

# TERMS OF REFERENCE

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## Consulting service for the Design, Drawings and Estimation Bill of Quantities for Informal settlement upgrading

### OBJECTIVE AND SCOPE OF CONSULTING SERVICES

#### 1. Introduction

.....has a mission to “Build and Sustain a City of Character, Vibrant Economy and Diversity through strong Partnerships with Stakeholders to provide responsive, rapid and effective Urban Development”.

The.....plan upgrading of informal settlements or urban renewal, wherever feasible in the brown field sites. Variety in the housing types and planned development is expected to stimulate the upgrading, redevelopment, and intensification of these areas.

The zone is currently dominated by an unplanned neighborhood pattern. The area target of this intervention is facing the ..... Channel and will have different phases of a more integrated re-development and upgrading process that will affect the neighborhood.

The site to be upgraded is located in.....

The site is in the Medium Density Residential - Improvement Zone (R2) as .....Master Plan is essentially planned for upgrading of unplanned settlements or urban renewal, wherever feasible in the brown field sites. Variety in the housing types and planned development is expected to stimulate the upgrading, redevelopment, and intensification of these areas.

The zone is currently dominated by an unplanned neighborhood pattern. The area target of this intervention is facing the ..... Channel and will be in different phases for a more integrated re-development and upgrading process that will affect the neighborhood.

#### 2. Objectives

The main objectives of this development are listed below and are to:

- ❖ Trigger a self-sustainable upgrading process and demonstrate the effectiveness of the model as an example for other parts of..... ,
- ❖ Involve owners and tenants in the upgrading process, including their expectations and addressing their needs in the design of the units and of the entire neighbourhood,
- ❖ Providing affordable, safe and well-organized residential spaces for the community, limiting the need for relocations and expropriations.

### 3. Technical detail of the Project

**Name:** Design, Drawings and Estimation Bill of Quantities for.....Informal settlement upgrading

**Location:**

Specific requirements of the building:

The proposed buildings shall be a G+2 buildings constructed in Row Rock Bond construction technology

#### Scope of the work:

With a technical support and sharing some existing studies and data from Skat Consulting Rwanda Ltd through a Memorandum of Understanding signed between the..... and....., The scope of the works to be undertaken by the consultancy firm includes the following:

1. Site survey and develop site layout for ..... neighborhood.
2. Architectural drawings including sewerage and plumbing facilities in complete sets. This will be done by Involving owners and tenants in the upgrading process, including their expectations and addressing their needs in the design of the units and of the entire neighbourhood. The community participatory approach already available at the . . . . must be respected.
3. Structural drawings with complete detailing and bar bending schedule.
4. Mechanical, Electrical and Plumbing (MEP) drawings complete.
5. Detailed cost estimate, BOQ and rate analysis wherever necessary.
7. Obtaining the building permit and the necessary approvals of the designs for construction of the building from the authorities concerned.

It shall be the responsibility of the consultancy firm to:

1. Carry out the physical verification of the site for assessing the scope of work; and
2. Conduct necessary tests to determine the design parameters.

### 3. Detail Design Works

Description of Work: Survey, Design, Drawing and Estimation cost of different building G+2 constructed in RLB Construction technology.

Location:...

Project Duration: ... months

#### 3.1 Objectives:

The consultant is expected to prepare master plan of ..... neighborhood, carry layout of the proposed infrastructure and site development works, survey, soil investigation, detail electrical, water supply and sanitation design, preparation of drawings of all designs, Bill of Quantities (BoQ), cost estimate including rate analysis for the whole project and obtaining of necessary design approval for construction from authority concerned.

### **3.2 Scope of Consultancy Services:**

The services to be provided by the consultant will include, but not limited to the following:

#### **a) Site Investigation and Survey Works:**

i. Prospective consultancy firms should visit the proposed site at its own costs to familiarize with the existing site conditions. A copy of the sketch map of site will be provided for reference.

#### **b) Soil Investigation:**

i. All the pre-requisite studies such as site study, surface study and investigations, tests, collection of data, (adequate trial pits) etc. should be carried out (Bearing capacity of soil) and incorporate in the structural design before detail design of building structures.

ii. The soil investigation shall furnish necessary information to decide on the type and depth of building foundations among others.

iii. The consultant shall submit a detail soil tests and investigation report.

iv. The consultant has to dig adequate number of pit holes at various sites as per the infrastructure location for obtaining details of the soil conditions adequate for proper design of the buildings.

v. The location & depth of holes may be decided in close coordination with the departmental engineer.

#### **c) Detail Drawings for the Building and other infrastructure**

i. The drawings should be done in an appropriate style and the scales suitably fixed so that they are easily readable at site or workshop by naked eye.

ii. Adequate number of drawings should be produced to appropriately represent all the necessary details, views, etc.

iii. The detail reinforcement schedule will be a part of the drawings.

iv. For the purpose of tendering, drawings printed on A3 sizes would be accepted. However, the drawings should be easily readable by naked eye.

v. All drawing dimensions shall be in metric system (i.e. meter, cm and mm)

#### **d) Bill of Quantities**

i. The BoQ should be explicit covering all items of work. It should be as exhaustive as possible to avoid changes, additions, deletions and substitutions during execution and therefore the undesired disputes and claims.

ii. The detailed technical and material specifications should be a part of the BoQ.

iii. The quantities should be worked out as accurate as possible to avoid unnecessary variations during the execution of the work.

iv. Availability of materials may also be specified for those that are unique in features.

### **e) Rate Analysis & Cost Estimates**

- i. The cost estimates should be appropriately worked out to indicate the approximate cost of the entire project. It should be accompanied by analysis of rates where necessary.
- ii. All forms of taxes – excise duties, sales tax, royalties, etc. applicable in Rwanda should be incorporated in the cost analysis.
- iii. The cost estimate should be treated as highly confidential.

### **3.3 Key Personnel:**

The Consulting firm shall engage the following key personnel whose CV and experience shall be evaluated, apart from other support staff to carry out the Services.

#### **i) Team leader**

#### **ii) Architect**

#### **iii) Structural/Civil Engineer**

#### **iv) Electrical Engineer**

#### **v) Quantity Surveyor**

The key personnel shall meet the following minimum eligibility requirements:

#### ***i. Team leader:***

- a) Must have managed construction projects of about 3 projects of similar type and scale or have about 5 years or more experience in construction project management.
- b) Must have at least Bachelor's Degree in Architecture/civil engineering.
- c) Must be fluent in spoken & written English.

#### ***ii. Architect***

- a) Must have at least Bachelor's Degree in Architecture from a reputed University.
- b) Must have at least 5 years of experience in building design works.
- c) Must be fluent in spoken & written English.

#### ***iii. Structural/Civil Engineer***

- a) Must have at least Bachelor's Degree in relevant field.
- b) Must have at least 5 years of experience in Building works.
- c) Must be fluent in spoken & written English.

#### **iv. Electrical Engineer**

- a) Must have at least Bachelor's Degree in Electrical Engineering.
- b) Must have at least 5 years of experience in Building Electrical works.
- c) Must be fluent in spoken & written English.

#### **v. Quantity Surveyor**

- a) Must have at least Diploma in Civil Engineering.
- b) Must have at least 5 years of experience in Quantity Survey.
- c) Must be fluent in spoken & written English.

The consulting firm should submit detailed references of similar works executed earlier (both by the firm and the key personnel), detailed Curriculum Vitae (CV) and qualification & experience certificates and the letter of commitment of the proposed consulting engineers.

For uniformity in evaluation, the qualification, experience record, etc. of only the above five key personnel would be evaluated. The firm shall be disqualified if the qualification & experience certificates and letter of commitment of the consulting engineers are not enclosed.

### **3.4 Services and Facilities for the Consultant:**

The Consultant would be provided the copy of site plan for the purpose of preparation of lay out plans, designs and drawings. For the purpose of detail design and layout, the Consultant will have to carry out detail survey of the site on its own and shall take full responsibility for accuracy of the data collected.

### **3.5 Reports and Documents:**

The selected Consultancy Firm shall be required to submit and present the followings reports for Client's review and approval:

☐ *Inception Report, at the end of first quarter from the date of commencement of the services, and the followings:*

1. Preliminary Master Plan
2. Soil investigation data and report of the site

☐ *Interim Report, at the end of.....from the date of commencement of the services:*

1. Master plan with complete site development works
2. Architectural drawings with complete details

☐ *Draft Final Report, at the end.....from the date of commencement of the services:*

1. Master plan with complete site development works
2. Architectural drawings with complete details
3. Plumbing drawings
4. Drainage and sanitation drawings
5. Electrical drawings
6. Structural drawings with complete details
7. Structural analysis and design calculations

☐ *Final Report, at the end of .....from the date of commencement of the services, are the followings:*

1. Specification of the works
2. Details of measurement and abstract of estimated cost and BOQ
3. Building permit and design approvals from concerned authority

**The final report shall also consist of the following documents:**

- a) A Compact Disc containing the plot files as well as the drawing (.dwg) files.
- b) Three sets of BoQ & Materials/Technical specifications printed and bound and also in CD.
- c) Three sets of detail design drawings printed on A3 size paper for the purpose of tendering only.
- d) Cost estimate and rate analysis for all items of work– one hard copy (properly sealed) and soft copy in a Compact disc in editable format.
- e) Two copies of detail structural analysis and design of the buildings for the reference of the clients.