

1.0 Requirements of the Client

1.1 Scope of Works

The project requires design and construction of 200 social housing units at L. Gan. Development area will be approximately 26000 square meters (279, 861.67 square feet), on a single plot of land or on two different sites. Setbacks, accessibility and such shall be taken into consideration and shall be designed and constructed in accordance with the local and internationally accepted building codes and standards.

1.1.1 Design and Preparation of Architectural, Structural and Services drawings, Bill of Quantities and Technical specifications

- a. Design requirement are as follows;
 - Design and construction of
 - Five apartment blocks with 10 apartment units per floor (50 apartment units per building)
 - The Contractor shall accommodate for any amendments regarding the layout and the distribution of the blocks as requested by the Client.
 - Site investigations including site surveying, soil investigation and appropriate geotechnical surveys where applicable.
 - Each housing unit shall cover a minimum area of 92.9 square meters (1000 square feet).
 - All common areas and the apartments located on the ground floor shall be accessible by wheel chair.
 - The building should be elevated for 1m from ground level (the finished floor level of ground floor should be 1m from the ground level).
 - Height of the buildings should not exceed 15m in height up to roof apex level.
 - Prepare detailed architectural, structural, services drawings (electrical, plumbing and firefighting) for above mentioned buildings.
 - Provisions for other services such as cable TV, and internet should be provided.
- b. Prepare Bill of Quantities for the above mentioned buildings. Bill of quantities shall include the buildings whole of the works and should minimize any variation.
- c. Final drawings, BOQ and technical specifications shall be provided by the Contractor and shall include provisions for all civil, architectural, structural, electrical, plumbing and firefighting disciplines.

- d. Bills of Quantities and the drawings shall be provided separately for the individual building types.
- e. All plans and specifications must be in English.
- f. Design drawings, BOQ and detailed technical specifications shall include all considerations and details necessary for a builder to construct the Works, such as, but not limited to:
 - i) Site Work, sewage disposal system, drives, parking areas, curbs, storm drainage and end-walls, etc.
 - ii) Architectural, including plans, elevations, wall sections, construction details, hardware and finishing schedules, waterproofing, sundries, etc.
 - iii) Structural, including framing and concrete reinforcement layout, bar schedules and bending diagrams, bearings and connection details, etc.
 - iv) Electrical, Security, and Communications including wiring diagrams, lighting fixtures, control panels, etc.
 - v) Mechanical, including heating, air conditioning and/or ventilation systems, as may be applicable.
 - vi) Plumbing, including pipe diagrams and schedules, fixtures, etc.
- g. All designs shall comply with the Building Act and all the regulations stipulated under the Act as well as the relevant International Standards.
- h. For interior space management of the buildings, the Contractor shall maintain overall uses specified in the Specific Requirements. However Contractor may redesign any component of the building/s based on the Design team's recommendations, and subject to prior approval of the Employer.
- i. The Contractor shall make a minimum of seven amendments to the design proposed at no additional cost, upon receipt of comments and requests for the amendment of the prepared concept drawings, detailed drawings, the BOQ and the Technical Specification.
- j. The contractor shall submit the raw soft copies of all the detailed design documents, including but not limited to drawings in AutoCAD format, the Technical Specifications in MS Word format, the BOQ and the Structural Calculations in MS Excel.
- k. The Contractor shall provide one hard copy of the finalized approved drawings complete with architectural checker stamp, structural checker stamp, along with all other permits and stamps required, from the relevant authorities.
- l. The contractor shall submit a hardcopy of the BOQ and the Technical Specifications.

- m. The Contractor shall apply for and obtain the Environmental Impact Assessment (EIA) permit if required.

1.1.2 Specific requirements:

1. A boundary wall shall be provided around the site and an entrance shall be located to access the premises.
2. An adequate size of a reserve water tanks (overhead tanks and for rain water storage) shall be included in the buildings.
3. Project shall include allocation of parking zones, landscaping and installation of benches, swings and children's outdoor play units.
4. Installation of ground well and connection of utilities (electricity, water & sewerage) to that main lines shall be included.
5. Site clearing and demarcation of work zones and bypasses.
6. For additional Information, submit the sectional drawings with the dimensions.
7. Label the roads on site plans.
8. Identify motorbike and car parking zones at ground level
9. Specify boundary wall height and material. (we highly encourage boundary wall to be designed with perforations or with a natural green facade)
10. Submit pedestrian and vehicle circulation layout.
11. Identify the spaces required for the installation or provision of supporting facilities of transformers, pump rooms, storage tanks and service stations within the given area for the development.
12. Dedicated utility space at either ground floor or first floor level should be provided for the provision and or installation of relevant services as required.
13. Garbage collection area should be separated from common area. A central collection area at ground floor with ease of loading/unloading vehicular access should be provided.
14. A children's play area should be provided within the development.
15. The main entrance of the housing unit should be minimum 900mm wide.
16. Minimum width of the toilet or a bath room should be 1.2m.

17. The total liveable area for each housing unit, excluding balconies and voids should be approximately 92.9 sq.m. (1000sq. feet)
18. The Minimum dimensions for the following spaces are as specified:
 - i. Master bedroom- 13 feet x 12 feet
 - ii. Master bedroom toilet- 5 feet x 7 feet
 - iii. Bedroom 2 toilet- 4 feet x 7 feet
 - iv. Bedroom 3 toilet- 4 feet x 6 feet
 - v. In addition to the specified spaces above, bedroom 2, bedroom 3, living room, kitchen, dining, laundry and a small store need to be accommodated within the 92.9 sq. m. allocated for the unit.

1.1.3 General guideline:

- a) **Electrical installation:** Wiring for lighting and power shall be concealed conduit except for spaces within DB's closet and area above false ceiling, which shall be exposed conduit/trunking. In each housing unit minimum of three electric socket in each room and one data/media and telephone points shall be provided. All electrical wiring shall be in accordance with the guidelines set out by the State Electric Company Ltd (STELCO).
- b) **Fire Rating:** structural members and walls are to be designed to accommodate the requirement of the local fire department. All structures above the ground floor shall be designed for a minimum period of 2 hours fire rating.
- c) **Fire Protection System:** shall include Fire-fighting wet riser and hose reel system. Portable fire extinguishers and microprocessor based addressable automatic fire detection and alarm services for life safety protection.
- d) **Soil Investigation:** Bidders shall carry out soil investigation at their own cost, prior to commencement of detail design of the sub-structure.
- e) **Site Visit:** The Bidder, at the Bidder's own responsibility and risk, is encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense.

- f) **Supervision, inspection & test plan:** the supervision, inspection and testing of the materials and works shall be carried out in accordance to normal industrial standards and practice, specifications, manuals and guidelines used in Maldives and as approved by MHI.
- g) **Earthing System:** shall be installed in accordance with the requirement of BS Code of Practice BS 7430, IEC 62305 and Rules and Regulations of “STELCO” and “MEA” to provide a low impedance earthing systems and connections for equipment earthing.
- h) **Security Services Card Access system** shall be provided to the housing blocks/floors, lift lobby and CCTV shall also be provided to all lift lobby entrances.
- i) **Security Fences** shall be provided to all boundaries other than road sides with electronic monitoring systems.
- j) **Approval of Materials and Systems**
The materials and systems to be used in the building shall be approved by the Employer prior to use or installation.
- k) **Luminaires**
Adequate lighting shall be installed and the illumination levels shall generally be in accordance to international IES and IEC standards.

| | |
|---|---|
| Sitting Room / Dining Room / Kitchen / Toilets | 300 - 500 lux |
| Services Room / Garbage Room | 200 lux |
| Store Room | 200 lux |
| Corridor / Lobby | 150 lux |
| Parking area / Basement | 30-50 lux (parking area) at working plane of 0.2m |
| Premises within Landscaped area | 100-150 lux at working plane of 0.2m |

1.1.4 Additional Information

1. Final price should be exclusive of the import duty for any imported construction material, equipment, machinery, etc.

2. The price also should include electricity and water required for the project.
3. It is contractors' responsibility to allow for and obtain all the permits required from regulatory authorities / service providers etc.
4. Demolition waste and debris shall be transported to designated waste management site.

1.2 Expected Schedule of Finishes

| Location/Area | Floor | Skirting | Wall | Ceiling | Parti tion | Doors/window |
|--|-----------------------------|-----------------------------|----------------------------------|---------|---------------|---|
| Ground floor / Parking area | Equivalent Capa Floor 230SF | | Equivalent Capa Matte wall paint | - | Brick wall | Powder coated aluminum frame with tinted / clear glass |
| Commercial space / entrance lobby | Marble | Homogeneous/Porcelain tiles | Skim coating and emulsion paint | - | Brick wall | Powder coated aluminum frame with tinted, clear or frosted glass where appropriate. |
| Lift lobby common areas | Homogeneous/Porcelain tiles | Homogeneous/Porcelain tiles | Skim coating and emulsion paint | - | Brick wall | Powder coated aluminum frame with tinted, clear or frosted glass where appropriate. |
| Corridor at typical floors | Homogeneous/Porcelain tiles | Homogeneous tiles | Skim coating and emulsion paint | - | Brick wall | Powder coated aluminum frame with tinted, clear or frosted glass where appropriate. |
| Sitting room & living area | Homogeneous/Porcelain tiles | Homogeneous tiles | Skim coating and emulsion paint | - | Brick wall | Powder coated aluminum frame with tinted frosted glass / Timber door |

| | | | | | | |
|---------------------------------------|---|------------------------------|---------------------------------|-------------------------------|-----------------------|---|
| | | | | | | frame with timber panels |
| Store room / Services room | Homogeneous/ Porcelain tiles | Homogeneous/ Porcelain tiles | Skim coating and emulsion paint | - | Brick wall | Powder coated aluminum frame with aluminum panels |
| Toilets | Non- slippery homogeneous tiles + 2 coats of waterproofing (brush bond) | - | Ceramic wall tiles | Fibrous plaster board ceiling | Brick wall | Powder coated aluminum frame with tinted frosted glass / Timber door frame with timber panels |
| Services room | Titanium finish | - | Skim coating and emulsion paint | - | Concrete / Brick wall | Powder coated aluminum frame with aluminum panels |
| Roof top / Terrace / Balconies | Homogeneous tiles + 2 coats of waterproofing (brush bond) | Homogeneous tiles | Ceramic wall tiles | - | Concrete / Brick wall | Powder coated aluminum frame with tinted / clear glass |
| Garbage room | Homogeneous tiles + 2 coats of waterproofing (brush bond) | - | Homogeneous/ Porcelain tiles | - | Brick wall | Powder coated aluminum frame with aluminum panels |

Materials, fixtures and fittings used on exterior walls and surfaces shall be weather-proof, external finishing materials, including fixtures and fittings.

All the major materials, fixtures and fittings shall be submitted to the Client for approval prior to installation or application.

1.3 General Design Obligations of the Contractor

1. The Contractor shall carry out, and be responsible for the design of the Works. Basic design shall be in accordance with the spaces defined in the Specific Requirements. Detail Design shall be prepared by qualified designers who comply with the following criteria:

a) Architect

- i. A registered architect at his/her country with minimum 07 years of architectural design experience. Must have designed at least 2 buildings of similar scale within this period.

b) Civil/Structural Engineer

- i. A registered engineer at his/her country with 07 years of experience in structural design of buildings of similar scale.

c) Services Engineer

- i. Minimum bachelor's degree and 07 years of experience in service design of buildings of similar scale.

1.3.1 Tests on Completion

Upon completion of the building Contractor shall allow for testing of the services installed in the building as part of commissioning.

1.3.2 Contractors' Documents

The Contractor shall submit preliminary designs, which includes floor plans, sections and elevations for the approval of the Employer. Once the preliminary design is approved the Contractor shall submit detailed design for approval. The detail design shall be signed by a locally registered Architect and Engineer and shall be certified by accredited architectural and

structural checkers. The materials used for construction shall be of good quality, with a design life of 50 years and where necessary design shall incorporate renewable energy and sustainable design components where practical.

1.3.3 The Contractor shall submit the following with the bid

2. Layout drawing of the proposed building with proposed material schedule.
3. Preliminary design of the building to be submitted at the time of bidding. Detailed design and 3D rendered images of the exterior of the building to be submitted in accordance with timeline agreed with the Employer after signing of the Contract.
4. Proposed equipment for works and work methodology.
5. Project costing - The project is a lump sum contract, with bill of quantities. The costing sheet shall show costs for the major components of the building.
6. Preliminary work schedule - The contractor shall submit proposed work schedule with the proposal. The work schedule shall indicate the major works to be carried out under the scope of the project. The work schedule shall clearly show the proposed start and end date of the project.
7. Finalized work schedule- The contractor shall submit a finalized work schedule within 10 days from the date of receipt of the Letter of Acceptance.
8. Contractor shall submit a 3D exterior design of the building along with the bid.
9. The floor plans attached with the proposal shall include furniture layout, fixtures, fittings and the column positions.