

SUMMARY OF WORK

A. Scope of Work and Specification

Supply, Manufacturing and Installation of Transition Shelters in Marib Governorate, Yemen

PART 1 - GENERAL

1.1 THE REQUIREMENT

- A. The WORK to be performed under this Contract shall consist of furnishing materials, tools, equipment, supplies, and provision of area for work, fields, workplaces, workshops, stores, warehouses, and manufactured articles, and furnishing all labor, transportation, and services, power, water, and essential communications with all stakeholders, and performing all work or other operations required for the fulfillment of the Contract in strict accordance with the Contract Documents.
- B. **The WORK shall be complete, and all work, materials, and services not expressly indicated or called for in the Contract Documents which may be necessary for the complete of the WORK in good faith shall be provided by the CONTRACTOR as though originally so indicated, at no increase in cost to the EMPLOYER.**
- C. If there are contradictions between the Contracts Documents, the CONTRACTOR will ask to the EMPLOYER to choose between the possibilities and the CONTRACTOR shall provide all work, materials and services which may be necessary for the complete and proper construction of the WORK in good faith according to the choice of the EMPLOYER.
- D. The estimated work duration and completion is 4 (Four) Months.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of this Contract is to provide materials, manufacture and construct Transition Shelters as per Bill of quantities, specification and Drawings attached in this ITB, the contract includes provision of steel workshops and stores for fabrication of transition shelter parts (walls and roof) and includes delivery of the Transition Shelters to different locations in Marib Governorate of Yemen, and installation in the designated sites as identified by UNHCR in the below list, the work includes preparation of foundation/base above the ground level to be furnished by the supplier prior to delivery of Transition Shelter unit according to the specification and drawings of this contract.

The fabrication of the Transition shelters will be achieved by the following four main activities:

a) Preparing of Ground Works:

Which includes the necessary works to prepare the ground base where the transition shelter will be installed and provide proper arrangement for the floor of the shelter in the same time, the ground work will be very important to provide stiff base for the prefab transitional shelter to withstand any movement due to high wind or storm might be caused in the targeted areas, two ground works will be implemented as below:

1. Supplying and implementing of hollow concrete blocks 20 x 20 x 40 cm, placed directly on the existing ground level as base to the T-Shelter perimeter walls.
2. Supply and implementing of cement concrete layer, 5cm thickness for shelter floor.

b) Manufacture and Construction of Prefabricated Walls:

Walls construction of the transition shelter will be manufactured in contractor's workshop, six prefabricated units of walls will be manufactured; 4 units of 3m length and 2m height for the two long walls of the transition shelter (2 units per one long wall), for short walls, there will be 2 wall units of 2.94m length and 2m height, each prefabricated unit of wall will be constructed by manufacturing steel frame made from Galvanized Iron tube (Hollow Box section) spaced at approx. 1m c/c in both directions, the steel frame of the walls will be cladded with galvanized Iron sheets from the outer face of the shelter and plywood from the inner face of the shelter, thermal insulation will be installed as panels between the steel frame of the walls and sandwiched by both Galvanized Iron sheets and plywood, the following works will be implemented to form six units of transition shelter walls:

1. Supply and installation of Galvanized Iron Tube (Hollow Box Section - 3cm x 3cm and thickness 1.10 mm for manufacturing of frame of shelter.
2. Supply and installation of Corrugated Galvanized Iron sheets, 0.28mm thickness, white color, for cladding the outer face of the walls frames of the shelter.
3. Supply and installation of thermal Insulation foam boards 30mm thickness; or polystyrene thermal insulator between the GI Boxes of the walls.
4. Supply and installation of plywood boards 2.4m x 1.2m, 4mm thickness for cladding the interior face of the walls of the shelter.
5. Supply and installation of Iron bar 45mm width and 2.8mm thickness for walls and roof, Iron bars will be installed between the steel Boxes of walls and roof frame right behind the plywood.
6. Assembly of the prefabricated walls: six parts of prefabricated walls will be transported to the designated sites as identified by UNHCR.

c) Manufacture and Construction of Prefabricated Roof:

Roof construction of the transition shelter will be manufactured in the contractor's workshop, four prefabricated units of roof will be manufactured; each unit of 3.03 m length and 1.7 m width, each prefabricated unit of roof will be constructed by manufacturing steel frame made from Galvanized Iron tube (Hollow Box section) spaced at approx. 1.0 m and 0.75 m c/c in both directions respectively, the steel frame of each framed roof will be cladded with galvanized Iron sheets from the outer face of the shelter roof and plywood from the inner face of the shelter, thermal insulation will be installed as panels between the steel frame of the roof and sandwiched by both Galvanized Iron sheets and plywood, the following works will be implemented to form four units of transition shelter roof:

1. Supply and installation of Galvanized Iron Hollow Box 3cm x 3cm and thickness 1.10mm for manufacturing frame of shelter roof.

2. Supply and installation of Corrugated Galvanized Iron sheets, 0.28mm thickness, white color, for cladding the outer face of the roof frames of the shelter.
3. Supply and installation of thermal Insulation foam boards; or polystyrene thermal insulator boards between the GI Boxes of the.
4. Supply and installation of plywood boards 2.4m x 1.2m, 4mm thickness for cladding the interior face of the roof of the shelter.
5. Supply and installation of double steel angle sections for roof beam to support the roof of the shelter, 4cm x 4cm, 3mm thickness, steel angles will be placed at the mid span of the shelter to support 4 parts of the roof.
6. Assembly of the prefabricated roof: four parts of prefabricated roof will be transported to the designated sites as identified by UNHCR.

d) Steel Door, Windows and Electrical Works of Shelter:

Transition shelter will be equipped with one steel door and 2 steel windows, steel works of the door and windows will be same specification as walls, main steel sections will be GI Tubes 3cm x 3cm, 1.1 mm thickness, cladded from outer side with granular steel plate 1mm thickness welded to the GI tubes, the steel works will be enhanced with thermal insulation fixed between GI tubes, plywood will cover the door and windows from the inner side. The transition shelter will be furnished with electrical works in term of electrical fittings, installation and lamp, the following works will be implemented to provide transition shelter with door, windows and electrical works:

1. Supply and installation of steel door, granular steel plate 1mm thickness, dimension 95cm x 194cm.
2. Supply and installation of steel windows, granular steel plate 1mm thickness, dimension 60cm x 50cm.
3. Supply and installation of electrical installation including wiring inside pvc conduit with one socket, switch and LED lamp 20 Watt with 13A 2 poles circuit breaker.

The contractor is committed during his implementation stage to act to do complementary works in addition to the above works, which includes the following works:

1. **Site Works:** Site settlement works, including the leveling of all sites of work if needed, including cutting trees with the transfer of waste materials to the designated sites. The work is including but not limited; Manpower, materials, Equipment and all necessary to complete the works as instructed by the Employer's Engineer.
2. **Materials:** The contractor must give samples with material to get the approval of the EMPLOYER before supplying and install any materials. If the contractors cannot offer materials with very good quality that satisfy The EMPLOYER then The Employer can choose the vendor or brands of materials that meet the requirements.
3. **Sample of Transition shelter before Commencement of work:** The contractor must submit sample of the transition shelter prior to the commencement of the project to get the approval of the EMPLOYER before launch the manufacturing of the transition shelter and install any materials.

- B.** The supplier will do manufacturing for the quantity identified in point (C) and will deliver all required quantities to a several locations within Marib governorate identified by UNHCR as per the below list, the contractor will transport the Prefab Transition units to the designated sites and will do installation for all items of transition shelter, the supplier must do site visit to all locations to assess the ground works required to install the transition shelter units according to the specification, drawings and instructions of the engineer including all requirements per location.

Table of the Transition Shelters per Location:

#	Gov.	Division	District	Total
1	Marib	A	Marib City	480
2		B	Marib Al-Wadi	966
Total				1446

C. Quantity:

The total quantity of the transition shelters will be implemented in this contract is 1,446 units will be delivered to several locations in Marib governorate in accordance with the geographical information illustrated in the above table.

UNHCR reserves the right to increase or decrease the quantities (number of Prefab units mentioned above)

1.3 CONTRACT METHOD

The WORKs hereunder will be implemented under a unit price contract comprised of both unit price items and lump sum items.

1.4 WORK BY OTHERS

- A. Interference with Work on Utilities:** The CONTRACTOR shall cooperate fully with all utility forces of the EMPLOYER, forces of other public or private agencies or other contractors or companies, engaged in the relocation, altering, or otherwise rearranging of any facilities which interfere with the progress of the WORK, and shall schedule the WORK so as to minimize interference with said relocation, altering, or other rearranging of facilities.

1.5 WORK SEQUENCE

- A.** Working hours will be limited to 8 hours per day; working days will be limited to 6 days per week. Work at the site may be carried out for 8 hours per day between the hours of 7:00 am to 5:00 pm or as directed by the EMPLOYER, during the duration of the contract. The CONTRACTOR will have to store equipment and materials in a dedicated area under his responsibility.

- B. If in the opinion of the EMPLOYER it is necessary for the safety of the Works or for any other reason, the Contractor shall, when so ordered, carry out the Works, or any portion thereof continuously by day and night. The CONTRACTOR will not be reimbursed for any extra costs resulting from this.

1.6 CONTRACTOR USE OF SITE

- A. The CONTRACTOR's use of the Site shall be limited to its construction operations, including on-site storage of materials and equipment. The CONTRACTOR will organize its works in accordance with safety and security procedures to minimize noise, dust and more generally disturbances for the people living around the sites of work and pay attention to safety of his workers.
- B. The CONTRACTOR shall not use any portion of the Site without express written consent from the EMPLOYER for any of its construction operations.

1.7 PROJECT MEETINGS

A. Preconstruction Conference:

1. Prior to the commencement of WORK at the Site, a preconstruction conference will be held at a mutually agreed time and place. The conference shall be attended by the CONTRACTOR'S Project Manager, its superintendent, and its Subcontractors, as the CONTRACTOR deems appropriate. Other attendees will be:
 - a. Representatives of EMPLOYER
 - b. Representatives of the other contractors or companies (such as electricity, IT, ...)
 - c. Others as requested by CONTRACTOR or EMPLOYER.
2. The purpose of the conference is to designate responsible personnel and establish a working relationship. Matters requiring coordination will be discussed and procedures for handling such matters established. The complete agenda will be furnished to the CONTRACTOR prior to the meeting date. However, the CONTRACTOR should be prepared to discuss all of the items listed below.
 - a. CONTRACTOR's tentative schedules.
 - b. Transmittal, review, and distribution of CONTRACTOR's submittals.
 - c. Processing applications for payment.
 - d. Maintaining record documents.
 - e. Critical work sequencing.
 - f. Field decisions and Variation Orders.
 - g. Use of Site, office and storage areas, security, housekeeping, and EMPLOYER's needs.
 - h. Major equipment deliveries and priorities.
 - i. CONTRACTOR's assignments for safety, first aid, security and more generally HSE rules.

3. The EMPLOYER will preside at the preconstruction conference and will arrange for keeping and distributing the minutes to all persons in attendance.
4. The CONTRACTOR and its Subcontractors should plan on the conference taking no less than 1 full working day. The conference will cover the items listed in paragraphs 2 and 3, and will be spent on reviewing the Drawings and Specifications, in extensive detail, with the EMPLOYER.

B. Progress Meetings:

1. The CONTRACTOR shall schedule and hold regular on-Site progress meetings at least weekly and at other times as requested by EMPLOYER or as required by progress of the WORK and will give a weekly report compared to the plan schedule. The CONTRACTOR, EMPLOYER, and all Contractors, Companies and Subcontractors active on the Site shall attend each meeting. CONTRACTOR may at its discretion request attendance by representatives of its Suppliers, Manufacturers, and other Subcontractors.
2. The EMPLOYER will preside at the progress meetings and will arrange for keeping and distributing the minutes. The purpose of the meetings is to review the progress of the WORK, maintain coordination of efforts, discuss changes in scheduling, and resolve other problems that may develop. During each meeting, the CONTRACTOR shall present any issues that may impact its progress with a view to resolve these issues expeditiously.

1 - END OF SECTION -

Our technical offer is fully conforming to the **Scope of Work and Specification** given above.

Company Name:	Stamp:
Signature:	Date:

**B. Particular Specifications
for**

Supply, Manufacturing and Installation of Transition Shelters in Marib Hub, Yemen

Specifiaction of Workmanship and Materials:

A. Specification of workmanship of this Contract will include but not limited to the below activities:

a) Preparing of Ground Works:

Ground works will include the necessary works to prepare the ground base where the transition shelter will be installed, as below:

1. Supplying and implementing of hollow concrete blocks 20 x 20 x 40 cm, placed directly on the existing ground level as base to the T-Shelter perimeter walls, construction of blocks will be done with cement mortar. The work will include levelling and settlement of the existing natural ground surface and compaction with manual tools to keep land receiving concrete blocks properly without land settlement. The lines of concrete blocks will be furnished with six points of connection with the walls of the shelter, 4 points at the four corners and 2 points at the mid of the long walls, these points of connection will be equipped with Galvanized Iron boxes (tubes) 8cm x 4cm , 1.1mm thickness, 20cm height erected vertically inside the concrete blocks with high cementing materials to receive the legs of the transition shelter walls which will be placed inside these boxes and fixed firmly with stainless steel bolts of 1.5 inch length, 2 bolts per one connection point (bolt per one leg of the wall), the Galvanized Iron boxes will be enhanced with 2 steel bars 8mm Dia. 40cm length (cross at the bottom of the GI box) per one Box welded at the bottom to provide good anchoring with the shelter walls. For some areas where the natural ground soil is sandy or silty soil the length of the GI box will be 30cm deepened down the concrete bricks with 10cm and enhanced with 2 cross steel bars including digging in the natural soil and placing plain concrete layer 10cm thickness, 50cm length and 20cm width to cover the cross steel bars in the dug holes under the concrete brick line. The work will be done according to the specification, drawings, and instructions of UNHCR engineer. The GI boxes with steel bars must be treated properly by anti-corrosion paint 2coats.
2. Supply and implementing of cement concrete layer, 5cm thickness for shelter, the whole area of floor (from inner to inner walls) will be smoothened properly to provide fair surface. The work will include leveling of the existing natural ground surface and placing of small stones layer before placing the concrete layer.

b) Manufacture and Construction of Prefabricated Walls:

Walls construction of the transition shelter will be manufactured in contractor's workshop, six prefabricated units of walls will be manufactured, the following works will be implemented to form six units of transition shelter walls:

1. Supply and installation of Galvanized Iron Tube (Hollow Box Section - 3cm x 3cm and thickness 1.10 mm for manufacturing of frame of shelter walls which form the horizontal and vertical members of walls frame, GI Tubes will be cut, welded and connected to form walls frame members at spacing 1 meter c/c in both directions, 6 prefabricated framed walls will be manufactured; 4 framed walls (units) will be 2 meter height and 3 meters length for long side of the shelter, 2 frames of 2 meters height and 2.94 meters length for the short side of the shelter, the prefab frames of walls will be fixed into the ground concrete base under the shelter perimeter by driving legs of framed walls 20 cm depth into the ground concrete bases penetrated through the Galvanized Boxes already furnished in six points in the lines of the concrete blocks, each two adjacent legs of framed walls will be connected together and placed in one GI box and fixed by screwing with stainless steel bolts of 1.5 inch length. All prefabricated framed walls will be assembled together to form four walls of the shelter by connecting framed walls to each other and be fixed at the bottom into the ground concrete blocks in six points of connection and fixed at the top by using special Steel wall joints to let the walls of the shelter be ready to receive the roof, all steel wall joints will connect wall parts by screwing both ends of walls with Stainless steel bolts of 1.5 inch length. The work will include all fittings, steel joints, cutting, welding, GI plates, stainless steel bolts, washers, screws and all necessary accessories as per the specification, drawings and instructions of UNHCR engineer.
2. Supply and installation of Corrugated Galvanized Iron sheets, 0.28mm thickness, white color, for cladding the outer face of the walls frames of the shelter, fixed into the GI boxes of the walls with stainless steel screws 1.0 inch length with flat head furnished with black rubber, screws will be drilled at spacing 20cm in both directions and GI sheets will be overlapped with enough distance which will allow the screws drilled smoothly in fixing of both ends of the GI sheets properly. The GI sheets will be installed per each single prefabricated unit of wall and when all walls units assembled on the ground GI sheets must be worked out as one compacted unit not to demonstrate any gaps or spaces between walls parts and ensuring that there will be sound GI sheets walls of the shelter overlapped properly where it is necessary after assembling of all walls of shelter, particularly in the connection points; 4 corners of the shelter and connection of walls units at mid span of the long walls. The work will include painting visibility of the project name on the corrugated galvanized iron sheet at the outer face of the shelter including the Logos and names of donor and implementing partner, The work will be done as per the specification, drawings, and instructions of UNHCR engineer.
3. Supply and installation of thermal Insulation foam boards; or polystyrene thermal insulator boards dimension as per the openings between the GI Boxes of the walls (Approx. 1m x 1m), 3cm thickness, foam panels will be fixed into the GI boxes by glue and sandwiched by the GI sheets from the exterior face and Plywood from the interior face of the walls. Work will be done as per the specification, drawings, and instructions of UNHCR engineer.
4. Supply and installation of plywood boards 2.4m x 1.2m, 4mm thickness, minimum 3 plies, factory impregnated with anti-termite/insects, excellent quality for cladding the interior face of the walls of the shelter, fixed into the GI boxes of the walls frames by stainless steel screws 3/4 inch length with flat head furnished with black rubber, Work will be done as per the specification, drawings, and instructions of UNHCR engineer.

Plywood will never be fixed with 3 sides or less, it must be fixed from its 4 sides, any free sides will be furnished with additional Steel bars 45 mm width and 2.8 mm thickness fixed to the steel frame of the shelter underneath the free side of the plywood.

5. Supply and installation of Iron bar 45mm width and 2.8mm thickness for walls and roof, Iron bars will be installed between the steel Boxes of walls and roof frame right behind the plywood where it is necessary to help fixing plywood firmly at 4 sides. The work will include cutting, welding, fabricating and fixing into the Iron Boxes, work will be done as per the drawings, specification and instruction of UNHCR engineer.
6. Assembly of the prefabricated walls: six parts of prefabricated walls will be transported to the designated sites as identified by UNHCR, all parts of walls will be connected together as described above in point b.1 to form the whole walls of transition shelter being installed on the ground concrete base which will be prepared earlier in the designated sites, assembled walls will be ready to receive the roof of transition shelter.

c) Manufacture and Construction of Prefabricated Roof:

Roof construction of the transition shelter will be manufactured in the contractor's workshop, four prefabricated units of roof will be manufactured, the following works will be implemented to form four units of transition shelter roof:

1. Supply and installation of Galvanized Iron Hollow Box 3cm x 3cm and thickness 1.10mm for manufacturing frame of shelter roof, GI Boxes will be cut, welded and connected to form roof frame members at spacing 0.75m and 1.0 m c/c in both directions respectively, 4 prefabricated framed roof will be manufactured of equal dimension 1.7m x 3.03 m, the prefab frames of roof supported by short walls of shelter at both ends and double steel angles supporter 4 cm x 4 cm at the mid span of the shelter, each framed roof will be supported by 4 points; 2 on the external walls fixed into the Wall joints, 1 point supported by welding steel angle piece 4cm x 4cm, and 5cm length on the short wall (at the peak point) where the roof will be fixed to by stainless Steel bolts 1.5 inch length, 1 point supported by welding of steel angles 4cm x 4cm and 5cm length on the double steel angle supporter where the roof will be fixed to by stainless steel bolt 1.5 inch length, all prefabricated roofs will be assembled together to form one entire roof connected by additional GI plate 1 mm thickness capping at the peak of the roof 40cm width fixed into the roof by stainless steel screws 1.0 inch length with flat head furnished with black rubber. The work will include fittings, joints, steel angles, holes, welding, GI plates, stainless steel bolts, washers, screws and all necessary accessories as per the specification, drawings and instructions of UNHCR engineer.
2. Supply and installation of Corrugated Galvanized Iron sheets, 0.28mm thickness, white color, for cladding the outer face of the roof frames of the shelter, fixed into the CGI boxes of the roof with stainless steel screws 1.0 inch length with flat head furnished with black rubber, screws will be drilled at spacing 20cm in both directions and GI sheets will be overlapped with enough distance which will allow the screws drilled smoothly in fixing of both ends of the CGI sheets properly. The GI sheets will be installed per each single prefabricated unit of roof and when all roof units assembled on the walls, CGI sheets must be worked out as one compacted unit not to demonstrate any gaps or spaces between 4 parts of roof and ensuring that there will be sound, wind resistance and waterproof GI sheets roof of the shelter overlapped properly where it is necessary after

assembling of all roof units of shelter, particularly adjacent sides of the 4 units of the roof. The peak point of the roof will be protected by placing of capping Galvanized iron plate 1mm thickness and 40cm width (20cm at both sides of the peak point) fixed into the roof by stainless steel screws 1.0 inch length with flat head furnished with black rubber. The work will be done as per the specification, drawings, and instructions of UNHCR engineer.

3. Supply and installation of thermal Insulation foam boards; or polystyrene thermal insulator boards dimension as per the openings between the GI Boxes of the roof (Approx. 1m x 0.75m), 3cm thickness, foam panels will be fixed into the GI boxes by glue and sandwiched by the CGI sheets from the exterior face and Plywood from the interior face of the roof. Work will be done as per the specification, drawings, and instructions of UNHCR engineer.
4. Supply and installation of plywood boards 2.4m x 1.2m, 4mm thickness, minimum 3 plies, factory impregnated with anti-termite/insects, excellent quality for cladding the interior face of the roof of the shelter, fixed into the CGI boxes of the roof frames by stainless steel screws 3/4-inch length with flat head furnished with black rubber, Work will be done as per the specification, drawings, and instructions of UNHCR engineer. Plywood will never be fixed with 3 sides or less, it must be fixed from its 4 sides, any free sides will be furnished with additional Steel bars 45 mm width and 2.8 mm thickness fixed to the steel frame of the shelter underneath the free side of the plywood.
5. Supply and installation of double steel angle sections for roof beam to support the roof of the shelter, 4cm x 4cm, 3mm thickness, steel angles will be placed at the mid span of the shelter to support 4 parts of the roof, its both ends will be fixed on the mid span of the long walls of the shelter rested directly by welding on the steel wall joints which act to connect the walls of the long shelter's sides, the work will include cutting, welding and manufacturing and all necessary accessories as per the specification, drawings and instructions of UNHCR engineer.
6. Assembly of the prefabricated roof: four parts of prefabricated roof will be transported to the designated sites as identified by UNHCR, all parts of roof will be connected together as described above in point c.1 to form the whole roof of transition shelter being installed on the walls which will be prepared earlier in the designated sites, assembled roof will be enhanced by placing Galvanized Iron plate 1mm thickness and 40cm width on the peak of the shelter roof.

d) Steel Door, Windows and Electrical Works of Shelter:

Transition shelter will be equipped with one steel door and 2 steel windows, steel works of the door and windows will be same specification of the walls of the transition shelter, the transition shelter will be furnished with electrical works in term of electrical fittings, installation and lamp, the following works will be implemented to provide transition shelter with door, windows and electrical works:

1. Supply and installation of steel door, granular steel plate 1mm thickness, dimension 95cm x 194cm, enhanced with Galvanized Iron Tube (hollow box) 3cm x 3cm, 1.10mm thickness, cladded from outer side with granular steel plate 1mm thickness welded to the GI tubes, the steel works will be enhanced with thermal insulation fixed between GI tubes, plywood will cover the door from the inner side, the door will be equipped with steel frame made of steel angle 4cm x 4cm, door lock (handwraps at both sides) with handle and 3 steel hinges of 15 cm length fixed with three screw holes, The price include

anti-corrosion painting and painting of desired color. the work will include cutting, welding and manufacturing and all necessary accessories as per the specification, drawings and instructions of UNHCR engineer.

2. Supply and installation of steel windows, granular steel plate 1mm thickness, dimension 60cm x 50cm, enhanced with Galvanized Iron Tube (hollow box) 3cm x 3cm, 1.10mm thickness, cladded from outer side with granular steel plate 1mm thickness welded to the GI tubes, the steel works will be enhanced with thermal insulation fixed between GI tubes, plywood will cover the door from the inner side, the windows will be equipped with steel frame made of steel angle 4cm x 4cm, window lock and 2 steel hinges of 15 cm length fixed with three screw holes, The price include anti-corrosion painting and painting of desired color. the work will include cutting, welding and manufacturing and all necessary accessories as per the specification, drawings and instructions of UNHCR engineer.
3. Supply and installation of electrical installation including wiring inside pvc conduit with one socket, switch and LED lamp 20 Watt with 13A 2 poles circuit breaker. Transition shelter will be provided with electrical wire at the external wall of the shelter ready to connect electricity to the shelter with plastic conduit for safety and protected against external atmosphere weather. Work will be done as per the specification, drawings, and instructions of UNHCR engineer.

B. Specification of building materials of this Contract will include but not limited to the below features:

1. Mortars:

Cement mortars shall consist of one part of Portland cement to three parts of sand by volume (1:3). The ingredient of mortar shall be measured in proper gauge boxes on boarded platform, the gradient being thoroughly mixed dry and again whilst adding water. All mortar is to be thoroughly mixed to a uniform consistency with only sufficient water to obtain a plastic condition suitable for troweling. No mortar that has commenced to set is to be used or remixed for use.

2. Concrete works:

All materials that have been damaged, contaminated, or have deteriorated, or do not comply in any way with the requirements of these preambles shall be rejected and shall be removed immediately from the site/workshop at the contractors' expense. No materials shall be stored or stacked without the engineer's prior approval.

3. Hollow concrete blocks 20 cm x 20cm x 40 cm:

Automatic blocks (High pressure) excellent quality by using Portland cement, not more than 30 pieces or less per one cement page 50kg. Weight is about 20kg, free from any defects, sound and sharp edges, small hollows of about 6-8 openings, its aggregate is angular 1/3- 2/3 inch.

4. Galvanized Iron Tubes and Sheets:

All materials shall be of the best quality, free from defects, The materials in all stages of transportation, handling, piling and manufacturing shall be kept clean and damage from breaking, bending and distortion prevented.

5. Steel boxes, AngleS and deformed Rounded and Flat bars:

All materials shall be of the best quality, free from defects, The materials in all stages of transportation, handling, piling and manufacturing shall be kept clean and damage from

breaking, bending and distortion prevented, all materials will be painted with anti-corrosion paint.

6. Thermal Insulation:

Thermal Insulation shall be of the best quality foam boards; or polystyrene thermal insulator, free from defects, The materials in all stages of transportation, handling, piling and manufacturing shall be kept clean and damage from breaking, bending and distortion prevented.

7. Plywood 4mm thickness:

Plywood of 4mm thickness, will be minimum 3 plies, factory impregnated with anti-termite/insects, excellent quality, free from defects, The materials in all stages of transportation, handling, piling and manufacturing shall be kept clean and damage from breaking, bending and distortion prevented.

8. Steel Doors and Windows:

granular steel plate 1mm thickness, enhanced with Galvanized Iron Tube (hollow box) 3cm x 3cm, 1.10mm thickness, clad from outer side with granular steel plate 1mm thickness welded to the GI tubes, the steel works will be enhanced with thermal insulation fixed between GI tubes, plywood of 4mm thickness will cover the door/windows from the inner side, the door and windows will be equipped with steel frame made of steel angle 4cm x 4cm, one lock and 2 (for windows 3 for door) steel hinges of 15 cm length fixed with three screw holes, steel works include anti-corrosion painting and painting of desired color.

9. Electrical Installation:

Electrical installation and equipment shall of best quality, wiring will be protected by PVC pipes, works will implemented on the inner walls of the transition shelter with proper safety measures, no wires shall be seen on the transition shelter walls.

Our technical offer is fully conforming to the **Scope of Work and Specification** given above.

Company Name:	Stamp:
Signature:	Date: