

ANNEXURE I

Technical Quality Audit Parameters: Buildings

Pre-implementation Stage

| Sr. no. | Parameter | Benchmark | Reference | Indicator | Sub indicators | Max. marks | Marks obtained | Weightage (%) |
|---------|-------------------|--|-----------|---|---|------------|----------------|---------------|
| 1 | Planning & Design | Technical Framework and comprehensive Planning | DPR | 1.1) Survey, investigation and regulatory compliances | 1.1.1) Site selection and feasibility | 10 | | 25 |
| | | | | | 1.1.2) Land survey/preparation of contour site plan | 10 | | |
| | | | | | 1.1.3) NOC from country and town planning/local municipal authority/other department | 5 | | |
| | | | | | 1.1.4) Land acquisition and forest/other environmental clearances if required | 5 | | |
| | | | | 1.2) Architecture planning | 1.2.1) Requirement details from the concerned department | 5 | | |
| | | | | | 1.2.2) Preparation of preliminary architectural drawings and its approval from concerned department | 10 | | |
| | | | | | 1.2.3) Preparation of working drawings showing all the details along with specifications of each item | 10 | | |
| | | | | 1.3) Design and specification | 1.3.1) Conducting Geo technical/soil testing investigation to know the soil composition and its characteristics | 10 | | |
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|-------|--|--|--|--|--|-----|--|-----|
| | | | | | 1.3.2) Framing structural design and other specification | 10 | | |
| | | | | 1.4) Cost Analysis, Budget planning and timeline estimates | 1.4.1) Preparation of detail estimates with cost index up to the implementation period. | 10 | | |
| | | | | | 1.4.2) Identification of funding agency with annual budget allocation | 5 | | |
| | | | | | 1.4.3) Period for approval of detailed estimates, call of tenders, award of work & its implementation etc. | 10 | | |
| Total | | | | | | 100 | | 25% |

IMPLEMENTATION STAGE

| Sr. no. | Parameter | Benchmark | Reference | Indicator | Sub Indicators | Max. marks | Marks obtained | Weightage |
|---------|-----------------------------------|---|---|--|--|------------|----------------|-----------|
| 2 | Execution, Inspection and testing | Technical methodology for implementation and inspection & testing | contract Agreement, test reports and quality control register | 2.1) Use of construction materials as per relevant codes & manuals | 2.1.1) Procurement of items like steel, cement, CGI sheets, WS&SI, electric fittings etc. from approved make and manufacturers | 5 | | 45 |
| | | | | | 2.1.2) Use of materials such as aggregate sand, stones, bricks etc. from approved source only | 5 | | |
| | | | | | 2.1.3) Use of design mix of concrete as per specification | 5 | | |
| | | | | | 2.1.4) Carrying out tests at manufacture's premises before dispatch/inhouse facilities | 5 | | |
| | | | | 2.2) supervision by skilled manpower/ TPIA | 2.2.1) Deployment of appropriate qualified personal | 5 | | |
| | | | | | 2.2.2) Manpower deployment as per requirement | 5 | | |
| | | | | 2.3) Use of modern facilities for construction and treatment | 2.3.1) Use of automated batching plants | 5 | | |
| | | | | | 2.3.2) Use of Cranes, Hoist, Transit mixer trucks etc. | 5 | | |
| | | | | | 2.3.3) Use of other mechanized and digital equipment etc. | 5 | | |
| | | | | 2.4) Conformity to relevant standards | 2.4.1) Work executed as per approved bid document | 10 | | |
| | | | | 2.5) Testing laboratory at site | 2.5.1) Setting up Testing laboratory having all testing equipment, relevant to the project specifications | 10 | | |

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|--|--|--|--|--|--|------------|--|------------|
| | | | | 2.6) Pre & Post Inspections of materials | 2.6.1) Selection of quarry site for aggregate, stone, sand etc. | 5 | | |
| | | | | | 2.6.2) Ensuring required frequency of tests during implementation | 5 | | |
| | | | | | 2.6.3) Ensuring relevant mandatory tests during execution at every stage of the construction such as cube test of concrete, gradation of aggregates, fineness modulus of sand etc. | 5 | | |
| | | | | 2.7) Documentation and Reporting | 2.7.1) Preparation of site inspection and quality control registers | 5 | | |
| | | | | | 2.7.2) Checking of test results by Engineer in Charge | 5 | | |
| | | | | | 2.7.3) Submission of non-conforming reports and keeping the record | 5 | | |
| | | | | | 2.7.4) Rectification of defects | 5 | | |
| | | | | Total | | 100 | | 45% |

COMMISSIONING

| Sr. no. | Parameter | Benchmark | Reference | Indicators | Sub Indicator | Max. marks | Marks obtained | Weightage |
|---------|-----------------------------|---|-------------------|---|--|------------|----------------|-----------|
| 3 | Commissioning and Hand over | Guidelines for commissioning and handover | Completion report | 3.1) Testing and commissioning | 3.1.1) Inspection and testing of all water supply and sanitary works | 20 | | 10% |
| | | | | | 3.1.2) Inspection and testing of Electric installation work (EI), lifts/elevators, fire safety works by the certified authorized personnel | 20 | | |
| | | | | | 3.1.3) Inspection of drainage outlets | 10 | | |
| | | | | 3.2) Submission of completion certificate and adhering to approved timelines and budget | 3.2.1) Submission of completion certificate as per approved drawing | 10 | | |
| | | | | | 3.2.2) Completion of the project within the stipulated timeline | 10 | | |
| | | | | | 3.2.3) Total expenditure within sanctioned amount | 10 | | |
| | | | | 3.3) Guarantee of works | 3.3.1) Post commissioning Monitoring and support from the contractor in the defect liability period | 10 | | |
| | | | | | 3.3.2) Withhold of security amount | 10 | | |
| Total | | | | | | 100 | | 10% |

SAFETY AND SECURITY

| Sr. no. | Parameter | Benchmark | Reference | Indicator | Sub Indicator | Max. marks | Marks obtained | Weightage |
|---------|---------------------|------------------------------------|-------------|--|---|------------|----------------|-----------|
| 4 | Safety and Security | Guidelines for Safety and Security | Safety plan | 4.1) Adherence to safety standards & regulations | 4.1.1) Submission of all safety related clearances such as evacuation plan etc. in case of emergencies. | 3 | | 5% |
| | | | | 4.2) Safety measures for workers | 4.2.1) Providing first aid equipment, safety uniforms and housing for workers etc. | 2 | | |
| | | | | 4.3) Security measures | 4.3.1) Physical Security measure | 2 | | |
| | | | | | 4.3.2) Incident response and reporting | 3 | | |
| Total | | | | | | 10 | | 5% |

OPERATION & MAINTENANCE

| Sr. no. | Parameter | Benchmark | Reference document | Indicator | Sub Indicator | Max. marks | Marks obtained | Weightage |
|---------|---------------------------|-------------------------------------|------------------------|---|---|------------|----------------|-----------|
| 5 | Operation and maintenance | Procedure for effective maintenance | Assets management plan | 5.1) Compliance to prescribed deliverable | 5.1.1) Ensuring proper maintenance as per the bidding document | 4 | | 5 |
| | | | | 5.2) Timely rectification of defects | 5.2.1) Rectification of defects within the specified time period during defect liability period | 4 | | |
| | | | | | 5.2.2) Documentation of the maintenance record | 2 | | |
| | | | | | Total | 10 | | 5% |

| Sr. No. | Parameter | Marking Criteria | Weightage (%) | Marks obtained |
|--------------|-----------------------------------|---|---------------|----------------|
| 1 | Planning and Design | | 25* | |
| 2 | Execution, Inspection and Testing | | 45* | |
| 3 | Commissioning and handing over | | 10* | |
| 4 | Safety Measures | | 5* | |
| 5 | Operation & Maintenance | | 5* | |
| 6 | Environmental Measures | Consideration of environmental factors like sustainability, eco-friendly construction practices | 5 | |
| 7 | User Feedback | Feedback from beneficiaries, stakeholders to assess their satisfaction levels | 5 | |
| TOTAL | | | 100 | |

*The breakup of the weightage is given in the detailed framework for these parameters

*Parameters that are not applicable to a specific project will not be considered in the audit scoring. The weightage will be adjusted accordingly.