

The consultant will coordinate soil testing services which may be required for construction on the site, or for particular construction units as may be required from time to time. The consultant shall assess the results of soil testing and confirm the suitability of soil conditions for the proposed construction methods.

c) Field Inspection & Site Observation

The consultant will perform site observations of the day-to-day construction activities for the purpose of minimizing defects and deficiencies in the work of the Contractor(s) and to check that provisions of the contract documents are being fulfilled. The Consultant may appoint a lead contractor amongst the various trade contractors that will take some responsibility for on-site construction co-ordination. The consultant will, however, have a heavy site presence with its own construction management team.

The consultant will coordinate Quality Assurance materials testing, review and approve Quality Assurance materials testing results.

Where Quality Assurance materials testing results, staking re-established by Contractor(s), or Contractor(s) workmanship is deficient in any way, the consultant will ensure corrective actions are undertaken by the Contractor(s) so that the deficiencies are satisfactorily expedited to the service provider's satisfaction.

The consultant will observe and monitor Contractor(s) compliance with regulatory permits, environmental management and mitigation plans, workplace safety and health standards, and Contractor(s) work schedule & method statement. Where the Contractor(s) performance is deficient the consultant will ensure corrective actions are undertaken by the Contractor(s) so that the deficiencies are satisfactorily expedited to the consultant's satisfaction.

The consultant shall take and maintain digital photographs, document construction progress, and prepare inspections & site observation reports documenting observed construction activities.

d) Change Order Management

The consultant will review Requests for Information (RFI), coordinate submittal reviews, and either provides information from the Contract documents back to the Contractor or route request to Design Engineer for comment and responses or resolution as required.

The consultant shall review and evaluate contract change order requests and submittals against the engineering design and performance standards, perform quantity and cost analysis as required for negotiation of change orders,

investigate and inspect site conditions that differ from those described in the contract documents, assist the Client in negotiation of change orders, and coordinate contract change orders between Contractor(s) and the Client as required.

The consultant will analyse additional compensation claims that are submitted during the construction period and prepare responses, perform claims administration including coordinating and monitoring claims responses, logging claims and tracking claim status, and review submittals in support, and recommendations for resolution of claims and disputes as required.

e) Cost Control

The consultant will furnish the Client with estimated expenditure forecasts (monthly, quarterly & annually) during the construction management phase. The expenditure estimate forecasts for each unit constructed and installed must be within an accuracy of  $+ / - 10\%$  of the Client's commercial evaluation of bids for that unit.

The consultant must submit to the Client the basis for post order expenditure variations where the estimated expenditure forecast for each unit exceeds the Client's commercial evaluation of bids for units constructed and installed.

The consultant must monitor, review and submit to the Client an updated Project expenditure estimation based on the forecasts with the quarterly expenditure forecast.

The consultant will approve progress payment release requests for the Client confirming that all works, services, equipment covered by the payment requests are complete, inspected and expedited. The consultant will either sign off on the payment request and submit to the Client for payment authorization or, return the payment request to the Client with a report detailing any works, services or equipment covered by the payment request which are incomplete or have not been expedited to the consultant's satisfaction.

f) Record keeping

The consultant will maintain and update construction management records, including the construction management schedule (incorporating Contractor(s) work schedules, testing plan, and commissioning plans for all plant, equipment and systems), and a Submittal Log of Requests for Information (RFI), and contract change orders and compensation claims.

**C. Post Construction Phase Tasks**

a) Construction Close out

The consultant will perform routine construction closeout site inspections to determine if facilities/ units are complete and in compliance with Contract Documents, prepare punch lists and inspect punch list item corrective actions, and prepare recommendations to Client as to the release of retention payments to Contractor(s), vendors and suppliers.

For the supply and installation of plant, machinery and equipment (external utilities, pumps etc.) the consultant will, coordinate a phased mechanical and systems completion program to facilitate sequential pre-commissioning activities culminating in a logical commissioning of the overall facility operations and functionality.

The consultant shall coordinate and provide technical assistance to Client, Contractor and Operator in pre-commissioning and commissioning, and arrange for resolution of all technical and operational issues that may arise in the process of commissioning.

The consultant will submit, in a format acceptable to the Client, all construction completion certificates for works units, mechanical completion certificates supply and installation of plant & machinery, and acceptance certificates for goods and brought out equipment.

The consultant shall coordinate with, and assist the operator for the purpose of a performance guarantee Test Run before handover to the operator and ensure that all contractual obligations are met, and implementation of necessary remedial measures in case of non-conformance to any of the guaranteed parameters.

- b) Final documentation package, construction management files and operating manual handover.

At the time of handing over of the completed facility the consultant shall prepare and submit to the Client one original and one copy of Final Document Package (FDP) for the entire project. The consultant shall check the FDP for its correctness and completeness including the incorporation of an amendments, additions/deletion, DCNs (Document Change Notes). The FDP may include but is not necessarily limited to the following:

- Final vendor & suppliers drawings,
- 'As Built' drawings
- Equipment General Arrangement Drawings
- Piping General Arrangement Drawings
- Civil/Structural Drawings
- Electrical & plumbing Line Drawings
- Performance test reports
- Stage-wise inspection reports

- Support Specifications
- Material and soil test certificates

At the time of handing over of the completed facility to the Client the consultant shall submit to the Client one original and one copy of the construction management files and for archiving.

At the time of handing over of the completed facility the consultant shall review and submit to the Client one original and one copy of each of the following:

- Operating and maintenance manuals for bought-out equipment.

The consultant will ensure that all manuals are in English, complete, and are fit for purpose. Where any manual is, in the view of the service provider, deficient in any way, the consultant will ensure corrective actions are undertaken by the supplier so that the deficiencies are satisfactorily expedited prior to hand-over. For the Operating Manual(s) for the plant and machinery, and associated utilities the consultant will review and verify that the manuals include:

- (i) Operational guidelines specifically outlining safety and environment control procedures as well as recommended maintenance practices, and

## 8. REPORTING

The consultant will submit monthly progress reports for the Client including description of key issues, quality (incl. Quality Assurance materials testing summary results) and cost status, schedule status, inspection and site observations, and minutes of contractor(s) coordination meetings, as required.

The consultant will report non-compliance with regulatory permits, environmental management and mitigation plans, and workplace safety and health standards as soon as practicable after the consultant becomes aware of the non-compliance.

The consultant will furnish the Client with any other report required from time to time and as described in this Terms of Reference during the course of the assignment.

## 9. COMPETENCIES OF THE PROJECT TEAM

All engineering work shall be performed by experienced personnel, and the consultant shall use the necessary tools to perform the engineering work in a professional manner and in accordance with accepted engineering practices.

The scope of works listed above broadly requires competencies in civil, structural, mechanical, electrical engineering, surveying and construction management, pre-commissioning, start up and commissioning.

## 10. DELIVERABLES

All final reports and documents will be submitted in English in 1 (one) hard copy, and 1 (one) soft copy draft reports and documents may be submitted to the client electronically.

All reports and documents will be submitted in draft. The client will review the reports and documents and provide comments to the consultant within 2 (two) weeks of receipt.

The deliverables and indicative time schedule is as follows:

No later than 2 (two) calendar months after the commencement of the assignment the consultant shall submit to the Client:-

- (i) All conceptual, architectural, elevation, profile, admeasurements, electrical & plumbing line drawings, and spot plans and plot layouts, Bills of Quantities, equipment lists, data sheets and specifications etc. as required for inclusion in each standard of bidding document package for works, supply & installation of plant & machinery, and goods & equipment and miscellaneous works.
- (ii) A plan and schedule for the sequencing of procurement of construction works, and supply and installation of plant & machinery, and goods & equipment including miscellaneous works.
- (iii) A construction management schedule for the facility construction, including but not necessarily limited to commencement of construction management phase, major construction, installation and equipment supply milestones, activity sequencing, construction closeout, post construction services, and final document handover.

For each sequential 30 (thirty) calendar day period from the commencement of construction management phase the consultant shall submit a monthly progress report including description of key issues, quality (incl. Quality Assurance materials testing summary results) and cost status, schedule status, inspection and site observations, and minutes of contractor(s) coordination meetings, as required. With the exception of the first report each subsequent report must be submitted no later than 45 (forty five) calendar days of the previous report.

Not later than 14 (fourteen) calendar days after construction closeout the consultant shall submit, in a format acceptable to the Client all construction completion certificates for works units, mechanical completion certificates supply and installation of plant & machinery, and acceptance certificates for goods and brought out equipment including miscellaneous works.

No later than 21 (twenty one) calendar months after commencement of the assignment the consultant shall submit (handover) the final documentation package (FDP) all construction management files for archiving and operating manuals.

## 11. DURATION

The successful consultant must be available to commence the services in one month. The estimated services provided under the proposed contract will be for a period of 20 (twenty) calendar months. The estimated duration of each phase is given below:

- Pre-construction Phase: 2 months
- Construction Phase: 9 (nine) months
- Post Construction Phase (service provider): 3 months

### Construction Phase

While construction packaging will be identified, subsequent to contract packaging, it is envisaged that the Team of Construction Supervision Consultant shall have the following professionals and supporting indicative staff for entire duration of the contract.

#### (c) Supervision Team:

S.No	Position	Qty	Man-Month
1	Resident Engineer	1	12
2	ARE Structure	1	As and when required
3	ARE Electrical	1	As and when required
4	Inspector Civil	1	As and when required
5	Inspector HVAC	1	As and when required
6	Surveyor	1	As and when required

### Project Deliverables

All reports documents prepared by the Consultants shall be professionally precise and objective. The report formats shall be finalized in consultation with the Employer. The consultant shall provide specified number of copies / sets of the following reports and / or documents to Employer, which may be varied as per requirement.

#### e) Design Phase

- |  |           |
|--|-----------|
| ix. Inception Report .....                   | 03 Copies |
| x. Site Survey and Investigation Report..... | 03 Copies |

- xi. Draft Final Design Report..... 03 Copies
- xii. Final Design Report ..... 03 Copies
- xiii. Revised PC-1 Document..... 10 Copies
- xiv. Economic Analysis Report..... 03 Copies
- xv. Tender Documents (Condition of Contracts Package, Specification, Tender Drawings and Bill of Quantities - of each Contract 06 Copies
- xvi. Engineer's Estimate..... 02 Copies

Note: The electronic versions of all documents will be provided to employer.

**f) Pre-Construction Phase**

- iv. Prequalification Documents of Contractors..... 20 Copies
- v. Pre-qualification Evaluation Report ..... 03 Copies
- vi. Bid Evaluation Report ..... 03 Copies

**g) Construction Supervision Phase**

- ii. Monthly Progress Report..... 03 Copies

**h) Post-Construction Supervision Phase**

- ii. Project Completion Report (Upon Completion of DLP Period)..... 03 Copies

### 3.0 GUIDELINES FOR PREPARATION OF PROPOSAL

#### 3.1 GENERAL

Technical proposal evaluation will be carried out on the basis of the professional credentials of the applicants; understanding of project as well as the urban renewal process, services offered by them and expertise/experience relevant to the requirements for the proposed works

Final selection from amongst the prequalified Consultants would be made on the basis of the **Technical and Financial Proposal** now being requested. The client would like to appoint a Master Consultant who can offer the best possible services on in the fields of design, Project management / Supervision, coordination etc in order to ensure quality of development and its timely completion.

The consultants would be required to evolve a state of the art methodology and monitoring system to ensure highest professional manner in the execution of all related works.

#### 3.2 TECHNICAL PROPOSAL

The Technical Proposal is to be submitted on company letter head duly signed & stamped.

The Technical Proposal would be evaluated on the basis of:

- Professional worth and standing of the firm in terms of the firm's experience.
- Experience , education / training of Key personnel with regard to revitalization of old towns
- The conceptualization of project highlighting design and management understanding as well as capabilities of consultant.
- Case studies.
- Understanding of successful revitalization process.
- The proposed Methodology of the consultants elaborating their approach.
- Project Experience of the professionals in their respective fields
- Professionals proposed to be deployed by the Consultants.
- Visual presentation of the prospective consultant's intended development / revitalization expressed in virtual walk through presentation and 3-D views of different improved streetscape as the consultant intends to develop.

The team proposed by the consultant in the technical proposal would be considered a commitment by the Consultant in case of being appointed as the Project Consultant

Financial Proposals of the top three Consultants would be opened while the Financial Proposals of remaining shall be returned.

During evaluation the Technical Proposal would be given 70% age.