

Restoration Works

- All the necessary restoration works in all affected areas in the implementation of the project shall be the Contractors liability.
- All existing fire hose cabinets affected during the renovation to be relocate and install. Including Testing and commissioning.

Section 15400 Plumbing System and Fixtures**Scope of Work**

- This item shall consist of furnishing all materials, tools, equipment, and fixtures required as shown on the Plans for the satisfactory performance of the entire plumbing system including installation in accordance with the latest edition of the National Plumbing Code, and this Specifications.

Water Line**Material Requirements:**

- Use Fusion type system for waterline pipes and fittings, confer to Project Architect The brand and approved equivalent in conformity with the existing lines.

Application:

- Make the necessary preparation works for the installation of water system on the Specified area.
- Existing area and lower floor level shall be considered on the chipping works that additional precautionary measures shall be done.
- Ensure proper installation of the system, tap to the nearest water distribution area.
- Testing and commissioning shall be done in the presence of the Engineer and Owner or his representative.
- All restoration and rehabilitation works shall be done on the affected areas to the same features with the existing or as per the required finish.

Sanitary line**Material Requirements:**

- Polyvinyl conduit (PVC) pipe and fittings shall be used for sanitary lines

Application:

- Make the necessary preparation works for the installation of sanitary system on the specified area.
- Ensure proper installation of the system, tap to the nearest sewer area.
- Testing and commissioning shall be done in the presence of the Project Architect/Engineer.

Plumbing Fixtures**Material Requirements:**

- Compact elongated watercloset type
Color; white
 - 6 liter per flush, anti-bacterial complete with hand bidet/ fitting and accessories
- Wall mounted lavatory type with half pedestal
(Color :white) complete with faucet, P-trap (w/plug) and accessories.

- Urinal with urinal flush valve, (push button)
- 6mm thk x 450 mm (W) x 600 mm (H)
Colored borders mirror, polished and
varnished edges complete with mounting accesories
- 100 mm x 100 mm Floor drain, brass/stainless steelplate with
slotted opening strainer and powder coated cast iron frame
- Fabrication pantry sink w/ cabinet
 - 12mm thk solid surface counter top finished
 - 9 mm thk ficem board and 50 mm x 50 mm x 6mm angular bar,welded
 - 200mm depth stainless sink
 - Gooseneck faucet ,hand shower,P-trap and accessories
 - 19 mm thk mdf laminated cabinet door panel w/ flush type handles
 - Hand Shower w/rails complete with valves and fittings

Section 15700-Heating, Ventilating and Air Conditioning Equipment

Scope of Work

- Supply and installation of brand new 1.5TR, 2.0TR, & 2.5TR super inverter wall mounted split type, & 2.5TR super inverter cassette type, complete piping system with accessories such as remote control, supports including other works needed like coring and waterproofing/and application of sealant to the cored area with fire retardant sealant.
- Supply and installation of brand new ceiling mounted exhaust fan, 3" round duct exclusive for Comfort rooms, Electrical room and Pump room. Ceiling mounted exhaust fan, 200CFM, 6" round duct, Ceiling mounted exhaust fan, 300CFM, 6" round duct, ceiling mounted exhaust fan, 500CFM, 4 & 1/2" x 18 & 1/2" duct.
- 75mmØ, 150mmØ, PVC conduit pipe with fittings and complete accessories.
- 4" & 1/2" x 18 & 1/2" rectangular PVC conduit pipe with fittings and complete accessories.
- 4" Vent Cap with grill round neck

Division 16 - Electrical

Workmanship and Materials

- All works shall be done in accordance with the requirements of the latest edition of the Philippine Electrical Code and National Safety Code. Nothing contained in these specifications or shown on the plan shall conflict with the requirements of these Codes, any discrepancies should be consulted to the Project Inspector / Electrical Engineer.
- All materials and equipment to be used and installed hereunder shall be of the approved type bearing the stamp or approval of the proper authorities concerned. Locally made or constructed materials shall first be approved before installation.
- All works shall be done in workmanlike manner and should present a neat and mechanical appearance when completed.

Plans

- The accompanying drawings shall indicate the general arrangement of the equipments, outlets and other works. When it is necessary to deviate from the arrangement indicated on plans in order to meet the structural conditions, such deviation shall be made at the expense of the Contractor and upon approval from the Project Inspector / Electrical Engineer.
- The outlets and circuit breakers shown on the plan are diagrammatic and approximately correct as to location. Minor changes shall be made through the Contractor at his own expense. The exact location of all outlets and switches shall be determined by the Project Inspector/Electrical Engineer and the same shall be located accordingly. The Contractor shall be responsible for the accurate location of all outlets with respect to doors, partitions, water pipes, cabinets and other facilities.

Section 16050 Basic Electrical Materials and Methods

Conduit System

- PVC and IMC Conduit pipes is primarily required for this work. Conduit runs shall be well supported especially on ceiling and slab, concrete encased on soil. All conduits placed on walls and partition shall be embedded, exposed layout will not be allowed. Conduit ends shall be provided with an end bell or adapter with locknut and bushing. Conduit shall enter knockouts squarely. Locknuts and bushing shall be used at termination of conduits in outlets, pull or junction boxes, panels and cabinets. Locknuts shall be screwed tight. Bends and offsets shall be avoided if possible, but when necessary it shall be made with an approved Field bend or pipe / conduit bending machine. The use of pipe tee or vice bending conduits will not be permitted.

Restrictions

- Supply and installation of all material not shown in the drawing nor mentioned in this specification but necessary for the completion of the construction works shall be included. Coordination with CPDMO and Project Inspector should be done for proper installation of all wiring systems.

Section 16070 Hangers and Supports

Hangers and Support

- All electrical pipes and accessories shall be using appropriate hangers and support follow existing features. Exposed layout on walls and partition inside offices shall not be allowed. Chipping works required.

Section 16080 Testing

Testing of system

- Complete testing of the system involved in operation and provision of all system apparatus for making test and guarantee for a period of one (1) year after acceptance of the project and shall agree to repair and make good at no additional cost to the end user.

Section 16140 Wiring Devices

Wiring Devices

- All wiring devices to be used hereunder shall be new and of approved type. All wall switches shall be top-action quiet-matic type, wide series, bases to be fire-resistant and non-absorptive material. When more than one switches is indicated in the same location, they shall be mounted in gang under a common plate.
- Convenience outlet shall be duplex-type, universal & flush-type with fire-resistant non-absorptive bases, minimum rating of 16 amperes at 250 volts wide series.
- Suitable single pole and heavy-duty switches shall be installed where indicated on the plans. Sample of wiring devices shall be presented for approval. Minor relocations and re-circuiting shall be the liability of the Contractor.
- Following features shall be followed: one gang, one way switch, 2 gang, one way switch, 3 gang, one way switch, one gang three way switch, two gang three way switch, three gang three way switch, duplex flush type convenience outlet universal grounding type.

Section 16580 Lighting Fixtures (Submit sample materials for approval)

Lighting Fixtures

- 2 x 18watts LED with FL fixture troffer recessed mounted louver/ reflector type
- 6" dia. Recessed type, 12W Daylight

Section 16410 Panel Boards, Enclosed switches and Circuit Breakers

- 30AT, 2 pole, 230 volts circuit breaker in NEMA 3R enclosure
- 40AT, 2 pole, 230 volts circuit breaker in NEMA 3R enclosure
- 50AT, 2 pole, 230 volts circuit breaker in NEMA 3R enclosure
- PBL @50AT, 3 pole, 18KAIC with 18 branches @ 18-20AT, 2 pole, 230V bolt-on type.
- PBPO @100AT, 3 pole, 22KAIC with 16 branches @ 13-20AT, 2 pole, 230V, 1-30AT, 2 pole, 230V, & 2-60AT, 2 pole, 230V bolt-on type.
- PBAC @125AT, 3 pole, 22KAIC with 12 branches @ 3-30AT, 2 pole, 230V, 2-40AT, 2 pole, 230V, & 7-50AT, 2 pole, 230V bolt-on type.
- DP @350AT, 3 pole, 35KAIC with 6 branches @ 1-50AT, 3 pole, 230V, 2-60AT, 3 pole, 230V, 1-70AT, 3 pole, 230V, 1-100AT, 3 pole, 230V, & 1-125AT, 3 pole, 230V bolt-on type.
- 350AT, 3 pole, 230 volts circuit breaker in Nema 3R enclosure.
- digital kwhr, 3 phase, 4-wire 120-480volts, class 200 Model kv2C with rectangular base 7 terminals self contained meter ERC sealed.
- The enclosure shall be galvanized steel of code thickness, powdered coated enamel finish and shall be installed plumb and symmetrical with the surrounding devices.
- 20mmØ, 25mmØ, 32mmØ, 40mmØ, 50mmØ, 100mmØ PVC conduit pipe with fittings and complete accessories.
- 100mmØ IMC conduit pipe with fittings and complete accessories.
- 2" x 4", 4" x 4" PVC utility and junction boxes Pull box with cover enamel coated finished with ½ and ¾ knock outs.
- Electrical tapes, rubber tapes, pull wires, mica tubes and assorted screws.

Section 16700 Communications

Structured Cabling System

- Category6 UTP, 4 pairs, unshielded twisted pairs, polyethylene insulated hyper grade non-plenum LAN cable is the general requirements for this structured cabling system.
- Supply and installation of complete wiring devices, 2 meters patch cords information data outlet 8 pin CAT6, RJ45 snap in jacks and other accessories ready for use.
- Complete termination and testing of cables, tagging (using tagging machine), labeling of each terminal for easy identification. Submission of test results shall be required.
- Lan Outlet.
- Telephone Outlet.

Audio & Visual

- Supply and installation of 65" Smart Flat TV with wall bracket
 - Screen Size: 65"
 - Resolution: 3840 x 2160
 - Processor: Quadcore
 - Power Consumption (Maximum): 265Watts
 - Motion Rate: 120
 - Complete with HDMI cable and accessories
- Supply and delivery of Dual Band Two way Radio communication
 - Channel Capacity: 128 VHF/UHF
 - Frequency Range (MHz): 136-174 MHz / 400-470 MHz
 - Channel Spacing: 2.5/5/6.25/10/12.5/20/25KHz
 - Power Output: 5 Watt Maximum TX Output Power
 - Built-in FM Radio
 - Built-in distress alert for emergency
 - Water resistant

Conduit Pipes and Accessories

- 25mm dia. PVC pipes, couplings, PVC elbows, male adapter, coupling, locknut and bushing.
- 2" x 4", 4" x 4" PVC utility and junction boxes

- Pull box with cover enamel coated finished with ½ and ¾ knock outs.
- Electrical tapes Pull wires, mica tubes and assorted screws

Fire Detection Alarm System- Supply and Installation

- Intelligent Fire Alarm Control Panel GST200-2/1 single loop with capacity of 235 devices surface mount structure 30 zones, integrated PSU with battery charger excluding battery (certified by LPCB) optional accessories.
- Back up Battery Matrix model N7, 12VDC 7 AH Back up Battery.
- Intelligent Photo electronic Smoke Detector I-9102) Intelligent Optical Detector with emote indicator output (Certified by LPCB) without base
- Digital manual Call point flush mount resettable (Non-breaking glass), Supplied with surface mount back box and special reset key.
- Intelligent PSU 5A 24VDC, Display Show, DC output voltage and load current, fully monitored with self-test. Excluding batteries.
- Intelligent fixed temperature and rate of rise heat detector with remote indicator output (certificated by LPCB) without base.
- Intelligent Optical Detector with remote indicator output (certificate by LPCB) without base.
- Addressable Combined Sounder and strobe 24VDC required.
- Common Detector Base for Addressable Detector and for conventional detector using EOLR.
- Auto voltage regulator 1000 watts, back up battery matrix NP7-12Vdc 7 Ah.
- TF wire 1.25mm²THHN, 3.5mm²THHN wire, PVC conduit and consumables.
- Testing and commissioning. (@ OUR & Cashier, OSA, NTTC)
- Digital manual Call point flush mount resettable (DI-9204) (Non-breaking glass), Supplied with surface mount back box and special reset key. (Certified by LPCB) Addressable single input/output module (I-9301) Single input/output module, 24VDC required
- Addressable Sounder Strobe (I-9401), Addressable Combined Sounder and strobe 24VDC required.

Section 16700 Communications

Structured Cabling System

- Category 6 UTP, 4 pairs, unshielded twisted pairs, and polyethylene insulated hyper grade non-plenum LAN cable is the general requirements for this structured cabling system, the height of the data outlets is 90cm above finish floor line.
- Supply and installation of complete wiring devices, 2 meters patch cords information data outlet 8 pin CAT6, RJ45 snap in jacks and other accessories ready for use.
- Supply and installation of Intermediate Data Frame Cabinet with two (2) exhaust fan and patch panel, termination and commissioning is included in this scope of work.
- Complete termination and testing of cables, tagging (using tagging machine), labeling of each terminals for easy identification. Submission of test results shall be required.
- Supply and installation of Telephone Terminal Cabinet (TTC) and termination of UTP cable for telephone at the TTC with corresponding tagging and tested

Conduit Pipes and Accessories

- 20mm dia. PVC pipes, couplings, PVC elbows, male adapter, coupling, locknut and bushing.
- 2" x 4", 4" x 4" PVC utility and junction boxes
- Pull box with cover enamel coated finished with ½ and ¾ knock outs.
- Electrical tapes Pull wires, mica tubes and assorted screws

Section 16720 Telephone and Intercommunication Equipment

Telephone Terminal Cabinet

- Supply and installation of Telephone Terminal Cabinet surface mounted complete with 50 terminals @ 10 ten terminal per rack/block fusible type, enamel coated finished in standard enclosure with panel lock.
- All existing Telephone Terminal Cabinet affected during the renovation to be relocate and install. Including Testing and commissioning.

NOTE

The foregoing list of item of works does not in any way limit the responsibility of the Contractor to perform all other works necessary for the completion of the project, Renovation of CPDMO


GUARANTEE

The Contractor shall guarantee all works under this contract to be free from any technical, mechanical and electrical defects and shall replace and repair to the satisfaction of the Project Architect / Engineer and/or to the Chief of CPDMO on any part or portion of the work which may fail within **a period of one (1) year after the final acceptance of the system.**

COMPLETION PERIOD


The Contractor is given **One Hundred Fifty (150) calendar days** to execute the renovation works including the installation all system requirements. The Contractor shall coordinate to the CPDMO Inspector and End-users for the schedule of testing of systems and other related job.

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