	54
5	Support Engineer: Mechanical (1 No)	National	54
6	Support Engineer: Structural (2 Nos)	National	60
7	Support Engineer: Solid Waste Management (1 No)	National	54
8	GIS Supervisor	National	36
9	Support Engineer: Quantity Surveyor(1 No)	National	48
10	Support staff: Social and Environmental Safeguards (1 No)	National	48
11	Support Engineer: Project Performance Monitoring (1 No)	National	48
12	Public Communication and Media Personnel (Senior)	National	48
13	Support personnel to Legal Specialist	National	24
14	Survey Engineer	National	48
15	Solar Expert	National	2
16	Drafts-person Cum AutoCAD Staff (4 Nos)	National	204
17	Office Manager (1 No)	National	54
18	System Manager (1 No)	National	54
19	Secretary (2 Nos)	National	108
20	Computer Operator (6Nos)	National	324
21	Office Assistant (7Nos)	National	378
	Sub Total (B)		2878

H. **Qualification Requirements and Responsibilities for Key Experts**

1. The project assignment is for a period of 60months. The staff deployment shall be planned and strictly followed. Preferred qualifications and indicative responsibilities for the National Key Experts are provided below in Table 4.

Table 4: Key Tasks with Preferred Qualification and Experience

Sl. No	Position	Qualification & Experience	Tasks and Responsibilities
1	Team Leader cum Drainage Specialist	<p>The Team Leader (TL) cum Drainage Specialist will have a Master's degree or equivalent qualification in Civil Engineering or other relevant field, with minimum 15 years' experience in designing, construction management, and supervision of similar integrated sewerage and drainage projects.</p> <p>Experience of externally funded projects (ADB, World Bank or other multilateral and bilateral development banks such as AIIB, JICA etc.) in at least 2 or more projects, for minimum of 3 years in the capacity as Team Leader / 5 years in the capacity of Deputy Team Leader with demonstrated experience in managing large, interdisciplinary teams is preferred.</p> <p>Experience of working in metro cities (population > 1 million) in India will be advantageous.</p> <p>Shall have excellent verbal and written communication skills in English.</p> <p>Age within 65years is desirable.</p>	<p>The Team Leader will be fully responsible for overall project management and administration of quality and time-bound outputs of the project as described in the Scope of services including the responsibilities of Engineer / Project Manager as defined in the Contract documents, and also managing the activities of the technical and safeguards team members.</p> <p>The Team Leader will ensure the best Engineering practices in design, construction-supervision activities, including reviewing all decision making and ensuring Engineering designs, construction practices including their appropriateness in terms of prevailing practices, bid documentation, local conditions and interest of the project.</p> <p>He / She will ensure overall compliance of all contract agreements by observing strict vigilance to avoid time and budget overrun.</p> <p>The Team Leader shall also lead the team of designers, specialist in due diligence and preparation of designs, design report and detailed cost estimates and complete bid document, all complete for new sub-projects.</p> <p>The Team Leader will support the Employer in all project / contract related matters, as necessary.</p>

Sl. No	Position	Qualification & Experience	Tasks and Responsibilities
2	Deputy Team Leader Cum Contract Management Specialist	<p>The Deputy Team Leader Cum Contract Management Specialist will have a Master's degree in Civil Engineering, with minimum 12 years' experience in construction management & Contract management, of which 2 years of experience as a Deputy team leader.</p> <p>Experience of working in externally funded projects (ADB, World Bank or other multilateral and bilateral development banks such as AIIB, JICA etc.) knowledge of FIDIC conditions will be preferred.</p> <p>Experience of working in metro cities (population > 1 million) in India will be advantageous.</p> <p>Shall have excellent verbal and written communication skills in English.</p>	<p>The Deputy Team Leader Cum Contract Management Specialist will be responsible for:</p> <ul style="list-style-type: none"> • Providing and assisting the Team Leader in contract management of all construction activities. • Monitoring and review of variation orders; assist Employer in settlement of disputes, issue of taking over certificates, contract finalizations, etc. • Supervision the compliance of the contractors with the contractual obligations and assess the extent of the validity of the contractor claims. • Monitoring and review of progress of contracts, delays in implementation, slippage and ensuring compliance of contract conditions. • Review of the implementation plan for each package and ensure these are aligned within the project period, review the reasons for delay in implementation and ascertain whether the delays are justified.
3	Drainage Network Specialist	<p>The Drainage Network specialist will have Master's degree in Civil Engineering / Public Health Engineering / Environmental Engineering.</p> <p>He / She shall have minimum 10 years' experience in the design & engineering of sewerage, storm water management projects, pumping stations, treatment plants etc.</p> <p>Experience of working in metro cities (population > 1 million) in India will be advantageous.</p>	<p>The Drainage Network Specialist for the ongoing projects be responsible for:</p> <ul style="list-style-type: none"> • Preparation of detail design reports for the drainage subproject. • Leading the survey and investigations, that maybe required for detail design the sewerage / drainage infrastructure. • Preparation of detailed design and drawings based on the survey and investigations, undertaken.

Sl. No	Position	Qualification & Experience	Tasks and Responsibilities
		<p>Experience of working externally funded projects (ADB, World Bank or other multilateral and bilateral development banks such as AIIB, JICA etc.) will be preferred.</p>	<ul style="list-style-type: none"> • Preparation of detailed drawings (tender drawings, construction drawings), technical specifications, cost estimates, BOQ and bid documents in co-ordination with the sector Specialist. • Providing support and assistance to all Construction Managers for supervision as prescribed under the overall responsibility of PMDSC.
4	Waste-water Treatment Specialist	<p>The Waste Water Treatment Specialist will have Master's degree in Civil Engineering / Chemical Engineering / Environmental Engineering with minimum 10 years' experience in the design and construction of Waste-water Treatment Plants.</p> <p>Experience of working externally funded projects 2yrs or more (ADB, World Bank or other multilateral and bilateral development banks such as AIIB, JICA etc.).</p>	<p>The Waste-water Treatment Specialist, for the ongoing sub-projects, will:</p> <ul style="list-style-type: none"> • Review the detailed design, design calculations, construction drawings, submitted under Design-Built Contracts for the Waste Water Treatment Plants. • Guide the Construction Team during construction of the Waste Water Treatment Plants, including undertake field visits to ensure compliance of the works with drawings. • Co-ordinate work with Electrical, Mechanical and Instrumentation and SCADA Engineers to ensure equipment details are as per standards and approved designs and drawings. • Provide inputs during trial run and commissioning of the WWTP and ensure the output parameters meet the standards. • Undertake comparative analysis of all the feasible Waste Water Treatment Systems and identify the most appropriate Treatment system amongst them, as required. • Undertake, detail design and support in preparation of drawings, technical specifications and cost

Sl. No	Position	Qualification & Experience	Tasks and Responsibilities
			<p>estimates, for the Waste Water Treatment Plants, as required.</p> <ul style="list-style-type: none"> • Provide necessary inputs in preparation of Bid documents of the Waste Water Treatment Plants, as required.
5	Solid Waste Management Specialist	<p>The Solid Waste Management Specialist will have a Master's Degree in Civil Engineering / Environmental Engineering / Public Health Engineering.</p> <p>He / She should have at-least 10 years' experience in design and construction of appropriate SWM infrastructure including bio-mining, septage composting and Leachate management and environmental friendly sanitary land fill site.</p> <p>Experience of working in externally funded projects (ADB, World Bank or other multilateral and bilateral development banks such as AIIB, JICA etc.) for minimum period of 2 or more years is preferred.</p>	<p>The Solid Waste Management Specialist shall:</p> <ul style="list-style-type: none"> ○ Review / update / undertake detail design and drawings for Solid Waste Management Treatment facility. ○ Develop technical specifications and assist preparation of detailed cost estimates for the proposed Solid Waste Management Treatment facility, to finalise the bid documents. ○ Prepare a manual and operational plan to optimize operation and maintenance of the site to maximize the life of the sanitary landfill site. ○ Supervise the construction works, and implementation as per technical requirements. ○ Undertake market study on compost and feasibility of sale of compost.
6	Structural Engineering Specialist	<p>The Structural Engineering Specialist will have a Master's degree in Civil/ Structural Engineering with 10 years' experience in designing of similar infrastructure projects, with specific emphasis on drainage / sewerage pumping stations, waste-water treatment plants and similar components.</p>	<p>The Structural Engineering Specialist will:</p> <ul style="list-style-type: none"> • Undertake detail design for all infrastructural components (drainage / sewerage pumping stations, pipe supporting structures, entry or exit pits for micro-tunneling works etc.). • Provide necessary inputs for construction supervision of structures of all related contract with Construction Managers, as prescribed under the overall responsibility of PMDSC.

Sl. No	Position	Qualification & Experience	Tasks and Responsibilities
			<ul style="list-style-type: none"> • Ensure preparation of construction drawings. • Undertake field visit to site as maybe necessary to inspect the site conditions and ensure the designs are implementable in the field. • Review designs and drawings for Design-Built Contracts, and ensure the design-drawings meet the technical requirements and standards as set out in the contract.
7	Senior Design Specialist (Electro-mechanical)	<p>The Senior Design Specialist (Electro-mechanical) will have Master's degree in Electrical / mechanical with minimum 10 years' experience in designing of mechanical equipment and systems in large Infrastructure projects (involving with Sewerage / Drainage infrastructure, pumping stations, Treatment Plants, etc.).</p> <p>Experience in Externally funded projects (ADB, World Bank or other multilateral and bilateral development banks such as AIIB, JICA etc.) for a minimum duration of 2 years and above is preferred.</p>	<p>The Senior Design Specialist (Electro-mechanical) shall be responsible for:</p> <ul style="list-style-type: none"> • Preparation of all designs, drawings for the related components (sewerage / drainage pumping stations, buildings works etc.), under the sub-projects, including support in preparation of cost estimates and bidding documents. • Review the design and drawings for Ad-measurement Contracts, including Quality Assurance Plans for all equipment, instruments submitted by the Vendors/ suppliers /contractors, etc. • Review the design and drawings for Design-Build Contracts, including Quality Assurance Plans for all equipment, instruments etc. • Co-ordinate the designs of electrical and mechanical work with civil drawings. • Together with Construction Manager (Electro-mechanical) will undertake periodic site visits and ensure that the construction drawings are adaptable to the site. In case of any discrepancy, resulting in requiring for revised construction

Sl. No	Position	Qualification & Experience	Tasks and Responsibilities
			<p>drawing the same shall be done in shortest possible time.</p> <ul style="list-style-type: none"> • Ensure compliance of the Contract Agreement in letter and spirit by observing strict vigilance to avoid any possibility of time and budget overrun.
8	Construction Manager (Electro-mechanical)	<p>The Construction Manager (Electro-mechanical) will have Bachelor's degree in Mechanical / Electrical Engineering with minimum 10 years' experience in Construction Management, Supervision and Quality assurance of mechanical equipment and systems in large Infrastructure projects (involving with Sewerage / Drainage infrastructure, pumping stations, Treatment Plants, Water Supply System etc.).</p> <p>Experience in Externally funded projects (ADB, World Bank or other multilateral and bilateral development banks such as AIIB, JICA etc.) for a minimum duration of 2 years and above is preferred.</p>	<p>The Construction Manager (Electro-mechanical) shall:</p> <ul style="list-style-type: none"> • Undertake periodic site visits and ensure that the construction drawings are adaptable to the site. In case of any discrepancy, resulting in requiring for revised construction drawing the same shall be done in shortest possible time. • Provide assistance on all technical and administrative clearances required by the constructing Agencies which otherwise could result in delaying the sub projects. • Establish proper quality assurance systems as per the best practices of successful ADB projects and procedures. • Supervise and provide support and advise during trial run and commissioning of the pumping stations, treatment plants, equipment etc. • Ensure compliance of the Contract Agreement in letter and spirit by observing strict vigilance to avoid any possibility of time and budget overrun.
9	Procurement Specialist	<p>The Procurement Specialist will be an Engineering Graduate (Civil/Mechanical/Electrical/Production) with minimum 10 years' experience in procurement of large scale projects related to sewerage, drainage, solid waste management sectors and road sectors.</p> <p>Experience of externally funded projects (ADB, World Bank or other</p>	<p>The Procurement Specialist shall be responsible for:</p> <ul style="list-style-type: none"> • Procurement of all proposed contracts with strict compliance of ADB guidelines. • Lead the team to finalize the BoQ, invitation of Bids and Bid document/qualifying criteria, evaluation related to Sewerage

Sl. No	Position	Qualification & Experience	Tasks and Responsibilities
		<p>multilateral and bilateral development banks such as AIIB, JICA etc.) for more than 7 years will be an advantage and conversant with FIDIC contract conditions.</p> <p>Thorough knowledge of procurement guidelines of ADB/ World Bank /JICA or other multilateral or bilateral banks will be an advantage.</p> <p>Shall have excellent verbal and written communication skills in English.</p>	<p>and Drainage sub-projects, including Solid Waste management.</p> <ul style="list-style-type: none"> • Provide support in Bid evaluation (technical and financial), preparation of Bid evaluation reports, and providing assistance in contract negotiations.
10	Construction Manager (Civil)	<p>The Construction Manager (CM) will have a Bachelor's Degree in Civil Engineering / Construction Management or related discipline.</p> <p>He / She shall have with minimum 10 years' experience in Construction Management, Supervision and Quality control of projects related to sewerage / drainage infrastructure including road, building works.</p> <p>Experience in Externally funded projects (ADB, World Bank or other multilateral and bilateral development banks such as AIIB, JICA etc.) for minimum duration of 2 years and familiarity with FIDIC Conditions of Contract, is preferred.</p>	<p>The CM shall be responsible for:</p> <ul style="list-style-type: none"> • Construction supervision of all subprojects that is as per the PMDSC TOR. • Preparation of construction drawings related to various subprojects in co-ordination with the respective sector specialists. • Issuance of Construction drawings and to ensure that these are adaptable to the site. In case of any discrepancy, resulting in requiring for revised construction drawing by the sector Specialists, it shall be the duty of the CM to get the revised drawing issued to the constructing Agency in shortest possible time. • All technical and administrative clearances required by the constructing Agencies which otherwise could result in delaying the sub projects. • Establishing proper quality assurance systems as per the best practices of successful ADB projects and procedures. • Ensuring compliance of the Contract Agreement in letter and spirit by observing strict vigilance to avoid any possibility of time and budget overrun.

Sl. No	Position	Qualification & Experience	Tasks and Responsibilities
11	Quantity Surveyor Specialist	<p>The Quantity Surveyor Specialist will have a Bachelor's degree in Civil Engineering with minimum 10 years' experience in preparation of cost estimates, preparation of BOQ, rate analysis of miscellaneous items etc.</p> <p>He / She shall have specific work experience for preparation of estimates for large urban infrastructure works, related to sewerage and drainage, treatment plants, water supply system, roads cutting and restoration, building works, etc.</p> <p>Experience in Externally funded projects (ADB, World Bank or other multilateral and bilateral development banks such as AIIB, JICA etc.) for minimum duration of 5 years</p>	<p>The Quantity Surveyor Specialist, shall be responsible for:</p> <ul style="list-style-type: none"> • Preparation of detailed quantity and cost estimates for the sub-projects in association with concerned sector Specialist / Experts. • Preparation of rate analysis for non-schedule item of works, which are encountered during the course of works in-case the need, arises. • Preparation of detailed block costs, cost breakdown for Design-Built Contracts. • Verification of extra item of works, bill verifications for the contracts, variations, causes of variations etc for all the subprojects. • Review technical specifications and suggest if these are aligned with item of works and all costs are built-in suitably. • Seek budgetary rates for equipment, instruments from vendors as maybe required to work out the realistic market rates and adopt them suitably.
12	Geo-technical Specialist	<p>The Geo-technical Specialist will have a Master's degree in Civil Engineering.</p> <p>He / She shall have minimum 15 years' experience in geotechnical works in large urban areas project such as Structures, sewerage and Drainage, solid waste management, buildings, roads etc.</p>	<p>The Geo-technical Specialist shall:</p> <ul style="list-style-type: none"> • Review all geo-technical investigations reports undertaken under the contracts and advise the Structural Specialist on the safe bearing capacity of soil, soil conditions, for the design of the infrastructure components. • Undertake site visits, during geo-technical investigation works, implementation of works as maybe required to ascertain the risks, during excavation for

Sl. No	Position	Qualification & Experience	Tasks and Responsibilities
			<p>deep foundation, and suggest measures to be undertaken etc.</p> <ul style="list-style-type: none"> • Guide the concerned Construction Manager related to poor soil conditions, subsidence, and or critical issues during implementation, including the potential risks, if any, including measures to be taken at site to mitigate the risks.
13	Social, Gender and Re-settlement Specialist	<p>The Social, Gender and Re-Settlement Specialist will have post graduate degree (Masters or equivalent) in Sociology, Economics, Mass-communication, Geography, Social Work or related subject with 5 years' or more experience of proven record of working in the field of Social Development, Gender Action Plan preferably in Urban Areas.</p> <p>Experience of working in 2 or more externally funded projects (ADB, World Bank or other multilateral and bilateral development banks such as AIIB, JICA etc.) for minimum period of 2 or more years is preferred.</p>	<p>The Social, Gender and Re-settlement specialist shall, be responsible for:</p> <ul style="list-style-type: none"> • Preparation of Gender Action Plan and its implementation following necessary ADB guidelines and advice on gender, poverty and other related social issues. • Selection of target population for survey, collection and analysis of the survey data, designing questionnaire, sampling method and introducing necessary social surveys and analysis of survey data and preparation of reports. • Conducting awareness campaign, workshops and focus group meeting at specified interval of time of the project following the gender action plan and the communication strategy. • Recommending on specified detail action plan for raising awareness among the beneficiaries.
14	Public Communication Strategy and Media Specialist	<p>The Public Communication Strategy and Media Specialist will have post graduate degree (Masters or equivalent) in journalism, communications and media management with minimum 10 years' or more experience of proven record of working in the field of corporate as well</p>	<p>The Public Communication Strategy and Media Specialist, shall, assist the Employer:</p> <ul style="list-style-type: none"> • In selection of Target Group of Public for Public Communication and design strategy for the effective communication and assist, the

Sl. No	Position	Qualification & Experience	Tasks and Responsibilities
		<p>as development communication and digital media technology.</p> <p>Experience of working in 2 or more externally funded projects (ADB, World Bank or other multilateral and bilateral development banks such as AIIB, JICA etc.) for minimum period of 2 or more years is preferred.</p>	<p>Team Leader in accomplishing the desired task in professional manner.</p> <ul style="list-style-type: none"> • To maintain and upgrade website, face book and twitter account. • For consolidation and summarization of comments, suggestions and grievances posted on the project website, face book and twitter account and in other forms on regular basis. • To provide support for development of all digital content using in-depth analytical knowledge of the tools and technologies to deliver news and information online. • For strategizing the digital content for broadcasting /telecasting (including electronic and print) about the project in accordance with the gender action plan and communication strategy.
15	HSE Specialist	<p>The Environment Specialist will be a post graduate in Environment Science/ Engineering or Ecology with minimum 10 years' experience in designing environment related safeguards for donor aided projects and in oversight of their implementation/compliance.</p> <p>He / She shall be conversant with relevant national and state environmental laws with minimum 2 years' experience in Externally funded projects (ADB, World Bank or other multilateral and bilateral development banks such as AIIB, JICA etc.)</p>	<p>The Environmental Specialist shall:</p> <ul style="list-style-type: none"> • Undertake baseline environmental surveys, and prepare Initial Environmental Examinations (IEE) or Environment Impact Assessment (EIA) as required. • Prepare Environmental Management Plan and Environmental mitigation measures. • Prepare ADB procedure compliant environmental safeguard actions including impact assessments if any during the design stage. • Ensure implementation of environmental standards and safeguards as part of project implementation

Sl. No	Position	Qualification & Experience	Tasks and Responsibilities
			<ul style="list-style-type: none"> Review, Occupational, Health and Safety standards and submit observation and compliance reports.
16	GIS Specialist	<p>The GIS Specialist will have a Bachelor's Degree in Geography/Geology/Remote Sensing / GIS Application.</p> <p>He / She shall have minimum 10 years of professional experience with demonstrated experience in mapping of utilities.</p> <p>He/ She shall have spent minimum 5 years in GIS application / mapping of utilities in at least two cities/towns.</p>	<p>The GIS Specialist shall be responsible for mapping of the sewerage / drawing networks, including all infrastructural components / Assets, based on data submittals as per the contract.</p> <p>He / She will ensure the data model and data collection on assets under the project maintain a common protocol and framework.</p> <p>The GIS Specialist shall ensure that the data / information on pipelines which shall be laid underground are submitted by the Contractor based on the laying progress.</p> <p>He/ She will accordingly coordinate with the Construction Managers to ensure that data and information on pipes, manholes and similar underground assets are recorded in a time bound manner and endorsed.</p> <p>He / She will ensure completeness of the data and information submitted under the Contract and monitor/manage the data submittals and development of the infrastructure assets.</p> <p>He/ She will conduct training and capacity building in GIS based asset management for the Employer.</p>
17	Utility Finance Specialist	<p>The utility finance specialist will be an Economics / Commerce graduate with MBA in Finance or ACA/CMA, or related discipline, with more than 10-years' experience of utility financial management, tariff setting for O&M cost recovery and knowledgeable</p>	<p>The Utility Finance Specialist will be responsible:</p> <ul style="list-style-type: none"> Preparation of Economic and Financial analysis for sub-projects. Balance sheet analysis as well as financial

Sl. No	Position	Qualification & Experience	Tasks and Responsibilities
		<p>about public sector accounting & financing. Experience of at least two (2) externally funded projects (ADB, World Bank or other multilateral and bilateral development banks such as AIIB, JICA etc.) is preferred.</p>	<p>resource analysis for the purpose of fulfillment of qualification criteria regarding financial matters as per bidding document.</p> <ul style="list-style-type: none"> • Monitor and supervise in the preparation of projections for contract awards, disbursements and advise the Employer as per overall scope of work. • Draft various rules and regulations, which may be introduced upon completion of sewerage assets and Solid Waste assets, based on the actual cases found in India and other countries. • To assist the Employer in all Tax related matters.
18	Legal Advisor	<p>The Legal Advisor will be a Graduate in law with minimum 8 years' experience in High/sub-divisional / district court with experience in handling contract related matters / company related contract issues including arbitration and MSME.</p>	<p>Legal Expert should be responsible for advising the Team Leader, PMDSC / Employer regarding contract related issues of all contracts entered by the Employer. He will also assist the Employer in respect of all legal matters relating to the contracts and in all arbitration process.</p>
19	Financial Advisor	<p>The Financial Advisor will be a Post graduate in Commerce / MBA in Finance /CA /CMA, or related discipline, with minimum 12 years' experience of project financial management with project financial analysis for a project of minimum value of \$ 100 million.</p> <p>Experience of externally funded projects (ADB, World Bank or other multilateral and bilateral development banks such as AIIB, JICA etc.) for minimum 5 years will be an advantage.</p> <p>Experience in Government financing system will be an advantage.</p>	<p>The specialist will</p> <ul style="list-style-type: none"> • Develop the project financial model considering the funding pattern of the project. • Develop the model regarding forecasting of disbursement target considering gross bill concept. • Develop the variance analysis model regarding identification of variances. • To review and keep an overall control of physical and financial progress of the project including compliance of loan agreement. • To assist the Employer in fund management in

Sl. No	Position	Qualification & Experience	Tasks and Responsibilities
			<p>close co-ordination with DEA, ADB, GoWB and KMC</p> <ul style="list-style-type: none"> • To assist in the bid evaluation process. • To assist the Employer in all Tax related matters. • Interpretation on the financial issues as per requirement of the project • All financial reports as listed out in the reporting requirement should be vetted by the Financial Advisor

I. **REPORTING REQUIREMENTS**

Minimum reporting requirements for PMDSC are summarized in Table 5. Reporting schedule and templates will be proposed in the Consultant's Inception Report and agreed with PMU. All reports should be submitted in hard copies and one copy in editable version (MS-Word, MS-Excel, Power Point, Auto-CAD etc.) and also in portable document format (PDF). All data and documents must be handed over to the PMU before the assignment will be considered complete.

Table 5: Indicative Reporting Requirements & Time Schedule for Deliverables

Sl. No.	Milestones	No. of Copies and form of submission	Submission schedule
1.	Inception Report- draft final report and final report	Five(5) Hard copies and soft copy in CD ROM	<p>Draft Inception Report Within 21 days from commencement</p> <p>Final Inception Report – Within 30 days from commencement</p>
2.	Monthly Progress Reports on physical, financial, safeguards and gender action plan compliance	Five(5) Hard copies and soft copy in CD ROM	Every month (Preferably by 2 nd week)
3.	Consolidated Quarterly Progress Report	Five(5) Hard copies and soft copy in CD ROM	Within 15 days from the end of the
4.	Prepare and submit the semiannual safeguard	Five(5) Hard copies and soft copy in CD ROM	Every 6 months

Sl. No.	Milestones	No. of Copies and form of submission	Submission schedule
	monitoring report for PMU to be submitted to ADB for disclosure		
5.	Detailed Project reports and detailed engineering designs, including cost details for sub-projects	Five(5) Hard copies and soft copy in CD ROM	As per schedule
6.	Bidding document for each contract	One (1) Hard copy in initial and further copies as and when required; Soft copy in CD ROM	As per schedule
7.	Draft Completion Certificates	Three (3) Hard copies and soft copy in CD ROM	After completion of every contracts.
8.	Project Performance Monitoring system updates	Three(3) Hard copies and soft copy in CD ROM	Every month, To be updated in website
9.	Vigilance note on the time and budget overrun including a status of physical vs. financial progress	As per instruction	Every quarter
10.	Briefing notes to the Project Director on Project related issues	As per instruction	As and when required
11.	Project Completion Report- draft final report and final report	Three(3) Hard copies and soft copy in CD ROM	Before completion of the assignment

J. Clients Input and Counterpart Personnel

1. The Employer will provide office space and necessary equipment including desk, chair, desk-top computers and work stations, plotters, photocopiers, printers and other equipment and accessories. The Consultant shall be responsible for maintaining the assets in good working condition. In case of assets procured out of Provisional Sums, such assets shall be handed over after completion of services to the client.
2. The Employer will assign professional team and counterpart personnel for effective coordination.
3. The Employer will provide all the available reports and documents for the study of the Consultant. The Employer will also assist the Consultant to obtain requisite available information from any other department / organization. However, the responsibility of such collection would remain with the Consultant.