Section VI. Specifications

(Please refer to attach Specifications)

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SPECIFICATIONS



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ISAT U REHABILITATION OF CIVIL TECHNOLOGY BUILDING

DIVISION I

GENERAL REQUIREMENTS

- 1. A TECHNICAL SPECIFICATION
 - 1. INTENTION This section is prepared in a concise manner, the intention of which is to save time and effort in locating important contents within this specification.
 - COPIES FURNISHED Unless otherwise provided in the contract documents, the owner will only provide (1) one set of working drawings and specifications to the contractor. Otherwise, request copies of working drawings and/or specifications will be furnished at reproduction cost to be borne by those who requested them.
 - 3. The execution of this section shall be coordinated and correlated with each corresponding elaborated section of this same specification.
 - 4. In case discrepancies exist between the plans and specifications, notify the architect in the writing for clarification, his/her decisions shall be final.
 - 5. The contractors are deemed to have quoted for all sections of work other than those listed in the attached schedule of rates, and all works not actually specified or shown in the drawings but which will be obviously and reasonably inferred to as necessary for the proper execution and fulfilment of the contract, must be carried out by the contractor without any additional charge beyond the contract amount. The architect before commencement must confirm any work, which is outside the bounds of the specification, in writing.
 - 6. The contractor shall bear the responsibility to check all the numbers and units as may be indicated on the drawings and specifications. It is understood that the contractor shall supply and install the actual required units as approved in the plans.
 - 7. Substitution of materials or equipments rather than those specified in the contract documents will be approved by the architect for the following reasons only: that the materials or equipment for the substitution are equal or superior to the materials or equipment specified in construction, efficiency and utility, or that material or equipment specified cannot be delivered to the job site in time to complete the work of the contractors due to conditions beyond the control of the contractor.
 - 8. To receive considerations, request for substitution shall be accompanied by documentary proof of equality or differences in prices and delivery if any; in the form of certified quotations guaranteed date of delivery from suppliers or in price, the owner shall receive all benefits of the difference in the cost involved on any substitution and the contract shall be altered by change order to credit the owner with any savings obtained.
 - 9. The architect only shall interpret all drawings.
 - 10. The contractor shall provide all necessary temporary facilities.

SUMMARY OF MATERIALS

- 1. CEMENT Portland cement; use one brand for the whole works.
- REINFORCING BARS conform to ASTM A615 Grade 40 for dia. 12 and smaller bars and Grade 60 for dia. 16 and larger bars.
- CONCRETE HOLLOW BLOCK Unit weigh not to exceed 80 PCF, 700 PSI for 6" load-bearing wall. Use 6" for exterior wall and 4" for interior partitions and socalo.
- STRUCTURAL STEEL ANGLES AND STEEL PLATES Conform to ASTM A36 FY= 248.00 MPa (36, 000 PSI).
- 5. WELDING ELECTRODES E70XX series.
- 6. STRUCTURAL METAL FRAMING Angle bars and plates and anchors for roof framing/

- TUBULAR SECTIONS AND PIPES B.I. pipe schedule 40 for covered walk and canopy brackets and canopy roof framing.
- 8. Ga. 18 G.I. BENDED SHEET For metal louvers at stair corridor
- ALUMINUM CLADDING Composite aluminum panels with PVDF surface coating. Wall cladding at facade as per plan.
- METAL CEILING 0.5mm thick Spandrel ceiling panel or equivalent. For exterior ceiling and fascia cladding
- 11. STAINLESS STEEL 38mm dia. Stainless steel pipe schedule 40. For stair handrails and ramp railings.
- 12. Light gauge steel ceiling framing system as manufactured by JEA Steel or equivalent. For all suspended ceiling
- 13. CEILING BOARDS Hardiflex cement fiber board or equivalent. For all suspended ceiling
- 14. 0.6mm (Ga. No. 24) prepainted long span G.I. roofing, high rib profile. For all roofing unless otherwise specified.
- 15. 2mm thick uPVC corrugated IMAC roofing and accessories or equivalent, translucent panels for canopy along classroom corridors and ivory panels for roofing of covered walkway.
- 16. CEMENTITIOUS TYPE WATER PROOFING Pioneer T100 or equivalent. For waterproofing of toilets at upper floors, concrete slab and gutters, parapet and CHB walls exposed to rain
- 17. 5 mil polyethylene sheet water barrier. For damp proofing of all interior slab resting on fill.
- DOORS CLADDING PALTES OR PANELS Gauge 18 cold-rolled, quality steel. Frames, gauge 16 cold-rolled steel. Materials conformed to ASTM-505.
- 19. ALUMINUM GLASS DOORS AND WINDOWS: Frames and panel members, fabricated form extruded aluminum sections: extruded aluminum, conform to ASTM B-211: screws, nuts, washers, bolts, rivets and other miscellaneous fastening devices, aluminum and stainless steel: hardware for fixing and locking devices, closely matched to the extruded aluminum section: vinyl weather strip, first class quality flexible vinyl: pile weather strip: silicone treated.
- STEEL LOUVERS: machine pressed conforming to the size and design indicated on the plans. Steel sheets: meet the requirements of ASTM 505, rivets of ASTM B-316 screws, bolts, nuts and washers of ASTM B-211.
- 21. ANCHORS AND FASTENERS: steel zinc coated or painted with rust inhibitive paint, of sizes, and design according to manufacturer's standard. Floor anchors, less than gauge for installing door frames in metal latch and plaster assemblies, minimum of gauge 16 and not extend to more than 20mm out of the back of the jamb.
- 22. HEAVY DUTY SIDE HINGED VENTILATOR: designed zee section not less than 33mm in depth and not less than 3mm in thickness, with weathering baffles rolled integrally to provide continuous double contact between frame and side hinged ventilator members.
- 23. **HINGE DESIGN**: provide ferrous to nonferrous contacts between all movable spaces, welded to both frame and ventilator.
- 24. GLASS AND GLAZING: glasses in glazed position resist a design pressure of 244 kilograms per square meter.
- 25. PLATE GLASS: manufactured from float glass mechanically rounded and polished and sealed with a coating of silver and a uniform
- 26. FLOAT GLASS: floating continuous ribbon of molten glass into a bath of molten tin where it is reheated to obtain a flat tire polished finish and annealed slowly to produce a transparent float glass eliminating grinding and polishing. Types: grade AA-intended for use were superior quality is required, Grade A selected glazing, Grade B-general glazing
- 27. GLAZING MATERIALS: bulk compound, putties, sealant (synthetic polymer formed gasket) setting and edges blocks: made of lead or neoprene, chemically compatible with sealant. Accessories like glazing clips, shims spacer strips etc.: made from non-corroding metal accessories.
- 28. SCHEDULE OF GLASS: 5.6MM (7/32") thick sheet glass of locally manufactured clear quality for the following: (unless otherwise indicated in the plan as frosted) aluminum windows and doors,

notwithstanding plate glass indicated elsewhere, fixed glass louvers, glass panels for partitions and door panels.

- 29. Floor Coating system: materials conform to the provisions of section 2.1 of this specification.
- 30. CLASSROOM FOLDING PARTITION: Varifold or equivalent.
- 31. Vitrified ceramic floor tile, Mariwasa or equal. Sizes: 400mm x 400mm for hallway and offices; 400mm x 400mm for common toilets; and 300mm x 300mm for toilets at toilets.
- 32. Glazed wall tiles, Mariwasa or equal. Sizes: 400mm x 400mm for common toilets; 300 x 300mm for toilets at offices clear white or colored depending on color scheme approved by architect.
- 33. PAINTING: Solvent type for exterior wall finishes; acrylic latex for interior walls and ceilings. Neutralizers, primers and special coatings shall be as recommended by paint manufacturer. Use one brand for all painting work.
- 34. MINIMUM SIZE OF WIRE FOR POWER: 3.5 mm² and for control wires 2.0 mm².
- 35. BOXES AND CONDUITS: rigidly supported by hanger rods, angle bars U bolts and metal conduit clamps.
- 36. **RECEPTACLE BOXES:** for the switch with more than (6) six wires entering them, use 100 x 100 x 50 mm square boxes with (1) one adapter ring.
- 37. Pull boxes, splice boxes and auxiliary gutters shall be Gauge #14.
- 38. BOXES: made of code gauge steel with zinc chromate protection.
- 39. Molded Case Circuit Breakers for Motors: industrial type.
- 40. ADDITIONAL MATERIAL APPROVED EQUAL: intermediate metallic conduit (IMC) (Panasonic), polyvinyl chloride (PVC) conduit (Atlanta), wires and cables (Phelp Dodge), Circuit Breaker (Bolt on type and internal) (Square D/g.e. common trip), wiring devices (Panasonic)
- 41. DRAIN, WASTE AND VENT (DWV) PIPES: Unplasticized polyvinyl chloride (uPVC) / series 1000/Atlanta brand, or equivalent with jointing materials as recommended by manufacturer. Unless specified in the plans, pipe sizes shall be as follows: 160mm (6") dia. for storm drainage soil pipe, 110mm (4") dia. for soil pipes, soil stack, and soil branch serving more than (3) three water closet, 90mm (3") dia. for soil branch serving no more than 3 water closet, drain pipe, and main vent, 63mm (2") dia. for drain pipes and vent pipes.
- All joints at the roof around vent pipes / watertight by the use of approved flashings or flashing material.
- 43. WATER SUPPLY PIPING SYSTEM: PPR Type
- 44. UNION & VALVES: PPR types compatible, installed as indicated in the plans. Roughing in for / tested prior to being covered with concrete, earth or attached of.
- 45. FIXTURES FOR OFFICE COMFORT ROOM: Flush valve water closet, white, American Std (New Sibia) Brand or equivalent / waterless urinal, white, American Std (Mini washbrook) brand or equivalent / under-country lavatory, American Std (Ovalyn) Brand or equivalent / CHB, tiled and waterproofed slop sink/ Flush valve shall be placed at a height of 1.50m from finished floor line.
- 46. GENERAL USE OF COMFORT ROOM: flush valve water closet, white, American Std (New Sibia) brand or equivalent / waterless urinal, white American Std (Mini washbrook) brand or equivalent / undercounter lavatory, American Std (Ovalyn) brand or equivalent / under-counter lavatory, American Std (Ovalyn) brand or equivalent CHB, tiled and waterproofed slop sink / flush valve shall be placed at a height of 1.50m from finished floor line.
- 47. OVERHEAD WATER TANK: stainless steel cylindrical tank or polyethylene tank mounted horizontally.
- 48. REFRIGERANT: R410A.

End of This Section

Section VII. Drawings

(Please refer to attach Plans)









