

## **Kathmandu Sustainable Urban Transport Project**

### **Outline Terms of Reference (ToR) for Design and Supervision Consultant (DSC) for the works under Kathmandu Sustainable Urban Transport Project to be implemented by Kathmandu Metropolitan City (KMC)**

#### **1. INTRODUCTION**

Government of Nepal has received a loan and grant from the Asian Development Bank (ADB) to finance the Kathmandu Sustainable Urban Transport Project (KSUTP) and intends to use part of the proceeds of the grant for eligible payments for national consulting services for which this ToR is issued.

The Project is to improve the quality of urban life in the capital city of Nepal, through the delivery of a more efficient, safe, and sustainable Urban Transport System (UTS), favoring local economic growth and addressing climate change and air pollution mitigation. The UTS will be enhanced by focusing on (i) a plan to rationalize and upgrade the existing public transport network, and the test of this approach through the implementation of pilot routes provided with electric or other low emission vehicles; (ii) traffic management works and measures, which will enable heritage routes in the city core to be pedestrianized, and will improve general walkability; and (iii) the improvement of air quality monitoring.

The objective of the Project is to improve Public Transport condition and the walking environment in Kathmandu Valley area through a modal shift from private vehicles to Public Transport (PT) and to enhance the traffic conditions in Kathmandu Valley.

The Project comprises of the following components:

#### **Part A: Public Transport is improved and upgraded, and capacity of Department of Transport Management is strengthened by**

- development and implementation of two pilot bus routes, using electric or low emission vehicles;
- development of a financing mechanism through Town Development Fund (TDF) to promote PT fleet renewal by introducing low emission or electric vehicles;
- development of a study on the reintroduction of trolley-bus services in Kathmandu.

#### **Part B: Traffic management is improved by**

- improvement of about 14 junctions in Kathmandu city center;
- development and implementation of Metropolitan Traffic Police Division (MTPD) capacity building program;
- development and implementation of a public awareness campaign to improve citizens' driving behavior, environment and other transport safety aspects.

#### **Part C: Walkability in the city center is improved by**

- pedestrianization of about 8 km of the heritage routes in Kathmandu city core;
- improvement of sidewalks in Kathmandu city center;
- upgrade and/or construction of about 4 pedestrian bridges;
- Improvement of the interchange facility and of public space in Kanti Path
- Public Private Partnership (PPP) advisory support for Kathmandu Metropolitan City (KMC)

#### **Part D: The monitoring of air quality is enhanced by**

- Providing monitoring equipment to support Ministry of Environment (MoE) in implementing the Air Quality Monitoring Action Plan 2010 – 2013.

The Project is expected to be completed by **30 June 2015**.

The Ministry of Physical Planning and Works (MoPPW) is the Executing Agency (EA). The Project Management and Coordination Office (PMCO), established under the MoPPW is responsible for overall coordination, monitoring and implementation of the Project. Separate consultant namely Project Management and Capacity Building Consultant (PMCBC) will assist the PMCO.

Individual project components will be implemented by five **Project Implementation Units (PIUs)** established at:

- a. Department of Roads;
- b. Ministry of Environment;
- c. Department of Transport Management (DOTM);
- d. Metropolitan Traffic Police (MTP) Division and
- e. Kathmandu Metropolitan City (KMC)**

Kathmandu Metropolitan City (KMC) as one of the Implementing Agencies (IAs) has established a PIU to implement the assigned project components. National consulting firms are now invited to work as the **Design and Supervision Consultant (DSC)** of Kathmandu Metropolitan City (KMC), to provide design and construction management support on works to be conducted by the KMC. The DSC will also work in close coordination with PMCBC as required and will submit a copy of all design and other reports for review of PMCBC.

The following components are assigned to the KMC during the study under Project Preparatory technical Assistance (PPTA) for the improvement of the historic area of Kathmandu.

- Construction of stone paved paths (primary and secondary routes) in the areas to be pedestrianized in the historic city core area with the objective of prohibiting vehicle entry
- Development of pedestrian links
- Provision of shared pedestrian/ vehicle routes and on-street parking areas
- Construction and restoration of sidewalks (pavements) in the central sectors of Kathmandu
- Provision of landscaping elements for beautification at appropriate locations

The DSC is expected to commence its service by **September 2011**.

## **2. SCOPE OF WORKS**

The scope of services of the KMC DSC will include but not necessarily be limited to the following:

### **2.1 GENERAL**

- (i) Review all available primary and secondary data collected during the PPTA, and information provided by KMC regarding the concerned subproject, and undertake additional studies wherever necessary;
- (ii) Carry out all the required engineering surveys and investigations such as total station surveys, soil survey, identification of underground utilities, etc, as applicable to the concerned subproject. All surveys and investigations shall be accurate and plotted for review of the KMC PIU and PMCO;
- (iii) Prepare detailed work plan, implementation schedule and progress reports for the concerned subproject to ensure effective monitoring and timely project outputs, and regularly update the same;
- (iv) Prepare the architectural/ engineering designs of the concerned subproject in sufficient detail to ensure clarity and understanding by the KMC PIU, PMCO, PMCBC, contractors and other relevant

- stakeholders. All the design should be in conformity with the best international/ national engineering standards;
- (v) The detailed designs will, as a minimum, include construction drawings, detailed cost estimates, necessary calculations to determine and justify the engineering details for subproject, associated contract documentation to include letter of invitation, conditions of contract, detailed specifications, architectural/ engineering drawings, bill of quantities (BoQ), implementation schedule, detailed criteria for the procurement of contractors etc. for all subprojects. The technical specifications should be in accordance with the best international/ national practices and should be prepared to achieve the highest standard of quality. For adopting market rates for the detailed cost estimates, proper rate analysis should be carried out. Construction drawings should be prepared with sufficient details to permit contractors to carry out construction work effectively, unambiguously and with the highest standards of quality;
  - (vi) The design shall be prepared in close consultation with, and to meet the requirements of the PMCO/ KMC PIU and will be incorporated into a detailed design report to be submitted for approval of the KMC PIU and PMCO;
  - (vii) Prepare Quality Assurance and Quality Control (QA & QC) Plans and Safety Manuals to be followed on the respective construction sites so as to enforce adequate QA and QC, and safety of construction workers, engineers and citizens;
  - viii) Assist the PMCBC in preparing guidelines for contract administration for the use of KMC PIU, for their day to day contract administration requirements such as measurement of works; approval of variation, time extension and contractor's claim, issue of completion certificate, financial closure of contract, management during the Defects Liability Period (DLP) etc;
  - (ix) Prepare the standard construction management system to be followed by contractors at construction sites comprising important components such as planning of activities (work plan), procurement of construction material and equipment; construction methodology; deployment of construction machinery, deployment of workers, deployment of funds, etc; and implement the same;
  - (x) Support the KMC PIU in preparation of bid documents using standard ADB bidding documents and specific requirements of each project component, with due consideration to National Competitive Bidding (NBC), Shopping (S) etc;
  - (xi) Assist KMC PIU in issuing bid invitation, addendum/ corrigendum, and clarifications to the bidders' queries, receiving of bids and preparing bid evaluation reports, award of contract and signing of contract;
  - (xii) Assist the PMCBC to set the indicators for the baseline on the concerned subproject and to carry out the necessary tasks identified by the Project Performance Management System (PPMS) for the Project;
  - (xiii) Regularly undertake visits of subproject's site, oversee the works and guide the contractors on the activities and works, and provide concrete suggestions to the KMC PIU for the improvement on the same if required, make appropriate recommendations for problems arising during implementation on site
  - (xiv) Prepare the bill of quantities as well as narrative and photographic progress reports every month and at the end of every four months showing the current situation of works on site;
  - (xv) Prepare project completion report including submission of approved as-built drawings prepared by contractor wherever necessary, on the completion of civil works;

- (xvi) Provide services as necessary during the Defects Liability Period, issue a Defects Liability Certificate and certify any final payment that is due to the contractor.
- xiv) Provide all necessary support to the KMC PIU and PMCO in communicating with and reporting to all relevant authorities such as the Asian Development bank (ADB), relevant ministries and government bodies, and all other relevant stakeholders as and when needed.
- xv) Coordinate with the Traffic Police authorities concerning alternative vehicle parking spaces for the pedestrianised areas in future
- xvi) Enhance the involvement of PMCO and PMCBC besides KMC PIU, during the supervision of all construction works.

## **2.2 DETAILED DESIGN OF WORKS**

### **2.2.1 Introduction**

The detailed design basically consists of

- a) Stone paving works in primary and secondary routes aimed to pedestrianise the paths identified by KMC (approximate total length – 8 kilometers) within the historic city core area
- b) Upgrading of stone paving works in more wider areas such as temple squares, courtyards, areas serving trading purposes and entry points to proposed pedestrianising routes.
- c) Extension, restoration and upgrading of sidewalks (footpaths) within the central area of the city in areas identified by KMC ( approximate total length – 15 kilometers) on series of discussions with the local frontage owners (mostly shopkeepers), who are committed to contribute to the costs as well. Similarity in the design of the sidewalks (the construction material for paving, railings etc.) should be maintained in all proposed areas.
- d) Construction of pedestrian links to connect the historic city core to the central sector of the city

All works need simultaneous and close coordination with the Nepal Telecom (NTC), Nepal Electricity Authority (NEA) as well as the Kathmandu Upatyaka Khanepani Limited (KUKL) regarding drinking water pipelines, sewer and sewerage lines, telephone and electrical networks.

The entire task of pedestrianisation is to be done with the main intention of improving the urban environment, without interference on the features of heritage and traditional values. Therefore, all features to be added should match the aesthetic beauty which the city now holds.

### **2.2.2 Collection of relevant data**

Prior to preparing the design, all relevant data, maps and information are to be collected from the Urban Development Department, KMC.

### **2.2.3 Details of Surveys and Design works**

Detailed surveys should be carried out as per site requirements for alignment of civil works, considering the underground service lines of infrastructure facilities.

Soil tests and lab tests should be carried out as per the requirements on site.

The design proposal should include:

- Detailed Master plan of entire proposed areas
- All proposed areas of construction are required to be indicated on the maps provided by KMC.

- Plans and sections (wherever necessary) of paving paths along with details of manholes / manhole covers at appropriate locations
- Detailed design of paving patterns with technical specifications
- Details with technical specifications of supporting landscaping and elements of beautification such as railings, greenery and landmarks
- Overall 3D view of the wider squares, courtyards etc.
- Details of other innovative features, if any.

### **2.3 PROCUREMENT SPECIALIST SERVICE**

The Procurement Specialist has a key role in assisting KMC PIU in procurement activities to be implemented as per ADB/Government Procurement Act and Regulations. The Procurement Specialist service will require during the design phase to support the design team to prepare all the necessary documents for the procurement of civil works and procurement of goods, whenever necessary. The Procurement Specialist shall work in close coordination with the Procurement Specialist from PMCB consultant hired separately by PMCO of KSUTP.

The Procurement Specialist shall work under the direct supervision of the Project Manager and provide support in the procurement of works and goods required within the scope of works of the project. He/ she will be ultimately accountable to the Project Manager and responsible to the activities carried out for the accomplishment of the assigned tasks and related outputs.

### **2.4 ENVIRONMENTAL AND SOCIAL SAFEGUARDS COMPLIANCE MONITORING**

The DSC, KMC will assist the KMC PIU in

- Notifying the public and concerned stakeholders on the works to be executed and held discussion and interaction programmes
- Engaging in meaningful consultations with concerned stakeholders regarding socio-economic impacts of the works to be executed
- Taking corrective actions when necessary to ensure no environmental impacts

### **2.5 QUANTITY ESTIMATE, RATE ANALYSIS, COST ESTIMATE AND PREPARATION OF TENDER DOCUMENTS**

After the detail design of various project components, the Consultant shall prepare the detail drawings, quantity estimates, rate analysis, detail cost estimates and tender documents for each of the following project components separately.

- i. Stone paving and upgrading works in identified areas for pedestrianisation in the historic city core area
- ii. Typical design of sidewalks in identified areas of the central areas of the city
- iii. Design and detailing works for other interesting innovative features as landscaping and beautification of the urban surroundings
- iv. Additional design of sewage lines/ manholes for maintenance wherever necessary
- v. Design and detailing works for pedestrian links

For quantity estimation, rate analysis and cost estimation, the Consultant shall consider the following:

- District approved rate for basic materials
- Government approved norms wherever applicable
- Where the government-approved norms are not available, develop norms following the standard practice
- The total cost estimate for the construction of sidewalks in the central areas of the city shall include the equal contribution of KMC, ADB and the concerned Local Community.

## **2.6 CONTRACT ADMINISTRATION AND CONSTRUCTION SUPERVISION**

### **2.6.1 General**

The Consultant's responsibilities in contract administration works will include, but not necessarily be limited to the following:

- (i) Assist the KMC PIU in supervising and monitoring construction of the project, prepare and check measurements for works completed and in progress, verify and endorse bills for payment to the contractors/ suppliers, provide certification on the quality of the works accomplished and on their conformity to specifications, drawings and prescribed quality in accordance with specifications, tender documents and quality assurance system;
- (ii) Assist the KMC PIU in checking the line level, layout of the construction to ensure conformity with the contract, propose and present for approval any change in the plans that may be deemed necessary indicating any effect the change may have on contract and prepare all change/ variation orders;
- (iii) Assess and enforce, as per the Standard Construction Management System, the adequacy of contractors' inputs in terms of material, equipments, construction machinery, workers, and construction approach and methodologies;
- (iv) Monitor and enforce, as detailed out in Safety Manual, the measures taken to ensure safety of the workers, other project personnel, general public and works.
- (v) Furnish detailed drawings, with revisions as necessary, to the contractor, check contractors' design and drawings;
- (vi) Attend third party inspections if required and provide certification on the quality of the supplies based on such inspections;
- (vii) Work as the engineer or employer's representative within the context of conditions of the construction contracts;
- (viii) Regularly monitor physical and financial progress against the milestones as per the contract so as to ensure completion of contract in time;
- (ix) Carry out timely reporting to KMC PIU/PMCO for any inconsistency in executing the works and suggesting appropriate corrective measures to be applied;
- (x) Examine contractors' requests for time extension, variations, additional compensation and claims and recommend appropriate decisions;
- (xi) Assist the KMC PIU in resolution of various other contractual issues and overall contract management; and
- (xii) After physical completion of contract, prepare planned maintenance procedures; check installation and commissioning; monitor preparation of the "as built" drawings for various project components.

### **2.6.2 Construction supervision**

The Consultant shall necessarily maintain good coordination with the PMCO and PMCBC to ensure their regular involvement in construction supervision. Other major responsibilities will include, but not necessarily be limited to the following:

- i) Approve contractor's quality management plan, work program, method statements, material sources, manpower and equipment deployment etc;
- ii) Ensure at all times the Contractor works in strict compliance with the Contractor's quality management plan, work plan, and contract specification, including instruction issued as per contract and non-compliance notification;
- iii) Provide all necessary setting out data to the civil work contractors and ensuring correctness of the setting out at field;
- iv) Prepare supervision manual for supervision staff.
- v) Carry out and recommend necessary adjustments in the design/drawing required during construction as per site requirements.
- vi) Inspect and supervise the day-to-day operations and activities of the contractor to ensure quality of workmanship and compliance with the contract.
- vii) Review the Contractor's organizational arrangements, key personnel and work plan, materials and their sources;
- viii) Monitor progress of works against baseline work plan and advise on measures to be taken to improve progress and quality;
- ix) Conduct regular site meetings with the contractor to discuss issues and problems affecting the progress, keep minutes and brief the KMC PIU accordingly;
- x) In the event of variations to the works being required, prepare the necessary documents, negotiate these with contractor, determination of rates of works, advise the KMC PIU on alternatives and recommend these to KMC PIU for approval;
- xi) Supervise the Contractor in all matters concerning safety and care of civil works including provision of necessary lights, guardrails, fencing and security;
- xii) Prepare and issue progress reports for the contracts and projects every month and at the end of every four months in the form acceptable to KMC PIU. These reports will include details of the physical and financial status of the contract/project, details of delays and consequences' if any, comments and solution on the quality of works in accordance with the contract. These reports shall also include updated status of all imported items in each contract. The report shall include items imported, items used and items remaining.
- xiii) Approve and/or issue working drawings and issuing instructions to the contractor as required in accordance with the contract specification and Contractor's quality management plan;
- xiv) Measure the completed works and keep detailed records of the measurement;
- xv) Supervise the tests in field and in laboratory, analyze and justify the results;
- xvi) Undertake independent field and laboratory testing as may be required to verify;
- xvii) Prepare the non-conformity reports and propose the rectification work or solution;
- xviii) Maintain records, correspondence, detailed diaries, photographs and other documents
- xix) Approve interim certificates for progress payments and verify the quantities for such certificates and recommend for payment to the KMC PIU;
- xx) Assess and make recommendations to the KMC PIU on the Contractors claims for additional payment, extension of time and any other matters, based on the Engineers interpretation of the contract as per Contractors detailed submissions;
- xxi) Assist the KMC PIU's Representative with the maintenance of consolidated project accounts, and with preparation of financial statements and withdrawal applications for submission to the ADB;
- xxii) Certify completion of part or all of the works and issue the Taking Over Certificate;
- xxiii) Inspect the works at appropriate intervals during the defects liability period;
  - xxiv) Advise the KMC PIU's Representative on all matters relating to the execution of the works; and assess and recommend the Representative with processing the contractor's possible claims and disputes;
  - xxv) Ensure compliance with the environmental and social impact mitigation requirements of civil works contracts, including environmental management plan;
  - xxvi) At the completion of the works, undertake project monitoring and evaluation in the format acceptable by the KMC PIU and assist in preparing a consolidated Project Completion Report in a current format to be provided by the ADB;
  - xxvii) Check and certify as-built drawings for the works prepared by the contractors;
  - xxviii) Carry out final inspections of the works Defect Liability Certificates;
  - xxix) Approve the final accounts for contracts and recommend for payments;
  - xxx) Provide the KMC PIU with complete records, and inception, monthly and completion reports;

- xxxi) Recommend and report to the employer regarding any appeal to Dispute Resolution Board, Adjudication, Arbitration or litigation related to the works;
- xxxii) Provide any other specialized services within the scope of works of this project as may be requested by the KMC PIU;
- xxxiii) Assist the KMC PIU to provide on-site training to the concerned field staff on quality assurance and contract administration;
- xxxiv) Comply with the audit requirements of the Government.

## **2.7 MISCELLANEOUS WORKS**

### **2.7.1 Other works**

The works not covered above but related to the pedestrianisation scheme are considered here as other works. The Consultant's responsibilities in design and supervision of miscellaneous works will include the other works that are required to be carried out in order to carry out the following major works:

- Construction of Discovery Walk as identified by KMC
- Coordination with KMC and MTP for formulating Parking policy and traffic entry restraints for future implementation works

## **3. TENTATIVE SCHEDULE**

The total duration of consulting service will be about 24 months followed by 12 months defects liability period. The tentative implementation schedule will be as shown in Table 5.

| <b>Table5: Tentative Project Implementation Schedule Key Activities</b>             | <b>Tentative Date</b>                             | <b>Tentative duration in Months</b> |
|---|---|-------------------------------------|
| Start of Consulting Service   | 1 <sup>st</sup> September 2011                    | 4                                   |
| Detail design, preparation of drawings and tender documents                         | 31st December 2011                                |                                     |
| Preparation/ process for Procurement of Civil works contracts, Procurement of goods | January – March 2012                              | 3                                   |
| Start of Civil works Construction   | 1 <sup>st</sup> April 2012                        | 18                                  |
| End of Construction   | 30th September 2013                               |                                     |
| Defect Liability Period   | 1 <sup>st</sup> October 2013- 30th September 2014 | 12                                  |



## 4. RESOURCES

### 4.1 MANPOWER

The Consultant's working team for the design, supervision of the construction works and other miscellaneous services consist of the following key personnel together with other supporting staff. The tentative allocation of manpower for different phases will be as shown in the table below.

#### A) Details of Professional Staff

| Position                                      | Nos. | Phasewise input in months  |                    |                         | Total Input in Months |
|---|------|----------------------------|--------------------|-------------------------|-----------------------|
|   |      | Design & Preparation Phase | Construction Phase | Post Construction Phase |                       |
| Team Leader/ Architect/ Urban Planner         | 1    | 4                          | 18                 | 2                       | 24                    |
| Procurement Specialist                        | 1    | 1.5                        | 1.5                | 0                       | 3                     |
| Community Mobilization Specialist             | 1    | 1                          | 1                  | 0                       | 2                     |
| Quantity Surveyor                             | 1    | 1                          | 1                  | 0                       | 2                     |
| Environmental Specialist                      | 1    | 1                          | 1                  | 0                       | 2                     |
| Social Development Specialist                 | 1    | 0.5                        | 0.5                | 0                       | 1                     |
| Junior Construction Site Engineer             | 1    | 0                          | 18                 | 0                       | 18                    |
| Construction Supervision Engineer             | 1    | 0                          | 4                  | 0                       | 4                     |
| Unallocated (to be decided as per need later) | 1    |                            |                    |                         | 2                     |
| Subtotal                                      |      | 11                         | 45                 | 2                       | 58                    |

### 4.2 FACILITIES

#### 4.2.1 To be provided by the Client

The KMC PIU will provide the Consultant with all available studies, reports and maps which are relevant to the services. The KMC will assist the Consultant to get any other studies or reports required at the expense of the Consultants themselves.

## 5. Qualification and Responsibilities of Key Personnel

### 5.1 Broad Qualification of Team Members

The broad qualifications of key Team Members are given in the table below:

| Broad Qualification of Key Personnel Team Members | Education Qualification and Experience  |
|---|---|
| Team Leader/ Architect/ Urban Planner             | <p><u>Education:</u></p> <ul style="list-style-type: none"> <li>• Graduate in Architecture/Civil Engineering</li> <li>• Preferable: Masters degree in Urban Planning</li> </ul> <p><u>Experience:</u></p> <ul style="list-style-type: none"> <li>• Total Experience- 10 years</li> <li>• Experience in Urban Planning/ Conservation Projects- 5 years</li> <li>• Experience as a Team Leader in minimum 2 urban design projects of size &gt; NRs 15 Million. Experience in ICB contract is desirable.</li> <li>• Team of permanent staff is preferable.</li> </ul>  |
| Procurement Specialist                            | <p><u>Education:</u></p> <ul style="list-style-type: none"> <li>• Graduate in Civil Engineering/Construction management</li> <li>• Preferable: Masters degree in Engineering/Management/Construction Management/ Business Management/Contract management and related field</li> </ul> <p><u>Experience:</u></p> <ul style="list-style-type: none"> <li>• Total Experience- 10 years</li> <li>• Experience in procurement of civil/ urban planning works /supply of goods- 10 years</li> <li>• Experience as a procurement specialist in 2 urban design projects of size &gt; NRs 15 Million. Experience in ICB contract is desirable</li> </ul> |
| Community Mobilization Specialist                 | <p><u>Education:</u></p> <ul style="list-style-type: none"> <li>• Graduate in Social Sciences</li> <li>• Preferable: Masters degree in Social Sciences</li> </ul> <p><u>Experience:</u></p> <ul style="list-style-type: none"> <li>• Total Experience- 10 years</li> <li>• Experience in at least 2 Urban Planning projects</li> </ul>  |
| Quantity surveyor                                 | <p><u>Education:</u></p> <ul style="list-style-type: none"> <li>• Graduate in Civil Engineering</li> </ul> <p><u>Experience:</u></p> <ul style="list-style-type: none"> <li>• Total Experience- 10 years</li> <li>• Experience in Related Field - 5 years</li> </ul>  |
| Environmental Specialist                          | <p><u>Education:</u></p> <ul style="list-style-type: none"> <li>• Graduate in Civil Engineering/Environmental Engineering</li> <li>• Preferable: Masters in Environmental Engineering/Environmental Sciences</li> </ul> <p><u>Experience:</u></p> <ul style="list-style-type: none"> <li>• Total Experience- 10 years</li> <li>• Experience as Environmental specialist/expert in 2 urban design projects</li> </ul>  |

|                                   |  |
|-----------------------------------|--|
| Social Development Specialist     | <p>Education:</p> <ul style="list-style-type: none"> <li>• Graduate in Social Science/Business Administration, Economics</li> <li>• Preferable: Masters in Social Sciences or related subjects</li> </ul> <p>Experience:</p> <ul style="list-style-type: none"> <li>• Total Experience- 10 years</li> <li>• Experience as social development specialist/ expert in 2 urban design projects</li> </ul>                              |
| Junior Construction Site Engineer | <p>Education:</p> <ul style="list-style-type: none"> <li>• Diploma in Civil Engineering/Architecture</li> </ul> <p>Experience:</p> <ul style="list-style-type: none"> <li>• Total Experience- 10 years</li> <li>• Experience as Construction Supervisor in 2 urban planning related projects</li> </ul>  |
| Construction Supervision Engineer | <p>Education:</p> <ul style="list-style-type: none"> <li>• Graduate in Civil Engineering</li> <li>• Preferable: Masters in Civil Engineering/ Urban Planning</li> </ul> <p>Experience:</p> <ul style="list-style-type: none"> <li>• Total Experience- 10 years</li> <li>• Experience in Urban Planning related projects – 5 years</li> <li>• Experience as Construction Supervision Engineer in 2 urban design projects</li> </ul> |
| Unallocated                       | As per later requirements  |

## 5.2 Duties and Responsibilities of Team Members

**i. Team Leader / Civil Engineer:** The Team Leader will take the overall responsibility for the execution of the work in accordance with the ToR and also for the co-ordination of all professional inputs. He will be responsible to the Client. He will also maintain close contact with the Project Manager (Client's representative) to ensure that the contract is implemented in accordance with the ADB/government's policies and guidelines.

The Team Leader will act as the Client / Engineer's authorized representative for the design and supervision contract, with the authority to liaise with the government authorities and make decisions on behalf of the Engineer on all matters pertaining to the consultancy services. He/she will also perform the important role of coordinating the supervision teams, through the Engineers/other Consultant's field staff to achieve the project objective and to ensure that the technical requirements are correctly and consistently implemented during construction. The Team Leader shall have no authority to relieve the Contractor of any of the duties or obligations under the contract or to impose additional obligations not included in the contract.

The Team Leader is responsible for the overall management of the Design /Construction Supervision activities including approval of contractor's i) Work Program, ii) method statements, iii) erection methodology, iv) Quality Assurance System, v) Safety Procedures,

vi) working drawings & specifications, vii) environmental and social safeguard aspects yj) proposed construction materials and contingency plan, etc. to the extent required by the contract. He will advise modifications/revisions where necessary.

Further the Team Leader will be responsible for workmanship, quality assurance, and certification of the contractor's payments. The principal responsibilities of the Team Leader will be included; but not limited to:

- Issue the "Order to Commence the Works" to the Contractor, with Employer's approval; Authorize, with the Employer's approval the Contractors proposals for any subletting of the Work;
- Provide recommendation to the KMC PIU for acceptance of the Contractor Performance security, advance payment security and required insurances. Further provide technical assistance as requested by the Employer to carryout necessary activities related to the actual commencement of the works;
- Explain and/or adjust ambiguities and/or discrepancies in interpretation of the Contract Documents, and provide recommendations and reporting to the Employer in the settlement of disputes with the Contractors,
- Approve the Contractors' working drawings, method of statement, specifications and, if necessary, to issue further drawing instructions and/or to give instructions to the Contractors;
- Provide basic layout data and approve setting out of the works;
- Approve the Contractors' superintendence key personnel, construction Programs, site offices and other sites to be occupied by the Contractor, materials and material sources;
- Order special tests of materials or of the completed works, as required, and/or removal and replacement of unsuitable materials and/or completed works as required;
- Control and assess relevant clauses in the contract (Conditions of Contract) to issue the non-conformity along with proposed solution for improvement or rectification works and to authorize with the Employer's approval, extensions of the period for completion for the works,;
- Issue variation orders, to evaluate variation proposals, to fix rates for new work items, to order day labour works items, and/or to make recommendations to the Employer regarding any other suitable alternatives to the variations;
- To recommend the extension of time as necessary.
- Issue interim certificates for payment to the Contractor on the basis of measured work items, and to certify the completion of the works or parts thereof based on the interim and final measurements of work which shall be subject to a percentage check by the Employer's designated representative( s);
- Inspect the works periodically during the construction period and, if some defects are identified issue to the Contractor for rectification of the defects to be carried as per the contract; issue Performance Certificate after the rectification by the Contractor of any identified defects;
- Review and supervise any additional tests conducted by the Contractor;
- Carry out generally all the duties of the Engineer as specified in the Contract, within the limitations specified therein;
- Advise the Employer on all matters relating to claims from the Contractor and to make recommendations thereon, including the possible recourse to suspension and arbitration;
- Check and certify the completed work and payment certificates to the Contractor;
- Prepare the monthly, quarterly report and other Project Reports as per ToR;
- Recommend and report to the Employer with respect to carrying out the works following any appeal to Dispute Resolution Board, arbitration or litigation related to the works
- Analyze, assess and recommend Claims and disputes;
- Comply with audit requirements of the government.

## **ii. Procurement Specialist**

Procurement Specialist will be responsible for substantial content of his / her position in the procurement area under ADB/Government's procurement Act and regulations and procurement guidelines as outlined on ToR. The Procurement Specialist should have:

- In depth knowledge and understanding of technical, commercial and legal aspects of procurement in development projects, financed by the government and its development partners would be essential.
- Specialized knowledge of and significant experience in substantive areas/aspects of procurement (e.g. finished goods; machinery; various forms of construction contracts; selection/ contracting of consultant services; preparation of bidding / contract documents for the international procurement of goods, services; public procurement policies and practices, etc.);
- In depth knowledge of procurement practices (use of internationally accepted contract documents for works, goods and services, sound understanding of principles underlying good procurement practices and international agencies' procurement guidelines; understanding of ADB/Government's procurement Act and regulations; analytical capability in identifying and resolving procurement issues);

The Procurement Specialist has a key role to assist KMC PIU in procurement activities to be implemented as per ADB/GoN Procurement Act and Regulation. The Specialist will have, in general, the following duties and responsibilities, but not limited to:

- Draw up the annual procurement plan of KMC PIU.
- Prepare Standard Bidding Documents for the Procurement of Works, Goods and Services (if any, within the scope of works of KSUTP) of KMC PIU
- Provide technical support for the implementation of any procurement process of KMC PIU;
- Monitor all procurement activities to be implemented by KMC PIU
- Coordinate PMCO and PMCBC to carry out the procurement activities of KMC PIU
- Participate in project related meetings as called by the Project Manager;
- Perform any other related assignment as delegated by the KMC PIU.
- Assist in procurement activities carried out by KMC PIU such as:

### **iii. Community Mobilization Specialist**

The role of the Community Mobilization Specialist is of great importance in the project design and implementation. The component of the construction of sidewalks in the central sectors of Kathmandu requires the financial contribution of the frontage owners of the concerned stretches of sidewalks. The major responsibilities will include, but not be limited to the following:

- Communicate with the concerned ward level offices for the information of the concerned community.
- Organize and conduct timely community level meetings for the dissemination of information on the project components
- Mobilize the community on the commitment towards the financial participation for the works
- Coordinate with the former political representatives (ward chairman) of the respective wards
- Enhance the involvement of the KMC PIU, PMCO as well as the PMCBC during the programmes conducted for community mobilization.

### **iv. Quantity Surveyor**

She/He will be responsible for all quantity estimation, rate analysis, cost estimation works within the scope of works mentioned in this ToR. He shall have experience on the quantity estimation works for urban planning projects. The estimation of quantity and rate analysis shall be done as per prevailing norms and standards using approved district rates. During construction phase, quantity surveyor shall review and check the measurements of the major work items in the running bills of the contractor as required or as requested by team leader.

### **v. Environmental Specialist**

Environmental Specialist will be responsible for execution of all Environmental related works in accordance with ToR. The job responsibilities will include, but not be limited to the following:

- Review of draft IEE reports and get approval from the concerned authorities

- Review and prepare detail environment management and monitoring action plan for all project components including details of all mitigation measures and respective costs
- Make periodic site visits to check conformity with the environment mitigation requirement of civil work.
- Monitor environmental mitigation measures identified during design stage.
- Review and make recommendations on the construction plans for all work items prepared by the Contractor, and ensure that they are fully in compliance with the Environmental Safeguard Framework;
- Verify that the Contractor's sourcing and processing of materials meets the requirements of the Environmental Safeguard Framework;
- Assist and coordinate with the Team Leader the identification and resolution of all environmental problems and issues arising during Contract implementation.
- Prepare environmental assessment report.

**vi. Social Development Specialist**

Social Development Specialist will be responsible for execution of all social works in accordance with ToR. The job responsibilities will include, but not be limited to the following:

- Carry out activities described in and/or that follows from the activities described in the scope of work as far as relevant to social development and safeguards;
- Provide support for (i) socio-economic analysis (ii) people's participation in project activities;
- Prepare necessary reports on social related issues

**vii. Junior Construction Site Engineer**

Junior Construction Site Engineer will be responsible for the supervision of day to day construction works. He should be responsible for the general workmanship and quality of works. He shall maintain the daily diary and prepare daily reports on standard reporting formats and submit the reports whenever required by the Construction Supervision Engineer. He will report to the Construction Supervision Engineer on any problems arising during construction.

**viii. Construction Supervision Engineer**

Construction Supervision engineer will be responsible for the monitoring of works executed by the direct supervision of the Junior Construction Site Engineer. He / she shall report to the team leader and other team members on any problems associated with the delay of construction works and suggest appropriate solutions by deciding on the needs and urgency of the problem

**x. Unallocated**

The duties of the unallocated staff will be set upon by later depending on the requirement of the additional works as proposed by the Team Leader.